



FCC SAR TEST REPORT

Report No: STS1601018H01

Issued for

Shenzhen Richpad Communication Technology Co.,Ltd
Room 315, HKUST SZ IER Building, No.9 YueXing 1st RD,
South Area, Hi-Tech Park, NanShan, ShenZhen P.R.C
(Postcode: 518057)

Product Name:	4G Smartphone
Brand Name:	PCD
Model No.:	PL5001
Series Model:	N/A
FCC ID:	2AGLU-PL5001
Test Standard:	ANSI/IEEE Std. C95.1 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013
Max. Reported SAR (1g):	Head:0.516 W/kg Body:0.764 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 : Shenzhen Richpad Communication Technology Co.,Ltd
Address : Room 315, HKUST SZ IER Building, No.9 YueXing 1st RD, South Area, Hi-Tech Park, NanShan, ShenZhen P.R.C (Postcode: 518057)

Manufacturer's Name : Shenzhen Richpad Communication Technology Co.,Ltd
Address : Room 315, HKUST SZ IER Building, No. 9 Yuexing 1st RD, South Area, Hi-tech Park, Nanshan, P.R.C

Product description

Product name : 4G Smartphone

Trademark : PCD

Model and/or type reference : PL5001

Series Model : N/A

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

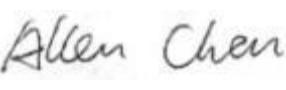
The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664. The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce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

Date of Test

Date (s) of performance of tests : 14 Jan. 2016

Date of Issue : 19 Jan. 2016

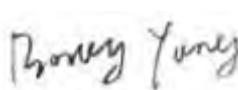
Test Result : **Pass**

Testing Engineer : 

(Allen Chen)

Technical Manager : 

(John Zou)

Authorized Signatory : 

(Bovey Yang)





TABLE OF CONTENTS

1. General Information	5
1.1 EUT Description	5
1.2 Test Environment	6
1.3 Test Facility	6
2. Test Standards And Limits	7
3. SAR Measurement System	8
3.1 Definition Of Specific Absorption Rate (SAR)	8
3.2 SAR System	8
3.2.1 Probe	9
3.2.2 Phantom	10
3.2.3 Device Holder	10
4. Tissue Simulating Liquids	11
4.1 Simulating Liquids Parameter Check	11
5. SAR System Validation	12
5.1 Validation System	12
5.2 Validation Result	12
6. SAR Evaluation Procedures	13
7. EUT Antenna Location Sketch	14
7.1 SAR TEST EXCLUSION CONSIDER TABLE	15
8. EUT Test Position	17
8.1 Define Two Imaginary Lines On The Handset	17
8.2 Hotspot mode exposure position condition	18
9. Uncertainty	19
9.1 Measurement Uncertainty	19
9.2 System validation Uncertainty	21
10. Conducted Power Measurement	23
11. EUT And Test Setup Photo	35
11.1 EUT Photo	35
11.2 Setup Photo	38
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	67



Appendix C. Probe Calibration And Dipole Calibration Report

138





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 Smartphone		
Brand Name	PCD		
Model No.	PL5001		
FCC ID	2AGLU-PL5001		
Adapter	Input: AC120-220V,150m A, 50/60 Hz Output: DC 5V, 1000mA		
Battery	Rated Voltage: 3.7V; Charge Limit: 4.35V; Capacity: 2000mAh		
Hardware Version	HV01_MB_V03		
Software Version	MT6735m_FWVGA_CLARO_PCD_PL5001_CA _V09_20160115_1452849225_1750		
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 5:824~849MHz WLAN 802.11b/g/n(HT20):2412~2462MHz WLAN 802.11n(HT40):2422~2452MHz Bluetooth:2402~ 2480MHz	
Transmit Power(MAX):	GSM 850: 31.69 dBm GSM 1900: 29.28 dBm WCDMA Band II: 22.65 dBm WCDMA Band V: 22.54 dBm LTE Band 2: 24.52 dBm LTE Band 4: 24.01 dBm	LTE Band 5: 24.02 dBm 802.11b: 16.3 dBm 802.11g: 14.6 dBm 802.11n(HT20): 14.6 dBm 802.11n(HT40): 12.7 dBm Bluetooth: 2.822 dBm	
Max. Reported SAR(1g):	Band	Mode	Head(W/kg)
	PCE	GSM 850	0.352
	PCE	GSM 1900	0.232
	PCE	WCDMA Band II	0.463
	PCE	WCDMA Band V	0.293
	PCE	LTE Band 2	0.370
	PCE	LTE Band 4	0.346
	PCE	LTE Band 5	0.246
	DTS	WIFI	0.516
	DSS	Bluetooth ^{Note}	0.084
1-g Sum SAR(W/kg)		0.979	0.959
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 +π/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		

Note : Bluetooth SAR was estimated.



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 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

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:

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

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

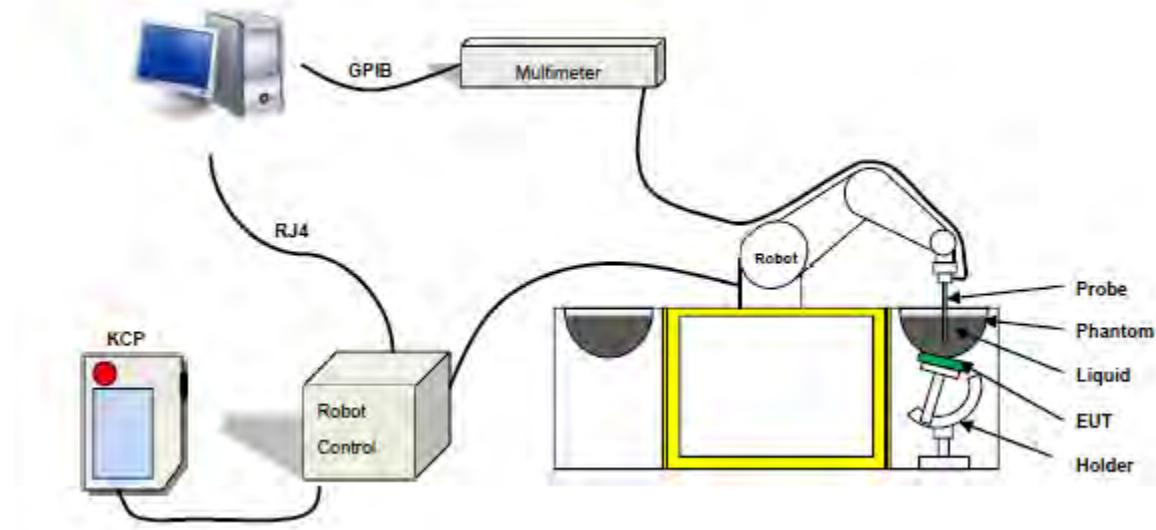
$$\text{SAR} = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue,

ρ is the mass density of the tissue and E is the RMS electrical field strength.

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 suface 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 ± 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: 14 Jan. 2016 Ambient condition: Temperature 22.7°C Relative humidity: 49%

Head Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
835 MHz	22.30	Permitivity:	41.50	41	-1.20	±5
		Conductivity:	0.90	0.86	-4.44	± 5
1800 MHz	22.30	Permitivity:	40.10	40.2	0.25	±5
		Conductivity:	1.37	1.31	-4.38	± 5
1900 MHz	22.30	Permitivity:	40.00	39.5	-1.25	± 5
		Conductivity:	1.40	1.43	2.14	± 5
2450 MHz	22.30	Permitivity:	39.2	39.18	-0.05	± 5
		Conductivity:	1.80	1.88	4.44	± 5

Body Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
835 MHz	22.30	Permitivity:	55.20	54.7	-0.91	± 5
		Conductivity:	0.97	0.98	1.03	± 5
1800 MHz	22.30	Permitivity:	53.40	52.6	-1.50	± 5
		Conductivity:	1.49	1.38	-7.38	± 5
1900 MHz	22.30	Permitivity:	53.30	52.31	-1.86	± 5
		Conductivity:	1.52	1.50	-1.32	± 5
2450 MHz	22.30	Permitivity:	52.7	51.6	-2.09	± 5
		Conductivity:	1.95	1.93	-1.03	± 5

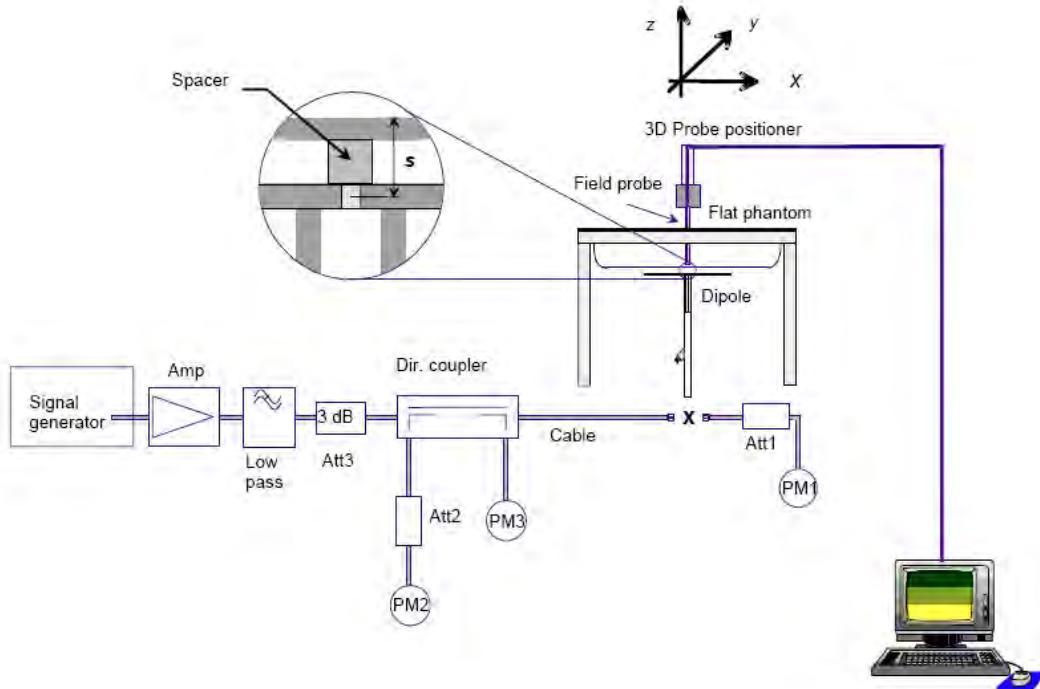


5. SAR System Validation

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
835 Head	100	0.937	9.37	9.56	-1.99	2016-01-14
835 Body	100	0.947	9.47	9.56	-0.94	2016-01-14
1800 Head	100	3.76	37.6	38.4	-2.08	2016-01-14
1800 Body	100	3.88	38.8	38.4	1.04	2016-01-14
1900 Head	100	3.86	38.6	39.8	-3.02	2016-01-14
1900 Body	100	3.987	39.87	39.8	0.18	2016-01-14
2450 Head	100	5.593	55.93	52.4	6.74	2016-01-14
2450 Body	100	4.864	48.64	52.4	-7.18	2016-01-14

Note: The tolerance limit of System validation ±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 to16 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

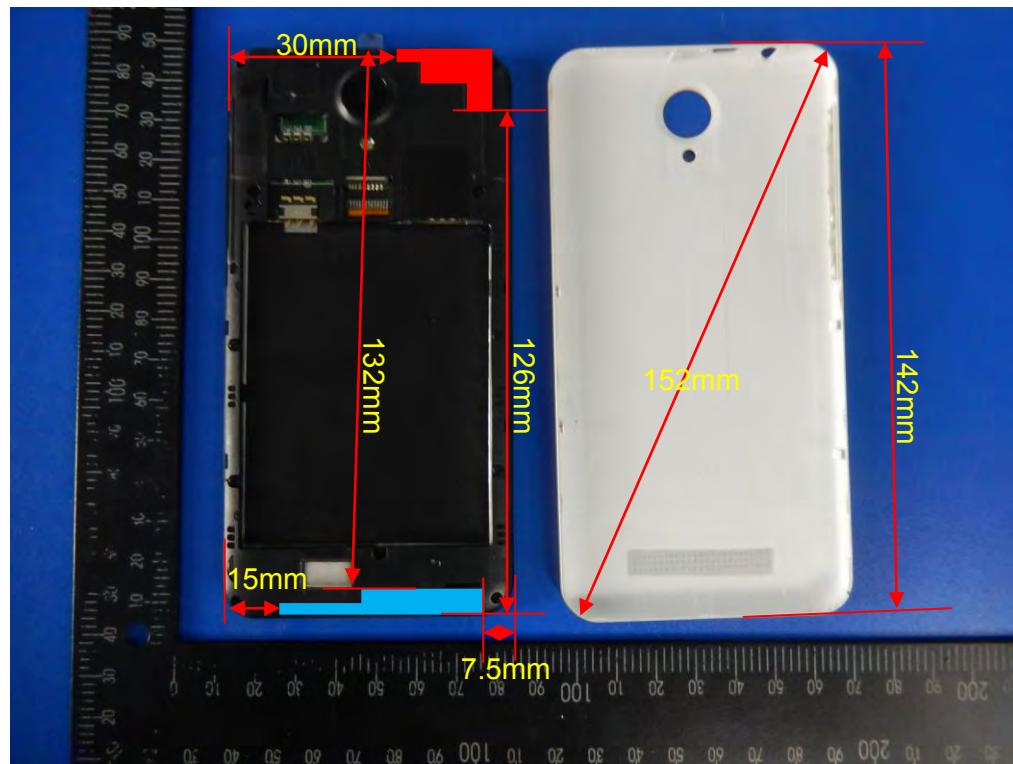
First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan 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 4G Smartphone, support GSM/WCDMA/LTE mode.



WWAN Antenna



WIFI/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	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
GSM1900	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band II	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band V	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
LTE Band 2	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
LTE Band 4	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
LTE Band 5	<5mm	<5mm	<5mm	23mm	133mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
WLAN	<5mm	<5mm	54mm	<5mm	<5mm	129mm
	Yes	Yes	No	Yes	Yes	No
Bluetooth	<5mm	<5mm	54mm	<5mm	<5mm	129mm
	Yes	Yes	No	Yes	Yes	No

Note:

- maximum power is the source-based time-average power and represents the maximum RF output power among production units.
- 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.
- 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
- 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:
$$[(\text{max.power of channel, including tune-up tolerance, Mw}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and} \leq 7.5 \text{ for 10-g extremity SAR}$$

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

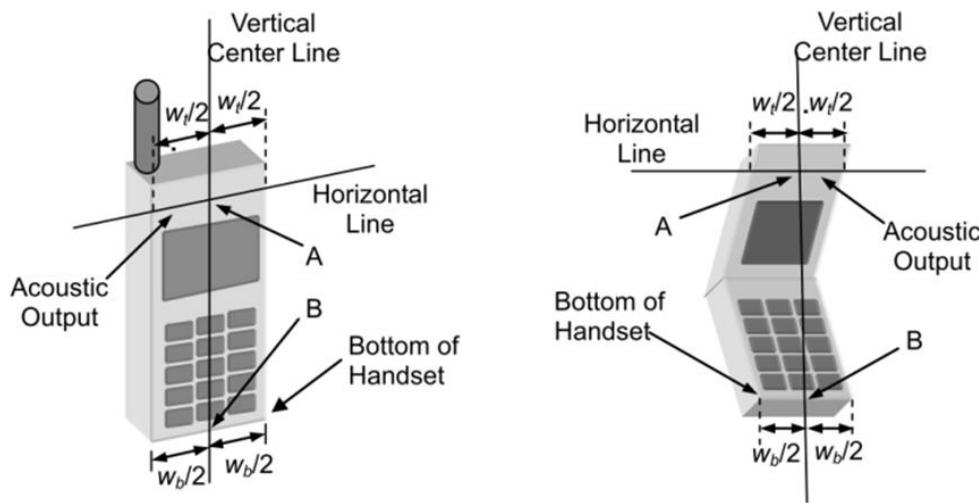
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

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.

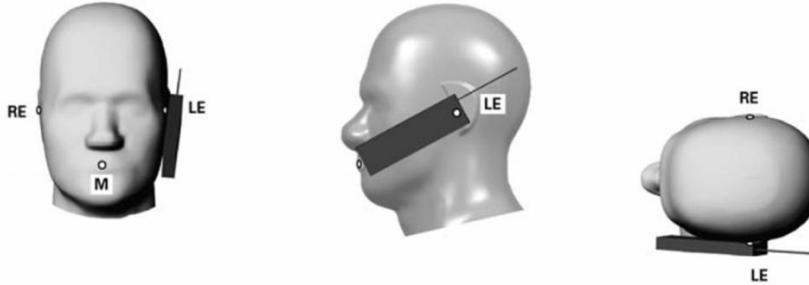
(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially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

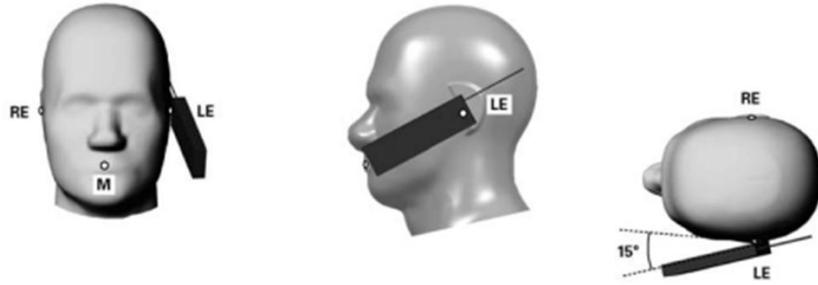
2)To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the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



Title Position

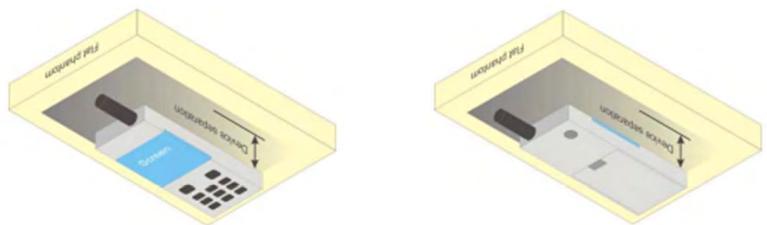
(1)To position the device in the “cheek” position described above.

(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.



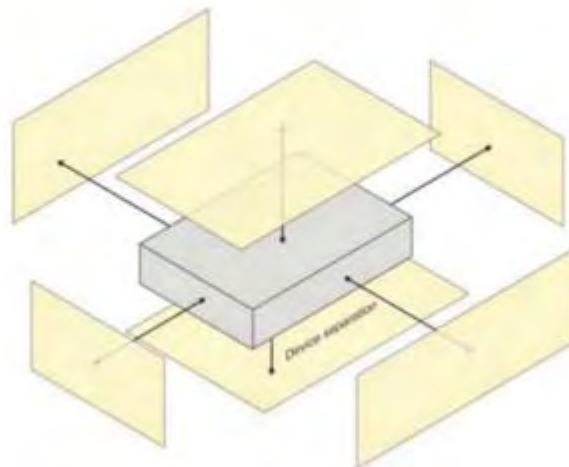
Body-worn Position Conditions

- (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	∞
2	Axial isotropy	3.5	R	$\sqrt{3}$	$(1-c_p)^{1/2}$	$(1-c_p)^{1/2}$	1.43	1.43	∞
3	Hemispherical isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
4	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
5	Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
6	System Detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
7	Readout electronics	0.5	N	1	1	1	0.50	0.50	∞
8	Response time	0	R	$\sqrt{3}$	1	1	0	0	∞
9	Integration time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
10	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
11	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
12	Probe positioner mech. restrictions	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
13	Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
14	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
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	$\sqrt{3}$	1	1	2.89	2.89	∞
Phantom and set-up									
18	Phantom uncertainty	4.0	R	$\sqrt{3}$	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	∞
2	Axial isotropy	3.5	R	$\sqrt{3}$	$(1-c_p)^{1/2}$	$(1-c_p)^{1/2}$	1.43	1.43	∞
3	Hemispherical isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	∞
4	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
5	Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
6	System Detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
7	Modulation response	0	N	1	1	1	0	0	∞
8	Readout electronics	0.5	N	1	1	1	0.50	0.50	∞
9	Response time	0	R	$\sqrt{3}$	1	1	0	0	∞
10	Integration time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
13	Probe positioner mech. restrictions	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
14	Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Dipole									
16	Deviation of experimental source from	4	N	1	1	1	4.00	4.00	∞



17	Input power and SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
18	Dipole Axis to liquid Distance	2	R	$\sqrt{3}$	1	1			∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
20	Uncertainty in SAR correction for deviation(in mm)	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)	31.69	31.63	31.67	29.01	29.08	29.28
GPRS (GMSK, 1-Slot)	31.62	31.62	31.57	28.94	29.00	29.18
GPRS (GMSK, 2-Slot)	30.84	30.71	30.76	28.17	28.09	28.48
GPRS (GMSK, 3-Slot)	29.49	29.44	29.52	26.96	26.70	27.25
GPRS (GMSK, 4-Slot)	28.92	28.77	28.88	26.31	26.04	26.59
EGPRS(8PSK, 1-Slot)	31.56	31.56	31.51	28.88	28.92	29.12
EGPRS(8PSK, 2-Slot)	30.82	30.65	30.77	27.99	28.11	28.33
EGPRS(8PSK, 3-Slot)	29.58	29.32	29.56	26.63	26.89	27.04
EGPRS(8PSK, 4-Slot)	28.99	28.72	28.89	26.04	26.28	26.51

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)	22.69	22.63	22.67	20.01	20.08	20.28
GPRS (GMSK, 1-Slot)	22.62	22.62	22.57	19.94	20.00	20.18
GPRS (GMSK, 2-Slot)	24.84	24.71	24.76	22.17	22.09	22.48
GPRS (GMSK, 3-Slot)	25.23	25.18	25.26	22.70	22.44	22.99
GPRS (GMSK, 4-Slot)	25.92	25.77	25.88	23.31	23.04	23.59
EGPRS(8PSK, 1-Slot)	22.56	22.56	22.51	19.88	19.92	20.12
EGPRS(8PSK, 2-Slot)	24.82	24.65	24.77	21.99	22.11	22.33
EGPRS(8PSK, 3-Slot)	25.32	25.06	25.30	22.37	22.63	22.78
EGPRS(8PSK, 4-Slot)	25.99	25.72	25.89	23.04	23.28	23.51

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	22.41	22.54	22.39	22.47	22.58	22.65
HSDPA Subtest-1	21.97	22.11	21.89	21.98	22.12	22.17
HSDPA Subtest-2	21.48	21.69	21.45	21.63	21.76	21.84
HSDPA Subtest-3	21.03	21.24	20.97	21.22	21.32	21.43
HSDPA Subtest-4	20.38	20.72	20.46	20.53	20.63	20.87
HSUPA Subtest-1	21.53	21.63	21.49	21.49	21.69	21.67
HSUPA Subtest-2	21.13	21.19	20.92	21.14	21.24	21.17
HSUPA Subtest-3	20.65	20.72	20.44	20.73	20.83	20.68
HSUPA Subtest-4	20.15	20.08	19.88	20.20	20.25	20.07
HSUPA Subtest-5	19.47	19.44	19.24	19.64	19.64	19.55

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	16.2
	6	2437	15.8
	11	2462	16.3
802.11g	1	2412	13.9
	6	2437	14.2
	11	2462	14.6
802.11n(HT 20)	1	2412	13.8
	6	2437	14.1
	11	2462	14.6
802.11n(HT 40)	3	2422	11.6
	6	2437	12.5
	9	2452	12.7

Bluetooth

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK(1Mbps)	0	2402	2.592
	39	2441	2.291
	78	2480	2.822
$\pi/4$ -DQPSK(2Mbps)	0	2402	1.706
	39	2441	1.549
	78	2480	2.092
8-DPSK(3Mbps)	0	2402	1.883
	39	2441	1.762
	78	2480	2.193

Bluetooth

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK(1Mbps)	0	2402	-3.910
	19	2422	-3.732
	39	2442	-3.181



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 ≤ 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 ≤ 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 ≤ 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	24.01	24.52	24.39
20	QPSK	1	50	24.39	23.82	24.27
20	QPSK	1	99	24.52	24.14	22.74
20	QPSK	50	0	23.34	23.43	23.28
20	QPSK	50	24	23.38	23.26	23.21
20	QPSK	50	50	23.40	23.22	22.98
20	QPSK	100	0	23.36	23.38	23.20
20	16QAM	1	0	23.11	23.76	23.75
20	16QAM	1	50	23.34	23.26	23.68
20	16QAM	1	99	23.44	23.62	22.35
20	16QAM	50	0	22.38	22.39	22.28
20	16QAM	50	24	22.46	22.31	22.22
20	16QAM	50	50	22.48	22.29	21.97
20	16QAM	100	0	22.42	22.34	22.25
Channel				18675	18900	19125
Frequency(MHz)				1857.5	1880	1902.5
15	QPSK	1	0	24.13	24.50	24.34
15	QPSK	1	38	24.30	23.87	24.13
15	QPSK	1	75	24.37	24.09	22.92
15	QPSK	36	0	23.44	23.60	23.33
15	QPSK	36	18	23.42	23.33	23.35
15	QPSK	36	75	23.43	23.26	22.77
15	QPSK	75	0	23.46	23.42	23.33
15	16QAM	1	0	23.22	23.52	23.10
15	16QAM	1	38	23.39	23.12	23.01
15	16QAM	1	75	23.45	23.36	22.87
15	16QAM	36	0	22.42	22.48	22.31
15	16QAM	36	18	22.43	22.40	22.30
15	16QAM	36	75	22.47	22.37	21.85
15	16QAM	75	0	22.44	22.45	22.28
Channel				18650	18900	19150
Frequency(MHz)				1855	1880	1905
10	QPSK	1	0	24.00	24.27	24.31
10	QPSK	1	13	24.37	24.00	23.72
10	QPSK	1	24	24.36	23.89	22.76
10	QPSK	12	0	23.23	23.36	23.17
10	QPSK	12	6	23.28	23.36	23.09
10	QPSK	12	13	23.35	23.36	22.72
10	QPSK	25	0	23.32	23.31	23.09
10	16QAM	1	0	23.06	23.51	23.22
10	16QAM	1	13	23.34	23.26	22.88
10	16QAM	1	24	23.42	23.17	21.92
10	16QAM	12	0	22.28	22.34	22.27
10	16QAM	12	6	22.36	22.31	22.18
10	16QAM	12	13	22.42	22.32	21.84
10	16QAM	25	0	22.31	22.26	22.09



Channel			18625	18900	19175
Frequency(MHz)			1852.5	1880	1907.5
5	QPSK	1	0	24.38	24.60
5	QPSK	1	13	24.32	24.12
5	QPSK	1	24	24.37	24.43
5	QPSK	12	0	23.30	23.42
5	QPSK	12	6	23.31	23.37
5	QPSK	12	13	23.30	23.38
5	QPSK	25	0	23.24	23.32
5	16QAM	1	0	23.23	23.43
5	16QAM	1	13	23.22	23.26
5	16QAM	1	24	23.28	23.35
5	16QAM	12	0	22.31	22.40
5	16QAM	12	6	22.32	22.36
5	16QAM	12	13	22.36	22.35
5	16QAM	25	0	22.32	22.23
Channel			18615	18900	19185
Frequency(MHz)			1851.5	1880	1908.5
3	QPSK	1	0	24.32	24.43
3	QPSK	1	8	23.34	24.40
3	QPSK	1	14	24.31	24.41
3	QPSK	8	0	23.35	23.47
3	QPSK	8	4	23.36	23.47
3	QPSK	8	8	23.35	23.48
3	QPSK	15	0	23.27	23.36
3	16QAM	1	0	23.23	23.43
3	16QAM	1	8	23.26	23.42
3	16QAM	1	14	23.28	23.37
3	16QAM	8	0	22.36	22.45
3	16QAM	8	4	22.37	22.46
3	16QAM	8	8	22.39	22.46
3	16QAM	15	0	22.22	22.31
Channel			18607	18900	19193
Frequency(MHz)			1850.7	1880	1909.3
1.4	QPSK	1	0	24.33	24.45
1.4	QPSK	1	3	24.30	24.40
1.4	QPSK	1	5	24.33	24.43
1.4	QPSK	3	0	24.16	24.31
1.4	QPSK	3	1	24.12	24.26
1.4	QPSK	3	3	24.22	24.34
1.4	QPSK	6	0	23.30	23.45
1.4	16QAM	1	0	23.09	23.43
1.4	16QAM	1	3	23.08	23.38
1.4	16QAM	1	5	23.10	23.41
1.4	16QAM	3	0	23.06	23.20
1.4	16QAM	3	1	23.01	23.13
1.4	16QAM	3	3	23.07	23.18
1.4	16QAM	6	0	22.23	22.33



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	24.01	23.76	23.57
20	QPSK	1	50	23.80	23.56	23.71
20	QPSK	1	99	23.67	23.74	23.67
20	QPSK	50	0	23.83	23.57	23.59
20	QPSK	50	24	23.75	23.51	23.67
20	QPSK	50	50	23.69	23.55	23.69
20	QPSK	100	0	23.77	23.53	23.64
20	16QAM	1	0	23.91	24.00	23.97
20	16QAM	1	50	23.75	23.81	24.11
20	16QAM	1	99	23.61	23.97	24.10
20	16QAM	50	0	23.74	23.48	23.49
20	16QAM	50	24	23.67	23.43	23.56
20	16QAM	50	50	23.62	23.47	23.59
20	16QAM	100	0	23.68	23.47	23.59
Channel				20025	20175	20325
Frequency(MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.99	23.63	23.71
15	QPSK	1	38	23.77	23.48	23.71
15	QPSK	1	75	23.75	23.58	23.71
15	QPSK	36	0	24.04	23.64	23.85
15	QPSK	36	18	23.97	23.63	23.86
15	QPSK	36	75	23.89	23.64	23.83
15	QPSK	75	0	23.98	23.67	23.86
15	16QAM	1	0	23.97	23.72	23.51
15	16QAM	1	38	23.85	23.57	23.54
15	16QAM	1	75	23.80	23.68	23.50
15	16QAM	36	0	23.95	23.58	23.77
15	16QAM	36	18	23.71	23.56	23.79
15	16QAM	36	75	23.84	23.57	23.76
15	16QAM	75	0	23.88	23.61	23.72
Channel				20000	20175	20350
Frequency(MHz)				1715	1732.5	1750
10	QPSK	1	0	23.36	23.55	23.80
10	QPSK	1	13	23.97	23.49	23.72
10	QPSK	1	24	23.91	23.50	23.68
10	QPSK	25	0	23.96	23.47	23.68
10	QPSK	25	6	23.77	23.45	23.65
10	QPSK	25	13	23.80	23.48	23.64
10	QPSK	50	0	23.84	23.48	23.65
10	16QAM	1	0	23.95	23.64	23.71
10	16QAM	1	13	23.90	23.60	23.69
10	16QAM	1	24	23.81	23.59	23.62
10	16QAM	25	0	23.79	23.44	23.68
10	16QAM	25	6	23.79	23.41	23.66
10	16QAM	25	13	23.75	23.44	23.66
10	16QAM	50	0	23.70	23.39	23.57



Channel			19975	20175	20375
Frequency(MHz)			1712.5	1732.5	1752.5
5	QPSK	1	0	23.86	23.65
5	QPSK	1	13	23.77	23.68
5	QPSK	1	24	23.95	23.60
5	QPSK	12	0	23.77	23.55
5	QPSK	12	6	23.85	23.64
5	QPSK	12	13	23.96	23.64
5	QPSK	25	0	23.90	23.69
5	16QAM	1	0	23.70	23.40
5	16QAM	1	13	23.64	23.55
5	16QAM	1	24	23.85	23.42
5	16QAM	12	0	23.72	23.37
5	16QAM	12	6	23.55	23.40
5	16QAM	12	13	23.84	23.37
5	16QAM	25	0	23.71	23.27
Channel			19965	20175	20385
Frequency(MHz)			1711.5	1732.5	1753.5
3	QPSK	1	0	23.94	23.48
3	QPSK	1	8	23.89	23.47
3	QPSK	1	14	23.92	23.49
3	QPSK	6	0	23.99	23.58
3	QPSK	6	4	24.10	23.59
3	QPSK	6	8	23.99	23.60
3	QPSK	15	0	23.94	23.52
3	16QAM	1	0	23.91	23.60
3	16QAM	1	8	23.92	23.58
3	16QAM	1	14	23.89	23.57
3	16QAM	6	0	24.00	23.61
3	16QAM	6	4	23.97	23.64
3	16QAM	6	8	23.99	23.63
3	16QAM	15	0	23.82	23.47
Channel			19957	20175	20393
Frequency(MHz)			1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.96	23.52
1.4	QPSK	1	3	23.92	23.49
1.4	QPSK	1	5	23.96	23.53
1.4	QPSK	3	0	23.93	23.58
1.4	QPSK	3	1	23.87	23.52
1.4	QPSK	3	3	23.92	23.58
1.4	QPSK	6	0	23.96	23.52
1.4	16QAM	1	0	23.77	23.63
1.4	16QAM	1	3	23.69	23.61
1.4	16QAM	1	5	23.76	23.63
1.4	16QAM	3	0	23.74	23.48
1.4	16QAM	3	1	23.69	23.38
1.4	16QAM	3	3	23.75	23.43
1.4	16QAM	6	0	23.88	23.47



LTE Band 5

Channel				20450	20525	20600
Frequency(MHz)				829.0	836.5	844.0
10	QPSK	1	0	24.02	23.97	23.86
10	QPSK	1	13	23.77	23.86	23.88
10	QPSK	1	24	23.66	23.82	23.99
10	QPSK	25	0	22.94	22.87	22.73
10	QPSK	25	6	22.99	22.85	22.75
10	QPSK	25	13	23.26	22.82	22.80
10	QPSK	50	0	23.21	22.85	22.75
10	16QAM	1	0	23.17	23.12	22.85
10	16QAM	1	13	23.03	23.01	22.76
10	16QAM	1	24	23.15	22.87	22.88
10	16QAM	25	0	22.01	21.88	21.75
10	16QAM	25	6	21.99	21.87	21.76
10	16QAM	25	13	21.99	21.83	21.80
10	16QAM	50	0	21.91	21.78	21.66
Channel				20425	20525	20625
Frequency(MHz)				826.5	836.5	846.5
5	QPSK	1	0	24.15	23.98	23.88
5	QPSK	1	13	24.13	23.91	23.87
5	QPSK	1	24	24.09	23.87	23.93
5	QPSK	12	0	23.10	22.89	22.81
5	QPSK	12	6	23.10	22.87	22.82
5	QPSK	12	13	23.09	22.88	22.83
5	QPSK	25	0	23.05	22.82	22.76
5	16QAM	1	0	23.14	22.99	23.03
5	16QAM	1	13	23.09	22.94	23.06
5	16QAM	1	24	23.02	22.87	23.12
5	16QAM	12	0	22.14	21.91	21.71
5	16QAM	12	6	22.12	21.90	21.71
5	16QAM	12	13	22.12	21.88	21.73
5	16QAM	25	0	22.10	21.75	21.68
Channel				20415	20525	20635
Frequency(MHz)				825.5	836.5	847.5
3	QPSK	1	0	24.03	23.82	23.90
3	QPSK	1	7	23.99	23.81	23.91
3	QPSK	1	14	24.03	23.75	23.95
3	QPSK	8	0	23.11	22.90	22.89
3	QPSK	8	4	23.12	22.88	22.94
3	QPSK	8	7	23.11	22.90	22.91
3	QPSK	15	0	23.07	22.84	22.86
3	16QAM	1	0	23.12	22.97	22.80
3	16QAM	1	7	23.11	22.92	22.83
3	16QAM	1	14	23.09	22.90	22.87
3	16QAM	8	0	22.22	21.99	21.87
3	16QAM	8	4	22.18	21.97	21.90
3	16QAM	8	7	22.20	21.96	21.92
3	16QAM	15	0	22.05	21.82	21.79



Channel				20407	20525	20643
Frequency(MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	24.04	23.83	23.95
1.4	QPSK	1	2	24.03	23.81	23.99
1.4	QPSK	1	5	24.06	23.81	23.99
1.4	QPSK	3	0	24.02	23.83	23.84
1.4	QPSK	3	1	23.95	23.78	23.78
1.4	QPSK	3	2	24.03	23.81	23.85
1.4	QPSK	6	0	23.05	22.86	22.87
1.4	16QAM	1	0	22.90	22.96	22.87
1.4	16QAM	1	2	22.88	22.96	22.84
1.4	16QAM	1	5	22.91	22.94	22.88
1.4	16QAM	3	0	22.95	22.78	22.67
1.4	16QAM	3	1	22.88	22.72	22.62
1.4	16QAM	3	2	22.96	22.75	22.69
1.4	16QAM	6	0	22.09	21.85	21.86

**Turn Power**

Mode	GSM850(AVG)	GSM1900(AVG)
GSM/PCS	31.0±1dBm	28.5±1dBm
GPRS (1 Slot)	31.0±1dBm	28.2±1dBm
GPRS (2 Slot)	30.0±1dBm	27.5±1dBm
GPRS (3 Slot)	29.0±1dBm	26.5±1dBm
GPRS (4 Slot)	28.0±1dBm	26.0±1dBm
EDGE (1 Slot)	31.0±1dBm	28.2±1dBm
EDGE (2 Slot)	30.0±1dBm	27.5±1dBm
EDGE (3 Slot)	29.0±1dBm	26.5±1dBm
EDGE (4 Slot)	28.0±1dBm	26.0±1dBm

Mode	WCDMA Band V(AVG)	WCDMA Band II(AVG)
RMC	22.0±1dBm	22.0±1dBm
HSDPA Subtest-1	21.5±1dBm	21.5±1dBm
HSDPA Subtest-2	21.0±1dBm	21.0±1dBm
HSDPA Subtest-3	20.5±1dBm	20.5±1dBm
HSDPA Subtest-4	20.0±1dBm	20.0±1dBm
HSUPA Subtest-1	21.0±1dBm	21.0±1dBm
HSUPA Subtest-2	21.0±1dBm	20.5±1dBm
HSUPA Subtest-3	20.0±1dBm	20.0±1dBm
HSUPA Subtest-4	20.0±1dBm	20.0±1dBm
HSUPA Subtest-5	19.0±1dBm	19.0±1dBm

Mode	WIFI
IEEE 802.11b	16±1dBm
IEEE 802.11g	14±1dBm
IEEE 802.11n HT20	14±1dBm
IEEE 802.11n HT40	12±1dBm

Mode	BT
GFSK	2±1dBm
π/4-DQPSK	2±1dBm
8DPSK	2±1dBm

Mode	BT 4.0
GFSK	-3±1dBm



LTE

BW[MHz]	RB Size	Mode	Band 2	Band 4	Band 5
1.4	1	QPSK	24±1dBm	23±1dBm	24±1dBm
1.4	3		24±1dBm	23±1dBm	24±1dBm
1.4	6		23±1dBm	23±1dBm	23±1dBm
1.4	1	16-QAM	23±1dBm	23±1dBm	22±1dBm
1.4	3		23±1dBm	23±1dBm	22±1dBm
1.4	6		22±1dBm	23±1dBm	22±1dBm
3	1	QPSK	24±1dBm	23±1dBm	24±1dBm
3	6		23±1dBm	24±1dBm	23±1dBm
3	15		23±1dBm	23±1dBm	23±1dBm
3	1	16-QAM	23±1dBm	23±1dBm	23±1dBm
3	6		22±1dBm	23±1dBm	22±1dBm
3	15		22±1dBm	23±1dBm	22±1dBm
5	1	QPSK	24±1dBm	23±1dBm	24±1dBm
5	12		23±1dBm	23±1dBm	23±1dBm
5	25		23±1dBm	23±1dBm	23±1dBm
5	1	16-QAM	23±1dBm	23±1dBm	23±1dBm
5	12		22±1dBm	23±1dBm	22±1dBm
5	25		22±1dBm	23±1dBm	22±1dBm
10	1	QPSK	24±1dBm	23±1dBm	23.2±1dBm
10	25		23±1dBm	23±1dBm	22.3±1dBm
10	50		23±1dBm	23±1dBm	23±1dBm
10	1	16-QAM	23±1dBm	23±1dBm	23±1dBm
10	25		22±1dBm	23±1dBm	22±1dBm
10	50		22±1dBm	23±1dBm	21±1dBm
15	1	QPSK	24±1dBm	23±1dBm	N/A
15	36		23±1dBm	24±1dBm	N/A
15	75		23±1dBm	23±1dBm	N/A
15	1	16-QAM	23±1dBm	23±1dBm	N/A
15	36		22±1dBm	23±1dBm	N/A
15	75		22±1dBm	23±1dBm	N/A
20	1	QPSK	24±1dBm	24±1dBm	N/A
20	50		23±1dBm	23±1dBm	N/A
20	100		23±1dBm	23±1dBm	N/A
20	1	16-QAM	23±1dBm	24±1dBm	N/A
20	50		22±1dBm	23±1dBm	N/A
20	100		22±1dBm	23±1dBm	N/A



11. EUT And Test Setup Photo

11.1 EUT Photo

Front side

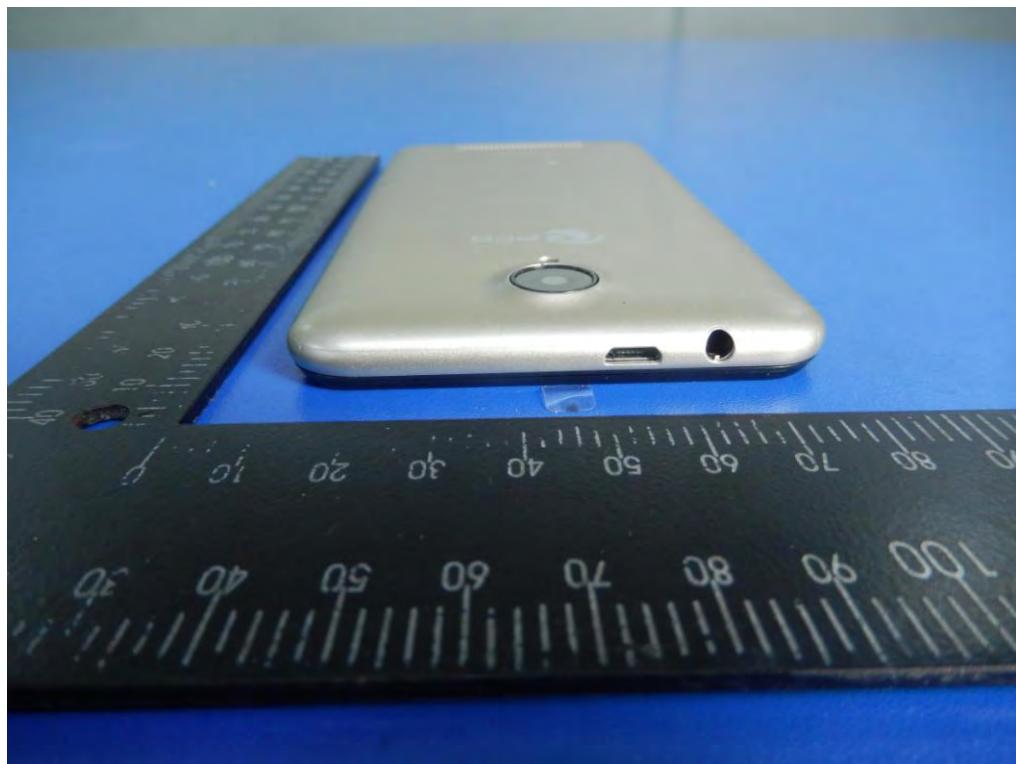


Back side





Top side

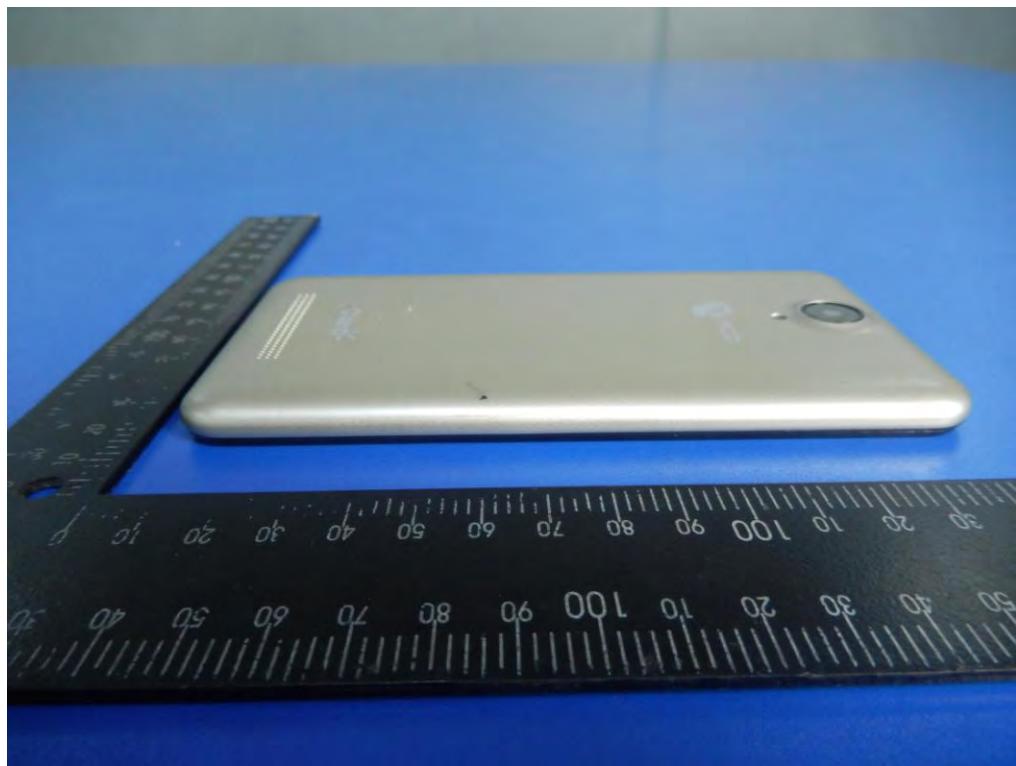


Bottom side

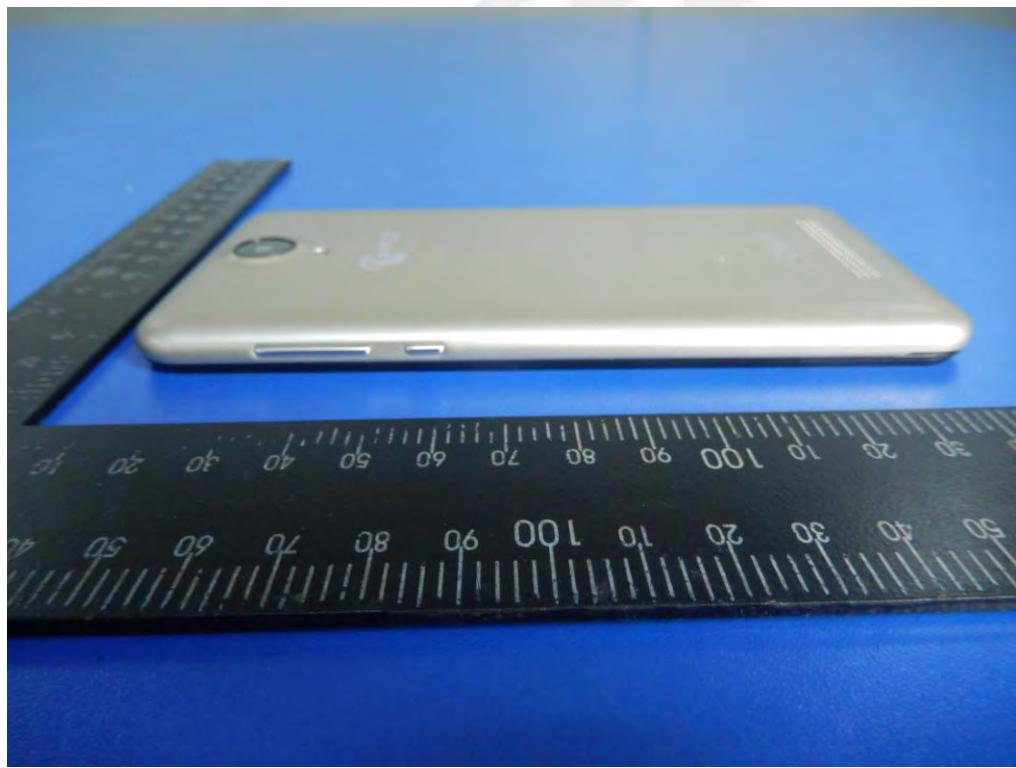




Left side



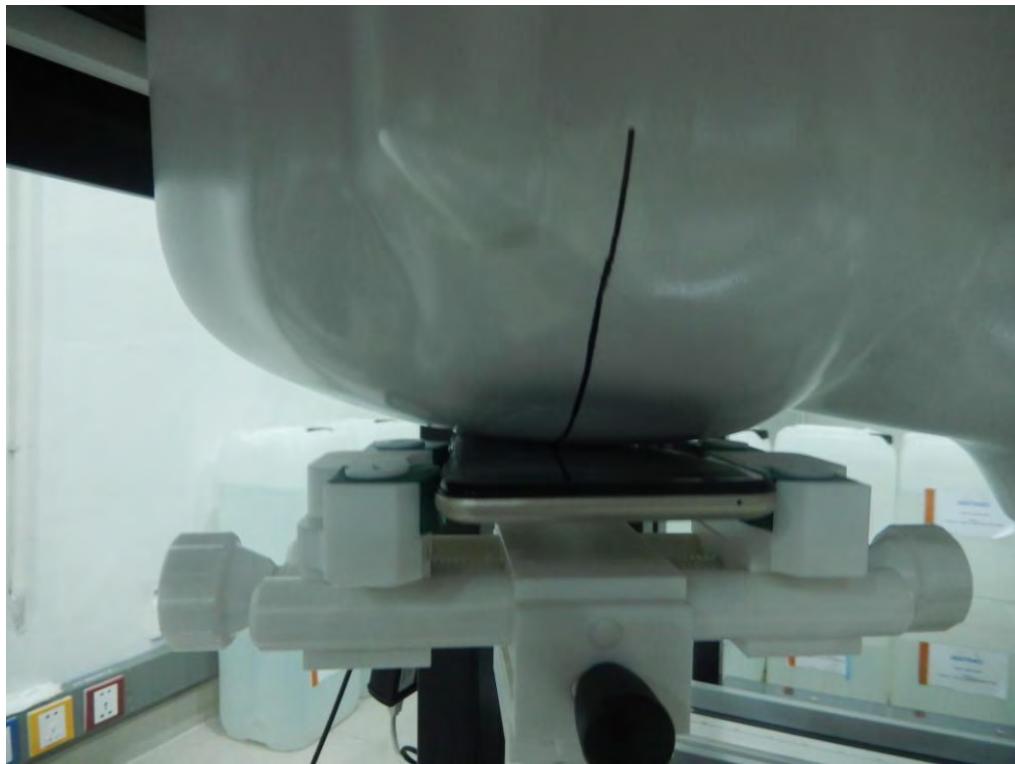
Right side





11.2 Setup Photo

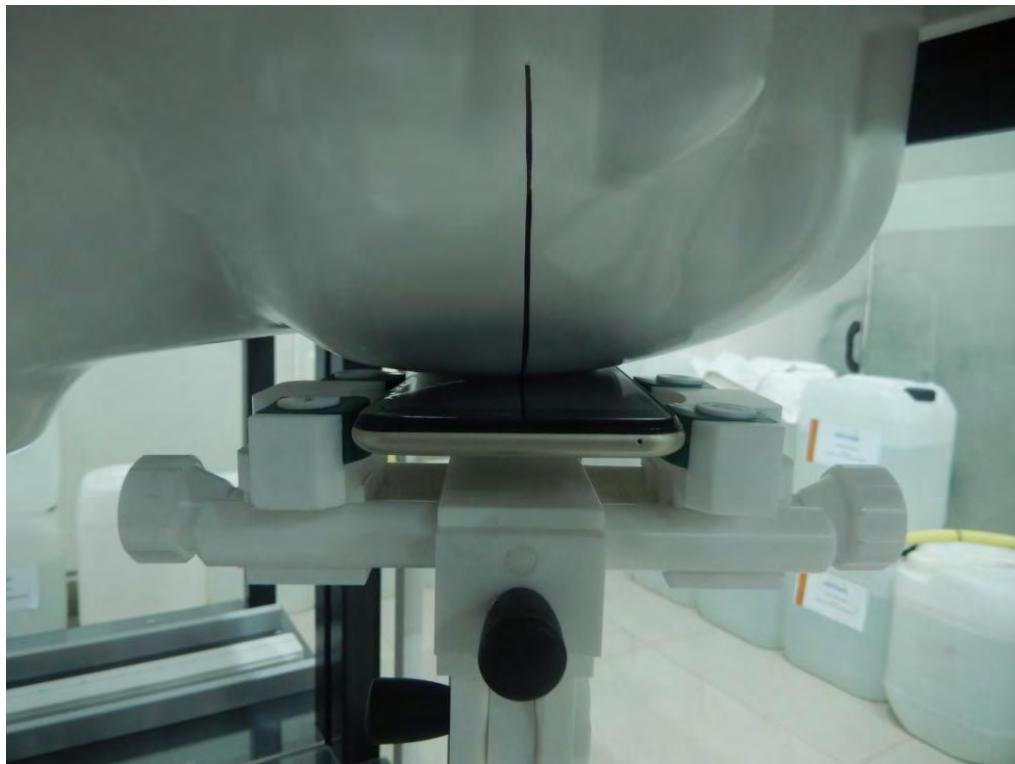
Right Touch



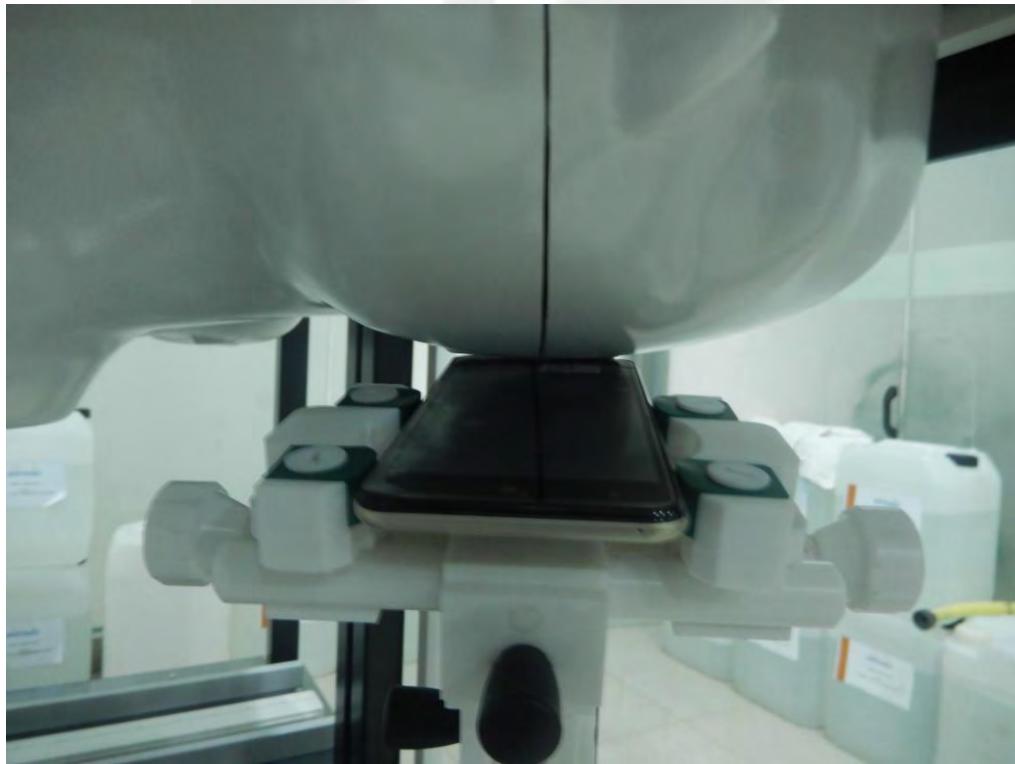
Right Tilt



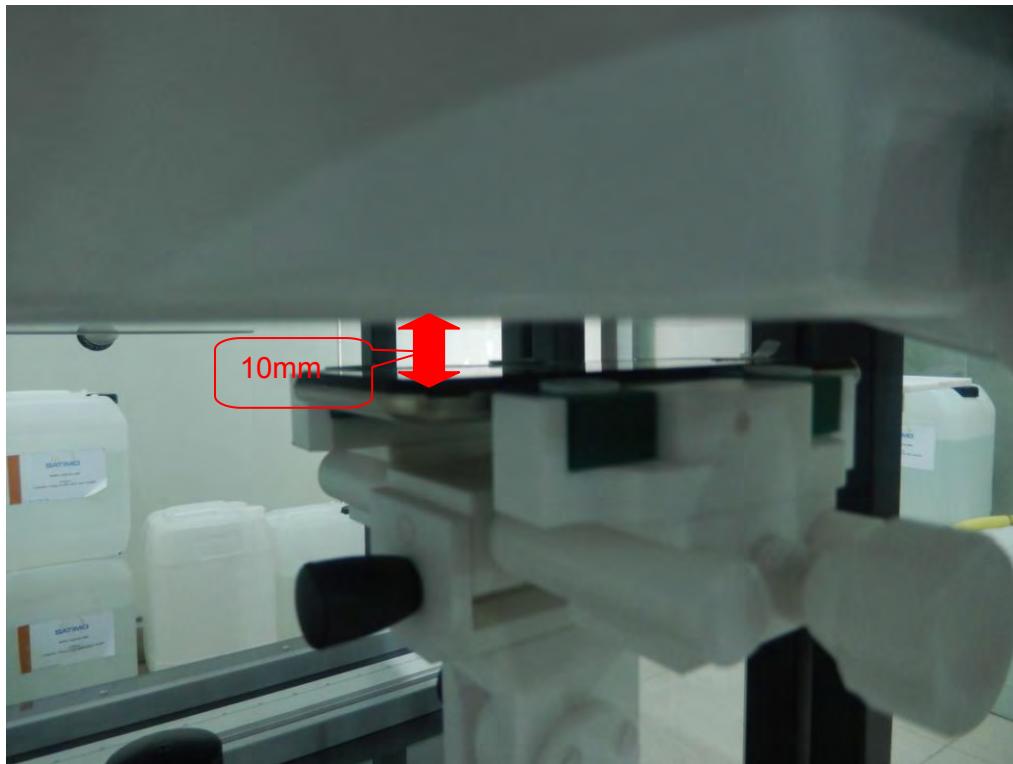
Left Touch



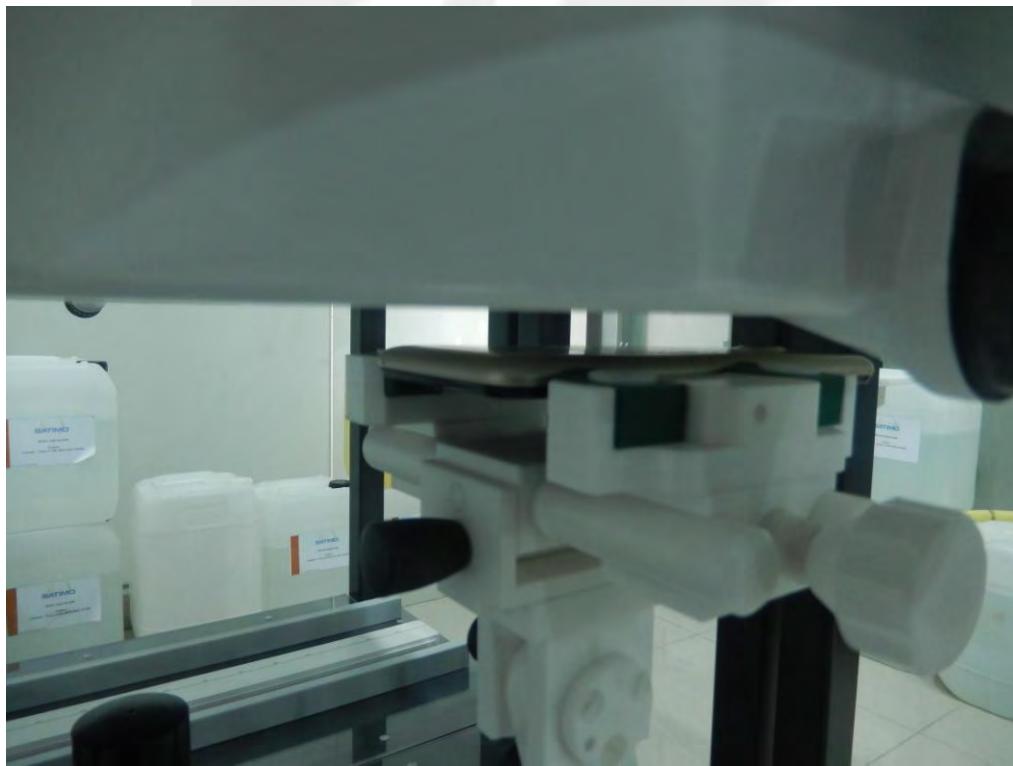
Left Tilt



Body Front side



Body Back side

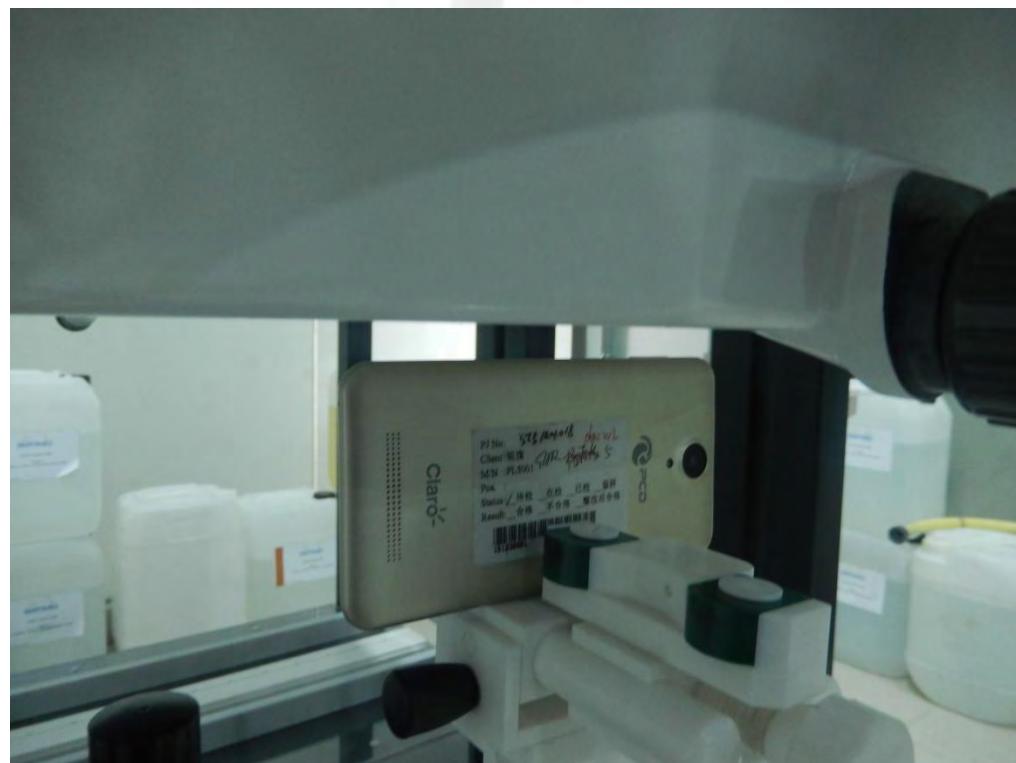




Body left side



Body right 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 251	0.328	-2.73	32	31.69	0.352	1
		Right Tilt	CH 251	0.111	-0.85	32	31.69	0.119	2
		Left Cheek	CH 251	0.276	3.55	32	31.69	0.296	3
		Left Tilt	CH 251	0.213	-0.35	32	31.69	0.229	4
GSM1900	Voice	Right Cheek	CH 512	0.141	-2.45	29.5	29.28	0.148	10
		Right Tilt	CH 512	0.073	-2.82	29.5	29.28	0.077	11
		Left Cheek	CH 512	0.221	-2.37	29.5	29.28	0.232	12
		Left Tilt	CH 512	0.121	-3.83	29.5	29.28	0.127	13
WCDMA II	RMC	Right Cheek	CH 9537	0.275	0.97	23	22.65	0.298	19
		Right Tilt	CH 9537	0.108	-3.61	23	22.65	0.117	20
		Left Cheek	CH 9537	0.427	-0.21	23	22.65	0.463	21
		Left Tilt	CH 9537	0.193	-1.54	23	22.65	0.209	22
WCDMA V	RMC	Right Cheek	CH4182	0.264	-3.08	23	22.54	0.293	28
		Right Tilt	CH4182	0.095	-0.01	23	22.54	0.106	29
		Left Cheek	CH4182	0.253	-1.57	23	22.54	0.281	30
		Left Tilt	CH4182	0.103	-3.21	23	22.54	0.115	31

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 11	0.439	-2.31	17	16.3	100	0.516	64
		Right Tilt	CH 11	0.436	-1.26	17	16.3	100	0.512	65
		Left Cheek	CH 11	0.234	0.08	17	16.3	100	0.275	66
		Left Tilt	CH 11	0.267	-1.06	17	16.3	100	0.314	67



Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Channel	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	0	Right Cheek	18900	0.188	-2.23	25	24.52	0.210	37
			50	0	Right Cheek	18900	0.162	1.58	24	23.43	0.185	/
			1	0	Right Tilt	18900	0.083	-2.65	25	24.52	0.093	38
			50	0	Right Tilt	18900	0.052	1.16	24	23.43	0.059	/
			1	0	Left Cheek	18900	0.331	-2.24	25	24.52	0.370	39
			50	0	Left Cheek	18900	0.305	1.51	24	23.43	0.348	/
			1	0	Left Tilt	18900	0.107	-2.47	25	24.52	0.120	40
			50	0	Left Tilt	18900	0.086	0.11	24	23.43	0.098	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	20175	0.155	-2.20	24.1	24.01	0.158	46
			50	0	Right Cheek	20175	0.124	-3.76	24	23.83	0.129	/
			1	0	Right Tilt	20175	0.115	-2.78	24.1	24.01	0.117	47
			50	0	Right Tilt	20175	0.086	0.69	24	23.83	0.089	/
			1	0	Left Cheek	20175	0.339	-2.00	24.1	24.01	0.346	48
			50	0	Left Cheek	20175	0.301	2.33	24	23.83	0.313	/
			1	0	Left Tilt	20175	0.139	-2.70	24.1	24.01	0.142	49
			50	0	Left Tilt	20175	0.116	1.59	24	23.83	0.121	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	20525	0.236	-2.14	24.2	24.02	0.246	55
			50	0	Right Cheek	20600	0.228	4.33	23.3	23.26	0.230	/
			1	0	Right Tilt	20525	0.151	-2.85	24.2	24.02	0.157	56
			50	0	Right Tilt	20600	0.135	-3.41	23.3	23.26	0.136	/
			1	0	Left Cheek	20525	0.216	-2.19	24.2	24.02	0.225	57
			50	0	Left Cheek	20600	0.197	2.65	23.3	23.26	0.199	/
			1	0	Left Tilt	20525	0.137	-2.91	24.2	24.02	0.143	58
			50	0	Left Tilt	20600	0.111	1.07	23.3	23.26	0.112	/



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 128	0.485	0.87	29	28.99	0.486	5
		Back side	CH 128	0.762	-1.82	29	28.99	0.764	6
		Left side	CH 128	0.257	0.12	29	28.99	0.258	7
		Right side	CH 128	0.401	-0.80	29	28.99	0.402	8
		Bottom side	CH 128	0.165	-0.24	29	28.99	0.165	9
GSM1900	GPRS Data-4 Slot (hotspot)	Front side	CH 810	0.235	-1.58	27	26.59	0.258	14
		Back side	CH 810	0.190	-1.97	27	26.59	0.209	15
		Left side	CH 810	0.164	-0.71	27	26.59	0.180	16
		Right side	CH 810	0.126	-1.00	27	26.59	0.138	17
		Bottom side	CH 810	0.156	1.01	27	26.59	0.171	18
WCDMA II	RMC (body-worn and hotspot)	Front side	CH9537	0.313	-2.25	23	22.65	0.339	23
		Back side	CH9263	0.326	-0.71	23	22.65	0.353	24
		Left side	CH9537	0.183	-0.40	23	22.65	0.198	25
		Right side	CH9537	0.127	-0.25	23	22.65	0.138	26
		Bottom side	CH9537	0.244	0.03	23	22.65	0.264	27
WCDMA V	RMC (body-worn and hotspot)	Front side	CH4182	0.215	-0.99	23	22.54	0.239	32
		Back side	CH4182	0.371	-0.91	23	22.54	0.412	33
		Left side	CH4182	0.152	3.55	23	22.54	0.169	34
		Right side	CH4182	0.0181	-0.68	23	22.54	0.020	35
		Bottom side	CH4182	0.071	-3.67	23	22.54	0.079	36

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 11	0.117	-2.37	17	16.3	100	0.137	68
		Back side	CH 11	0.166	-1.26	17	16.3	100	0.195	69
		Left side	CH 11	0.069	0.96	17	16.3	100	0.081	70
		Bottom side	CH 11	0.048	-0.99	17	16.3	100	0.056	71

Note:

1. Two card slot can't work at the same time.
2. The 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 $\leq 1.2 \text{ W/kg}$. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.349W/Kg** for Head and **0.132 W/Kg** for Body/Hotspot)
4. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Channel	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	0	Front	18700	0.194	-4.11	25	24.52	0.217	/
			50	0	Front	18900	0.172	0.21	24	23.43	0.196	/
			1	0	Back	18900	0.206	-3.43	25	24.52	0.230	45
			50	0	Back	18900	0.186	1.07	24	23.43	0.212	/
			1	0	Left Side	18900	0.116	-0.50	25	24.52	0.130	46
			50	0	Left Side	18900	0.097	0.34	24	23.43	0.111	/
			1	0	Right Side	18900	0.091	0.18	25	24.52	0.102	47
			50	0	Right Side	18900	0.083	-2.61	24	23.43	0.095	/
			1	0	Bottom Side	18900	0.126	-1.85	25	24.52	0.141	48
			50	0	Bottom Side	18900	0.104	1.15	24	23.43	0.119	/
LTE Band 4	20M	QPSK	1	0	Front	20175	0.266	-2.09	24.1	24.01	0.272	53
			50	0	Front	20175	0.213	0.82	24	23.83	0.222	/
			1	0	Back	20175	0.315	-3.55	24.1	24.01	0.322	54
			50	0	Back	20175	0.272	3.66	24	23.83	0.283	/
			1	0	Left Side	20175	0.190	-3.23	24.1	24.01	0.194	55
			50	0	Left Side	20175	0.146	0.19	24	23.83	0.152	/
			1	0	Right Side	20175	0.163	3.92	24.1	24.01	0.166	56
			50	0	Right Side	20175	0.134	-0.03	24	23.83	0.139	/
			1	0	Bottom Side	20175	0.350	-1.54	24.1	24.01	0.357	57
			50	0	Bottom Side	20175	0.306	-0.43	24	23.83	0.318	/
LTE Band 5	10M	QPSK	1	0	Front	20525	0.199	-1.47	24.2	24.02	0.207	62
			50	0	Front	20600	0.168	0.60	23.3	23.26	0.170	/
			1	0	Back	20525	0.359	-2.64	24.2	24.02	0.374	63
			50	0	Back	20600	0.318	-0.46	23.3	23.26	0.321	/
			1	0	Left Side	20525	0.116	-0.17	24.2	24.02	0.121	64
			50	0	Left Side	20600	0.091	-0.15	23.3	23.26	0.092	/
			1	0	Right Side	20525	0.129	0.08	24.2	24.02	0.134	65
			50	0	Right Side	20600	0.106	-3.19	23.3	23.26	0.107	/
			1	0	Bottom Side	20525	0.063	-2.71	24.2	24.02	0.066	66
			50	0	Bottom Side	20600	0.046	0.15	23.3	23.26	0.046	/



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 ≤ 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) 0.4W/Kg for 1-g SAR and 1.0W/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	3	2	5	2.480	0.084
	Body			10	2.480	0.042



Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + WIFI	Head	GSM Voice	0.352	0.868
		WIFI	0.516	
	Body	GSM Voice	0.764	0.959
		WIFI	0.195	
GSM + Bluetooth	Head	GSM Voice	0.352	0.436
		Bluetooth	0.084	
	Body	GSM Voice	0.764	0.806
		Bluetooth	0.042	
WCDMA + WIFI	Head	WCDMA RMC	0.463	0.979
		WIFI	0.516	
	Body	WCDMA RMC	0.412	0.607
		WIFI	0.195	
WCDMA + Bluetooth	Head	WCDMA RMC	0.463	0.547
		Bluetooth	0.084	
	Body	WCDMA RMC	0.412	0.454
		Bluetooth	0.042	
LTE + WIFI	Head	LTE RMC	0.370	0.886
		WIFI	0.516	
	Body	LTE RMC	0.374	0.569
		WIFI	0.195	
LTE + Bluetooth	Head	LTE RMC	0.370	0.454
		Bluetooth	0.084	
	Body	LTE RMC	0.374	0.416
		Bluetooth	0.042	

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
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
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	NA/	NA/
Phantom2	SATIMO	SAM	SN 32/14 SAM116	NA/	NA/
SAR TEST BENCH	SATIMO	GSM and WCDMA mobile phone POSITIONNING SYSTEM	SN 32/14 MSH97	NA/	NA/
SAR TEST BENCH	SATIMO	LAPTOP POSITIONNING SYSTEM	SN 32/14 LSH29	NA/	NA/
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 (835MHz Head)

Type: Phone measurement (Complete)

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

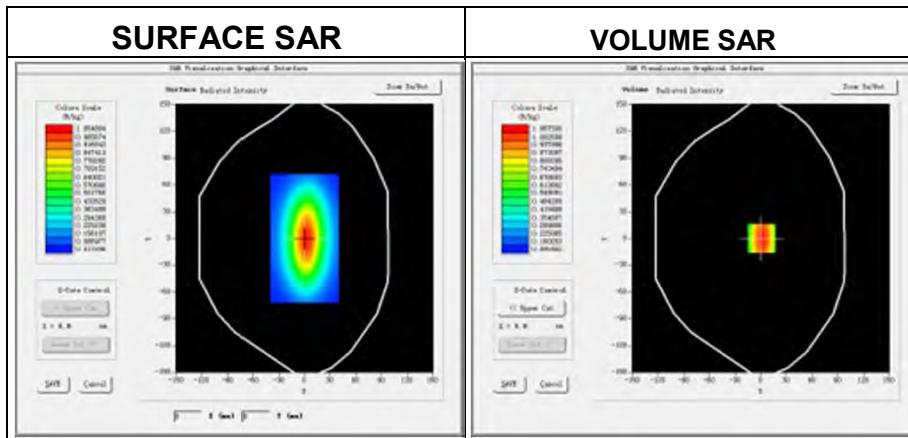
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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



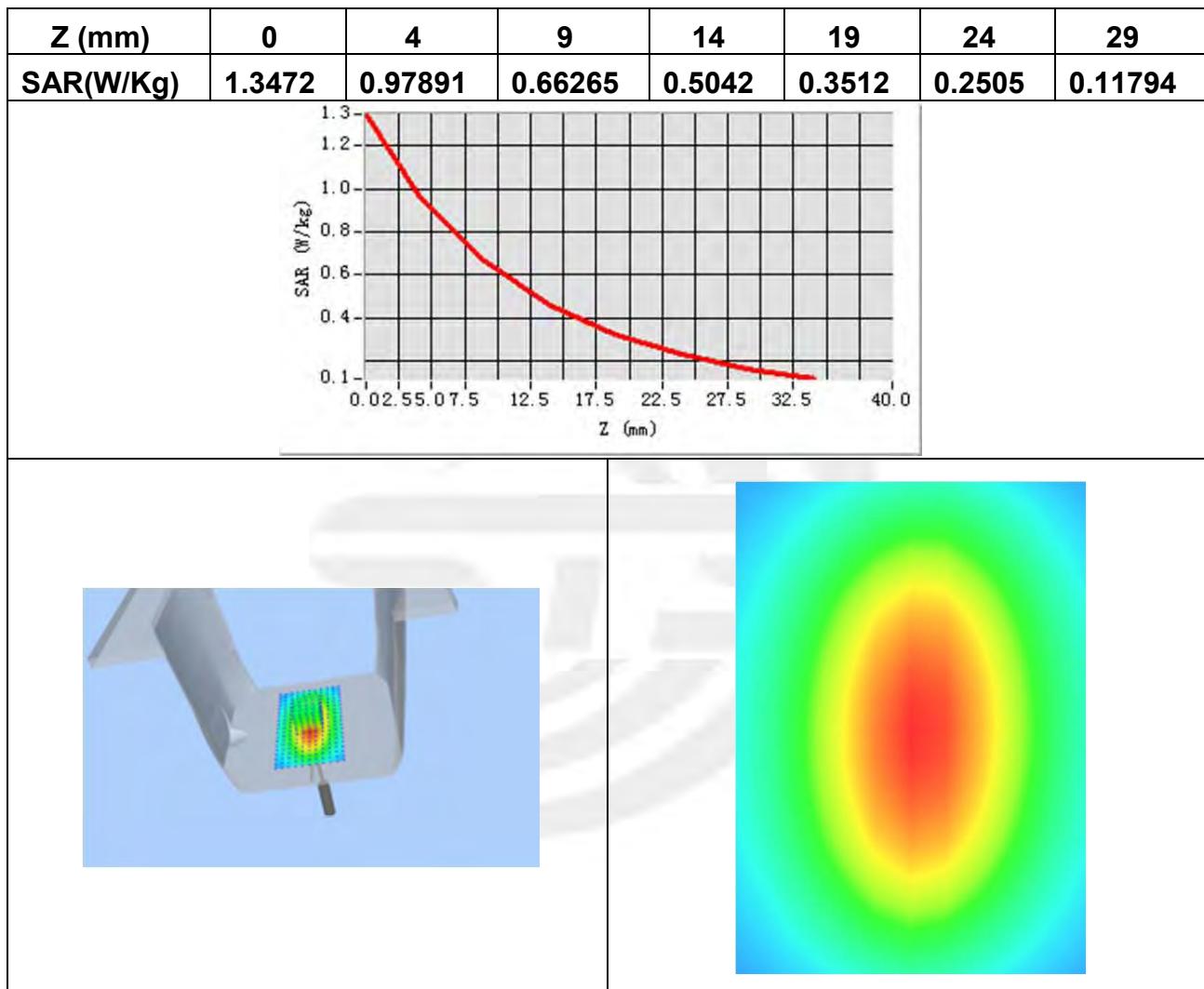


Maximum location: X=1.00, Y=0.00

SAR Peak: 1.39 W/kg

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

Z Axis Scan





System Performance Check Data (835MHz Body)

Type: Phone measurement (Complete)

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

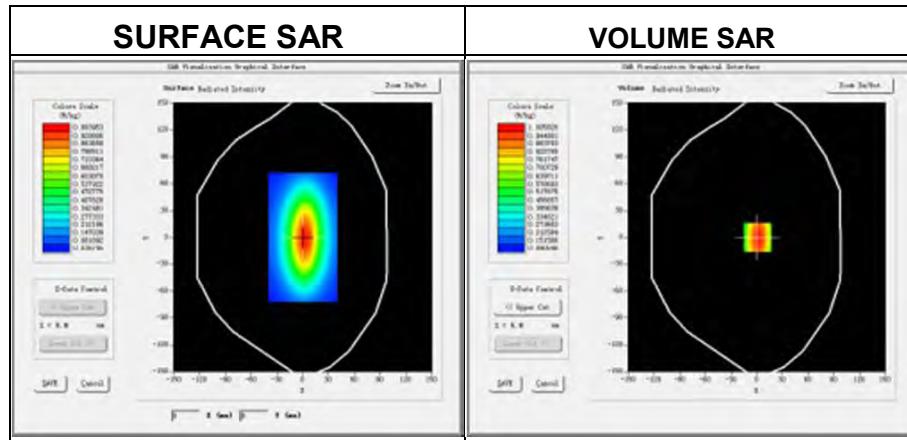
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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



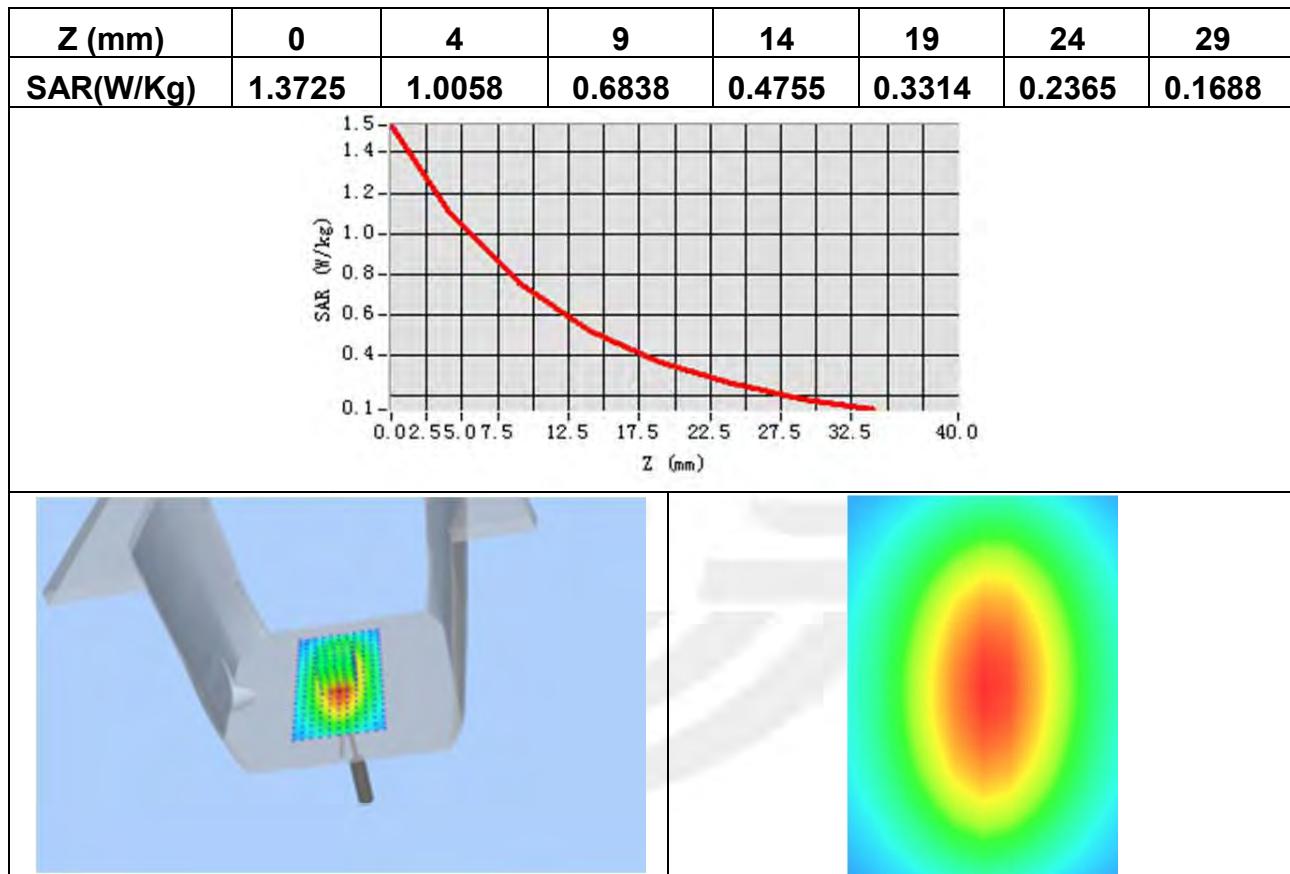


Maximum location: X=1.00, Y=0.00

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)

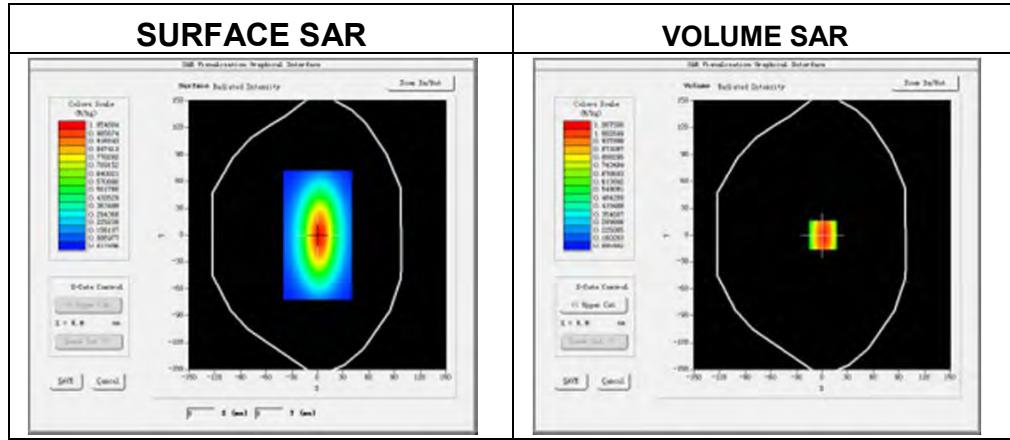
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2016-01-14

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

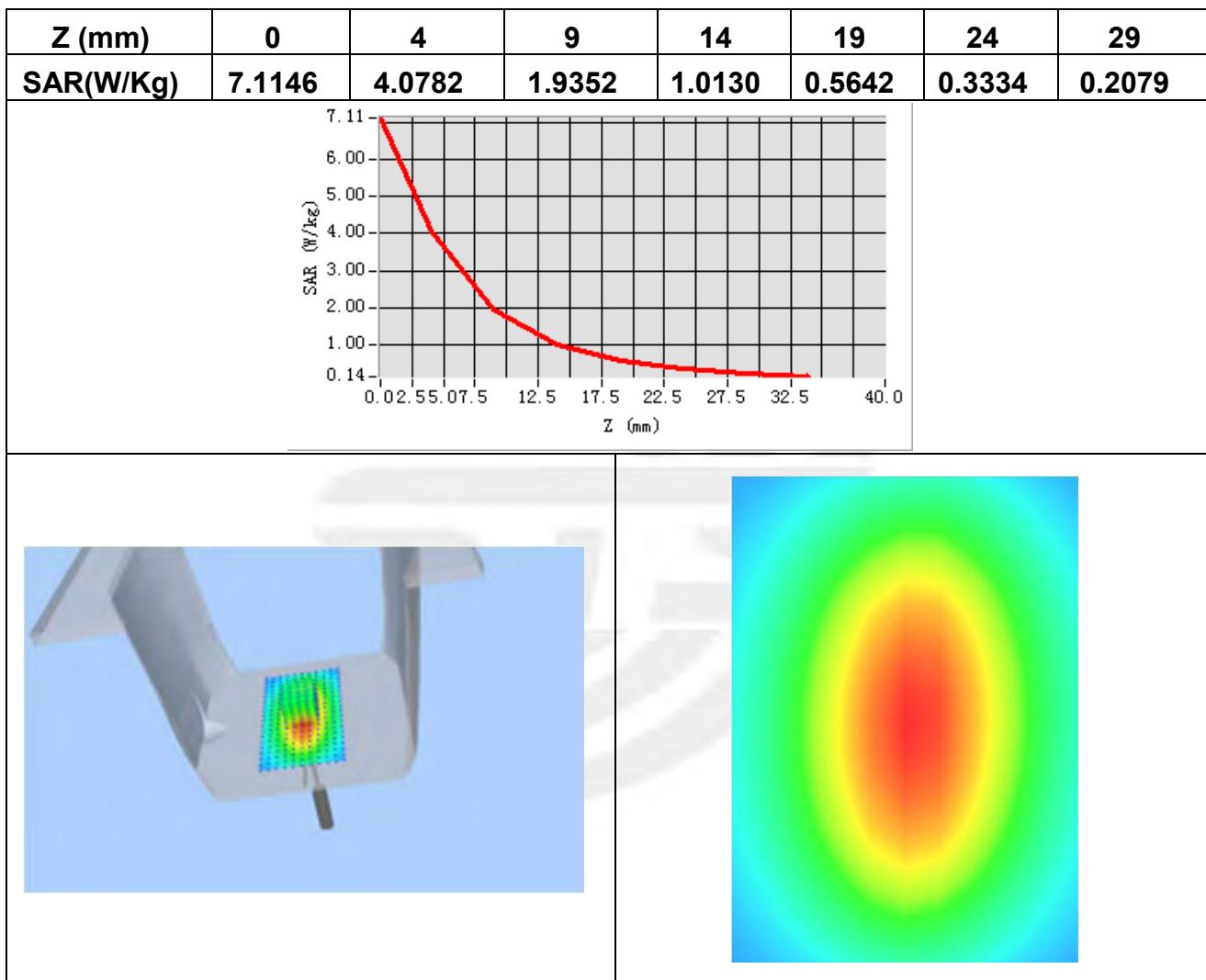




Maximum location: X=7.00, Y=-1.00

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

Z Axis Scan





System Performance Check Data(1800MHz Body)

Type: Phone measurement (Complete)

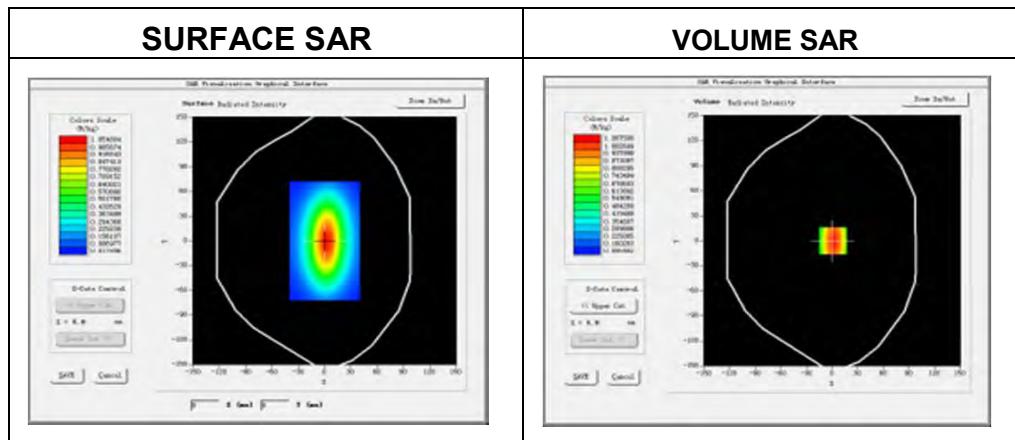
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2016-01-14

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

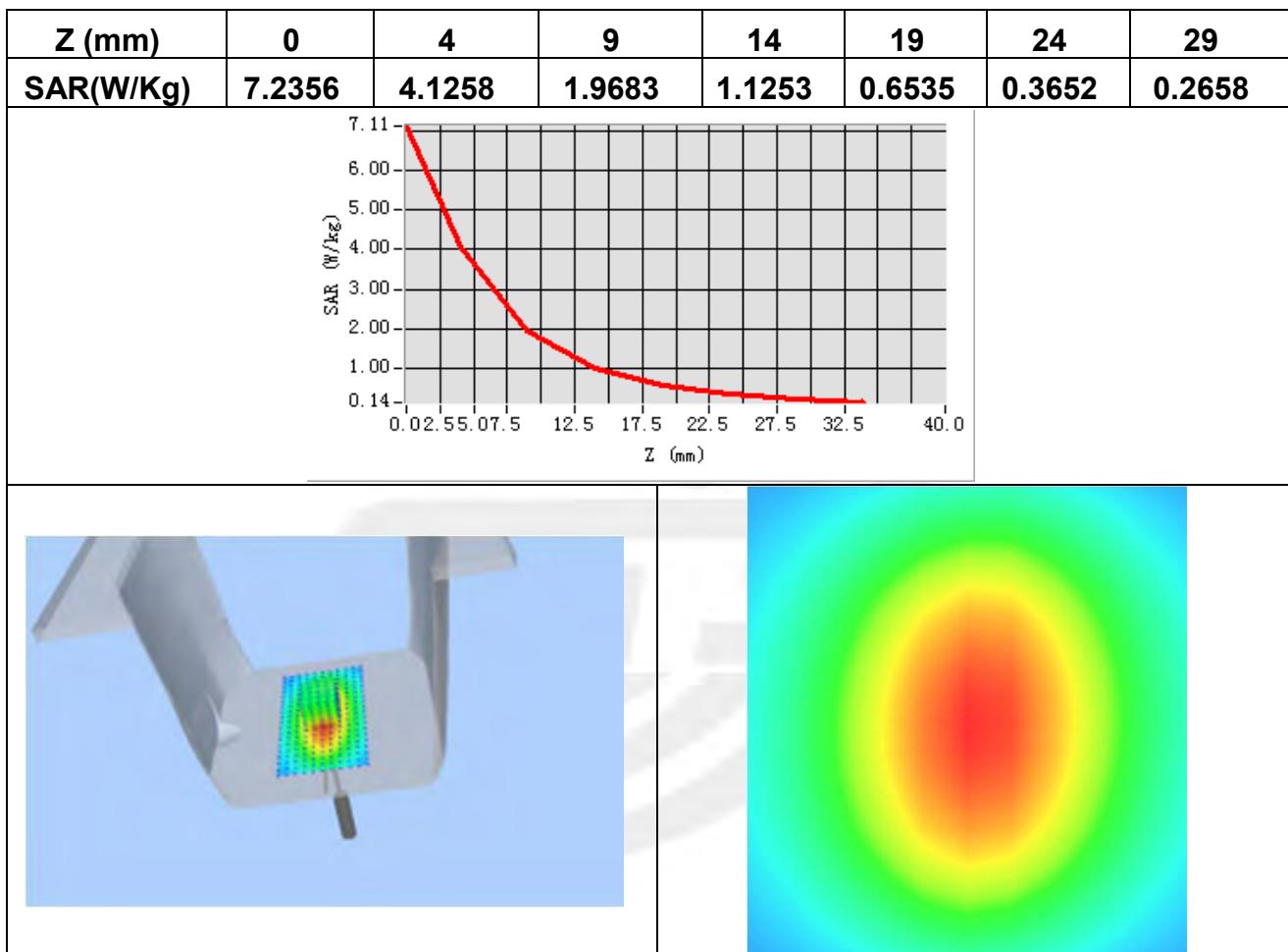




Maximum location: X=6.00, Y=2.00

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

Z Axis Scan





System Performance Check Data (1900MHz Head)

Type: Phone measurement (Complete)

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

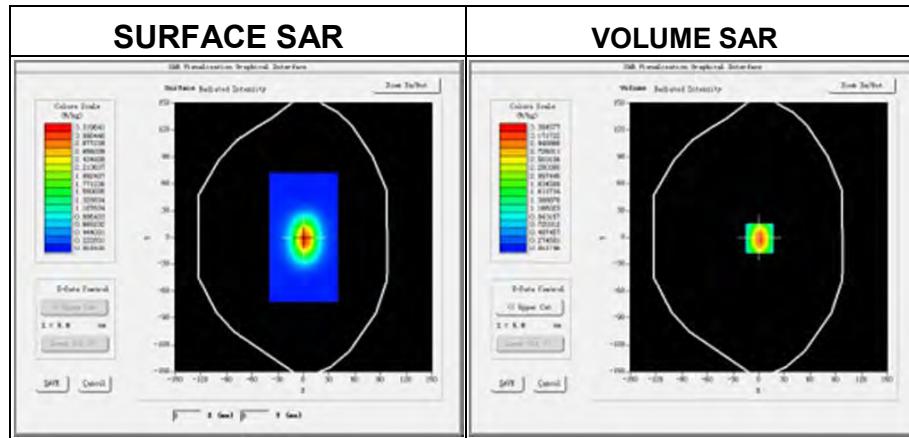
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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



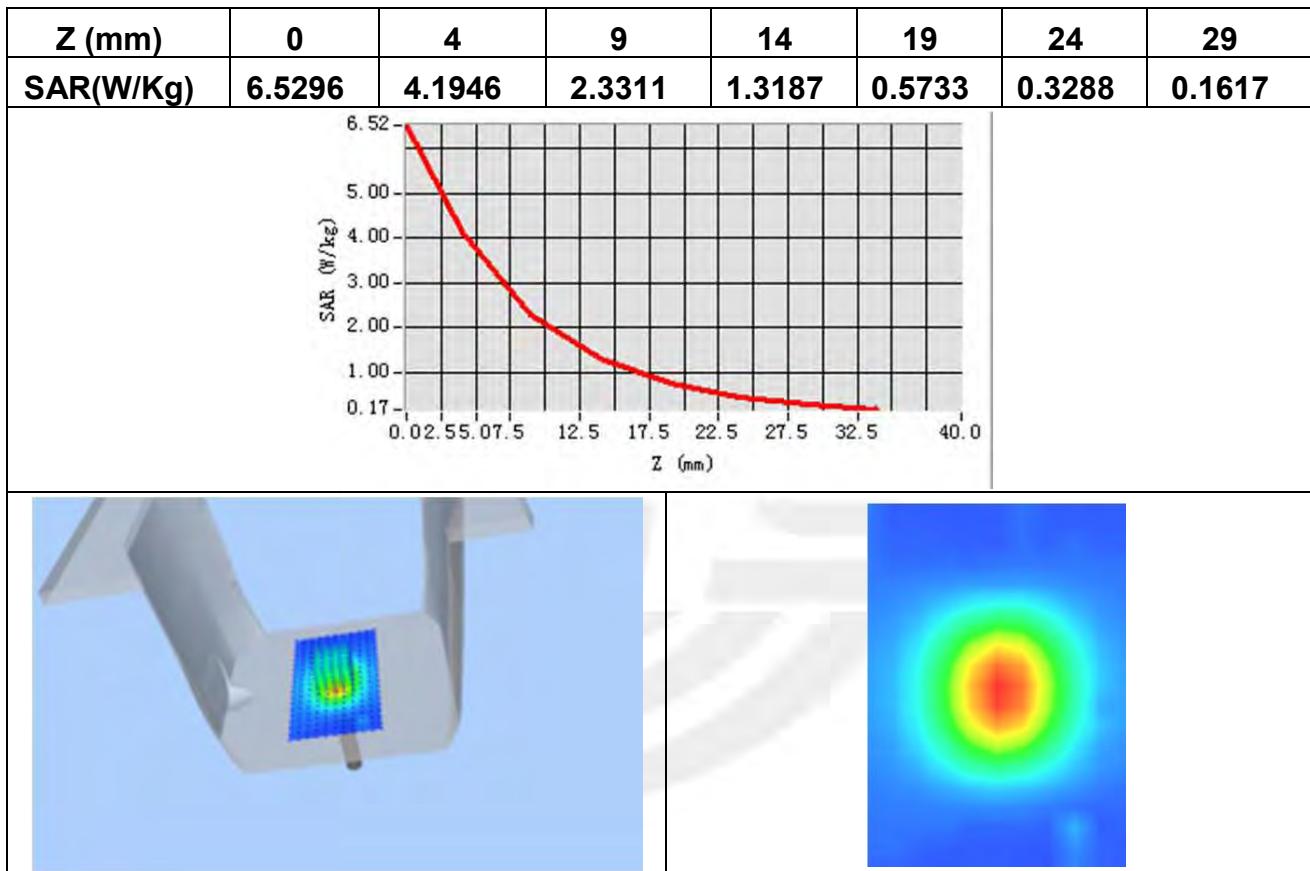


Maximum location: X=1.00, Y=0.00

SAR Peak: 5.41 W/kg

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

Z Axis Scan





System Performance Check Data (1900MHz Body)

Type: Phone measurement (Complete)

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

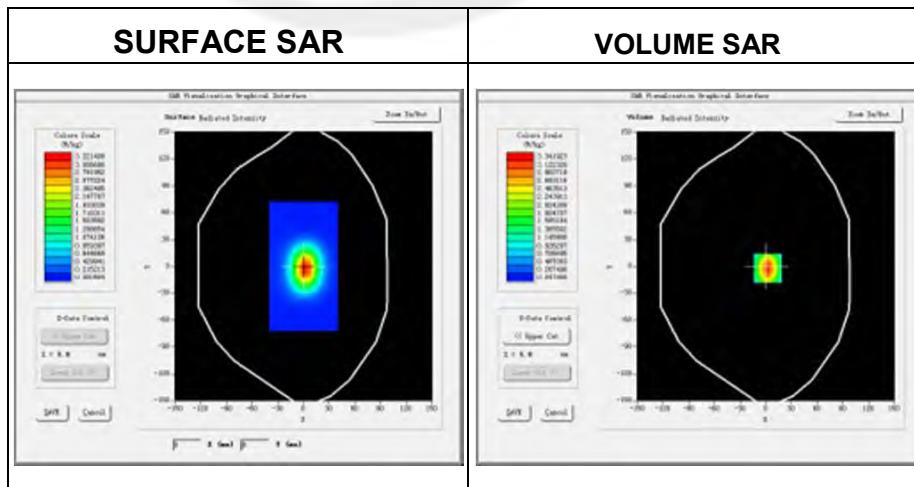
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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



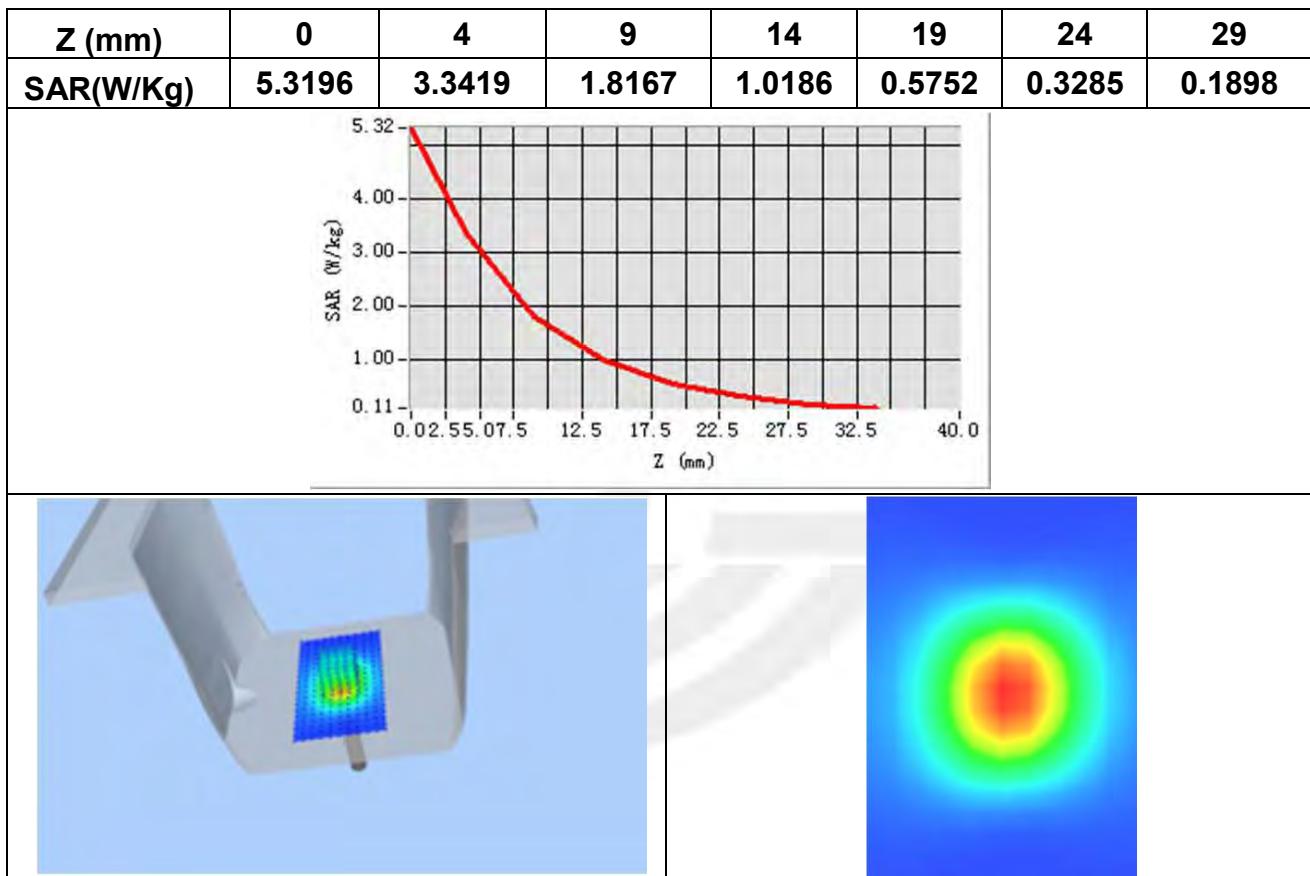


Maximum location: X=2.00, Y=2.00

SAR Peak: 5.27 W/kg

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

Z Axis Scan





System Performance Check Data (2450MHz Head)

Type: Phone measurement (Complete)

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

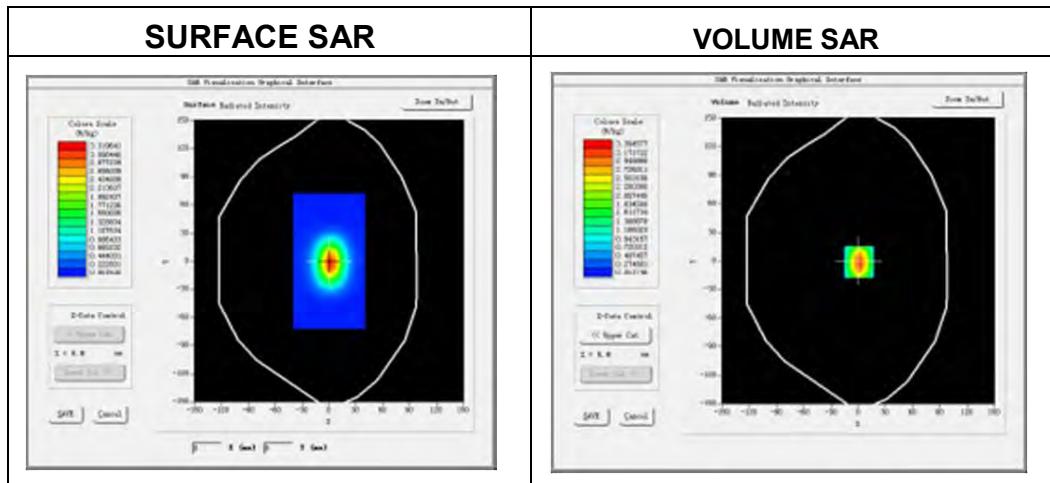
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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

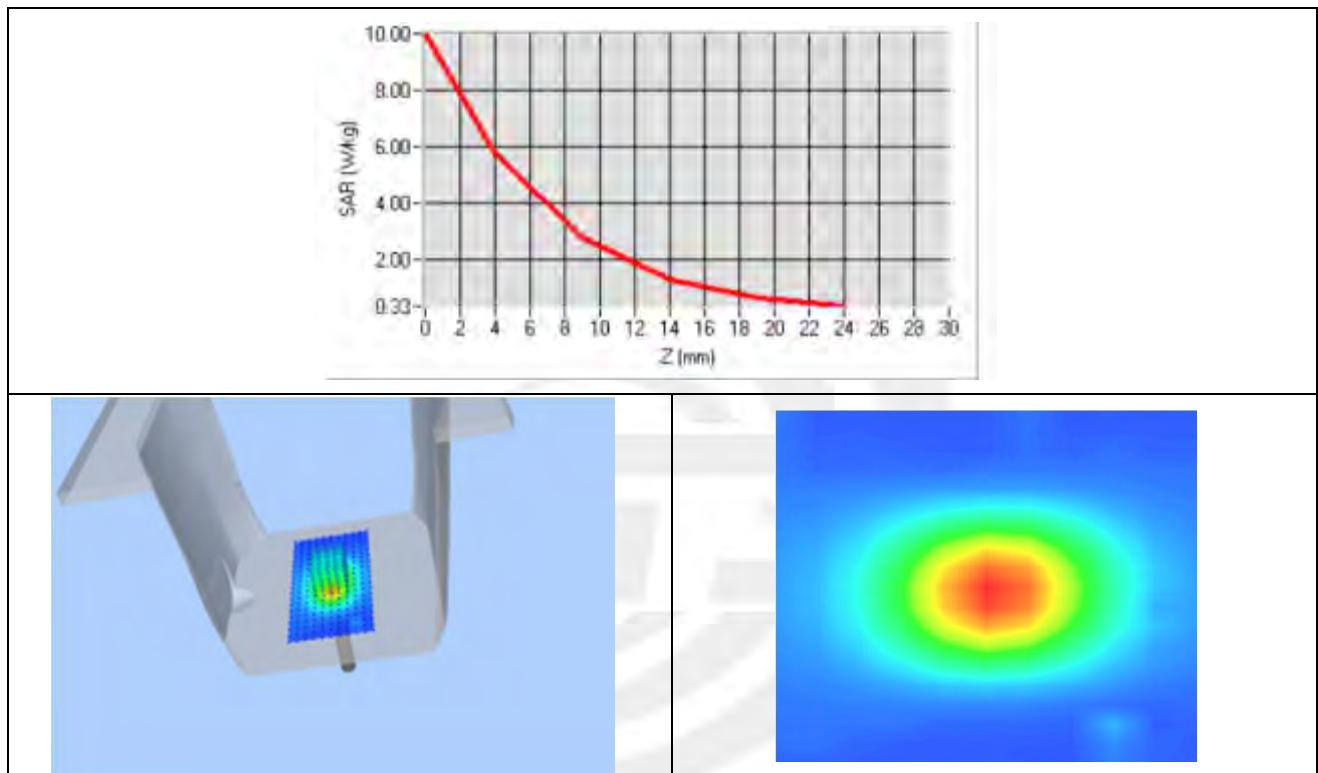




Maximum location: X=7.00, Y=6.00

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

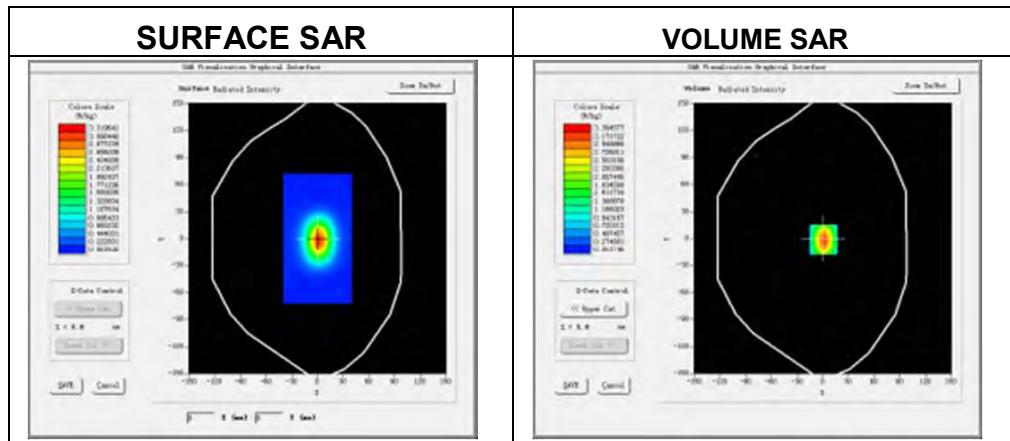
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2016-01-14

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

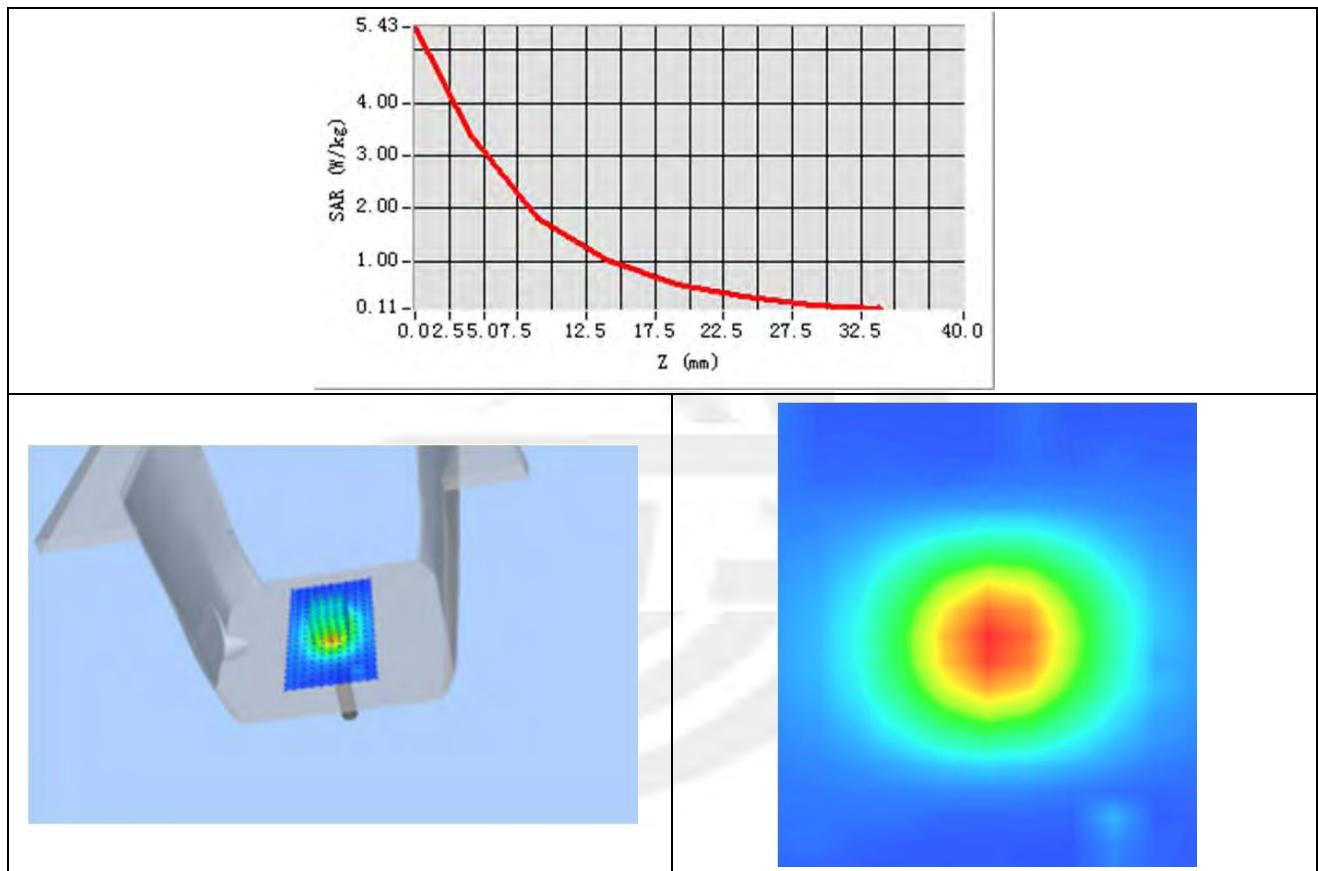




Maximum location: X=3.00, Y=1.00

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

Z Axis Scan





Appendix B. SAR Test Plots

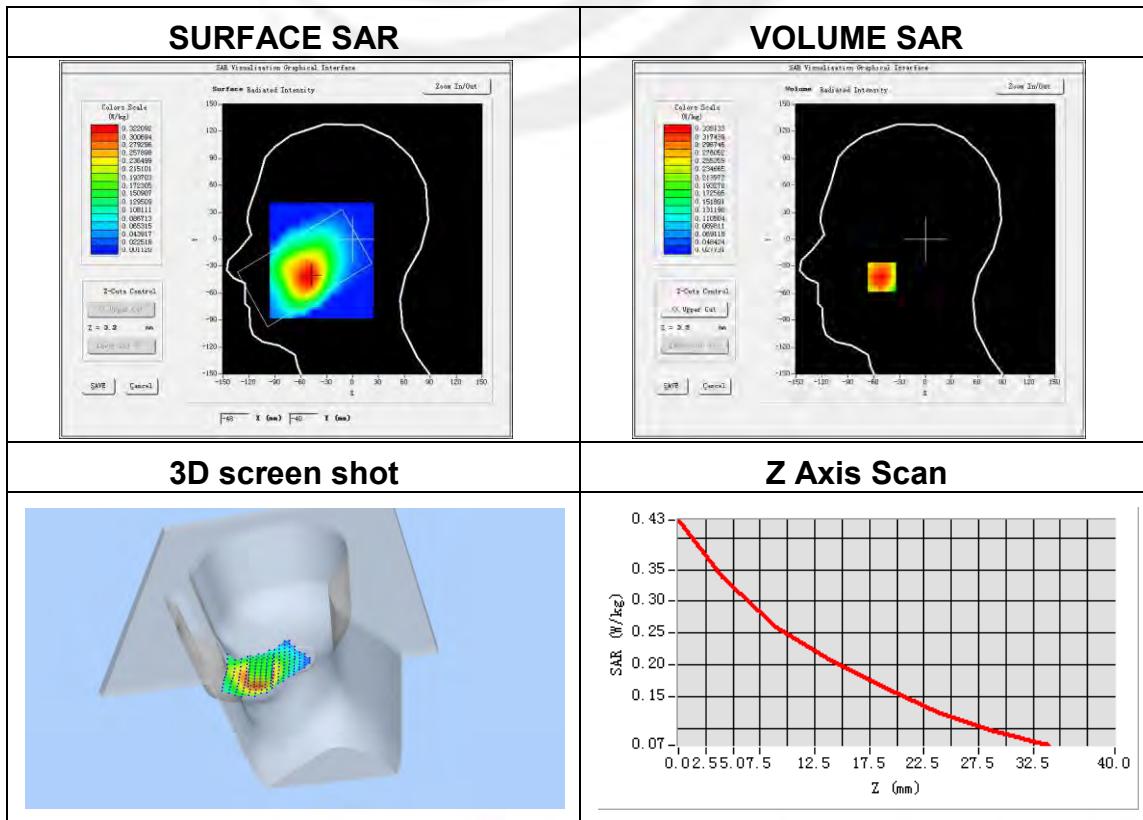
Plot 1: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	-2.73

Maximum location: X=-51.00, Y=-42.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.237529
SAR 1g (W/Kg)	0.327922





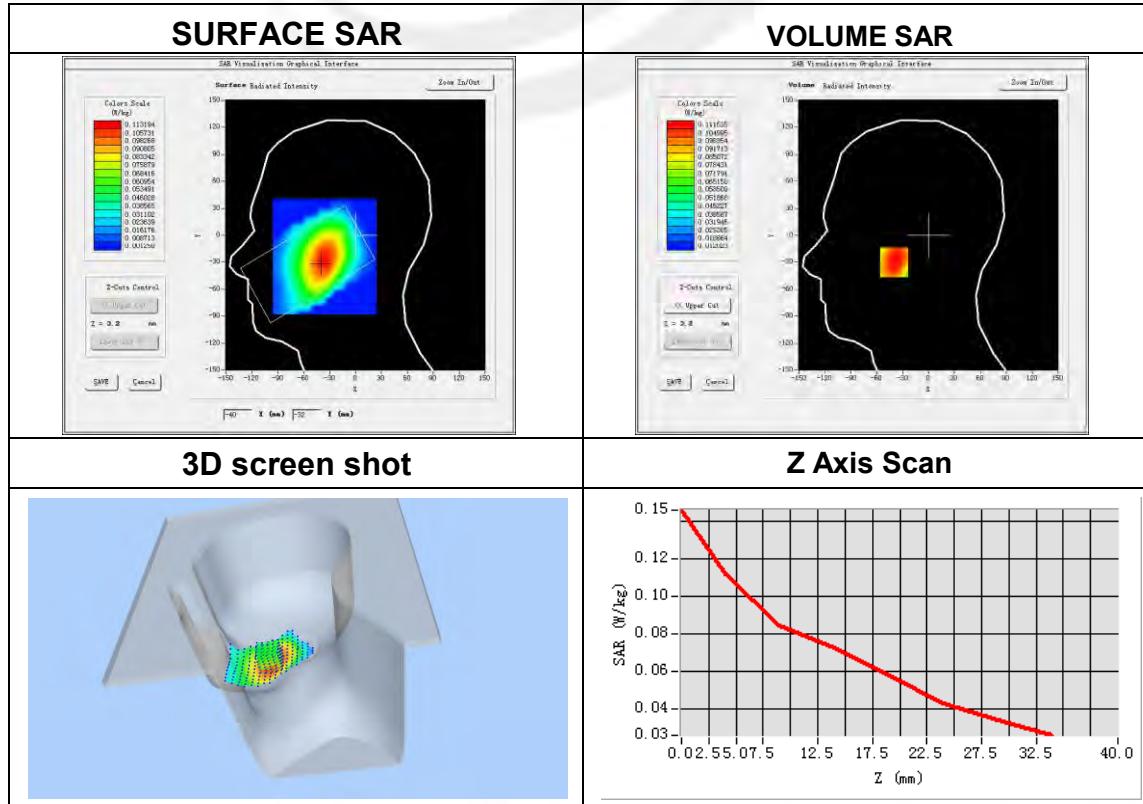
Plot 2: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	-0.85

Maximum location: X=-38.00, Y=-30.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.079866
SAR 1g (W/Kg)	0.110718





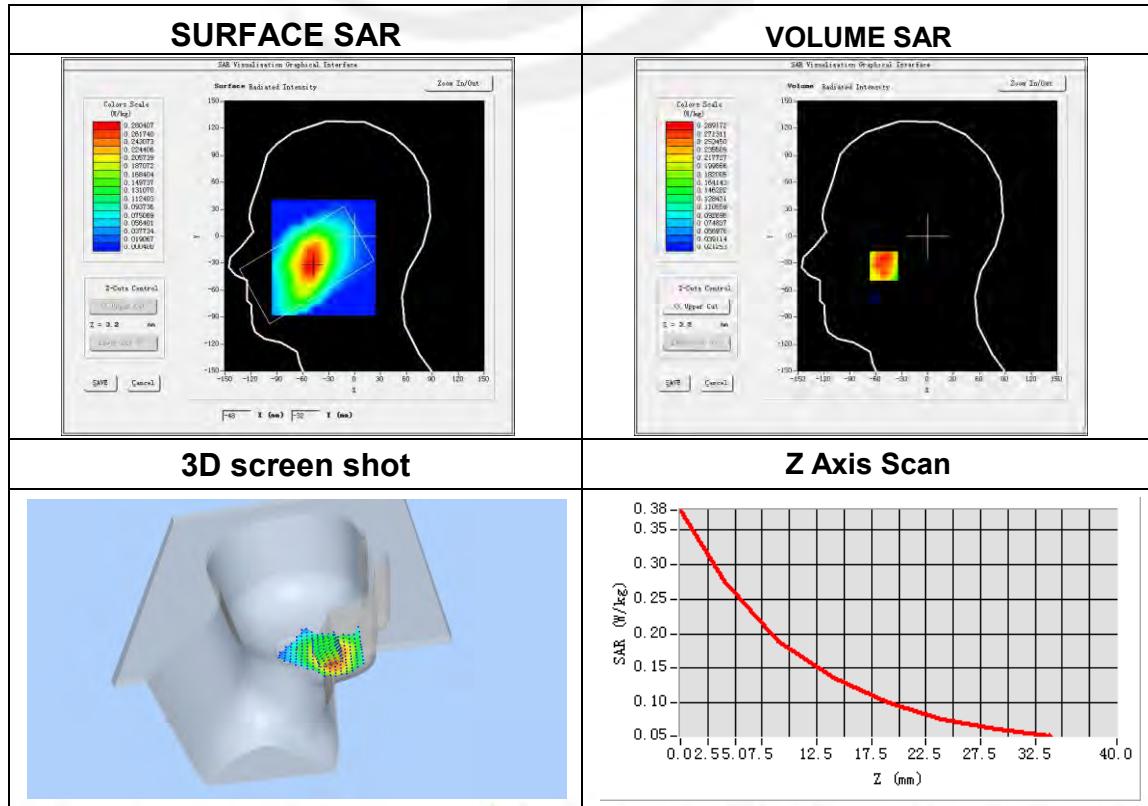
Plot 3: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	3.55

Maximum location: X=-51.00, Y=-33.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.197439
SAR 1g (W/Kg)	0.276216





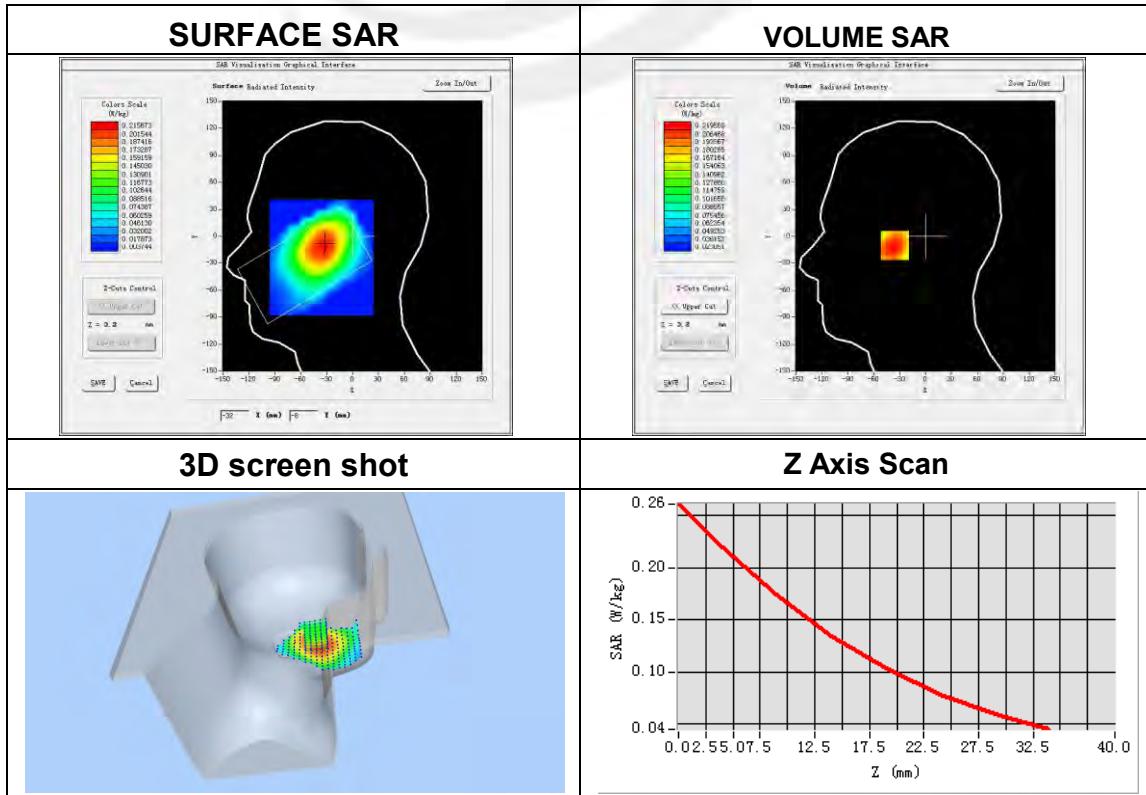
Plot 4: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	-0.35

Maximum location: X=-33.00, Y=-10.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.154472
SAR 1g (W/Kg)	0.213002

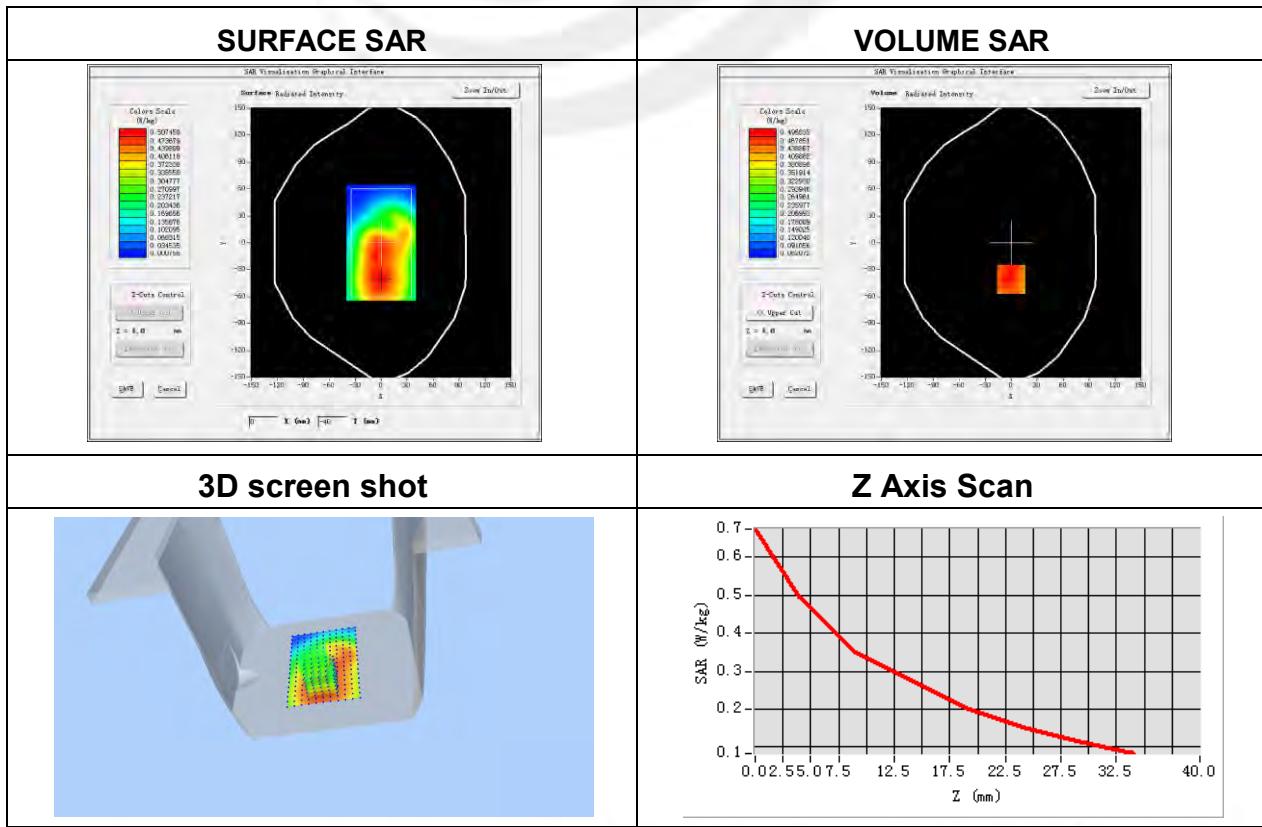


**Plot 5: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.87

Maximum location: X=0.00, Y=-41.00**SAR Peak: 0.65 W/kg**

SAR 10g (W/Kg)	0.351890
SAR 1g (W/Kg)	0.485091

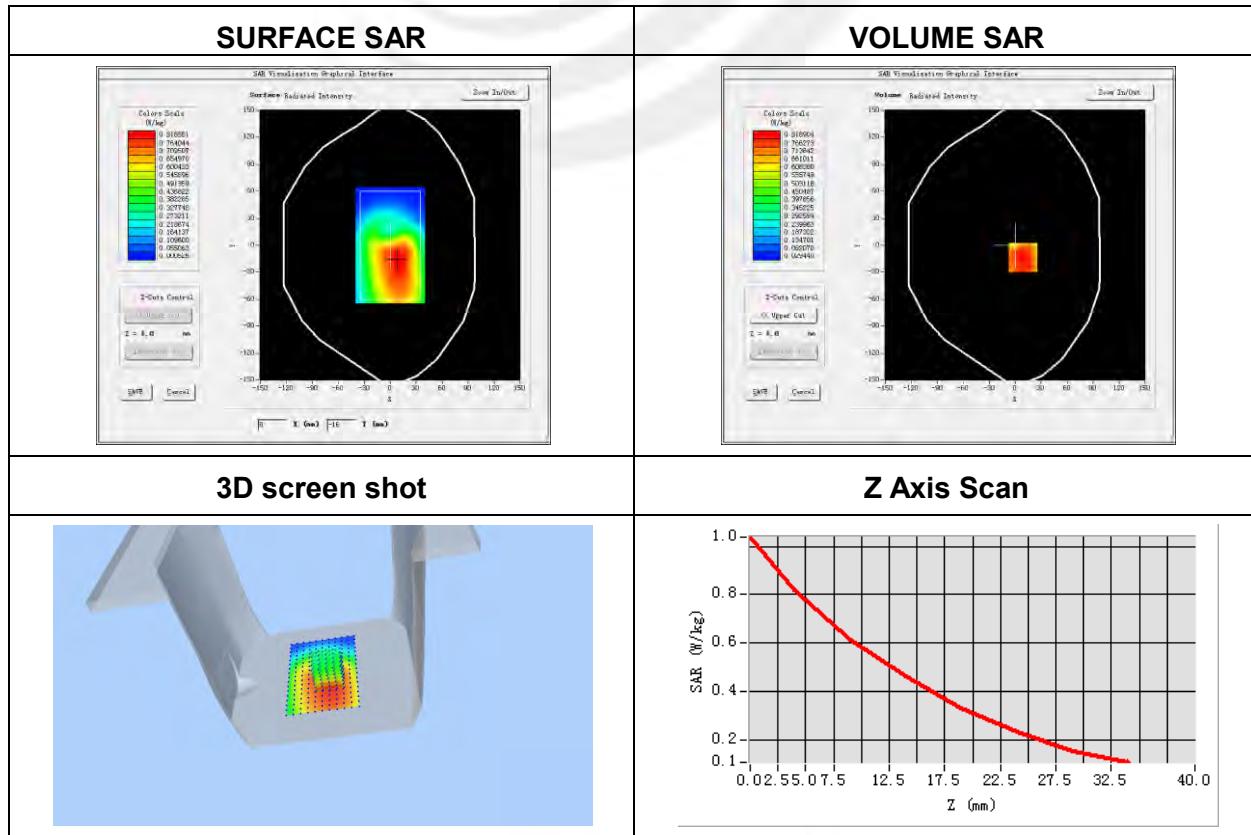


**Plot 6: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.82

Maximum location: X=9.00, Y=-14.00**SAR Peak: 1.07 W/kg**

SAR 10g (W/Kg)	0.565060
SAR 1g (W/Kg)	0.761866





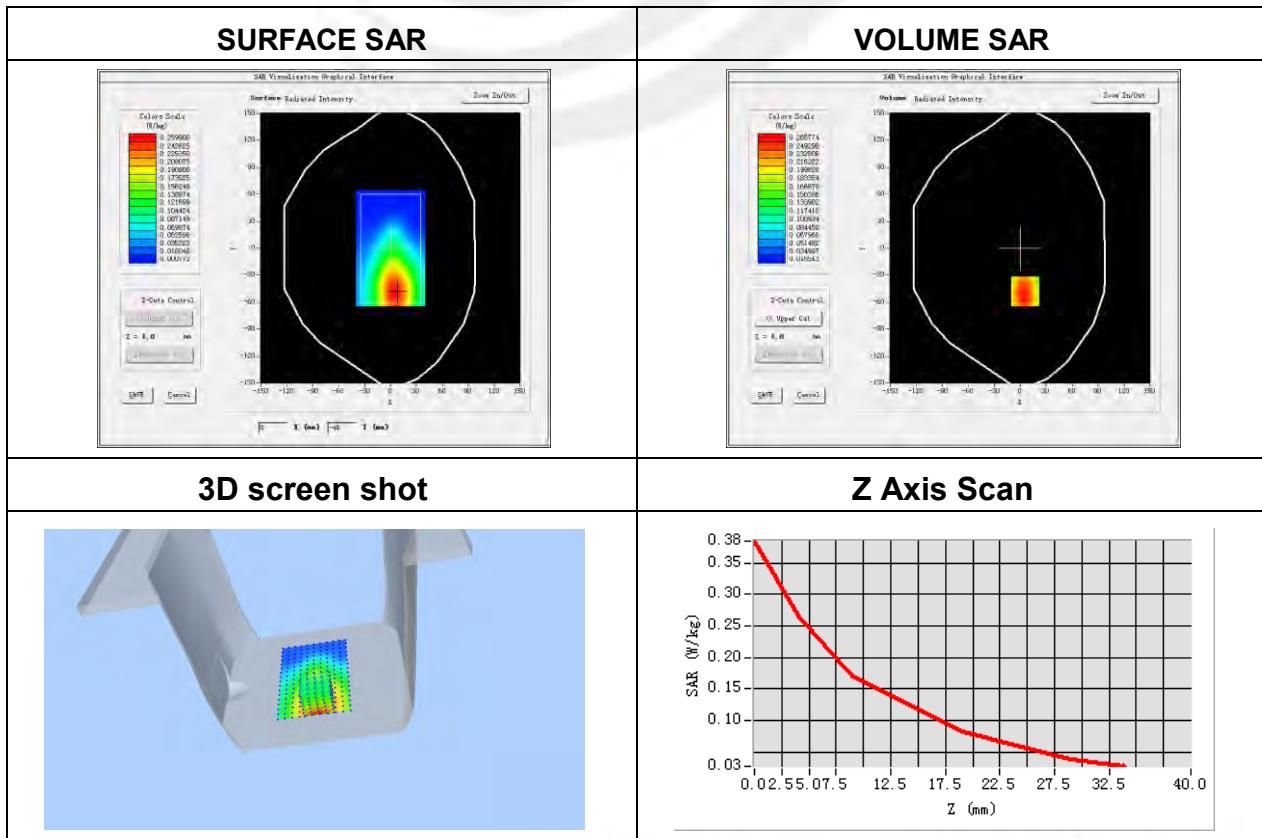
Plot 7: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.12

Maximum location: X=6.00, Y=-48.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.167732
SAR 1g (W/Kg)	0.257057





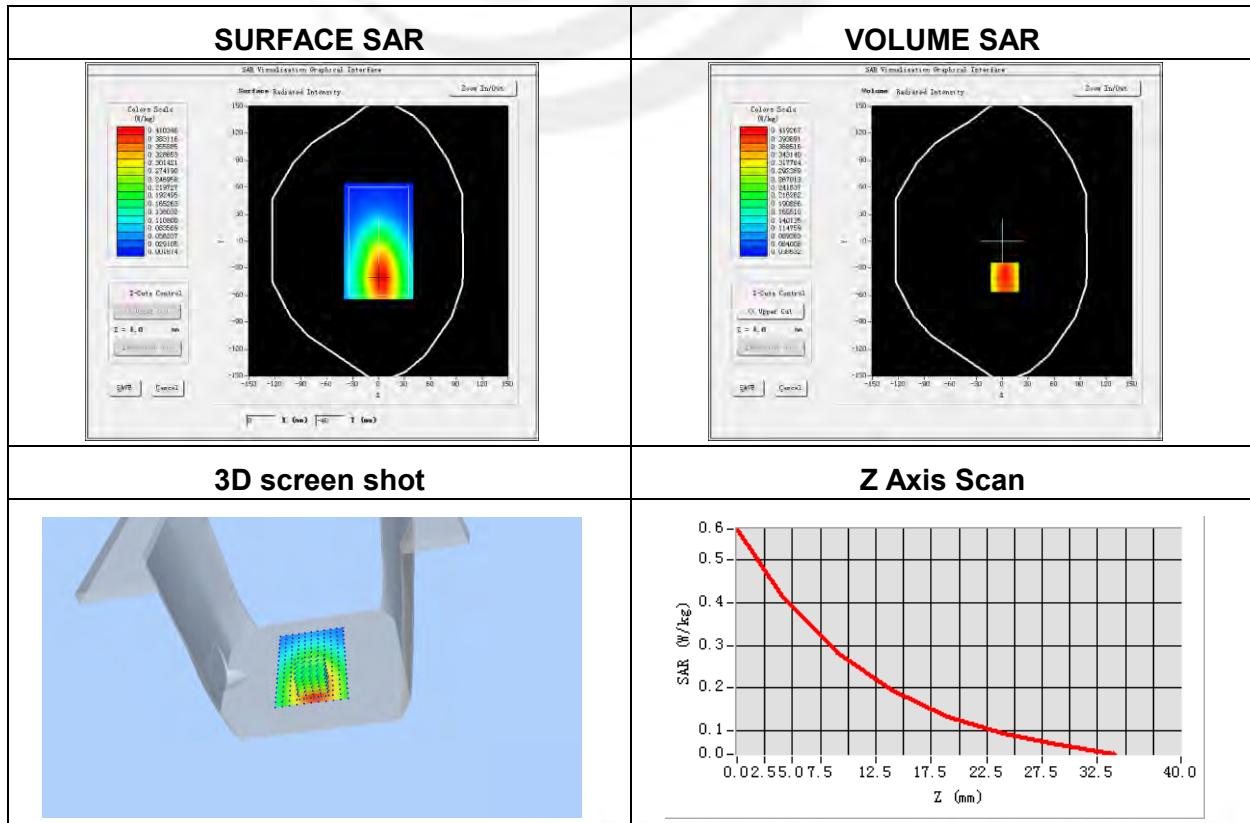
Plot 8: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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 right side
Band	EGPRS 850
Channels	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.80

Maximum location: X=3.00, Y=-40.00

SAR Peak: 0.60 W/kg

SAR 10g (W/Kg)	0.260043
SAR 1g (W/Kg)	0.401344



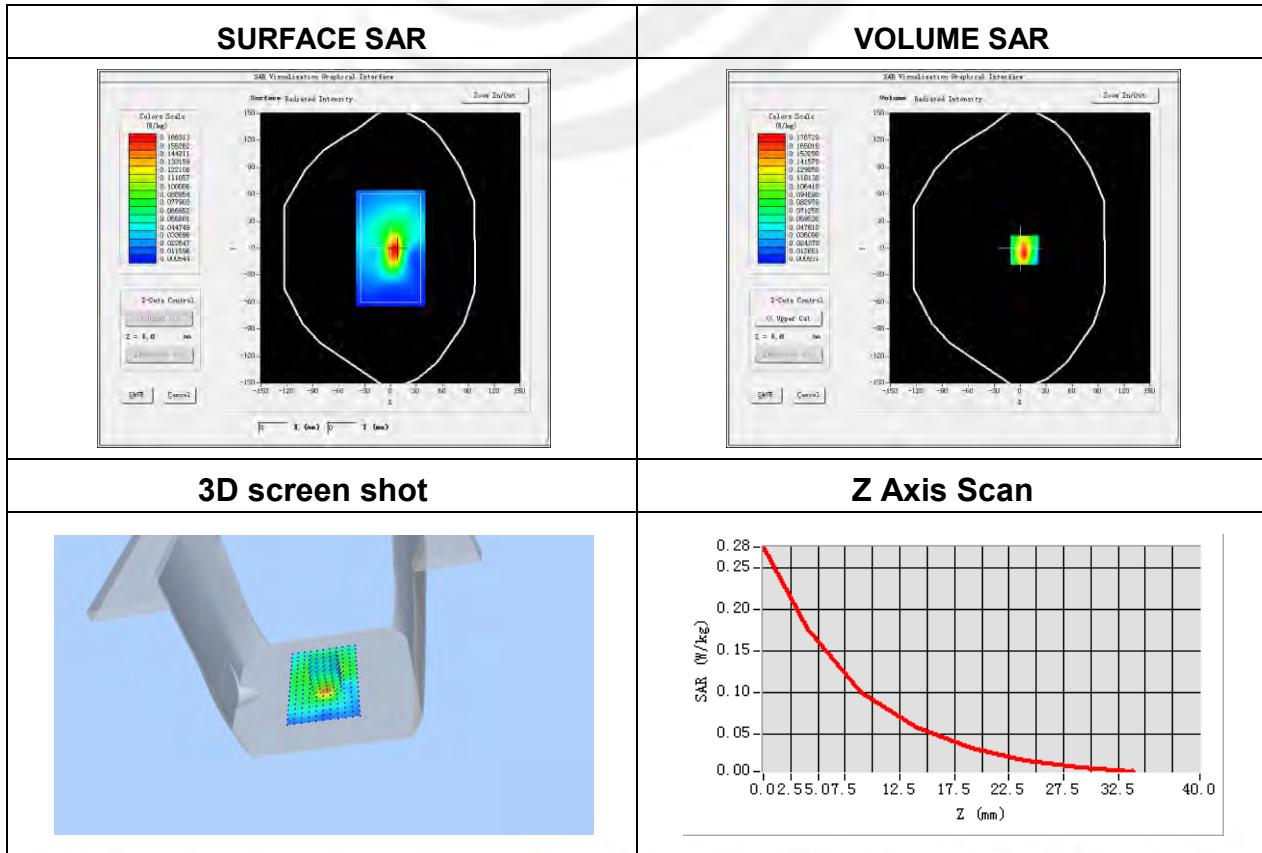
**Plot 9: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.24

Maximum location: X=5.00, Y=-2.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.081503
SAR 1g (W/Kg)	0.165350





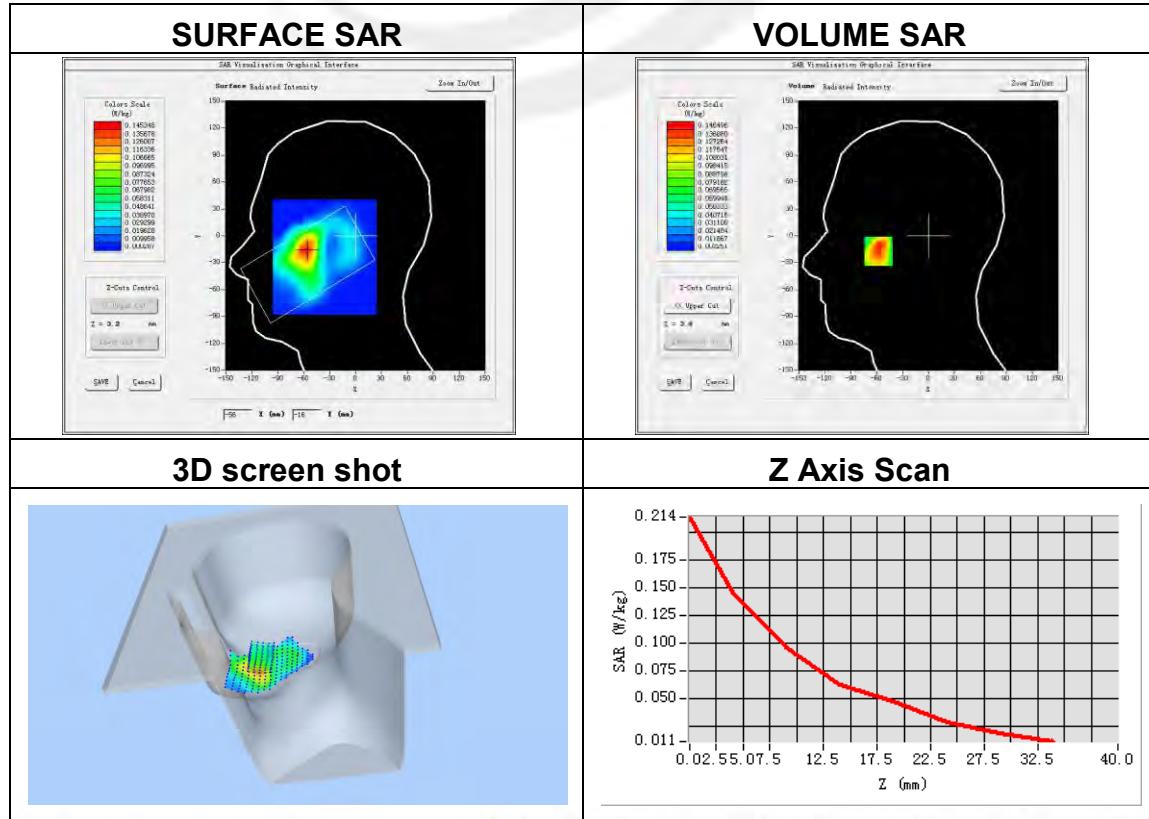
Plot 10: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	High
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-2.45

Maximum location: X=-58.00, Y=-16.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.083511
SAR 1g (W/Kg)	0.140630

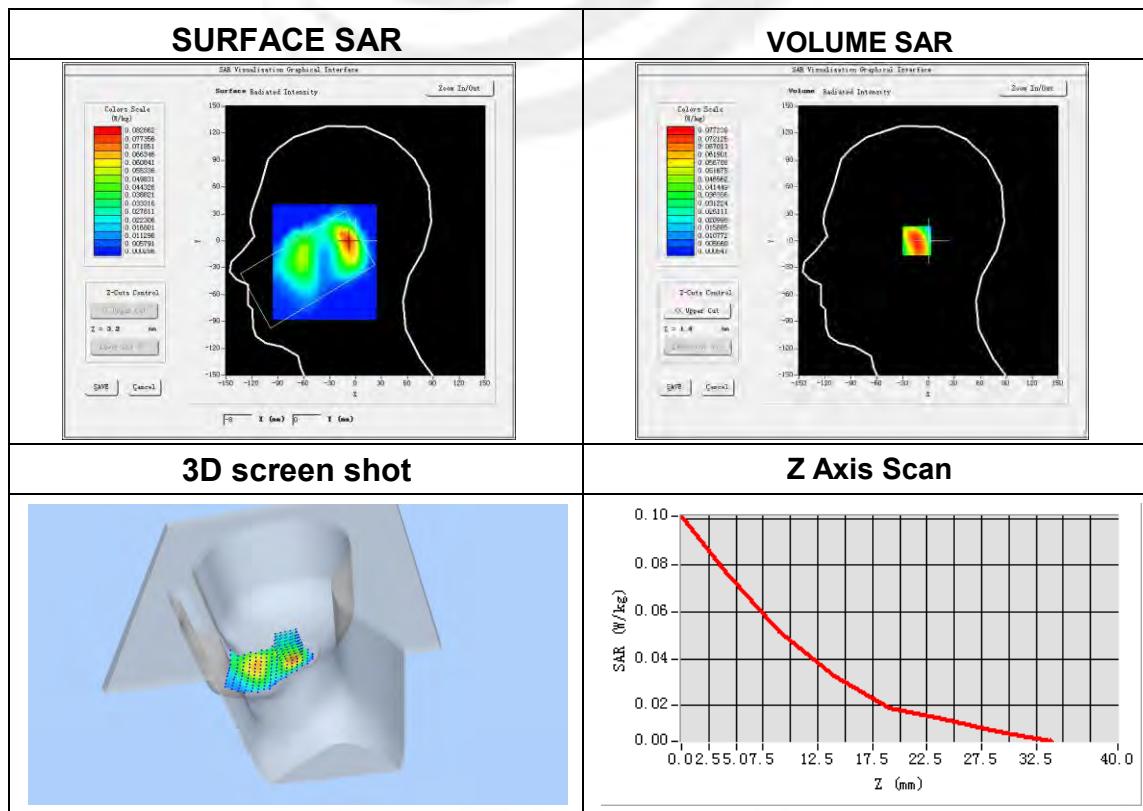


**Plot 11: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	High
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-2.82

Maximum location: X=-8.00, Y=0.00**SAR Peak: 0.12 W/kg**

SAR 10g (W/Kg)	0.042884
SAR 1g (W/Kg)	0.073096

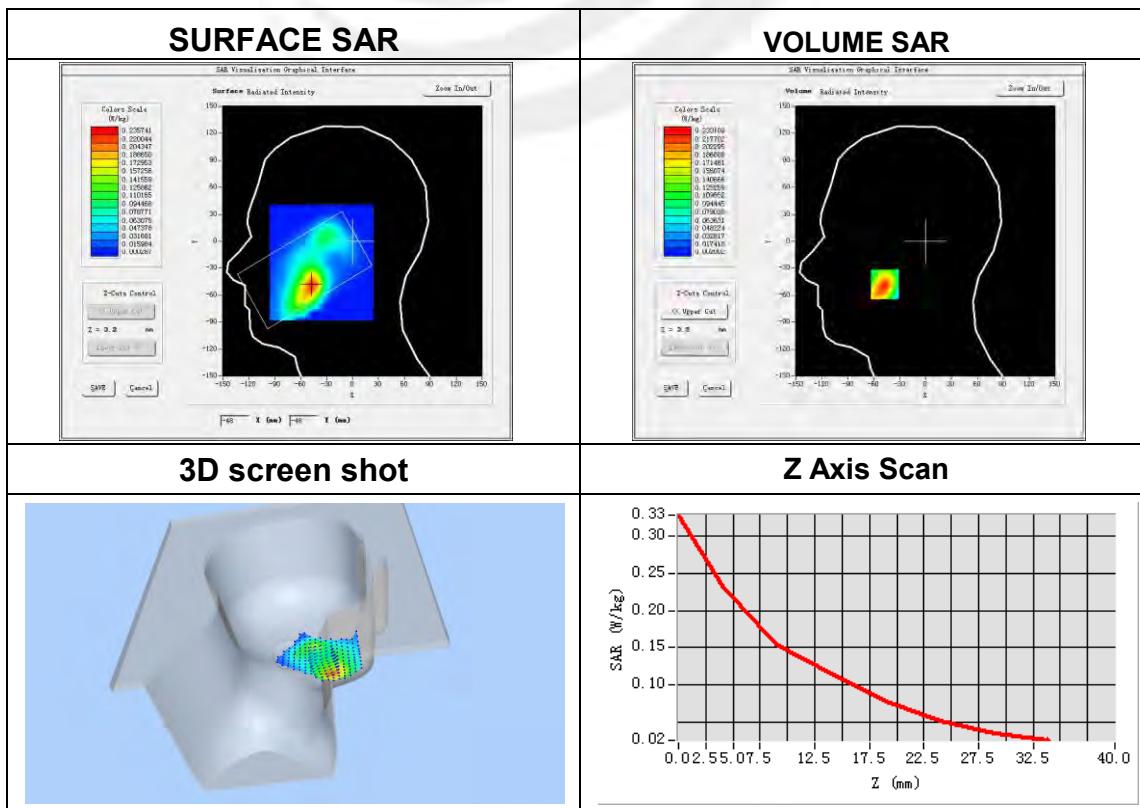


**Plot 12: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-2.37

Maximum location: X=-47.00, Y=-48.00**SAR Peak: 0.33 W/kg**

SAR 10g (W/Kg)	0.131097
SAR 1g (W/Kg)	0.221496





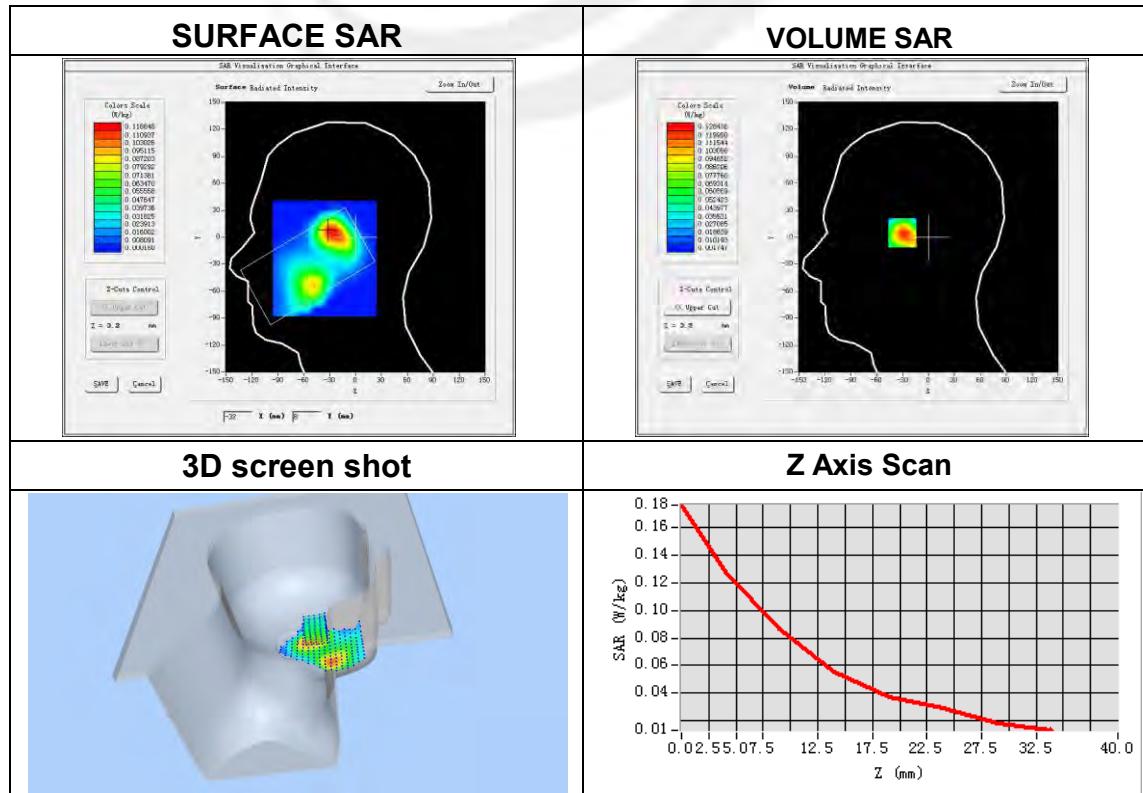
Plot 13: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	High
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-3.83

Maximum location: X=-29.00, Y=7.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.071809
SAR 1g (W/Kg)	0.121418





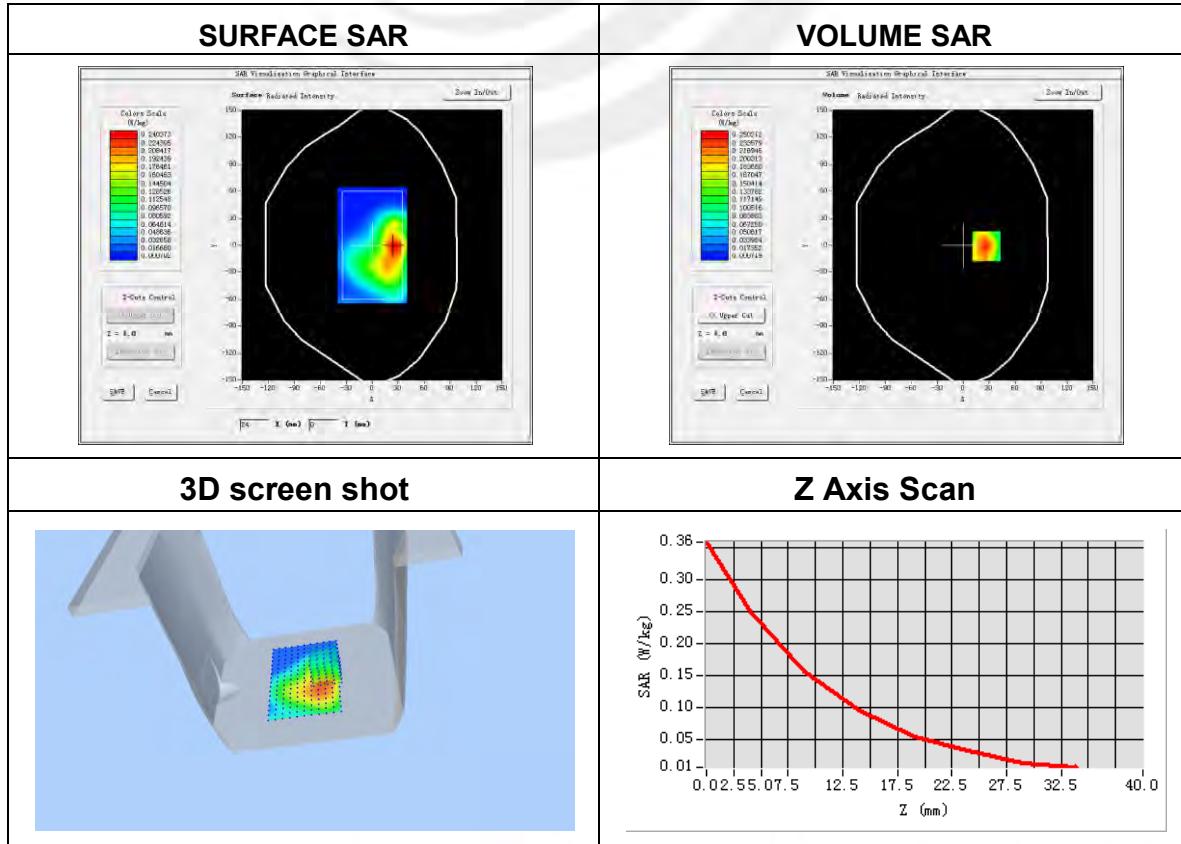
Plot 14: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	GPRS 1900
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.58

Maximum location: X=27.00, Y=-1.00

SAR Peak:0.36 W/kg

SAR 10g (W/Kg)	0.135663
SAR 1g (W/Kg)	0.234820





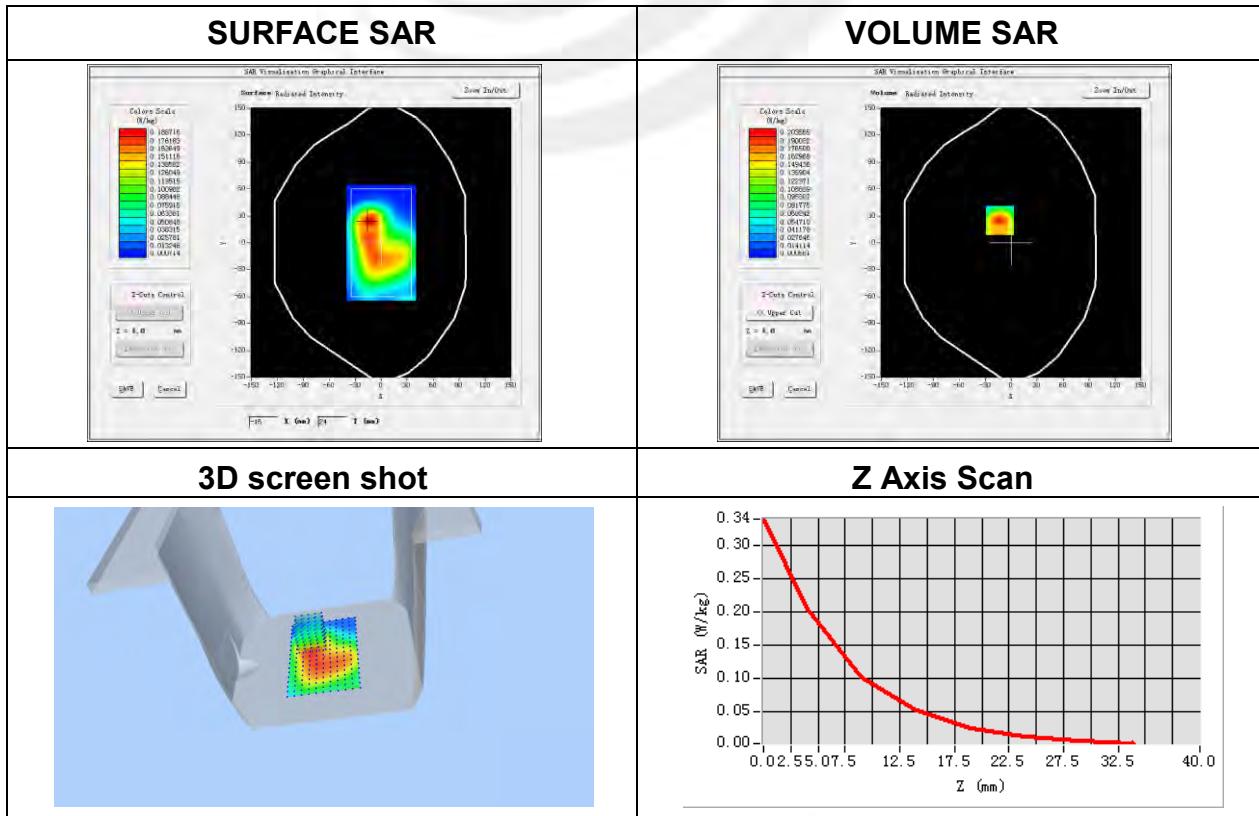
Plot 15: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.97

Maximum location: X=-13.00, Y=25.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.096400
SAR 1g (W/Kg)	0.190010



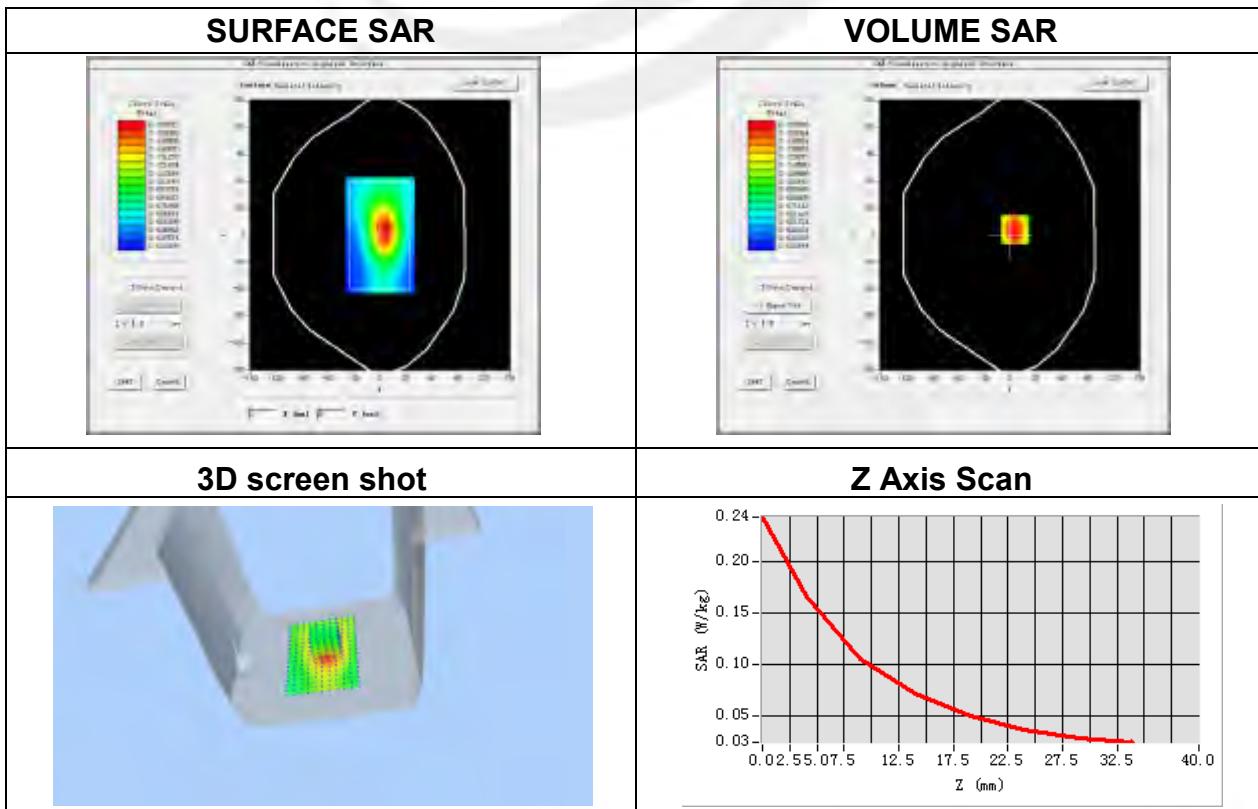
**Plot 16: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	GPRS 1900
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.71

Maximum location: X=6.00, Y=6.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.101116
SAR 1g (W/Kg)	0.164128



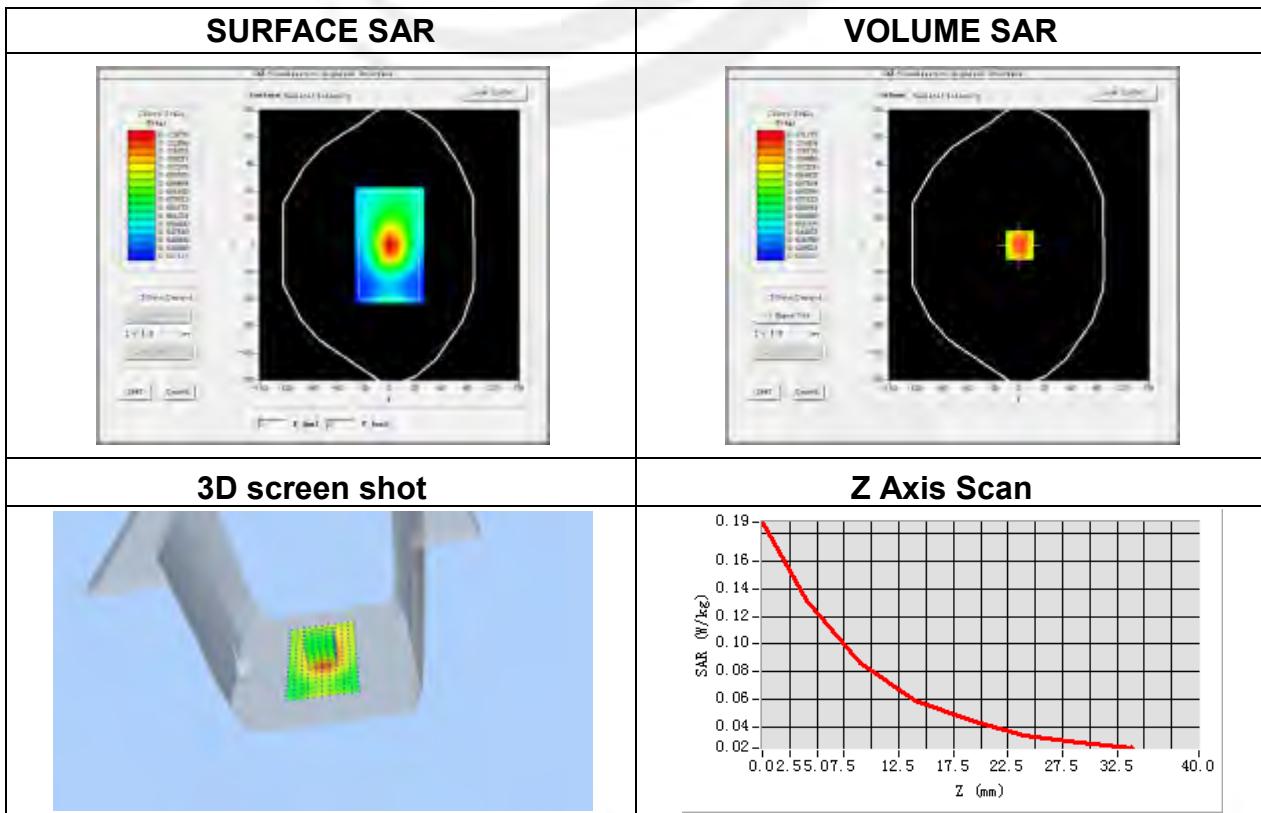
**Plot 17: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 right side
Band	GPRS 1900
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.00

Maximum location: X=1.00, Y=0.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.081372
SAR 1g (W/Kg)	0.125756

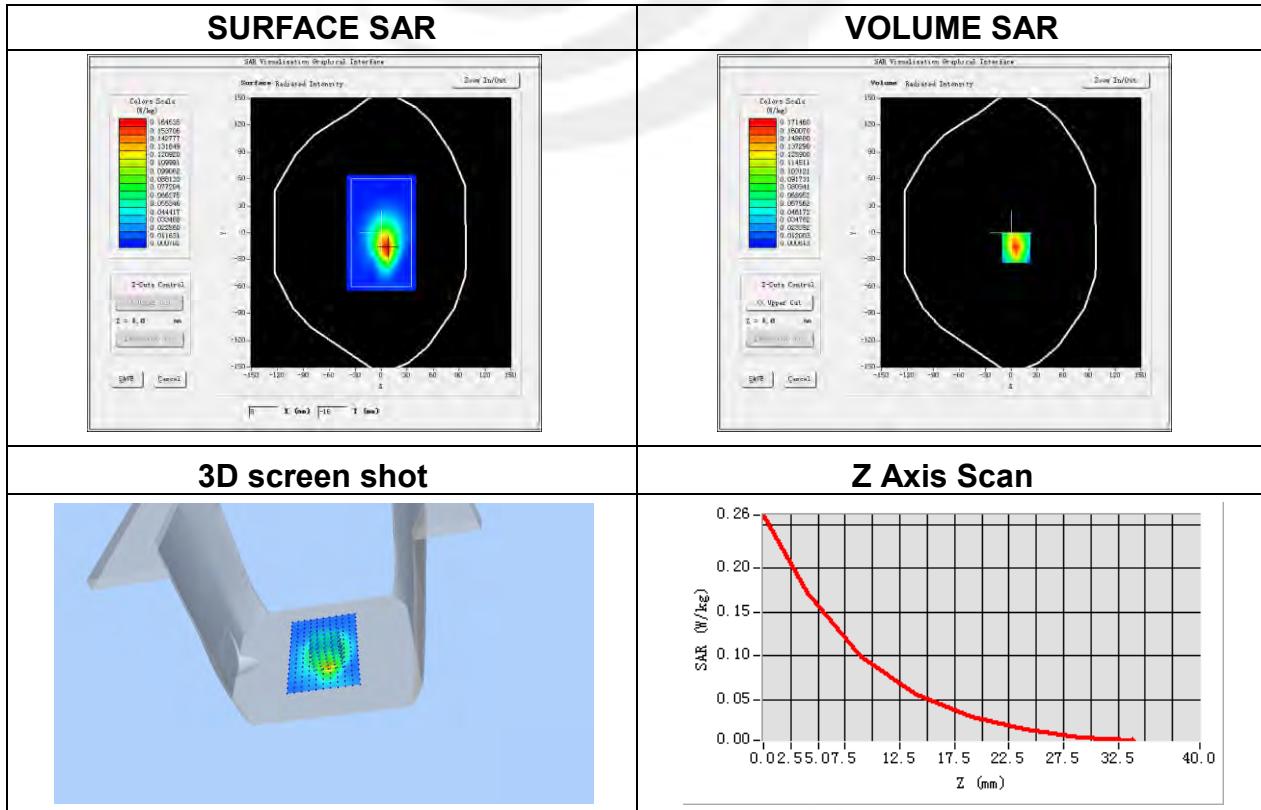



Plot 18: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	1.01

Maximum location: X=6.00, Y=-17.00
SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.079042
SAR 1g (W/Kg)	0.156233





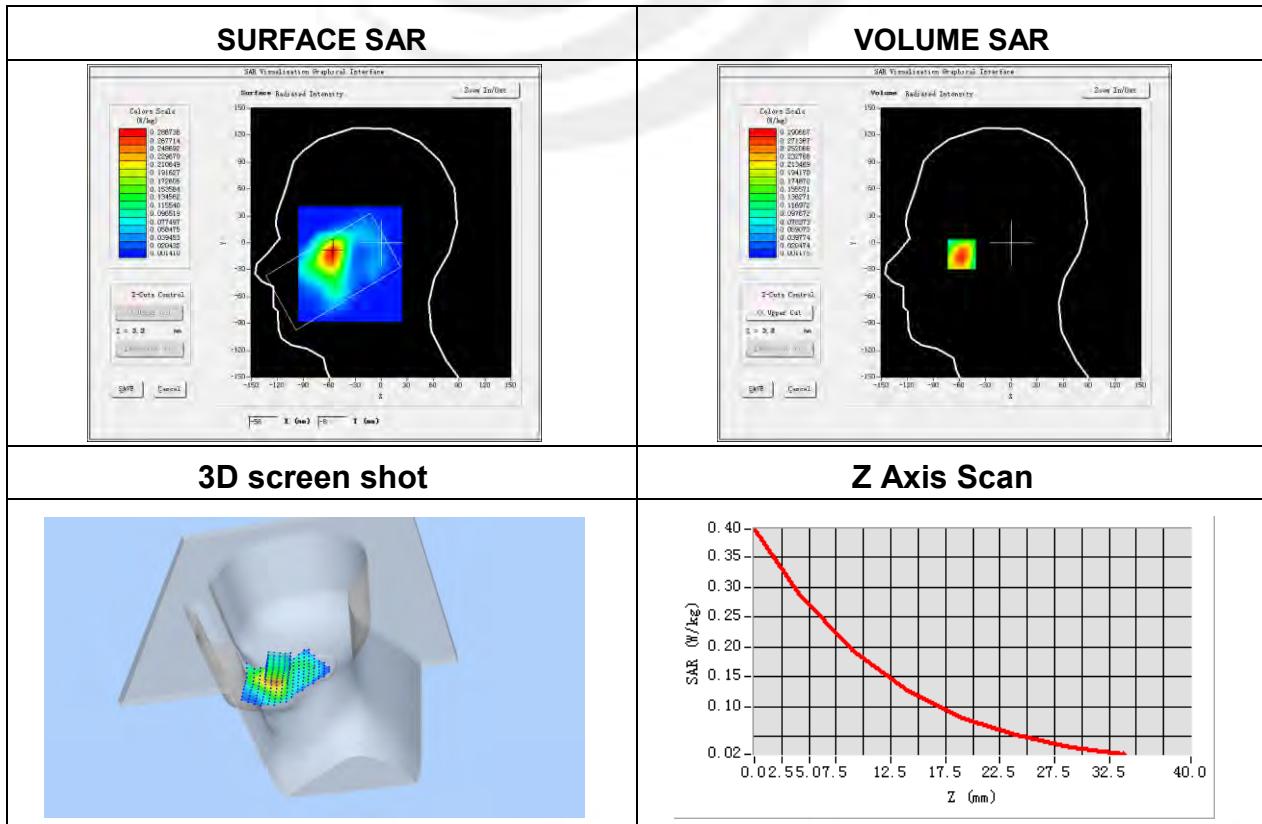
Plot 19: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 (%)	0.97

Maximum location: X=-57.00, Y=-11.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.163225
SAR 1g (W/Kg)	0.274782



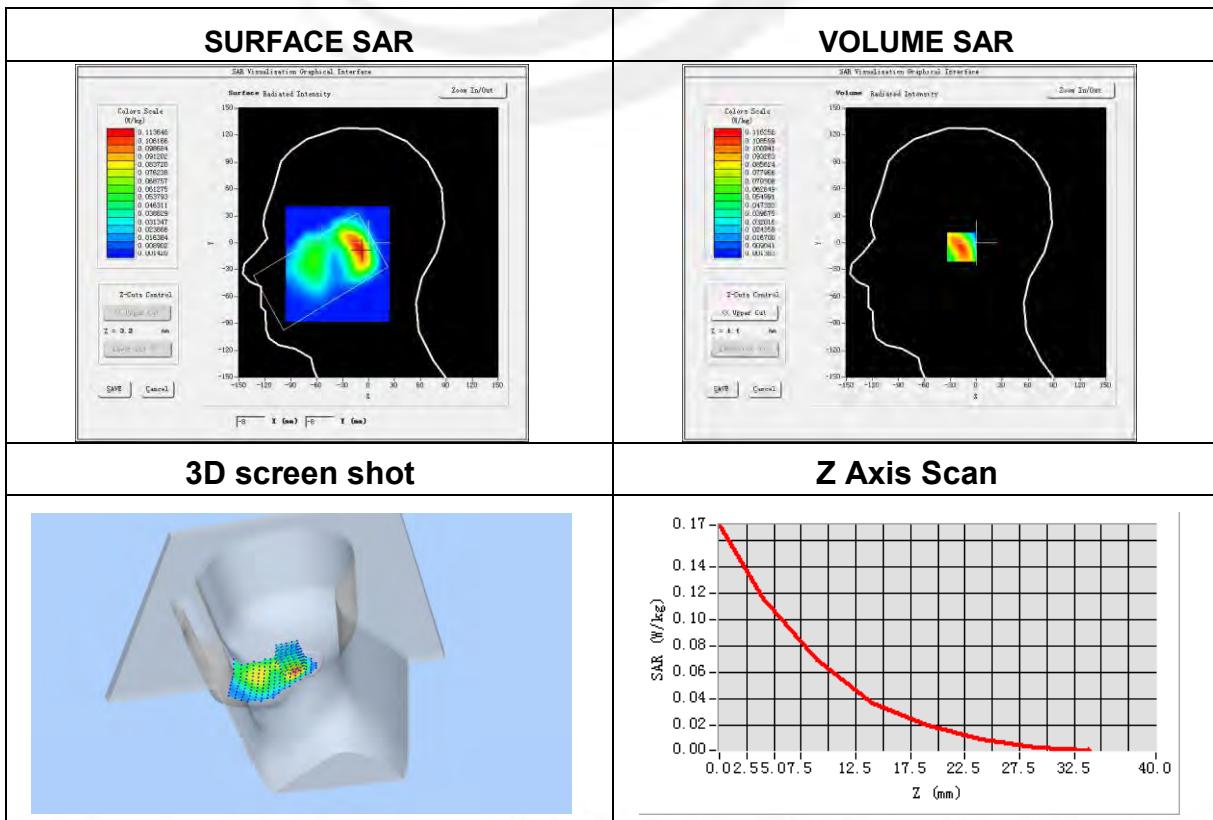
**Plot 20: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 (%)	-3.61

Maximum location: X=-11.00, Y=-5.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.058056
SAR 1g (W/Kg)	0.108304



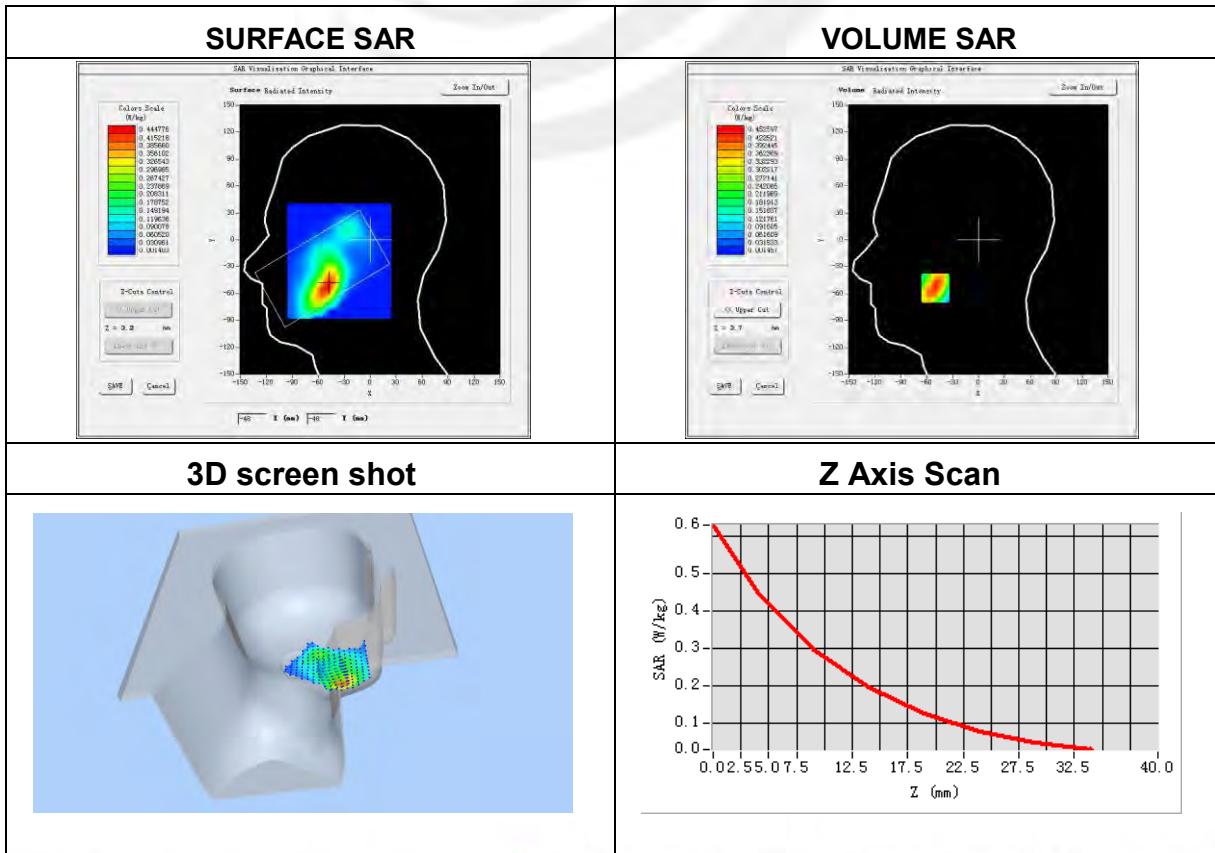
**Plot 21: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 (%)	-0.21

Maximum location: X=-50.00, Y=-54.00

SAR Peak: 0.63 W/kg

SAR 10g (W/Kg)	0.253102
SAR 1g (W/Kg)	0.427290



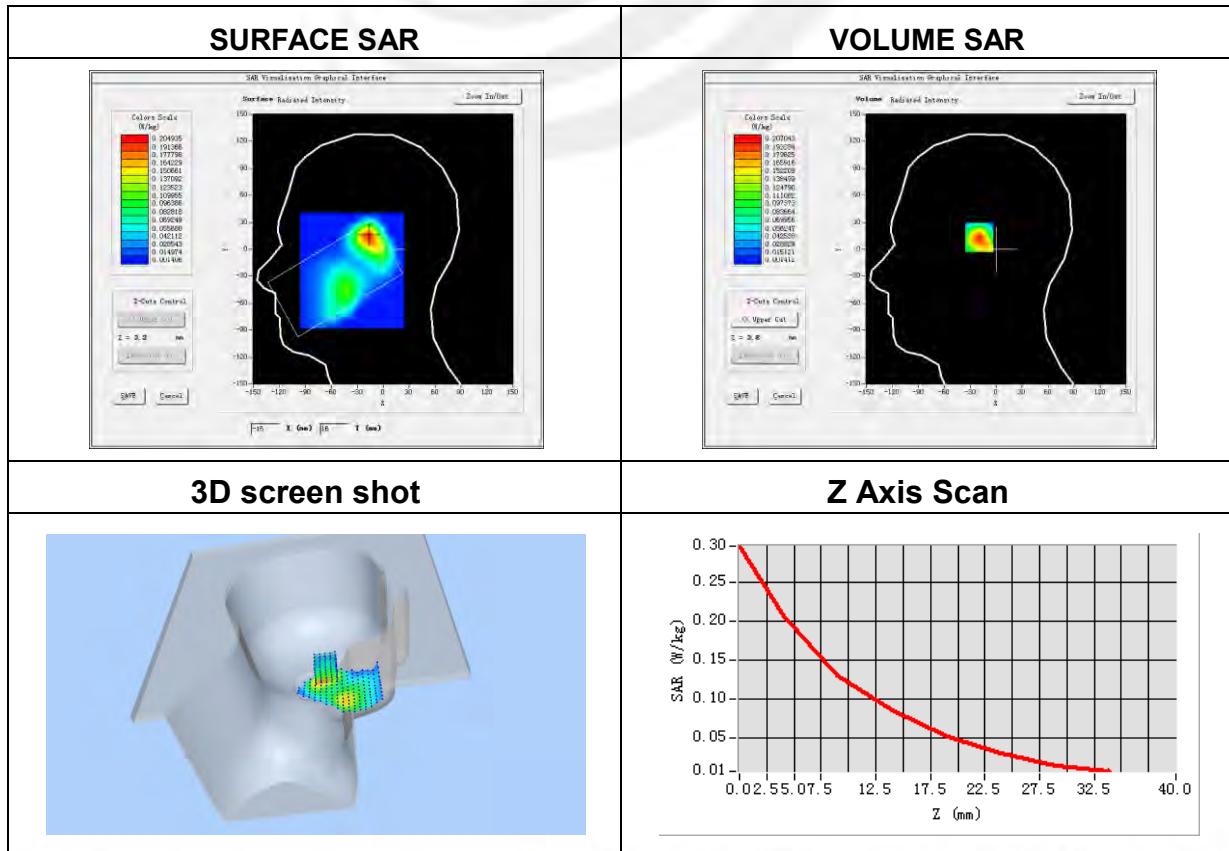
**Plot 22: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 (%)	-1.54

Maximum location: X=-17.00, Y=15.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.106423
SAR 1g (W/Kg)	0.193410

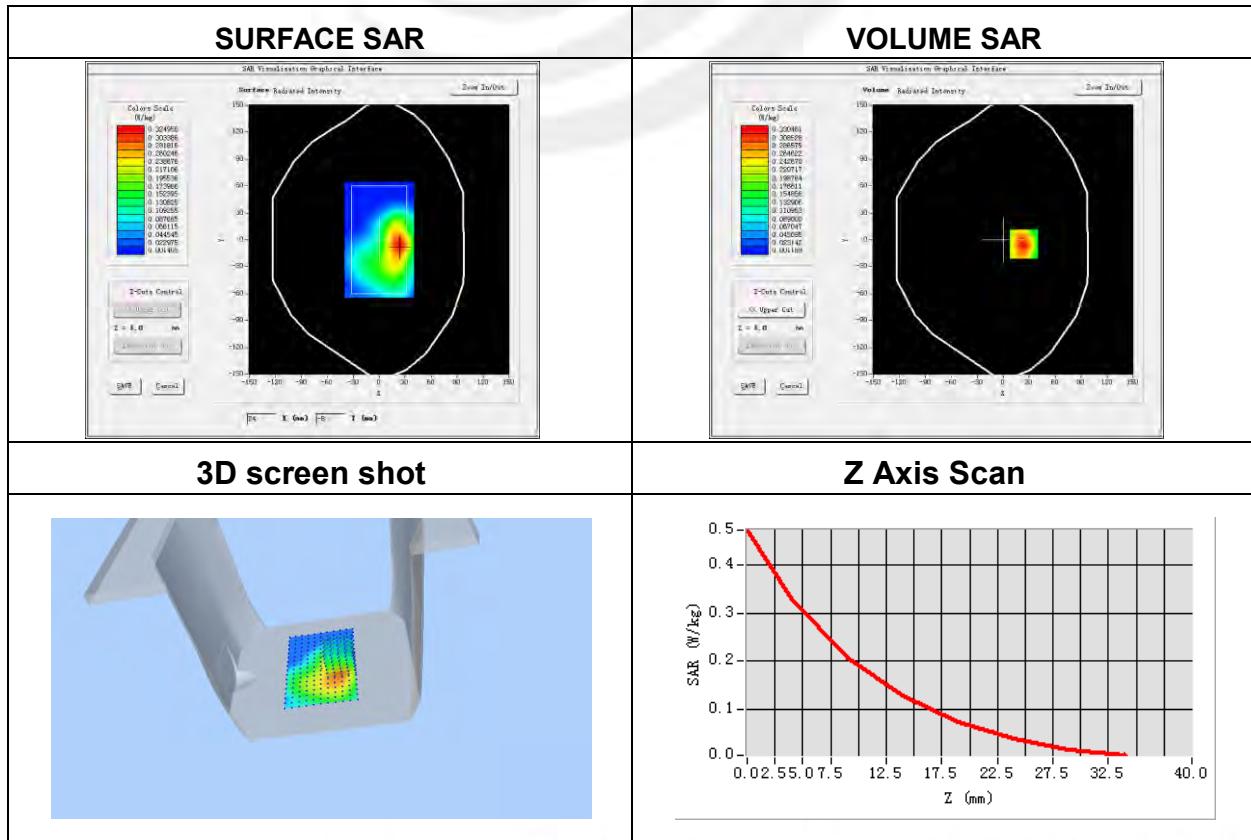



Plot 23: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 (%)	-2.25

Maximum location: X=24.00, Y=-5.00
SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.180163
SAR 1g (W/Kg)	0.313414



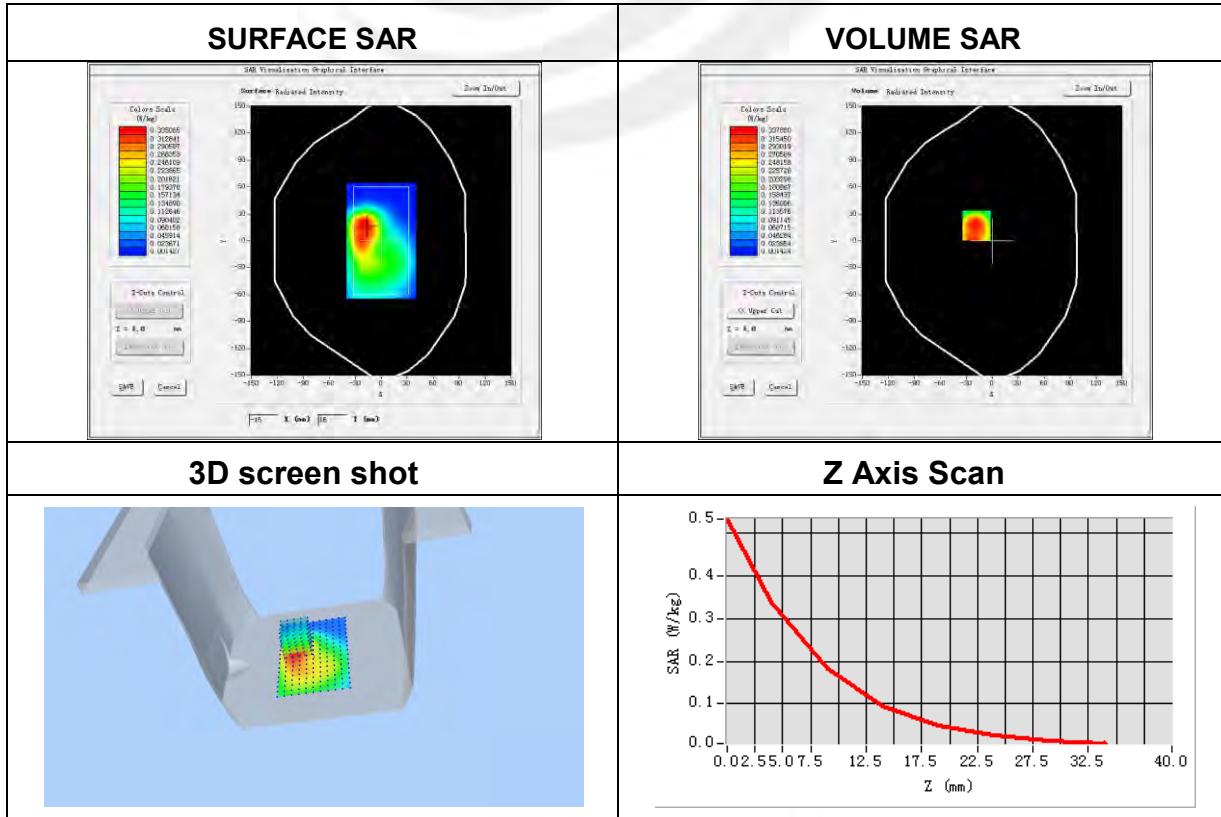
**Plot 24: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 (%)	-0.71

Maximum location: X=-18.00, Y=17.00

SAR Peak: 0.56 W/kg

SAR 10g (W/Kg)	0.174287
SAR 1g (W/Kg)	0.326204

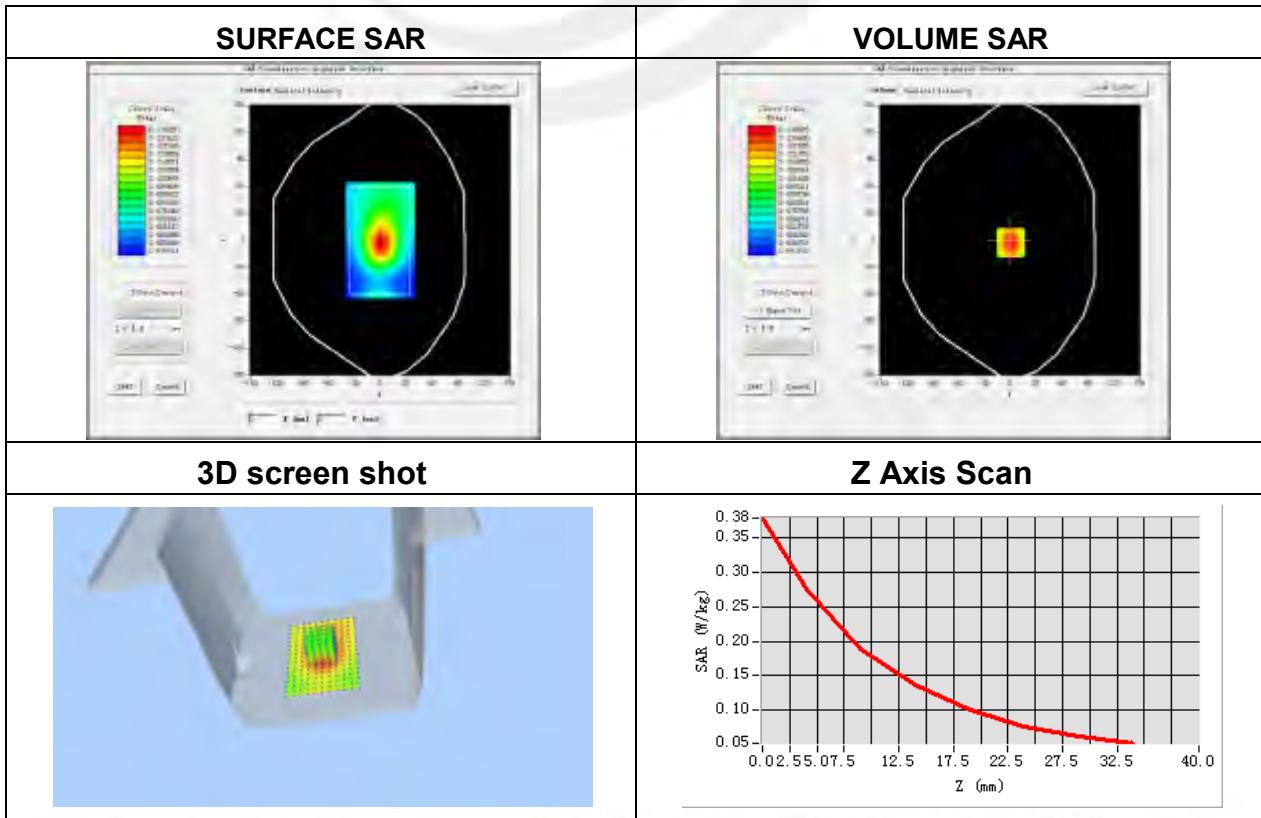


**Plot 25: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 (%)	-0.40

Maximum location: X=1.00, Y=-3.00**SAR Peak: 0.38 W/kg**

SAR 10g (W/Kg)	0.116458
SAR 1g (W/Kg)	0.183464



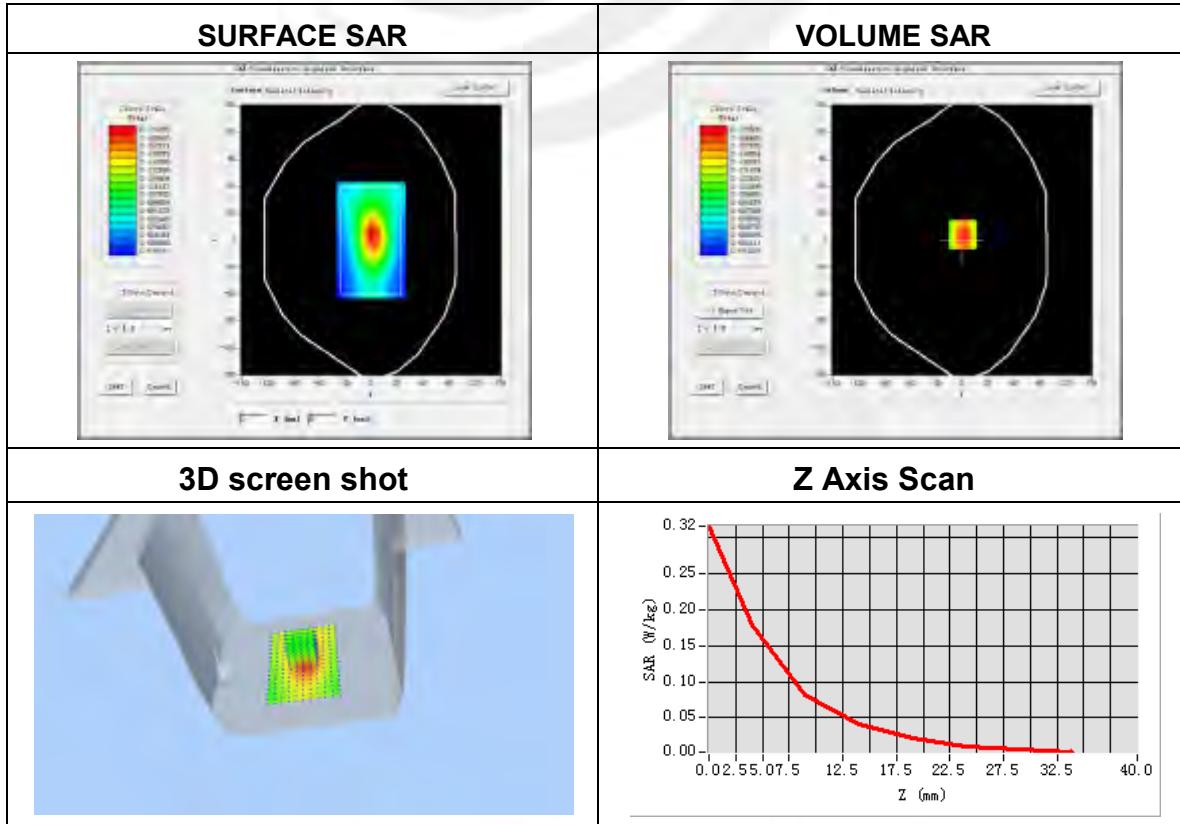
**Plot 26: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 right 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 (%)	-0.25

Maximum location: X=1.00, Y=6.00

SAR Peak:0.32 W/kg

SAR 10g (W/Kg)	0.075520
SAR 1g (W/Kg)	0.127186

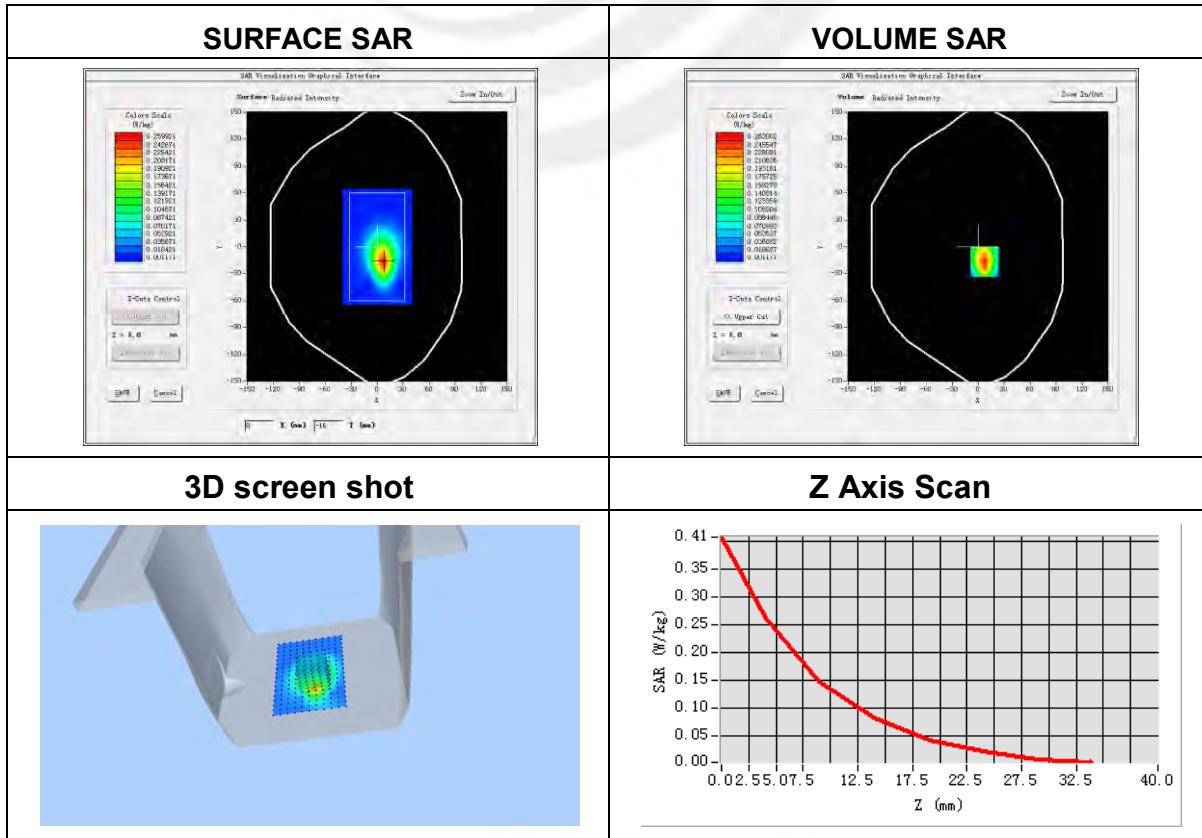


**Plot 27: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 (%)	0.03

Maximum location: X=7.00, Y=-17.00**SAR Peak: 0.41 W/kg**

SAR 10g (W/Kg)	0.121745
SAR 1g (W/Kg)	0.243680

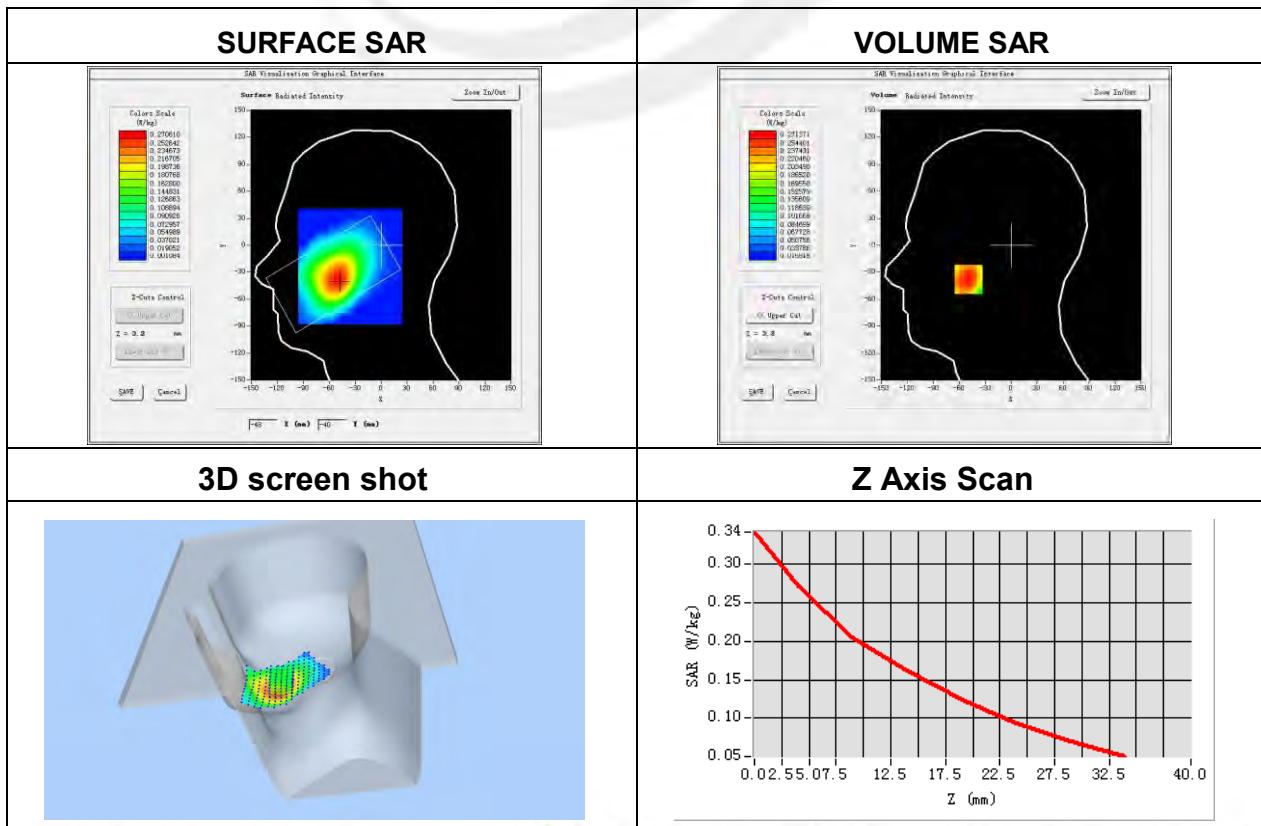


**Plot 28: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-3.08

Maximum location: X=-49.00, Y=-38.00**SAR Peak: 0.34 W/kg**

SAR 10g (W/Kg)	0.190040
SAR 1g (W/Kg)	0.264278

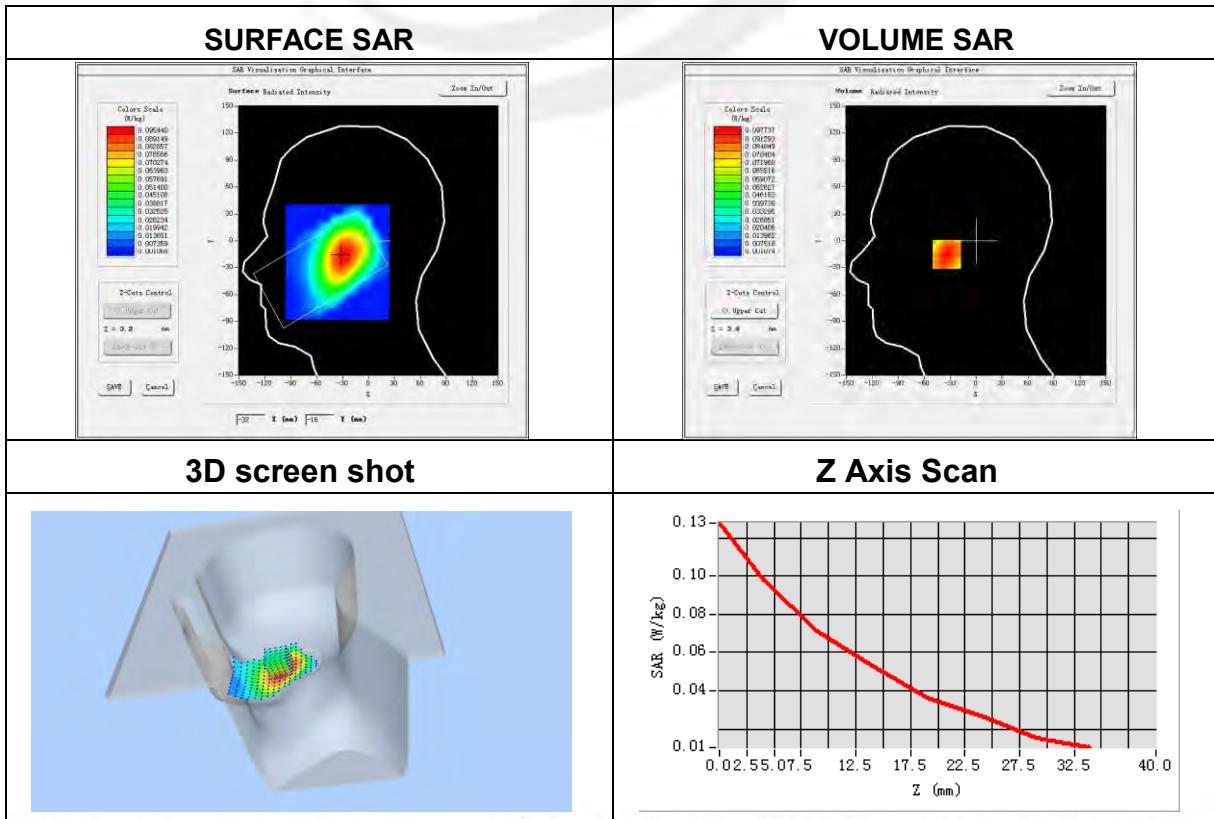


**Plot 29: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-0.01

Maximum location: X=-29.00, Y=-15.00**SAR Peak: 0.13 W/kg**

SAR 10g (W/Kg)	0.064626
SAR 1g (W/Kg)	0.094708





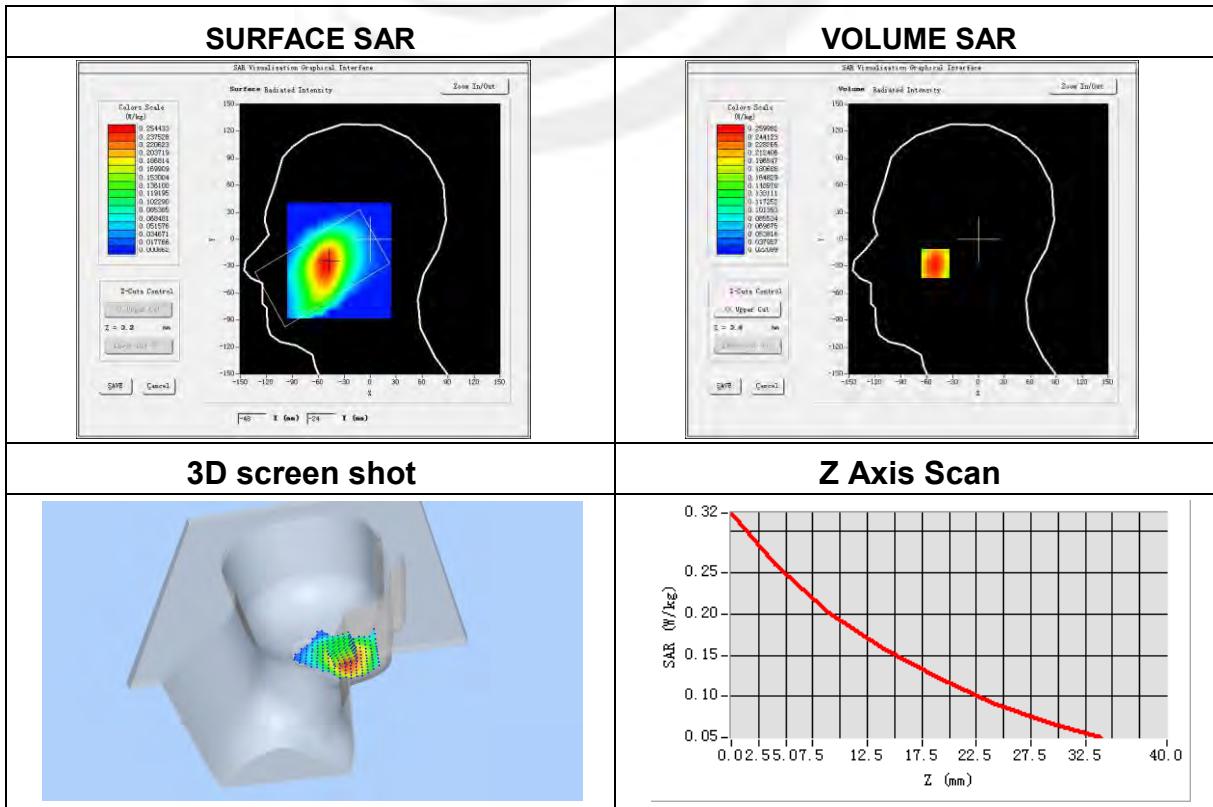
Plot 30: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-1.57

Maximum location: X=-50.00, Y=-27.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.182125
SAR 1g (W/Kg)	0.252817



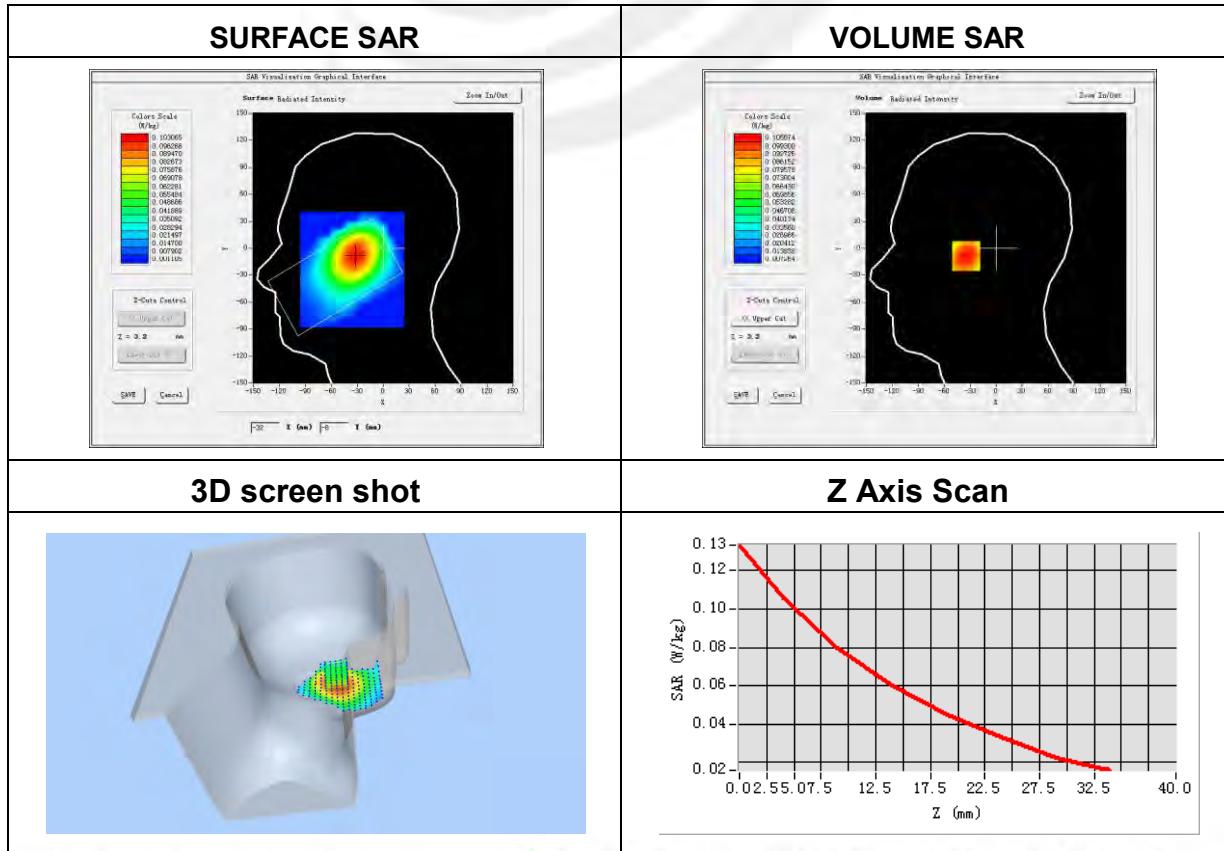
**Plot 31: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-3.21

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

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.072816
SAR 1g (W/Kg)	0.102763

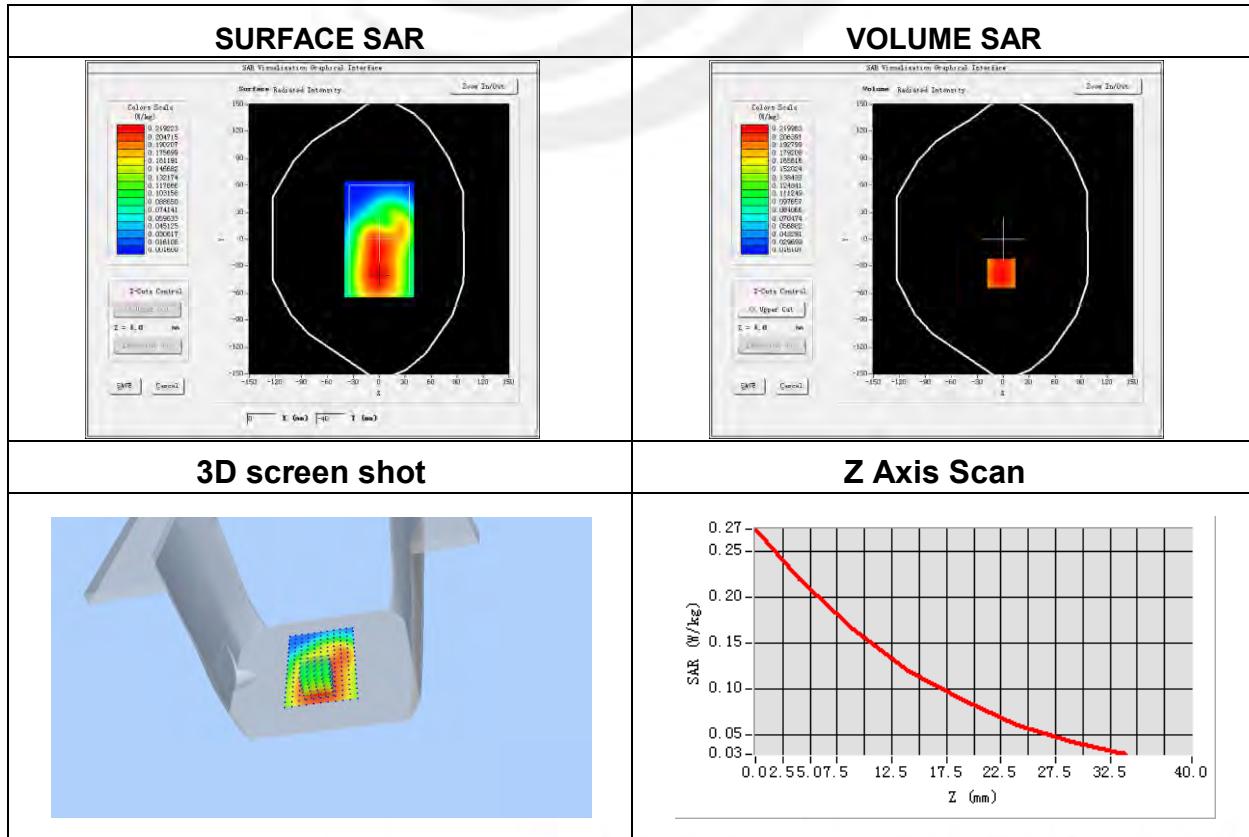



Plot 32: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-0.99

Maximum location: X=-2.00, Y=-38.00
SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.153125
SAR 1g (W/Kg)	0.214751





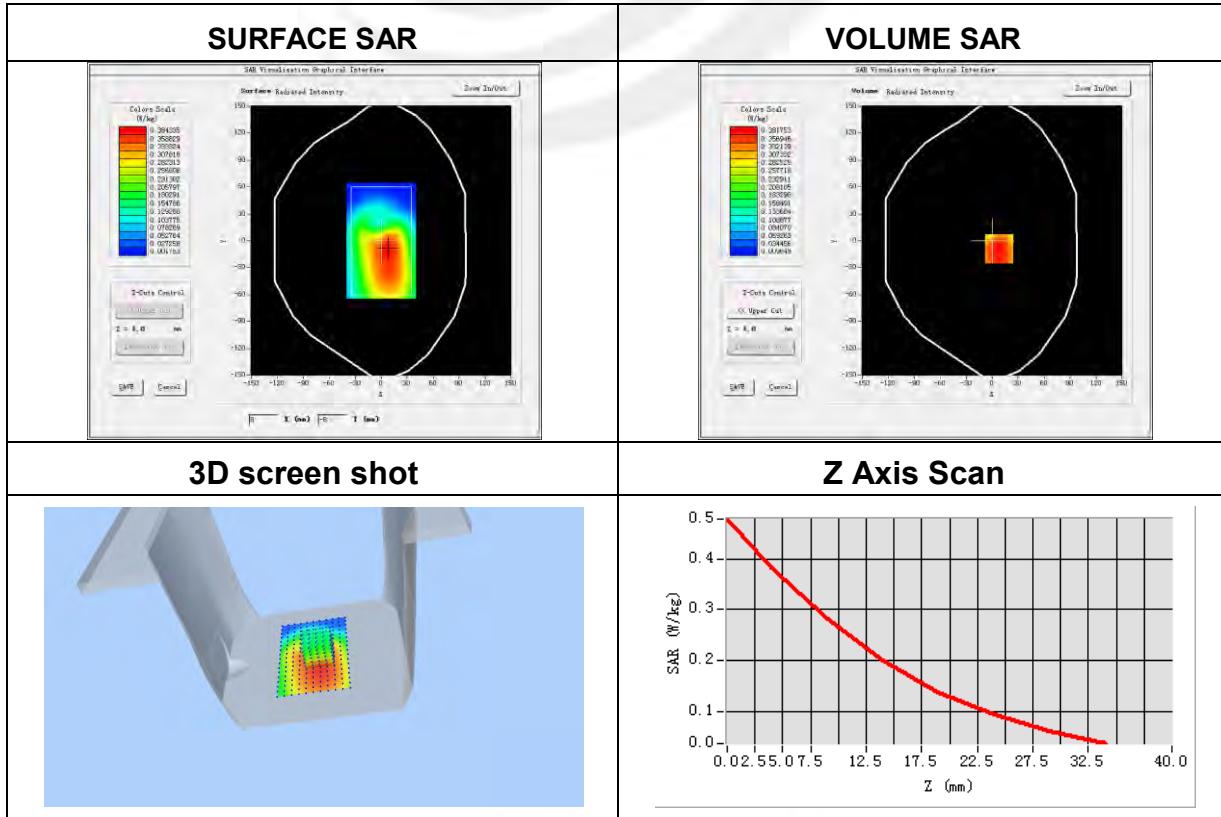
Plot 33: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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 side
Band	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-0.91

Maximum location: X=8.00, Y=-9.00

SAR Peak: 0.49 W/kg

SAR 10g (W/Kg)	0.261270
SAR 1g (W/Kg)	0.370794

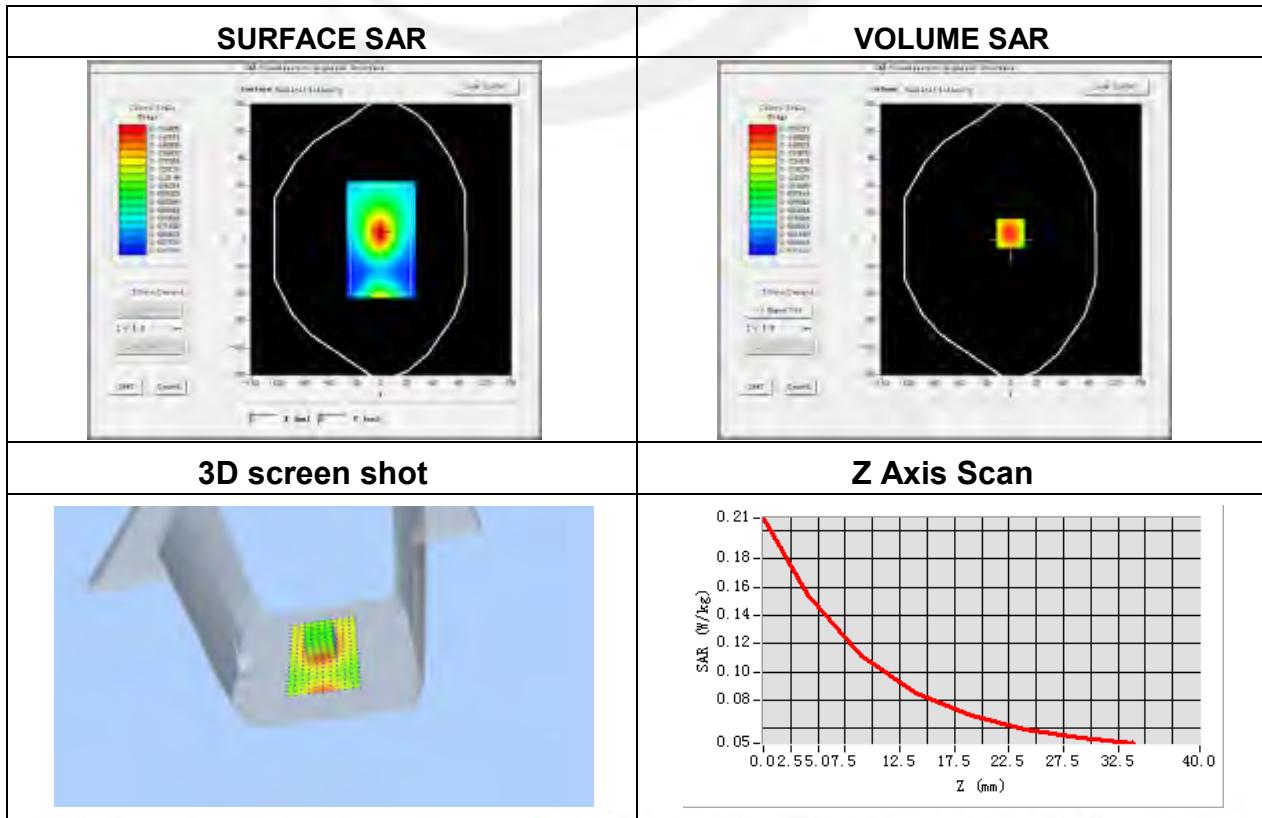


**Plot 34: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	3.55

Maximum location: X=-1.00, Y=7.00**SAR Peak: 0.21 W/kg**

SAR 10g (W/Kg)	0.106910
SAR 1g (W/Kg)	0.151765

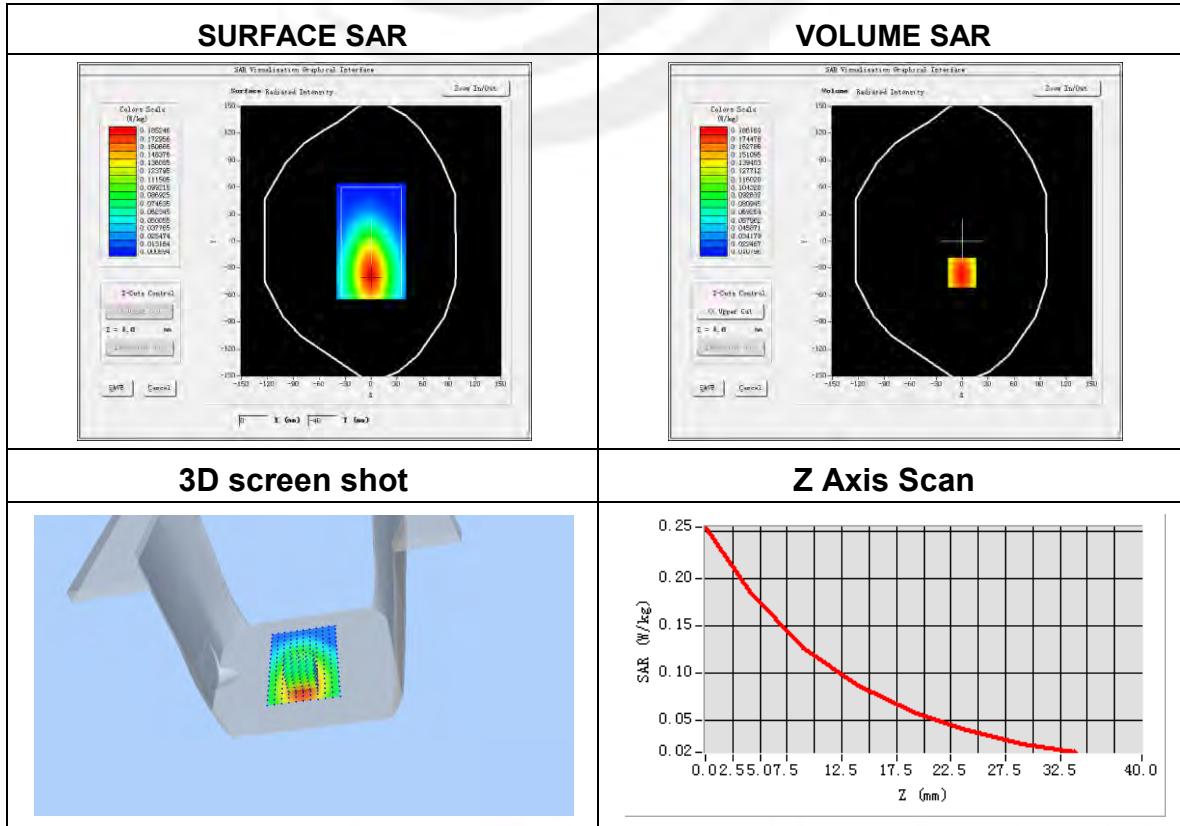


**Plot 35: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 right side
Band	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-0.68

Maximum location: X=1.00, Y=-5.00
SAR Peak:0.25 W/kg

SAR 10g (W/Kg)	0.117799
SAR 1g (W/Kg)	0.180718

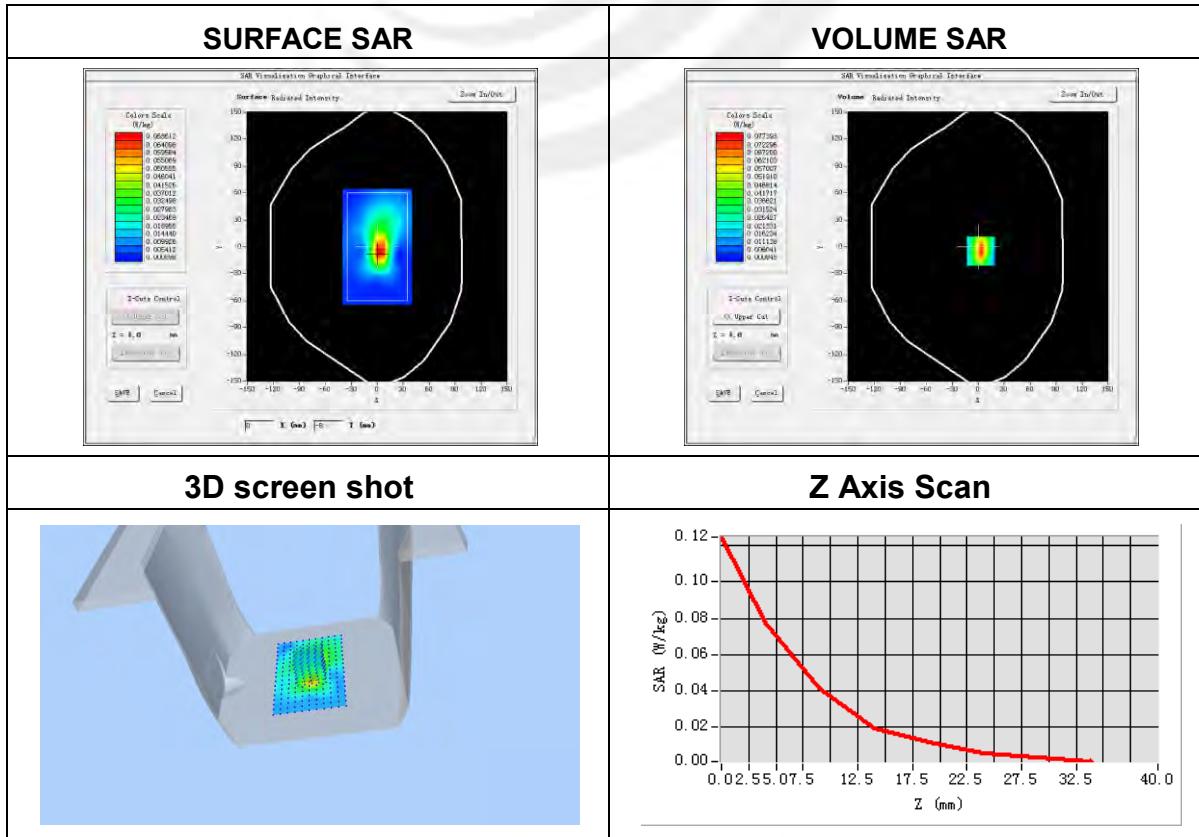


**Plot 36: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(°C)	22.70
Liquid Temperatre(°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	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	-3.67

Maximum location: X=3.00, Y=-5.00**SAR Peak: 0.13 W/kg**

SAR 10g (W/Kg)	0.032572
SAR 1g (W/Kg)	0.070954

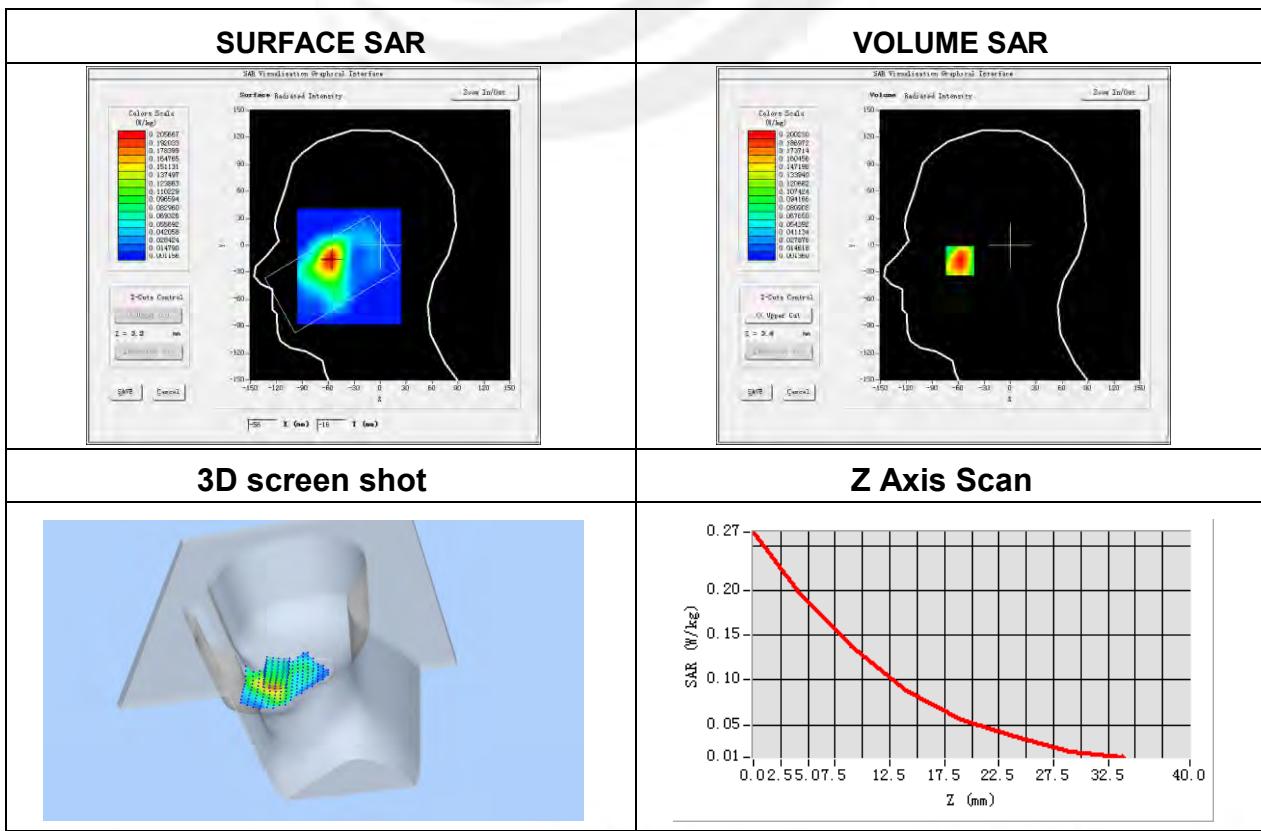



Plot 37: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-2.23

Maximum location: X=-58.00, Y=-16.00
SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.110453
SAR 1g (W/Kg)	0.188265

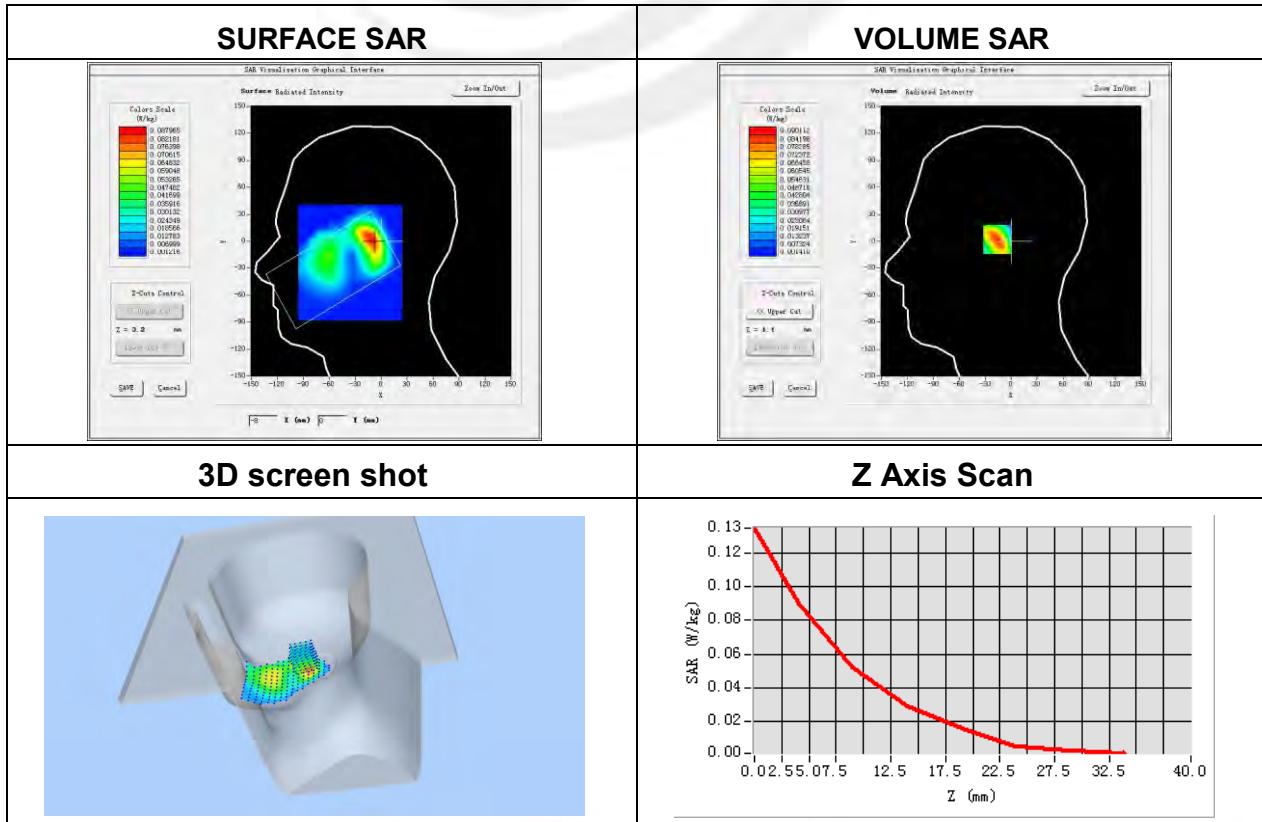



Plot 38: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-2.65

Maximum location: X=-11.00, Y=2.00
SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.042788
SAR 1g (W/Kg)	0.083333

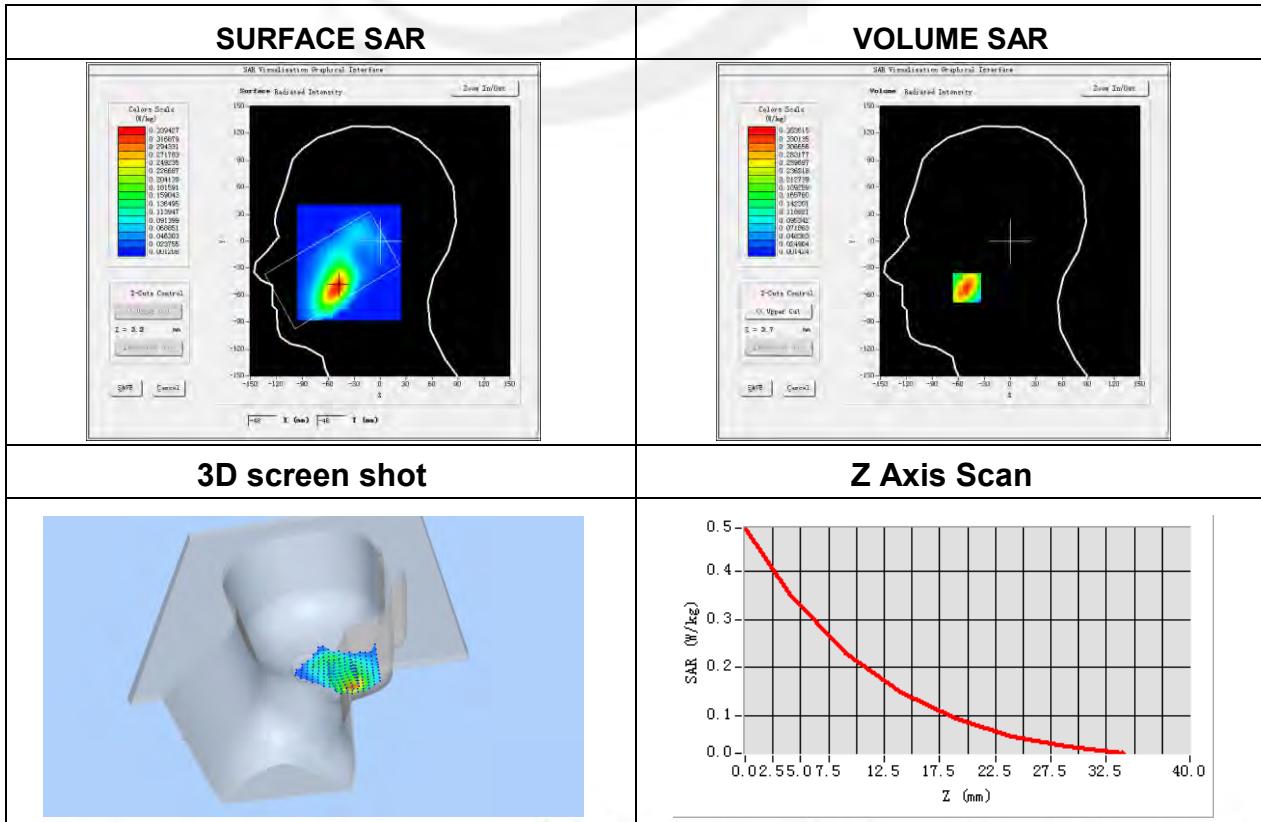


**Plot 39: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-2.24

Maximum location: X=-50.00, Y=-52.00**SAR Peak: 0.50 W/kg**

SAR 10g (W/Kg)	0.190127
SAR 1g (W/Kg)	0.331319

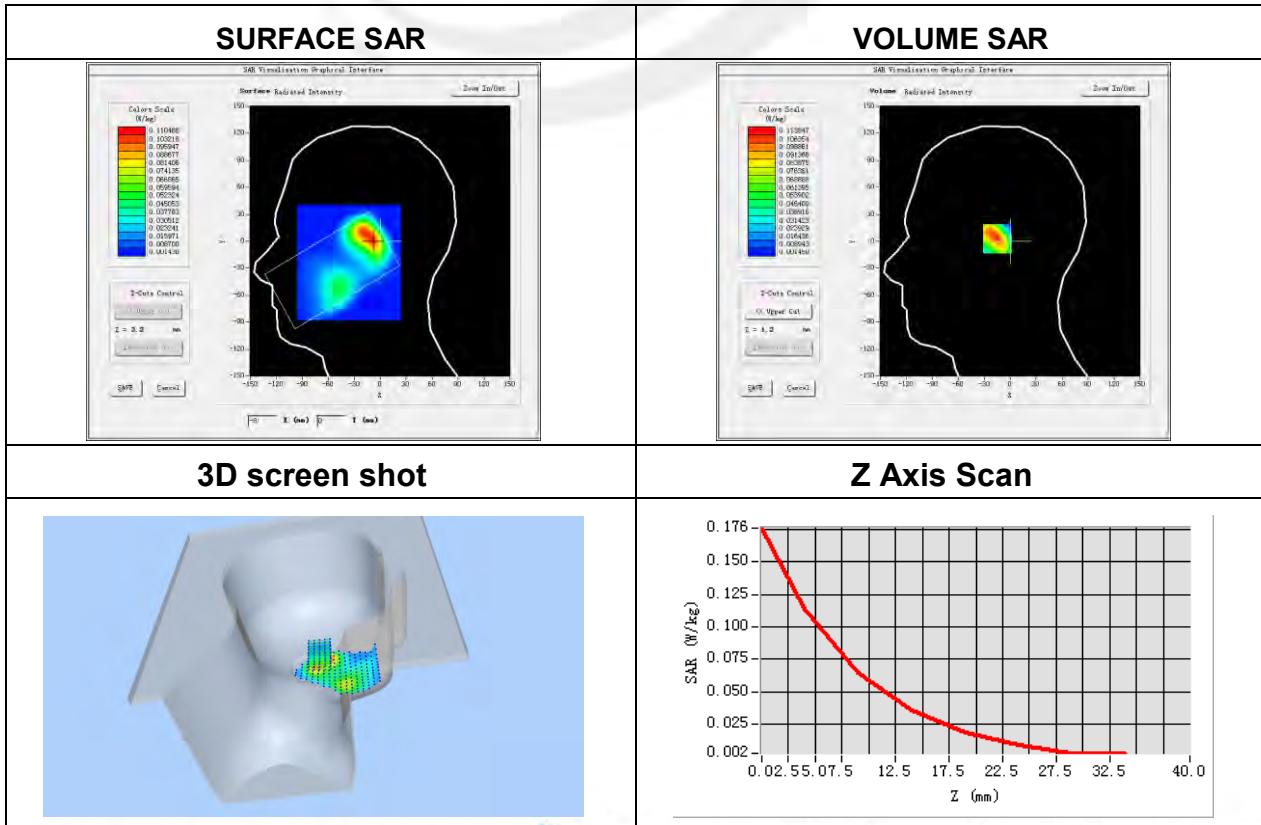


**Plot 40: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-2.47

Maximum location: X=-10.00, Y=3.00**SAR Peak: 0.18 W/kg**

SAR 10g (W/Kg)	0.055820
SAR 1g (W/Kg)	0.107244

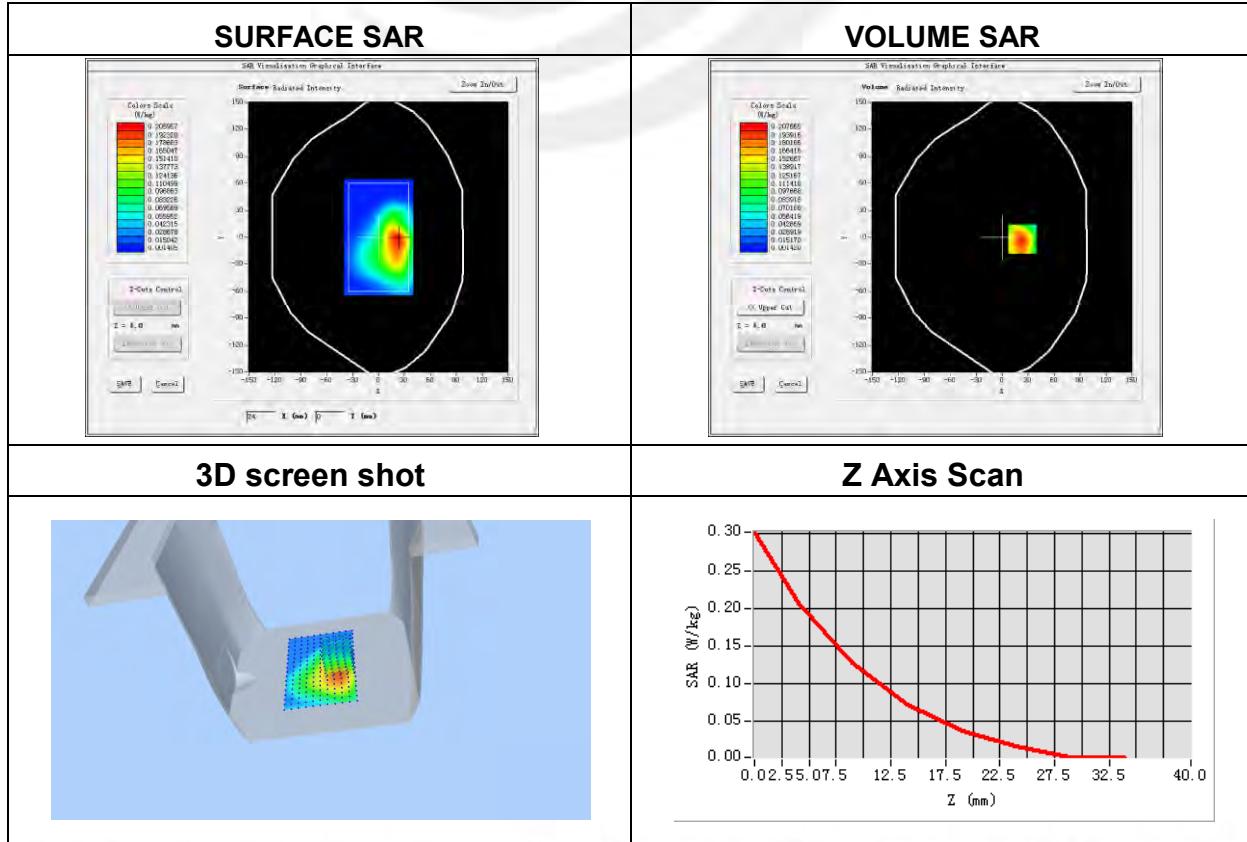



Plot 41: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-4.11

Maximum location: X=23.00, Y=-2.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.108592
SAR 1g (W/Kg)	0.194481

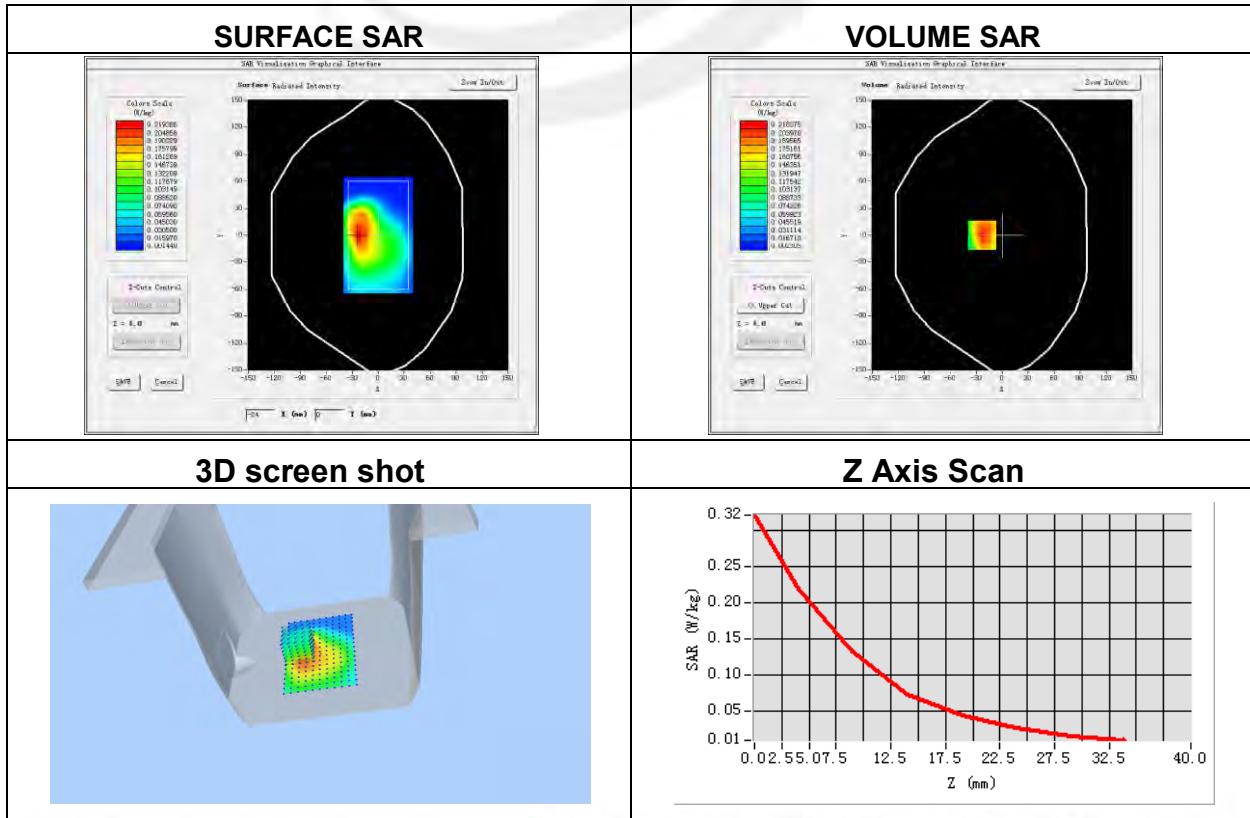


**Plot 42: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-3.43

Maximum location: X=-23.00, Y=0.00**SAR Peak: 0.33 W/kg**

SAR 10g (W/Kg)	0.117718
SAR 1g (W/Kg)	0.206053

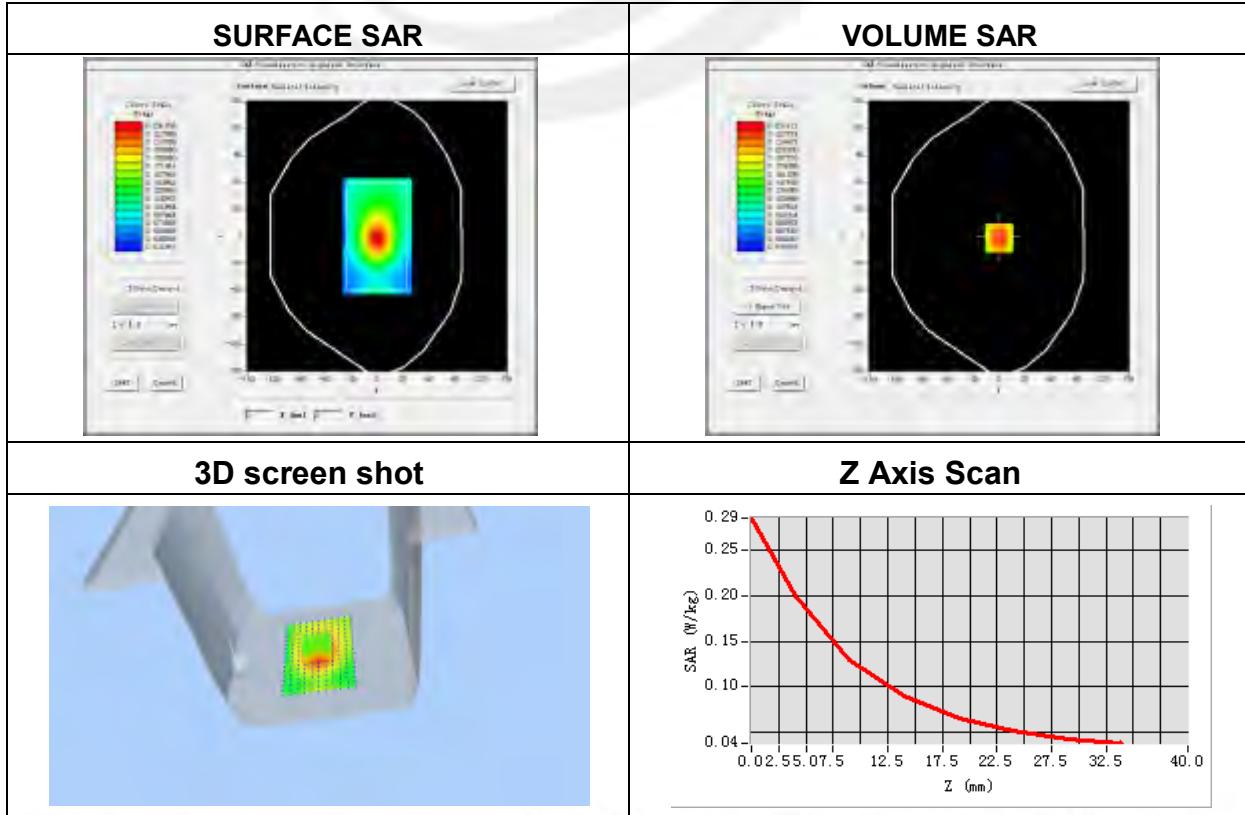


**Plot 43: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-0.50

Maximum location: X=-32.00, Y=14.00**SAR Peak: 0.29 W/kg**

SAR 10g (W/Kg)	0.057642
SAR 1g (W/Kg)	0.116424

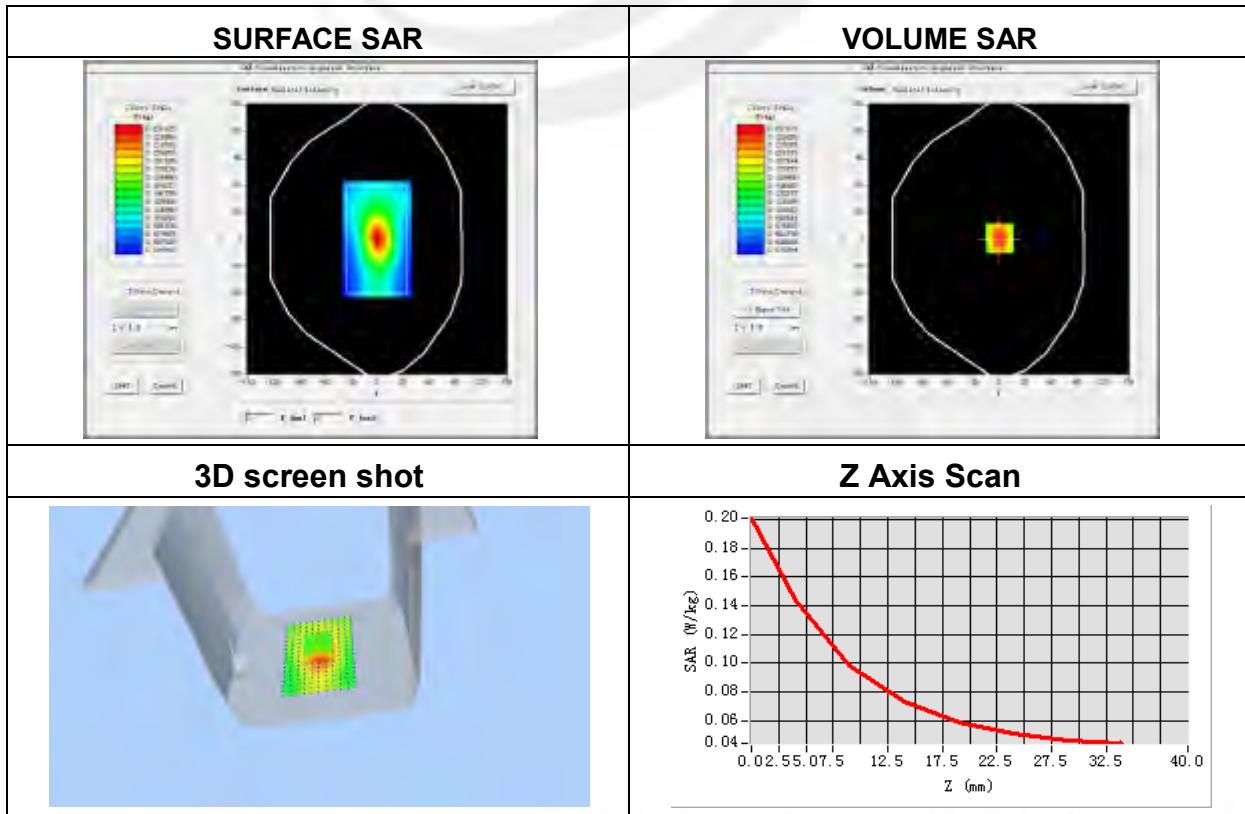


**Plot 44: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 right side
Band	LTE Band 2(RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	0.18

Maximum location: X=-25.00, Y=-1.00**SAR Peak: 0.20 W/kg**

SAR 10g (W/Kg)	0.049647
SAR 1g (W/Kg)	0.091153



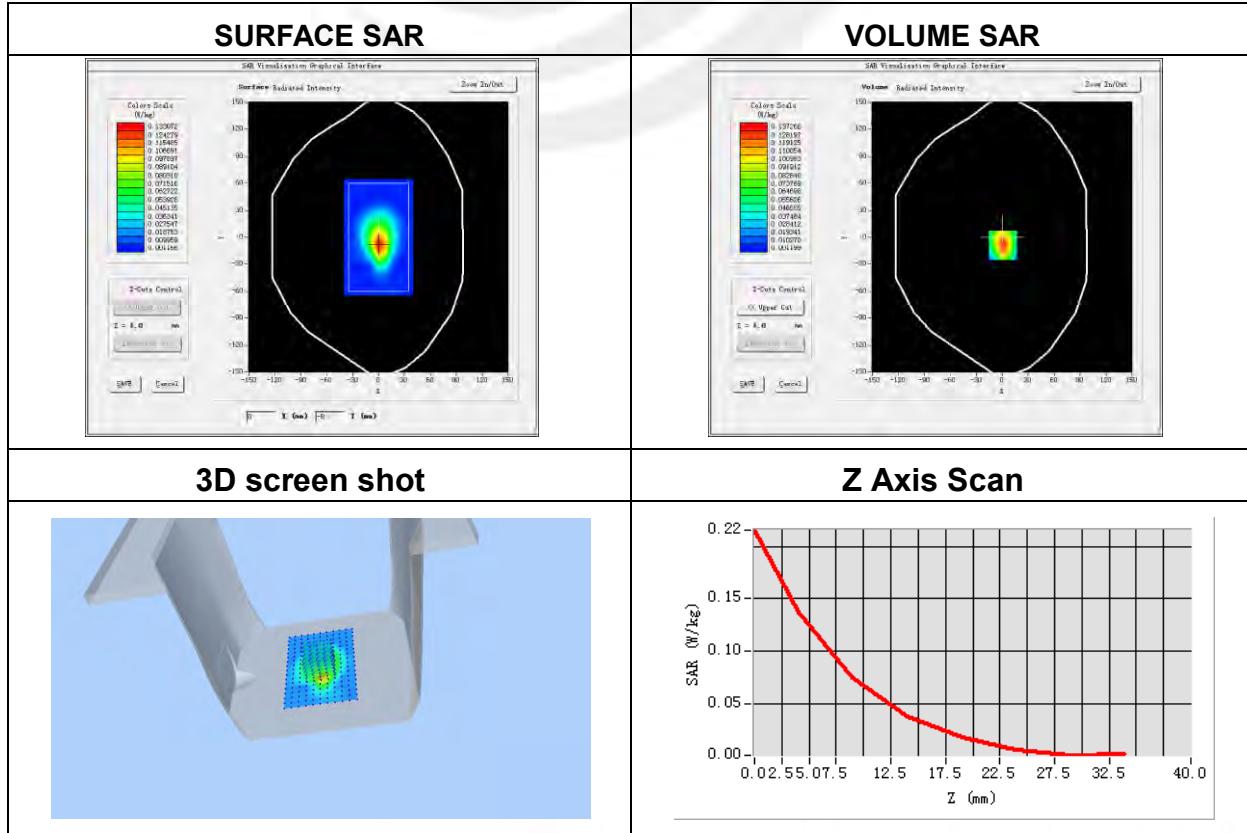
**Plot 45: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-1.85

Maximum location: X=1.00, Y=-9.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.062040
SAR 1g (W/Kg)	0.126377

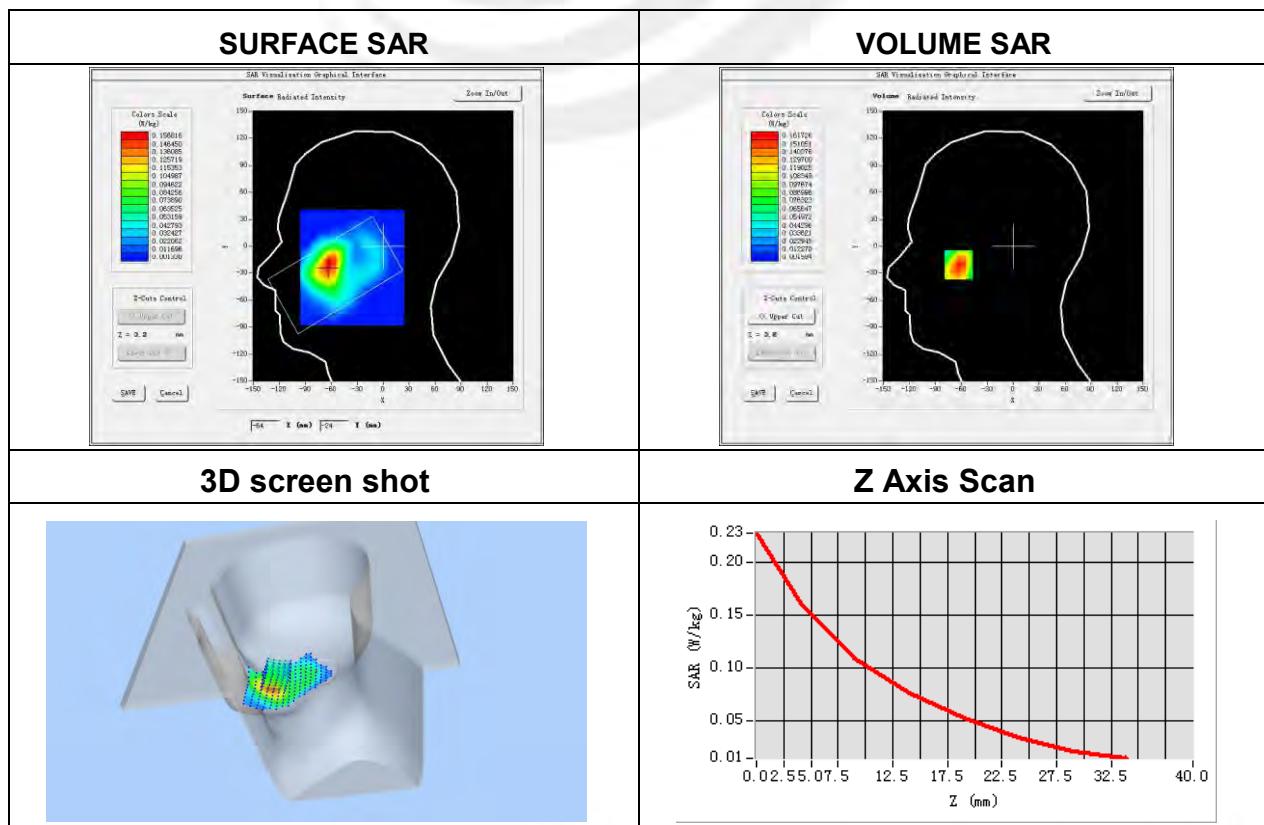



Plot 46: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-2.20

Maximum location: X=-63.00, Y=-20.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.093569
SAR 1g (W/Kg)	0.154752

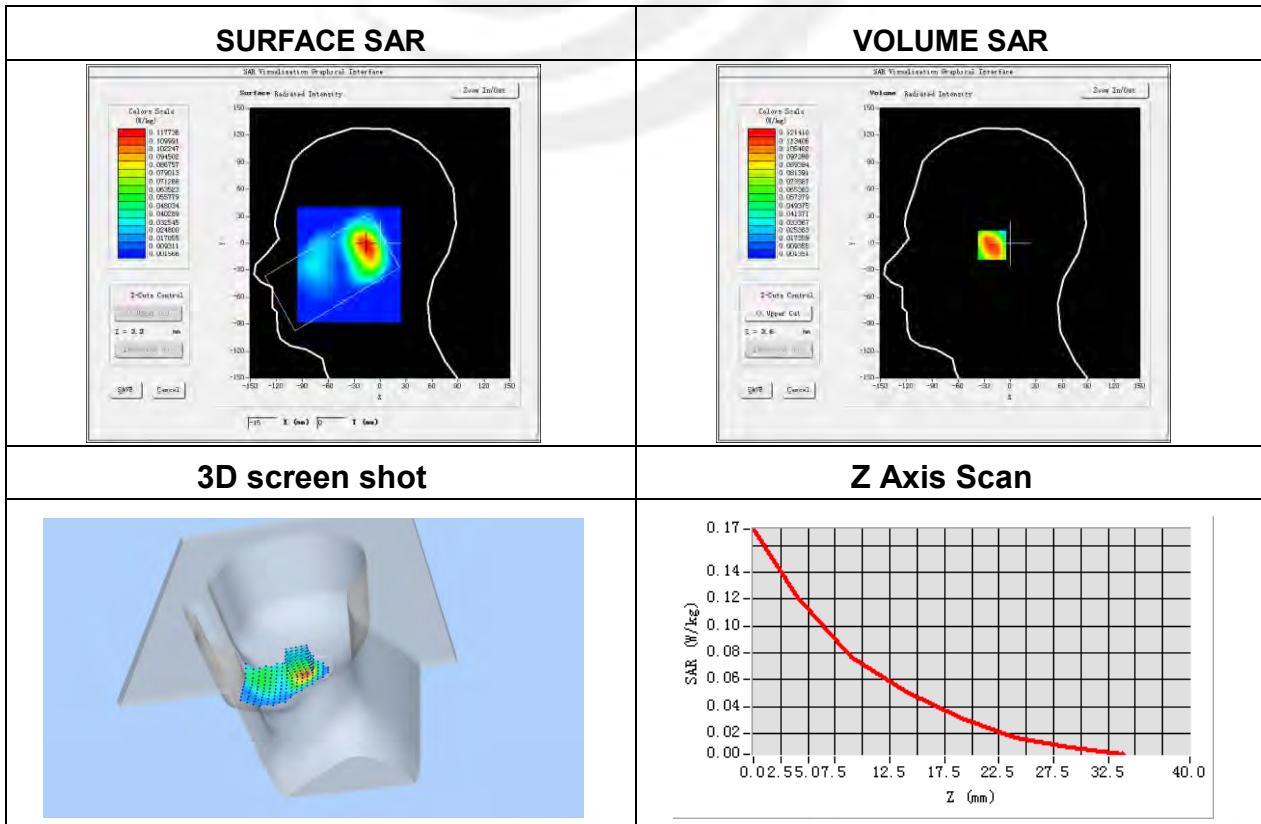



Plot 47: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-2.78

Maximum location: X=-16.00, Y=-2.00
SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.066741
SAR 1g (W/Kg)	0.115456

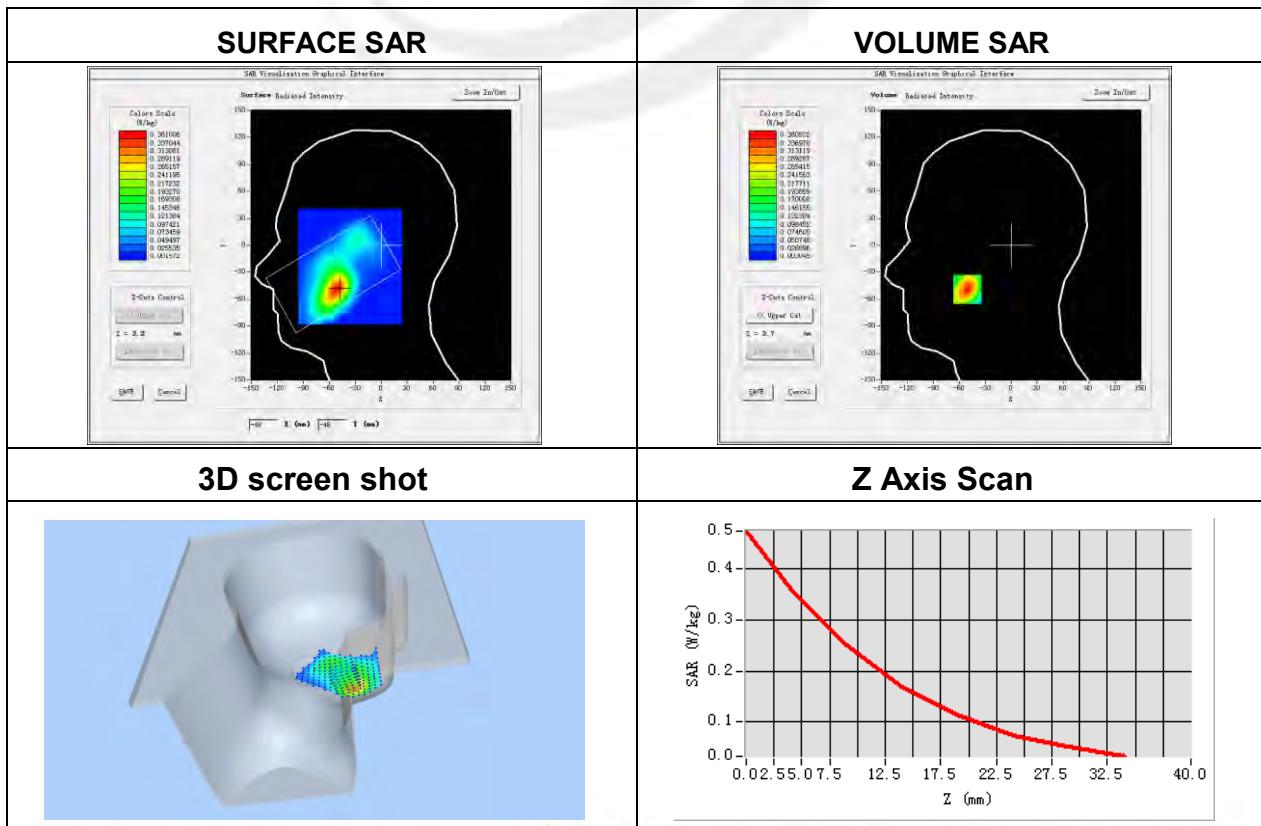


**Plot 48: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-2.00

Maximum location: X=-51.00, Y=-49.00**SAR Peak: 0.50 W/kg**

SAR 10g (W/Kg)	0.202728
SAR 1g (W/Kg)	0.339266

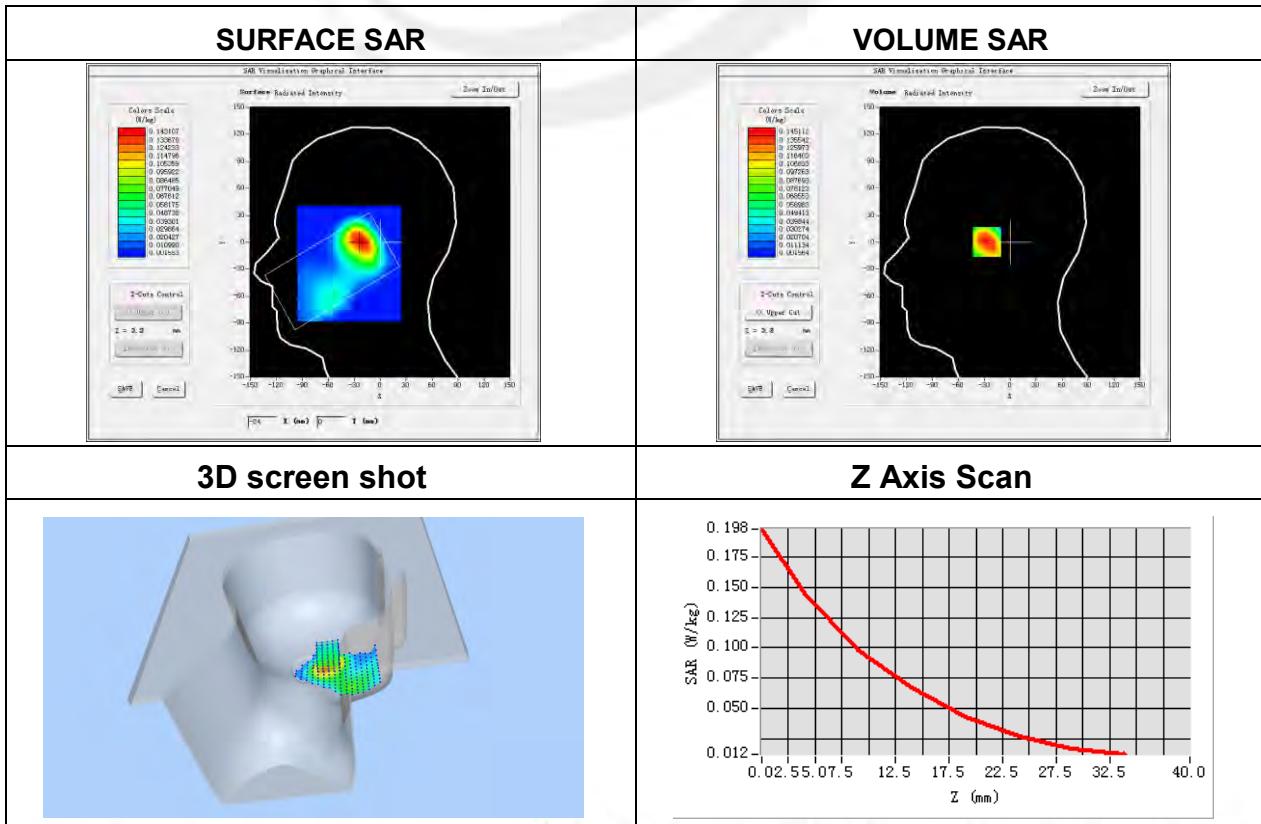


**Plot 49: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-2.70

Maximum location: X=-23.00, Y=-1.00**SAR Peak: 0.20 W/kg**

SAR 10g (W/Kg)	0.083439
SAR 1g (W/Kg)	0.138859





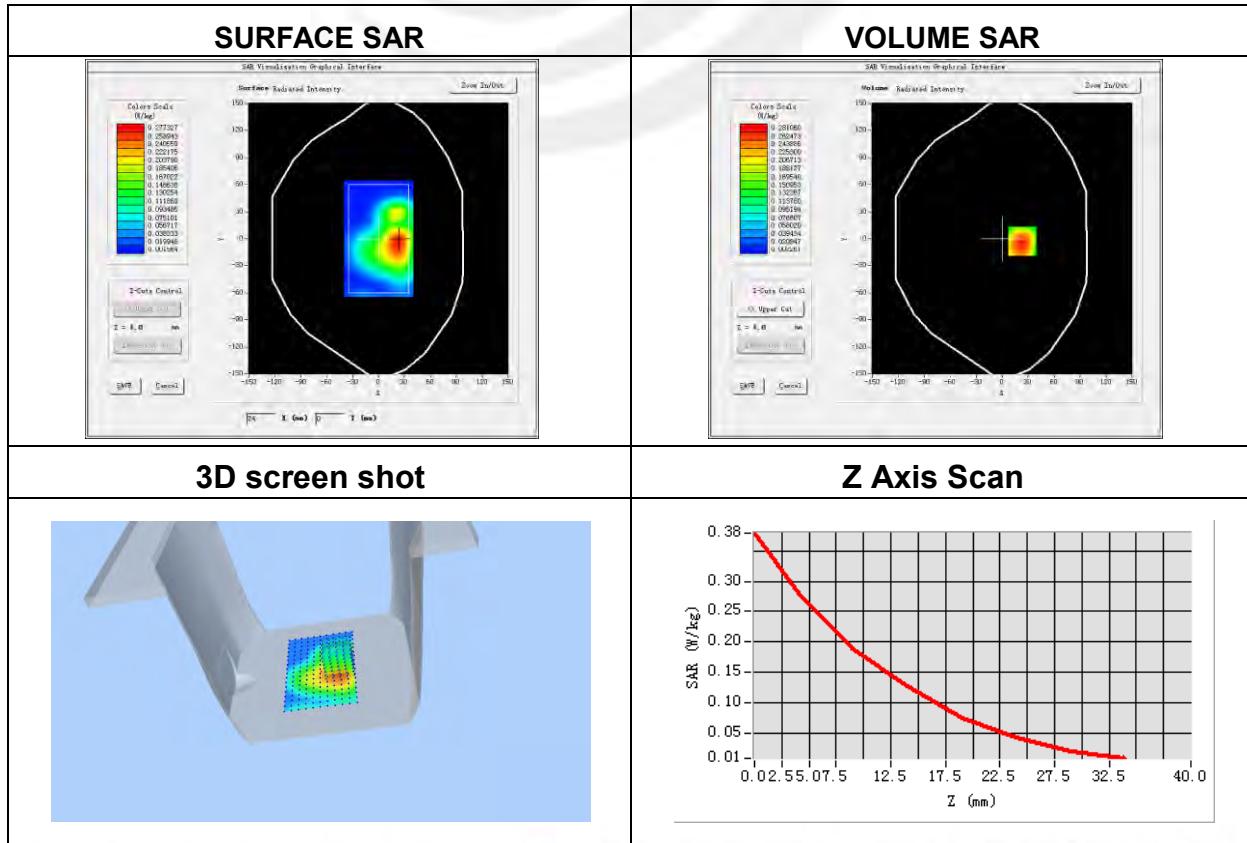
Plot 50: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-2.09

Maximum location: X=23.00, Y=-3.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.163043
SAR 1g (W/Kg)	0.266301

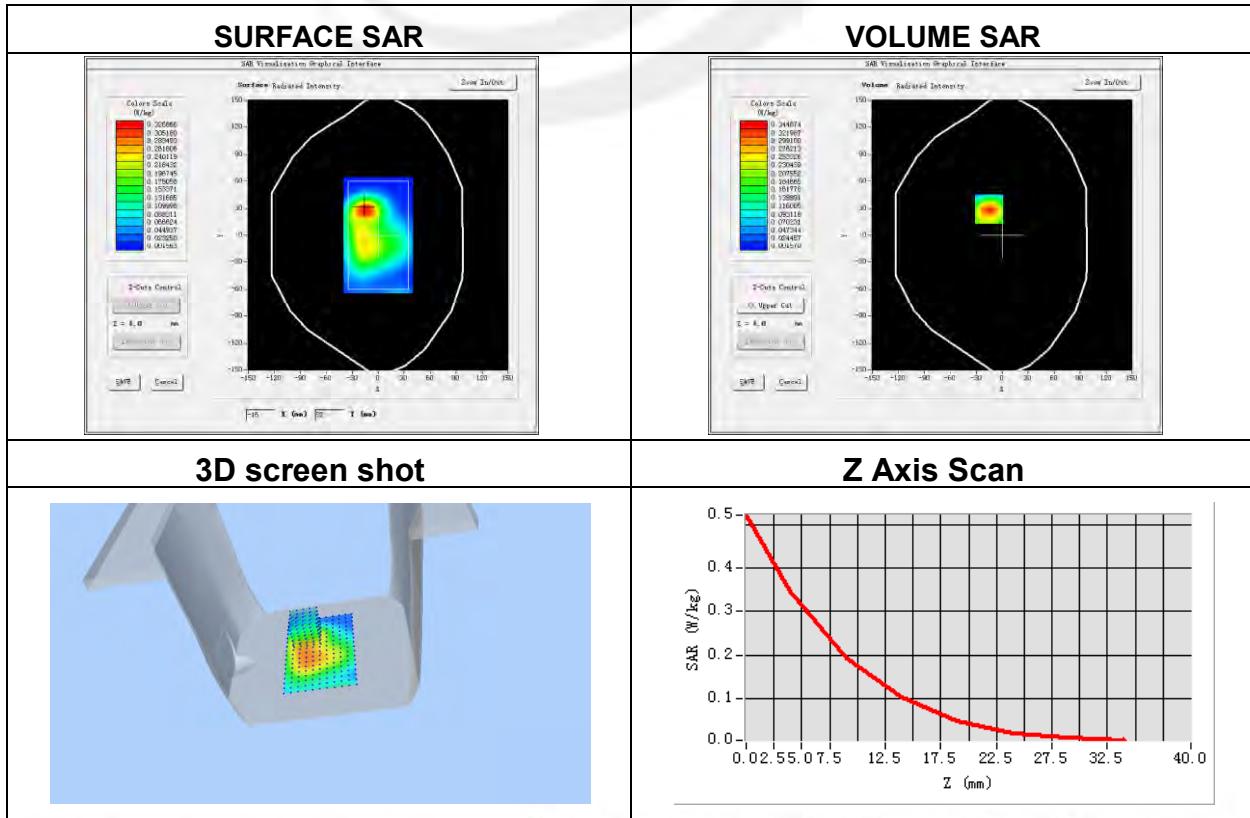


**Plot 51: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-3.55

Maximum location: X=-15.00, Y=29.00**SAR Peak: 0.52 W/kg**

SAR 10g (W/Kg)	0.160954
SAR 1g (W/Kg)	0.315086

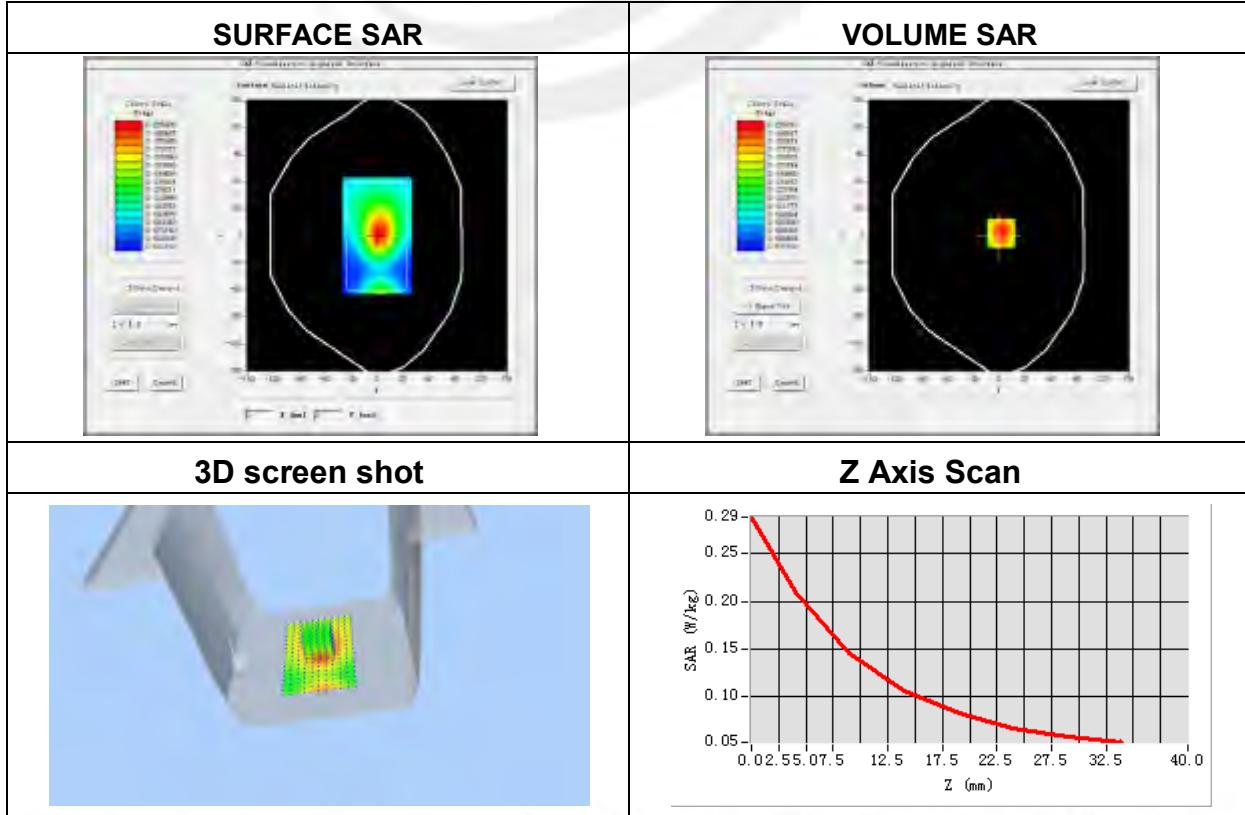


**Plot 52: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-3.23

Maximum location: X=1.00, Y=7.00**SAR Peak: 0.30 W/kg**

SAR 10g (W/Kg)	0.127892
SAR 1g (W/Kg)	0.189596

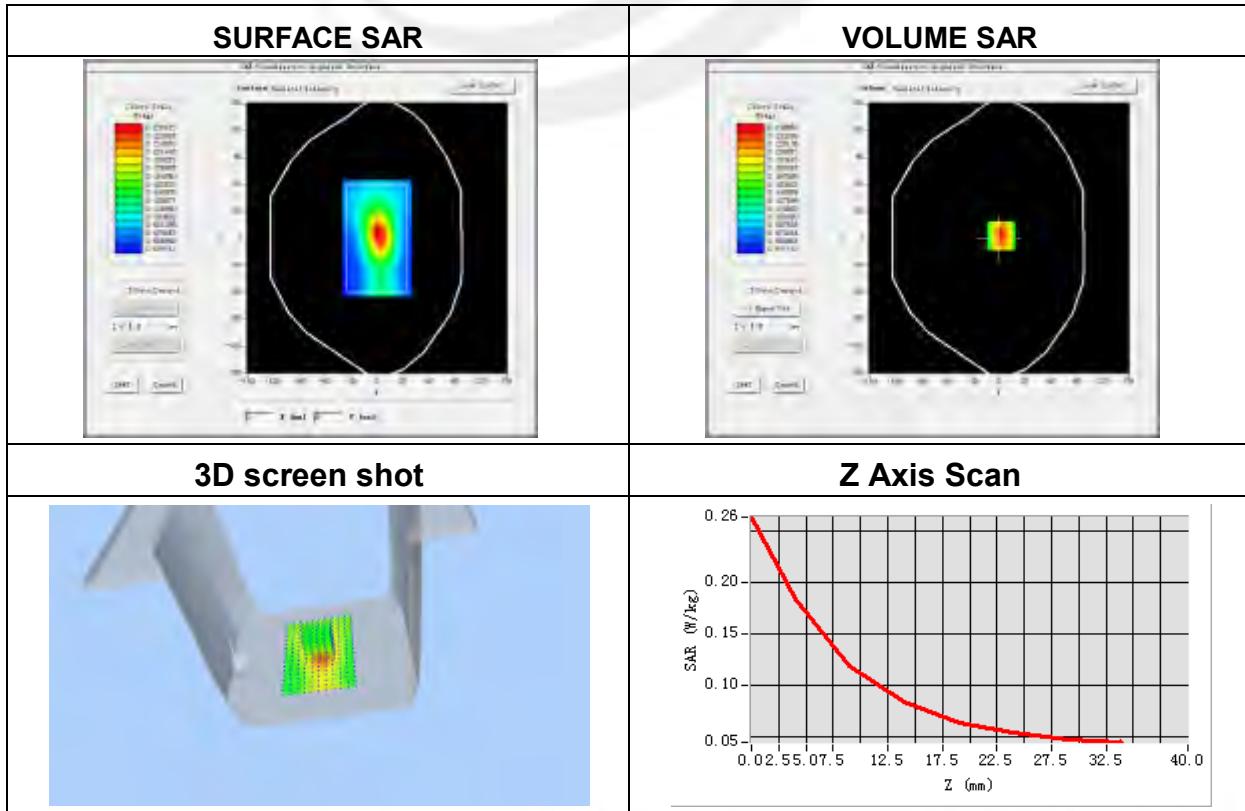


**Plot 53: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 right side
Band	LTE Band 4 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	3.92

Maximum location: X=2.00, Y=3.00**SAR Peak: 0.26 W/kg**

SAR 10g (W/Kg)	0.112582
SAR 1g (W/Kg)	0.162890





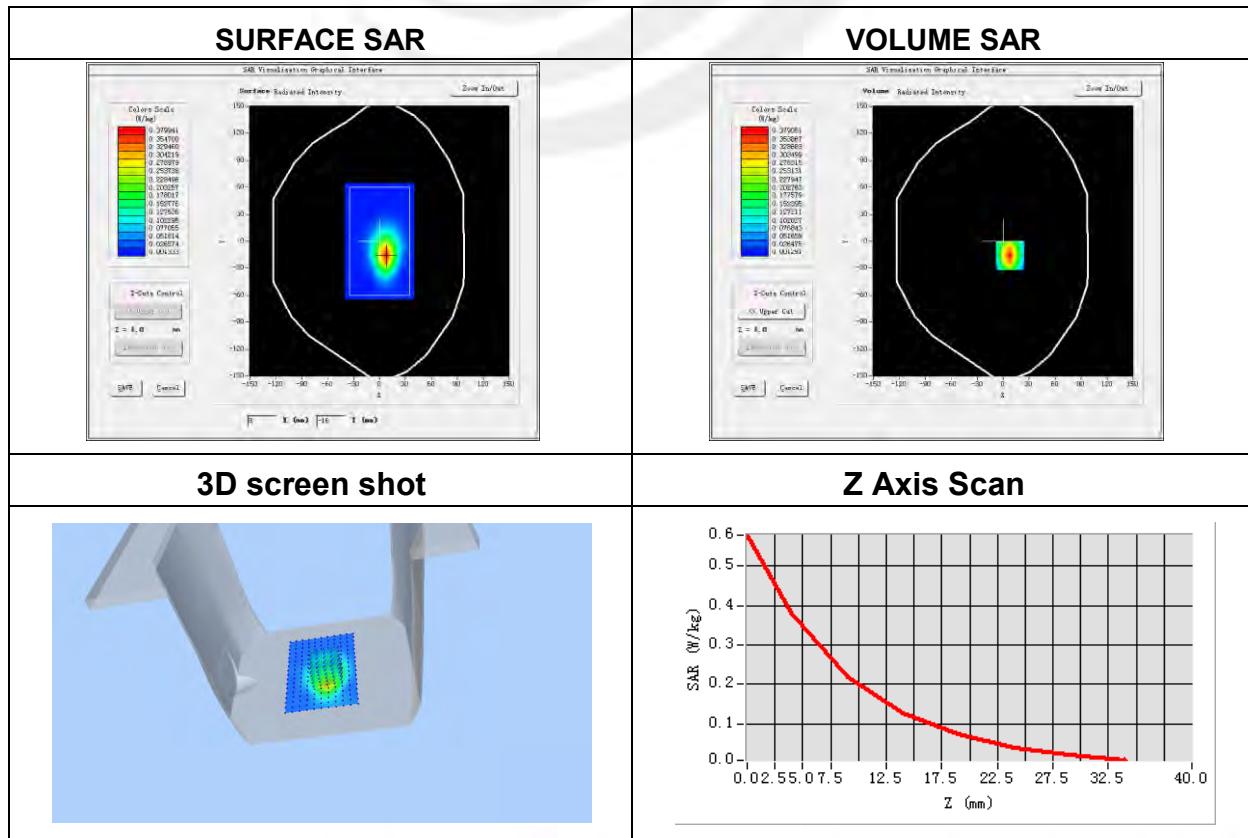
Plot 54: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720.0
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-1.54

Maximum location: X=8.00, Y=-16.00

SAR Peak: 0.58 W/kg

SAR 10g (W/Kg)	0.176320
SAR 1g (W/Kg)	0.349518

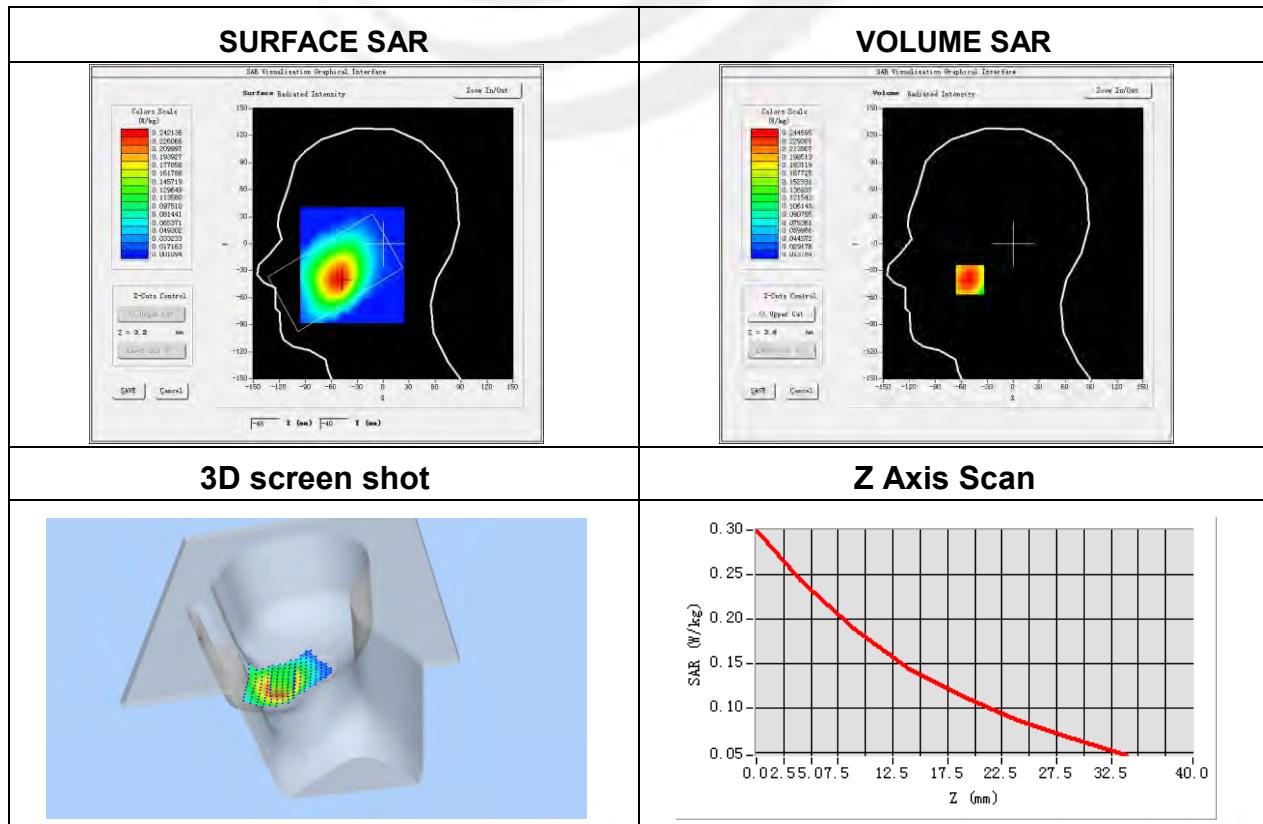



Plot 55: DUT: 4G Smartphone; EUT Model: PL5001

Test Data	2016-01-14
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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.14

Maximum location: X=-50.00, Y=-40.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.171465
SAR 1g (W/Kg)	0.236415



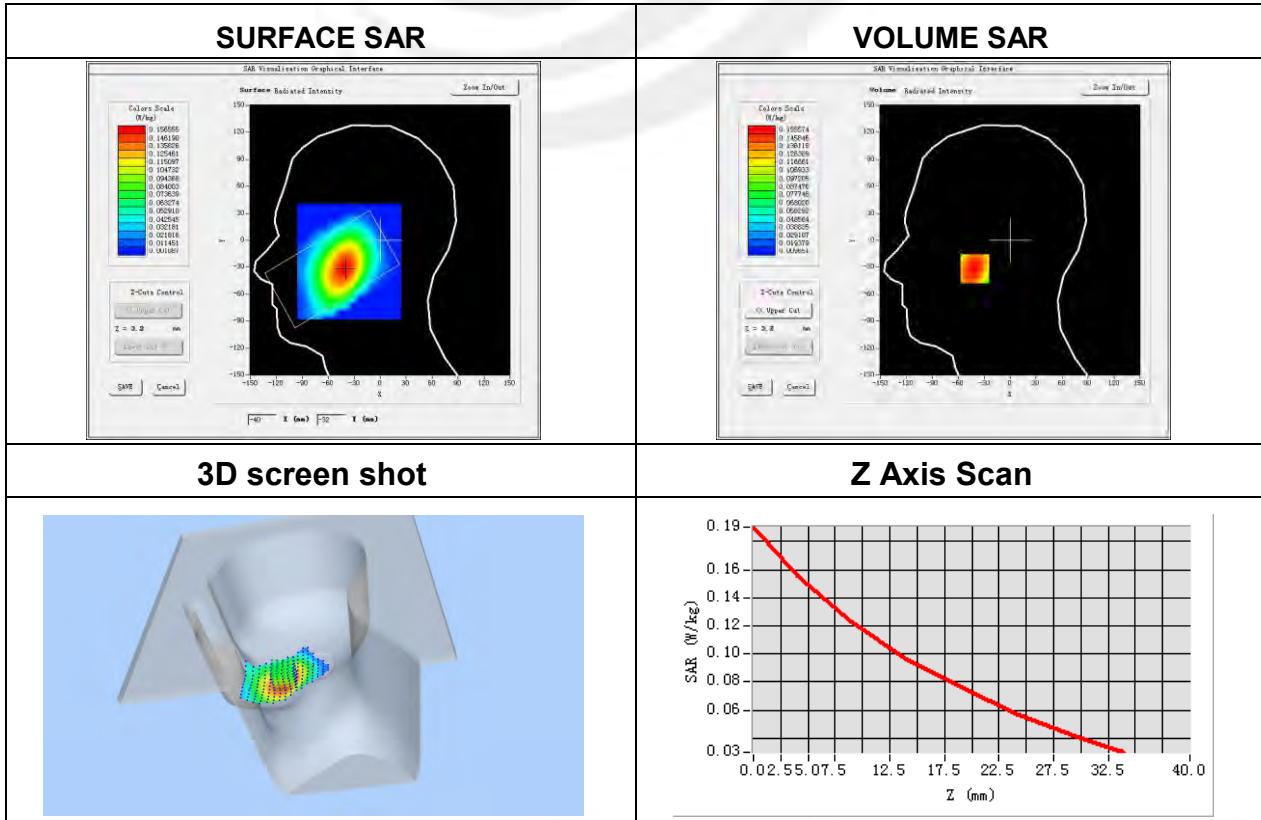
**Plot 56: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.85

Maximum location: X=-41.00, Y=-31.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.110595
SAR 1g (W/Kg)	0.150952

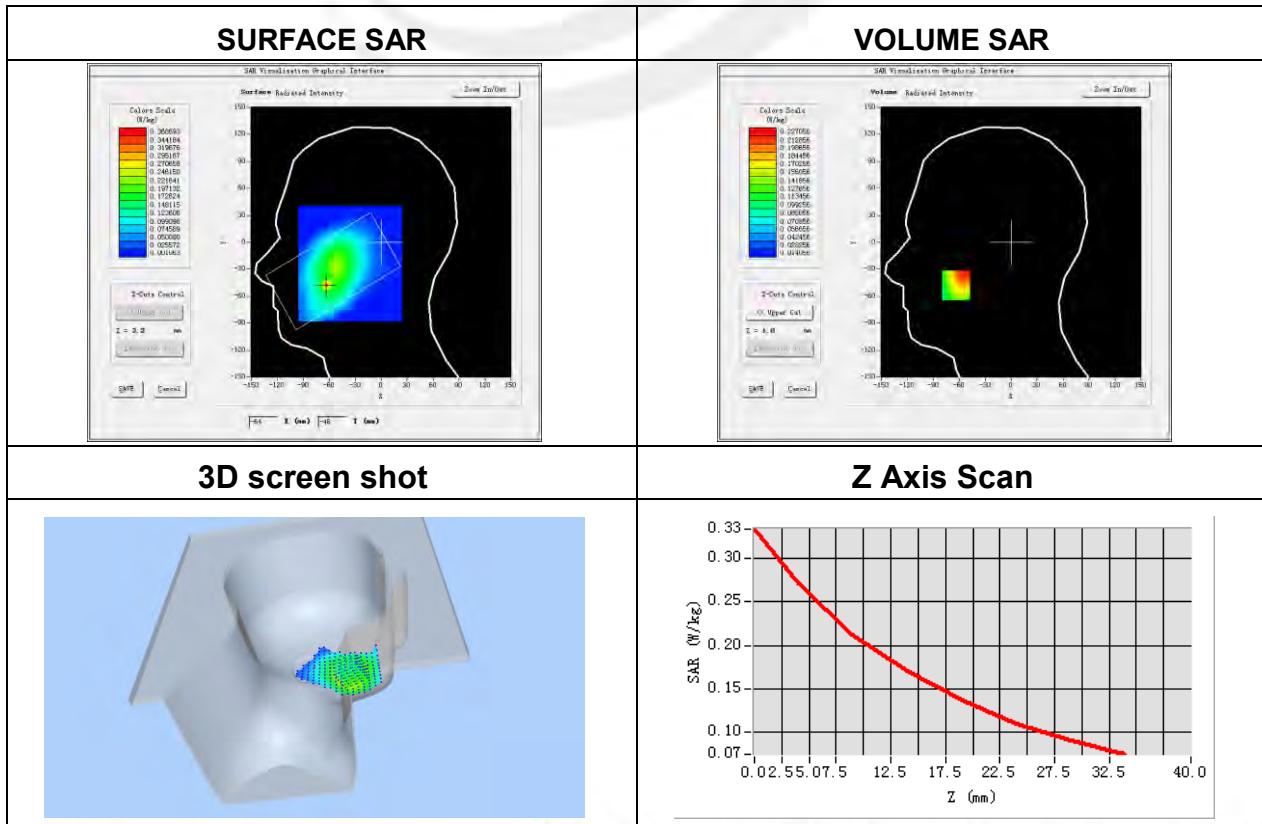


**Plot 57: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.19

Maximum location: X=-64.00, Y=-48.00**SAR Peak: 0.38 W/kg**

SAR 10g (W/Kg)	0.148585
SAR 1g (W/Kg)	0.216317

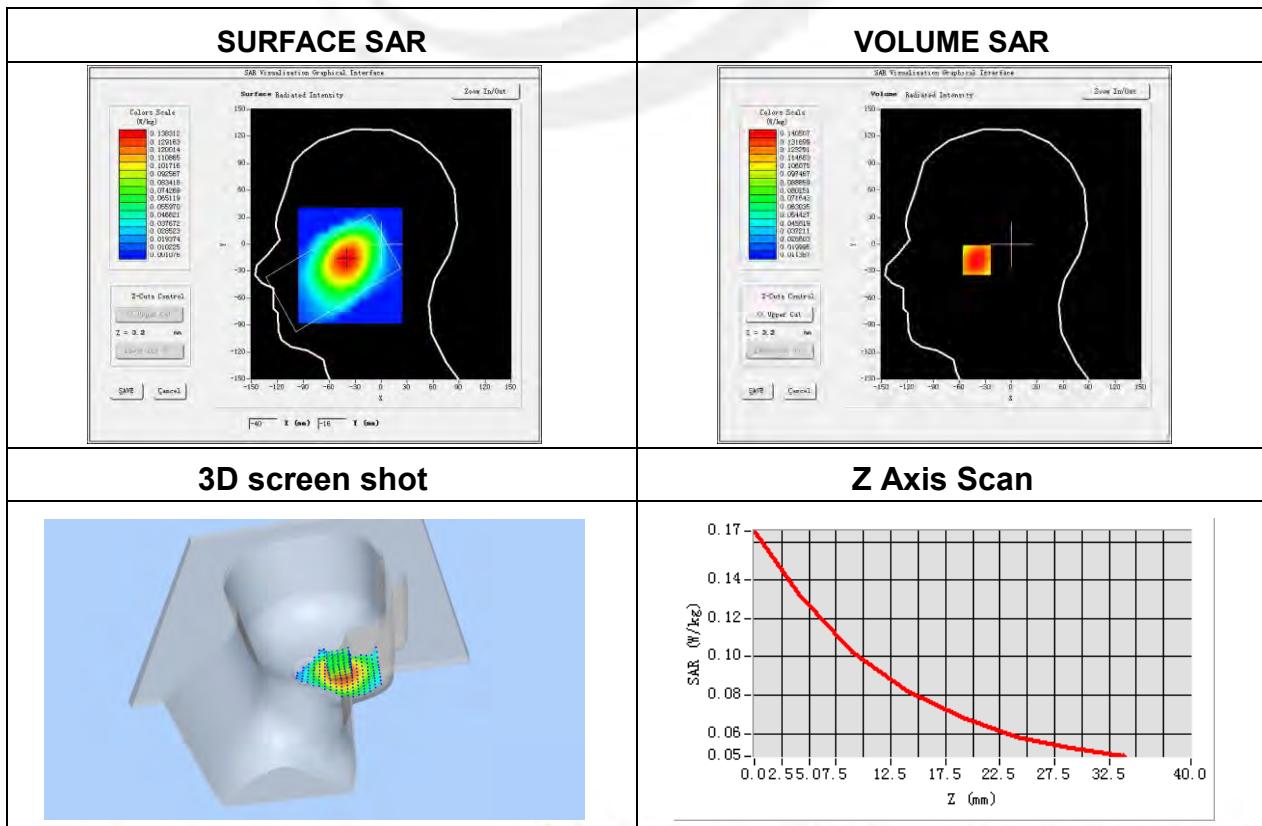


**Plot 58: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.91

Maximum location: X=-40.00, Y=-17.00**SAR Peak: 0.18 W/kg**

SAR 10g (W/Kg)	0.099821
SAR 1g (W/Kg)	0.136547



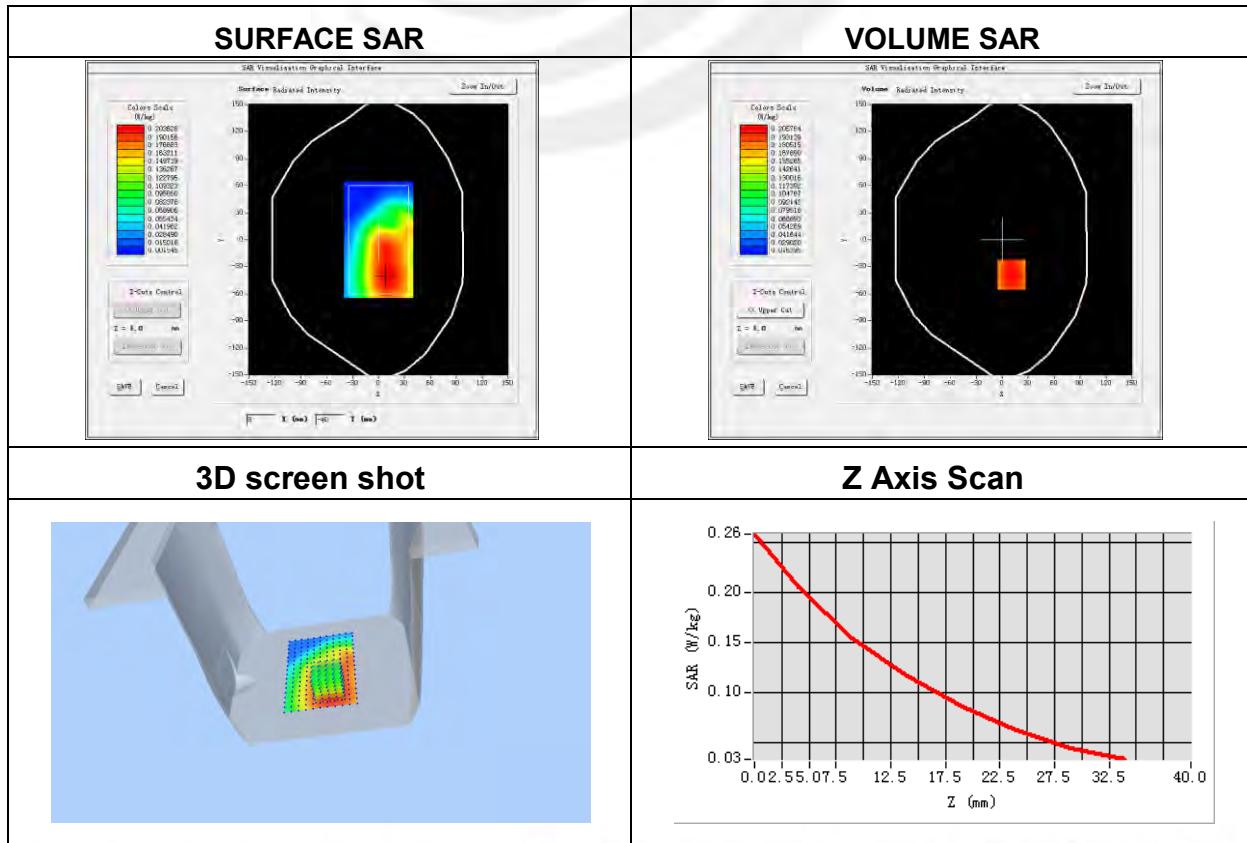
**Plot 59: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-1.47

Maximum location: X=11.00, Y=-39.00

SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.144009
SAR 1g (W/Kg)	0.199305

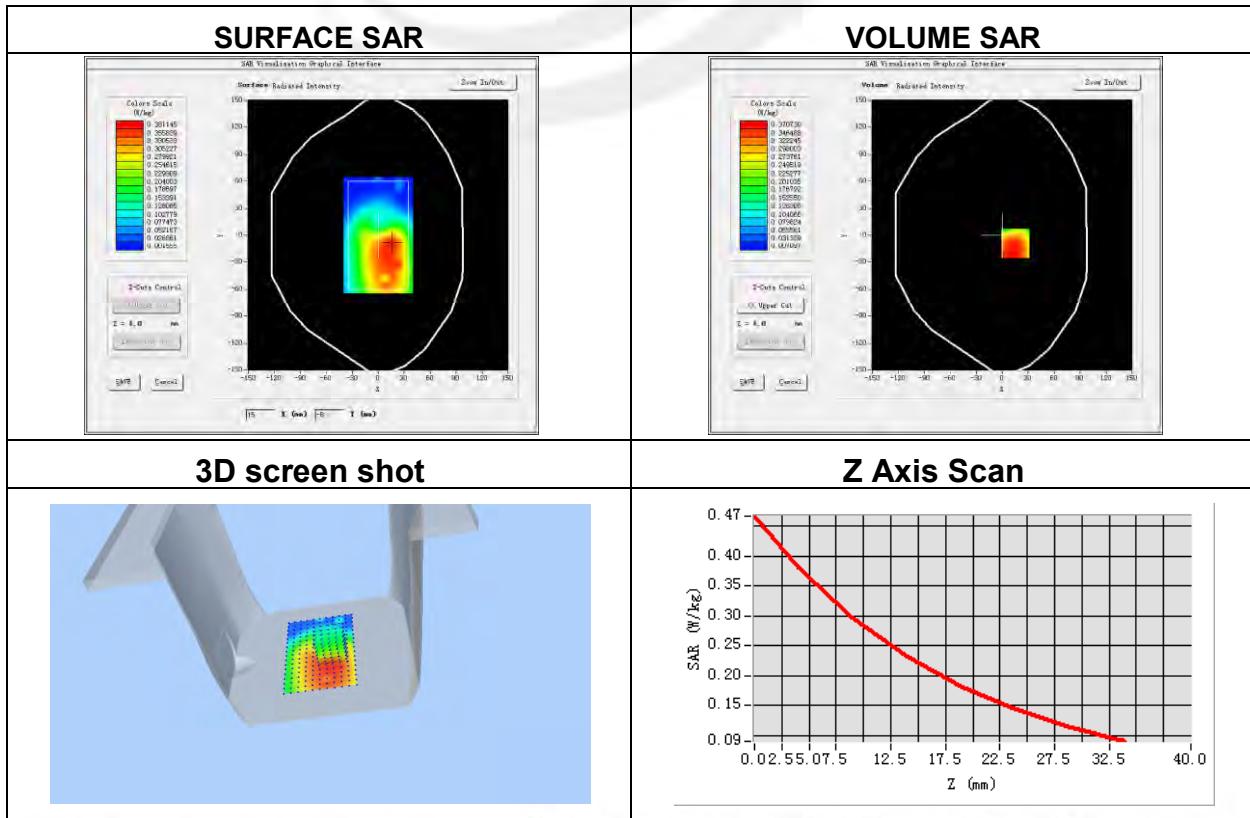


**Plot 60: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.64

Maximum location: X=15.00, Y=-9.00**SAR Peak: 0.47 W/kg**

SAR 10g (W/Kg)	0.249721
SAR 1g (W/Kg)	0.358704

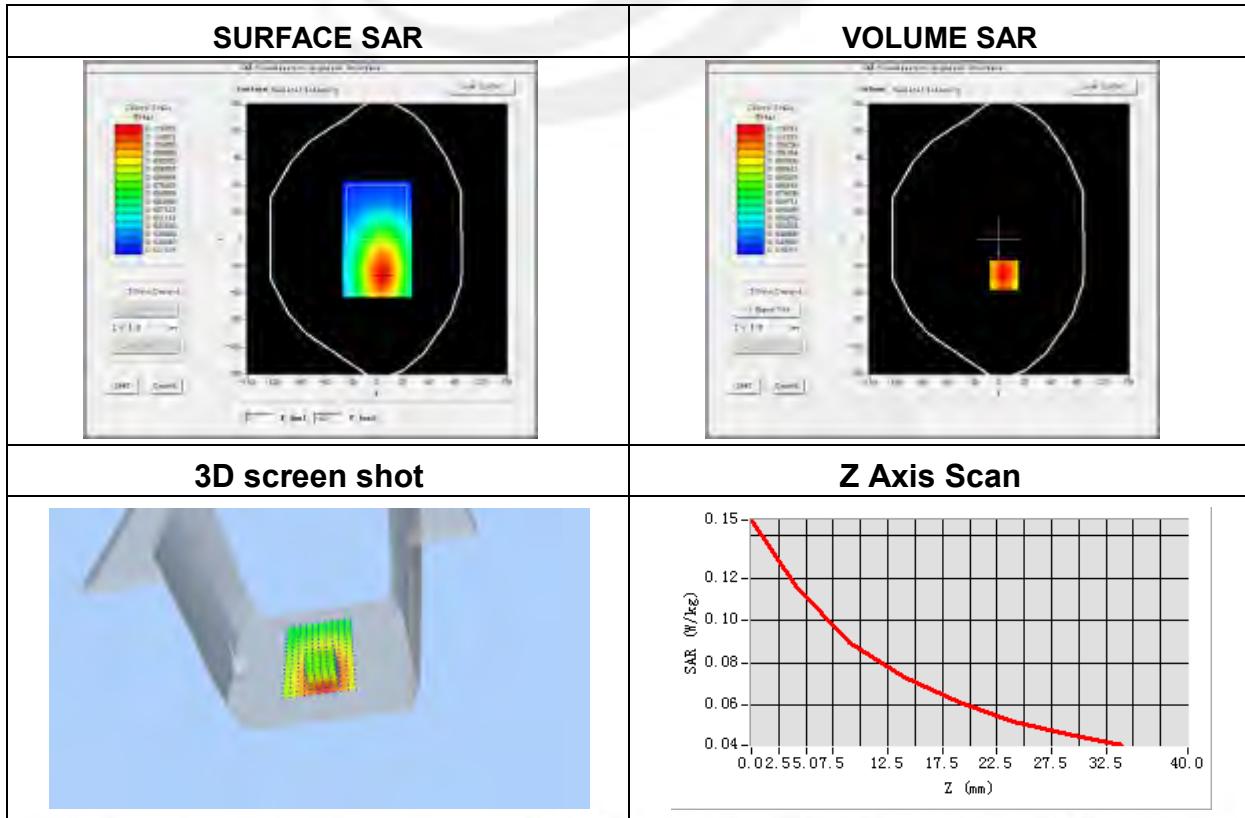


**Plot 61: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-0.17

Maximum location: X=6.00, Y=-40.00**SAR Peak: 0.15 W/kg**

SAR 10g (W/Kg)	0.088480
SAR 1g (W/Kg)	0.116191

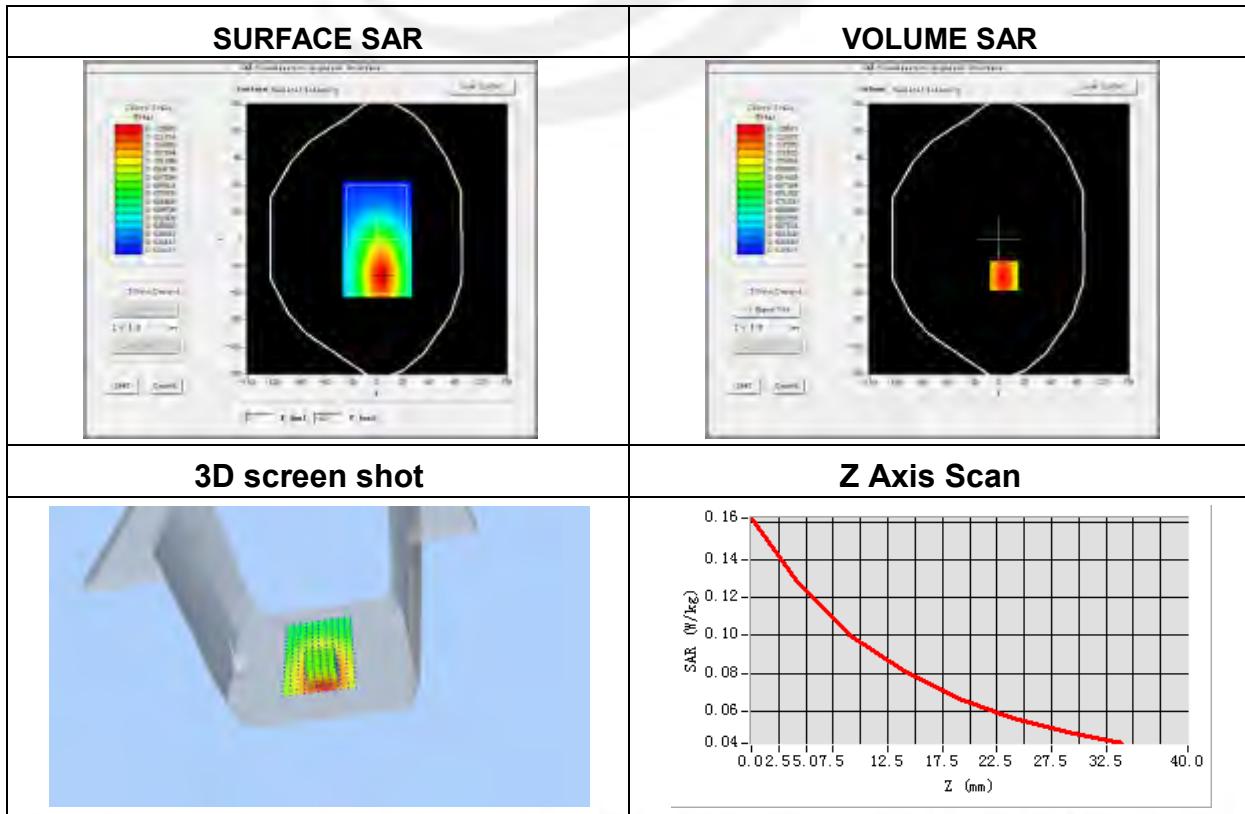


**Plot 62: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 right side
Band	LTE Band 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.08

Maximum location: X=6.00, Y=-41.00**SAR Peak: 0.16 W/kg**

SAR 10g (W/Kg)	0.097219
SAR 1g (W/Kg)	0.128875



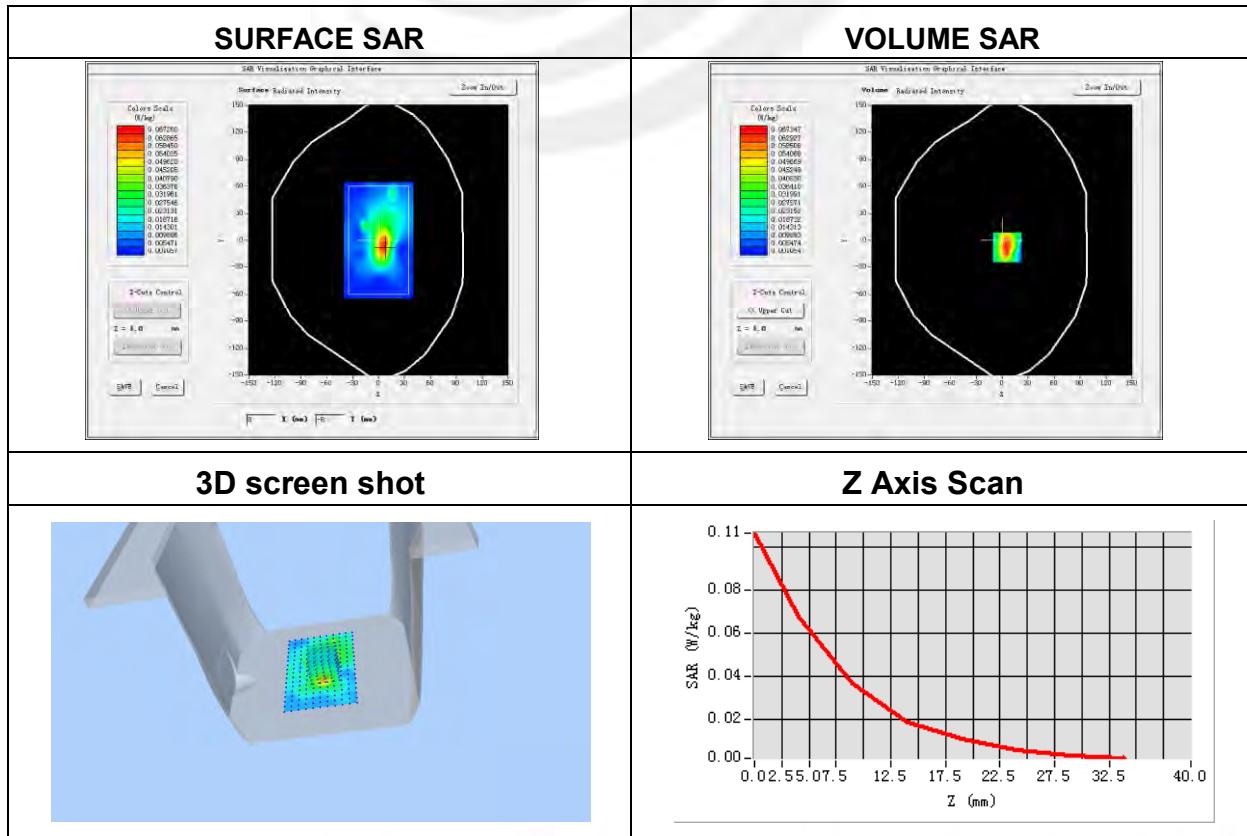
**Plot 63: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
Ambient Temperature(℃)	22.70
Liquid Temperature(℃)	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 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-2.71

Maximum location: X=6.00, Y=-8.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.030143
SAR 1g (W/Kg)	0.062937



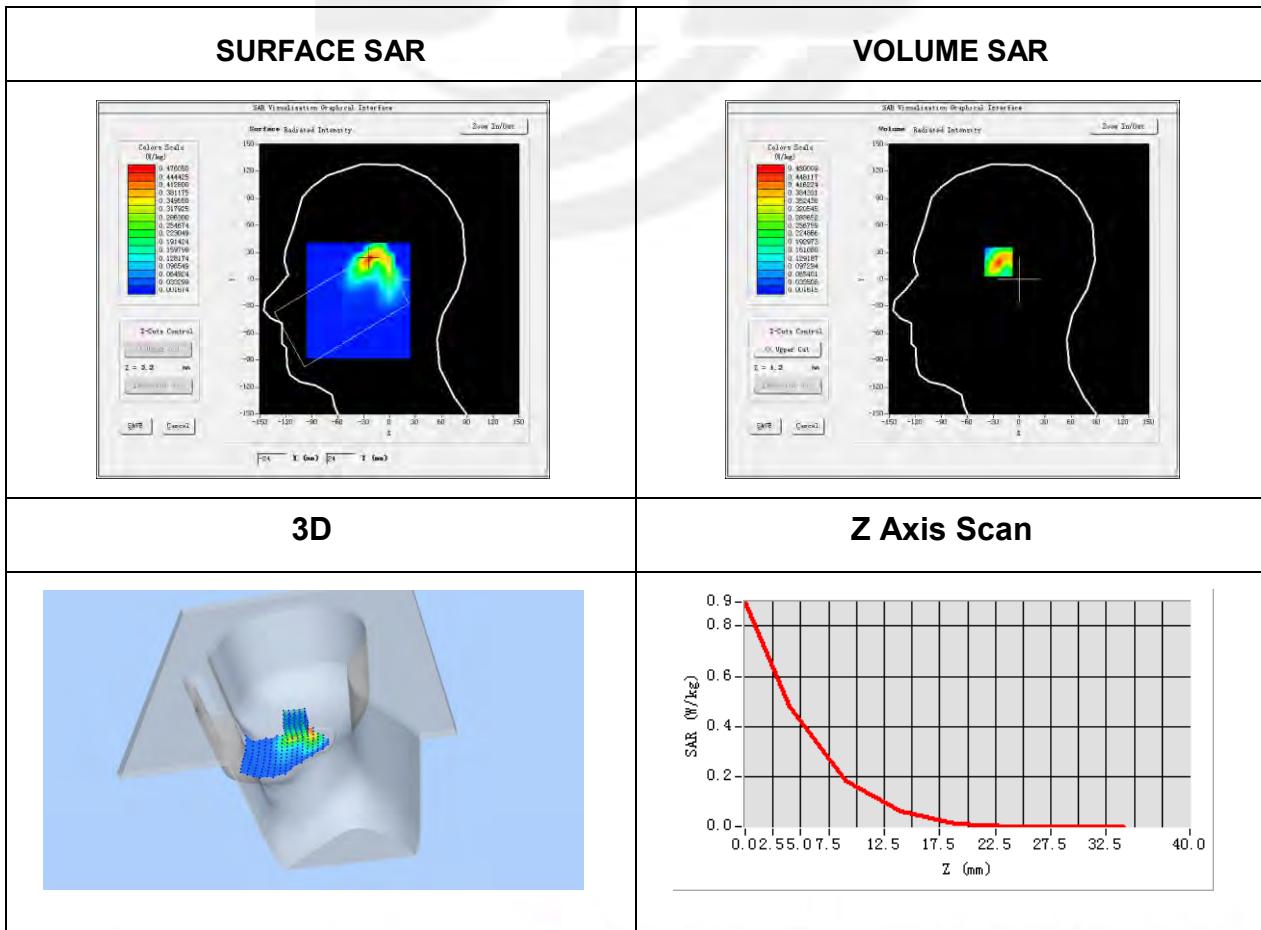
**Plot 64: DUT:4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-2.31

Maximum location: X=-24.00, Y=23.00

SAR Peak: 0.89 W/kg

SAR 10g (W/Kg)	0.176027
SAR 1g (W/Kg)	0.438500

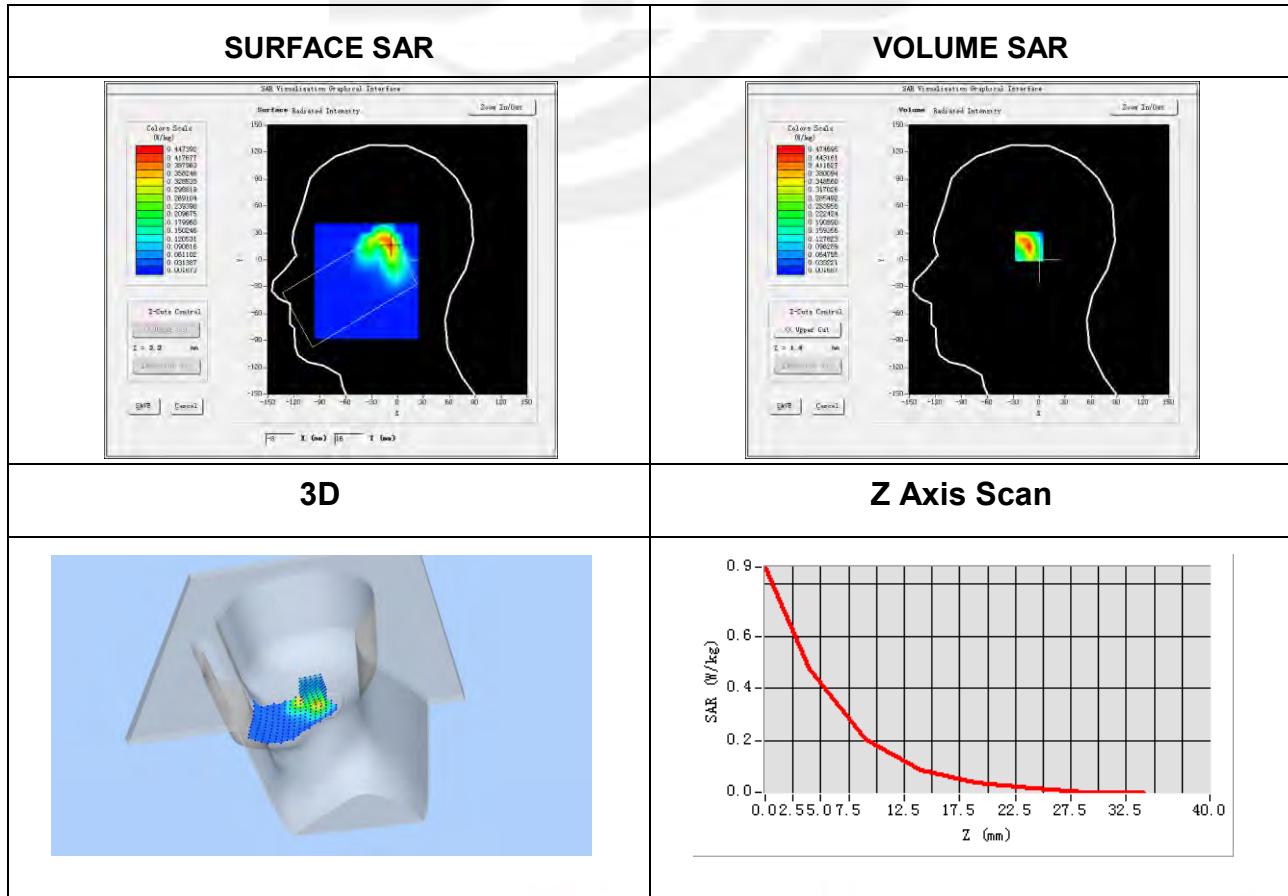


**Plot 65: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-1.26

Maximum location: X=-8.00, Y=16.00
SAR Peak: 0.85 W/kg

SAR 10g (W/Kg)	0.186491
SAR 1g (W/Kg)	0.435901

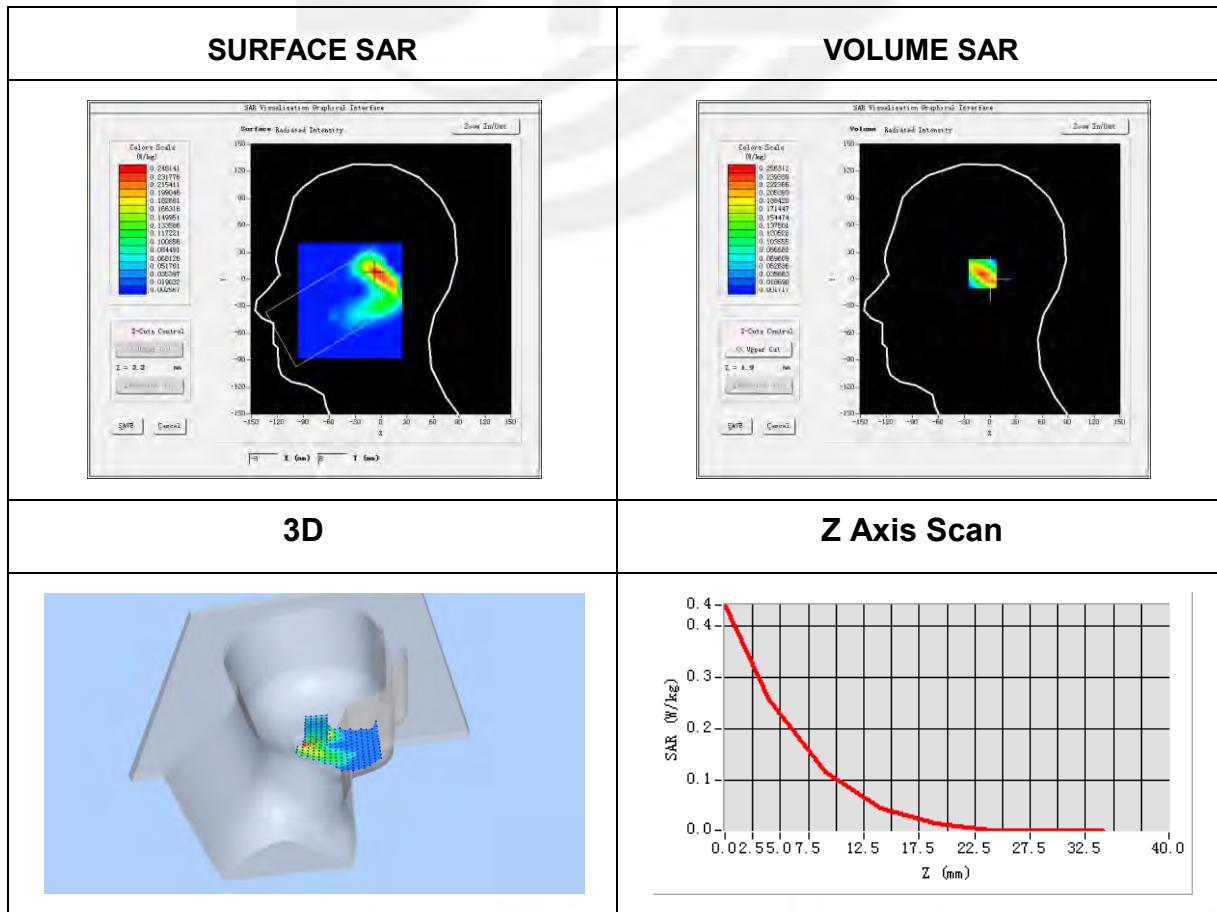


**Plot 66: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	0.08

Maximum location: X=-3.00, Y=6.00
SAR Peak: 0.44 W/kg

SAR 10g (W/Kg)	0.103389
SAR 1g (W/Kg)	0.234328

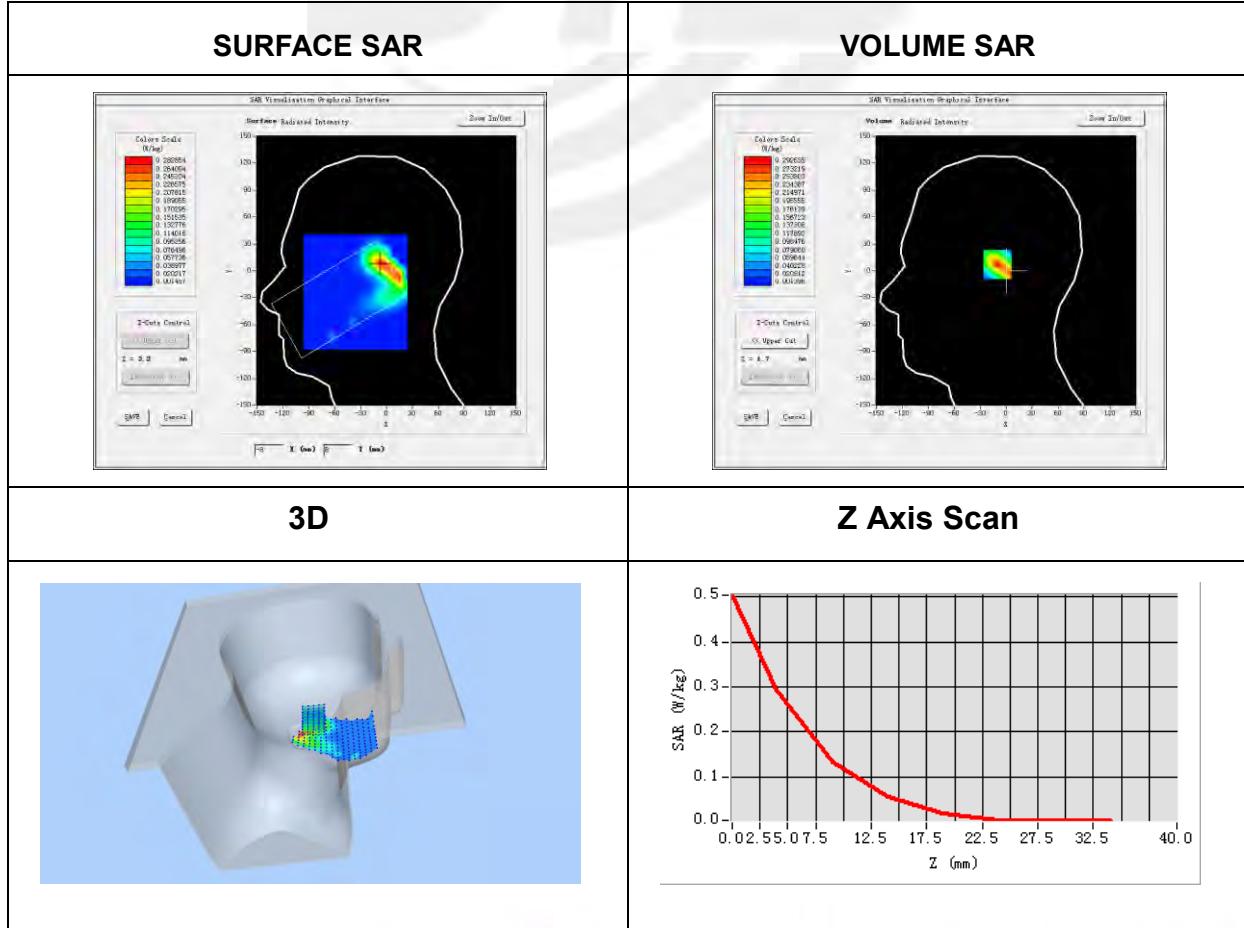


**Plot 67: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-1.06

Maximum location: X=-5.00, Y=7.00
SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.117205
SAR 1g (W/Kg)	0.267152

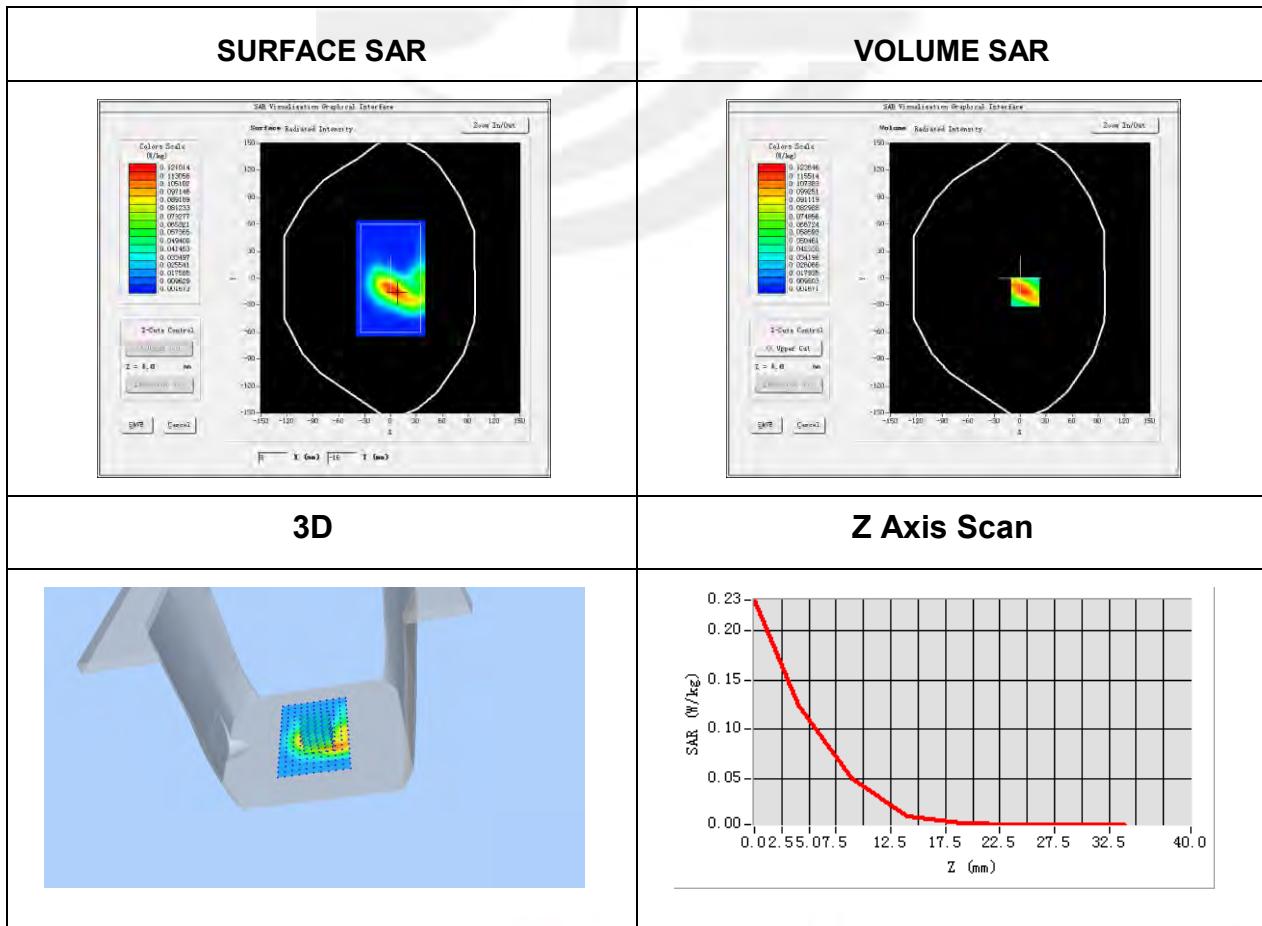


**Plot 68: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	<u>IEEE802.b</u> (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-2.37

Maximum location: X=6.00, Y=-15.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.050518
SAR 1g (W/Kg)	0.117216

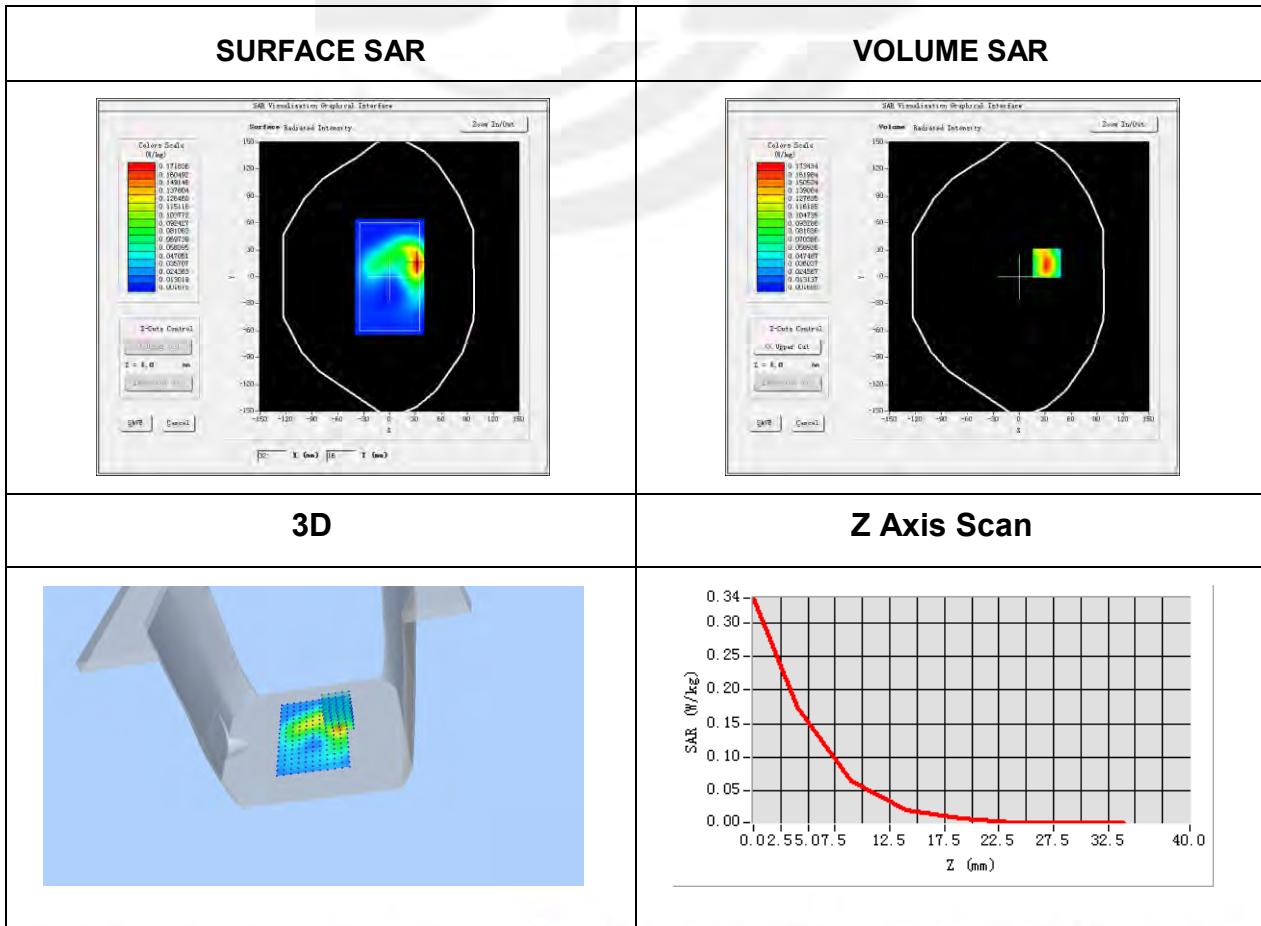


**Plot 69: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-1.26

Maximum location: X=32.00, Y=15.00
SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.070783
SAR 1g (W/Kg)	0.165743

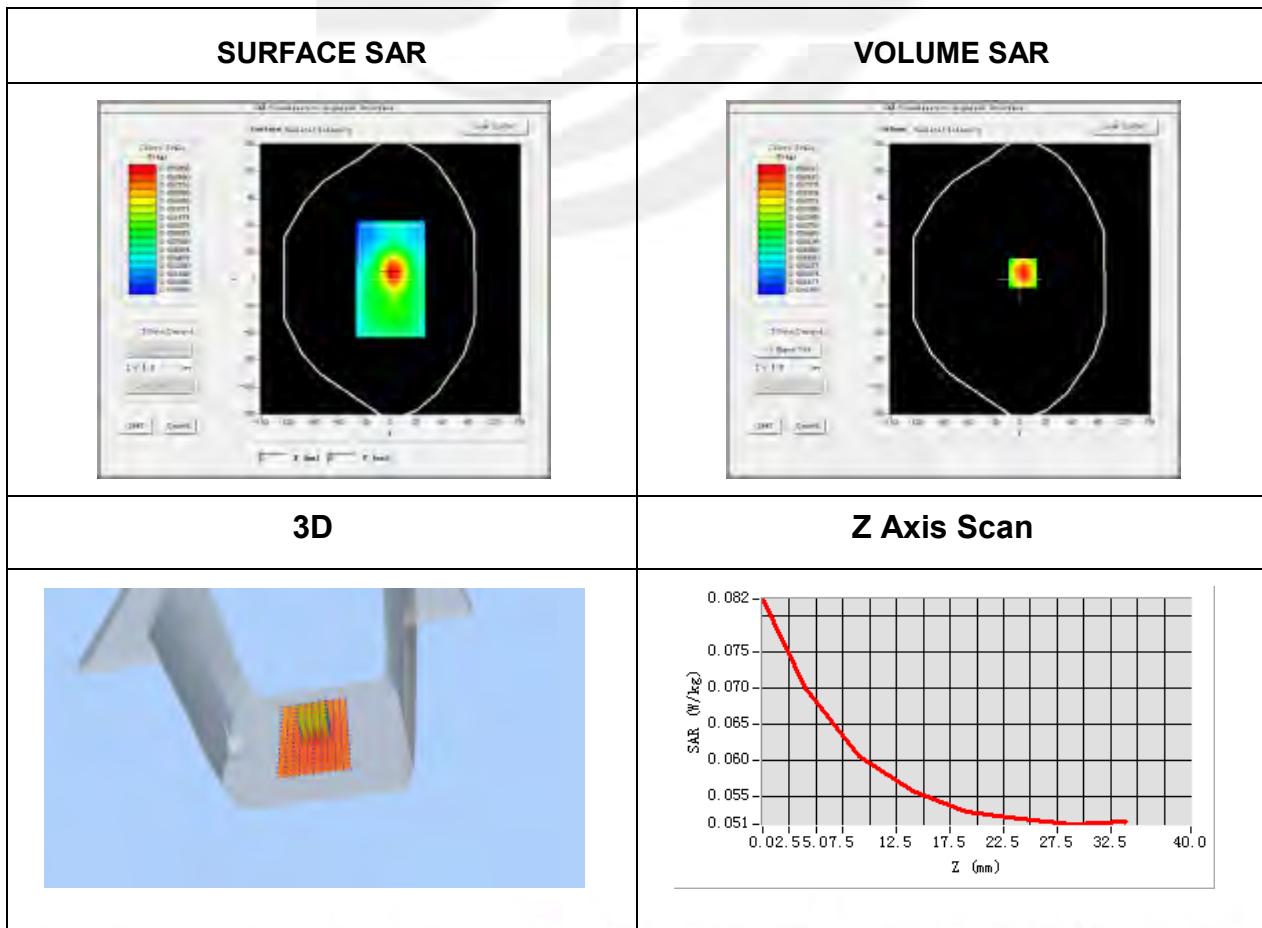


**Plot 70: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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 lift side
Band	IEEE 802.11b ISM
Channels	High
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	0.96

Maximum location: X=3.00, Y=7.00
SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.050046
SAR 1g (W/Kg)	0.069142

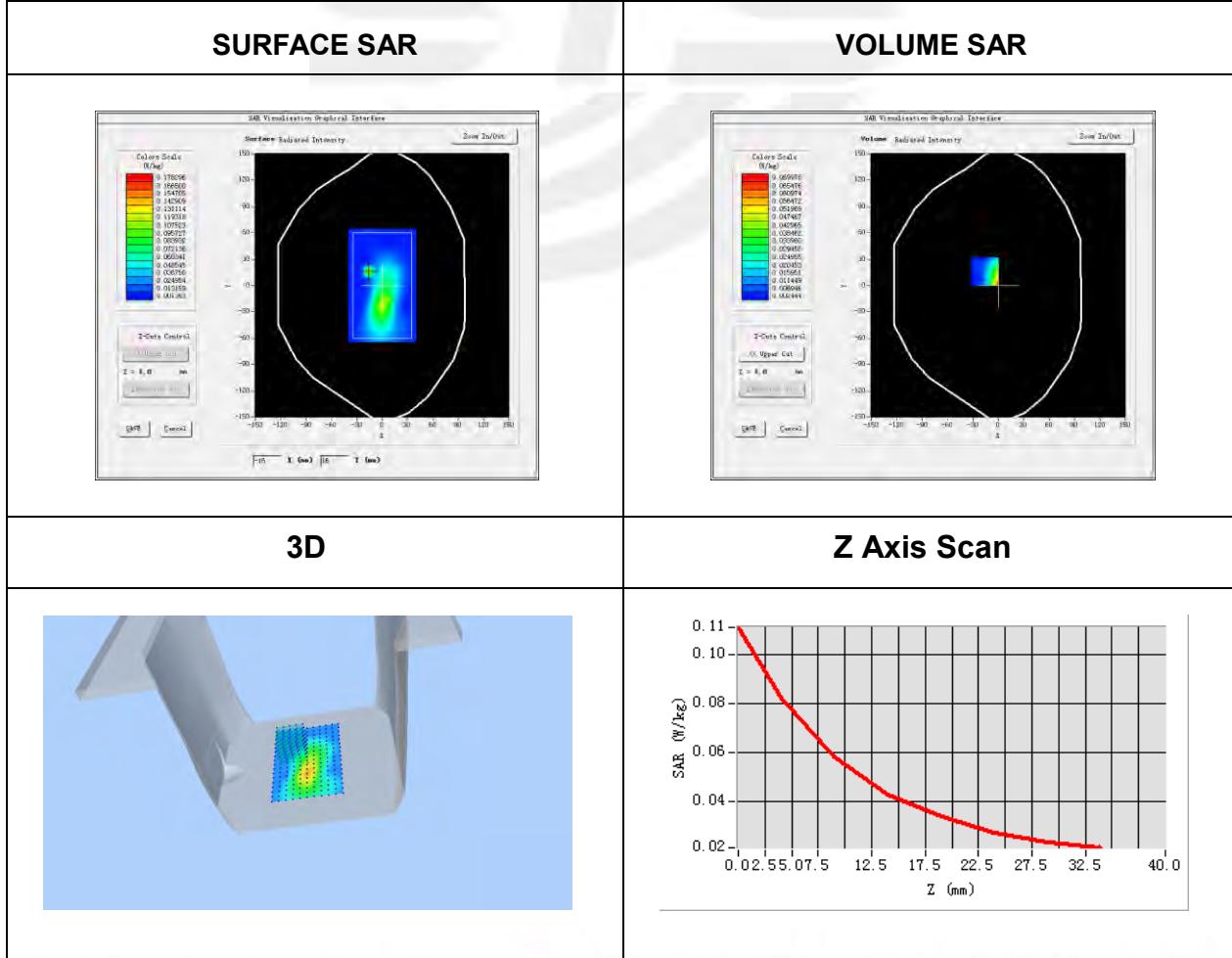


**Plot 71: DUT: 4G Smartphone; EUT Model: PL5001**

Test Data	2016-01-14
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	High
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2462
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.99

Maximum location: X=-16.00, Y=16.00
SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.014754
SAR 1g (W/Kg)	0.048129





Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※

