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FCC SAR TEST REPORT

Report No.: STS2003237H01

Issued for

Shanghai Unihertz E-Commerce Co., Ltd
Room 302, No. 5, Lane 59, Shennan Rd, Minhang district,
Shanghai, China 201108

Product Name:	Smart phone
Brand Name:	Unihertz
Model Name:	Atom L
Series Model:	N/A
FCC ID:	2AK6CATOML
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Head: 0.322 W/kg
	Body: 0.886 W/kg

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Test Report Certification

Applicant's name : Shanghai Unihertz E-Commerce Co., Ltd
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Product description

Product name : Smart phone
Brand name : Unihertz
Model name : Atom L
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 : 15 Apr. 2020~21 Apr. 2020

Date of Issue : 22 Apr. 2020

Test Result : **Pass**

Testing Engineer : _____

Aaron Bu

(Aaron Bu)

Technical Manager : _____

Jason Lu

(Jason Lu)

Authorized Signatory : _____

Vita Li

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	22 Apr. 2020	STS2003237H01	ALL	Initial Issue
Note: Format version of the report -V01				





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

Product Name	Smart phone
Brand Name	Unihertz
Model Name	Atom L
Series Model	N/A
Model Difference	N/A
Battery	Rated Voltage: 3.85V Charge Limit: 4.4V Capacity: 4260mAh
Device Category	Portable
Product stage	Production unit
RF Exposure Environment	General Population / Uncontrolled
IMEI	00000000000000 11111111111111 22222222222222
Hardware Version	G63_V2.0
Software Version	Unihertz_Atom_L_20200312
Frequency Range	GSM 850: 824.2~848.8MHz PCS1900: 1850.2~1909.8MHz WCDMA Band II: 1852.4~1907.6MHz WCDMA IV:1712.4~1752.6 MHz WCDMA Band V: 826.4~846.6MHz LTE Band 2: 1850.7~1909.3MHz LTE Band 4: 1710.7~1754.3MHz LTE Band 5: 824.7~848.3MHz LTE Band 7: 2502.5~2567.5MHz LTE Band 12:699.7~715.3MHz LTE Band 13:779.5~784.5MHz LTE Band 17: 706.5~713.5MHz LTE Band 25: 1850.7~1914.3MHz LTE Band 26: 814.7~848.3MHz LTE Band 38: 2570 MHz to 2620 MHz LTE Band 41: 2496MHz~2690 MHz LTE Band 66: 1710.7MHz~1779.3 MHz WLAN802.11b/g/n(HT20): 2412~2462MHz WLAN 802.11n(HT40): 2422~2452MHz WLAN 802.11a/n/ac(HT20/40/80): 5150~5250 MHz; WLAN 802.11a/n/ac(HT20/40/80): 5250~5350 MHz; WLAN 802.11a/n/ac(HT20/40/80): 5470~5725 MHz; WLAN 802.11a/n/ac(HT20/40/80): 5725~5875 MHz; Bluetooth: 2402~ 2480MHz



Max. Reported SAR(1g): (Limit: 1.6W/kg)	Band	Mode	Head (W/kg)	Body Worn and Hotspot(W/kg)
	PCE	GSM 850	0.234	0.424
	PCE	GSM 1900	0.157	0.312
	PCE	WCDMA Band II	0.176	0.170
	PCE	WCDMA Band IV	0.152	0.209
	PCE	WCDMA Band V	0.174	0.349
	PCE	LTE Band 2	0.260	0.334
	PCE	LTE Band 4	0.309	0.557
	PCE	LTE Band 5	0.194	0.422
	PCE	LTE Band 7	0.079	0.406
	PCE	LTE Band 12	0.117	0.264
	PCE	LTE Band 13	0.009	0.026
	PCE	LTE Band 17	0.102	0.249
	PCE	LTE Band 25	0.169	0.218
	PCE	LTE Band 26	0.200	0.465
	PCE	LTE Band 41	0.050	0.276
	PCE	LTE Band 66	0.319	0.886
	DTS	2.4G WLAN	0.130	0.125
	NII	5.2G WLAN ^{Note}	0.242	0.121
	NII	5.4G WLAN ^{Note}	0.311	0.152
	NII	5.6G WLAN ^{Note}	0.316	0.158
	NII	5.8G WLAN ^{Note}	0.322	0.161
DSS	Bluetooth	0.015	0.013	
1-g Sum SAR			0.641	1.047
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS) Unlicensed National Information Infrastructure TX (NII)			
Operating Mode:	GSM: GSM Voice; GPRS; EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 LTE: QPSK, 16QAM WLAN: 802.11 a/b/g/ac/n(HT20) /n(HT40) Bluetooth: 4.2+EDR (GFSK + π /4DQPSK+8DPSK) BLE			
Antenna Specification:	GSM, WCDMA, LTE: PIFA Antenna BT, WLAN: 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: 1. 5.2G WLAN, 5.4G WLAN, 5.6G WLAN and 5.8G WLAN SAR was estimated 2. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active) 3. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests. 4. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power				



1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (°C)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

ShenZhen STS Test Services Co.,Ltd.

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FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01





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 v02r05	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(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 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

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

Occupational/Controlled Environments:

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

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

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

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

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

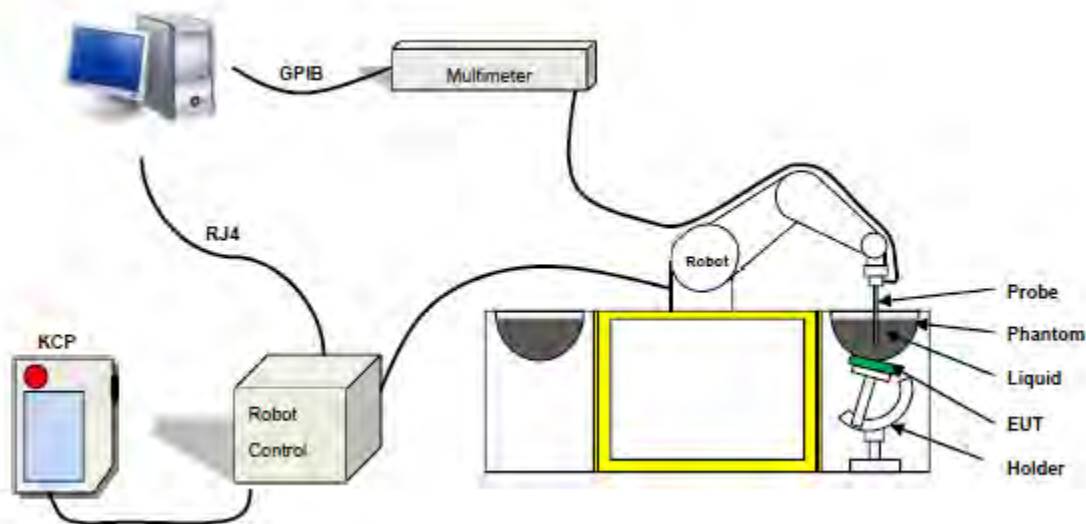
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

MVG 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 Open SAR 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 41/18 EPG0334 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: <0.10 dB
- Spherical Isotropy: <0.10 dB
- Calibration range: 450 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°



Figure 1-MVG 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.

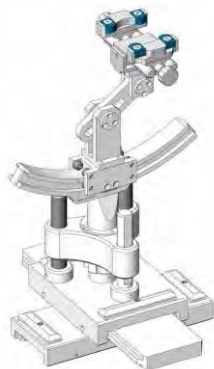
SN 32/14 SAM115



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 ± 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.

Head Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	1.4	0.2	57.0	/	41.1	0.89	41.9
835	0.2	/	/	1.4	0.2	57.9	/	40.3	0.90	41.5
900	0.2	/	/	1.4	0.2	57.9	/	40.3	0.97	41.5
1800	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
1900	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
2000	/	44.5	/	0.3	/	/	/	55.2	1.4	40.0
2450	/	44.9	/	0.1	/	/	/	55.0	1.80	39.2
2600	/	45.0	/	0.1	/	/	/	54.9	1.96	39.0

Body Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	0.9	0.1	47.2	/	51.7	0.96	55.5
835	0.2	/	/	0.9	0.1	48.2	/	50.8	0.97	55.2
900	0.2	/	/	0.9	0.1	48.2	/	50.8	1.05	55.0
1800	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
1900	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
2000	/	29.4	/	0.4	/	/	/	70.2	1.52	53.3
2450	/	31.3	/	0.1	/	/	/	68.6	1.95	52.7
2600	/	31.7	/	0.1	/	/	/	68.2	2.16	52.3

Tissue dielectric parameters for head and body phantoms				
Frequency	ϵ_r		σ S/m	
	Head	Body	Head	Body
300	45.3	58.2	0.87	0.92
450	43.5	56.7	0.87	0.94
900	41.5	55.0	0.97	1.05
1450	40.5	54.0	1.20	1.30
1800	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

**LIQUID MEASUREMENT RESULTS**

Date	Ambient condition		Head Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2020-04-15	22.8	52	750 MHz	22.5	Permittivity:	41.9	42.03	0.30	±5
					Conductivity:	0.88	0.87	-0.70	±5
2020-04-15	22.8	52	835 MHz	22.5	Permittivity:	41.5	41.80	0.73	±5
					Conductivity:	0.9	0.90	0.12	±5
2020-04-16	23.1	50	1800 MHz	22.8	Permittivity:	40	41.71	4.28	±5
					Conductivity:	1.4	1.41	0.72	±5
2020-04-17	22.7	48	1900 MHz	22.4	Permittivity:	40	40.11	0.27	±5
					Conductivity:	1.4	1.38	-1.25	±5
2020-04-20	22.9	51	2450 MHz	22.7	Permittivity:	39.2	39.52	0.80	±5
					Conductivity:	1.8	1.80	-0.13	±5
2020-04-21	23.0	47	2600 MHz	22.8	Permittivity:	39	38.65	-0.90	±5
					Conductivity:	1.96	1.94	-0.98	±5

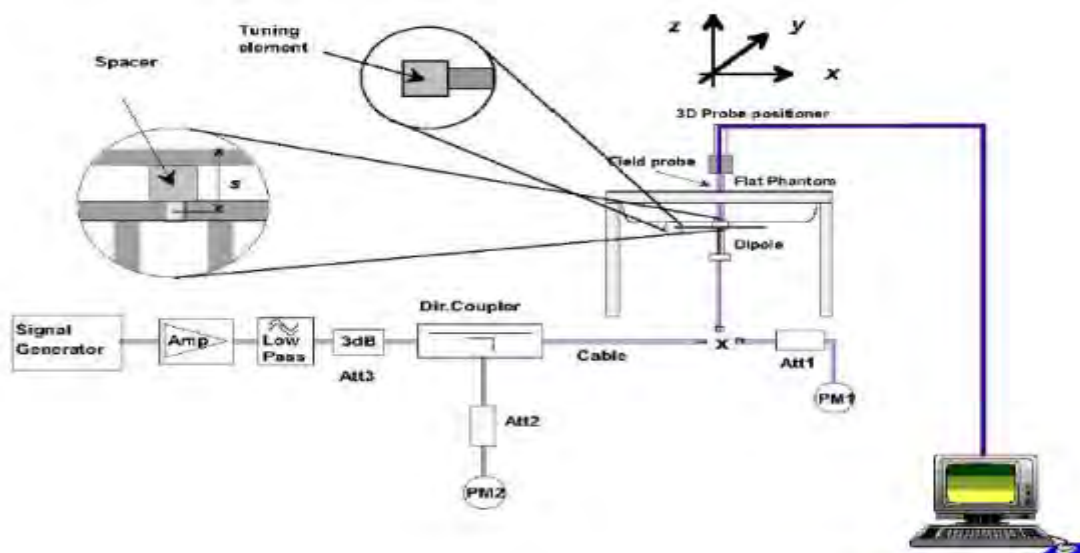
Date	Ambient condition		Body Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2020-04-15	22.8	52	750 MHz	22.5	Permittivity:	55.5	54.69	-1.46	±5
					Conductivity:	0.96	0.96	0.22	±5
2020-04-15	22.8	52	835 MHz	22.5	Permittivity:	55.2	56.22	1.85	±5
					Conductivity:	0.97	0.97	-0.12	±5
2020-04-16	23.1	50	1800 MHz	22.8	Permittivity:	53.3	52.58	-1.35	±5
					Conductivity:	1.52	1.50	-1.14	±5
2020-04-17	22.7	48	1900 MHz	22.4	Permittivity:	53.3	51.87	-2.69	±5
					Conductivity:	1.52	1.47	-3.47	±5
2020-04-20	22.9	51	2450 MHz	22.7	Permittivity:	52.7	51.85	-1.62	±5
					Conductivity:	1.95	1.94	-0.47	±5
2020-04-21	23.0	47	2600 MHz	22.8	Permittivity:	52.5	52.01	-0.94	±5
					Conductivity:	2.16	2.17	0.38	±5

5. SAR System Validation

5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG 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 MVG, the validation data should be within its specification of 10 %.

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg/W)	Target (W/Kg/W)	Tolerance(%)	Date
750 Head	100	0.880	8.80	8.49	3.63	2020-04-15
750 Body	100	0.822	8.22	8.49	-3.21	2020-04-15
835 Head	100	0.984	9.84	9.56	2.94	2020-04-15
835 Body	100	0.969	9.69	9.56	1.39	2020-04-15
1800 Head	100	3.953	39.53	38.4	2.95	2020-04-16
1800 Body	100	4.045	40.45	38.4	5.33	2020-04-16
1900 Head	100	3.842	38.42	39.7	-3.23	2020-04-17
1900 Body	100	3.985	39.85	39.7	0.37	2020-04-17
2450 Head	100	5.319	53.19	52.4	1.51	2020-04-20
2450 Body	100	5.389	53.89	52.4	2.84	2020-04-20
2600 Head	100	5.193	51.93	55.3	-6.09	2020-04-21
2600 Body	100	5.438	54.38	55.3	-1.66	2020-04-21

Note:

1. The tolerance limit of System validation $\pm 10\%$.
2. The dipole input power (forward power) was 100 mW.
3. The results are normalized to 1 W input power.



6. SAR Evaluation Procedures

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

The following steps are used for each test position

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

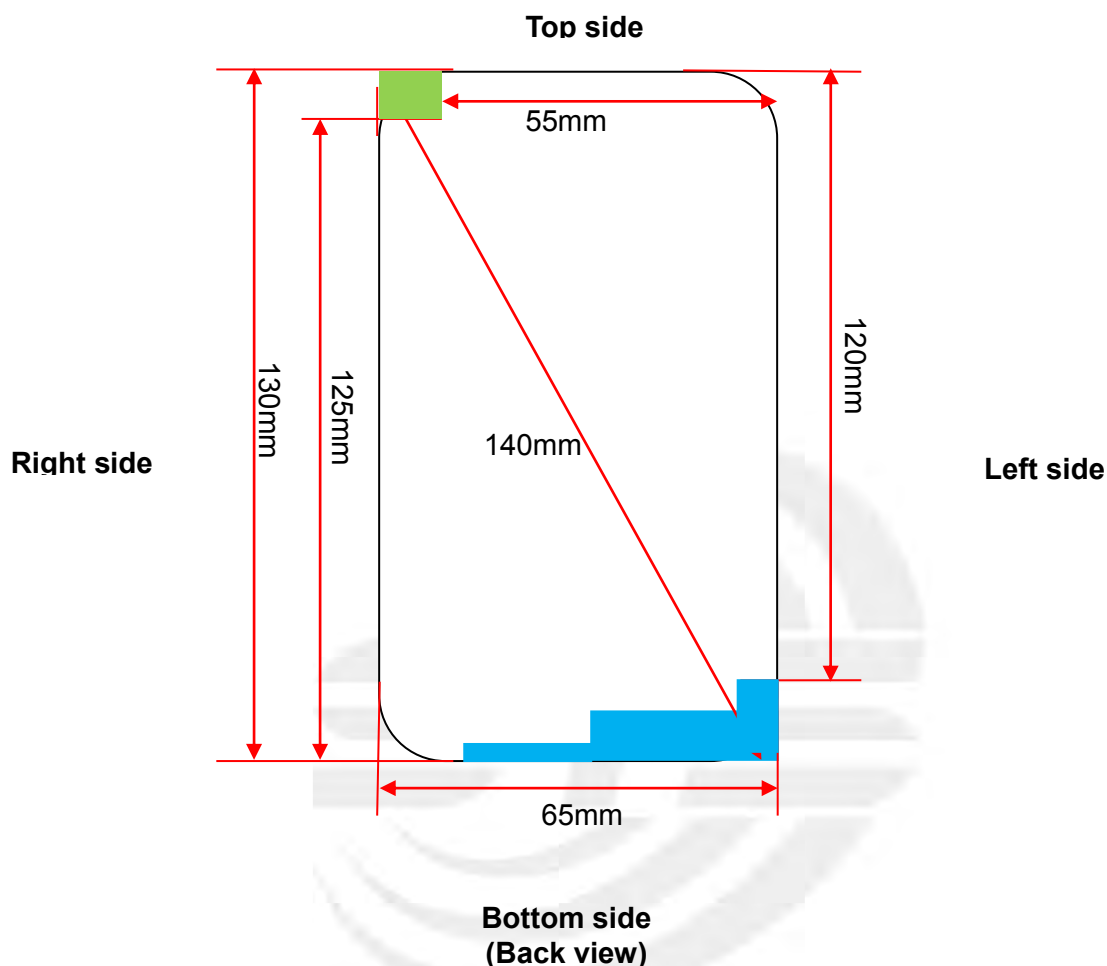
➤ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 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 Smart phone, support GSM/WCDMA/LTE mode.



 WWAN Antenna

 WLAN/BT Antenna

Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



7.1 SAR test exclusion consider table

According with FCC KDB 447498 D01, 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
WWAN	<5mm	<5mm	<5mm	<5mm	125mm	<5mm
	Yes	Yes	Yes	Yes	No	Yes
WLAN/BT	<5mm	<5mm	<5mm	55mm	<5mm	120mm
	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 D01, 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 D01, 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 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤50mm are determined by:

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

$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation. The result is rounded to one decimal place for comparison}$$

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

- per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
 - [threshold at 50mm in step 1]+(test separation distance -50mm)*(f (MHz)/150)]Mw, at 100 MHz to 1500 MHz
 - [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at > 1500MHz and ≤6GHz
- Per KDB 447498 D02, 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.
- Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further 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

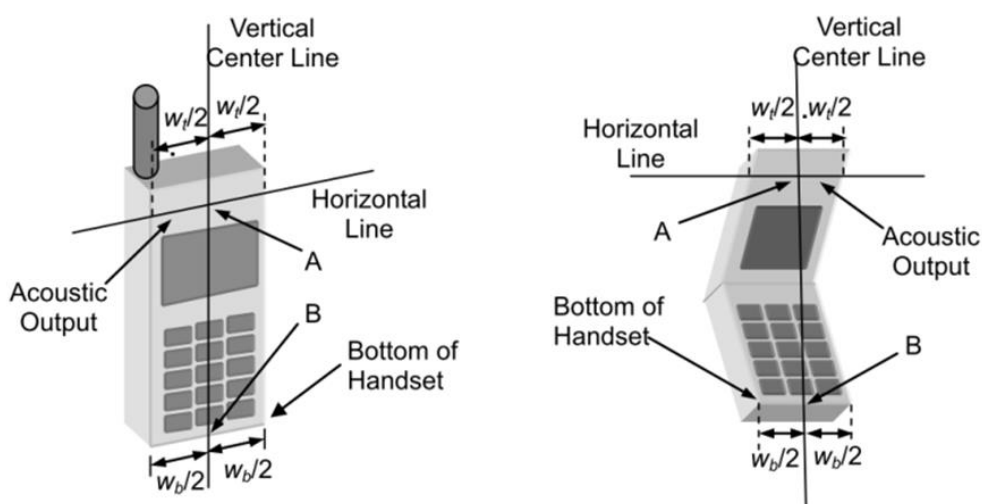
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

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.

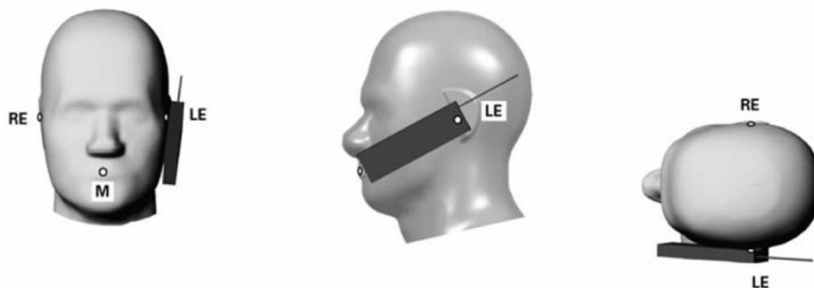
(3) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially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

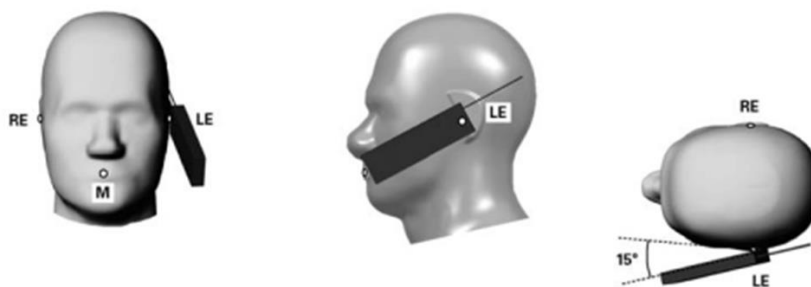
2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the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



Title Position

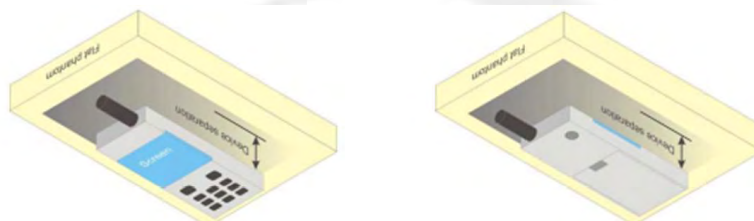
(1) To position the device in the "cheek" position described above.

(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.



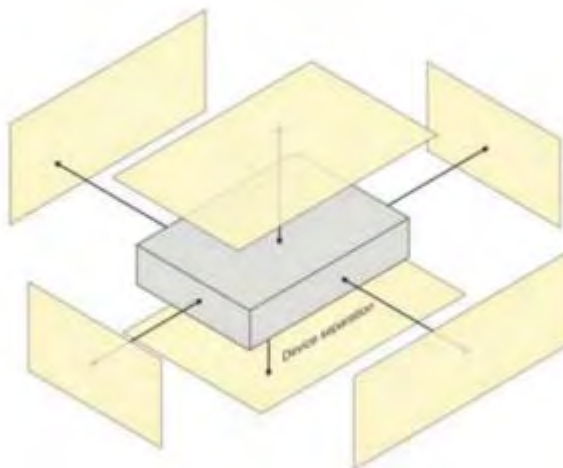
Body-worn Position Conditions:

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



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: 2013. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	v_i
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.28	0.28	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.43	0.43	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0	R	$\sqrt{3}$	1	1	0	0	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.6	2.6	∞
Device holder uncertainty	3	N	1	1	1	3	3	∞
SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Phantom and tissue parameters								
Phantom uncertainty(shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity (measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity (measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.79	9.59	
Expanded Uncertainty (95% Confidence interval)		K=2				19.58	19.18	



9.2 System validation Uncertainty

Uncertainty Component	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	1	1	0.40	0.40	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-Processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
System validation source								
Deviation of experimental dipole from numerical dipole	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Other source contribution Uncertainty	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and set-up								
Phantom uncertainty (shape and thickness uncertainty)	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity (measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity (measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.718	9.517	
Expanded Uncertainty (95% Confidence interval)		K=2				19.44	19.04	



10. Conducted Power Measurement

10.1 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)	31.39	31.57	31.82	31.39	31.45	31.81
GPRS (GMSK, 1-Slot)	31.31	31.32	31.67	31.31	31.42	31.72
GPRS (GMSK, 2-Slot)	30.84	30.90	31.24	30.86	30.95	31.25
GPRS (GMSK, 3-Slot)	30.43	30.43	30.80	30.43	30.49	30.83
GPRS (GMSK, 4-Slot)	30.00	29.96	30.30	29.95	30.05	30.41
EGPRS(8PSK, 1-Slot)	31.38	31.58	31.67	31.39	31.60	31.75
EGPRS(8PSK, 2-Slot)	30.60	30.88	30.93	30.61	30.83	31.03
EGPRS(8PSK, 3-Slot)	29.90	30.08	30.17	29.83	30.11	30.27
EGPRS(8PSK, 4-Slot)	29.14	29.29	29.40	29.08	29.36	29.49
Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 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)	22.36	22.54	22.79	22.36	22.42	22.78
GPRS (GMSK, 1-Slot)	22.28	22.29	22.64	22.28	22.39	22.69
GPRS (GMSK, 2-Slot)	24.82	24.88	25.22	24.84	24.93	25.23
GPRS (GMSK, 3-Slot)	26.17	26.17	26.54	26.17	26.23	26.57
GPRS (GMSK, 4-Slot)	26.99	26.95	27.29	26.94	27.04	27.40
EGPRS(8PSK, 1-Slot)	22.35	22.55	22.64	22.36	22.57	22.72
EGPRS(8PSK, 2-Slot)	24.58	24.86	24.91	24.59	24.81	25.01
EGPRS(8PSK, 3-Slot)	25.64	25.82	25.91	25.57	25.85	26.01
EGPRS(8PSK, 4-Slot)	26.13	26.28	26.39	26.07	26.35	26.48
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) – 9.03 dB Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB						

**WCDMA**

Band	WCDMA Band V			WCDMA Band IV			WCDMA Band II		
Channel	4132	4183	4233	1312	1413	1513	9262	9400	9538
Frequency (MHz)	826.4	836.6	846.6	1712.6	1740	1752.4	1852.4	1880.0	1907.6
AMR 12.2Kbps	23.03	23.15	23.20	22.20	22.31	22.14	22.41	22.85	22.39
RMC 12.2Kbps	23.15	23.24	23.36	22.24	22.36	22.20	22.58	22.87	22.57
HSDPA Subtest-1	22.23	22.26	22.37	21.29	21.43	21.24	21.63	21.89	21.66
HSDPA Subtest-2	21.35	21.34	21.57	20.35	20.50	20.34	20.65	20.93	20.84
HSDPA Subtest-3	20.93	20.87	21.10	19.89	20.05	19.89	20.20	20.45	20.42
HSDPA Subtest-4	20.25	20.28	20.60	19.22	19.39	19.36	19.56	19.86	19.90
HSUPA Subtest-1	21.79	21.80	21.91	20.82	20.97	20.78	21.14	21.44	21.25
HSUPA Subtest-2	20.89	20.98	20.93	20.02	20.03	19.88	20.33	20.52	20.35
HSUPA Subtest-3	20.41	20.48	20.53	19.56	19.59	19.42	19.91	20.03	19.89
HSUPA Subtest-4	19.81	19.80	20.00	18.89	19.03	18.76	19.40	19.34	19.37
HSUPA Subtest-5	19.23	19.27	19.37	18.25	18.36	18.13	18.79	18.82	18.75

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.

**WLAN**

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11b	1	2412	14.42
	6	2437	14.41
	11	2462	14.16
802.11g	1	2412	4.56
	6	2437	4.74
	11	2462	4.78
802.11n(HT 20)	1	2412	1.77
	6	2437	1.74
	11	2462	1.97
802.11n(HT 40)	3	2422	2.14
	6	2437	2.12
	9	2452	2.23

WLAN (5.2Gband)

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a	36	5180	5.90
	40	5200	5.95
	48	5240	5.94
802.11 n-HT20	36	5180	2.77
	40	5200	2.78
	48	5240	2.81
802.11 n-HT40	38	5190	3.37
	46	5230	3.34
802.11 ac-VHT20	36	5180	2.05
	40	5200	2.10
	48	5240	2.21
802.11 ac-VHT40	38	5190	2.10
	46	5230	2.13
802.11 ac-VHT80	42	5210	2.34

**WLAN (5.4Gband)**

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a	52	5260	6.10
	60	5300	6.06
	64	5320	5.93
802.11 n-HT20	52	5260	2.75
	60	5300	2.66
	64	5320	2.55
802.11 n-HT40	54	5270	3.24
	62	5310	3.21
802.11 ac-VHT20	52	5260	2.03
	60	5300	2.05
	64	5320	1.94
802.11 ac-VHT40	54	5270	1.93
	62	5310	1.95
802.11 ac-VHT80	58	5290	2.02

WLAN (5.6Gband)

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a	100	5500	6.50
	116	5580	5.90
	140	5700	5.45
802.11 n-HT20	100	5500	2.99
	116	5580	2.57
	140	5700	1.43
802.11 n-HT40	102	5510	2.77
	110	5550	2.66
	134	5670	1.29
802.11 ac-VHT20	100	5500	2.23
	116	5580	1.73
	140	5700	0.59
802.11 ac-VHT40	102	5510	2.77
	110	5550	2.49
	134	5670	1.33
802.11 ac-VHT80	106	5530	2.38
	122	5610	1.88

**WLAN (5.4Gband)**

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a	149	5745	6.28
	157	5785	6.19
	165	5825	5.96
802.11 n-HT20	149	5745	2.65
	157	5785	2.45
	165	5825	2.21
802.11 n-HT40	151	5755	2.55
	159	5795	2.27
802.11 ac-VHT20	149	5745	2.76
	157	5785	2.45
	165	5825	2.25
802.11 ac-VHT40	151	5755	2.52
	159	5795	2.22
802.11 ac-VHT80	155	5775	2.13

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	9.70
	39	2441	12.42
	78	2480	12.52
$\pi/4$ -DQPSK(2Mbps)	0	2402	7.13
	39	2441	10.65
	78	2480	10.69
8DPSK(3Mbps)	0	2402	7.15
	39	2441	10.69
	78	2480	10.72

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	3.12
	19	2440	3.11
	39	2480	3.05



LTE Conducted Power

General Note:

1. Anritsu CMW500 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 D05, 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 D05, 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 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, 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 D05, 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 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, 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 D05, smaller bandwidth SAR testing is not required.



LTE Band 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	20.8	20.65	20.98
1.4	1	2		20.58	20.43	20.73
1.4	1	5		20.34	20.17	20.53
1.4	3	0		20.05	19.91	20.31
1.4	3	1		19.77	19.67	20.05
1.4	3	2		19.5	19.43	19.77
1.4	6	0		19.25	19.16	19.53
1.4	1	0	16-QAM	20.57	20.44	20.74
1.4	1	2		20.36	20.15	20.47
1.4	1	5		20.06	19.87	20.25
1.4	3	0		19.76	19.66	20.02
1.4	3	1		19.48	19.37	19.76
1.4	3	2		19.24	19.07	19.49
1.4	6	0		18.96	18.85	19.23
3	1	0	QPSK	21.04	21.39	21.24
3	1	7		20.83	21.15	21
3	1	14		20.61	20.85	20.71
3	8	0		20.4	20.56	20.42
3	8	4		20.13	20.32	20.14
3	8	7		19.89	20.11	19.88
3	15	0		19.65	19.88	19.59
3	1	0	16-QAM	20.75	21.09	20.97
3	1	7		20.47	20.83	20.74
3	1	14		20.19	20.58	20.5
3	8	0		19.95	20.35	20.22
3	8	4		19.75	20.06	19.93
3	8	7		19.47	19.82	19.67
3	15	0		19.23	19.58	19.41



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.87	20.93	20.89
5	1	12		20.57	20.7	20.63
5	1	24		20.37	20.44	20.38
5	12	0		20.1	20.21	20.13
5	12	6		19.9	19.94	19.86
5	12	11		19.68	19.7	19.59
5	25	0		19.38	19.47	19.33
5	1	0	16-QAM	20.61	20.7	20.68
5	1	12		20.36	20.42	20.42
5	1	24		20.08	20.22	20.16
5	12	0		19.79	19.92	19.94
5	12	6		19.52	19.64	19.66
5	12	11		19.23	19.42	19.41
5	25	0		18.99	19.16	19.17
10	1	0	QPSK	21.2	21.13	21.3
10	1	24		21	20.88	21.03
10	1	49		20.71	20.61	20.82
10	25	0		20.5	20.33	20.6
10	25	12		20.24	20.06	20.33
10	25	24		19.98	19.85	20.1
10	50	0		19.73	19.62	19.81
10	1	0	16-QAM	20.92	20.85	21.08
10	1	24		20.67	20.63	20.88
10	1	49		20.44	20.39	20.65
10	25	0		20.14	20.13	20.37
10	25	12		19.89	19.87	20.09
10	25	24		19.6	19.59	19.84
10	50	0		19.34	19.39	19.58



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.23	21.62	21.49
15	1	37		20.94	21.37	21.2
15	1	74		20.65	21.13	20.95
15	36	0		20.43	20.86	20.73
15	36	18		20.19	20.66	20.49
15	36	39		19.93	20.43	20.24
15	75	0		19.68	20.16	20.02
15	1	0	16-QAM	21.02	21.4	21.29
15	1	38		20.79	21.13	21.01
15	1	75		20.52	20.85	20.72
15	36	0		20.29	20.56	20.48
15	36	18		20.03	20.32	20.21
15	36	39		19.76	20.04	19.92
15	75	0		19.56	19.83	19.69
20	1	0	QPSK	21.41	21.72	21.57
20	1	49		21.12	21.49	21.3
20	1	99		20.85	21.21	21.03
20	50	0		20.59	20.94	20.8
20	50	24		20.38	20.67	20.57
20	50	49		20.11	20.42	20.29
20	100	0		19.81	20.22	20.01
20	1	0	16-QAM	21.16	21.45	21.28
20	1	49		20.89	21.25	20.99
20	1	99		20.66	20.95	20.72
20	50	0		20.42	20.69	20.45
20	50	24		20.2	20.45	20.19
20	50	49		19.95	20.18	19.91
20	100	0		19.7	19.88	19.62



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	20.67	20.43	20.52
1.4	1	2		20.41	20.15	20.23
1.4	1	5		20.14	19.92	19.94
1.4	3	0		19.92	19.69	19.71
1.4	3	1		19.7	19.47	19.43
1.4	3	2		19.47	19.21	19.17
1.4	6	0		19.26	18.98	18.94
1.4	1	0	16-QAM	20.46	20.13	20.23
1.4	1	2		20.19	19.9	20.01
1.4	1	5		19.96	19.64	19.79
1.4	3	0		19.66	19.34	19.54
1.4	3	1		19.4	19.07	19.33
1.4	3	2		19.2	18.79	19.06
1.4	6	0		19	18.57	18.85
3	1	0	QPSK	20.99	20.91	20.85
3	1	7		20.73	20.62	20.59
3	1	14		20.51	20.4	20.34
3	8	0		20.25	20.19	20.08
3	8	4		19.98	19.92	19.85
3	8	7		19.76	19.62	19.62
3	15	0		19.5	19.35	19.32
3	1	0	16-QAM	20.72	20.7	20.64
3	1	7		20.51	20.49	20.42
3	1	14		20.3	20.26	20.18
3	8	0		20.05	19.96	19.94
3	8	4		19.79	19.76	19.7
3	8	7		19.59	19.56	19.42
3	15	0		19.37	19.31	19.14



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.2	21.56	21.43
5	1	12		20.96	21.32	21.16
5	1	24		20.75	21.04	20.91
5	12	0		20.53	20.81	20.66
5	12	6		20.31	20.55	20.38
5	12	11		20.04	20.3	20.15
5	25	0		19.78	20.07	19.89
5	1	0	16-QAM	20.94	21.35	21.14
5	1	12		20.67	21.1	20.85
5	1	24		20.38	20.89	20.6
5	12	0		20.14	20.66	20.35
5	12	6		19.86	20.44	20.13
5	12	11		19.61	20.14	19.88
5	25	0		19.41	19.9	19.59
10	1	0	QPSK	21.21	21.32	21.5
10	1	24		20.96	21.06	21.23
10	1	49		20.66	20.84	21
10	25	0		20.38	20.64	20.78
10	25	12		20.14	20.39	20.5
10	25	24		19.86	20.11	20.22
10	50	0		19.62	19.88	20.01
10	1	0	16-QAM	20.98	21.08	21.25
10	1	24		20.77	20.84	21.02
10	1	49		20.53	20.61	20.75
10	25	0		20.32	20.33	20.48
10	25	12		20.03	20.04	20.27
10	25	24		19.79	19.82	20.05
10	50	0		19.58	19.57	19.8



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.65	21.32	21.31
15	1	37		21.4	21.11	21.1
15	1	74		21.18	20.89	20.85
15	36	0		20.96	20.62	20.56
15	36	18		20.72	20.36	20.31
15	36	39		20.49	20.15	20.09
15	75	0		20.21	19.86	19.83
15	1	0	16-QAM	21.36	21.05	21.04
15	1	38		21.11	20.79	20.82
15	1	75		20.85	20.57	20.52
15	36	0		20.61	20.28	20.26
15	36	18		20.35	20	20.01
15	36	39		20.09	19.77	19.74
15	75	0		19.85	19.54	19.47
20	1	0	QPSK	21.65	21.8	21.72
20	1	49		21.37	21.53	21.48
20	1	99		21.09	21.27	21.25
20	50	0		20.88	21.01	20.99
20	50	24		20.6	20.76	20.73
20	50	49		20.34	20.55	20.5
20	100	0		20.1	20.29	20.22
20	1	0	16-QAM	21.38	21.52	21.52
20	1	49		21.18	21.26	21.3
20	1	99		20.89	20.99	21.09
20	50	0		20.66	20.72	20.83
20	50	24		20.39	20.5	20.62
20	50	49		20.18	20.23	20.41
20	100	0		19.95	20.01	20.15



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.15	23.01	22.8
1.4	1	2		22.94	22.78	22.5
1.4	1	5		22.73	22.58	22.25
1.4	3	0		22.45	22.3	21.99
1.4	3	1		22.21	22.02	21.74
1.4	3	2		21.94	21.76	21.49
1.4	6	0		21.66	21.54	21.22
1.4	1	0	16-QAM	22.87	22.75	22.54
1.4	1	2		22.64	22.45	22.26
1.4	1	5		22.38	22.2	22.05
1.4	3	0		22.09	21.93	21.84
1.4	3	1		21.88	21.66	21.61
1.4	3	2		21.65	21.4	21.32
1.4	6	0		21.41	21.12	21.05
3	1	0	QPSK	23.05	23.02	23.25
3	1	7		22.79	22.73	22.99
3	1	14		22.55	22.46	22.72
3	8	0		22.3	22.22	22.51
3	8	4		22.05	21.94	22.23
3	8	7		21.76	21.72	22.02
3	15	0		21.56	21.5	21.76
3	1	0	16-QAM	22.81	22.72	23.04
3	1	7		22.53	22.52	22.82
3	1	14		22.3	22.32	22.61
3	8	0		22.1	22.03	22.4
3	8	4		21.85	21.77	22.17
3	8	7		21.62	21.47	21.93
3	15	0		21.34	21.21	21.67



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.19	23.23	23.44
5	1	12		22.97	22.96	23.19
5	1	24		22.69	22.69	22.92
5	12	0		22.43	22.42	22.63
5	12	6		22.15	22.12	22.34
5	12	11		21.93	21.87	22.1
5	25	0		21.64	21.62	21.89
5	1	0	16-QAM	22.92	22.95	23.19
5	1	12		22.7	22.75	22.91
5	1	24		22.47	22.49	22.69
5	12	0		22.18	22.23	22.46
5	12	6		21.92	21.95	22.23
5	12	11		21.68	21.71	22.02
5	25	0		21.39	21.41	21.8
10	1	0	QPSK	23.6	23.65	23.81
10	1	24		23.32	23.45	23.6
10	1	49		23.03	23.22	23.39
10	25	0		22.81	22.93	23.09
10	25	12		22.57	22.71	22.81
10	25	24		22.27	22.49	22.57
10	50	0		22.06	22.27	22.31
10	1	0	16-QAM	23.32	23.43	23.59
10	1	24		23.06	23.22	23.29
10	1	49		22.83	23	23.09
10	25	0		22.58	22.79	22.85
10	25	12		22.3	22.54	22.6
10	25	24		22.04	22.34	22.39
10	50	0		21.81	22.06	22.14



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.03	20.12	20
5	1	12		19.75	19.82	19.74
5	1	24		19.53	19.55	19.46
5	12	0		19.31	19.27	19.22
5	12	6		19.1	19	18.97
5	12	11		18.84	18.8	18.72
5	25	0		18.61	18.55	18.49
5	1	0	16-QAM	19.79	19.84	19.8
5	1	12		19.56	19.59	19.59
5	1	24		19.28	19.35	19.38
5	12	0		19.06	19.08	19.11
5	12	6		18.85	18.81	18.89
5	12	11		18.59	18.52	18.68
5	25	0		18.33	18.29	18.4
10	1	0	QPSK	20.12	20.07	20.15
10	1	24		19.83	19.82	19.87
10	1	49		19.53	19.6	19.59
10	25	0		19.26	19.34	19.31
10	25	12		19.05	19.06	19.08
10	25	24		18.76	18.82	18.85
10	50	0		18.48	18.59	18.56
10	1	0	16-QAM	19.9	19.85	19.88
10	1	24		19.62	19.57	19.65
10	1	49		19.34	19.31	19.41
10	25	0		19.08	19.02	19.15
10	25	12		18.85	18.75	18.9
10	25	24		18.59	18.46	18.65
10	50	0		18.32	18.26	18.45



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	20.31	20.39	20.25
15	1	37		20.04	20.14	19.97
15	1	74		19.82	19.85	19.71
15	36	0		19.62	19.61	19.49
15	36	18		19.4	19.36	19.27
15	36	39		19.15	19.12	19.06
15	75	0		18.86	18.9	18.79
15	1	0	16-QAM	20.01	20.12	19.95
15	1	38		19.77	19.84	19.69
15	1	75		19.54	19.6	19.45
15	36	0		19.33	19.4	19.22
15	36	18		19.08	19.12	18.98
15	36	39		18.85	18.89	18.73
15	75	0		18.62	18.59	18.45
20	1	0	QPSK	20.61	20.48	20.53
20	1	49		20.34	20.23	20.29
20	1	99		20.05	19.97	20.07
20	50	0		19.82	19.74	19.81
20	50	24		19.59	19.53	19.57
20	50	49		19.31	19.23	19.31
20	100	0		19.08	19	19.1
20	1	0	16-QAM	20.31	20.22	20.31
20	1	49		20.07	19.99	20.04
20	1	99		19.83	19.79	19.76
20	50	0		19.56	19.56	19.53
20	50	24		19.3	19.28	19.32
20	50	49		19.01	19	19.02
20	100	0		18.74	18.8	18.81



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.75	24.07	23.93
1.4	1	2		23.48	23.8	23.69
1.4	1	5		23.2	23.54	23.45
1.4	3	0		22.91	23.27	23.16
1.4	3	1		22.65	22.98	22.89
1.4	3	2		22.4	22.75	22.67
1.4	6	0		22.19	22.52	22.39
1.4	1	0	16-QAM	23.5	23.85	23.69
1.4	1	2		23.28	23.55	23.42
1.4	1	5		23	23.27	23.13
1.4	3	0		22.74	23.05	22.83
1.4	3	1		22.53	22.83	22.57
1.4	3	2		22.27	22.59	22.33
1.4	6	0		22.06	22.38	22.04
3	1	0	QPSK	23.87	24.1	24.01
3	1	7		23.61	23.87	23.79
3	1	14		23.35	23.59	23.58
3	8	0		23.14	23.38	23.32
3	8	4		22.91	23.17	23.03
3	8	7		22.62	22.92	22.8
3	15	0		22.37	22.63	22.6
3	1	0	16-QAM	23.59	23.83	23.73
3	1	7		23.32	23.58	23.5
3	1	14		23.02	23.32	23.22
3	8	0		22.73	23.06	22.94
3	8	4		22.45	22.82	22.71
3	8	7		22.22	22.57	22.5
3	15	0		21.98	22.34	22.3



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.17	24.09	24.13
5	1	12		23.88	23.87	23.86
5	1	24		23.58	23.58	23.56
5	12	0		23.3	23.33	23.29
5	12	6		23.09	23.1	23.09
5	12	11		22.81	22.82	22.88
5	25	0		22.61	22.53	22.66
5	1	0	16-QAM	23.93	23.86	23.9
5	1	12		23.7	23.61	23.61
5	1	24		23.5	23.39	23.41
5	12	0		23.23	23.18	23.11
5	12	6		22.96	22.92	22.82
5	12	11		22.69	22.67	22.59
5	25	0		22.47	22.46	22.32
10	1	0	QPSK	24.32	24.21	24.3
10	1	24		24.05	23.96	24.04
10	1	49		23.81	23.68	23.83
10	25	0		23.59	23.39	23.62
10	25	12		23.31	23.17	23.34
10	25	24		23.02	22.94	23.06
10	50	0		22.75	22.65	22.85
10	1	0	16-QAM	24.11	23.92	24.03
10	1	24		23.83	23.66	23.81
10	1	49		23.6	23.44	23.59
10	25	0		23.35	23.16	23.29
10	25	12		23.14	22.88	23.03
10	25	24		22.87	22.58	22.75
10	50	0		22.66	22.31	22.52



LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.45	20.39	20.71
5	1	12		20.19	20.14	20.42
5	1	24		19.95	19.84	20.12
5	12	0		19.68	19.62	19.83
5	12	6		19.42	19.34	19.53
5	12	11		19.13	19.08	19.28
5	25	0		18.88	18.86	19.07
5	1	0	16-QAM	20.17	20.17	20.42
5	1	12		19.91	19.94	20.15
5	1	24		19.65	19.73	19.88
5	12	0		19.41	19.45	19.62
5	12	6		19.17	19.16	19.33
5	12	11		18.94	18.92	19.07
5	25	0		18.73	18.64	18.78
10	1	0	QPSK	N/A	20.83	N/A
10	1	24		N/A	20.56	N/A
10	1	49		N/A	20.26	N/A
10	25	0		N/A	19.99	N/A
10	25	12		N/A	19.78	N/A
10	25	24		N/A	19.52	N/A
10	50	0		N/A	19.3	N/A
10	1	0	16-QAM	N/A	20.58	N/A
10	1	24		N/A	20.36	N/A
10	1	49		N/A	20.11	N/A
10	25	0		N/A	19.82	N/A
10	25	12		N/A	19.6	N/A
10	25	24		N/A	19.34	N/A
10	50	0		N/A	19.11	N/A



LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.88	21.02	21.15
5	1	12		20.64	20.72	20.93
5	1	24		20.4	20.49	20.66
5	12	0		20.2	20.22	20.44
5	12	6		19.91	19.93	20.19
5	12	11		19.7	19.71	19.97
5	25	0		19.42	19.41	19.76
5	1	0	16-QAM	20.61	20.74	20.93
5	1	12		20.32	20.49	20.66
5	1	24		20.06	20.27	20.46
5	12	0		19.81	20.05	20.19
5	12	6		19.55	19.79	19.97
5	12	11		19.34	19.59	19.69
5	25	0		19.13	19.36	19.48
10	1	0	QPSK	21.64	21.35	21.51
10	1	24		21.39	21.14	21.26
10	1	49		21.17	20.92	21.04
10	25	0		20.95	20.71	20.8
10	25	12		20.73	20.49	20.51
10	25	24		20.46	20.27	20.29
10	50	0		20.22	20.01	20.06
10	1	0	16-QAM	21.38	21.12	21.25
10	1	24		21.11	20.86	20.97
10	1	49		20.91	20.57	20.69
10	25	0		20.66	20.28	20.44
10	25	12		20.43	20.07	20.23
10	25	24		20.17	19.81	19.96
10	50	0		19.93	19.53	19.73



LTE BAND 25

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	21.24	21.19	21.27
1.4	1	2		21.02	20.95	21.05
1.4	1	5		20.8	20.74	20.85
1.4	3	0		20.55	20.46	20.59
1.4	3	1		20.28	20.2	20.38
1.4	3	2		20.01	19.95	20.11
1.4	6	0		19.77	19.73	19.9
1.4	1	0	16-QAM	21.03	20.95	21.04
1.4	1	2		20.74	20.73	20.77
1.4	1	5		20.5	20.52	20.48
1.4	3	0		20.24	20.32	20.19
1.4	3	1		19.99	20.05	19.93
1.4	3	2		19.69	19.82	19.71
1.4	6	0		19.4	19.57	19.43
3	1	0	QPSK	21.09	21.1	21.13
3	1	7		20.87	20.82	20.88
3	1	14		20.6	20.56	20.58
3	8	0		20.3	20.28	20.33
3	8	4		20.04	20.02	20.11
3	8	7		19.78	19.75	19.81
3	15	0		19.5	19.53	19.54
3	1	0	16-QAM	20.83	20.81	20.9
3	1	7		20.6	20.51	20.62
3	1	14		20.3	20.3	20.4
3	8	0		20.03	20.06	20.19
3	8	4		19.78	19.84	19.93
3	8	7		19.53	19.56	19.68
3	15	0		19.25	19.31	19.42



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.27	21.33	21.31
5	1	12		20.99	21.07	21.09
5	1	24		20.69	20.84	20.85
5	12	0		20.41	20.63	20.64
5	12	6		20.15	20.43	20.39
5	12	11		19.89	20.21	20.19
5	25	0		19.63	19.97	19.93
5	1	0	16-QAM	21.06	21.11	21.1
5	1	12		20.79	20.88	20.84
5	1	24		20.49	20.65	20.57
5	12	0		20.19	20.42	20.37
5	12	6		19.98	20.12	20.08
5	12	11		19.73	19.85	19.79
5	25	0		19.52	19.59	19.53
10	1	0	QPSK	21.18	21.2	21.25
10	1	24		20.89	20.91	20.99
10	1	49		20.62	20.62	20.7
10	25	0		20.32	20.34	20.47
10	25	12		20.07	20.08	20.18
10	25	24		19.77	19.83	19.96
10	50	0		19.54	19.57	19.66
10	1	0	16-QAM	20.98	20.99	21.04
10	1	24		20.7	20.73	20.81
10	1	49		20.45	20.44	20.52
10	25	0		20.25	20.24	20.28
10	25	12		19.99	19.98	20.01
10	25	24		19.77	19.73	19.71
10	50	0		19.47	19.48	19.43



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.39	21.44	21.41
15	1	37		21.14	21.16	21.15
15	1	74		20.85	20.96	20.88
15	36	0		20.56	20.68	20.65
15	36	18		20.27	20.4	20.44
15	36	39		20.01	20.16	20.18
15	75	0		19.79	19.86	19.95
15	1	0	16-QAM	21.14	21.17	21.21
15	1	38		20.86	20.92	20.96
15	1	75		20.63	20.67	20.67
15	36	0		20.41	20.43	20.44
15	36	18		20.15	20.2	20.22
15	36	39		19.87	19.97	20.02
15	75	0		19.67	19.77	19.8
20	1	0	QPSK	21.6	21.48	21.53
20	1	49		21.37	21.26	21.26
20	1	99		21.13	20.99	20.99
20	50	0		20.88	20.75	20.77
20	50	24		20.67	20.48	20.5
20	50	49		20.38	20.27	20.28
20	100	0		20.15	20.06	20.07
20	1	0	16-QAM	21.36	21.18	21.26
20	1	49		21.1	20.93	20.97
20	1	99		20.85	20.64	20.75
20	50	0		20.57	20.37	20.5
20	50	24		20.34	20.07	20.26
20	50	49		20.12	19.83	19.97
20	100	0		19.84	19.63	19.74



LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.86	23.51	23.84
1.4	1	2		23.62	23.23	23.62
1.4	1	5		23.38	23.02	23.4
1.4	3	0		23.11	22.77	23.1
1.4	3	1		22.83	22.51	22.88
1.4	3	2		22.55	22.26	22.63
1.4	6	0		22.33	22.06	22.35
1.4	1	0	16-QAM	23.58	23.23	23.63
1.4	1	2		23.28	22.98	23.39
1.4	1	5		23.01	22.76	23.18
1.4	3	0		22.79	22.51	22.97
1.4	3	1		22.51	22.26	22.73
1.4	3	2		22.22	21.96	22.5
1.4	6	0		21.98	21.72	22.26
3	1	0	QPSK	23.58	23.64	23.45
3	1	7		23.28	23.43	23.2
3	1	14		22.99	23.18	22.94
3	8	0		22.77	22.94	22.71
3	8	4		22.53	22.72	22.46
3	8	7		22.23	22.49	22.21
3	15	0		21.99	22.25	21.92
3	1	0	16-QAM	23.33	23.35	23.23
3	1	7		23.04	23.06	22.94
3	1	14		22.75	22.79	22.65
3	8	0		22.52	22.5	22.36
3	8	4		22.23	22.27	22.07
3	8	7		21.96	22.01	21.82
3	15	0		21.74	21.78	21.54



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.65	23.81	23.88
5	1	12		23.39	23.55	23.6
5	1	24		23.14	23.29	23.33
5	12	0		22.9	23.06	23.05
5	12	6		22.68	22.83	22.8
5	12	11		22.4	22.54	22.52
5	25	0		22.18	22.29	22.3
5	1	0	16-QAM	23.38	23.59	23.63
5	1	12		23.13	23.3	23.36
5	1	24		22.87	23.06	23.15
5	12	0		22.59	22.82	22.85
5	12	6		22.3	22.6	22.6
5	12	11		22.05	22.38	22.36
5	25	0		21.8	22.18	22.15
10	1	0	QPSK	24.15	24.09	24.1
10	1	24		23.88	23.82	23.82
10	1	49		23.68	23.55	23.61
10	25	0		23.41	23.26	23.36
10	25	12		23.17	23.06	23.14
10	25	24		22.93	22.84	22.92
10	50	0		22.68	22.63	22.71
10	1	0	16-QAM	23.89	23.88	23.85
10	1	24		23.67	23.68	23.61
10	1	49		23.47	23.4	23.34
10	25	0		23.26	23.2	23.07
10	25	12		23.02	22.9	22.81
10	25	24		22.72	22.69	22.59
10	50	0		22.48	22.4	22.37



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.29	24.37	24.28
15	1	37		24.06	24.14	24.07
15	1	74		23.84	23.92	23.85
15	36	0		23.55	23.7	23.55
15	36	18		23.26	23.46	23.34
15	36	39		22.96	23.18	23.12
15	75	0		22.69	22.97	22.85
15	1	0	16-QAM	24.02	24.15	24.04
15	1	38		23.76	23.85	23.82
15	1	75		23.54	23.58	23.57
15	36	0		23.3	23.33	23.32
15	36	18		23.06	23.03	23.04
15	36	39		22.78	22.81	22.84
15	75	0		22.53	22.57	22.54



LTE BAND 38

SAR for LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2496-2690 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.39	20.65	20.46
5	1	12		20.13	20.44	20.2
5	1	24		19.84	20.21	19.94
5	12	0		19.55	20	19.67
5	12	6		19.34	19.8	19.41
5	12	11		19.1	19.53	19.13
5	25	0		18.8	19.28	18.87
5	1	0	16-QAM	20.15	20.4	20.25
5	1	12		19.93	20.14	20.04
5	1	24		19.67	19.89	19.75
5	12	0		19.42	19.66	19.45
5	12	6		19.12	19.45	19.21
5	12	11		18.85	19.16	18.96
5	25	0		18.62	18.95	18.68
10	1	0	QPSK	20.72	21.11	20.89
10	1	24		20.48	20.88	20.65
10	1	49		20.18	20.67	20.36
10	25	0		19.89	20.38	20.11
10	25	12		19.65	20.14	19.89
10	25	24		19.39	19.93	19.67
10	50	0		19.18	19.71	19.41
10	1	0	16-QAM	20.45	20.9	20.66
10	1	24		20.24	20.6	20.46
10	1	49		20.03	20.32	20.19
10	25	0		19.74	20.03	19.93
10	25	12		19.46	19.77	19.67
10	25	24		19.18	19.57	19.41
10	50	0		18.91	19.31	19.21



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	20.72	20.84	21
15	1	37		20.5	20.63	20.74
15	1	74		20.23	20.35	20.52
15	36	0		19.98	20.06	20.25
15	36	18		19.71	19.78	19.97
15	36	39		19.41	19.51	19.73
15	75	0		19.16	19.27	19.53
15	1	0	16-QAM	20.52	20.62	20.72
15	1	38		20.27	20.42	20.47
15	1	75		19.98	20.17	20.23
15	36	0		19.74	19.96	20.02
15	36	18		19.5	19.76	19.8
15	36	39		19.29	19.51	19.57
15	75	0		19.06	19.3	19.31
20	1	0	QPSK	21.09	21.13	21.25
20	1	49		20.8	20.84	21.02
20	1	99		20.57	20.64	20.78
20	50	0		20.33	20.36	20.57
20	50	24		20.09	20.09	20.3
20	50	49		19.8	19.84	20.01
20	100	0		19.56	19.59	19.79
20	1	0	16-QAM	20.87	20.85	20.97
20	1	49		20.65	20.6	20.67
20	1	99		20.36	20.39	20.38
20	50	0		20.11	20.19	20.08
20	50	24		19.86	19.97	19.82
20	50	49		19.57	19.75	19.59
20	100	0		19.36	19.5	19.32



LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.01	22.13	21.73
1.4	1	2		21.72	21.93	21.52
1.4	1	5		21.45	21.65	21.24
1.4	3	0		21.21	21.39	21.03
1.4	3	1		20.94	21.16	20.81
1.4	3	2		20.71	20.92	20.56
1.4	6	0		20.49	20.71	20.32
1.4	1	0	16-QAM	21.75	21.88	21.46
1.4	1	2		21.5	21.6	21.23
1.4	1	5		21.23	21.38	20.96
1.4	3	0		21	21.11	20.76
1.4	3	1		20.71	20.85	20.53
1.4	3	2		20.48	20.58	20.31
1.4	6	0		20.28	20.34	20.07
3	1	0	QPSK	22.05	21.76	21.83
3	1	7		21.83	21.53	21.6
3	1	14		21.53	21.31	21.34
3	8	0		21.29	21.02	21.12
3	8	4		21.04	20.77	20.9
3	8	7		20.81	20.55	20.65
3	15	0		20.59	20.27	20.37
3	1	0	16-QAM	21.76	21.47	21.6
3	1	7		21.51	21.21	21.39
3	1	14		21.25	21	21.14
3	8	0		21	20.79	20.94
3	8	4		20.73	20.57	20.72
3	8	7		20.51	20.31	20.51
3	15	0		20.28	20.05	20.29



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.72	21.75	21.94
5	1	12		21.43	21.49	21.7
5	1	24		21.21	21.26	21.48
5	12	0		21.01	21.01	21.27
5	12	6		20.77	20.74	21.03
5	12	11		20.53	20.47	20.8
5	25	0		20.31	20.19	20.6
5	1	0	16-QAM	21.47	21.55	21.67
5	1	12		21.25	21.34	21.44
5	1	24		20.98	21.05	21.24
5	12	0		20.71	20.76	21
5	12	6		20.49	20.46	20.73
5	12	11		20.26	20.25	20.51
5	25	0		20.04	19.98	20.27
10	1	0	QPSK	21.69	21.81	21.85
10	1	24		21.47	21.59	21.6
10	1	49		21.24	21.33	21.39
10	25	0		21.01	21.07	21.1
10	25	12		20.73	20.78	20.86
10	25	24		20.48	20.54	20.66
10	50	0		20.2	20.33	20.36
10	1	0	16-QAM	21.43	21.53	21.55
10	1	24		21.17	21.23	21.32
10	1	49		20.93	21.02	21.06
10	25	0		20.69	20.74	20.79
10	25	12		20.48	20.54	20.52
10	25	24		20.21	20.32	20.24
10	50	0		19.91	20.06	19.98



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.82	21.73	21.98
15	1	37		21.53	21.53	21.72
15	1	74		21.26	21.3	21.49
15	36	0		21.05	21.08	21.25
15	36	18		20.85	20.88	21.00
15	36	39		20.6	20.61	20.75
15	75	0		20.35	20.34	20.47
15	1	0	16-QAM	21.55	21.52	21.77
15	1	38		21.25	21.25	21.48
15	1	75		21.01	21.04	21.21
15	36	0		20.76	20.77	20.95
15	36	18		20.54	20.53	20.67
15	36	39		20.25	20.26	20.46
15	75	0		20.01	20.03	20.26
20	1	0	QPSK	22	22.15	22.23
20	1	49		21.8	21.9	21.96
20	1	99		21.54	21.62	21.67
20	50	0		21.29	21.35	21.4
20	50	24		20.99	21.12	21.15
20	50	49		20.77	20.84	20.93
20	100	0		20.55	20.55	20.69
20	1	0	16-QAM	21.73	21.89	21.95
20	1	49		21.45	21.68	21.66
20	1	99		21.21	21.46	21.37
20	50	0		20.96	21.26	21.11
20	50	24		20.68	21.03	20.83
20	50	49		20.45	20.75	20.53
20	100	0		20.24	20.51	20.3



10.2 Tune-up Power

Mode	GSM850(AVG)	GSM1900(AVG)
GSM/PCS	31±1dBm	31±1dBm
GPRS (1 Slot)	31±1dBm	31±1dBm
GPRS (2 Slot)	31±1dBm	31±1dBm
GPRS (3 Slot)	30±1dBm	30±1dBm
GPRS (4 Slot)	29.5±1dBm	29.5±1dBm
EDGE (1 Slot)	31±1dBm	31±1dBm
EDGE (2 Slot)	30±1dBm	31±1dBm
EDGE (3 Slot)	30±1dBm	30±1dBm
EDGE (4 Slot)	29±1dBm	29±1dBm

Mode	WCDMA Band V (AVG)	WCDMA Band IV (AVG)	WCDMA Band V (AVG)
AMR	23±1dBm	22±1dBm	22±1dBm
RMC	23±1dBm	22±1dBm	22±1dBm
HSDPA Subtest-1	22±1dBm	21±1dBm	21±1dBm
HSDPA Subtest-2	21±1dBm	20±1dBm	20±1dBm
HSDPA Subtest-3	21±1dBm	20±1dBm	20±1dBm
HSDPA Subtest-4	20±1dBm	19±1dBm	19±1dBm
HSUPA Subtest-1	21±1dBm	20±1dBm	21±1dBm
HSUPA Subtest-2	20±1dBm	20±1dBm	20±1dBm
HSUPA Subtest-3	20±1dBm	20±1dBm	20±1dBm
HSUPA Subtest-4	19±1dBm	19±1dBm	19±1dBm
HSUPA Subtest-5	19±1dBm	18±1dBm	18±1dBm

Mode	2.4G WLAN(AVG)
IEEE 802.11b	14±1dBm
IEEE 802.11g	4±1dBm
IEEE 802.11n(HT 20)	1±1dBm
IEEE 802.11n(HT 40)	2±1dBm

Mode	5.2G WLAN(AVG)
IEEE 802.11a	14±1dBm
IEEE 802.11n(HT 20)	4±1dBm
IEEE 802.11n(HT 40)	1±1dBm
IEEE 802.11ac(VHT 20)	2±1dBm
IEEE 802.11ac(VHT 40)	2±1dBm
IEEE 802.11ac(VHT 80)	2±1dBm



Mode	5.4G WLAN(AVG)
IEEE 802.11a	6±1dBm
IEEE 802.11n(HT 20)	2±1dBm
IEEE 802.11n(HT 40)	3±1dBm
IEEE 802.11ac(VHT 20)	2±1dBm
IEEE 802.11ac(VHT 40)	1±1dBm
IEEE 802.11ac(VHT 80)	2±1dBm

Mode	5.6G WLAN(AVG)
IEEE 802.11a	6±1dBm
IEEE 802.11n(HT 20)	2±1dBm
IEEE 802.11n(HT 40)	2±1dBm
IEEE 802.11ac(VHT 20)	1.5±1dBm
IEEE 802.11ac(VHT 40)	2±1dBm
IEEE 802.11ac(VHT 80)	2±1dBm

Mode	5.8G WLAN(AVG)
IEEE 802.11a	6±1dBm
IEEE 802.11n(HT 20)	2±1dBm
IEEE 802.11n(HT 40)	2±1dBm
IEEE 802.11ac(VHT 20)	2±1dBm
IEEE 802.11ac(VHT 40)	2±1dBm
IEEE 802.11ac(VHT 80)	2±1dBm

Mode	BT(AVG)	
GFSK	Low	9±1dBm
	Middle	12±1dBm
	High	12±1dBm
π/4-DQPSK	Low	7±1dBm
	Middle	10±1dBm
	High	10±1dBm
8DPSK	Low	7±1dBm
	Middle	10±1dBm
	High	10±1dBm

Mode	BLE(AVG)
GFSK	3±1dBm



LTE

BW[MHz]	RB Size	Mode	Band 2	Band 4	Band 5	Band 7	Band 12
1.4	1	QPSK	20±1dBm	20±1dBm	23±1dBm	N/A	24±1dBm
1.4	3		20±1dBm	19±1dBm	22±1dBm	N/A	23±1dBm
1.4	6		19±1dBm	19±1dBm	21±1dBm	N/A	22±1dBm
1.4	1	16- QAM	20±1dBm	20±1dBm	22±1dBm	N/A	23±1dBm
1.4	3		20±1dBm	19±1dBm	22±1dBm	N/A	23±1dBm
1.4	6		19±1dBm	19±1dBm	21±1dBm	N/A	22±1dBm
3	1	QPSK	21±1dBm	20±1dBm	23±1dBm	N/A	24±1dBm
3	8		20±1dBm	20±1dBm	22±1dBm	N/A	23±1dBm
3	15		19±1dBm	19±1dBm	21±1dBm	N/A	22±1dBm
3	1	16- QAM	21±1dBm	20±1dBm	23±1dBm	N/A	23±1dBm
3	8		20±1dBm	20±1dBm	22±1dBm	N/A	23±1dBm
3	15		19±1dBm	19±1dBm	21±1dBm	N/A	22±1dBm
5	1	QPSK	20±1dBm	21±1dBm	23±1dBm	20±1dBm	24±1dBm
5	12		20±1dBm	20±1dBm	22±1dBm	19±1dBm	23±1dBm
5	25		19±1dBm	20±1dBm	21±1dBm	18±1dBm	22±1dBm
5	1	16- QAM	20±1dBm	21±1dBm	23±1dBm	19±1dBm	24±1dBm
5	12		19±1dBm	20±1dBm	22±1dBm	19±1dBm	23±1dBm
5	25		19±1dBm	19±1dBm	21±1dBm	18±1dBm	22±1dBm
10	1	QPSK	21±1dBm	21±1dBm	23±1dBm	20±1dBm	24±1dBm
10	25		20±1dBm	20±1dBm	23±1dBm	19±1dBm	23±1dBm
10	50		19±1dBm	20±1dBm	22±1dBm	18±1dBm	22±1dBm
10	1	16- QAM	21±1dBm	21±1dBm	23±1dBm	19±1dBm	N/A
10	25		20±1dBm	20±1dBm	22±1dBm	19±1dBm	N/A
10	50		19±1dBm	19±1dBm	22±1dBm	18±1dBm	N/A
15	1	QPSK	21±1dBm	21±1dBm	N/A	20±1dBm	N/A
15	36		20±1dBm	20±1dBm	N/A	19±1dBm	N/A
15	75		20±1dBm	20±1dBm	N/A	18±1dBm	N/A
15	1	16- QAM	21±1dBm	21±1dBm	N/A	20±1dBm	N/A
15	36		20±1dBm	20±1dBm	N/A	19±1dBm	N/A
15	75		20±1dBm	19±1dBm	N/A	18±1dBm	N/A
20	1	QPSK	21±1dBm	21±1dBm	N/A	20±1dBm	N/A
20	50		20±1dBm	21±1dBm	N/A	19±1dBm	N/A
20	100		20±1dBm	20±1dBm	N/A	19±1dBm	N/A
20	1	16- QAM	21±1dBm	21±1dBm	N/A	20±1dBm	N/A
20	50		20±1dBm	20±1dBm	N/A	19±1dBm	N/A
20	100		19±1dBm	20±1dBm	N/A	18±1dBm	N/A



BW[MHz]	RB Size	Mode	Band 13	Band 17	Band 25	Band 26	Band 41
1.4	1	QPSK	N/A	$\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	N/A
1.4	3		N/A	$\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	N/A
1.4	6		N/A	$\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
1.4	1	16- QAM	N/A	$\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	N/A
1.4	3		N/A	$\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
1.4	6		N/A	$\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
3	1	QPSK	N/A	$\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	N/A
3	8		N/A	$\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
3	15		N/A	$\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
3	1	16- QAM	N/A	$\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	N/A
3	8		N/A	$\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	N/A
3	15		N/A	$\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	N/A
5	1	QPSK	$20\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
5	12		$19\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
5	25		$19\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
5	1	16- QAM	$20\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
5	12		$19\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
5	25		$18\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$18\pm 1\text{dBm}$
10	1	QPSK	$20\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$24\pm 1\text{dBm}$	$21\pm 1\text{dBm}$
10	25		$19\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
10	50		$19\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
10	1	16- QAM	$20\pm 1\text{dBm}$	$21\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
10	25		$19\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
10	50		$19\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
15	1	QPSK	N/A	N/A	$21\pm 1\text{dBm}$	$24\pm 1\text{dBm}$	$21\pm 1\text{dBm}$
15	36		N/A	N/A	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
15	75		N/A	N/A	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
15	1	16- QAM	N/A	N/A	$21\pm 1\text{dBm}$	$24\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
15	36		N/A	N/A	$20\pm 1\text{dBm}$	$23\pm 1\text{dBm}$	$20\pm 1\text{dBm}$
15	75		N/A	N/A	$19\pm 1\text{dBm}$	$22\pm 1\text{dBm}$	$19\pm 1\text{dBm}$
20	1	QPSK	N/A	N/A	$21\pm 1\text{dBm}$	N/A	$21\pm 1\text{dBm}$
20	50		N/A	N/A	$20\pm 1\text{dBm}$	N/A	$20\pm 1\text{dBm}$
20	100		N/A	N/A	$20\pm 1\text{dBm}$	N/A	$19\pm 1\text{dBm}$
20	1	16- QAM	N/A	N/A	$21\pm 1\text{dBm}$	N/A	$20\pm 1\text{dBm}$
20	50		N/A	N/A	$20\pm 1\text{dBm}$	N/A	$20\pm 1\text{dBm}$
20	100		N/A	N/A	$19\pm 1\text{dBm}$	N/A	$19\pm 1\text{dBm}$



BW[MHz]	RB Size	Mode	Band 66
1.4	1	QPSK	22±1dBm
1.4	3		21±1dBm
1.4	6		20±1dBm
1.4	1	16- QAM	21±1dBm
1.4	3		21±1dBm
1.4	6		20±1dBm
3	1	QPSK	22±1dBm
3	8		21±1dBm
3	15		20±1dBm
3	1	16- QAM	21±1dBm
3	8		21±1dBm
3	15		20±1dBm
5	1	QPSK	21±1dBm
5	12		21±1dBm
5	25		20±1dBm
5	1	16- QAM	21±1dBm
5	12		21±1dBm
5	25		20±1dBm
10	1	QPSK	21±1dBm
10	25		21±1dBm
10	50		20±1dBm
10	1	16- QAM	21±1dBm
10	25		20±1dBm
10	50		20±1dBm
15	1	QPSK	21±1dBm
15	36		21±1dBm
15	75		20±1dBm
15	1	16- QAM	21±1dBm
15	36		20±1dBm
15	75		20±1dBm
20	1	QPSK	22±1dBm
20	50		21±1dBm
20	100		20±1dBm
20	1	16- QAM	21±1dBm
20	50		21±1dBm
20	100		20±1dBm



10.3 SAR Test Exclusions Applied

Per FCC KDB 447498D01, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

- $f(\text{GHz})$ 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

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency (GHz)}} \leq 3.0$$

Based on the maximum conducted power of **Bluetooth Head** (rounded to the nearest mW) and the antenna to user separation distance,

Bluetooth Head SAR was required; $[(19.953/5) * \sqrt{2.480}] = 6.28 > 3.0$.

Based on the maximum conducted power of **Bluetooth Body** (rounded to the nearest mW) and the antenna to user separation distance,

Bluetooth Body SAR was required; $[(19.953/10) * \sqrt{2.480}] = 3.14 > 3.0$.

Based on the maximum conducted power of **2.4 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

2.4 GHz WLAN SAR was required; $[(31.623/5) * \sqrt{2.462}] = 9.92 > 3.0$.

Based on the maximum conducted power of **2.4 GHz WLAN Body** (rounded to the nearest mW) and the antenna to user separation distance,

2.4 GHz WLAN SAR was required; $[(31.623/10) * \sqrt{2.462}] = 4.96 > 3.0$.

Based on the maximum conducted power of **5.2 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

5.2 GHz WLAN SAR was not required; $[(3.981/5) * \sqrt{5.200}] = 1.82 < 3.0$.

Based on the maximum conducted power of **5.2 GHz WLAN Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.2 GHz WLAN SAR was not required; $[(3.981/10) * \sqrt{5.200}] = 0.91 < 3.0$.

Based on the maximum conducted power of **5.4 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

5.4 GHz WLAN SAR was not required; $[(5.012/5) * \sqrt{5.400}] = 2.33 < 3.0$.

Based on the maximum conducted power of **5.4 GHz WLAN Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.4 GHz WLAN SAR was not required; $[(5.012/10) * \sqrt{5.400}] = 1.16 < 3.0$.



Based on the maximum conducted power of **5.6 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

5.6 GHz WLAN SAR was not required; $[(5.012/5)^* \sqrt{5.600}] = 2.37 < 3.0$.

Based on the maximum conducted power of **5.6 GHz WLAN Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.6 GHz WLAN SAR was not required; $[(5.012/10)^* \sqrt{5.600}] = 1.19 < 3.0$.

Based on the maximum conducted power of **5.8 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

5.8 GHz WLAN SAR was not required; $[(5.012/5)^* \sqrt{5.800}] = 2.41 < 3.0$.

Based on the maximum conducted power of **5.8 GHz WLAN Body** (rounded to the nearest mW) and the antenna to user separation distance,

5.8 GHz WLAN SAR was not required; $[(5.012/10)^* \sqrt{5.800}] = 1.21 < 3.0$.



11. EUT and Test Setup Photo

11.1 EUT Photo

Front side



Back side





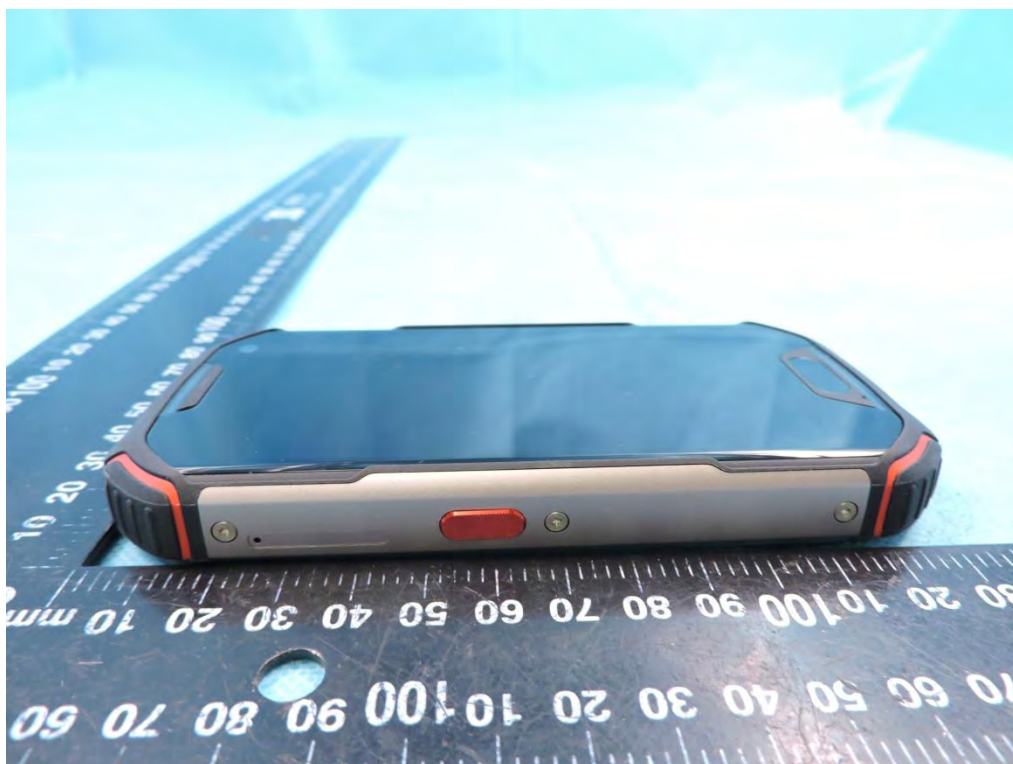
Top side



Bottom side



Left side

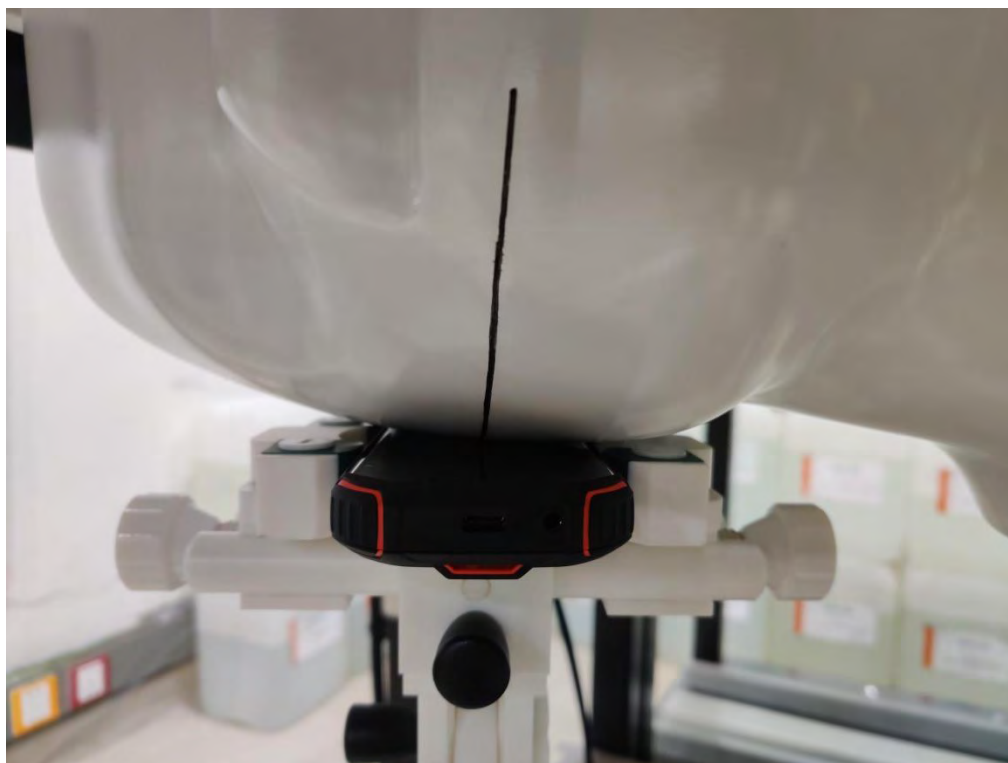


Right side

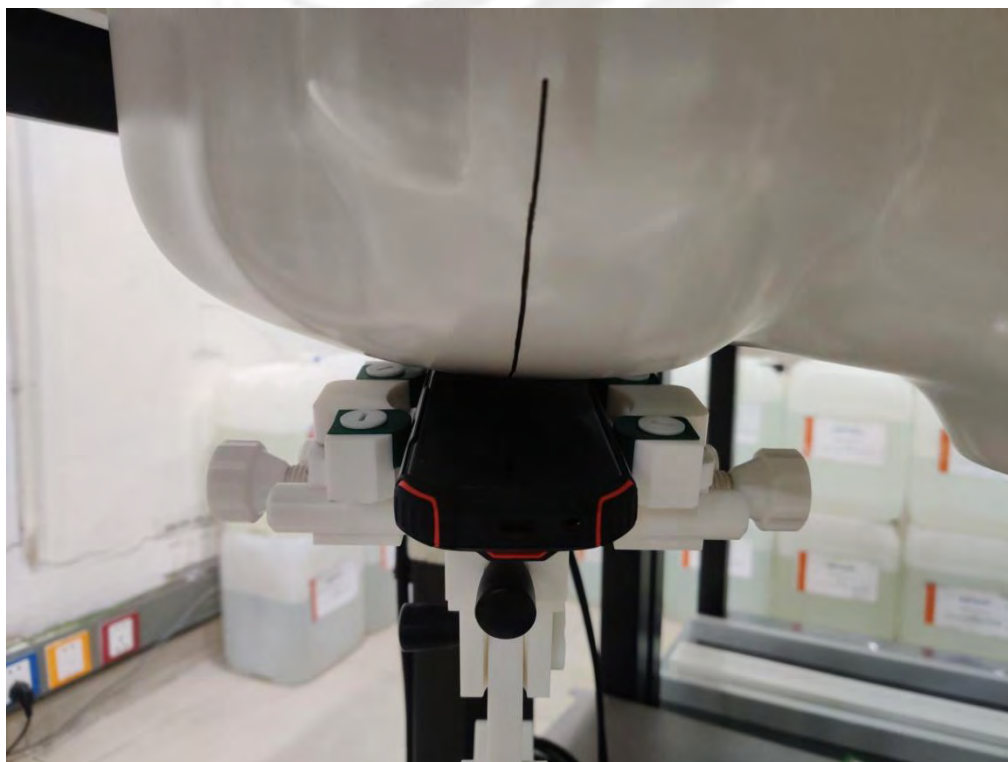


11.2 Setup Photo

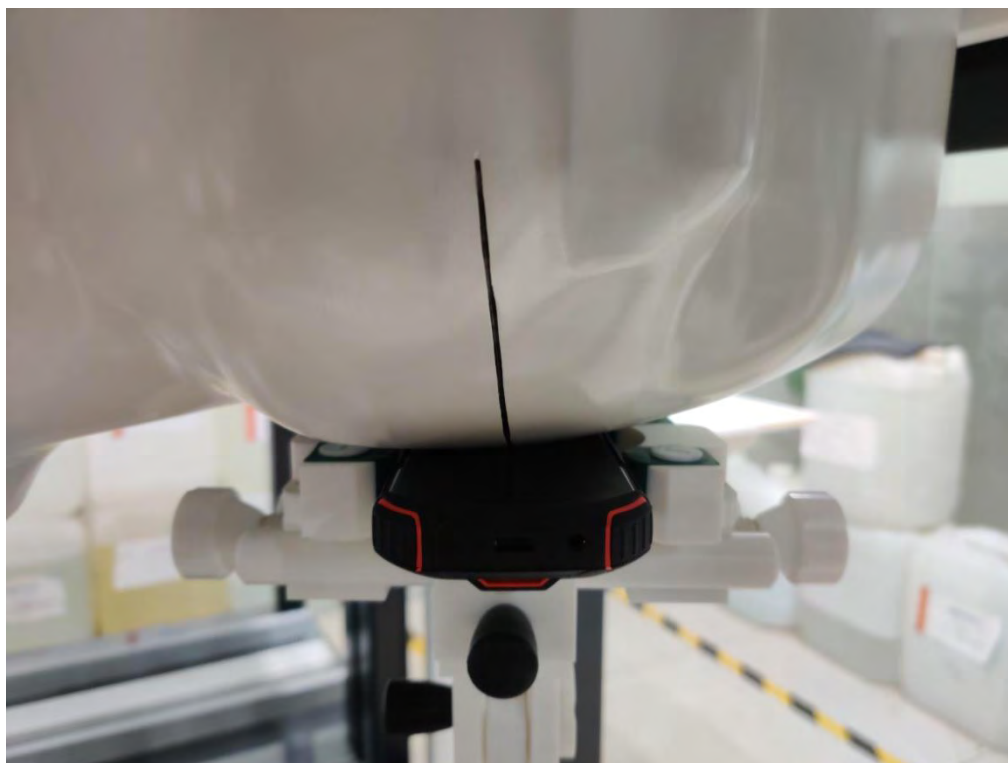
Right Touch



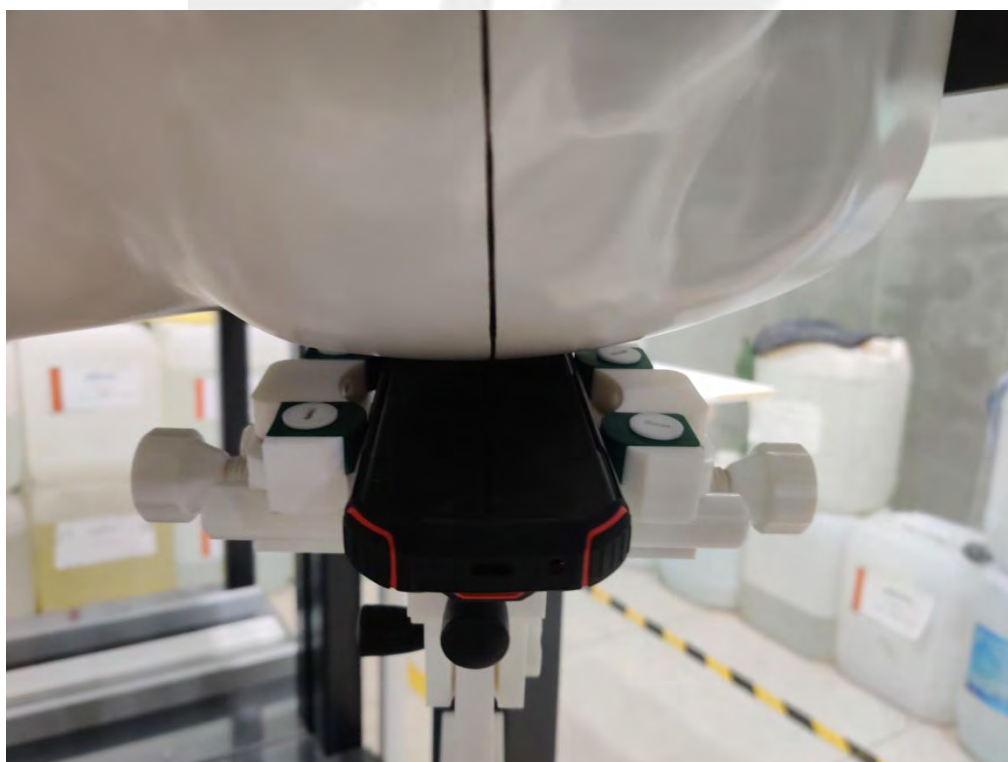
Right Tilt



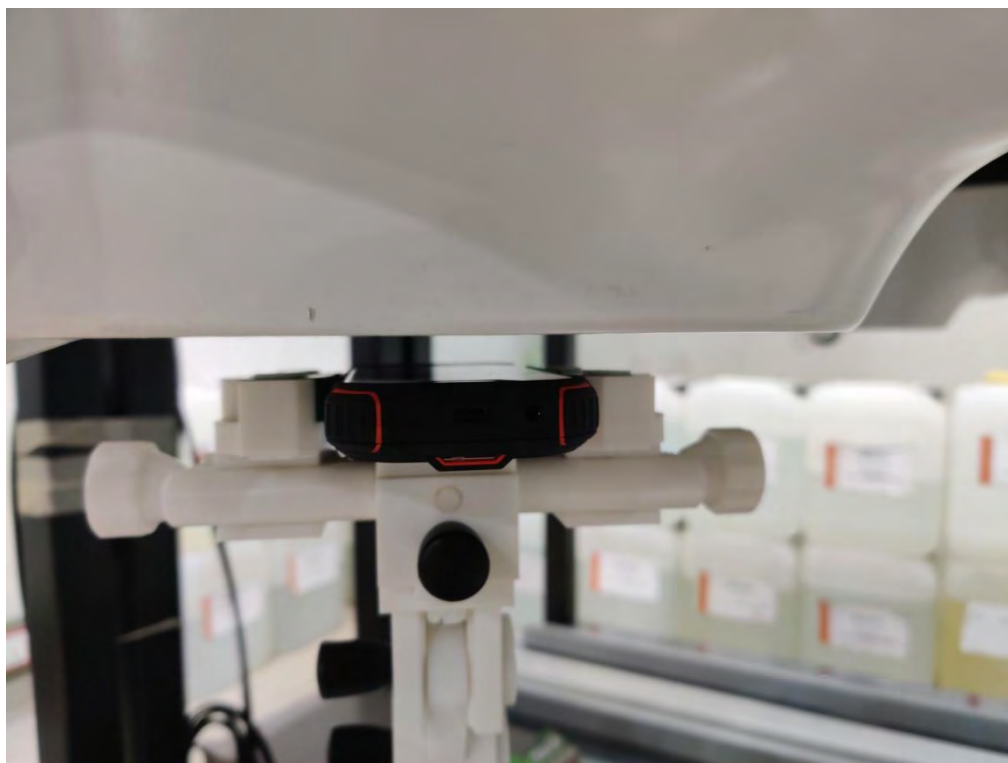
Left Touch



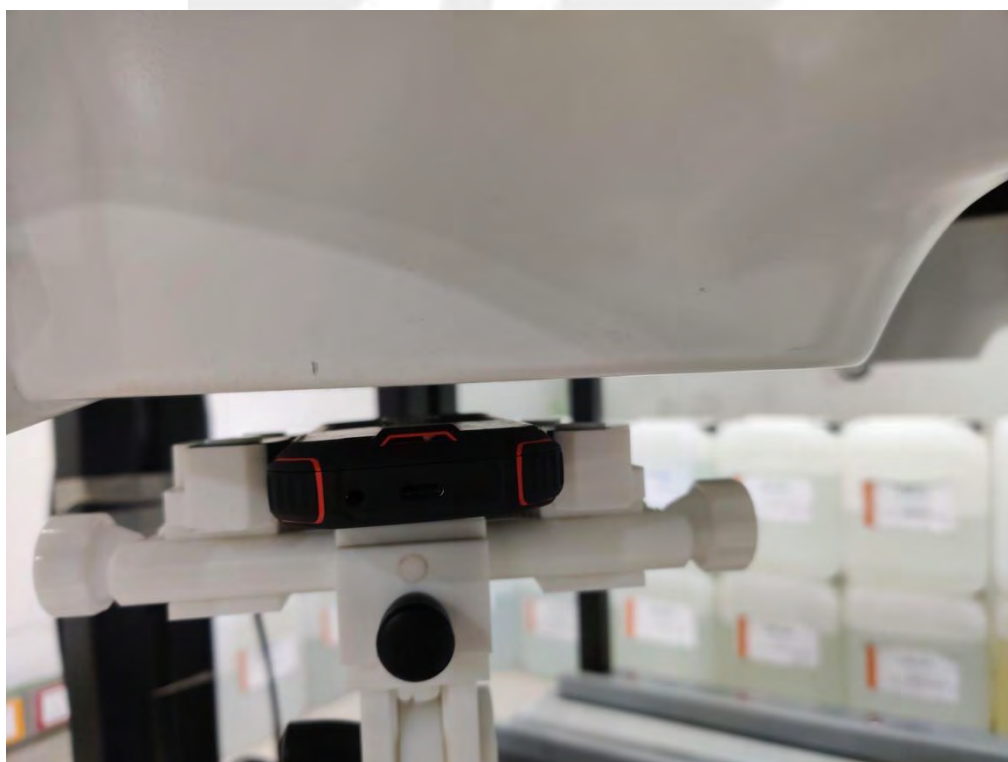
Left Tilt



Body Front side(separation distance is 10mm)



Body Back side(separation distance is 10mm)



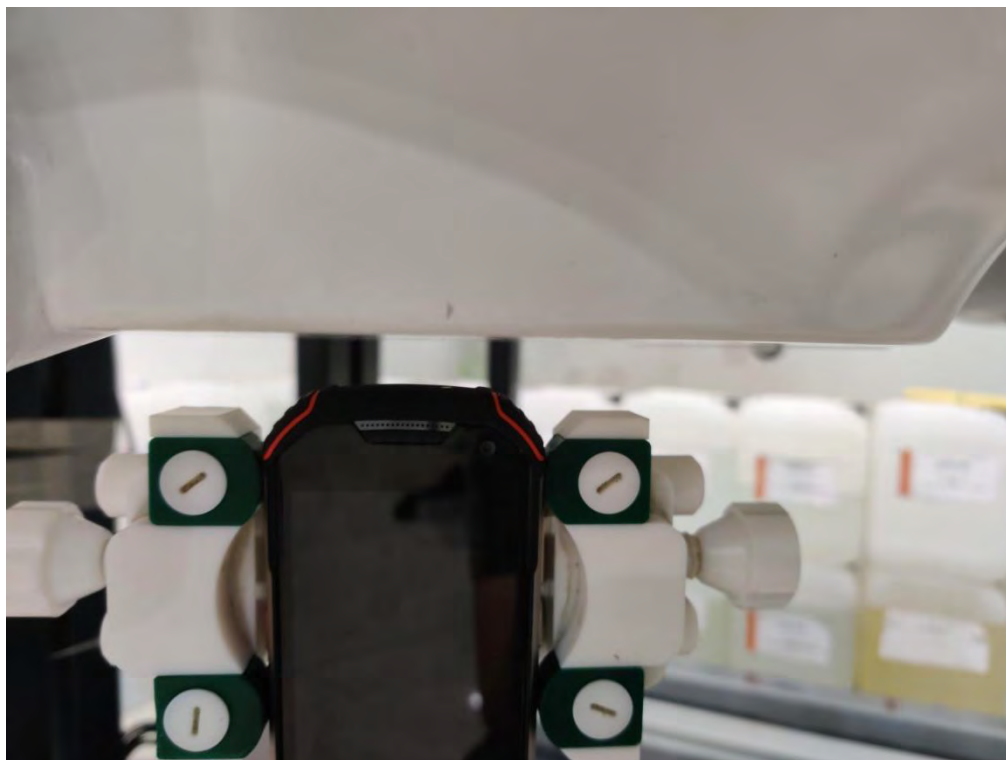
Body left side(separation distance is 10mm)



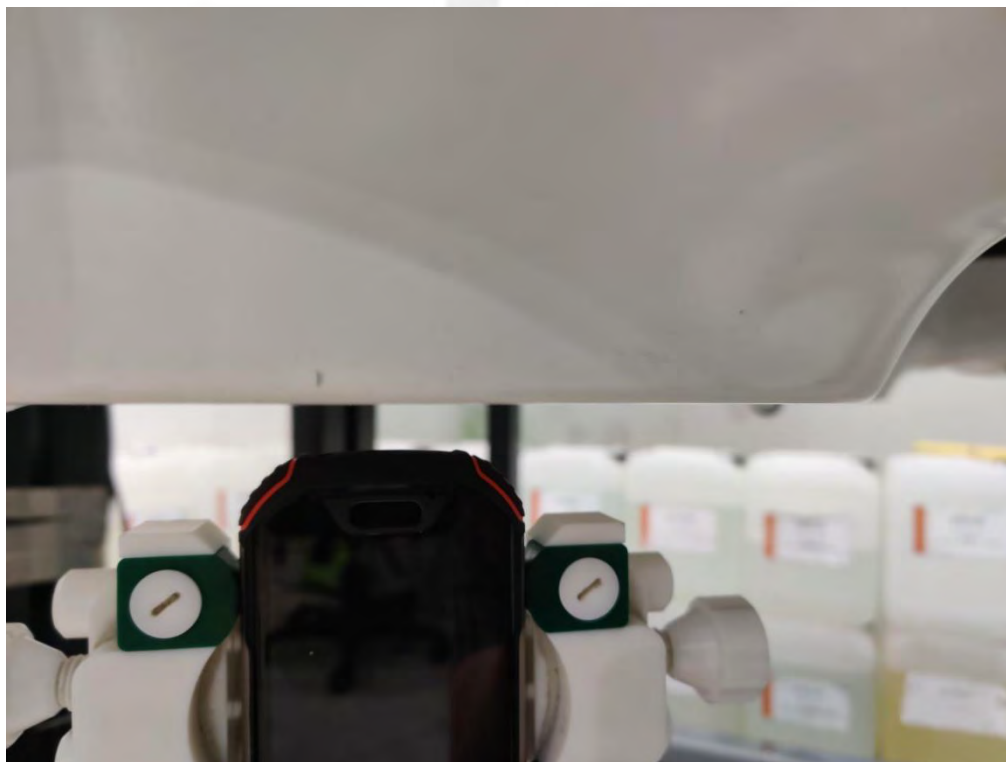
Body right side(separation distance is 10mm)



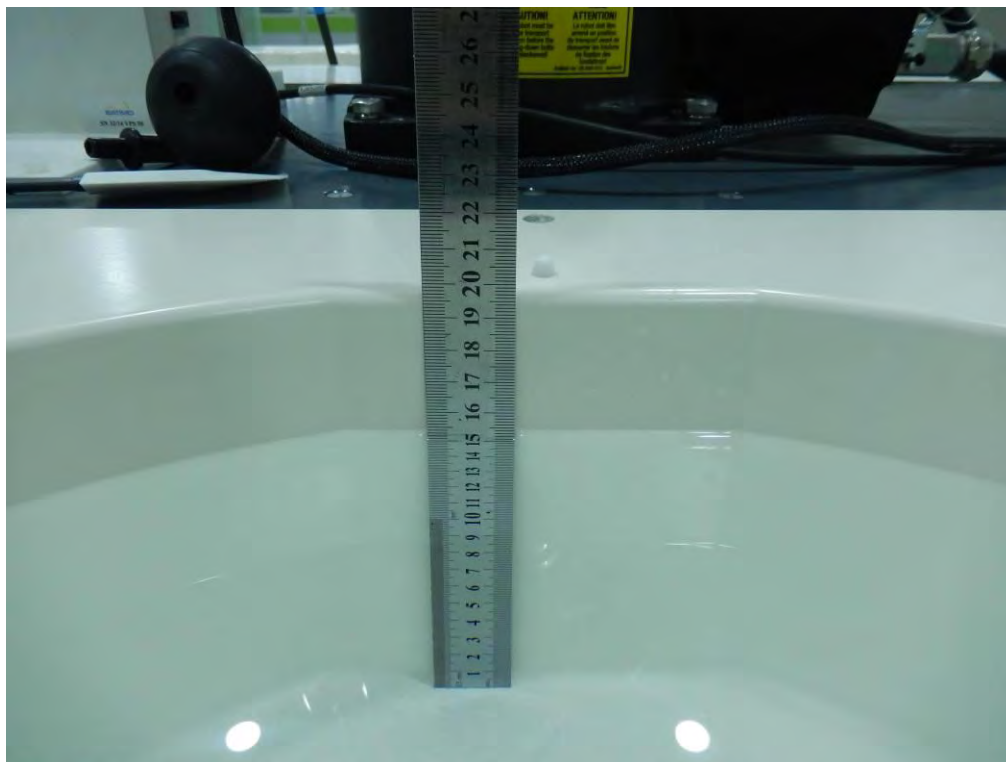
Body top side(separation distance is 10mm)



Body Bottom side(separation distance is 10mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	GPRS Data-4 Slot	Right Cheek	251	0.223	2.12	30.50	30.30	0.234	1
		Right Tilt	251	0.152	1.47	30.50	30.30	0.159	/
		Left Cheek	251	0.206	-0.11	30.50	30.30	0.216	/
		Left Tilt	251	0.127	0.05	30.50	30.30	0.133	/
GSM1900	GPRS Data-4 Slot	Right Cheek	810	0.154	-0.26	30.50	30.41	0.157	3
		Right Tilt	810	0.089	-1.89	30.50	30.41	0.091	/
		Left Cheek	810	0.101	2.80	30.50	30.41	0.103	/
		Left Tilt	810	0.053	2.56	30.50	30.41	0.054	/
WCDMA II	RMC	Right Cheek	9400	0.171	-2.16	23	22.87	0.176	5
		Right Tilt	9400	0.087	-2.80	23	22.87	0.090	/
		Left Cheek	9400	0.132	3.96	23	22.87	0.136	/
		Left Tilt	9400	0.066	3.18	23	22.87	0.068	/
WCDMA IV	RMC	Right Cheek	1413	0.130	2.31	23	22.31	0.152	7
		Right Tilt	1413	0.101	-0.37	23	22.31	0.118	/
		Left Cheek	1413	0.119	-0.15	23	22.31	0.139	/
		Left Tilt	1413	0.086	-0.21	23	22.31	0.101	/
WCDMA V	RMC	Right Cheek	4233	0.145	-1.01	24	23.20	0.174	9
		Right Tilt	4233	0.100	0.86	24	23.20	0.120	/
		Left Cheek	4233	0.029	1.25	24	23.20	0.035	/
		Left Tilt	4233	0.081	-1.55	24	23.20	0.097	/



Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
2.4G WLAN	802.11b	Right Cheek	1	0.114	-1.58	15	14.42	100%	0.130	11
		Right Tilt	1	0.093	1.19	15	14.42	100%	0.106	/
		Left Cheek	1	0.105	1.08	15	14.42	100%	0.120	/
		Left Tilt	1	0.081	3.32	15	14.42	100%	0.093	/
Bluetooth	GFSK	Right Cheek	78	0.013	-2.42	13	12.52	100%	0.015	35
		Right Tilt	78	0.008	-1.35	13	12.52	100%	0.009	/
		Left Cheek	78	0.009	3.82	13	12.52	100%	0.010	/
		Left Tilt	78	0.005	3.10	13	12.52	100%	0.006	/

Note:

- Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- 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 ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was 0.014W/Kg for Head)
- Per KDB865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Right Cheek	18900	0.244	3.03	22	21.72	0.260	13
			50	0	Right Cheek	18900	0.215	-2.54	21	20.94	0.218	/
			1	0	Right Tilt	18900	0.129	3.18	22	21.72	0.138	/
			50	49	Right Tilt	18900	0.093	0.61	21	20.94	0.094	/
			1	0	Left Cheek	18900	0.210	-1.94	22	21.72	0.224	/
			50	49	Left Cheek	18900	0.175	-1.01	21	20.94	0.177	/
			1	0	Left Tilt	18900	0.136	-3.28	22	21.72	0.145	/
			50	49	Left Tilt	18900	0.101	1.29	21	20.94	0.102	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	20175	0.295	-2.78	22	21.80	0.309	15
			50	0	Right Cheek	20175	0.238	-2.26	22	21.01	0.299	/
			1	0	Right Tilt	20175	0.163	3.18	22	21.80	0.171	/
			50	0	Right Tilt	20175	0.116	-1.71	22	21.01	0.146	/
			1	0	Left Cheek	20175	0.261	-1.10	22	21.80	0.273	/
			50	0	Left Cheek	20175	0.220	-0.23	22	21.01	0.276	/
			1	0	Left Tilt	20175	0.121	-0.01	22	21.80	0.127	/
			50	0	Left Tilt	20175	0.096	-3.48	22	21.01	0.121	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	20600	0.186	3.91	24	23.81	0.194	17
			25	0	Right Cheek	20600	0.142	1.46	24	23.09	0.175	/
			1	0	Right Tilt	20600	0.109	0.84	24	23.81	0.114	/
			25	0	Right Tilt	20600	0.082	0.47	24	23.09	0.101	/
			1	0	Left Cheek	20600	0.139	2.71	24	23.81	0.145	/
			25	0	Left Cheek	20600	0.096	-0.09	24	23.09	0.118	/
			1	0	Left Tilt	20600	0.073	-1.82	24	23.81	0.076	/
			25	0	Left Tilt	20600	0.049	0.81	24	23.09	0.060	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	20850	0.072	3.75	21	20.61	0.079	19
			50	0	Right Cheek	20850	0.057	-0.67	20	19.82	0.059	/
			1	0	Right Tilt	20850	0.039	0.90	21	20.61	0.043	/
			50	0	Right Tilt	20850	0.024	-2.96	20	19.82	0.025	/
			1	0	Left Cheek	20850	0.063	2.67	21	20.61	0.069	/
			50	0	Left Cheek	20850	0.041	-2.29	20	19.82	0.043	/
			1	0	Left Tilt	20850	0.034	-3.68	21	20.61	0.037	/
			50	0	Left Tilt	20850	0.020	-3.45	20	19.82	0.021	/
LTE Band 12	10M	QPSK	1	0	Right Cheek	23060	0.100	2.60	25	24.32	0.117	21
			25	0	Right Cheek	23060	0.069	2.67	24	23.59	0.076	/
			1	0	Right Tilt	23060	0.048	3.32	25	24.32	0.056	/
			25	0	Right Tilt	23060	0.024	-0.37	24	23.59	0.026	/
			1	0	Left Cheek	23060	0.076	0.96	25	24.32	0.089	/
			25	0	Left Cheek	23060	0.057	2.09	24	23.59	0.063	/
			1	0	Left Tilt	23060	0.039	0.15	25	24.32	0.046	/
			25	0	Left Tilt	23060	0.021	-1.39	24	23.59	0.023	/



LTE Band 13	10M	QPSK	1	0	Right Cheek	23230	0.009	-2.41	21	20.83	0.009	23
			25	0	Right Cheek	23230	0.006	-1.39	20	19.99	0.006	/
			1	0	Right Tilt	23230	0.005	-2.47	21	20.83	0.005	/
			25	0	Right Tilt	23230	0.002	-1.68	20	19.99	0.002	/
			1	0	Left Cheek	23230	0.007	0.83	21	20.83	0.007	/
			25	0	Left Cheek	23230	0.004	3.72	20	19.99	0.004	/
			1	0	Left Tilt	23230	0.004	-3.76	21	20.83	0.004	/
			25	0	Left Tilt	23230	0.003	1.48	20	19.99	0.003	/
LTE Band 17	10M	QPSK	1	0	Right Cheek	23780	0.094	0.85	22	21.64	0.102	25
			25	0	Right Cheek	23780	0.075	-0.03	21	20.95	0.076	/
			1	0	Right Tilt	23780	0.049	-2.15	22	21.64	0.053	/
			25	0	Right Tilt	23780	0.034	-2.03	21	20.95	0.034	/
			1	0	Left Cheek	23780	0.076	-3.80	22	21.64	0.083	/
			25	0	Left Cheek	23780	0.063	0.56	21	20.95	0.064	/
			1	0	Left Tilt	23780	0.037	-0.11	22	21.64	0.040	/
			25	0	Left Tilt	23780	0.029	-3.79	21	20.95	0.029	/
LTE Band 25	20M	QPSK	1	0	Right Cheek	26140	0.154	3.68	22	21.60	0.169	27
			50	0	Right Cheek	26140	0.127	-1.37	21	20.8	0.133	/
			1	0	Right Tilt	26140	0.096	-0.93	22	21.60	0.105	/
			50	0	Right Tilt	26140	0.071	3.29	21	20.8	0.074	/
			1	0	Left Cheek	26140	0.127	3.59	22	21.60	0.139	/
			50	0	Left Cheek	26140	0.108	0.87	21	20.8	0.113	/
			1	0	Left Tilt	26140	0.079	3.13	22	21.60	0.087	/
			50	0	Left Tilt	26140	0.060	1.48	21	20.8	0.063	/
LTE Band 26	15M	QPSK	1	0	Right Cheek	26865	0.173	3.41	25	24.37	0.200	/
			36	0	Right Cheek	26865	0.148	2.07	24	23.70	0.159	/
			1	0	Right Tilt	26865	0.102	1.50	25	24.37	0.118	/
			36	0	Right Tilt	26865	0.093	-1.34	24	23.70	0.100	/
			1	0	Left Cheek	26865	0.137	-3.15	25	24.37	0.158	29
			36	0	Left Cheek	26865	0.105	0.83	24	23.70	0.113	/
			1	0	Left Tilt	26865	0.076	1.25	25	24.37	0.088	/
			36	0	Left Tilt	26865	0.057	1.34	24	23.70	0.061	/
LTE Band 41	20M	QPSK	1	0	Right Cheek	41490	0.042	-2.43	22	21.25	0.050	31
			50	0	Right Cheek	41490	0.033	0.22	21	20.57	0.036	/
			1	0	Right Tilt	41490	0.024	-1.94	22	21.25	0.029	/
			50	0	Right Tilt	41490	0.017	2.00	21	20.57	0.019	/
			1	0	Left Cheek	41490	0.035	3.39	22	21.25	0.042	/
			50	0	Left Cheek	41490	0.027	3.47	21	20.57	0.030	/
			1	0	Left Tilt	41490	0.015	1.66	22	21.25	0.018	/
			50	0	Left Tilt	41490	0.010	2.00	21	20.57	0.011	/



LTE Band 66	20M	QPSK	1	0	Right Cheek	132572	0.267	-0.02	23	22.23	0.319	33
			50	0	Right Cheek	132572	0.234	3.23	22	21.40	0.269	/
			1	0	Right Tilt	132572	0.162	-3.54	23	22.23	0.193	/
			50	0	Right Tilt	132572	0.134	2.57	22	21.40	0.154	/
			1	0	Left Cheek	132572	0.209	1.26	23	22.23	0.250	/
			50	0	Left Cheek	132572	0.176	0.71	22	21.40	0.202	/
			1	0	Left Tilt	132572	0.131	1.06	23	22.23	0.156	/
			50	0	Left Tilt	132572	0.108	3.20	22	21.40	0.124	/



**12.2 Body-worn and Hotspot SAR**

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	GPRS Data-4 Slot	Front side	251	0.234	1.71	30.50	30.30	0.245	/
		Back side	251	0.405	-3.01	30.50	30.30	0.424	2
		Left side	251	0.153	3.40	30.50	30.30	0.160	/
		Right side	251	0.048	1.53	30.50	30.30	0.050	/
		Bottom side	251	0.211	-0.56	30.50	30.30	0.221	/
GSM1900	GPRS Data-4 Slot	Front side	810	0.213	3.85	30.50	30.41	0.217	/
		Back side	810	0.306	3.00	30.50	30.41	0.312	4
		Left side	810	0.170	-1.46	30.50	30.41	0.174	/
		Right side	810	0.039	-1.15	30.50	30.41	0.040	/
		Bottom side	810	0.208	2.67	30.50	30.41	0.212	/
WCDMA II	RMC	Front side	9400	0.127	-3.85	23	22.87	0.131	/
		Back side	9400	0.165	3.25	23	22.87	0.170	6
		Left side	9400	0.100	-3.17	23	22.87	0.103	/
		Right side	9400	0.027	-3.34	23	22.87	0.028	/
		Bottom side	9400	0.116	-3.75	23	22.87	0.120	/
WCDMA IV	RMC	Front side	1413	0.135	-2.08	23	22.31	0.158	/
		Back side	1413	0.178	-1.05	23	22.31	0.209	8
		Left side	1413	0.069	2.16	23	22.31	0.081	/
		Right side	1413	0.023	3.06	23	22.31	0.027	/
		Bottom side	1413	0.108	2.92	23	22.31	0.127	/
WCDMA V	RMC	Front side	4233	0.232	-3.19	24	23.20	0.279	/
		Back side	4233	0.290	-3.12	24	23.20	0.349	10
		Left side	4233	0.119	1.36	24	23.20	0.143	/
		Right side	4233	0.052	-2.09	24	23.20	0.063	/
		Bottom side	4233	0.183	3.64	24	23.20	0.220	/



Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
WLAN	802.11b	Front side	1	0.053	-0.41	15	14.42	100	0.061	/
		Back side	1	0.109	1.82	15	14.42	100	0.125	12
		Right side	1	0.032	2.70	15	14.42	100	0.037	/
		Top side	1	0.078	2.67	15	14.42	100	0.089	/
Bluetooth	GFSK	Front side	78	0.006	-1.96	13	12.52	100	0.007	/
		Back side	78	0.012	-3.42	13	12.52	100	0.013	36
		Right side	78	0.003	-1.02	13	12.52	100	0.003	/
		Top side	78	0.005	-1.20	13	12.52	100	0.006	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
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 ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was 0.014 W/Kg for Body)
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)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Front side	18900	0.239	1.19	22	21.72	0.255	/
			50	0	Front side	18900	0.209	-3.27	21	20.94	0.212	/
			1	0	Back Side	18900	0.313	0.96	22	21.72	0.334	14
			50	0	Back Side	18900	0.247	2.64	21	20.94	0.250	/
			1	0	Left Side	18900	0.103	1.37	22	21.72	0.110	/
			50	0	Left Side	18900	0.084	-0.51	21	20.94	0.085	/
			1	0	Right Side	18900	0.059	1.92	22	21.72	0.063	/
			50	0	Right Side	18900	0.036	-2.75	21	20.94	0.037	/
			1	0	Bottom Side	18900	0.175	-3.63	22	21.72	0.187	/
			50	0	Bottom Side	18900	0.149	-3.08	21	20.94	0.151	/
LTE Band 4	20M	QPSK	1	0	Front side	20175	0.369	-1.63	22	21.80	0.386	/
			50	0	Front side	20175	0.307	-2.78	22	21.01	0.386	/
			1	0	Back Side	20175	0.532	0.47	22	21.80	0.557	16
			50	0	Back Side	20175	0.432	-3.48	22	21.01	0.543	/
			1	0	Left Side	20175	0.210	-1.78	22	21.80	0.220	/
			50	0	Left Side	20175	0.132	-1.27	22	21.01	0.166	/
			1	0	Right Side	20175	0.096	-3.62	22	21.80	0.101	/
			50	0	Right Side	20175	0.052	3.78	22	21.01	0.065	/
			1	0	Bottom Side	20175	0.314	-3.64	22	21.80	0.329	/
			50	0	Bottom Side	20175	0.228	-0.16	22	21.01	0.286	/
LTE Band 5	10M	QPSK	1	0	Front side	20600	0.337	-2.74	24	23.81	0.352	/
			25	0	Front side	20600	0.279	-0.16	24	23.09	0.344	/
			1	0	Back Side	20600	0.404	-3.51	24	23.81	0.422	18
			25	0	Back Side	20600	0.325	1.43	24	23.09	0.401	/
			1	0	Left Side	20600	0.187	2.17	24	23.81	0.195	/
			25	0	Left Side	20600	0.132	-0.89	24	23.09	0.163	/
			1	0	Right Side	20600	0.079	0.83	24	23.81	0.083	/
			25	0	Right Side	20600	0.044	1.24	24	23.09	0.054	/
			1	0	Bottom Side	20600	0.209	-2.34	24	23.81	0.218	/
			25	0	Bottom Side	20600	0.138	-1.07	24	23.09	0.170	/
LTE Band 7	20M	QPSK	1	0	Front side	20850	0.307	1.42	21	20.61	0.336	/
			50	0	Front side	20850	0.267	-2.97	20	19.82	0.278	/
			1	0	Back Side	20850	0.371	0.01	21	20.61	0.406	20
			50	0	Back Side	20850	0.339	3.91	20	19.82	0.353	/
			1	0	Left Side	20850	0.169	0.68	21	20.61	0.185	/
			50	0	Left Side	20850	0.137	3.92	20	19.82	0.143	/
			1	0	Right Side	20850	0.107	2.35	21	20.61	0.117	/
			50	0	Right Side	20850	0.089	-1.43	20	19.82	0.093	/
			1	0	Bottom Side	20850	0.290	2.52	21	20.61	0.317	/
			50	0	Bottom Side	20850	0.257	-1.41	20	19.82	0.268	/



LTE Band 12	10M	QPSK	1	0	Front side	23060	0.192	-3.09	25	24.32	0.225	/
			25	0	Front side	23060	0.177	3.80	24	23.59	0.195	/
			1	0	Back Side	23060	0.226	-2.77	25	24.32	0.264	22
			25	0	Back Side	23060	0.186	0.08	24	23.59	0.204	/
			1	0	Left Side	23060	0.086	0.30	25	24.32	0.101	/
			25	0	Left Side	23060	0.071	-0.95	24	23.59	0.078	/
			1	0	Right Side	23060	0.052	2.42	25	24.32	0.061	/
			25	0	Right Side	23060	0.039	-2.94	24	23.59	0.043	/
			1	0	Bottom Side	23060	0.150	1.74	25	24.32	0.175	/
			25	0	Bottom Side	23060	0.128	3.00	24	23.59	0.141	/
LTE Band 13	10M	QPSK	1	0	Front side	23230	0.018	-2.33	21	20.83	0.019	/
			25	0	Front side	23230	0.013	-2.34	20	19.99	0.013	/
			1	0	Back Side	23230	0.025	-0.53	21	20.83	0.026	24
			25	0	Back Side	23230	0.020	2.36	20	19.99	0.020	/
			1	0	Left Side	23230	0.011	-2.44	21	20.83	0.011	/
			25	0	Left Side	23230	0.008	-3.08	20	19.99	0.008	/
			1	0	Right Side	23230	0.006	0.19	21	20.83	0.006	/
			25	0	Right Side	23230	0.003	3.89	20	19.99	0.003	/
			1	0	Bottom Side	23230	0.011	2.61	21	20.83	0.011	/
			25	0	Bottom Side	23230	0.007	1.68	20	19.99	0.007	/
LTE Band 17	10M	QPSK	1	0	Front side	23780	0.176	1.95	22	21.64	0.191	/
			25	0	Front side	23780	0.159	2.28	21	20.95	0.161	/
			1	0	Back Side	23780	0.229	-3.65	22	21.64	0.249	26
			25	0	Back Side	23780	0.201	2.61	21	20.95	0.203	/
			1	0	Left Side	23780	0.106	3.94	22	21.64	0.115	/
			25	0	Left Side	23780	0.082	0.30	21	20.95	0.083	/
			1	0	Right Side	23780	0.068	3.04	22	21.64	0.074	/
			25	0	Right Side	23780	0.053	1.93	21	20.95	0.054	/
			1	0	Bottom Side	23780	0.109	2.69	22	21.64	0.118	/
			25	0	Bottom Side	23780	0.101	-1.56	21	20.95	0.102	/
LTE Band 25	20M	QPSK	1	0	Front side	26140	0.152	3.18	22	21.60	0.167	/
			50	0	Front side	26140	0.133	0.30	21	20.80	0.139	/
			1	0	Back Side	26140	0.199	-1.64	22	21.60	0.218	28
			50	0	Back Side	26140	0.175	-3.22	21	20.80	0.183	/
			1	0	Left Side	26140	0.086	-0.95	22	21.60	0.094	/
			50	0	Left Side	26140	0.071	1.07	21	20.80	0.074	/
			1	0	Right Side	26140	0.042	-1.77	22	21.60	0.046	/
			50	0	Right Side	26140	0.034	3.60	21	20.80	0.036	/
			1	0	Bottom Side	26140	0.102	-3.79	22	21.60	0.112	/
			50	0	Bottom Side	26140	0.083	0.37	21	20.80	0.087	/



LTE Band 26	15M	QPSK	1	0	Front side	26865	0.301	2.06	25	24.37	0.348	/
			36	0	Front side	26865	0.275	1.32	24	23.70	0.295	/
			1	0	Back Side	26865	0.402	1.89	25	24.37	0.465	30
			36	0	Back Side	26865	0.359	-3.77	24	23.70	0.385	/
			1	0	Left Side	26865	0.122	3.05	25	24.37	0.141	/
			36	0	Left Side	26865	0.103	1.99	24	23.70	0.110	/
			1	0	Right Side	26865	0.075	-0.59	25	24.37	0.087	/
			36	0	Right Side	26865	0.060	1.95	24	23.70	0.064	/
			1	0	Bottom Side	26865	0.203	-3.91	25	24.37	0.235	/
			36	0	Bottom Side	26865	0.169	-1.19	24	23.70	0.181	/
LTE Band 41	20M	QPSK	1	0	Front side	41490	0.178	-2.17	22	21.25	0.212	/
			50	0	Front side	41490	0.160	3.49	21	20.57	0.177	/
			1	0	Back Side	41490	0.232	2.36	22	21.25	0.276	32
			50	0	Back Side	41490	0.200	-0.86	21	20.57	0.221	/
			1	0	Left Side	41490	0.088	0.63	22	21.25	0.105	/
			50	0	Left Side	41490	0.071	-1.23	21	20.57	0.078	/
			1	0	Right Side	41490	0.056	-3.61	22	21.25	0.067	/
			50	0	Right Side	41490	0.041	-0.76	21	20.57	0.045	/
			1	0	Bottom Side	41490	0.135	-1.59	22	21.25	0.160	/
			50	0	Bottom Side	41490	0.117	2.07	21	20.57	0.129	/
LTE Band 66	20M	QPSK	1	0	Front side	132572	0.688	-2.19	23	22.23	0.821	/
			50	0	Front side	132572	0.647	-0.03	22	21.40	0.743	/
			1	0	Back Side	132072	0.675	2.36	23	22.00	0.850	/
			1	0	Back Side	132322	0.701	-1.55	23	22.15	0.853	/
			1	0	Back Side	132572	0.742	3.35	23	22.23	0.886	34
			50	0	Back Side	132572	0.684	-2.14	22	21.40	0.785	/
			100	0	Back Side	132572	0.686	3.26	21	20.69	0.737	/
			1	0	Left Side	132572	0.321	-2.92	23	22.23	0.383	/
			50	0	Left Side	132572	0.277	0.76	22	21.40	0.318	/
			1	0	Right Side	132572	0.142	1.61	23	22.23	0.170	/
			50	0	Right Side	132572	0.119	2.25	22	21.40	0.137	/
			1	0	Bottom Side	132572	0.447	3.65	23	22.23	0.534	/
			50	0	Bottom Side	132572	0.409	-1.87	22	21.40	0.470	/

LTE BAND 38

SAR for LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2496-2690 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

**Repeated SAR**

Band	BW (MHz)	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 66	QPSK	Back Side	132572	0.726	1.55	23	22.23	0.867	/

12.3 repeated SAR measurement

Band	BW (MHz)	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
LTE Band 66	QPSK	Back Side	132572	0.742	0.726	1.02	-	-	-

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/Kg}$.
2. Per KDB 865664 D01,if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/Kg}$, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is $\geq 1.45\text{W/Kg}$
4. The ratio is the difference in percentage between original and repeated measured SAR.

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

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

NOTE:

1. Bluetooth and WLAN 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, 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 Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
5.2G WLAN	Head	6	3.981	5	5.200	0.242
	Body			10	5.200	0.121
5.4G WLAN	Head	7	5.012	5	5.400	0.311
	Body			10	5.400	0.152
5.6G WLAN	Head	7	5.012	5	5.600	0.316
	Body			10	5.600	0.158
5.8G WLAN	Head	7	5.012	5	5.800	0.322
	Body			10	5.800	0.161



Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + 2.4G WLAN	Head	GSM Voice	0.234	0.364
		2.4G WLAN	0.130	
	Body	GSM Data	0.424	0.549
		2.4G WLAN	0.125	
GSM + 5G WLAN	Head	GSM Voice	0.234	0.556
		5G WLAN	0.322	
	Body	GSM Data	0.424	0.585
		5G WLAN	0.161	
GSM + Bluetooth	Head	GSM Voice	0.234	0.249
		Bluetooth	0.015	
	Body	GSM Data	0.424	0.437
		Bluetooth	0.013	
WCDMA + 2.4G WLAN	Head	WCDMA RMC	0.176	0.306
		2.4G WLAN	0.130	
	Body	WCDMA RMC	0.349	0.474
		2.4G WLAN	0.125	
WCDMA + 5G WLAN	Head	WCDMA RMC	0.176	0.498
		5G WLAN	0.322	
	Body	WCDMA RMC	0.349	0.510
		5G WLAN	0.161	
WCDMA + Bluetooth	Head	WCDMA RMC	0.176	0.191
		Bluetooth	0.015	
	Body	WCDMA RMC	0.349	0.362
		Bluetooth	0.013	
LTE + 2.4G WLAN	Head	LTE RMC	0.319	0.449
		2.4G WLAN	0.130	
	Body	LTE RMC	0.886	1.011
		2.4G WLAN	0.125	



LTE + 5G WLAN	Head	LTE RMC	0.319	0.641
		5G WLAN	0.322	
	Body	LTE RMC	0.886	1.047
		5G WLAN	0.161	
LTE + Bluetooth	Head	LTE RMC	0.319	0.334
		Bluetooth	0.015	
	Body	LTE RMC	0.886	0.899
		Bluetooth	0.013	

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

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



13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
750MHz Dipole	MVG	SID750	SN 30/14 DIP0G750-331	2017.08.15	2020.08.14
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2017.08.15	2020.08.14
1800MHz Dipole	MVG	SID1800	SN 30/14 DIP1G800-329	2017.08.15	2020.08.14
1900MHz Dipole	MVG	SID1900	SN 30/14 DIP1G900-333	2017.08.15	2020.08.14
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	2017.08.15	2020.08.14
2600MHz Dipole	MVG	SID2600	SN 30/14 DIP2G600-336	2017.08.15	2020.08.14
E-Field Probe	MVG	SSE2	SN 41/18 EPGO334	2019.06.04	2020.06.03
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2019.11.25	2020.11.24
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	MVG	SAM	SN 32/14 SAM116	N/A	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	N/A	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	N/A	N/A
Attenuator	Agilent	99899	DC-18GHz	N/A	N/A
Directional coupler	Narda	4226-20	3305	N/A	N/A
Network Analyzer	Agilent	8753ES	US38432810	2019.10.11	2020.10.10
Multi Meter	Keithley	Multi Meter 2000	4050073	2019.10.11	2020.10.10
Signal Generator	Agilent	N5182A	MY50140530	2019.10.09	2020.10.08
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2019.10.09	2020.10.08
Wireless Communication Test Set	R&S	CMW500	117239	2019.10.09	2020.10.08
Power Amplifier	DESAY	ZHL-42W	9638	2019.10.09	2020.10.08
Power Meter	R&S	NRP	100510	2019.10.16	2020.10.15
Power Meter	Agilent	E4419B	QB43312265	2019.10.12	2020.10.11
Power Sensor	R&S	NRP-Z11	101919	2019.10.12	2020.10.11
Power Sensor	HP	E9300A	US39210170	2019.10.09	2020.10.08
Temperature hygrometer	SuWei	SW-108	N/A	2019.10.13	2020.10.12
Thermograph	Elitech	RC-4	S/N EF7176501537	2019.10.11	2020.10.10

Note:

Per KDB 865664 D01, Dipole SAR Validation Verification, STS LAB has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole
 2. System validation with specific dipole is within 10% of calibrated value
- Return-loss in within 20% of calibrated measurement



Appendix A. System Validation Plots

System Performance Check Data (750MHz Head)

Type: Phone measurement (Complete)

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

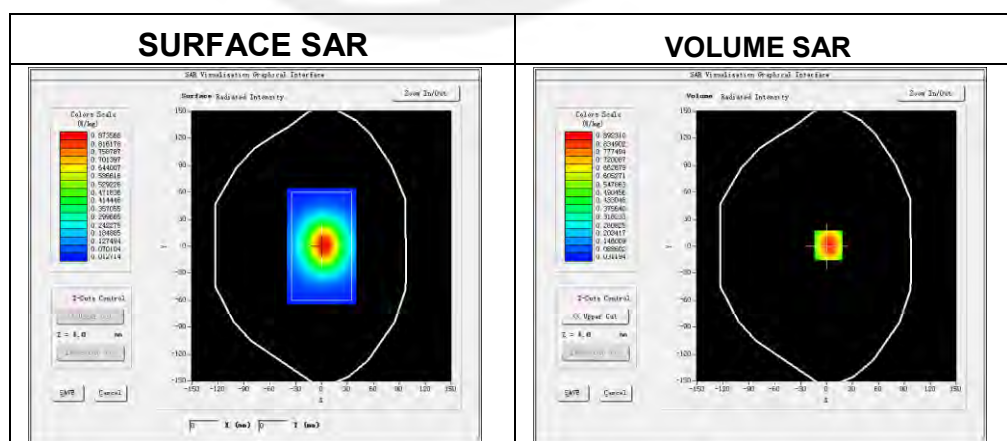
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-15

Measurement duration: 13 minutes 25 seconds

Experimental conditions

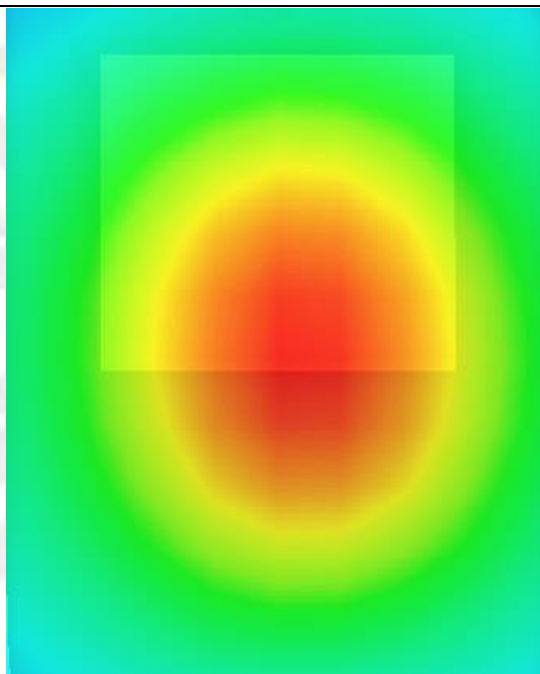
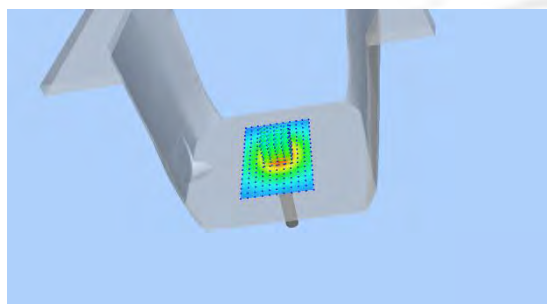
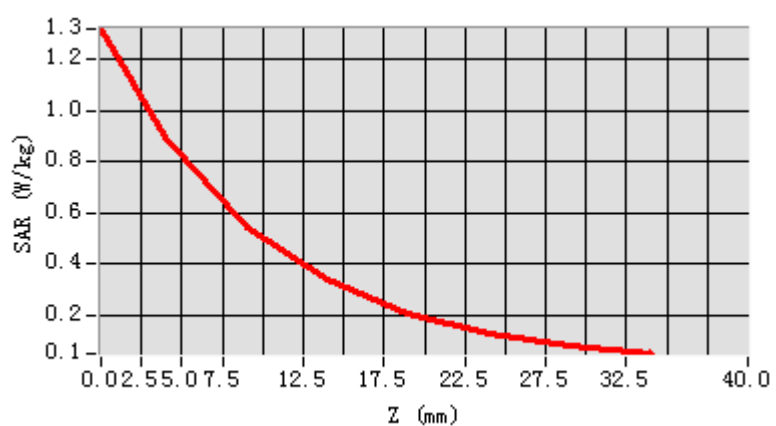
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	42.03
Conductivity (S/m)	0.87
Power drift (%)	-0.20
Probe	SN 41/18 EPGO334
ConvF	1.43
Crest factor	1:1



Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.520963
SAR 1g (W/Kg)	0.880214

Z Axis Scan





System Performance Check Data (750MHz Body)

Type: Phone measurement (Complete)

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

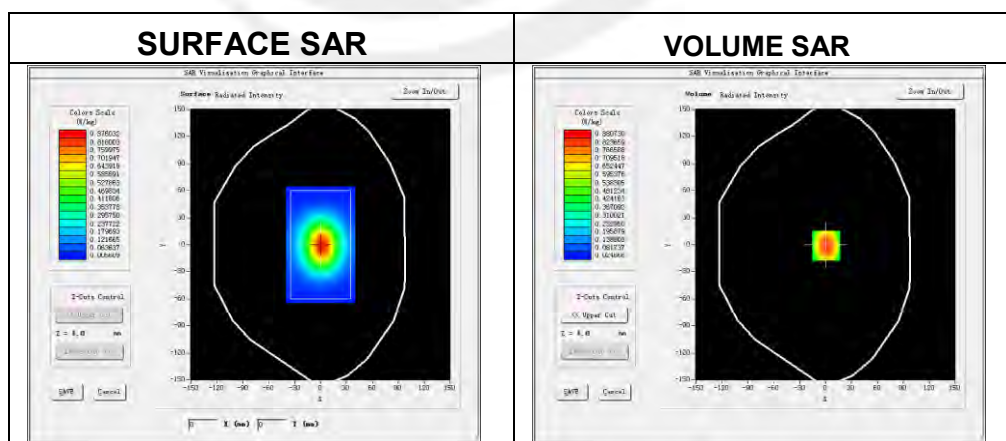
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-15

Measurement duration: 14 minutes 12 seconds

Experimental conditions.

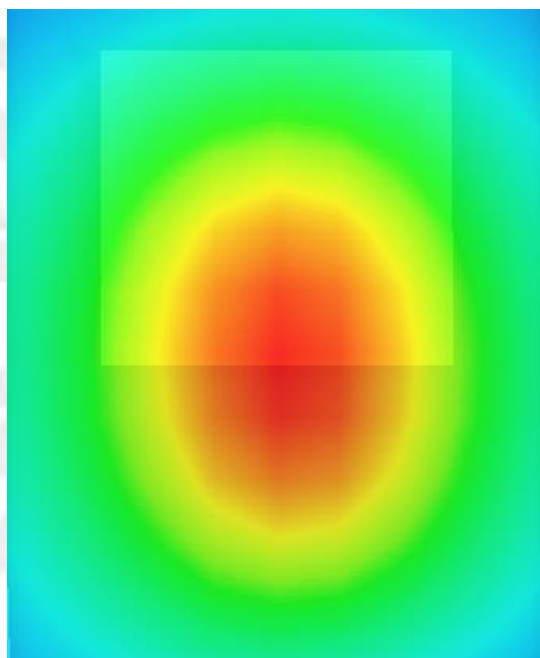
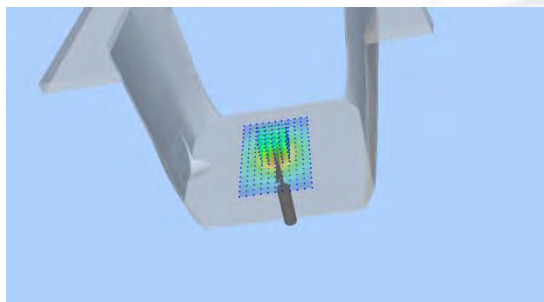
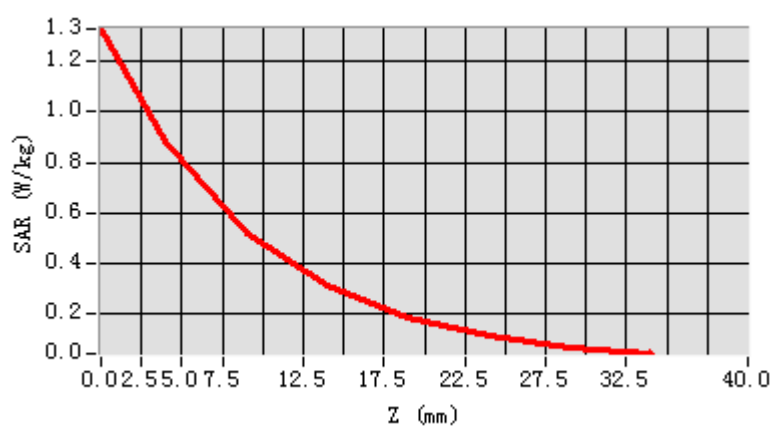
Probe	
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	54.69
Conductivity (S/m)	0.96
Power drift (%)	1.44
Probe	SN 41/18 EPG0334
ConvF:	1.49
Crest factor:	1:1



Maximum location: X=1.00, Y=-1.00

SAR 10g (W/Kg)	0.532709
SAR 1g (W/Kg)	0.822174

Z Axis Scan





System Performance Check Data (835MHz Head)

Type: Phone measurement (Complete)

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

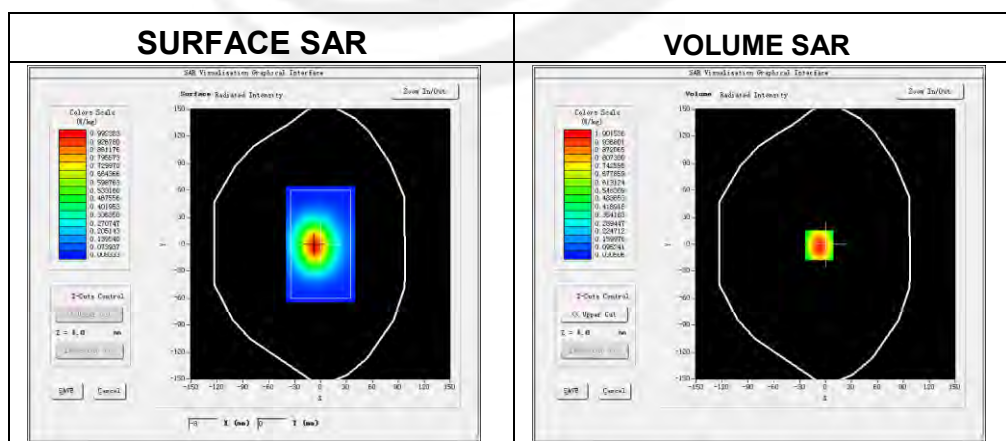
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-15

Measurement duration: 13 minutes 27 seconds

Experimental conditions

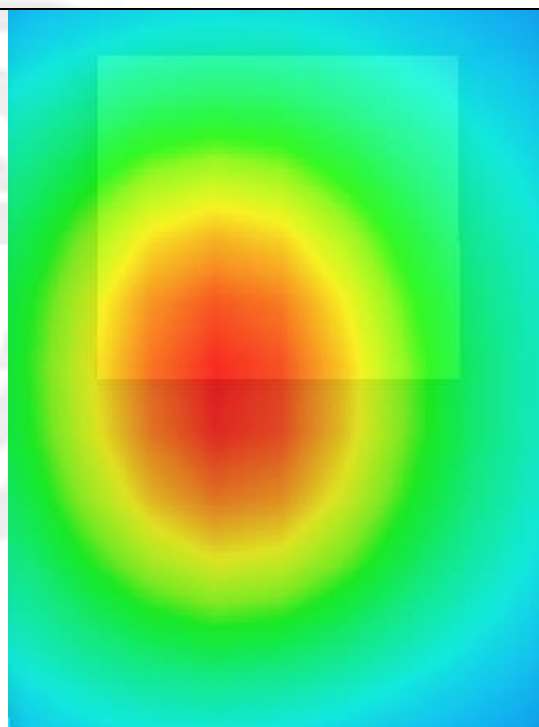
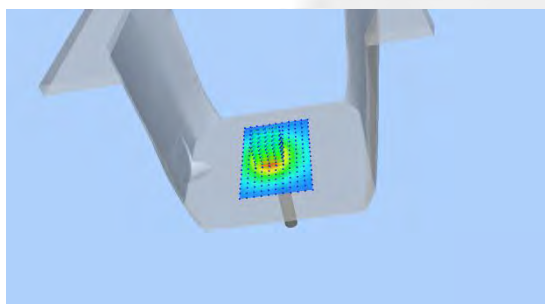
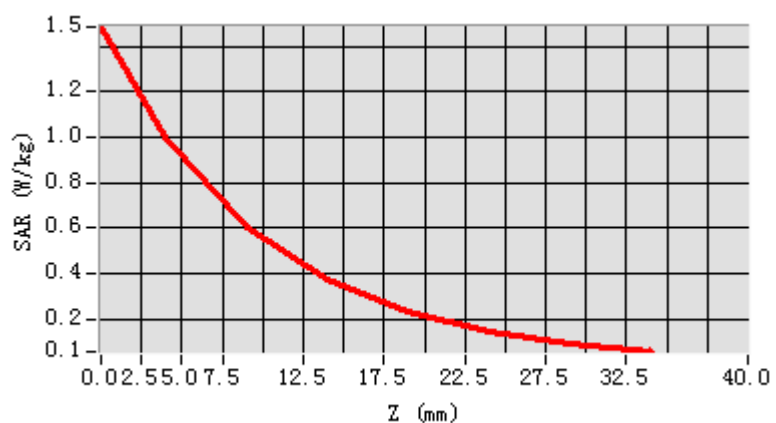
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.80
Conductivity (S/m)	0.90
Power drift (%)	0.07
Probe	SN 41/18 EPG0334
ConvF:	1.48
Crest factor:	1:1



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

SAR 10g (W/Kg)	0.619507
SAR 1g (W/Kg)	0.984357

Z Axis Scan





System Performance Check Data (835MHz Body)

Type: Phone measurement (Complete)

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

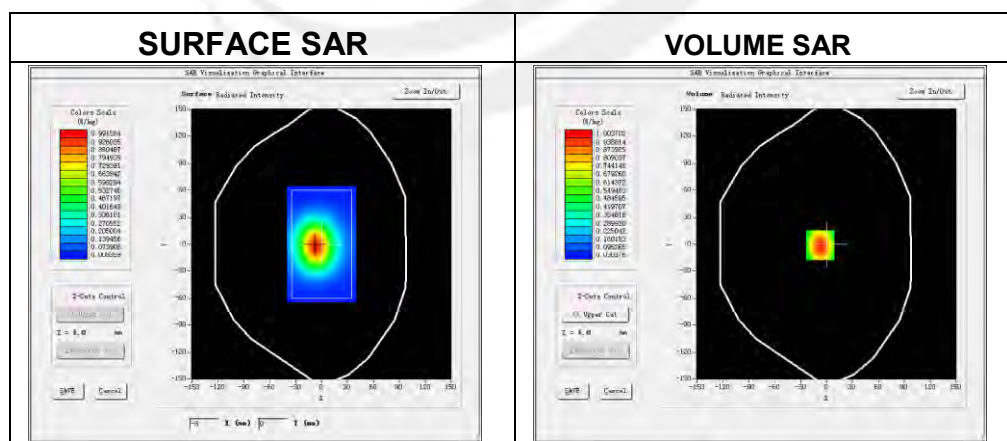
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-15

Measurement duration: 14 minutes 13 seconds

Experimental conditions.

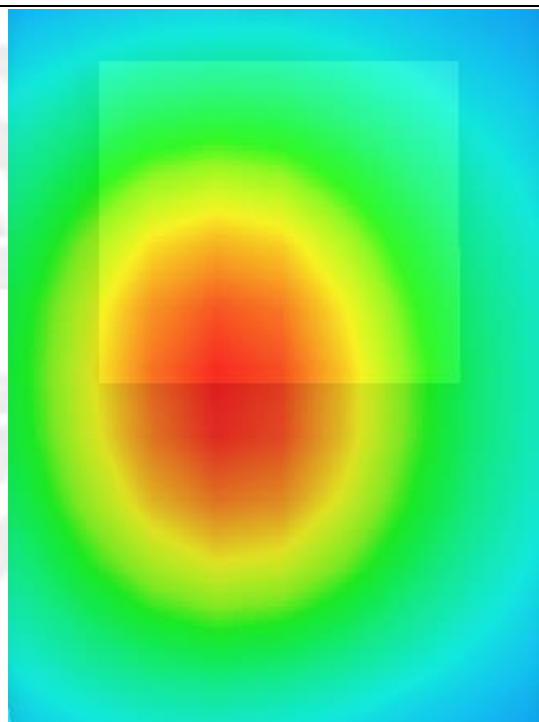
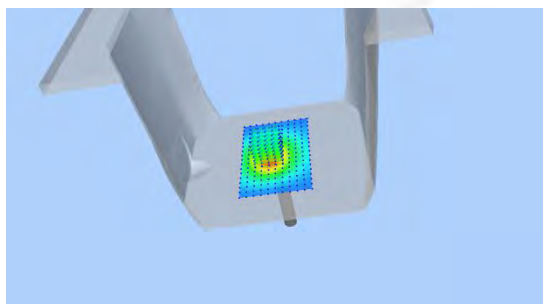
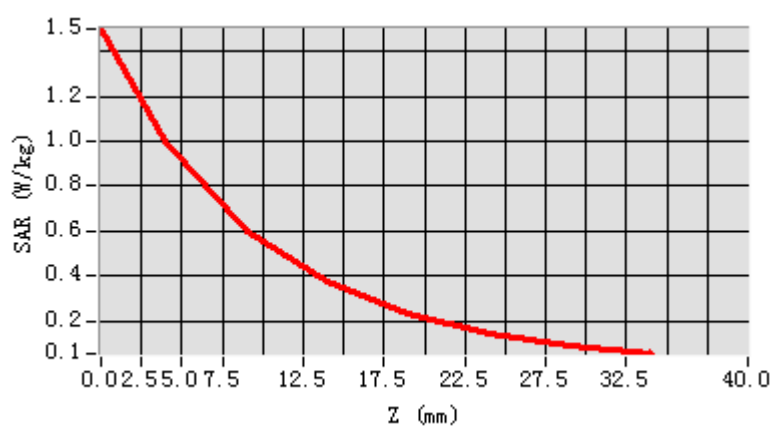
Probe	
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	56.22
Conductivity (S/m)	0.97
Power drift (%)	-0.37
Probe	SN 41/18 EPG0334
ConvF:	1.53
Crest factor:	1:1



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

SAR 10g (W/Kg)	0.611507
SAR 1g (W/Kg)	0.968924

Z Axis Scan





System Performance Check Data(1800MHz Head)

Type: Phone measurement (Complete)

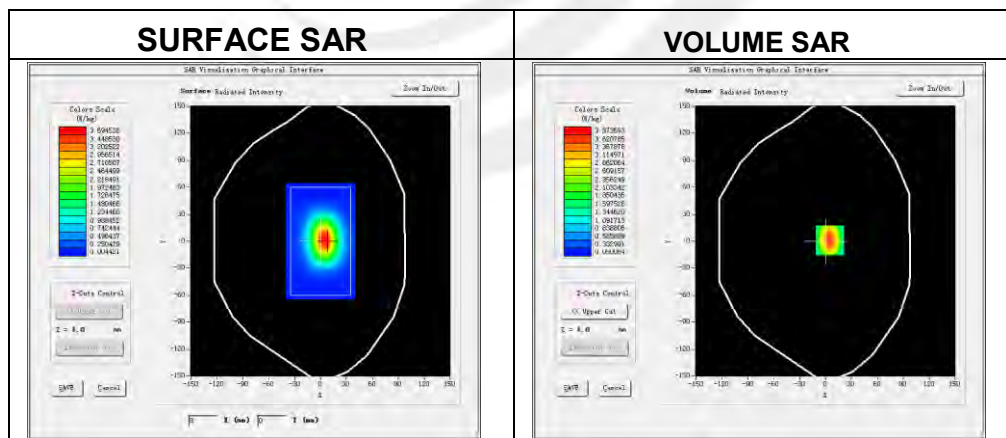
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-04-16

Experimental conditions.

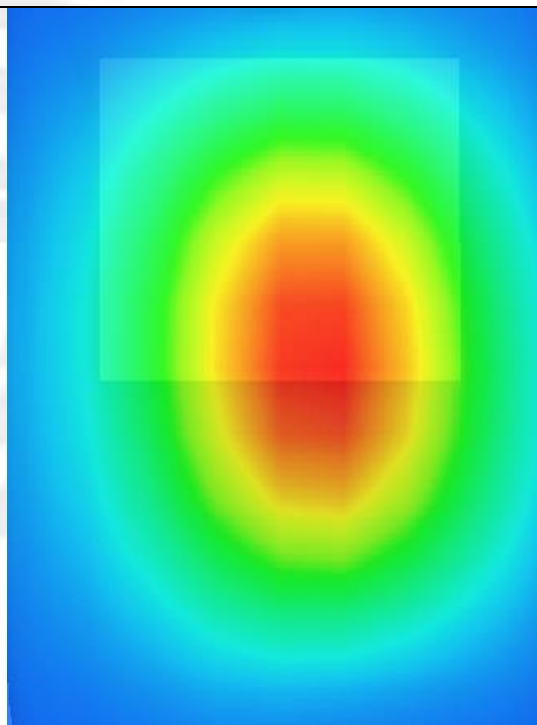
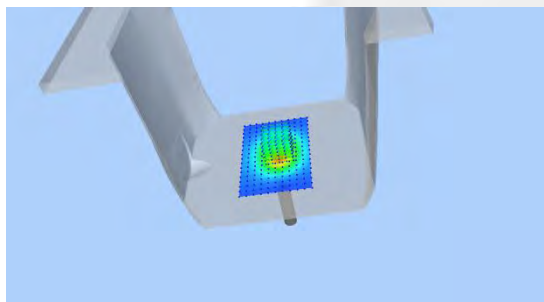
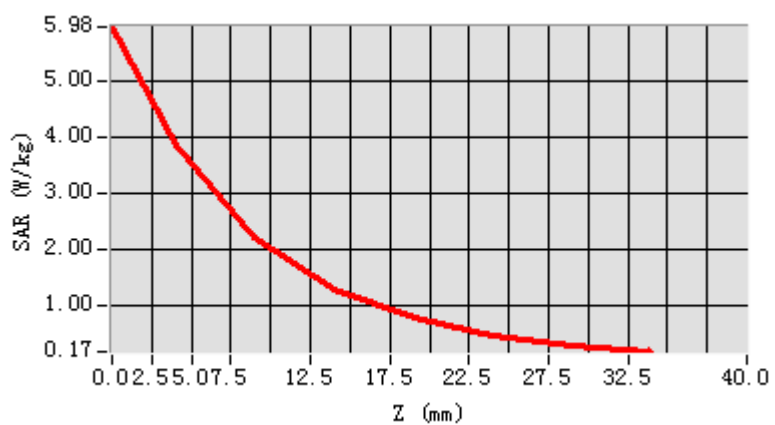
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	41.71
Conductivity (S/m)	1.41
Power drift (%)	0.23
Probe	SN 41/18 EPGO334
ConvF	1.60
Crest factor:	1:1



Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	2.030478
SAR 1g (W/Kg)	3.952847

Z Axis Scan





System Performance Check Data(1800MHz Body)

Type: Phone measurement (Complete)

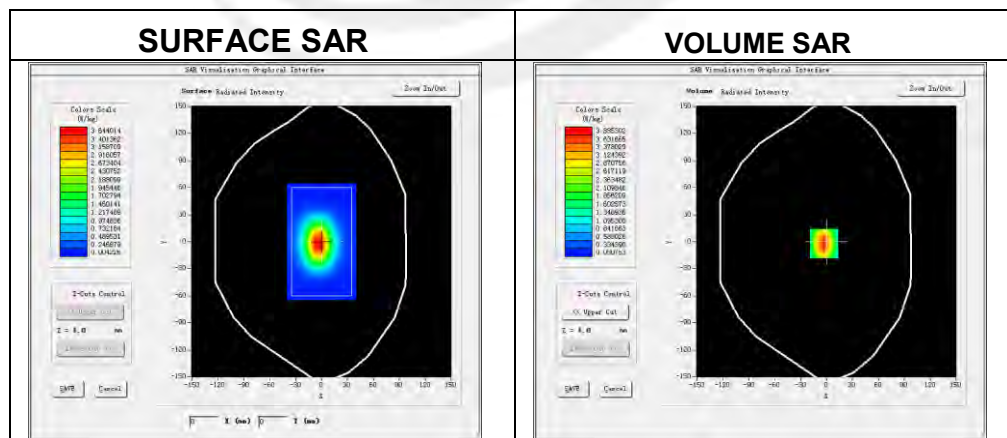
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-04-16

Experimental conditions.

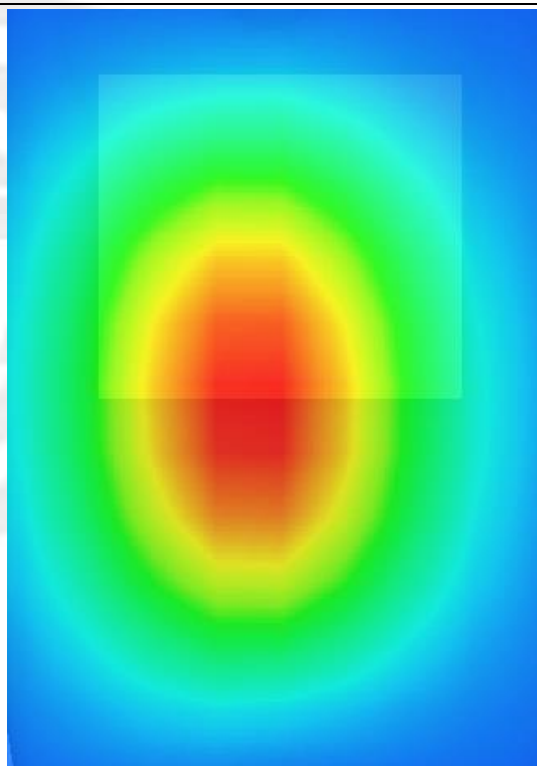
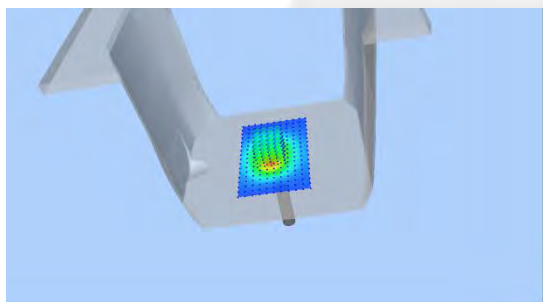
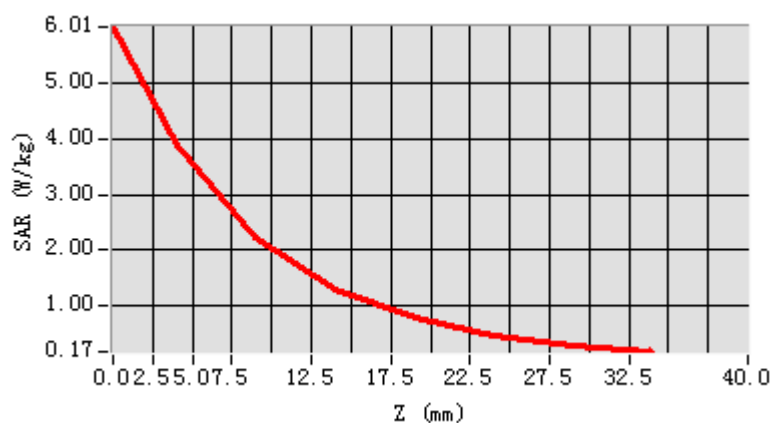
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	52.58
Conductivity (S/m)	1.50
Power drift (%)	-0.28
Probe	SN 41/18 EPGO334
ConvF	1.66
Crest factor:	1:1



Maximum location: X=-3.00, Y=-2.00

SAR 10g (W/Kg)	2.103781
SAR 1g (W/Kg)	4.045119

Z Axis Scan





System Performance Check Data (1900MHz Head)

Type: Phone measurement (Complete)

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

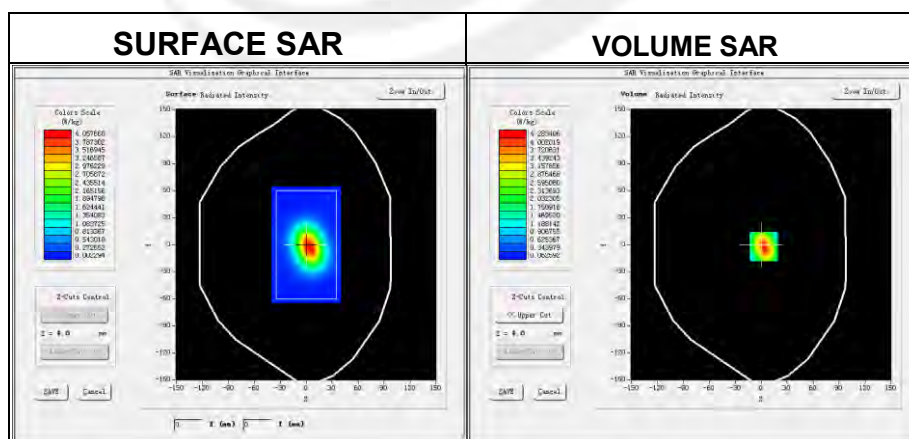
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-17

Measurement duration: 14 minutes 12 seconds

Experimental conditions.

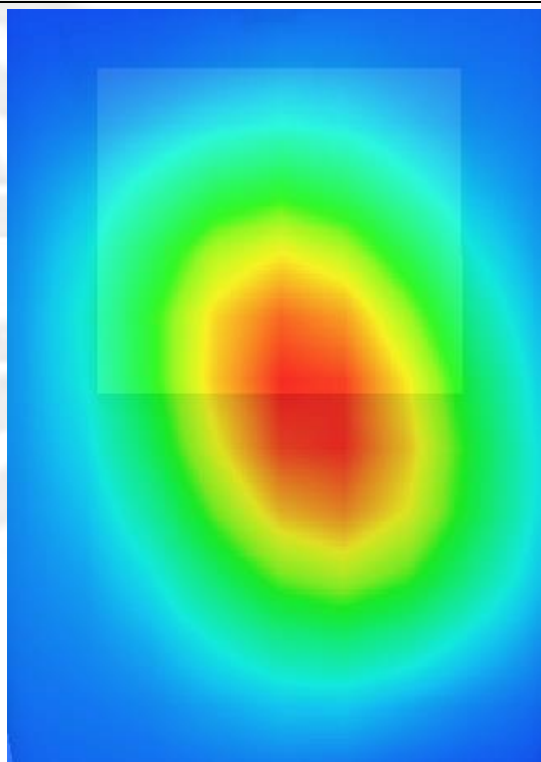
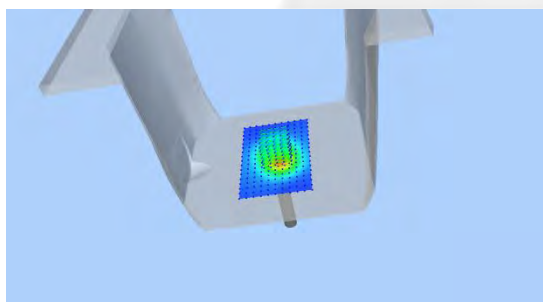
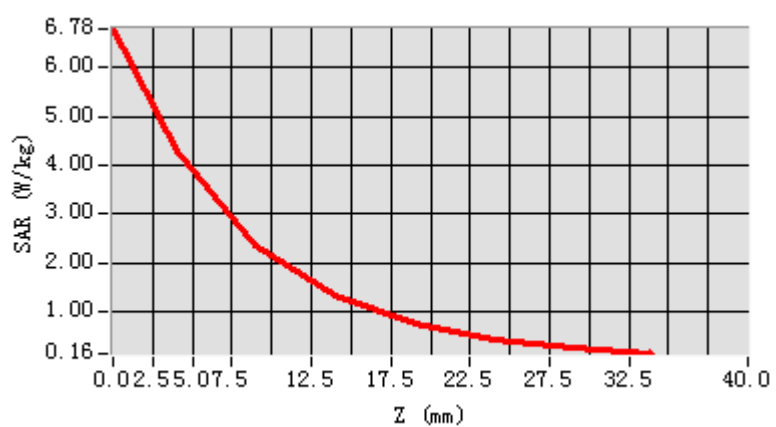
Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.11
Conductivity (S/m)	1.38
Power drift (%)	0.46
Probe	SN 41/18 EPG0334
ConvF:	1.84
Crest factor:	1:1



Maximum location: X=3.00, Y=-2.00

SAR 10g (W/Kg)	2.100072
SAR 1g (W/Kg)	3.842047

Z Axis Scan



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

Type: Phone measurement (Complete)

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

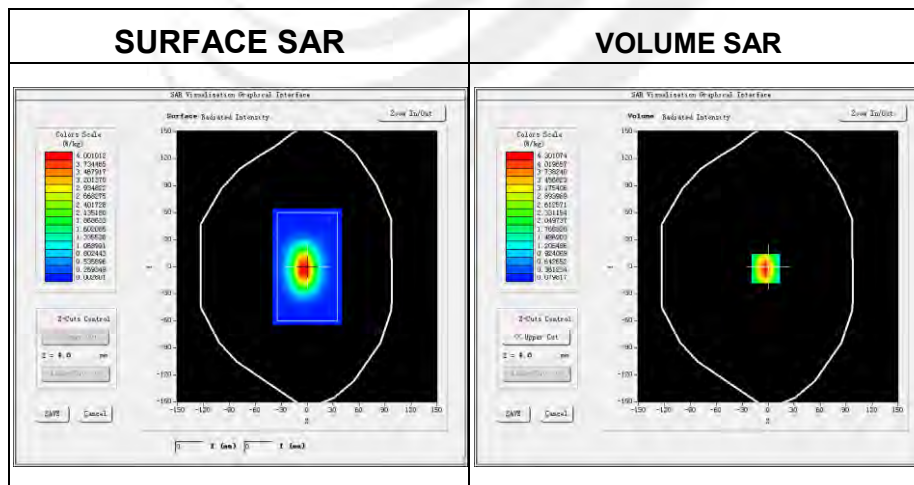
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-17

Measurement duration: 14 minutes 46 seconds

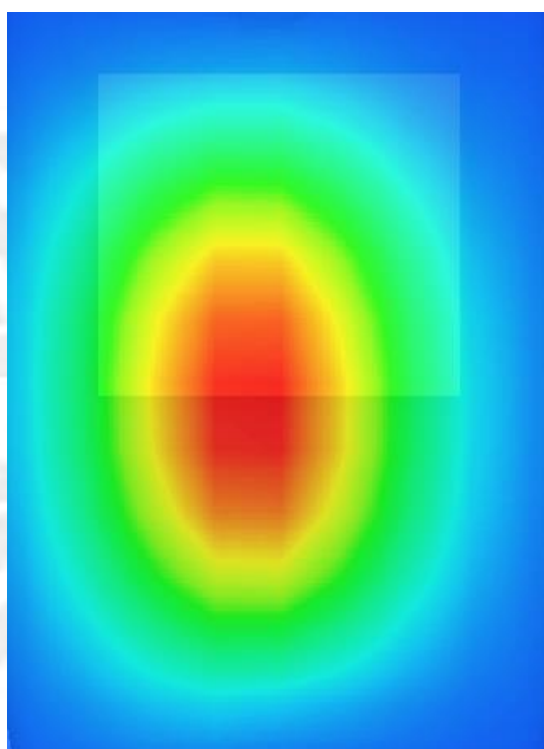
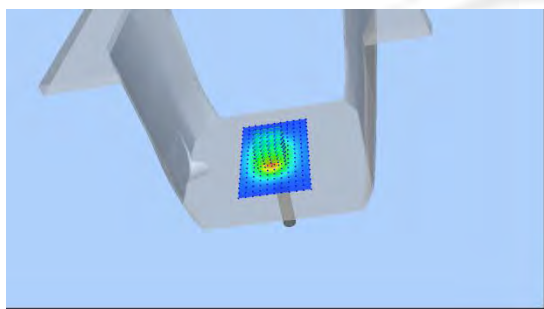
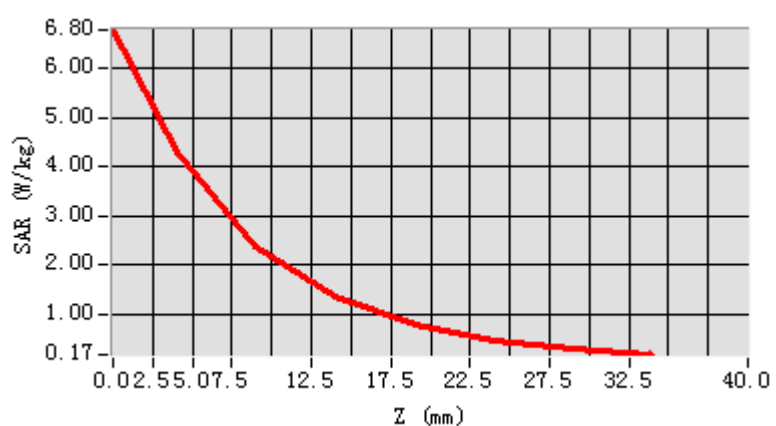
Experimental conditions.

Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	51.87
Conductivity (S/m)	1.47
Power drift (%)	-0.31
Probe	SN 41/18 EPGO334
ConvF:	1.88
Crest factor:	1:1

**Maximum location: X=-3.00, Y=-2.00**

SAR 10g (W/Kg)	2.055017
SAR 1g (W/Kg)	3.984887

Z Axis Scan





System Performance Check Data (2450MHz Head)

Type: Phone measurement (Complete)

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

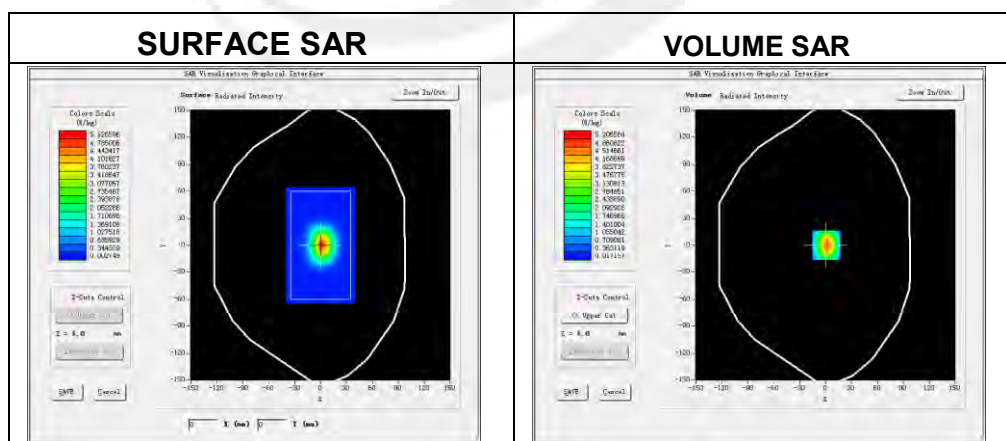
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-20

Measurement duration: 13 minutes 51seconds

Experimental conditions.

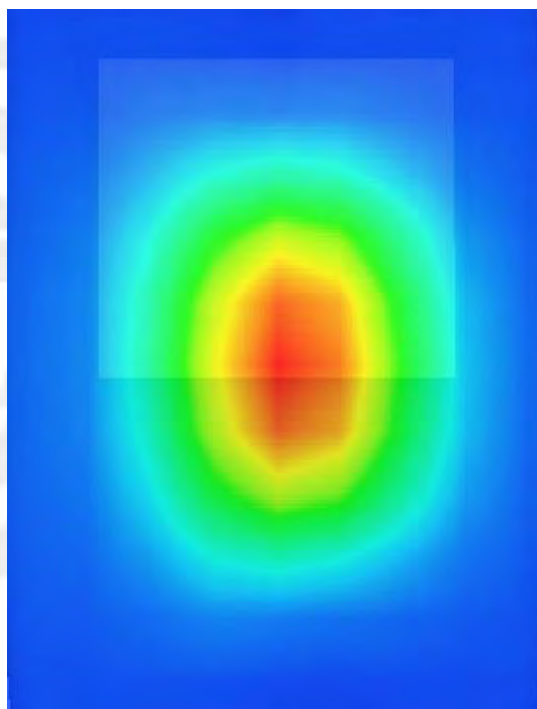
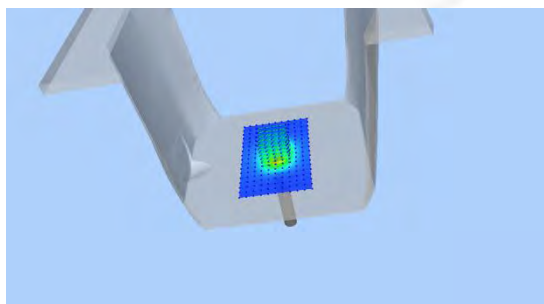
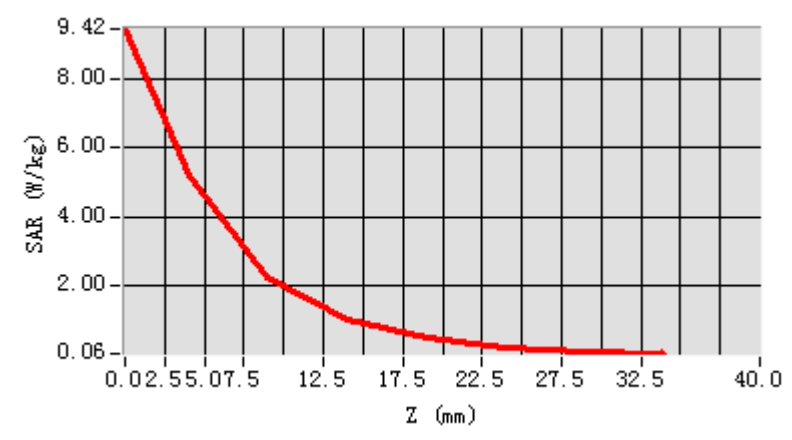
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.52
Conductivity (S/m)	1.80
Power drift (%)	-0.38
Probe	SN 41/18 EPGO334
ConvF	1.97
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.497058
SAR 1g (W/Kg)	5.318806

Z Axis Scan





System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)

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

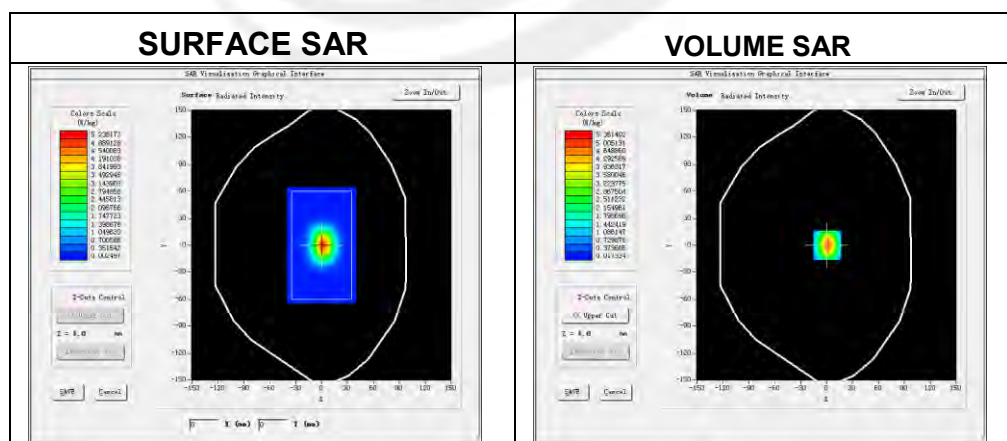
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2020-04-20

Measurement duration: 14 minutes 23 seconds

Experimental conditions.

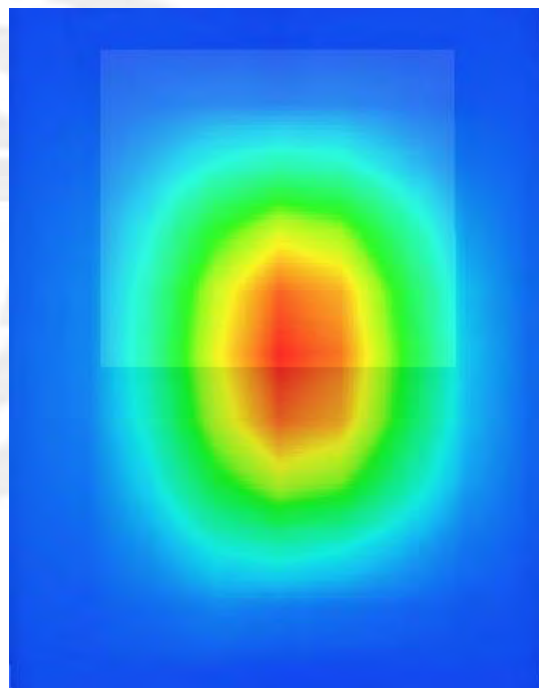
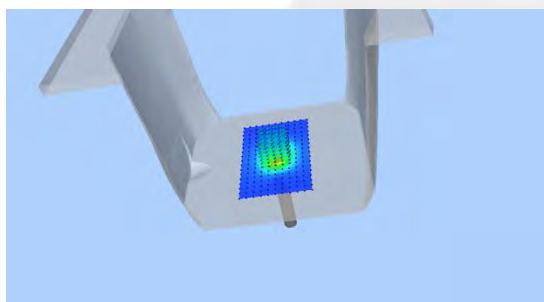
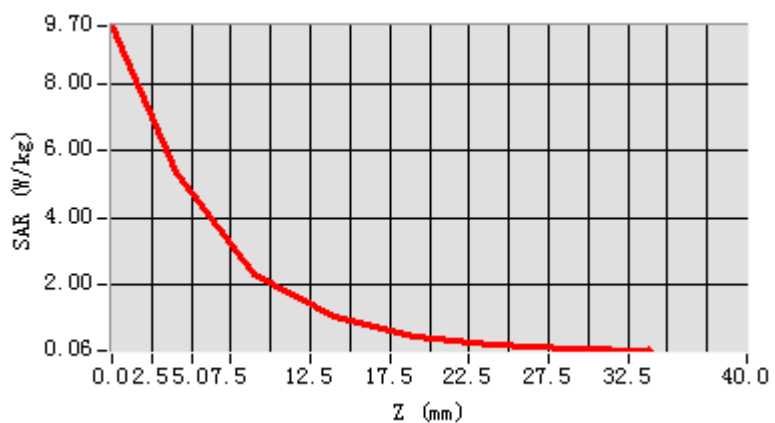
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	51.85
Conductivity (S/m)	1.94
Power drift (%)	-0.30
Probe	SN 41/18 EPGO334
ConvF	2.02
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.410639
SAR 1g (W/Kg)	5.389017

Z Axis Scan



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

Type: Phone measurement (Complete)

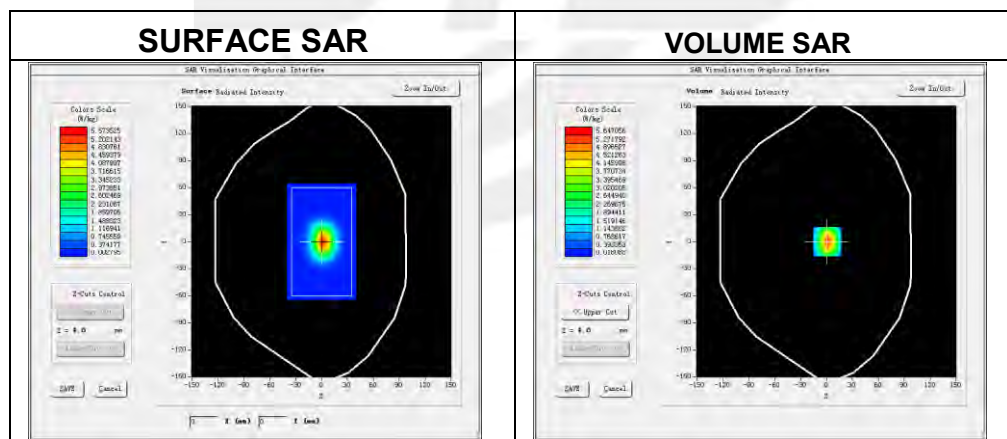
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-04-21

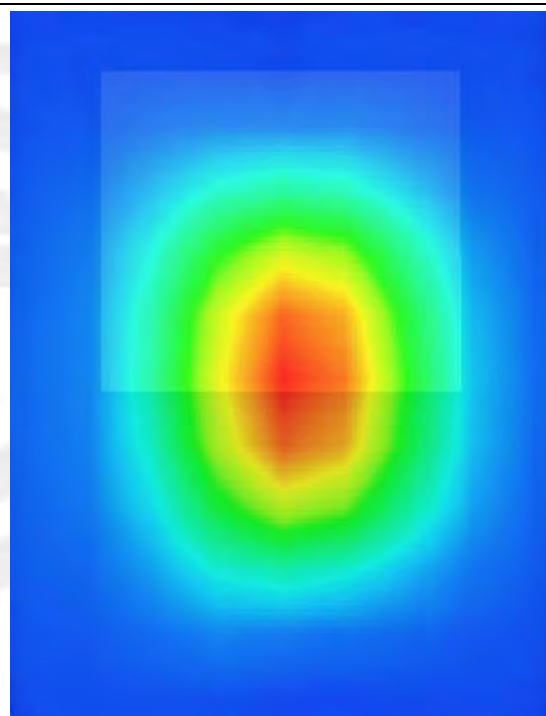
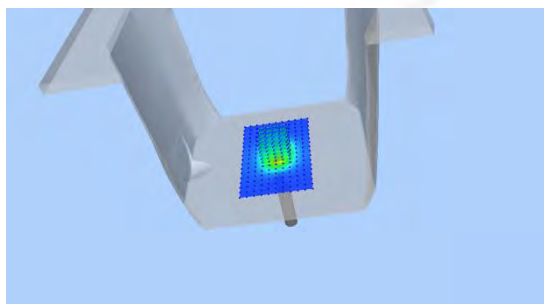
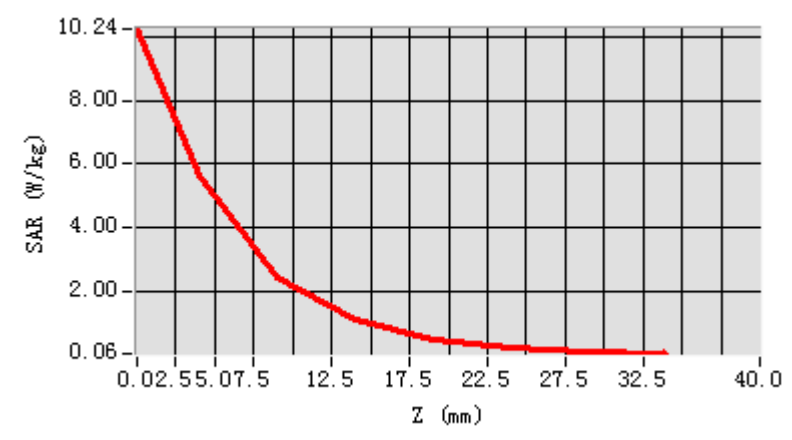
Experimental conditions.

Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	38.65
Conductivity (S/m)	1.94
Power drift (%)	0.63
Probe	SN 41/18 EPGO334
ConvF	1.85
Crest factor:	1:1

**Maximum location: X=1.00, Y=0.00**

SAR 10g (W/Kg)	2.503364
SAR 1g (W/Kg)	5.193048

Z Axis Scan





System Performance Check Data (2600MHz Body)

Type: Phone measurement (Complete)

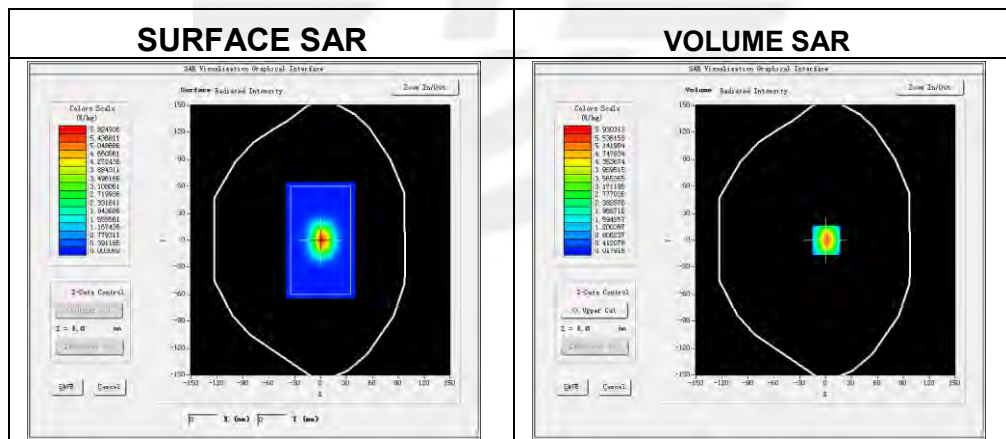
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-04-21

Experimental conditions.

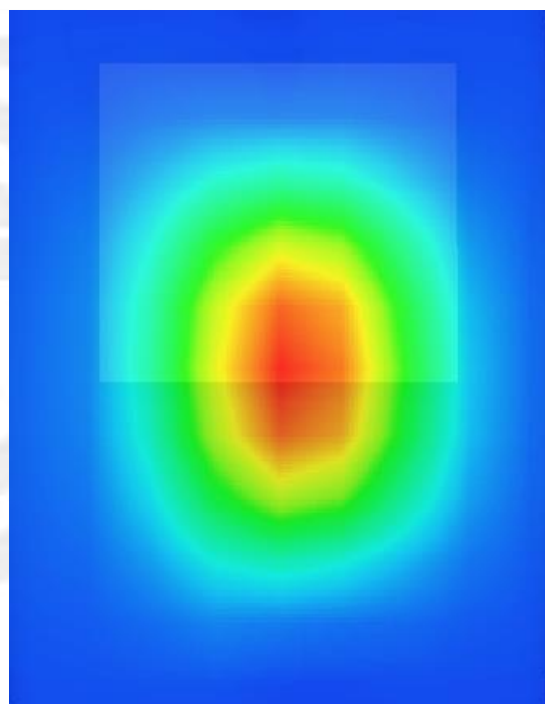
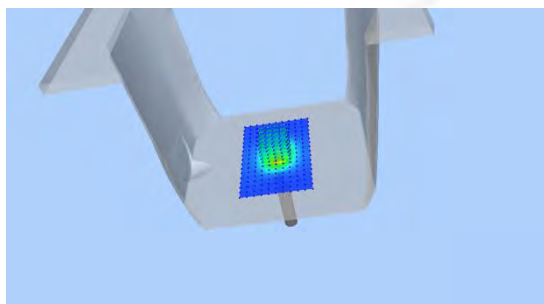
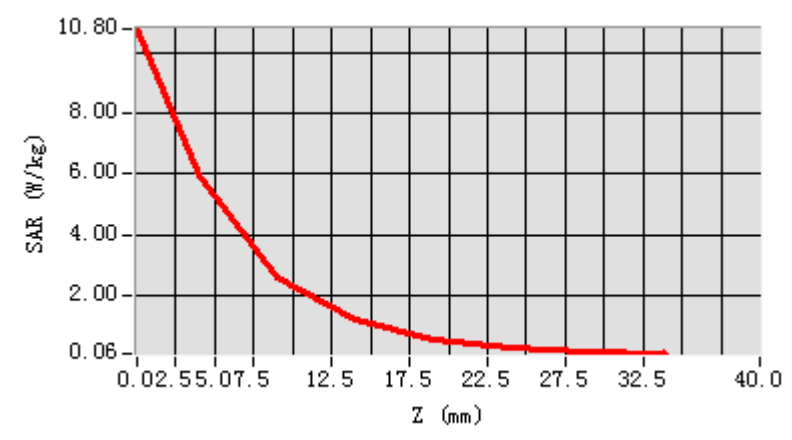
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	52.01
Conductivity (S/m)	2.17
Power drift (%)	-0.30
Probe	SN 41/18 EPGO334
ConvF	1.92
Crest factor:	1:1



Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.520041
SAR 1g (W/Kg)	5.438449

Z Axis Scan



Appendix B. SAR Test Plots

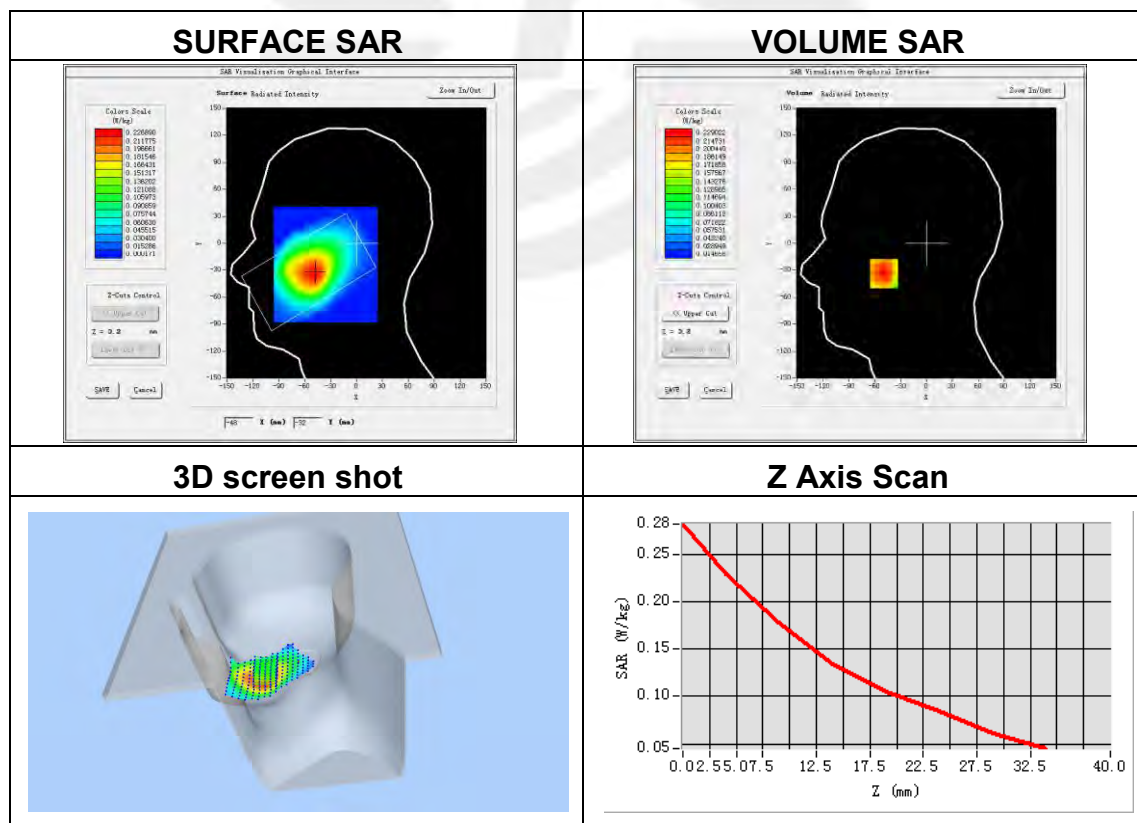
Plot 1: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.48
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GPRS 850
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90

Maximum location: X=-49.00, Y=-34.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.159037
SAR 1g (W/Kg)	0.222784



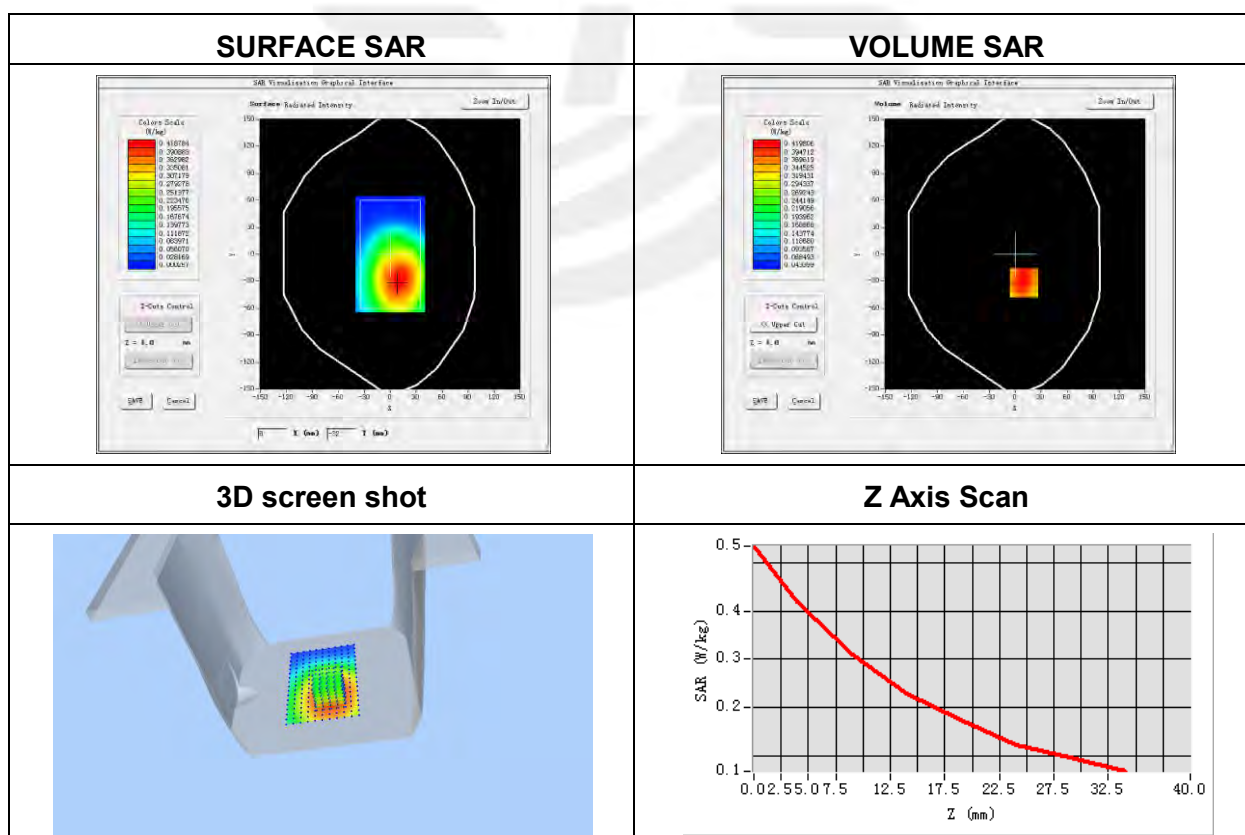
Plot 2: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.53
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 850
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	55.20
Conductivity (S/m)	-3.01

Maximum location: X=10.00, Y=-32.00

SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.290158
SAR 1g (W/Kg)	0.404859



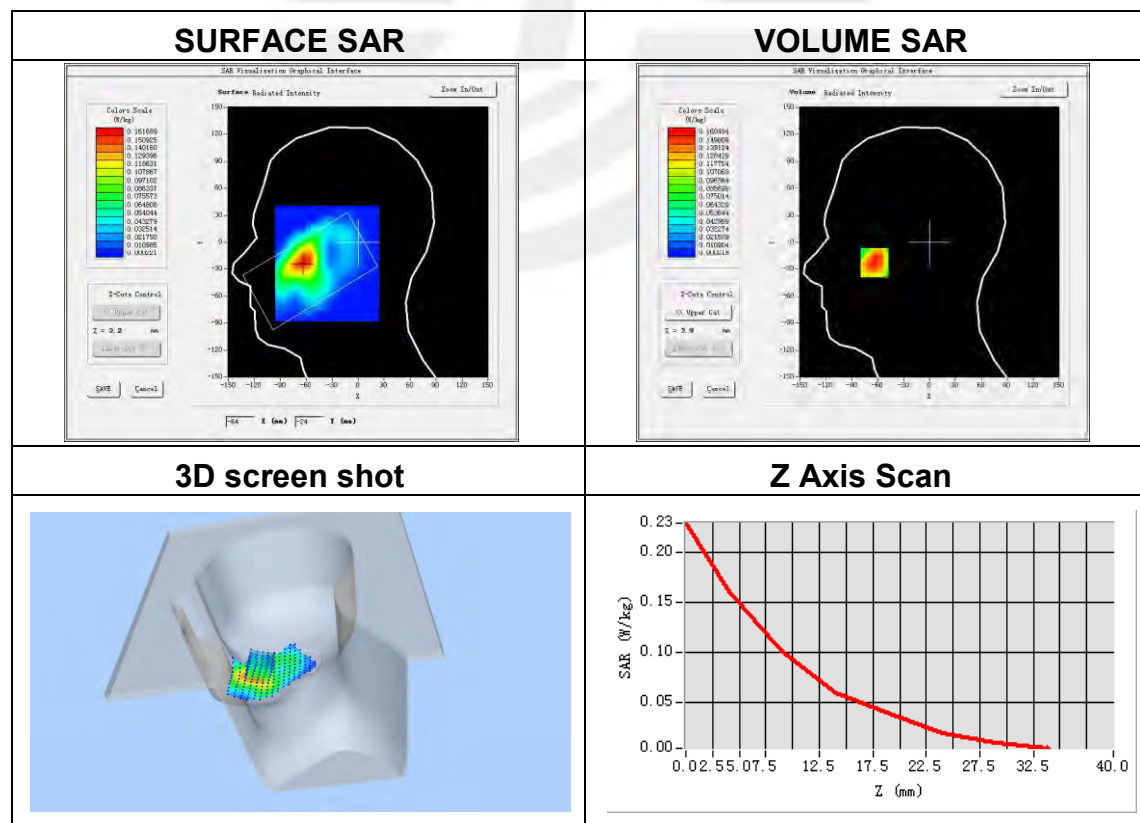
Plot 3: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPGO334
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GPRS 1900
Channels	High
Signal	Duty Cycle: 1:2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-64.00, Y=-23.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.086627
SAR 1g (W/Kg)	0.154255



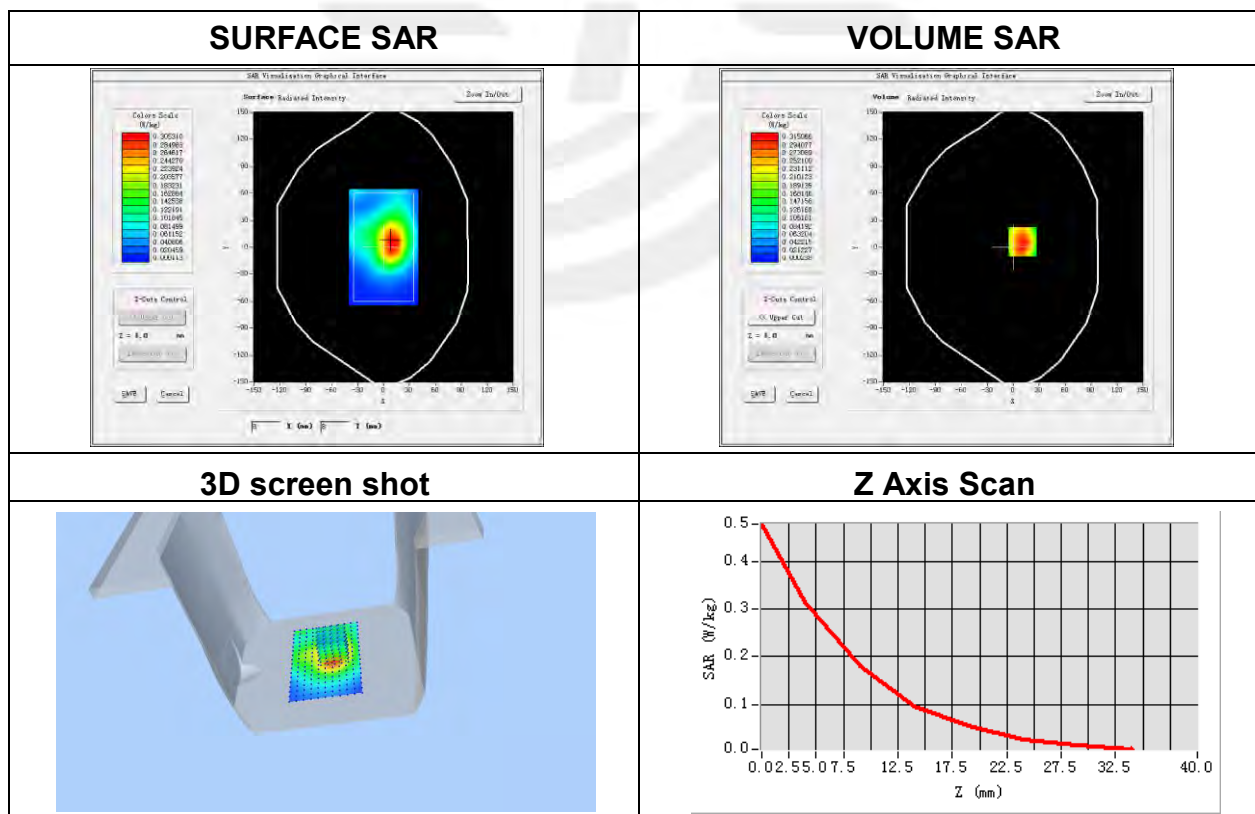
Plot 4: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPG0334
ConvF	1.88
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 1900
Channels	High
Signal	Duty Cycle: 1:2.00 (Crest factor: 2.0)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52

Maximum location: X=11.00, Y=6.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.165950
SAR 1g (W/Kg)	0.305656



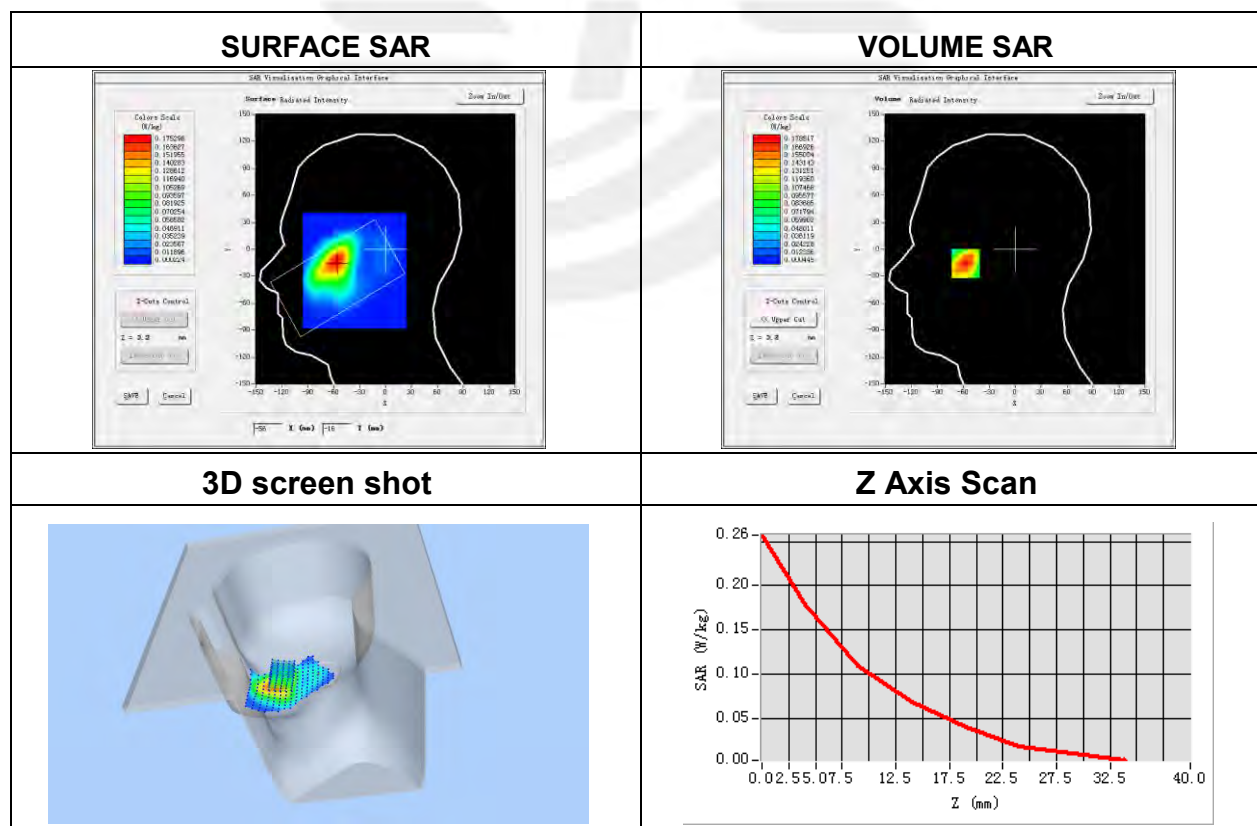
Plot 5: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPG0334
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-57.00, Y=-14.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.094267
SAR 1g (W/Kg)	0.171249



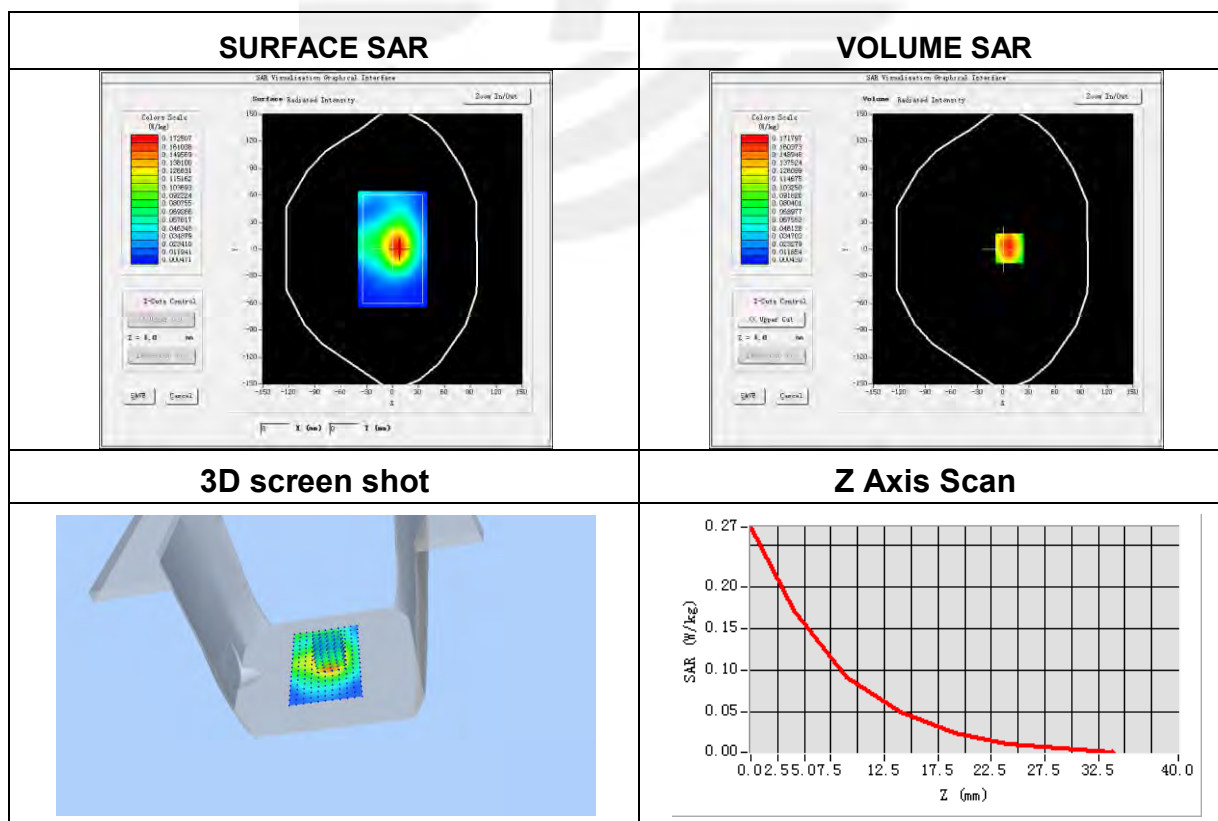
Plot 6: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPGO334
ConvF	1.88
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA II
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52

Maximum location: X=7.00, Y=1.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.089636
SAR 1g (W/Kg)	0.165445



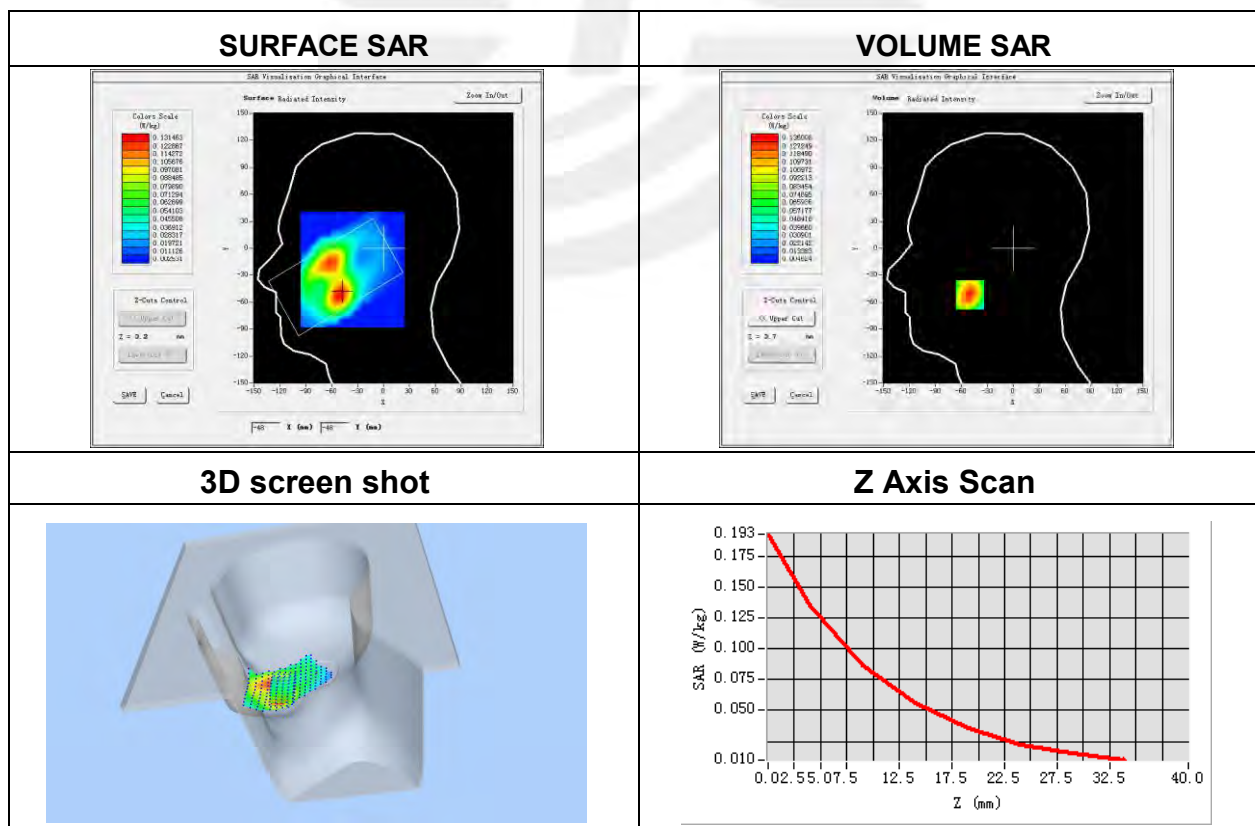
Plot 7: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPG0334
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA VI
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-50.00, Y=-52.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.075797
SAR 1g (W/Kg)	0.129838



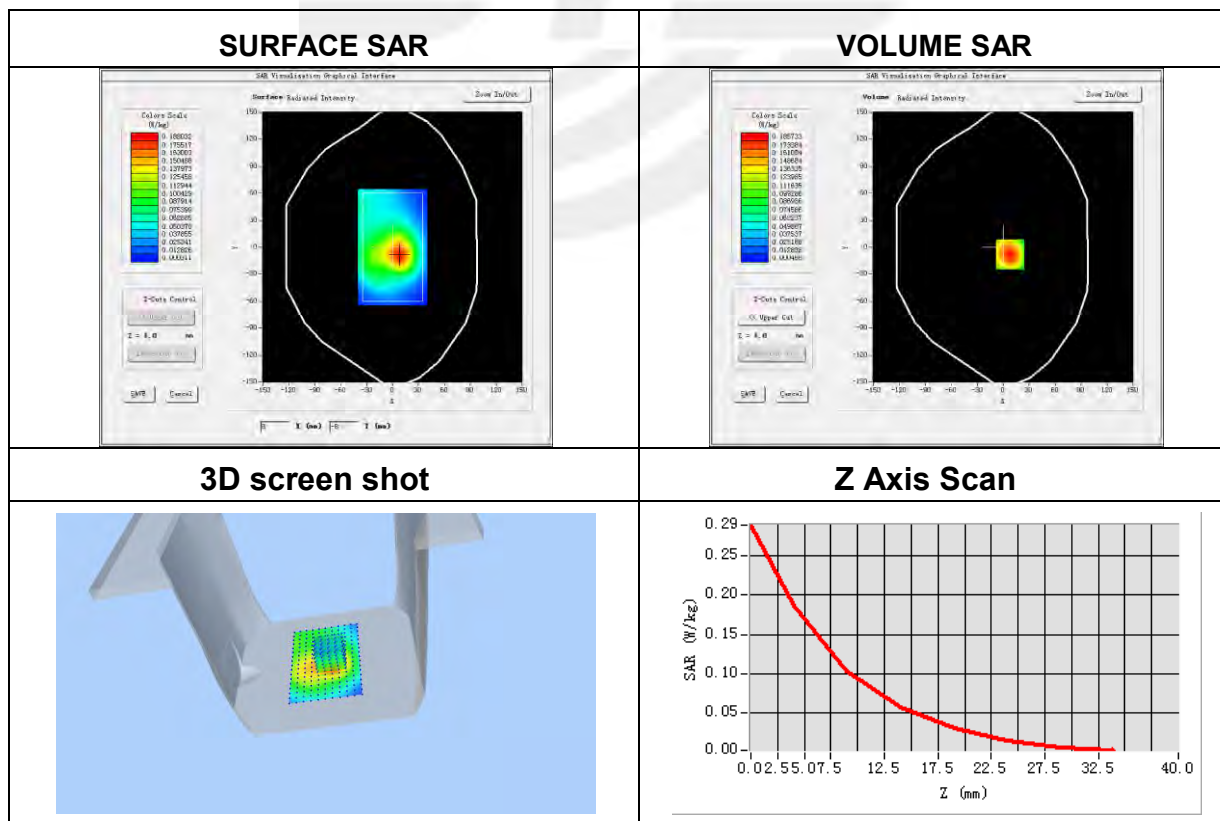
Plot 8: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPGO334
ConvF	1.66
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA VI
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52

Maximum location: X=8.00, Y=-8.00

SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.097869
SAR 1g (W/Kg)	0.178399



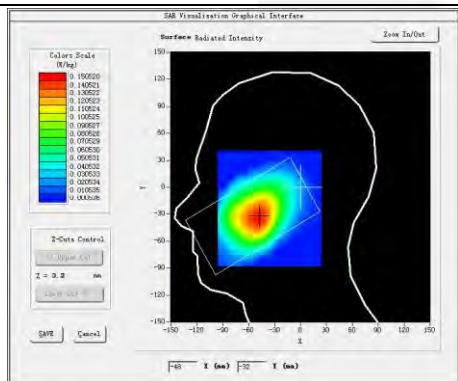
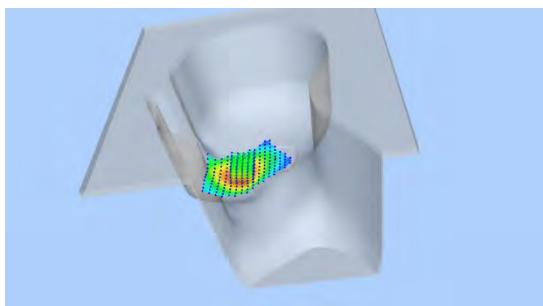
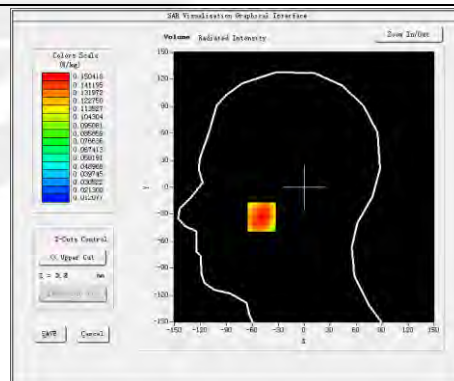
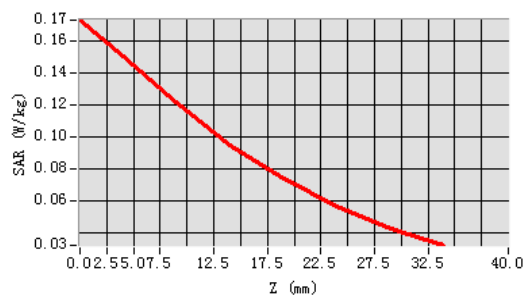
Plot 9: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.48
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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)	41.50
Conductivity (S/m)	0.90

Maximum location: X=-49.00, Y=-33.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.107076
SAR 1g (W/Kg)	0.145275

SURFACE SAR

3D screen shot

VOLUME SAR

Z Axis Scan


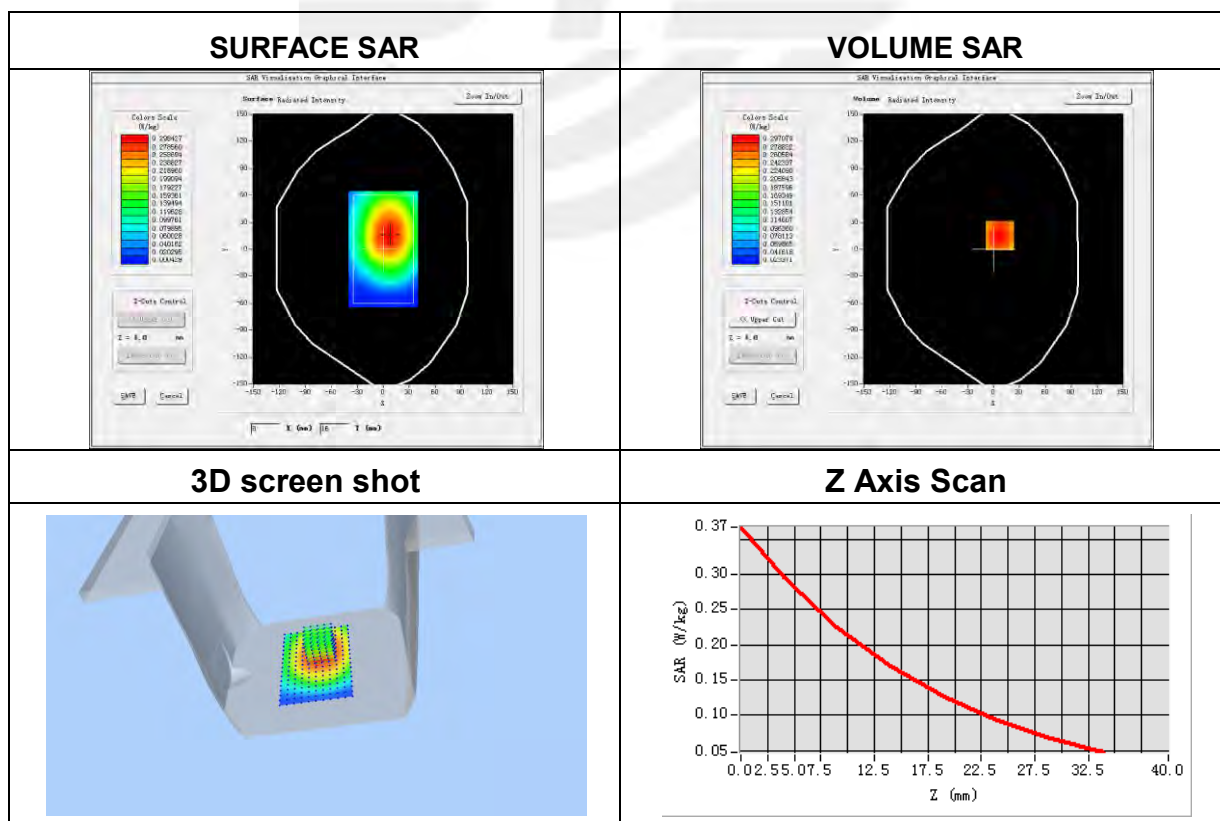
Plot 10: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.53
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA V
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	2.67

Maximum location: X=7.00, Y=15.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.210143
SAR 1g (W/Kg)	0.289622



Plot 11: DUT: Smart phone; EUT Model: Atom L

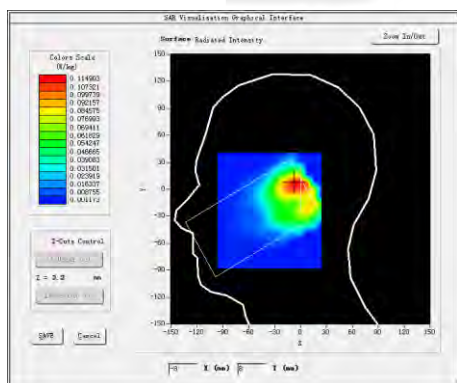
Test Date	2020-04-20
Probe	SN 41/18 EPGO334
ConvF	1.97
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	39.20
Conductivity (S/m)	1.80

Maximum location: X=-5.00, Y=6.00

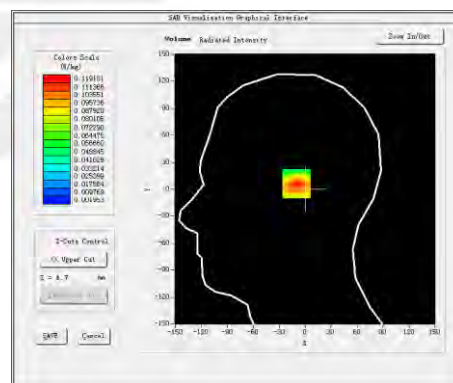
SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.060187
SAR 1g (W/Kg)	0.113591

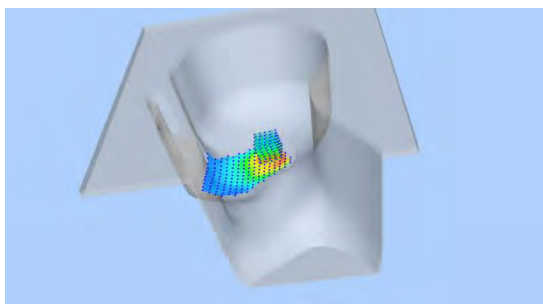
SURFACE SAR



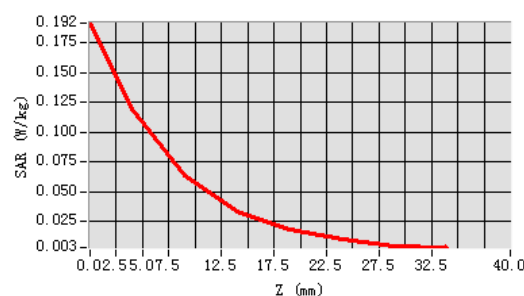
VOLUME SAR



3D



Z Axis Scan



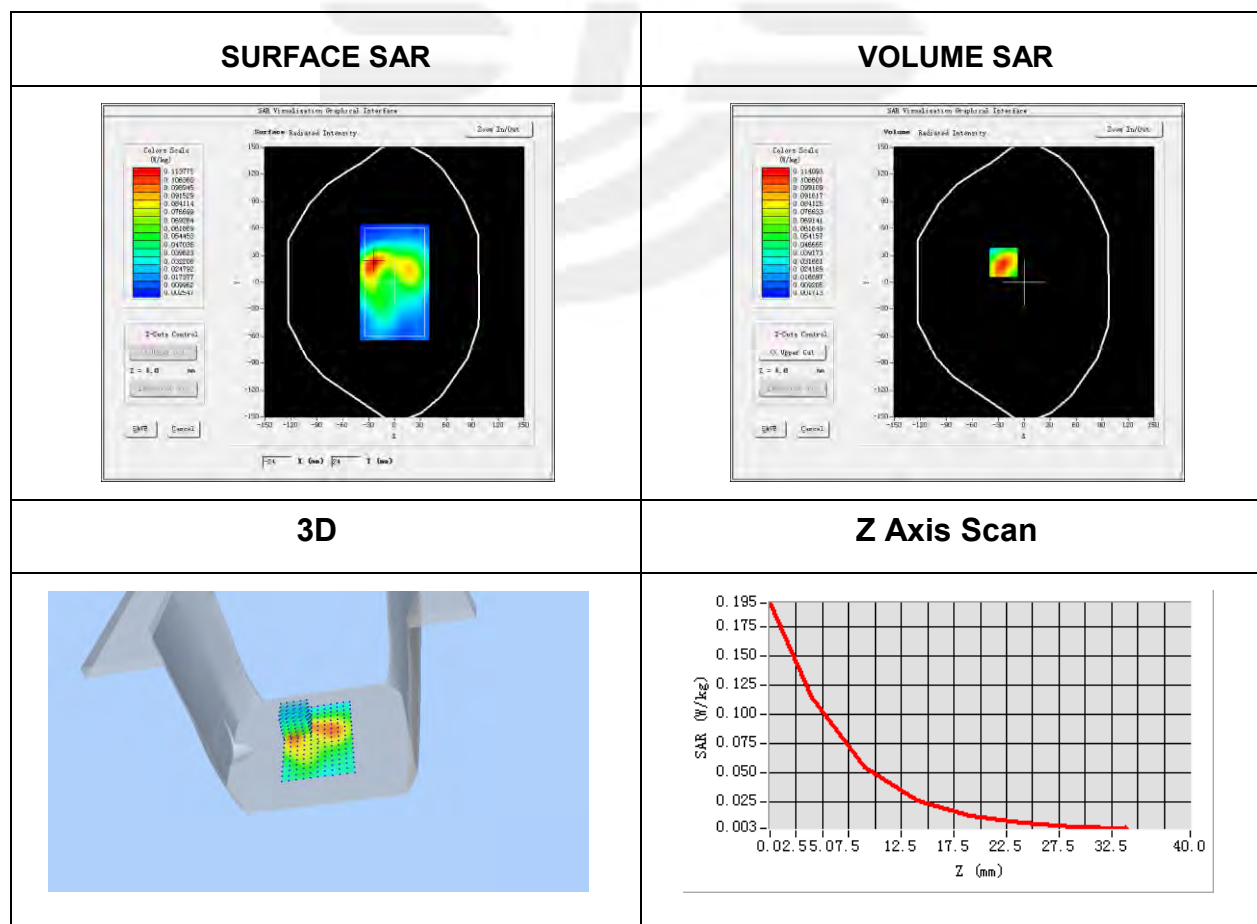
Plot 12: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-20
Probe	SN 41/18 EPGO334
ConvF	2.02
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	IEEE 802.11b ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	52.70
Conductivity (S/m)	1.95

Maximum location: X=-24.00, Y=22.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.053476
SAR 1g (W/Kg)	0.109403



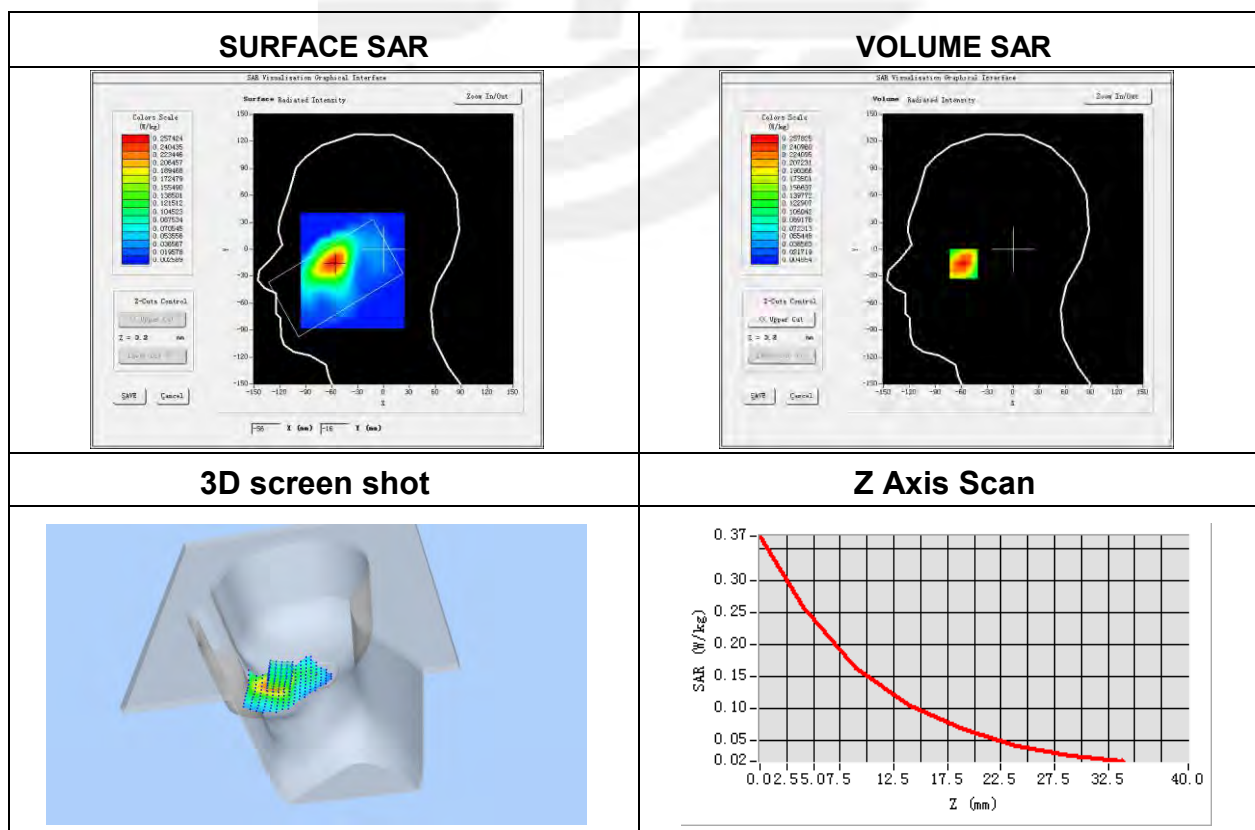
Plot 13: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPG0334
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-57.00, Y=-15.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.142411
SAR 1g (W/Kg)	0.244101



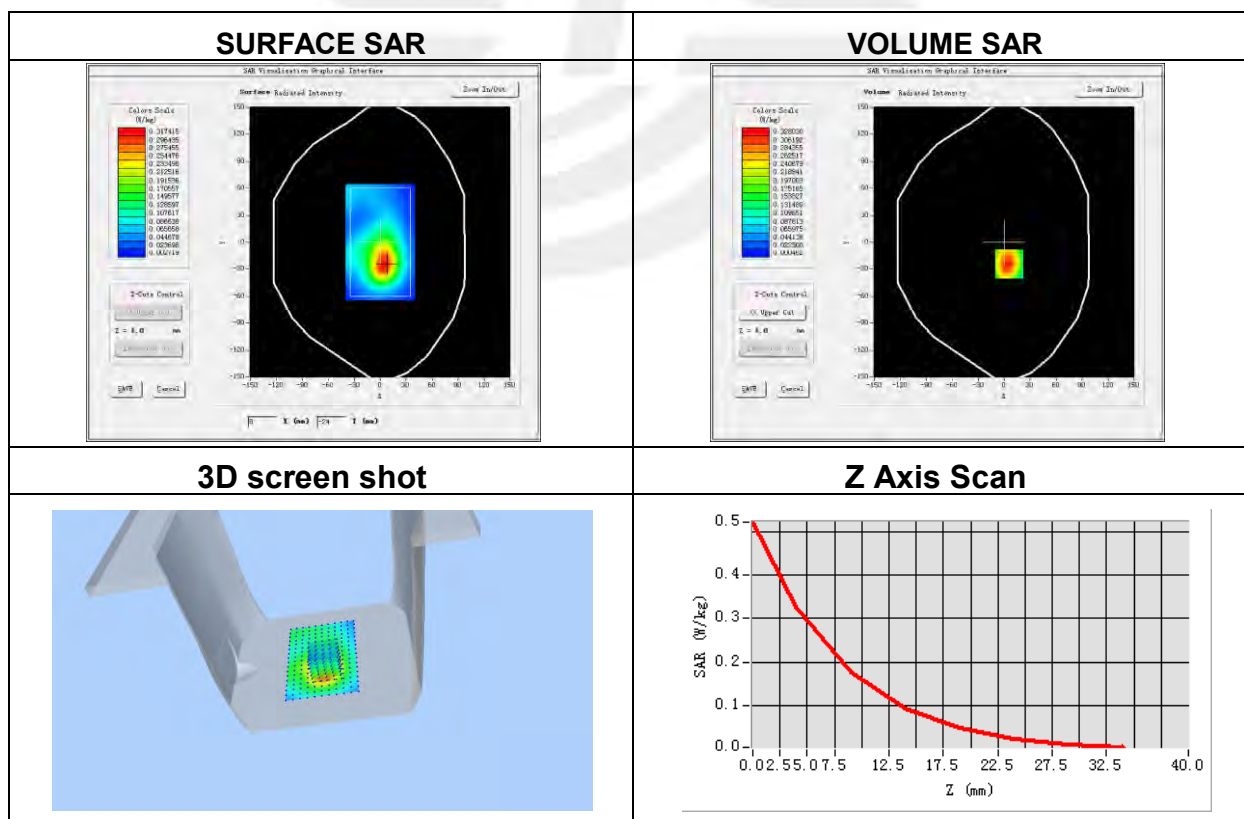
Plot 14: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPGO334
ConvF	1.88
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 2(RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52

Maximum location: X=6.00, Y=-24.00

SAR Peak: 0.52 W/kg

SAR 10g (W/Kg)	0.165822
SAR 1g (W/Kg)	0.313437



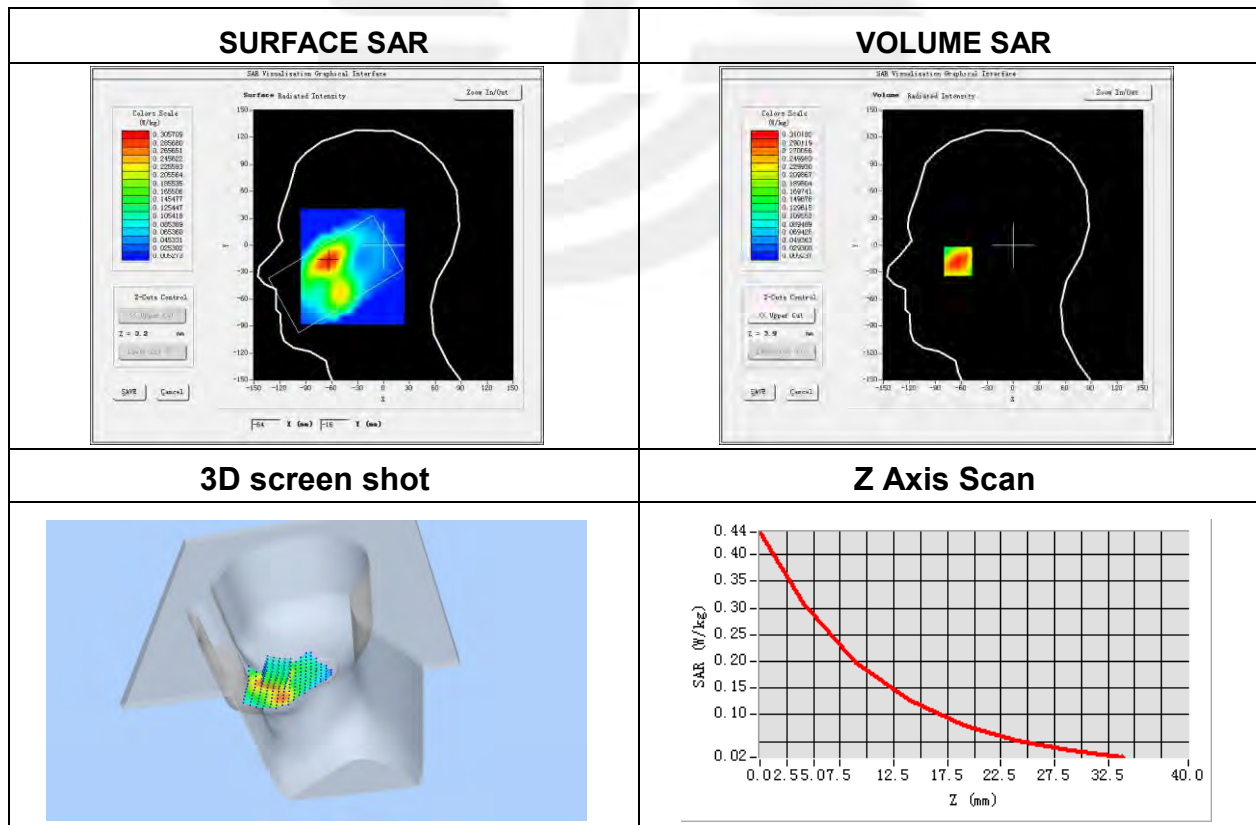
Plot 15: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPGO334
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1732.5
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-64.00, Y=-17.00

SAR Peak: 0.44 W/kg

SAR 10g (W/Kg)	0.175058
SAR 1g (W/Kg)	0.294627



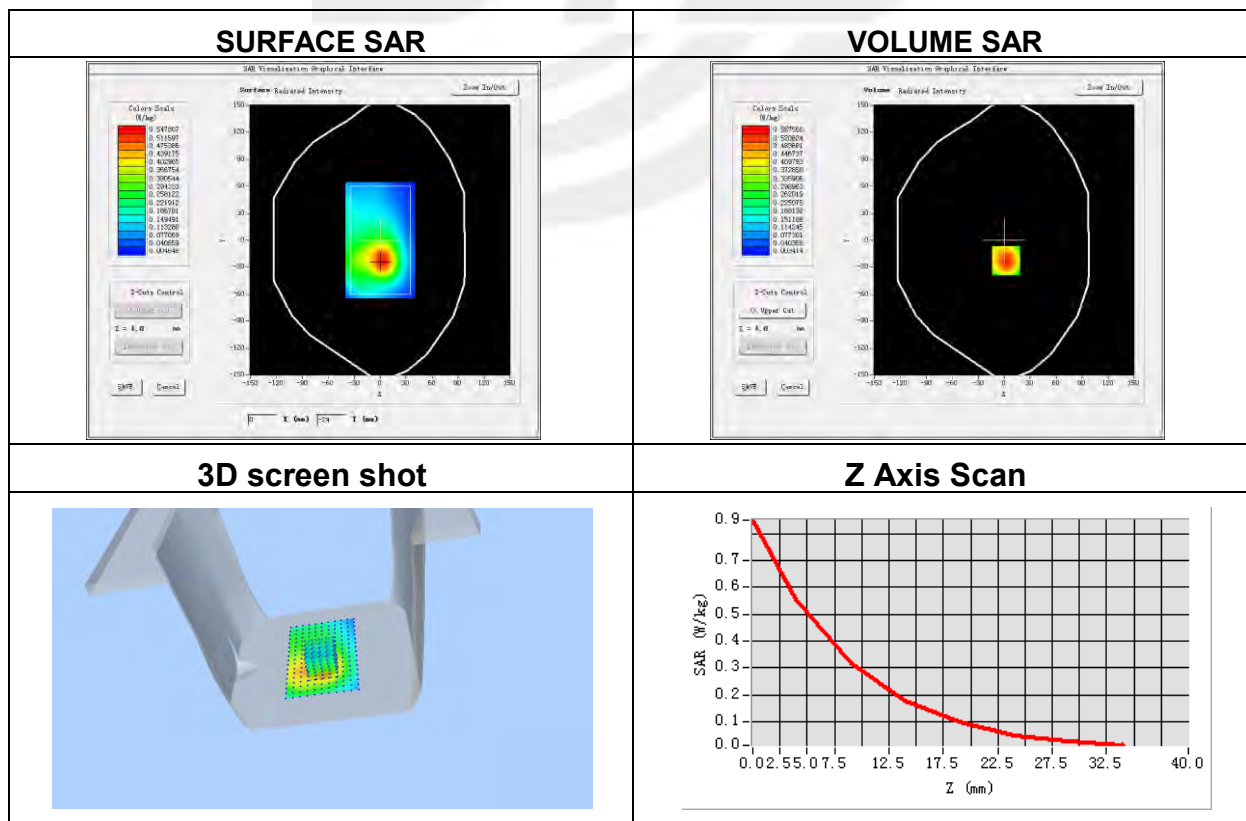
Plot 16: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPGO334
ConvF	1.66
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 4 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1732.5
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.77

Maximum location: X=2.00, Y=-23.00

SAR Peak: 0.86 W/kg

SAR 10g (W/Kg)	0.294594
SAR 1g (W/Kg)	0.532177



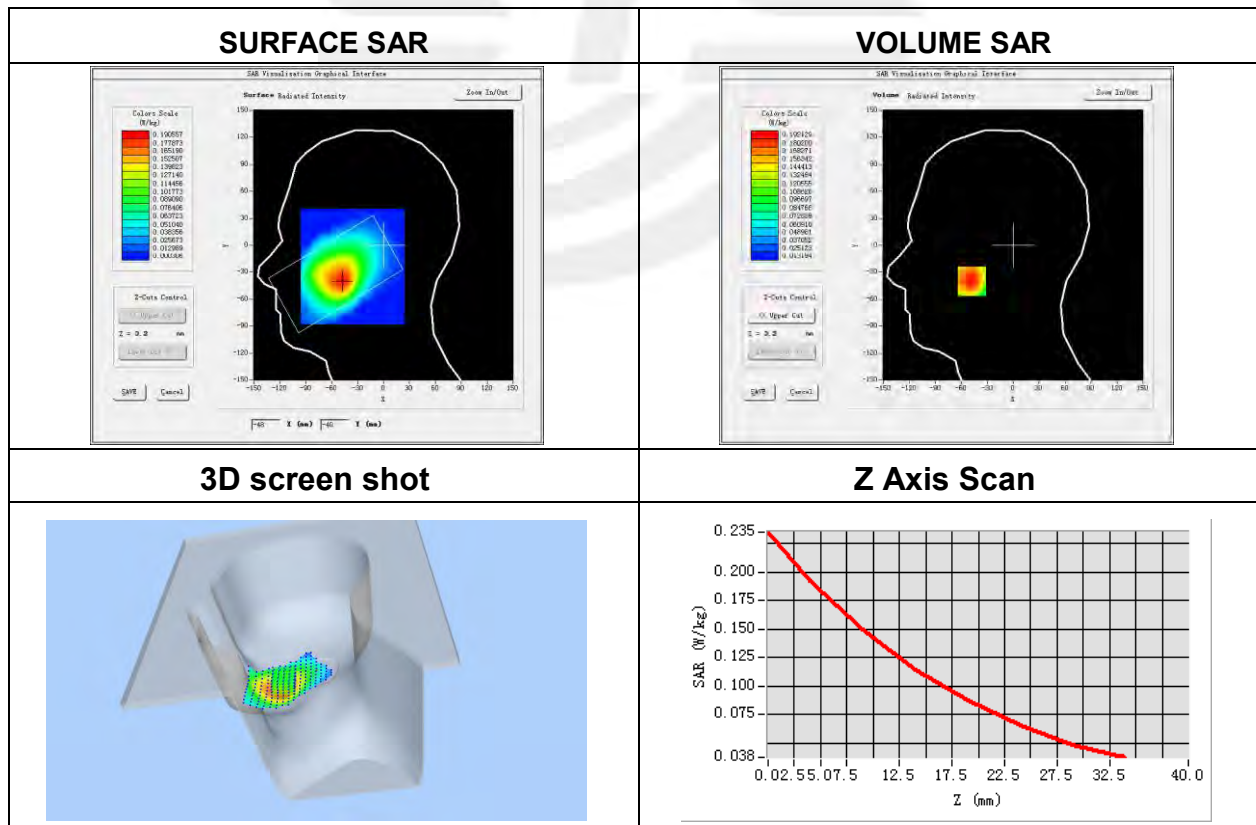
Plot 17: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.48
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	844.0
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90

Maximum location: X=-48.00, Y=-40.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.133576
SAR 1g (W/Kg)	0.186144



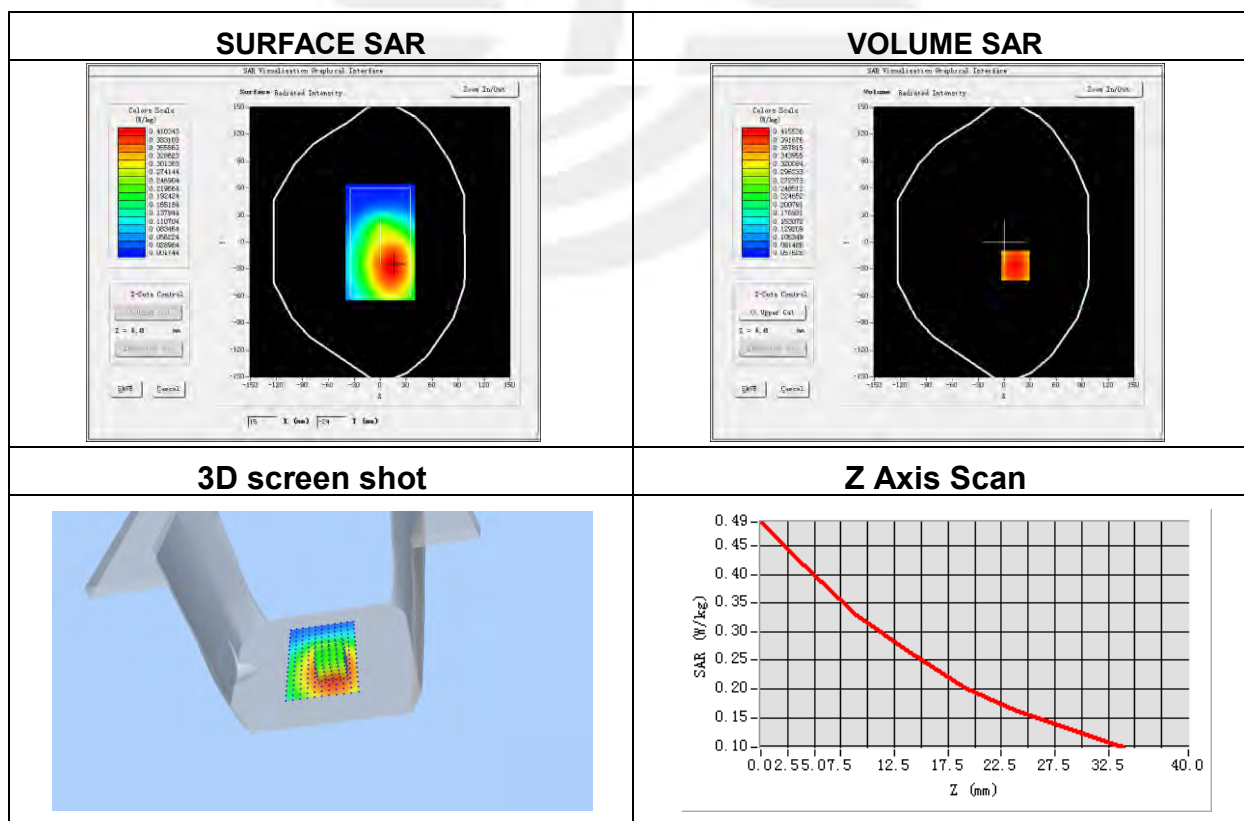
Plot 18: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.53
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 5 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	844.0
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97

Maximum location: X=13.00, Y=-26.00

SAR Peak: 0.49 W/kg

SAR 10g (W/Kg)	0.308064
SAR 1g (W/Kg)	0.403661



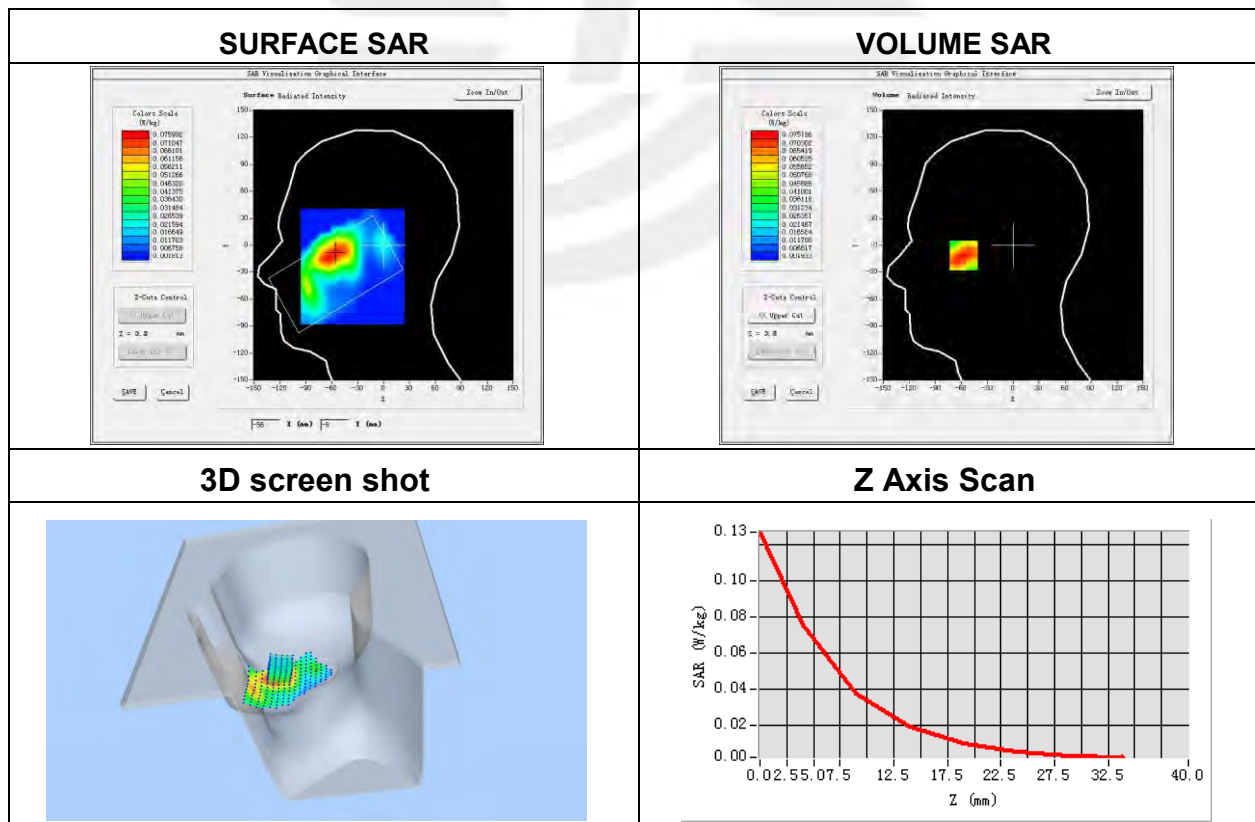
Plot 19: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-21
Probe	SN 41/18 EPG0334
ConvF	1.85
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 7 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2510
Relative permittivity (real part)	39.00
Conductivity (S/m)	1.96

Maximum location: X=-57.00, Y=-9.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.037689
SAR 1g (W/Kg)	0.072422



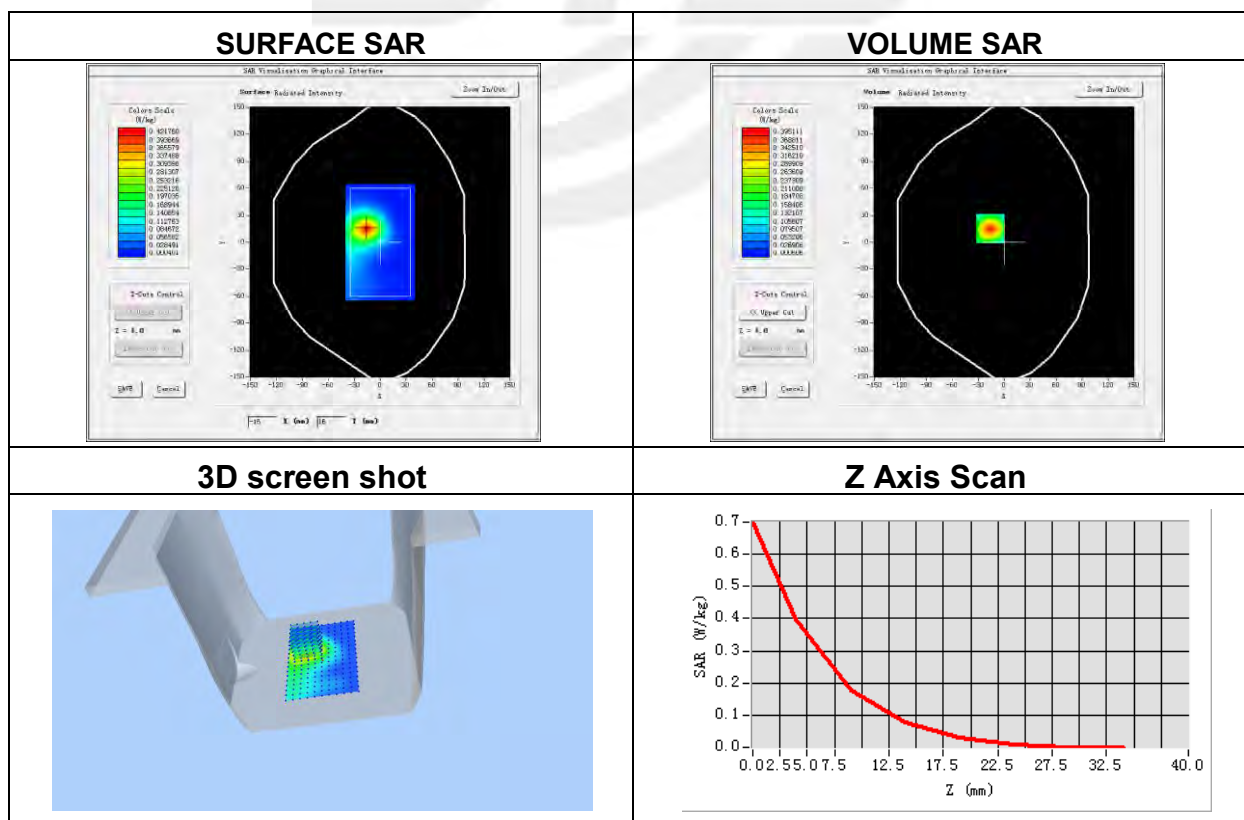
Plot 20: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-21
Probe	SN 41/18 EPGO334
ConvF	1.92
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 7 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2510
Relative permittivity (real part)	52.50
Conductivity (S/m)	2.16
Variation (%)	-3.53

Maximum location: X=-16.00, Y=15.00

SAR Peak: 0.69 W/kg

SAR 10g (W/Kg)	0.166858
SAR 1g (W/Kg)	0.370987



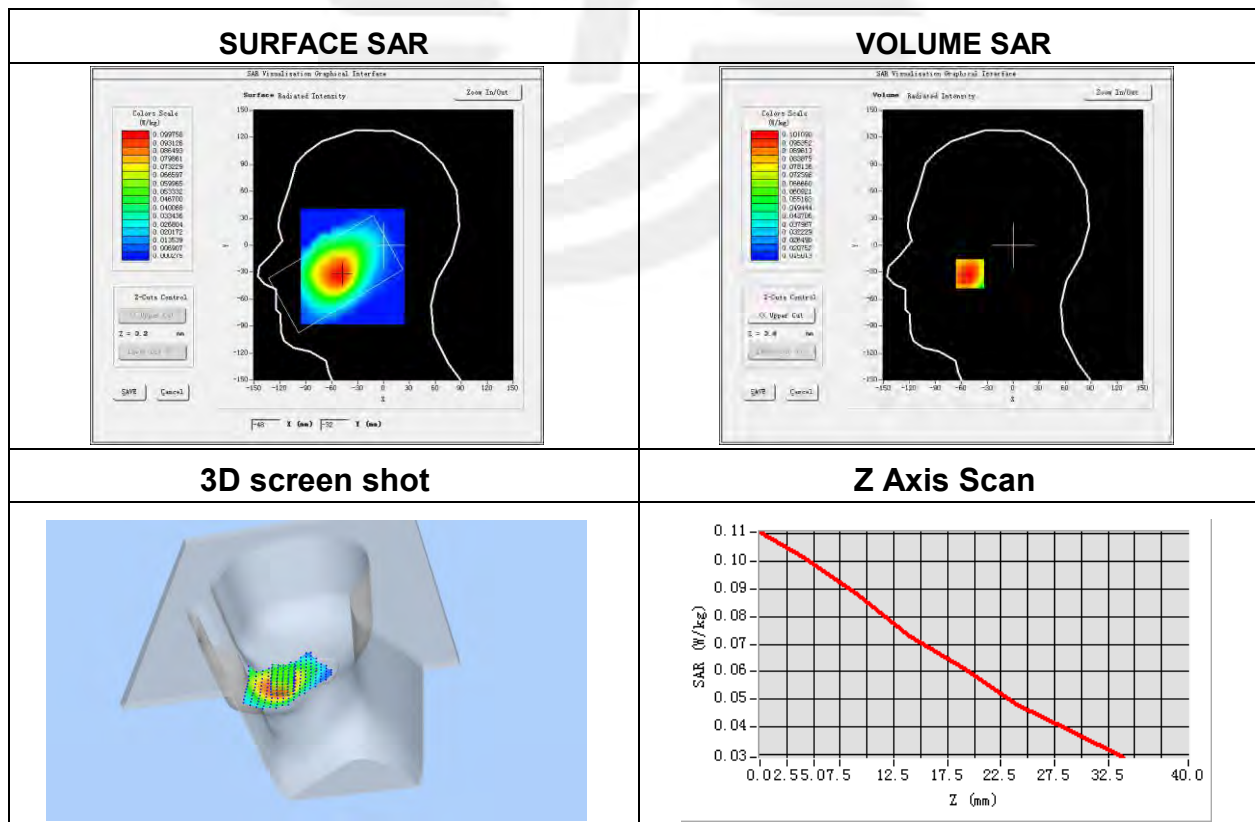
Plot 21: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPG0334
ConvF	1.43
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 12 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	704
Relative permittivity (real part)	41.9
Conductivity (S/m)	0.88

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

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.079009
SAR 1g (W/Kg)	0.099989



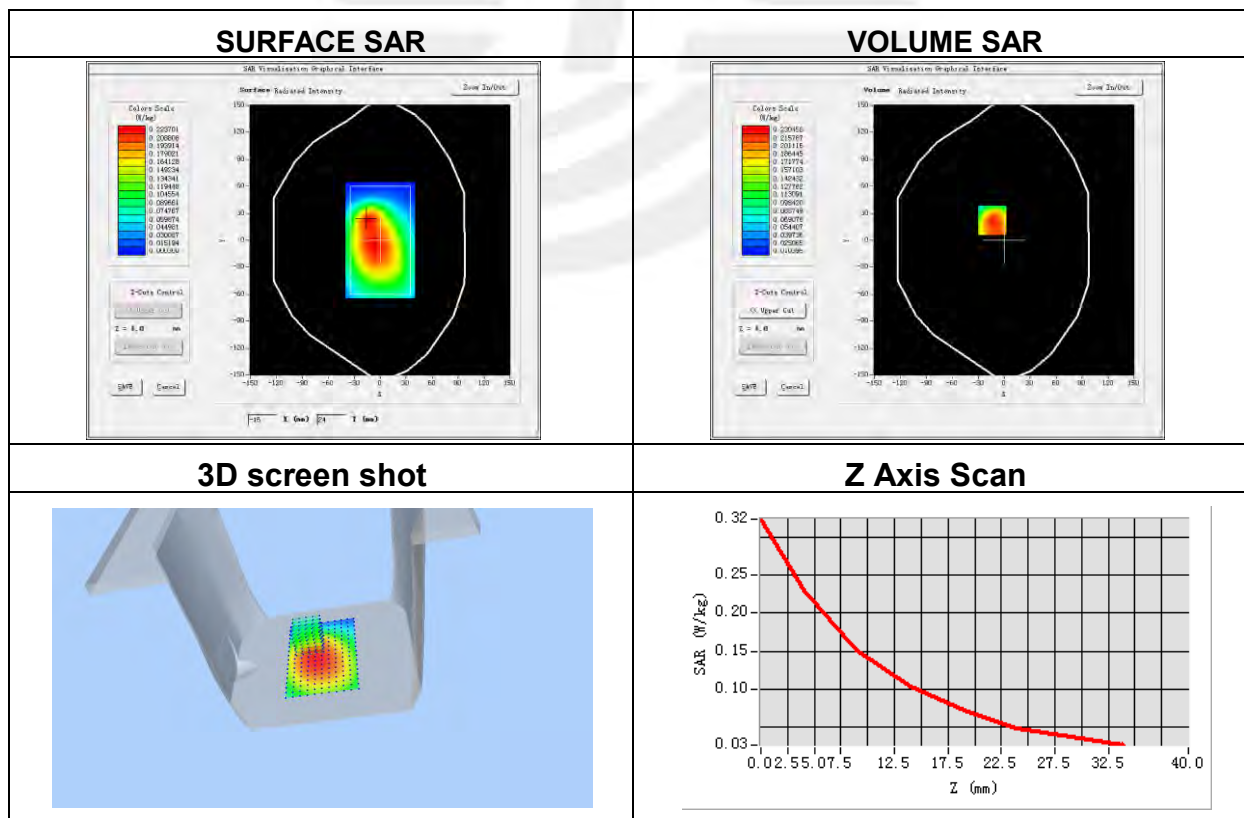
Plot 22: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 12 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	704
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96

Maximum location: X=-14.00, Y=22.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.149984
SAR 1g (W/Kg)	0.226363



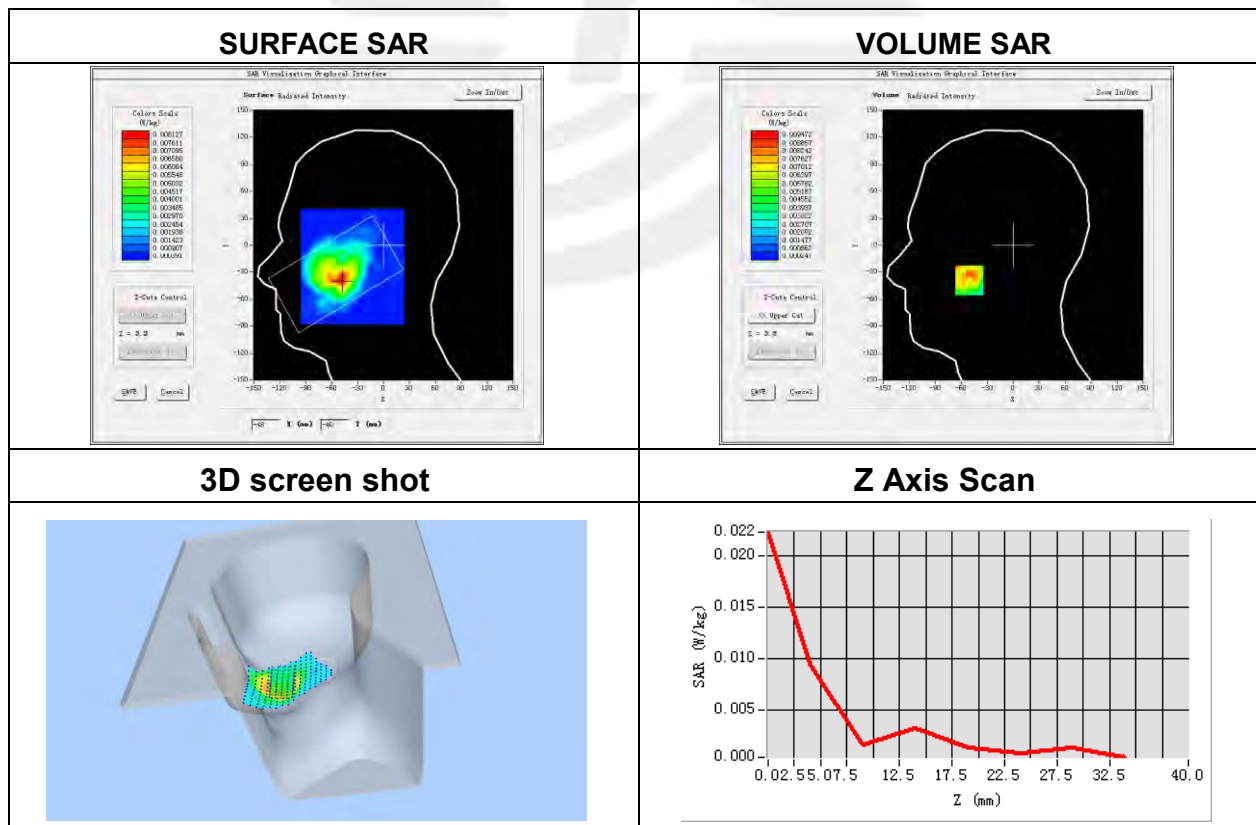
Plot 23: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPG0334
ConvF	1.43
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 13 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.9
Conductivity (S/m)	0.88

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

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.005000
SAR 1g (W/Kg)	0.008700



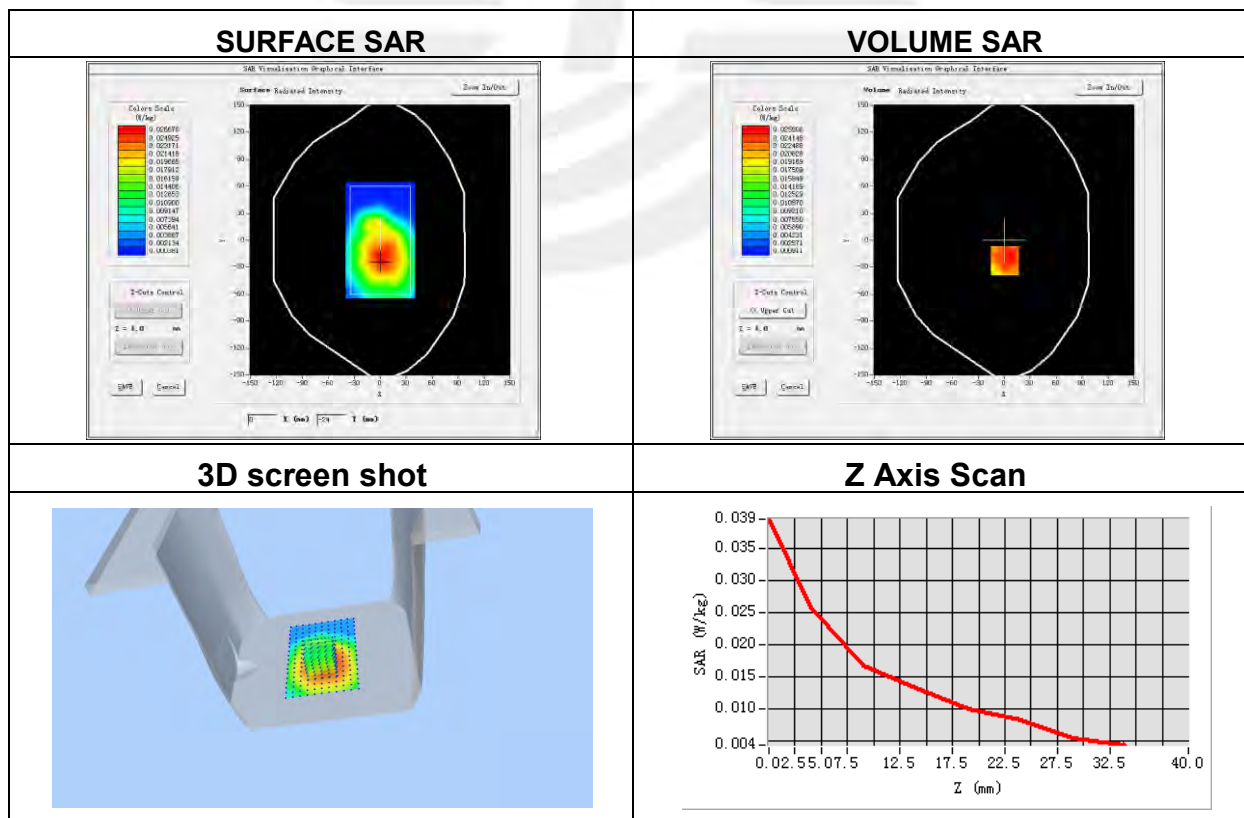
Plot 24: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 13 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96

Maximum location: X=1.00, Y=-23.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.018078
SAR 1g (W/Kg)	0.025446



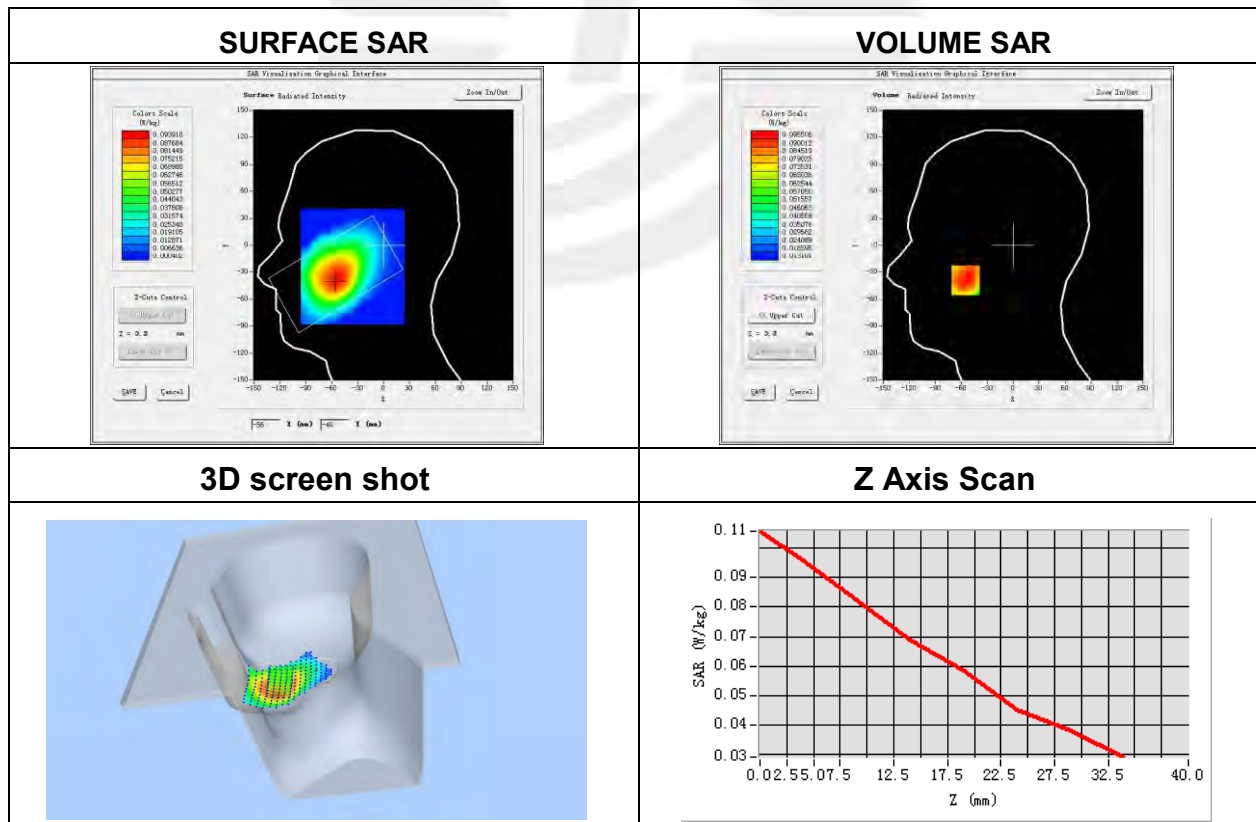
Plot 25: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.43
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 17 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	41.90
Conductivity (S/m)	0.89

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

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.075474
SAR 1g (W/Kg)	0.094275



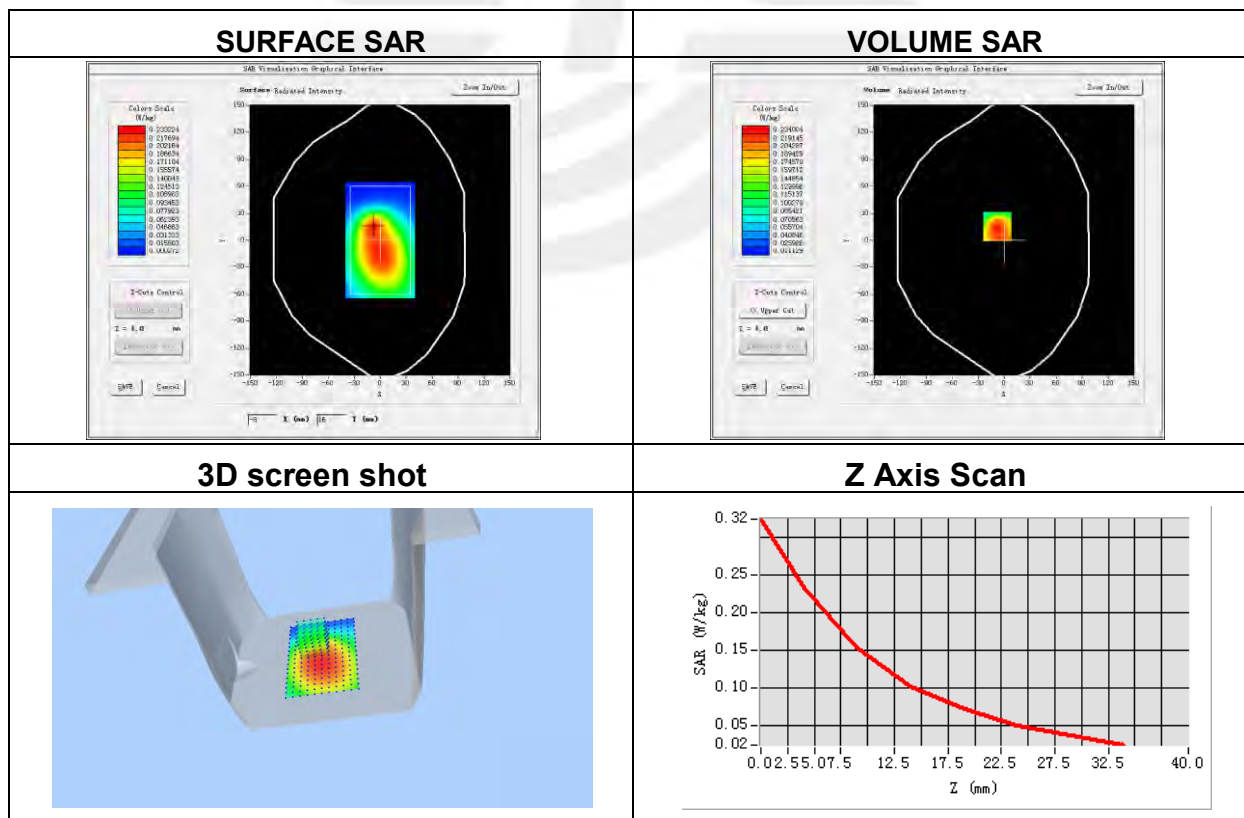
Plot 26: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 17 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96

Maximum location: X=-8.00, Y=15.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.151406
SAR 1g (W/Kg)	0.228817



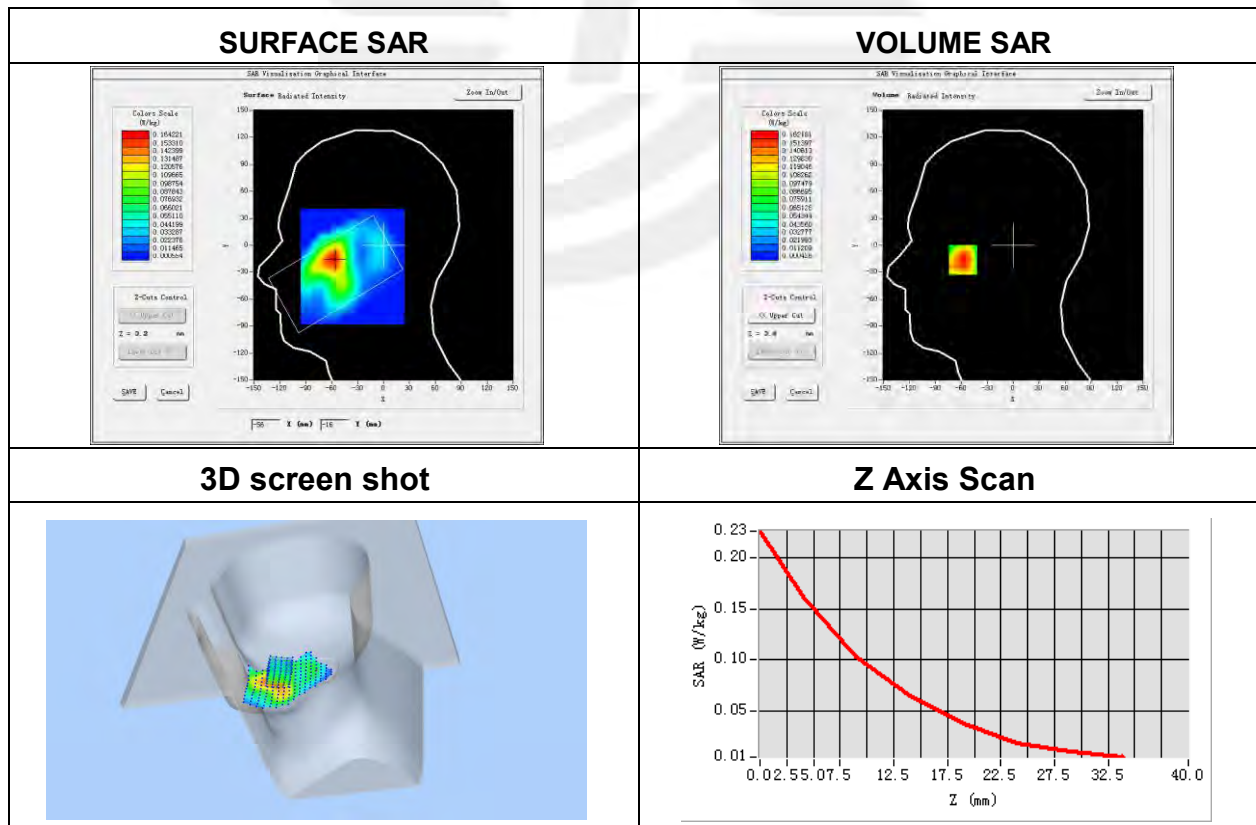
Plot 27: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPGO334
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 25 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-58.00, Y=-15.00

SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.089564
SAR 1g (W/Kg)	0.153895



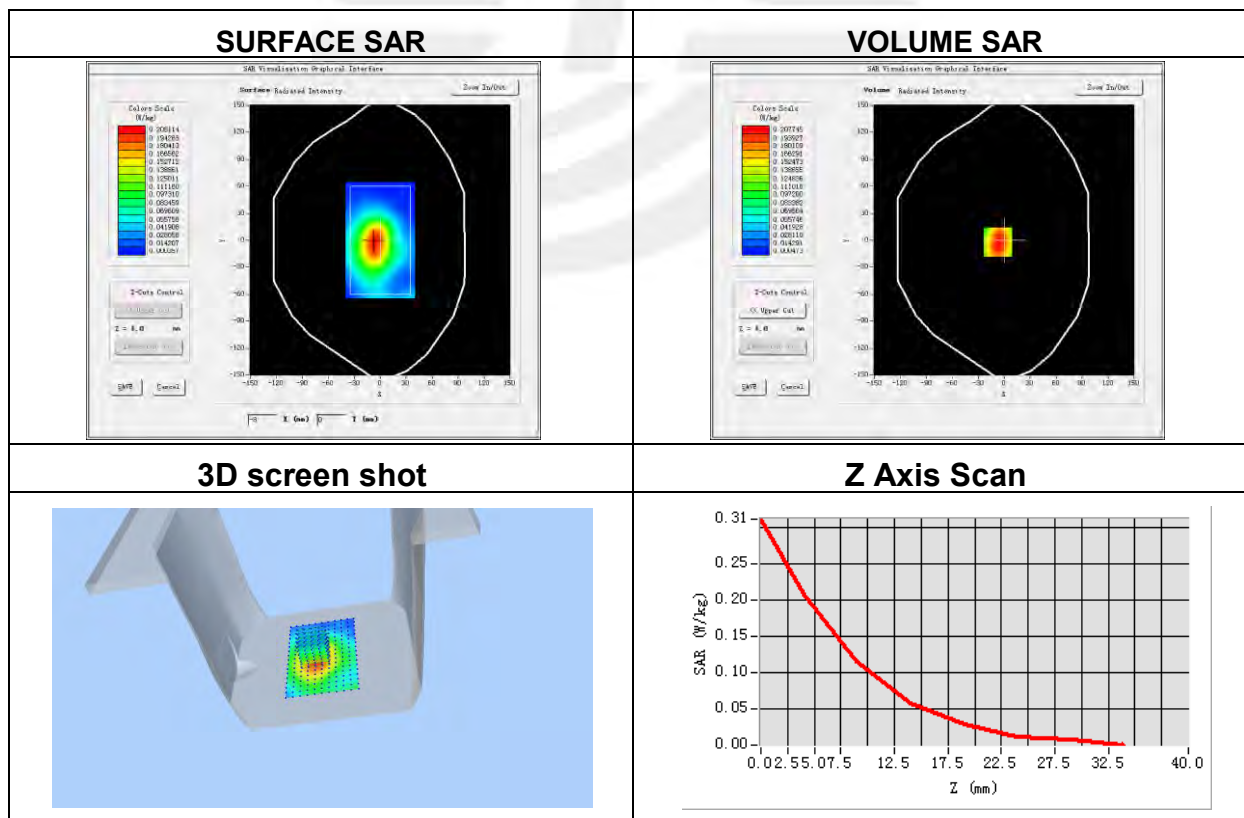
Plot 28: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-17
Probe	SN 41/18 EPGO334
ConvF	1.88
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 25 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52

Maximum location: X=-7.00, Y=-2.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.108294
SAR 1g (W/Kg)	0.199059



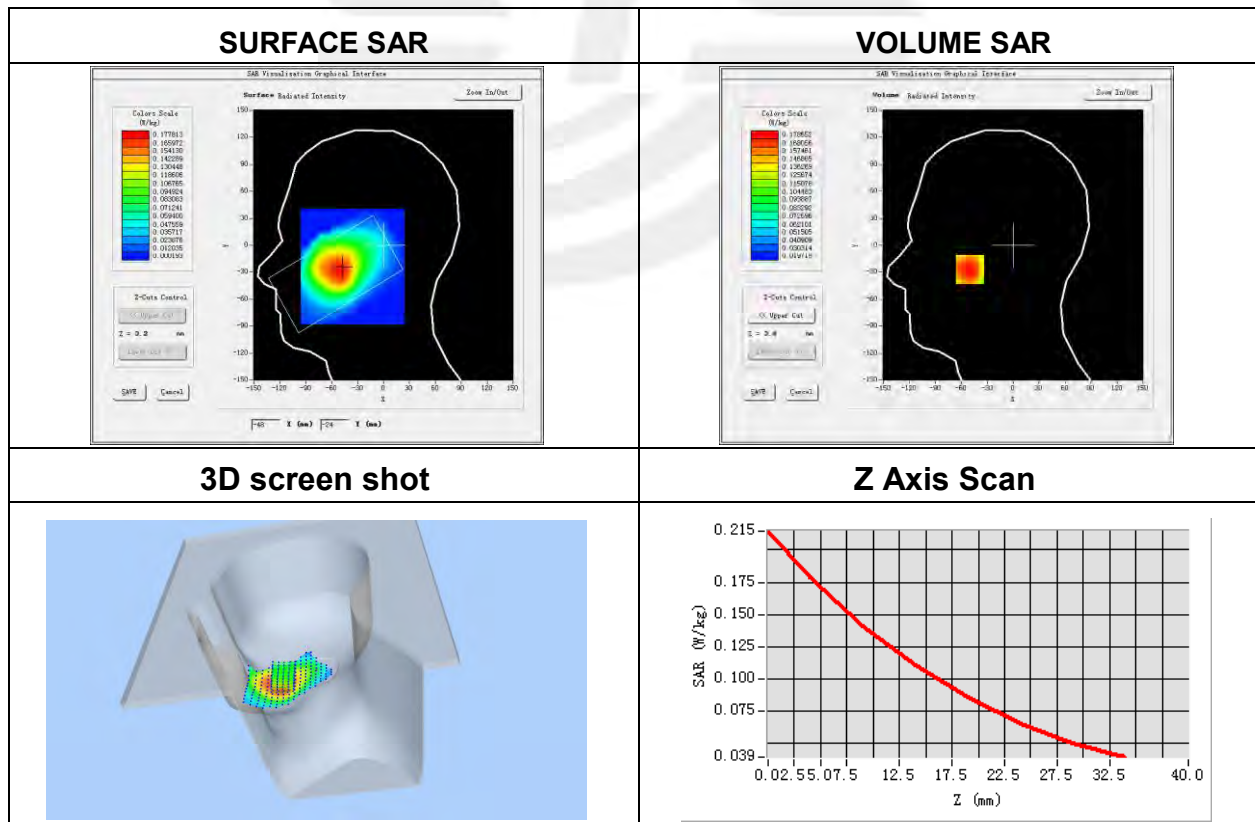
Plot 29: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.48
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 26 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90

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

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.125518
SAR 1g (W/Kg)	0.172877



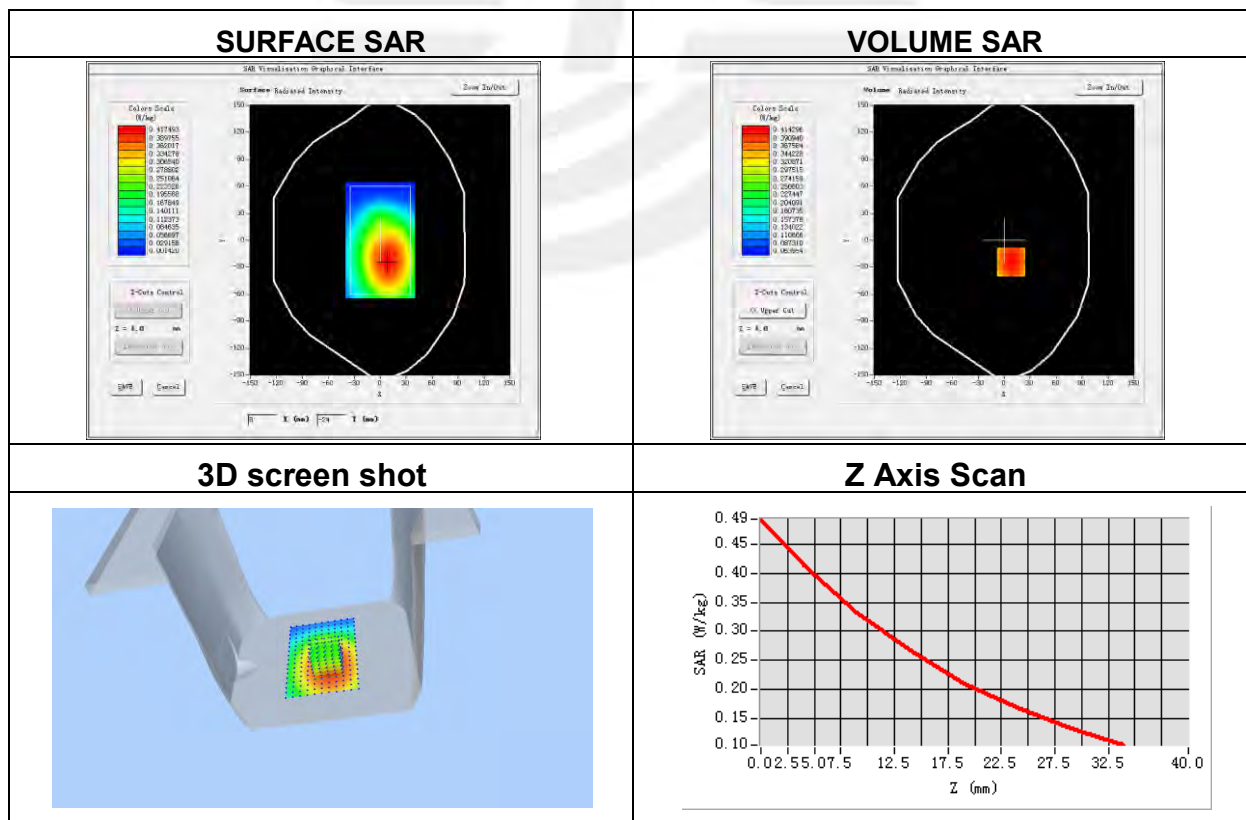
Plot 30: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-15
Probe	SN 41/18 EPGO334
ConvF	1.53
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 26 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96

Maximum location: X=8.00, Y=-24.00

SAR Peak: 0.49 W/kg

SAR 10g (W/Kg)	0.309456
SAR 1g (W/Kg)	0.402200



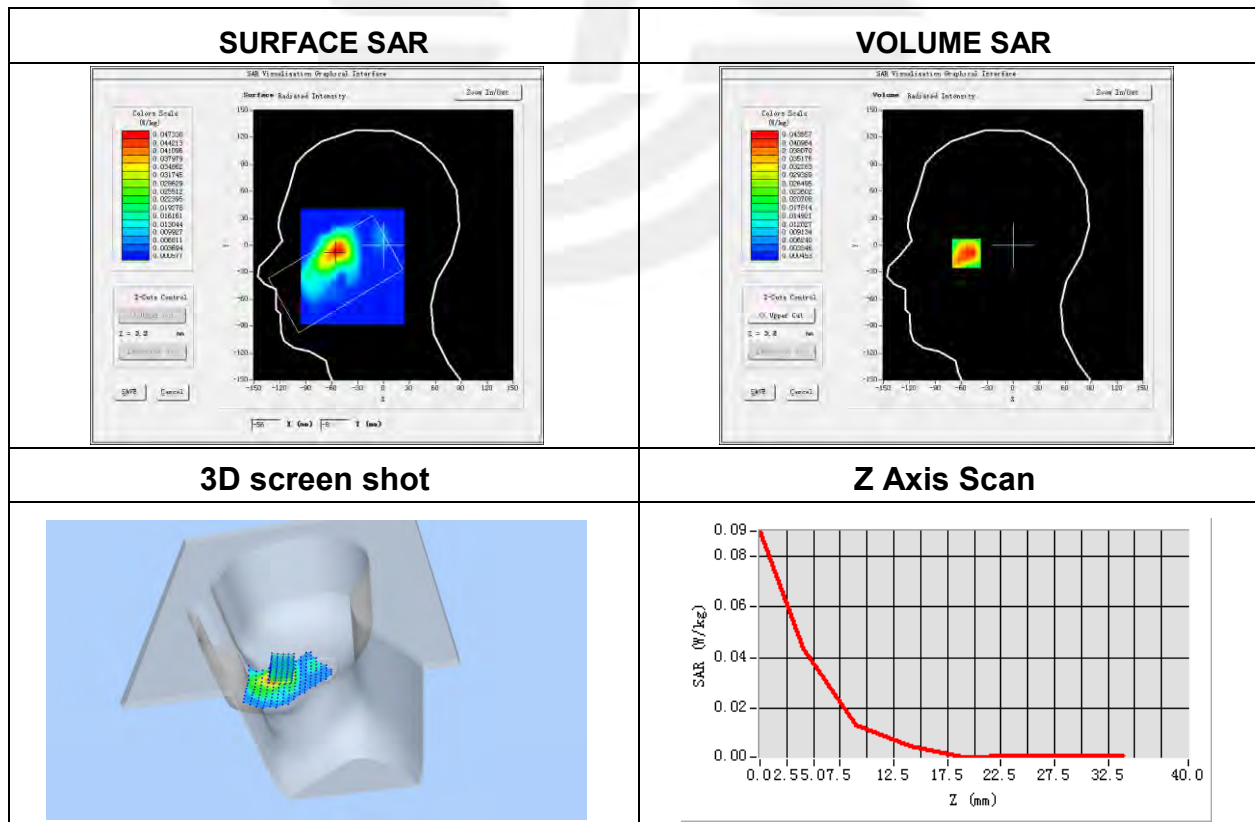
Plot 31: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-21
Probe	SN 41/18 EPGO334
ConvF	1.85
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 41 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2680
Relative permittivity (real part)	39.00
Conductivity (S/m)	1.96

Maximum location: X=-54.00, Y=-6.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.017721
SAR 1g (W/Kg)	0.042394



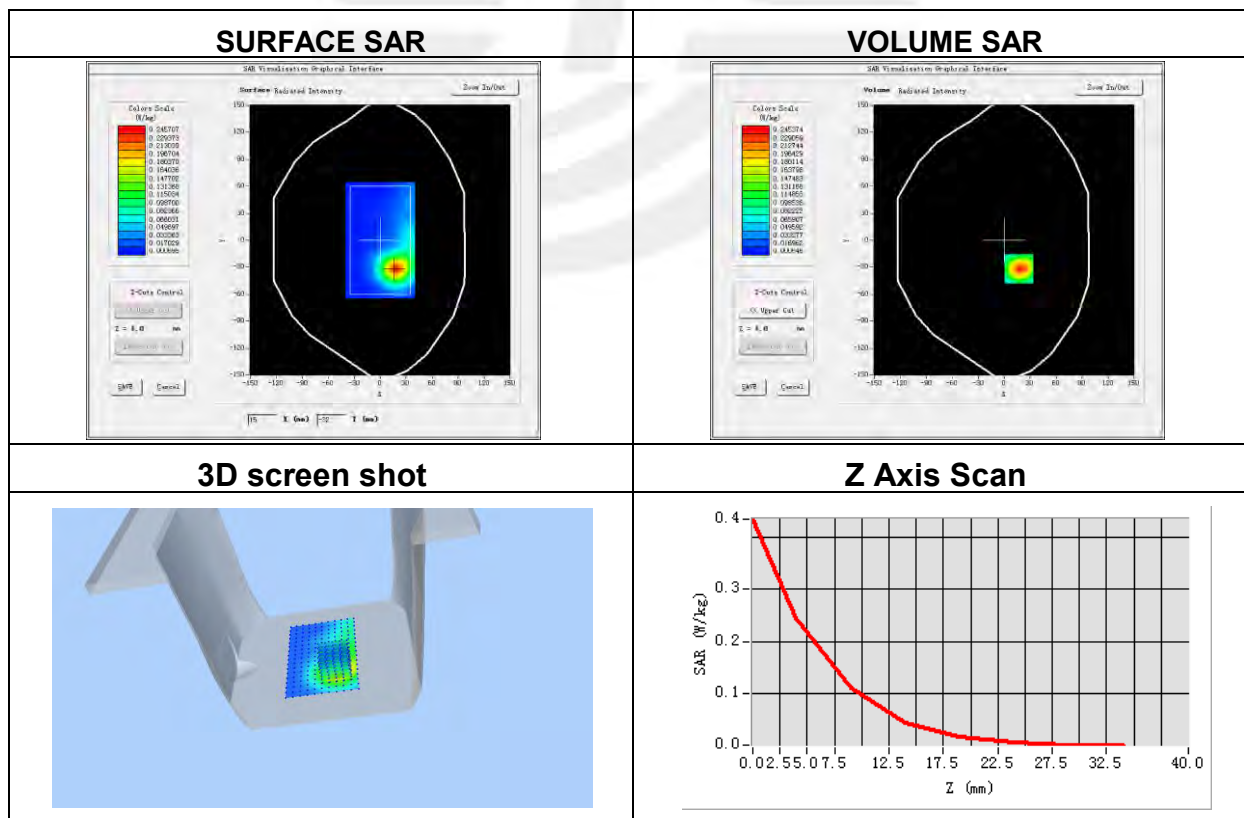
Plot 32: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-21
Probe	SN 41/18 EPGO334
ConvF	1.92
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 41 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2680
Relative permittivity (real part)	52.50
Conductivity (S/m)	2.16

Maximum location: X=17.00, Y=-32.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.102457
SAR 1g (W/Kg)	0.231502



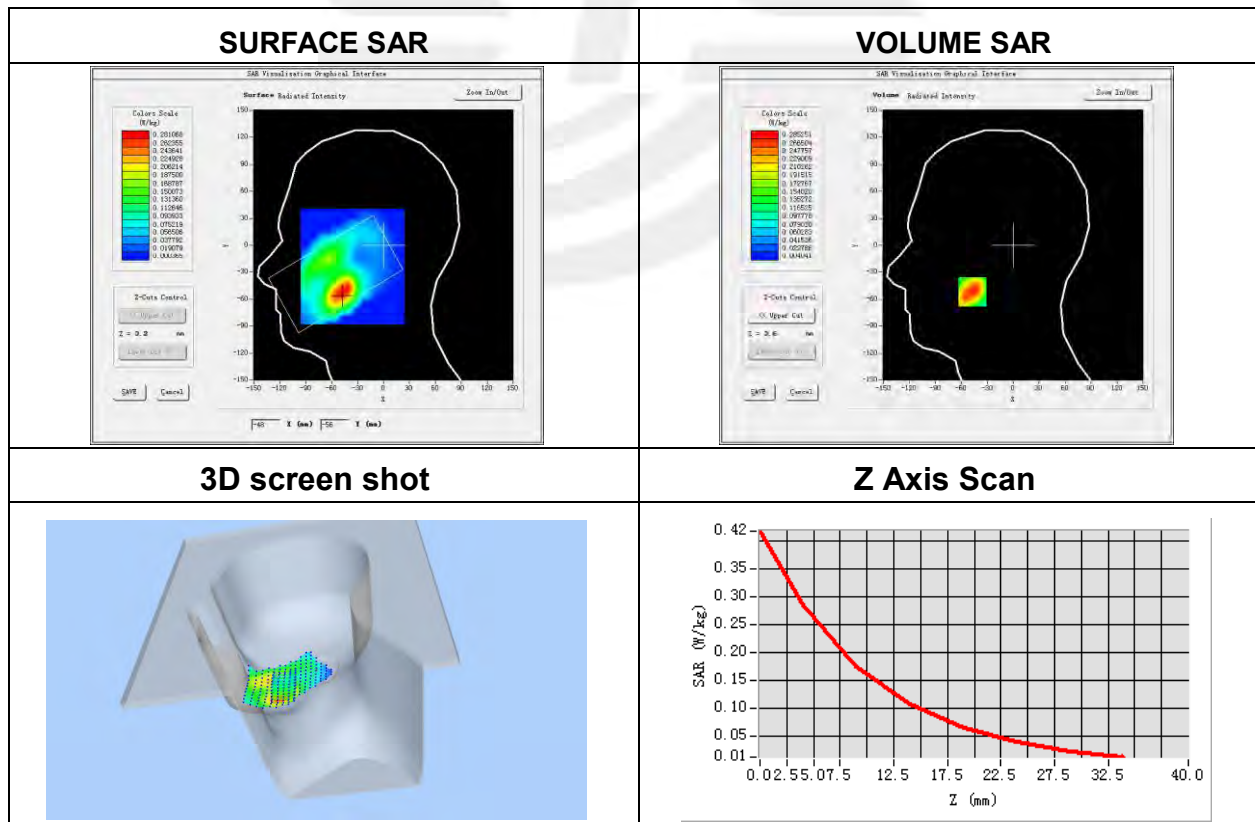
Plot 33: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPGO334
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	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 66 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1770
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40

Maximum location: X=-47.00, Y=-52.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.148781
SAR 1g (W/Kg)	0.266959



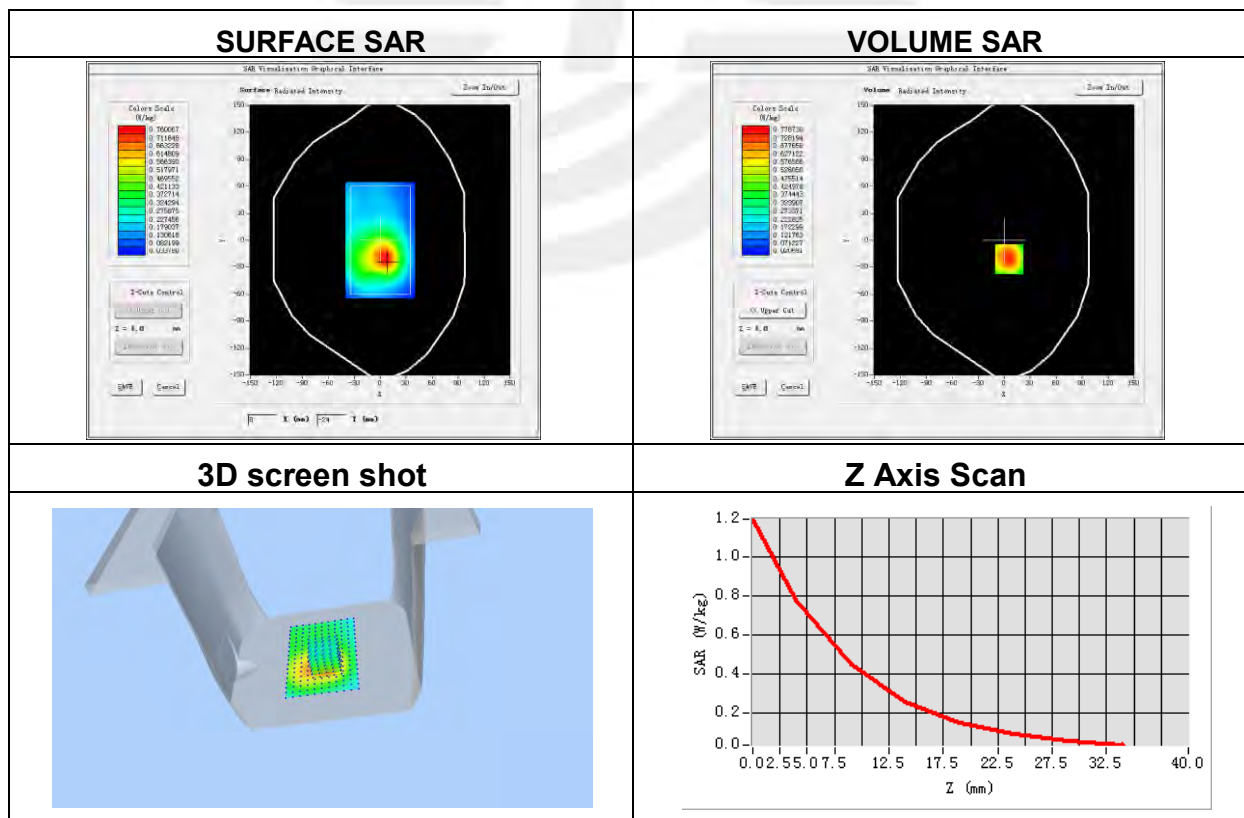
Plot 34: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-16
Probe	SN 41/18 EPGO334
ConvF	1.66
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 66 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1770
Relative permittivity (real part)	53.3
Conductivity (S/m)	1.52

Maximum location: X=6.00, Y=-21.00

SAR Peak: 1.19 W/kg

SAR 10g (W/Kg)	0.418018
SAR 1g (W/Kg)	0.742123



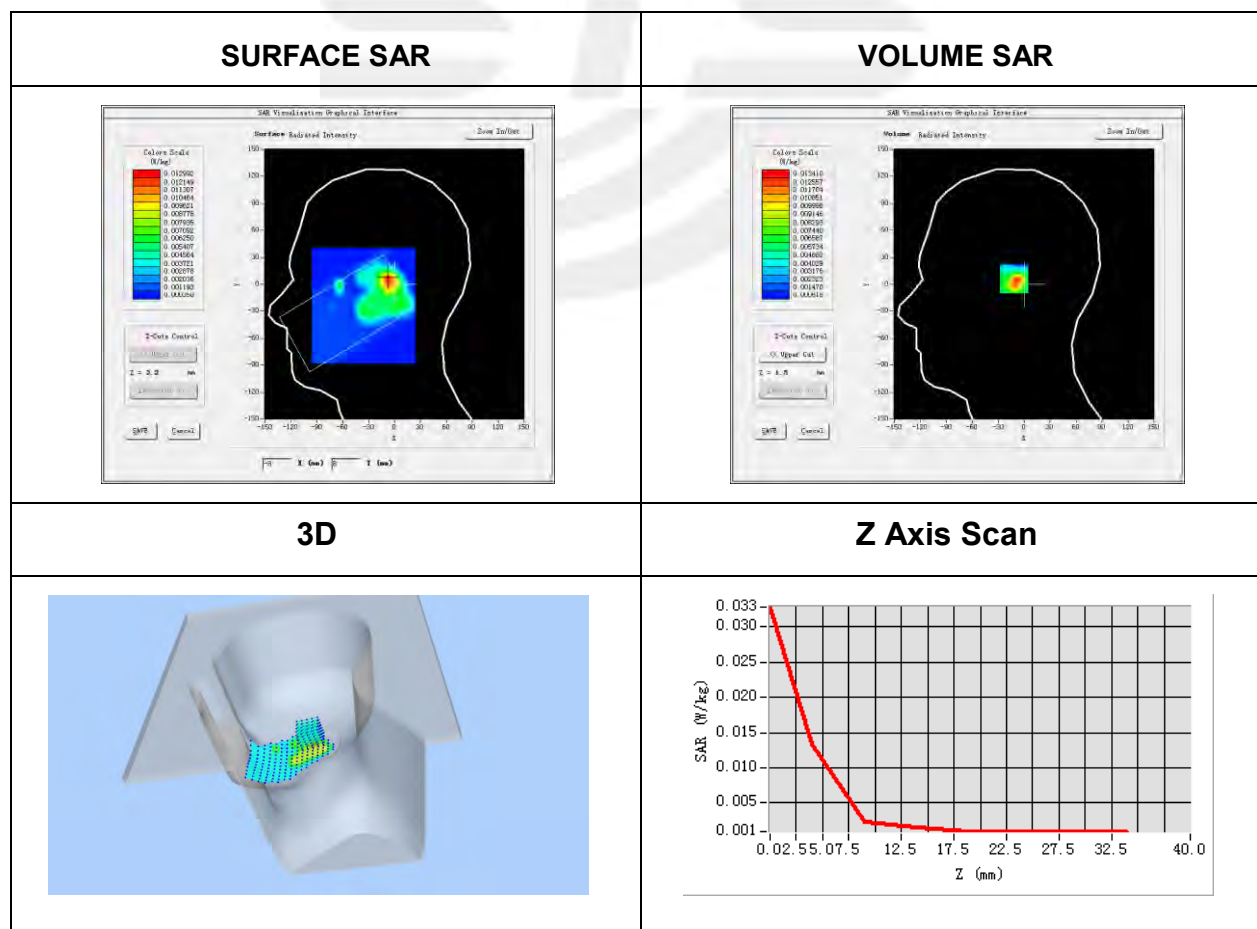
Plot 35: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-20
Probe	SN 41/18 EPGO334
ConvF	1.97
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	Bluetooth
Channels	High
Signal	Bluetooth (Crest factor: 1.0)
Frequency (MHz)	2480
Relative permittivity (real part)	39.20
Conductivity (S/m)	1.80

Maximum location: X=-7.00, Y=6.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.004995
SAR 1g (W/Kg)	0.013143



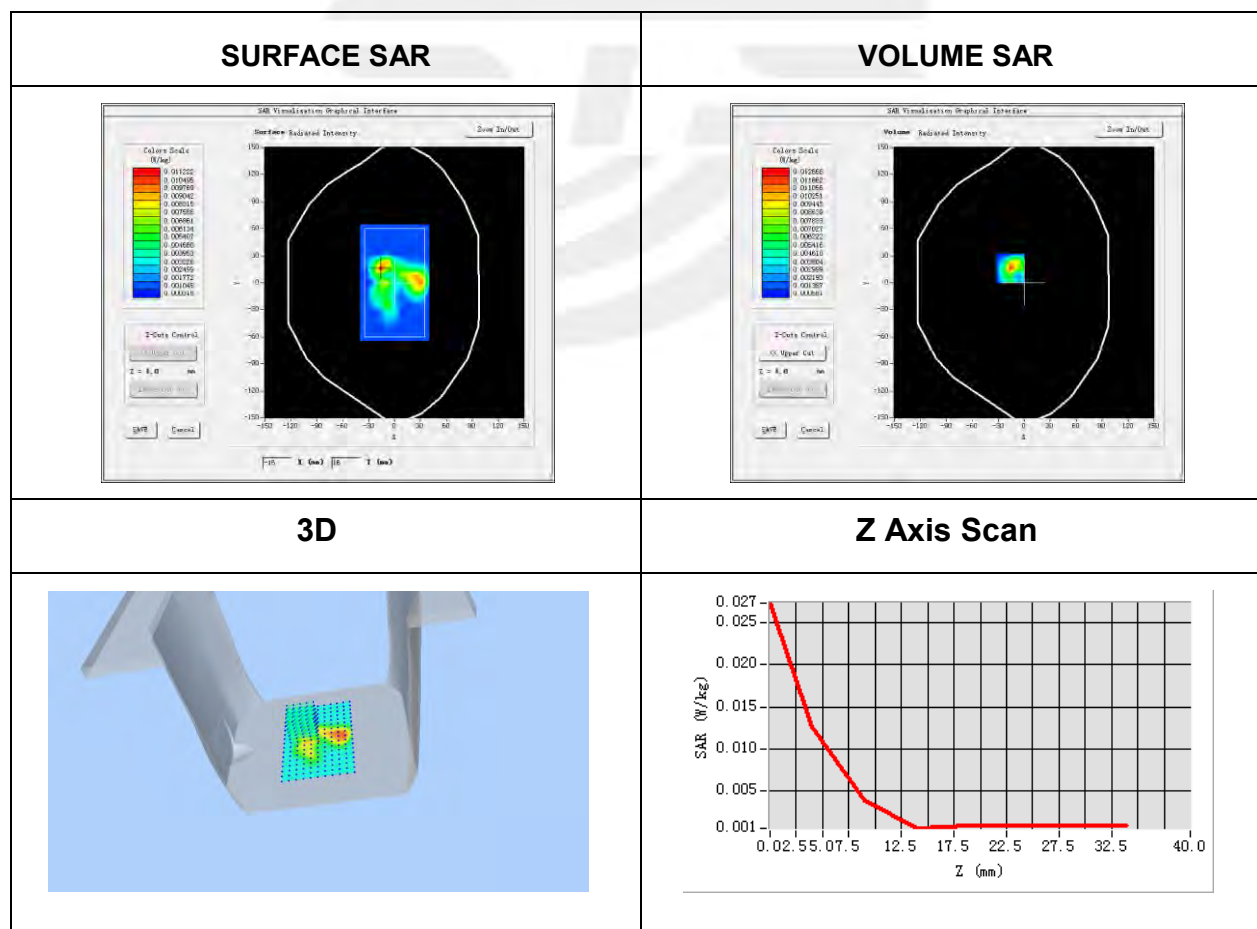
Plot 36: DUT: Smart phone; EUT Model: Atom L

Test Date	2020-04-20
Probe	SN 41/18 EPGO334
ConvF	2.02
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	Bluetooth
Channels	High
Signal	Bluetooth (Crest factor: 1.0)
Frequency (MHz)	2480
Relative permittivity (real part)	52.70
Conductivity (S/m)	1.95

Maximum location: X=-16.00, Y=16.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.003916
SAR 1g (W/Kg)	0.011825





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※

