FCC SAR TEST REPORT

Report No.: STS1811001H02

Issued for

Shenzhen LEAGOO Intelligence Co., Limited

2nd Floor of Building B, HongLianYing Technology Park, No.286 of SiLi Road, DaBuXiang Community, Longhua New District, Shenzhen, China

Product Name:	Smartphone
Brand Name:	LEAGOO
Model Name:	S10
Series Model:	N/A
FCC ID:	2AQMH-LEAGOO-S10
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Head:0.892W/kg
	Body:0.988W/kg

Shenzhen STS Test Services Co., Ltd.
1/F., Building B, Zhuoke Science Park, No.190,Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong,China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

Test Report Certification

Applicant's name	:	Shenzhen LEAGOO Intelligence Co., Limited
Address	:	2nd Floor of Building B, HongLianYing Technology Park, No.286 of SiLi Road, DaBuXiang Community, Longhua New District, Shenzhen, China
Manufacture's Name	:	Shenzhen LEAGOO Intelligence Co., Limited
Address	:	2nd Floor of Building B, HongLianYing Technology Park, No.286 of SiLi Road, DaBuXiang Community, Longhua New District, Shenzhen, China

Product description

Product name	:	Smartphone
Brand name	:	LEAGOO
Model name	:	S10
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	:	02 Nov. 2018~09 Nov. 2018
Date of Issue	:	11 Nov. 2018
Test Result	:	**Pass**

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Jason Lu

(Jason Lu)

Authorized Signatory : Vita Li

(Vita Li)

Table of Contents

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	11 Nov. 2018	STS1811001H02	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	Smartphone	
Brand Name	LEAGOO	
Model Name	S10	
Series Model	N/A	
FCC ID	2AQMH-LEAGOO-S10	
Model Difference	N/A	
Adapter	Input: AC 100-200V, 0.5A, 50/60Hz Output: 5V/7V/9V ⎓ 2A,12V ⎓ 1.5A	
Battery	Rated Voltage: 3.85V; Charge Limit: 4.4V; Capacity: 4050mAh	
Device Category	Portable	
Product stage	Production unit	
RF Exposure Environment	General Population / Uncontrolled	
IMEI	861988040000113 861988040000121	
Hardware Version	E906_MAIN_PCB_V1.2	
Software Version	LEAGOO_S10_OS5.0	
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 17:706.5~713.5MHz LTE Band 41: 2555~2655MHz	WLAN802.11b/g/n(HT20):2412~2462MHz WLAN 802.11n(HT40):2422~2452MHz 5GHz IEEE 802.11a/n (20MHz): 5180 MHz ~ 5700MHz 5GHz IEEE 802.11n (40MHz): 5190 MHz ~ 5670MHz 5GHz IEEE 802.11a/n (20MHz): 5745 MHz ~ 5825MHz 5GHz IEEE 802.11n (40MHz): 5755 MHz ~ 5795MHz GPS:1575.42MHz FM: 87.5 MHz to 108 MHz

Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Head (W/kg)	Hotspot (W/kg)
	PCE	GSM 850	0.152	0.262
	PCE	GSM 1900	0.293	0.854
	PCE	WCDMA Band II	0.104	0.731
	PCE	WCDMA Band IV	0.043	0.136
	PCE	WCDMA Band V	0.077	0.079
	PCE	LTE Band 2	0.109	0.941
	PCE	LTE Band 4	0.044	0.988
	PCE	LTE Band 5	0.074	0.918
	PCE	LTE Band 7	0.038	0.107
	PCE	LTE Band 12	0.073	0.094
	PCE	LTE Band 17	0.084	0.144
	PCE	LTE Band 41	0.084	0.736
	DTS	2.4G WLAN	0.048	0.097
	DTS	Bluetooth Note	0.105	0.053
1-g Sum SAR			0.398	1.085
Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Head (W/kg)	Body Worn (W/kg)
	PCE	GSM 850	0.152	0.262
	PCE	GSM 1900	0.293	0.854
	PCE	WCDMA Band II	0.104	0.731
	PCE	WCDMA Band IV	0.043	0.136
	PCE	WCDMA Band V	0.077	0.079
	PCE	LTE Band 2	0.109	0.941
	PCE	LTE Band 4	0.044	0.988
	PCE	LTE Band 5	0.074	0.918
	PCE	LTE Band 7	0.038	0.107
	PCE	LTE Band 12	0.073	0.094
	PCE	LTE Band 17	0.084	0.144
	PCE	LTE Band 41	0.084	0.736
	DTS	2.4G WLAN	0.048	0.097
	DTS	Bluetooth Note	0.105	0.053
	NII	5.2G WLAN	0.712	0.110
	NII	5.3G WLAN	0.515	0.027
	NII	5.6G WLAN	0.730	0.117
	NII	5.8G WLAN	0.892	0.131
1-g Sum SAR			1.185	1.119
FCCEquipment 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/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. Bluetooth 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 choseSIM1 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 (℃)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
CNAS Registration No.: L7649
FCC 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 1gram 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:

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

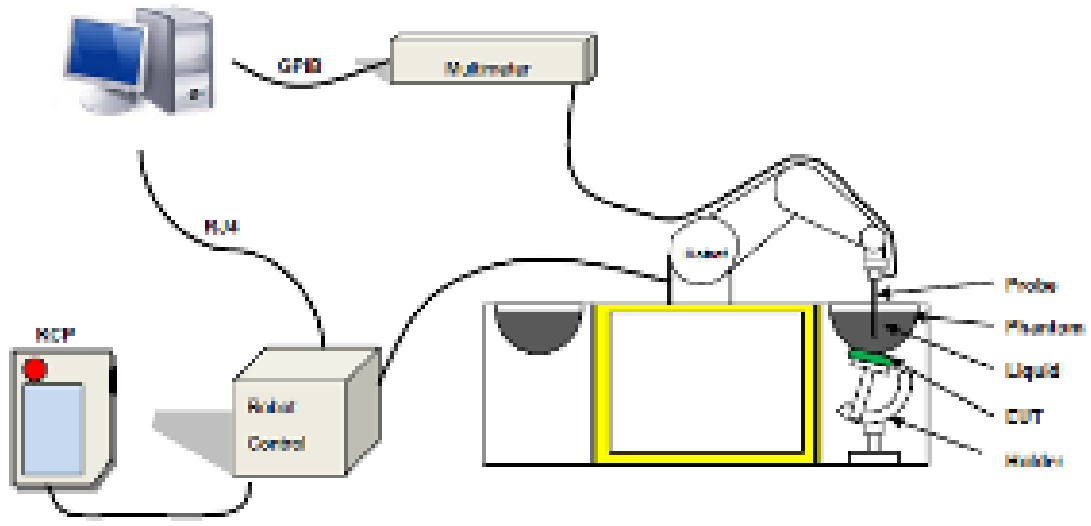
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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 OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 45/15 EPGO281 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 2.5 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Distance between dipole/probe extremity: 8 mm (repeatability better than +/- 1mm)
- Probe linearity: 0±2.60%(0.11dB)
- Axial Isotropy: < 0.25 dB
- Spherical Isotropy: < 0.25 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-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. 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	Permittivity
	%	%	%	%	%	%	%	%	σ	εr
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	Permittivity
	%	%	%	%	%	%	%	%	σ	εr
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
2600	38.5	52.0	1.95	2.23
5200	36.8	51.2	4.84	5.16
5800	35.3	49.0	5.47	6.28

LIQUID MEASUREMENT RESULTS

Date	Ambient condition		Head Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2018-11-02	22.9	50	750 MHz	22.6	Permittivity:	41.9	42.49	1.41	±5
					Conductivity:	0.89	0.86	-2.27	±5
2018-11-03	23.2	48	835 MHz	22.9	Permittivity:	41.5	41.55	0.12	±5
					Conductivity:	0.9	0.93	3.33	±5
2018-11-05	23.0	47	1800 MHz	22.7	Permittivity:	40	39.05	-2.38	±5
					Conductivity:	1.40	1.41	0.71	±5
2018-11-06	22.8	50	1900 MHz	22.5	Permittivity:	40	38.30	-4.25	±5
					Conductivity:	1.4	1.42	1.43	±5
2018-11-07	23.1	52	2450 MHz	22.8	Permittivity:	39.2	38.90	-0.77	±5
					Conductivity:	1.8	1.75	-2.78	±5
2018-11-04	23.3	50	2600 MHz	22.8	Permittivity:	39.0	39.03	0.08	±5
					Conductivity:	1.96	1.99	1.53	±5
2018-11-08	23.3	47	5200 MHz	23.0	Permittivity:	36.0	36.39	1.08	±5
					Conductivity:	4.66	4.57	-1.93	±5
2018-11-08	23.3	47	5300 MHz	23.0	Permittivity:	35.9	35.53	-1.03	±5
					Conductivity:	4.76	4.72	-0.84	±5
2018-11-09	22.9	49	5600 MHz	22.6	Permittivity:	35.5	35.76	0.73	±5
					Conductivity:	5.07	5.14	1.38	±5
2018-11-09	22.9	49	5800 MHz	22.6	Permittivity:	35.3	35.21	-0.25	±5
					Conductivity:	5.27	5.18	-1.71	±5

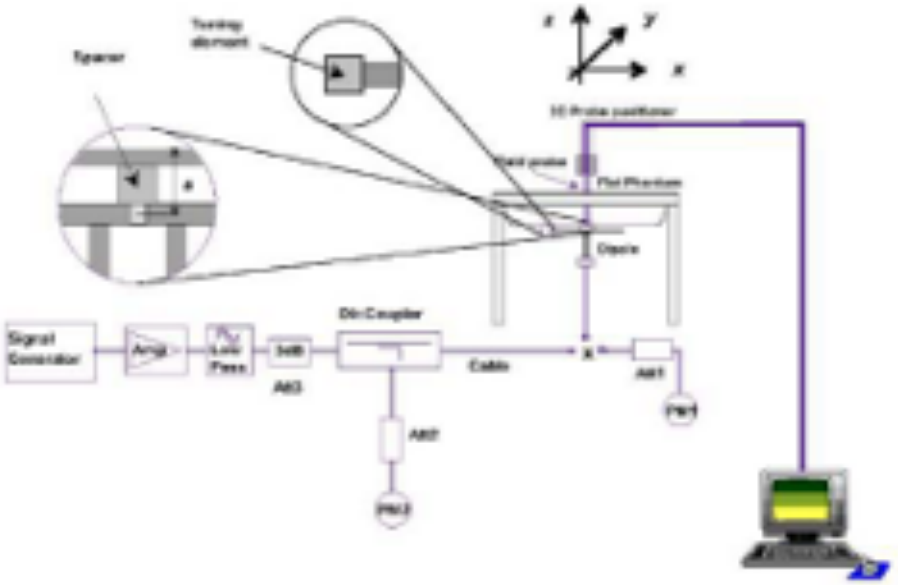
Date	Ambient condition		Body Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2018-11-02	22.9	50	750 MHz	22.6	Permittivity:	55.5	56.45	1.71	±5
					Conductivity:	0.96	0.99	3.13	±5
2018-11-03	23.2	48	835 MHz	22.9	Permittivity:	55.2	56.07	1.58	±5
					Conductivity:	0.97	0.96	-1.03	±5
2018-11-05	23.0	47	1800 MHz	22.7	Permittivity:	53.3	53.67	0.69	±5
					Conductivity:	1.52	1.46	-3.95	±5
2018-11-06	22.8	50	1900 MHz	22.5	Permittivity:	53.3	53.54	0.45	±5
					Conductivity:	1.52	1.49	-1.97	±5
2018-11-07	23.1	52	2450 MHz	22.8	Permittivity:	52.7	54.37	3.17	±5
					Conductivity:	1.95	2.00	2.56	±5
2018-11-04	23.3	50	2600 MHz	22.8	Permittivity:	52.5	52.83	0.63	±5
					Conductivity:	2.16	2.20	1.85	±5
2018-11-08	23.3	47	5200 MHz	23.0	Permittivity:	49.0	46.94	-4.20	±5
					Conductivity:	5.30	5.15	-2.83	±5
2018-11-08	23.3	47	5300 MHz	23.0	Permittivity:	48.70	49.21	1.05	±5
					Conductivity:	5.53	5.36	-3.07	±5
2018-11-09	22.9	49	5600 MHz	22.6	Permittivity:	48.5	49.64	2.35	±5
					Conductivity:	5.77	5.91	2.43	±5
2018-11-09	22.9	49	5800 MHz	22.6	Permittivity:	48.2	48.83	1.31	±5
					Conductivity:	6.00	6.05	0.83	±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)	TestedValue(W/Kg)	Normalized SAR (W/kg/W)	Target (W/Kg/W)	Tolerance(%)	Date
750Head	100	0.841	8.41	8.49	-0.94	2018-11-02
750Body	100	0.821	8.21	8.49	-3.30	2018-11-02
835 Head	100	0.960	9.60	9.56	0.42	2018-11-03
835Body	100	0.915	9.15	9.56	-4.29	2018-11-03
1800Head	100	3.903	39.03	38.4	1.64	2018-11-05
1800Body	100	3.914	39.14	38.4	1.93	2018-11-05
1900 Head	100	4.048	40.48	39.7	1.96	2018-11-06
1900 Body	100	4.152	41.52	39.7	4.58	2018-11-06
2450 Head	100	5.074	50.74	52.4	-3.17	2018-11-07
2450Body	100	5.202	52.02	52.4	-0.73	2018-11-07
2600 Head	100	5.618	56.18	55.3	1.59	2018-11-04
2600 Body	100	5.635	56.35	55.3	1.90	2018-11-04
5200 Head	100	15.849	158.49	159	-0.32	2018-11-08
5200 Body	100	15.684	156.84	159	-1.36	2018-11-08
5300 Head	100	16.502	165.02	166.4	-0.83	2018-11-08
5300 Body	100	16.757	167.57	166.4	0.70	2018-11-08
5600 Head	100	17.157	171.57	173.8	-1.28	2018-11-09
5600 Body	100	17.581	175.81	173.8	1.16	2018-11-09
5800 Head	100	17.813	178.13	181.2	-1.69	2018-11-09
5800 Body	100	18.105	181.05	181.2	-0.08	2018-11-09

Note:

1. The tolerance limit of System validation ±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 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

➢ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01quoted 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 Smartphone, support GSM/WCDMA/LTE mode.

7.1 SAR testexclusion consider table

According with FCC KDB 447498 D01, appendix A, <SAR test exclusion thresholds for100MHz~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	12mm	142mm	＜5mm
	Yes	Yes	Yes	Yes	No	Yes
WLAN/BT	＜5mm	＜5mm	＜5mm	60	＜5mm	138mm
	Yes	Yes	Yes	No	Yes	No

Note：

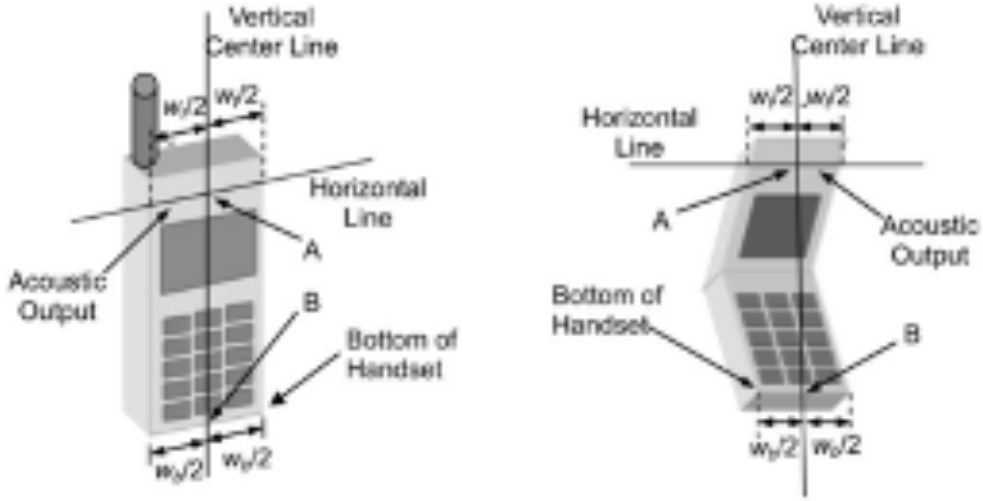
1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 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
4. 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:
   [(max.power of channel, including tune-up tolerance, Mw)/(min. test separation distance, mm)]*[√f(GHZ）)≤3.0 for 1-g SAR and≤7.5 for10-g extremity SAR ,f(GHz) is the RF channel transmit frequency in GHz.Power and distance are rounded to the nearest mW and mm before calculation.The result is rounded to one decimal place for comparison
   For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare
5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
   a)[threshold at 50mm in step 1]+(test separation distance -50mm)*(f (MHz)/150)]Mw, at 100 MHz to 1500 MHz
   b) [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at＞ 1500MHz and≤6GHz
6. Per KDB 447498 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.
7. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine futher SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.

8. EUT Test Position

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

8.1 Define Two Imaginary Lines On The Handset

(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
(2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



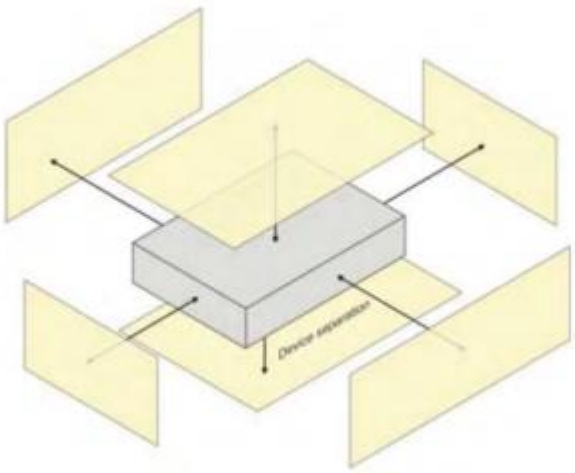
Cheek Position
1)To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point(M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
2)To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost

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

Body-worn Position Conditions:
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 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 form 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

9.1Measurement 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.

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

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

9.2 System validation Uncertainty

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

17	Input power and SAR drit measurement	5	R	√3	1	1	2.89	2.89	∞
18	Dipole Axis to liquid Distance	2	R	√3	1	1			∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
20	Uncertainty in SAR correction for deviation(in	2.0	N	1	1	0.84	2	1.68	∞
21	Liquid conductivity (target)	2	N	1	1	0.84	2.00	1.68	∞
22	Liquid conductivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
23	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
24	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
25	Liquid Permittivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
26	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_C = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$			10.15%	10.05%	
Expanded uncertainty (P=95%)		$U = k\, U_C$,k=2					20.29%	20.10%	

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)	32.51	32.56	32.54	28.81	28.79	28.66
GPRS (GMSK, 1-Slot)	32.48	32.51	32.49	28.80	28.77	28.65
GPRS (GMSK, 2-Slot)	32.06	32.11	32.07	28.37	28.30	28.19
GPRS (GMSK, 3-Slot)	31.56	31.68	31.64	27.94	27.83	27.75
GPRS (GMSK, 4-Slot)	31.10	31.24	31.20	27.47	27.39	27.28
EGPRS(8PSK, 1-Slot)	26.18	25.95	25.98	25.33	25.82	25.85
EGPRS(8PSK, 2-Slot)	25.43	25.23	25.23	24.54	25.03	25.05
EGPRS(8PSK, 3-Slot)	24.73	24.48	24.50	23.79	24.24	25.05
EGPRS(8PSK, 4-Slot)	23.96	23.74	23.74	23.04	23.54	23.59
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)	23.48	23.53	23.51	19.78	19.76	19.63
GPRS (GMSK, 1-Slot)	23.45	23.48	23.46	19.77	19.74	19.62
GPRS (GMSK, 2-Slot)	26.04	26.09	26.05	22.35	22.28	22.17
GPRS (GMSK, 3-Slot)	27.30	27.42	27.38	23.68	23.57	23.49
GPRS (GMSK, 4-Slot)	28.09	28.23	28.19	24.46	24.38	24.27
EGPRS(8PSK, 1-Slot)	17.15	16.92	16.95	16.30	16.79	16.82
EGPRS(8PSK, 2-Slot)	19.41	19.21	19.21	18.52	19.01	19.03
EGPRS(8PSK, 3-Slot)	20.47	20.22	20.24	19.53	19.98	20.79
EGPRS(8PSK, 4-Slot)	20.95	20.73	20.73	20.03	20.53	20.58
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	22.71	22.57	22.62	21.51	21.65	21.69	21.58	21.97	22.36
RMC 12.2Kbps	22.75	22.64	22.68	21.55	21.74	21.78	21.83	22.02	22.41
HSDPA Subtest-1	21.67	21.59	21.64	20.49	20.63	20.71	20.74	20.96	21.35
HSDPA Subtest-2	21.25	21.11	21.19	20.09	20.19	20.22	20.33	20.47	20.86
HSDPA Subtest-3	20.76	20.64	20.84	19.67	19.70	19.88	20.03	19.98	20.47
HSDPA Subtest-4	20.27	20.20	20.50	19.35	19.21	19.57	19.73	19.53	20.06
HSUPA Subtest-1	21.65	21.51	21.17	20.48	20.54	20.25	20.67	20.95	20.95
HSUPA Subtest-2	20.68	20.59	20.19	19.61	19.62	19.35	19.85	20.02	19.97
HSUPA Subtest-3	20.49	20.15	19.72	19.53	19.21	19.00	19.67	19.60	19.66
HSUPA Subtest-4	20.13	19.81	19.34	19.09	18.76	18.64	19.20	19.22	19.31
HSUPA Subtest-5	18.65	18.34	17.91	17.64	17.35	17.23	17.73	17.72	17.85

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≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for βc/βd=12/15, βhs/ βc=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	15.24
	6	2437	15.61
	11	2462	14.81
802.11g	1	2412	12.54
	6	2437	13.24
	11	2462	12.61
802.11n(HT 20)	1	2412	12.38
	6	2437	13.16
	11	2462	11.54
802.11n(HT 40)	3	2422	7.53
	6	2437	7.61
	9	2452	7.94

WLAN (5.2Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	36	5180	13.45
	40	5200	13.40
	48	5240	12.13
802.11 n-HT20	36	5180	13.41
	40	5200	12.29
	48	5240	12.23
802.11 n-HT40	38	5190	12.38
	46	5230	12.17

WLAN (5.3Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	52	5260	14.46
	60	5300	13.18
	64	5320	12.62
802.11 n-HT20	52	5260	12.95
	60	5300	13.44
	64	5320	12.48
802.11 n-HT40	54	5270	11.43
	62	5310	11.09

WLAN (5.6Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	100	5500	12.51
	116	5580	11.76
	140	5700	12.59
802.11 n-HT20	100	5500	12.03
	116	5580	12.31
	140	5700	13.37
802.11 n-HT40	102	5510	10.86
	110	5550	11.10
	134	5670	11.88

WLAN (5.8Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	149	5745	14.43
	157	5785	13.73
	165	5825	13.28
802.11 n-HT20	149	5745	14.19
	157	5785	14.00
	165	5825	12.81
802.11 n-HT40	151	5755	12.26
	159	5795	11.78

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	2.81
	39	2441	3.76
	78	2480	3.27
π/4-DQPSK(2Mbps)	0	2402	1.82
	39	2441	2.91
	78	2480	2.13
8DPSK(3Mbps)	0	2402	2.34
	39	2441	3.15
	78	2480	2.74

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	1	2402	-0.13
	20	2440	0.86
	40	2480	-0.74

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 $\leqslant$ 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 ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is $\leqslant$ 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 ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is $\leqslant$ 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	22.61	22.47	22.93
1.4	1	2		22.38	22.23	22.72
1.4	1	5		22.16	22.02	22.42
1.4	3	0		21.94	21.75	22.13
1.4	3	1		21.71	21.49	21.88
1.4	3	2		21.46	21.21	21.66
1.4	6	0		21.23	20.98	21.44
1.4	1	0	16-QAM	22.36	22.27	22.66
1.4	1	2		22.07	22.03	22.38
1.4	1	5		21.82	21.82	22.17
1.4	3	0		21.57	21.54	21.87
1.4	3	1		21.32	21.29	21.63
1.4	3	2		21.12	21.01	21.41
1.4	6	0		20.83	20.78	21.11
3	1	0	QPSK	22.63	22.49	22.94
3	1	7		22.36	22.21	22.70
3	1	14		22.15	21.97	22.42
3	8	0		21.92	21.73	22.13
3	8	4		21.62	21.44	21.93
3	8	7		21.33	21.23	21.71
3	15	0		21.08	21.02	21.49
3	1	0	16-QAM	22.34	22.28	22.70
3	1	7		22.10	22.05	22.43
3	1	14		21.87	21.78	22.16
3	8	0		21.58	21.50	21.87
3	8	4		21.31	21.23	21.66
3	8	7		21.09	20.95	21.40
3	15	0		20.82	20.67	21.11

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.66	22.51	22.97
5	1	12		22.41	22.31	22.67
5	1	24		22.14	22.01	22.41
5	12	0		21.90	21.75	22.12
5	12	6		21.68	21.45	21.83
5	12	11		21.44	21.25	21.53
5	25	0		21.18	21.02	21.24
5	1	0	16-QAM	22.40	22.25	22.71
5	1	12		22.14	21.95	22.49
5	1	24		21.94	21.71	22.25
5	12	0		21.65	21.45	21.95
5	12	6		21.44	21.18	21.75
5	12	11		21.20	20.89	21.54
5	25	0		20.97	20.69	21.24
10	1	0	QPSK	22.7	22.53	22.99
10	1	24		22.47	22.30	22.76
10	1	49		22.24	22.09	22.54
10	25	0		22.02	21.88	22.27
10	25	12		21.8	21.59	22.06
10	25	24		21.51	21.30	21.79
10	50	0		21.23	21.02	21.53
10	1	0	16-QAM	22.48	22.32	22.73
10	1	24		22.18	22.07	22.51
10	1	49		21.91	21.78	22.26
10	25	0		21.66	21.52	22.00
10	25	12		21.39	21.27	21.76
10	25	24		21.17	21.07	21.52
10	50	0		20.87	20.80	21.29

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.71	22.55	23.01
15	1	37		22.46	22.31	22.76
15	1	74		22.25	22.07	22.52
15	36	0		22.02	21.79	22.22
15	36	18		21.76	21.58	21.97
15	36	39		21.47	21.32	21.73
15	75	0		21.21	21.10	21.47
15	1	0	16-QAM	22.41	22.33	22.79
15	1	38		22.17	22.08	22.57
15	1	75		21.92	21.82	22.28
15	36	0		21.69	21.53	22.01
15	36	18		21.41	21.25	21.73
15	36	39		21.15	21.01	21.45
15	75	0		20.94	20.73	21.19
20	1	0	QPSK	22.73	22.58	23.03
20	1	49		22.46	22.29	22.80
20	1	99		22.21	22.06	22.52
20	50	0		21.93	21.84	22.27
20	50	24		21.69	21.57	22.04
20	50	49		21.41	21.34	21.83
20	100	0		21.12	21.1	21.62
20	1	0	16-QAM	22.49	22.35	22.74
20	1	49		22.2	22.14	22.53
20	1	99		21.94	21.86	22.32
20	50	0		21.71	21.64	22.05
20	50	24		21.49	21.40	21.81
20	50	49		21.25	21.11	21.53
20	100	0		20.97	20.85	21.31

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	22.85	22.47	22.93
1.4	1	2		22.57	22.19	22.67
1.4	1	5		22.29	21.97	22.42
1.4	3	0		22.04	21.77	22.16
1.4	3	1		21.82	21.56	21.96
1.4	3	2		21.55	21.36	21.73
1.4	6	0		21.34	21.07	21.47
1.4	1	0	16-QAM	22.60	22.17	22.65
1.4	1	2		22.35	21.91	22.37
1.4	1	5		22.10	21.67	22.09
1.4	3	0		21.90	21.41	21.84
1.4	3	1		21.69	21.15	21.61
1.4	3	2		21.48	20.90	21.35
1.4	6	0		21.23	20.65	21.08
3	1	0	QPSK	22.86	22.49	22.94
3	1	7		22.65	22.22	22.66
3	1	14		22.43	21.96	22.44
3	8	0		22.18	21.70	22.19
3	8	4		21.98	21.49	21.94
3	8	7		21.73	21.21	21.73
3	15	0		21.51	20.92	21.52
3	1	0	16-QAM	22.64	22.20	22.73
3	1	7		22.38	21.99	22.45
3	1	14		22.13	21.71	22.19
3	8	0		21.83	21.42	21.98
3	8	4		21.58	21.15	21.75
3	8	7		21.29	20.94	21.51
3	15	0		21.02	20.71	21.28

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.88	22.51	22.97
5	1	12		22.65	22.31	22.67
5	1	24		22.36	22.02	22.47
5	12	0		22.06	21.79	22.25
5	12	6		21.83	21.52	22.00
5	12	11		21.63	21.27	21.73
5	25	0		21.36	21.02	21.47
5	1	0	16-QAM	22.62	22.27	22.68
5	1	12		22.33	22.05	22.38
5	1	24		22.10	21.85	22.17
5	12	0		21.87	21.62	21.89
5	12	6		21.59	21.36	21.60
5	12	11		21.30	21.08	21.32
5	25	0		21.08	20.87	21.10
10	1	0	QPSK	22.91	22.55	22.99
10	1	24		22.65	22.34	22.78
10	1	49		22.41	22.12	22.55
10	25	0		22.16	21.92	22.29
10	25	12		21.96	21.66	22.04
10	25	24		21.76	21.41	21.81
10	50	0		21.52	21.19	21.55
10	1	0	16-QAM	22.64	22.32	22.77
10	1	24		22.36	22.03	22.50
10	1	49		22.15	21.82	22.20
10	25	0		21.90	21.58	21.99
10	25	12		21.69	21.37	21.71
10	25	24		21.48	21.17	21.47
10	50	0		21.26	20.95	21.20

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.93	22.58	23.02
15	1	37		22.72	22.35	22.72
15	1	74		22.46	22.11	22.51
15	36	0		22.19	21.83	22.30
15	36	18		21.94	21.55	22.05
15	36	39		21.69	21.31	21.85
15	75	0		21.46	21.02	21.59
15	1	0	16-QAM	22.65	22.31	22.73
15	1	38		22.41	22.05	22.49
15	1	75		22.21	21.81	22.28
15	36	0		21.97	21.55	22.04
15	36	18		21.69	21.27	21.75
15	36	39		21.42	21.06	21.48
15	75	0		21.19	20.85	21.21
20	1	0	QPSK	22.95	22.6	23.05
20	1	49		22.68	22.31	22.84
20	1	99		22.44	22.05	22.64
20	50	0		22.16	21.82	22.36
20	50	24		21.94	21.61	22.07
20	50	49		21.70	21.39	21.86
20	100	0		21.45	21.19	21.61
20	1	0	16-QAM	22.71	22.30	22.78
20	1	49		22.48	22.10	22.55
20	1	99		22.27	21.90	22.30
20	50	0		22.04	21.67	22.08
20	50	24		21.77	21.37	21.82
20	50	49		21.52	21.11	21.55
20	100	0		21.23	20.88	21.25

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	22.94	22.58	22.72
1.4	1	2		22.72	22.32	22.46
1.4	1	5		22.46	22.05	22.18
1.4	3	0		22.17	21.84	21.98
1.4	3	1		21.90	21.63	21.77
1.4	3	2		21.64	21.41	21.57
1.4	6	0		21.42	21.12	21.27
1.4	1	0	16-QAM	22.64	22.33	22.49
1.4	1	2		22.39	22.12	22.22
1.4	1	5		22.15	21.91	21.96
1.4	3	0		21.94	21.66	21.71
1.4	3	1		21.74	21.41	21.42
1.4	3	2		21.46	21.20	21.18
1.4	6	0		21.23	20.94	20.93
3	1	0	QPSK	22.95	22.59	22.74
3	1	7		22.71	22.39	22.45
3	1	14		22.44	22.10	22.24
3	8	0		22.24	21.81	21.94
3	8	4		21.97	21.56	21.74
3	8	7		21.75	21.30	21.49
3	15	0		21.51	21.01	21.23
3	1	0	16-QAM	22.68	22.31	22.52
3	1	7		22.38	22.04	22.31
3	1	14		22.13	21.74	22.07
3	8	0		21.86	21.51	21.85
3	8	4		21.57	21.27	21.64
3	8	7		21.30	21.00	21.37
3	15	0		21.04	20.73	21.16

LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.98	22.61	22.76
5	1	12		22.73	22.35	22.56
5	1	24		22.51	22.08	22.28
5	12	0		22.26	21.82	22.08
5	12	6		22.00	21.61	21.8
5	12	11		21.79	21.37	21.51
5	25	0		21.53	21.09	21.24
5	1	0	16-QAM	22.73	22.35	22.47
5	1	12		22.45	22.11	22.18
5	1	24		22.21	21.91	21.94
5	12	0		21.92	21.65	21.66
5	12	6		21.63	21.37	21.43
5	12	11		21.35	21.13	21.18
5	25	0		21.09	20.84	20.95
10	1	0	QPSK	23.01	22.64	22.78
10	1	24		22.74	22.36	22.56
10	1	49		22.47	22.16	22.36
10	25	0		22.24	21.86	22.09
10	25	12		21.98	21.62	21.88
10	25	24		21.69	21.42	21.63
10	50	0		21.40	21.17	21.42
10	1	0	16-QAM	22.80	22.40	22.52
10	1	24		22.59	22.12	22.30
10	1	49		22.31	21.90	22.06
10	25	0		22.08	21.61	21.86
10	25	12		21.87	21.40	21.57
10	25	24		21.66	21.13	21.33
10	50	0		21.45	20.85	21.13

LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.73	22.03	22.71
5	1	12		21.51	21.75	22.49
5	1	24		21.29	21.46	22.20
5	12	0		20.99	21.20	21.93
5	12	6		20.72	20.92	21.69
5	12	11		20.47	20.64	21.40
5	25	0		20.24	20.34	21.18
5	1	0	16-QAM	21.44	21.75	22.47
5	1	12		21.14	21.49	22.22
5	1	24		20.93	21.21	22.01
5	12	0		20.65	20.94	21.78
5	12	6		20.43	20.73	21.55
5	12	11		20.14	20.51	21.29
5	25	0		19.91	20.26	21.01
10	1	0	QPSK	21.76	22.05	22.72
10	1	24		21.53	21.77	22.52
10	1	49		21.28	21.48	22.22
10	25	0		21.05	21.19	21.95
10	25	12		20.76	20.97	21.74
10	25	24		20.52	20.75	21.52
10	50	0		20.26	20.50	21.28
10	1	0	16-QAM	21.50	21.76	22.45
10	1	24		21.25	21.50	22.20
10	1	49		21.01	21.21	21.92
10	25	0		20.79	20.95	21.72
10	25	12		20.57	20.65	21.42
10	25	24		20.28	20.41	21.17
10	50	0		20.03	20.18	20.95

LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.80	22.07	22.74
15	1	37		21.52	21.78	22.49
15	1	74		21.27	21.52	22.28
15	36	0		21.05	21.24	22.06
15	36	18		20.75	21.01	21.82
15	36	39		20.48	20.76	21.62
15	75	0		20.18	20.49	21.39
15	1	0	16-QAM	21.56	21.82	22.48
15	1	38		21.34	21.53	22.20
15	1	75		21.11	21.25	21.97
15	36	0		20.83	21.02	21.76
15	36	18		20.58	20.77	21.47
15	36	39		20.34	20.54	21.22
15	75	0		20.14	20.25	20.94
20	1	0	QPSK	22.82	22.09	22.77
20	1	49		22.56	21.82	22.57
20	1	99		22.30	21.53	22.33
20	50	0		22.03	21.28	22.10
20	50	24		21.76	21.00	21.83
20	50	49		21.50	20.73	21.54
20	100	0		21.24	20.44	21.32
20	1	0	16-QAM	22.59	21.83	22.53
20	1	49		22.39	21.56	22.25
20	1	99		22.10	21.34	22.04
20	50	0		21.82	21.08	21.80
20	50	24		21.62	20.80	21.59
20	50	49		21.36	20.51	21.38
20	100	0		21.15	20.23	21.17

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	22.36	23.20	23.36
1.4	1	2		22.16	22.97	23.14
1.4	1	5		21.95	22.68	22.94
1.4	3	0		21.72	22.41	22.72
1.4	3	1		21.43	22.15	22.45
1.4	3	2		21.15	21.87	22.21
1.4	6	0		20.89	21.58	21.99
1.4	1	0	16-QAM	22.14	22.99	23.15
1.4	1	2		21.93	22.77	22.88
1.4	1	5		21.70	22.5	22.61
1.4	3	0		21.45	22.26	22.35
1.4	3	1		21.19	21.97	22.06
1.4	3	2		20.92	21.69	21.80
1.4	6	0		20.68	21.46	21.58
3	1	0	QPSK	22.39	23.25	23.37
3	1	7		22.18	23.02	23.08
3	1	14		21.91	22.80	22.82
3	8	0		21.67	22.52	22.56
3	8	4		21.38	22.30	22.27
3	8	7		21.13	22.01	22.03
3	15	0		20.89	21.77	21.83
3	1	0	16-QAM	22.10	23.01	23.09
3	1	7		21.89	22.79	22.85
3	1	14		21.61	22.52	22.65
3	8	0		21.31	22.28	22.37
3	8	4		21.08	22.02	22.08
3	8	7		20.83	21.79	21.80
3	15	0		20.59	21.56	21.51

LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.41	23.28	23.39
5	1	12		22.14	23.07	23.17
5	1	24		21.89	22.79	22.89
5	12	0		21.64	22.53	22.67
5	12	6		21.41	22.30	22.46
5	12	11		21.20	22.04	22.21
5	25	0		20.97	21.76	21.98
5	1	0	16-QAM	22.16	23.01	23.12
5	1	12		21.89	22.78	22.87
5	1	24		21.61	22.48	22.59
5	12	0		21.34	22.24	22.35
5	12	6		21.09	22.01	22.10
5	12	11		20.86	21.77	21.86
5	25	0		20.64	21.51	21.60
10	1	0	QPSK	22.43	23.29	23.41
10	1	24		22.13	23.00	23.12
10	1	49		21.85	22.76	22.87
10	25	0		21.60	22.49	22.65
10	25	12		21.38	22.27	22.36
10	25	24		21.12	21.99	22.06
10	50	0		20.84	21.74	21.77
10	1	0	16-QAM	22.19	23.06	23.14
10	1	24		21.92	22.85	22.90
10	1	49		21.67	22.56	22.65
10	25	0		21.38	22.30	22.35
10	25	12		21.14	22.03	22.09
10	25	24		20.86	21.79	21.83
10	50	0		20.62	21.50	21.55

LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.10	23.27	23.33
5	1	12		22.87	22.97	23.06
5	1	24		22.66	22.69	22.81
5	12	0		22.38	22.44	22.53
5	12	6		22.08	22.19	22.24
5	12	11		21.87	21.92	22.01
5	25	0		21.61	21.62	21.78
5	1	0	16-QAM	22.84	22.98	23.11
5	1	12		22.59	22.74	22.89
5	1	24		22.32	22.53	22.63
5	12	0		22.09	22.24	22.40
5	12	6		21.81	21.97	22.11
5	12	11		21.58	21.67	21.89
5	25	0		21.30	21.44	21.60
10	1	0	QPSK	23.13	23.30	23.35
10	1	24		22.89	23.09	23.12
10	1	49		22.68	22.87	22.82
10	25	0		22.43	22.64	22.57
10	25	12		22.21	22.37	22.33
10	25	24		21.96	22.12	22.05
10	50	0		21.70	21.85	21.84
10	1	0	16-QAM	22.85	23.01	23.14
10	1	24		22.62	22.79	22.90
10	1	49		22.38	22.57	22.64
10	25	0		22.11	22.34	22.44
10	25	12		21.87	22.10	22.16
10	25	24		21.57	21.83	21.88
10	50	0		21.33	21.58	21.67

LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.55	22.55	21.44
5	1	12		21.30	22.30	21.19
5	1	24		21.10	22.01	20.98
5	12	0		20.85	21.79	20.74
5	12	6		20.59	21.51	20.52
5	12	11		20.33	21.26	20.28
5	25	0		20.13	21.03	20.04
5	1	0	16-QAM	21.27	22.26	21.18
5	1	12		21.05	22.00	20.97
5	1	24		20.80	21.80	20.67
5	12	0		20.56	21.50	20.42
5	12	6		20.28	21.25	20.21
5	12	11		20.04	21.03	20.00
5	25	0		19.84	20.82	19.79
10	1	0	QPSK	21.58	22.57	21.46
10	1	24		21.33	22.28	21.19
10	1	49		21.06	22.07	20.95
10	25	0		20.76	21.77	20.72
10	25	12		20.53	21.54	20.48
10	25	24		20.26	21.25	20.25
10	50	0		20.02	20.99	19.97
10	1	0	16-QAM	21.30	22.35	21.20
10	1	24		21.02	22.06	20.92
10	1	49		20.73	21.81	20.70
10	25	0		20.49	21.53	20.48
10	25	12		20.25	21.29	20.22
10	25	24		20.03	21.00	19.93
10	50	0		19.79	20.75	19.71

LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.60	21.58	21.48
15	1	37		21.37	21.31	21.20
15	1	74		21.14	21.05	20.98
15	36	0		20.92	20.82	20.73
15	36	18		20.71	20.53	20.44
15	36	39		20.44	20.30	20.22
15	75	0		20.21	20.08	19.93
15	1	0	16-QAM	21.34	21.34	21.25
15	1	38		21.04	21.05	20.99
15	1	75		20.74	20.84	20.77
15	36	0		20.51	20.56	20.57
15	36	18		20.22	20.30	20.30
15	36	39		19.95	20.03	20.03
15	75	0		19.67	19.78	19.78
20	1	0	QPSK	21.62	21.61	21.49
20	1	49		21.34	21.34	21.29
20	1	99		21.07	21.06	21.08
20	50	0		20.83	20.82	20.81
20	50	24		20.57	20.58	20.59
20	50	49		20.30	20.28	20.35
20	100	0		20.08	20.00	20.09
20	1	0	16-QAM	21.36	21.36	21.25
20	1	49		21.08	21.12	21.03
20	1	99		20.86	20.86	20.82
20	50	0		20.65	20.6	20.59
20	50	24		20.37	20.32	20.35
20	50	49		20.07	20.05	20.14
20	100	0		19.85	19.83	19.87

10.2 Tune-up Power

Mode	GSM850(AVG)	GSM1900(AVG)
GSM/PCS	32±1dBm	28±1dBm
GPRS (1 Slot)	32±1dBm	28±1dBm
GPRS (2 Slot)	32±1dBm	28±1dBm
GPRS (3 Slot)	31±1dBm	28±1dBm
GPRS (4 Slot)	31±1dBm	27±1dBm
EDGE (1 Slot)	26±1dBm	27±1dBm
EDGE (2 Slot)	25±1dBm	25±1dBm
EDGE (3 Slot)	24±1dBm	24.1±1dBm
EDGE (4 Slot)	23±1dBm	23±1dBm

Mode	WCDMA Band V(AVG)	WCDMA Band IV(AVG)	WCDMA Band II(AVG)
AMR	22±1dBm	21±1dBm	22±1dBm
RMC	22±1dBm	21±1dBm	22±1dBm
HSDPA Subtest-1	21±1dBm	20±1dBm	21±1dBm
HSDPA Subtest-2	21±1dBm	20±1dBm	20±1dBm
HSDPA Subtest-3	20±1dBm	19±1dBm	20±1dBm
HSDPA Subtest-4	20±1dBm	19±1dBm	20±1dBm
HSUPA Subtest-1	21±1dBm	20±1dBm	20±1dBm
HSUPA Subtest-2	20±1dBm	19±1dBm	20±1dBm
HSUPA Subtest-3	20±1dBm	19±1dBm	19±1dBm
HSUPA Subtest-4	20±1dBm	19±1dBm	19±1dBm
HSUPA Subtest-5	18±1dBm	17±1dBm	17±1dBm

Mode	2.4G WLAN(AVG)
IEEE 802.11b	15±1dBm
IEEE 802.11g	13±1dBm
IEEE 802.11n(HT 20)	12.2±1dBm
IEEE 802.11n(HT 40)	7±1dBm

Mode	5.2G WLAN(AVG)
IEEE 802.11a	13±1dBm
IEEE 802.11n HT20	13±1dBm
IEEE 802.11n HT40	12±1dBm

Mode	5.3G WLAN(AVG)
IEEE 802.11a	13.5±1dBm
IEEE 802.11n(HT 20)	13±1dBm
IEEE 802.11n(HT 40)	11±1dBm

Mode	5.6G WLAN(AVG)
IEEE 802.11a	12±1dBm
IEEE 802.11n(HT 20)	13±1dBm
IEEE 802.11n(HT 40)	11±1dBm

Mode	5.8G WLAN(AVG)
IEEE 802.11a	14±1dBm
IEEE 802.11n HT20	13.2±1dBm
IEEE 802.11n HT40	12±1dBm

Mode	BT(AVG)
GFSK	3±1dBm
π/4-DQPSK	2±1dBm
8DPSK	3±1dBm

Mode	BLE(AVG)
GFSK	0±1dBm

LTE

BW[MHz]	RBSize	Mode	Band 2	Band 4	Band 5	Band 7
1.4	1	QPSK	22±1dBm	22±1dBm	22±1dBm	N/A
1.4	3		22±1dBm	22±1dBm	22±1dBm	N/A
1.4	6		21±1dBm	21±1dBm	21±1dBm	N/A
1.4	1	16- QAM	22±1dBm	22±1dBm	22±1dBm	N/A
1.4	3		21±1dBm	21±1dBm	21±1dBm	N/A
1.4	6		21±1dBm	21±1dBm	21±1dBm	N/A
3	1	QPSK	22±1dBm	22±1dBm	22±1dBm	N/A
3	8		21±1dBm	22±1dBm	22±1dBm	N/A
3	15		21±1dBm	21±1dBm	21±1dBm	N/A
3	1	16- QAM	22±1dBm	22±1dBm	22±1dBm	N/A
3	8		21±1dBm	21±1dBm	21±1dBm	N/A
3	15		21±1dBm	21±1dBm	21±1dBm	N/A
5	1	QPSK	22±1dBm	22±1dBm	22±1dBm	22±1dBm
5	12		22±1dBm	22±1dBm	22±1dBm	21±1dBm
5	25		21±1dBm	21±1dBm	21±1dBm	21±1dBm
5	1	16- QAM	22±1dBm	22±1dBm	22±1dBm	21.5±1dBm
5	12		21±1dBm	21±1dBm	21±1dBm	21±1dBm
5	25		21±1dBm	21±1dBm	21±1dBm	20.1±1dBm
10	1	QPSK	22±1dBm	22±1dBm	23±1dBm	22±1dBm
10	25		22±1dBm	22±1dBm	22±1dBm	21±1dBm
10	50		21±1dBm	21±1dBm	21±1dBm	21±1dBm
10	1	16- QAM	22±1dBm	22±1dBm	22±1dBm	22±1dBm
10	25		22±1dBm	21±1dBm	22±1dBm	21±1dBm
10	50		21±1dBm	21±1dBm	21±1dBm	20±1dBm
15	1	QPSK	23±1dBm	23±1dBm	N/A	22±1dBm
15	36		22±1dBm	22±1dBm	N/A	21.4±1dBm
15	75		21±1dBm	21±1dBm	N/A	21±1dBm
15	1	16- QAM	22±1dBm	22±1dBm	N/A	22±1dBm
15	36		22±1dBm	22±1dBm	N/A	21±1dBm
15	75		21±1dBm	21±1dBm	N/A	20±1dBm
20	1	QPSK	23±1dBm	23±1dBm	N/A	22±1dBm
20	50		22±1dBm	22±1dBm	N/A	21.7±1dBm
20	100		21±1dBm	21±1dBm	N/A	21±1dBm
20	1	16- QAM	22±1dBm	22±1dBm	N/A	22±1dBm
20	50		22±1dBm	22±1dBm	N/A	21±1dBm
20	100		21±1dBm	21±1dBm	N/A	21±1dBm

BW[MHz]	RBSize	Mode	Band 12	Band 17	Band 41
1.4	1	QPSK	22.4±1dBm	N/A	N/A
1.4	3		22±1dBm	N/A	N/A
1.4	6		21±1dBm	N/A	N/A
1.4	1	16- QAM	22.2±1dBm	N/A	N/A
1.4	3		21.4±1dBm	N/A	N/A
1.4	6		21±1dBm	N/A	N/A
3	1	QPSK	22.9±1dBm	N/A	N/A
3	8		22±1dBm	N/A	N/A
3	15		21±1dBm	N/A	N/A
3	1	16- QAM	22.6±1dBm	N/A	N/A
3	8		21.8±1dBm	N/A	N/A
3	15		21±1dBm	N/A	N/A
5	1	QPSK	22.8±1dBm	23±1dBm	21.9±1dBm
5	12		22±1dBm	22±1dBm	21±1dBm
5	25		21±1dBm	21±1dBm	21±1dBm
5	1	16- QAM	22.6±1dBm	23±1dBm	21.6±1dBm
5	12		21.8±1dBm	22±1dBm	21±1dBm
5	25		21±1dBm	21±1dBm	20±1dBm
10	1	QPSK	22.8±1dBm	23±1dBm	21.9±1dBm
10	25		22±1dBm	22±1dBm	21±1dBm
10	50		21±1dBm	21±1dBm	20±1dBm
10	1	16- QAM	22.6±1dBm	23±1dBm	21.6±1dBm
10	25		21.8±1dBm	22±1dBm	20.9±1dBm
10	50		21±1dBm	21±1dBm	20±1dBm
15	1	QPSK	N/A	N/A	21±1dBm
15	36		N/A	N/A	20±1dBm
15	75		N/A	N/A	20±1dBm
15	1	16- QAM	N/A	N/A	21±1dBm
15	36		N/A	N/A	20±1dBm
15	75		N/A	N/A	19±1dBm
20	1	QPSK	N/A	N/A	21±1dBm
20	50		N/A	N/A	20±1dBm
20	100		N/A	N/A	20±1dBm
20	1	16- QAM	N/A	N/A	21±1dBm
20	50		N/A	N/A	20±1dBm
20	100		N/A	N/A	19±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:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHZ)]≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

• f(GHZ) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation
• The result is rounded to one decimal place for comparison

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

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

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 not required; [(2.512/5)* √2.480 =**0.79**< 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 not required; [(2.512/10)* √2.480] =**0.40**< 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; [(39.811/5)* √2.462] =**12.49**> 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; [(39.811/10)* √2.462] = **6.25**> 3.0.

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

5.2 GHz WLAN SAR was required; [(25.119/5)* √5.200] = **11.46**> 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; [(25.119/10)* √5.200] = **5.73** > 3.0.

Based on the maximum conducted power of**5.3 GHz WLAN Head** (rounded to the nearest mW) and the antenna to user separation distance,

5.3 GHz WLAN SAR was required; [(28.184/5)* √5.300] = **12.98**> 3.0.

Based on the maximum conducted power of**5.3 GHz WLAN Body**(rounded to the nearest mW) and the antenna to user separation distance,

5.3 GHz WLAN SAR was not required; [(28.184/10)* √5.300] = **6.49**> 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 required; [(25.119/5)* √5.600] = **11.89**> 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; [(25.119/10)* √5.600] = **5.94**> 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 required; [(31.623/5)* √5.800] = **15.23**> 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; [(31.623/10)* √5.800] = **7.62**> 3.0.

11. EUT And Test Setup Photo

11.1 EUT Photo

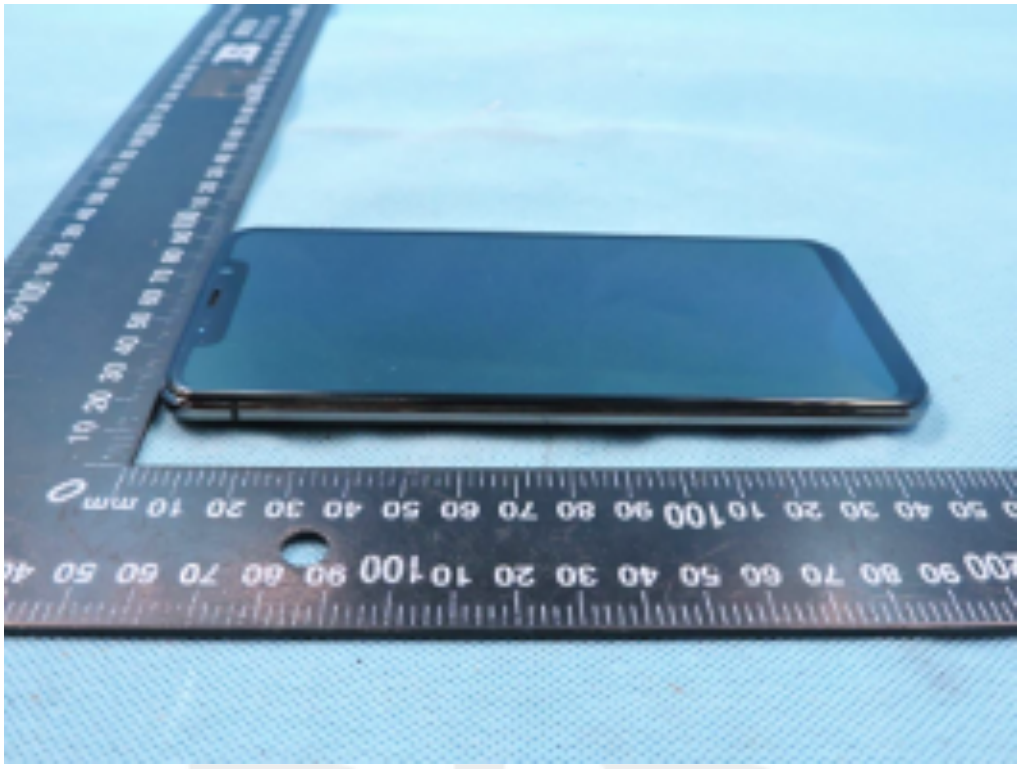
Front side

Back side

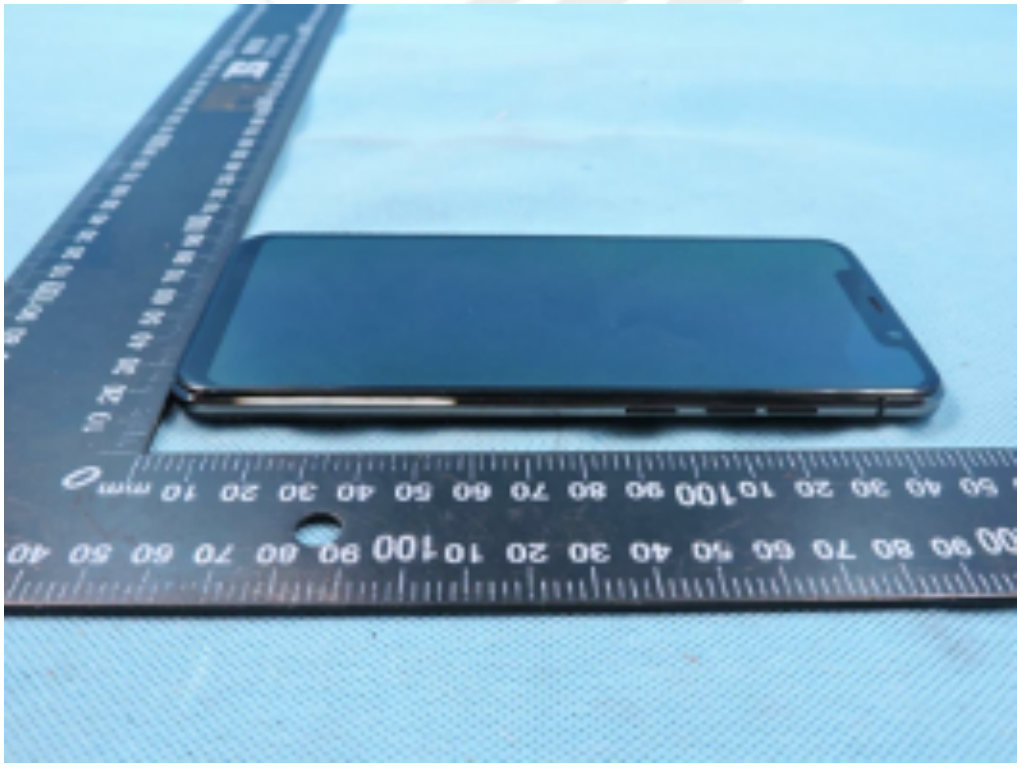
Top side

Bottom side

Left side

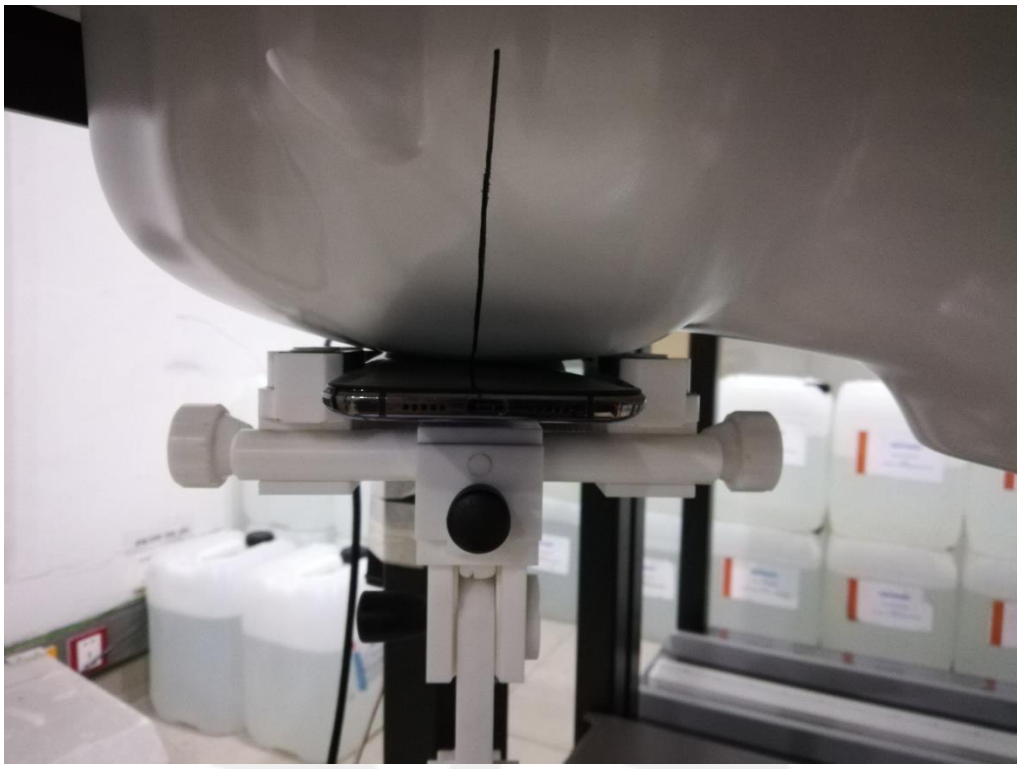


Right side

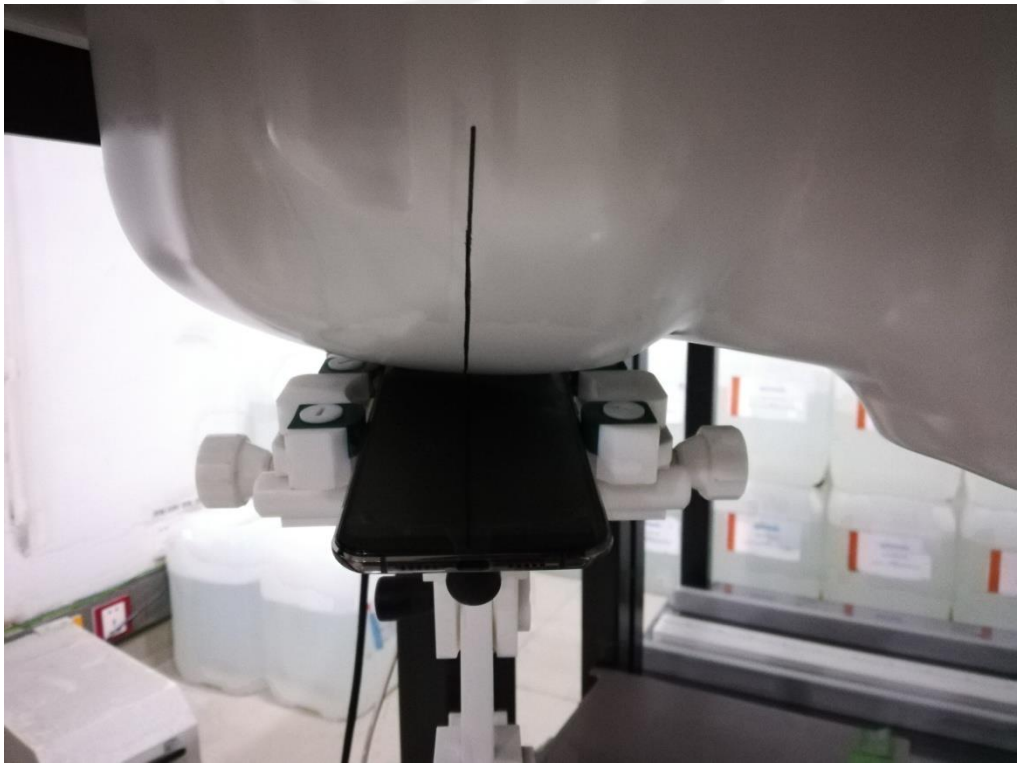


11.2 Setup Photo

Right Touch



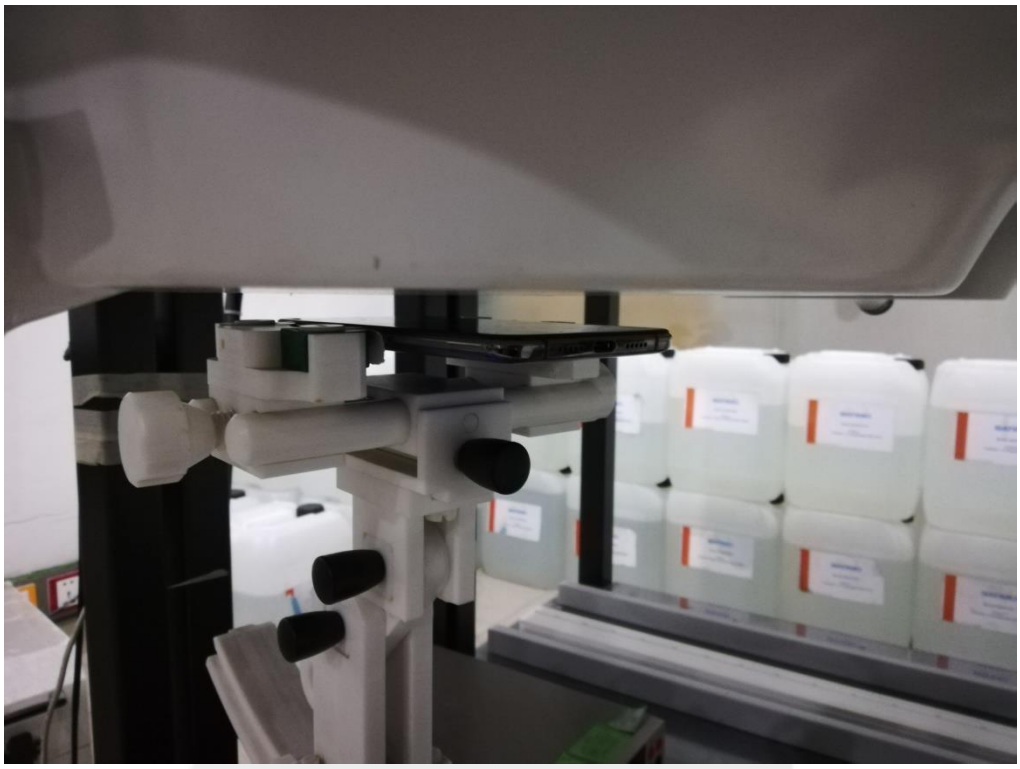
Right Tilt



Left Touch

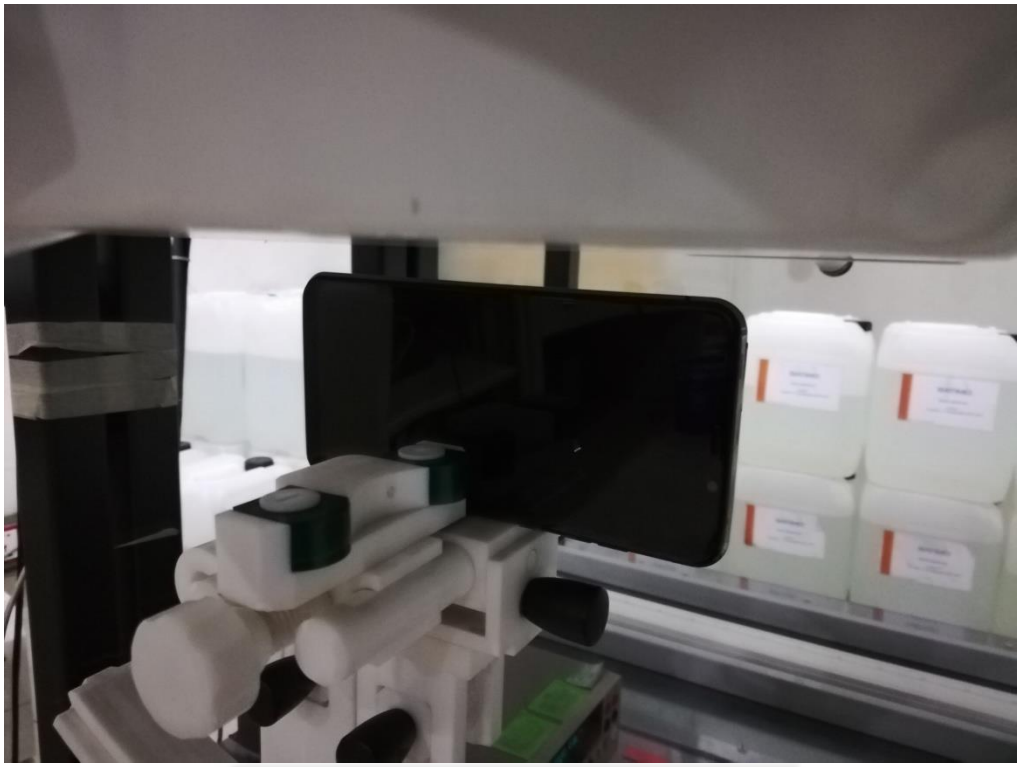
Left Tilt

Body Front side(separation distance is 10mm)

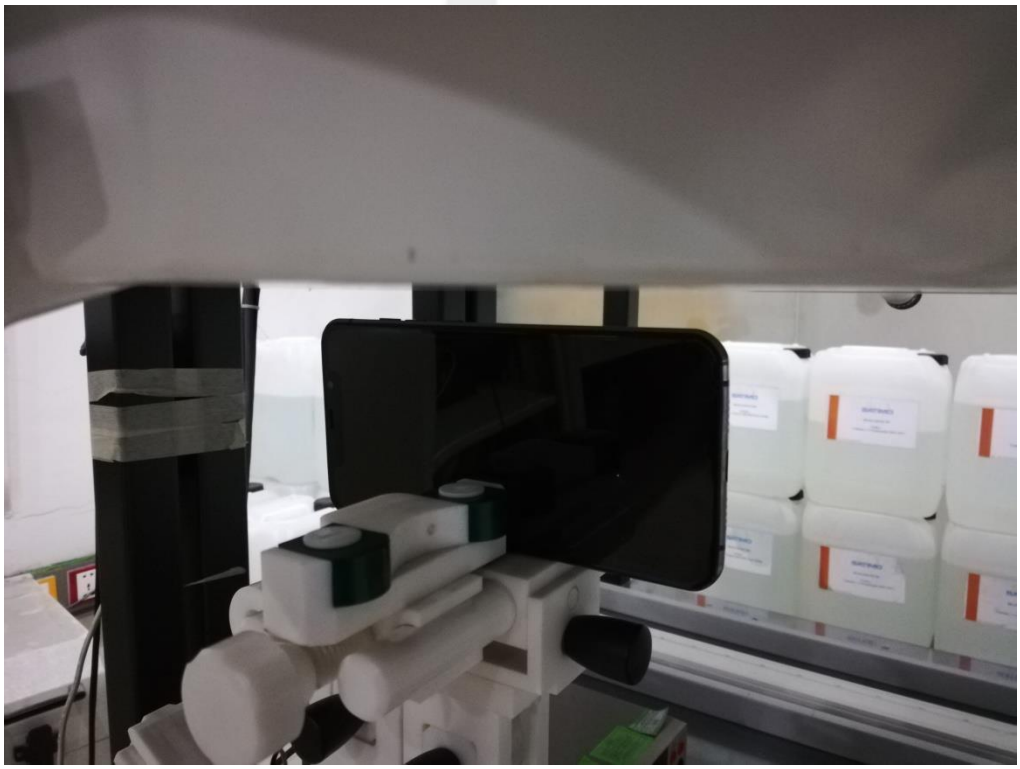


Body Back side(separation distance is 10mm)

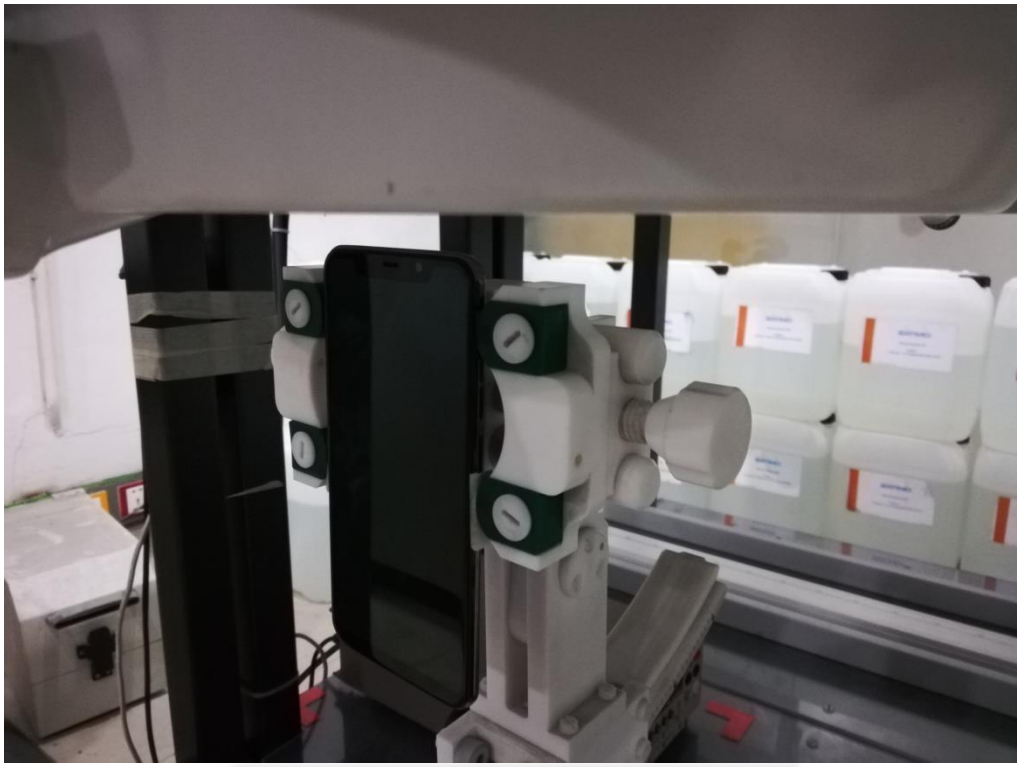
Body left side(separation distance is 10mm)



Body right side(separation distance is 10mm)

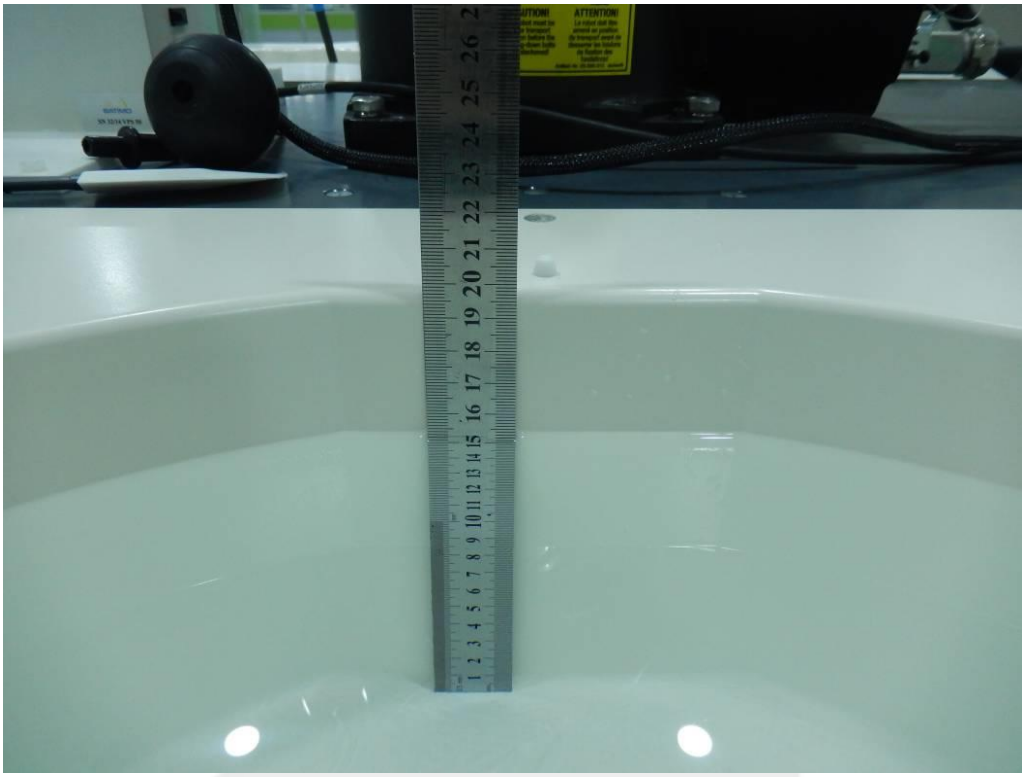


Body top side(separation distance is 10mm)



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	Voice	Right Cheek	190	0.093	2.15	33	32.56	**0.103**	1
		Right Tilt	190	0.040	2.94	33	32.56	0.044	/
		Left Cheek	190	0.043	1.10	33	32.56	0.048	/
		Left Tilt	190	0.030	2.78	33	32.56	0.033	/
GSM 850	GPRS Data-4 Slot	Right Cheek	190	0.128	4.15	32	31.24	**0.152**	2
		Right Tilt	190	0.072	1.59	32	31.24	0.086	/
		Left Cheek	190	0.084	-2.69	32	31.24	0.100	/
		Left Tilt	190	0.055	0.94	32	31.24	0.066	/
GSM1900	Voice	Right Cheek	512	0.027	-3.84	29	28.81	0.028	/
		Right Tilt	512	0.015	0.93	29	28.81	0.016	/
		Left Cheek	512	0.042	3.23	29	28.81	**0.044**	4
		Left Tilt	512	0.020	-1.76	29	28.81	0.021	/
GSM1900	GPRS Data-4 Slot	Right Cheek	512	0.182	2.91	28	27.47	0.206	/
		Right Tilt	512	0.099	0.59	28	27.47	0.112	/
		Left Cheek	512	0.259	-2.61	28	27.47	**0.293**	5
		Left Tilt	512	0.141	1.22	28	27.47	0.159	/
WCDMA II	RMC	Right Cheek	9538	0.091	1.16	23	22.41	**0.104**	7
		Right Tilt	9538	0.045	-2.28	23	22.41	0.052	/
		Left Cheek	9538	0.066	-2.66	23	22.41	0.076	/
		Left Tilt	9538	0.027	-2.46	23	22.41	0.031	/
WCDMA IV	RMC	Right Cheek	1513	0.041	-1.40	22	21.78	**0.043**	9
		Right Tilt	1513	0.018	-2.24	22	21.78	0.019	/
		Left Cheek	1513	0.033	3.15	22	21.78	0.035	/
		Left Tilt	1513	0.015	-0.82	22	21.78	0.016	/
WCDMA V	RMC	Right Cheek	4132	0.073	-2.26	23	22.75	**0.077**	11
		Right Tilt	4132	0.035	-3.87	23	22.75	0.037	/
		Left Cheek	4132	0.058	1.76	23	22.75	0.061	/
		Left Tilt	4132	0.030	-3.22	23	22.75	0.032	/

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 2.4 G	802.11b	Right Cheek	6	0.035	1.43	16	15.61	100	0.038	/
		Right Tilt	6	0.020	-2.41	16	15.61	100	0.022	/
		Left Cheek	6	0.044	0.83	16	15.61	100	**0.048**	13
		Left Tilt	6	0.029	-2.56	16	15.61	100	0.032	/

Note:

1. 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
2. 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 **0.025** W/Kg for Head)

3. 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	19100	0.087	-2.51	24	23.03	**0.109**	15
			50	0	Right Cheek	19100	0.065	-3.19	23	22.27	0.077	/
			1	0	Right Tilt	19100	0.041	-2.34	24	23.03	0.051	/
			50	0	Right Tilt	19100	0.033	-1.77	23	22.27	0.039	/
			1	0	Left Cheek	19100	0.072	1.24	24	23.03	0.090	/
			50	0	Left Cheek	19100	0.068	3.97	23	22.27	0.080	/
			1	0	Left Tilt	19100	0.035	1.56	24	23.03	0.044	/
			50	0	Left Tilt	19100	0.031	-3.27	23	22.27	0.037	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	20300	0.035	-3.49	24	23.05	**0.044**	17
			50	0	Right Cheek	20300	0.032	-0.52	23	22.36	0.037	/
			1	0	Right Tilt	20300	0.016	2.63	24	23.05	0.020	/
			50	0	Right Tilt	20300	0.014	2.69	23	22.36	0.016	/
			1	0	Left Cheek	20300	0.028	-1.78	24	23.05	0.035	/
			50	0	Left Cheek	20300	0.022	3.36	23	22.36	0.025	/
			1	0	Left Tilt	20300	0.013	1.28	24	23.05	0.016	/
			50	0	Left Tilt	20300	0.010	2.78	23	22.36	0.012	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	20450	0.059	3.57	24	23.01	**0.074**	19
			25	0	Right Cheek	20450	0.052	-2.74	23	22.24	0.062	/
			1	0	Right Tilt	20450	0.030	-3.13	24	23.01	0.038	/
			25	0	Right Tilt	20450	0.024	1.30	23	22.24	0.029	/
			1	0	Left Cheek	20450	0.043	0.96	24	23.01	0.054	/
			25	0	Left Cheek	20450	0.038	1.12	23	22.24	0.045	/
			1	0	Left Tilt	20450	0.022	-1.91	24	23.01	0.028	/
			25	0	Left Tilt	20450	0.018	1.85	23	22.24	0.021	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	20850	0.031	1.53	23	22.82	0.032	/
			50	0	Right Cheek	21350	0.022	0.73	22.7	22.10	0.025	/
			1	0	Right Tilt	20850	0.014	-3.38	23	22.82	0.015	/
			50	0	Right Tilt	21350	0.010	-1.36	22.7	22.10	0.011	/
			1	0	Left Cheek	20850	0.036	3.83	23	22.82	**0.038**	21
			50	0	Left Cheek	21350	0.025	2.56	22.7	22.10	0.029	/
			1	0	Left Tilt	20850	0.020	-3.84	23	22.82	0.021	/
			50	0	Left Tilt	21350	0.014	1.81	22.7	22.10	0.016	/
LTE Band 12	10M	QPSK	1	0	Right Cheek	23130	0.061	-3.89	23.8	23.41	0.067	/
			25	0	Right Cheek	23130	0.054	-1.67	23	22.65	0.059	/
			1	0	Right Tilt	23130	0.032	0.49	23.8	23.41	0.035	/
			25	0	Right Tilt	23130	0.026	-3.01	23	22.65	0.028	/
			1	0	Left Cheek	23130	0.067	0.15	23.8	23.41	**0.073**	23
			25	0	Left Cheek	23130	0.062	2.58	23	22.65	0.067	/
			1	0	Left Tilt	23130	0.035	-2.39	23.8	23.41	0.038	/
			25	0	Left Tilt	23130	0.030	-1.11	23	22.65	0.033	/
LTE Band 17	10M	QPSK	1	24	Right Cheek	23800	0.072	2.02	24	23.35	**0.084**	25
			25	0	Right Cheek	23800	0.068	-1.15	23	22.57	0.075	/
			1	24	Right Tilt	23800	0.037	-0.72	24	23.35	0.043	/
			25	0	Right Tilt	23800	0.033	-0.29	23	22.57	0.036	/
			1	24	Left Cheek	23800	0.065	3.87	24	23.35	0.075	/
			25	0	Left Cheek	23800	0.059	0.73	23	22.57	0.065	/
			1	24	Left Tilt	23800	0.034	3.28	24	23.35	0.039	/
			25	0	Left Tilt	23800	0.031	3.93	23	22.57	0.034	/

LTE Band 41	5M	QPSK	1	0	Right Cheek	40740	0.041	-0.33	22.9	22.55	0.044	/
			50	0	Right Cheek	40740	0.035	3.08	22	21.79	0.037	/
			1	0	Right Tilt	40740	0.026	3.34	22.9	22.55	0.028	/
			50	0	Right Tilt	40740	0.022	-3.93	22	21.79	0.023	/
			1	0	Left Cheek	40740	0.038	-0.08	22.9	22.55	0.041	/
			50	0	Left Cheek	40740	0.032	-0.17	22	21.79	0.034	/
			1	0	Left Tilt	40740	0.019	1.46	22.9	22.55	0.021	/
			50	0	Left Tilt	40740	0.018	3.90	22	21.79	0.019	/
	10M	QPSK	1	0	Right Cheek	40740	0.068	-3.12	22.9	22.57	0.073	/
			50	0	Right Cheek	40740	0.062	3.57	22	21.77	0.065	/
			1	0	Right Tilt	40740	0.032	-2.43	22.9	22.57	0.035	/
			50	0	Right Tilt	40740	0.029	1.37	22	21.77	0.031	/
			1	0	Left Cheek	40740	0.070	-0.51	22.9	22.57	0.076	/
			50	0	Left Cheek	40740	0.063	3.46	22	21.77	0.066	/
			1	0	Left Tilt	40740	0.054	-3.82	22.9	22.57	0.058	/
			50	0	Left Tilt	40740	0.047	1.45	22	21.77	0.050	/
	15M	QPSK	1	0	Right Cheek	40315	0.061	2.50	22	21.60	0.067	/
			50	0	Right Cheek	40315	0.057	-3.27	21	20.92	0.058	/
			1	0	Right Tilt	40315	0.026	3.00	22	21.60	0.029	/
			50	0	Right Tilt	40315	0.023	0.69	21	20.92	0.023	/
			1	0	Left Cheek	40315	0.066	2.58	22	21.60	0.072	/
			50	0	Left Cheek	40315	0.063	2.90	21	20.92	0.064	/
			1	0	Left Tilt	40315	0.033	-2.51	22	21.60	0.036	/
			50	0	Left Tilt	40315	0.030	-2.22	21	20.92	0.031	/
	20M	QPSK	1	0	Right Cheek	40340	0.065	-1.27	22	21.62	0.071	/
			50	0	Right Cheek	40340	0.053	0.71	21	20.83	0.055	/
			1	0	Right Tilt	40340	0.028	-1.46	22	21.62	0.031	/
			50	0	Right Tilt	40340	0.024	1.03	21	20.83	0.025	/
			1	0	Left Cheek	40340	0.077	-3.97	22	21.62	**0.084**	27
			50	0	Left Cheek	40340	0.064	-3.71	21	20.83	0.067	/
			1	0	Left Tilt	40340	0.041	-0.44	22	21.62	0.045	/
			50	0	Left Tilt	40340	0.032	-0.93	21	20.83	0.033	/

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 5.2 G	802.11a	Right Cheek	36	0.558	3.58	14	13.45	100	0.633	/
		Right Tilt	36	0.374	-1.35	14	13.45	100	0.424	/
		Left Cheek	36	0.627	-1.00	14	13.45	100	**0.712**	29
		Left Tilt	36	0.486	2.60	14	13.45	100	0.552	/
WLAN 5.3 G	802.11a	Right Cheek	52	0.397	3.74	14.5	14.46	100	0.401	/
		Right Tilt	52	0.245	2.99	14.5	14.46	100	0.247	/
		Left Cheek	52	0.510	-1.09	14.5	14.46	100	**0.515**	31
		Left Tilt	52	0.348	-1.32	14.5	14.46	100	0.351	/
WLAN 5.6 G	802.11n-HT20	Right Cheek	140	0.484	0.11	14	13.37	100	0.560	/
		Right Tilt	140	0.356	0.61	14	13.37	100	0.412	/
		Left Cheek	140	0.631	-1.67	14	13.37	100	**0.730**	33
		Left Tilt	140	0.458	0.85	14	13.37	100	0.529	/
WLAN 5.8 G	802.11a	Right Cheek	149	0.675	1.25	15	14.43	100	0.770	/
		Right Tilt	149	0.518	0.67	15	14.43	100	0.591	/
		Left Cheek	149	0.782	-2.22	15	14.43	100	**0.892**	35
		Left Cheek	157	0.654	-1.03	15	13.73	100	0.876	/
		Left Cheek	165	0.583	0.41	15	13.28	100	0.866	/
		Left Tilt	149	0.546	0.38	15	14.43	100	0.623	/

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	190	0.194	-1.38	32	31.24	0.231	/
		Back side	190	0.138	-3.02	32	31.24	0.164	/
		Left side	190	0.025	2.27	32	31.24	0.030	/
		Right side	190	0.017	0.59	32	31.24	0.020	
		Bottom side	190	0.220	-1.35	32	31.24	**0.262**	3
GSM1900	GPRS Data-4 Slot	Front side	512	0.355	-3.78	28	27.47	0.401	/
		Back side	512	0.427	3.66	28	27.47	0.482	/
		Left side	512	0.008	2.16	28	27.47	0.009	/
		Right side	512	0.006	3.17	28	27.47	0.007	
		Bottom side	512	0.756	-2.47	28	27.47	**0.854**	6
		Bottom side	661	0.721	1.65	28	27.39	0.830	/
		Bottom side	810	0.704	-0.53	28	27.28	0.831	/
WCDMA II	RMC	Front side	9538	0.333	-2.66	23	22.41	0.381	/
		Back side	9538	0.638	2.38	23.	22.41	**0.731**	8
		Left side	9538	0.127	0.46	23	22.41	0.145	/
		Right side	9538	0.108	0.29	23	22.41	0.124	
		Bottom side	9538	0.419	-3.73	23	22.41	0.480	/
WCDMA IV	RMC	Front side	1513	0.053	0.40	22	21.78	0.056	/
		Back side	1513	0.129	3.71	22	21.78	**0.136**	10
		Left side	1513	0.016	0.75	22	21.78	0.017	/
		Right side	1513	0.011	2.55	22	21.78	0.012	
		Bottom side	1513	0.094	2.86	22	21.78	0.099	/
WCDMA V	RMC	Front side	4132	0.071	-0.72	23	22.75	0.075	/
		Back side	4132	0.075	3.33	23	22.75	**0.079**	12
		Left side	4132	0.023	-1.60	23	22.75	0.024	/
		Right side	4132	0.017	2.99	23	22.75	0.018	
		Bottom side	4132	0.006	-3.90	23	22.75	0.006	/

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	6	0.052	3.33	16	15.61	100	0.057	/
		Back side	6	0.089	-2.31	16	15.61	100	**0.097**	14
		Right side	6	0.034	3.44	16	15.61	100	0.037	/
		Top side	6	0.028	1.11	16	15.61	100	0.031	/

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 **0.052** 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	18700	0.232	-3.39	24	23.03	0.290	/
			50	0	Front side	19100	0.217	1.91	23	22.27	0.257	/
			1	0	Back Side	18700	0.436	-1.52	24	23.03	0.545	/
			50	0	Back Side	19100	0.412	0.73	23	22.27	0.487	/
			1	0	Left Side	18700	0.108	-2.95	24	23.03	0.135	/
			50	0	Left Side	19100	0.095	-3.93	23	22.27	0.112	/
			1	0	Right Side	18700	0.082	2.09	24	23.03	0.103	/
			50	0	Right Side	19100	0.072	1.00	23	22.27	0.085	/
			1	0	Bottom Side	18700	0.683	1.20	24	22.73	0.915	/
			1	0	Bottom Side	18900	0.641	0.58	24	22.58	0.889	/
			1	0	Bottom Side	19100	0.753	-2.07	24	23.03	**0.941**	16
			50	0	Bottom Side	19100	0.648	3.10	23	22.27	0.767	/
LTE Band 4	20M	QPSK	1	0	Front side	20050	0.667	1.15	24	22.95	0.849	/
			1	0	Front side	20175	0.610	0.89	24	22.60	0.842	/
			1	0	Front side	20300	0.746	-0.92	24	23.05	**0.988**	18
			50	0	Front side	20300	0.631	-0.27	23	22.08	0.780	/
			1	0	Back Side	20300	0.424	-1.90	24	22.78	0.562	/
			50	0	Back Side	20300	0.375	1.22	23	22.08	0.463	/
			1	0	Left Side	20300	0.012	2.27	24	22.78	0.016	/
			50	0	Left Side	20300	0.008	-0.69	23	22.08	0.010	/
			1	0	Right Side	20300	0.007	2.96	24	22.78	0.009	/
			50	0	Right Side	20300	0.005	0.58	23	22.08	0.006	/
			1	0	Bottom Side	20300	0.243	1.24	24	22.78	0.322	/
			50	0	Bottom Side	20300	0.215	2.89	23	22.08	0.266	/
LTE Band 5	10M	QPSK	1	0	Front side	20450	0.376	-0.17	24	23.01	0.472	/
			25	0	Front side	20450	0.324	-3.65	23	22.24	0.386	/
			1	0	Back Side	20450	0.731	1.11	24	23.01	**0.918**	20
			1	0	Back Side	20525	0.612	0.12	24	22.64	0.837	/
			1	0	Back Side	20600	0.627	0.63	24	22.78	0.830	/
			25	0	Back Side	20450	0.651	-2.03	23	22.24	0.775	/
			1	0	Left Side	20450	0.225	-3.68	24	23.01	0.283	/
			25	0	Left Side	20450	0.176	-0.34	23	22.24	0.210	/
			1	0	Right Side	20450	0.194	4.02	24	23.01	0.244	/
			25	0	Right Side	20450	0.183	-3.05	23	22.24	0.218	/
			1	0	Bottom Side	20450	0.105	-3.55	24	23.01	0.132	/
			25	0	Bottom Side	20450	0.083	0.04	23	22.24	0.099	/

LTE Band 7	20M	QPSK	1	0	Front side	20850	0.068	3.76	23	22.82	0.071	/
			50	0	Front side	21350	0.055	-2.56	22.7	22.10	0.063	/
			1	0	Back Side	20850	0.103	0.13	23	22.82	**0.107**	22
			50	0	Back Side	21350	0.085	2.87	22.7	22.10	0.098	/
			1	0	Left Side	20850	0.016	-2.62	23	22.82	0.017	/
			50	0	Left Side	21350	0.008	0.89	22.7	22.10	0.009	/
			1	0	Right Side	20850	0.006	3.96	23	22.82	0.006	/
			50	0	Right Side	21350	0.004	-0.08	22.7	22.10	0.005	/
			1	0	Bottom Side	20850	0.046	-1.58	23	22.82	0.048	/
			50	0	Bottom Side	21350	0.029	-3.11	22.7	22.10	0.033	/
LTE Band 12	10M	QPSK	1	0	Front side	23130	0.086	-2.81	23.8	23.41	**0.094**	24
			25	0	Front side	23130	0.063	1.64	23	22.65	0.068	/
			1	0	Back Side	23130	0.057	-3.20	23.8	23.41	0.062	/
			25	0	Back Side	23130	0.041	2.23	23	22.65	0.044	/
			1	0	Left Side	23130	0.013	-1.34	23.8	23.41	0.014	/
			25	0	Left Side	23130	0.006	-1.04	23	22.65	0.007	/
			1	0	Right Side	23130	0.010	2.07	23.8	23.41	0.011	/
			25	0	Right Side	23130	0.007	3.66	23	22.65	0.008	/
			1	0	Bottom Side	23130	0.055	2.88	23.8	23.41	0.060	/
			25	0	Bottom Side	23130	0.036	-0.38	23	22.65	0.039	/
LTE Band 17	10M	QPSK	1	24	Front side	23800	0.079	2.95	24	23.35	0.092	/
			25	0	Front side	23800	0.056	1.15	23	22.57	0.062	/
			1	24	Back Side	23800	0.124	-0.79	24	23.35	**0.144**	26
			25	0	Back Side	23800	0.101	-3.07	23	22.57	0.112	/
			1	24	Left Side	23800	0.017	-1.59	24	23.35	0.020	/
			25	0	Left Side	23800	0.012	2.85	23	22.57	0.013	/
			1	24	Right Side	23800	0.013	-0.58	24	23.35	0.015	/
			25	0	Right Side	23800	0.011	1.73	23	22.57	0.012	/
			1	24	Bottom Side	23800	0.053	0.68	24	23.35	0.062	/
			25	0	Bottom Side	23800	0.039	1.34	23	22.57	0.043	/

LTE Band 41	5M	QPSK	1	0	Front side	40740	0.472	-1.47	22.9	22.55	0.512	/
			50	0	Front side	40740	0.449	3.18	22	21.79	0.471	/
			1	0	Back Side	40740	0.526	-3.09	22.9	22.55	0.570	/
			50	0	Back Side	40740	0.504	4.00	22	21.79	0.529	/
			1	0	Left Side	40740	0.160	2.61	22.9	22.55	0.173	/
			50	0	Left Side	40740	0.154	-3.76	22	21.79	0.162	/
			1	0	Right Side	40740	0.139	-3.03	22.9	22.55	0.151	/
			50	0	Right Side	40740	0.132	-2.72	22	21.79	0.139	/
			1	0	Bottom Side	40740	0.295	3.23	22.9	22.55	0.320	/
			50	0	Bottom Side	40740	0.289	-2.27	22	21.79	0.303	/
	10M	QPSK	1	0	Front side	40740	0.507	-1.03	22.9	22.57	0.547	/
			50	0	Front side	40740	0.503	2.68	22	21.77	0.530	/
			1	0	Back Side	40740	0.587	-3.29	22.9	22.57	0.633	/
			50	0	Back Side	40740	0.559	2.31	22	21.77	0.589	/
			1	0	Left Side	40740	0.192	-3.93	22.9	22.57	0.207	/
			50	0	Left Side	40740	0.177	2.15	22	21.77	0.187	/
			1	0	Right Side	40740	0.125	-3.79	22.9	22.57	0.135	/
			50	0	Right Side	40740	0.119	-0.53	22	21.77	0.125	/
			1	0	Bottom Side	40740	0.392	0.53	22.9	22.57	0.423	/
			50	0	Bottom Side	40740	0.381	0.84	22	21.77	0.402	/
	15M	QPSK	1	0	Front side	40315	0.581	-0.10	22	21.60	0.637	/
			50	0	Front side	40315	0.553	-3.64	21	20.92	0.563	/
			1	0	Back Side	40315	0.640	2.52	22	21.60	0.702	/
			50	0	Back Side	40315	0.625	2.20	21	20.92	0.637	/
			1	0	Left Side	40315	0.203	-3.15	22	21.60	0.223	/
			50	0	Left Side	40315	0.179	-1.85	21	20.92	0.182	/
			1	0	Right Side	40315	0.164	-3.54	22	21.60	0.180	/
			50	0	Right Side	40315	0.155	-1.37	21	20.92	0.158	/
			1	0	Bottom Side	40315	0.353	3.14	22	21.60	0.387	/
			50	0	Bottom Side	40315	0.341	-0.36	21	20.92	0.347	/
	20M	QPSK	1	0	Front side	40340	0.414	1.03	22	21.62	0.452	/
			50	0	Front side	40340	0.358	-3.17	21	20.83	0.372	/
			1	0	Back Side	40340	0.674	2.72	22	21.62	**0.736**	28
			50	0	Back Side	40340	0.605	-0.27	21	20.83	0.629	/
			1	0	Left Side	40340	0.211	0.26	22	21.62	0.230	/
			50	0	Left Side	40340	0.136	-1.98	21	20.83	0.141	/
			1	0	Right Side	40340	0.183	1.29	22	21.62	0.200	/
			50	0	Right Side	40340	0.149	-1.55	21	20.83	0.155	/
			1	0	Bottom Side	40340	0.361	2.01	22	21.62	0.394	/
			50	0	Bottom Side	40340	0.312	-1.61	21	20.83	0.324	/

12.3 Body-worn SAR

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 5.2 G	802.11a	Front side	36	0.062	1.67	14	13.45	100	0.070	/
		Back side	36	0.097	2.13	14	13.45	100	**0.110**	30
WLAN 5.3 G	802.11a	Front side	52	0.012	-2.41	14.5	14.46	100	0.012	/
		Back side	52	0.027	3.97	14.5	14.46	100	**0.027**	32
WLAN 5.6 G	802.11n -HT20	Front side	140	0.067	-2.20	14	13.37	100	0.077	/
		Back side	140	0.101	0.14	14	13.37	100	**0.117**	34
WLAN 5.8 G	802.11a	Front side	149	0.091	1.90	15	14.43	100	0.104	/
		Back side	149	0.115	-1.39	15	14.43	100	**0.131**	36

Repeated 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 1900	GPRS Data-4 Slot	Bottom side	512	0.773	1.68	28	27.47	0.873	/
LTE Band 2	QPSK	Bottom side	19100	0.768	-1.92	24	23.03	0.960	/
LTE Band 4	QPSK	Front side	20300	0.713	1.06	24	23.05	0.887	/
LTE Band 5	QPSK	Back side	20450	0.752	0.67	24	23.01	0.945	/
WLAN 5.8G	802.11a	Left cheek	149	0.763	-1.52	15	14.43	0.870	/

12.4 repeated SAR measurement

Band	Mode	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
GSM 1900	GPRS Data-4 Slot	Bottom side	512	0.756	0.773	0.98	-	-	-
LTE Band 2	QPSK	Bottom side	19100	0.753	0.768	0.98	-	-	-
LTE Band 4	QPSK	Front side	20300	0.746	0.713	1.05	-	-	-
LTE Band 5	QPSK	Back side	20450	0.731	0.752	0.97	-	-	-
WLAN 5.8G	802.11 a	Left cheek	149	0.782	0.763	1.02	-	-	-

Note:

1. Per KDB 865664 D01V01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is≥0.8W/Kg.
2. Per KDB 865664 D01V01,if the ratio of largest to smallest SAR for the original and first repeated measurement is≤1.2and the measured SAR＜1.45W/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 ≥ 1.45W/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. GSM + 5G WLAN
	4.WCDMA + WLAN
	5.WCDMA + Bluetooth
	6. WCDMA + 5G WLAN
	7.LTE + WLAN
	8.LTE + Bluetooth
	9. LTE + 5G WLAN
Body	1. GSM + WLAN
	2. GSM + Bluetooth
	3. GSM + 5G WLAN
	4.WCDMA + WLAN
	5.WCDMA + Bluetooth
	6. WCDMA + 5G WLAN
	7.LTE + WLAN
	8.LTE + Bluetooth
	9. LTE + 5G WLAN

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≦50mm,Bluetooth standalone SAR is excluded according to [(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm) [√f (GHz) /x] ≦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) (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f (GHz) /x] W/kg for test separation distances≤ 50 mm;
   Where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
   b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

Estimated SAR		Maximum Power		Antenna to user(mm)	Frequency(GHz)	Stand alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	4	2.512	5	2.480	0.105
	Body			10	2.480	0.053

Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + 2.4GHz WLAN	Head	GSM Voice	0.293	0.341
		2.4GHz WLAN	0.048	
	Body	GSM DATA	0.854	0.951
		2.4GHz WLAN	0.097	
WCDMA RMC+ 2.4GHz WLAN	Head	WCDMA RMC	0.104	0.152
		2.4GHz WLAN	0.048	
	Body	WCDMA RMC	0.731	0.828
		2.4GHz WLAN	0.097	
LTE + 2.4GHz WLAN	Head	LTE	0.109	0.157
		2.4GHz WLAN	0.048	
	Body	LTE	0.988	1.085
		2.4GHz WLAN	0.097	
GSM + Bluetooth	Head	GSM Voice	0.293	0.398
		Bluetooth	0.105	
	Body	GSM Data	0.854	0.907
		Bluetooth	0.053	
WCDMA + Bluetooth	Head	WCDMA RMC	0.104	0.209
		Bluetooth	0.105	
	Body	WCDMA RMC	0.731	0.784
		Bluetooth	0.053	
LTE + Bluetooth	Head	LTE	0.109	0.214
		Bluetooth	0.105	
	Body	LTE	0.988	1.041
		Bluetooth	0.053	
GSM + 5.2GHz WLAN	Head	GSM Voice	0.293	1.005
		5.2GHz WLAN	0.712	
	Body	GSM Data	0.854	0.964
		5.2GHz WLAN	0.110	
WCDMA + 5.2GHz WLAN	Head	WCDMA RMC	0.104	0.816
		5.2GHz WLAN	0.712	
	Body	WCDMA RMC	0.731	0.841
		5.2GHz WLAN	0.110	
LTE + 5.2GHz WLAN	Head	LTE	0.109	0.821
		5.2GHz WLAN	0.712	
	Body	LTE	0.988	1.098
		5.2GHz WLAN	0.110	

GSM + 5.3GHz WLAN	Head	GSM Voice	0.293	0.808
		5.3GHz WLAN	0.515	
	Body	GSM Data	0.854	0.881
		5.3GHz WLAN	0.027	
WCDMA + 5.3GHz WLAN	Head	WCDMA RMC	0.104	0.619
		5.3GHz WLAN	0.515	
	Body	WCDMA RMC	0.731	0.758
		5.3GHz WLAN	0.027	
LTE + 5.3GHz WLAN	Head	LTE	0.109	0.624
		5.3GHz WLAN	0.515	
	Body	LTE	0.988	1.015
		5.3GHz WLAN	0.027	
GSM + 5.6GHz WLAN	Head	GSM Voice	0.293	1.023
		5.6GHz WLAN	0.730	
	Body	GSM Data	0.854	0.971
		5.6GHz WLAN	0.117	
WCDMA + 5.6GHz WLAN	Head	WCDMA RMC	0.104	0.834
		5.6GHz WLAN	0.730	
	Body	WCDMA RMC	0.731	0.848
		5.6GHz WLAN	0.117	
LTE + 5.6GHz WLAN	Head	LTE	0.109	0.839
		5.6GHz WLAN	0.730	
	Body	LTE	0.988	1.105
		5.6GHz WLAN	0.117	
GSM + 5.8GHz WLAN	Head	GSM Voice	0.293	**1.185**
		5.8GHz WLAN	0.892	
	Body	GSM Data	0.854	0.985
		5.8GHz WLAN	0.131	
WCDMA + 5.8GHz WLAN	Head	WCDMA RMC	0.104	0.996
		5.8GHz WLAN	0.892	
	Body	WCDMA RMC	0.731	0.862
		5.8GHz WLAN	0.131	
LTE + 5.8GHz WLAN	Head	LTE	0.109	1.001
		5.8GHz WLAN	0.892	
	Body	LTE	0.988	**1.119**
		5.8GHz WLAN	0.131	

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
Waveguide	MVG	SWG5500	SN 13/14 WGA32	2017.08.15	2020.08.14
E-Field Probe	MVG	SSE2	SN 45/15 EPGO281	2018.04.10	2019.04.09
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2017.12.03	2018.12.02
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	2014.09.01	N/A
Phantom2	MVG	SAM	SN 32/14 SAM116	2014.09.01	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	2014.09.01	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	2014.09.01	N/A
Network Analyzer	Agilent	8753ES	US38432810	2018.03.08	2019.03.07
Multi Meter	Keithley	Multi Meter 2000	4050073	2018.10.13	2019.10.12
Signal Generator	Agilent	N5182A	MY50140530	2018.10.16	2019.10.15
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2018.10.16	2019.10.15
Wireless Communication Test Set	R&S	CMW500	117239	2018.10.13	2019.10.12
Power Amplifier	DESAY	ZHL-42W	9638	2018.10.13	2019.10.12
Power Meter	R&S	NRP	100510	2018.10.26	2019.10.25
Power Meter	Agilent	E4418B	GB43312526	2018.10.26	2019.10.25
Power Sensor	R&S	NRP-Z11	101919	2018.10.13	2019.10.12
Power Sensor	Agilent	E9301A	MY41497725	2018.10.13	2019.10.12
9dB Attenuator	Agilent	99899	DC-18GHz	2018.05.09	2019.05.08
11dB Attenuator	Agilent	8494B	DC-18GHz	2018.05.09	2019.05.08
110dB Attenuator	Agilent	8494B	DC-18GHz	2018.05.09	2019.05.08
Directional coupler	Narda	4226-20	3305	2018.05.09	2019.05.08
hygrothermograph	MiEO	HH660	N/A	2018.10.11	2019.10.10
Thermograph	Elitech	RC-4	S/N EF7176501537	2018.10.15	2019.10.14

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
3. Return-loss in within 20% of calibrated measurement

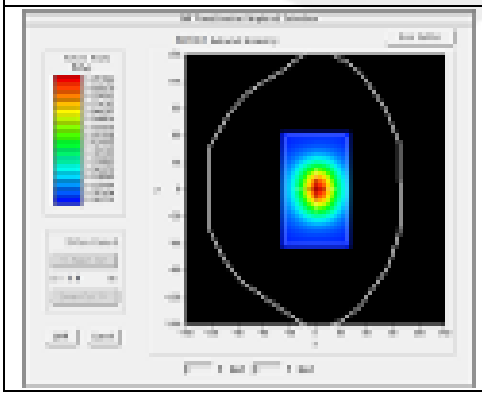
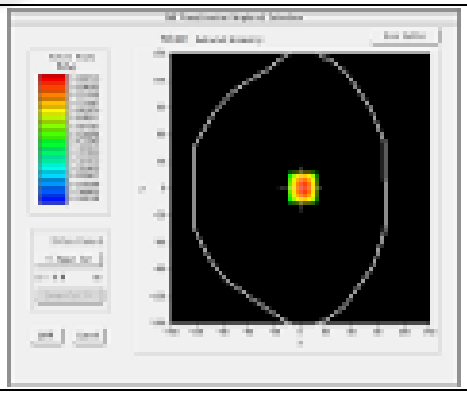
Appendix A. System Validation Plots

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: 2018-11-02

Experimental conditions

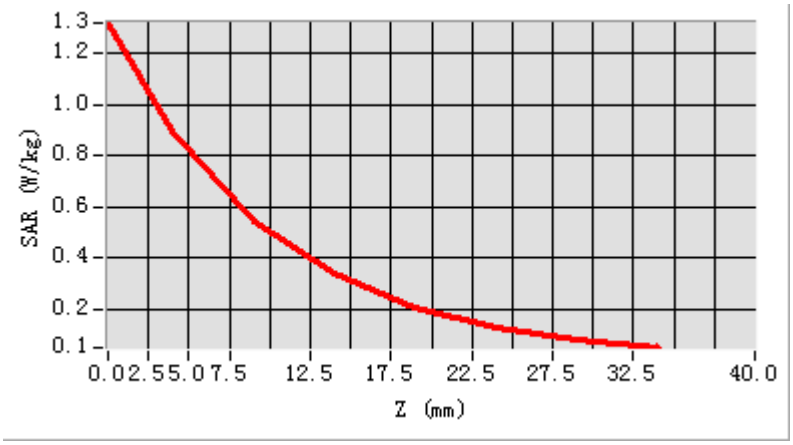
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	42.49
Conductivity (S/m)	0.86
Power drift (%)	-0.20
Probe	SN 45/15 EPGO281
ConvF:	1.53
Crest factor:	1:1

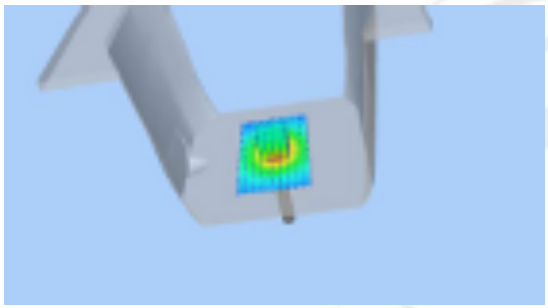
SURFACE SAR	VOLUME SAR
	

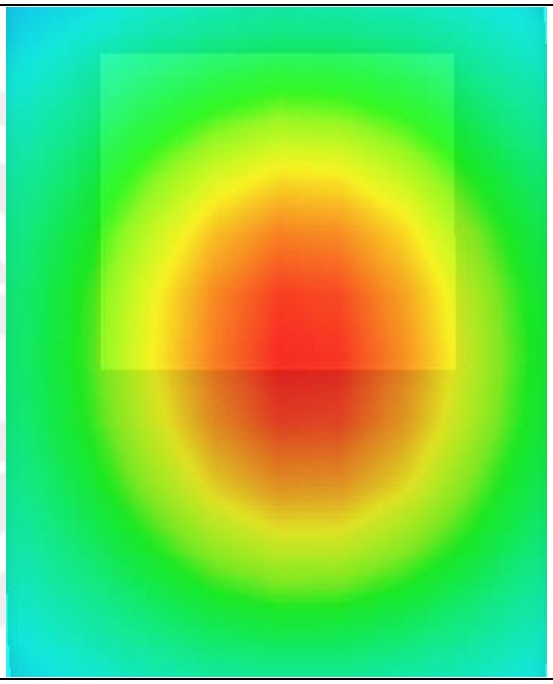
Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.518625
SAR 1g (W/Kg)	0.840854

Z Axis Scan


1.3
1.2
1.0
0.8
0.6
0.4
0.2
0.1
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



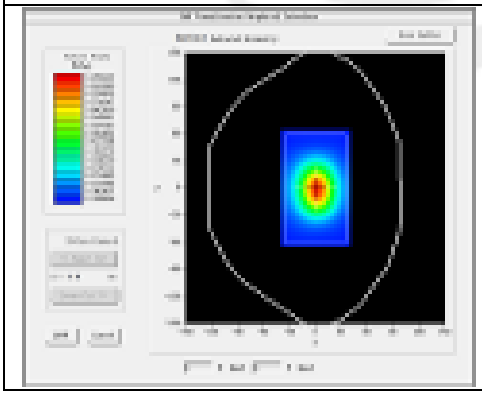
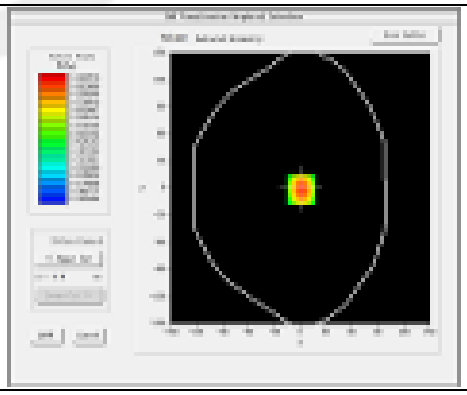


System Performance Check Data(750MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-02

Experimental conditions.

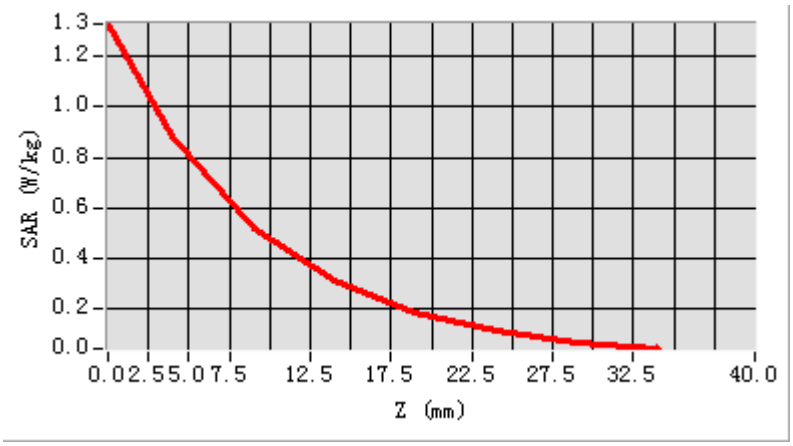
Probe	
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	56.45
Conductivity (S/m)	0.99
Power drift (%)	1.44
Probe	SN 45/15 EPGO281
ConvF:	1.59
Crest factor:	1:1

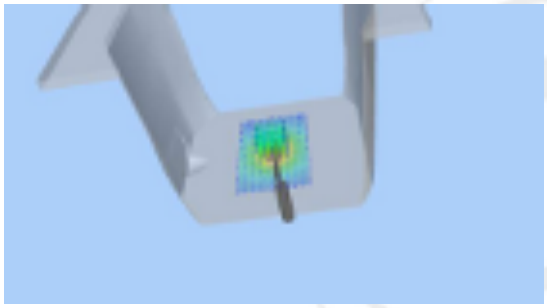
SURFACE SAR	VOLUME SAR
	

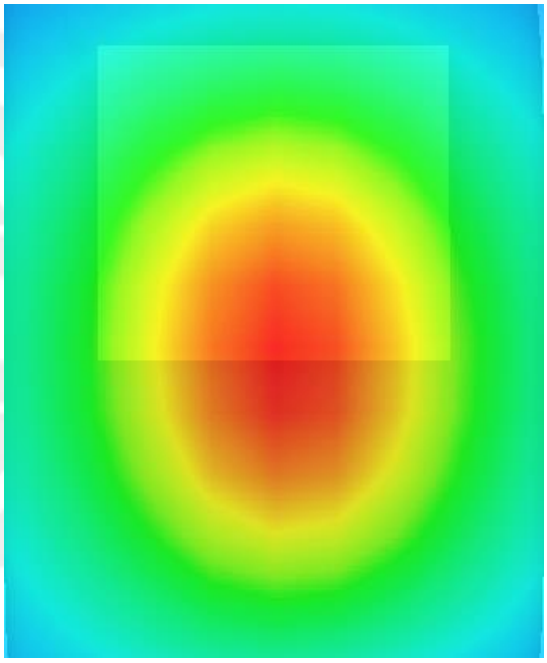
Maximum location: X=1.00, Y=-1.00

SAR 10g (W/Kg)	0.541368
SAR 1g (W/Kg)	0.821086

Z Axis Scan


1.3
1.2
1.0
0.8
0.6
0.4
0.2
0.0
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)





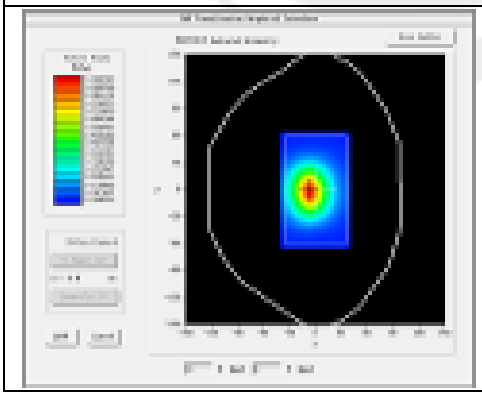
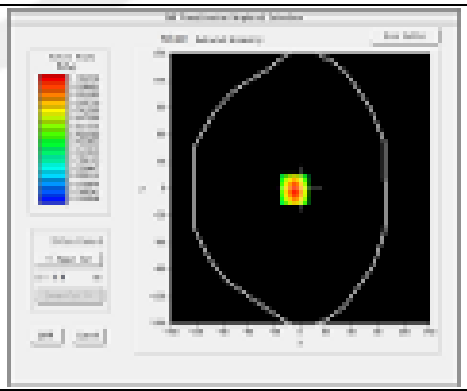
System Performance Check Data(835MHz Head)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-03

Experimental conditions

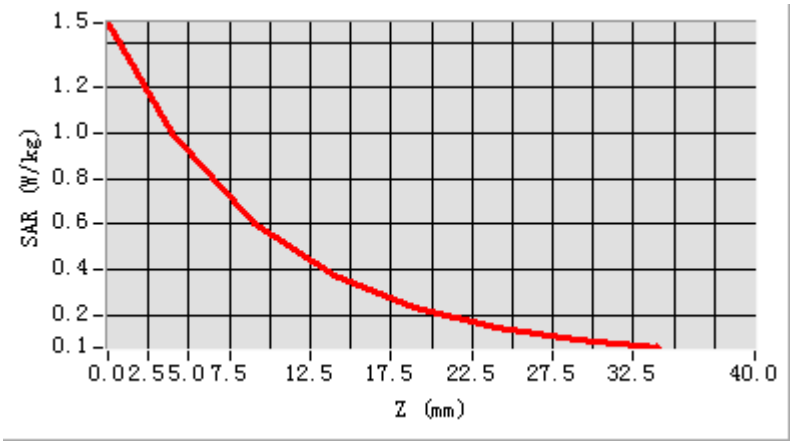
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.55
Conductivity (S/m)	0.93
Power drift (%)	0.07
Probe	SN 45/15 EPGO281
ConvF:	1.78
Crest factor:	1:1

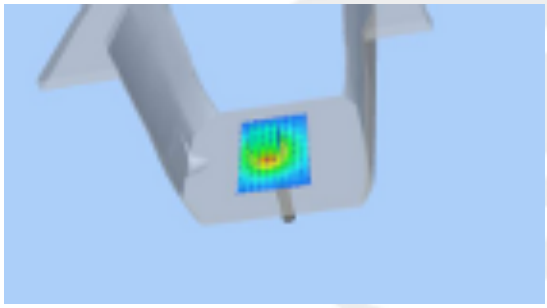
SURFACE SAR	VOLUME SAR
	

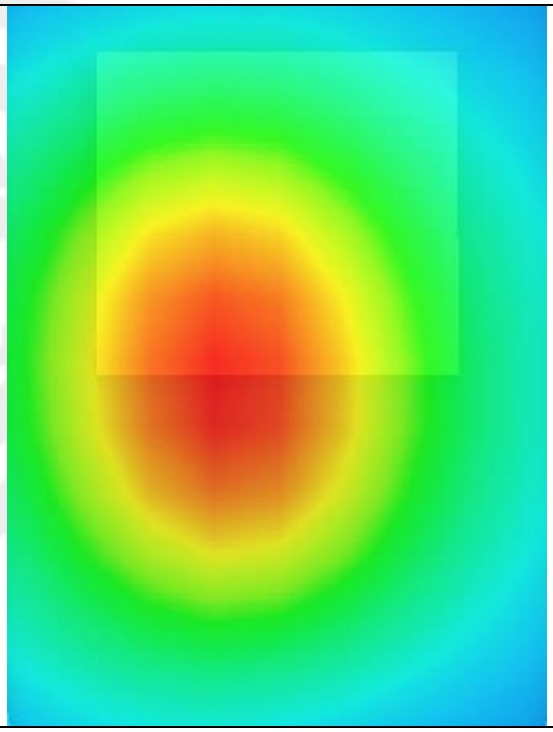
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.617852
SAR 1g (W/Kg)	0.960131

Z Axis Scan


SAR (W/kg)
1.5
1.2
1.0
0.8
0.6
0.4
0.2
0.1
0.0
2.5
5.0
7.5
12.5
17.5
22.5
27.5
32.5
40.0
Z (mm)



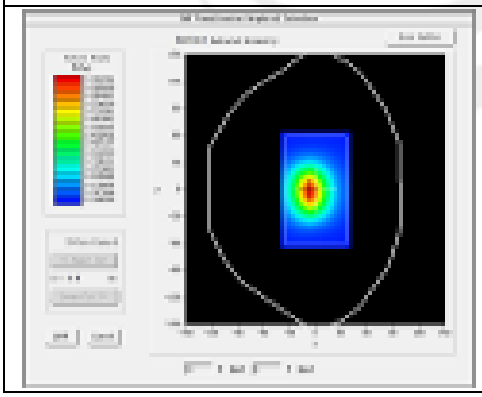
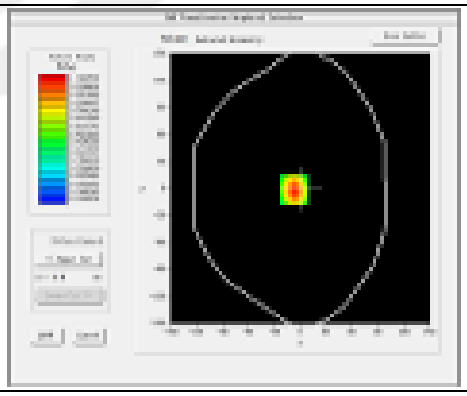


System Performance Check Data(835MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-03

Experimental conditions.

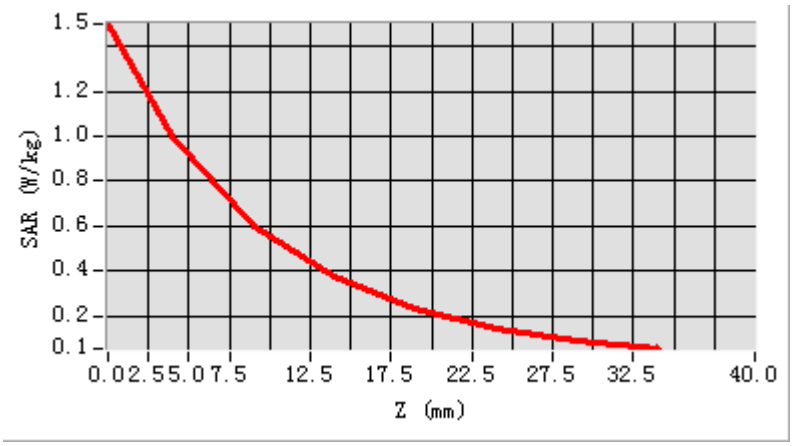
Probe	
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	56.07
Conductivity (S/m)	0.96
Power drift (%)	-0.37
Probe	SN 45/15 EPGO281
ConvF:	1.85
Crest factor:	1:1

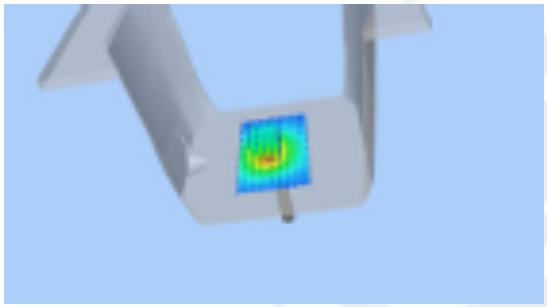
SURFACE SAR	VOLUME SAR
	

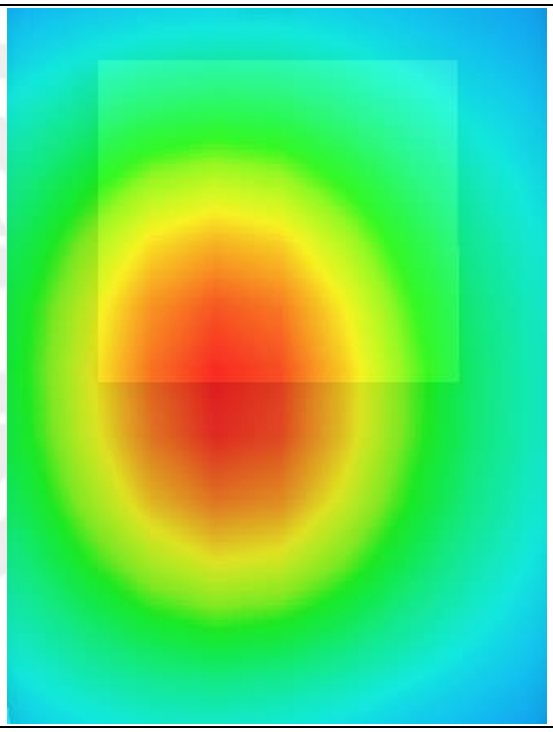
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.625045
SAR 1g (W/Kg)	0.914976

Z Axis Scan


1.5
1.2
1.0
0.8
0.6
0.4
0.2
0.1
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



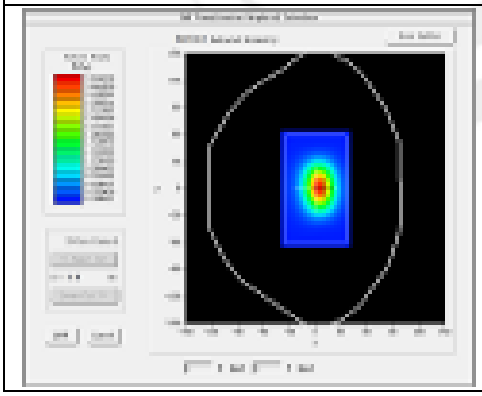
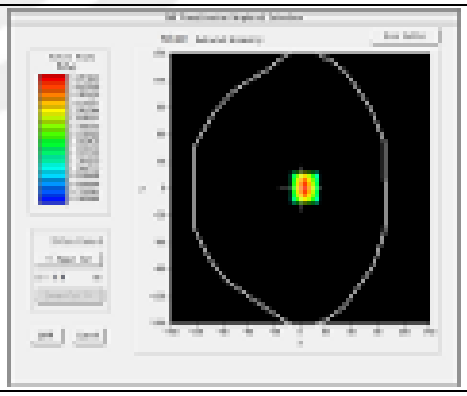


System Performance Check Data(1800MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-05

Experimental conditions.

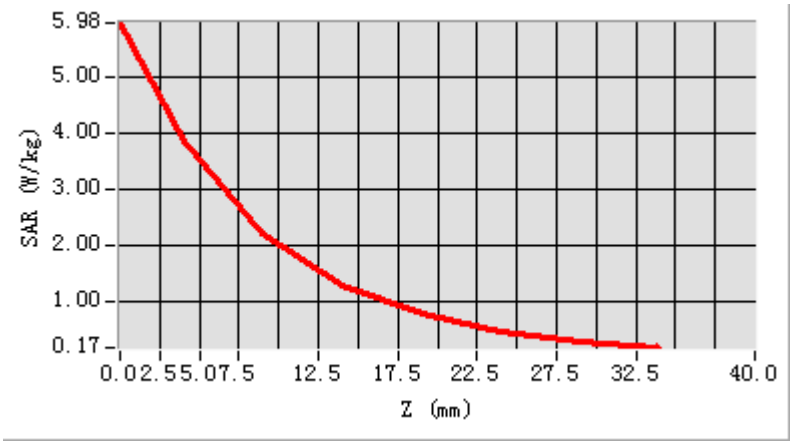
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	39.05
Conductivity (S/m)	1.41
Power drift (%)	0.23
Probe	SN 45/15 EPGO281
ConvF	1.83
Crest factor:	1:1

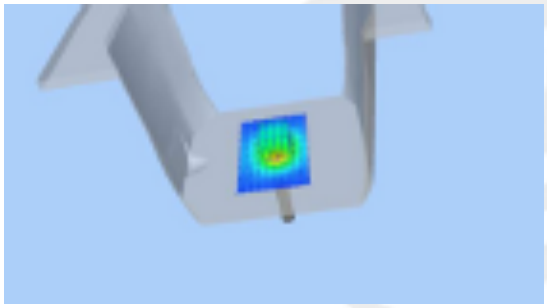
SURFACE SAR	VOLUME SAR
	

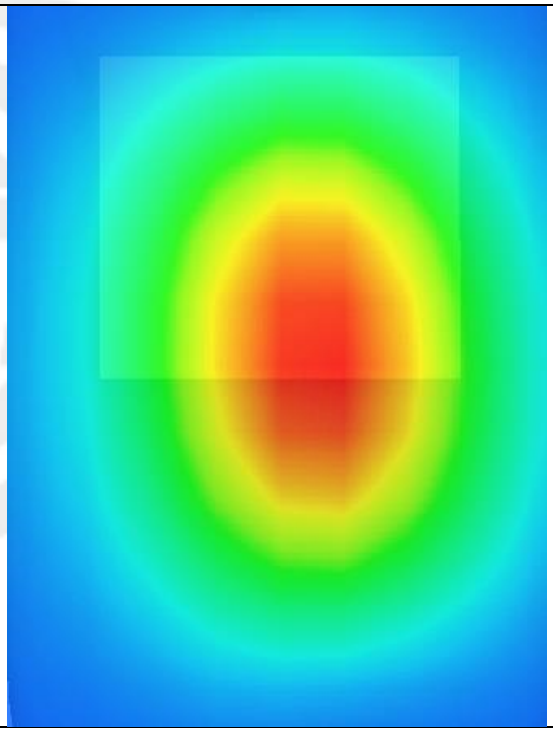
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	2.015859
SAR 1g (W/Kg)	3.902699

Z Axis Scan


5.98
5.00
4.00
3.00
2.00
1.00
0.17
SAR (W/kg)
0.0
2.5
5.0
7.5
12.5
17.5
22.5
27.5
32.5
40.0
Z (mm)



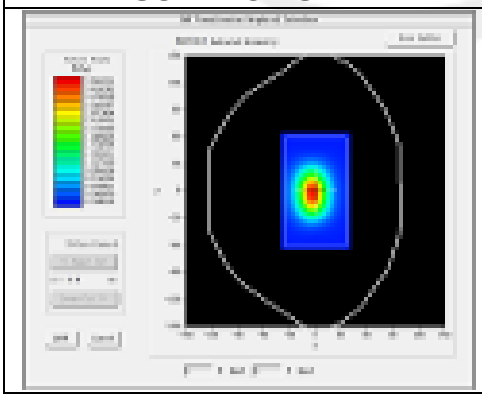
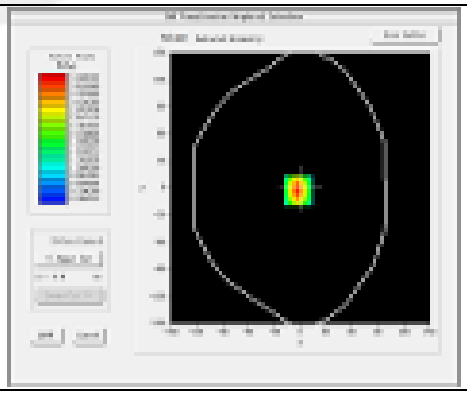


System Performance Check Data(1800MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-05

Experimental conditions.

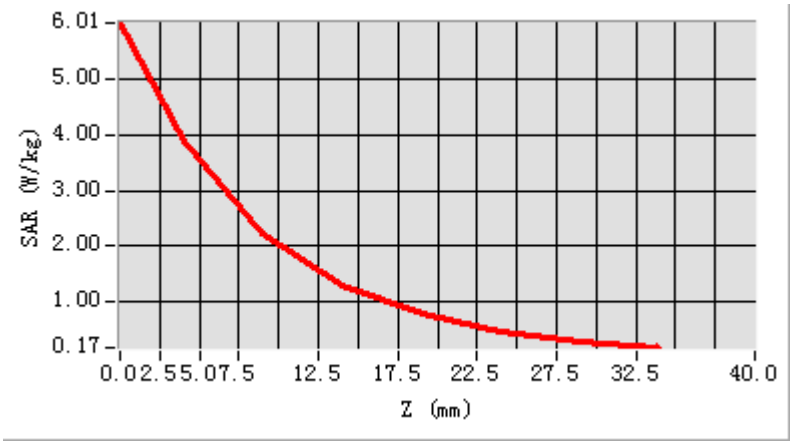
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	53.67
Conductivity (S/m)	1.46
Power drift (%)	-0.28
Probe	SN 45/15 EPGO281
ConvF	1.87
Crest factor:	1:1

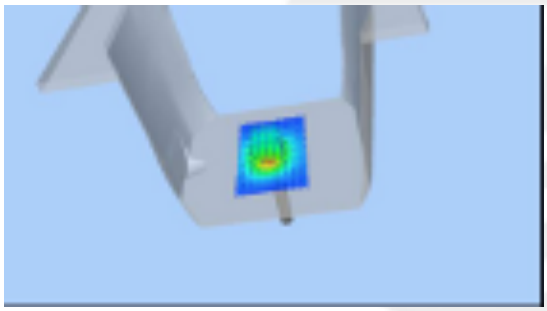
SURFACE SAR	VOLUME SAR
	

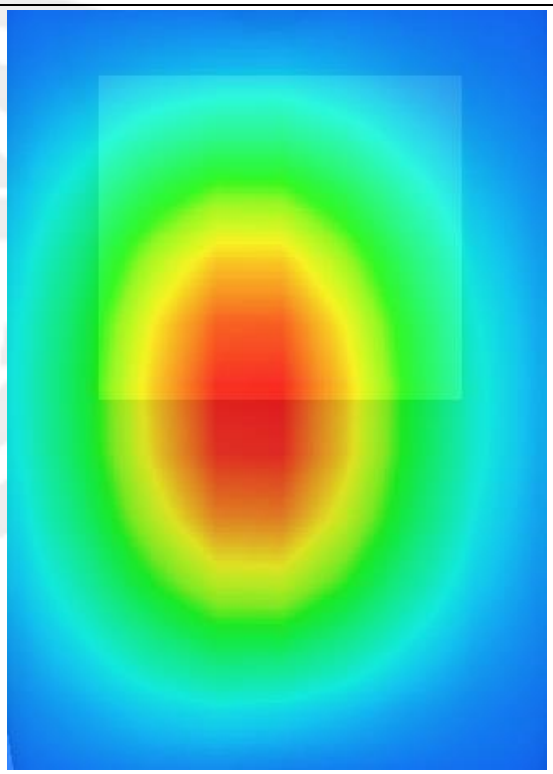
Maximum location: X=-3.00, Y=-2.00

SAR 10g (W/Kg)	2.030664
SAR 1g (W/Kg)	3.914411

Z Axis Scan


6.01
5.00
4.00
3.00
2.00
1.00
0.17
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



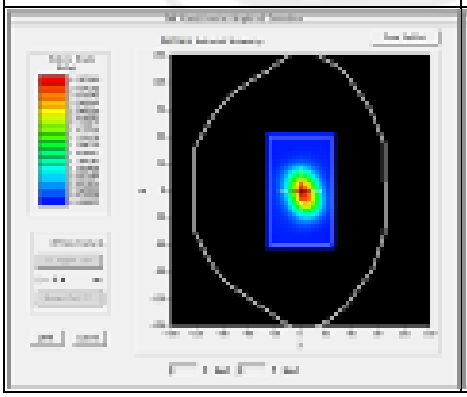
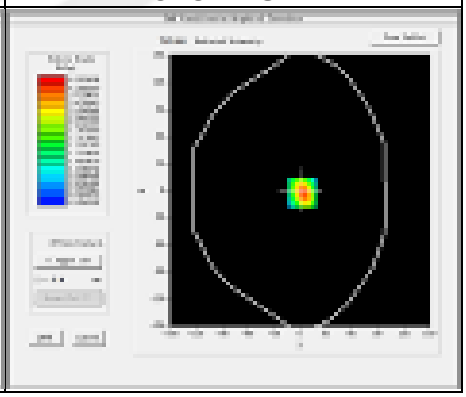


System Performance Check Data(1900MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-06

Experimental conditions.

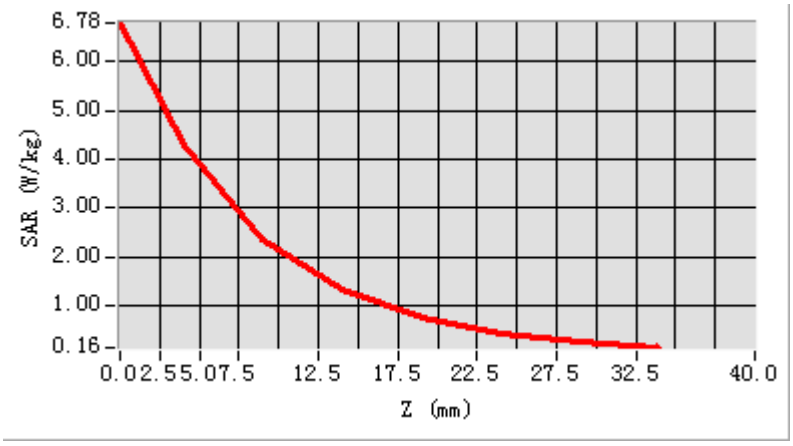
Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	38.30
Conductivity (S/m)	1.42
Power drift (%)	0.46
Probe	SN 45/15 EPGO281
ConvF:	2.10
Crest factor:	1:1

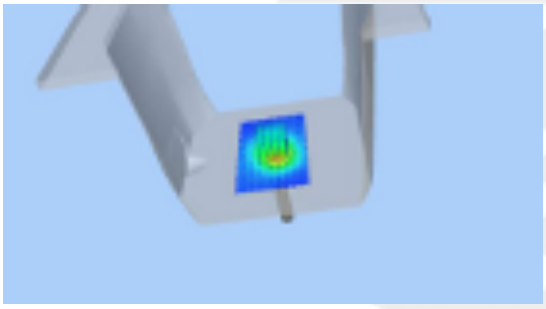
SURFACE SAR	VOLUME SAR
	

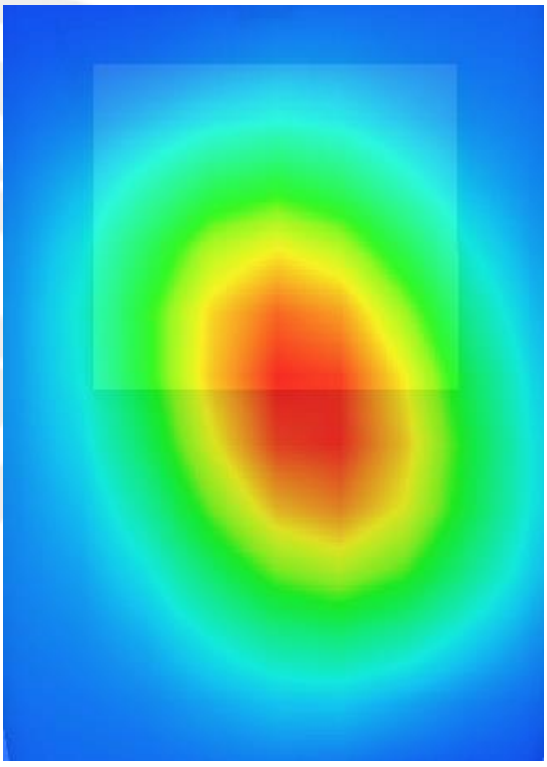
Maximum location: X=3.00, Y=-2.00

SAR 10g (W/Kg)	2.057836
SAR 1g (W/Kg)	4.048475

Z Axis Scan


6.78
6.00
5.00
4.00
3.00
2.00
1.00
0.16
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



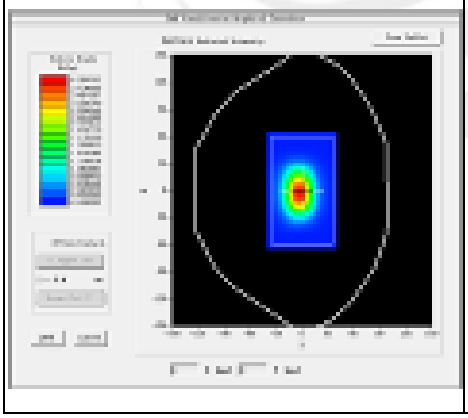
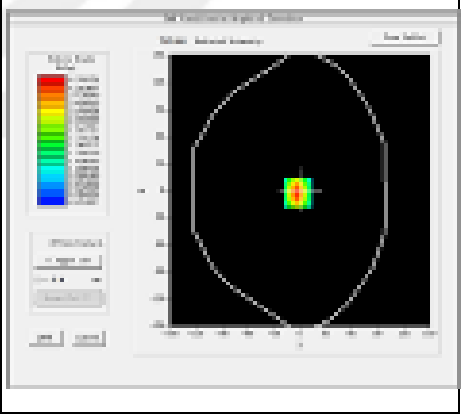


System Performance Check Data(1900MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-06

Experimental conditions.

Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	53.54
Conductivity (S/m)	1.49
Power drift (%)	-0.31
Probe	SN 45/15 EPGO281
ConvF:	2.16
Crest factor:	1:1

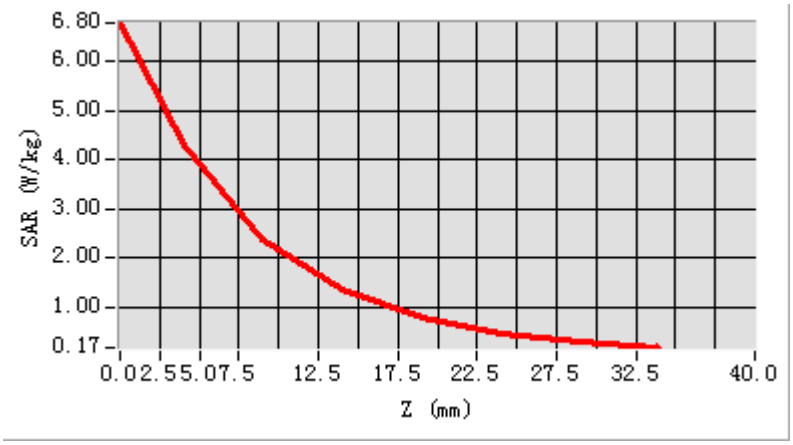
SURFACE SAR	VOLUME SAR
	

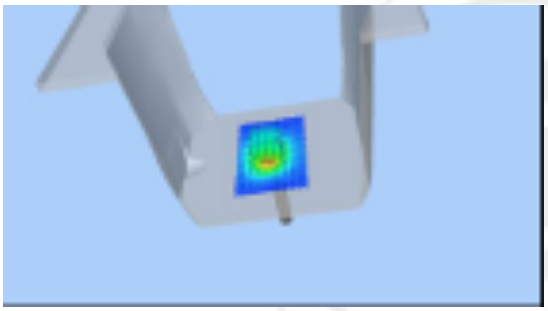
Maximum location: X=-3.00, Y=-2.00

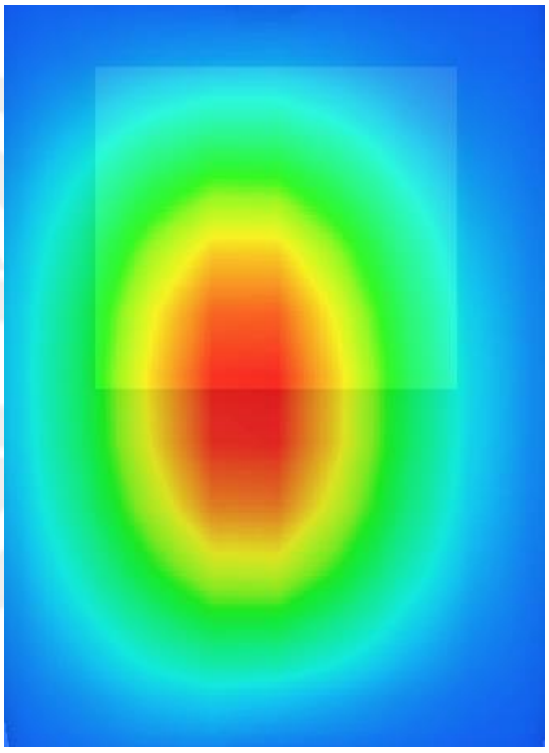
SAR Peak: 5.27 W/kg

SAR 10g (W/Kg)	2.132583
SAR 1g (W/Kg)	4.152148

Z Axis Scan


6.80
6.00
5.00
4.00
3.00
2.00
1.00
0.17
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



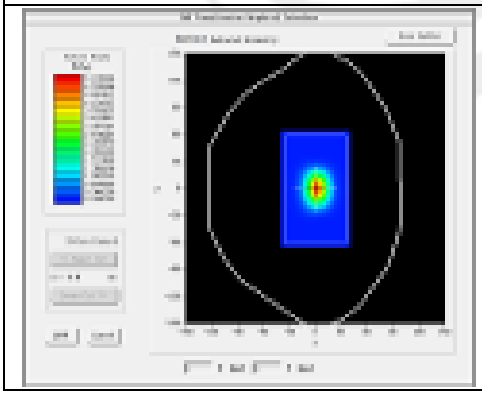
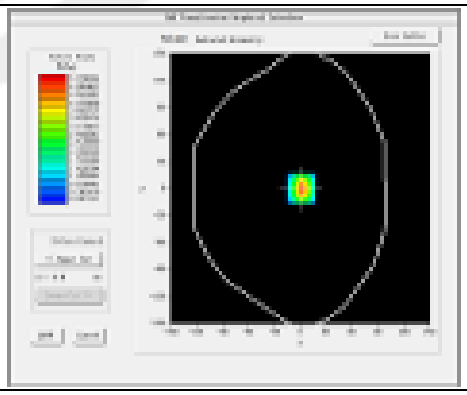


System Performance Check Data (2450MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-07

Experimental conditions.

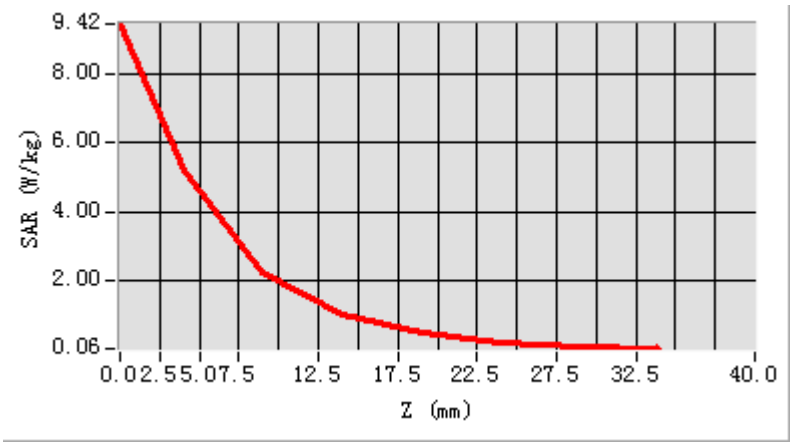
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	38.90
Conductivity (S/m)	1.75
Power drift (%)	-0.38
Probe	SN 45/15 EPGO281
ConvF	2.21
Crest factor:	1:1

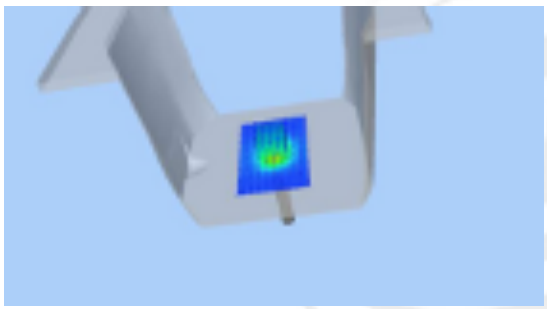
SURFACE SAR	VOLUME SAR
	

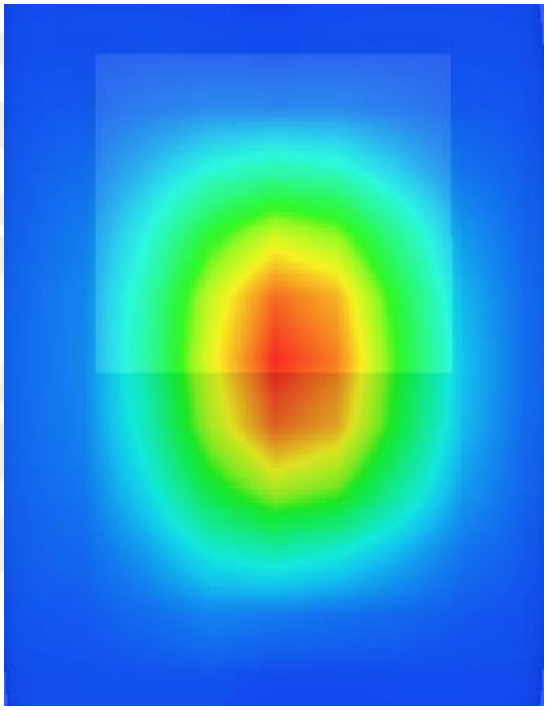
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.289746
SAR 1g (W/Kg)	5.073986

Z Axis Scan


9.42
8.00
6.00
4.00
2.00
0.06
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



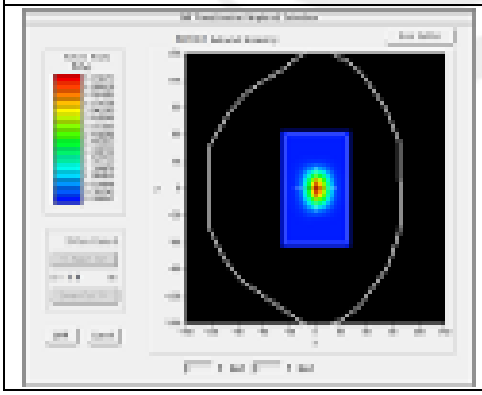
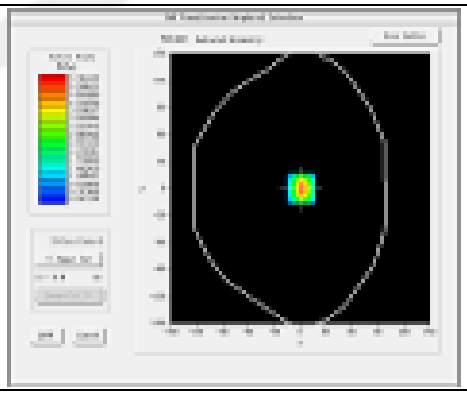


System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-07

Experimental conditions.

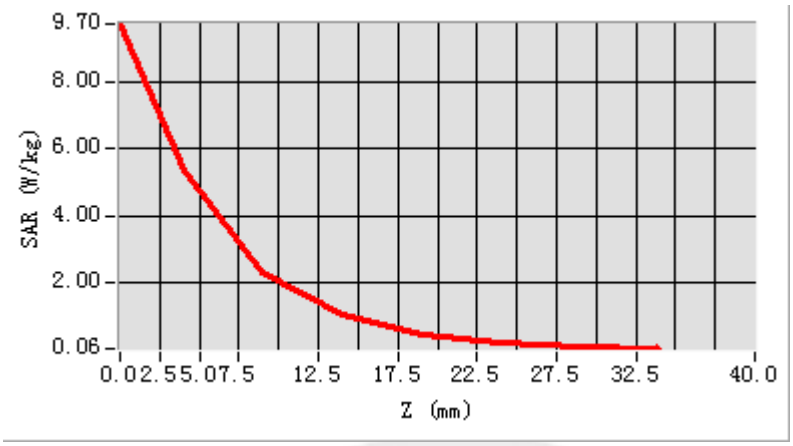
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	54.37
Conductivity (S/m)	2.00
Power drift (%)	-0.30
Probe	SN 45/15 EPGO281
ConvF	2.28
Crest factor:	1:1

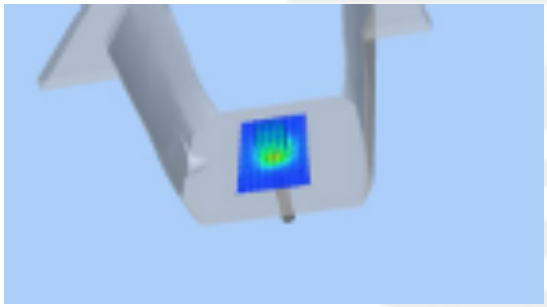
SURFACE SAR	VOLUME SAR
	

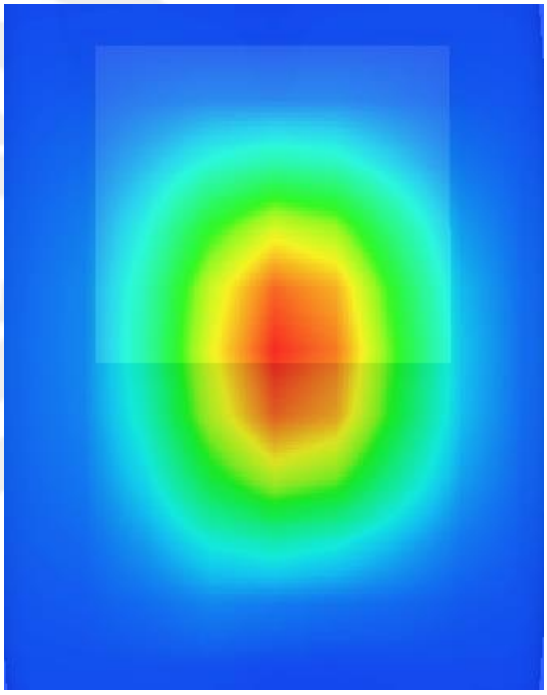
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.401751
SAR 1g (W/Kg)	5.202043

Z Axis Scan


9.70
8.00
6.00
4.00
2.00
0.06
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



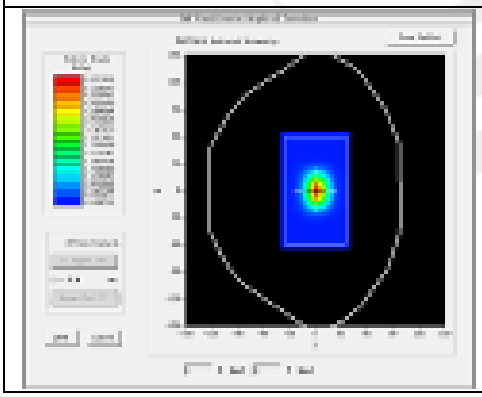
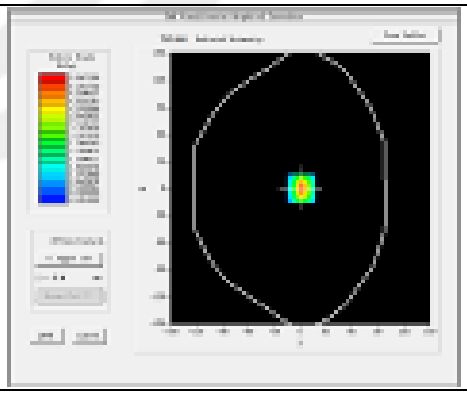


System Performance Check Data(2600MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-04

Experimental conditions.

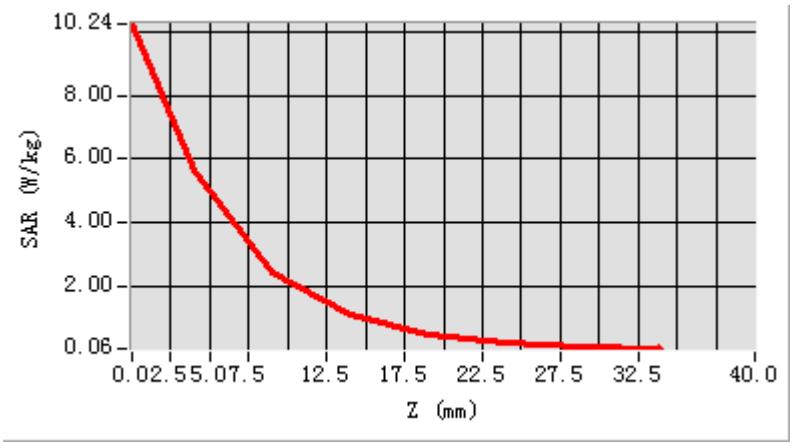
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	39.03
Conductivity (S/m)	1.99
Power drift (%)	0.63
Probe	SN 45/15 EPGO281
ConvF	2.32
Crest factor:	1:1

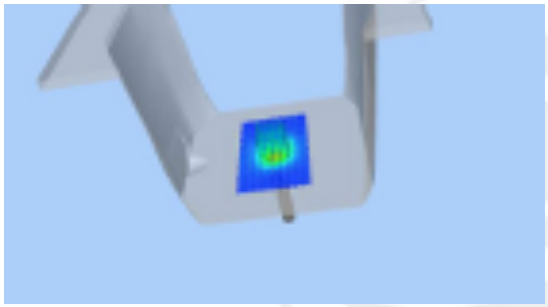
SURFACE SAR	VOLUME SAR
	

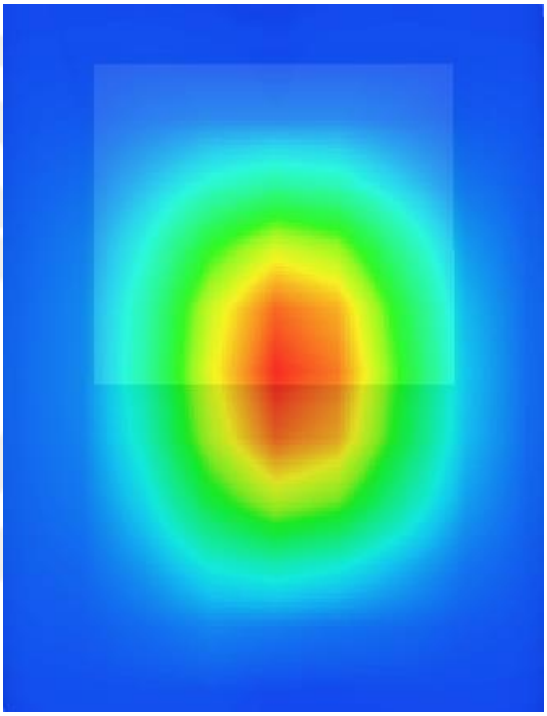
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.359408
SAR 1g (W/Kg)	5.617671

Z Axis Scan


10.24
8.00
6.00
4.00
2.00
0.06
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



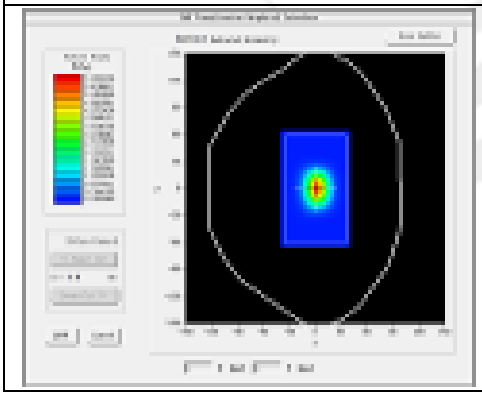
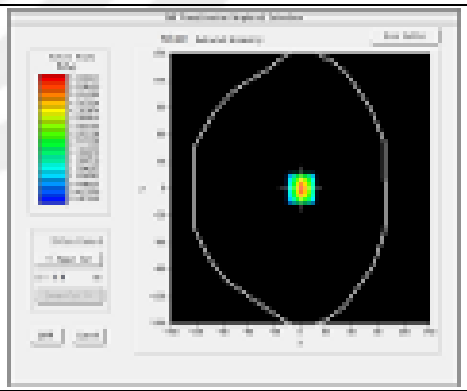


System Performance Check Data(2600MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2018-11-04

Experimental conditions.

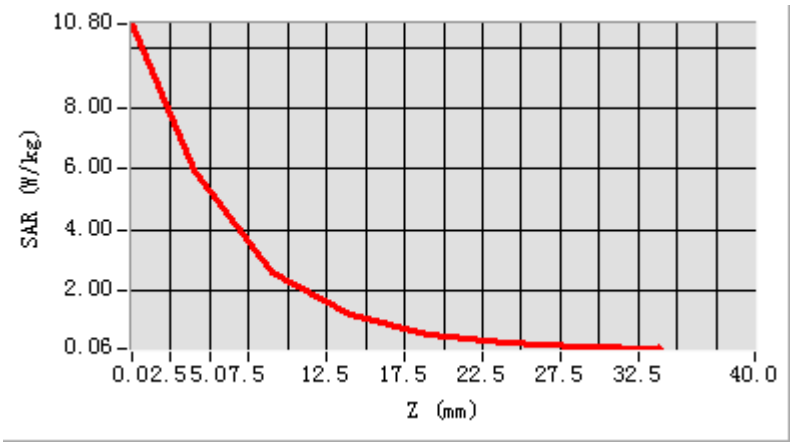
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	52.83
Conductivity (S/m)	2.20
Power drift (%)	-0.30
Probe	SN 45/15 EPGO281
ConvF	2.38
Crest factor:	1:1

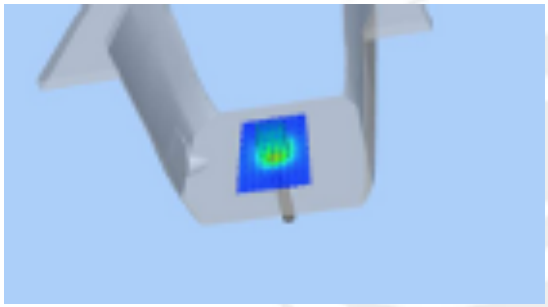
SURFACE SAR	VOLUME SAR
	

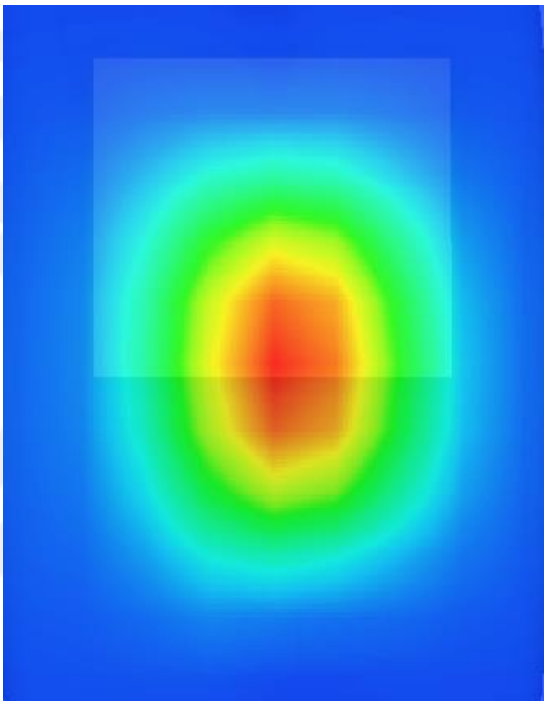
Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.386523
SAR 1g (W/Kg)	5.635218

Z Axis Scan


10.80
8.00
6.00
4.00
2.00
0.06
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)



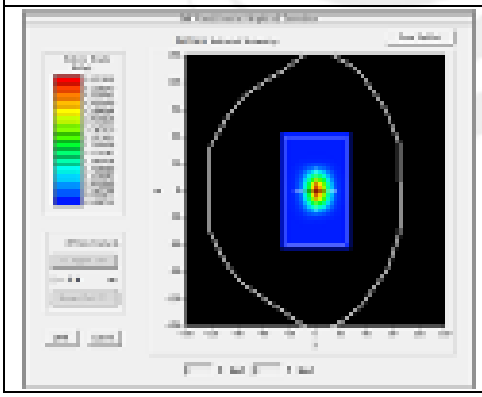
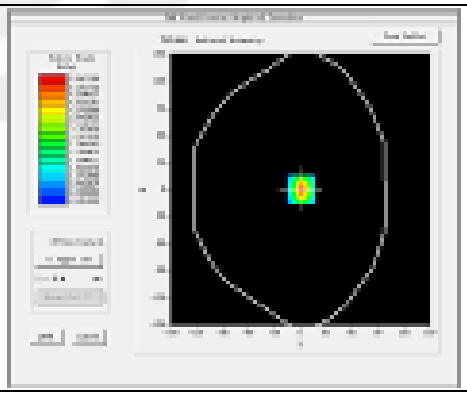


ystem Performance Check Data(5200MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-08

Experimental conditions.

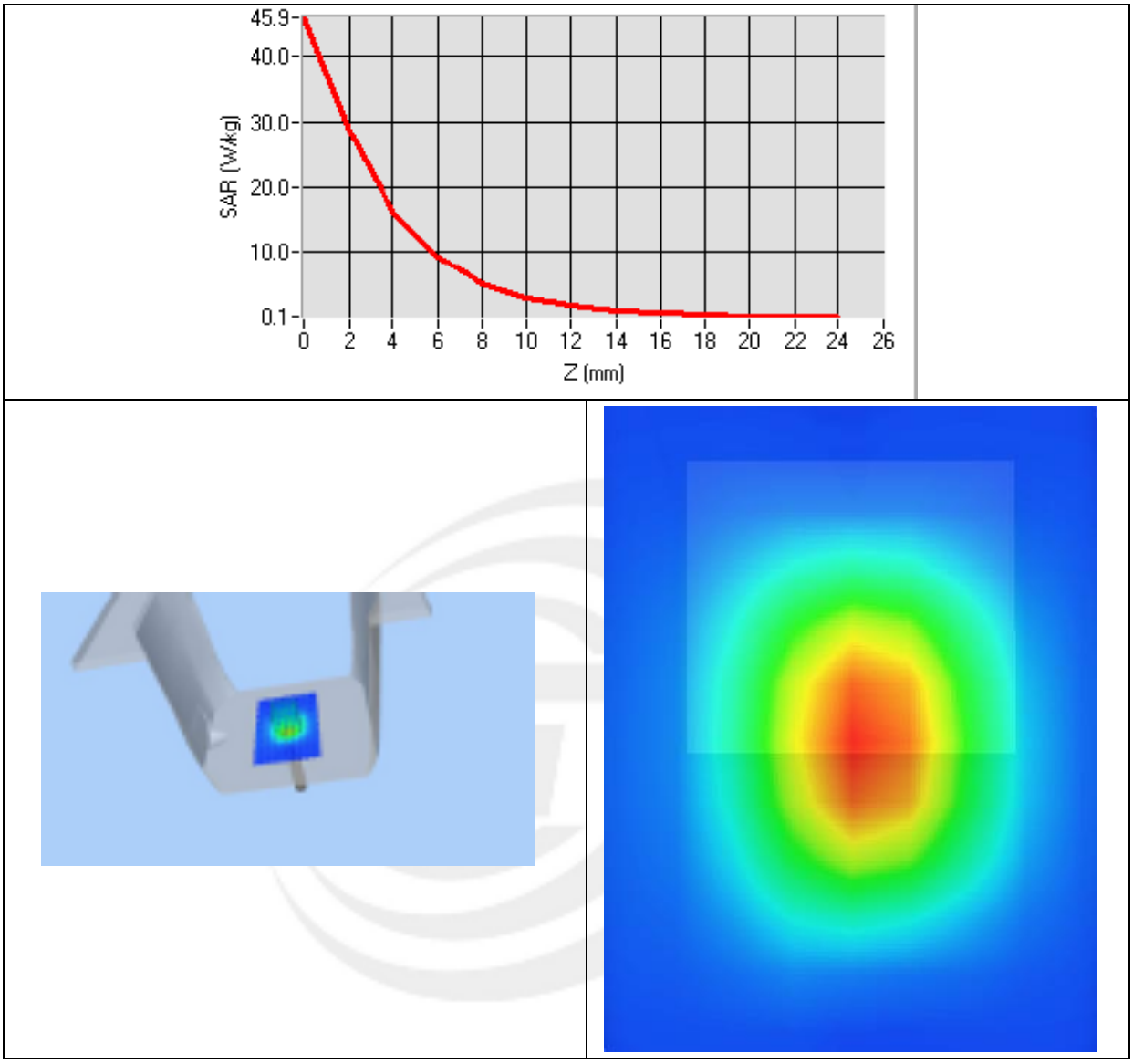
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	36.39
Conductivity (S/m)	4.57
Power drift (%)	2.52
Probe	SN 45/15 EPGO281
ConvF	2.46
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.812412
SAR 1g (W/Kg)	15.849206

Z Axis Scan

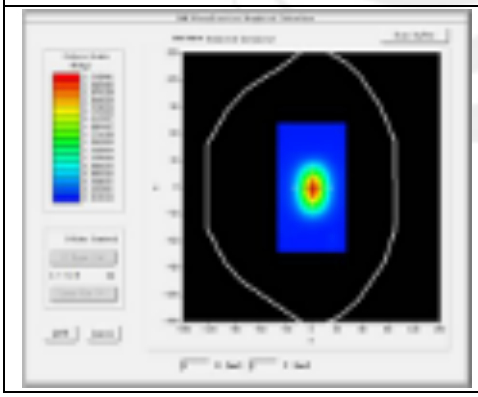
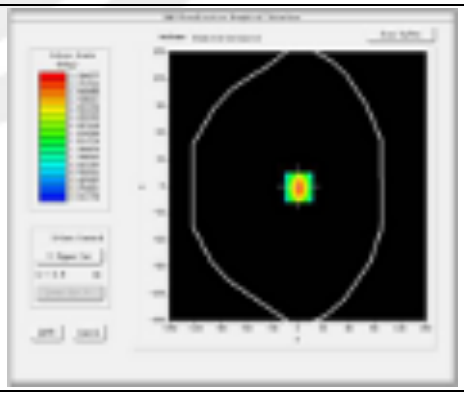


System Performance Check Data(5200MHzBody)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-08

Experimental conditions.

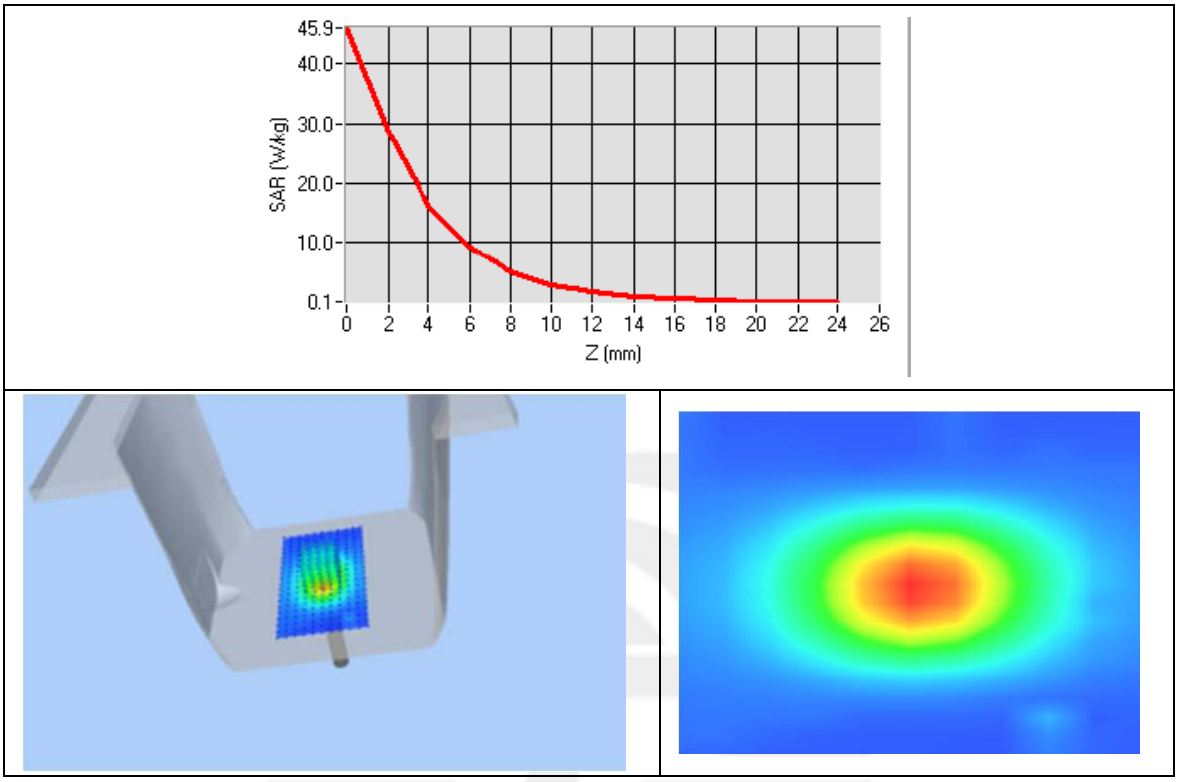
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	46.94
Conductivity (S/m)	5.15
Power drift (%)	4.14
Probe	SN 45/15EPGO281
ConvF	2.52
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.784176
SAR 1g (W/Kg)	15.683579

Z Axis Scan

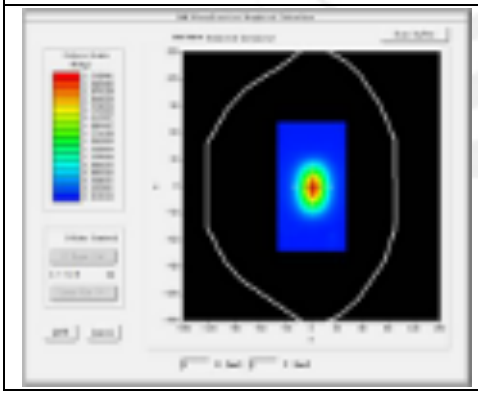
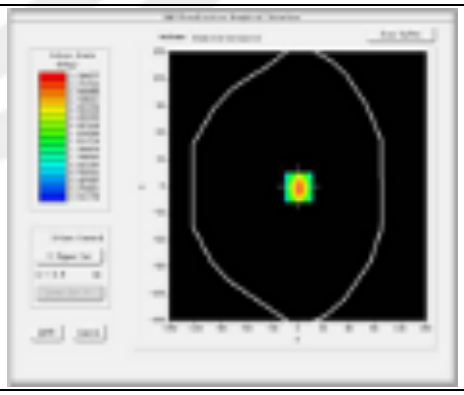


System Performance Check Data(5300MHz Head)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-08

Experimental conditions.

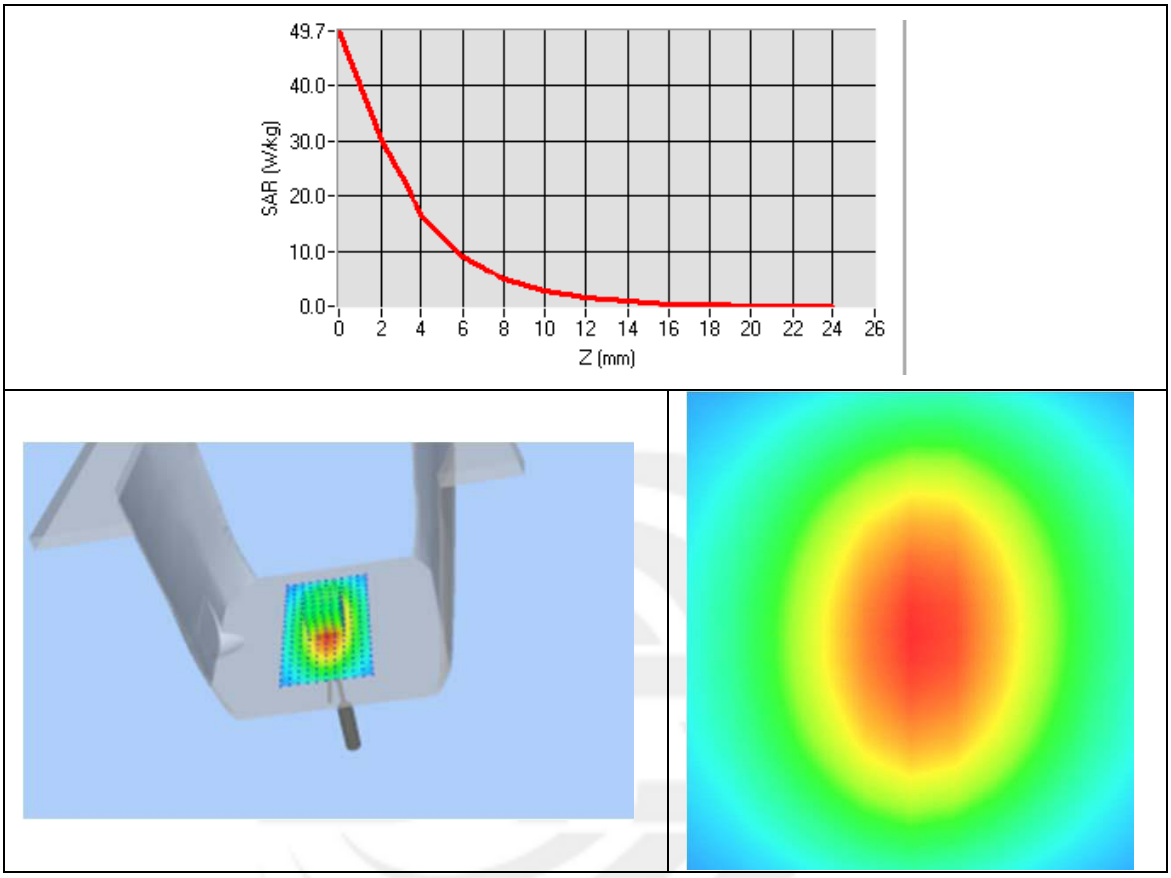
Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity	35.53
Conductivity (S/m)	4.72
Power drift (%)	-1.77
Probe	SN 45/15EPGO281
ConvF	2.70
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.941068
SAR 1g (W/Kg)	16.502463

Z Axis Scan

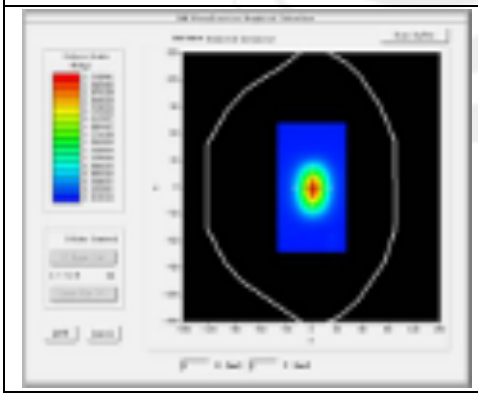
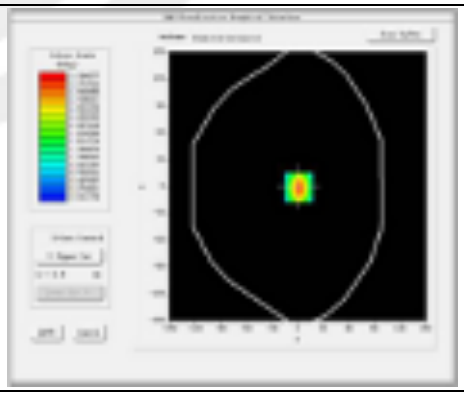


System Performance Check Data(5300MHz Body)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-08

Experimental conditions.

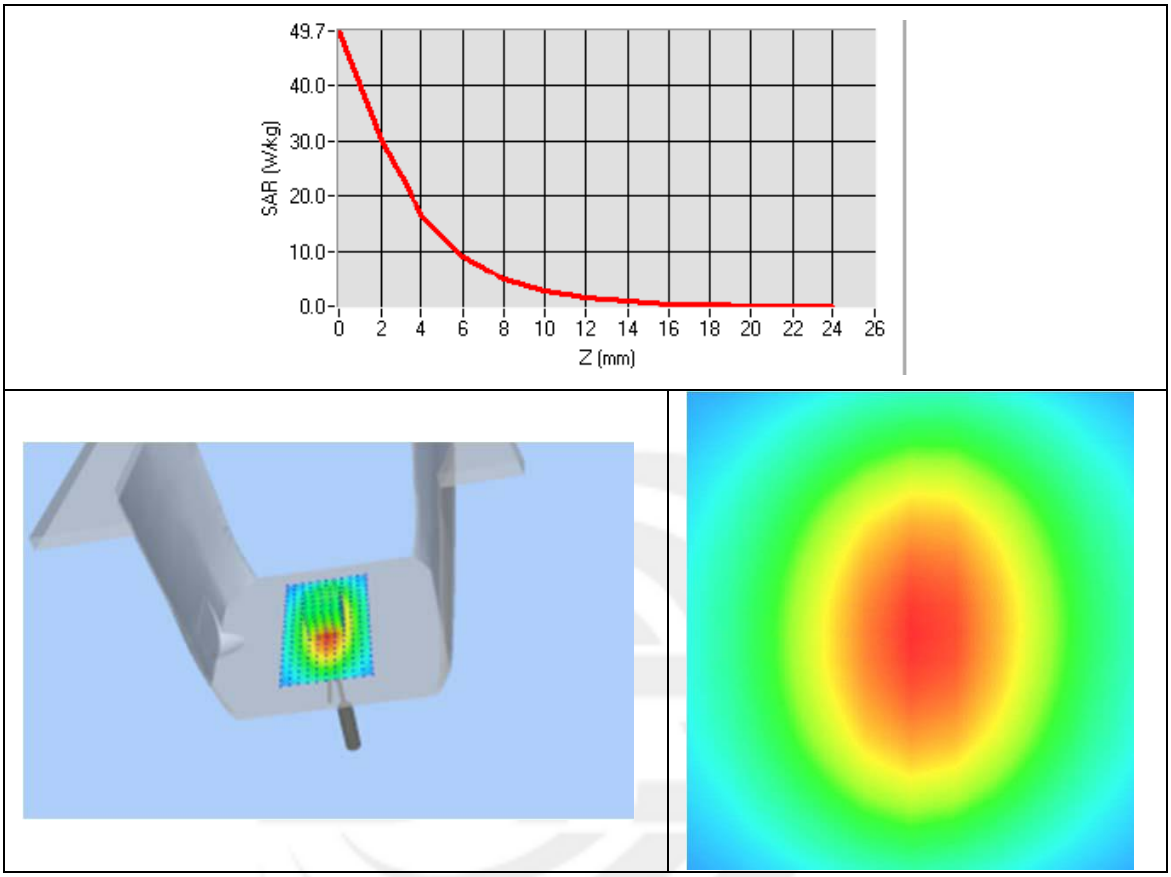
Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity	49.21
Conductivity (S/m)	5.36
Power drift (%)	-1.77
Probe	SN 45/15EPGO281
ConvF	2.79
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.986315
SAR 1g (W/Kg)	16.756822

Z Axis Scan

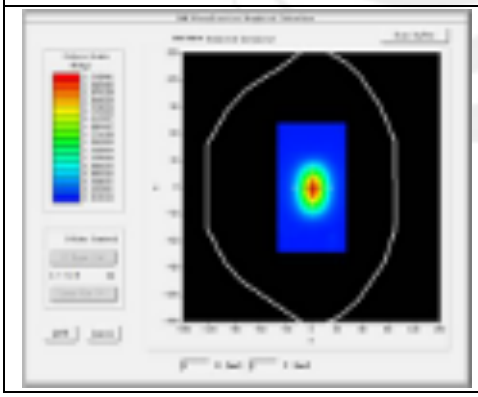
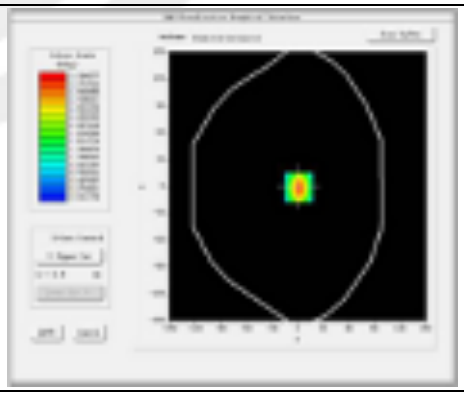


System Performance Check Data(5600MHz Head)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-09

Experimental conditions.

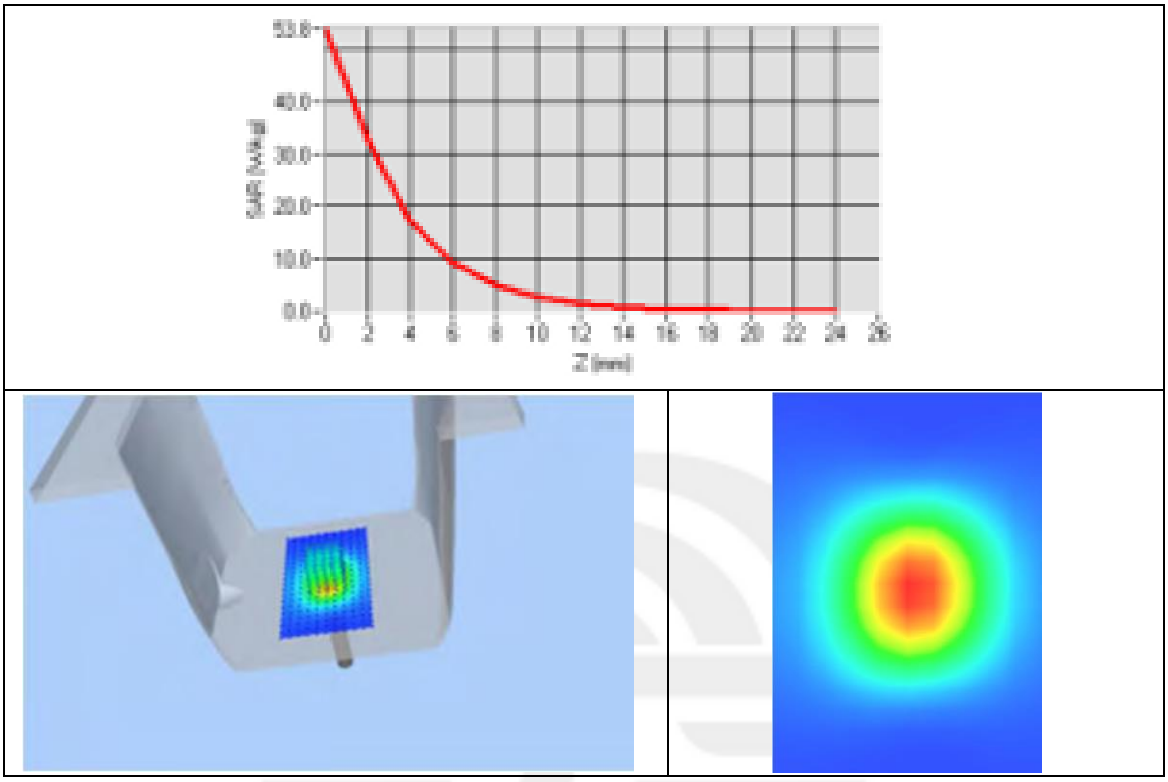
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity	35.76
Conductivity (S/m)	5.14
Power drift (%)	1.86
Probe	SN 45/15EPGO281
ConvF	2.74
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.045013
SAR 1g (W/Kg)	17.156982

Z Axis Scan

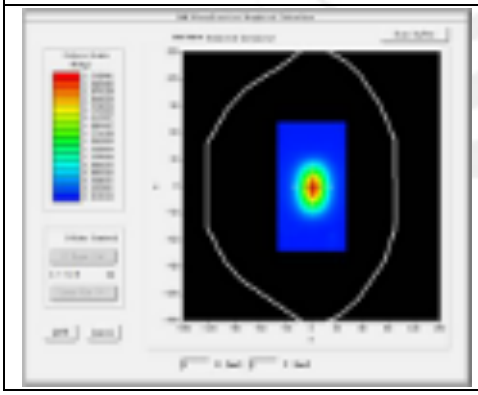
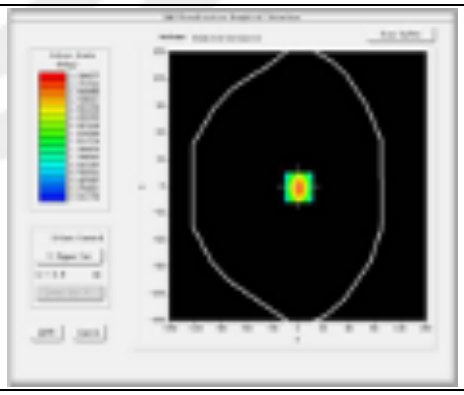


System Performance Check Data(5600MHz Body)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-09

Experimental conditions.

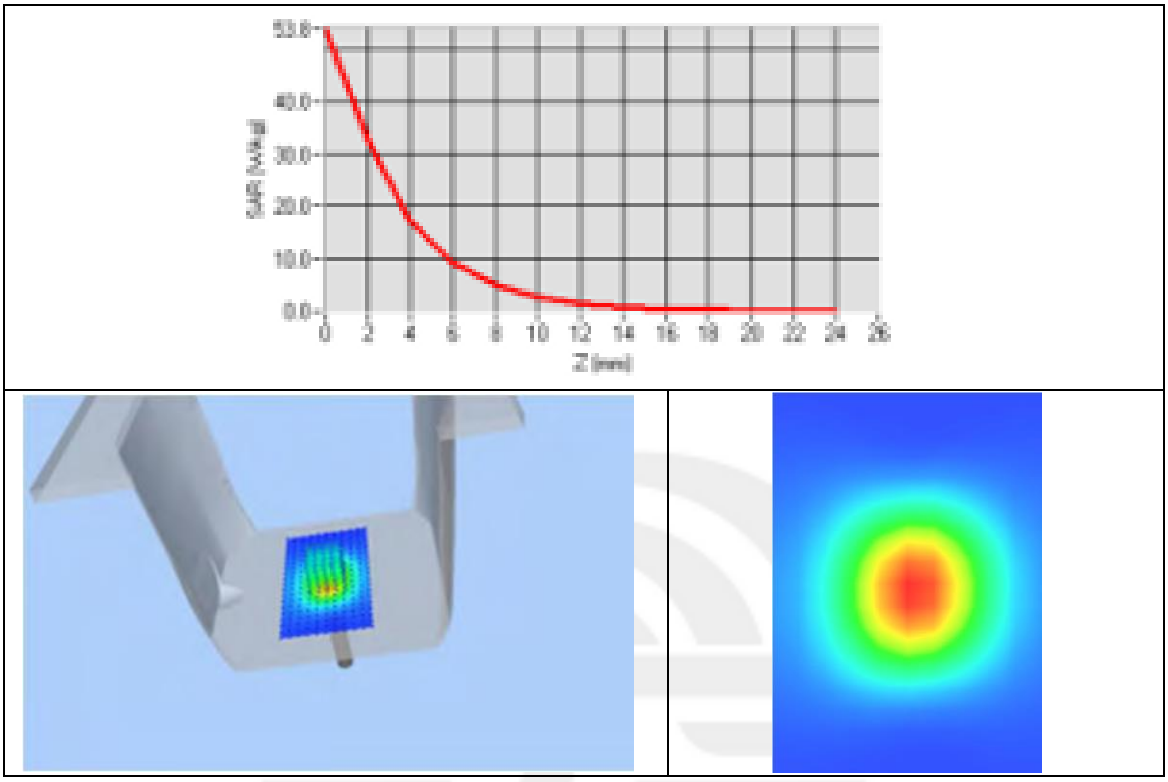
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity	49.64
Conductivity (S/m)	5.91
Power drift (%)	1.86
Probe	SN 45/15EPGO281
ConvF	2.83
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.110286
SAR 1g (W/Kg)	17.581237

Z Axis Scan

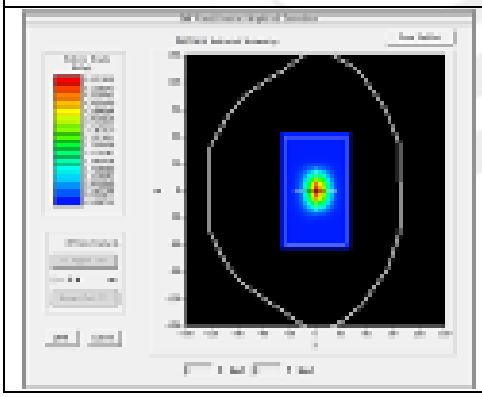
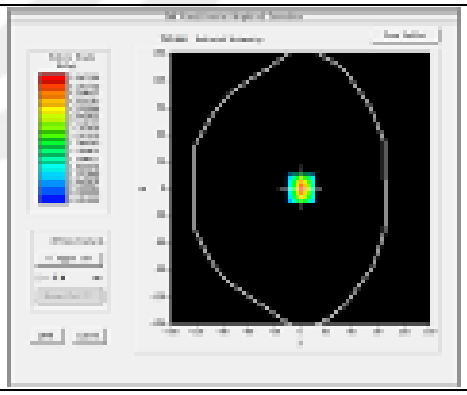


System Performance Check Data(5800MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-09

Experimental conditions.

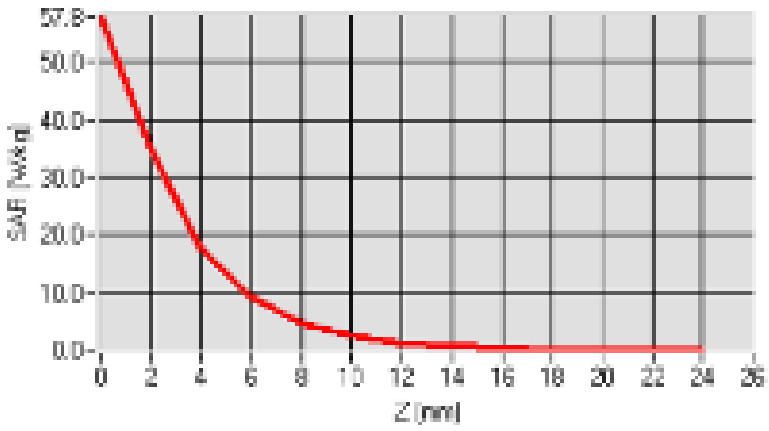
Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	35.21
Conductivity (S/m)	5.18
Power drift (%)	2.74
Probe	SN 45/15 EPGO281
ConvF	2.53
Crest factor:	1:1

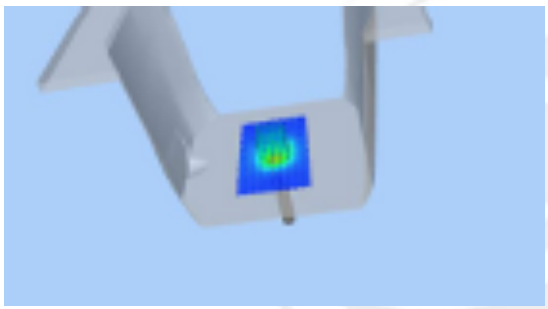
SURFACE SAR	VOLUME SAR
	

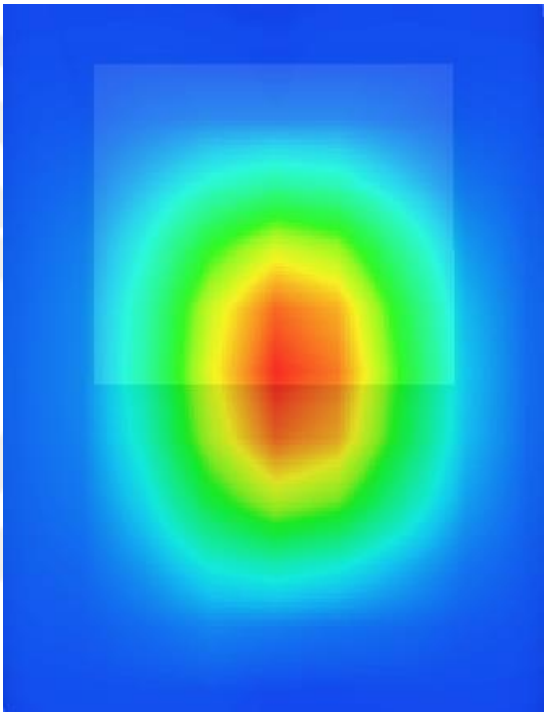
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.224128
SAR 1g (W/Kg)	17.812743

Z Axis Scan


57.8
50.0
40.0
30.0
20.0
10.0
0.0
SAR [W/kg]
0
2
4
6
8
10
12
14
16
18
20
22
24
26
Z [mm]



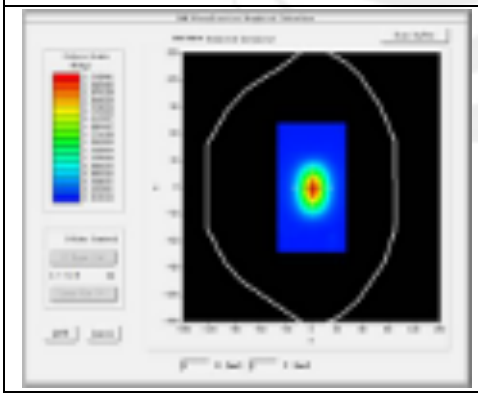
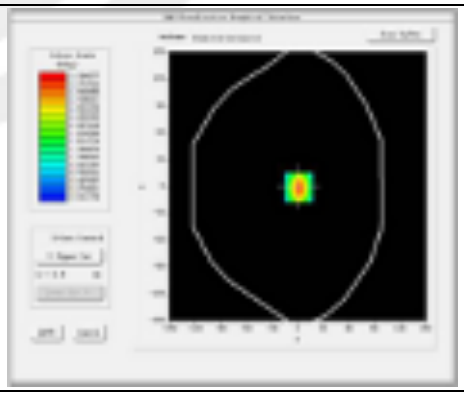


System Performance Check Data(5800MHz Body)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2018-11-09

Experimental conditions.

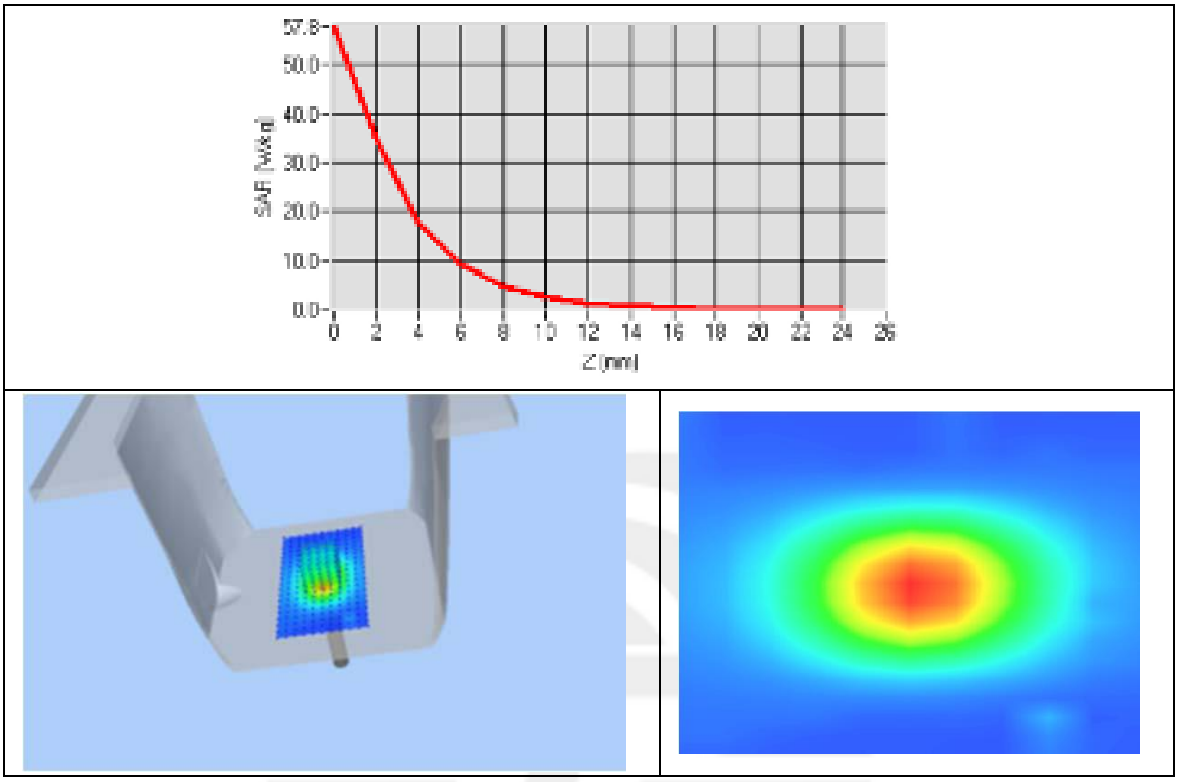
Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	48.83
Conductivity (S/m)	6.05
Power drift (%)	-1.00
Probe	SN 45/15EPGO281
ConvF	2.60
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.258743
SAR 1g (W/Kg)	18.105468

Z Axis Scan


57.8
50.0
40.0
30.0
20.0
10.0
0.0
SAR (W/kg)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
Z (mm)

Appendix B. SAR Test Plots

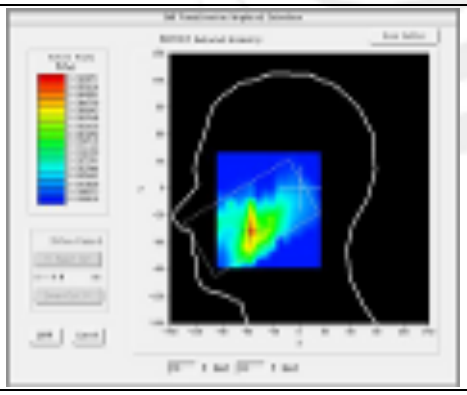
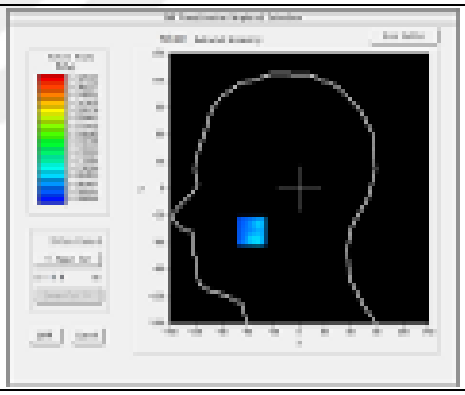
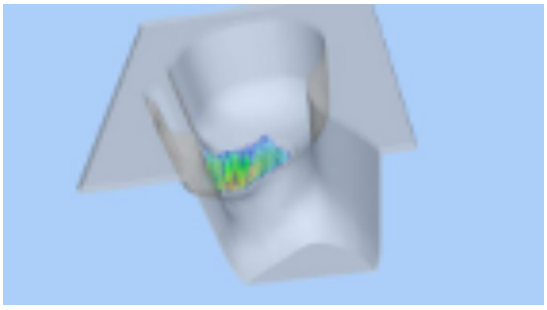
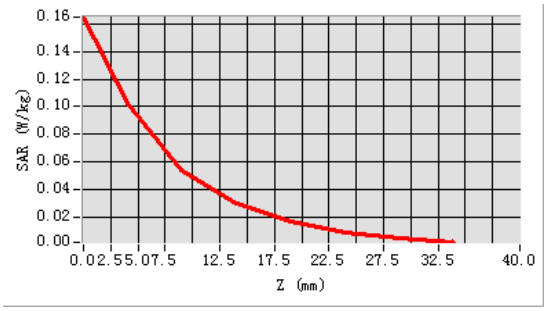
Plot 1: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.78
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90
Variation (%)	2.15

Maximum location: X=-56.00, Y=-47.00

SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.044051
SAR 1g (W/Kg)	0.093344

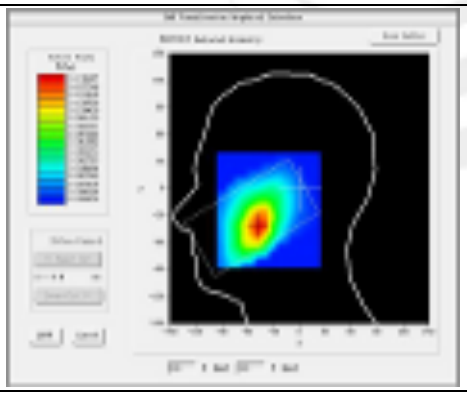
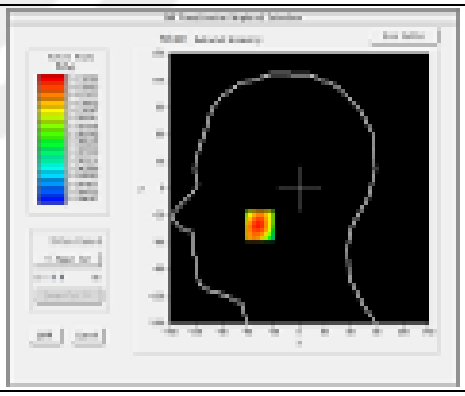
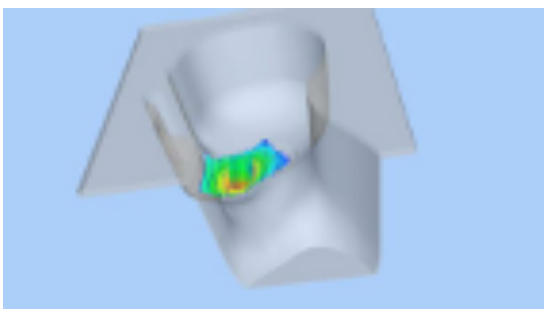
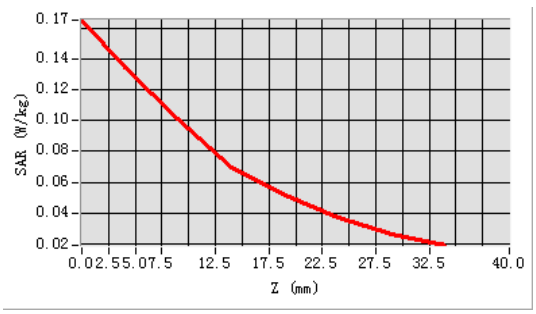
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 2: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.78
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90
Variation (%)	4.15

Maximum location: X=-46.00, Y=-41.00
SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.086241
SAR 1g (W/Kg)	0.128420

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

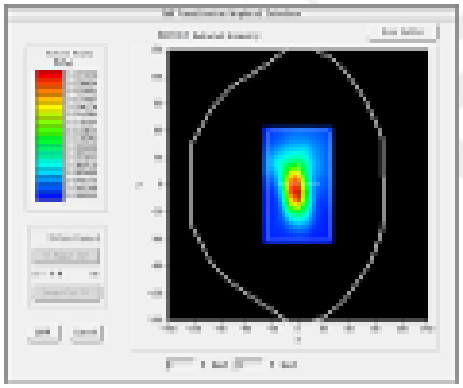
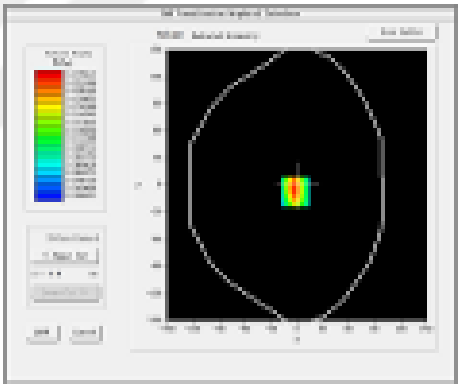
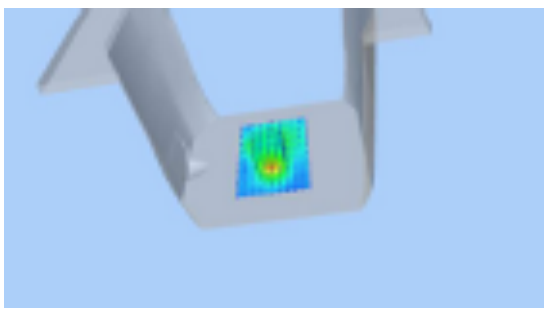
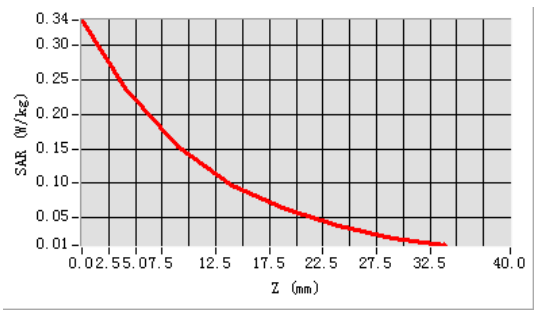
Plot 3: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Bottom side
Band	GPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.35

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

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.121830
SAR 1g (W/Kg)	0.219773

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

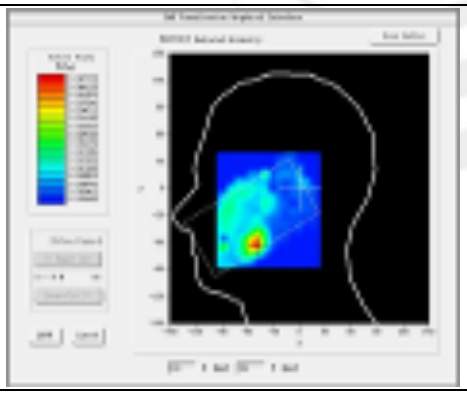
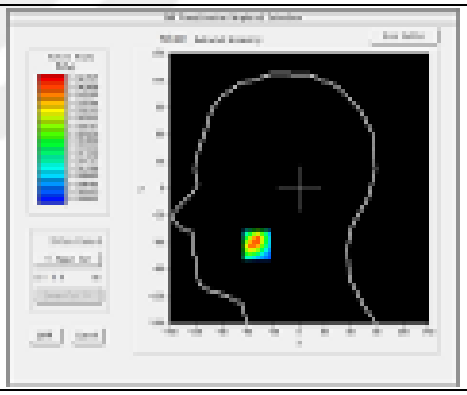
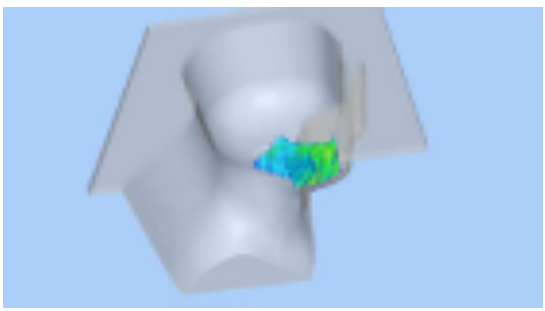
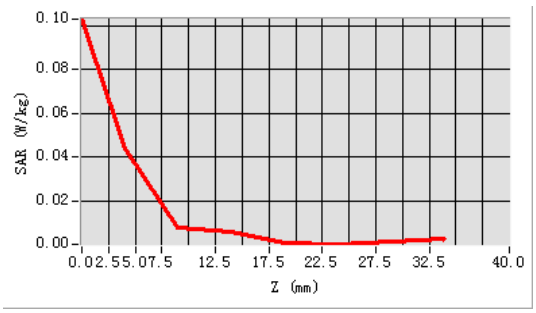
Plot 4: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.10
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	3.23

Maximum location: X=-49.00, Y=-63.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.016575
SAR 1g (W/Kg)	0.042109

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

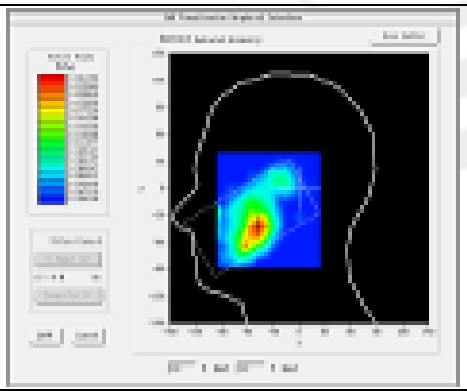
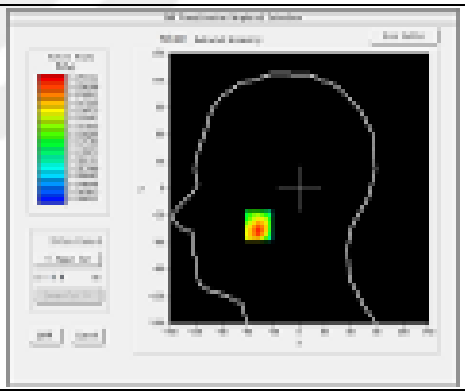
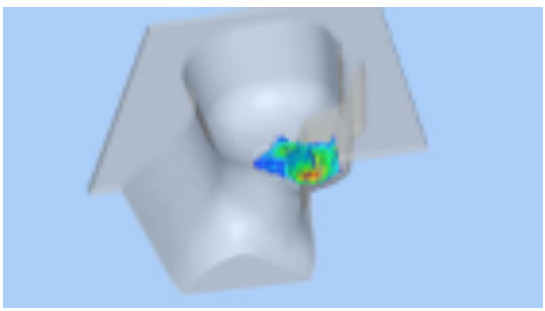
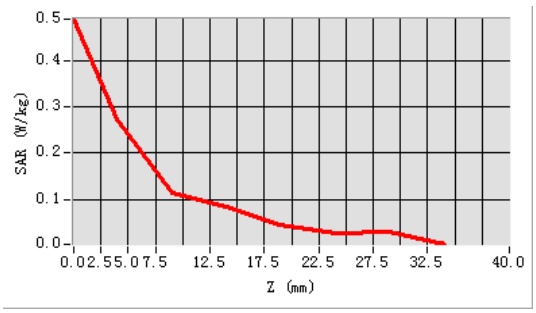
Plot 5: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.10
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GPRS 1900
Channels	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-2.61

Maximum location: X=-48.00, Y=-41.00

SAR Peak: 0.46 W/kg

SAR 10g (W/Kg)	0.134911
SAR 1g (W/Kg)	0.259059

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

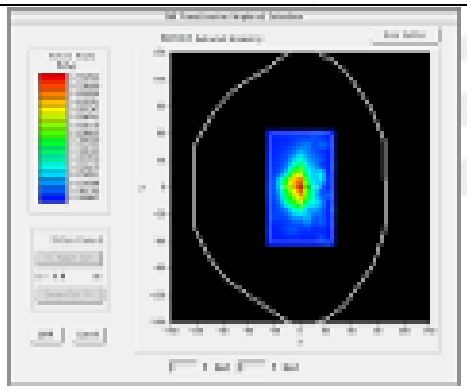
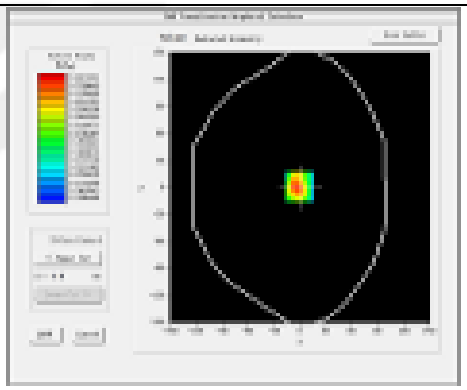
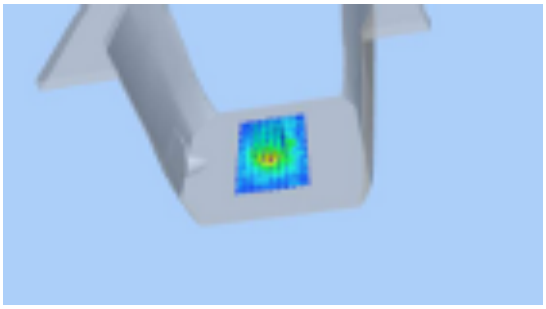
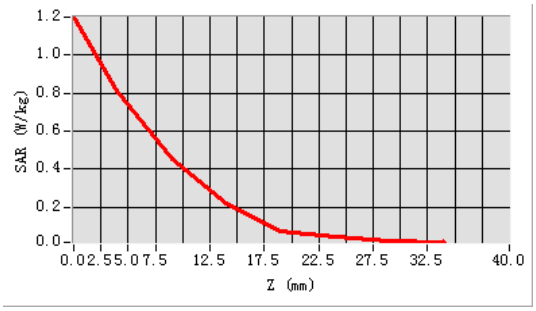
Plot 6: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.16
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Bottom side
Band	GPRS 1900
Channels	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-2.47

Maximum location:X=-1.00, Y=1.00

SAR Peak: 1.26 W/kg

SAR 10g (W/Kg)	0.380159
SAR 1g (W/Kg)	0.755563

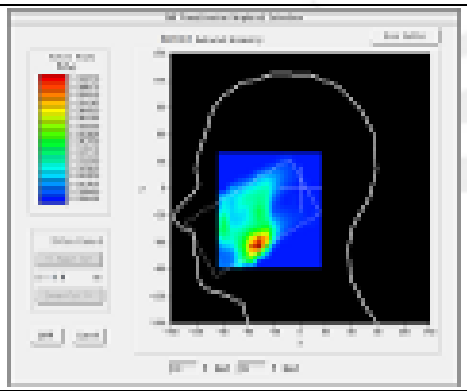
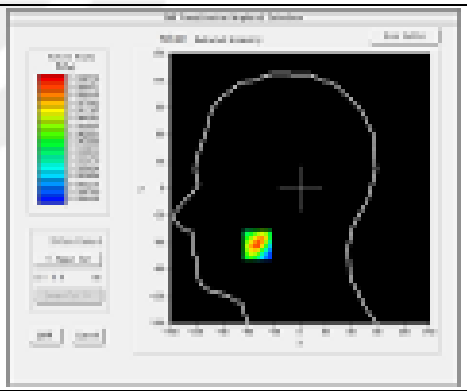
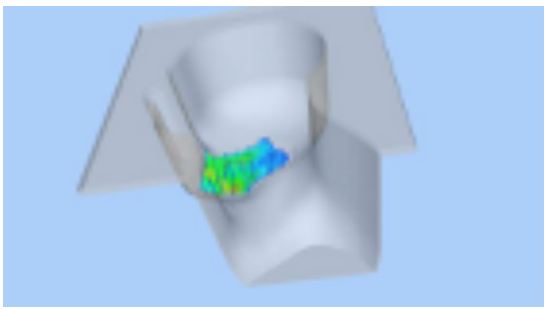
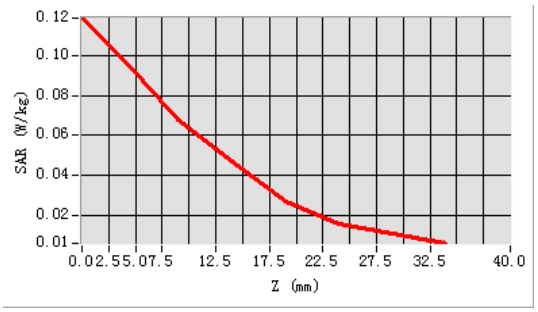
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 7: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.10
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	1.16

Maximum location: X=-49.00, Y=-63.00
SAR Peak: 0.14W/kg

SAR 10g (W/Kg)	0.049894
SAR 1g (W/Kg)	0.090717

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

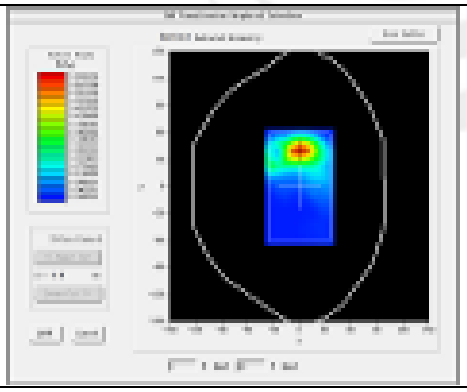
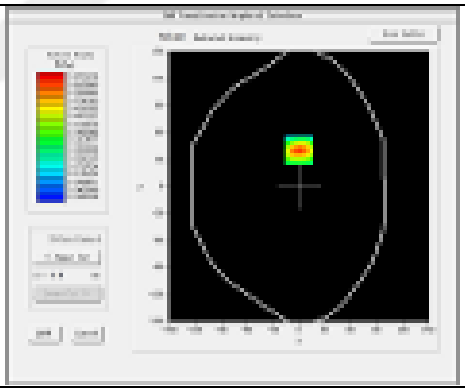
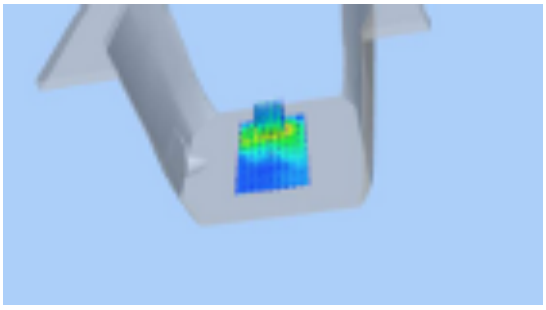
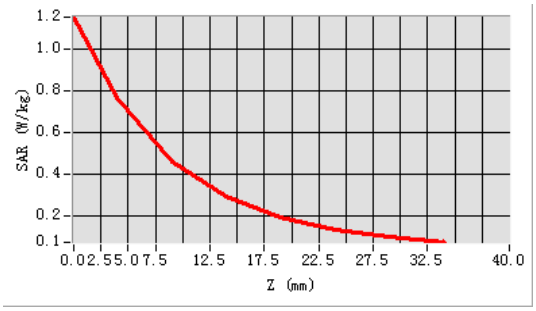
Plot 8: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.16
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	2.38

Maximum location: X=0.00, Y=41.00

SAR Peak: 1.20 W/kg

SAR 10g (W/Kg)	0.294061
SAR 1g (W/Kg)	0.638223

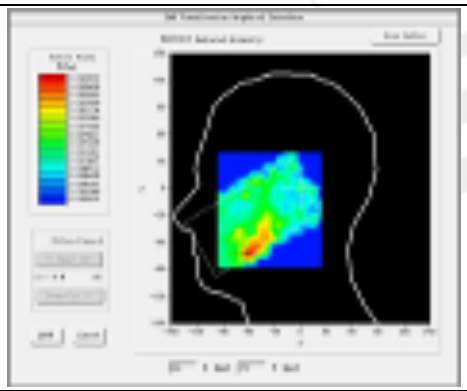
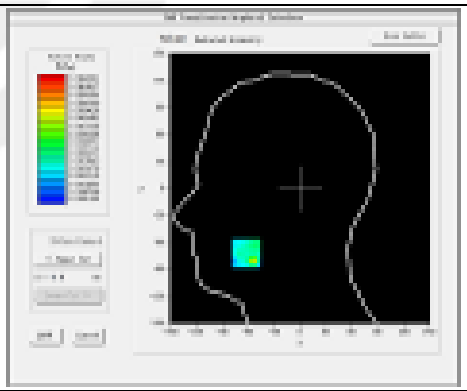
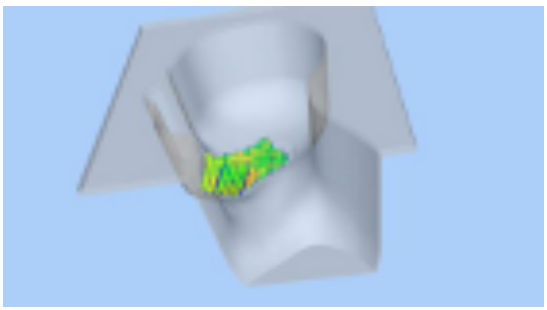
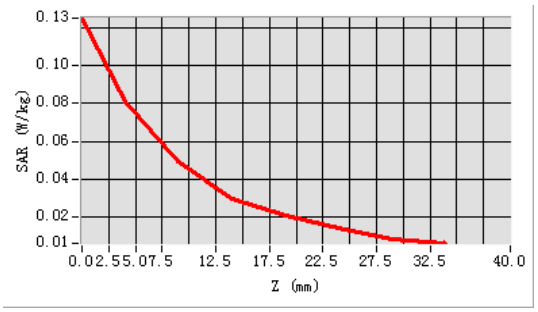
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 9: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-05
Probe	SN 45/15 EPGO281
ConvF	2.10
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA IV
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1752.4
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-1.40

Maximum location: X=-62.00, Y=-72.00
SAR Peak: 0.13W/kg

SAR 10g (W/Kg)	0.019877
SAR 1g (W/Kg)	0.040730

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

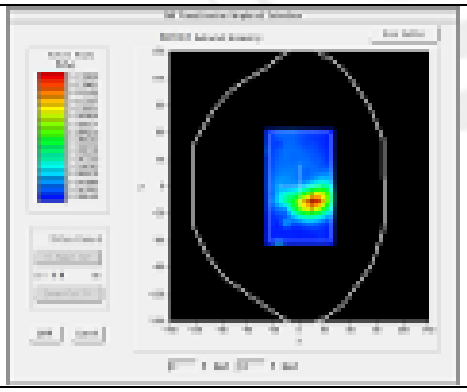
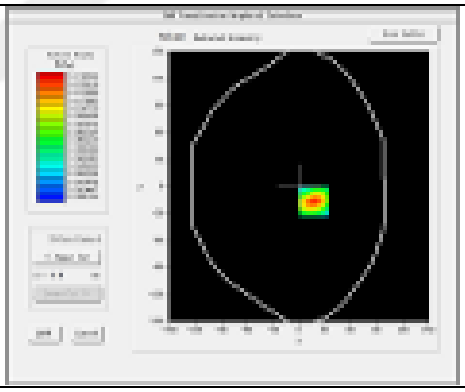
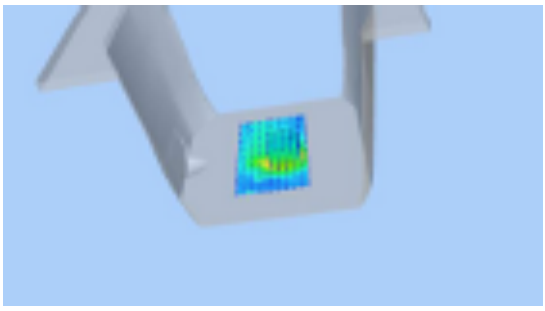
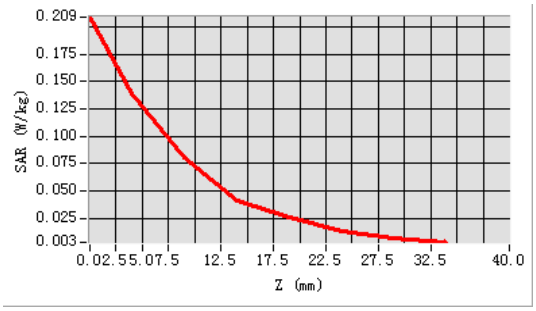
Plot 10: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-05
Probe	SN 45/15 EPGO281
ConvF	2.16
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	WCDMA IV
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1752.4
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	3.71

Maximum location: X=17.00, Y=-16.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.065781
SAR 1g (W/Kg)	0.128749

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

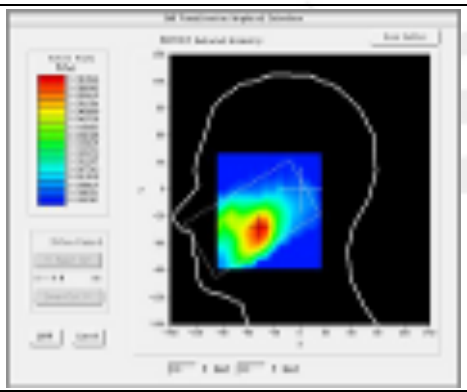
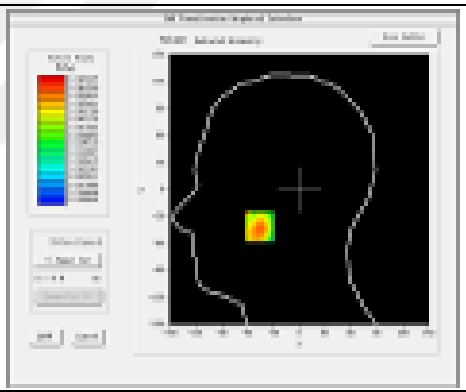
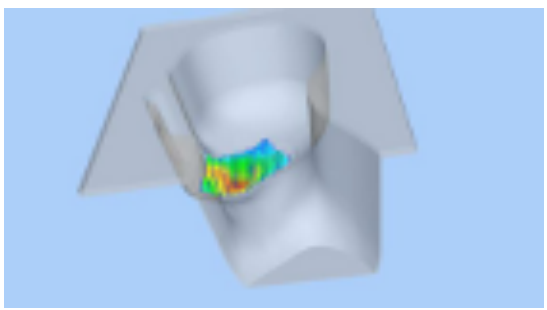
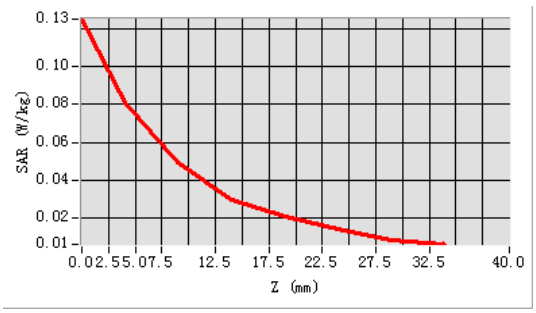
Plot 11: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.78
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90
Variation (%)	-2.26

Maximum location: X=-46.00, Y=-41.00

SAR Peak: 0.13W/kg

SAR 10g (W/Kg)	0.045919
SAR 1g (W/Kg)	0.072857

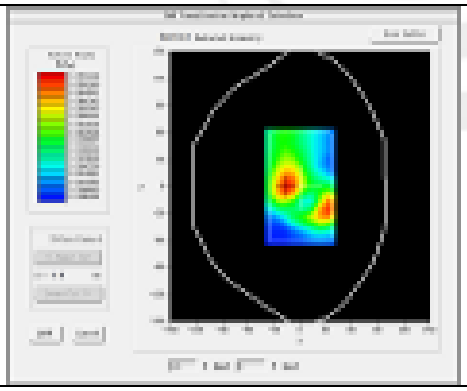
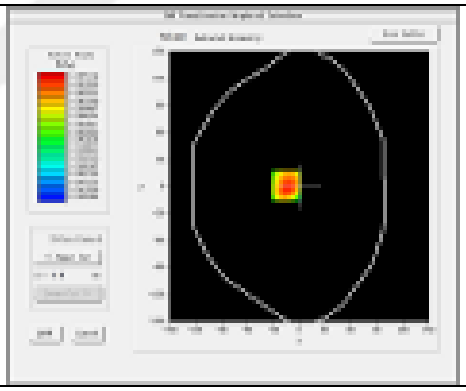
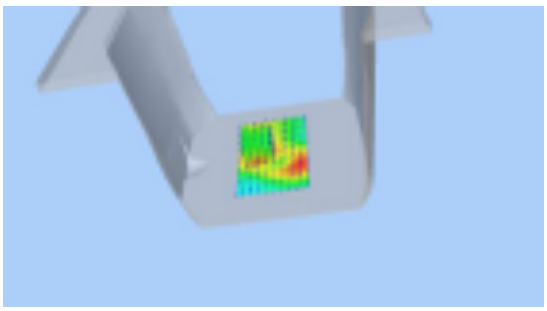
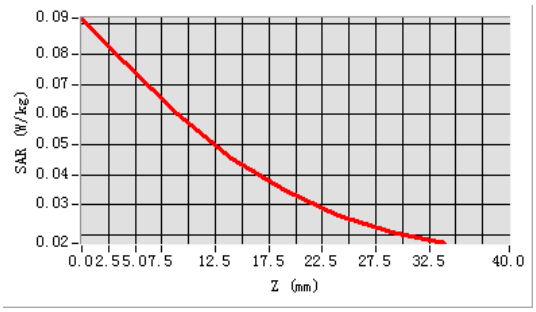
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 12: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	3.33

Maximum location: X=-15.00, Y=1.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.053177
SAR 1g (W/Kg)	0.074752

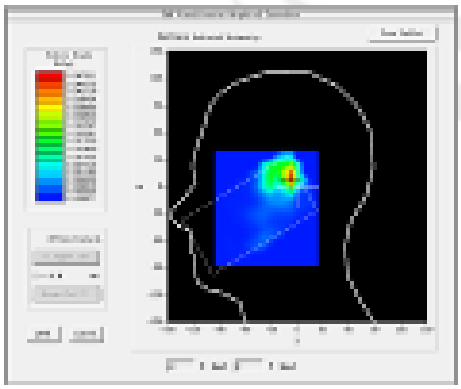
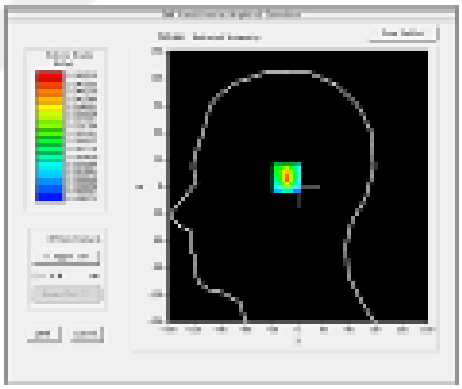
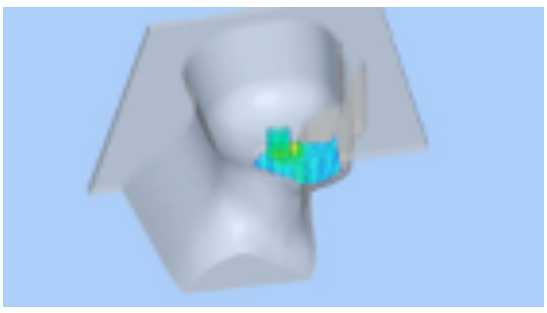
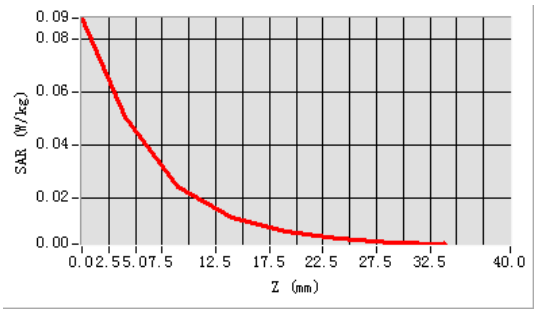
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 13:DUT:Smartphone; EUT Model: S10

Test Date	2018-11-07
Probe	SN 45/15 EPGO281
ConvF	2.21
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.20
Conductivity (S/m)	1.80
Variation (%)	0.83

Maximum location: X=-9.00, Y=9.00
SAR Peak: 0.09W/kg

SAR 10g (W/Kg)	0.019175
SAR 1g (W/Kg)	0.044424

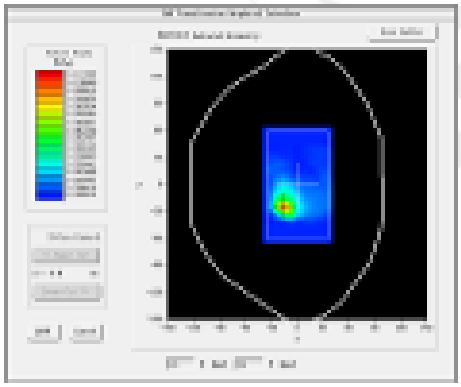
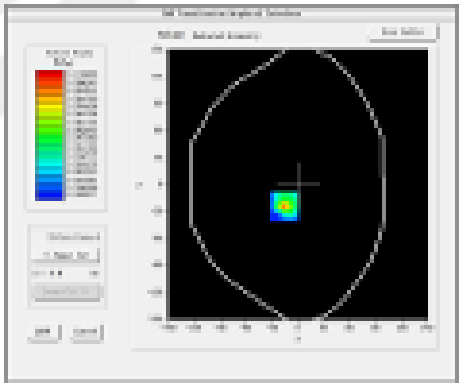
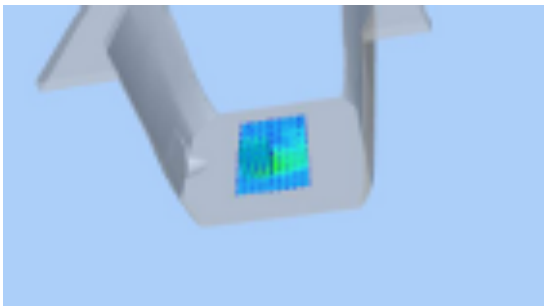
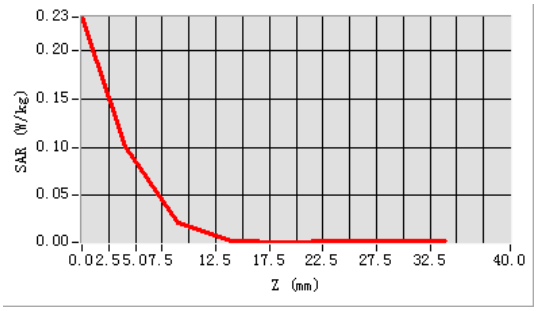
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 14: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-07
Probe	SN 45/15 EPGO281
ConvF	2.28
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	52.70
Conductivity (S/m)	1.95
Variation (%)	-2.31

Maximum location: X=-16.00, Y=-24.00
SAR Peak: 0.23W/kg

SAR 10g (W/Kg)	0.026620
SAR 1g (W/Kg)	0.089234

SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

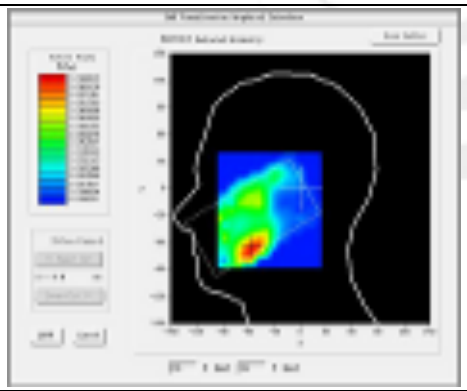
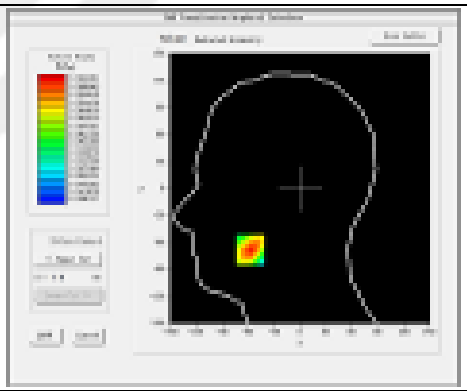
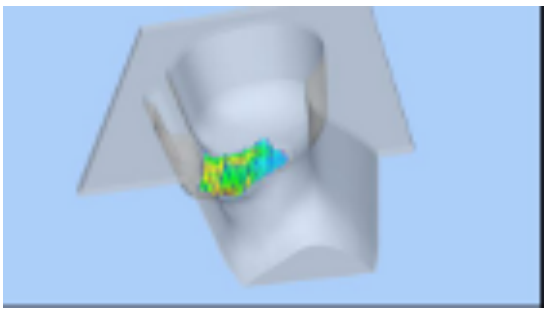
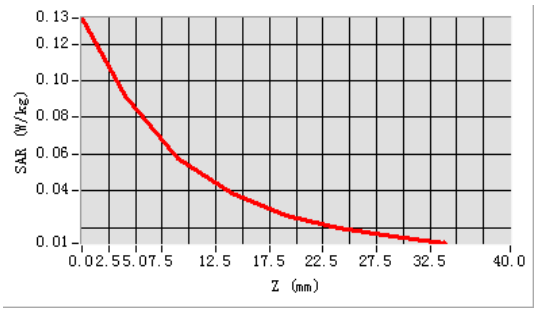
Plot 15: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.10
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-2.51

Maximum location: X=-57.00, Y=-68.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.052058
SAR 1g (W/Kg)	0.087370

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

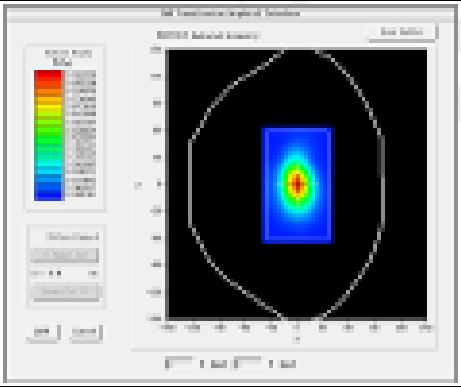
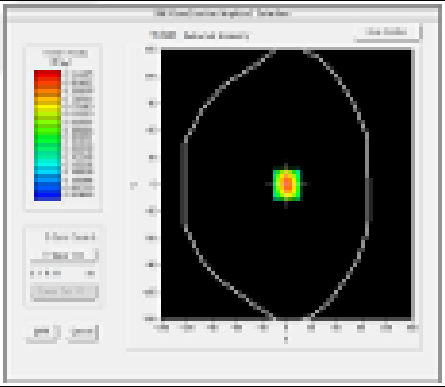
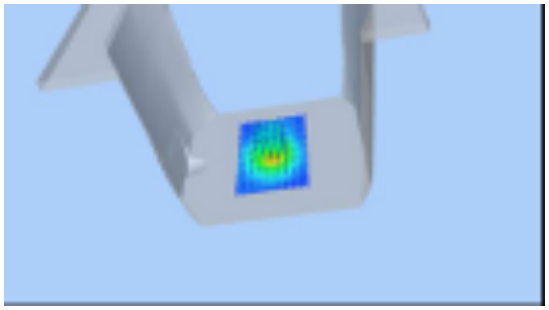
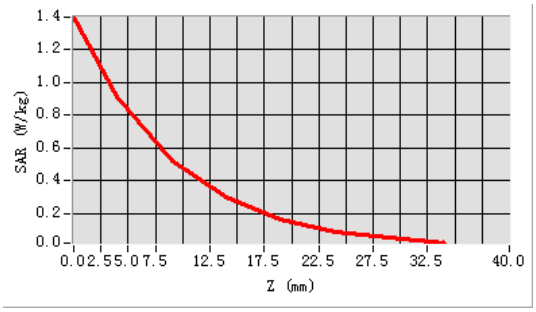
Plot 16:DUT: Smartphone; EUT Model: S10

Test Date	2018-11-06
Probe	SN 45/15 EPGO281
ConvF	2.16
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-2.07

Maximum location: X=0.00, Y=0.00

SAR Peak: 1.39 W/kg

SAR 10g (W/Kg)	0.447639
SAR 1g (W/Kg)	0.753090

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

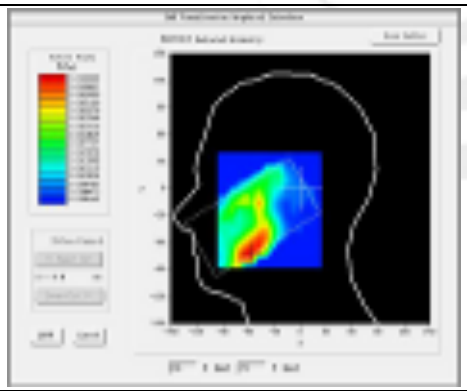
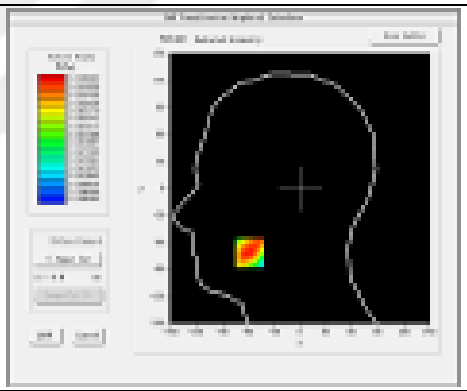
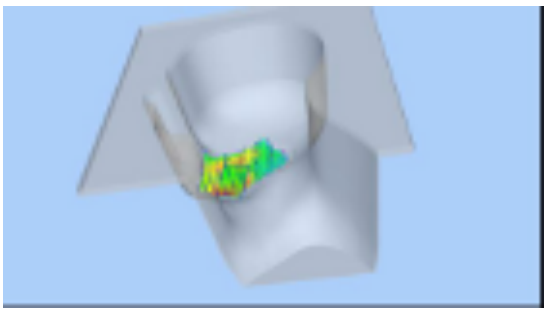
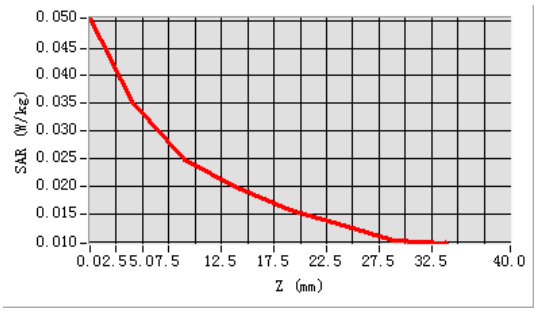
Plot 17: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-05
Probe	SN 45/15 EPGO281
ConvF	1.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-3.49

Maximum location: X=-58.00, Y=-71.00

SAR Peak: 0.05W/kg

SAR 10g (W/Kg)	0.023657
SAR 1g (W/Kg)	0.035353

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

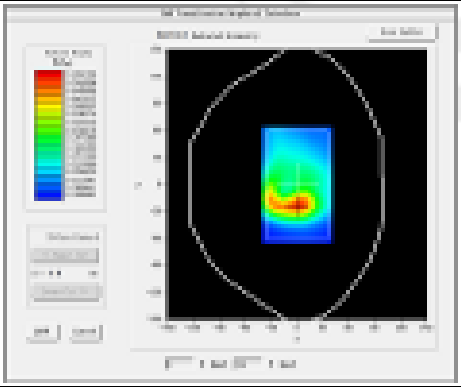
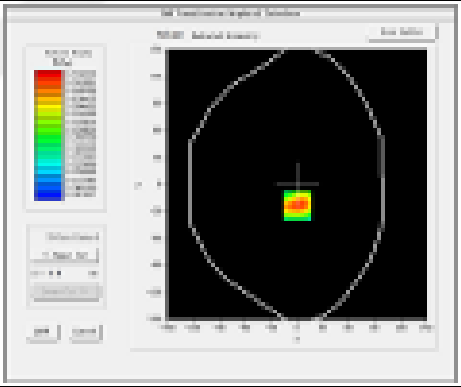
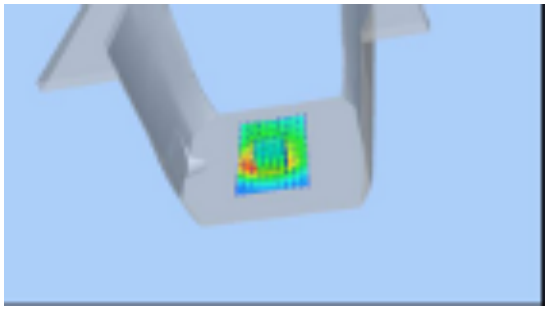
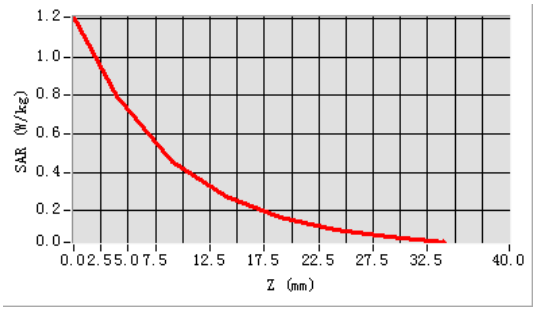
Plot 18: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-05
Probe	SN 45/15 EPGO281
ConvF	1.87
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Front
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.92

Maximum location: X=1.00, Y=-23.00

SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.410526
SAR 1g (W/Kg)	0.745992

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

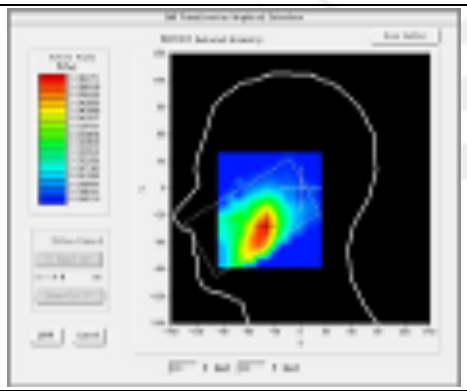
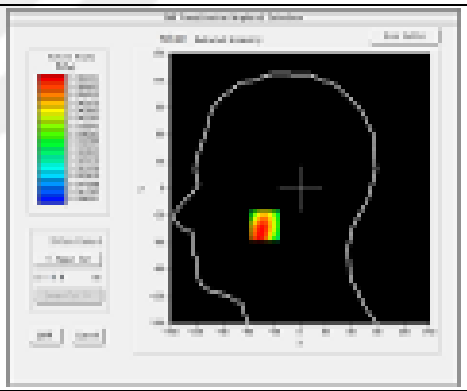
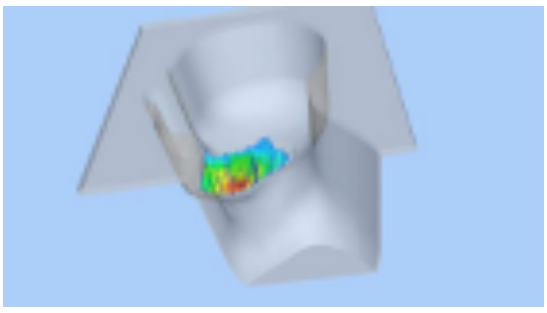
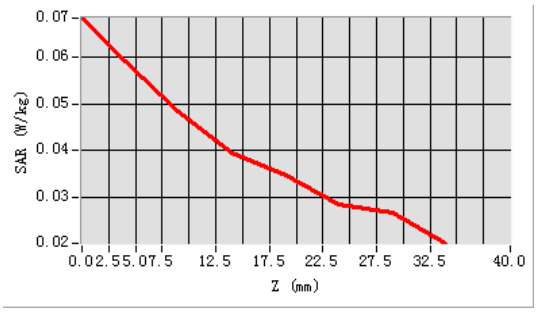
Plot 19: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.78
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90
Variation (%)	3.57

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

SAR Peak: 0.08W/kg

SAR 10g (W/Kg)	0.045329
SAR 1g (W/Kg)	0.058534

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

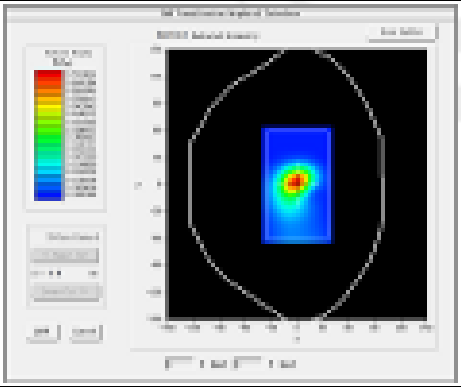
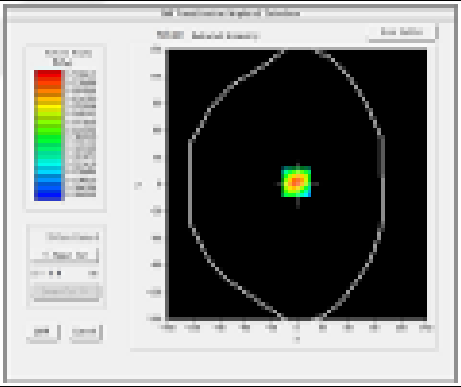
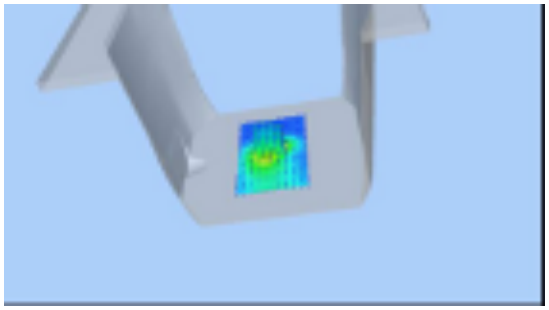
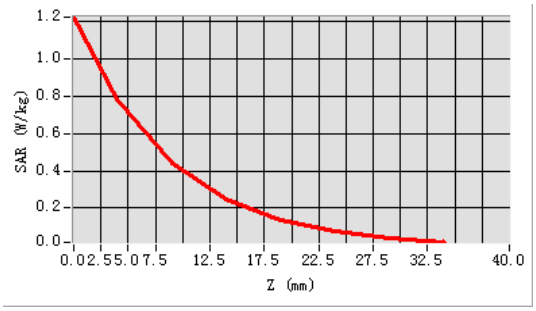
Plot 20: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-03
Probe	SN 45/15 EPGO281
ConvF	1.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 5 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829.0
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	1.11

Maximum location: X=-1.00, Y=2.00

SAR Peak: 1.23 W/kg

SAR 10g (W/Kg)	0.368126
SAR 1g (W/Kg)	0.730568

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

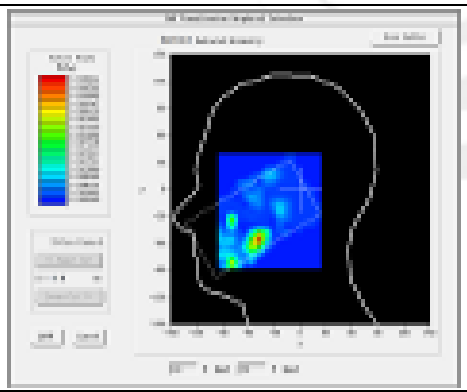
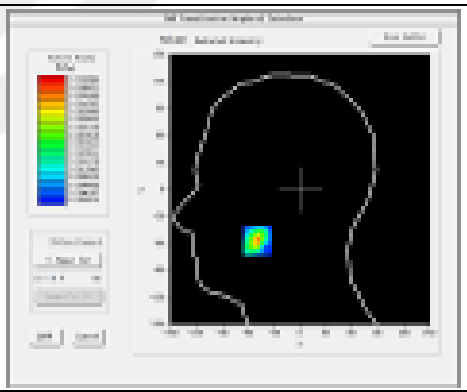
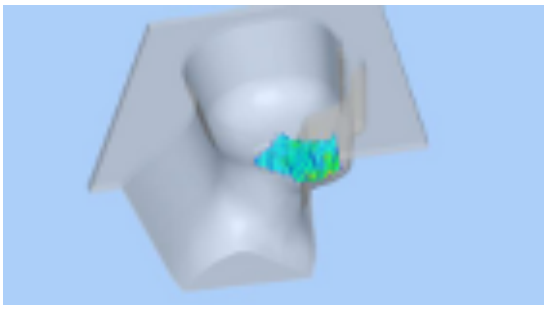
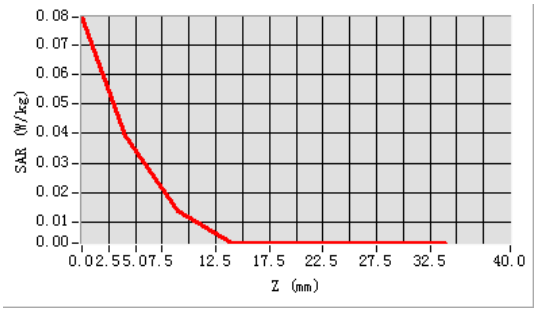
Plot 21: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-04
Probe	SN 45/15 EPGO281
ConvF	2.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 7 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2510.0
Relative permittivity (real part)	39.00
Conductivity (S/m)	1.96
Variation (%)	3.83

Maximum location: X=-49.00, Y=-56.00

SAR Peak: 0.08W/kg

SAR 10g (W/Kg)	0.012197
SAR 1g (W/Kg)	0.035924

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

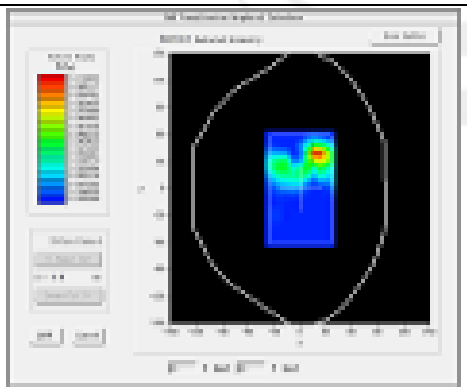
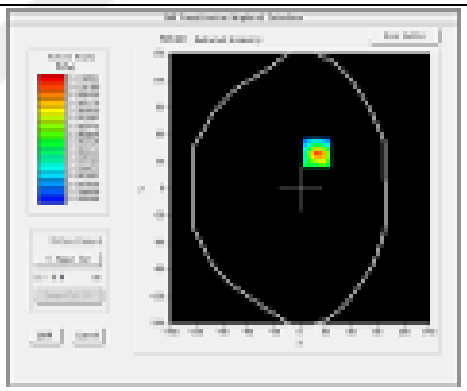
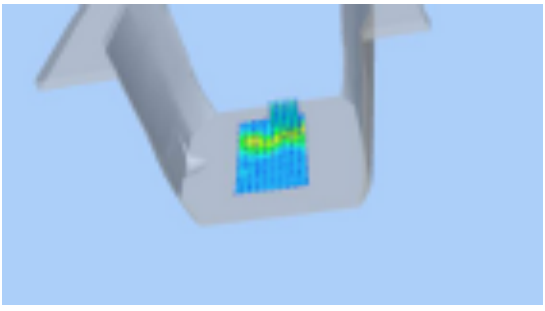
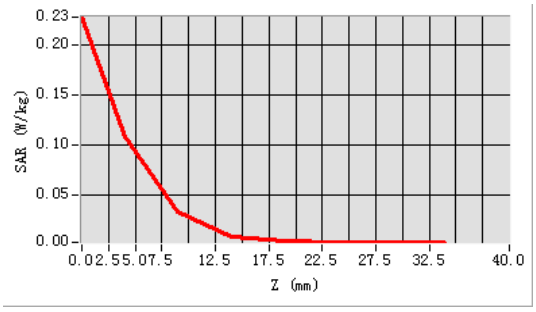
Plot 22: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-04
Probe	SN 45/15 EPGO281
ConvF	2.38
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 7 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2510.0
Relative permittivity (real part)	52.50
Conductivity (S/m)	2.16
Variation (%)	0.13

Maximum location: X=19.00, Y=40.00

SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.037867
SAR 1g (W/Kg)	0.103246

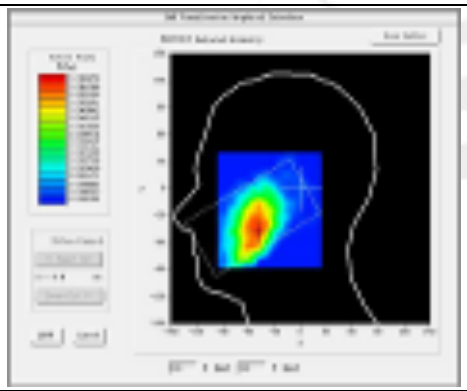
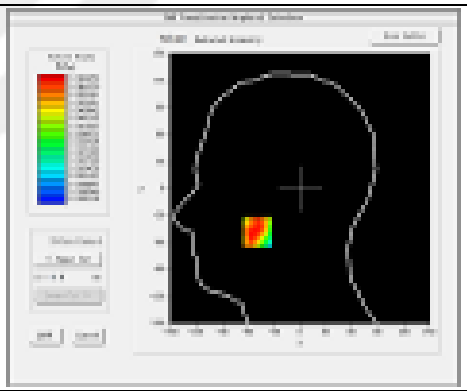
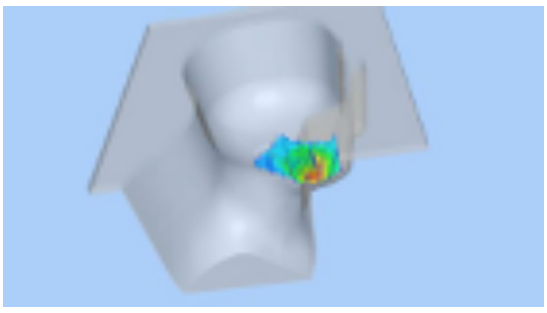
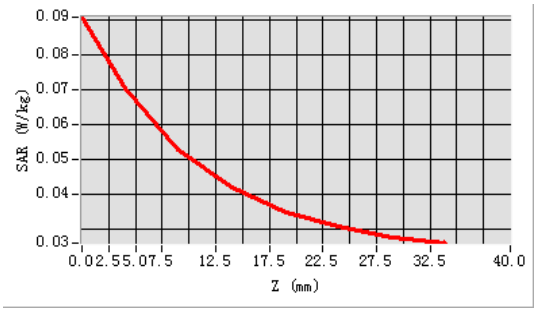
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 23: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-02
Probe	SN 45/15 EPGO281
ConvF	1.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 12 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711.0
Relative permittivity (real part)	41.90
Conductivity (S/m)	0.89
Variation (%)	0.15

Maximum location: X=-49.00, Y=-48.00
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.046356
SAR 1g (W/Kg)	0.066591

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

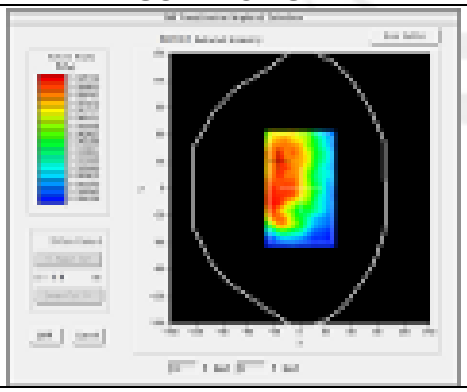
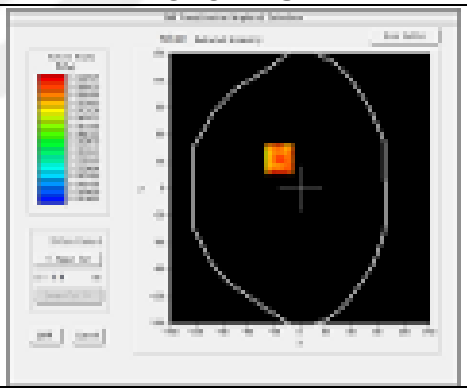
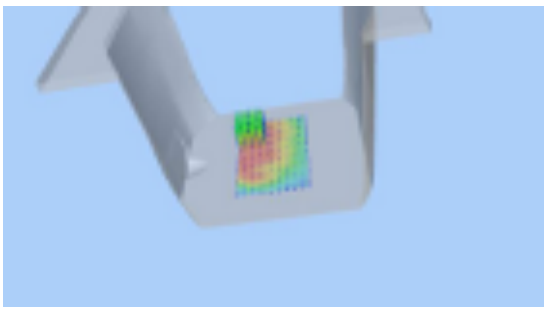
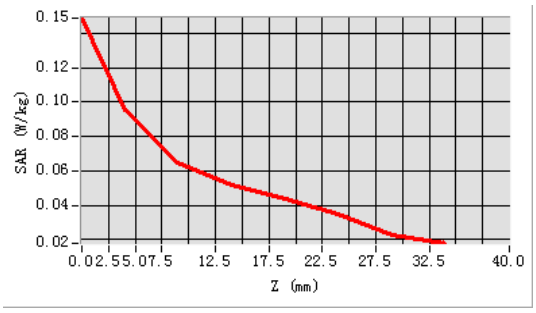
Plot 24:DUT: Smartphone; EUT Model: S10

Test Date	2018-11-02
Probe	SN 45/15 EPGO281
ConvF	1.59
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Front
Band	LTE Band 12 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711.0
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96
Variation (%)	-2.81

Maximum location: X=-24.00, Y=-33.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.067337
SAR 1g (W/Kg)	0.085874

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

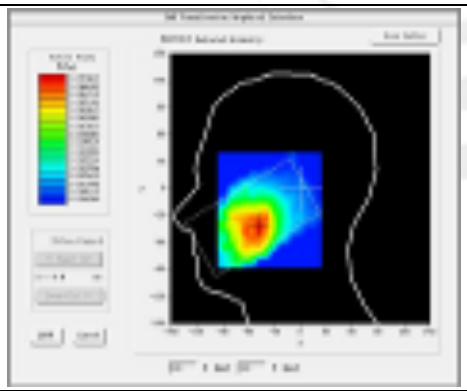
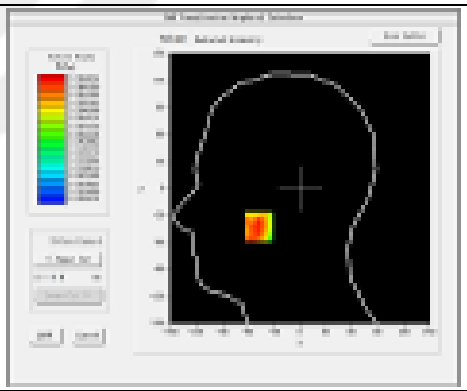
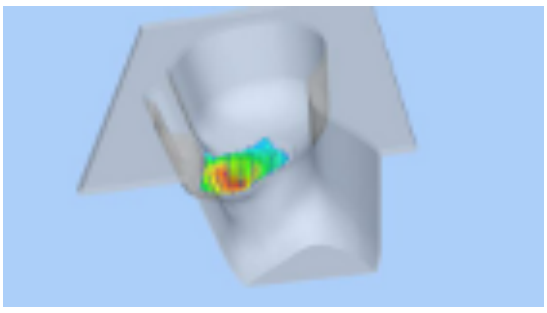
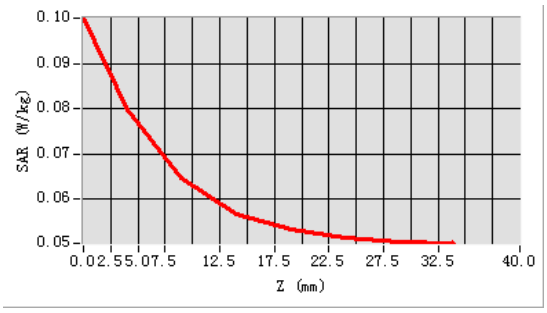
Plot 25: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-02
Probe	SN 45/15 EPGO281
ConvF	1.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 17 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	41.90
Conductivity (S/m)	0.89
Variation (%)	2.02

Maximum location: X=-48.00, Y=-42.00

SAR Peak: 0.10W/kg

SAR 10g (W/Kg)	0.056088
SAR 1g (W/Kg)	0.071804

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

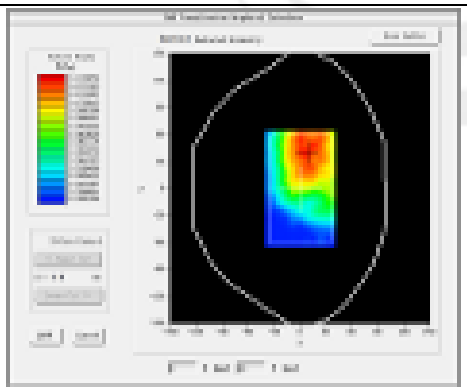
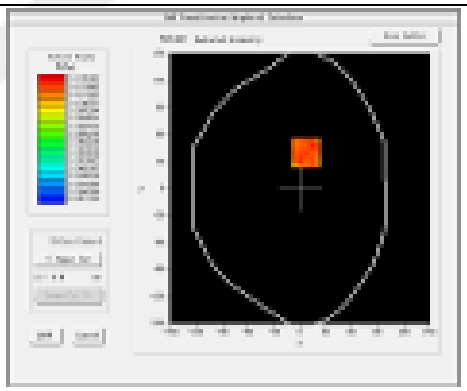
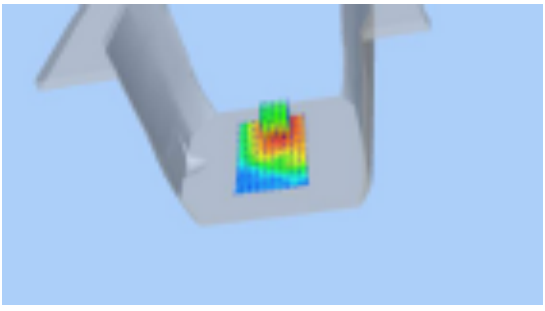
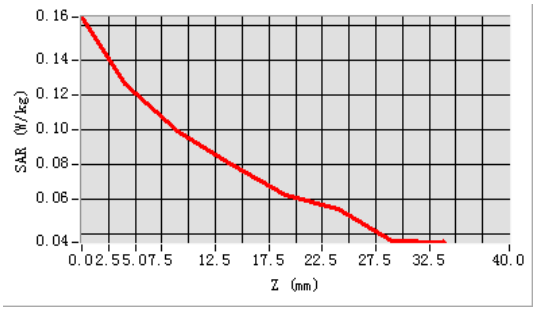
Plot 26: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-02
Probe	SN 45/15 EPGO281
ConvF	1.59
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 17 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	55.50
Conductivity (S/m)	0.96
Variation (%)	-0.79

Maximum location: X=7.00, Y=40.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.092601
SAR 1g (W/Kg)	0.123745

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

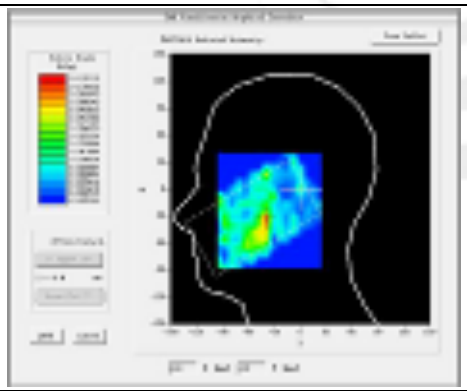
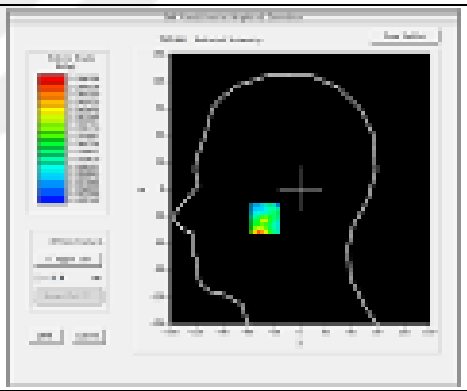
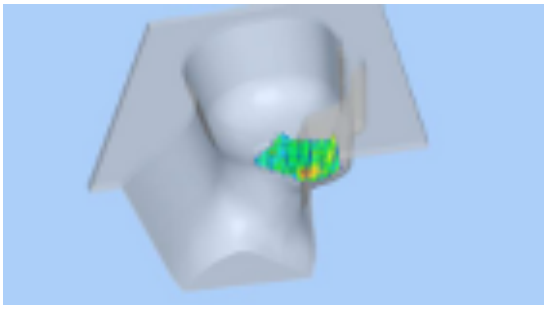
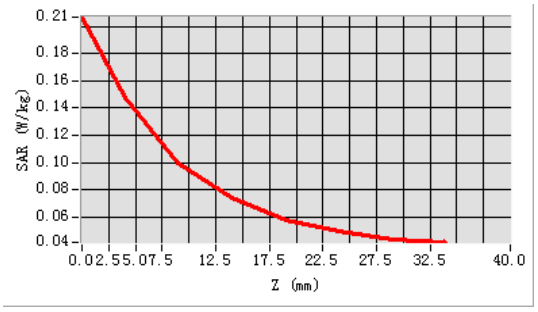
Plot 27: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-07
Probe	SN 45/15 EPGO281
ConvF	2.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 41 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2565
Relative permittivity (real part)	39.0
Conductivity (S/m)	1.96
Variation (%)	-3.97

Maximum location: X=-41.00, Y=-33.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.041086
SAR 1g (W/Kg)	0.077292

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

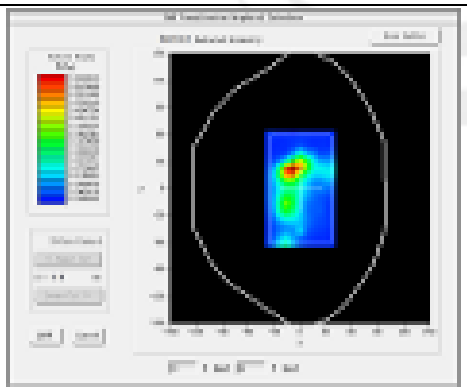
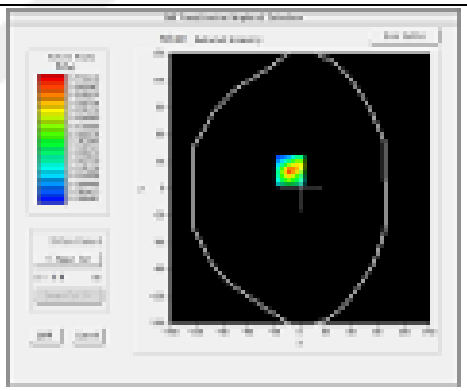
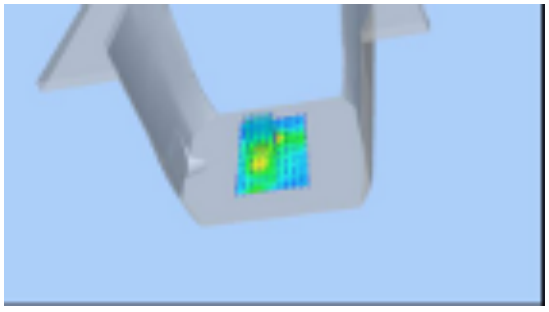
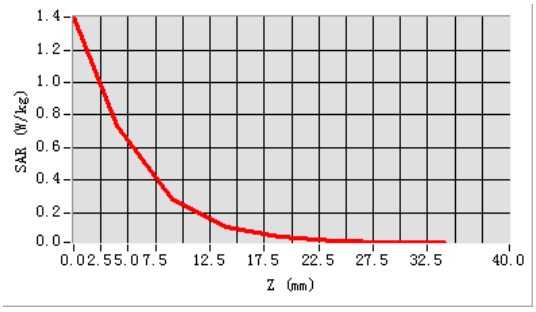
Plot 28: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-07
Probe	SN 45/15 EPGO281
ConvF	2.38
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 41 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2565
Relative permittivity (real part)	52.50
Conductivity (S/m)	2.16
Variation (%)	2.72

Maximum location: X=-12.00, Y=21.00

SAR Peak: 1.38 W/kg

SAR 10g (W/Kg)	0.275557
SAR 1g (W/Kg)	0.674466

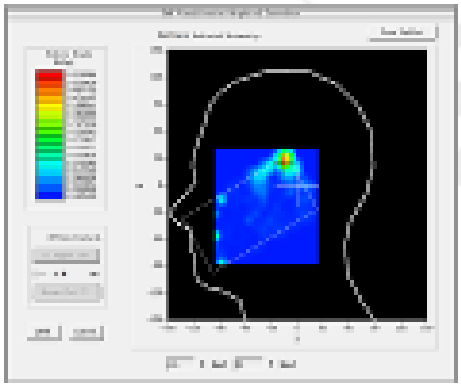
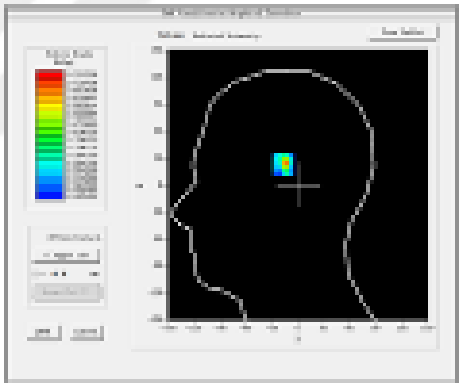
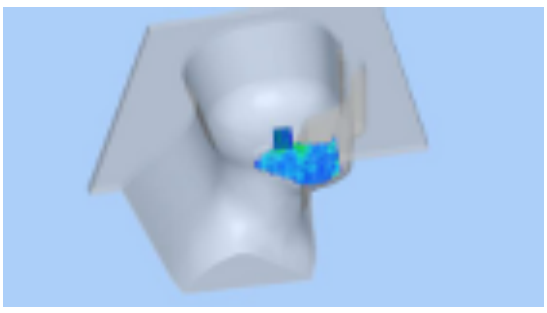
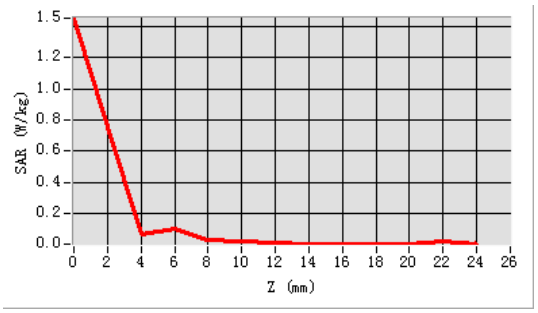
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 29: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-08
Probe	SN 45/15 EPGO281
ConvF	2.46
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11a U-NII
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5180
Relative permittivity (real part)	36.80
Conductivity (S/m)	4.84
Variation (%)	-1.00

Maximum location: X=-16.00, Y=26.00
SAR Peak: 2.44 W/kg

SAR 10g (W/Kg)	0.138671
SAR 1g (W/Kg)	0.627417

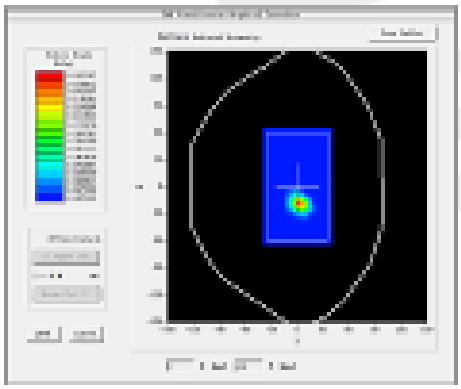
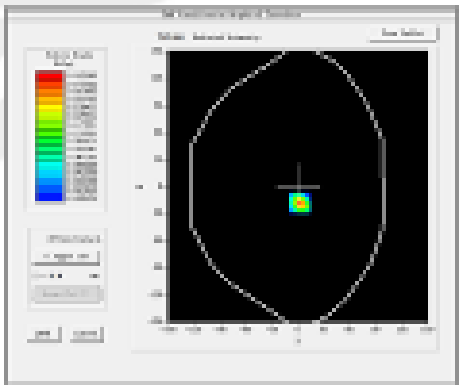
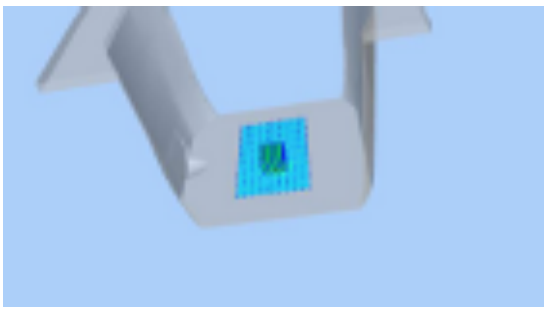
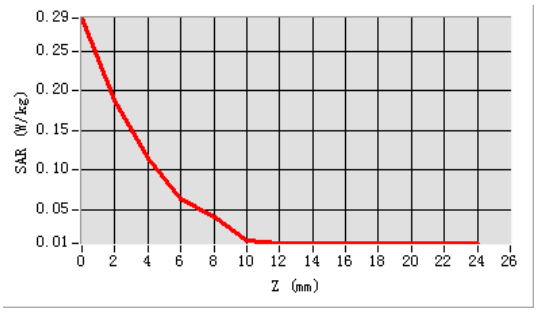
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 30: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-08
Probe	SN 45/15 EPGO281
ConvF	2.52
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	IEEE 802.11a U-NII
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5180
Relative permittivity (real part)	51.21
Conductivity (S/m)	5.16
Variation (%)	2.13

Maximum location: X=2.00, Y=-18.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.031683
SAR 1g (W/Kg)	0.096612

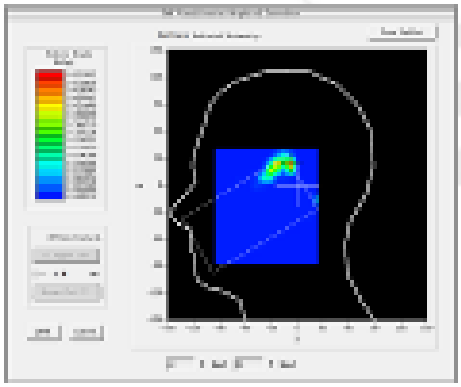
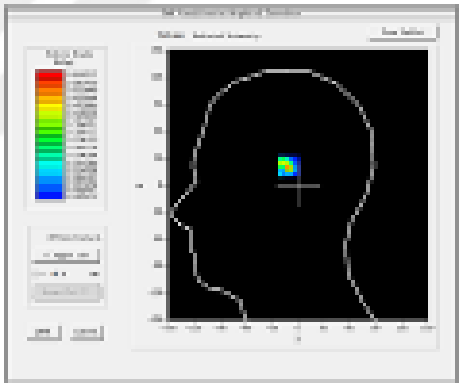
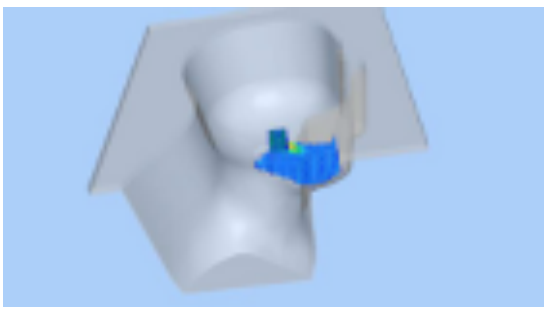
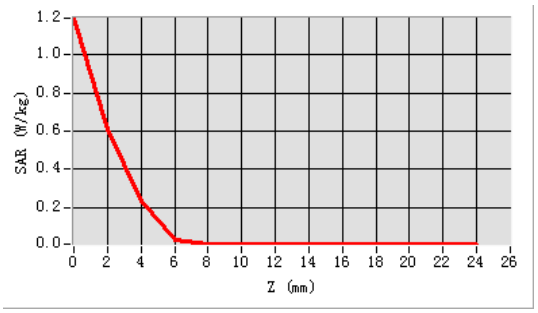
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 31: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-08
Probe	SN 45/15 EPGO281
ConvF	2.70
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11n U-NII
Channels	Low
Signal	IEEE802.n (Crest factor: 1.0)
Frequency (MHz)	5260
Relative permittivity (real part)	36.35
Conductivity (S/m)	4.96
Variation (%)	-1.09

Maximum location: X=-9.00, Y=23.00
SAR Peak: 1.24 W/kg

SAR 10g (W/Kg)	0.108924
SAR 1g (W/Kg)	0.509933

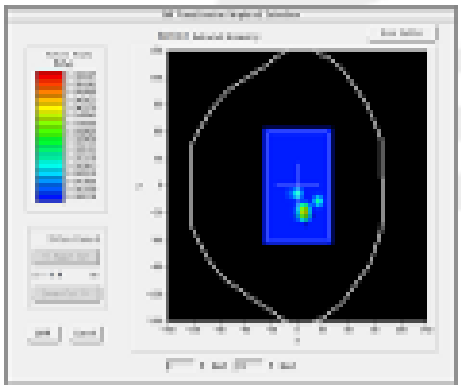
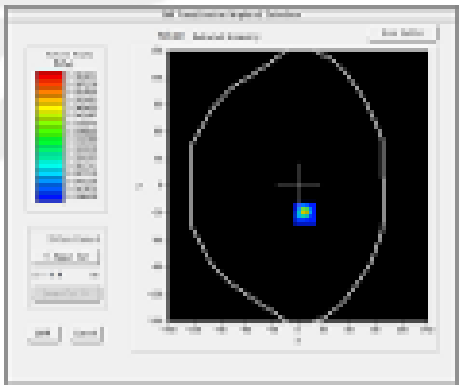
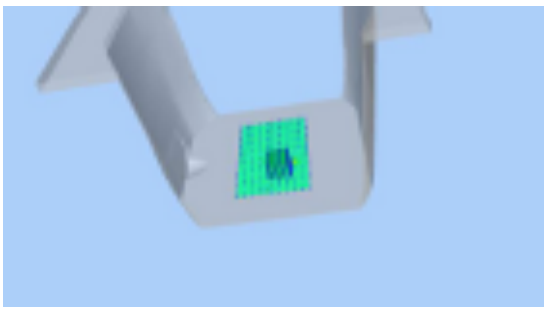
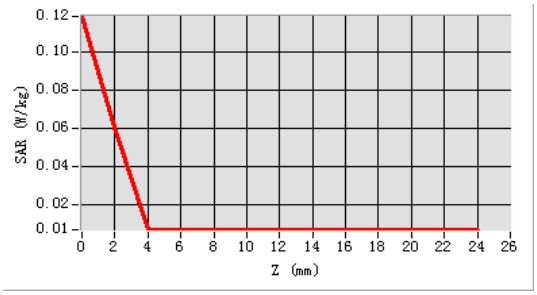
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 32: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-08
Probe	SN 45/15 EPGO281
ConvF	2.79
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	IEEE 802.11n U-NII
Channels	Low
Signal	IEEE802.n (Crest factor: 1.0)
Frequency (MHz)	5260
Relative permittivity (real part)	50.51
Conductivity (S/m)	5.70
Variation (%)	3.97

Maximum location: X=8.00, Y=-30.00
SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.009618
SAR 1g (W/Kg)	0.027241

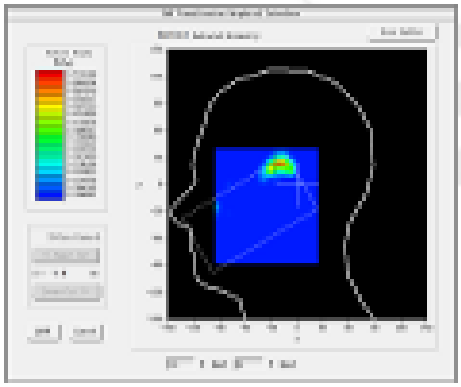
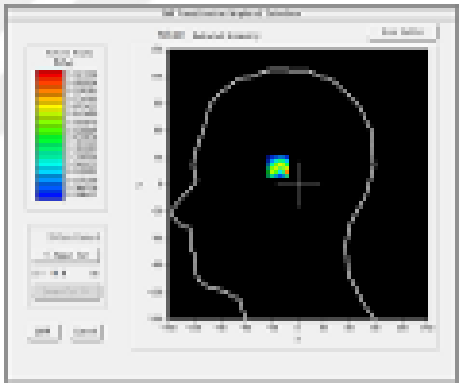
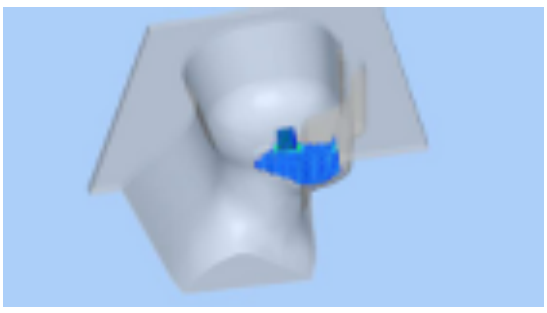
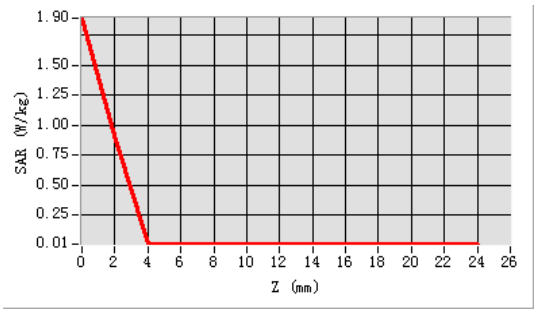
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 33: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-09
Probe	SN 45/15 EPGO281
ConvF	2.74
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11n U-NII
Channels	High
Signal	IEEE802.n (Crest factor: 1.0)
Frequency (MHz)	5700
Relative permittivity (real part)	35.57
Conductivity (S/m)	5.23
Variation (%)	-1.67

Maximum location: X=-23.00, Y=24.00
SAR Peak: 1.91 W/kg

SAR 10g (W/Kg)	0.222758
SAR 1g (W/Kg)	0.631145

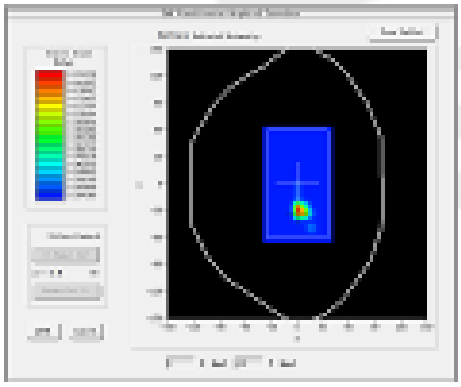
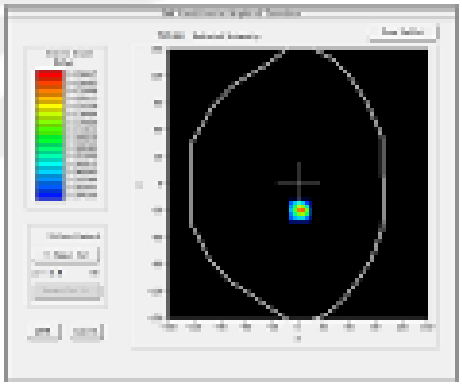
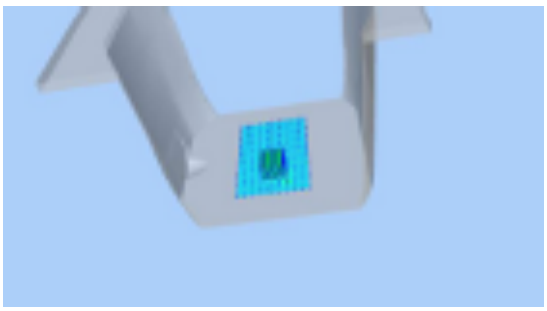
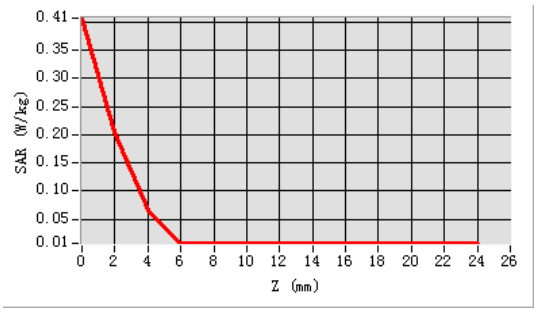
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 34: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-09
Probe	SN 45/15 EPGO281
ConvF	2.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	IEEE 802.11n U-NII
Channels	High
Signal	IEEE802.n (Crest factor: 1.0)
Frequency (MHz)	5700
Relative permittivity (real part)	49.83
Conductivity (S/m)	5.91
Variation (%)	0.14

Maximum location: X=2.00, Y=-29.00
SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.026580
SAR 1g (W/Kg)	0.101275

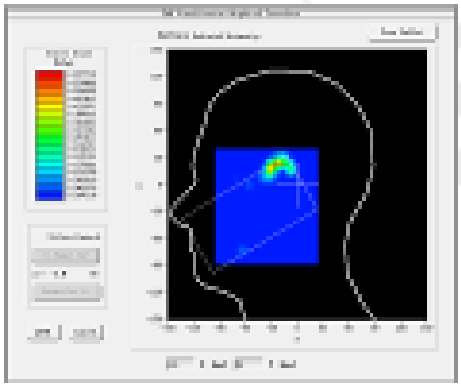
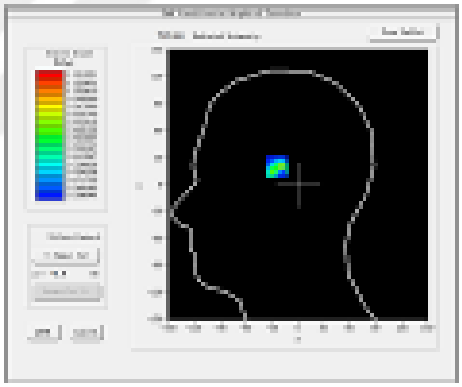
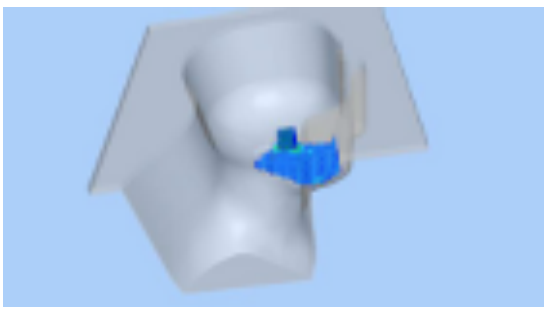
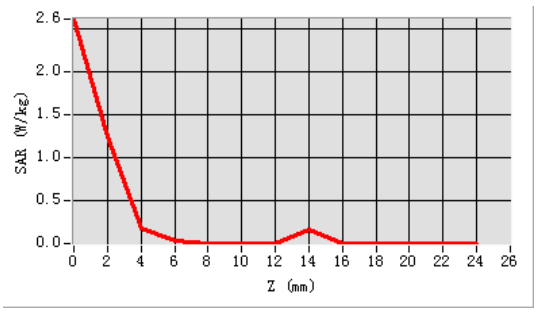
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 35: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-09
Probe	SN 45/15 EPGO281
ConvF	2.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11a U-NII
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5745
Relative permittivity (real part)	35.30
Conductivity (S/m)	5.47
Variation (%)	-2.22

Maximum location: X=-24.00, Y=24.00
SAR Peak: 2.62 W/kg

SAR 10g (W/Kg)	0.194333
SAR 1g (W/Kg)	0.782199

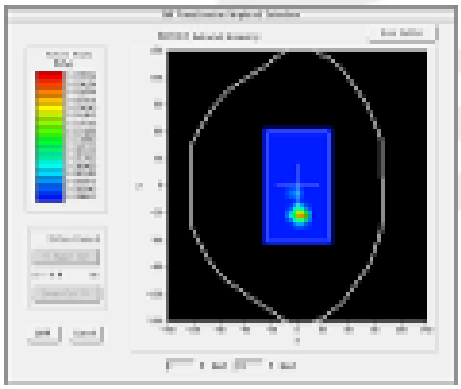
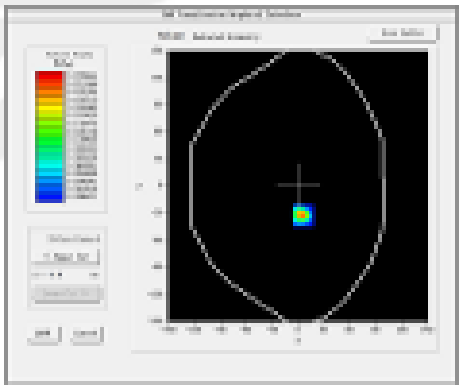
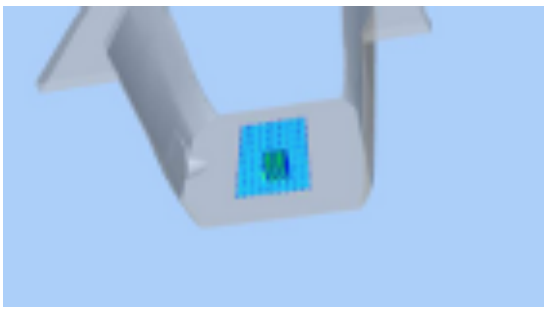
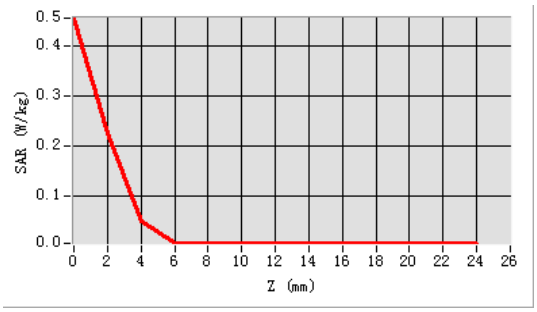
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 36: DUT: Smartphone; EUT Model: S10

Test Date	2018-11-09
Probe	SN 45/15 EPGO281
ConvF	2.60
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	IEEE 802.11a U-NII
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5745
Relative permittivity (real part)	49.03
Conductivity (S/m)	6.28
Variation (%)	-1.39

Maximum location: X=6.00, Y=-32.00
SAR Peak: 0.51 W/kg

SAR 10g (W/Kg)	0.030169
SAR 1g (W/Kg)	0.114656

SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※