S T S L A B

FCC SAR TEST REPORT

Report No.: STS1911233H02

Issued for

Shanghai Hyco Genyong Technology Co., Ltd.

Room 105, 1/F, Building B, No.999 of Huaxu Road, Qingpu District, Shanghai, China

Product Name:	Smart Watch
Brand Name:	HYCO
Model Name:	W563-FL
Series Model:	N/A
FCC ID:	N/A
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Front of face: 0.397 W/kg
Max. Report SAR (10g):	Wrist: 0.832 W/kg

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Test Report Certification

Applicant's name ..... : Shanghai Hyco Genyong Technology Co., Ltd.

Address ..... : Room 105, 1/F, Building B, No.999 of Huaxu Road, Qingpu District, Shanghai, China

Manufacture's Name ..... : Shanghai Hyco Genyong Technology Co., Ltd.

Address ..... : Room 105, 1/F, Building B, No.999 of Huaxu Road, Qingpu District, Shanghai, China

Product description

Product name ..... : Smart Watch

Brand name ..... : HYCO

Model name ..... : W563-FL

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..... : 29 Nov. 2019~02 Dec. 2019

Date of Issue..... : 05 Dec. 2019

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

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Jason Lu

(Jason Lu)

Authorized Signatory : Vita Li

(Vita Li)

Table of Contents

1.General Information **5**

1.1 EUT Description 5

1.2 Test Environment 6

1.3 Test Factory 6

2.Test Standards And Limits **7**

3. SAR Measurement System **8**

3.1 Definition Of Specific Absorption Rate (SAR) 8

3.2 SAR System 8

4. Tissue Simulating Liquids **11**

4.1 Simulating Liquids Parameter Check 11

5. SAR System Validation **13**

5.1 Validation System 13

5.2 Validation Result 13

6. SAR Evaluation Procedures **14**

7. EUT Test Position **15**

8. Uncertainty **16**

8.1 Measurement Uncertainty 16

8.2 System validation Uncertainty 17

9. Conducted Power Measurement **18**

9.1 Test Result 18

9.2 Tune-up Power 21

9.3 SAR Test Exclusions Applied 23

10. EUT And Test Setup Photo **25**

10.1 EUT Photo 25

10.2 Setup Photo 28

11. SAR Result Summary **30**

11.1 Front of face SAR 30

11.2 Wrist SAR 30

12. Equipment List **32**

Appendix A. System Validation Plots **33**

Appendix B. SAR Test Plots **45**

Appendix C. Probe Calibration And Dipole Calibration Report **51**

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	05 Dec. 2019	STS1911233H02	ALL	Initial Issue
Note: **Format version** of the report -V01				

1.General Information

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

1.1 EUT Description

Product Name	Smart Watch			
Brand Name	HYCO			
Model Name	W563-FL			
Series Model	N/A			
FCC ID	N/A			
Model Difference	N/A			
Battery	Rated Voltage: 3.8V; Charge Limit: 4.35V; Capacity: 3600mAh			
Device Category	Portable			
Product stage	Production unit			
Exposure Environment	General Population / Uncontrolled			
IMEI	N/A			
Hardware Version	1.1			
Software Version	20190923			
Frequency Range	2.4GHz WLAN IEEE 802.11b/g/n(HT20):2412~2462MHz 2.4GHz WLAN IEEE 802.11n(HT40):2422~2452MHz 5GHz IEEE 802.11a/n/ac(20MHz): 5180~5825MHz 5GHz IEEE 802.11n/ac(40MHz): 5190~5795MHz 5GHz IEEE 802.11ac(80MHz): 5210~5775MHz Bluetooth:2402~ 2480MHz			
Max. Reported SAR	Band	Mode	Front of face-1g (W/kg)	Wrist-10g (W/kg)
	DTS	2.4G WLAN	0.070	0.832
	NII	5.2G WLAN	0.026	0.099
	NII	5.3G WLAN Note	0.386	0.309
	NII	5.6G WLAN Note	0.397	0.318
	NII	5.8G WLAN	0.045	0.076
	DTS	Bluetooth Note	0.210	0.168
Limit			1.6	4.0
FCC Equipment Class	Digital Transmission System (DTS) Unlicensed National Information Infrastructure TX(NII)			
Operating Mode	WLAN: 802.11 b/g/n(HT20); n/a/ac(HT20/40); ac/(HT80) Bluetooth: 4.1+EDR (GFSK +π/4DQPSK+8DPSK) ; BLE			
Antenna Specification	BT/WLAN: PIFA Antenna			

Note:
1. Bluetooth, 5.3G WLAN, 5.6G WLAN SAR was estimated
2 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.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC Registration No.: 625569
A2LA Certificate No.: 4338.01
IC Registration No.: 12108A

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 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

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

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

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

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

Note: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:
are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.
Occupational/Controlled Environments:
are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

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:

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

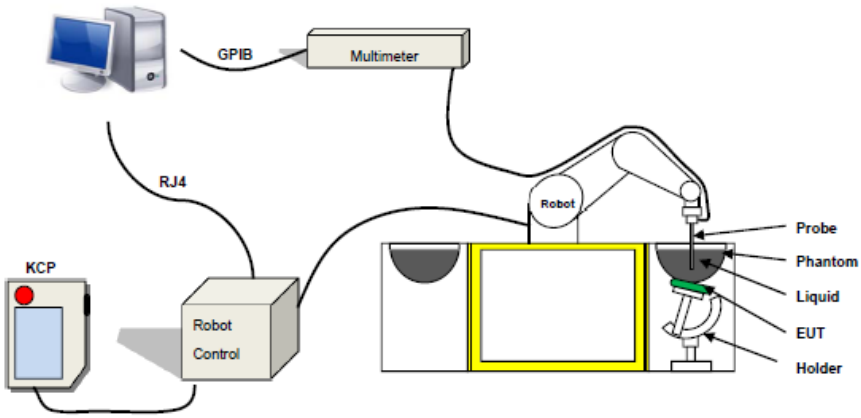
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:
- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 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

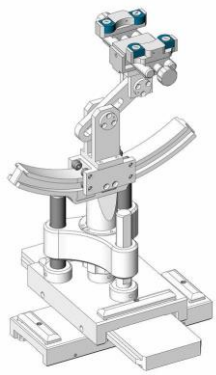
3.2.2 Phantom

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

4.1 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	εr		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
835	41.5	55.2	0.90	0.97
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
1900	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

LIQUID MEASUREMENT RESULTS

Date	Ambient condition		Head Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2019-11-29	22.1	45	2450 MHz	21.9	Permittivity:	39.20	39.40	0.51	±5
					Conductivity:	1.80	1.78	-1.03	± 5
2019-11-30	22.4	44	5200 MHz	22.2	Permittivity:	36.0	36.00	-0.01	± 10
					Conductivity:	4.66	4.67	0.27	± 10
2019-12-02	21.7	41	5800 MHz	2.5	Permittivity:	35.3	34.42	-2.50	± 10
					Conductivity:	5.27	5.27	0.00	± 10

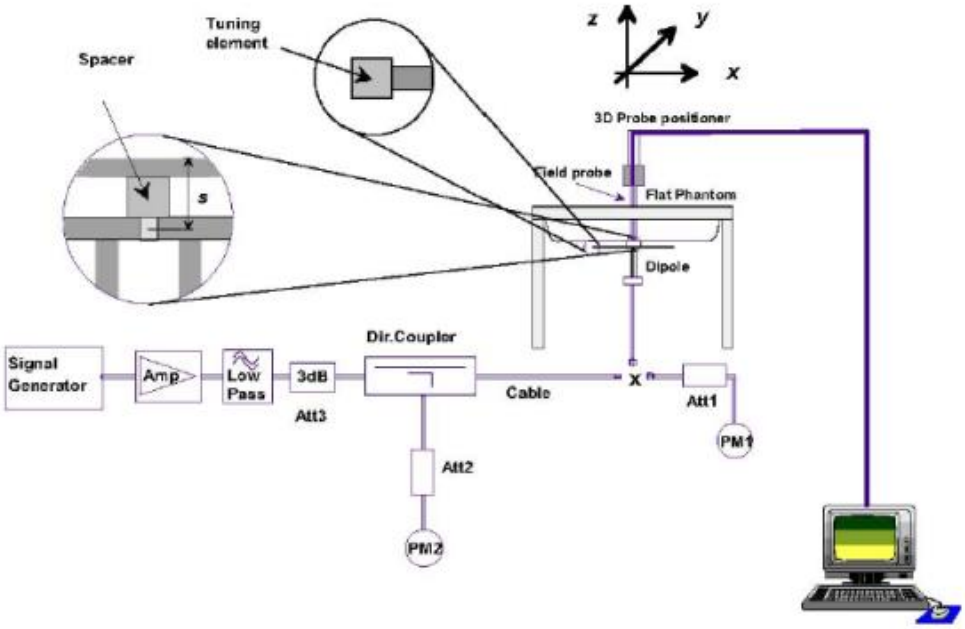
Date	Ambient condition		Body Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2019-11-29	22.1	45	2450 MHz	21.9	Permittivity:	52.7	51.93	-1.46	± 5
					Conductivity:	1.95	1.89	-3.26	± 5
2019-11-30	22.4	44	5200 MHz	22.2	Permittivity:	49.0	47.22	-3.63	± 10
					Conductivity:	5.30	5.28	-0.36	± 10
2019-12-02	21.7	41	5800 MHz	2.5	Permittivity:	48.2	48.98	1.61	± 10
					Conductivity:	6.00	5.94	-1.08	± 10

5. SAR System Validation

5.1 Validation System

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

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



5.2 Validation Result

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

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target(W/Kg)	Tolerance(%)	Date
2450 Head	100	5.233	52.33	52.4	-0.13	2019-11-29
2450 Body	100	5.212	52.12	52.4	-0.53	2019-11-29
5200 Head	100	15.853	158.53	159	-0.29	2019-11-30
5200 Body	100	15.997	159.97	159	0.61	2019-11-30
5800 Head	100	18.080	180.80	181.2	-0.22	2019-12-02
5800 Body	100	18.069	180.69	181.2	-0.28	2019-12-02

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:

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface.

- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.

- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.

- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

Area Scan& Zoom Scan:

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

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

7. EUT Test Position

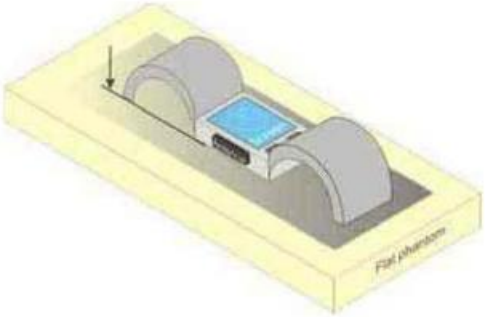
This EUT was tested in Front Face and Rear Face.

Limb-worn Position Conditions

Transmitters that are built-in within a wrist watch or similar wrist-worn devices typically operate in speaker mode for voice communication, with the device worn on the wrist and positioned next to the mouth. Next to the mouth exposure requires 1-g SAR and the wrist-worn condition requires 10-g extremity SAR

.

(1) Next to the mouth use is evaluated with the front of the device positioned at 10 mm from a flat phantom filled with head tissue-equivalent medium



Test position for limb-worn devices

8. Uncertainty

8.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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

8.2 System validation Uncertainty

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

9. Conducted Power Measurement

9.1 Test Result

WLAN

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11b	1	2412	16.13
	6	2437	16.00
	11	2462	15.89
802.11g	1	2412	13.84
	6	2437	13.99
	11	2462	13.86
802.11n(HT 20)	1	2412	12.21
	6	2437	12.21
	11	2462	11.78
802.11n(HT 40)	3	2422	10.34
	6	2437	10.46
	9	2452	10.40

WLAN (5.2Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	36	5180	12.16
	40	5200	12.39
	48	5240	12.30
802.11 n-HT20	36	5180	10.06
	40	5200	10.41
	48	5240	10.40
802.11 n-HT40	38	5190	10.27
	46	5230	10.62
802.11 ac-HT20	36	5180	9.98
	40	5200	10.56
	48	5240	10.82
802.11 ac-HT40	38	5190	10.02
	46	5230	10.45
802.11 ac-HT80	42	5210	10.68

WLAN (5.3Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	52	5260	10.02
	60	5300	10.11
	64	5320	10.56
802.11 n-HT20	52	5260	10.12
	60	5300	10.20
	64	5320	10.67
802.11 n-HT40	54	5270	10.29
	62	5310	10.59
802.11 ac-HT20	52	5260	10.02
	60	5300	10.24
	64	5320	10.72
802.11 ac-HT40	54	5270	10.36
	62	5310	10.68
802.11 ac-HT80	58	5290	10.63

WLAN (5.6Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	100	5500	10.63
	116	5580	9.96
	140	5700	10.59
802.11 n-HT20	100	5500	10.47
	116	5580	9.45
	140	5700	10.68
802.11 n-HT40	102	5510	10.61
	110	5550	9.84
	134	5670	10.32
802.11 ac-HT20	100	5500	10.82
	116	5580	10.30
	140	5700	10.55
802.11 ac-HT40	102	5510	10.71
	110	5550	10.30
	134	5670	10.30
802.11 ac-HT80	106	5530	10.64

WLAN (5.8Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11a	149	5745	10.97
	157	5785	10.59
	165	5825	11.00
802.11 n-HT20	149	5745	10.71
	157	5785	10.02
	165	5825	10.56
802.11 n-HT40	151	5755	10.62
	159	5795	10.47
802.11 ac-HT20	149	5745	10.61
	157	5785	10.21
	165	5825	11.02
802.11 ac-HT40	151	5755	11.18
	159	5795	10.97
802.11 ac-HT80	155	5775	11.17

Bluetooth

Mode	Channel Number	Frequency (MHz)	Peak Power (dBm)
GFSK(1Mbps)	0	2402	9.63
	39	2441	9.30
	78	2480	9.49
π/4-DQPSK(2Mbps)	0	2402	9.06
	39	2441	8.47
	78	2480	8.96
8DPSK(3Mbps)	0	2402	9.02
	39	2441	8.45
	78	2480	8.93

BLE

Mode	Channel Number	Frequency (MHz)	Peak Power (dBm)
GFSK(1Mbps)	0	2402	-3.37
	19	2440	-3.62
	39	2480	-4.50

9.2 Tune-up Power

WLAN (2.4Gband)

Mode	WLAN(AVG)
IEEE 802.11b	16±1dBm
IEEE 802.11g	13±1dBm
IEEE 802.11n(HT 20)	12±1dBm
IEEE 802.11n(HT 40)	10±1dBm

WLAN (5.2Gband)

Mode	5.2G WLAN(AVG)
IEEE 802.11a	12±1dBm
IEEE 802.11n-HT20	10±1dBm
IEEE 802.11n-HT40	10±1dBm
IEEE 802.11ac-HT20	10±1dBm
IEEE 802.11ac-HT40	10±1dBm
IEEE 802.11ac-HT80	10±1dBm

WLAN (5.3Gband)

Mode	5.3G WLAN(AVG)
IEEE 802.11a	10±1dBm
IEEE 802.11n-HT20	10±1dBm
IEEE 802.11n-HT40	10±1dBm
IEEE 802.11ac-HT20	10±1dBm
IEEE 802.11ac-HT40	10±1dBm
IEEE 802.11ac-HT80	10±1dBm

WLAN (5.6Gband)

Mode	5.6G WLAN(AVG)
IEEE 802.11a	10±1dBm
IEEE 802.11n-HT20	10±1dBm
IEEE 802.11n-HT40	10±1dBm
IEEE 802.11ac-HT20	10±1dBm
IEEE 802.11ac-HT40	10±1dBm
IEEE 802.11ac-HT80	10±1dBm

WLAN (5.8Gband)

Mode	WLAN(AVG)
IEEE 802.11a	11±1dBm
IEEE 802.11n HT20	10±1dBm
IEEE 802.11n HT40	10±1dBm
IEEE 802.11ac-HT20	11±1dBm
IEEE 802.11ac-HT40	11±1dBm
IEEE 802.11ac-HT80	11±1dBm

BT

Mode	BT(Peak Power)
GFSK	9±1dBm
π/4-DQPSK	9±1dBm
8DPSK	9±1dBm

BLE

Mode	BLE(Peak Power)
GFSK	-4±1dBm

9.3 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 Front of face** (rounded to the nearest mW) and the antenna to user separation distance,

Bluetooth Front of face SAR was not required; [(10.000/10)* √2.480] = **1.57** < 3.0.

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

Bluetooth Wrist SAR was not required; [(10.000/5)* √2.480] = **3.15** < 7.5.

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

2.4 GHz WLAN Front of face SAR was required; [(50.119/10)* √2.462] = **7.86** > 3.0.

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

2.4 GHz WLAN Wrist SAR was required; [(50.119/5)* √2.462] = **15.73** > 7.5

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

5.2 GHz WLAN Front of face SAR was required; [(19.953/10)* √5.200] = **4.55** > 3.0.

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

5.2 GHz WLAN Wrist SAR was required; [(19.953/5)* √5.200] = **9.10** > 7.5

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

5.3 GHz WLAN Front of face SAR was not required; [(12.589/10)* √5.300] = **2.90** < 3.0.

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

5.3 GHz WLAN Wrist SAR was not required; [(12.589/5)* √5.300] = **5.80** < 7.5

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

5.6 GHz WLAN Front of face SAR was not required; [(12.589/10)* √5.600] = **2.98** < 3.0.

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

5.6 GHz WLAN Wrist SAR was not required; [(12.589/5)* √5.600] = **5.96** < 7.5

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

5.8 GHz WLAN Front of face SAR was required; [(15.849/10)* √5.800] = **3.82** **>** 3.0.

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

5.8 GHz WLAN Wrist SAR was required; [(15.849/5)* √5.800] = **7.63** **>** 7.5

10. EUT And Test Setup Photo

10.1 EUT Photo

Front side

Back side

Top Edge

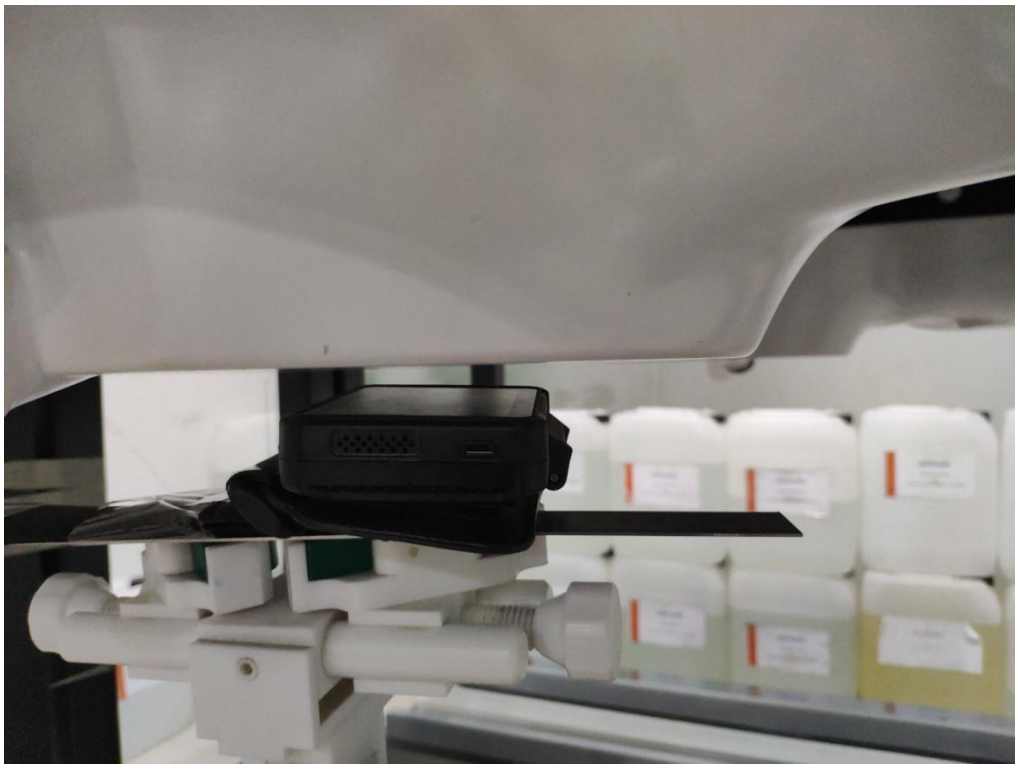
Bottom Edge

Left Edge

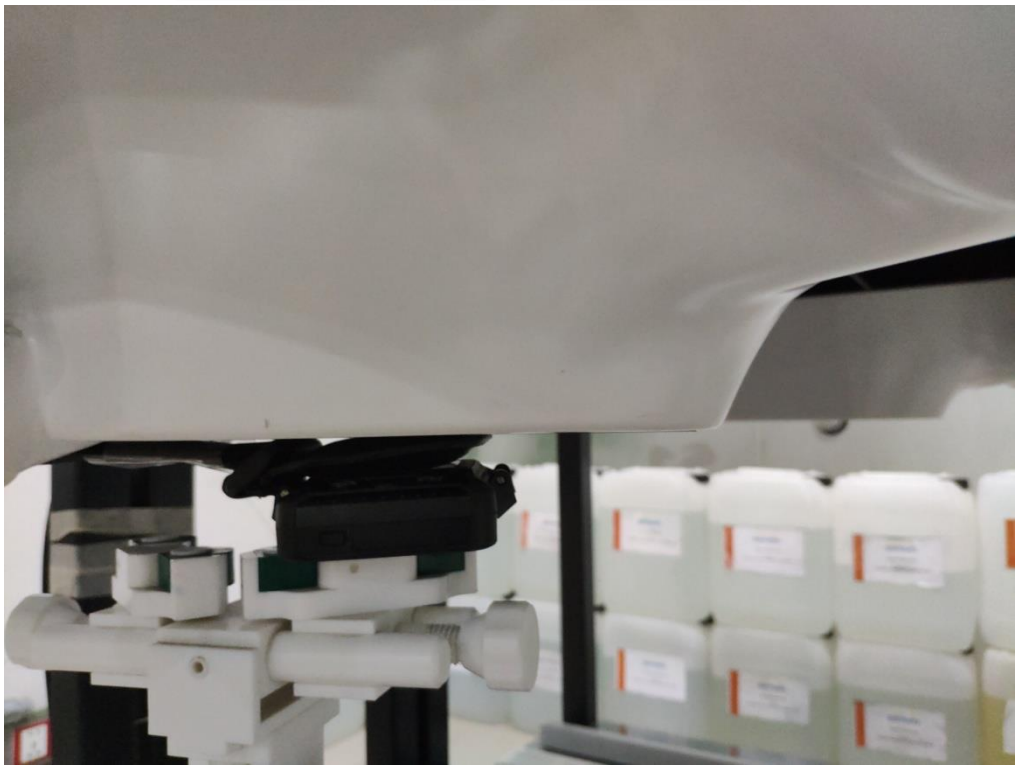
Right Edge

10.2 Setup Photo

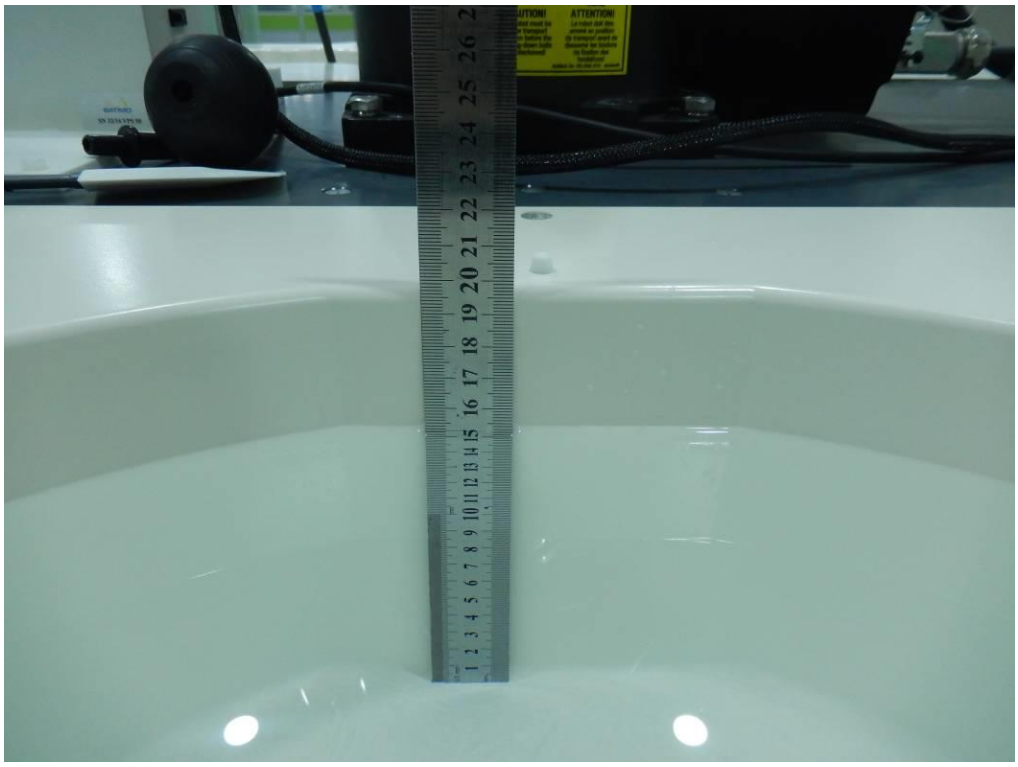
Front of face (separation distance is 10mm)



Wrist (separation distance is 0mm)



Liquid depth (15 cm)



11. SAR Result Summary

11.1 Front of face 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.
WLAN 2.4 G	802.11b	Front of face	1	0.057	1.02	17	16.13	0.070	1
WLAN 5.2 G	802.11a	Front of face	40	0.023	1.98	13	12.39	0.026	3
WLAN 5.8 G	802.11ac	Front of face	151	0.037	0.89	12	11.18	0.045	5

Note:

1. The test separation of all above table is 10mm.
2. Per KDB865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg

11.2 Wrist SAR

Band	Mode	Test Position	Ch.	Result 10g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
WLAN 2.4 G	802.11b	Wrist	1	0.681	0.34	17	16.13	0.832	2
WLAN 5.2 G	802.11a	Wrist	40	0.086	0.31	13	12.39	0.099	4
WLAN 5.8 G	802.11ac	Wrist	151	0.063	-0.83	12	11.18	0.076	6

Note:

3. The test separation of all above table is 0mm.
4. Per KDB865664 D01, Repeated measurement is not required when the original highest measured SAR is <2.00 W/kg

NOTE:

1. 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.
2. Bluetooth and 2.4GHz WLAN can't simultaneous transmission at the same time.
3. 2.4GHz WLAN and 5GHz WLAN can't simultaneous transmission at the same time.

Estimated SAR		Maximum Power		Antenna to user(mm)	Frequency(GHz)	Stand alone SAR [W/kg]
		dBm	mW			
BT	Front of face(1g)	10	10.000	10	2.480	0.210
	Wrist（10g）			5	2.480	0.168
5.3G WLAN	Front of face(1g)	11	12.589	10	5.300	0.386
	Wrist（10g）			5	5.300	0.309
5.6G WLAN	Front of face(1g)	11	12.589	10	5.600	0.397
	Wrist（10g）			5	5.600	0.318

12. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	2017.08.15	2020.08.14
Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2017.08.15	2020.08.14
E-Field Probe	MVG	SSE2	SN 45/15 EPGO281	2019.03.25	2020.03.24
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2019.11.25	2020.11.24
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	MVG	SAM	SN 32/14 SAM116	N/A	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	N/A	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	N/A	N/A
Attenuator	Agilent	99899	DC-18GHz	N/A	N/A
Directional coupler	Narda	4226-20	3305	N/A	N/A
Network Analyzer	Agilent	8753ES	US38432810	2019.10.11	2020.10.10
Multi Meter	Keithley	Multi Meter 2000	4050073	2019.10.11	2020.10.10
Signal Generator	Agilent	N5182A	MY50140530	2019.10.09	2020.10.08
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2019.10.09	2020.10.08
Wireless Communication Test Set	R&S	CMW500	117239	2019.10.09	2020.10.08
Power Amplifier	DESAY	ZHL-42W	9638	2019.10.09	2020.10.08
Power Meter	R&S	NRP	100510	2019.10.16	2020.10.15
Power Meter	Agilent	E4418B	GB43312526	2019.10.16	2020.10.15
Power Sensor	R&S	NRP-Z11	101919	2019.10.12	2020.10.11
Power Sensor	Agilent	E9301A	MY41497725	2019.10.12	2020.10.11
hygrothermograph	MiEO	HH660	N/A	2019.10.13	2020.10.12
Thermograph	Elitech	RC-4	S/N EF7176501537	2019.10.11	2020.10.10

Note:
Per KDB 865664 D01, Dipole SAR Validation Verification, STS LAB has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:
1. There is no physical damage on the dipole
2. System validation with specific dipole is within 10% of calibrated value
Return-loss in within 20% of calibrated measurement

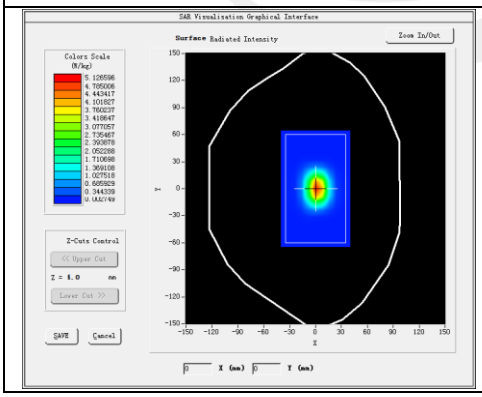
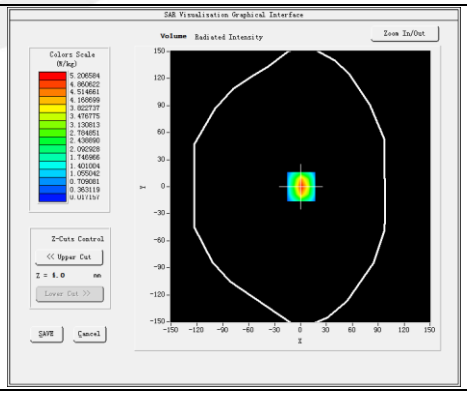
Appendix A. System Validation Plots

System Performance Check Data (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: 2019-11-29

Experimental conditions.

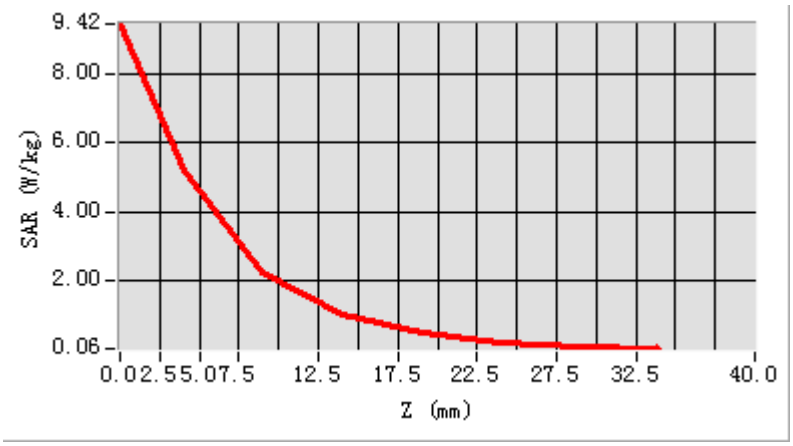
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.40
Conductivity (S/m)	1.78
Power drift (%)	-2.42
Probe	SN 45/15 EPGO281
ConvF	2.21
Crest factor:	1:1

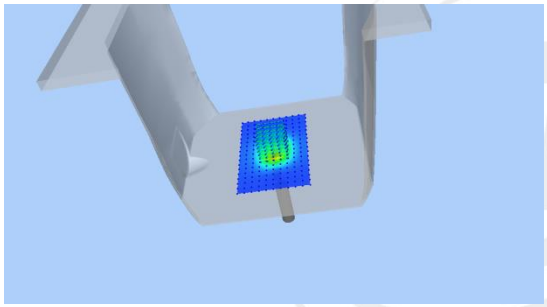
SURFACE SAR	VOLUME SAR
	

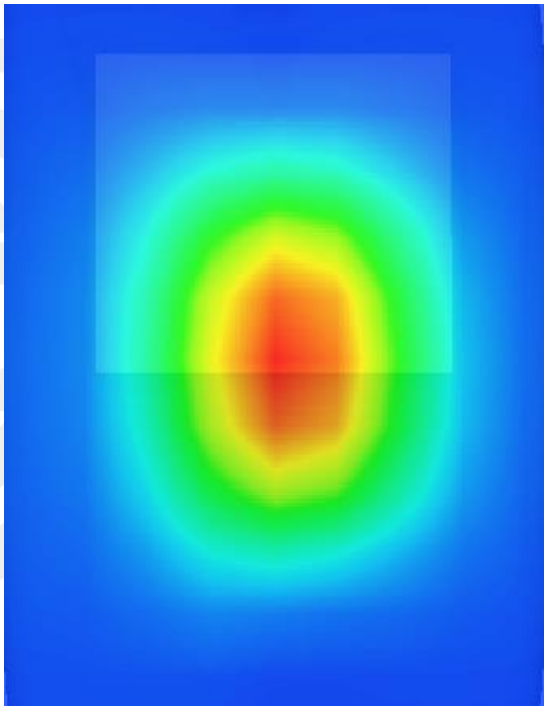
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.460315
SAR 1g (W/Kg)	5.232952

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)



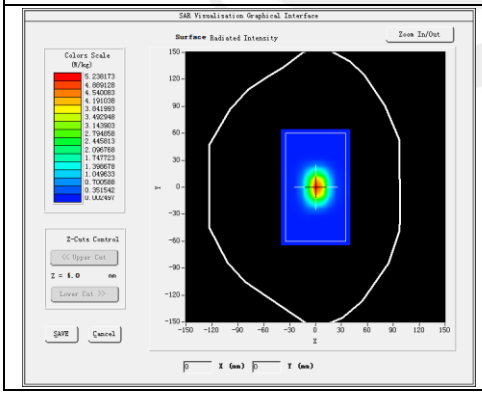
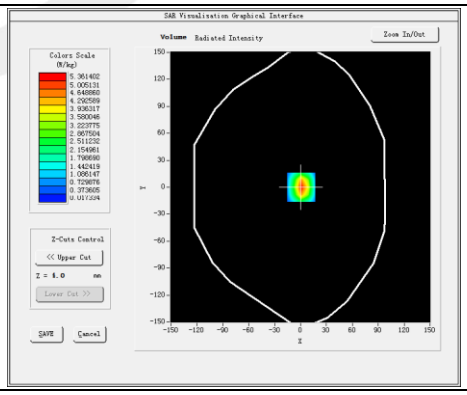


System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2019-11-29

Experimental conditions.

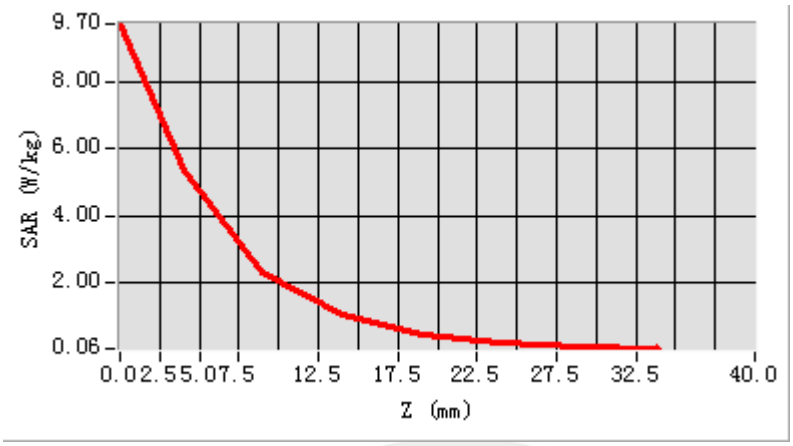
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	51.93
Conductivity (S/m)	1.89
Power drift (%)	-3.26
Probe	SN 45/15 EPGO281
ConvF	2.28
Crest factor:	1:1

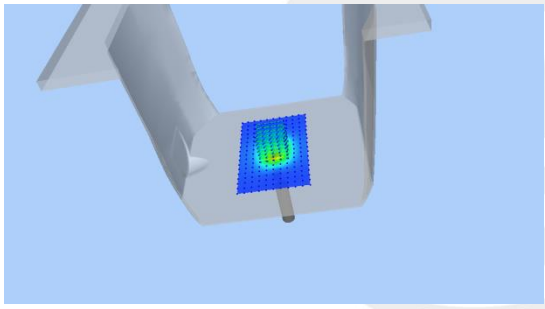
SURFACE SAR	VOLUME SAR
	

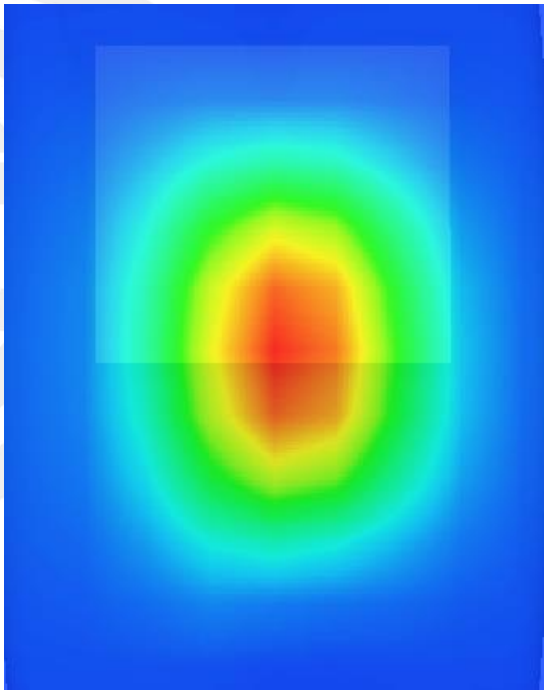
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.370684
SAR 1g (W/Kg)	5.212415

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)



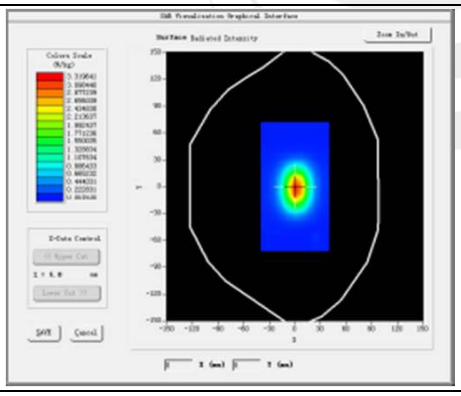
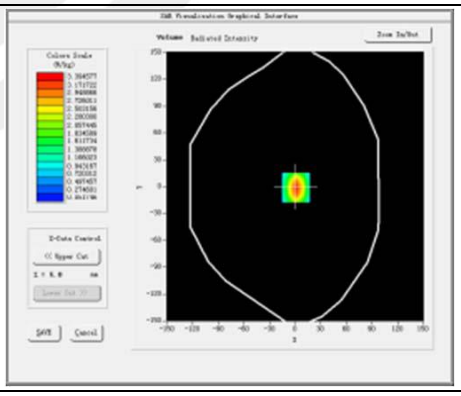


System Performance Check Data(5200MHz Head)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2019-11-30

Experimental conditions.

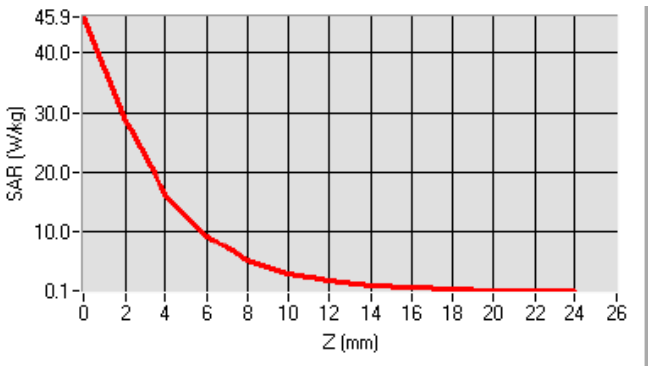
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	36.00
Conductivity (S/m)	4.67
Power drift (%)	4.14
Probe	SN 45/15 EPGO281
ConvF	2.46
Crest factor:	1:1

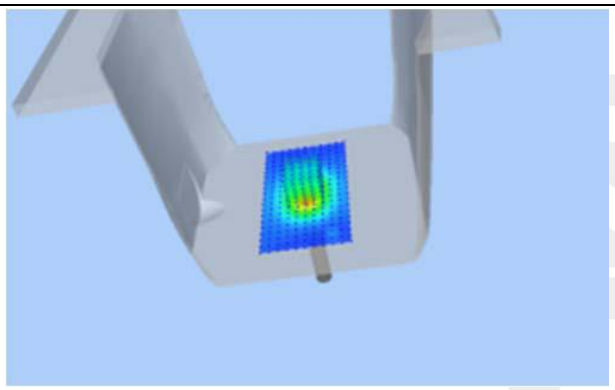
SURFACE SAR	VOLUME SAR
	

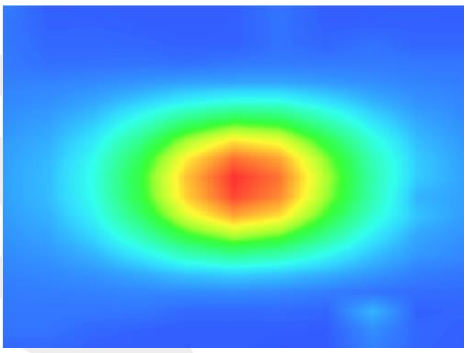
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.678029
SAR 1g (W/Kg)	15.853461

Z Axis Scan





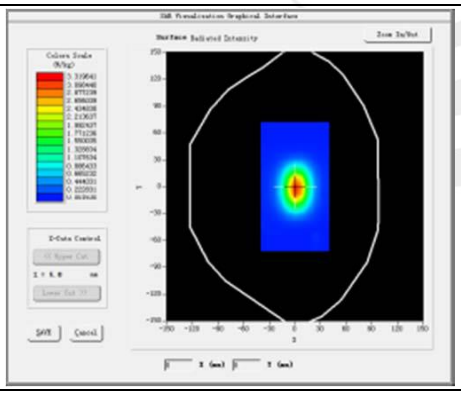
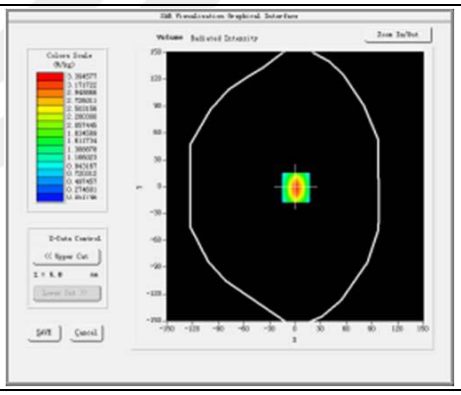


System Performance Check Data(5200MHz Body)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2019-11-30

Experimental conditions.

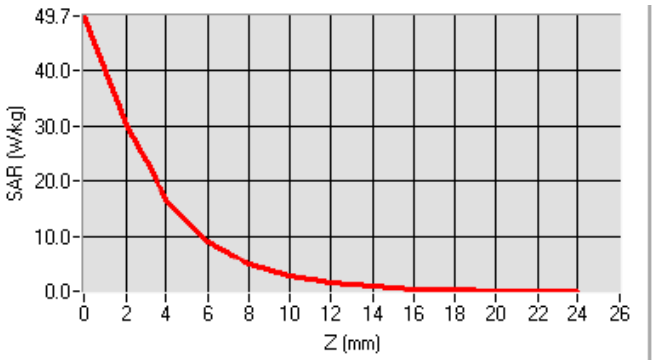
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	47.22
Conductivity (S/m)	5.28
Power drift (%)	-1.77
Probe	SN 45/15 EPGO281
ConvF	2.52
Crest factor:	1:1

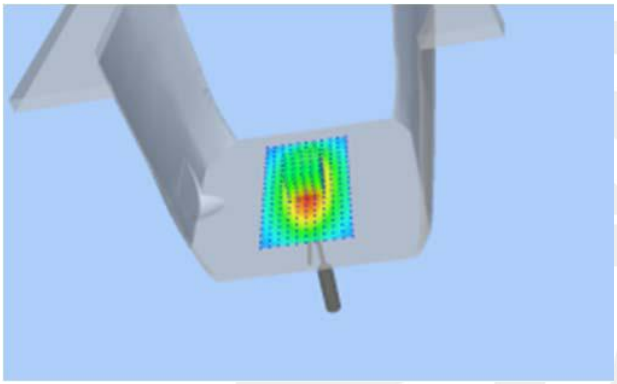
SURFACE SAR	VOLUME SAR
	

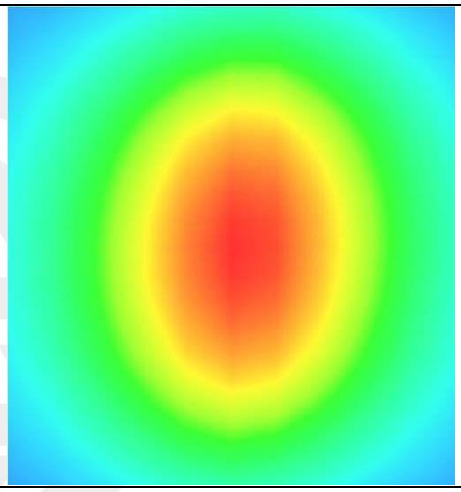
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.832674
SAR 1g (W/Kg)	15.996988

Z Axis Scan





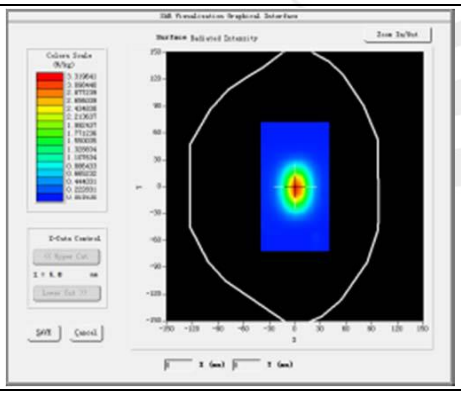
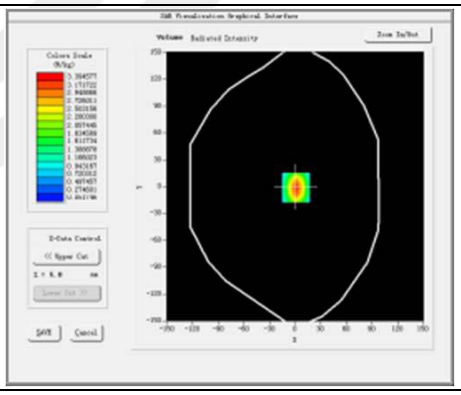


System Performance Check Data(5800MHz Head)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2019-12-02

Experimental conditions.

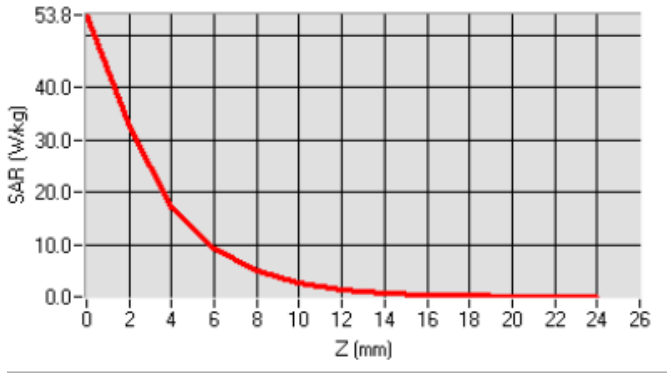
Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	34.42
Conductivity (S/m)	5.27
Power drift (%)	1.86
Probe	SN 45/15 EPGO281
ConvF	2.53
Crest factor:	1:1

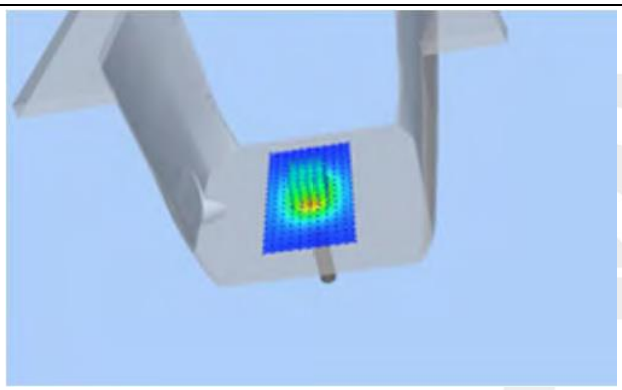
SURFACE SAR	VOLUME SAR
	

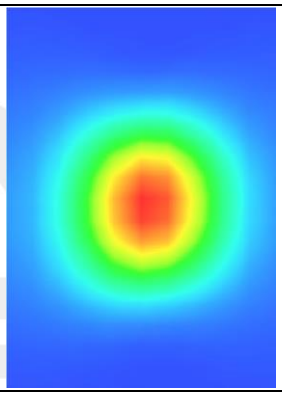
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.184204
SAR 1g (W/Kg)	18.080497

Z Axis Scan





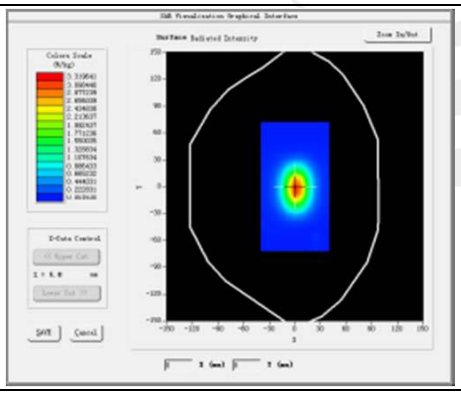
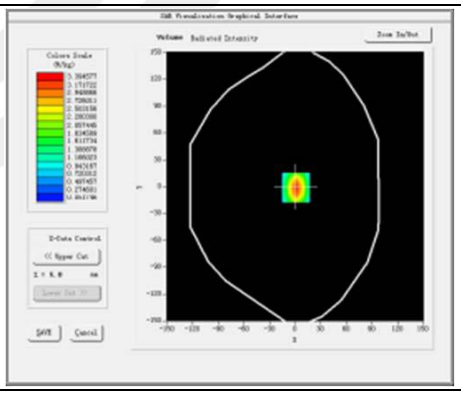


System Performance Check Data(5800MHz Body)

Type: Dipole measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm
Date of measurement: 2019-12-02

Experimental conditions.

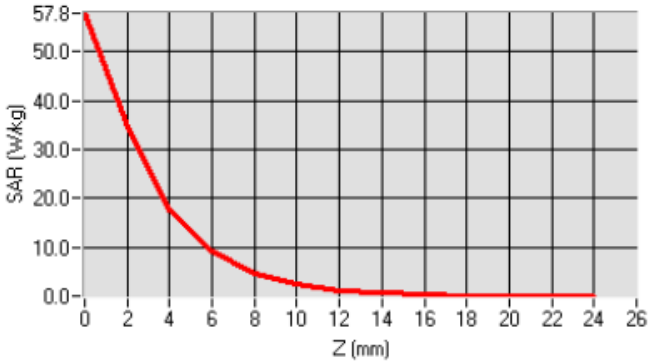
Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	48.98
Conductivity (S/m)	5.94
Power drift (%)	-1.00
Probe	SN 45/15 EPGO281
ConvF	2.60
Crest factor:	1:1

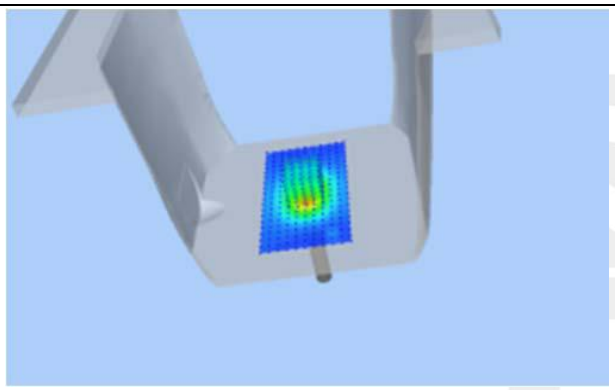
SURFACE SAR	VOLUME SAR
	

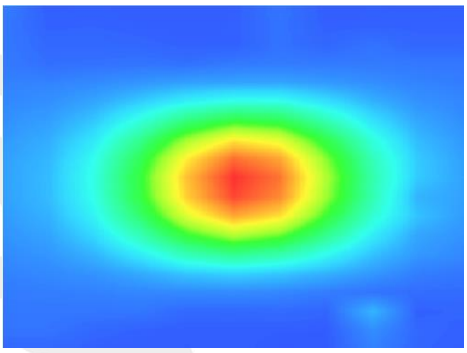
Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	6.270684
SAR 1g (W/Kg)	18.069329

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)





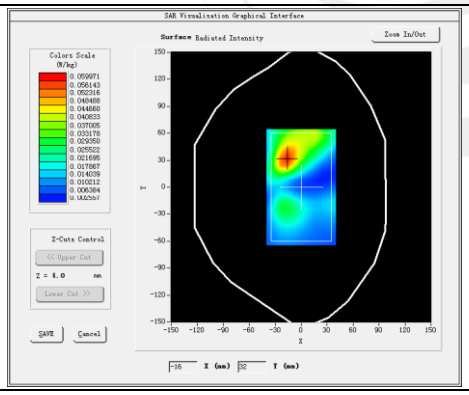
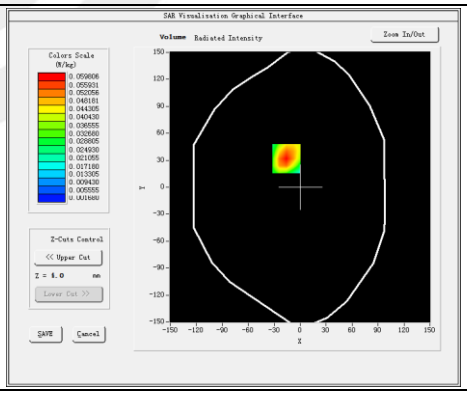
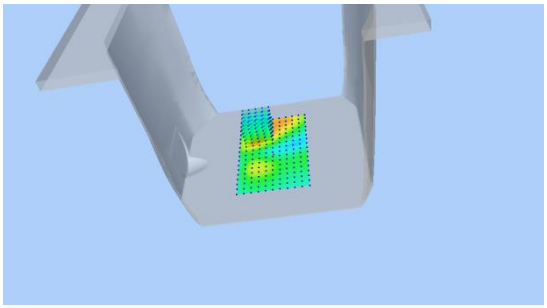
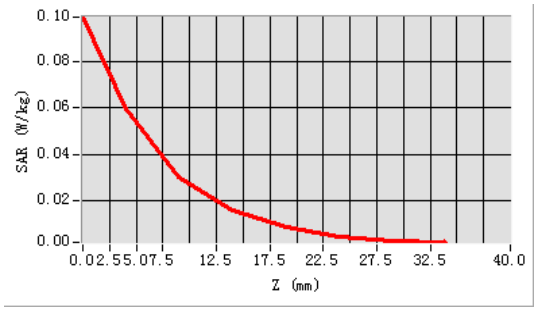
Appendix B. SAR Test Plots

Plot 1: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-11-29
Probe	SN 45/15 EPGO281
ConvF	2.21
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front of face
Band	IEEE 802.11b ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	39.20
Conductivity (S/m)	1.80
Variation (%)	1.02

Maximum location: X=-16.00, Y=32.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.028974
SAR 1g (W/Kg)	0.057332

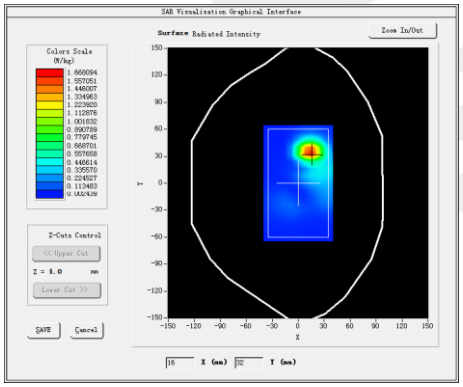
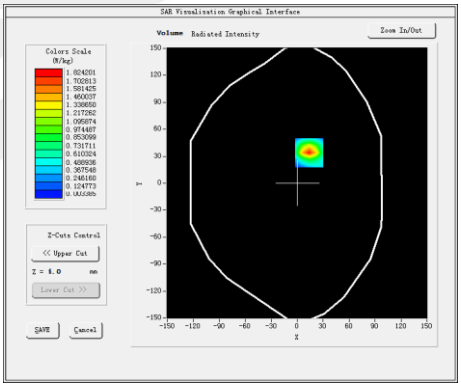
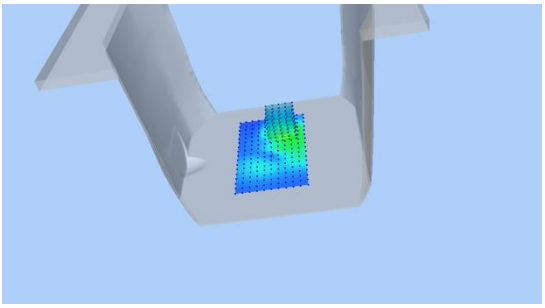
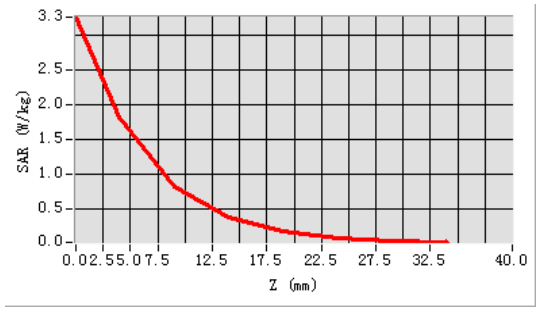
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 2: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-11-29
Probe	SN 45/15 EPGO281
ConvF	2.28
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Wrist
Band	IEEE 802.11b ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	52.70
Conductivity (S/m)	1.95
Variation (%)	0.34

Maximum location: X=14.00, Y=34.00
SAR Peak: 3.23 W/kg

SAR 10g (W/Kg)	0.680528
SAR 1g (W/Kg)	1.664608

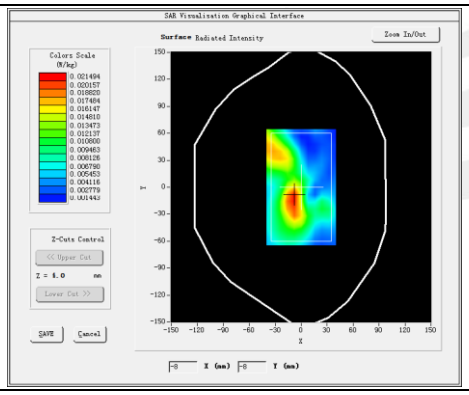
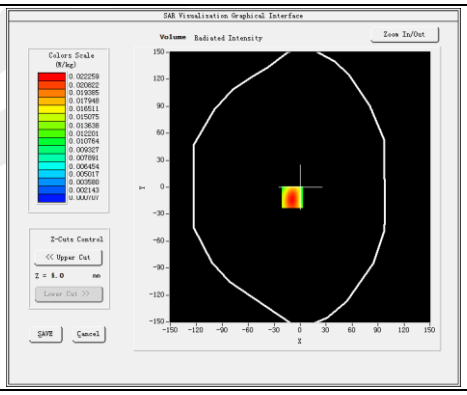
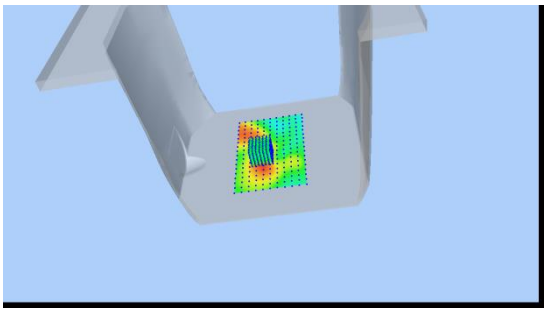
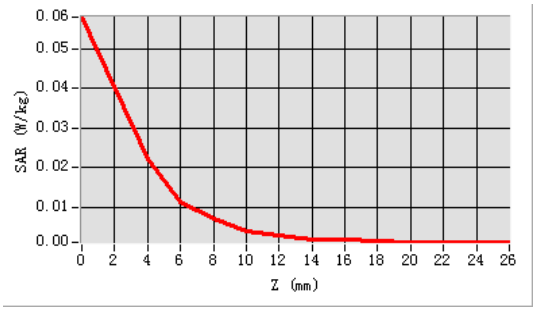
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 3: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-11-30
Probe	SN 45/15 EPGO281
ConvF	2.46
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front of face
Band	IEEE 802.11a U-NII
Channels	40
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5200
Relative permittivity (real part)	36.0
Conductivity (S/m)	4.66
Variation (%)	1.98

Maximum location: X=-9.00, Y=-11.00
SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.009914
SAR 1g (W/Kg)	0.022736

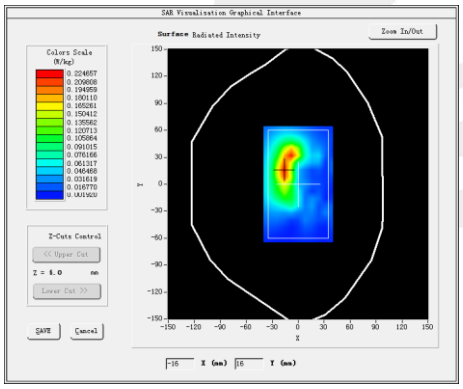
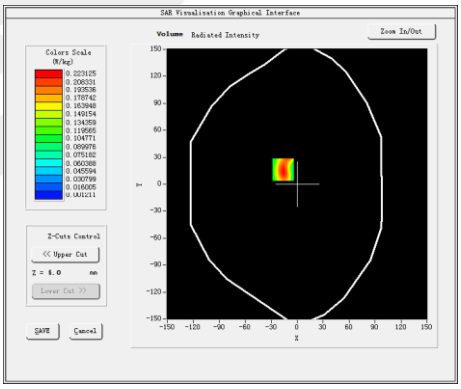
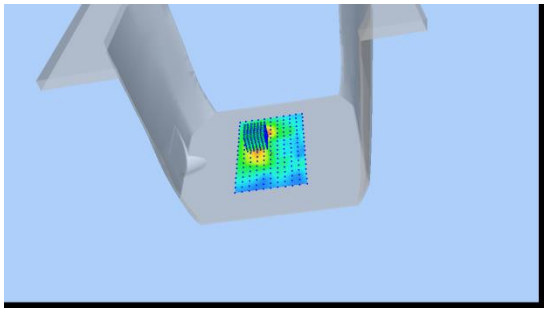
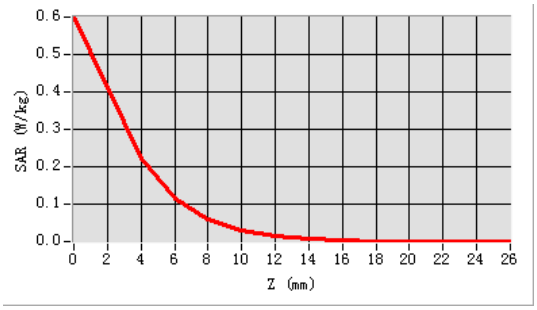
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 4: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-11-30
Probe	SN 45/15 EPGO281
ConvF	2.52
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Wrist
Band	IEEE 802.11a U-NII
Channels	40
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5200
Relative permittivity (real part)	49.0
Conductivity (S/m)	5.30
Variation (%)	0.31

Maximum location: X=-16.00, Y=16.00
SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.086370
SAR 1g (W/Kg)	0.223871

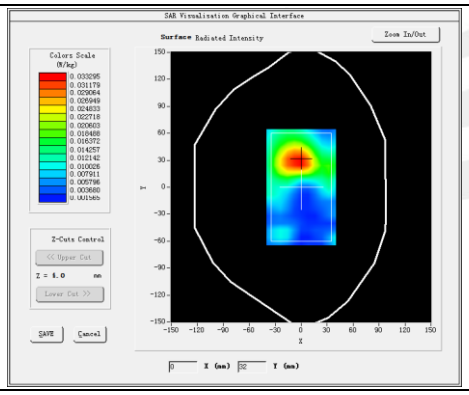
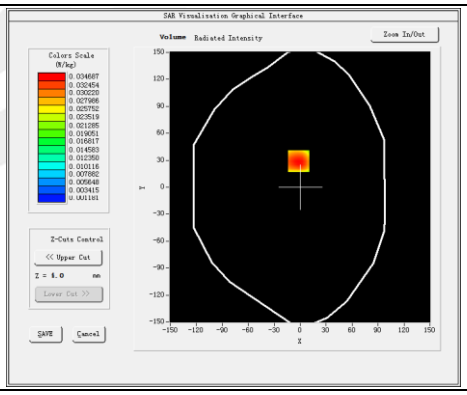
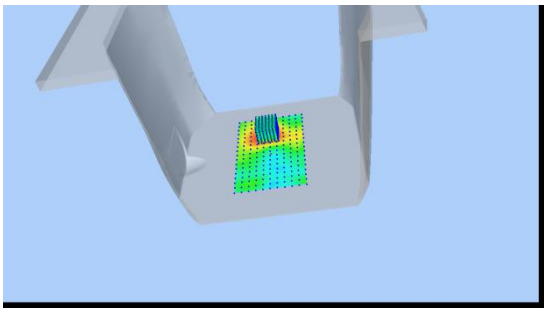
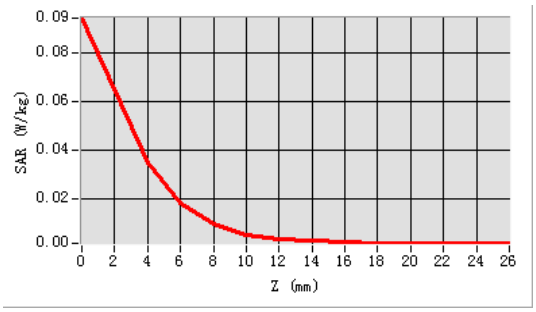
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 5: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-12-02
Probe	SN 45/15 EPGO281
ConvF	2.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front of face
Band	IEEE 802.11ac U-NII
Channels	151
Signal	IEEE802.ac (Crest factor: 1.0)
Frequency (MHz)	5755
Relative permittivity (real part)	35.3
Conductivity (S/m)	5.27
Variation (%)	0.89

Maximum location: X=-2.00, Y=29.00
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.016101
SAR 1g (W/Kg)	0.036556

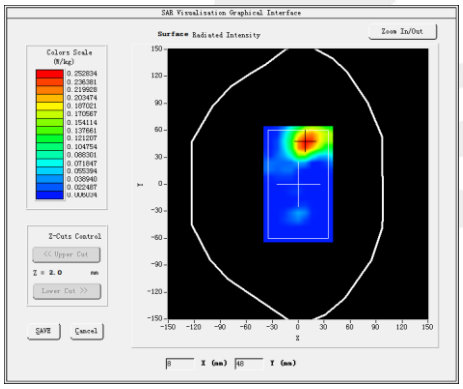
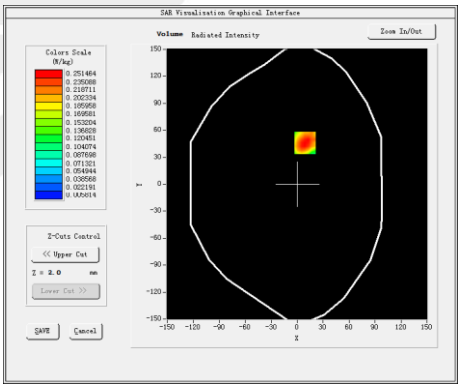
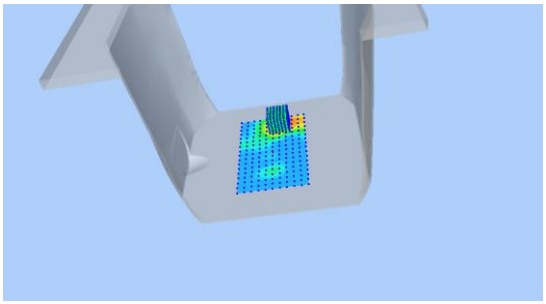
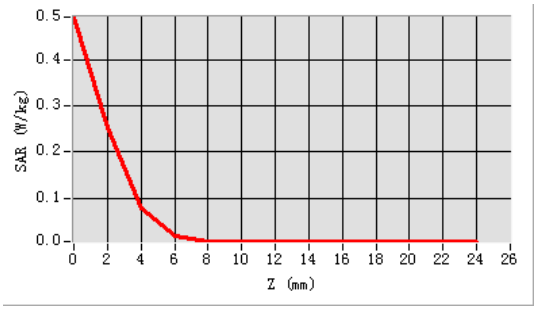
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 6: DUT: Smart Watch; EUT Model: W563-FL

Test Date	2019-12-02
Probe	SN 45/15 EPGO281
ConvF	2.60
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Wrist
Band	IEEE 802.11ac U-NII
Channels	151
Signal	IEEE802.ac (Crest factor: 1.0)
Frequency (MHz)	5755
Relative permittivity (real part)	48.2
Conductivity (S/m)	6.00
Variation (%)	-0.83

Maximum location: X=9.00, Y=46.00
SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.062812
SAR 1g (W/Kg)	0.141932

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

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※