FCC SAR TEST REPORT

Report No.: STS2011134H01

Issued for

Quectel Wireless Solutions Co., Ltd

7th Floor, Hongye Building, No.1801 Hongmei Road, Xuhui District, Shanghai 200233, China

Product Name:	LTE Module
Brand Name:	Quectel
Model Name:	EC25-AF
Series Model:	EC25-AF MINIPCIE
FCC ID:	XMR201808EC25AF
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Body: 1.145 W/kg

ShenZhen STS Test Services Co.,Ltd.
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Test Report Certification

Applicant's name ..... :	Quectel Wireless Solutions Co., Ltd
Address ..... :	7th Floor, Hongye Building, No.1801 Hongmei Road, Xuhui District, Shanghai 200233, China
Manufacture's Name ..... :	Quectel Wireless Solutions Co., Ltd
Address ..... :	7th Floor, Hongye Building, No.1801 Hongmei Road, Xuhui District, Shanghai 200233, China

Product description

Product name ..... :	LTE Module
Brand name ..... :	Quectel
Model name ..... :	EC25-AF
Series Model..... :	EC25-AF MINIPCIE
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..... :	27 Nov. 2020~30 Nov. 2020
Date of Issue..... :	04 Dec. 2020
Test Result..... :	**Pass**

Testing Engineer **:** Lemon Li

(Lemon Li)

Technical Manager **:** Sean She

(Sean She)

Authorized Signatory **:** Vita Li

(Vita Li)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	04 Dec. 2020	STS2011134H01	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	LTE Module		
Camera Name	Body Worn Camera		
Product Brand Name	Quectel		
Camera Brand Name	BioAX		
Product Model Name	EC25-AF		
Camera Model Name	Audax®		
Series Model	EC25-AF MINIPCIE		
Model Difference	N/A		
Camera Battery	Rated Voltage: 3.8V Charge Limit: 4.35V Capacity: 3200mAh		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
IMEI	866834042303516		
Camera Hardware Version	WIFI_GPS_CMSV6		
Camera Software Version	V:20201021		
Frequency Range	LTE Band 2: 1850~1910MHz LTE Band 4: 1710~1755MHz LTE Band 5: 824~849MHz LTE Band 12: 699~716MHz LTE Band 13: 777~787MHz LTE Band 66: 1710~1780MHz LTE Band 71: 665~696MHz WLAN802.11b/g/n(HT20)/n(HT40): 2412~2462MHz Bluetooth: 2402~ 2480MHz		
Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Body Worn (W/kg)
	PCT	LTE Band 2	1.145
	PCT	LTE Band 4	0.616
	PCT	LTE Band 5	0.798
	PCT	LTE Band 12	0.182
	PCT	LTE Band 13	0.572
	PCT	LTE Band 66	0.610
	PCT	LTE Band 71	0.109
	DTS	2.4G WLAN Note	0.293
	DSS	Bluetooth Note	0.046
1-g Sum SAR			1.438

FCC Equipment Class	Licensed Portable Transmitter Worn on Body(PCT) Digital Transmission System (DTS) Part 15 Spread Spectrum Transmitter (DSS)
Operating Mode	LTE: QPSK, 16QAM 2.4GWLAN: 802.11 b/g/n20/n40 Bluetooth: BR+EDR (GFSK +π/4DQPSK+8DPSK)
Antenna Specification	LTE: PIFA Antenna BT, WLAN: PIFA Antenna
SIM Card	Only supports one SIM card
Hotspot Mode	Not Support
DTM Mode	Not Support
Note: 1. Bluetooth and 2.4G WLAN Body SAR was estimated; 2. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power. 3. The module is installed in this camera, and the camera is tested as a whole.	

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 test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01

2.Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
8	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
9	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

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

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

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

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

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

Population/Uncontrolled Environments:
Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

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

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.
The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

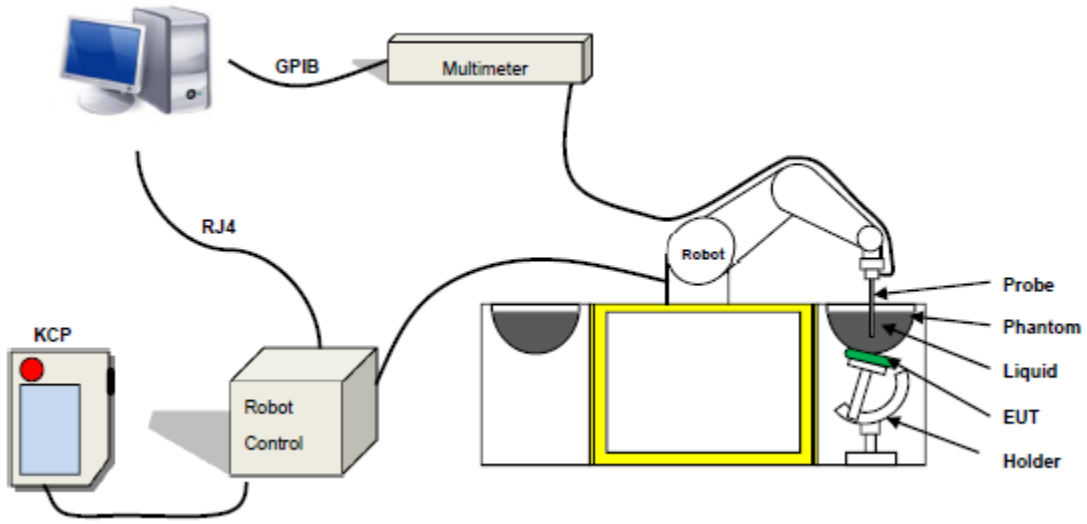
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

MVG SAR System Diagram:



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

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

The following figure shows the system.

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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 41/18 EPGO334 with following specifications is used

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

Figure 1-MVG COMOSAR Dosimetric E field Dipole

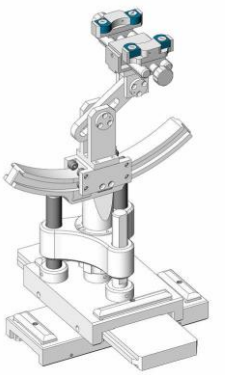
3.2.2 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

SN 32/14 SAM115

SN 32/14 SAM116

3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.4. Tissue Simulating Liquids

4. 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
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	39.0	52.5	1.96	2.16
5800	35.3	48.2	5.27	6.00

LIQUID MEASUREMENT RESULTS

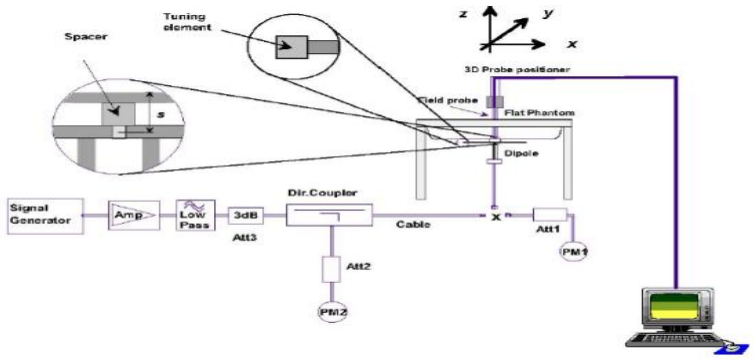
Date	Ambient condition		Body Simulating Liquid		Parameters	Target	Measured	Deviation [%]	Limited [%]
	Temp. [°C]	Humidity [%]	Frequency	Temp. [°C]					
2020-11-27	24.2	48	750 MHz	23.9	Permittivity:	41.9	42.14	0.57	±5
					Conductivity:	0.89	0.91	2.25	±5
2020-11-27	24.2	48	835 MHz	23.9	Permittivity:	41.5	40.94	-1.35	±5
					Conductivity:	0.90	0.88	-2.22	±5
2020-11-30	23.1	55	1800 MHz	22.8	Permittivity:	40.0	40.61	1.53	±5
					Conductivit:	1.40	1.44	2.86	±5
2020-11-30	23.1	55	1900 MHz	22.8	Permittivity:	40.0	40.47	1.18	±5
					Conductivity:	1.40	1.43	2.14	±5

5. SAR System Validation

5.1 Validation System

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

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



5.2 Validation Result

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

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg/W)	Target (W/Kg/W)	Tolerance(%)	Date
750	100	0.864	8.64	8.49	1.77	2020-11-27
835	100	0.936	9.36	9.56	-2.09	2020-11-27
1800	100	3.764	37.64	38.4	-1.98	2020-11-30
1900	100	3.886	38.86	39.7	-2.12	2020-11-30

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

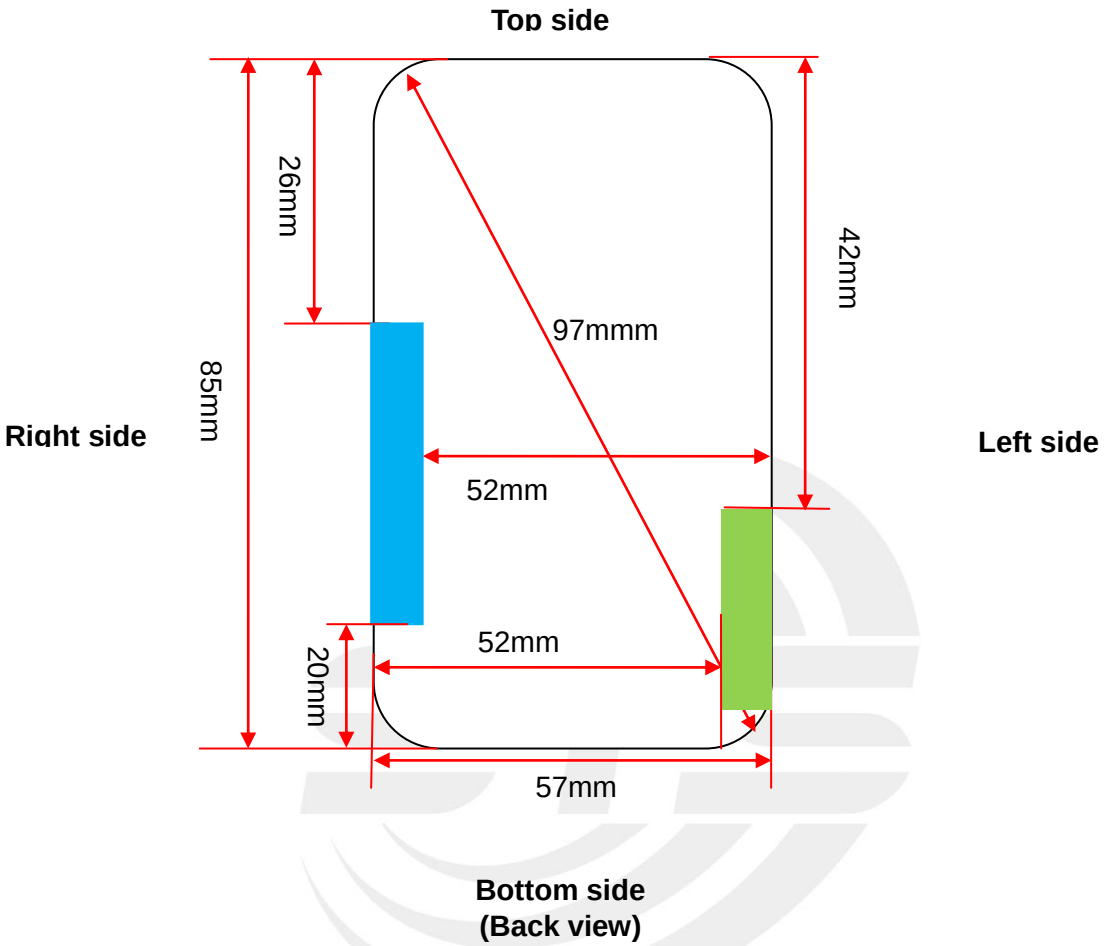
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible 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 D01 quoted below.
When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7. EUT Antenna Location Sketch

It is a LTE Module, support LTE/WIFI/BT mode.



WLAN/BT Antenna

WWAN Antenna

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

7.1 SAR test exclusion consider table

The WWAN/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12
	Calculated Frequency	1880	1745	844	711
	Maximum power (dBm)	23.80	23.64	24.01	23.69
	Maximum rated power(mW)	239.883	231.206	251.768	233.884
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	11	11	16	16
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	10	10	10	10
	exclusion threshold(mW)	22	22	33	33
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	10
	exclusion threshold(mW)	22	22	33	33
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	62	62	62	62
	exclusion threshold(mW)	219	219	284	284
	Testing required?	YES	YES	NO	NO
Top Edge	Separation distance (mm)	52	52	52	52
	exclusion threshold(mW)	129	129	184	184
	Testing required?	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	10	10	10	10
	exclusion threshold(mW)	22	22	33	33
	Testing required?	YES	YES	YES	YES

Exposure Position	Wireless Interface	LTE Band 13	LTE Band 66	LTE Band 71	2.4G WLAN	BT
	Calculated Frequency	782	1745	673	2437	2402
	Maximum power (dBm)	23.85	23.77	23.44	8.20	0.12
	Maximum rated power(mW)	242.661	238.232	220.800	6.607	1.028
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16	11	16	10	10
	Testing required?	YES	YES	YES	NO	NO
Front Side	Separation distance (mm)	10	10	10	10	1
	exclusion threshold(mW)	33	22	33	19	19
	Testing required?	YES	YES	YES	NO	NO
Left Edge	Separation distance (mm)	10	10	10	62	62
	exclusion threshold(mW)	33	22	33	216	216
	Testing required?	YES	YES	YES	NO	NO
Right Edge	Separation distance (mm)	62	62	62	10	10
	exclusion threshold(mW)	284	219	284	19	19
	Testing required?	NO	YES	NO	NO	NO
Top Edge	Separation distance (mm)	52	52	52	36	36
	exclusion threshold(mW)	184	129	184	67	67
	Testing required?	YES	YES	YES	NO	NO
Bottom Edge	Separation distance (mm)	10	10	10	30	30
	exclusion threshold(mW)	33	22	33	57	57
	Testing required?	YES	YES	YES	NO	NO

Note：

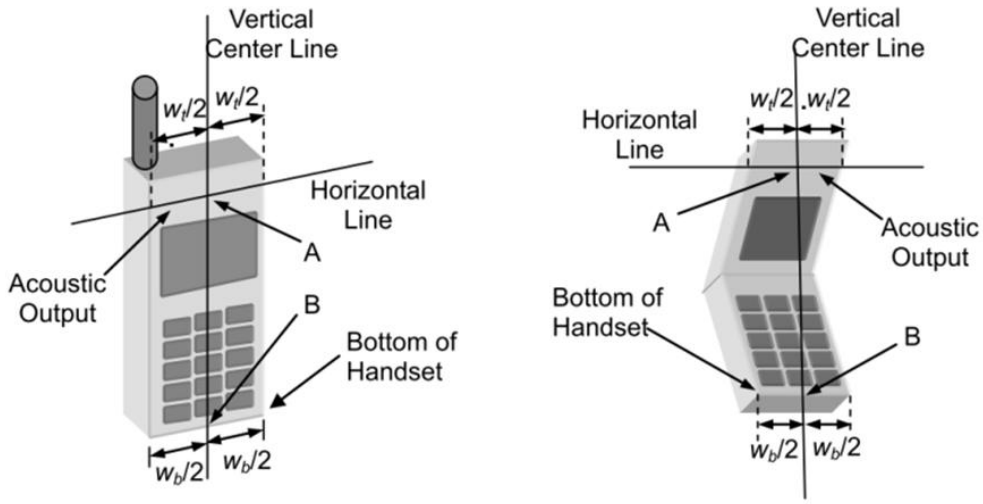
1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm,25mm 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 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.

8. EUT Test Position

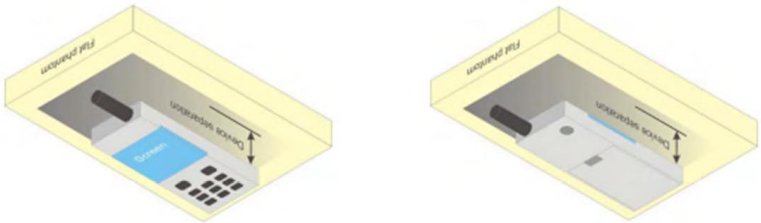
This EUT was tested in Front Face and Rear Face.

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.



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.



9. Uncertainty

9.1 Measurement Uncertainty

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

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	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	

9.2 System validation Uncertainty

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

10. Conducted Power Measurement

2.4G WLAN

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11b	1	2412	7.98
	6	2437	8.20
	11	2462	7.38
802.11g	1	2412	5.96
	6	2437	5.55
	11	2462	5.07
802.11n(HT 20)	1	2412	5.92
	6	2437	5.71
	11	2462	5.48
802.11n(HT 40)	3	2422	6.15
	6	2437	6.00
	9	2452	5.79

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	-1.24
	39	2441	-1.51
	78	2480	-2.05
π/4-DQPSK(2Mbps)	0	2402	0.12
	39	2441	-0.38
	78	2480	-0.51
8DPSK(3Mbps)	0	2402	-1.11
	39	2441	-0.51
	78	2480	-1.11

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	23.37	23.41	22.99
1.4	1	2		23.41	23.79	22.99
1.4	1	5		23.33	23.26	22.91
1.4	3	0		23.35	23.29	23.13
1.4	3	1		23.18	23.09	23.21
1.4	3	2		23.37	23.26	22.90
1.4	6	0		22.23	22.49	22.07
1.4	1	0	16-QAM	22.36	22.91	22.68
1.4	1	2		22.41	22.94	23.00
1.4	1	5		22.20	22.94	23.02
1.4	3	0		22.33	22.19	22.16
1.4	3	1		22.42	22.16	22.07
1.4	3	2		22.31	22.29	22.06
1.4	6	0		21.36	21.29	21.30
3	1	0	QPSK	23.39	23.45	23.02
3	1	7		23.44	23.84	23.03
3	1	14		23.36	23.31	22.95
3	8	0		22.45	22.41	22.25
3	8	4		22.30	22.19	22.33
3	8	7		22.47	22.37	22.00
3	15	0		22.26	22.53	22.10
3	1	0	16-QAM	22.39	22.93	22.71
3	1	7		22.44	22.99	23.04
3	1	14		22.22	22.99	23.05
3	8	0		21.44	21.32	21.28
3	8	4		21.53	21.29	21.19
3	8	7		21.41	21.41	21.19
3	15	0		21.39	21.33	21.33

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.36	23.43	22.98
5	1	12		23.42	23.80	23.00
5	1	24		23.33	23.26	22.91
5	12	0		22.42	22.36	22.21
5	12	6		22.28	22.15	22.28
5	12	11		22.45	22.35	21.96
5	25	0		22.24	22.52	22.08
5	1	0	16-QAM	22.36	22.89	22.68
5	1	12		22.41	22.97	23.01
5	1	24		22.19	22.97	23.01
5	12	0		21.42	21.28	21.25
5	12	6		21.50	21.24	21.15
5	12	11		21.38	21.36	21.15
5	25	0		21.37	21.29	21.28
10	1	0	QPSK	23.38	23.44	23.01
10	1	24		23.56	23.85	23.04
10	1	49		23.35	23.30	22.94
10	25	0		22.45	22.41	22.25
10	25	12		22.31	22.20	22.32
10	25	24		22.47	22.39	22.01
10	50	0		22.32	22.54	22.12
10	1	0	16-QAM	22.38	22.92	22.70
10	1	24		22.44	23.01	23.04
10	1	49		22.22	22.99	23.04
10	25	0		21.45	21.33	21.29
10	25	12		21.52	21.28	21.18
10	25	24		21.41	21.41	21.19
10	50	0		21.40	21.34	21.32

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.37	22.40	22.99
15	1	37		23.43	22.84	23.01
15	1	74		23.32	22.25	22.90
15	36	0		23.43	22.37	22.22
15	36	18		22.28	22.15	22.28
15	36	39		22.44	22.36	21.97
15	75	0		22.30	22.50	22.07
15	1	0	16-QAM	22.33	22.90	22.68
15	1	38		22.42	22.98	23.02
15	1	75		22.19	22.95	23.01
15	36	0		21.42	21.31	21.26
15	36	18		21.49	21.23	21.14
15	36	39		21.39	21.37	21.16
15	75	0		21.37	21.29	21.28
20	1	0	QPSK	23.34	23.36	22.96
20	1	49		23.42	23.80	22.99
20	1	99		23.30	23.24	22.87
20	50	0		22.40	22.32	22.18
20	50	24		22.26	22.11	22.25
20	50	49		22.41	22.31	21.93
20	100	0		22.27	22.45	22.03
20	1	0	16-QAM	22.31	22.86	22.63
20	1	49		22.38	22.96	22.98
20	1	99		22.17	22.92	22.99
20	50	0		21.39	21.27	21.23
20	50	24		21.46	21.21	21.11
20	50	49		21.36	21.32	21.12
20	100	0		21.35	21.25	21.25

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	23.55	23.20	23.42
1.4	1	2		23.44	23.53	23.46
1.4	1	5		23.20	23.54	23.68
1.4	3	0		23.32	23.22	23.55
1.4	3	1		23.28	23.33	23.40
1.4	3	2		23.31	23.42	23.39
1.4	6	0		22.32	22.40	22.64
1.4	1	0	16-QAM	22.45	22.25	23.27
1.4	1	2		22.52	22.79	23.15
1.4	1	5		22.38	22.98	23.37
1.4	3	0		22.23	22.32	22.43
1.4	3	1		22.32	22.39	22.26
1.4	3	2		22.39	22.47	22.47
1.4	6	0		21.34	21.48	21.68
3	1	0	QPSK	23.57	23.24	23.45
3	1	7		23.47	23.58	23.50
3	1	14		23.23	23.59	23.72
3	8	0		22.42	22.34	22.68
3	8	4		22.40	22.43	22.52
3	8	7		22.41	22.53	22.49
3	15	0		22.33	22.44	22.67
3	1	0	16-QAM	22.48	22.27	23.30
3	1	7		22.55	22.84	23.19
3	1	14		22.40	23.02	23.40
3	8	0		21.34	21.45	21.55
3	8	4		21.43	21.52	21.38
3	8	7		21.49	21.59	21.60
3	15	0		21.37	21.52	21.71

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.54	23.22	23.41
5	1	12		23.45	23.54	23.47
5	1	24		23.20	23.54	23.68
5	12	0		22.39	22.29	22.64
5	12	6		22.38	22.39	22.47
5	12	11		22.39	22.51	22.45
5	25	0		22.31	22.43	22.65
5	1	0	16-QAM	22.45	22.23	23.27
5	1	12		22.52	22.82	23.16
5	1	24		22.37	23.00	23.36
5	12	0		21.32	21.41	21.52
5	12	6		21.40	21.47	21.34
5	12	11		2146	21.54	21.56
5	25	0		21.35	21.48	21.66
10	1	0	QPSK	23.56	23.23	23.44
10	1	24		23.48	23.59	23.51
10	1	49		23.22	23.58	23.71
10	25	0		22.42	22.34	22.68
10	25	12		22.41	22.44	22.51
10	25	24		22.41	22.55	22.50
10	50	0		22.39	22.45	22.69
10	1	0	16-QAM	22.47	22.26	23.29
10	1	24		22.55	22.86	23.49
10	1	49		22.40	23.02	23.39
10	25	0		21.35	21.46	21.56
10	25	12		21.42	21.51	21.37
10	25	24		21.49	21.59	21.60
10	50	0		21.38	21.53	21.70

LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.55	23.19	23.42
15	1	37		23.46	23.58	23.48
15	1	74		23.19	23.53	23.56
15	36	0		22.40	22.30	22.65
15	36	18		22.38	22.39	22.47
15	36	39		22.38	22.52	22.46
15	75	0		22.37	22.41	22.64
15	1	0	16-QAM	22.42	22.24	23.27
15	1	38		22.53	22.83	23.17
15	1	75		22.37	22.98	23.36
15	36	0		21.32	21.44	21.53
15	36	18		21.39	21.46	21.33
15	36	39		21.47	21.55	21.57
15	75	0		21.35	21.48	21.66
20	1	0	QPSK	23.52	23.15	23.39
20	1	49		23.45	23.54	23.46
20	1	99		23.17	23.52	23.64
20	50	0		22.37	22.25	22.61
20	50	24		22.36	22.35	22.44
20	50	49		22.35	22.47	22.42
20	100	0		22.34	22.36	22.60
20	1	0	16-QAM	22.40	22.20	23.22
20	1	49		22.49	22.81	23.13
20	1	99		22.35	22.95	23.34
20	50	0		21.29	21.40	21.50
20	50	24		21.36	21.44	21.30
20	50	49		21.44	21.50	21.53
20	100	0		21.33	21.44	21.63

LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.81	23.90	23.80
1.4	1	2		23.88	23.90	24.01
1.4	1	5		23.97	23.90	23.77
1.4	3	0		23.67	23.70	23.75
1.4	3	1		23.67	23.74	23.78
1.4	3	2		23.82	23.78	23.77
1.4	6	0		22.80	22.89	22.87
1.4	1	0	16-QAM	23.44	23.11	22.82
1.4	1	2		23.14	23.38	22.67
1.4	1	5		23.25	23.04	22.66
1.4	3	0		22.60	22.69	22.77
1.4	3	1		22.78	22.63	22.60
1.4	3	2		22.80	22.66	22.55
1.4	6	0		21.68	21.75	21.71
3	1	0	QPSK	23.83	23.94	23.83
3	1	7		23.91	23.95	24.05
3	1	14		24.00	23.95	23.81
3	8	0		22.77	22.82	22.88
3	8	4		22.79	22.84	22.90
3	8	7		22.92	22.89	22.87
3	15	0		22.83	22.93	22.90
3	1	0	16-QAM	23.47	23.13	22.85
3	1	7		23.17	23.43	22.71
3	1	14		23.27	23.08	22.69
3	8	0		21.71	21.82	21.89
3	8	4		21.89	21.76	21.72
3	8	7		21.90	21.78	21.68
3	15	0		21.71	21.79	21.74

LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.81	23.89	23.80
5	1	12		23.90	23.95	24.03
5	1	24		23.96	22.89	23.76
5	12	0		22.75	22.78	22.85
5	12	6		22.77	22.80	22.85
5	12	11		22.89	22.88	22.84
5	25	0		22.87	22.90	22.87
5	1	0	16-QAM	23.41	23.10	22.82
5	1	12		23.15	23.42	22.69
5	1	24		23.24	23.04	22.65
5	12	0		21.69	21.81	21.87
5	12	6		21.85	21.70	21.67
5	12	11		21.88	21.74	21.65
5	25	0		21.69	21.75	21.69
10	1	0	QPSK	23.78	23.85	23.77
10	1	24		23.89	23.91	24.01
10	1	49		23.94	23.88	23.73
10	25	0		22.72	22.73	22.81
10	25	12		22.75	22.76	22.82
10	25	24		22.86	22.83	22.80
10	50	0		22.84	22.85	22.83
10	1	0	16-QAM	23.39	23.06	22.77
10	1	24		23.11	23.40	22.65
10	1	49		23.22	23.01	22.63
10	25	0		21.66	21.77	21.84
10	25	12		21.82	21.68	21.64
10	25	24		21.85	21.69	21.61
10	50	0		21.67	21.71	21.66

LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.63	23.64	23.61
1.4	1	2		23.67	23.57	23.69
1.4	1	5		23.61	23.50	23.70
1.4	3	0		23.50	23.54	23.63
1.4	3	1		23.45	23.50	23.54
1.4	3	2		23.66	23.62	23.63
1.4	6	0		22.61	22.57	22.65
1.4	1	0	16-QAM	22.95	22.18	22.96
1.4	1	2		22.94	22.55	23.20
1.4	1	5		22.76	22.36	22.86
1.4	3	0		22.58	22.60	22.74
1.4	3	1		22.52	22.50	22.51
1.4	3	2		22.52	22.58	22.45
1.4	6	0		21.71	21.63	21.84
3	1	0	QPSK	23.65	23.68	23.64
3	1	7		23.70	23.62	23.73
3	1	14		23.64	23.55	23.74
3	8	0		22.60	22.66	22.76
3	8	4		22.57	22.60	22.66
3	8	7		22.76	22.73	22.73
3	15	0		22.64	22.61	22.68
3	1	0	16-QAM	22.98	22.20	22.99
3	1	7		22.97	22.60	23.24
3	1	14		22.78	22.40	22.89
3	8	0		21.69	21.73	21.86
3	8	4		21.63	21.63	21.63
3	8	7		21.62	21.70	21.59
3	15	0		21.74	21.67	21.87

LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.63	23.63	23.61
5	1	12		23.69	23.62	23.71
5	1	24		23.60	23.49	23.69
5	12	0		22.58	22.62	22.73
5	12	6		22.55	22.56	22.61
5	12	11		22.73	22.72	22.70
5	25	0		22.68	22.58	22.65
5	1	0	16-QAM	22.92	22.17	22.96
5	1	12		22.95	22.59	23.22
5	1	24		22.75	22.36	22.85
5	12	0		21.67	21.72	21.84
5	12	6		21.59	21.57	21.58
5	12	11		21.60	21.66	21.56
5	25	0		21.72	21.63	21.82
10	1	0	QPSK	23.60	23.59	23.58
10	1	24		23.68	23.58	23.69
10	1	49		23.58	23.48	23.66
10	25	0		22.55	22.57	22.69
10	25	12		22.53	22.52	22.58
10	25	24		22.70	22.67	22.66
10	50	0		22.65	22.53	22.61
10	1	0	16-QAM	22.90	22.13	23.91
10	1	24		22.91	22.57	23.18
10	1	49		22.73	22.33	22.83
10	25	0		21.64	21.68	21.81
10	25	12		21.56	21.55	21.55
10	25	24		21.57	21.61	21.52
10	50	0		21.70	21.59	21.79

LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	23.72	23.63	23.78
5	1	12		23.79	23.68	23.77
5	1	24		23.58	23.69	23.65
5	12	0		22.87	22.77	22.82
5	12	6		22.85	22.80	22.86
5	12	11		22.75	22.82	22.83
5	25	0		22.81	22.74	22.80
5	1	0	16-QAM	23.06	22.41	22.60
5	1	12		23.14	22.45	22.35
5	1	24		23.03	22.16	22.43
5	12	0		21.50	21.52	21.68
5	12	6		21.63	21.75	21.65
5	12	11		21.76	21.60	21.57
5	25	0		21.74	21.96	21.62
10	1	0	QPSK	N/A	23.76	N/A
10	1	24		N/A	23.85	N/A
10	1	49		N/A	23.71	N/A
10	25	0		N/A	22.87	N/A
10	25	12		N/A	22.79	N/A
10	25	24		N/A	22.88	N/A
10	50	0		N/A	22.74	N/A
10	1	0	16-QAM	N/A	23.11	N/A
10	1	24		N/A	23.41	N/A
10	1	49		N/A	22.94	N/A
10	25	0		N/A	21.78	N/A
10	25	12		N/A	21.83	N/A
10	25	24		N/A	21.88	N/A
10	50	0		N/A	21.82	N/A

LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.42	23.57	23.56
1.4	1	2		23.30	23.76	23.57
1.4	1	5		23.37	23.64	23.45
1.4	3	0		23.47	23.58	23.26
1.4	3	1		23.35	23.75	23.33
1.4	3	2		23.59	23.55	23.36
1.4	6	0		22.51	22.73	22.34
1.4	1	0	16-QAM	22.84	22.38	22.20
1.4	1	2		22.43	22.76	22.57
1.4	1	5		22.57	22.42	22.22
1.4	3	0		22.53	22.57	22.27
1.4	3	1		22.32	22.76	22.43
1.4	3	2		22.69	22.62	22.45
1.4	6	0		21.65	21.84	21.45
3	1	0	QPSK	23.44	23.61	23.59
3	1	7		23.33	23.81	23.61
3	1	14		23.40	22.59	23.49
3	8	0		22.57	22.70	22.39
3	8	4		22.47	22.85	22.45
3	8	7		22.69	22.66	22.46
3	15	0		22.54	22.77	22.37
3	1	0	16-QAM	22.87	22.40	22.23
3	1	7		22.46	22.81	22.61
3	1	14		22.59	22.46	22.25
3	8	0		21.64	21.70	21.39
3	8	4		21.43	21.89	21.55
3	8	7		21.79	21.74	21.58
3	15	0		21.68	21.88	21.48

LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	23.41	23.59	23.55
5	1	12		23.31	23.77	23.58
5	1	24		23.37	23.64	23.45
5	12	0		22.54	22.65	22.35
5	12	6		22.45	22.81	22.40
5	12	11		22.67	22.64	22.42
5	25	0		22.52	22.76	22.35
5	1	0	16-QAM	22.84	22.36	22.20
5	1	12		22.43	22.79	22.58
5	1	24		22.56	22.44	22.21
5	12	0		21.62	21.66	21.36
5	12	6		21.40	21.84	21.51
5	12	11		21.76	21.69	21.54
5	25	0		21.66	21.84	21.43
10	1	0	QPSK	23.43	23.60	23.58
10	1	24		23.34	23.82	23.62
10	1	49		23.39	23.68	23.48
10	25	0		22.57	22.70	22.39
10	25	12		22.48	22.86	22.44
10	25	24		22.69	22.68	22.47
10	50	0		22.60	22.78	22.39
10	1	0	16-QAM	22.86	22.39	22.22
10	1	24		22.46	22.83	22.61
10	1	49		22.59	22.46	22.24
10	25	0		21.65	21.71	21.40
10	25	12		21.42	21.88	21.54
10	25	24		21.79	21.74	21.58
10	50	0		21.69	21.89	21.47

LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.42	23.56	23.56
15	1	37		23.32	23.81	23.59
15	1	74		23.36	23..63	23.44
15	36	0		22.55	22.66	22.36
15	36	18		22.45	22.81	22.40
15	36	39		22.66	22.65	22.43
15	75	0		22.58	22.74	22.34
15	1	0	16-QAM	22.81	22.37	22.20
15	1	38		22.44	22.80	22.59
15	1	75		22.56	22.42	22.21
15	36	0		21.62	21.69	21.37
15	36	18		21.39	21.83	21.50
15	36	39		21.77	21.70	21.55
15	75	0		21.66	21.84	21.43
20	1	0	QPSK	23.39	23.52	23.53
20	1	49		23.31	23.77	23.57
20	1	99		23.34	22.62	23.41
20	50	0		22.52	22.61	22.32
20	50	24		22.43	22.77	22.37
20	50	49		22.63	22.60	22.39
20	100	0		22.55	22.69	22.30
20	1	0	16-QAM	22.79	22.33	22.15
20	1	49		22.40	22.78	22.55
20	1	99		22.54	22.39	22.19
20	50	0		21.59	21.65	21.34
20	50	24		21.36	21.81	21.47
20	50	49		21.74	21.65	21.51
20	100	0		21.64	21.80	21.40

LTE BAND 71

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	23.15	23.23	22.96
5	1	12		23.44	23.23	23.08
5	1	24		23.25	23.06	23.07
5	12	0		22.15	22.33	22.29
5	12	6		22.20	22.19	22.21
5	12	11		22.38	22.36	22.33
5	25	0		22.17	22.40	22.20
5	1	0	16-QAM	22.08	22.64	22.90
5	1	12		22.20	22.85	22.91
5	1	24		22.22	22.43	22.78
5	12	0		21.29	21.23	21.07
5	12	6		21.25	21.28	21.26
5	12	11		21.38	21.23	21.13
5	25	0		21.32	21.50	21.31
10	1	0	QPSK	23.17	23.24	22.99
10	1	24		23.47	23.28	23.12
10	1	49		23.27	23.10	23.10
10	25	0		22.18	22.38	22.33
10	25	12		22.23	22.24	22.25
10	25	24		22.40	22.40	22.38
10	50	0		22.25	22.42	22.24
10	1	0	16-QAM	22.10	22.67	22.92
10	1	24		22.23	22.89	22.94
10	1	49		22.23	22.45	22.81
10	25	0		21.32	21.28	21.11
10	25	12		21.27	21.32	21.29
10	25	24		21.41	21.28	21.17
10	50	0		21.35	21.55	21.35

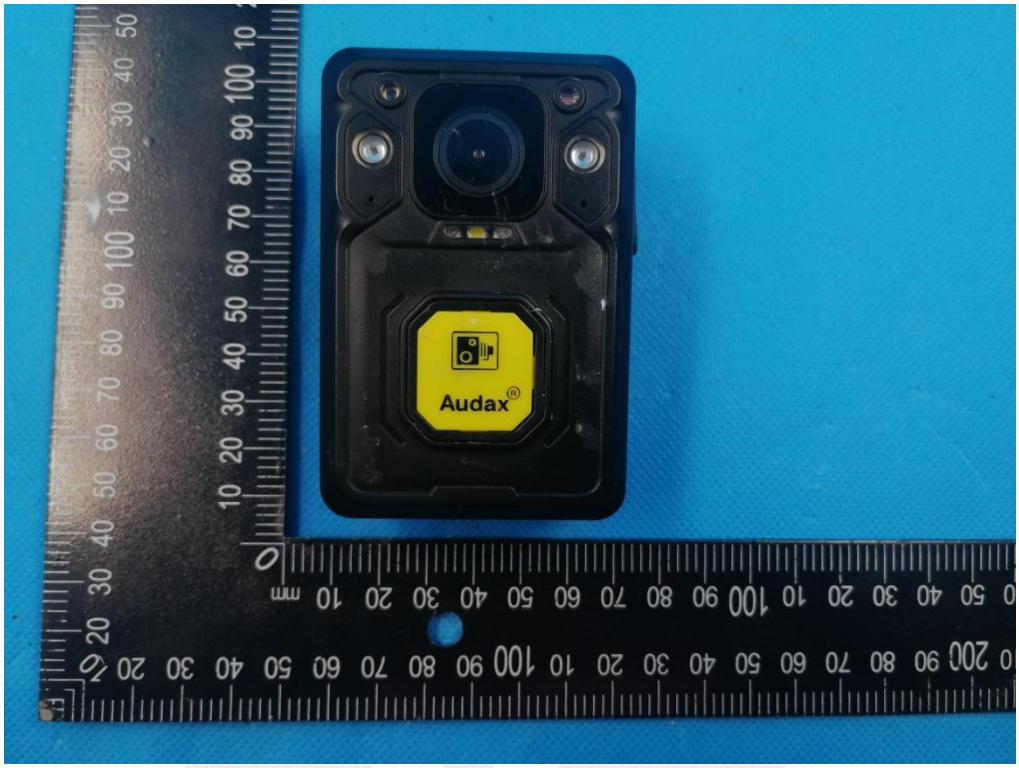
LTE BAND 71

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.16	23.01	22.97
15	1	37		23.45	23.11	23.09
15	1	74		23.24	23.09	23.06
15	36	0		22.16	22.25	22.30
15	36	18		22.20	22.21	22.21
15	36	39		22.37	22.13	22.34
15	75	0		22.23	22.11	22.19
15	1	0	16-QAM	22.05	22.07	22.90
15	1	38		22.21	22.09	22.92
15	1	75		22.22	22.22	22.78
15	36	0		21.29	21.25	21.08
15	36	18		21.24	21.20	21.25
15	36	39		21.39	21.12	21.14
15	75	0		21.32	21.11	21.31
20	1	0	QPSK	23.13	23.16	22.94
20	1	49		23.44	23.23	23.07
20	1	99		23.22	23.04	23.03
20	50	0		22.13	22.29	22.26
20	50	24		22.18	22.15	22.18
20	50	49		22.34	22.32	22.30
20	100	0		22.20	22.33	22.15
20	1	0	16-QAM	22.03	22.61	22.85
20	1	49		22.17	22.84	22.88
20	1	99		22.20	22.38	22.76
20	50	0		21.26	21.22	21.05
20	50	24		21.21	21.25	21.22
20	50	49		21.36	21.19	21.10
20	100	0		21.30	21.46	21.28

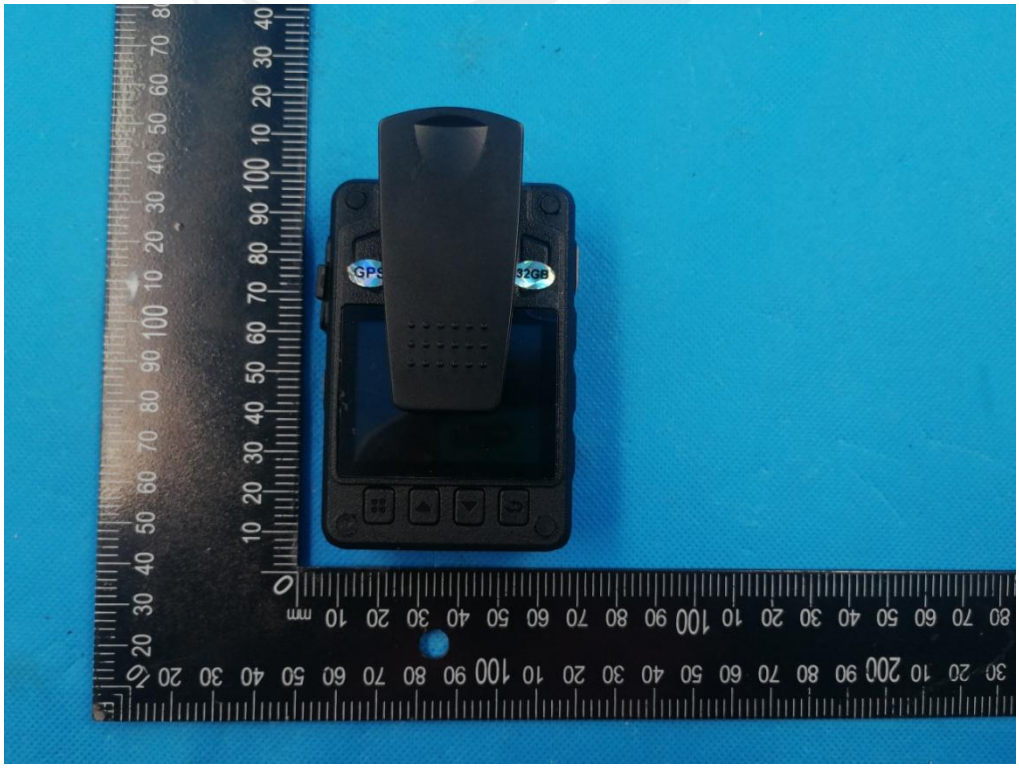
11. EUT and Test Setup Photo

11.1 EUT Photo

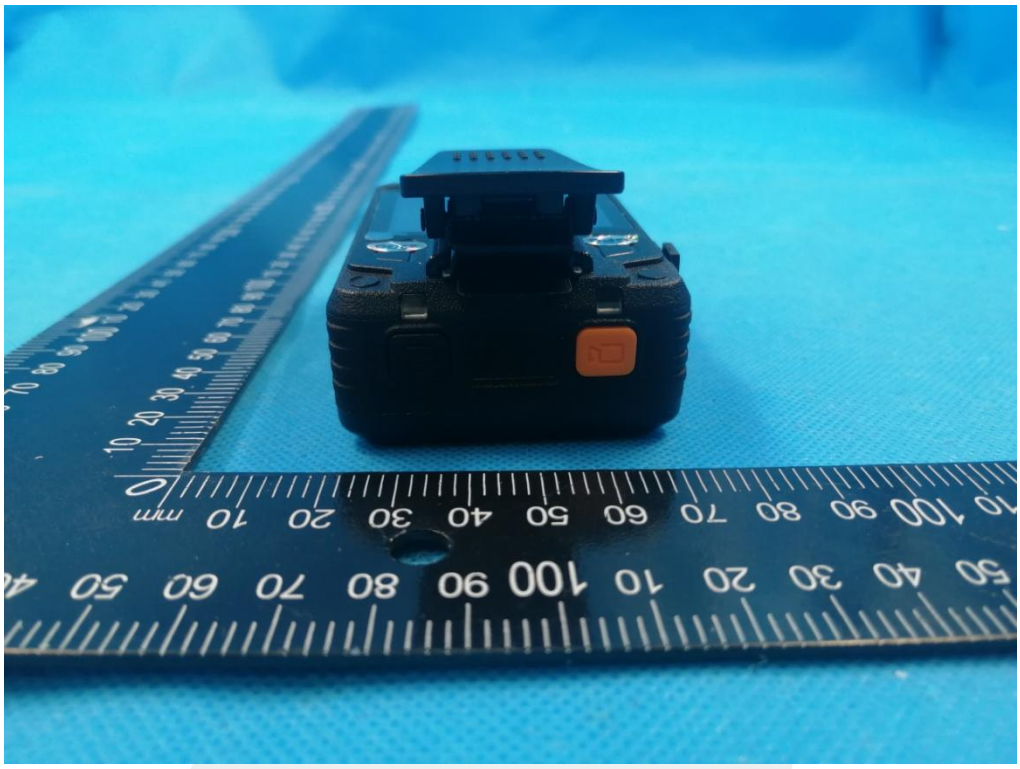
Front side



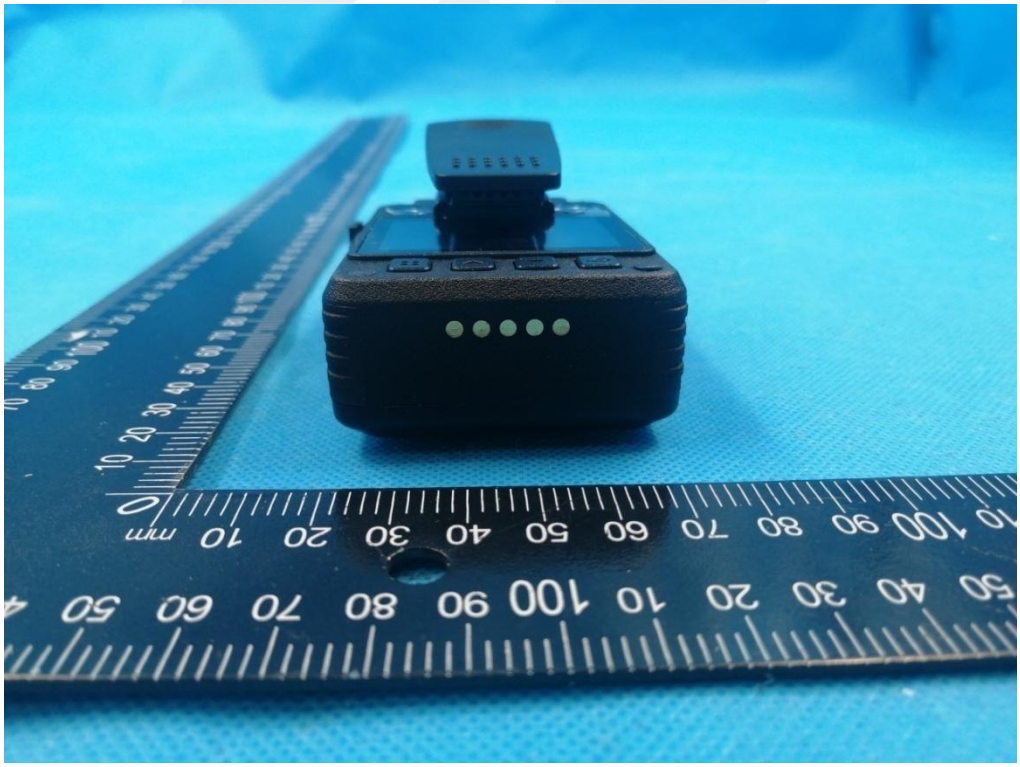
Back side



Top side

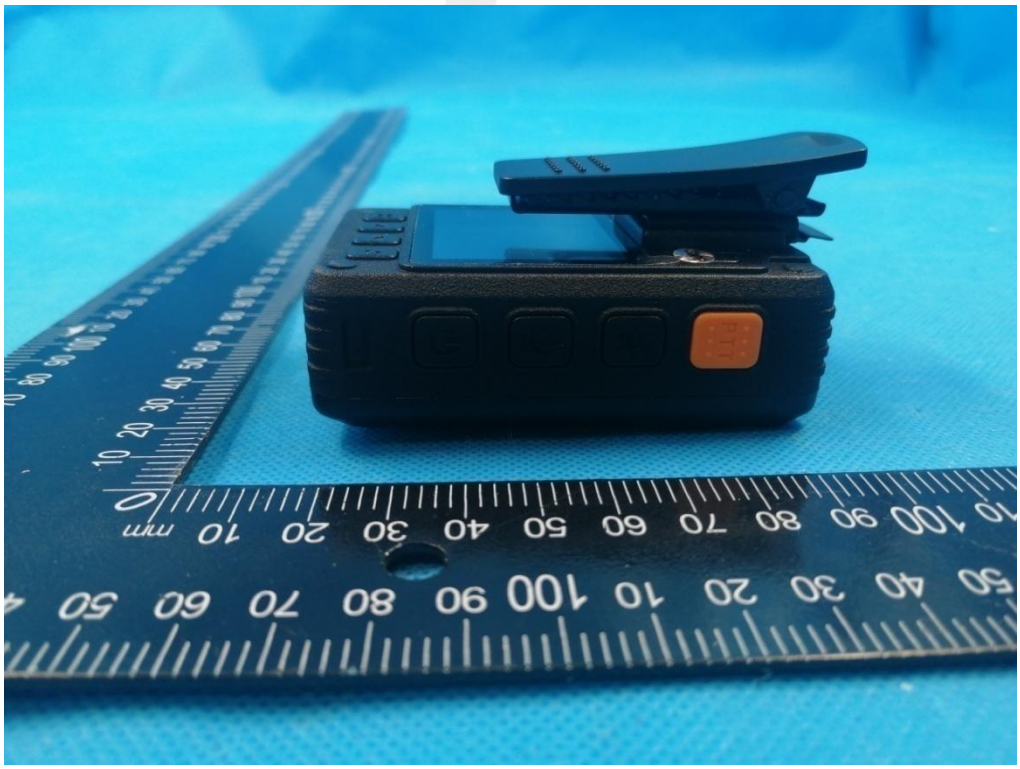


Bottom side



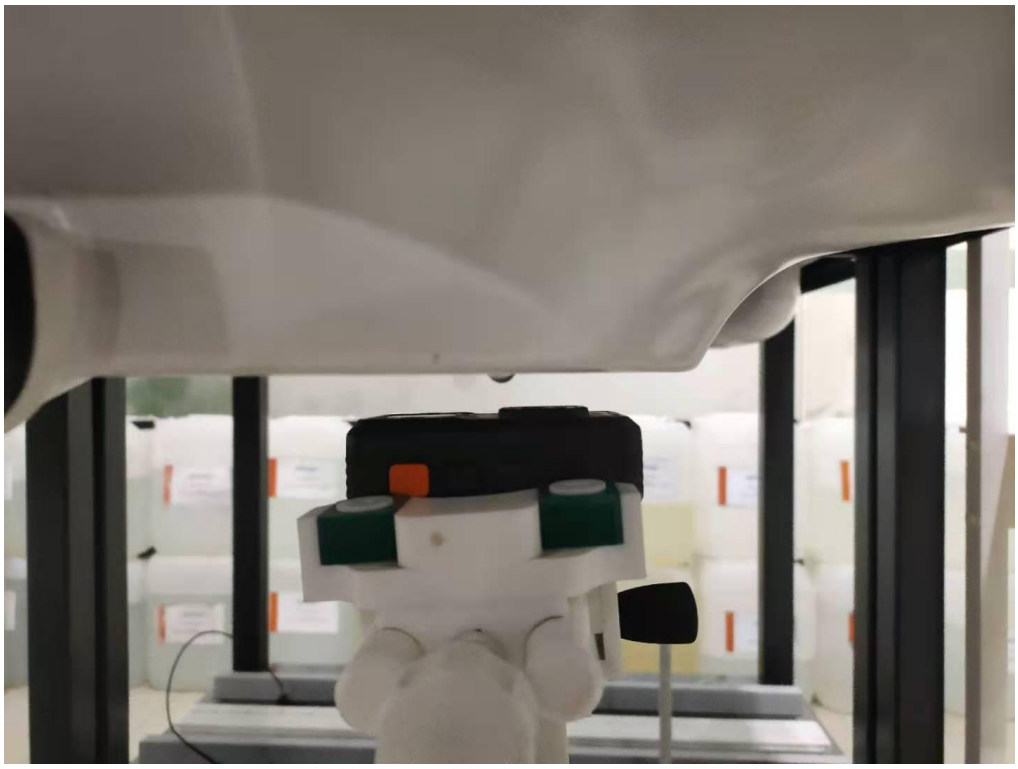
Left side

Right side

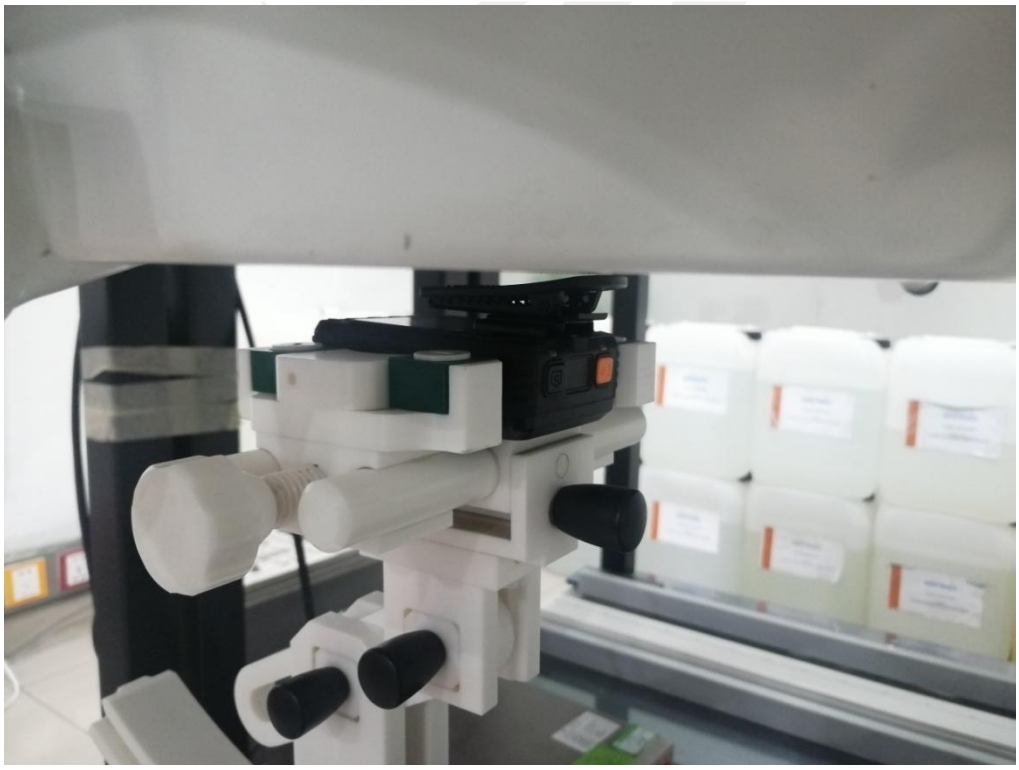


11.2 Setup Photo

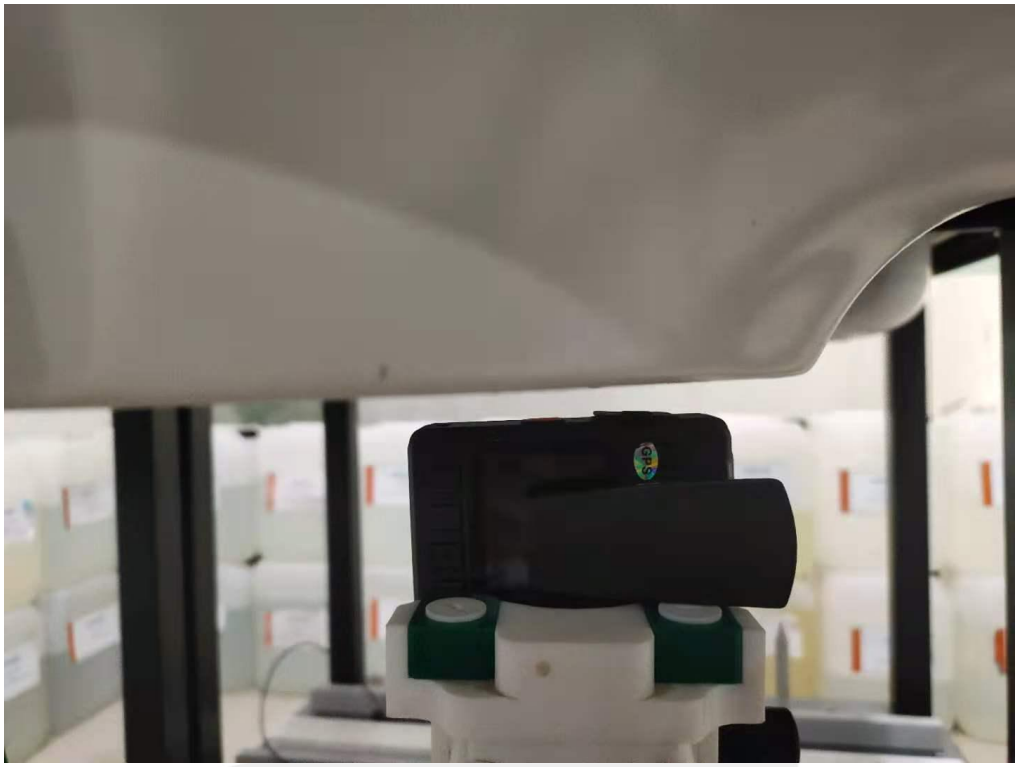
Body Front side(separation distance is 10mm)



Body Back side(separation distance is 0mm)

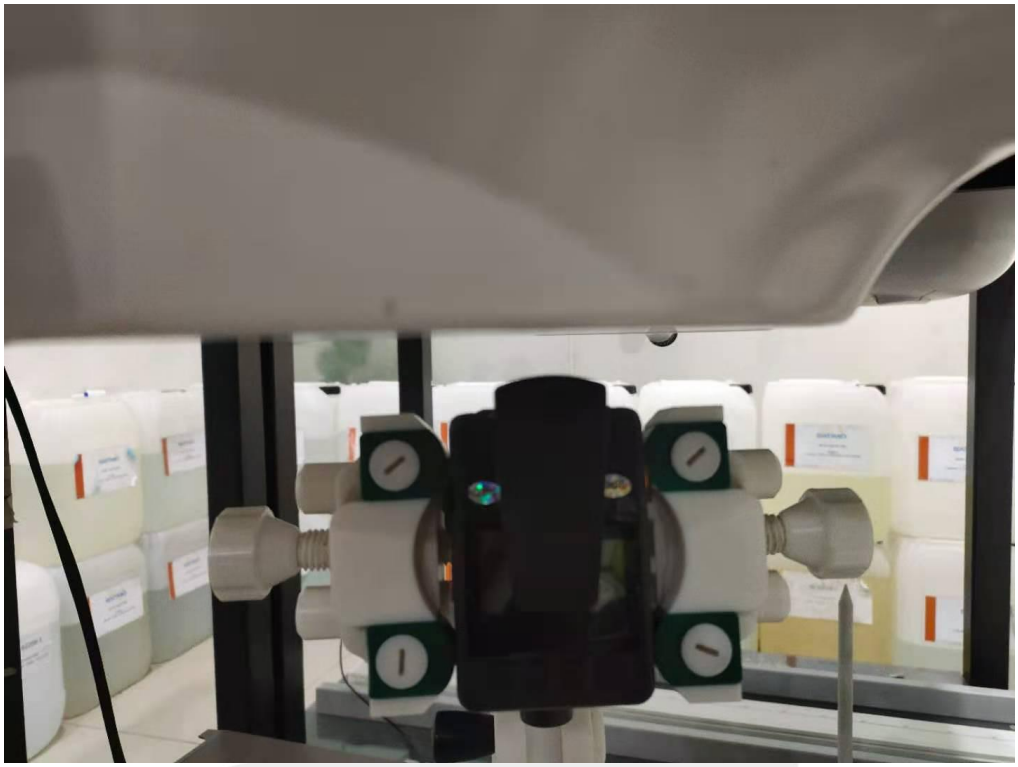


Left Edge(separation distance is 10mm)



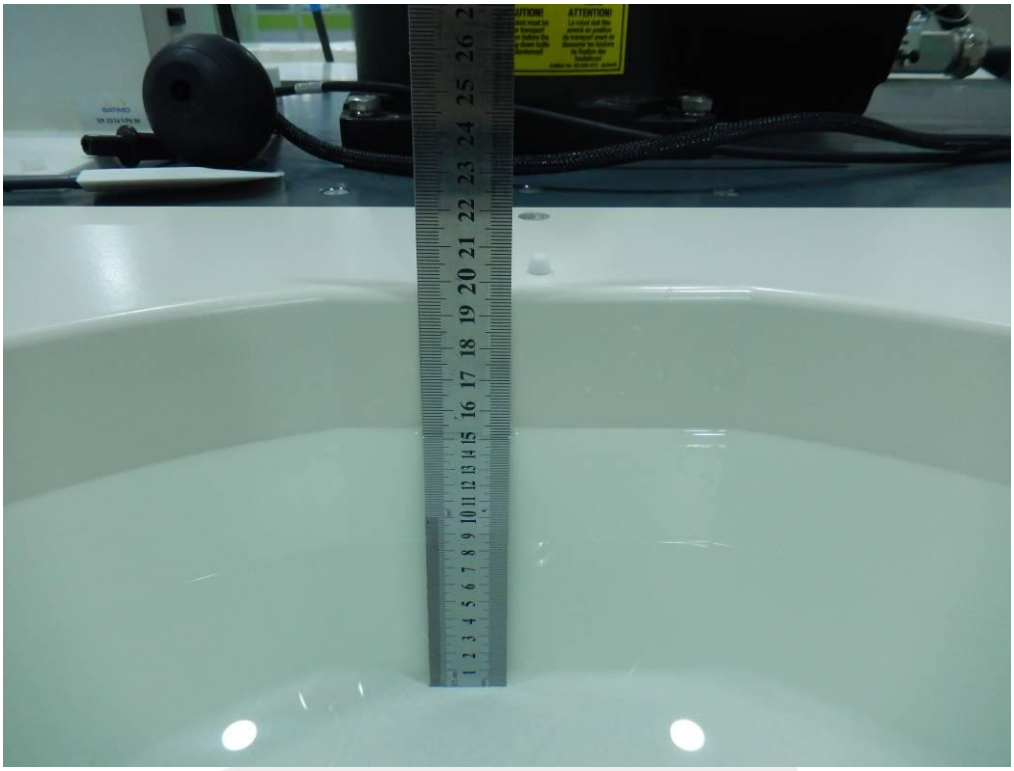
Right Edge(separation distance is 10mm)

Top Edge(separation distance is 10mm)



Bottom Edge(separation distance is 10mm)

Liquid depth (15 cm)



12. SAR Result Summary

12.1 Body-worn SAR

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Front Side	18900	0.605	2.10	24	23.80	0.634	/
			50	0	Front Side	18700	0.542	-3.69	23	22.41	0.621	/
			1	0	Back Side	18700	0.967	-0.54	24	23.42	1.105	/
			1	0	Back Side	18900	1.093	1.76	24	23.80	**1.145**	1
			1	0	Back Side	19100	0.882	-0.75	24	22.99	1.113	/
			50	0	Back Side	18700	0.988	2.14	23	22.41	1.132	/
			50	0	Back Side	18900	0.914	3.65	23	22.32	1.069	/
			50	0	Back Side	19100	0.924	1.35	23	22.25	1.098	/
			100	0	Back Side	18700	0.801	0.74	23	22.27	0.948	/
			100	0	Back Side	18900	0.844	1.33	23	22.45	0.958	/
			100	0	Back Side	19100	0.752	-0.17	23	22.03	0.940	/
			1	0	Left Side	18900	0.621	-0.88	24	23.80	0.650	/
			50	0	Left Side	18700	0.482	-0.15	23	22.41	0.552	/
			1	0	Top Side	18900	0.052	-2.07	24	23.80	0.054	/
			50	0	Top Side	18700	0.026	2.24	23	22.41	0.030	/
			1	0	Bottom Side	18900	0.118	-3.04	24	23.80	0.124	/
			50	0	Bottom Side	18700	0.105	1.51	23	22.41	0.120	/
LTE Band 4	20M	QPSK	1	0	Front Side	20300	0.304	2.22	24	23.64	0.330	/
			50	0	Front Side	20300	0.210	0.01	23	22.61	0.230	/
			1	0	Back Side	20300	0.567	1.25	24	23.64	**0.616**	2
			50	0	Back Side	20300	0.527	-0.36	23	22.61	0.577	/
			1	0	Left Side	20300	0.324	3.17	24	23.64	0.352	/
			50	0	Left Side	20300	0.211	3.24	23	22.61	0.231	/
			1	0	Top Side	20300	0.026	-0.13	24	23.64	0.028	/
			50	0	Top Side	20300	0.027	0.80	23	22.61	0.030	/
			1	0	Bottom Side	20300	0.054	2.15	24	23.64	0.059	/
			50	0	Bottom Side	20300	0.047	-1.08	23	22.61	0.051	/
LTE Band 5	10M	QPSK	1	0	Front Side	20600	0.471	1.09	24.5	24.01	0.527	/
			25	0	Front Side	20450	0.394	2.04	23	22.86	0.407	/
			1	0	Back Side	20600	0.713	3.30	24.5	24.01	**0.798**	3
			25	0	Back Side	20450	0.702	0.82	23	22.86	0.725	/
			1	0	Left Side	20600	0.521	-3.27	24.5	24.01	0.583	/
			25	0	Left Side	20450	0.421	3.21	23	22.86	0.435	/
			1	0	Right Side	20600	0.134	2.95	24.5	24.01	0.150	/
			25	0	Right Side	20450	0.126	-0.27	23	22.86	0.130	/
			1	0	Top Side	20600	0.317	-0.52	24.5	24.01	0.355	/
			25	0	Top Side	20450	0.246	-2.91	23	22.86	0.254	/
			1	0	Bottom Side	20600	0.043	-2.64	24.5	24.01	0.048	/
			25	0	Bottom Side	20450	0.037	-2.92	23	22.86	0.038	/

LTE Band 12	10M	QPSK	1	0	Front Side	23130	0.062	-0.52	24	23.69	0.067	/
			25	0	Front Side	23060	0.055	-2.78	23	22.70	0.059	/
			1	0	Back Side	23130	0.169	1.10	24	23.69	**0.182**	4
			25	0	Back Side	23060	0.152	-2.46	23	22.70	0.163	/
			1	0	Left Side	23130	0.049	-3.43	24	23.69	0.053	/
			25	0	Left Side	23060	0.036	-3.08	23	22.70	0.039	/
			1	0	Right Side	23130	0.006	-3.11	24	23.69	0.006	/
			25	0	Right Side	23060	0.004	1.24	23	22.70	0.004	/
			1	0	Top Side	23130	0.003	-3.32	24	23.69	0.003	/
			25	0	Top Side	23060	0.002	-2.40	23	22.70	0.002	/
			1	0	Bottom Side	23130	0.017	-0.02	24	23.69	0.018	/
			25	0	Bottom Side	23060	0.015	3.69	23	22.70	0.016	/
LTE Band 13	10M	QPSK	1	0	Front Side	23230	0.269	-1.44	24	23.85	0.278	/
			25	0	Front Side	23230	0.224	-0.34	23	22.88	0.230	/
			1	0	Back Side	23230	0.553	2.32	24	23.85	**0.572**	5
			25	0	Back Side	23230	0.517	0.74	23	22.88	0.531	/
			1	0	Left Side	23230	0.247	-1.95	24	23.85	0.256	/
			25	0	Left Side	23230	0.206	-1.63	23	22.88	0.212	/
			1	0	Right Side	23230	0.041	1.21	24	23.85	0.042	/
			25	0	Right Side	23230	0.036	-1.78	23	22.88	0.037	/
			1	0	Top Side	23230	0.016	-1.20	24	23.85	0.017	/
			25	0	Top Side	23230	0.009	-0.70	23	22.88	0.009	/
			1	0	Bottom Side	23230	0.044	0.44	24	23.85	0.046	/
			25	0	Bottom Side	23230	0.032	-1.39	23	22.88	0.033	/
LTE Band 66	20M	QPSK	1	0	Front Side	132322	0.276	2.30	24	23.77	0.291	/
			50	0	Front Side	132322	0.234	0.32	23	22.77	0.247	/
			1	0	Back Side	132322	0.579	0.92	24	23.77	**0.610**	6
			50	0	Back Side	132322	0.512	-0.38	23	22.77	0.540	/
			1	0	Left Side	132322	0.267	1.86	24	23.77	0.282	/
			50	0	Left Side	132322	0.244	-2.21	23	22.77	0.257	/
			1	0	Top Side	132322	0.064	-2.79	24	23.77	0.067	/
			50	0	Top Side	132322	0.035	2.32	23	22.77	0.037	/
			1	0	Bottom Side	132322	0.069	3.18	24	23.77	0.073	/
			50	0	Bottom Side	132322	0.058	-0.09	23	22.77	0.061	/

LTE Band 71	20M	QPSK	1	0	Front Side	133222	0.019	3.15	24	23.44	0.022	/
			50	0	Front Side	133222	0.014	3.01	23	22.34	0.016	/
			1	0	Back Side	133222	0.096	0.48	24	23.44	**0.109**	7
			50	0	Back Side	133222	0.082	-1.81	23	22.34	0.095	/
			1	0	Left Side	133222	0.022	-3.35	24	23.44	0.025	/
			50	0	Left Side	133222	0.018	-1.02	23	22.34	0.021	/
			1	0	Right Side	133222	0.002	3.26	24	23.44	0.002	/
			50	0	Right Side	133222	0.001	-2.37	23	22.34	0.001	/
			1	0	Top Side	133222	0.001	-2.25	24	23.44	0.001	/
			50	0	Top Side	133222	0.001	3.25	23	22.34	0.001	/
			1	0	Bottom Side	133222	0.008	-1.26	24	23.44	0.009	/
			50	0	Bottom Side	133222	0.005	3.15	23	22.34	0.006	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. Per KDB865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg

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.
LTE Band2	QPSK	Back Side	18900	1.052	-0.29	24	23.80	1.102	/

Repeated SAR measurement

Band	Mode	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
LTE Band2	QPSK	Back Side	18900	1.093	1.052	1.039	-	-	-

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is≥0.8W/Kg.
2. Per KDB 865664 D01,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
Body	1. LTE + 2.4G WLAN
	2. LTE + Bluetooth

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. Based upon KDB 447498 D01, BT SAR is excluded as below table.
4. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
5. For minimum test separation distance≦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	Body	0.5	1.122	5	2.402	0.046
2.4GWLAN	Body	8.5	7.079	5	2.412	0.293

Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
LTE + 2.4GHz WLAN	Body	LTE	1.145	1.438
		2.4GHz WLAN	0.293	
LTE + BT	Body	LTE	1.145	1.191
		BT	0.046	

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	2020.07.14	2023.07.13
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2020.07.14	2023.07.13
1800MHz Dipole	MVG	SID1800	SN 30/14 DIP1G800-329	2020.07.14	2023.07.13
1900MHz Dipole	MVG	SID1900	SN 30/14 DIP1G900-333	2020.07.14	2023.07.13
E-Field Probe	MVG	SSE2	SN 41/18 EPGO334	2020.07.14	2021.07.13
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2020.11.24	2021.11.23
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	2020.10.12	2021.10.11
Multi Meter	Keithley	Multi Meter 2000	4050073	2020.10.10	2021.10.09
Signal Generator	Agilent	N5182A	MY50140530	2020.10.10	2021.10.09
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2020.10.10	2021.10.09
Wireless Communication Test Set	R&S	CMW500	117239	2020.10.10	2021.10.09
Power Amplifier	DESAY	ZHL-42W	9638	2020.10.12	2021.10.11
Power Meter	R&S	NRP	100510	2020.10.10	2021.10.09
Power Meter	Agilent	E4419B	QB43312265	2020.10.10	2021.10.09
Power Sensor	R&S	NRP-Z11	101919	2020.10.10	2021.10.09
Power Sensor	HP	E9300A	US39210170	2020.10.10	2021.10.09
Temperature hygrometer	SuWei	SW-108	N/A	2020.10.12	2021.10.11
Thermograph	Elitech	RC-4	S/N EF7176501537	2020.10.12	2021.10.11

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

Appendix A. System Validation Plots

System Performance Check Data (750MHz)

Type: Phone measurement (Complete)

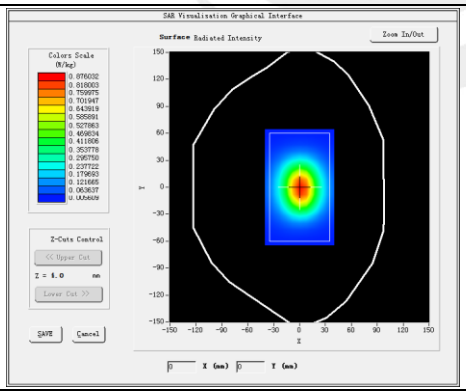
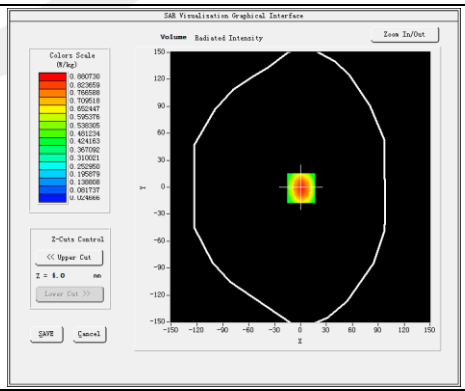
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-11-27

Experimental conditions.

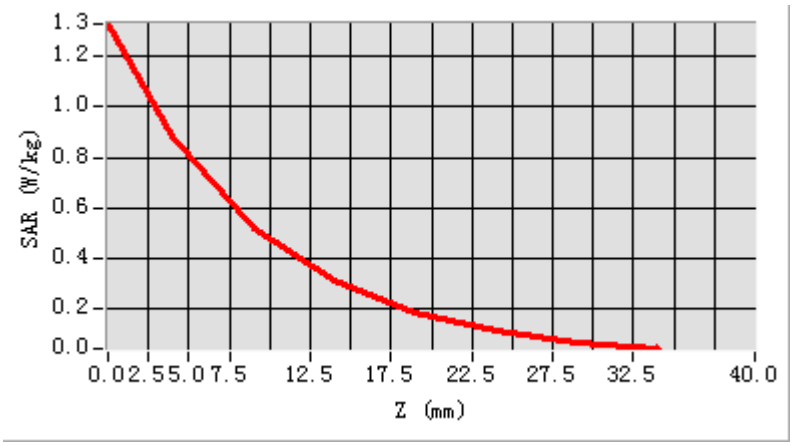
Probe	
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	42.14
Conductivity (S/m)	0.91
Power drift (%)	0.19
Probe	SN 41/18 EPGO334
ConvF:	1.49
Crest factor:	1:1

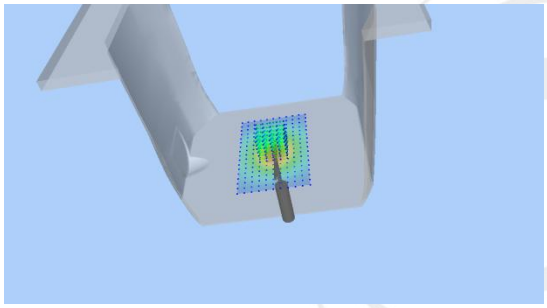
SURFACE SAR	VOLUME SAR
	

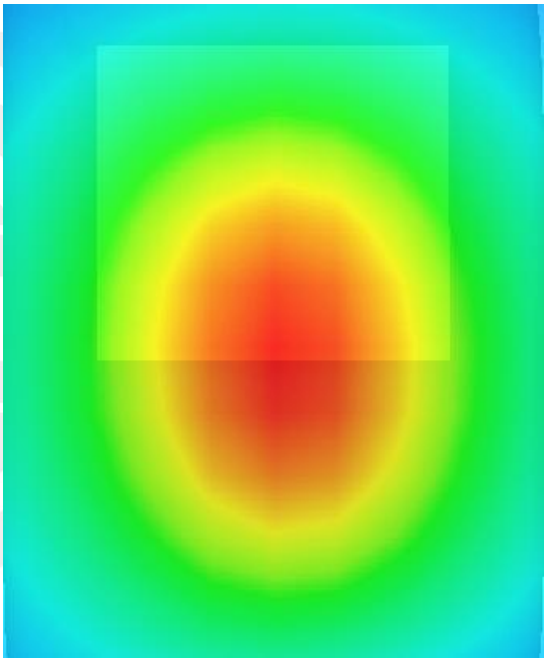
Maximum location: X=1.00, Y=-1.00

SAR 10g (W/Kg)	0.564182
SAR 1g (W/Kg)	0.864289

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)



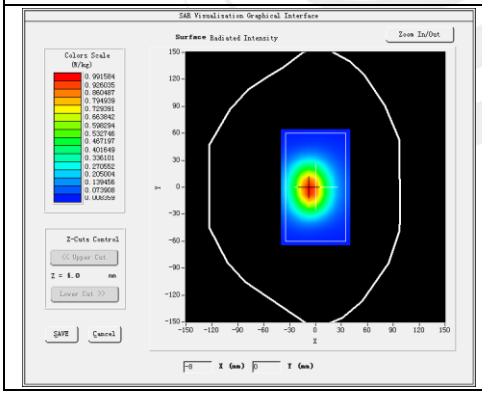
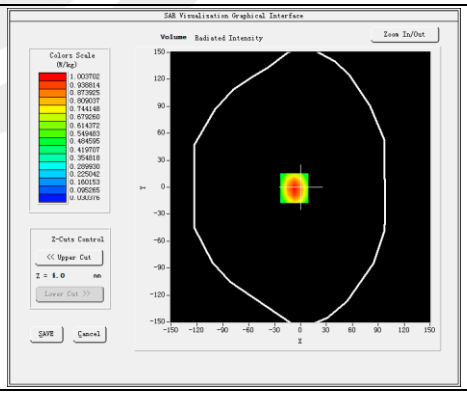


System Performance Check Data (835MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2020-11-27

Experimental conditions.

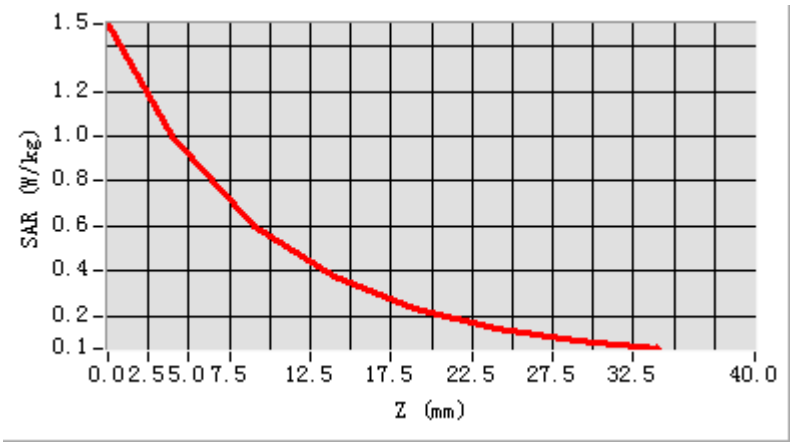
Probe	
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	40.94
Conductivity (S/m)	0.88
Power drift (%)	3.02
Probe	SN 41/18 EPGO334
ConvF:	1.53
Crest factor:	1:1

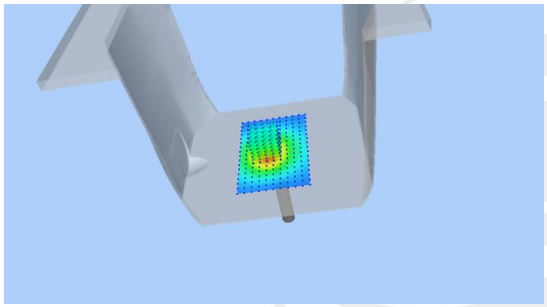
SURFACE SAR	VOLUME SAR
	

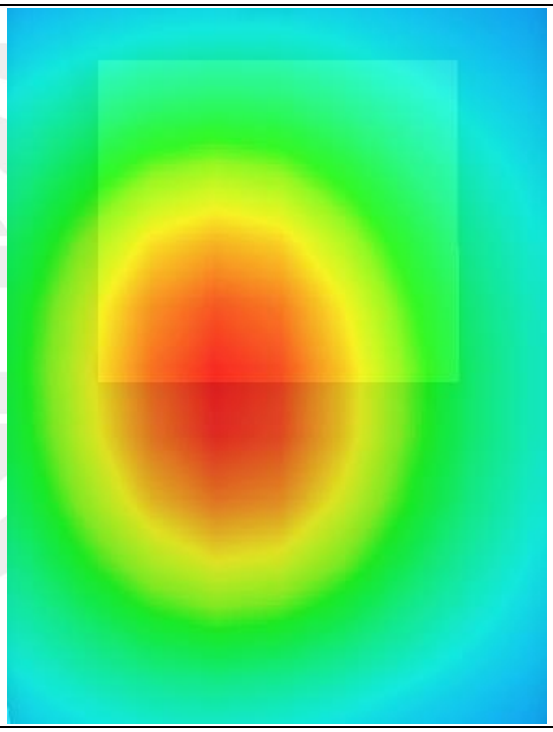
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.610004
SAR 1g (W/Kg)	0.935926

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)

Type: Phone measurement (Complete)

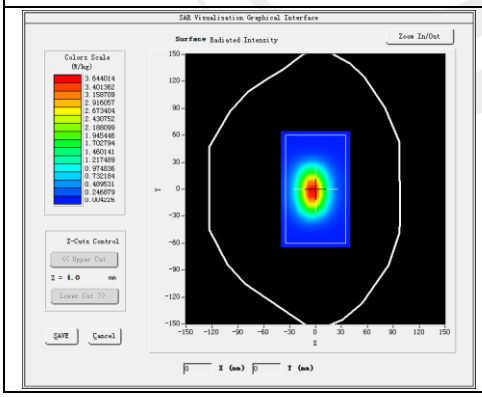
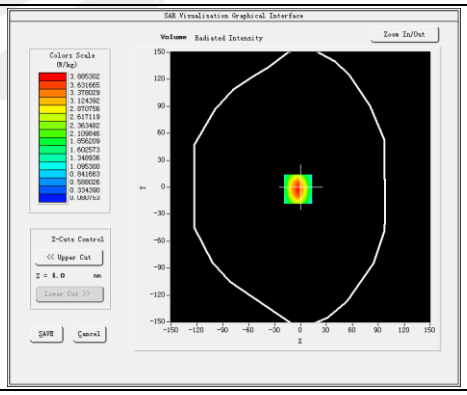
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-11-30

Experimental conditions.

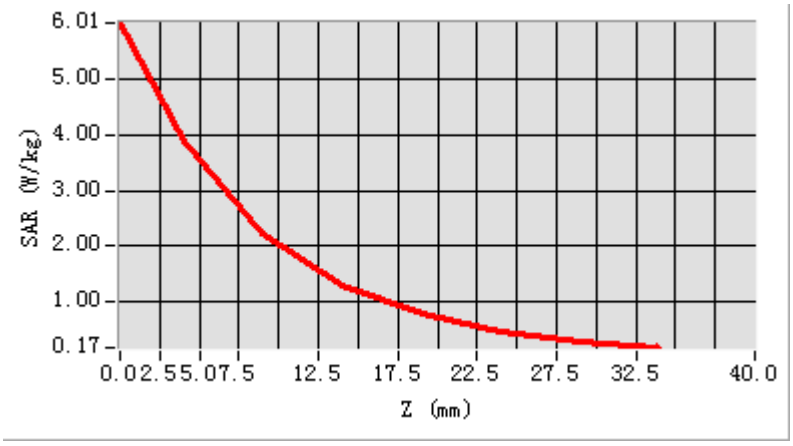
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	40.61
Conductivity (S/m)	1.44
Power drift (%)	2.17
Probe	SN 41/18 EPGO334
ConvF	1.66
Crest factor:	1:1

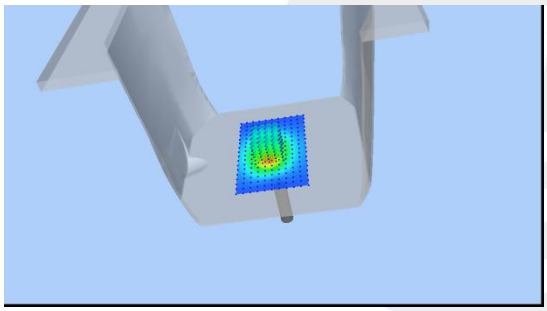
SURFACE SAR	VOLUME SAR
	

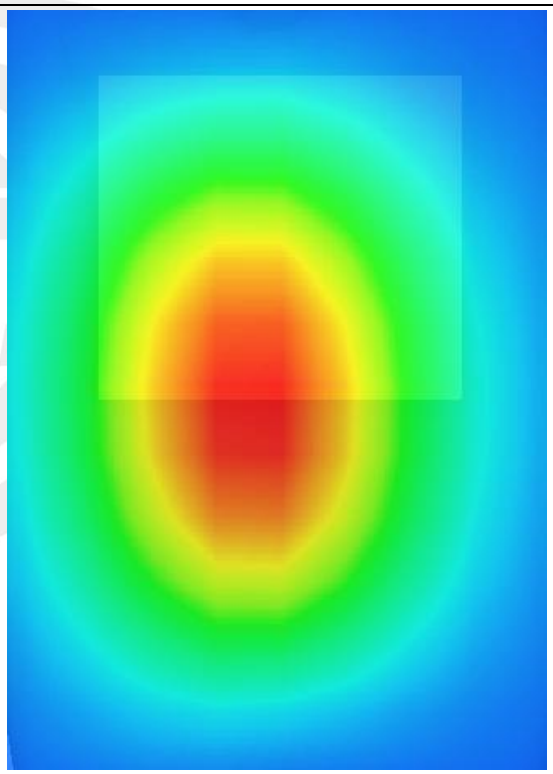
Maximum location: X=-3.00, Y=-2.00

SAR 10g (W/Kg)	1.872628
SAR 1g (W/Kg)	3.764104

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)



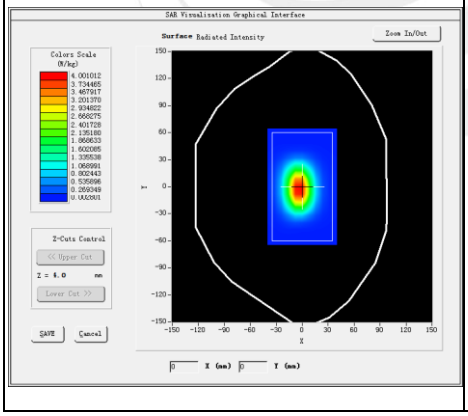
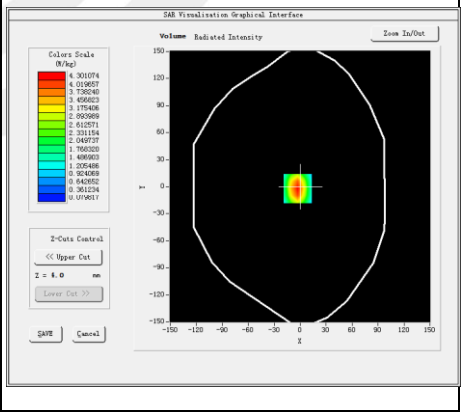


System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2020-11-30

Experimental conditions.

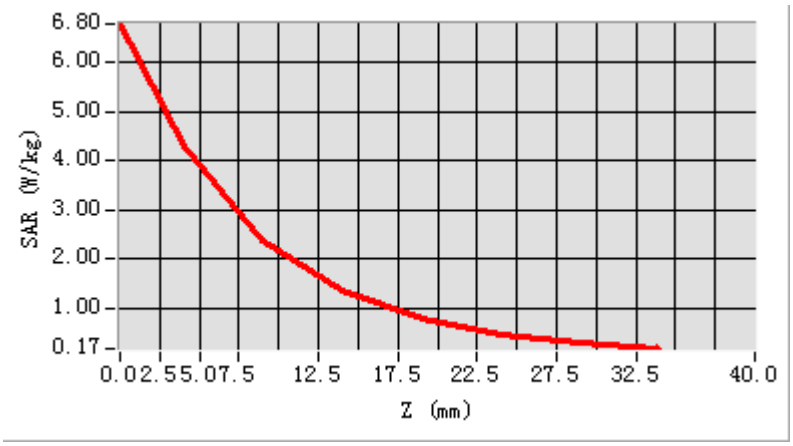
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	40.47
Conductivity (S/m)	1.43
Power drift (%)	0.64
Probe	SN 41/18 EPGO334
ConvF:	1.88
Crest factor:	1:1

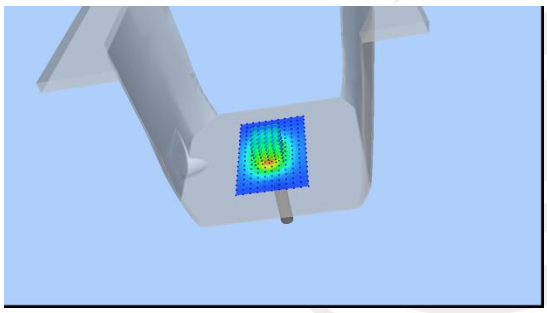
SURFACE SAR	VOLUME SAR
	

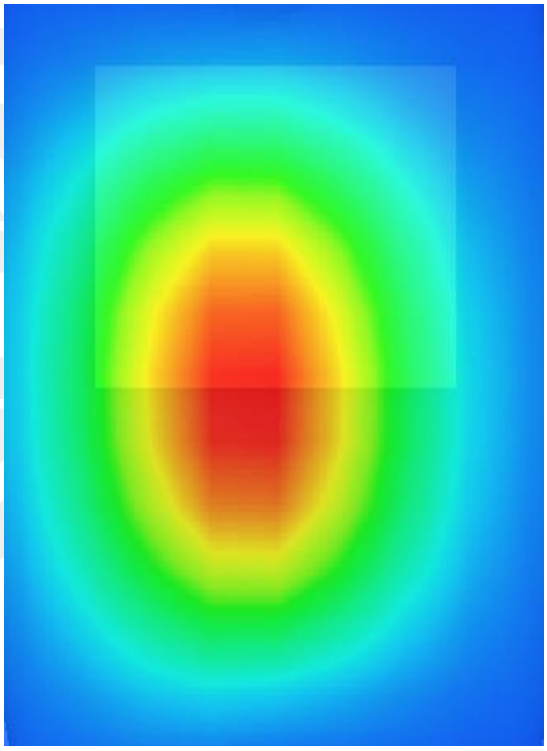
Maximum location: X=-3.00, Y=-2.00

SAR 10g (W/Kg)	2.062344
SAR 1g (W/Kg)	3.886154

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)





Appendix B. SAR Test Plots

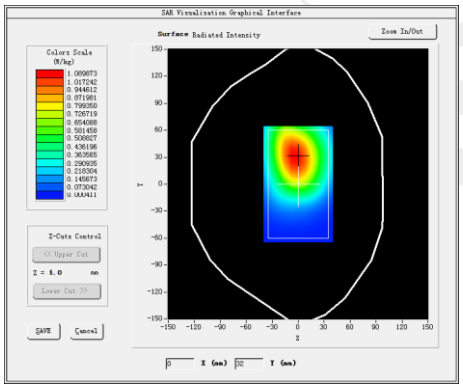
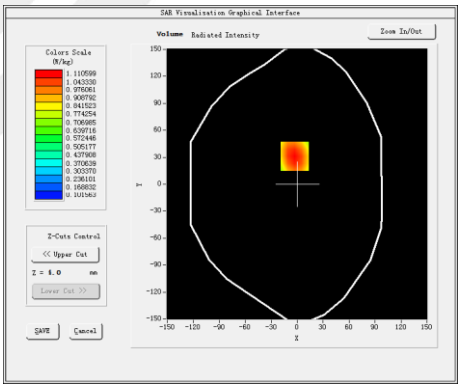
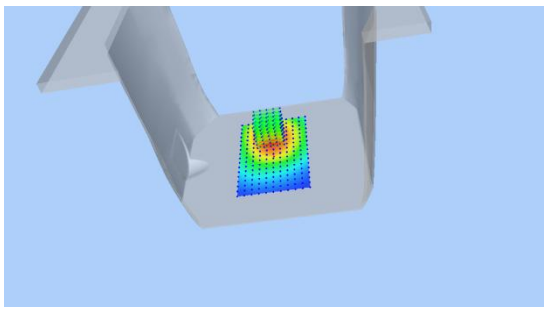
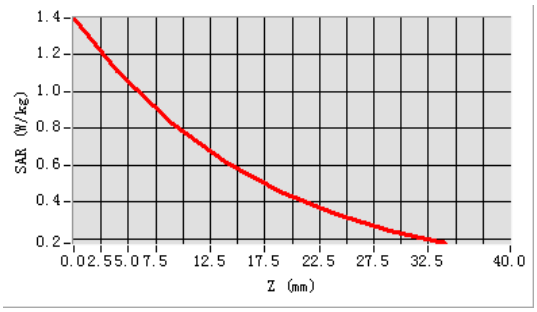
Plot 1: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-30
Probe	SN 41/18 EPGO334
ConvF	1.88
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 2
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.47
Conductivity (S/m)	1.43

Maximum location: X=-3.00, Y=31.00

SAR Peak: 1.40 W/kg

SAR 10g (W/Kg)	0.765780
SAR 1g (W/Kg)	1.093120

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

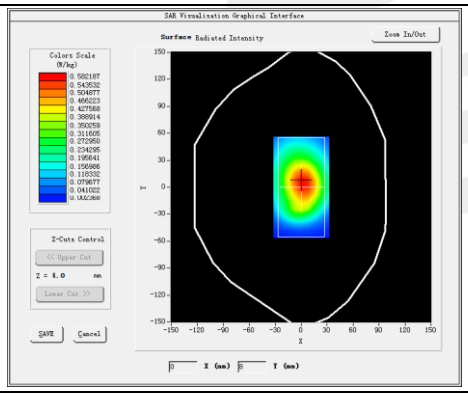
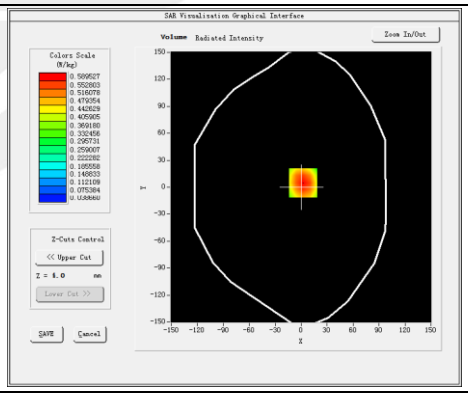
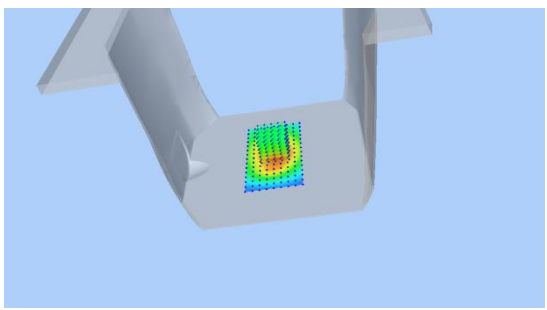
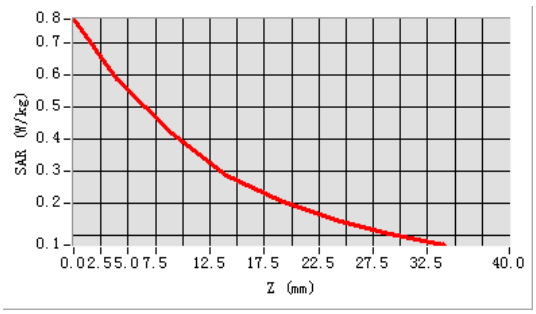
Plot 2: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-30
Probe	SN 41/18 EPGO334
ConvF	1.66
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 4
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.61
Conductivity (S/m)	1.44

Maximum location: X=2.00, Y=5.00

SAR Peak: 0.78 W/kg

SAR 10g (W/Kg)	0.377912
SAR 1g (W/Kg)	0.567224

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

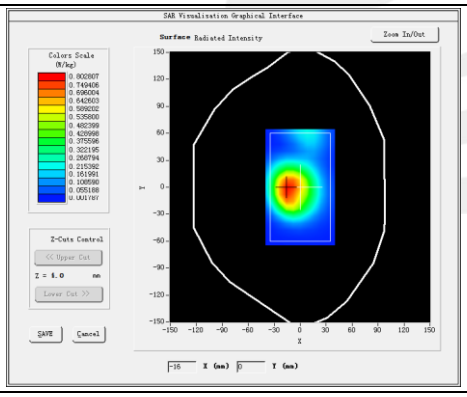
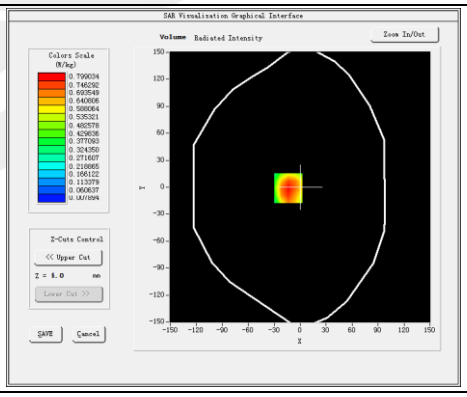
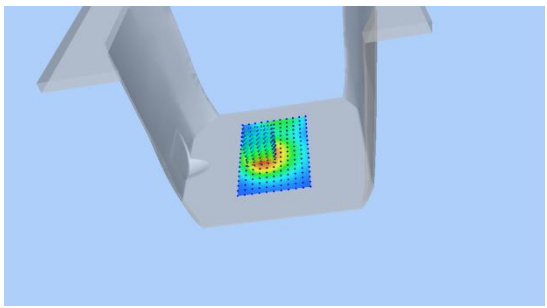
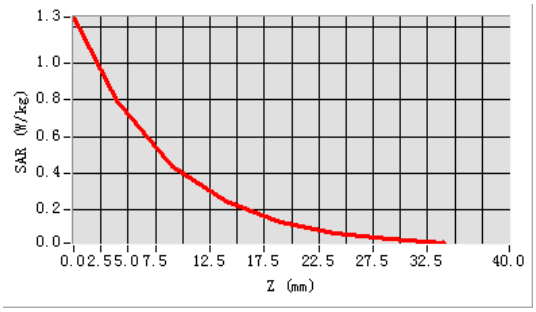
Plot 3: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-27
Probe	SN 41/18 EPGO334
ConvF	1.53
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 5
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	844
Relative permittivity (real part)	40.94
Conductivity (S/m)	0.88

Maximum location: X=-14.00, Y=-1.00

SAR Peak: 1.25 W/kg

SAR 10g (W/Kg)	0.428128
SAR 1g (W/Kg)	0.713254

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

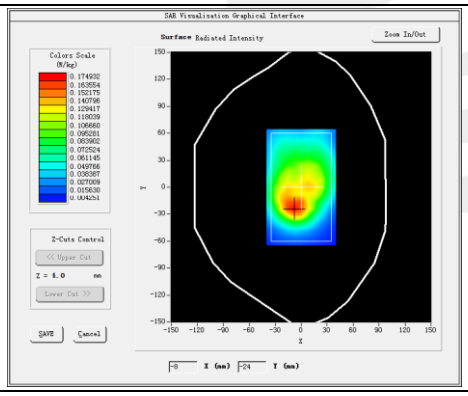
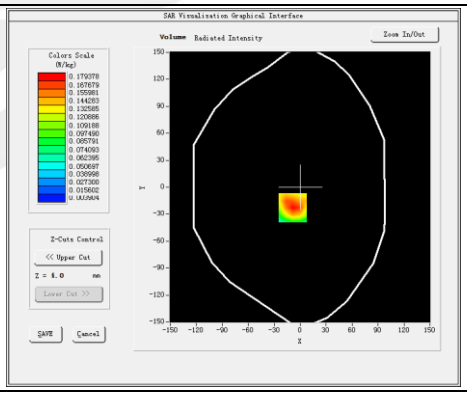
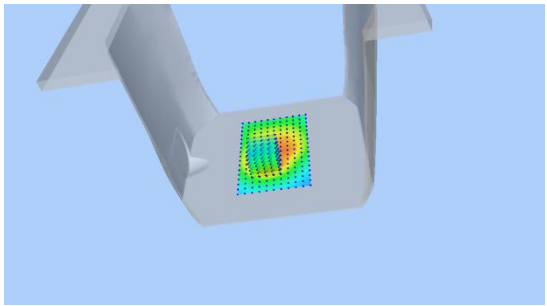
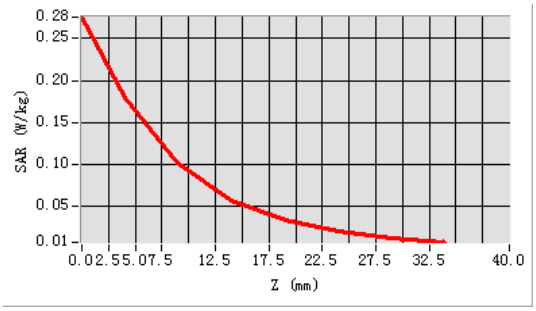
Plot 4: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-27
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 12
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	42.14
Conductivity (S/m)	0.91

Maximum location: X=-9.00, Y=-23.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.094077
SAR 1g (W/Kg)	0.169478

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

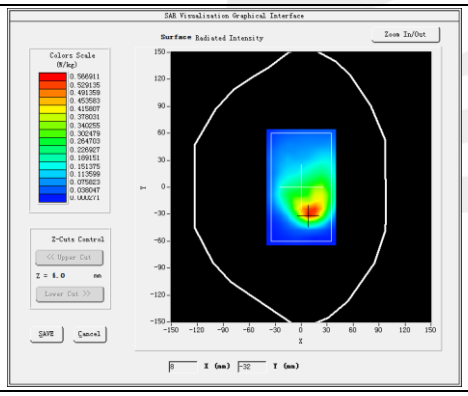
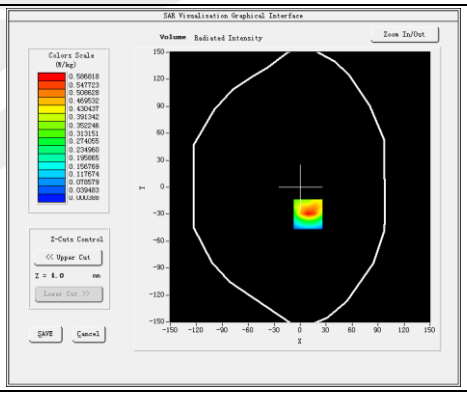
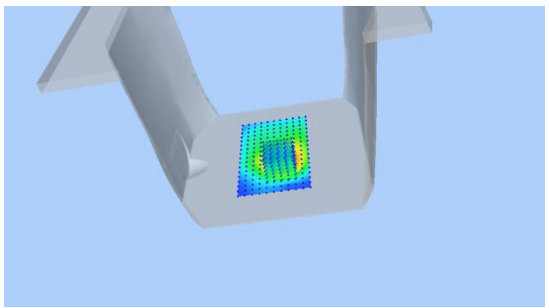
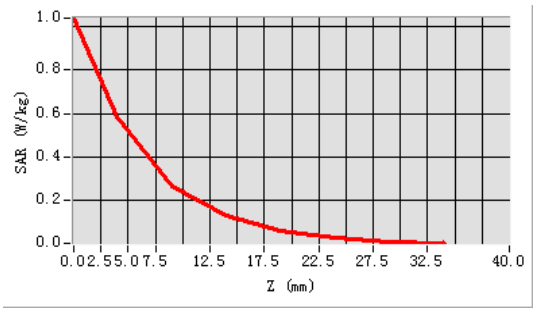
Plot 5: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-27
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 13
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	42.14
Conductivity (S/m)	0.91

Maximum location: X=9.00, Y=-30.00

SAR Peak: 1.04 W/kg

SAR 10g (W/Kg)	0.260091
SAR 1g (W/Kg)	0.553080

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

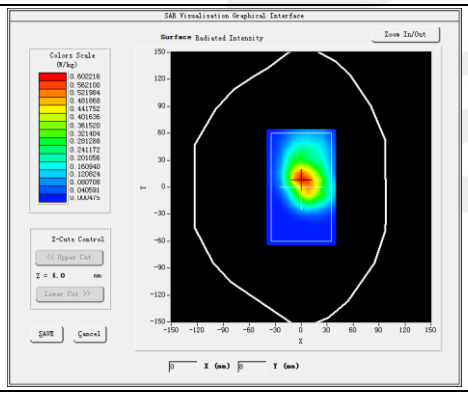
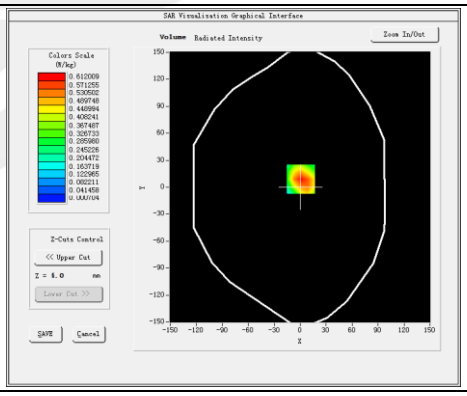
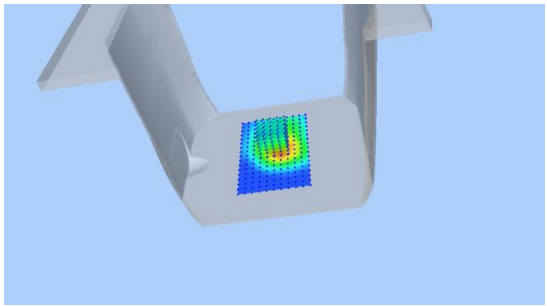
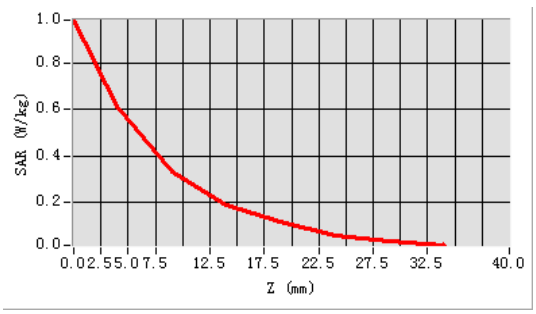
Plot 6: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-30
Probe	SN 41/18 EPGO334
ConvF	1.66
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 66
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1755
Relative permittivity (real part)	40.61
Conductivity (S/m)	1.44

Maximum location: X=1.00, Y=9.00

SAR Peak: 0.97 W/kg

SAR 10g (W/Kg)	0.312523
SAR 1g (W/Kg)	0.578772

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

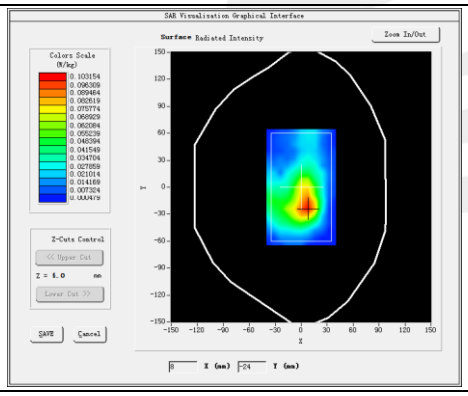
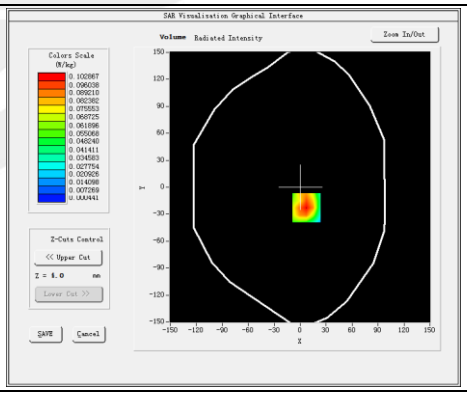
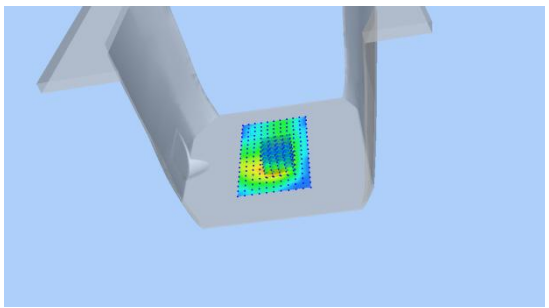
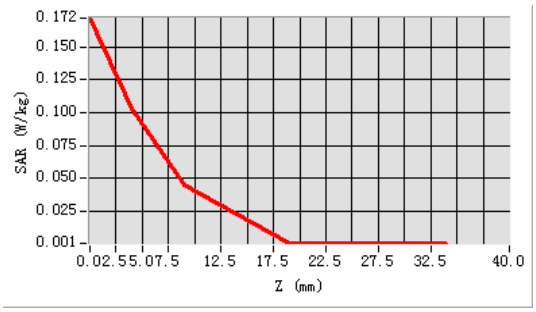
Plot 7: DUT: Body Worn Camera; EUT Model: EC25-AF

Test Date	2020-11-27
Probe	SN 41/18 EPGO334
ConvF	1.49
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Body
Device Position	Back Side
Band	LTE Band 71
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	673
Relative permittivity (real part)	42.14
Conductivity (S/m)	0.91

Maximum location: X=7.00, Y=-23.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.044344
SAR 1g (W/Kg)	0.095973

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※※※※※