SAR TEST REPORT

Product Name: 4G WIFI Router

Model Name: M11, M12, M13, M14, M15, M16, M17, M18, M19, M20

FCC ID: 2AK8BM11

Issued For : IQSIM

Les Algorithmes Aristote A-2000 Route des Lucioles, BIOT 06410, France

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT24F036HA01
Sample Received Date:	June 06, 2024
Date of Test:	June 06, 2024 ~ June 11, 2024
Date of Issue:	July 01, 2024
Max. SAR (1g):	Body: 0.731 W/kg

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Revision History

Rev.	Issue Date	Contents
00	July 01, 2024	Initial Issue

TEST REPORT CERTIFICATION

Applicant	IQSIM
Address	Les Algorithmes Aristote A-2000 Route des Lucioles, BIOT 06410, France
Manufacture	Huizhou Chuangjing Technology Co., Ltd.
Address	Floors 8-9, Building 8, Tonghu Intelligent Manufacturing Industrial Park, Yingguang Village, Lilin Town, Zhongkai High-tech Zone, Huizhou
Product Name	4G WIFI Router
Trademark	N/A
Model Name	M11, M12, M13, M14, M15, M16, M17, M18, M19, M20
Sample number	LGT2406040-3

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
ANSI/IEEE Std. C95.1-1992 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013	PASS

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SHENZHEN LGT TEST SERVICE CO., LTD.
LGT
领冠检测

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	4G WIFI Router	
Trademark	N/A	
Model Name	M11	
Series Model	M12, M13, M14, M15, M16, M17, M18, M19, M20	
Model Difference	Only the model is different	
Device Category	Portable	
Product stage	Production unit	
RF Exposure Environment	General Population / Uncontrolled	
Hardware Version	SP965-V10	
Software Version	IQSim 4.00.056	
Frequency Range	LTE Band 2:1850 ~1910MHz LTE Band 4:1710 ~1755MHz LTE Band 5:824 ~ 849MHz LTE Band 12:699~716MHz LTE Band 17:704 ~ 716MHz LTE Band 26:814~824MHz/824-849MHz LTE Band 38:2570~2620MHz LTE Band 41:2555~2655MHz WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz	
Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Body:10mm	Mode	Body Worn and Hotspot(W/kg)
	LTE Band 2	0.614
	LTE Band 4	0.535
	LTE Band 5	0.212
	LTE Band 12	0.250
	LTE Band 17	0.231
	LTE Band 26	0.203
	LTE Band 38	0.634
	LTE Band 41	0.731
	2.4G WLAN	0.209
1-g Sum SAR		0.940
Battery	Rated Voltage: 3.8V Capacity: 5000mAh	
Operating Mode:	LTE: QPSK, 16QAM 2.4G WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK 802.11g(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM	
Antenna Specification	LTE: FPC Antenna WLAN: FPC Antenna	

Operating Mode	Maximum continuous output
SIM Card	Only support single SIM Card
Hotspot Mode	Support
DTM Mode	Not Support

1.2 Test Environment

Ambient conditions in the SAR laboratory:

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

1.3 Test Factory

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate	FCC Registration No.: 746540
	A2LA Certificate No.: 6727.01
	IC Registration No.: CN0136

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:

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

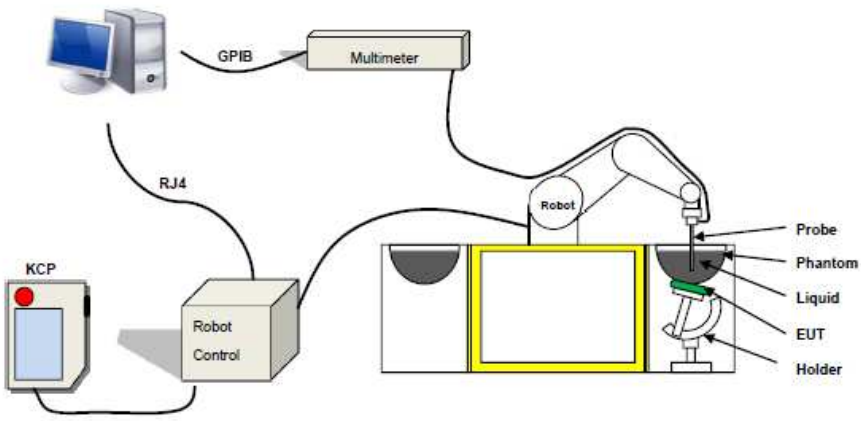
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

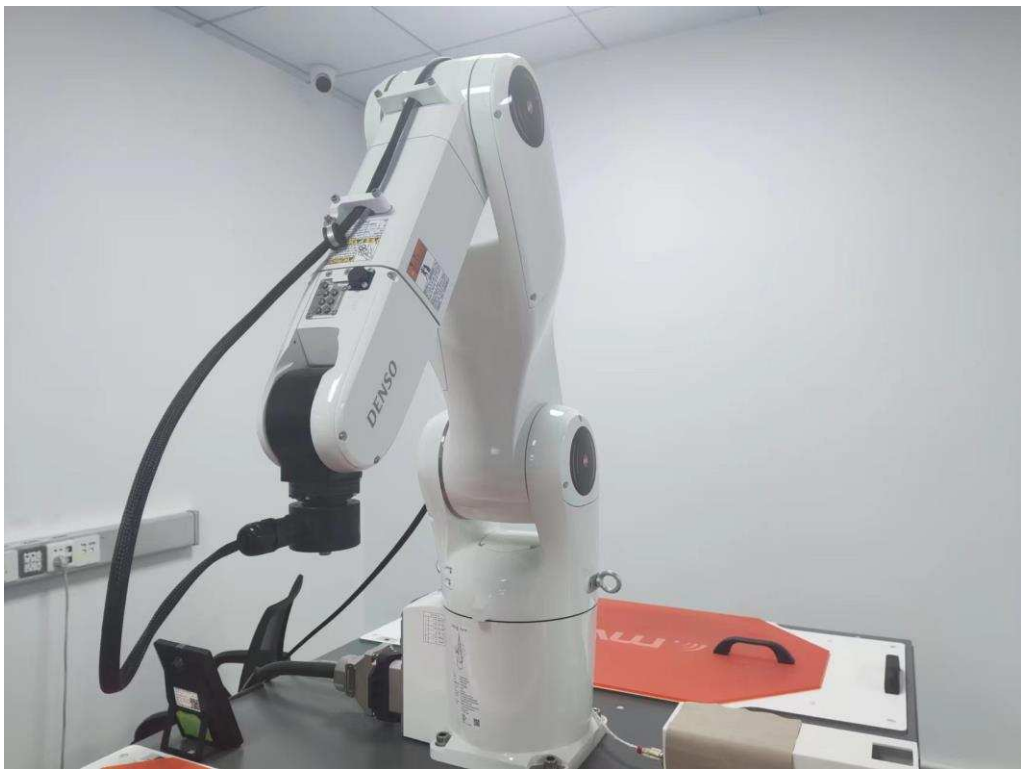
3.2 SAR System

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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 04/22 EPGO364 with following specifications is used
- Probe Length: 330 mm
- Length of Individual Dipoles: 2mm
- 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: 600 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 Probe

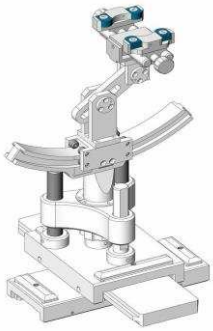
3.2.2 Phantom

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.

Figure-SN 06/22 SAM 148

Figure-SN 06/22 ELLI 51

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 simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameters are within the tolerances of the specified target values

The uncertainty due to the liquid conductivity and permittivity arises from two different sources. The first source of error is the deviation of the liquid conductivity from its target value (max _ 5 %) and the second source of error arises from the measurement procedures used to assess conductivity. The uncertainty shall be assessed using a rectangular probability For 1 g averaging, the maximum weighting coefficient for SAR is 0,5.

IEEE SCC-34/SC-2 RECOMMENDED TISSUE DIELECTRIC PARAMETERS

The head and body tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 have been incorporated in the following table.

Frequency	εr	σ 10g S/m
300	45.3	0.87
450	43.5	0.87
750	41.9	0.89
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1800 to 2000	40.0	1.40
2100	39.8	1.49
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5400	35.8	4.86
5600	35.5	5.07
5800	35.3	5.27

LIQUID MEASUREMENT RESULTS

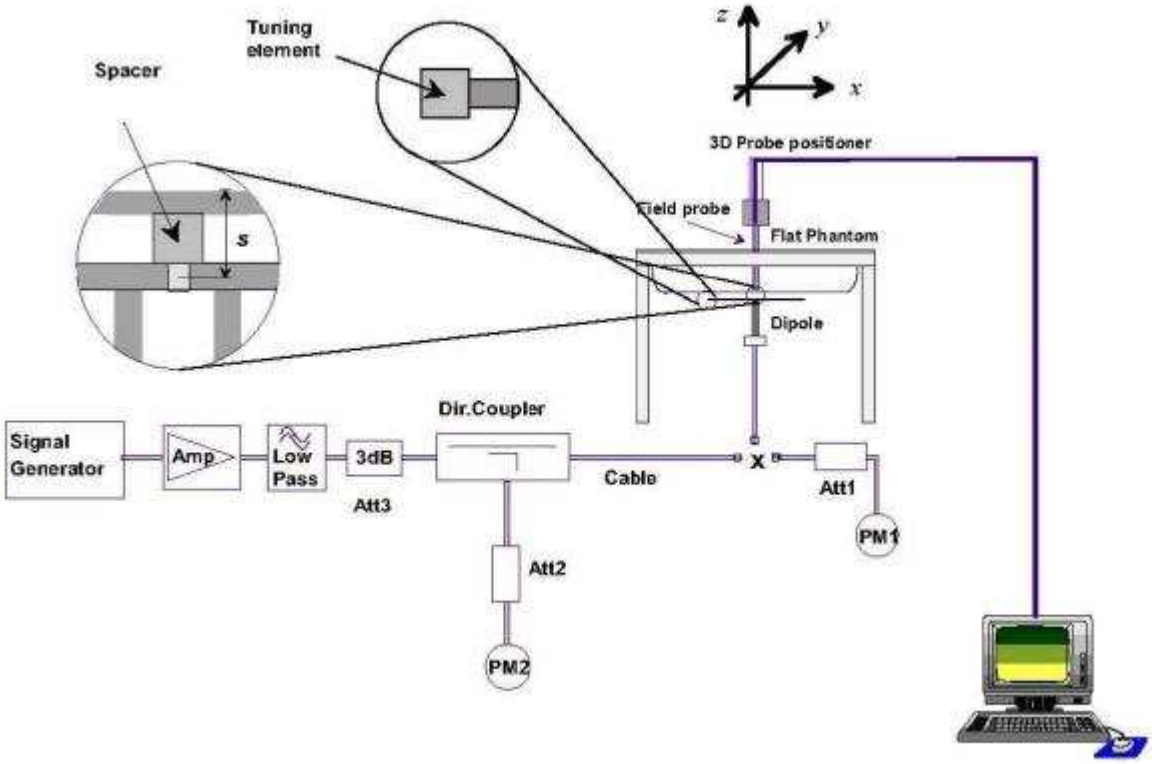
Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2024-06-06	22.9	60	750	22.6	Permittivity	41.90	42.30	0.95	±5
					Conductivity	0.89	0.92	3.37	±5
2024-06-07	21.6	44	835	21.3	Permittivity	41.50	42.32	1.98	±5
					Conductivity	0.90	0.92	2.22	±5
2024-06-09	23.6	46	1800	23.3	Permittivity	40.00	40.54	1.35	±5
					Conductivity	1.40	1.37	-2.14	±5
2024-06-10	23	51	1900	22.7	Permittivity	40.00	40.82	2.05	±5
					Conductivity	1.40	1.43	2.14	±5
2024-06-08	21.9	56	2450	21.7	Permittivity	39.20	39.65	1.15	±5
					Conductivity	1.80	1.81	0.56	±5
2024-06-11	21	48	2600	20.7	Permittivity	39.00	39.44	1.13	±5
					Conductivity	1.96	2.00	2.04	±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 %.

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance	Limit
	(MHz)	(mW)	(W/Kg)	(W/kg)	1g(W/kg)	(%)	(%)
2024-06-06	750	100	0.799	7.99	8.27	-3.39	10
2024-06-07	835	100	1.006	10.06	9.75	3.18	10
2024-06-09	1800	100	3.864	38.64	39.06	-1.08	10
2024-06-10	1900	100	4.106	41.06	40.85	0.51	10
2024-06-08	2450	100	5.417	54.17	54.28	-0.20	10
2024-06-11	2600	100	5.704	57.04	56.58	0.81	10

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

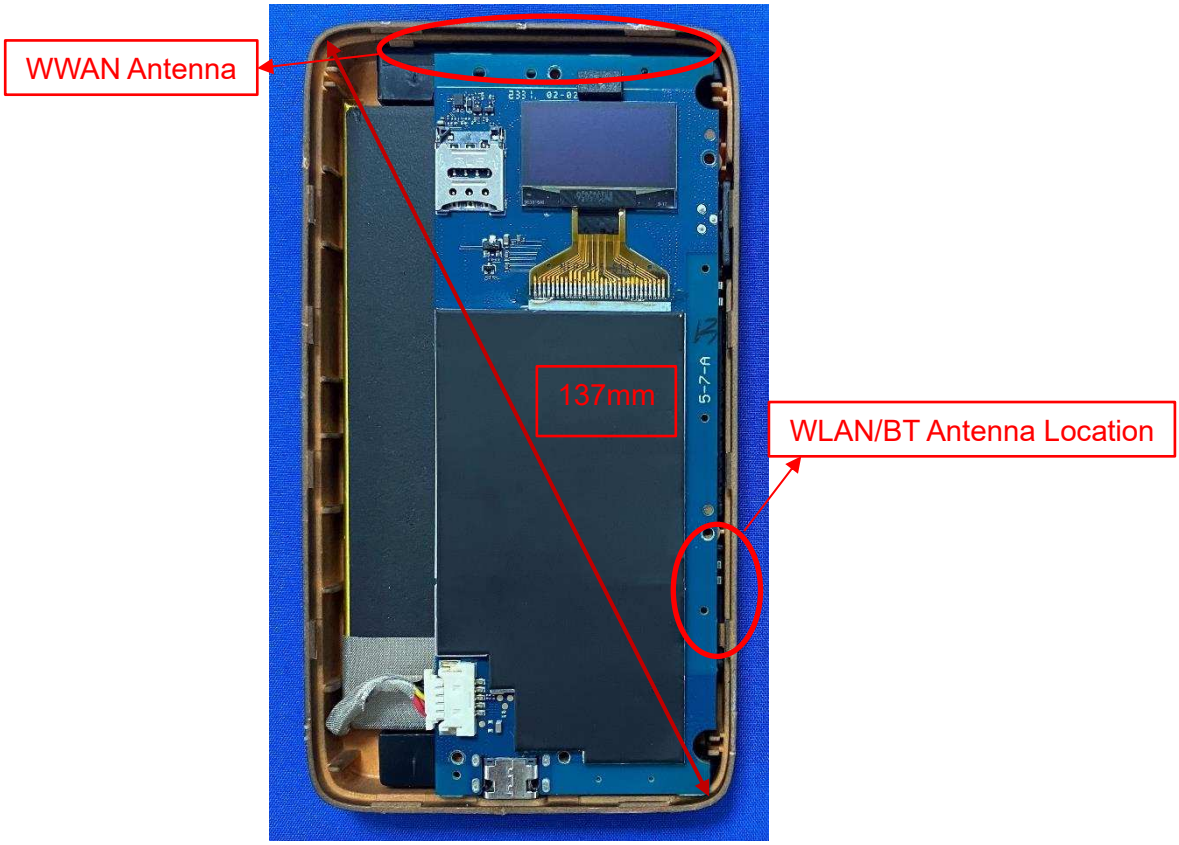
First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan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

Top side



Bottom side
(Front view)

Antenna Separation Distance(mm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WLAN	5	5	60	5	83	22
WWAN	5	5	10	5	5	140

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 SAR evaluation of Maximum power (dBm) summing tolerance.

	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12	LTE Band 17
Exposure Position	Calculated Frequency (MHz)	1860	1745	844	711	711
	Maximum Turn-up power (dBm)	26	24.5	23.5	25	23.5
	Maximum rated power(mW)	398.11	281.84	223.87	316.23	223.87
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	11.00	11.36	16.33	17.79	17.79
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	11.00	11.36	16.33	17.79	17.79
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	10	10
	exclusion threshold(mW)	22.00	22.71	32.66	35.58	35.58
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	11.00	11.36	16.33	17.79	17.79
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	11.00	11.36	16.33	17.79	17.79
	Testing required?	YES	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	140	140	140	140	140
	exclusion threshold(mW)	1009.99	1013.55	669.68	604.49	604.49
	Testing required?	NO	NO	NO	NO	NO

Exposure Position	Wireless Interface	LTE Band 26	LTE Band 38	LTE Band 41	2.4G WLAN
	Calculated Frequency (MHz)	836.5	2610	2680	2437
	Maximum Turn-up power (dBm)	25	24.5	25.5	17.5
	Maximum rated power(mW)	316.23	281.84	354.81	56.23
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.28	9.16	9.61
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.28	9.16	9.61
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10	60
	exclusion threshold(mW)	32.80	18.57	18.33	196.09
	Testing required?	YES	YES	YES	NO
Right Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.28	9.16	9.61
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	5	5	5	83
	exclusion threshold(mW)	16.40	9.28	9.16	426.09
	Testing required?	YES	YES	YES	NO
Bottom Edge	Separation distance (mm)	140	140	140	22
	exclusion threshold(mW)	665.91	992.85	991.63	42.28
	Testing required?	NO	NO	NO	YES

Note：

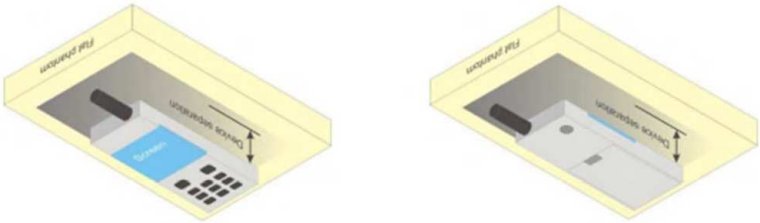
1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. 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.

8. EUT Test Position

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

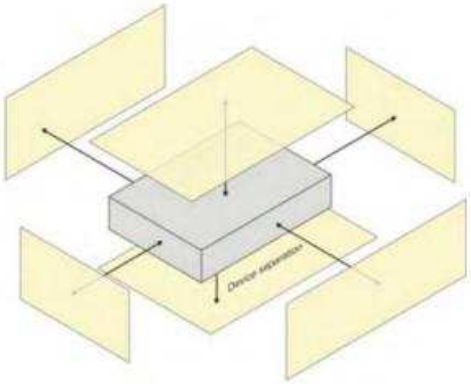
8.1 Body-worn Position Conditions

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



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm form that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).



9. Uncertainty

9.1 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.

Symbol	Uncertainty Component	Prob. Dist.	Unc. $a(x_i)$	Div. q_i	$u(x_i) = a(x_i)/q_i$	C_i	$u(y) = C_i *u(x_i)$	v_i
Measurement system errors								
CF	Probe calibration	N (k = 2)	5.8	2	2.90	1	2.90	∞
CF_{drift}	Probe calibration drift	R	0.12	√3	0.07	1	0.07	∞
LIN	Probe linearity and detection limit	R	1.91	√3	1.10	1	1.10	∞
BBS	Broadband signal	R	0.15	√3	0.09	1	0.09	∞
ISO	Probe isotropy	R	0.18	√3	0.10	1	0.10	∞
DAE	Other probe and data acquisition errors	N	2.7	1	2.70	1	2.70	∞
AMB	RF ambient and noise	N	1.73	1	1.73	1	1.73	∞
Δ_{xyz}	Probe positioning errors	N	0.81	1	0.81	2/δ	0.81	
DAT	Data processing errors	N	2.5	1	2.50	1	2.50	∞
Phantom and device (DUT or validation antenna) errors								
LIQ(σ)	Measurement of phantom conductivity(σ)	N	4.4	1	4.4	cε, cσ	4.40	∞
LIQ(T_c)	Temperature effects (medium)	R	2.9	√3	1.67	cε, cσ	1.67	∞
EPS	Shell permittivity	R	3.4	√3	1.96	See 8.4.2.3	0.49	∞
DIS	Distance between the radiating element of the DUT and the phantom medium	N	0.8	1	0.8	2	1.60	∞
D_{xyz}	Repeatability of positioning the DUT or source against the phantom	N	1.5	1	1.5	1	1.50	5
H	Device holder effects	N	3	1	3	1	3.00	
MOD	Effect of operating mode on probe sensitivity	R	3.59	√3	2.07	1	2.07	∞
TAS	Time-average SAR	R	1.73	√3	1.00	1	1.00	∞
RF_{drift}	Variation in SAR due to drift in output of DUT	N	2.89	1	2.89	1	2.89	
VAL	Validation antenna uncertainty (validation measurement only)	N	1.45	1	1.45	1	1.45	
P_{in}	Uncertainty in accepted power (validation measurement only)	N	2.5	1	2.5	1	2.50	
Corrections to the SAR result (if applied)								
C(ε′ ,σ)	Phantom deviation from target (ε′ ,σ))	N	2.31	1	2.31	1	2.31	
C(R)	SAR scaling	R	1.15	√3	0.66	1	0.66	
u(ΔSAR)	Combined uncertainty						9.53	
U	Expanded uncertainty and effective degrees of freedom					U =	19.06	

10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	1	2412	15.91	38.99
	6	2437	17.28	53.46
	11	2462	16.38	43.45
802.11g	1	2412	14.42	27.67
	6	2437	15.64	36.64
	11	2462	14.80	30.20
802.11 n-HT20	1	2412	13.30	21.38
	6	2437	14.91	30.97
	11	2462	13.57	22.75
802.11 n-HT40	3	2422	14.24	26.55
	6	2437	14.54	28.44
	9	2452	14.49	28.12

LTE Conducted Power

General Note:

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ⩽ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ⩽ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ⩽ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	25.17	24.04	23.24
1.4	1	2		25.3	24.18	23.37
1.4	1	5		25.18	24.08	23.26
1.4	3	0		24.97	24.34	23.14
1.4	3	1		25.13	24.35	23.24
1.4	3	2		25.14	24.3	23.2
1.4	6	0		24.16	23.26	22.12
1.4	1	0	16-QAM	24.07	23.06	22.01
1.4	1	2		24.51	22.99	22.16
1.4	1	5		24.14	22.97	21.93
1.4	3	0		24.27	23.19	22.31
1.4	3	1		24.32	22.84	22.27
1.4	3	2		24.23	23.19	22.17
1.4	6	0		23.11	22.32	21.11
3	1	0	QPSK	25.23	24.39	23.08
3	1	7		25.03	24.42	23.23
3	1	14		25.08	24.52	23.34
3	8	0		24.14	23.31	22.11
3	8	4		24.16	23.33	22.13
3	8	7		24.08	23.3	22.08
3	15	0		24.09	23.31	22.12
3	1	0	16-QAM	24.61	23.92	21.96
3	1	7		24.48	23.26	22.2
3	1	14		24.5	23	22.05
3	8	0		23.52	22.2	20.93
3	8	4		23.42	22.15	20.96
3	8	7		23.42	22.11	20.91
3	15	0		23.2	22.17	21.18

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	25.17	24.39	23.24
5	1	12		24.99	24.65	23.24
5	1	24		25	24.41	23.23
5	12	0		24.22	23.47	22.13
5	12	6		24.16	23.31	22.05
5	12	11		24.12	23.39	22.12
5	25	0		24.16	23.4	22.13
5	1	0	16-QAM	23.98	23.22	22.29
5	1	12		23.98	22.78	21.96
5	1	24		23.76	22.68	22.23
5	12	0		23.23	22.27	20.96
5	12	6		23.23	21.99	20.9
5	12	11		23.19	22.19	21.17
5	25	0		23.28	22.43	21.31
10	1	0	QPSK	25.16	24.66	23.28
10	1	24		24.72	24.38	23.32
10	1	49		24.71	24.11	23.12
10	25	0		24.21	23.65	22.29
10	25	12		24.06	23.47	22.19
10	25	24		24.1	23.36	22.24
10	50	0		24.07	23.34	22.28
10	1	0	16-QAM	24.61	23.29	22.11
10	1	24		24.71	23.05	22.14
10	1	49		24.18	22.99	22.1
10	25	0		23.12	22.86	21.39
10	25	12		22.98	22.58	21.28
10	25	24		22.89	22.59	21.36
10	50	0		22.99	22.37	21.27

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.93	24.62	23.36
15	1	37		24.84	24.56	23.3
15	1	74		24.9	23.95	23.16
15	36	0		23.96	23.68	22.27
15	36	18		23.97	23.45	22.24
15	36	39		23.92	23.2	22.12
15	75	0		24.03	23.27	22.21
15	1	0	16-QAM	25.25	23.46	22.41
15	1	38		24.66	22.99	22.31
15	1	75		24.58	22.76	22.16
15	36	0		23.07	22.65	21.14
15	36	18		22.89	22.54	21.12
15	36	39		22.93	22.29	21.01
15	75	0		22.9	22.53	21.25
20	1	0	QPSK	25.63	25.27	24.14
20	1	49		25.22	24.87	23.8
20	1	99		25.12	24.37	23.58
20	50	0		24.5	24.12	22.97
20	50	24		24.4	23.93	22.81
20	50	49		24.38	23.69	22.72
20	100	0		24.33	23.94	22.85
20	1	0	16-QAM	24.54	24.42	22.95
20	1	49		24.18	23.94	22.31
20	1	99		24.01	23.26	22.41
20	50	0		23.61	23.31	21.92
20	50	24		23.54	23.04	21.75
20	50	49		23.53	22.9	21.78
20	100	0		23.39	22.96	21.78

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.63	21.89	23.31
1.4	1	2		22.75	21.98	23.44
1.4	1	5		22.63	21.78	23.29
1.4	3	0		22.64	22.04	23.29
1.4	3	1		22.66	22.24	23.3
1.4	3	2		22.61	22.09	23.34
1.4	6	0		21.56	21.1	22.4
1.4	1	0	16-QAM	21.6	20.8	22.16
1.4	1	2		21.74	20.83	22.35
1.4	1	5		21.56	20.7	22.12
1.4	3	0		21.68	20.94	22.4
1.4	3	1		21.69	20.99	22.54
1.4	3	2		21.63	20.94	22.48
1.4	6	0		20.69	19.95	21.21
3	1	0	QPSK	22.32	21.99	23.06
3	1	7		22.47	22.15	23.48
3	1	14		22.66	22.15	23.78
3	8	0		21.47	21.17	22.2
3	8	4		21.49	21.02	22.18
3	8	7		21.63	21.01	22.21
3	15	0		21.54	21.09	22.26
3	1	0	16-QAM	21.72	20.81	22.08
3	1	7		21.87	21	22.14
3	1	14		22.38	20.88	22.44
3	8	0		20.14	19.87	20.79
3	8	4		20.17	19.84	20.79
3	8	7		20.3	19.72	20.95
3	15	0		20.43	19.85	21.27

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.3	22.08	23.2
5	1	12		22.69	22.26	23.42
5	1	24		22.64	22.41	23.72
5	12	0		21.49	21.07	22.1
5	12	6		21.54	21.05	22.18
5	12	11		21.63	21.07	22.43
5	25	0		21.57	21.14	22.26
5	1	0	16-QAM	21.56	21.05	22.29
5	1	12		21.71	20.69	21.85
5	1	24		21.69	20.87	22.33
5	12	0		20.23	19.83	21.1
5	12	6		20.51	19.61	21.18
5	12	11		20.5	19.61	21.42
5	25	0		20.6	19.93	20.93
10	1	0	QPSK	22.63	22.09	23.09
10	1	24		22.72	22	23.21
10	1	49		22.5	21.96	23.71
10	25	0		21.62	21.19	22.15
10	25	12		21.68	21.02	22.25
10	25	24		21.63	21.06	22.28
10	50	0		21.57	21.19	22.13
10	1	0	16-QAM	21.94	21.08	21.9
10	1	24		22.02	20.64	22.25
10	1	49		21.94	20.81	22.4
10	25	0		20.5	20.17	20.89
10	25	12		20.43	20.01	21.09
10	25	24		20.4	19.95	21.25
10	50	0		20.43	20.09	20.92

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.6	22	22.53
15	1	37		22.46	22.16	23.1
15	1	74		22.65	22.32	23.5
15	36	0		21.51	21.21	21.71
15	36	18		21.49	20.95	22.07
15	36	39		21.58	21.16	22.01
15	75	0		21.54	21.14	21.91
15	1	0	16-QAM	22.08	21.09	22.3
15	1	38		22	21.12	22.28
15	1	75		22.07	21.08	23.02
15	36	0		20.4	20.14	20.54
15	36	18		20.39	20.02	20.87
15	36	39		20.35	20.13	20.8
15	75	0		20.28	20.24	20.91
20	1	0	QPSK	22.99	22.97	22.56
20	1	49		23.17	22.55	23.56
20	1	99		22.43	23.4	24.01
20	50	0		21.89	21.65	22
20	50	24		21.9	21.48	22.33
20	50	49		21.74	21.64	22.47
20	100	0		21.85	21.59	22.26
20	1	0	16-QAM	21.17	21.56	21.73
20	1	49		21.91	21.18	21.86
20	1	99		21.09	21.13	22.58
20	50	0		20.8	20.61	20.91
20	50	24		20.91	20.24	21.25
20	50	49		20.85	20.43	21.45
20	100	0		20.72	20.57	21.14

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.14	22.64	22.93
1.4	1	2		23.05	22.59	23.24
1.4	1	5		22.89	22.45	23.03
1.4	3	0		22.85	22.77	22.92
1.4	3	1		22.96	22.78	22.87
1.4	3	2		22.87	22.69	22.89
1.4	6	0		21.77	21.65	21.98
1.4	1	0	16-QAM	21.75	21.64	21.82
1.4	1	2		21.73	21.78	21.89
1.4	1	5		21.86	21.64	21.82
1.4	3	0		21.91	21.8	22.2
1.4	3	1		21.88	21.71	21.79
1.4	3	2		21.92	21.75	21.75
1.4	6	0		20.72	20.72	21.08
3	1	0	QPSK	22.71	22.57	23.04
3	1	7		22.64	22.85	22.98
3	1	14		22.62	22.74	22.99
3	8	0		21.78	21.68	21.96
3	8	4		21.9	21.69	21.99
3	8	7		21.87	21.65	21.92
3	15	0		21.76	21.72	21.96
3	1	0	16-QAM	22.54	21.27	21.81
3	1	7		22.18	21.7	21.54
3	1	14		22.37	21.43	21.82
3	8	0		20.43	20.64	20.66
3	8	4		20.46	20.56	20.8
3	8	7		20.41	20.51	20.76
3	15	0		20.72	20.63	20.93

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.88	22.52	22.83
5	1	12		22.91	22.55	23.05
5	1	24		22.62	22.53	22.97
5	12	0		21.72	21.62	21.9
5	12	6		21.77	21.65	21.97
5	12	11		21.76	21.72	21.95
5	25	0		21.79	21.76	21.85
5	1	0	16-QAM	22.11	21.46	21.91
5	1	12		21.87	21.29	21.85
5	1	24		21.54	21.21	21.84
5	12	0		20.62	20.54	20.86
5	12	6		20.69	20.46	20.84
5	12	11		20.59	20.53	20.91
5	25	0		20.87	20.69	20.91
10	1	0	QPSK	23.26	23	23.29
10	1	24		23.19	23.13	23.45
10	1	49		23.11	23.28	23.49
10	25	0		22.21	22.1	22.41
10	25	12		22.24	22.15	22.38
10	25	24		22.26	22.25	22.41
10	50	0		22.32	22.29	22.36
10	1	0	16-QAM	22.6	21.72	22.15
10	1	24		22.43	21.86	22.21
10	1	49		22.56	22.04	22.41
10	25	0		21.24	21.12	21.25
10	25	12		21.27	21.09	21.39
10	25	24		21.28	21.09	21.43
10	50	0		21.42	21.24	21.29

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.87	23.9	23.57
1.4	1	2		24.2	23.85	23.73
1.4	1	5		23.95	24.04	23.69
1.4	3	0		23.98	23.97	23.8
1.4	3	1		24.06	24.02	24.01
1.4	3	2		23.97	23.98	23.9
1.4	6	0		23.08	23.03	22.84
1.4	1	0	16-QAM	22.84	23.21	22.66
1.4	1	2		23.15	23.38	22.69
1.4	1	5		22.84	23.31	22.62
1.4	3	0		23.19	23.34	22.63
1.4	3	1		23.21	23.39	22.68
1.4	3	2		23.14	23.44	22.66
1.4	6	0		22	22.3	21.95
3	1	0	QPSK	23.82	24.04	24.01
3	1	7		23.84	24.14	23.93
3	1	14		24.03	24.12	23.93
3	8	0		22.98	23.07	23.05
3	8	4		23.05	23	23.08
3	8	7		23.08	23.01	23.03
3	15	0		23.08	23.05	23.07
3	1	0	16-QAM	23.34	22.78	22.99
3	1	7		23.64	23.01	22.95
3	1	14		23.65	22.73	22.78
3	8	0		22.13	21.82	21.74
3	8	4		22.13	21.86	21.85
3	8	7		22.14	21.85	21.9
3	15	0		22.16	21.86	21.99

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.93	23.83	23.73
5	1	12		24.04	24.12	24.05
5	1	24		23.83	23.61	23.98
5	12	0		23.06	22.99	22.99
5	12	6		22.93	23.02	22.99
5	12	11		22.99	22.98	23
5	25	0		22.95	22.9	22.92
5	1	0	16-QAM	23.17	23.13	22.95
5	1	12		23.13	22.57	23.07
5	1	24		22.92	22.69	23.02
5	12	0		21.82	21.7	21.89
5	12	6		21.71	21.73	21.9
5	12	11		21.95	21.63	21.85
5	25	0		22.06	21.93	21.88
10	1	0	QPSK	24.55	24.19	24.37
10	1	24		24.42	24.11	24.2
10	1	49		24.6	24.37	24.28
10	25	0		23.56	23.52	23.56
10	25	12		23.49	23.49	23.41
10	25	24		23.67	23.46	23.52
10	50	0		23.59	23.49	23.58
10	1	0	16-QAM	23.98	22.96	23.35
10	1	24		24.02	23.14	23.49
10	1	49		23.85	22.74	23.39
10	25	0		22.6	22.44	22.58
10	25	12		22.54	22.43	22.38
10	25	24		22.6	22.38	22.6
10	50	0		22.54	22.59	22.51

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.61	22.17	22.35
5	1	12		22.8	22.53	22.34
5	1	24		22.76	22.52	22.41
5	12	0		21.54	21.54	21.46
5	12	6		21.54	21.5	21.48
5	12	11		21.63	21.51	21.51
5	25	0		21.63	21.51	21.5
5	1	0	16-QAM	21.49	21.2	21.53
5	1	12		21.42	20.99	21.54
5	1	24		21.42	21.22	21.4
5	12	0		20.64	20.21	20.23
5	12	6		20.55	20.2	20.51
5	12	11		20.63	20.32	20.67
5	25	0		20.59	20.64	20.51
10	1	0	QPSK	23.1	22.86	23.19
10	1	24		23.06	22.84	23.03
10	1	49		22.75	22.81	22.89
10	25	0		22.2	22.12	22
10	25	12		22.15	21.9	21.91
10	25	24		22.02	21.93	21.99
10	50	0		22.17	22.11	22.1
10	1	0	16-QAM	22.54	21.54	21.98
10	1	24		22.32	21.65	21.98
10	1	49		22.02	21.55	21.83
10	25	0		21.13	21.13	21.23
10	25	12		21.18	20.91	20.93
10	25	24		21.05	20.95	21.04
10	50	0		21.18	21.15	21.09

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.24	24.1	23.95
1.4	1	2		24.31	24.05	23.96
1.4	1	5		24.28	23.81	23.74
1.4	3	0		23.99	24	23.91
1.4	3	1		24.16	24.03	24.01
1.4	3	2		24.01	23.97	23.9
1.4	6	0		23.05	23.14	22.94
1.4	1	0	16-QAM	23.2	22.91	22.76
1.4	1	2		23.24	22.94	23.05
1.4	1	5		23.13	22.81	22.88
1.4	3	0		22.98	22.85	23.08
1.4	3	1		23.13	22.79	23.09
1.4	3	2		23.08	22.74	23.09
1.4	6	0		22	22.12	22.13
3	1	0	QPSK	24.06	24.2	24.26
3	1	7		24.12	24.21	24.1
3	1	14		24.19	24.31	23.97
3	8	0		23.01	23.19	23.14
3	8	4		23.11	23.16	23.09
3	8	7		23.15	23.14	23.02
3	15	0		23.08	23.13	23.04
3	1	0	16-QAM	23.48	23	23.15
3	1	7		23.2	23.05	22.85
3	1	14		23.25	22.94	22.92
3	8	0		21.89	21.98	21.71
3	8	4		21.98	22.05	21.66
3	8	7		22	22.02	21.58
3	15	0		22.06	21.96	22.03

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.96	24.04	24.1
5	1	12		24.24	24.29	24.17
5	1	24		24.23	23.79	23.98
5	12	0		23	23.15	23.18
5	12	6		23.16	23.17	23.09
5	12	11		23.2	23.14	23.06
5	25	0		23.15	23.13	23.13
5	1	0	16-QAM	23.15	22.88	23.15
5	1	12		23.13	22.79	23.21
5	1	24		23.09	22.88	23.11
5	12	0		21.8	21.9	22.16
5	12	6		21.99	21.81	22.08
5	12	11		22.05	21.98	22.04
5	25	0		22.25	22.09	22.14
10	1	0	QPSK	/	24.49	/
10	1	24		/	24.59	/
10	1	49		/	24.42	/
10	25	0		/	23.67	/
10	25	12		/	23.68	/
10	25	24		/	23.74	/
10	50	0		/	23.65	/
10	1	0	16-QAM	/	23.93	/
10	1	24		/	24.13	/
10	1	49		/	23.89	/
10	25	0		/	22.71	/
10	25	12		/	22.72	/
10	25	24		/	22.58	/
10	50	0		/	22.58	/

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.07	23.78	24.04
1.4	1	2		24.56	24.1	24.22
1.4	1	5		23.99	23.9	24.06
1.4	3	0		23.97	24.08	24.23
1.4	3	1		24.01	24.06	24.26
1.4	3	2		23.95	24.08	24.27
1.4	6	0		23.11	23.14	23.32
1.4	1	0	16-QAM	23.48	22.81	23.12
1.4	1	2		23.09	22.86	23.22
1.4	1	5		23.12	22.79	23.11
1.4	3	0		23.27	22.75	23.04
1.4	3	1		23.22	22.75	23.09
1.4	3	2		23.21	22.66	23.12
1.4	6	0		22.48	22.14	22.2
3	1	0	QPSK	24.04	23.67	24.13
3	1	7		23.89	24.21	24.18
3	1	14		23.99	24.15	24.08
3	8	0		23.12	23.1	23.16
3	8	4		23.15	23.1	23.2
3	8	7		23.07	23.08	23.22
3	15	0		23.09	23.16	23.16
3	1	0	16-QAM	23.58	22.71	22.84
3	1	7		23.38	22.65	23.04
3	1	14		23.63	22.8	22.78
3	8	0		22.1	21.94	21.91
3	8	4		22.05	21.82	21.96
3	8	7		22.08	21.82	22
3	15	0		22.09	22.1	22.08

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.89	23.77	24.04
5	1	12		24.45	24.28	24.34
5	1	24		24.02	24.02	24.2
5	12	0		23.06	23.03	23.14
5	12	6		23.1	23.08	23.29
5	12	11		23.08	23.1	23.3
5	25	0		23.02	23.22	23.19
5	1	0	16-QAM	23	22.83	23.23
5	1	12		22.92	22.74	23.09
5	1	24		23.11	22.61	23.21
5	12	0		21.86	21.78	22.01
5	12	6		22.06	21.76	22.07
5	12	11		22.08	21.9	22.18
5	25	0		22.13	22.28	21.99
10	1	0	QPSK	23.94	24.1	24.13
10	1	24		24.02	23.93	24.24
10	1	49		24.21	23.93	24.55
10	25	0		23.27	23.17	23.13
10	25	12		23.06	23.1	23.21
10	25	24		23.2	23.11	23.36
10	50	0		23.09	23.17	23.19
10	1	0	16-QAM	24.02	22.76	22.85
10	1	24		23.47	22.79	23.32
10	1	49		23.19	22.39	23.29
10	25	0		22.33	22.22	22.08
10	25	12		22.11	22.16	22.07
10	25	24		22.13	22.26	22.41
10	50	0		22.04	22.1	22.14

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.49	24.21	24.41
15	1	37		24.59	24.71	24.66
15	1	74		24.57	24.81	24.78
15	36	0		23.51	23.64	23.62
15	36	18		23.63	23.55	23.65
15	36	39		23.7	23.6	23.82
15	75	0		23.65	23.65	23.71
15	1	0	16-QAM	24.64	22.96	23.69
15	1	38		24.04	23.65	23.75
15	1	75		24.28	23.38	24.37
15	36	0		22.38	22.75	22.46
15	36	18		22.62	22.68	22.58
15	36	39		22.67	22.74	22.66
15	75	0		22.6	22.64	22.7

LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.65	23.61	23.82
5	1	12		24.04	23.99	24.19
5	1	24		23.75	23.57	23.84
5	12	0		22.67	22.65	23.03
5	12	6		22.71	22.68	23.04
5	12	11		22.79	22.69	23.08
5	25	0		22.87	22.7	23.01
5	1	0	16-QAM	22.46	22.66	22.7
5	1	12		22.63	22.75	22.64
5	1	24		22.65	22.63	22.72
5	12	0		21.76	21.71	22.03
5	12	6		21.81	21.75	22.04
5	12	11		21.79	21.74	22.08
5	25	0		21.83	21.68	22.04
10	1	0	QPSK	23.58	23.64	23.85
10	1	24		23.8	23.95	24.02
10	1	49		23.61	23.81	23.85
10	25	0		22.82	22.82	22.94
10	25	12		22.82	22.83	23.01
10	25	24		22.66	22.78	22.97
10	50	0		22.72	22.76	22.92
10	1	0	16-QAM	23.14	21.84	23.33
10	1	24		23.28	21.92	23.46
10	1	49		23.2	21.92	23.48
10	25	0		21.98	21.71	21.9
10	25	12		21.8	21.82	21.97
10	25	24		21.57	21.76	21.95
10	50	0		21.63	21.77	21.86

LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.67	23.64	23.81
15	1	37		23.59	23.7	24
15	1	74		23.68	23.84	24.05
15	36	0		22.82	22.72	22.81
15	36	18		22.65	22.84	22.97
15	36	39		22.69	22.8	22.93
15	75	0		22.67	22.76	22.88
15	1	0	16-QAM	23.25	22.04	22.75
15	1	38		23.24	22.27	22.83
15	1	75		23.26	22.07	22.87
15	36	0		21.75	21.79	21.74
15	36	18		21.69	21.88	21.92
15	36	39		21.63	21.86	21.87
15	75	0		21.67	21.76	21.88
20	1	0	QPSK	23.46	23.57	23.96
20	1	49		23.57	23.75	23.83
20	1	99		23.51	23.65	24.23
20	50	0		22.78	22.73	22.8
20	50	24		22.73	22.8	22.92
20	50	49		22.67	22.73	22.98
20	100	0		22.7	22.78	22.87
20	1	0	16-QAM	22.35	21.82	23.11
20	1	49		22.45	21.95	22.89
20	1	99		22.19	21.93	22.93
20	50	0		21.83	21.71	21.82
20	50	24		21.86	21.88	22.03
20	50	49		21.7	21.79	22.01
20	100	0		21.71	21.76	21.86

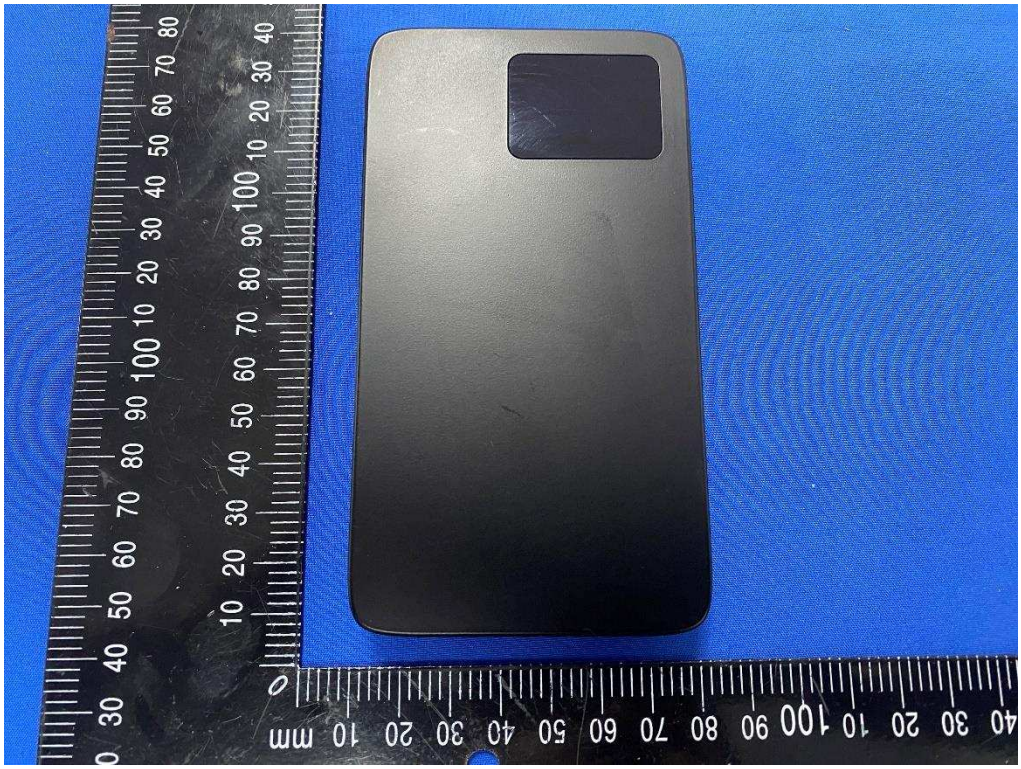
LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.45	23.62	24.62
5	1	12		24.79	23.79	24.79
5	1	24		24.54	23.44	24.49
5	12	0		23.44	22.78	24.02
5	12	6		23.48	22.64	23.8
5	12	11		23.52	22.63	23.64
5	25	0		23.48	22.7	24.05
5	1	0	16-QAM	23.18	22.47	23.47
5	1	12		23.31	22.68	23.78
5	1	24		23.24	22.51	23.65
5	12	0		22.53	21.78	22.98
5	12	6		22.55	21.74	22.9
5	12	11		22.48	21.8	22.49
5	25	0		22.4	21.84	22.98
10	1	0	QPSK	24.65	23.8	24.84
10	1	24		24.59	23.95	24.95
10	1	49		24.65	23.74	24.84
10	25	0		23.54	22.71	23.79
10	25	12		23.48	22.71	23.92
10	25	24		23.57	22.77	23.81
10	50	0		23.46	22.75	24.24
10	1	0	16-QAM	24.22	21.89	24.51
10	1	24		24.08	21.83	24.34
10	1	49		24.27	21.76	24.04
10	25	0		22.61	21.73	22.76
10	25	12		22.62	21.63	22.91
10	25	24		22.58	21.78	22.91
10	50	0		22.54	21.78	23.01

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.36	23.65	24.91
15	1	37		24.36	23.73	25.04
15	1	74		24.6	23.71	24.98
15	36	0		23.39	22.67	23.79
15	36	18		23.34	22.62	23.87
15	36	39		23.45	22.76	23.97
15	75	0		23.4	22.72	23.82
15	1	0	16-QAM	24.12	22.04	24.07
15	1	38		24.07	21.96	23.78
15	1	75		23.94	22.1	23.9
15	36	0		22.43	21.85	22.64
15	36	18		22.37	21.81	22.8
15	36	39		22.39	21.94	23.04
15	75	0		22.39	21.84	22.91
20	1	0	QPSK	24.28	23.69	24.96
20	1	49		24.32	23.69	25.07
20	1	99		23.95	23.61	25.1
20	50	0		23.29	22.68	23.79
20	50	24		23.38	22.69	23.87
20	50	49		23.38	22.7	24.04
20	100	0		23.32	22.74	23.86
20	1	0	16-QAM	23.1	21.93	24.05
20	1	49		23.27	21.95	23.82
20	1	99		22.98	21.99	23.94
20	50	0		22.4	21.69	22.87
20	50	24		22.48	21.78	22.97
20	50	49		22.47	21.8	23.26
20	100	0		22.4	21.67	22.88

11. EUT and Test Setup Photo

11.1 EUT Photos

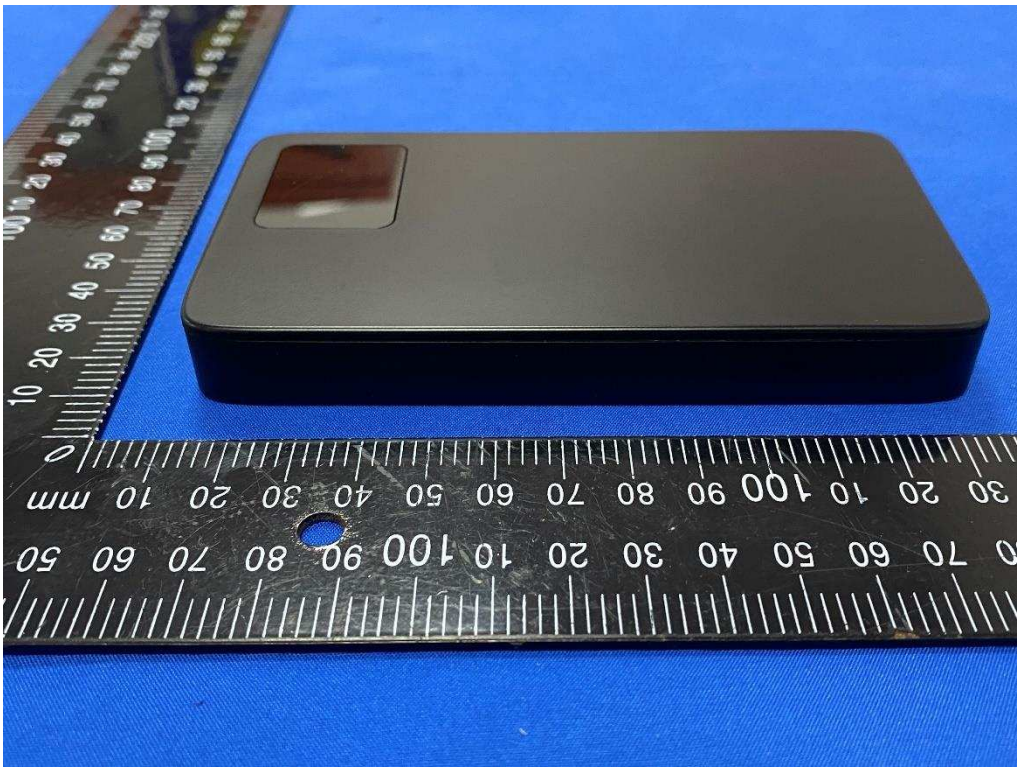
Front side



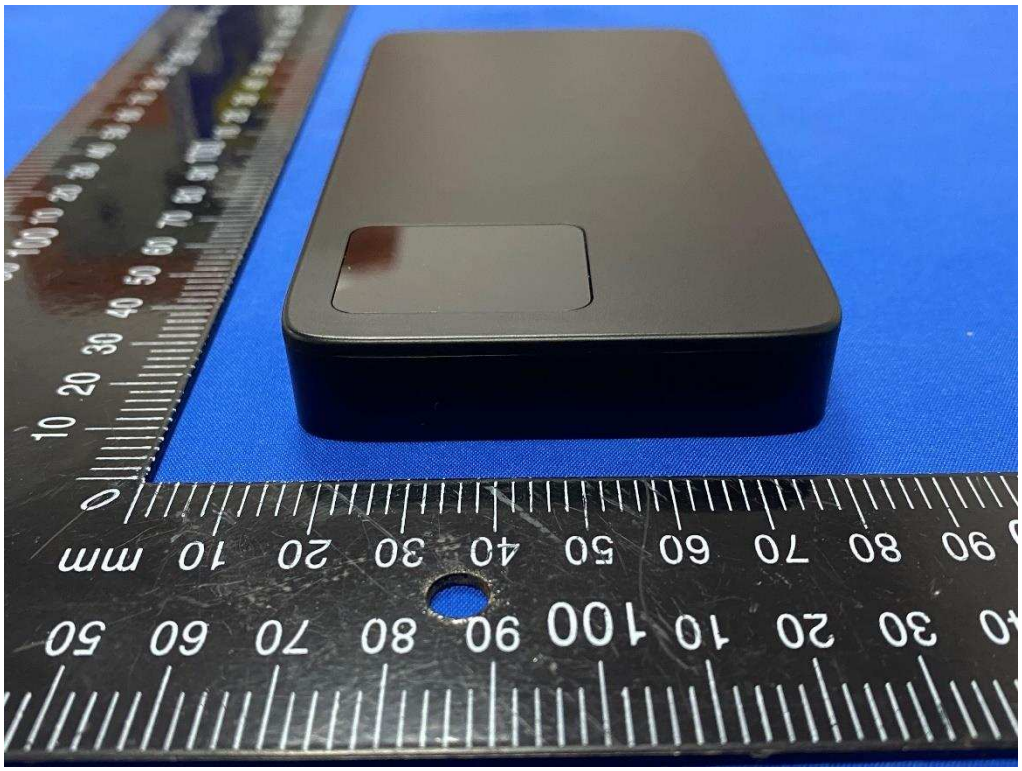
Back side

Right Edge

Left Edge



Top Edge

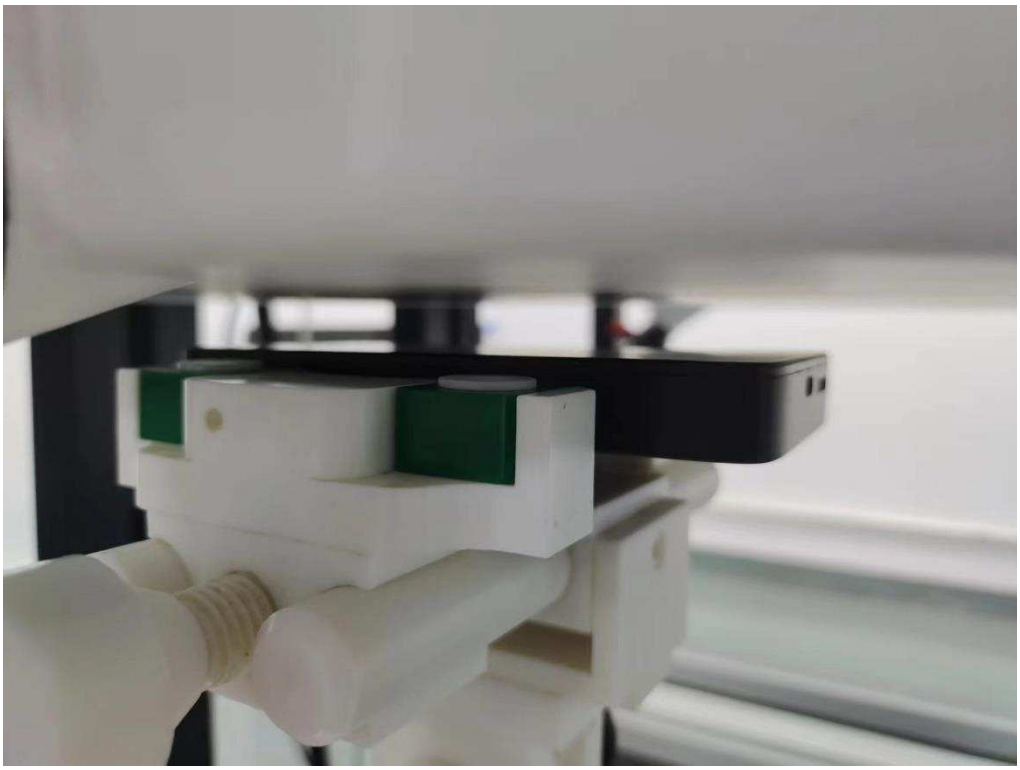


Bottom Edge

11.2 Setup Photos

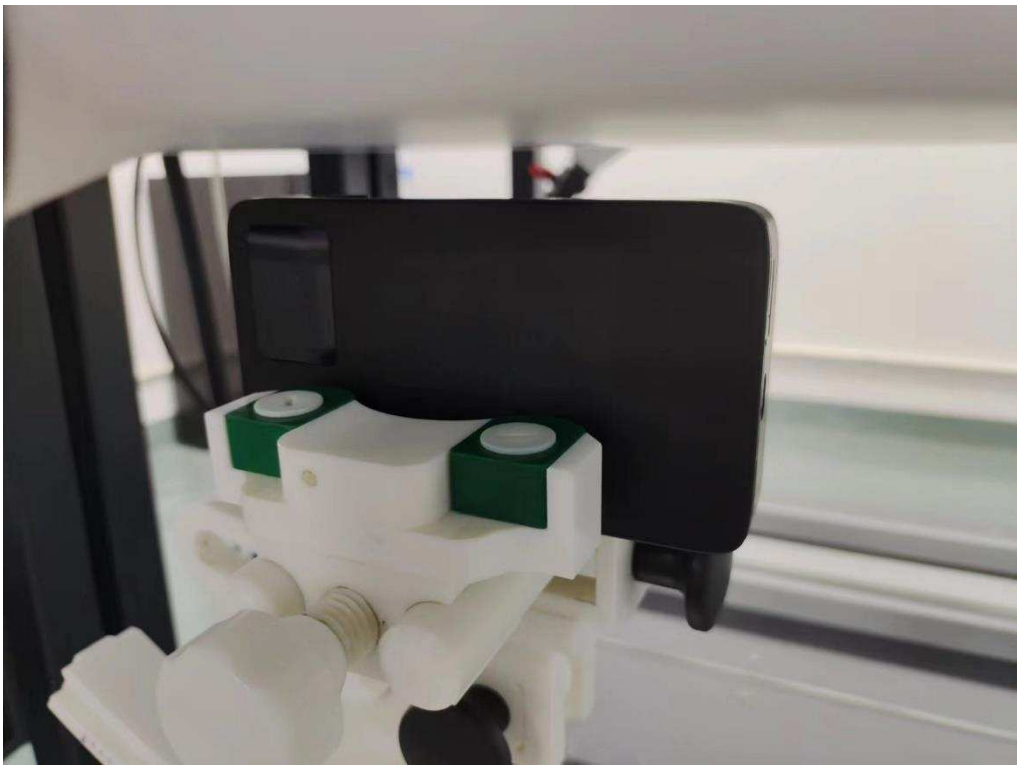
Body Front Side (separation distance is 10mm)

Body Back side (separation distance 10mm)

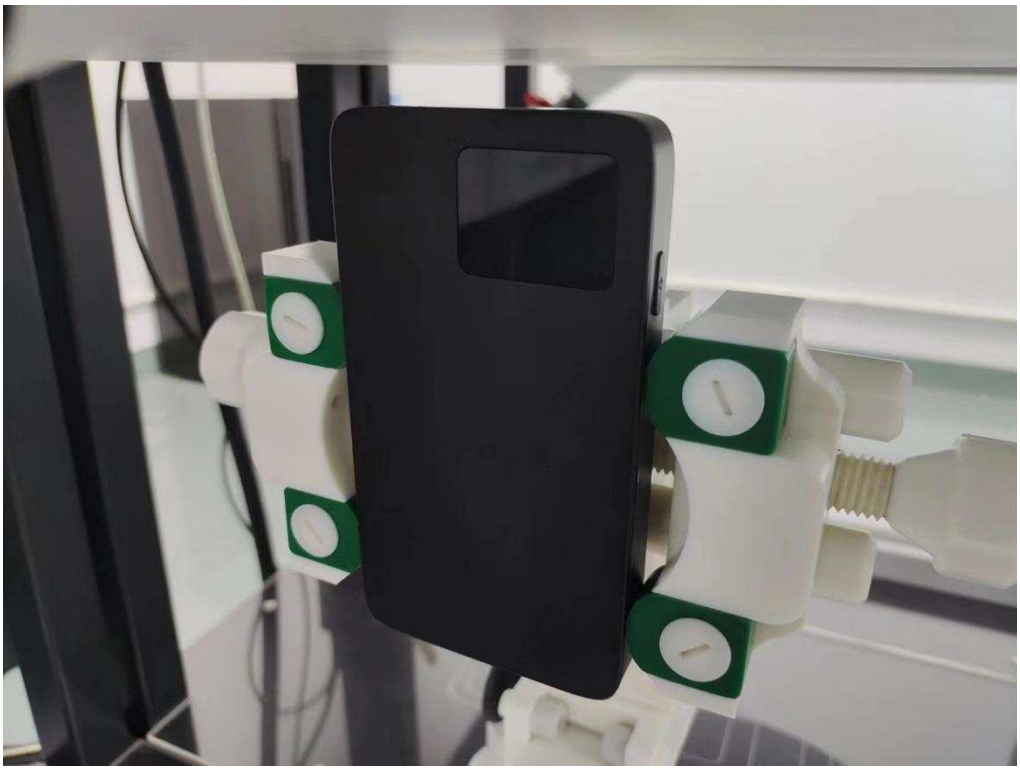


Body Left side (separation distance is 10mm)

Body Right side (separation distance is 10mm)

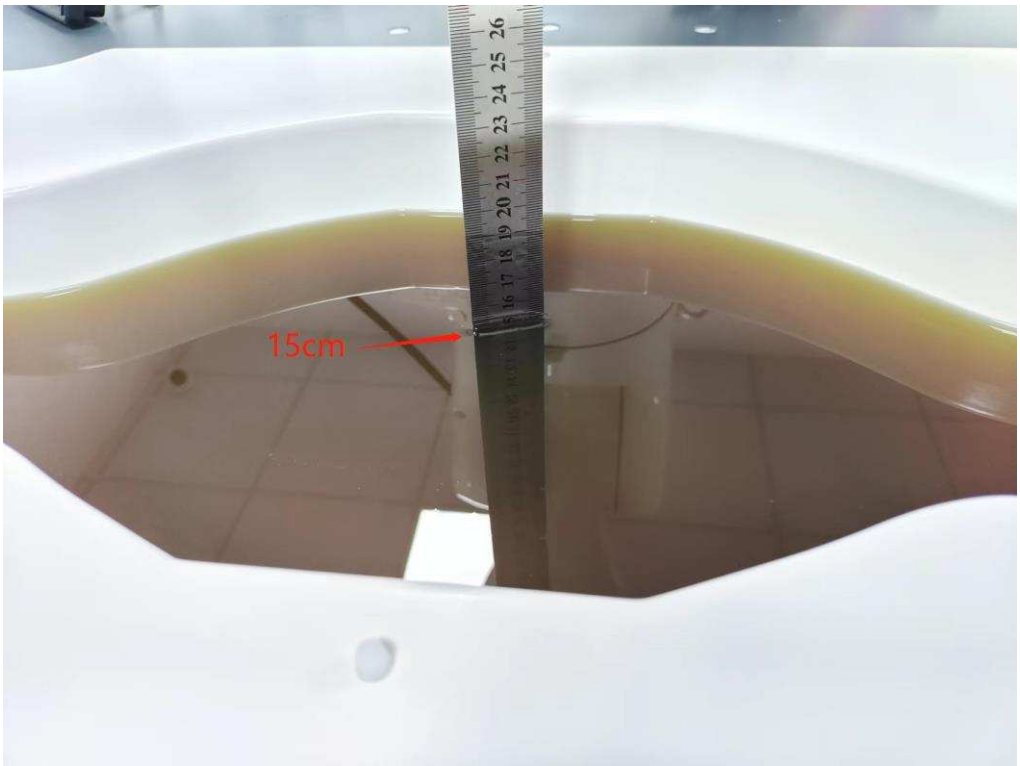


Body Top side (separation distance is 10mm)



Body Bottom side (separation distance is 10mm)

Liquid depth (15 cm)



12. SAR Result Summary

12.1 Body-worn and Hotspot SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4GHz WLAN	802.11b	Front Side	2437	0.128	3.68	17.50	17.28	0.135	/
		Back Side	2437	0.199	-1.39	17.50	17.28	**0.209**	**1**
		Right Side	2437	0.110	-3.21	17.50	17.28	0.116	/
		Bottom Side	2437	0.092	-3.82	17.50	17.28	0.097	/

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	SAR (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	1860	0.342	3.73	26.00	25.63	0.372	/
			50	0	Front side	1860	0.290	-3.31	25.00	24.50	0.325	/
			1	0	Back Side	1860	0.564	2.04	26.00	25.63	**0.614**	**2**
			50	0	Back Side	1860	0.456	-0.91	25.00	24.50	0.512	/
			1	0	Left Side	1860	0.095	3.63	26.00	25.63	0.103	/
			50	0	Left Side	1860	0.053	-0.31	25.00	24.50	0.059	/
			1	0	Right Side	1860	0.258	1.10	26.00	25.63	0.281	/
			50	0	Right Side	1860	0.196	3.36	25.00	24.50	0.220	/
			1	0	Top Side	1860	0.256	2.61	26.00	25.63	0.279	/
			50	0	Top Side	1860	0.204	-3.72	25.00	24.50	0.229	/
LTE Band 4	20M	QPSK	1	0	Front side	1745	0.328	-2.67	24.50	24.01	0.367	/
			50	0	Front side	1745	0.278	0.71	22.50	22.47	0.280	/
			1	0	Back Side	1745	0.478	0.17	24.50	24.01	**0.535**	**3**
			50	0	Back Side	1745	0.399	1.64	22.50	22.47	0.402	/
			1	0	Left Side	1745	0.078	0.00	24.50	24.01	0.087	/
			50	0	Left Side	1745	0.068	-0.33	22.50	22.47	0.068	/
			1	0	Right Side	1745	0.271	-3.15	24.50	24.01	0.303	/
			50	0	Right Side	1745	0.221	3.96	22.50	22.47	0.223	/
			1	0	Top Side	1745	0.260	0.72	24.50	24.01	0.291	/
			50	0	Top Side	1745	0.209	3.10	22.50	22.47	0.210	/
LTE Band 5	10M	QPSK	1	0	Front side	844	0.149	-1.83	23.50	23.49	0.149	/
			25	0	Front side	844	0.127	-2.52	22.50	22.41	0.130	/
			1	0	Back Side	844	0.212	3.13	23.50	23.49	**0.212**	**4**

			25	0	Back Side	844	0.163	3.06	22.50	22.41	0.166	/
			1	0	Left Side	844	0.041	-1.89	23.50	23.49	0.041	/
			25	0	Left Side	844	0.036	-2.23	22.50	22.41	0.037	/
			1	0	Right Side	844	0.132	-0.09	23.50	23.49	0.132	/
			25	0	Right Side	844	0.119	2.47	22.50	22.41	0.121	/
			1	0	Top Side	844	0.106	2.14	23.50	23.49	0.106	/
			25	0	Top Side	844	0.096	2.43	22.50	22.41	0.098	/
LTE Band 12	10M	QPSK	1	0	Front side	711	0.154	-1.76	25.00	24.60	0.169	/
			25	0	Front side	711	0.120	3.96	24.00	23.67	0.129	/
			1	0	Back Side	711	0.228	-2.49	25.00	24.60	**0.250**	**5**
			25	0	Back Side	711	0.179	1.41	24.00	23.67	0.193	/
			1	0	Left Side	711	0.036	-1.02	25.00	24.60	0.039	/
			25	0	Left Side	711	0.025	-2.36	24.00	23.67	0.027	/
			1	0	Right Side	711	0.122	-1.07	25.00	24.60	0.134	/
			25	0	Right Side	711	0.089	1.87	24.00	23.67	0.096	/
			1	0	Top Side	711	0.139	0.76	25.00	24.60	0.152	/
			25	0	Top Side	711	0.094	0.12	24.00	23.67	0.101	/
LTE Band 17	10M	QPSK	1	0	Front side	711	0.156	3.80	23.50	23.19	0.168	/
			25	0	Front side	709	0.101	0.11	22.50	22.20	0.108	/
			1	0	Back Side	711	0.215	3.32	23.50	23.19	**0.231**	**6**
			25	0	Back Side	709	0.184	2.38	22.50	22.20	0.197	/
			1	0	Left Side	711	0.038	-0.46	23.50	23.19	0.041	/
			25	0	Left Side	709	0.032	-2.51	22.50	22.20	0.034	/
			1	0	Right Side	711	0.126	-0.58	23.50	23.19	0.135	/
			25	0	Right Side	709	0.092	2.40	22.50	22.20	0.099	/
			1	0	Top Side	711	0.113	0.17	23.50	23.19	0.121	/
			25	0	Top Side	709	0.080	3.87	22.50	22.20	0.086	/
LTE Band 26	15M	QPSK	1	0	Front side	836.5	0.134	-1.10	25.00	24.81	0.140	/
			36	0	Front side	841.5	0.119	-0.82	24.00	23.82	0.124	/
			1	0	Back Side	836.5	0.194	-1.22	25.00	24.81	**0.203**	**7**
			36	0	Back Side	841.5	0.170	3.67	24.00	23.82	0.177	/
			1	0	Left Side	836.5	0.034	2.07	25.00	24.81	0.036	/
			36	0	Left Side	841.5	0.031	-2.95	24.00	23.82	0.032	/

			1	0	Right Side	836.5	0.122	-0.49	25.00	24.81	0.127	/
			36	0	Right Side	841.5	0.077	3.31	24.00	23.82	0.080	/
			1	0	Top Side	836.5	0.121	-0.72	25.00	24.81	0.126	/
			36	0	Top Side	841.5	0.098	-3.17	24.00	23.82	0.102	/
LTE Band 38	20M	QPSK	1	0	Front side	2610	0.361	-0.35	24.50	24.23	0.384	/
			50	0	Front side	2610	0.289	-1.63	23.00	22.98	0.290	/
			1	0	Back Side	2610	0.526	-1.86	24.50	24.23	0.560	/
			50	0	Back Side	2610	0.407	3.89	23.00	22.98	0.409	/
			1	0	Left Side	2610	0.088	-1.61	24.50	24.23	0.094	/
			50	0	Left Side	2610	0.071	-1.05	23.00	22.98	0.071	/
			1	0	Right Side	2610	0.281	-1.29	24.50	24.23	0.299	/
			50	0	Right Side	2610	0.225	1.26	23.00	22.98	0.226	/
			1	0	Top Side	2610	0.596	0.92	24.50	24.23	**0.634**	**8**
			50	0	Top Side	2610	0.477	3.10	23.00	22.98	0.479	/
LTE Band 41	20M	QPSK	1	0	Front side	2680	0.346	-0.26	25.50	25.10	0.379	/
			50	0	Front side	2680	0.276	0.97	24.50	24.04	0.307	/
			1	0	Back Side	2680	0.501	-0.57	25.50	25.10	0.549	/
			50	0	Back Side	2680	0.384	-2.83	24.50	24.04	0.427	/
			1	0	Left Side	2680	0.083	2.71	25.50	25.10	0.091	/
			50	0	Left Side	2680	0.069	2.49	24.50	24.04	0.077	/
			1	0	Right Side	2680	0.272	-1.34	25.50	25.10	0.298	/
			50	0	Right Side	2680	0.229	-1.74	24.50	24.04	0.255	/
			1	0	Top Side	2506	0.533	0.16	25.50	24.38	0.690	/
			1	0	Top Side	2593	0.429	0.49	25.50	23.69	0.651	/
			1	0	Top Side	2680	0.667	3.64	25.50	25.10	**0.731**	**9**
			50	0	Top Side	2680	0.520	-0.08	24.50	24.04	0.578	/

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. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor
3. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The “Portable Hotspot” feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

12.2 Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

Position	Simultaneous State
Body	1. LTE + 2.4GHz WLAN

NOTE:
1. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
2. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
3. 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.

Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
LTE + 2.4G WLAN	Body	LTE	0.731	0.940
		2.4G WLAN	0.209	

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	DIP0G750	SN 06/22 DIP0G750-638	2022.02.11	2025.02.10
835MHz Dipole	MVG	DIP0G835	SN 06/22 DIP0G835-639	2022.02.11	2025.02.10
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2022.02.11	2025.02.10
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2022.02.11	2025.02.10
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2022.02.11	2025.02.10
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2022.02.11	2025.02.10
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2024.02.07	2025.02.06
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2024.02.07	2025.02.06
Antenna	MVG	ANTA 73	SN 06/22 ANTA 73	N/A	N/A
Ellipsoid Phantom	MVG	ELLI 51	SN 06/22 ELLI 51	N/A	N/A
Phantom	MVG	SAM 148	SN 06/22 SAM148	N/A	N/A
Phone holder	MVG	MSH 117	SN 06/22 MSH 117	N/A	N/A
Laptop positioner	MVG	LSH 36	SN 06/22 LSH 38	N/A	N/A
Directional coupler	SHW	SHWDCP	202203280013	N/A	N/A
Network Analyzer	ZVL	R&S	116184-HC	2024.03.25	2025.03.24
Multi Meter	DMM6500	Keithley	4527252	2024.03.15	2025.03.14
Signal Generator	Keysight	N5182B	MY59100717	2024.03.09	2025.03.08
Wireless Communication Test Set	R&S	CMW500	137737	2024.03.09	2025.03.08
Power Sensor	R&S	Z11	116184	2024.02.23	2025.02.22
Electronic Temperature hygrometer	N/A	ST-W2318	N/A	2024.03.11	2025.03.10
Temperature hygrometer	N/A	TP101	N/A	2024.03.11	2025.03.10

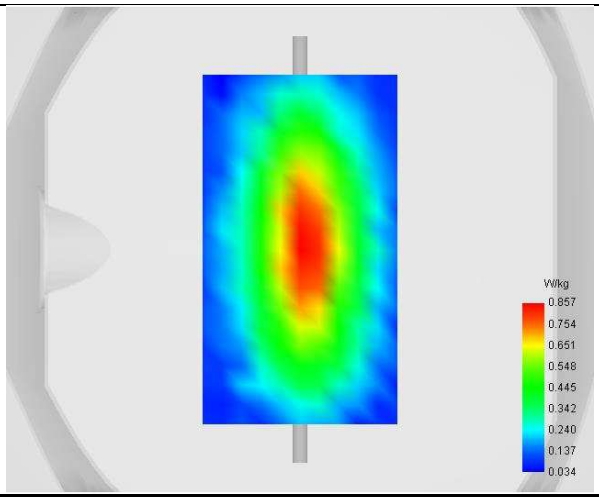
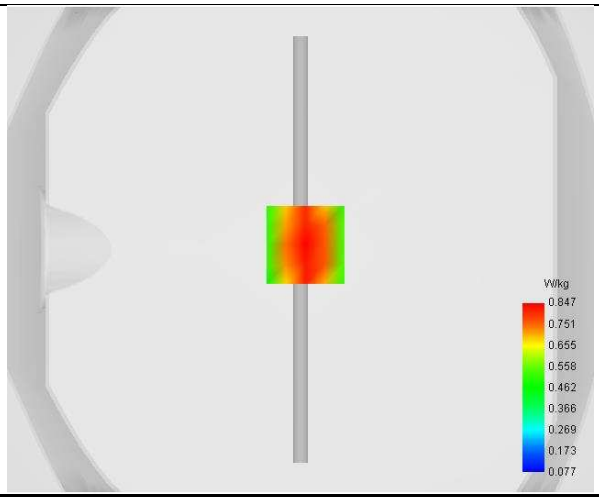
Appendix A. System Validation Plots

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: 2024-06-06

Experimental conditions.

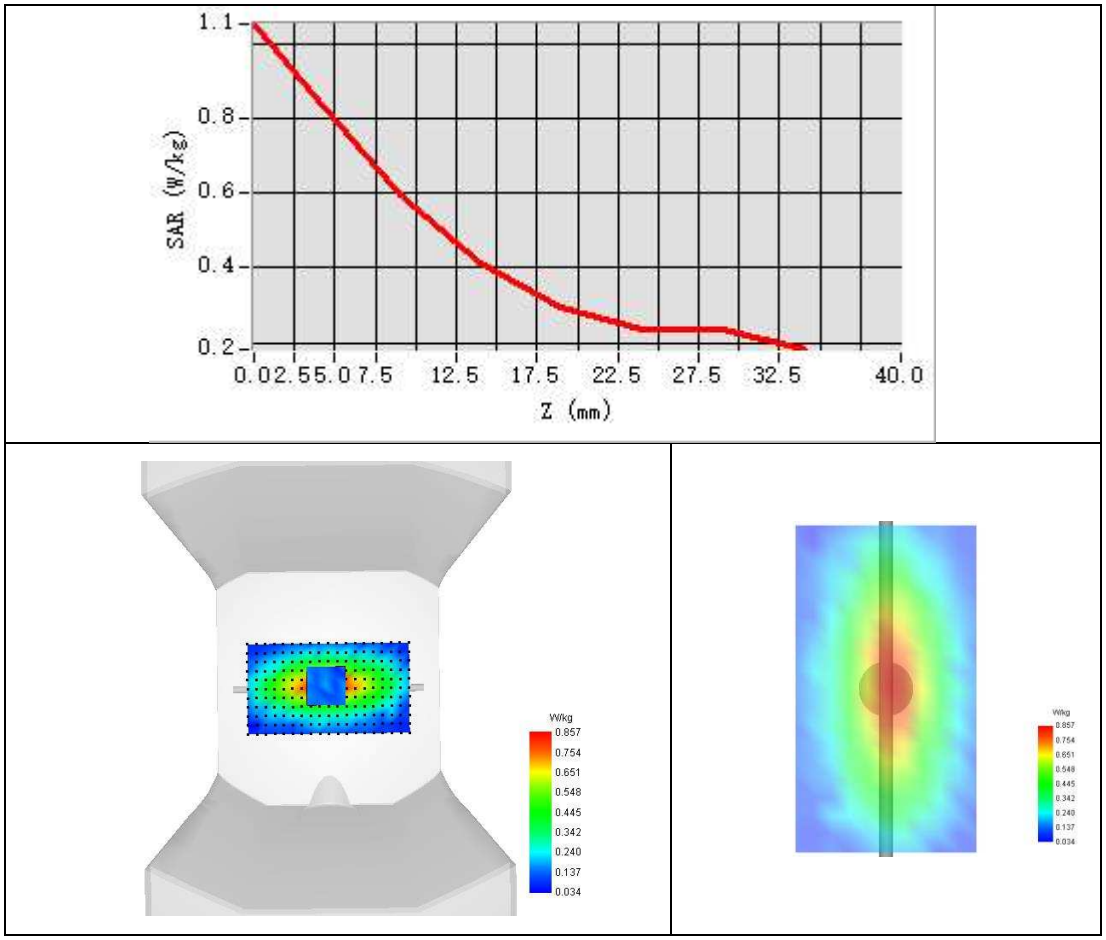
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW
Frequency (MHz)	750.000
Relative permittivity	42.30
Conductivity (S/m)	0.92
Probe	SN 04/22 EPGO364
ConvF	1.68
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=2.00, Y=2.00 ; SAR Peak: 1.18 W/kg

SAR 10g (W/Kg)	0.529
SAR 1g (W/Kg)	0.799

Z Axis Scan

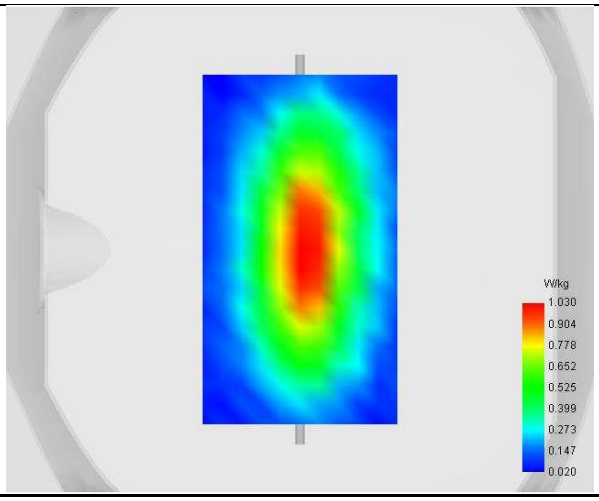
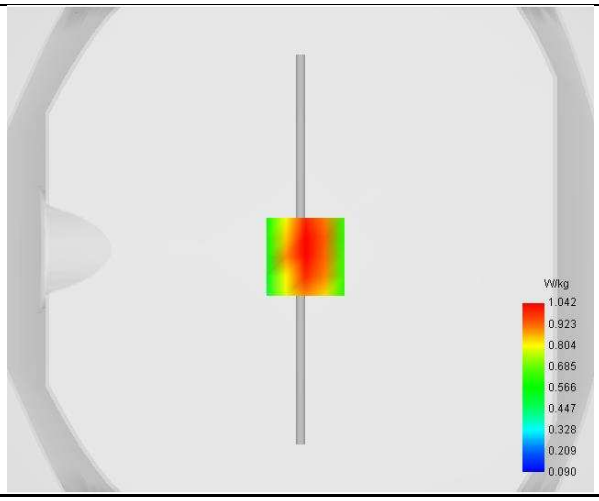

1.1
0.8
0.6
0.4
0.2
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)
W/kg
0.857
0.754
0.651
0.548
0.445
0.342
0.240
0.137
0.034

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: 2024-06-07

Experimental conditions.

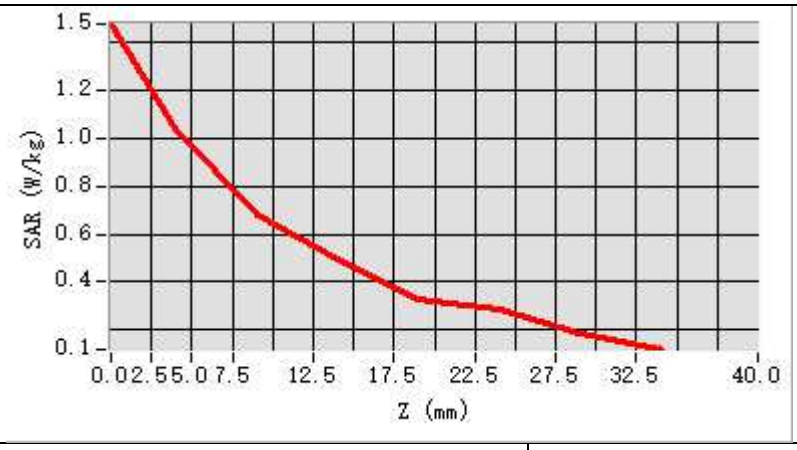
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	42.32
Conductivity (S/m)	0.92
Probe	SN 04/22 EPGO364
ConvF	1.70
Crest factor:	1:1

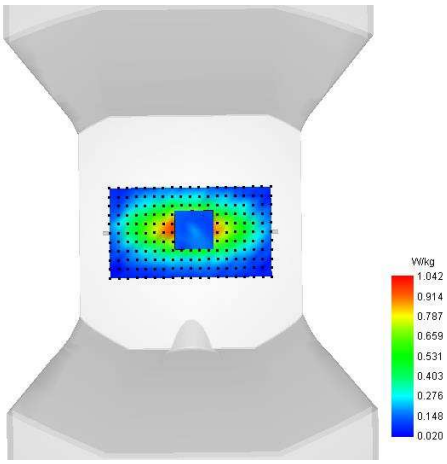
SURFACE SAR	VOLUME SAR
	

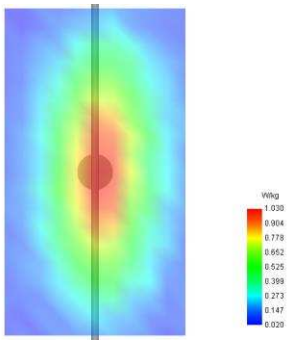
Maximum location: X=2.00, Y=-3.00 ; SAR Peak: 1.46 W/kg

SAR 10g (W/Kg)	0.643
SAR 1g (W/Kg)	1.006

Z Axis Scan


1.5
1.2
1.0
0.8
0.6
0.4
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)


W/kg
1.042
0.914
0.787
0.659
0.531
0.403
0.276
0.148
0.020

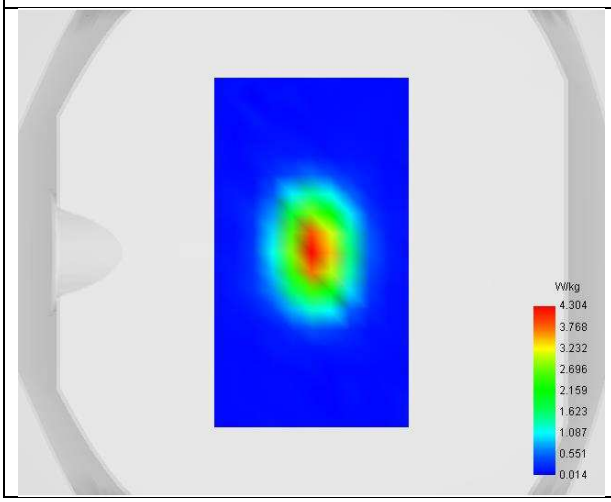
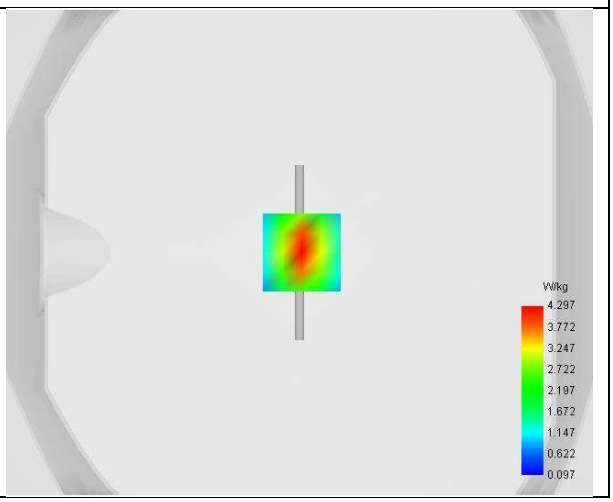

W/kg
1.030
0.904
0.778
0.652
0.525
0.399
0.273
0.147
0.020

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: 2024-06-09

Experimental conditions.

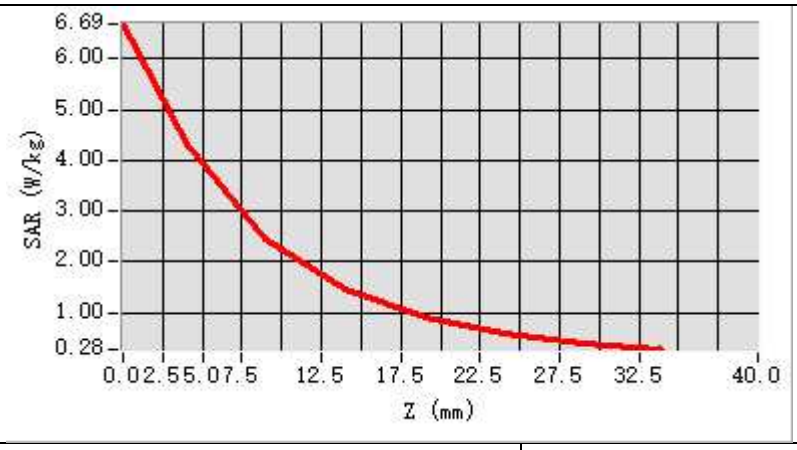
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	40.54
Conductivity (S/m)	1.37
Probe	SN 04/22 EPGO364
ConvF	1.91
Crest factor:	1:1

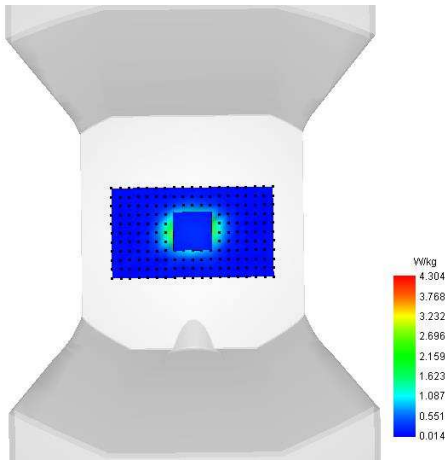
SURFACE	VOLUME SAR
	

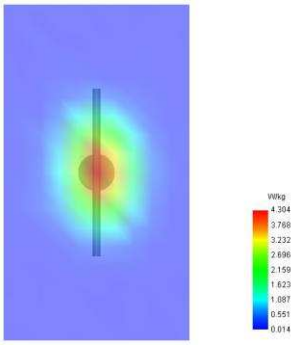
Maximum location: X=1.00, Y=0.00 ; SAR Peak: 6.63 W/kg

SAR 10g (W/Kg)	2.020
SAR 1g (W/Kg)	3.864

Z Axis Scan


6.69
6.00
5.00
4.00
3.00
2.00
1.00
0.28
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)


W/kg
4.304
3.768
3.232
2.696
2.159
1.623
1.087
0.551
0.014

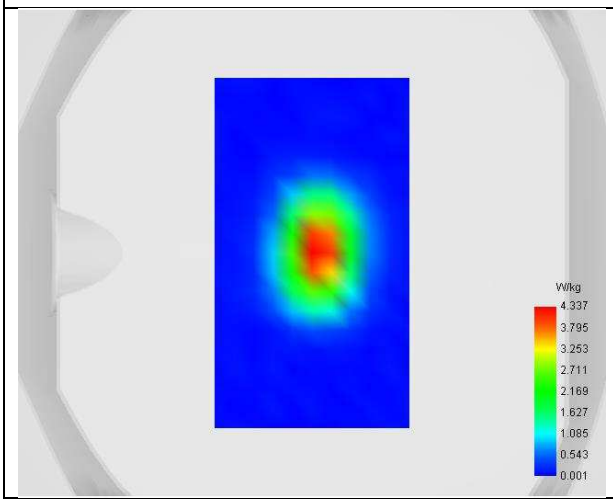
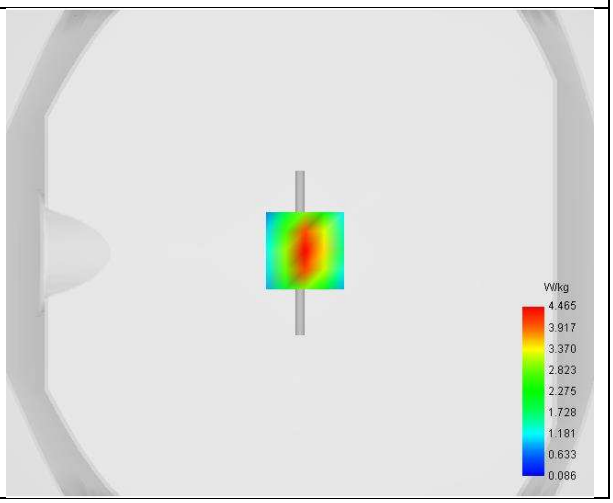

W/kg
4.304
3.768
3.232
2.696
2.159
1.623
1.087
0.551
0.014

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: 2024-06-10

Experimental conditions.

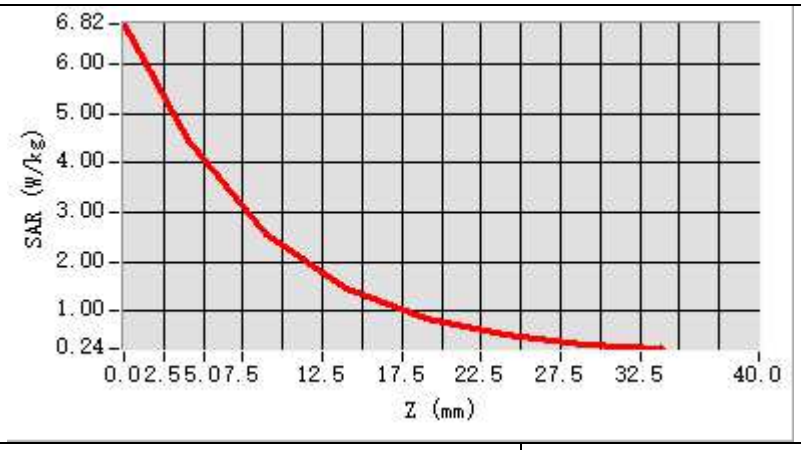
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	40.82
Conductivity (S/m)	1.43
Probe	SN 04/22 EPGO364
ConvF	2.24
Crest factor:	1:1

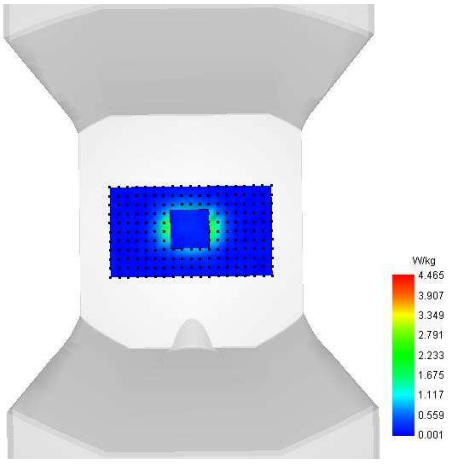
SURFACE	VOLUME SAR
	

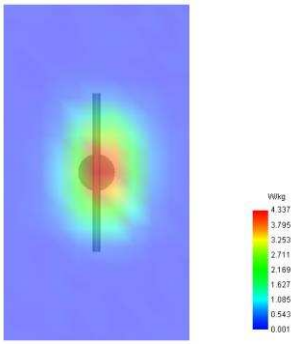
Maximum location: X=2.00, Y=1.00 ; SAR Peak: 6.92 W/kg

SAR 10g (W/Kg)	2.078
SAR 1g (W/Kg)	4.106

Z Axis Scan


6.82
6.00
5.00
4.00
3.00
2.00
1.00
0.24
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)


W/kg
4.465
3.907
3.349
2.791
2.233
1.675
1.117
0.559
0.001

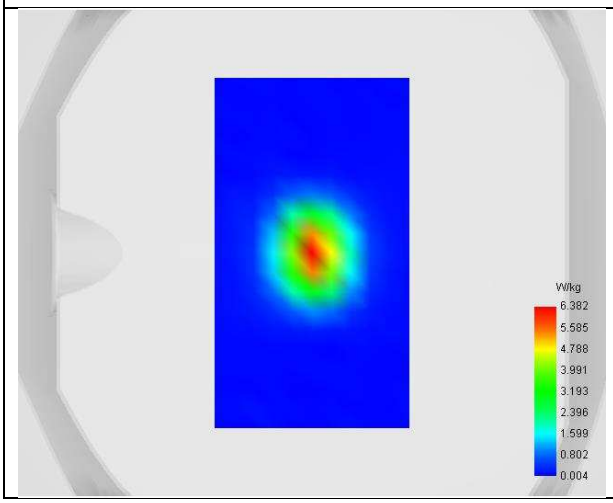
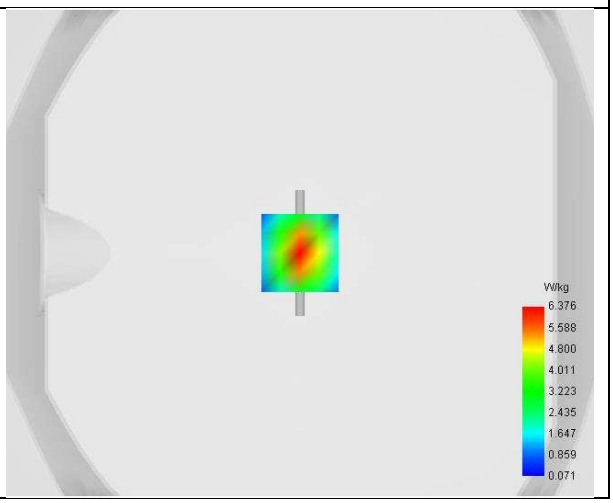

W/kg
4.337
3.795
3.253
2.711
2.169
1.627
1.085
0.543
0.001

System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2024-06-08

Experimental conditions.

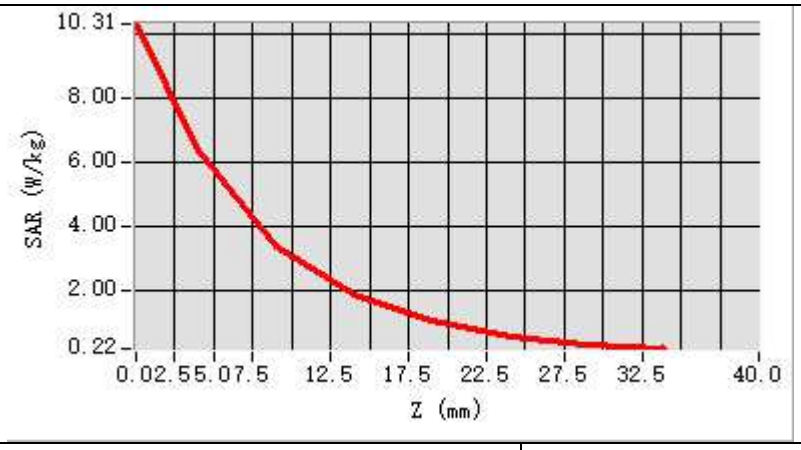
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.65
Conductivity (S/m)	1.81
Probe	SN 04/22 EPGO364
ConvF	2.30
Crest factor:	1:1

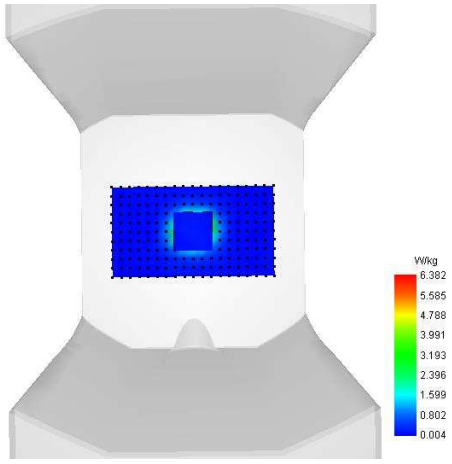
SURFACE	VOLUME SAR
	

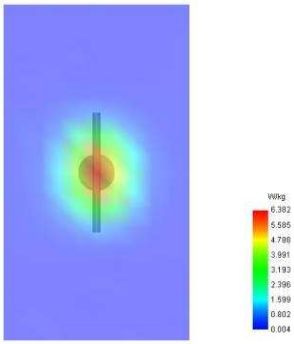
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 10.21 W/kg

SAR 10g (W/Kg)	2.399
SAR 1g (W/Kg)	5.417

Z Axis Scan


10.31
8.00
6.00
4.00
2.00
0.22
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)


W/kg
6.382
5.585
4.788
3.991
3.193
2.396
1.599
0.802
0.004

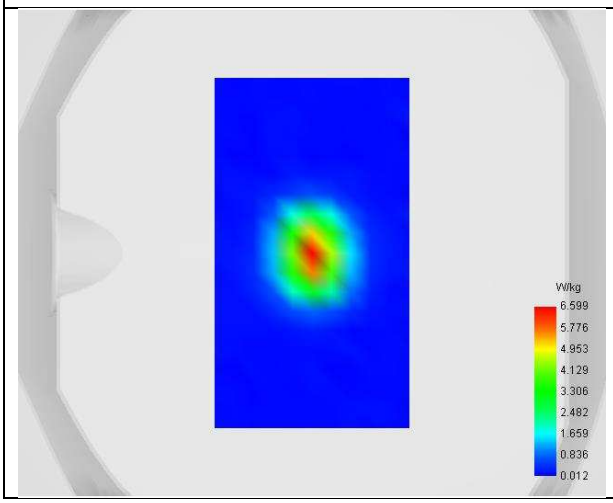
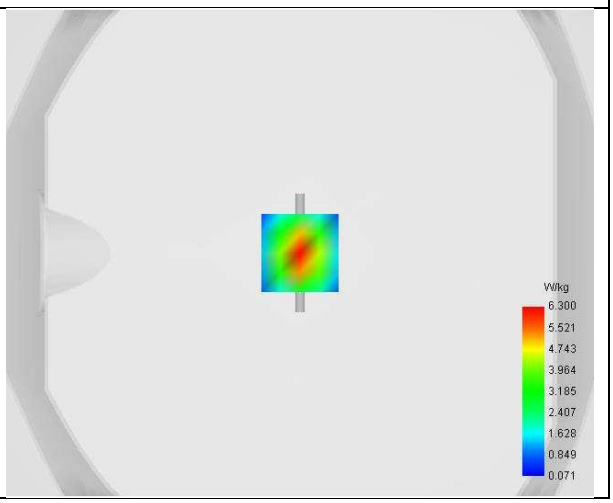

W/kg
6.382
5.585
4.788
3.991
3.193
2.396
1.599
0.802
0.004

System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2024-06-11

Experimental conditions.

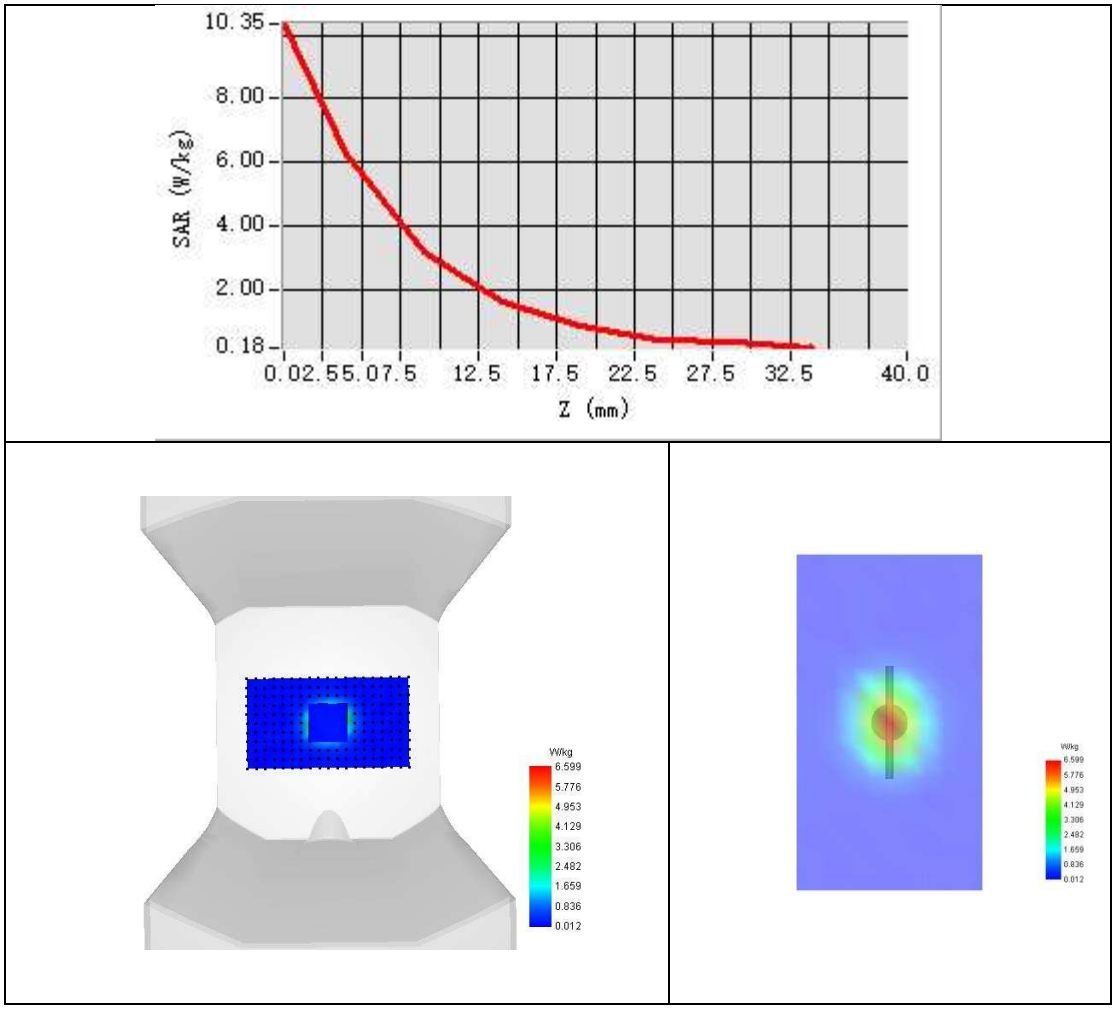
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.44
Conductivity (S/m)	2.00
Probe	SN 04/22 EPGO364
ConvF	2.35
Crest factor:	1:1

SURFACE	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00 ; SAR Peak: 10.27 W/kg

SAR 10g (W/Kg)	2.408
SAR 1g (W/Kg)	5.704

Z Axis Scan

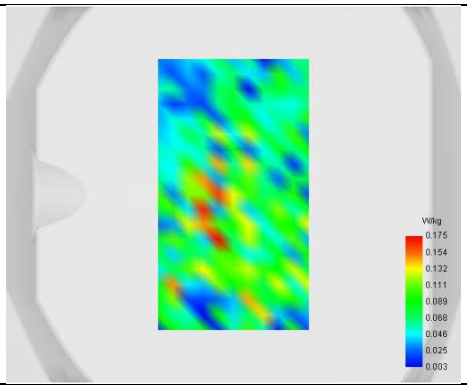
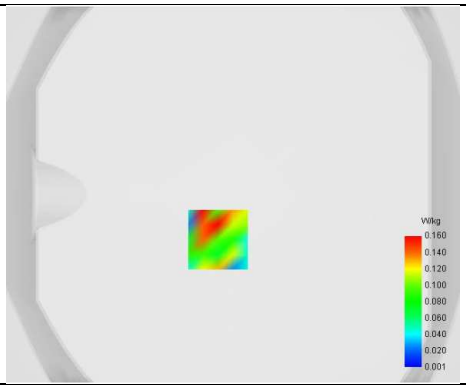
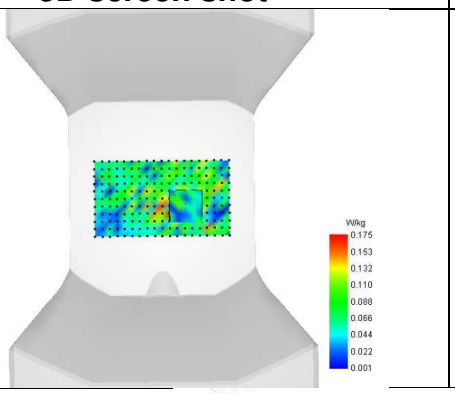
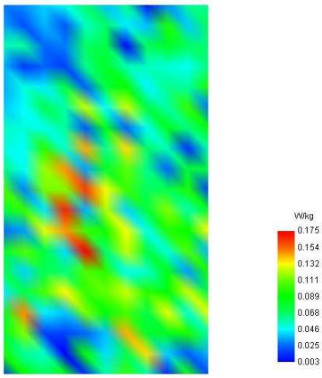

10.35
8.00
6.00
4.00
2.00
0.18
SAR (W/kg)
0.02.55.07.5
12.5
17.5
22.5
27.5
32.5
40.0
Z (mm)
W/kg
6.599
5.776
4.953
4.129
3.306
2.482
1.659
0.836
0.012

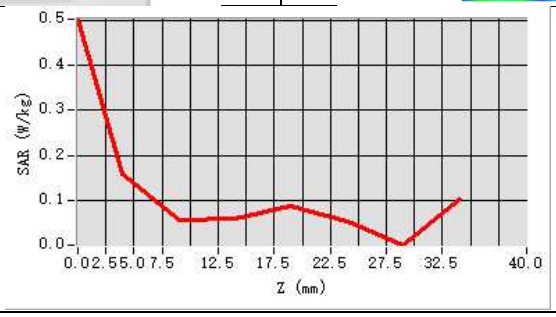
Appendix B. SAR Test Plots

Plot 1:

Test Date	2024-06-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	ISM
Signal	IEEE 802.11b
Frequency	2437
SAR 10g (W/Kg)	0.095
SAR 1g (W/Kg)	0.199
ConvF	2.30
Relative permittivity	39.65
Conductivity (S/m)	1.81

Maximum location: X=-8.00, Y=-24.00 ; SAR Peak: 0.47 W/kg

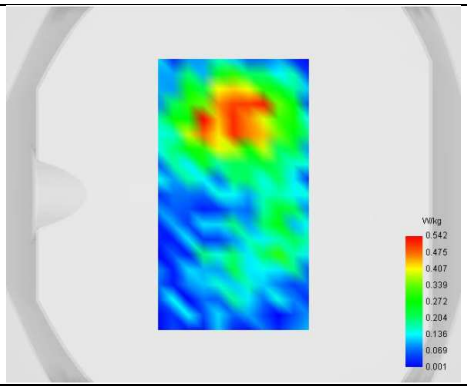
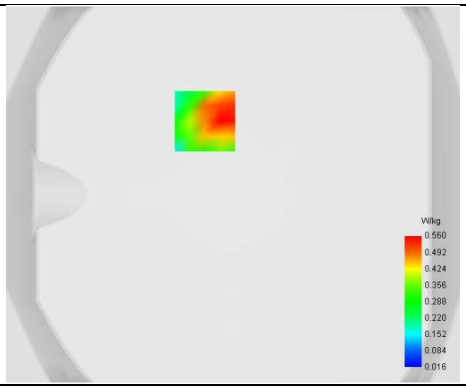
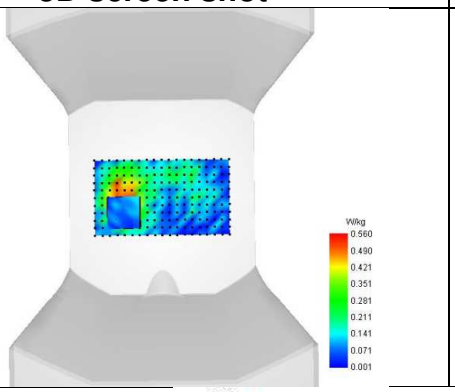
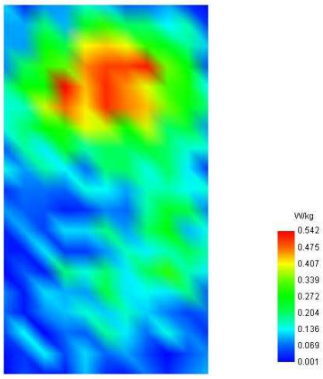
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

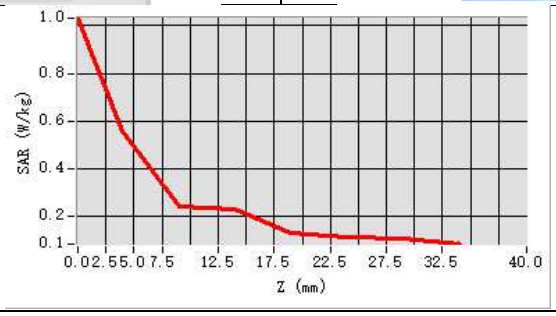


Plot 2:

Test Date	2024-06-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 2
Signal	LTE FDD
Frequency	1860
SAR 10g (W/Kg)	0.289
SAR 1g (W/Kg)	0.564
ConvF	2.24
Relative permittivity	40.82
Conductivity (S/m)	1.43

Maximum location: X=-15.00, Y=39.00 ; SAR Peak: 0.99 W/kg

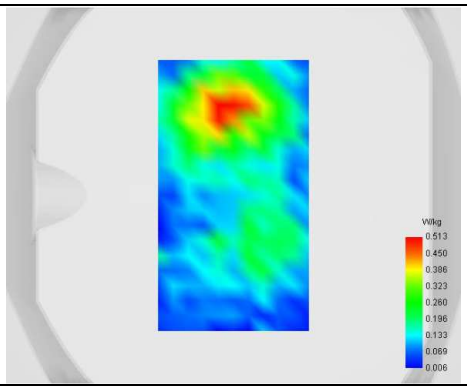
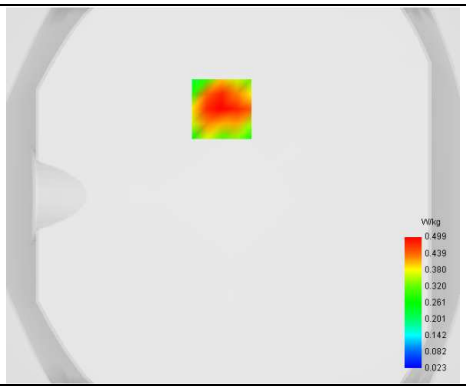
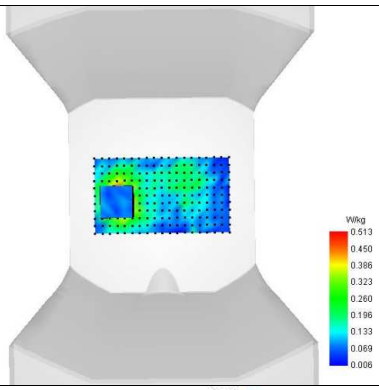
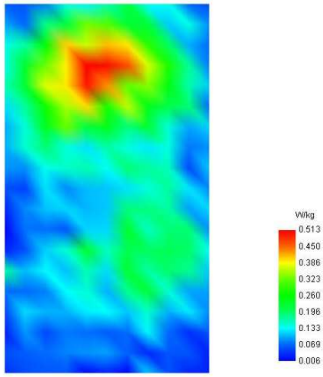
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

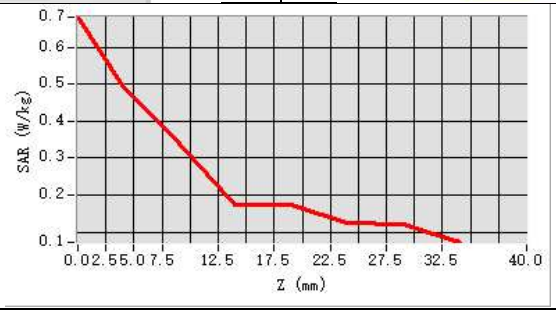


Plot 3:

Test Date	2024-06-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 4
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.256
SAR 1g (W/Kg)	0.478
ConvF	1.91
Relative permittivity	40.54
Conductivity (S/m)	1.37

Maximum location: X=-6.00, Y=46.00 ; SAR Peak: 0.83 W/kg

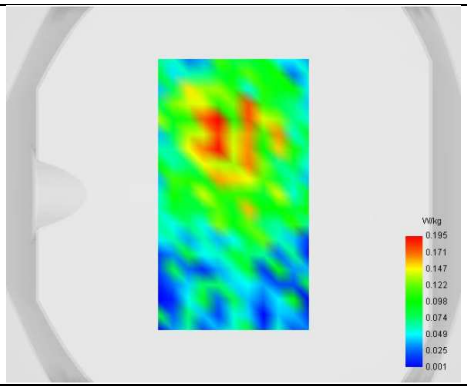
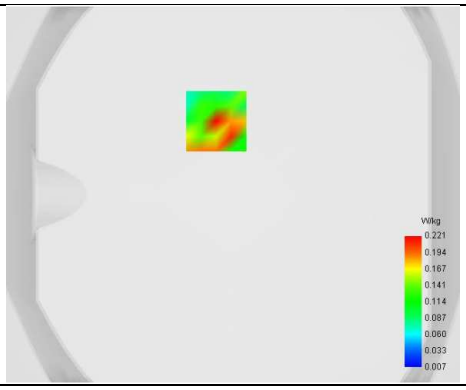
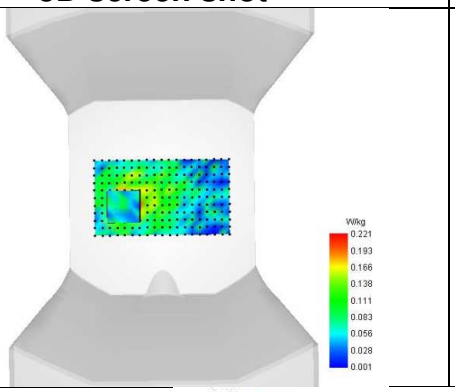
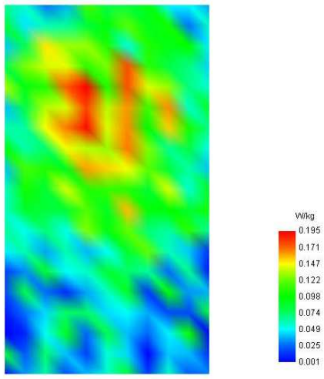
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

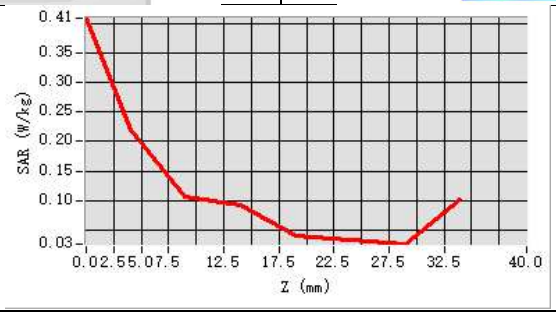


Plot 4:

Test Date	2024-06-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 5
Signal	LTE FDD
Frequency	844
SAR 10g (W/Kg)	0.113
SAR 1g (W/Kg)	0.212
ConvF	1.70
Relative permittivity	42.32
Conductivity (S/m)	0.92

Maximum location: X=-9.00, Y=39.00 ; SAR Peak: 0.45 W/kg

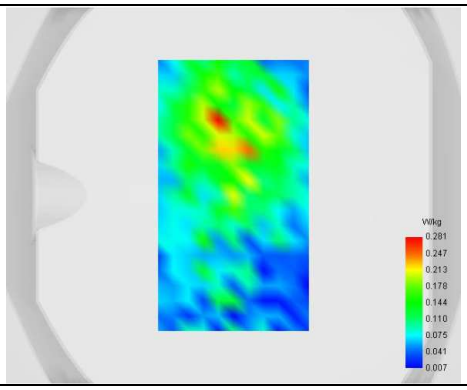
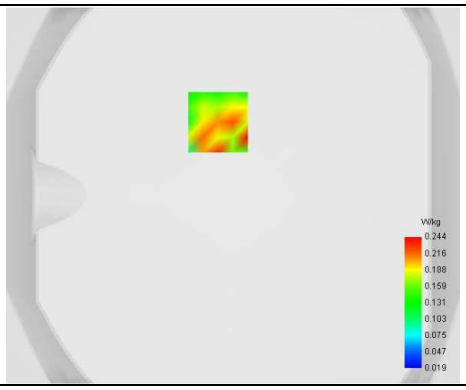
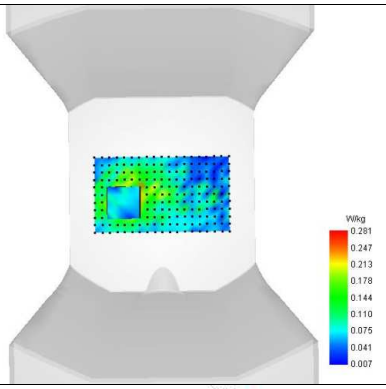
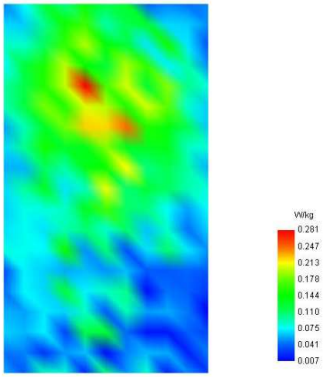
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

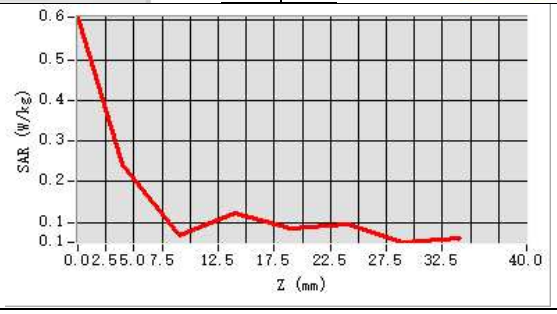


Plot 5:

Test Date	2024-06-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 12
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.129
SAR 1g (W/Kg)	0.228
ConvF	1.68
Relative permittivity	42.30
Conductivity (S/m)	0.92

Maximum location: X=-8.00, Y=39.00 ; SAR Peak: 0.43 W/kg

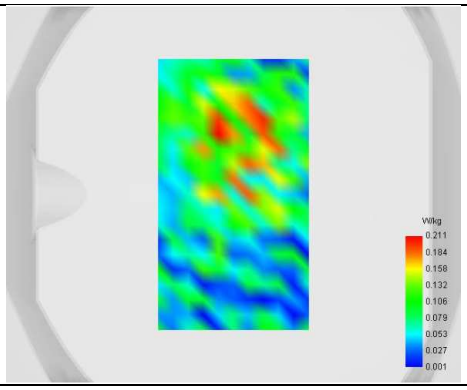
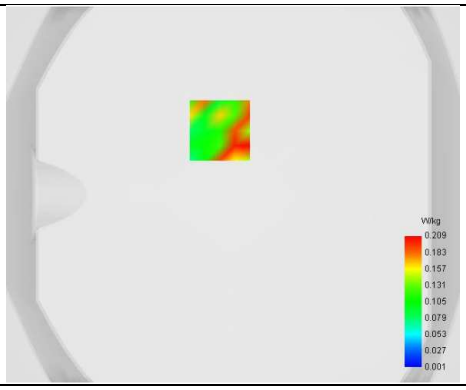
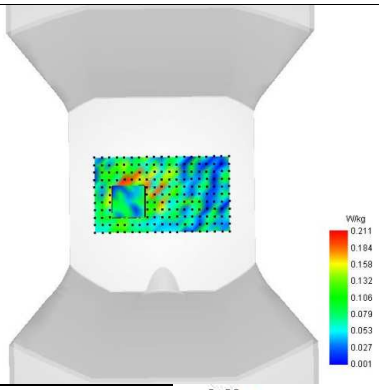
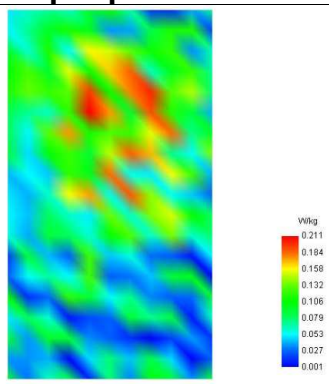
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

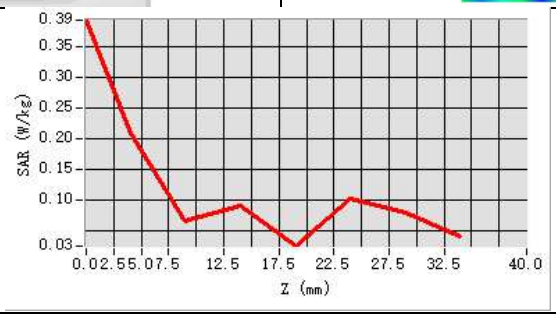


Plot 6:

Test Date	2024-06-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 17
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.126
SAR 1g (W/Kg)	0.215
ConvF	1.68
Relative permittivity	42.30
Conductivity (S/m)	0.92

Maximum location: X=-7.00, Y=34.00 ; SAR Peak: 0.38 W/kg

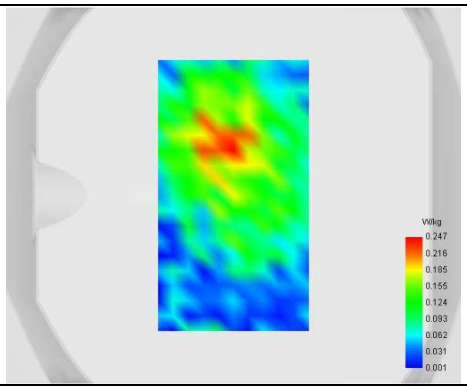
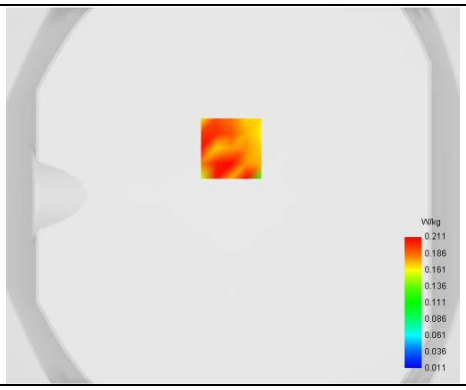
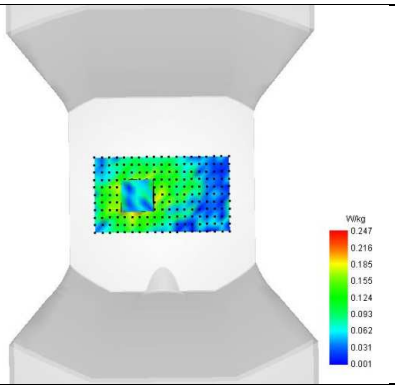
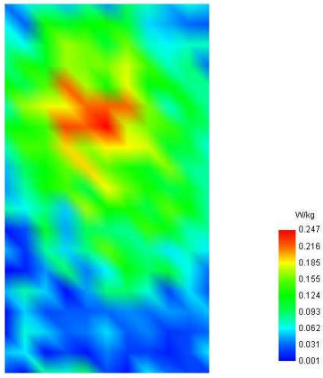
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

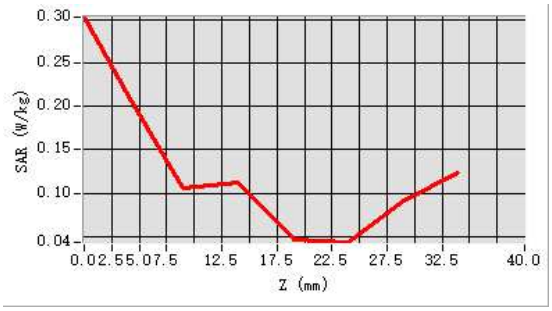


Plot 7:

Test Date	2024-06-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 26
Signal	LTE FDD
Frequency	836.5
SAR 10g (W/Kg)	0.112
SAR 1g (W/Kg)	0.194
ConvF	1.70
Relative permittivity	42.32
Conductivity (S/m)	0.92

Maximum location: X=-1.00, Y=25.00 ; SAR Peak: 0.46 W/kg

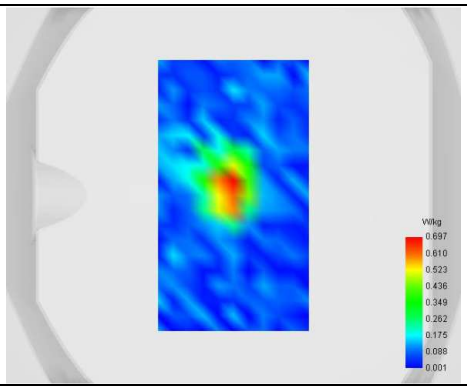
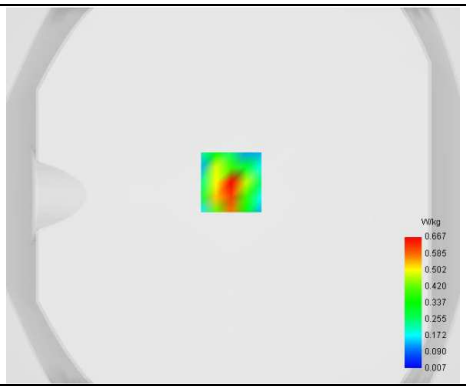
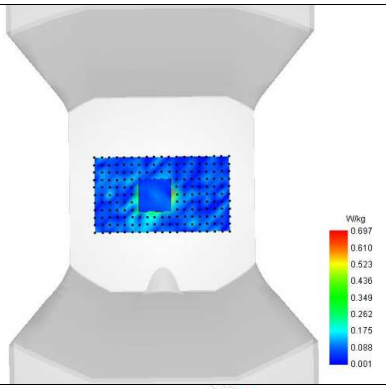
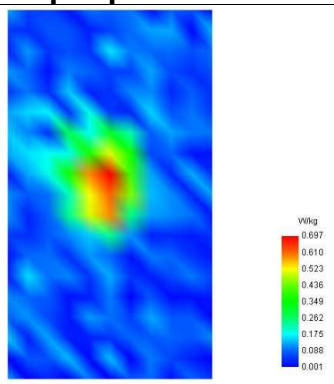
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

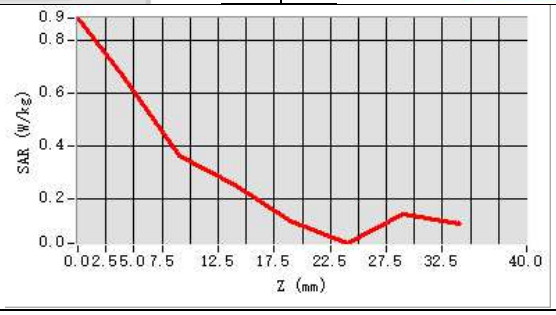


Plot 8:

Test Date	2024-06-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Top Side
Band	LTE band 38
Signal	LTE FDD
Frequency	2610
SAR 10g (W/Kg)	0.307
SAR 1g (W/Kg)	0.596
ConvF	2.35
Relative permittivity	39.44
Conductivity (S/m)	2.00

Maximum location: X=-1.00, Y=7.00 ; SAR Peak: 0.97 W/kg

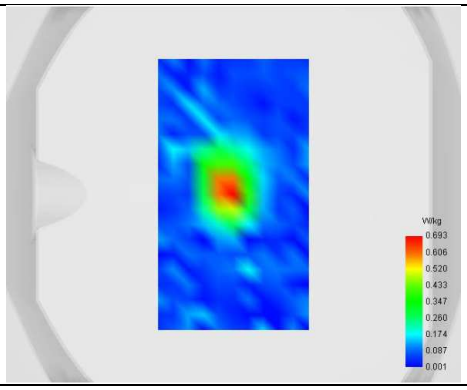
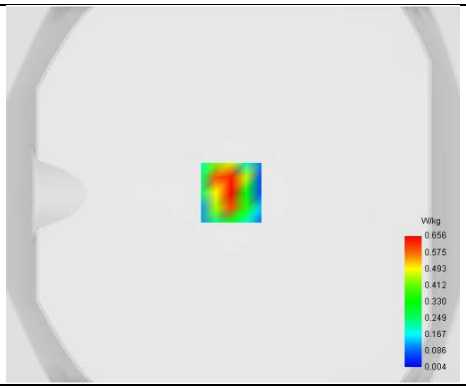
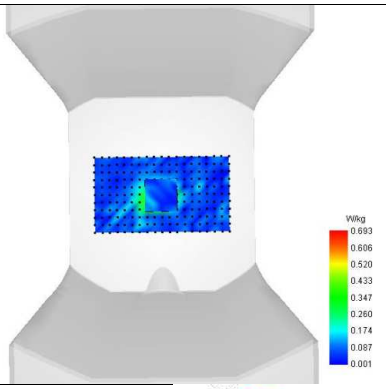
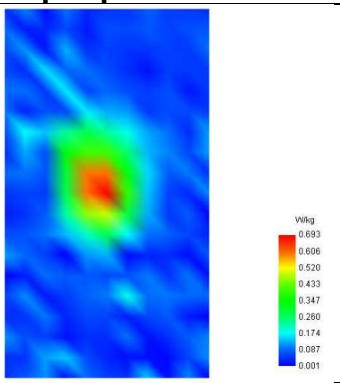
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	

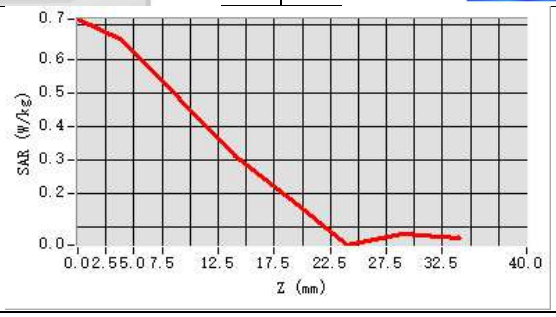


Plot 9:

Test Date	2024-06-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Top Side
Band	LTE band 41
Signal	LTE FDD
Frequency	2680
SAR 10g (W/Kg)	0.332
SAR 1g (W/Kg)	0.667
ConvF	2.35
Relative permittivity	39.44
Conductivity (S/m)	2.00

Maximum location: X=-1.00, Y=1.00 ; SAR Peak: 1.23 W/kg

SURFACE SAR	VOLUME SAR
	
3D screen shot	**Hot spot position**
	



Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※