SAR TEST REPORT

Product Name: CORNMI HEAD MOUNTED DISPLAY

Model Name: NeoVista X7 Pro, X7 Lite, X7

FCC ID: 2BNAD-X7PRO

Issued For : Kemi Intelligent Manufacturing (Shenzhen) Co., Ltd.

4F, Block A, 88 Fukang Rd, Longgang Dist, Shenzhen, China

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

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Report Number:	LGT25C077HA01
Sample Received Date:	Mar. 17, 2025
Date of Test:	Mar. 17, 2025 ~ Mar. 26, 2025
Date of Issue:	Mar. 27, 2025
Max. SAR(1g):	Body: 0.551 W/kg

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Revision History

Rev.	Issue Date	Contents
00	Mar. 27, 2025	Initial Issue

TEST REPORT CERTIFICATION

Applicant	Kemi Intelligent Manufacturing (Shenzhen) Co., Ltd.
Address	4F, Block A, 88 Fukang Rd, Longgang Dist, Shenzhen, China
Manufacture	Kemi Intelligent Manufacturing (Shenzhen) Co., Ltd.
Address	4F, Block A, 88 Fukang Rd, Longgang Dist, Shenzhen, China
Product Name	CORNMI HEAD MOUNTED DISPLAY
Trademark	N/A
Model Name	NeoVista X7 Pro, X7 Lite, X7
Sample number	LGT2503117-1

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
ANSI/IEEE Std. C95.1-2019 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	CORNMI HEAD MOUNTED DISPLAY	
Trademark	N/A	
Model Name	NeoVista X7 Pro	
Series Model	X7 Lite, X7	
Model Difference	Only different in model name.	
Device Category	Portable	
Product stage	Production unit	
RF Exposure Environment	General Population / Uncontrolled	
Hardware Version	N/A	
Software Version	N/A	
Frequency Range	WLAN 802.11b/g/n20/ax20: 2412 MHz ~ 2462 MHz WLAN 802.11n40/ax40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80/ax20/ax40/ax80: 5150 to 5250 MHz 5250 to 5350 MHz 5470 to 5725 MHz 5725 to 5850 MHz Bluetooth: 2402 ~ 2480 MHz	
Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Body:0mm	Mode	Body Worn (W/kg)(1g)
	2.4G WLAN ANT 1	0.114
	2.4G WLAN ANT 2	0.127
	2.4G WLAN MIMO	0.219
	5.2G WLAN ANT 1	0.154
	5.2G WLAN ANT 2	0.151
	5.2G WLAN MIMO	0.218
	5.3G WLAN ANT 1	0.211
	5.3G WLAN ANT 2	0.128
	5.3G WLAN MIMO	0.290
	5.6G WLAN ANT 1	0.236
	5.6G WLAN ANT 2	0.168
	5.6G WLAN MIMO	0.448
	5.8G WLAN ANT 1	0.198
	5.8G WLAN ANT 2	0.176
	5.8G WLAN MIMO	0.551
1-g Sum SAR		1.6(W/ kg)
Battery	Rated Voltage:3.7V Capacity: 4800mAh	
Operating Mode:	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	

	802.11ax(OFDM, OFDMA): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024QAM 5G WLAN: 802.11a(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11ac (OFDM): BPSK, QPSK,16-QAM,64-QAM,256-QAM 802.11ax(OFDM, OFDMA): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024QAM Bluetooth: GFSK +π/4DQPSK+8DPSK BLE: GFSK
Antenna Specification	Bluetooth: FPC Antenna WLAN: FPC Antenna
Operating Mode	Maximum continuous output
Hotspot Mode	Not 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. C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz 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 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
8	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:

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

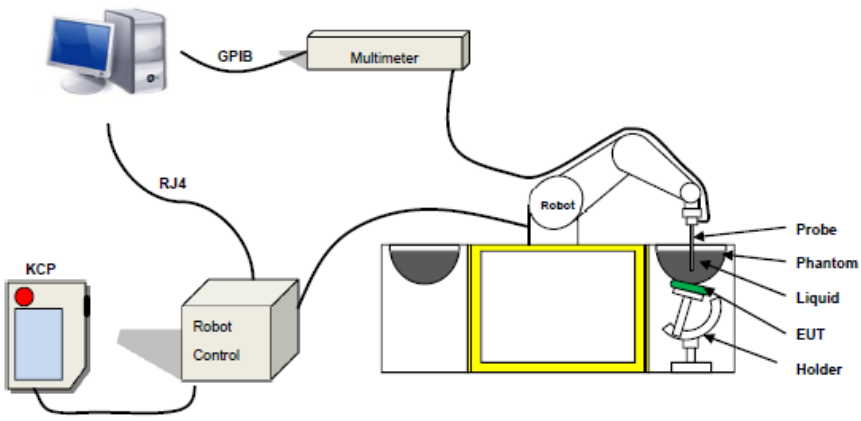
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

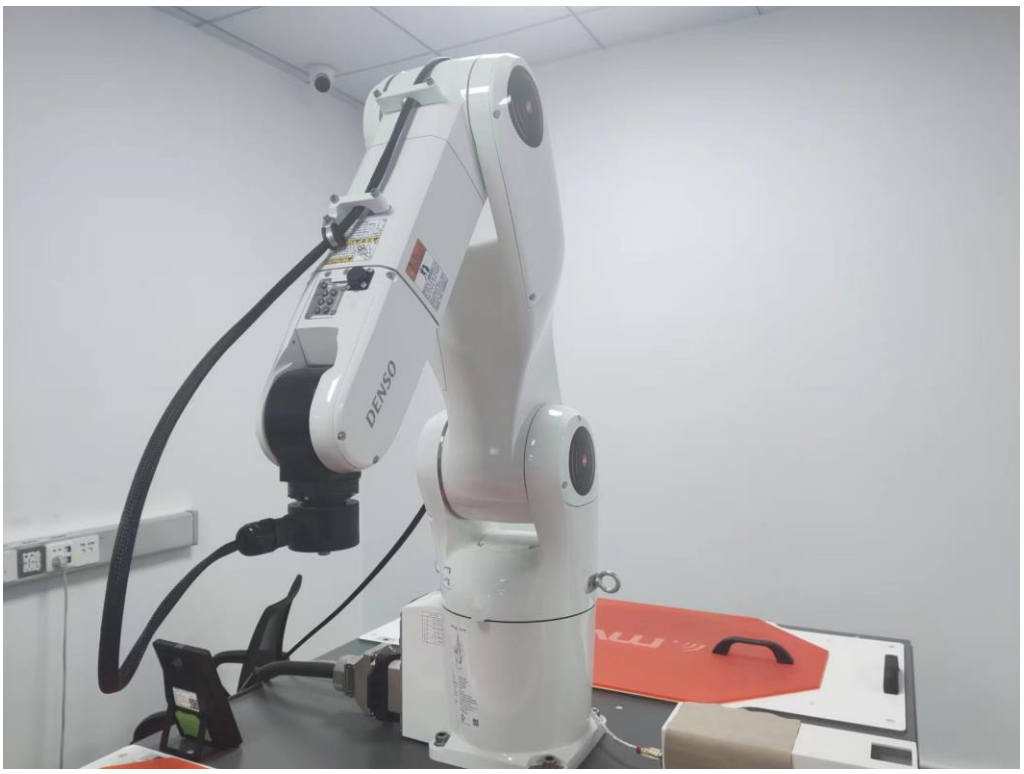
3.2 SAR System

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°

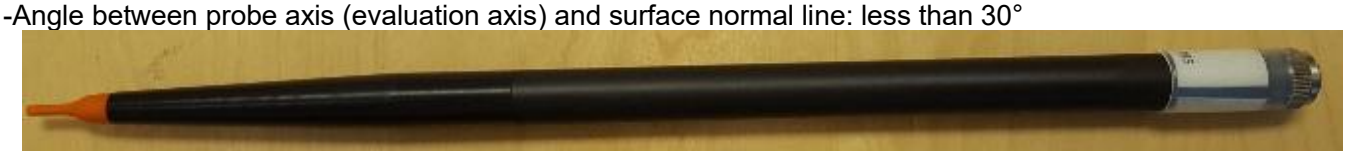


Figure 1-MVG COMOSAR Dosimetric E field Probe

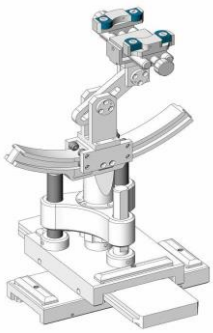
3.2.2 Phantom

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

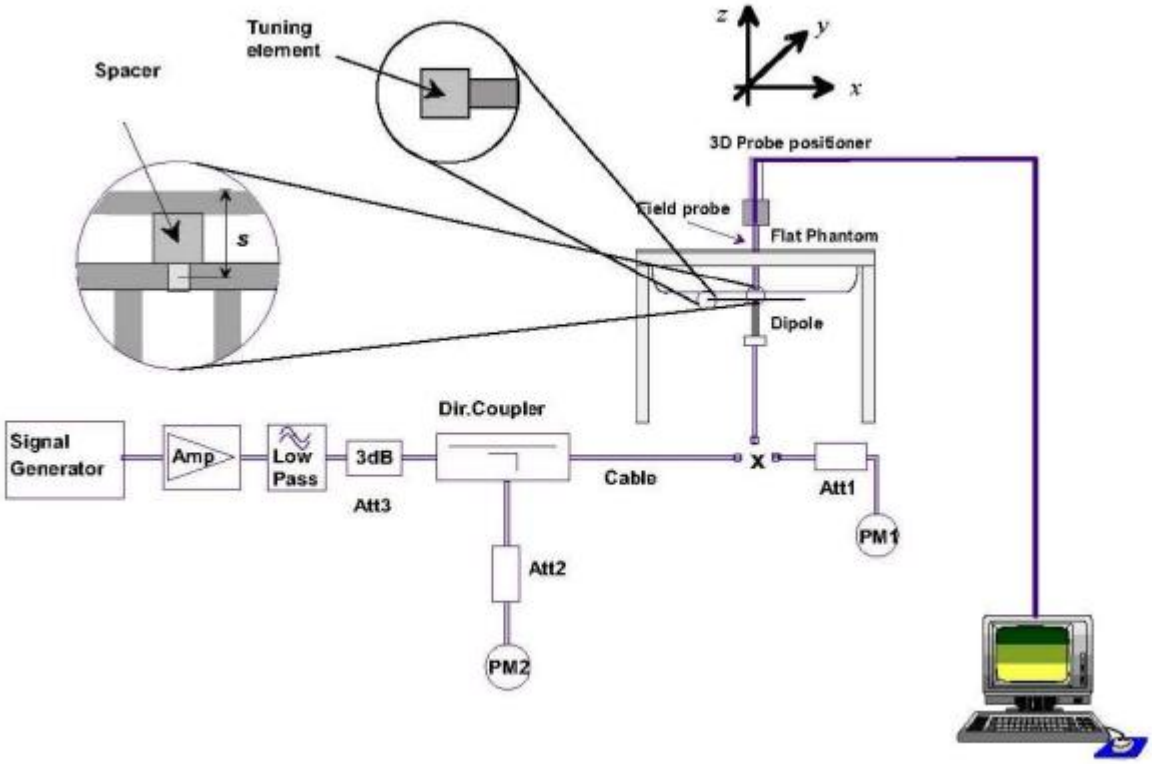
Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2025-03-21	23.3	42	2450	23.0	Permittivity	39.20	40.63	3.65	±5
					Conductivity	1.80	1.83	1.67	±5
2025-03-20	22.2	42	5200	22.0	Permittivity	36.00	36.43	1.19	±5
					Conductivity	4.66	4.63	-0.64	±5
2025-03-23	23.7	57	5400	23.4	Permittivity	35.80	36.25	1.26	±5
					Conductivity	4.86	4.85	-0.21	±5
2025-03-26	23.8	57	5600	23.6	Permittivity	35.55	35.68	0.37	±5
					Conductivity	5.07	5.06	-0.10	±5
2025-03-25	23.7	41	5800	23.4	Permittivity	35.30	36.60	3.68	±5
					Conductivity	5.27	5.18	-1.71	±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)	(%)	(%)
2025-03-21	2450	100	5.428	54.28	54.21	0.13	10
2025-03-20	5200	100	8.132	81.32	80.96	0.44	10
2025-03-23	5400	100	8.498	84.98	84.63	0.41	10
2025-03-26	5600	100	8.111	81.11	80.97	0.17	10
2025-03-25	5800	100	8.185	81.85	81.68	0.21	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.

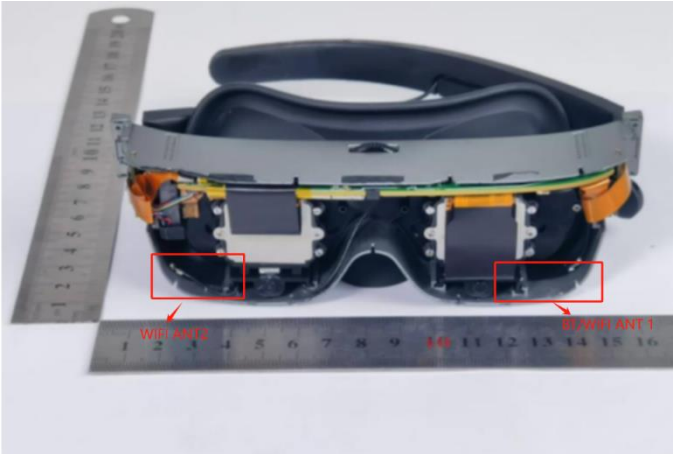
➢ Area Scan& Zoom Scan

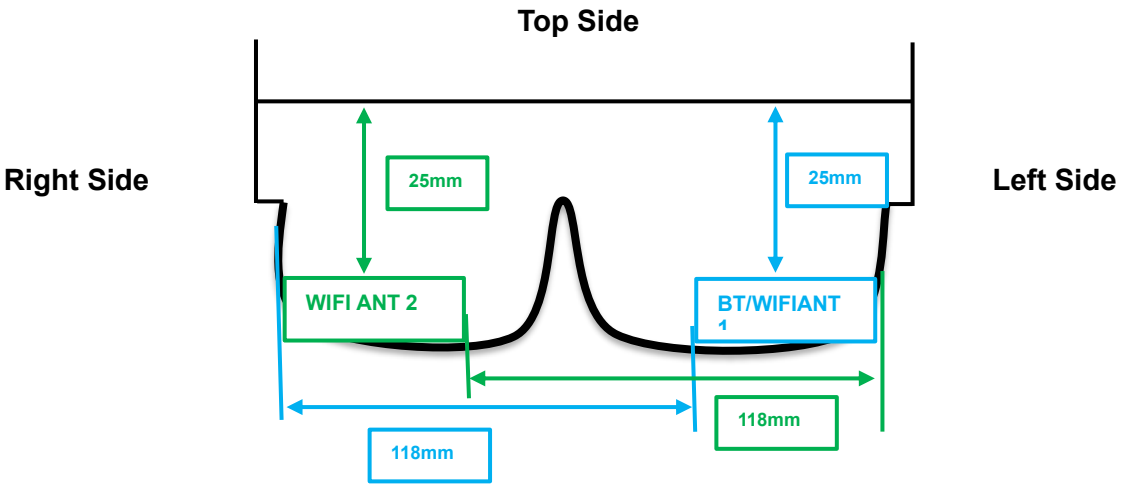
First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan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





Antenna Separation Distance(mm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
BT/WIFI ANT 1	≤5	≤5	≤5	118	25	≤5
WIFI ANT 2	≤5	≤5	118	≤5	25	≤5

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	BT	2.4G WLAN ANT 1	2.4G WLAN ANT 2	5.2G WLAN ANT 1	5.2G WLAN ANT 2
	Calculated Frequency (MHz)	2441	2437	2437	5240	5180
	Maximum Turn-up power (dBm)	3	17	17	11	10.6
	Maximum rated power(mW)	2.00	50.12	50.12	12.59	11.48
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.60	9.61	9.61	6.55	6.59
	Testing required?	NO	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.60	9.61	9.61	6.55	6.59
	Testing required?	NO	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	118	5	118
	exclusion threshold(mW)	9.60	9.61	776.09	6.55	745.91
	Testing required?	NO	YES	NO	YES	NO
Right Edge	Separation distance (mm)	118	118	5	118	5
	exclusion threshold(mW)	226.58	226.76	9.61	154.65	6.59
	Testing required?	NO	NO	YES	NO	YES
Top Edge	Separation distance (mm)	25	25	25	25	25
	exclusion threshold(mW)	48.00	48.04	48.04	32.76	32.95
	Testing required?	NO	YES	YES	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.60	9.61	9.61	6.55	6.59
	Testing required?	NO	YES	YES	YES	YES

Exposure Position	Wireless Interface	5.3G WLAN ANT 1	5.3G WLAN ANT 2	5.6G WLAN ANT 1	5.6G WLAN ANT 2
	Calculated Frequency (MHz)	5260	5260	5500	5580
	Maximum Turn-up power (dBm)	11.5	11.5	10.5	10
	Maximum rated power(mW)	14.13	14.13	11.22	10.00
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.54	6.54	6.40	6.35
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.54	6.54	6.40	6.35
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	118	5	118
	exclusion threshold(mW)	6.54	745.40	6.40	743.50
	Testing required?	YES	NO	YES	NO
Right Edge	Separation distance (mm)	118	5	118	5
	exclusion threshold(mW)	154.35	6.54	150.95	6.35
	Testing required?	NO	YES	NO	YES
Top Edge	Separation distance (mm)	25	25	25	25
	exclusion threshold(mW)	32.70	32.70	31.98	31.75
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.54	6.54	6.40	6.35
	Testing required?	YES	YES	YES	YES

Exposure Position	Wireless Interface	5.8G WLAN ANT 1	5.8G WLAN ANT 2
	Calculated Frequency (MHz)	5825	5755
	Maximum Turn-up power (dBm)	9	9
	Maximum rated power(mW)	7.94	7.94
Back Side	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.22	6.25
	Testing required?	YES	YES
Front Side	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.22	6.25
	Testing required?	YES	YES
Left Edge	Separation distance (mm)	5	118
	exclusion threshold(mW)	6.22	742.53
	Testing required?	YES	NO
Right Edge	Separation distance (mm)	118	5
	exclusion threshold(mW)	146.67	6.25
	Testing required?	NO	YES
Top Edge	Separation distance (mm)	25	25
	exclusion threshold(mW)	31.08	31.26
	Testing required?	NO	NO
Bottom Edge	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.22	6.25
	Testing required?	YES	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

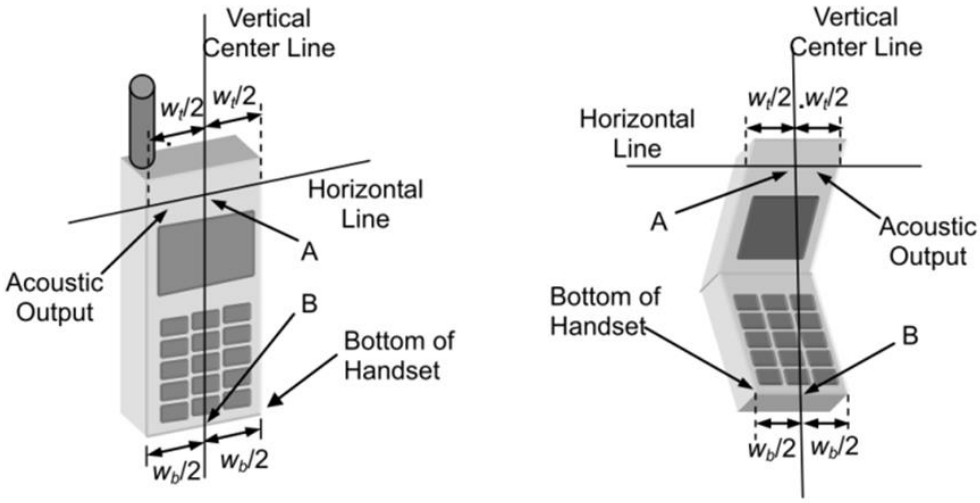
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.

8. EUT Test Position

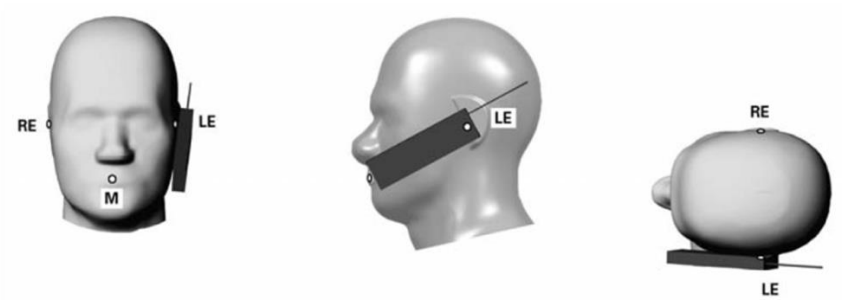
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

8.1 Define Two Imaginary Lines on the Handset

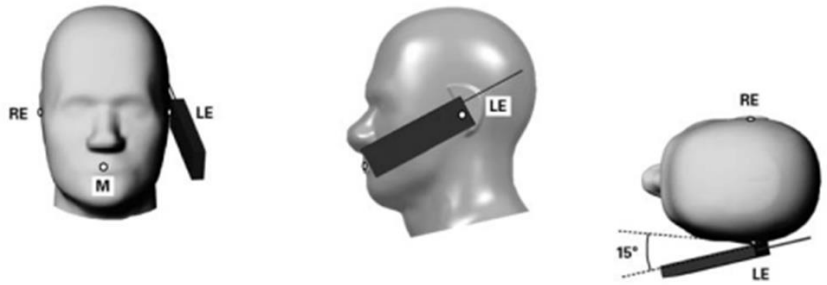
(1) The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
(2) The horizontal line is perpendicular to the vertical centerline and passes through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



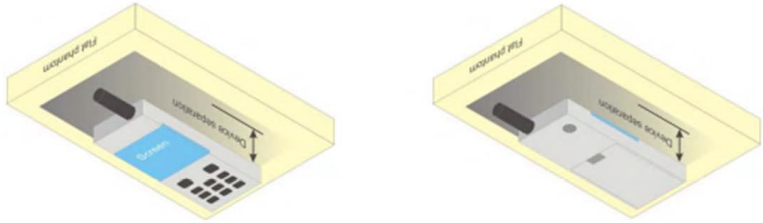
Cheek Position
1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane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



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

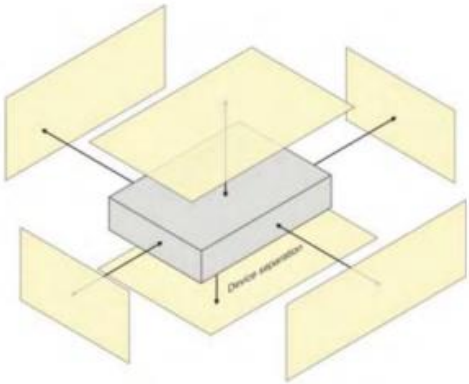


Body-worn Position Conditions:
Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset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



8.2 Hotspot mode exposure position condition

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



9. Uncertainty

9.1 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	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	√0.5	√0.5	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	√0.5	√0.5	2.41	2.41	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	1.81	1.81	∞
RF ambient conditions-Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3	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	∞
Extrapolation, Interpolation and Integration Algoritms for Max, SAR	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.60	2.60	11
Device holder uncertainty	3	N	1	1	1	3.00	3.00	7
Output Power Variation - SAR Drift Measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
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	2	N	1	1	0.84	2.00	1.68	∞
Liquid Conductivity - Measurement Uncertainty)	4	N	1	0.78	0.71	3.12	2.84	5
Liquid Permittivity - Measurement Uncertainty	5	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.47	10.34	
Expanded Uncertainty (95% Confidence interval)		K				20.95	20.69	

9.2 System validation Uncertainty

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	0.71	0.71	∞
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	0	N	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	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	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3	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	∞
Extrapolation, Interpolation and Integration Algoritms for Max, SAR	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Dipole								
Deviation of Experimental Source from Numerical Source	5	N	1	1	1	5.00	5.00	∞
Input Power and SAR Drift Measurement	0.5	R	$\sqrt{3}$	1	1	0.29	0.29	∞
Dipole Axis to Liquid Distance	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
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	2	N	1	1	0.84	2.00	1.68	∞
Liquid Conductivity - Measurement Uncertainty)	4	N	1	0.78	0.71	3.12	2.84	5
Liquid Permittivity - Measurement Uncertainty	5	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.16	10.03	
Expanded Uncertainty (95% Confidence interval)		K				20.32	20.06	

10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

2.4GWIFI					
Mode	Channel Number	Frequency (MHz)	ANT 1 Power (dBm)	ANT 2 Power (dBm)	MIMO Power (dBm)
802.11b	1	2412	16.51	16.09	N/A
	7	2437	16.65	16.80	N/A
	11	2462	15.21	15.16	N/A
802.11g	1	2412	13.07	12.49	N/A
	7	2437	13.39	12.50	N/A
	11	2462	11.89	11.33	N/A
802.11n-HT20	1	2412	14.04	13.50	16.79
	7	2437	14.29	13.41	16.88
	11	2462	12.79	12.20	15.51
802.11n-HT40	3	2422	13.46	12.64	16.08
	6	2437	13.68	12.65	16.20
	9	2452	12.84	11.99	15.45
802.11ax-HET20	1	2412	14.28	13.14	16.76
	7	2437	14.49	13.16	16.89
	11	2462	12.78	11.56	15.22
802.11ac-VHT40	3	2422	13.76	12.33	16.12
	6	2437	13.68	12.37	16.08
	9	2452	12.79	11.65	15.27

5.2G WLAN

5.2G WLAN					
Mode	Channel Number	Frequency (MHz)	ANT 1 Power (dBm)	ANT 2 Power (dBm)	MIMO Power (dBm)
802.11a20	36	5180	10.30	10.334	N/A
	40	5200	9.37	9.378	N/A
	48	5240	9.77	9.798	N/A
802.11ac-VHT20	36	5180	9.64	9.808	12.74
	40	5200	9.60	9.824	12.72
	48	5240	10.64	9.957	13.32
802.11ac-VHT40	38	5190	9.95	10.239	13.10
	46	5230	9.15	9.33	12.25
802.11ac-VHT80	42	5210	9.92	9.824	12.88
802.11ax-HE20	36	5180	9.67	9.72	12.71
	40	5200	9.67	9.835	12.76
	48	5240	10.61	9.898	13.28
802.11ax-HE40	38	5190	9.94	9.594	12.78
	46	5230	9.17	9.428	12.31
802.11ax-HE80	42	5210	9.92	9.751	12.85
802.11n-HT20	36	5180	9.95	9.357	12.67
	40	5200	8.69	8.733	11.72
	48	5240	9.02	9.063	12.05
802.11n-HT40	38	5190	9.28	9.413	12.36
	46	5230	8.72	8.97	11.86

5.3G WLAN

5.3G WLAN					
Mode	Channel Number	Frequency (MHz)	ANT 1 Power (dBm)	ANT 2 Power (dBm)	MIMO Power (dBm)
802.11a20	52	5260	10.97	11.00	N/A
	60	5300	9.11	9.09	N/A
	64	5320	9.46	9.51	N/A
802.11ac-VHT20	52	5260	10.74	10.74	13.75
	60	5300	9.39	9.30	12.36
	64	5320	9.68	9.73	12.71
802.11ac-VHT40	54	5270	10.03	9.91	12.98
	62	5310	10.40	10.41	13.42
802.11ac-VHT80	58	5290	9.61	9.58	12.61
802.11ax-HE20	52	5260	10.97	10.76	13.87
	60	5300	9.30	9.25	12.29
	64	5320	9.62	9.70	12.67
802.11ax-HE40	54	5270	9.87	9.90	12.89
	62	5310	10.26	10.38	13.33
802.11ax-HE80	54	5290	9.63	9.60	12.62
802.11n-HT20	52	5260	10.62	10.76	13.70
	60	5300	9.14	9.31	12.23
	64	5320	9.48	9.66	12.58
802.11n-HT40	54	5270	9.93	10.00	12.98
	62	5310	10.39	10.38	13.40

5.6G WLAN

5.6G WLAN					
Mode	Channel Number	Frequency (MHz)	ANT 1 Power (dBm)	ANT 2 Power (dBm)	MIMO Power (dBm)
802.11a20	100	5500	5.43	6.30	N/A
	116	5580	6.12	6.19	N/A
	140	5700	5.01	4.97	N/A
802.11ac-VHT20	100	5500	8.01	7.84	10.94
	116	5580	7.74	7.56	10.66
	140	5700	6.53	6.59	9.57
802.11ac-VHT40	102	5510	8.33	8.10	11.22
	110	5550	7.21	7.29	10.26
	134	5670	5.29	7.60	9.60
802.11ac-VHT80	106	5530	7.99	8.06	11.03
802.11ax-HE20	100	5500	10.07	7.53	11.99
	116	5580	7.55	8.66	11.15
	140	5700	6.53	6.54	9.54
802.11ax-HE40	102	5510	7.79	7.92	10.87
	110	5550	8.36	7.45	10.94
	134	5670	5.25	7.75	9.69
802.11ax-HE80	106	5530	8.03	8.12	11.09
802.11n-HT20	100	5500	6.81	6.21	9.53
	116	5580	6.07	5.98	9.04
	140	5700	4.89	4.87	7.89
802.11n-HT40	102	5510	7.12	7.51	10.33
	110	5550	7.34	8.15	10.77
	134	5670	5.18	5.15	8.17

5.8G WLAN

5.8G WLAN					
Mode	Channel Number	Frequency (MHz)	ANT 1 Power (dBm)	ANT 2 Power (dBm)	MIMO Power (dBm)
802.11a20	149	5745	8.27	8.27	N/A
	157	5785	7.77	7.75	N/A
	165	5825	8.84	8.66	N/A
802.11ac-VHT20	149	5745	8.24	8.25	11.25
	157	5785	7.46	7.55	10.51
	165	5825	8.67	8.64	11.67
802.11ac-VHT40	151	5755	8.79	8.81	11.81
	159	5795	8.25	8.27	11.27
802.11ac-VHT80	155	5775	8.65	8.76	11.71
802.11ax-HE20	149	5745	8.22	8.21	11.23
	157	5785	7.51	7.57	10.55
	165	5825	8.62	8.60	11.62
802.11ax-HE40	151	5755	8.74	8.86	11.81
	159	5795	8.27	8.21	11.25
802.11ax-HE80	155	5775	8.76	8.76	11.77
802.11n-HT20	149	5745	8.23	8.20	11.22
	157	5785	7.38	7.50	10.45
	165	5825	8.52	8.62	11.58
802.11n-HT40	151	5755	8.64	8.54	11.60
	159	5795	8.13	8.22	11.18

Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	0.70	1.17
	39	2441	1.92	1.55
	78	2480	1.36	1.37
π/4-QPSK(2Mbps)	0	2402	1.58	1.44
	39	2441	2.72	1.87
	78	2480	2.11	1.63
8DPSK(3Mbps)	0	2402	1.67	1.47
	39	2441	2.74	1.88
	78	2480	2.28	1.69

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	2.561	1.80
	19	2440	2.335	1.71
	39	2480	-0.054	0.99
GFSK(2Mbps)	0	2402	-0.604	0.87
	19	2440	-0.998	0.79
	39	2480	-3.116	0.49

Note. The power of this EUT BT is 2.74dBm (1.88mW), this power is less than the defined low power exclusion level (Pmax: 39 mW), so BT is exemption.

11. EUT and Test Setup Photo

11.1 EUT Photos

Front side

Back side

Right Edge

Left Edge

Top Edge

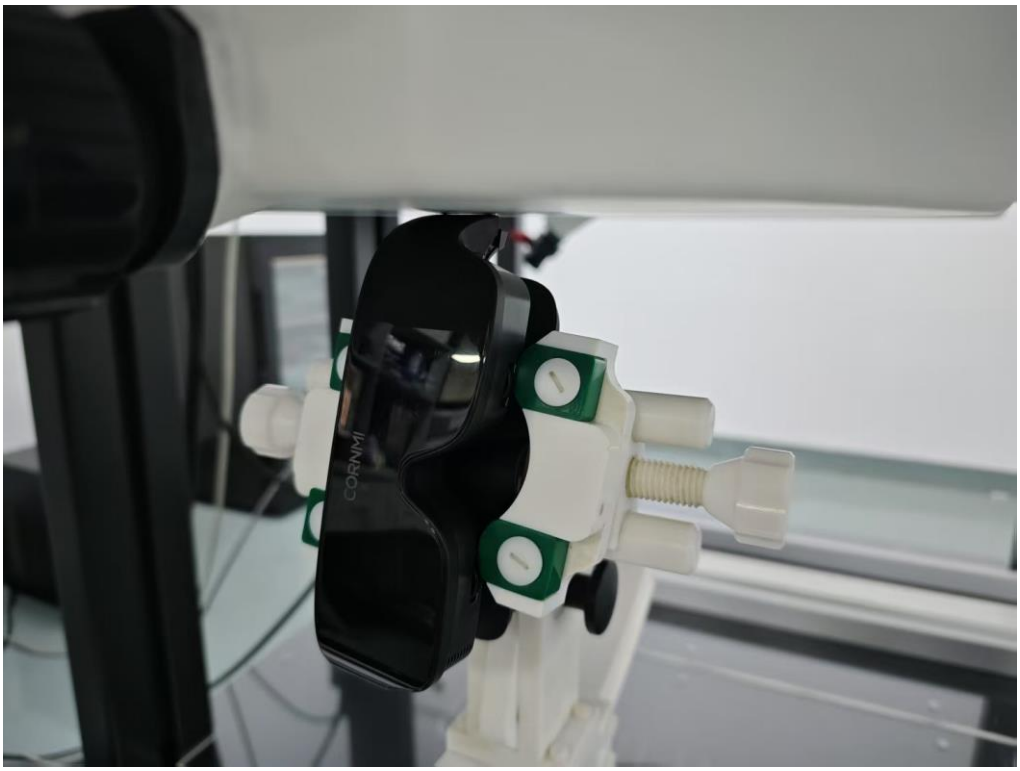
Bottom Edge

11.2 Setup Photos

Body Front side (separation distance is 0mm)

Body Back side (separation distance is 0mm)

Body Left side (separation distance is 0mm)

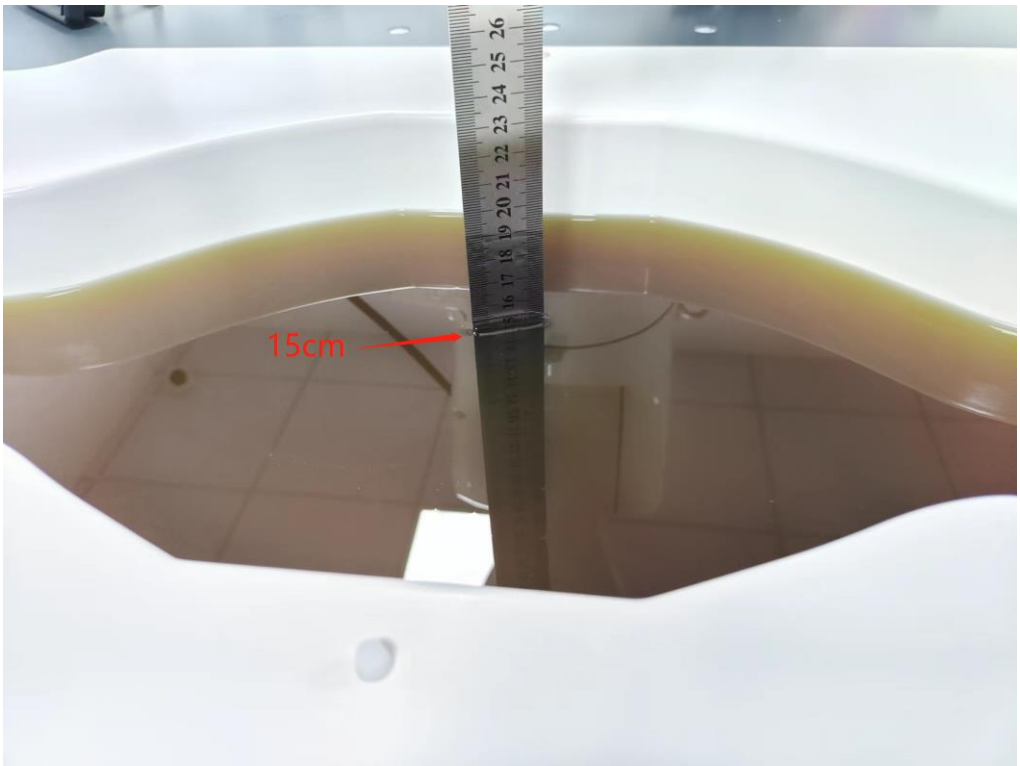


Body Right side (separation distance is 0mm)

Body Top side (separation distance is 0mm)

Body Bottom side (separation distance is 0mm)

Liquid depth (15 cm)



12. SAR Result Summary

12.1 Body-worn 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 ANT 1	802.11b	Front Side	2437	0.088	-2.74	17.00	16.65	0.095	/
		Back Side	2437	0.076	-0.05	17.00	16.65	0.082	/
		Left Edge	2437	0.082	1.33	17.00	16.65	0.089	/
		Right Edge	2437	0.023	-1.38	17.00	16.65	0.025	/
		Top Edge	2437	0.027	1.18	17.00	16.65	0.029	/
		Bottom Edge	2437	0.105	2.01	17.00	16.65	**0.114**	**1**
2.4GHz WLAN ANT 2	802.11b	Front Side	2437	0.103	-0.11	17.00	16.80	0.108	/
		Back Side	2437	0.086	2.82	17.00	16.80	0.090	/
		Left Edge	2437	0.024	3.07	17.00	16.80	0.025	/
		Right Edge	2437	0.099	2.36	17.00	16.80	0.104	/
		Top Edge	2437	0.033	-0.64	17.00	16.80	0.035	/
		Bottom Edge	2437	0.121	-0.07	17.00	16.80	**0.127**	**2**
2.4GHz WLAN ANT 1 MIMO	802.11ax20	Front Side	2437	0.095	-1.40	17.00	16.89	0.097	/
		Back Side	2437	0.079	-1.90	17.00	16.89	0.081	/
		Left Edge	2437	0.092	-0.73	17.00	16.89	0.094	/
		Right Edge	2437	0.023	2.44	17.00	16.89	0.024	/
		Top Edge	2437	0.03	0.05	17.00	16.89	0.031	/
		Bottom Edge	2437	0.115	0.69	17.00	16.89	**0.118**	**3**
2.4GHz WLAN ANT 2 MIMO	802.11ax20	Front Side	2437	0.082	-2.83	17.00	16.89	0.084	/
		Back Side	2437	0.069	-1.79	17.00	16.89	0.071	/
		Left Edge	2437	0.021	-0.44	17.00	16.89	0.022	/
		Right Edge	2437	0.081	2.05	17.00	16.89	0.083	/
		Top Edge	2437	0.029	1.06	17.00	16.89	0.030	/
		Bottom Edge	2437	0.098	1.77	17.00	16.89	**0.101**	**4**
5.2GHz WLAN ANT 1	802.11ac20	Front Side	5240	0.104	0.61	11.00	10.64	0.113	/
		Back Side	5240	0.083	2.34	11.00	10.64	0.090	/
		Left Edge	5240	0.096	-1.46	11.00	10.64	0.104	/
		Right Edge	5240	0.025	-0.96	11.00	10.64	0.027	/
		Top Edge	5240	0.034	-0.70	11.00	10.64	0.037	/
		Bottom Edge	5240	0.123	-3.87	11.00	10.64	**0.134**	**5**
5.2GHz WLAN ANT 2	802.11a	Front Side	5180	0.118	-1.08	10.60	10.33	0.125	/
		Back Side	5180	0.097	3.33	10.60	10.33	0.103	/
		Left Edge	5180	0.027	-2.74	10.60	10.33	0.029	/
		Right Edge	5180	0.114	3.64	10.60	10.33	0.121	/
		Top Edge	5180	0.036	2.91	10.60	10.33	0.038	/
		Bottom Edge	5180	0.142	-3.87	11.00	10.64	**0.154**	**6**
5.2GHz WLAN ANT 1 MIMO	802.11ac20	Front Side	5240	0.097	-1.71	13.60	13.32	0.103	/
		Back Side	5240	0.081	-0.88	13.60	13.32	0.086	/
		Left Edge	5240	0.091	3.10	13.60	13.32	0.097	/
		Right Edge	5240	0.021	-2.30	13.60	13.32	0.022	/
		Top Edge	5240	0.032	-1.42	13.60	13.32	0.034	/
		Bottom Edge	5240	0.115	1.97	13.60	13.32	**0.123**	**7**
5.2GHz WLAN ANT 2 MIMO	802.11ac20	Front Side	5240	0.074	-1.80	13.60	13.32	0.079	/
		Back Side	5240	0.064	-3.52	13.60	13.32	0.068	/
		Left Edge	5240	0.017	-1.75	13.60	13.32	0.018	/

		Right Edge	5240	0.069	3.61	13.60	13.32	0.074	/
		Top Edge	5240	0.022	3.46	13.60	13.32	0.023	/
		Bottom Edge	5240	0.089	-0.84	13.60	13.32	**0.095**	**8**
5.3GHz WLAN ANT 1	802.11a	Front Side	5260	0.155	1.83	11.50	10.97	0.175	/
		Back Side	5260	0.126	1.49	11.50	10.97	0.142	/
		Left Edge	5260	0.146	-3.60	11.50	10.97	0.165	/
		Right Edge	5260	0.036	-0.54	11.50	10.97	0.041	/
		Top Edge	5260	0.047	-1.08	11.50	10.97	0.053	/
		Bottom Edge	5260	0.187	0.69	11.50	10.97	**0.211**	**9**
5.3GHz WLAN ANT 2	802.11a	Front Side	5260	0.098	1.27	11.50	11.00	0.110	/
		Back Side	5260	0.078	1.56	11.50	11.00	0.088	/
		Left Edge	5260	0.023	1.39	11.50	11.00	0.026	/
		Right Edge	5260	0.09	3.02	11.50	11.00	0.101	/
		Top Edge	5260	0.029	-1.03	11.50	11.00	0.033	/
		Bottom Edge	5260	0.114	-1.00	11.50	11.00	**0.128**	**10**
5.3GHz WLAN ANT 1 MIMO	802.11ax20	Front Side	5260	0.132	1.26	14.00	13.87	0.136	/
		Back Side	5260	0.109	0.61	14.00	13.87	0.112	/
		Left Edge	5260	0.126	1.57	14.00	13.87	0.130	/
		Right Edge	5260	0.033	3.69	14.00	13.87	0.034	/
		Top Edge	5260	0.042	1.57	14.00	13.87	0.043	/
		Bottom Edge	5260	0.159	3.06	14.00	13.87	**0.164**	**11**
5.3GHz WLAN ANT 2 MIMO	802.11ax20	Front Side	5260	0.1	-2.92	14.00	13.87	0.103	/
		Back Side	5260	0.085	0.66	14.00	13.87	0.088	/
		Left Edge	5260	0.022	2.32	14.00	13.87	0.023	/
		Right Edge	5260	0.098	-0.05	14.00	13.87	0.101	/
		Top Edge	5260	0.031	-1.29	14.00	13.87	0.032	/
		Bottom Edge	5260	0.122	-0.35	14.00	13.87	**0.126**	**12**
5.6GHz WLAN ANT 1	802.11ax20	Front Side	5500	0.18	1.23	10.50	10.07	0.199	/
		Back Side	5500	0.149	1.29	10.50	10.07	0.165	/
		Left Edge	5500	0.171	-2.42	10.50	10.07	0.189	/
		Right Edge	5500	0.043	2.32	10.50	10.07	0.047	/
		Top Edge	5500	0.053	-1.15	10.50	10.07	0.059	/
		Bottom Edge	5500	0.214	1.35	10.50	10.07	**0.236**	**13**
5.6GHz WLAN ANT 2	802.11ax20	Front Side	5580	0.164	-0.35	9.00	9.66	0.141	/
		Back Side	5580	0.135	-1.87	9.00	9.66	0.116	/
		Left Edge	5580	0.036	1.22	9.00	9.66	0.031	/
		Right Edge	5580	0.157	0.50	9.00	9.66	0.135	/
		Top Edge	5580	0.051	-0.38	9.00	9.66	0.044	/
		Bottom Edge	5580	0.196	1.69	9.00	9.66	**0.168**	**14**
5.6GHz WLAN ANT 1 MIMO	802.11ax20	Front Side	5500	0.245	3.32	12.00	11.99	0.246	/
		Back Side	5500	0.202	2.69	12.00	11.99	0.202	/
		Left Edge	5500	0.23	2.54	12.00	11.99	0.231	/
		Right Edge	5500	0.055	3.32	12.00	11.99	0.055	/
		Top Edge	5500	0.078	-0.50	12.00	11.99	0.078	/
		Bottom Edge	5500	0.295	-2.82	12.00	11.99	**0.296**	**15**
5.6GHz WLAN ANT 2 MIMO	802.11ax20	Front Side	5500	0.128	0.21	12.00	11.99	0.128	/
		Back Side	5500	0.106	2.99	12.00	11.99	0.106	/
		Left Edge	5500	0.028	-0.06	12.00	11.99	0.028	/
		Right Edge	5500	0.12	3.18	12.00	11.99	0.120	/
		Top Edge	5500	0.04	-1.61	12.00	11.99	0.040	/

		Bottom Edge	5500	0.152	2.62	12.00	11.99	**0.152**	**16**
5.8GHz WLAN ANT 1	802.11a	Front Side	5825	0.16	2.78	9.00	8.84	0.166	/
		Back Side	5825	0.131	-1.98	9.00	8.84	0.136	/
		Left Edge	5825	0.15	-2.67	9.00	8.84	0.156	/
		Right Edge	5825	0.039	2.10	9.00	8.84	0.040	/
		Top Edge	5825	0.049	2.43	9.00	8.84	0.051	/
		Bottom Edge	5825	0.191	-0.30	9.00	8.84	**0.198**	**17**
5.8GHz WLAN ANT 2	802.11ax40	Front Side	5755	0.14	-1.76	9.00	8.86	0.145	/
		Back Side	5755	0.12	1.08	9.00	8.86	0.124	/
		Left Edge	5755	0.033	-2.27	9.00	8.86	0.034	/
		Right Edge	5755	0.134	-3.20	9.00	8.86	0.138	/
		Top Edge	5755	0.045	1.42	9.00	8.86	0.046	/
		Bottom Edge	5755	0.170	-3.03	9.00	8.86	**0.176**	**18**
5.8GHz WLAN ANT 1 MIMO	802.11ac40	Front Side	5755	0.214	1.78	12.00	11.81	0.224	/
		Back Side	5755	0.178	-0.81	12.00	11.81	0.186	/
		Left Edge	5755	0.206	2.14	12.00	11.81	0.215	/
		Right Edge	5755	0.05	-0.96	12.00	11.81	0.052	/
		Top Edge	5755	0.067	0.07	12.00	11.81	0.070	/
		Bottom Edge	5755	0.359	-2.58	12.00	11.81	**0.375**	**19**
5.8GHz WLAN ANT 2 MIMO	802.11ac40	Front Side	5755	0.142	-2.95	12.00	11.81	0.148	/
		Back Side	5755	0.114	3.07	12.00	11.81	0.119	/
		Left Edge	5755	0.031	-0.19	12.00	11.81	0.032	/
		Right Edge	5755	0.131	1.13	12.00	11.81	0.137	/
		Top Edge	5755	0.042	0.90	12.00	11.81	0.044	/
		Bottom Edge	5755	0.168	-3.08	12.00	11.81	**0.176**	**20**

Band	Mode	Max SAR (W/Kg)	WIFI MIMO
2.4G WLAN	802.11ax20	0.118	0.219
	802.11ax20	0.101	
5.2G WLAN	802.11ac20	0.123	0.218
	802.11ac20	0.095	
5.3G WLAN	802.11ax20	0.164	0.290
	802.11ax20	0.126	
5.6G WLAN	802.11ax20	0.296	0.448
	802.11ax20	0.152	
5.8G WLAN	802.11ax40	0.375	0.551
	802.11ax40	0.176	

Note:
1. The test separation of all above table is 0mm.
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. Bluetooth and WLAN can't simultaneous transmission at the same time.

13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2025.02.05	2028.02.04
5000MHz Dipole	MVG	DIP5G000	SN 06/22 DIP5G000-653	2025.02.05	2028.02.04
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2025.02.05	2026.02.04
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2025.02.05	2026.02.04
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	R&S	ZVL	116184	2025.03.05	2026.03.04
Multi Meter	Keithley	DMM6500	4527252	2025.03.06	2026.03.05
Signal Generator	Keysight	N5182B	MY59100717	2025.03.05	2026.03.04
Wireless Communication Test Set	R&S	CMW500	137737	2025.03.05	2026.03.04
Power Sensor	R&S	Z11	116184	2025.03.05	2026.03.04
Electronic Temperature hygrometer	N/A	ST-W2318	N/A	2025.03.05	2026.03.04
Temperature hygrometer	N/A	TP101	N/A	2025.03.05	2026.03.04

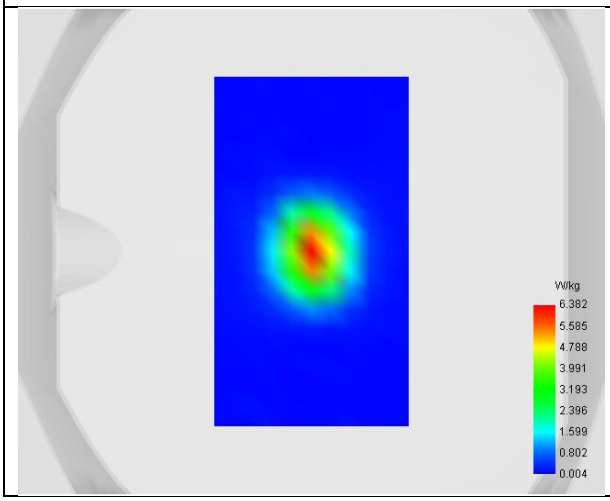
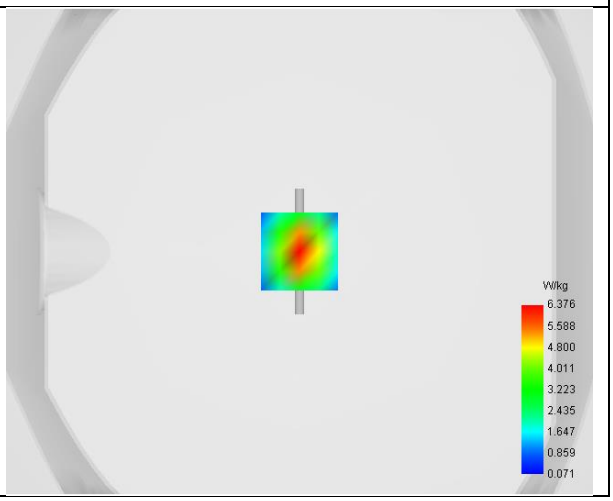
Appendix A. System Validation Plots

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:2025-03-21

Experimental conditions.

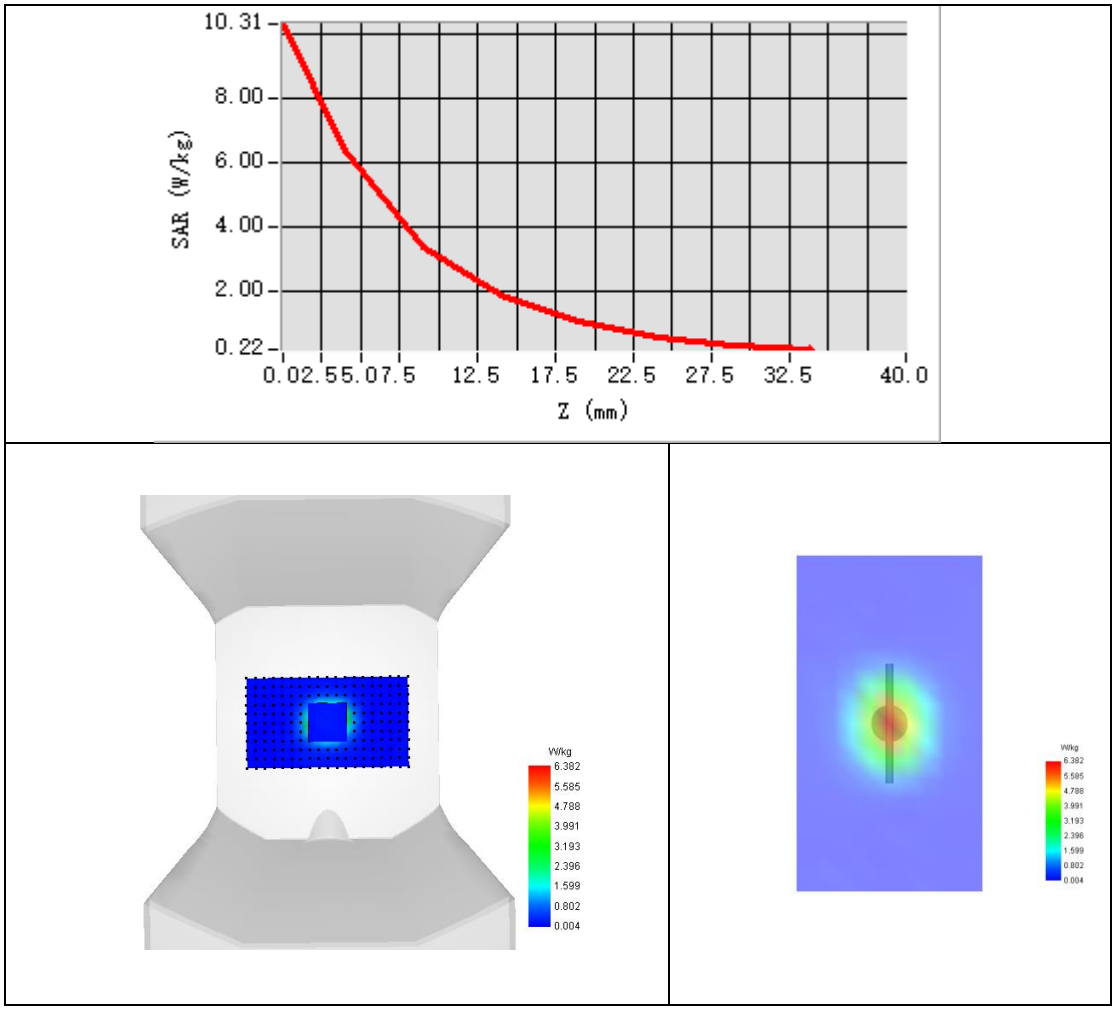
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	40.63
Conductivity (S/m)	1.83
Probe	SN 04/22 EPGO364
ConvF	2.33
Crest factor:	1:1

SURFACE	VOLUME SAR
	

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

SAR 10g (W/Kg)	2.390
SAR 1g (W/Kg)	5.428

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