



SAR Test Report

Report No.: STS2509190H01

Issued for

GEOMATE POSITIONING PTE. LTD.

38 BEACH ROAD #29-11 SOUTH BEACH TOWER
SINGAPORE (189767)

Product Name: Remote Controller

Brand Name: **GEOMATE**

Model Name: R100

Series Model(s): N/A

FCC ID: 2A7ZC-R100

Test Standard: ANSI/IEEE Std. C95.1
FCC 47 CFR Part 2 (2.1093)
IEEE Std. 1528-2013

Max. Report SAR (1g) Body: 0.512 W/kg

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

**TEST REPORT CERTIFICATION**

Applicant's name : GEOMATE POSITIONING PTE. LTD.
Address : 38 BEACH ROAD #29-11 SOUTH BEACH TOWER
SINGAPORE (189767)
Manufacturer's Name : GEOMATE POSITIONING PTE. LTD.
Address : 13 Tampines Lane #09-53 Singapore 528479

Product description

Product name : Remote Controller

Brand name : **GEOMATE**

Model name : R100

Series Model..... : N/A

Standards..... : ANSI/IEEE Std. C95.1
FCC 47 CFR Part 2 (2.1093)
IEEE Std. 1528-2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test..... :

Date (s) of performance of tests..... : 29 Oct. 2025

Date of Issue..... : 07 Nov. 2025

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

Testing Engineer :

Xin Liu

(Xin.Liu)

Technical Manager :

Shi fan-long

(Shifan. Long)

Authorized Signatory :

Bovey Yang

(Bovey Yang)





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Rev.	Issue Date	Report No.	Effect Page	Contents
00	07 Nov. 2025	STS2509190H01	ALL	Initial Issue



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	Remote Controller
Brand Name	GEOMATE
Model Name	R100
Series Model	N/A
Model Difference	N/A
Sample number	250926009-1
Battery	Rated Voltage: V Charge Limit Voltage: V Capacity: mAh
Device Category	Portable
Product stage	Production unit
RF Exposure Environment	General Population / Uncontrolled
Hardware Version	V1.0
Software Version	V1.0
Frequency Range	LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz 2.4G: 2406.5~2476.5MHz WLAN 802.11ac80: 5210 MHz



Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Body:0mm	Band	Mode	Body Worn (W/kg)
	PCE	LTE Band 5	0.330
	PCE	LTE Band 7	0.512
	DTS	2.4G WLAN	0.314
	DSS	2.4G	0.162
	NII	5.2G WLAN	0.446
1-g Sum SAR			0.958
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS) Unlicensed National Information Infrastructure TX(NII)		
Operating Mode:	LTE: QPSK, 16QAM 2.4G WLAN : 802.11b(DSSS):CCK,DQPSK,DBPSK 2.4G: GFSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM 5G WLAN: 802.11ac(OFDM):BPSK,QPSK,16-QAM,64-QAM,256-QAM		
Antenna Specification:	LTE: FPC Antenna WLAN: FPC Antenna 2.4G: Rob Antenna		
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time		
Hotspot Mode	Not Support		
DTM Mode	Not Support		
Note: 1. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active) 2. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests. 3. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power			



1.2 Test Environment

Ambient conditions in the SAR laboratory:

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

1.3 Test Factory

ShenZhen STS Test Services Co.,Ltd.

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01



2. Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	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. It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.
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 D04 v01	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
8	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
9	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

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

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

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

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

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

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

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

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental

techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

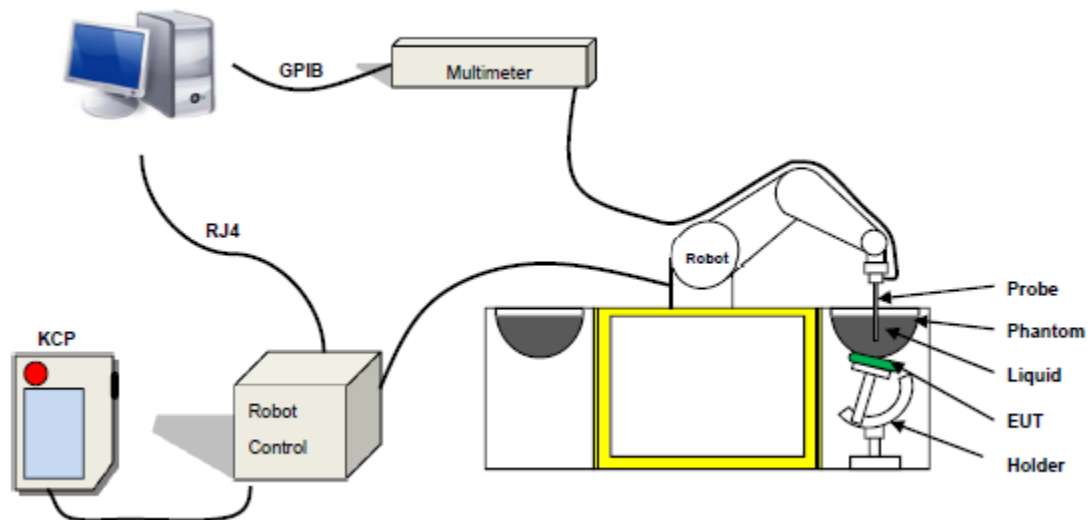
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

MVG SAR System Diagram:



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

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

The following figure shows the system.



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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 08/21 EPG0352 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: < 0.10 dB
- Spherical Isotropy: < 0.10 dB
- Calibration range: 150 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°



Figure 1-MVG COMOSAR Dosimetric E field Dipole

3.2.2 Phantom

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

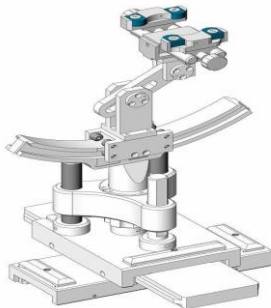
SN 32/14 SAM115



Figure-SN 21/21 ELLI48



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 if 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	ϵ_r	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



The following table gives the recipes for tissue simulating liquid and the theoretical Conductivity/Permittivity.

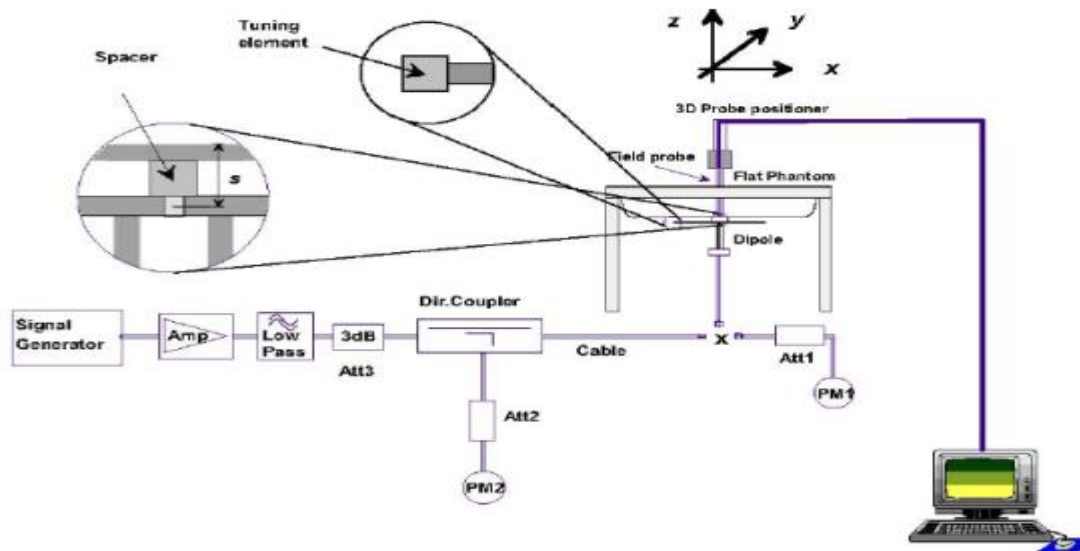
Body (From instrument manufacturer)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ϵ
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0.1	0	31.3	1.95	52.7
2600	68.2	0	0	0.1	0	31.7	2.16	52.5
Frequency(MHz)	Water	DGBE (%)			Salt (%)		Conductivity σ (S/m)	Permittivity ϵ
5200	78.60	21.40			/		5.30	49.00
5800	78.50	21.40			0.1		6.00	48.20

**LIQUID MEASUREMENT RESULTS**

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2025-10-29	22.6	43	829	22.3	Permittivity	41.53	42.17	1.55	±5
					Conductivity	0.90	0.93	3.41	±5
2025-10-29	22.6	43	835	22.3	Permittivity	41.50	41.92	1.01	±5
					Conductivity	0.90	0.89	-1.11	±5
2025-10-29	22.7	44	844	22.4	Permittivity	41.46	41.93	1.14	±5
					Conductivity	0.90	0.88	-2.34	±5
2025-10-29	22.7	44	2406.5	22.5	Permittivity	39.28	39.83	1.41	±5
					Conductivity	1.76	1.75	-0.64	±5
2025-10-29	22.7	44	2412	22.6	Permittivity	39.27	40.08	2.07	±5
					Conductivity	1.77	1.75	-0.92	±5
2025-10-29	22.7	44	2450	22.7	Permittivity	39.20	39.17	-0.08	±5
					Conductivity	1.80	1.79	-0.56	±5
2025-10-29	22.7	44	2510	22.7	Permittivity	39.12	39.23	0.28	±5
					Conductivity	1.86	1.87	0.32	±5
2025-10-29	22.7	44	2535	22.7	Permittivity	39.09	39.06	-0.07	±5
					Conductivity	1.89	1.91	1.02	±5
2025-10-29	22.7	44	2560	22.7	Permittivity	39.05	39.48	1.09	±5
					Conductivity	1.92	1.92	0.14	±5
2025-10-29	22.7	44	2600	22.7	Permittivity	39.00	38.35	-1.67	±5
					Conductivity	1.96	1.96	0.00	±5
2025-10-29	22.7	44	5200	22.7	Permittivity	36.00	35.97	-0.08	±5
					Conductivity	4.66	4.67	0.21	±5
2025-10-29	22.7	44	5210	22.7	Permittivity	35.99	37.06	2.97	±5
					Conductivity	4.67	4.68	0.20	±5

5.1 Validation System

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	Frequency (MHz)	Power	SAR _{1g} (W/Kg)	SAR _{10g} (W/Kg)	Drift (%)	1W Target		Difference percentage		Limited %
						SAR _{1g} (W/Kg)	SAR _{10g} (W/Kg)	1g	10g	
2025-10-29	835	100 mW	0.943	0.621	0.68	9.63	6.15	-2.08%	0.98%	10
		Normalize to 1 Watt	9.43	6.21						
2025-10-29	2450	100 mW	5.469	2.424	-2.11	54.70	24.11	-0.02%	0.54%	10
		Normalize to 1 Watt	54.69	24.24						
2025-10-29	2600	100 mW	5.605	2.402	-0.02	56.19	24.08	-0.25%	-0.25%	10
		Normalize to 1 Watt	56.05	24.02						
2025-10-29	5200	10 mW	1.592	0.559	-1.92	163.88	57.29	-2.87%	-2.46%	10
		Normalize to 1 Watt	159.17	55.88						

Note:

(1) We use a CW signal of 20dBm(835/2450/2600MHz) and 10dBm(5000-6000MHz) for system check, and then all SAR values are normalized to 1W forward power. The result must be within $\pm 10\%$ of target value.

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

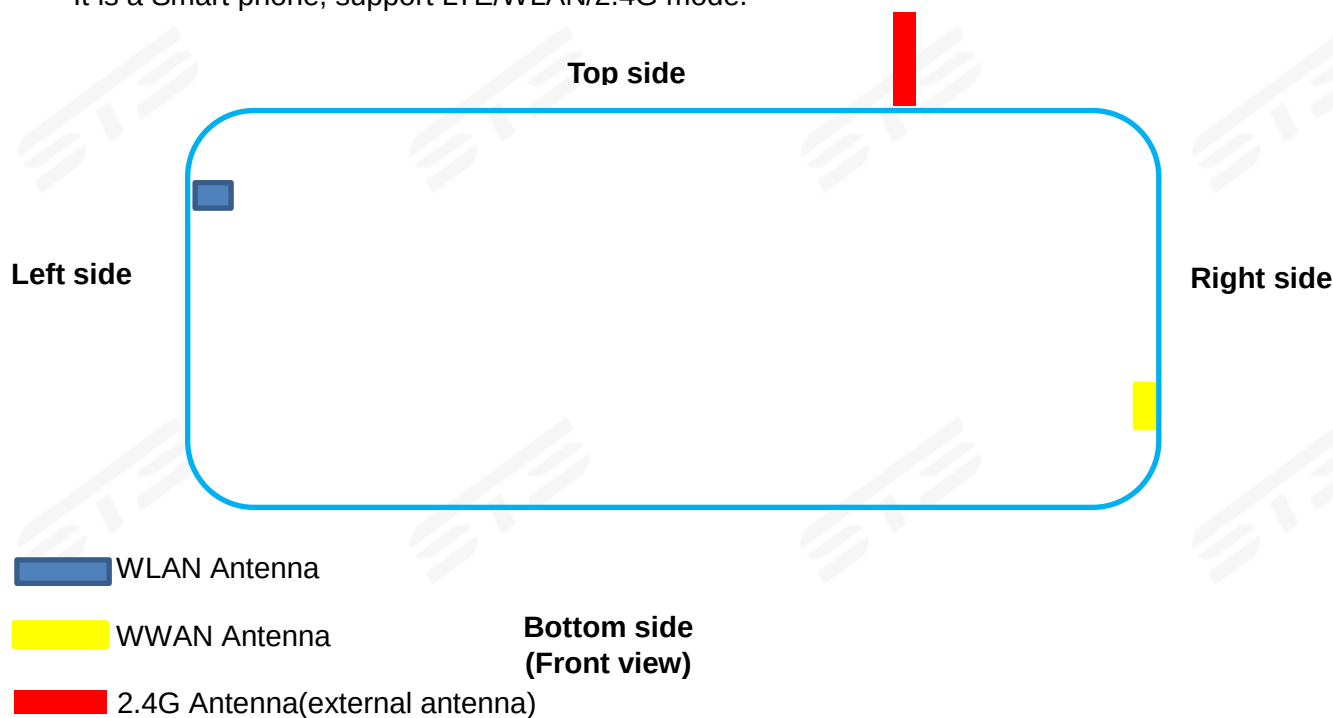
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 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 Smart phone, support LTE/WLAN/2.4G mode.



Antenna Separation Distance(cm)					
ANT	Back Side	Left Side	Right Side	Top Side	Bottom Side
WLAN	1	1	0.5	33	4
WWAN	1	1	33	0.5	13

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.

Exposure Position	Wireless Interface	LTE Band 5	LTE Band 7	2.4G WLAN	5.2G WLAN
	Calculated Frequency(GHz)	0.829	2.51	2.442	5.21
	Maximum Turn-up power (dBm)	24.5	23.5	14	10
	Maximum rated power(mW)	281.84	223.87	25.12	10.00
Back Side	Separation distance (cm)	1	1	1	1
	exclusion threshold(mW)	24.81	10.10	10.28	6.28
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (cm)	1	1	1	1
	exclusion threshold(mW)	24.81	10.10	10.28	6.28
	Testing required?	YES	YES	YES	YES
Left Side	Separation distance (cm)	33	33	0.5	0.5
	exclusion threshold(mW)	3425.21	7953.38	2.75	1.50
	Testing required?	NO	NO	YES	YES
Right Side	Separation distance (cm)	0.5	0.5	33	33
	exclusion threshold(mW)	9.34	2.69	7929.66	8610.75
	Testing required?	YES	YES	NO	NO
Top Side	Separation distance (cm)	13	13	4	4
	exclusion threshold(mW)	921.56	1345.46	143.44	110.07
	Testing required?	NO	NO	NO	NO
Bottom Side	Separation distance (cm)	3	3	12	12
	exclusion threshold(mW)	116.69	82.07	1158.48	1065.09
	Testing required?	YES	YES	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. Per KDB 447498 D04, 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 D04, if the maximum time-averaged power available does not exceed 1 mW. This stand-alone SAR exemption test.



4. Per KDB 447498 D04, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

5. Per KDB 447498 D04, An alternative to the SAR-based exemption is using below table and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in below table to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF Source frequency (MHz)	Threshold ERP(watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.



6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8. for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode, thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.
8. Per KDB 248227, as maximum rated power for U-NII-2A > U-NII-1, U-NII-2A was chosen for SAR evaluation. Based on the measurements obtained, SAR measurements on U-NII-1 are not required as highest reported SAR from U-NII-2A band is $\leq 1.2\text{W/Kg}$.

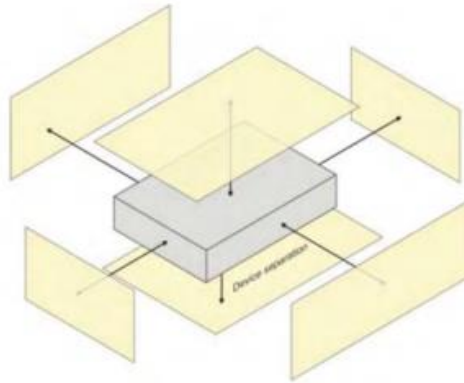
8. EUT Test Position

This EUT was tested in Back Side, Front Side, Bottom and Left Side

8.1 Body-worn Position Conditions:

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 D04 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 $> 1.2 \text{ W/kg}$, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.





9. Uncertainty

9.1 Measurement Uncertainty

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

SATIMO Uncertainty- SN 08/21 EPGO352									
Measurement uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+- %)	10g Ui (+- %)	vi
Measurement System									
Probe calibration	E.2.1	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	0.71	0.71	0.07	0.07	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.71	0.71	0.42	0.42	∞
Boundary effect	E.2.3	0.80	R	1.73	1.00	1.00	0.46	0.46	∞
Linearity	E.2.4	1.25	R	1.73	1.00	1.00	0.72	0.72	∞
System detection limits	E.2.4	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Modulation response	E.2.5	3.42	R	1.73	1.00	1.00	1.97	1.97	∞
Readout Electronics	E.2.6	0.26	N	1.00	1.00	1.00	0.26	0.26	∞
Response Time	E.2.7	0.17	R	1.73	1.00	1.00	0.10	0.10	∞
Integration Time	E.2.8	1.43	R	1.73	1.00	1.00	0.83	0.83	∞
RF ambient conditions-Noise	E.6.1	3.51	R	1.73	1.00	1.00	2.03	2.03	∞
RF ambient conditions-reflections	E.6.1	3.15	R	1.73	1.00	1.00	1.82	1.82	∞
Probe positioner mechanical tolerance	E.6.2	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.40	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.10	R	1.73	1.00	1.00	1.21	1.21	∞
Test sample Related									
Test sample positioning	E.4.2	3.10	N	1.00	1.00	1.00	3.10	3.10	∞
Device holder uncertainty	E.4.1	3.80	N	1.00	1.00	1.00	3.80	3.80	∞
Output power variation—SAR drift measurement	E.2.9	4.50	R	1.73	1.00	1.00	2.60	2.60	∞
SAR scaling	E.6.5	1.80	R	1.73	1.00	1.00	1.04	1.04	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	3.70	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.90	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	2.40	R	1.73	0.78	0.71	1.08	0.98	M
Liquid permittivity measurement	E.3.3	4.10	N	1.00	0.78	0.71	3.20	2.91	M
Liquid conductivity—temperature uncertainty	E.3.4	2.70	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity—temperature uncertainty	E.3.4	4.80	N	1.00	0.23	0.26	1.10	1.25	∞
Combined Standard Uncertainty			RSS				10.08	9.59	
Expanded Uncertainty (95% Confidence interval)			K=2				19.58	19.18	



SATIMO Uncertainty- SN 08/21 EPG0352									
System Validation uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+ %)	10g Ui (+-%)	vi
Measurement System									
Probe calibration	E.2.1	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	1.00	1.00	0.10	0.10	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.00	0.00	0.00	0.00	∞
Boundary effect	E.2.3	0.80	R	1.73	1.00	1.00	0.46	0.46	∞
Linearity	E.2.4	1.25	R	1.73	1.00	1.00	0.72	0.72	∞
System detection limits	E.2.4	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Modulation response	E.2.5	3.42	R	1.73	0.00	0.00	0.00	0.00	∞
Readout Electronics	E.2.6	0.26	N	1.00	1.00	1.00	0.26	0.26	∞
Response Time	E.2.7	0.17	R	1.73	0.00	0.00	0.00	0.00	∞
Integration Time	E.2.8	1.43	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions- Noise	E.6.1	3.51	R	1.73	1.00	1.00	2.03	2.03	∞
RF ambient conditions- reflections	E.6.1	3.15	R	1.73	1.00	1.00	1.82	1.82	∞
Probe positioner mechanical tolerance	E.6.2	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.40	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.10	R	1.73	1.00	1.00	1.21	1.21	∞
System validation source									
Deviation of experimental dipole from numerical dipole	E.6.4	4.80	N	1.00	1.00	1.00	4.80	4.80	∞
Input power and SAR drift measurement	8,6.6.4	5.10	R	1.73	1.00	1.00	2.94	2.94	∞
Dipole axis to liquid distance	8,E.6.6	2.40	R	1.73	1.00	1.00	1.39	1.39	∞
Phantom and set-up									
Phantom shell uncertainty— shape, thickness, and permittivity	E.3.1	3.70	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.90	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	E.3.3	2.40	R	1.73	0.78	0.71	1.08	0.98	∞
Liquid conductivity (measured)	E.3.3	4.10	N	1.00	0.78	0.71	3.20	2.91	M
Liquid permittivity (temperature uncertainty)	E.3.4	2.70	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity (measured)	E.3.4	4.80	N	1.00	0.23	0.26	1.10	1.25	M
Combined Standard Uncertainty			RSS				9.72	9.52	
Expanded Uncertainty (95% Confidence interval)			K=2				19.44	19.03	



SATIMO Uncertainty- SN 08/21 EPG0352									
。 System Check uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
		(+-%)							
Measurement System									
Probe calibration drift	E.2.1.3	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	0.00	0.00	0.00	0.00	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.00	0.00	0.00	0.00	∞
Boundary effect	E.2.3	0.8	R	1.73	0.00	0.00	0.00	0.00	∞
Linearity	E.2.4	1.25	R	1.73	0.00	0.00	0.00	0.00	∞
System detection limits	E.2.4	1.20	R	1.73	0.00	0.00	0.00	0.00	∞
Modulation response	E.2.5	3.42	R	1.73	0.00	0.00	0.00	0.00	∞
Readout Electronics	E.2.6	0.26	N	1.00	0.00	0.00	0.00	0.00	∞
Response Time	E.2.7	0.17	R	1.73	0.00	0.00	0.00	0.00	∞
Integration Time	E.2.8	1.43	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3.51	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions-reflections	E.6.1	3.15	R	1.73	0.00	0.00	0.00	0.00	∞
Probe positioner mechanical tolerance	E.6.2	1.2	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.4	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	3.9	R	1.73	0.00	0.00	0.00	0.00	∞
System check source (dipole)									
Deviation of experimental dipoles	E.6.4	4.8	N	1.00	1.00	1.00	4.80	4.80	∞
Input power and SAR drift measurement	8,6.6.4	5.1	R	1.73	1.00	1.00	2.94	2.94	∞
Dipole axis to liquid distance	8,E.6.6	2.4	R	1.73	1.00	1.00	1.39	1.39	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	3.7	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	2.4	R	1.73	0.78	0.71	1.08	0.98	∞
Liquid permittivity measurement	E.3.3	4.1	N	1.00	0.78	0.71	3.20	2.91	M
Liquid conductivity—temperature uncertainty	E.3.4	2.7	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity—temperature uncertainty	E.3.4	4.8	N	1.00	0.23	0.26	1.10	1.25	M
Combined Standard Uncertainty			RSS				5.56	5.20	
Expanded Uncertainty (95% Confidence interval)			K=2				11.12	10.41	



10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
802.11b	1	2412	13.91	24.60
	7	2437	13.80	23.99
	11	2462	13.39	21.83
802.11g	1	2412	12.62	18.28
	7	2437	14.10	25.70
	11	2462	13.90	24.55
802.11 n-HT20	1	2412	13.25	21.13
	7	2437	13.22	20.99
	11	2462	13.22	20.99
802.11 n-HT40	3	2422	14.26	26.67
	6	2437	14.61	28.91
	9	2452	14.45	27.86

2.4G

2.4G			
Mode	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK	2406.5	14.30	26.92
	2439	13.79	23.93
	2476.5	13.47	22.23

5.2G

5.2G WLAN				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
802.11ac-VHT80	42	5210	9.71	9.35



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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.93	23.72	23.83
1.4	1	2		24.17	23.72	23.86
1.4	1	5		23.83	23.97	24.10
1.4	3	0		24.13	23.82	23.76
1.4	3	1		23.80	23.85	23.87
1.4	3	2		23.99	23.86	24.11
1.4	6	0		23.79	23.74	23.86
1.4	1	0	16-QAM	24.02	23.80	24.09
1.4	1	2		24.07	23.70	24.09
1.4	1	5		24.09	23.71	24.02
1.4	3	0		24.00	24.04	23.71
1.4	3	1		24.03	24.14	23.98
1.4	3	2		23.94	23.98	23.88
1.4	6	0		23.87	23.73	23.88
3	1	0	QPSK	23.86	23.85	24.06
3	1	7		23.59	24.20	23.82
3	1	14		23.98	23.64	24.13
3	8	0		23.99	24.32	24.00
3	8	4		23.88	24.10	24.16
3	8	7		24.17	23.92	23.94
3	15	0		24.14	24.27	23.82
3	1	0	16-QAM	24.27	23.63	24.35
3	1	7		23.58	24.28	23.73
3	1	14		23.83	23.69	23.97
3	8	0		24.13	24.05	23.89
3	8	4		23.97	24.12	23.68
3	8	7		24.18	23.75	23.67
3	15	0		24.00	24.11	23.73



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.31	24.02	23.87
5	1	12		23.75	24.29	23.58
5	1	24		23.98	23.97	24.22
5	12	0		23.64	24.30	24.37
5	12	6		23.76	24.13	24.27
5	12	11		23.84	24.38	24.23
5	25	0		23.80	24.03	24.04
5	1	0	16-QAM	24.05	23.77	23.97
5	1	12		23.59	23.66	23.88
5	1	24		24.09	23.67	24.10
5	12	0		23.67	23.79	24.07
5	12	6		23.81	24.11	24.36
5	12	11		23.66	23.59	24.10
5	25	0		23.94	24.23	24.37
10	1	0	QPSK	24.33	23.78	24.28
10	1	24		24.14	24.27	24.33
10	1	49		24.34	24.02	24.17
10	25	0		23.78	23.88	24.22
10	25	12		24.14	24.08	24.16
10	25	24		24.01	24.10	24.39
10	50	0		24.10	24.22	24.28
10	1	0	16-QAM	23.87	24.42	24.39
10	1	24		24.11	24.01	24.11
10	1	49		24.13	24.44	24.31
10	25	0		24.41	24.13	24.14
10	25	12		24.10	24.13	23.76
10	25	24		24.21	24.14	24.26
10	50	0		24.08	23.73	24.06



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.03	21.68	22.70
5	1	12		23.14	22.29	22.69
5	1	24		22.46	22.54	22.76
5	12	0		22.81	22.46	23.01
5	12	6		22.94	21.52	23.73
5	12	11		23.74	24.15	23.19
5	25	0		23.26	23.57	22.24
5	1	0	16-QAM	23.28	22.46	22.62
5	1	12		23.42	22.60	23.09
5	1	24		22.93	22.65	22.77
5	12	0		23.50	22.69	21.84
5	12	6		23.45	22.57	22.43
5	12	11		22.85	22.41	23.87
5	25	0		22.28	23.20	22.46
10	1	0	QPSK	22.57	21.80	22.20
10	1	24		22.34	21.76	22.07
10	1	49		23.03	21.77	22.87
10	25	0		22.92	22.94	22.92
10	25	12		22.40	21.25	23.73
10	25	24		24.26	23.83	22.29
10	50	0		23.46	22.88	23.13
10	1	0	16-QAM	23.02	22.63	22.25
10	1	24		23.44	23.29	22.94
10	1	49		22.93	22.81	22.60
10	25	0		22.90	23.31	22.31
10	25	12		22.53	22.55	22.32
10	25	24		23.38	21.92	24.08
10	50	0		22.66	22.51	22.71



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.95	22.21	22.46
15	1	37		22.33	21.72	22.85
15	1	74		22.34	22.15	22.04
15	36	0		23.28	22.51	23.43
15	36	18		22.51	21.79	23.40
15	36	39		23.95	24.03	22.20
15	75	0		23.58	23.00	22.66
15	1	0	16-QAM	23.21	22.38	22.51
15	1	37		23.23	23.23	22.55
15	1	74		22.74	23.05	21.95
15	36	0		22.83	23.59	22.19
15	36	18		22.93	23.04	22.08
15	36	39		22.89	22.36	23.54
15	75	0		22.92	22.84	22.86
20	1	0	QPSK	23.46	21.72	22.81
20	1	49		22.47	22.34	22.28
20	1	99		22.81	22.29	22.78
20	50	0		22.95	22.92	23.21
20	50	24		22.77	21.44	23.28
20	50	49		23.65	23.67	22.40
20	100	0		23.02	23.10	22.47
20	1	0	16-QAM	23.62	23.20	22.61
20	1	49		23.26	22.76	22.34
20	1	99		23.08	22.90	22.10
20	50	0		22.71	23.45	21.68
20	50	24		23.26	22.84	22.64
20	50	49		23.35	22.35	23.29
20	100	0		22.53	23.39	22.75

11. EUT and Test Setup Photo

11.1 EUT Photo

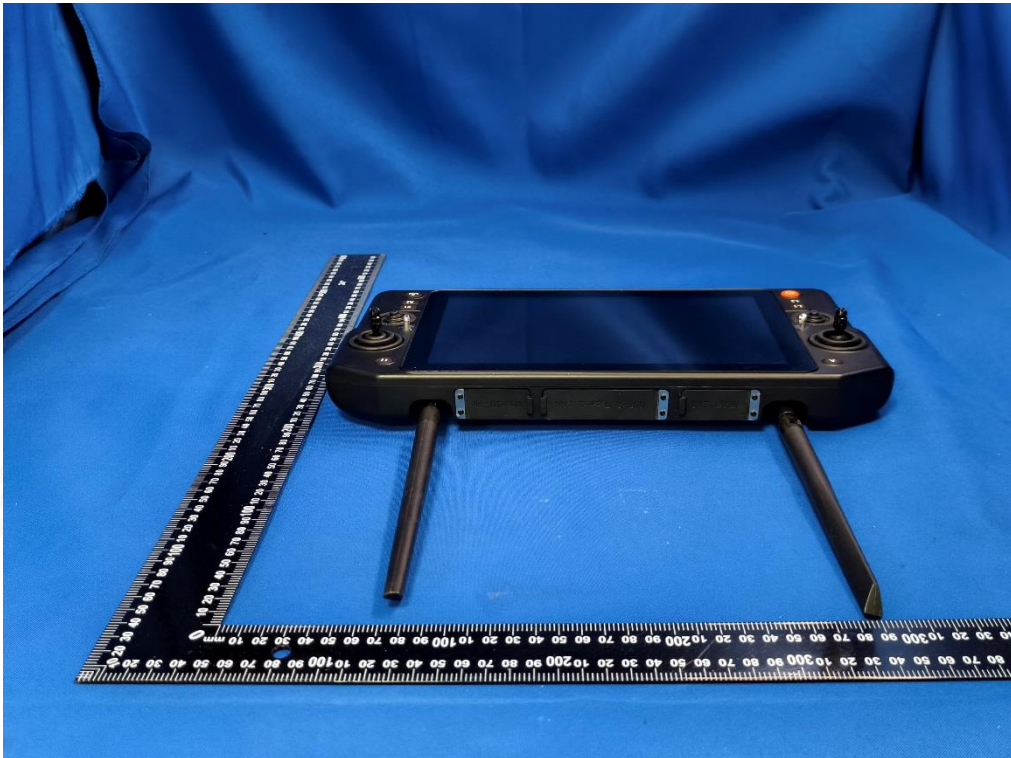
Front side



Back side



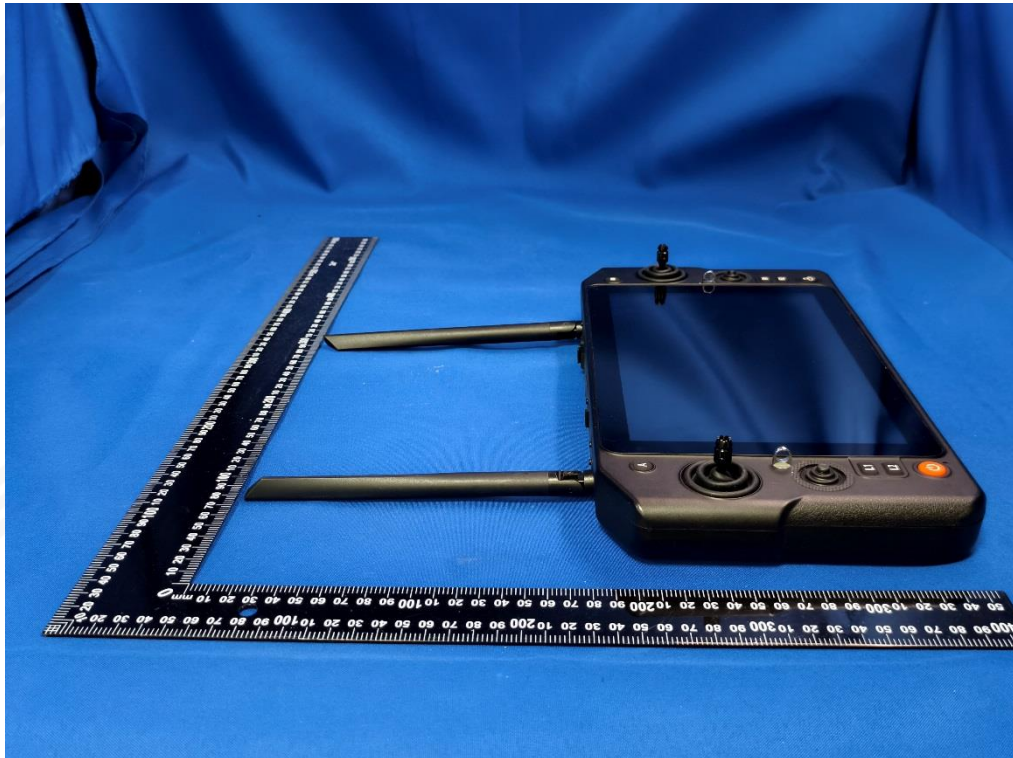
Top Edge



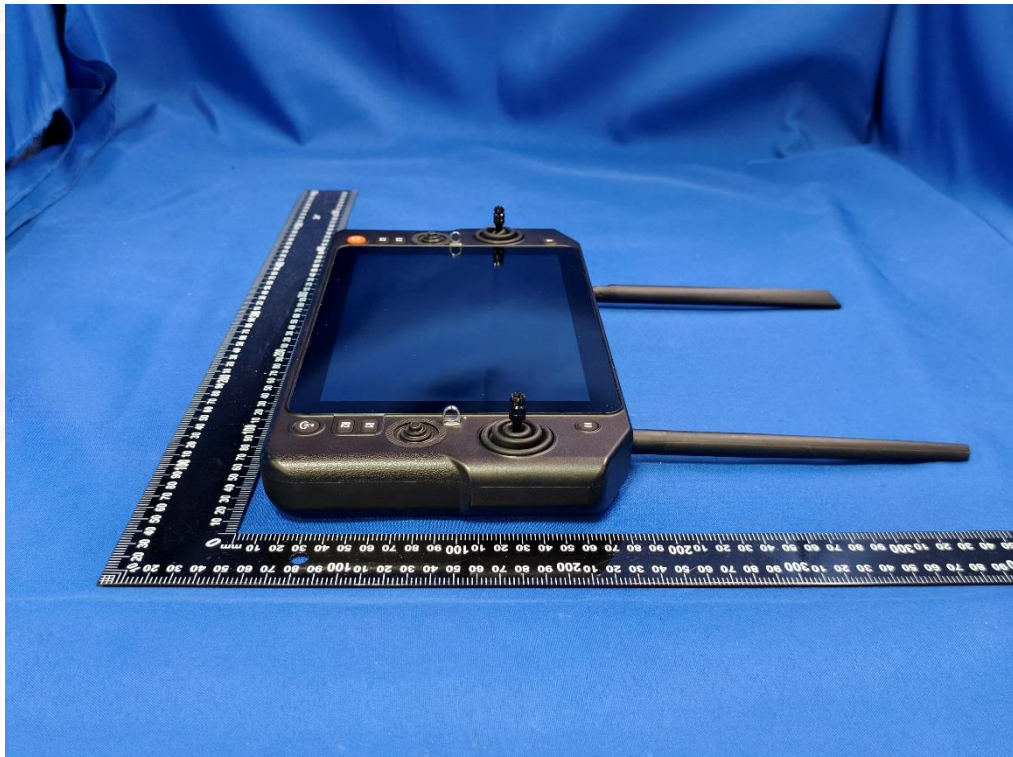
Bottom Edge



Left side

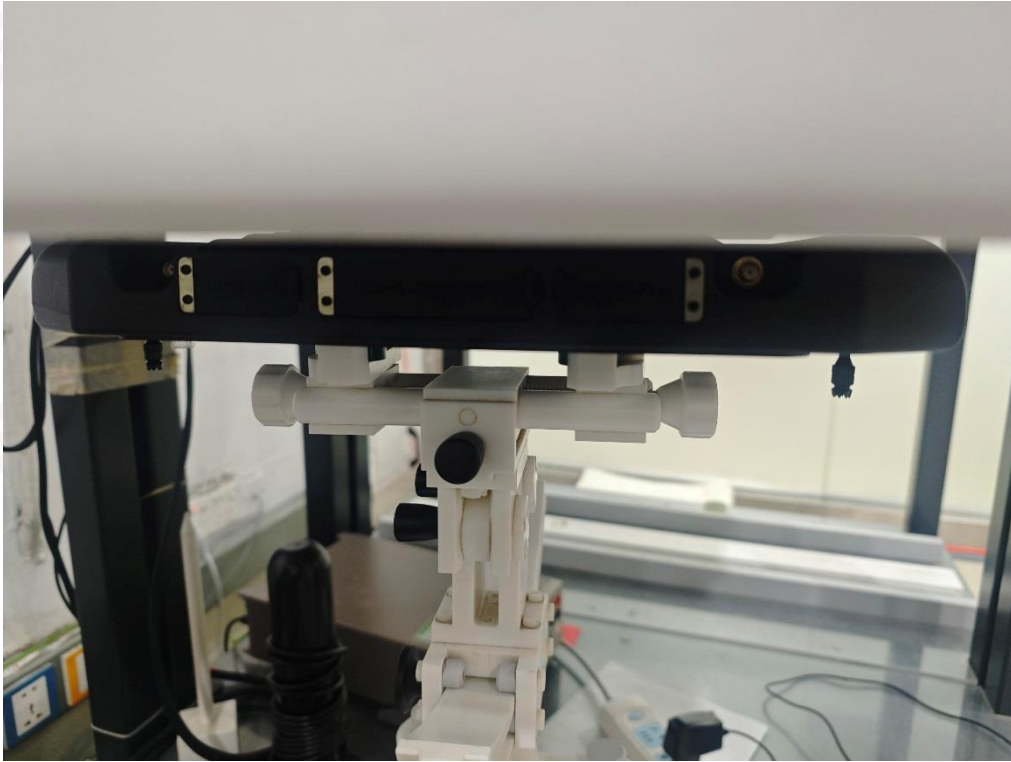


Right side



11.2 Setup Photo

Body Back side (separation distance is 0mm)



Body Front side (separation distance is 0mm)



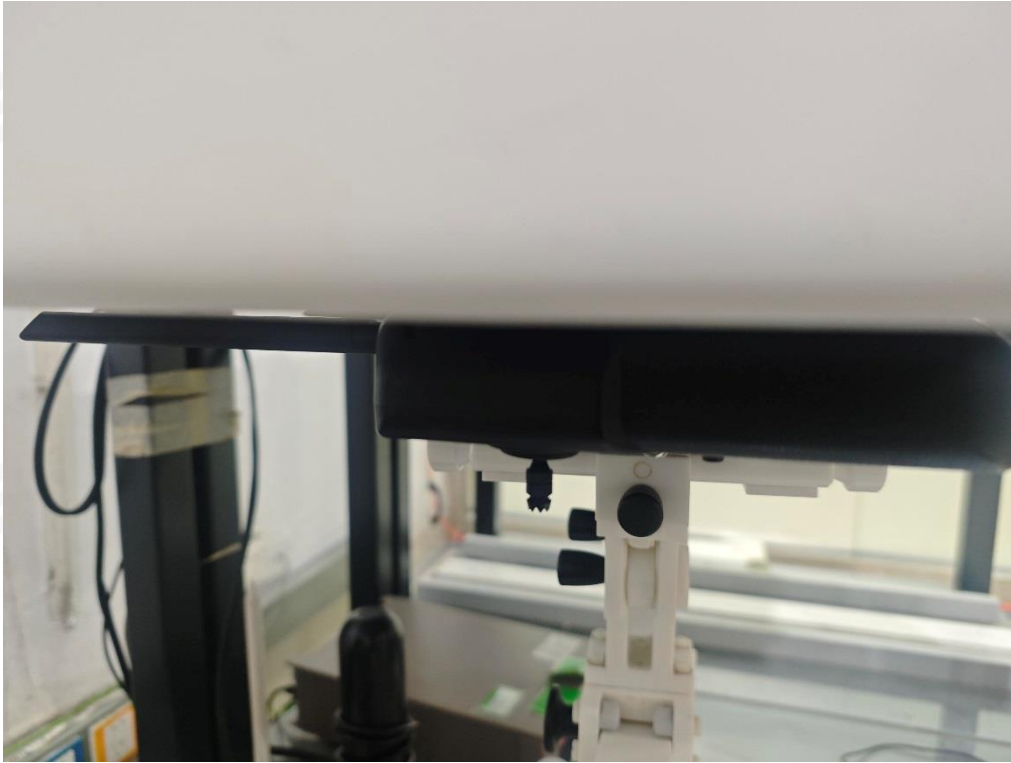
Body Right side (separation distance is 0mm)



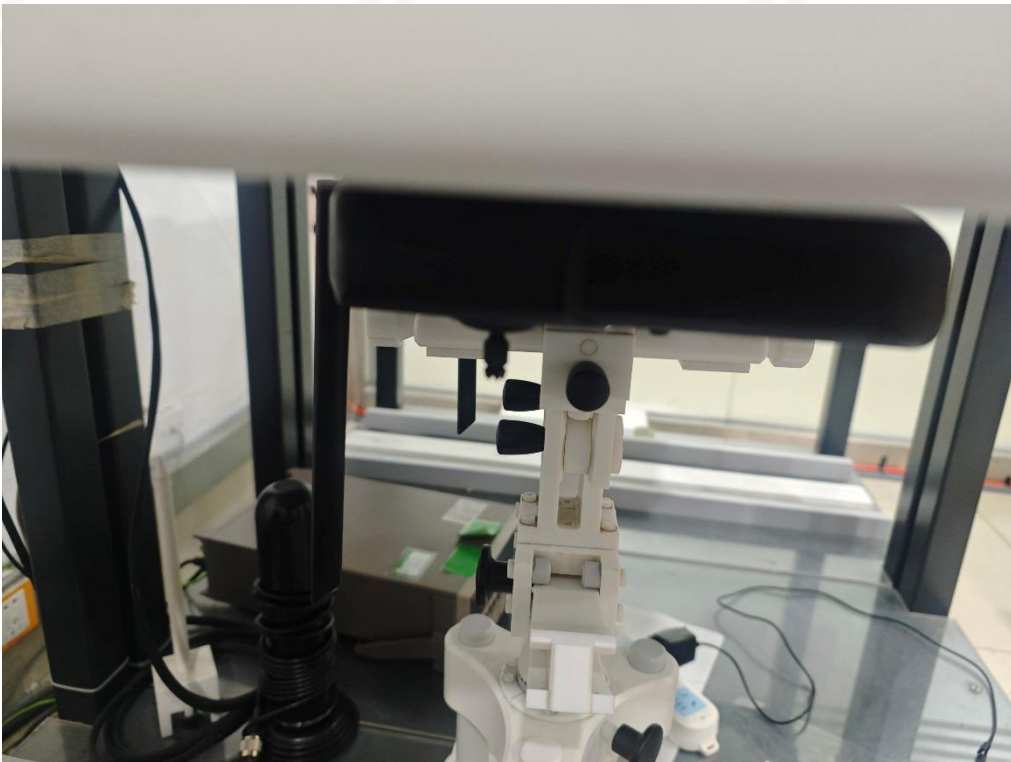
Body Bottom side (separation distance is 0mm)



Body Back Side Antenna Horizontal (separation distance is 0mm)



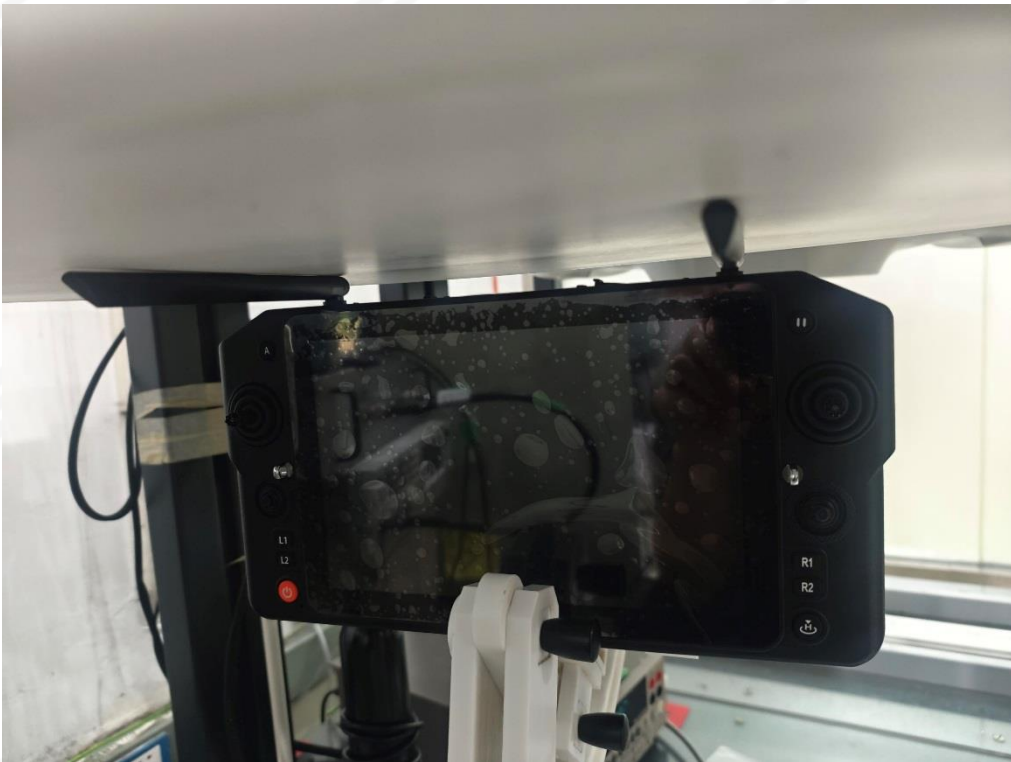
Body Back Side Antenna Vertical (separation distance is 0mm)



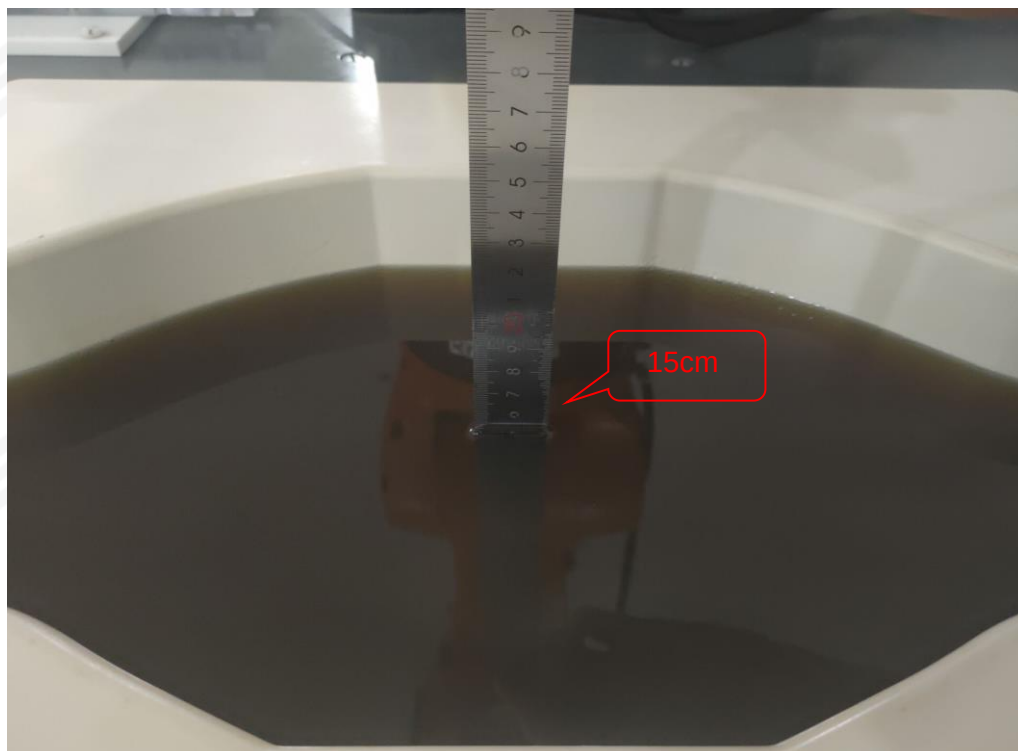
Body Top Side Antenna Vertical (separation distance is 0mm)



Body Top Side Antenna Horizontal (separation distance is 0mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Body-worn SAR

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaling Factor	Scaled SAR (W/Kg)	Meas.No.
LTE Band 5	10M	QPSK	1	49	Front side	829	0.106	-3.58	24.5	24.34	1.038	0.110	/
			25	24	Front side	844	0.095	3.78	24.5	24.39	1.026	0.097	/
			1	49	Back Side	829	0.318	3.89	24.5	24.34	1.038	0.330	1
			25	24	Back Side	844	0.310	-0.78	24.5	24.39	1.026	0.318	/
			1	49	Right Side	829	0.173	-2.09	24.5	24.34	1.038	0.179	/
			25	24	Right Side	844	0.155	1.66	24.5	24.39	1.026	0.159	/
			1	49	Bottom Side	829	0.146	2.86	24.5	24.34	1.038	0.151	/
			25	24	Bottom Side	844	0.130	3.97	24.5	24.39	1.026	0.133	/
LTE Band 7	20M	QPSK	1	0	Front side	2510	0.236	-2.14	23.5	23.46	1.009	0.238	/
			50	49	Front side	2535	0.221	1.91	24	23.67	1.079	0.238	/
			1	0	Back Side	2510	0.507	1.33	23.5	23.46	1.009	0.512	2
			1	0	Back Side	2535	0.335	-2.15	23.5	21.72	1.507	0.505	/
			1	0	Back Side	2560	0.421	-2.01	23.5	22.81	1.172	0.493	/
			50	49	Back Side	2535	0.471	2.34	24	23.67	1.079	0.508	/
			1	0	Right Side	2510	0.289	2.47	23.5	23.46	1.009	0.292	/
			50	49	Right Side	2535	0.256	0.51	24	23.67	1.079	0.276	/
			50	0	Bottom Side	2510	0.245	3.98	23.5	23.46	1.009	0.247	/
			50	49	Bottom Side	2535	0.220	3.51	24	23.67	1.079	0.237	/

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaling Factor	Scaled SAR (W/Kg)	Meas.No.
2.4GHz WLAN	802.11b	Front Side	2412	0.142	-0.25	14.00	13.91	1.021	0.145	/
		Back Side	2412	0.308	-0.53	14.00	13.91	1.021	0.314	3
		Left Side	2412	0.210	1.45	14.00	13.91	1.021	0.214	/
2.4G	GFSK	Back Side Antenna Horizontal	2406.5	0.046	-3.58	14.50	14.30	1.047	0.048	/
		Back Side Antenna Vertical	2406.5	0.015	3.78	14.50	14.30	1.047	0.016	/
		Top Side Antenna Vertical	2406.5	0.076	3.89	14.50	14.30	1.047	0.080	/
		Top Side Antenna Horizontal	2406.5	0.155	3.12	14.50	14.30	1.047	0.162	4
5.2GHz WLAN	802.11a c-VHT80	Front Side	5210	0.165	-2.14	10.00	9.71	1.069	0.176	/
		Back Side	5210	0.417	0.58	10.00	9.71	1.069	0.446	5
		Left Side	5210	0.328	0.69	10.00	9.71	1.069	0.351	/

Note:

- The test separation of all above table is 0mm.
- Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - 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.
 - Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- 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/5G WLAN
	2. LTE + 2.4G
	3. 2.4G + 2.4GHz WLAN/5G WLAN

NOTE:

1. 2.4G and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
4. 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	0.512	0.826
		2.4G WLAN	0.314	
LTE + 5G WLAN	Body	LTE	0.512	0.958
		5G WLAN	0.446	
LTE + 2.4G	Body	LTE	0.512	0.674
		2.4G	0.162	
2.4G + 2.4G WLAN	Body	2.4G	0.162	0.476
		2.4G WLAN	0.314	
2.4G + 5G WLAN	Body	2.4G	0.162	0.608
		5G WLAN	0.446	

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
SAR Test System	SATIMO	N/A	V5.3.15.11	N/A	N/A
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2023.07.04	2026.07.03
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	2023.07.04	2026.07.03
2600MHz Dipole	MVG	SID2600	SN 30/14 DIP2G600-336	2023.07.04	2026.07.03
Waveguide	MVG	SWG5500	SN 13/14 WGA32	2023.07.04	2026.07.03
E-Field Probe	MVG	SSE2	SN 08/21 EPGO352	2025.09.15	2026.09.14
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2025.09.15	2026.09.14
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom3	MVG	SAM	SN 21/21 ELLI48	N/A	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	N/A	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	N/A	N/A
Attenuator	Agilent	HXT-10-8-SMA	240327017	2025-02-22	2026-02-21
Directional coupler	Xi'an Xingbo	XBOH-OA08-20dB	211123-4-3	2025-02-22	2026-02-21
Network Analyzer	Agilent	E5071C	MY46520378	2025-09-26	2026-09-24
Multi Meter	Keithley	Multi Meter 2000	4050073	2025-09-22	2026-09-21
Signal Generator	Agilent	N5182A	MY50140530	2025-09-26	2026-09-25
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2025-02-22	2026-02-21
Wireless Communication Test Set	R&S	CMW500	156324	2025-10-29	2026-09-24
Power Amplifier	DESAY	WCS-DLNA50M8G50G1	CSKJLNA231227A	2025-09-29	2026-09-28
Power Meter	R&S	NRP	100510	2025-10-29	2026-09-24
Power Sensor	R&S	NRP-Z11	101919	2025-10-29	2026-09-24
Power Sensor	Keysight	U2021XA	MY56280002	2025-10-29	2026-09-24
Temperature hygrometer	TOPRIE	TP502V4-P	6700000124198	2025.10.09	2026.10.08
Thermograph	Elitech	RC-4	S/N EF7176501537	2025.10.17	2026.10.16



Appendix A. System Validation Plots

System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

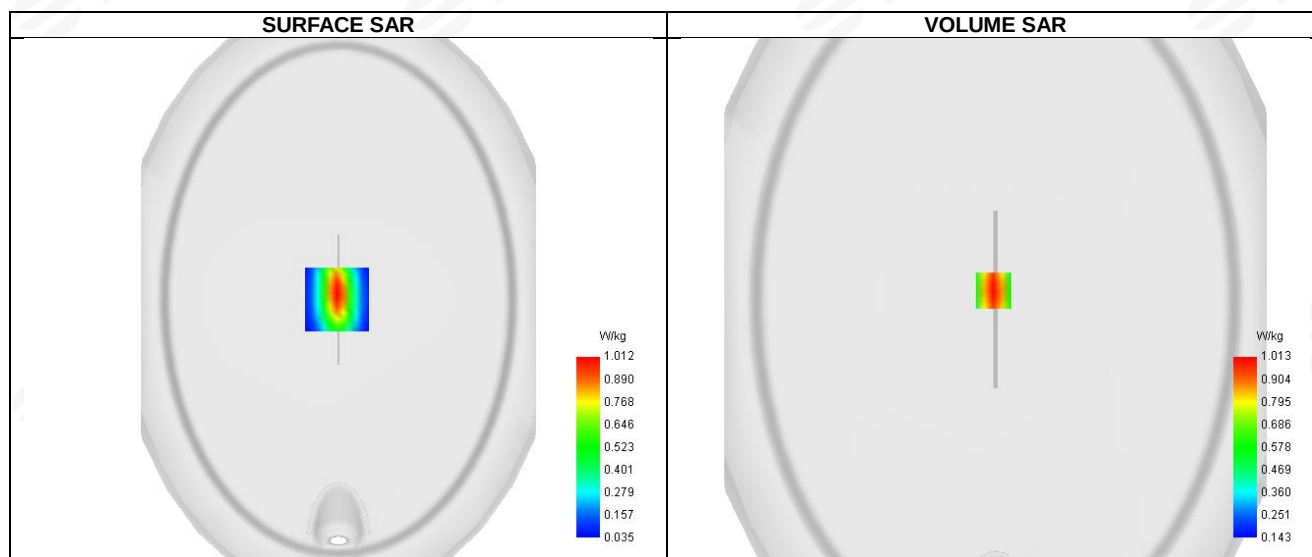
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2025-10-29

Experimental conditions

Phantom	Validation plane
Device Position	Dipole
Band	835MHz
Channels	Middle
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.92
Conductivity (S/m)	0.89
Probe	SN 08/21 EPGO352
ConvF	1.49
Crest factor:	1:1

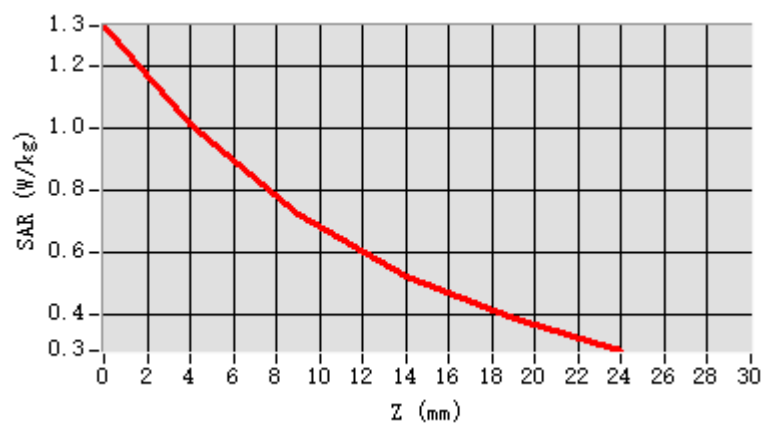


D. SAR 1g & 10g

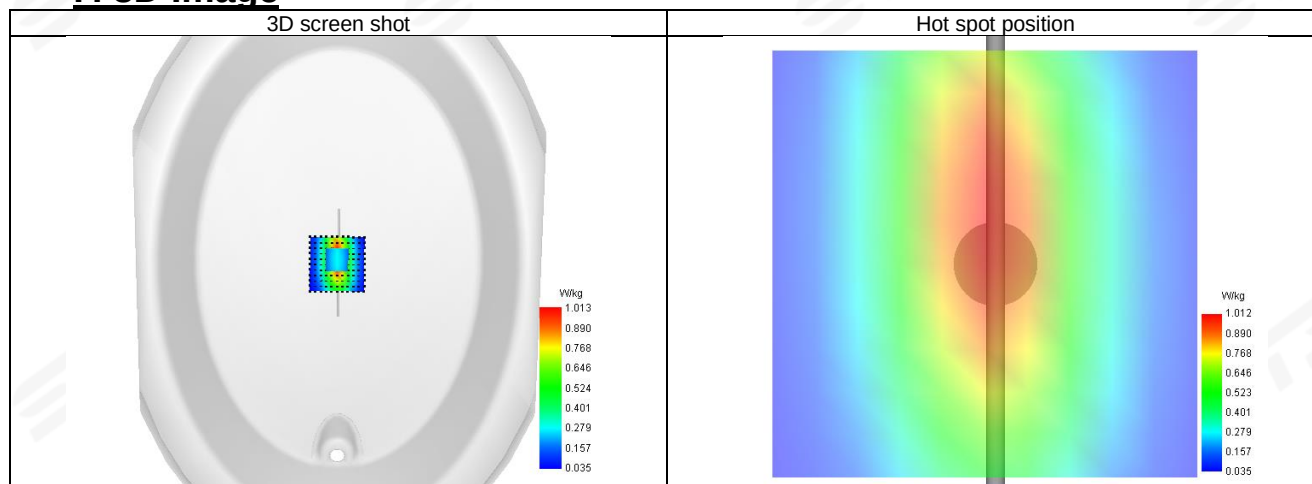
SAR 10g (W/Kg)	0.621
SAR 1g (W/Kg)	0.943
Horizontal validation criteria: minimum distance (mm)	12.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	71.372161

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.327	1.013	0.723	0.524	0.387



F. 3D Image



**System Performance Check Data (2450MHz)**

Type: Phone measurement (Complete)

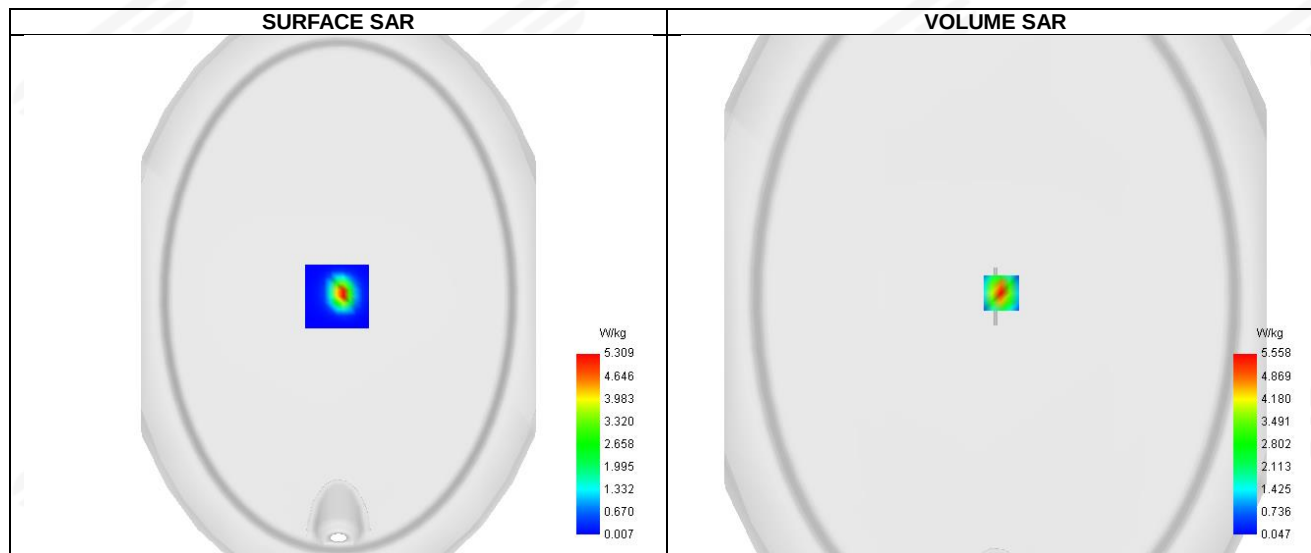
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2025-10-29

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	2450MHz
Channels	Middle
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.17
Conductivity (S/m)	1.79
Probe	SN 08/21 EPG0352
ConvF	1.82
Crest factor:	1:1



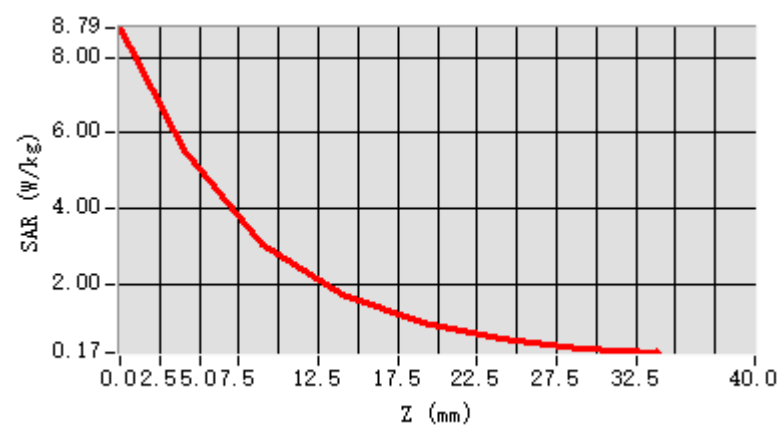
Maximum location: X=5.00, Y=3.00 ; SAR Peak: 8.73 W/kg

D. SAR 1g & 10g

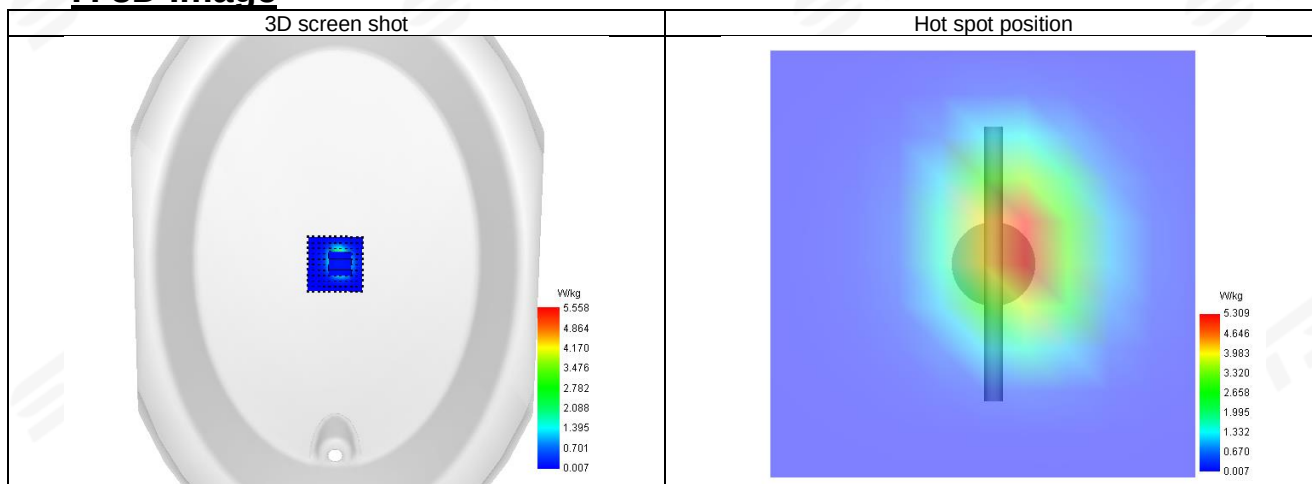
SAR 10g (W/Kg)	2.424
SAR 1g (W/Kg)	5.469
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	54.782196

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	8.790	5.558	3.045	1.721	0.960	0.536	0.299



F. 3D Image



**System Performance Check Data(2600MHz)**

Type: Phone measurement (Complete)

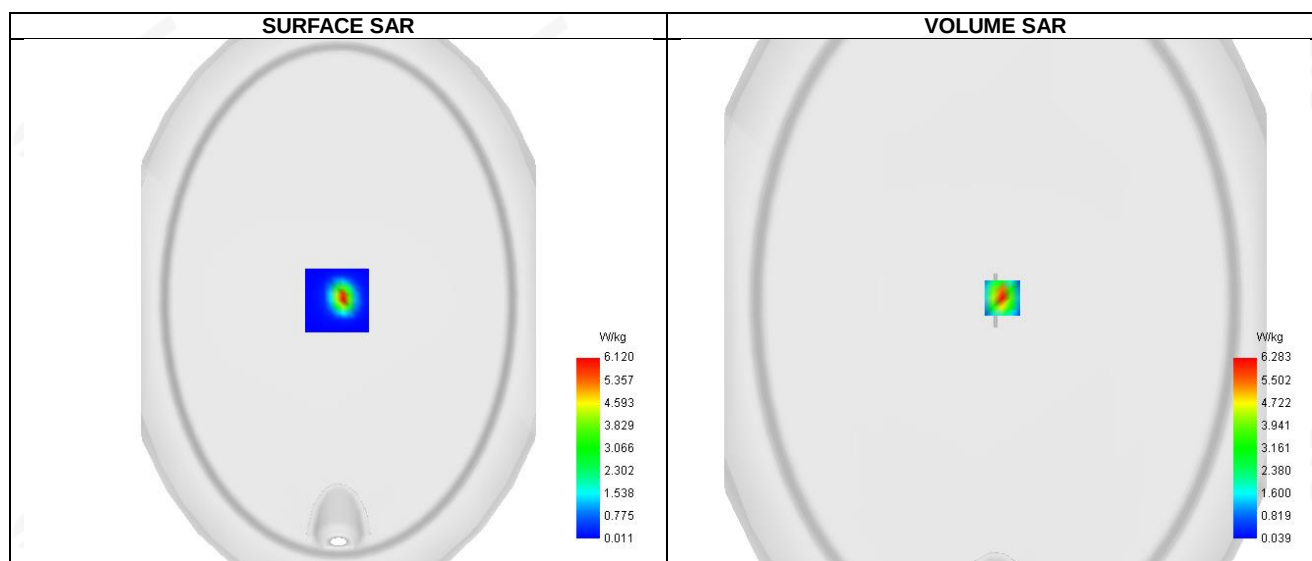
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2025-10-29

Experimental conditions.

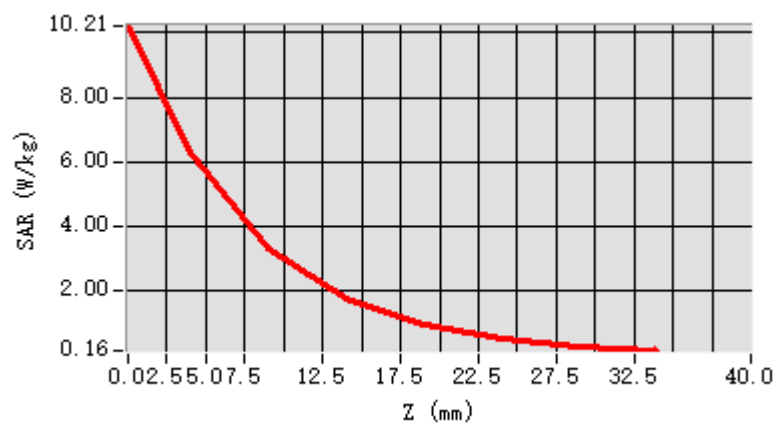
Phantom	Validation plane
Device Position	Dipole
Band	2600MHz
Channels	Middle
Signal	CW
Frequency (MHz)	2600
Relative permittivity	38.35
Conductivity (S/m)	1.96
Probe	SN 08/21 EPGO352
ConvF	1.70
Crest factor:	1:1

**D. SAR 1g & 10g**

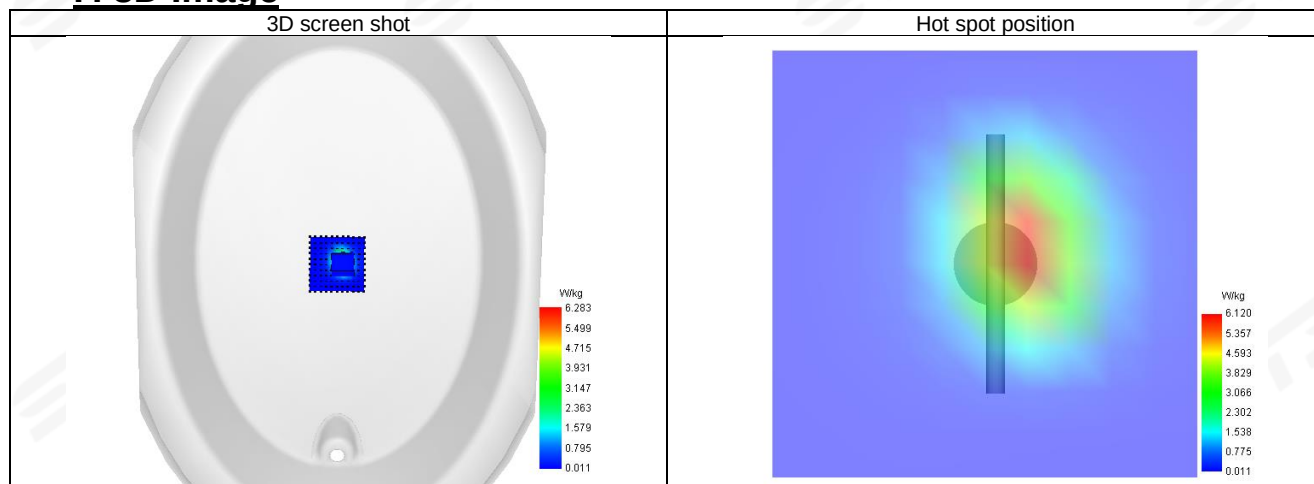
SAR 10g (W/Kg)	2.402
SAR 1g (W/Kg)	5.605
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	52.477333

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	10.211	6.283	3.297	1.796	0.963	0.517	0.277



F. 3D Image



**System Performance Check Data (5200MHz)**

Type: Dipole measurement (Complete)

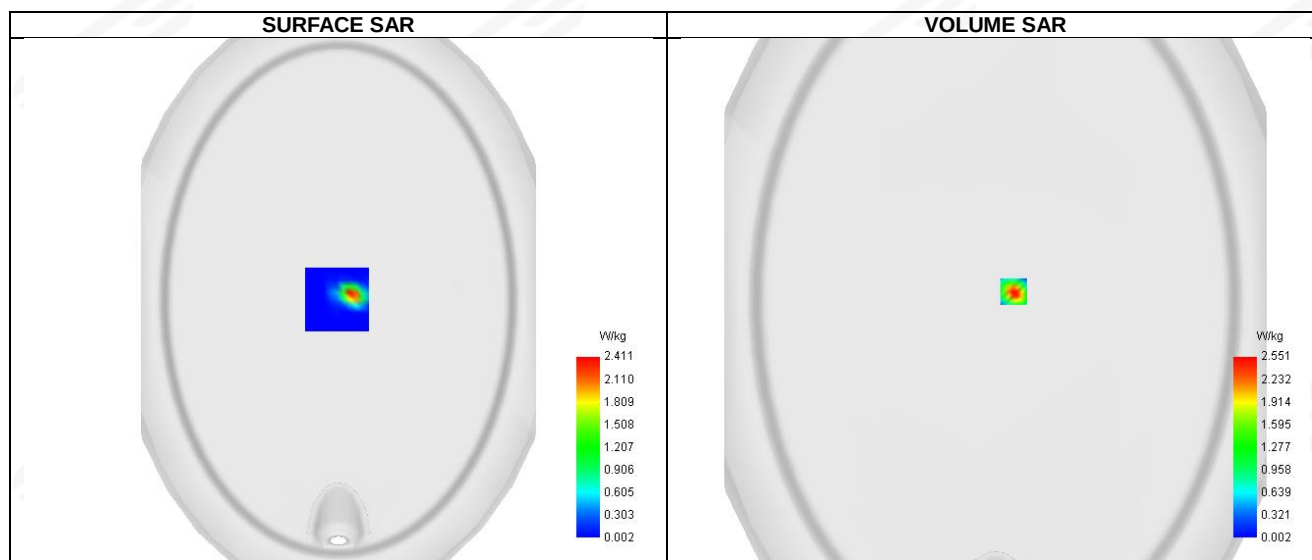
Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2025-10-29

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	5200MHz
Channels	Middle
Signal	CW
Frequency (MHz)	5200
Relative permittivity	35.97
Conductivity (S/m)	4.67
Probe	SN 08/21 EPGO352
ConvF	1.37
Crest factor:	1:1



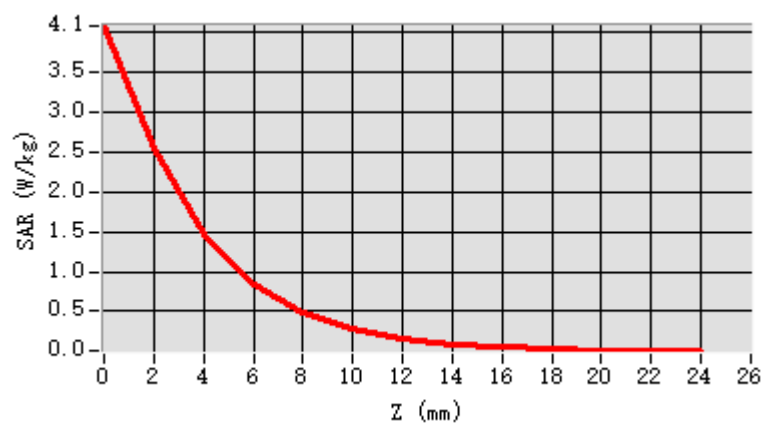
Maximum location: X=16.00, Y=7.00 ; SAR Peak: 4.30 W/kg

D. SAR 1g & 10g

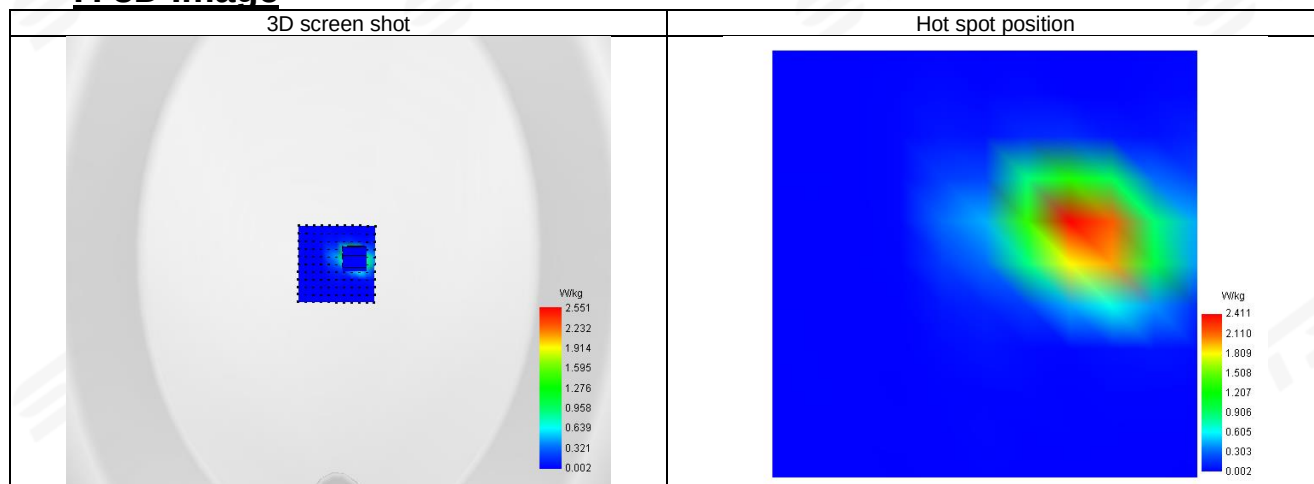
SAR 10g (W/Kg)	0.559
SAR 1g (W/Kg)	1.592
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	57.022331

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	4.071	2.551	1.454	0.831	0.496	0.289	0.168	0.098	0.057	0.033	0.019	0.011	0.011



F. 3D Image

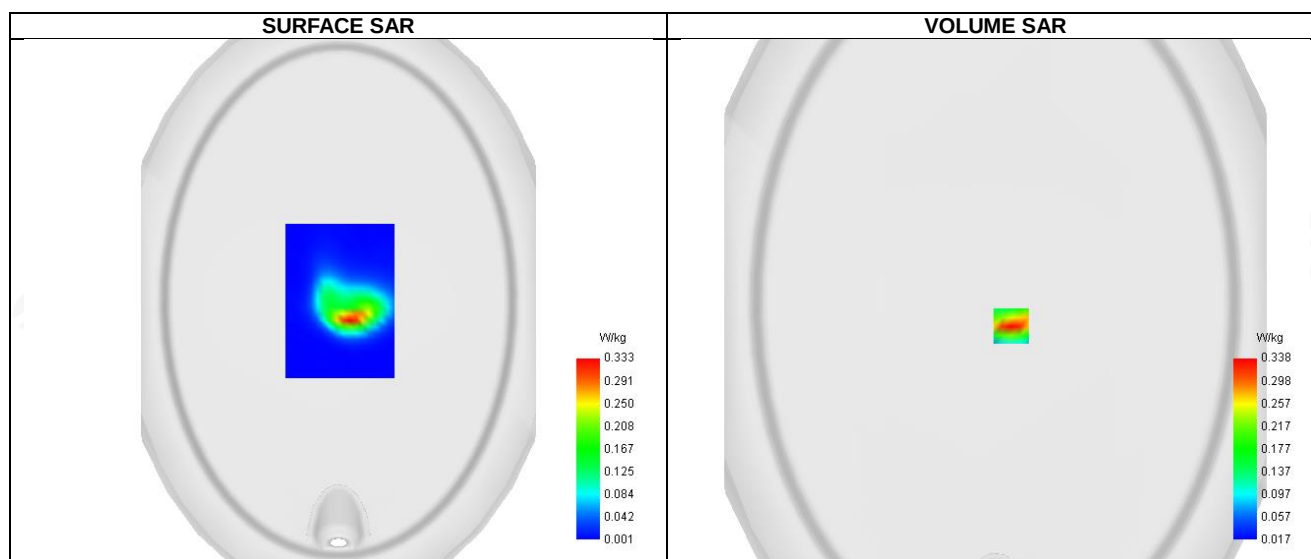




Appendix B. SAR Test Plots

Plot 1: DUT: Remote Controller; EUT Model: R100

Test Date	2025-10-29
ConvF	1.49
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 5 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	829
Relative permittivity (real part)	42.17
Conductivity (S/m)	0.93



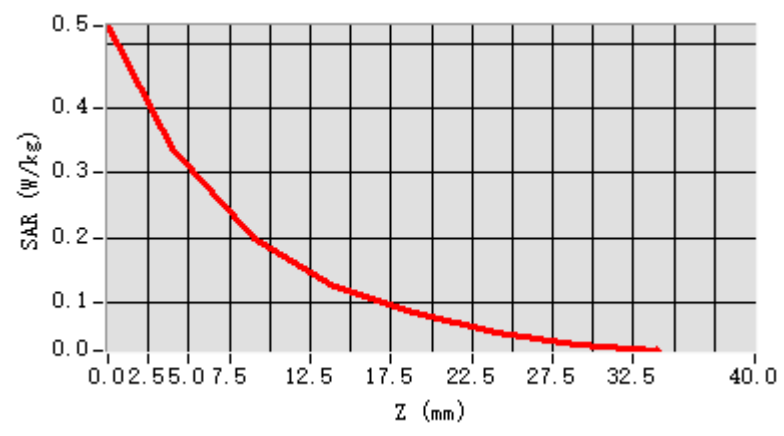
Maximum location: X=14.00, Y=-23.00 ; SAR Peak: 0.53 W/kg

D. SAR 1g & 10g

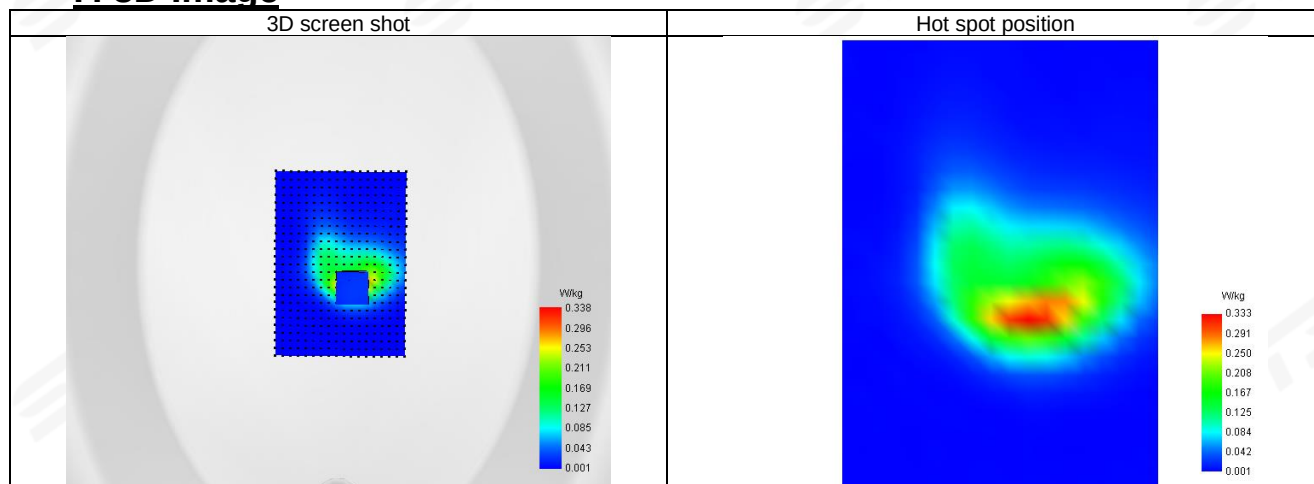
SAR 10g (W/Kg)	0.173
SAR 1g (W/Kg)	0.318
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	58.682557

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.527	0.338	0.198	0.123	0.084	0.053	0.034

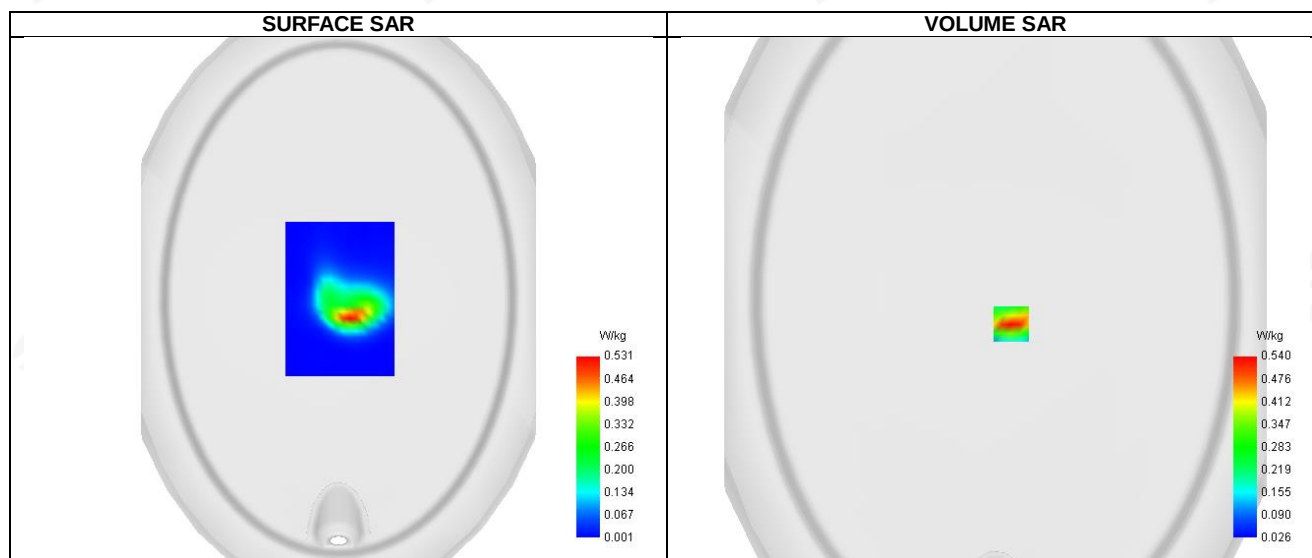


F. 3D Image



**Plot 2: DUT: Remote Controller; EUT Model: R100**

Test Date	2025-10-29
ConvF	1.70
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 7 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2510
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.87



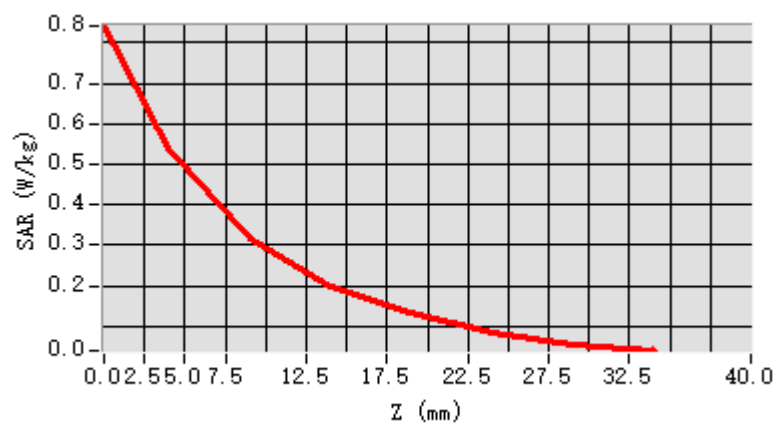
Maximum location: X=14.00, Y=-23.00 ; SAR Peak: 0.84 W/kg

D. SAR 1g & 10g

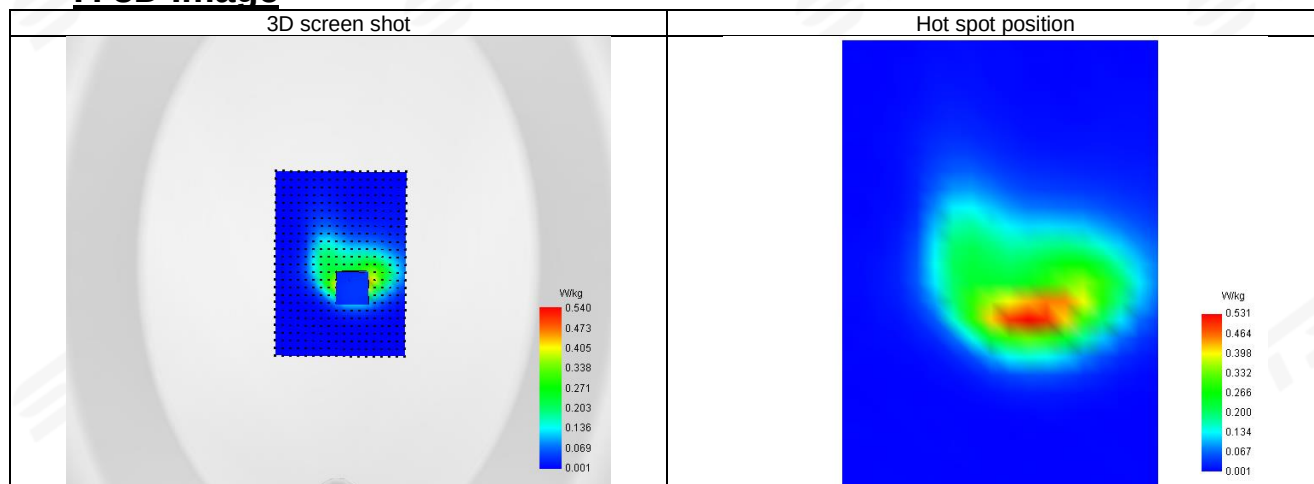
SAR 10g (W/Kg)	0.277
SAR 1g (W/Kg)	0.507
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	58.724070

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.841	0.540	0.317	0.198	0.134	0.085	0.054



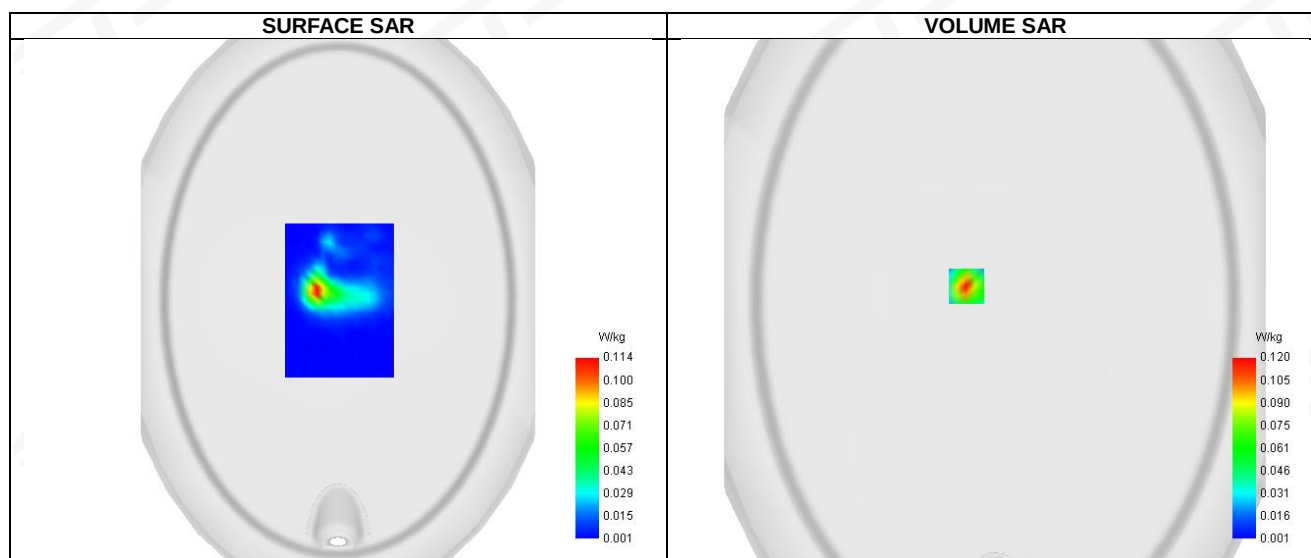
F. 3D Image





Plot 3: DUT: Remote Controller; EUT Model: R100

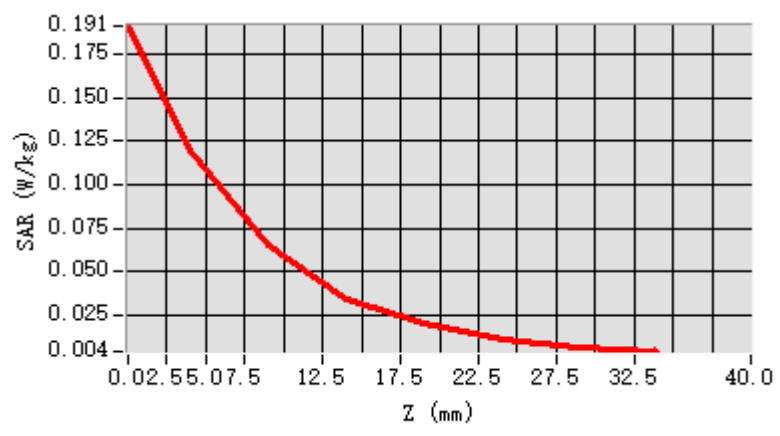
Test Date	2025-10-29
ConvF	1.82
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	IEEE 802.11b ISM
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	40.08
Conductivity (S/m)	1.75

**D. SAR 1g & 10g**

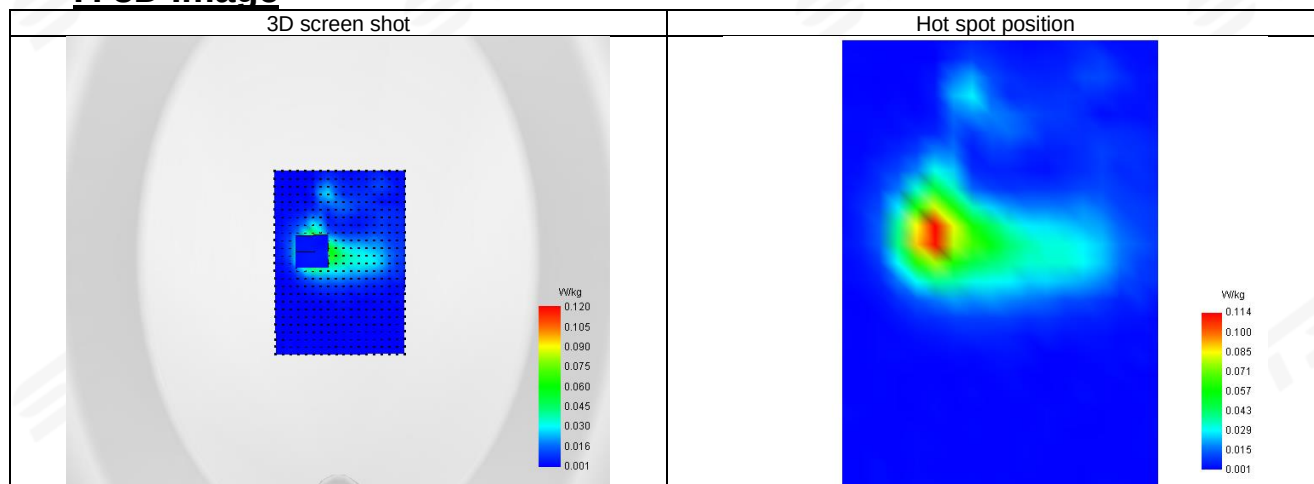
SAR 10g (W/Kg)	0.054
SAR 1g (W/Kg)	0.110
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	54.865705

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.191	0.120	0.066	0.034	0.020	0.011	0.006

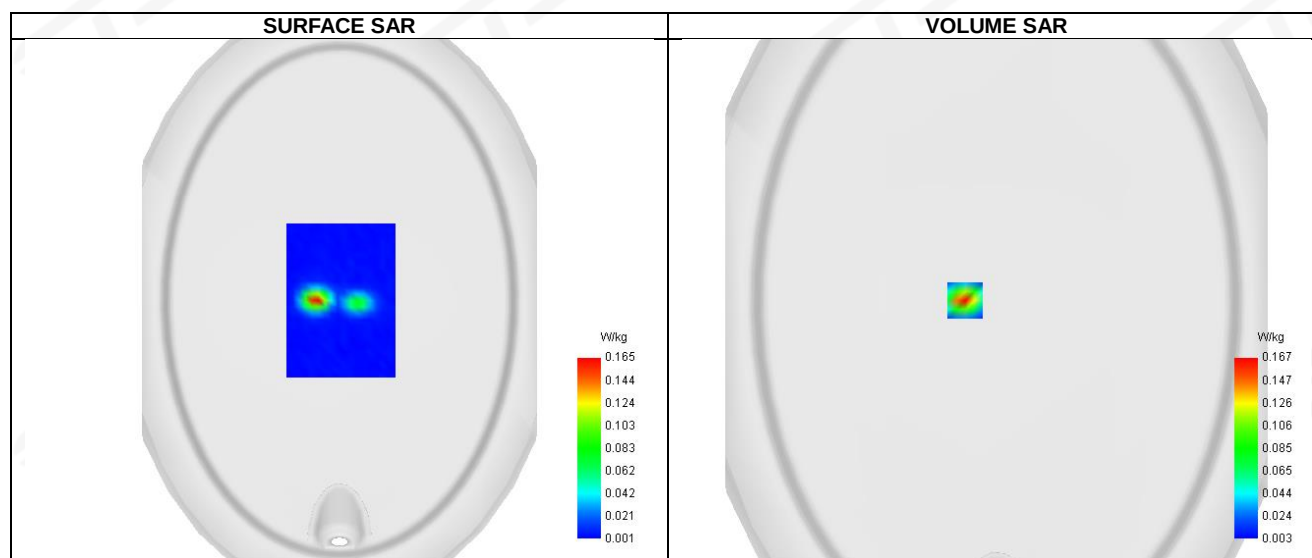


F. 3D Image



**Plot 4: DUT: Remote Controller; EUT Model: R100**

Test Date	2025-10-29
ConvF	1.82
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	2.4G
Signal	GFSK
Frequency (MHz)	2406.5
Relative permittivity (real part)	39.83
Conductivity (S/m)	1.75



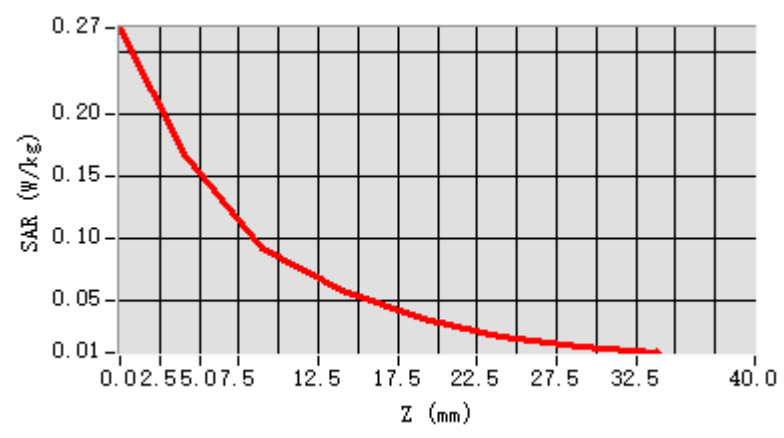
Maximum location: X=-28.00, Y=0.00 ; SAR Peak: 0.27 W/kg

D. SAR 1g & 10g

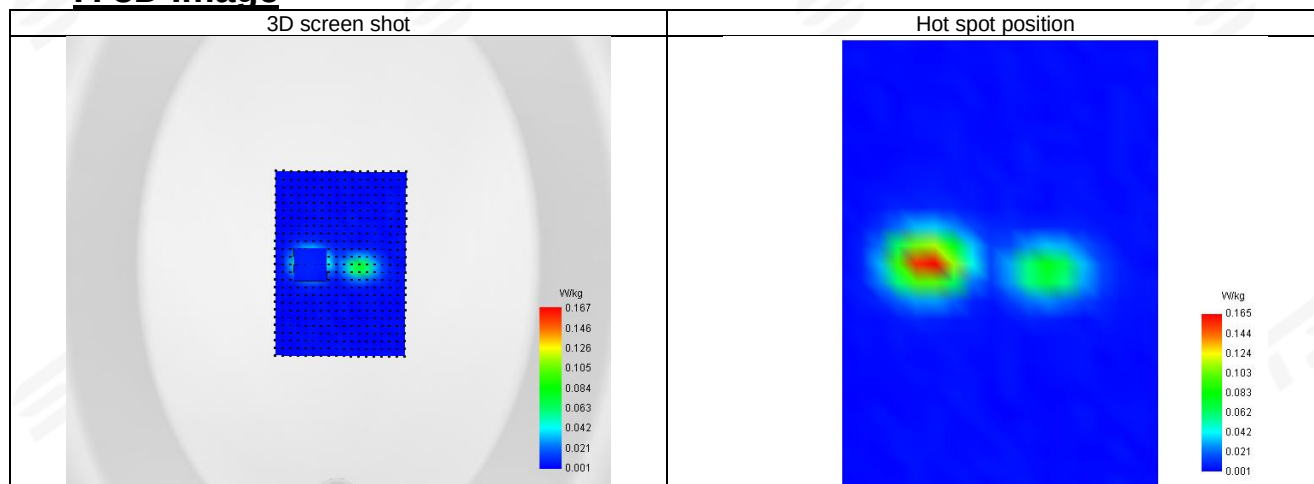
SAR 10g (W/Kg)	0.074
SAR 1g (W/Kg)	0.155
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	54.960274

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.269	0.167	0.092	0.059	0.036	0.022	0.013

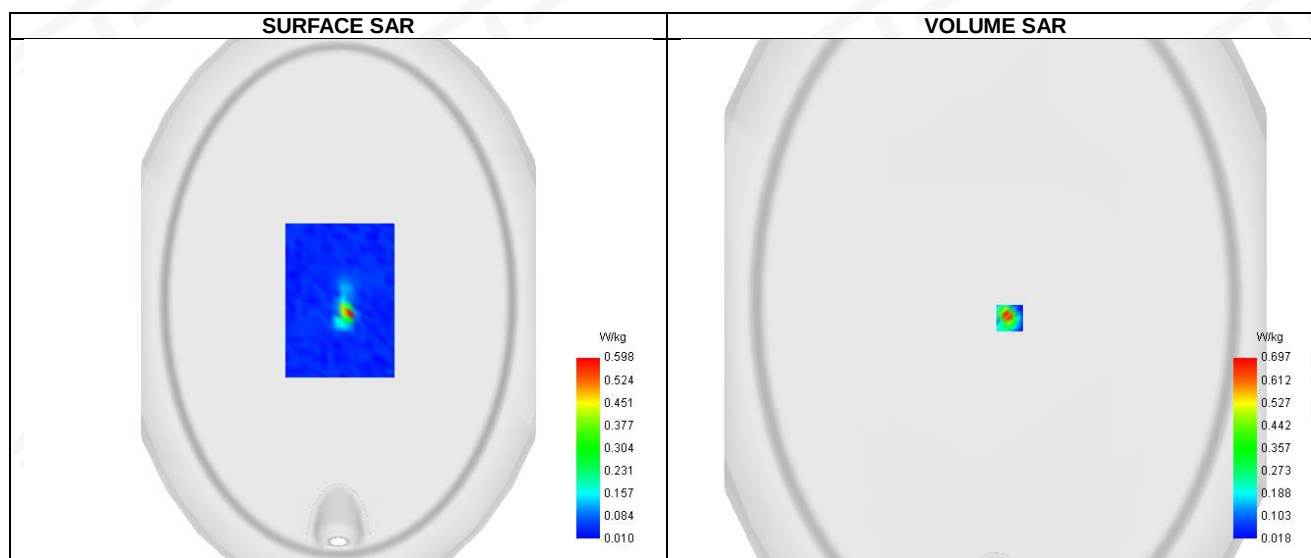


F. 3D Image



**Plot 5: DUT: Remote Controller; EUT Model: R100**

Test Date	2025-10-29
ConvF	1.37
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	7x7x12, dx=4mm, dy=4mm, dz=2mm,
Phantom	Validation plane
Device Position	Back Side
Band	5.2G WIFI
Signal	802.11ac-VHT80 (Crest factor: 1.0)
Frequency (MHz)	5210
Relative permittivity (real part)	37.06
Conductivity (S/m)	4.68



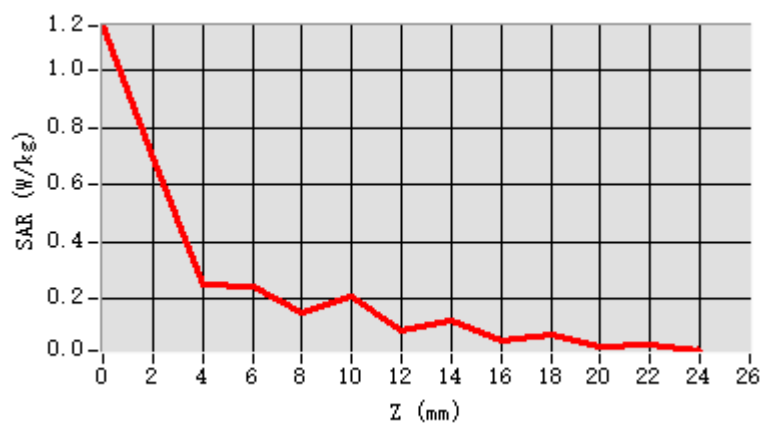
Maximum location: X=13.00, Y=-16.00 ; SAR Peak: 1.42 W/kg

D. SAR 1g & 10g

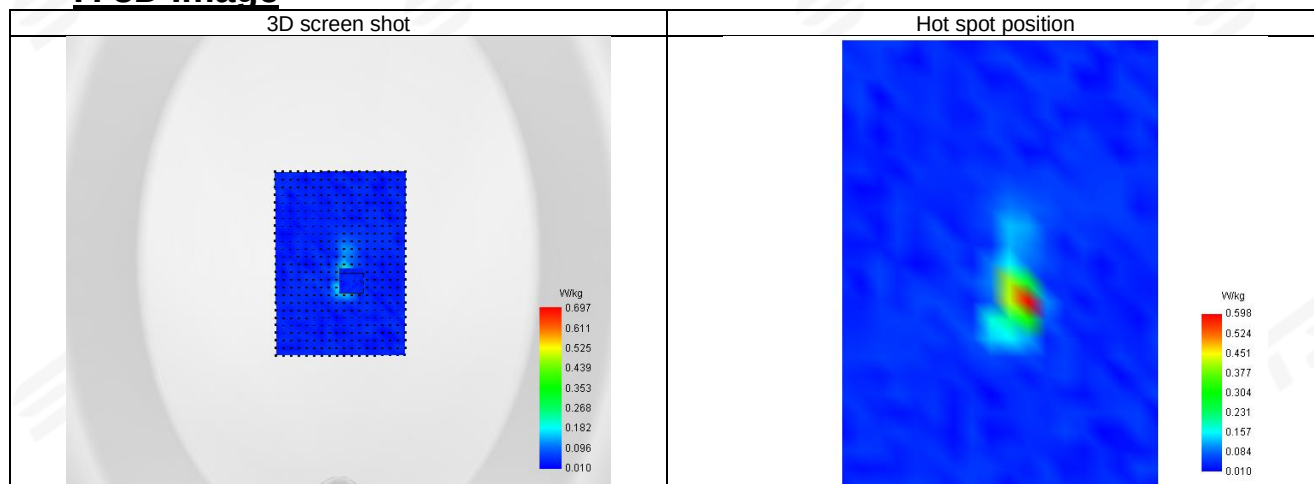
SAR 10g (W/Kg)	0.152
SAR 1g (W/Kg)	0.447
Horizontal validation criteria: minimum distance (mm)	5.656854
Vertical validation criteria: SAR ratio M2/M1 (%)	56.026772

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
SAR (W/Kg)	1.155	0.697	0.250	0.247	0.153	0.209	0.093	0.125	0.057	0.075	0.035	0.045	0.045



F. 3D Image





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※