SAR Test Report

Report No.: STS2504117H02

Issued for

GRID Communications Pte Ltd

202 Bedok South Avenue 1 Building C, #01-21 Singapore 469332

Product Name:	Rugged Smart Phone
Brand Name:	GRID
Model Name:	H250MC-Pro
Series Model(s):	N/A
FCC ID:	2BA5GH250MC-PRO
Test Standard:	ANSI/IEEE Std. C95.1 FCC 47 CFR Part 2 (2.1093) IEEE Std. 1528-2013
Max. Report SAR (1g)	Head: 0.285 W/kg Body: 0.475 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 ..... : GRID Communications Pte Ltd

Address ..... : 202 Bedok South Avenue 1 Building C, #01-21 Singapore 469332

Manufacturer's Name ..... : GRID Communications Pte Ltd

Address ..... : 202 Bedok South Avenue 1 Building C, #01-21 Singapore 469332

Product description

Product name ..... : Rugged Smart Phone

Brand name ..... : GRID

Model name ..... : H250MC-Pro

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..... : 21 Apr. 2025

Date of Issue..... : 12 May 2025

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

Testing Engineer : Xin Liu

(Xin.Liu)

Technical Manager : Shi fan. long

(Shifan. Long)

Authorized Signatory : Bovey Yang

(Bovey Yang)

SHENZHEN STS TEST SERVICES CO., LTD. TESTING APPROVAL

Table of Contents

1. General Information **5**

1.1 EUT Description 5

1.2 Test Environment 6

1.3 Test Factory 6

2. Test Standards and Limits **7**

3. SAR Measurement System **8**

3.1 Definition of Specific Absorption Rate (SAR) 8

3.2 SAR System 8

4. Tissue Simulating Liquids **11**

4.1 Simulating Liquids Parameter Check 11

5. SAR System Validation **14**

5.1 Validation System 14

5.2 Validation Result 15

6. SAR Evaluation Procedures **16**

7. EUT Antenna Location Sketch **17**

7.1 SAR test exclusion consider table 18

8. EUT Test Position **21**

8.1 Define Two Imaginary Lines on the Handset 21

8.2 Hotspot mode exposure position condition 22

9. Uncertainty **23**

9.1 Measurement Uncertainty 23

10. Conducted Power Measurement **26**

10.1 Test Result 26

11. EUT and Test Setup Photo **31**

11.1 EUT Photo 31

11.2 Setup Photo 34

12. SAR Result Summary **40**

12.1 Head SAR 40

12.2 Body-Worn and Hotspot SAR 41

13. Equipment List **42**

Appendix A. System Validation Plots **43**

Appendix B. SAR Test Plots **45**

Appendix C. Probe Calibration and Dipole Calibration Report **49**

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	12 May 2025	STS2504117H02	ALL	Initial Issue

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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	Rugged Smart Phone			
Brand Name	GRID			
Model Name	H250MC-Pro			
Series Model	N/A			
Model Difference	N/A			
Battery	Rated Voltage:3.8V Charge Limit Voltage:5V Capacity: 4000mAh			
Device Category	Portable			
Product stage	Production unit			
RF Exposure Environment	General Population / Uncontrolled			
Hardware Version	Rugged Smart Phone			
Software Version	H250MC-Pro			
Frequency Range	LTE Band 26: 814 MHz ~ 824 MHz / 824 MHz ~ 849 MHz			
Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Head:0mm Body:5mm	Band	Mode	Head (W/kg)	Body Worn and Hotspot (W/kg)
	LTE Band 26	TNE	0.285	0.475
FCC Equipment Class	TNE-Licensed Non-Broadcast Transmitter Held to Ear			
Operating Mode:	LTE: QPSK, 16QAM			
Antenna Specification:	LTE: LOOPO Antenna			
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time			
Hotspot Mode	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 (℃)	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 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets

(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:

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

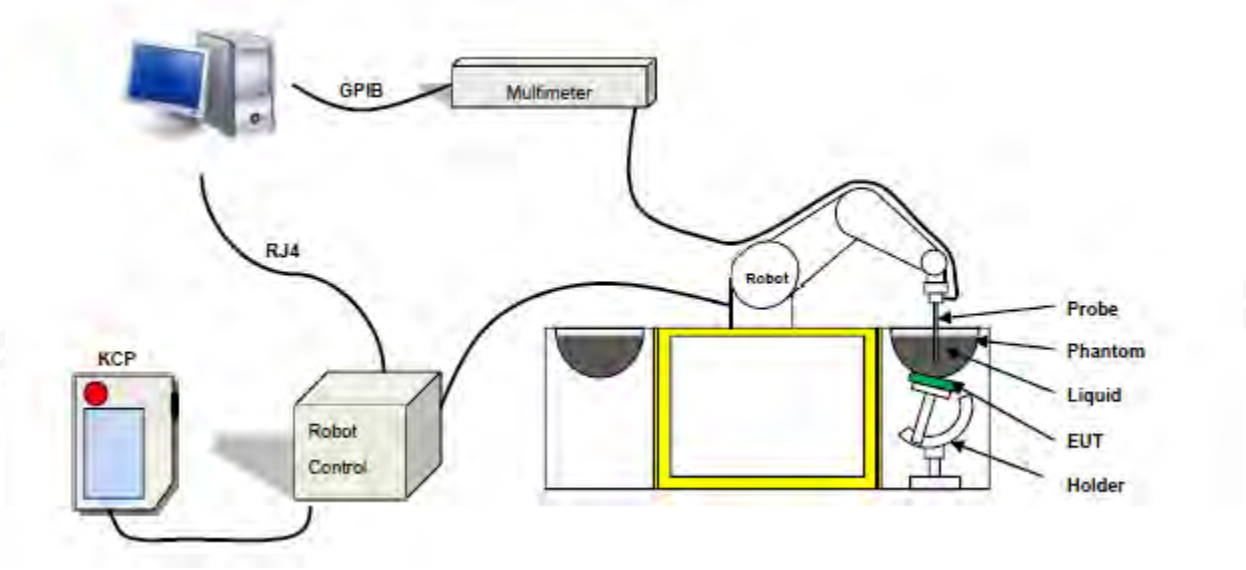
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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 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 EPGO352 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

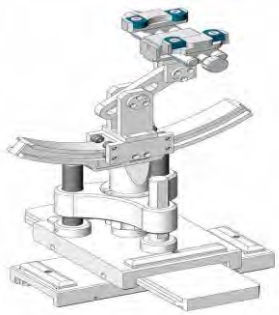
3.2.2 Phantom

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. 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

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

Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ε
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.4	40.0
2450	55.0	0	0	0.1	0	44.9	1.80	39.2
2600	54.9	0	0	0.1	0	45.0	1.96	39.0
Frequency (MHz)	Water (%)	Hexyl Carbitol (%)			Triton X-100 (%)		Conductivity σ (S/m)	Permittivity ε
5200	62.52	17.24			17.24		4.66	36.0
5800	62.52	17.24			17.24		5.27	35.3
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

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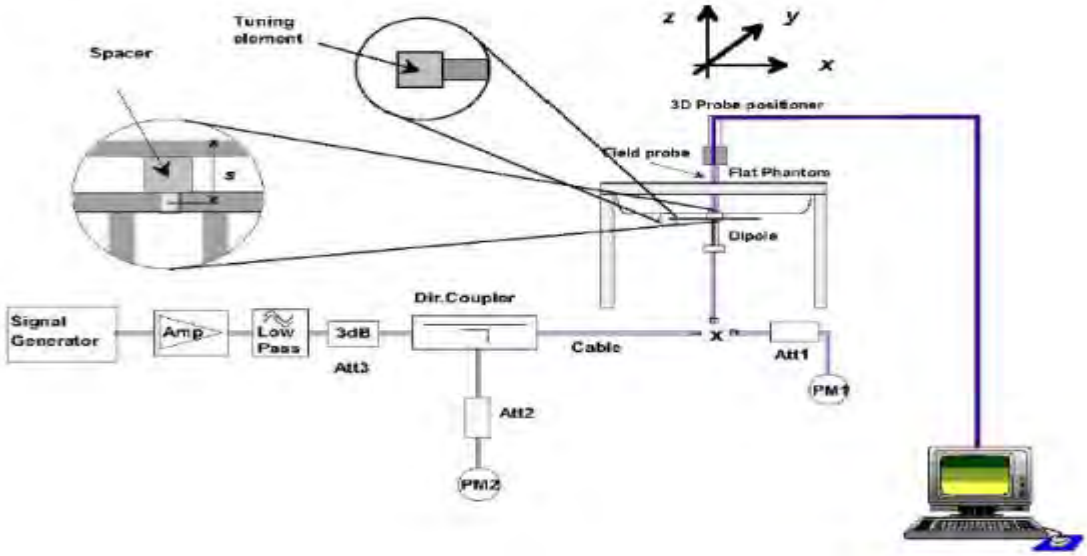
LIQUID MEASUREMENT RESULTS

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2025-04-21	23.3	56	821.5	23.0	Permittivity	41.56	40.79	-1.86	±5
					Conductivity	0.90	0.93	3.52	±5
2025-04-21	23.3	56	831.5	23.0	Permittivity	41.52	41.04	-1.15	±5
					Conductivity	0.90	0.89	-1.07	±5
2025-04-21	23.4	57	841.5	23.1	Permittivity	41.47	41.28	-0.46	±5
					Conductivity	0.90	0.91	1.03	±5
2025-04-21	23.4	57	835	23.1	Permittivity	41.43	41.45	0.05	±5
					Conductivity	0.90	0.87	-3.52	±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

Justification for Extended SAR Dipole Calibrations

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining retum loss (>20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole		Date of Measurement	Return Loss (dB)	Delta (%)	Impedance	Delta(ohm)
SN 30/14 DIP0G835-332	Head Liquid	2023-07-04	-28.13	/	51.4	/
		2024-07-01	-28.43	1.07	52.62	2.37
		2024-07-01	-13.17	/	/	/

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)	(%)	(%)
2025-04-21	835	100	0.917	9.17	9.63	-4.78	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 Rugged Smart Phone, support LTE mode.

Top side

Right side

Left side

Bottom side
Front view)

Antenna Separation Distance(cm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WWAN	≤0.5	1.5	1	1	12.5	1

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 SAR evaluation of Maximum power (dBm) summing tolerance.

Exposure Position	Wireless Interface	LTE Band 26
	Calculated Frequency(GHz)	0.8315
	Maximum Turn-up power (dBm)	24.5
	Maximum rated power(mW)	281.84
Back Side	Separation distance (cm)	≤0.5
	exclusion threshold(mW)	9.30
	Testing required?	YES
Front Side	Separation distance (cm)	1.5
	exclusion threshold(mW)	43.84
	Testing required?	YES
Left Edge	Separation distance (cm)	1
	exclusion threshold(mW)	24.74
	Testing required?	YES
Right Edge	Separation distance (cm)	1
	exclusion threshold(mW)	24.74
	Testing required?	YES
Top Edge	Separation distance (cm)	12.5
	exclusion threshold(mW)	5201.67
	Testing required?	NO
Bottom Edge	Separation distance (cm)	1
	exclusion threshold(mW)	24.74
	Testing required?	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 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 Pth (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). Pth is given by:

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

Where

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

and

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

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 λ/2π, 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 λ/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^2f.
1,500-100,000	$19.2R^2$.

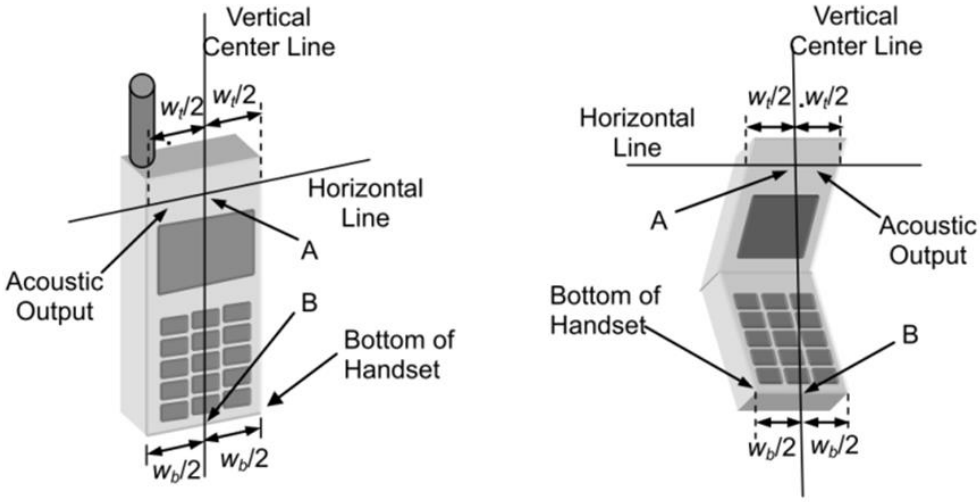
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 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≤1.2W/Kg.

8. EUT Test Position

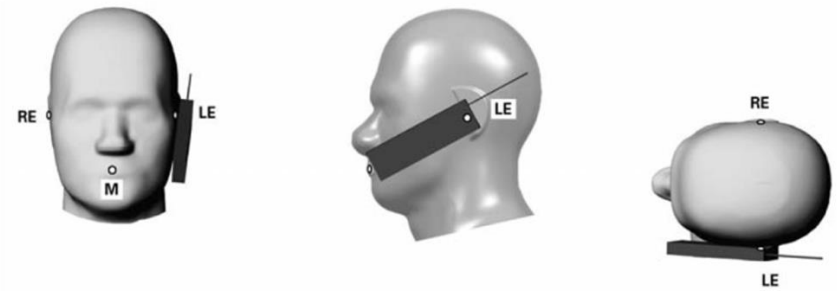
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

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.



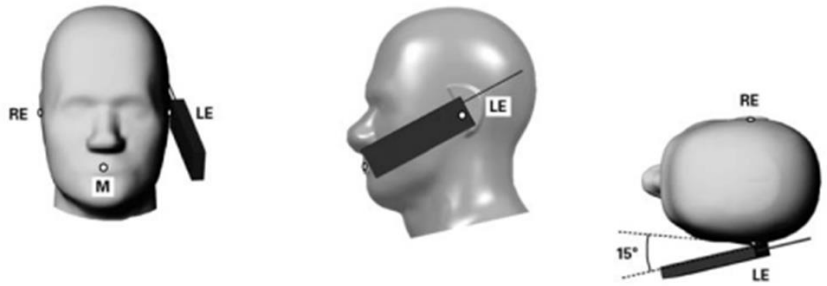
Cheek Position
1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane 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

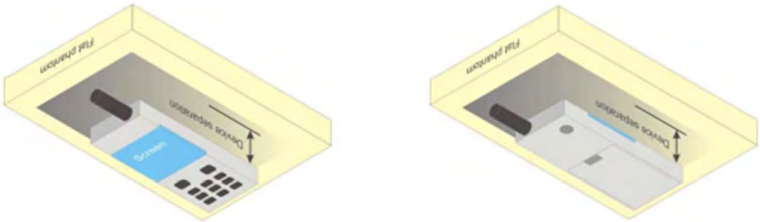
(1)To position the device in the “cheek” position described above.

(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.



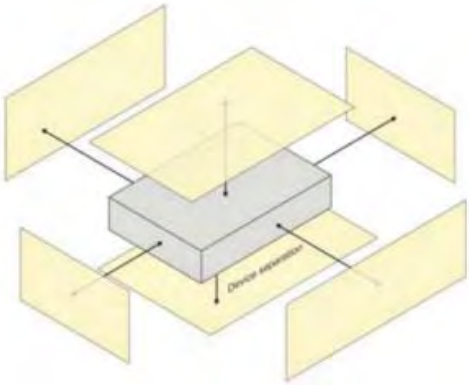
Body-worn Position Conditions:

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 5mm) 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.

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	E2.5	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 EPGO352									
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	E2.5	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 EPGO352									
◦ 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	E2.5	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

LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
1.4	1	0	QPSK	23.89	23.87	23.96
1.4	1	2		23.99	23.91	23.93
1.4	1	5		23.92	23.84	23.79
1.4	3	0		23.93	23.76	23.96
1.4	3	1		24.04	23.9	23.95
1.4	3	2		24.04	23.79	23.78
1.4	6	0		22.98	22.8	23
1.4	1	0	16-QAM	22.96	23.1	22.87
1.4	1	2		23.06	23.23	22.89
1.4	1	5		22.97	23.17	22.73
1.4	3	0		23.01	23.04	22.99
1.4	3	1		23.09	23.07	23.01
1.4	3	2		23	23.02	22.87
1.4	6	0		22.19	21.98	22.05
3	1	0	QPSK	24.08	23.85	23.93
3	1	7		**24.1**	23.9	23.98
3	1	14		23.98	23.82	23.76
3	8	0		23.08	23.03	22.95
3	8	4		23.15	23	23
3	8	7		23.1	22.96	23
3	15	0		23.14	22.99	23.09
3	1	0	16-QAM	23.3	22.99	23.25
3	1	7		23.29	22.95	23.29
3	1	14		23.23	22.93	23.03
3	8	0		22.14	22.07	21.98
3	8	4		22.21	22.04	22
3	8	7		22.15	22	22.02
3	15	0		22.06	21.92	22.16

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	24.09	23.96	24.06
5	1	12		24.04	23.84	23.96
5	1	24		24.1	23.97	23.67
5	12	0		23.18	22.93	23.08
5	12	6		23.05	23.02	23.1
5	12	11		23.05	22.99	23.07
5	25	0		23.06	22.94	23.03
5	1	0	16-QAM	23.45	23.16	23.27
5	1	12		23.38	23.12	23.4
5	1	24		23.45	23.2	22.83
5	12	0		22.11	22.08	22.18
5	12	6		22.04	22.09	22.17
5	12	11		22.03	22.04	22.16
5	25	0		22.07	21.87	22.07
10	1	0	QPSK	**24.28**	24.15	24.18
10	1	24		23.99	23.88	23.88
10	1	49		24.18	24.15	23.45
10	25	0		23.12	23.04	23.03
10	25	12		23.09	22.97	22.96
10	25	24		23.09	23.09	23.08
10	50	0		23.16	23.06	23.04
10	1	0	16-QAM	23.59	23.25	23.38
10	1	24		23.27	23	23.12
10	1	49		23.45	23.2	22.72
10	25	0		22.17	22.05	22.02
10	25	12		22.14	21.97	21.96
10	25	24		22.14	22.07	22.09
10	50	0		22.14	22.08	22.03

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
15	1	0	QPSK	24.21	24.12	24.19
15	1	37		23.85	23.82	23.99
15	1	74		24.2	**24.3**	23.75
15	36	0		23.29	23.25	23.28
15	36	18		23	22.91	23.11
15	36	39		22.78	22.85	23.02
15	75	0		23.05	23.09	23.18
15	1	0	16-QAM	23.43	23.21	23.14
15	1	38		22.73	22.78	22.97
15	1	75		23.44	23.36	22.75
15	36	0		22.26	22.25	22.24
15	36	18		22.03	21.93	22.81
15	36	39		21.8	21.87	22.76
15	75	0		22.02	22.04	22.88

LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
1.4	1	0	QPSK	23.87	23.88	24.00
1.4	1	2		23.98	22.78	24.00
1.4	1	5		23.95	23.91	23.96
1.4	3	0		23.96	23.98	23.92
1.4	3	1		24.08	24.05	23.94
1.4	3	2		23.97	23.95	24.09
1.4	6	0		22.93	22.89	23.04
1.4	1	0	16-QAM	22.76	22.98	23.29
1.4	1	2		22.91	23.09	23.35
1.4	1	5		22.91	22.98	23.32
1.4	3	0		22.92	23.06	23.17
1.4	3	1		22.94	22.92	23.25
1.4	3	2		22.92	22.99	23.12
1.4	6	0		22.89	22.18	22.08
3	1	0	QPSK	23.92	23.97	24.08
3	1	7		23.96	24.11	24.14
3	1	14		23.16	23.18	24.06
3	8	0		23.02	23.08	23.08
3	8	4		23.05	23.06	23.05
3	8	7		23.05	23.07	23.07
3	15	0		23.04	23.08	23.07
3	1	0	16-QAM	23.13	23.30	23.40
3	1	7		23.30	23.13	23.39
3	1	14		23.17	23.09	23.32
3	8	0		22.07	22.13	23.20
3	8	4		22.10	22.14	22.00
3	8	7		22.05	22.19	22.02
3	15	0		21.96	22.03	22.12

LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	**RB Size**	**RB Offset**	**Mod**	**Lowest**	**Middle**	**Highest**
5	1	0	QPSK	24.03	24.06	24.05
5	1	12		23.99	24.08	23.88
5	1	24		23.87	24.16	24.11
5	12	0		23.07	23.08	23.05
5	12	6		23.08	23.09	22.97
5	12	11		23.04	23.13	22.95
5	25	0		23.03	23.08	22.97
5	1	0	16-QAM	23.40	23.14	23.41
5	1	12		23.25	23.24	23.26
5	1	24		23.28	23.19	23.44
5	12	0		22.15	22.18	22.14
5	12	6		22.20	22.19	22.07
5	12	11		22.14	22.24	22.05
5	25	0		21.99	22.08	22.07
10	1	0	QPSK	N/A	24.25	N/A
10	1	24		N/A	24.08	N/A
10	1	49		N/A	24.29	N/A
10	25	0		N/A	23.02	N/A
10	25	12		N/A	23.34	N/A
10	25	24		N/A	23.18	N/A
10	50	0		N/A	23.09	N/A
10	1	0	16-QAM	N/A	23.18	N/A
10	1	24		N/A	23.00	N/A
10	1	49		N/A	23.26	N/A
10	25	0		N/A	22.04	N/A
10	25	12		N/A	22.09	N/A
10	25	24		N/A	22.14	N/A
10	50	0		N/A	22.19	N/A

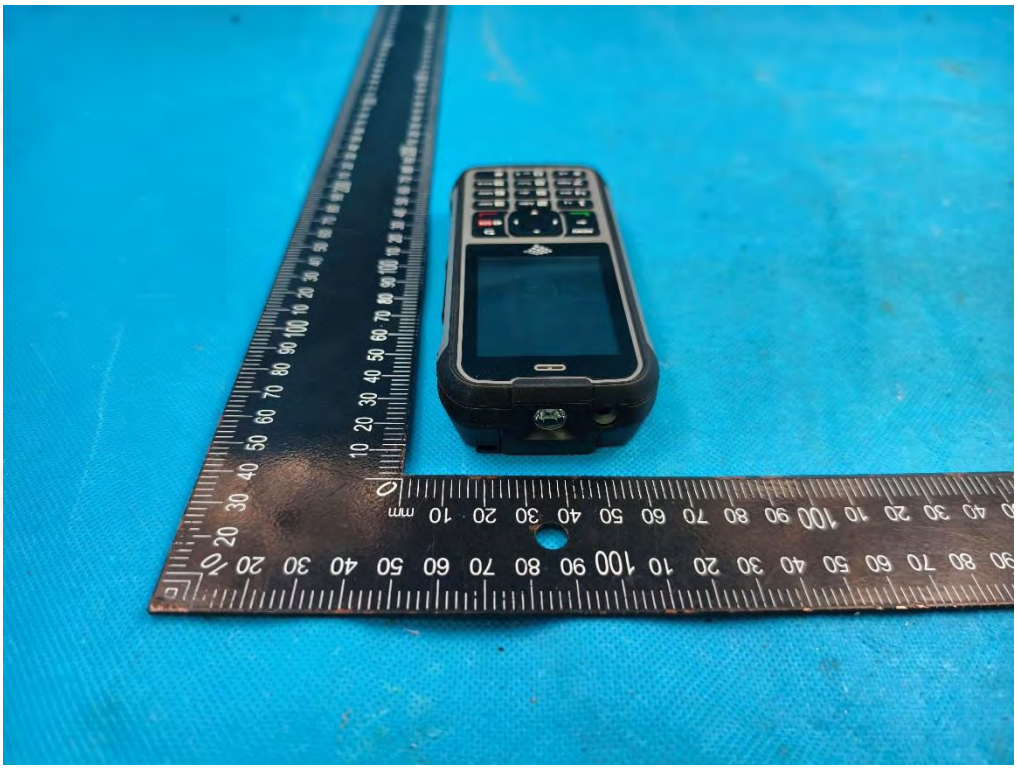
11. EUT and Test Setup Photo

11.1 EUT Photo

Front side

Back side

Top side



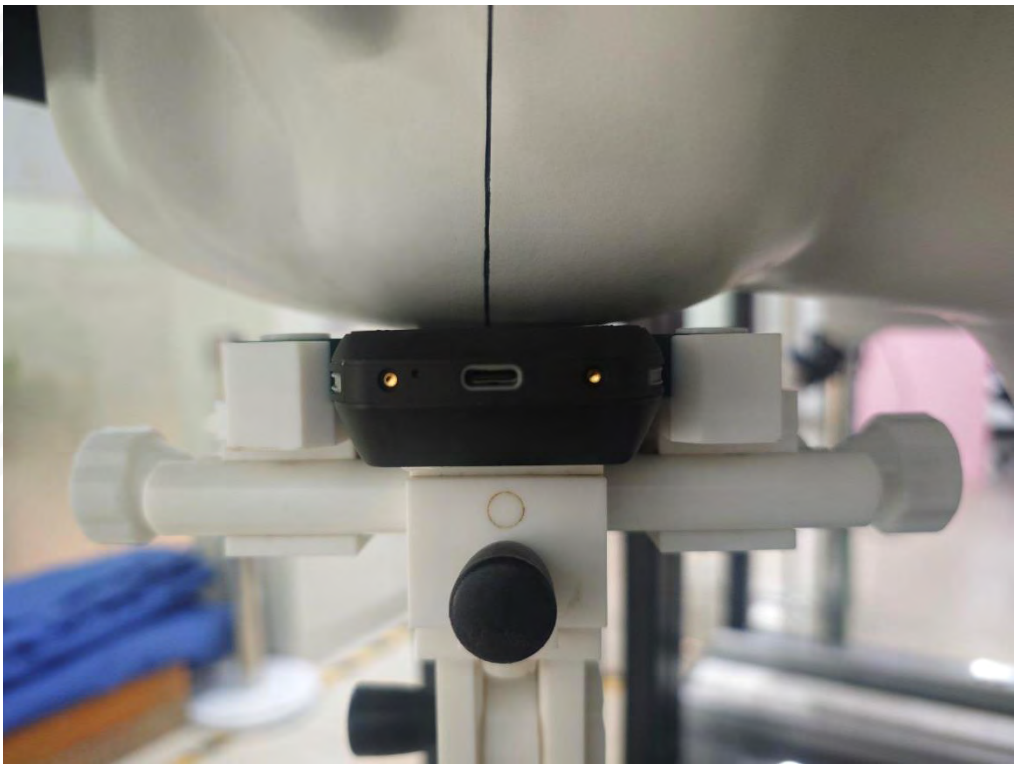
Bottom side

Left side

Right side

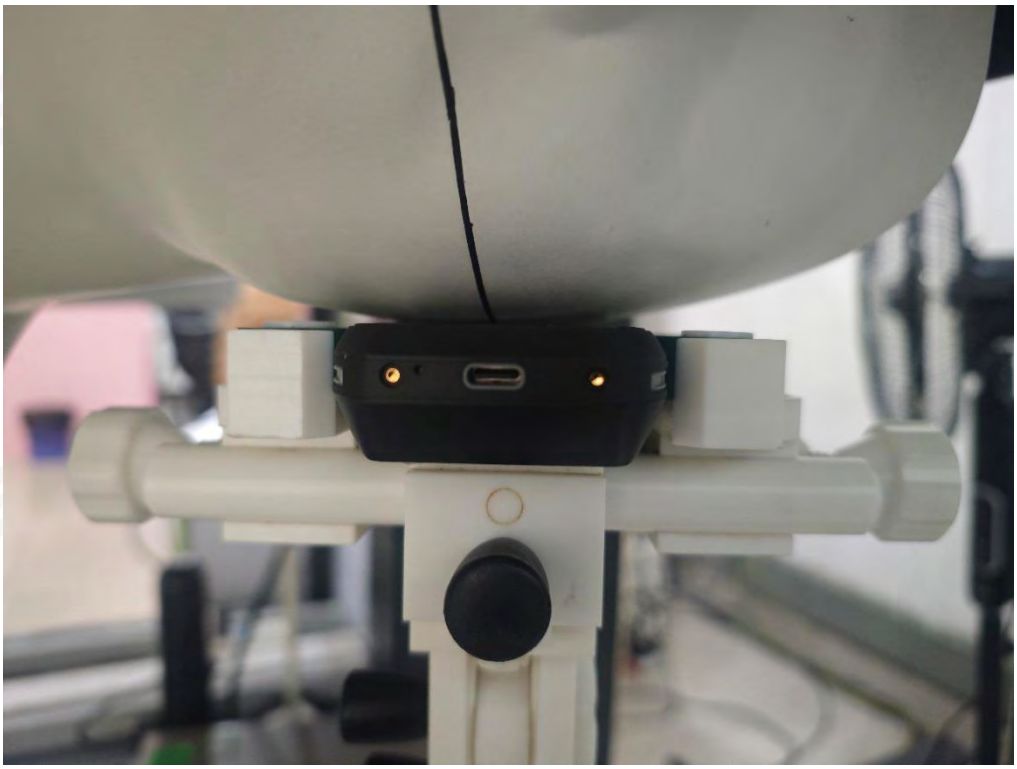
11.2 Setup Photo

Right Cheek



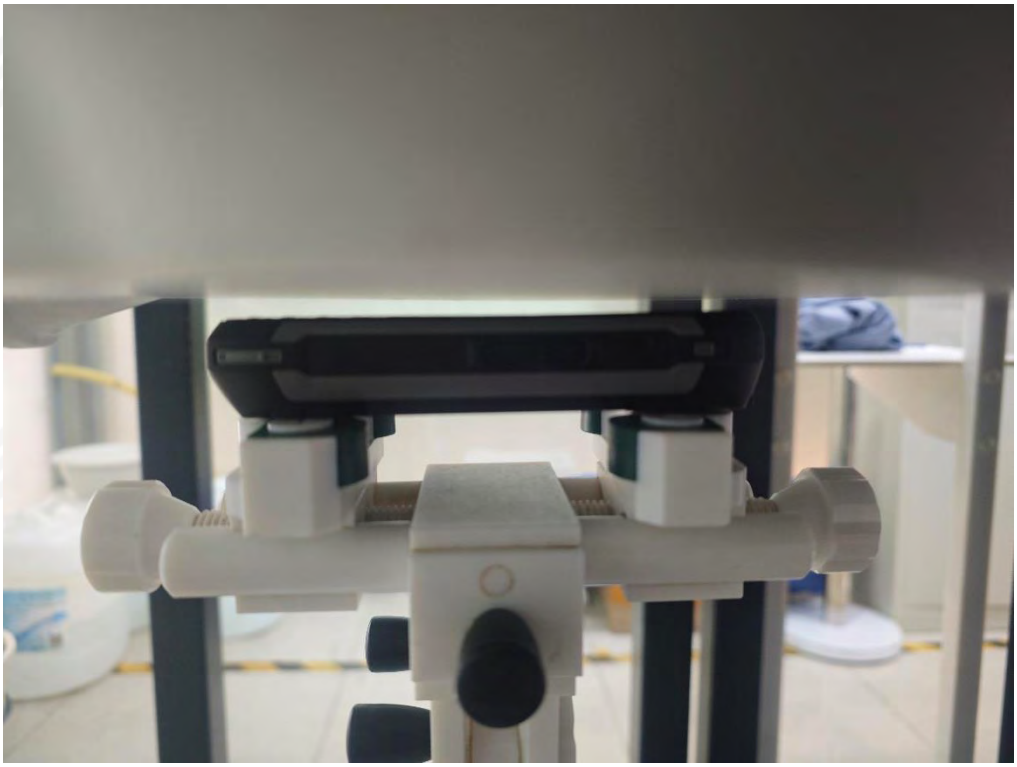
Right Tilt

Left Cheek

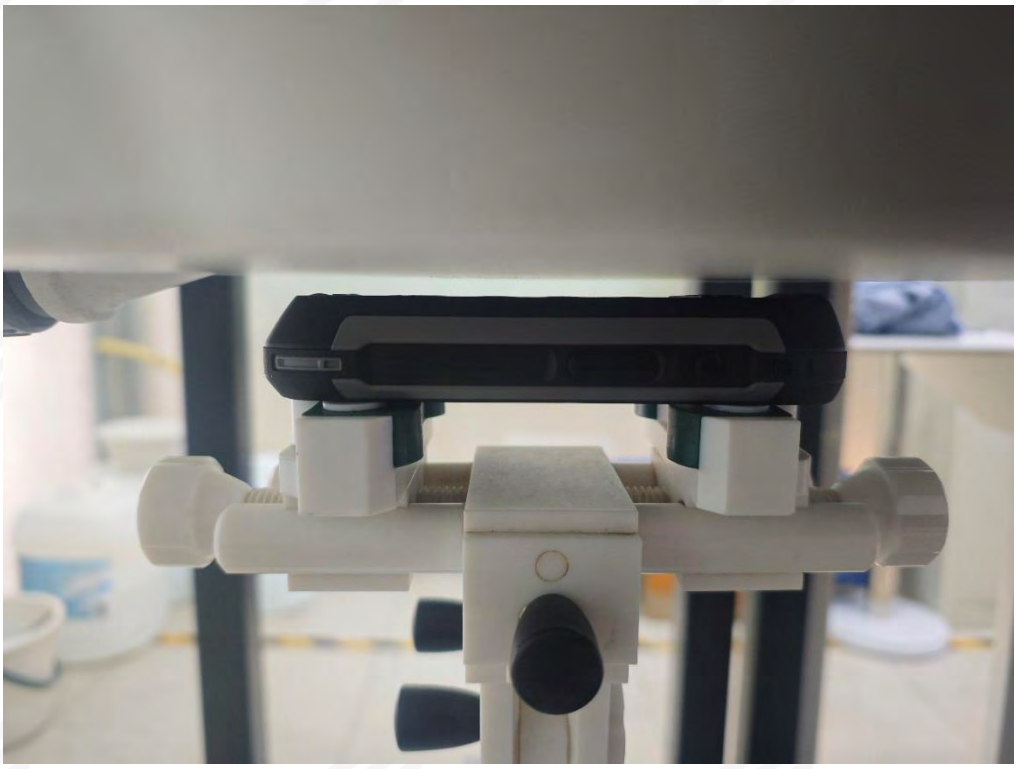


Left Tilt

Front Side(separation distance is 5mm)



Back Side(separation distance is 5mm)



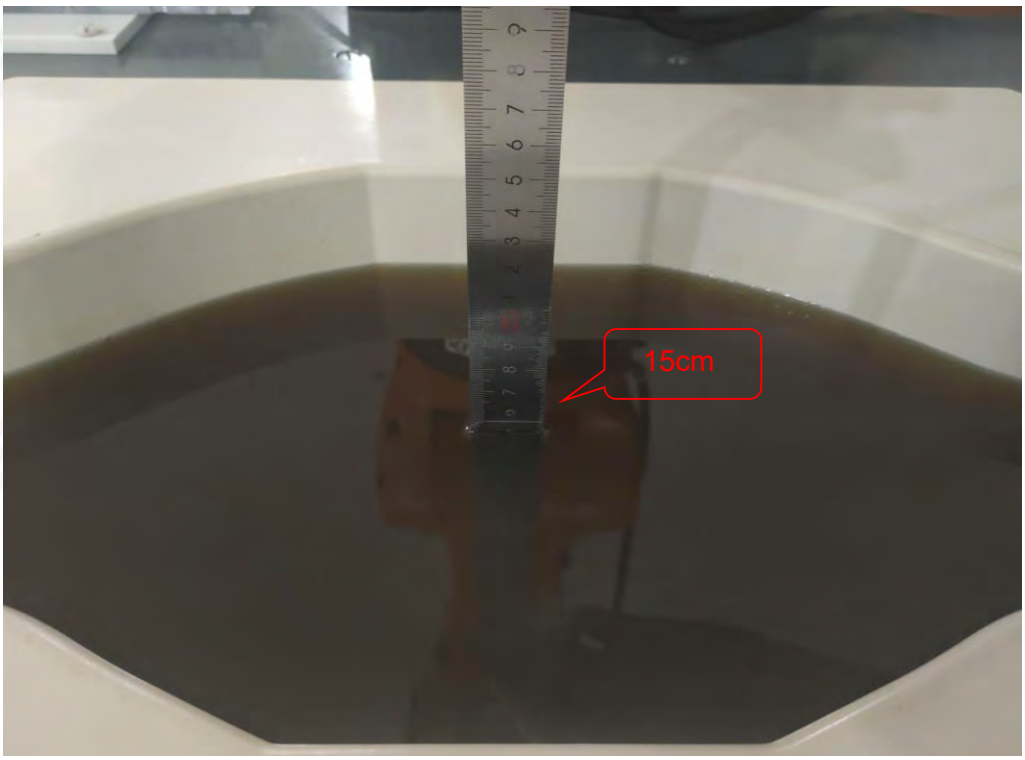
Left Edge(separation distance is 5mm)

Right Edge(separation distance is 5mm)

Top Edge(separation distance is 5mm)

Bottom Edge(separation distance is 5mm)

Liquid depth (15 cm)



12. SAR Result Summary

12.1 Head 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 26	15M	QPSK	1	0	Right Cheek	821.5	0.251	1.72	24.5	24.19	1.074	0.270	/
			1	0	Right Cheek	831.5	0.272	-1.02	24.5	24.3	1.047	**0.285**	**1**
			1	0	Right Cheek	841.5	0.254	-2.06	24.5	24.23	1.064	0.270	/
			36	0	Right Cheek	821.5	0.255	-1.03	23.5	23.29	1.050	0.268	/
			1	0	Right Tilt	831.5	0.139	-3.62	24.5	24.3	1.047	0.146	/
			36	0	Right Tilt	821.5	0.124	-0.72	23.5	23.29	1.050	0.130	/
			1	0	Left Cheek	831.5	0.259	-1.04	24.5	24.3	1.047	0.271	/
			36	0	Left Cheek	821.5	0.248	0.95	23.5	23.29	1.050	0.260	/
			1	0	Left Tilt	831.5	0.136	3.26	24.5	24.3	1.047	0.142	/
			36	0	Left Tilt	821.5	0.128	-2.25	23.5	23.29	1.050	0.134	/

Note:

1. Per KDB 447498 D04, 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

2. Per KDB 865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg

12.2 Body-Worn and Hotspot 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 26	15M	QPSK	1	0	Front side	831.5	0.305	-1.54	24.5	24.3	1.047	0.319	/
			36	0	Front side	821.5	0.269	-1.48	23.5	23.29	1.050	0.282	/
			1	0	Back Side	821.5	0.423	2.86	24.5	24.19	1.074	0.454	**/**
			1	0	Back Side	831.5	0.454	-1.95	24.5	24.3	1.047	0.475	**2**
			1	0	Back Side	841.5	0.420	3.49	24.5	24.23	1.064	0.447	**/**
			36	0	Back Side	821.5	0.433	-0.89	23.5	23.29	1.050	0.454	/
			1	0	Left Side	831.5	0.314	2.77	24.5	24.3	1.047	0.329	/
			36	0	Left Side	821.5	0.303	1.57	23.5	23.29	1.050	0.318	/
			1	0	Right Side	831.5	0.294	0.03	24.5	24.3	1.047	0.308	/
			36	0	Right Side	821.5	0.278	-3.05	23.5	23.29	1.050	0.292	/
			1	0	Bottom Side	831.5	0.321	-0.90	24.5	24.3	1.047	0.336	/
			36	0	Bottom Side	821.5	0.317	-3.84	23.5	23.29	1.050	0.333	/

Note:

1. The test separation of all above table is 5mm.
2. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The “Portable Hotspot” feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2023.07.04	2026.07.03
E-Field Probe	MVG	SSE2	SN 08/21 EPGO352	2024.09.18	2025.09.17
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2024.09.18	2025.09.17
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	2024-09-25	2025-09-26
Multi Meter	Keithley	Multi Meter 2000	4050073	2024-09-25	2025-09-26
Signal Generator	Agilent	N5182A	MY50140530	2024-09-25	2025-09-26
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2025-02-22	2026-02-21
Wireless Communication Test Set	R&S	CMW500	156324	2024-09-25	2025-09-26
Power Amplifier	DESAY	ZHL-42W	9638	2024-09-25	2025-09-26
Power Meter	R&S	NRP	100510	2024-09-25	2025-09-26
Power Sensor	R&S	NRP-Z11	101919	2024-09-25	2025-09-26
Power Sensor	Keysight	U2021XA	MY56280002	2024-09-25	2025-09-26
Temperature hygrometer	SuWei	SW-108	N/A	2024.10.15	2025.10.14
Thermograph	Elitech	RC-4	S/N EF7176501537	2024.10.15	2025.10.14

Appendix A. System Validation Plots

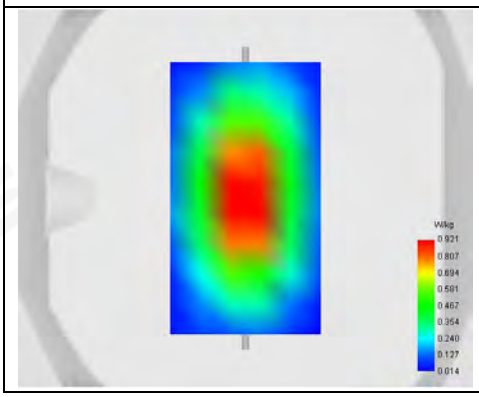
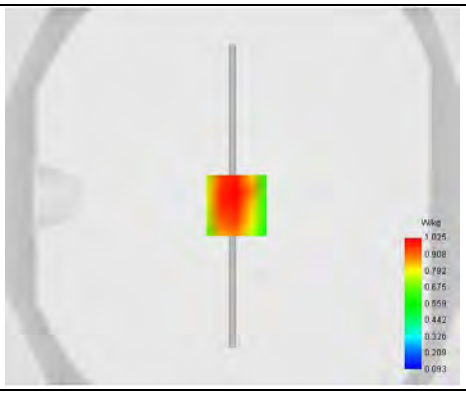
System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm, dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2025-04-21

Experimental conditions

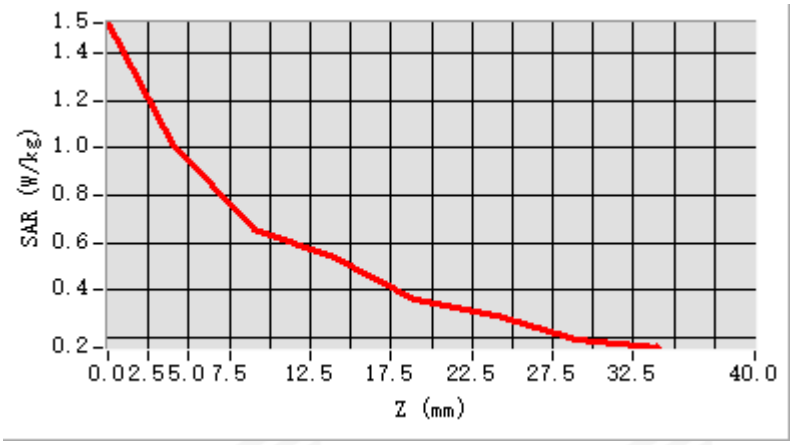
Phantom	Validation plane
Device Position	Dipole
Band	835MHz
Channels	Middle
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.45
Conductivity (S/m)	0.87
Probe	SN 08/21 EPGO352
ConvF	1.44
Crest factor:	1:1

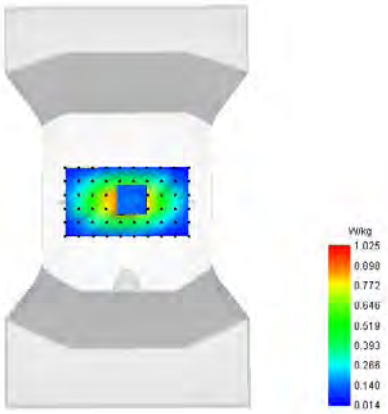
SURFACE SAR	VOLUME SAR
	

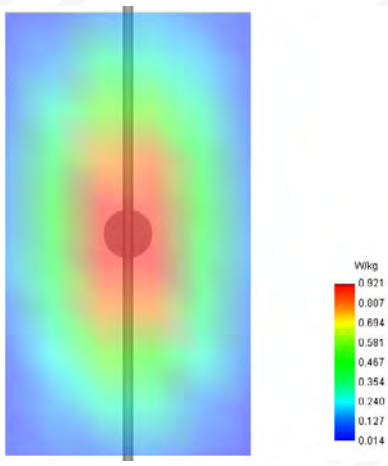
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.660250
SAR 1g (W/Kg)	0.916541
Horizontal validation criteria: minimum distance (mm)	17.888544
Vertical validation criteria: SAR ratio M2/M1 (%)	69.075851

Z Axis Scan


SAR (W/kg)
1.5
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)

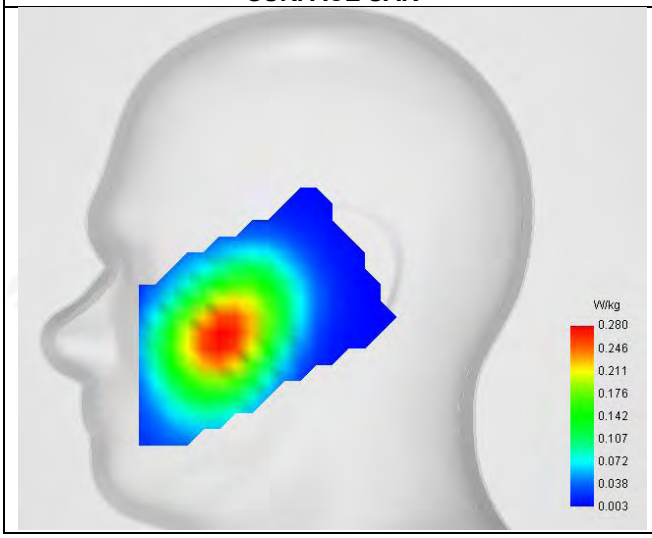
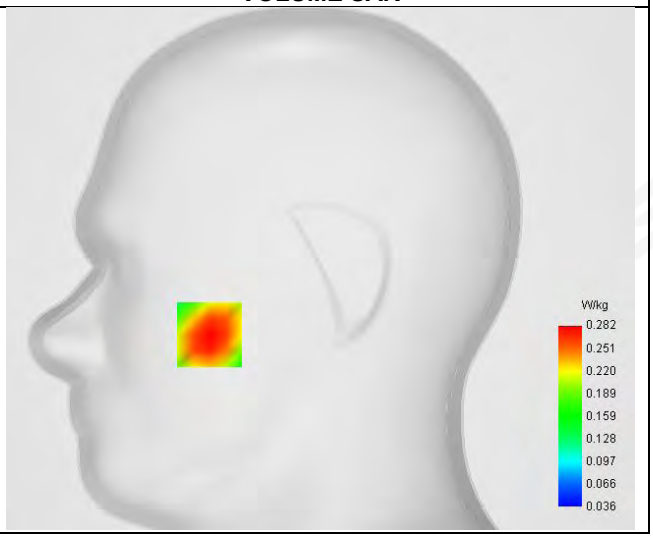

W/kg
1.025
0.898
0.772
0.646
0.519
0.393
0.266
0.140
0.014


W/kg
0.921
0.807
0.694
0.581
0.467
0.354
0.240
0.127
0.014

Appendix B. SAR Test Plots

Plot 1: DUT: Rugged Smart Phone; EUT Model: H250MC-Pro

Test Date	2025-04-21
ConvF	1.44
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	Right Head
Device Position	Cheek
Band	LTE Band 26 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	41.04
Conductivity (S/m)	0.89

SURFACE SAR	VOLUME SAR
	

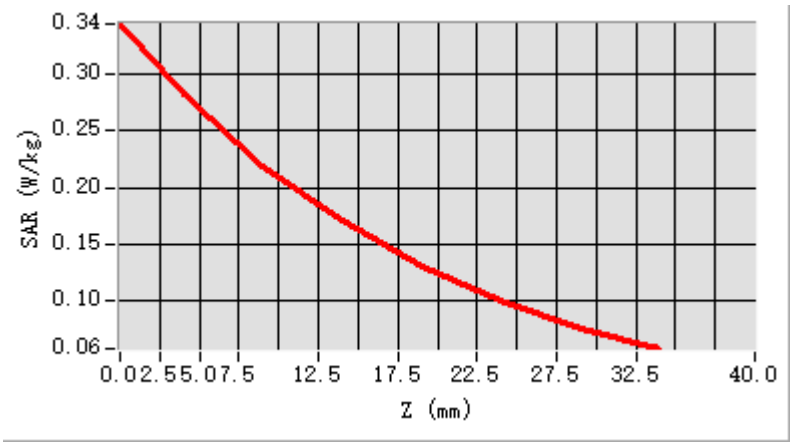
Maximum location: X=-55.00, Y=-33.00 ; SAR Peak: 0.35 W/kg

D. SAR 1g & 10g

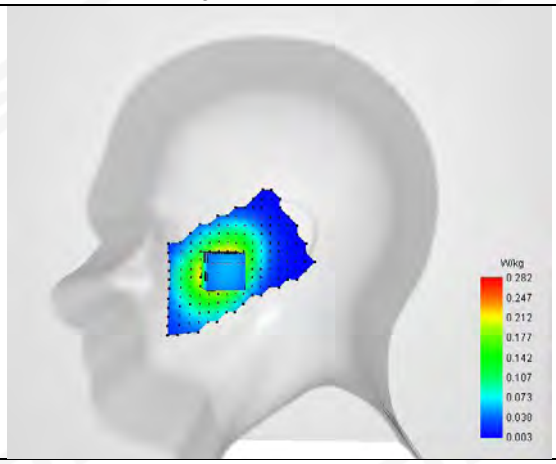
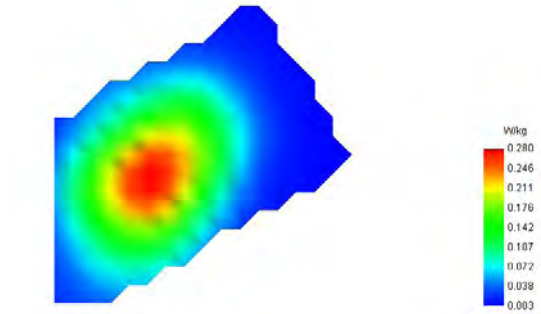
SAR 10g (W/Kg)	0.196
SAR 1g (W/Kg)	0.272
Variation (%)	-1.020
Horizontal validation criteria: minimum distance (mm)	22.627417
Vertical validation criteria: SAR ratio M2/M1 (%)	77.768403

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.344	0.282	0.219	0.170	0.131	0.101	0.076

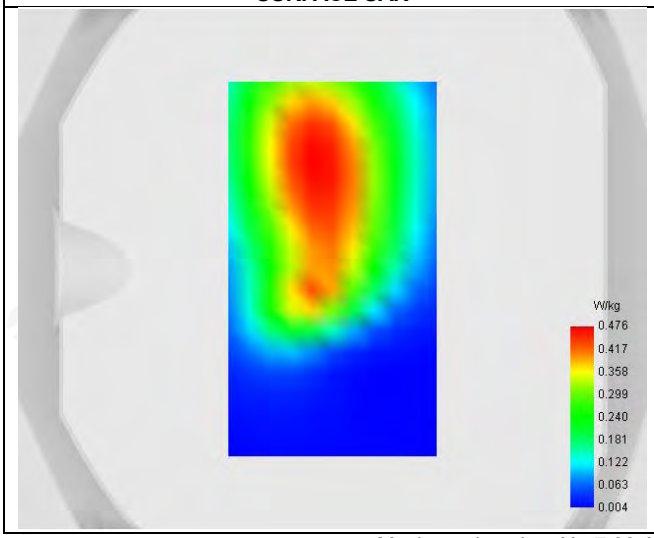
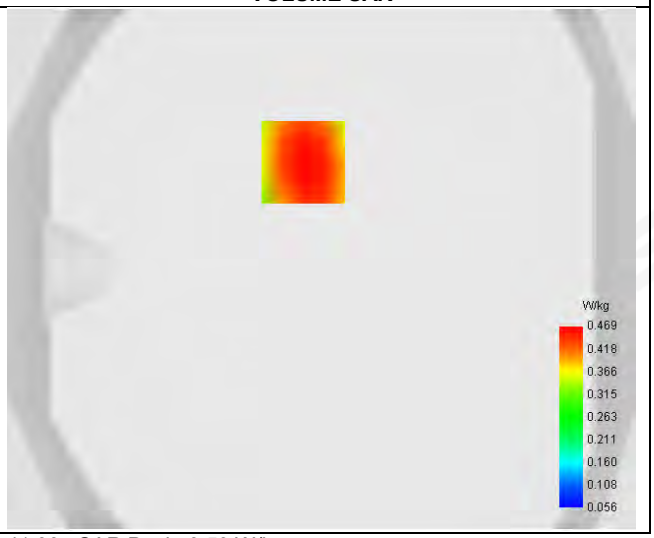


F. 3D Image

3D screen shot	Hot spot position
	

Plot 2: DUT: Rugged Smart Phone; EUT Model: H250MC-Pro

Test Date	2025-04-21
ConvF	1.44
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	Bottom Side
Band	LTE Band 26 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	41.04
Conductivity (S/m)	0.89

SURFACE SAR	VOLUME SAR
	

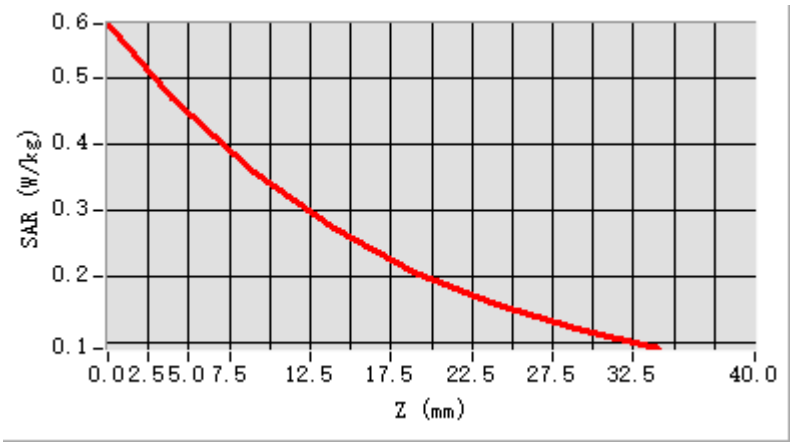
Maximum location: X=-7.00, Y=41.00 ; SAR Peak: 0.59 W/kg

D. SAR 1g & 10g

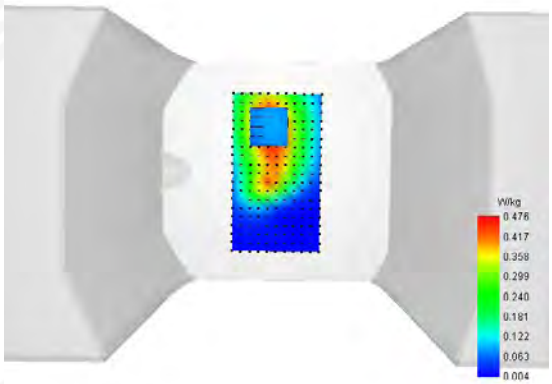
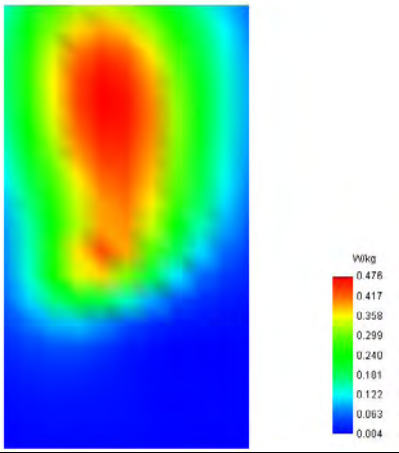
SAR 10g (W/Kg)	0.330
SAR 1g (W/Kg)	0.454
Variation (%)	-1.950
Horizontal validation criteria: minimum distance (mm)	17.888544
Vertical validation criteria: SAR ratio M2/M1 (%)	76.332622

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.582	0.469	0.358	0.271	0.206	0.157	0.119



F. 3D Image

3D screen shot	Hot spot position
	

Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※

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