



SAR Test Report

Report No.: STS2512518H01

Issued for

SHENZHEN TIANKE ZHIHUI TECHNOLOGY CO., LTD.

906, Block A, Datang Times, Longhua Street, Longhua
District, Shenzhen, China

Product Name: Smart Dog Training Collar

Brand Name: Benarlee

Model Name: TK331

Series Model(s): N/A

FCC ID: 2BSYL-BL331

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

Max. Report SAR (1g) Body: 0.558 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** : SHENZHEN TIANKE ZHIHUI TECHNOLOGY CO., LTD.Address : 906, Block A, Datang Times, Longhua Street, Longhua District,
Shenzhen, China**Manufacturer's Name** : SHENZHEN TIANKE ZHIHUI TECHNOLOGY CO., LTD.Address : 906, Block A, Datang Times, Longhua Street, Longhua District,
Shenzhen, China**Product description**

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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..... : 10 Jan. 2026 ~ 11 Feb. 2026

Date of Issue..... : 10 Mar. 2026

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

Testing Engineer :

(Xin.Liu)

Technical Manager :

(Shifan. Long)

Authorized Signatory :

(Bovey Yang)





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
8. EUT Test Position.....	18
8.1 Body-worn Position Conditions	18
8.2 SAR Test Exclusions Applied	19
9. Uncertainty	20
9.1 Measurement Uncertainty	20
10. Conducted Power Measurement.....	23
10.1 Test Result	23
11. EUT and Test Setup Photo.....	39
11.1 EUT Photo.....	39
11.2 Setup Photo	42
12. SAR Result Summary	46
12.1 Body SAR	46
12.2 Simultaneous Multi-band Transmission Evaluation	50
13. Equipment List	51
Appendix A. System Validation Plots	52
Appendix B. SAR Test Plots	70
Appendix C. Probe Calibration and Dipole Calibration Report.....	84



Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	10 Mar. 2026	STS2512518H01	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	Smart Dog Training Collar		
Brand Name	Benarlee		
Model Name	TK331		
Series Model	N/A		
Model Difference	N/A		
Sample number	251225053-1		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	N/A		
Software Version	N/A		
Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 66: 1710 MHz ~ 1780 MHz WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz BLE: 2402 MHz to 2480 MHz		
Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Body:0mm	Band	Mode	Body Worn (W/kg)
	PCT	LTE Band 2	0.445
	PCT	LTE Band 4	0.525
	PCT	LTE Band 5	0.360
	PCT	LTE Band 12	0.382
	PCT	LTE Band 13	0.372
	PCT	LTE Band 66	0.558
	DTS	2.4G WLAN	0.155
1-g Sum SAR			0.713
Limit			1.6W/kg



FCC Equipment Class	Digital Transmission System (DTS) Licensed Transmitter (PCT)
Operating Mode:	LTE: QPSK, 16QAM, 64QAM(downlink only) 2.4G WLAN : 802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM BLE: GFSK
Antenna Specification:	LTE: PIFA Antenna WLAN/BLE: PIFA Antenna
Hotspot Mode	Not Support
DTM Mode	Not Support
Note: 1. 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.

101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai 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 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:

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

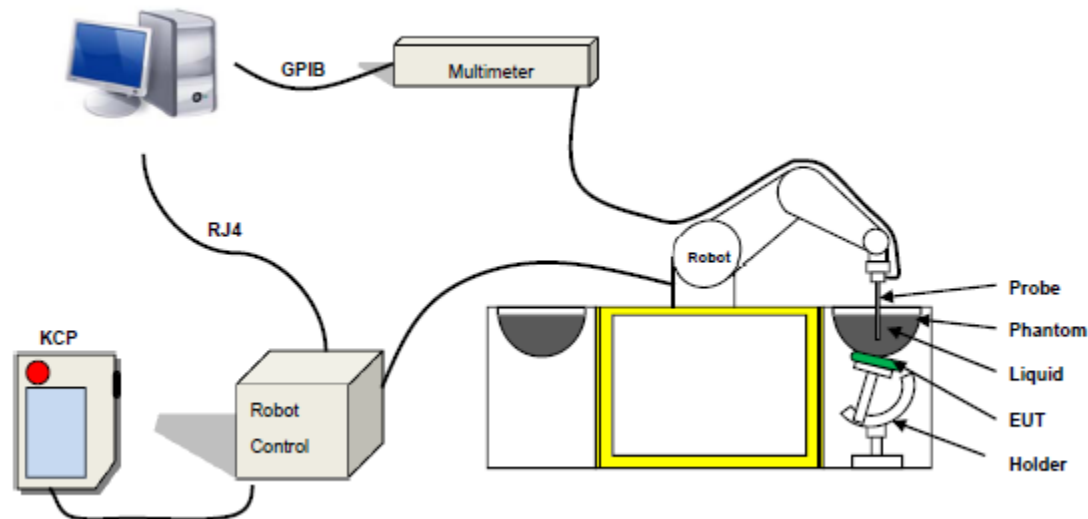
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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 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.

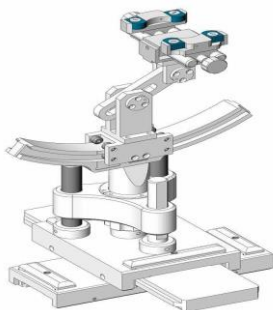
SN 32/14 SAM115



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 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.

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

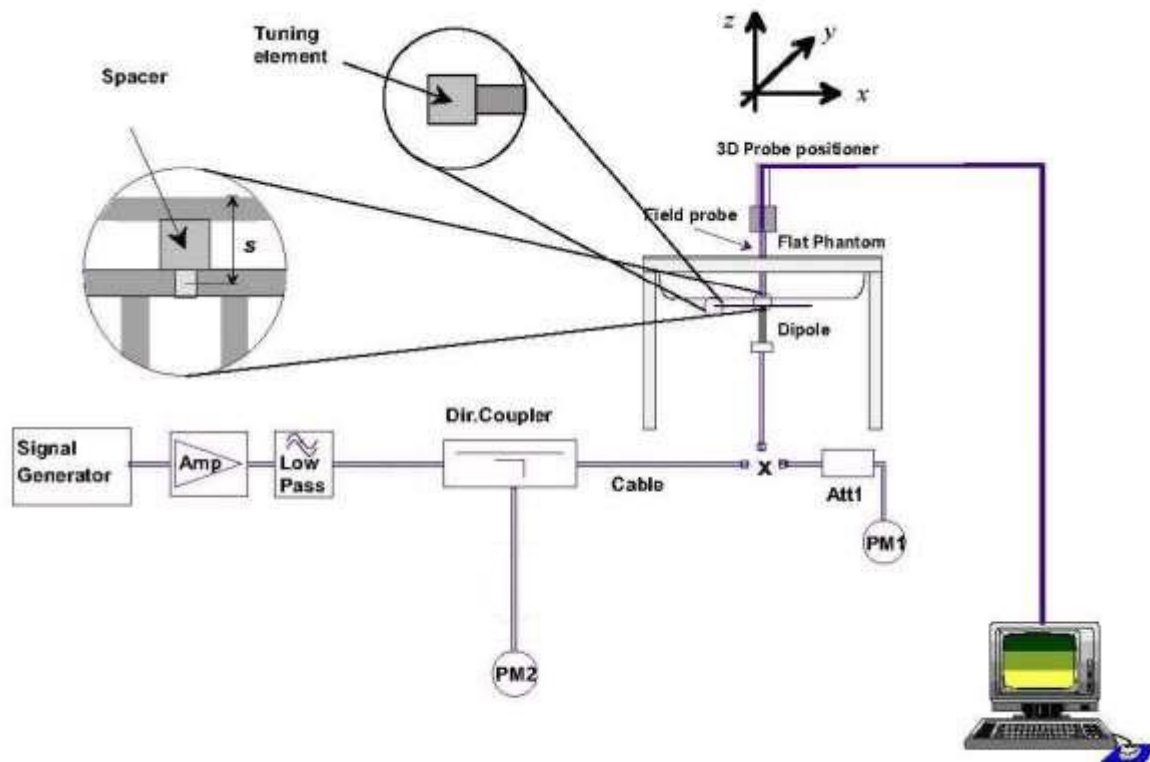
**LIQUID MEASUREMENT RESULTS**

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2026-01-10	24.0	45	711	23.6	Permittivity	42.11	42.03	-0.19	±5
					Conductivity	0.89	0.88	-0.83	±5
2026-01-10	24.1	45	750	23.9	Permittivity	41.90	42.17	0.64	±5
					Conductivity	0.89	0.90	1.12	±5
2026-01-10	24.2	45	782	23.9	Permittivity	41.73	42.20	1.13	±5
					Conductivity	0.89	0.89	-0.24	±5
2026-02-11	23.6	51	708	23.3	Permittivity	42.13	42.51	0.91	±5
					Conductivity	0.89	0.93	4.83	±5
2026-02-11	23.6	51	750	23.3	Permittivity	41.90	42.61	1.69	±5
					Conductivity	0.89	0.88	-1.12	±5
2026-02-11	23.6	51	782	23.3	Permittivity	41.73	42.59	2.06	±5
					Conductivity	0.89	0.92	3.12	±5
2026-01-10	24.2	45	835	23.9	Permittivity	41.50	42.09	1.42	±5
					Conductivity	0.90	0.89	-1.11	±5
2026-01-10	24.2	45	836.5	23.9	Permittivity	41.49	40.92	-1.38	±5
					Conductivity	0.90	0.91	1.09	±5
2026-02-11	23.6	51	835	23.3	Permittivity	41.50	41.44	-0.14	±5
					Conductivity	0.90	0.87	-3.33	±5
2026-02-11	23.6	51	836.5	23.3	Permittivity	41.49	41.51	0.04	±5
					Conductivity	0.90	0.92	2.20	±5
2026-01-10	24.2	45	1720	23.9	Permittivity	40.11	40.41	0.74	±5
					Conductivity	1.35	1.35	-0.32	±5
2026-01-10	24.2	45	1732.5	23.9	Permittivity	40.10	40.62	1.31	±5
					Conductivity	1.36	1.39	2.10	±5
2026-01-10	24.2	45	1745	23.9	Permittivity	40.08	39.83	-0.62	±5
					Conductivity	1.37	1.37	0.10	±5
2026-01-10	24.2	45	1770	23.9	Permittivity	40.04	40.65	1.52	±5
					Conductivity	1.38	1.36	-1.65	±5
2026-01-10	24.2	45	1800	23.9	Permittivity	40.00	39.92	-0.20	±5
					Conductivity	1.40	1.41	0.71	±5
2026-02-11	23.6	51	1745	23.3	Permittivity	40.08	39.88	-0.50	±5
					Conductivity	1.37	1.39	1.57	±5
2026-02-11	23.6	51	1800	23.3	Permittivity	40.00	40.61	1.53	±5
					Conductivity	1.40	1.41	0.71	±5
2026-01-11	23.7	51	1860	23.5	Permittivity	40.00	40.99	2.48	±5
					Conductivity	1.40	1.39	-0.71	±5
2026-01-11	23.7	51	1900	23.4	Permittivity	40.00	40.39	0.98	±5
					Conductivity	1.40	1.39	-0.71	±5
2026-02-11	23.6	23.6	1860	23.3	Permittivity	40.00	41.10	2.75	±5
					Conductivity	1.40	1.42	1.43	±5
2026-02-11	23.6	23.6	1900	23.3	Permittivity	40.00	40.87	2.17	±5
					Conductivity	1.40	1.41	0.71	±5
2026-01-11	23.7	51	2437	23.4	Permittivity	39.22	39.50	0.71	±5
					Conductivity	1.79	1.80	0.65	±5
2026-01-11	23.7	51	2450	23.4	Permittivity	39.20	39.57	0.94	±5
					Conductivity	1.80	1.79	-0.56	±5

5. SAR System Validation

5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder. The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.





5.2 Validation Result

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

Date	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	
2026-01-10	750	100 mW	0.875	0.571	-2.23	8.49	5.53	3.06%	3.25%	10
		Normalize to 1 Watt	8.75	5.71						
2026-02-11	750	100 mW	0.864	0.556	0.94	8.49	5.53	3.06%	3.25%	10
		Normalize to 1 Watt	8.75	5.71						
2026-01-10	835	100 mW	0.953	0.597	1.97	9.63	6.15	-1.04%	-2.93%	10
		Normalize to 1 Watt	9.53	5.97						
2026-02-11	835	100 mW	0.963	0.601	1.02	9.63	6.15	-1.04%	-2.93%	10
		Normalize to 1 Watt	9.53	5.97						
2026-01-10	1800	100 mW	3.756	2.009	-0.81	37.95	20.49	-1.03%	-1.95%	10
		Normalize to 1 Watt	37.56	20.09						
2026-02-11	1800	100 mW	3.694	2.137	0.77	37.95	20.49	-1.03%	-1.95%	10
		Normalize to 1 Watt	37.56	20.09						
2026-01-11	1900	100 mW	3.954	1.999	-1.55	39.84	20.20	-0.75%	-1.04%	10
		Normalize to 1 Watt	39.54	19.99						
2026-02-11	1900	100 mW	3.896	2.056	2.63	39.84	20.20	-0.75%	-1.04%	10
		Normalize to 1 Watt	39.54	19.99						
2026-01-11	2450	100 mW	5.434	2.456	3.52	54.70	24.11	-0.66%	1.87%	10
		Normalize to 1 Watt	54.34	24.56						

Note:

1. The tolerance limit of System validation $\pm 10\%$.
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 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

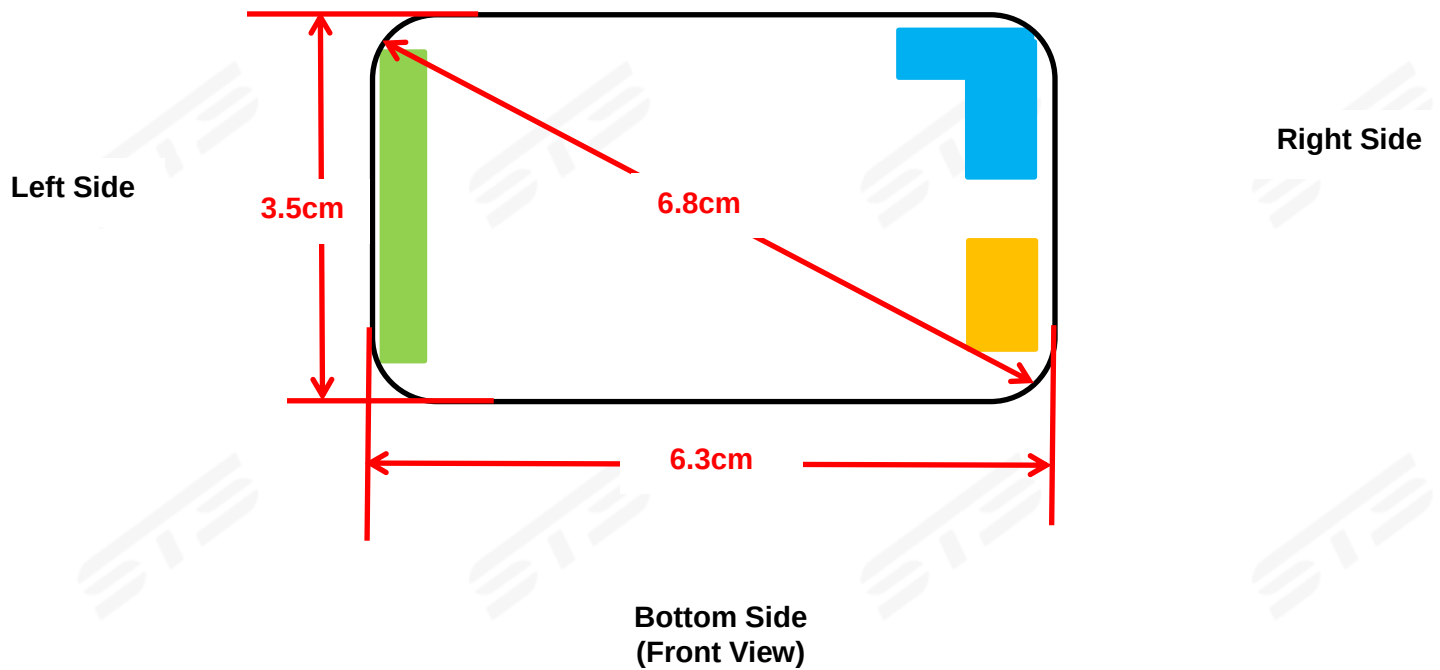
First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan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

Top Side



-  WWAN Antenna
-  Bluetooth Antenna
-  WLAN Antenna

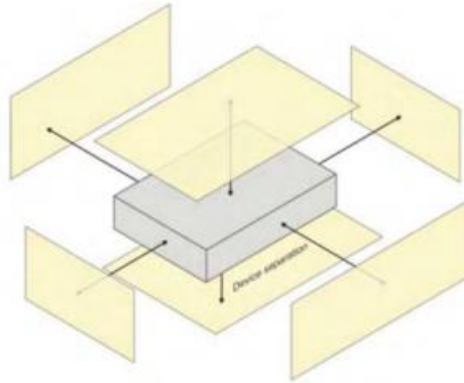
8. EUT Test Position

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





8.2 SAR Test Exclusions Applied

Standalone SAR test exclusion applies 447498 D04 Interim General Radio Frequency Exposure Guidelines v01. 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:

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

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);

Function	Fre. (GHz)	Separation distance (cm)	Max Turn up power (dBm)	Max Turn up power (mW)	Pth (mW)
BLE	2.402	0.5	0.5	1.12	2.79

Note: The Maximum power is less than the Pth, complies with the exemption requirements.



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 EPG0352									
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 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	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

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.
8. According to April 2015 TCB workshop, SAR test exclusion can be applied for testing overlapping LTE bands as follows:
 - a) The maximum output power, including tolerance, for the smaller band must be $\leq$ the larger band to qualify for the SAR test exclusion.
 - b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.55	23.41	23.47
1.4	1	2		23.42	23.3	23.4
1.4	1	5		23.16	23.19	23.42
1.4	3	0		22.98	22.93	23.35
1.4	3	1		23.19	23.25	23.33
1.4	3	2		23.35	23.36	23.31
1.4	6	0		23.28	23.22	23.26
1.4	1	0	16-QAM	22.43	22.48	22.35
1.4	1	2		22.21	22.35	22.28
1.4	1	5		21.98	22.32	22.31
1.4	3	0		22.34	22.41	22.24
1.4	3	1		22.36	22.28	22.22
1.4	3	2		22.39	22.37	22.19
1.4	6	0		22.32	22.37	22.15
3	1	0	QPSK	23.33	23.38	23.52
3	1	7		23.1	23.24	23.45
3	1	14		22.86	23.22	23.47
3	8	0		23.24	23.31	23.4
3	8	4		23.26	23.17	23.38
3	8	7		23.28	23.26	23.36
3	15	0		23.21	23.25	23.31
3	1	0	16-QAM	22.41	22.39	22.47
3	1	7		22.19	22.26	22.4
3	1	14		21.96	22.23	22.43
3	8	0		22.32	22.32	22.36
3	8	4		22.34	22.19	22.34
3	8	7		22.37	22.28	22.31
3	15	0		22.3	22.23	22.27



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.55	23.58	23.52
5	1	12		23.31	22.44	23.45
5	1	24		23.08	23.41	23.47
5	12	0		23.46	23.51	23.4
5	12	6		23.48	23.37	23.38
5	12	11		23.5	23.46	23.36
5	25	0		23.43	22.34	23.31
5	1	0	16-QAM	22.41	22.45	22.43
5	1	12		21.96	22.38	22.36
5	1	24		22.19	22.29	22.39
5	12	0		22.32	22.34	22.23
5	12	6		22.3	22.25	22.27
5	12	11		22.37	22.32	22.3
5	25	0		22.34	22.27	22.32
10	1	0	QPSK	23.51	23.52	23.41
10	1	24		23.39	23.45	23.25
10	1	49		23.04	23.4	23.29
10	25	0		23.42	23.33	23.36
10	25	12		23.44	23.38	23.34
10	25	24		23.27	23.36	23.2
10	50	0		23.46	23.31	23.27
10	1	0	16-QAM	22.48	22.53	22.42
10	1	24		22.44	22.37	22.31
10	1	49		22.41	22.46	22.29



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.41	23.56	23.45
15	1	37		23.36	23.42	23.38
15	1	74		23.34	23.49	23.33
15	36	0		23.35	23.4	23.24
15	36	18		22.94	23.35	23.29
15	36	39		23.18	23.44	23.31
15	75	0		23.32	23.37	23.4
15	1	0	16-QAM	22.45	22.47	22.41
15	1	38		22	22.29	22.3
15	1	75		22.36	22.36	22.28
20	1	0	QPSK	23.62	23.63	23.41
20	1	49		23.15	23.46	23.36
20	1	99		23.51	23.41	23.4
20	50	0		23.57	23.51	23.29
20	50	24		23.38	23.44	23.2
20	50	49		23.5	23.51	23.27
20	100	0		22.52	22.44	22.47
20	1	0	16-QAM	22.57	22.53	22.55
20	1	49		22.52	22.37	22.41
20	1	99		22.46	22.46	22.44



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.42	23.39	23.41
1.4	1	2		23.4	23.32	23.36
1.4	1	5		23.33	23.3	23.27
1.4	3	0		23.3	23.18	23.36
1.4	3	1		23.28	23.34	23.34
1.4	3	2		23.35	23.2	23.2
1.4	6	0		23.26	23.27	23.19
1.4	1	0	16-QAM	22.41	22.42	22.51
1.4	1	2		22.3	22.33	22.46
1.4	1	5		22.34	22.29	22.4
1.4	3	0		22.32	22.31	22.37
1.4	3	1		22.28	22.24	22.35
1.4	3	2		22.3	22.38	22.31
1.4	6	0		22.29	22.35	22.44
3	1	0	QPSK	23.33	23.42	23.34
3	1	7		23.21	23.37	23.29
3	1	14		23.32	23.33	23.22
3	8	0		23.24	23.35	23.27
3	8	4		23.19	23.21	23.2
3	8	7		23.17	23.23	23.18
3	15	0		23.26	23.3	23.13
3	1	0	16-QAM	22.35	22.51	22.53
3	1	7		22.26	22.44	22.48
3	1	14		22.19	22.42	22.42
3	8	0		22.22	22.31	22.39
3	8	4		22.33	22.4	22.33
3	8	7		22.24	22.33	22.37
3	15	0		22.28	22.46	2.46



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.32	23.36	23.34
5	1	12		23.25	23.29	23.29
5	1	24		23.3	23.15	23.2
5	12	0		23.21	23.31	23.22
5	12	6		23.23	23.24	23.18
5	12	11		23.18	23.17	23.27
5	25	0		23.16	23.27	23.13
5	1	0	16-QAM	22.31	22.54	22.51
5	1	12		22.24	22.45	22.44
5	1	24		22.29	22.34	22.46
5	12	0		22.22	22.43	22.37
5	12	6		22.15	22.36	22.35
5	12	11		22.18	22.49	22.31
5	25	0		22.2	22.47	22.4
10	1	0	QPSK	23.37	23.31	23.35
10	1	24		23.35	23.26	23.28
10	1	49		23.26	23.22	23.19
10	25	0		23.29	23.1	23.21
10	25	12		23.21	23.12	23.14
10	25	24		23.23	23.19	23.3
10	50	0		23.3	23.24	23.23
10	1	0	16-QAM	22.46	22.44	22.37
10	1	24		23.35	22.4	22.3
10	1	49		22.44	22.37	22.33



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.41	23.39	23.32
15	1	37		23.34	23.34	23.25
15	1	74		23.32	23.32	23.18
15	36	0		23.25	23.3	23.27
15	36	18		23.27	23.27	23.2
15	36	39		23.39	23.2	23.11
15	75	0		23.29	23.18	23.16
15	1	0	16-QAM	22.56	22.51	22.55
15	1	38		22.54	22.42	22.5
15	1	75		22.45	22.44	22.44
20	1	0	QPSK	23.35	23.37	23.44
20	1	49		23.23	23.32	23.37
20	1	99		23.28	23.41	23.41
20	50	0		23.19	23.28	23.32
20	50	24		23.21	23.16	23.28
20	50	49		23.33	23.25	23.23
20	100	0		22.57	22.76	22.71
20	1	0	16-QAM	22.51	22.53	22.69
20	1	49		22.49	22.48	22.62
20	1	99		22.42	22.33	22.64



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.32	23.38	23.34
1.4	1	2		23.2	23.31	23.29
1.4	1	5		23.29	23.29	23.22
1.4	3	0		23.23	23.33	23.2
1.4	3	1		23.18	23.26	23.13
1.4	3	2		23.16	23.19	23.28
1.4	6	0		23.25	23.17	23.27
1.4	1	0	16-QAM	22.34	22.54	22.47
1.4	1	2		22.32	22.49	22.4
1.4	1	5		22.25	22.47	22.36
1.4	3	0		22.18	22.34	22.34
1.4	3	1		22.21	22.43	22.31
1.4	3	2		22.23	22.36	22.27
1.4	6	0		22.27	22.45	22.43
3	1	0	QPSK	23.31	23.31	23.35
3	1	7		23.29	23.24	23..30
3	1	14		23.22	23.22	23.23
3	8	0		23.15	23.1	23.19
3	8	4		23.17	23.19	23.14
3	8	7		23.24	23.12	23.21
3	15	0		23.19	23.26	23.28
3	1	0	16-QAM	22.45	22.44	22.37
3	1	7		22.34	22.37	22.33
3	1	14		22.43	22.35	22.24
3	8	0		22.29	22.24	22.26
3	8	4		22.36	22.26	22.17
3	8	7		2.32	22.31	22.21
3	15	0		22.38	22.4	22.3



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.45	23.33	23.32
5	1	12		23.33	23.26	23.27
5	1	24		23.43	23.24	23.2
5	12	0		23.31	23.12	23.16
5	12	6		23.29	23.21	23.11
5	12	11		23.31	23.14	23.25
5	25	0		23.36	23.28	23.28
5	1	0	16-QAM	22.34	22.24	22.54
5	1	12		22.32	22.17	22.49
5	1	24		22.23	22.15	22.43
5	12	0		22.25	22.13	22.4
5	12	6		22.18	22.04	22.38
5	12	11		22.21	22.06	22.34
5	25	0		22.27	22.2	22.47
10	1	0	QPSK	23.31	23.57	23.45
10	1	24		23.19	23.48	23.38
10	1	49		23.24	23.41	23.44
10	25	0		23.22	23.45	23.33
10	25	12		23.17	23.38	23.29
10	25	24		23.15	23.5	23.24
10	50	0		22.57	22.73	22.69
10	1	0	16-QAM	22.54	22.53	22.61
10	1	24		22.47	22.46	22.56
10	1	49		22.52	22.34	22.5



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.39	23.31	23.35
1.4	1	2		23.11	23.16	23.19
1.4	1	5		23.34	23.37	23.31
1.4	3	0		22.96	22.87	22.93
1.4	3	1		22.73	22.77	22.74
1.4	3	2		23.01	23.09	23.05
1.4	6	0		22.87	22.82	22.88
1.4	1	0	16-QAM	22.34	22.54	22.44
1.4	1	2		22.17	22.16	22.19
1.4	1	5		22.23	22.22	22.19
1.4	3	0		22.09	22.08	22.03
1.4	3	1		22.14	22.11	22.15
1.4	3	2		22.26	22.23	22.19
1.4	6	0		21.73	21.74	21.7
3	1	0	QPSK	23.39	23.31	23.35
3	1	7		23.04	23.07	22.96
3	1	14		23.16	23.11	23.12
3	8	0		22.73	22.71	22.63
3	8	4		22.57	22.49	22.53
3	8	7		22.36	22.28	22.31
3	15	0		22.43	22.42	22.36
3	1	0	16-QAM	22.58	22.51	22.55
3	1	7		22.31	22.36	22.29
3	1	14		22.16	22.15	22.16
3	8	0		21.83	21.76	21.79
3	8	4		21.96	21.95	21.93
3	8	7		21.86	21.81	21.89
3	15	0		21.65	21.66	21.57



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.45	23.38	23.32
5	1	12		23.26	23.16	23.23
5	1	24		23.31	23.34	23.29
5	12	0		23.17	23.16	22.93
5	12	6		23.06	23.11	23.23
5	12	11		22.76	22.83	22.61
5	25	0		22.63	22.96	22.73
5	1	0	16-QAM	22.37	22.24	22.37
5	1	12		22.29	22.19	22.03
5	1	24		22.17	22.11	22.01
5	12	0		22.11	21.96	22.04
5	12	6		22.09	22.01	21.93
5	12	11		21.86	21.84	21.96
5	25	0		21.63	21.54	21.73
10	1	0	QPSK	23.45	23.32	23.47
10	1	24		23.31	23.26	23.11
10	1	49		23.24	23.41	23.31
10	25	0		23.01	23.09	22.87
10	25	12		22.86	22.72	22.96
10	25	24		22.73	22.54	22.61
10	50	0		22.53	22.57	22.65
10	1	0	16-QAM	22.59	22.53	22.42
10	1	24		22.32	22.13	22.24
10	1	49		22.19	22.29	22.11



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.55	23.42	23.53
5	1	12		23.42	23.37	23.41
5	1	24		23.26	23.31	23.17
5	12	0		23.04	23.11	22.87
5	12	6		23.06	23.16	23.07
5	12	11		22.96	22.84	22.79
5	25	0		22.54	22.31	22.74
5	1	0	16-QAM	22.76	22.73	22.62
5	1	12		22.53	22.31	22.45
5	1	24		22.26	22.63	22.39
5	12	0		22.17	22.02	22.19
5	12	6		22.03	21.96	22.09
5	12	11		21.86	21.96	21.73
5	25	0		21.73	21.53	21.54
10	1	0	QPSK	/	23.57	/
10	1	24		/	23.42	/
10	1	49		/	23.38	/
10	25	0		/	22.95	/
10	25	12		/	22.83	/
10	25	24		/	22.64	/
10	50	0		/	22.54	/
10	1	0	16-QAM	/	22.77	/
10	1	24		/	22.52	/
10	1	49		/	22.63	/



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.57	23.39	23.41
1.4	1	2		23.32	23.14	23.31
1.4	1	5		23.26	22.94	22.84
1.4	3	0		23.04	23.14	22.95
1.4	3	1		23.15	23.04	22.96
1.4	3	2		22.86	22.54	22.83
1.4	6	0		22.76	22.56	22.63
1.4	1	0	16-QAM	22.48	22.42	22.59
1.4	1	2		22.25	22.16	22.07
1.4	1	5		22.06	22.09	22.16
1.4	3	0		21.97	21.84	21.92
1.4	3	1		21.83	21.73	21.86
1.4	3	2		21.96	21.76	21.82
1.4	6	0		21.63	21.54	21.73
3	1	0	QPSK	23.33	23.55	23.34
3	1	7		23.17	23.01	23.31
3	1	14		23.09	23.06	22.83
3	8	0		22.86	22.81	22.63
3	8	4		22.79	22.71	22.54
3	8	7		22.81	22.73	22.89
3	15	0		22.61	22.57	22.71
3	1	0	16-QAM	22.35	22.51	22.41
3	1	7		22.29	22.13	22.08
3	1	14		22.07	22.03	22.09
3	8	0		21.84	21.54	21.73
3	8	4		21.73	21.52	21.76
3	8	7		21.81	21.86	21.57
3	15	0		21.52	21.36	21.22



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.39	23.36	23.34
5	1	12		23.26	23.21	23.01
5	1	24		23.17	23.16	23.01
5	12	0		23.06	23.31	22.83
5	12	6		22.84	22.64	22.73
5	12	11		22.95	22.83	22.72
5	25	0		22.63	22.51	22.34
5	1	0	16-QAM	22.31	22.57	22.51
5	1	12		22.27	22.31	22.52
5	1	24		22.53	22.51	22.16
5	12	0		22.13	22.06	22.11
5	12	6		22.01	21.83	21.94
5	12	11		22.06	22.07	22.11
5	25	0		21.84	21.82	21.64
10	1	0	QPSK	23.37	23.48	23.35
10	1	24		23.31	23.23	23.31
10	1	49		23.12	23.06	23.07
10	25	0		23.01	23.06	23.08
10	25	12		22.94	22.78	22.84
10	25	24		22.73	22.65	22.53
10	50	0		22.34	22.48	22.54
10	1	0	16-QAM	22.52	22.44	22.38
10	1	24		22.31	22.51	22.37
10	1	49		22.02	21.86	21.73



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.38	23.31	23.32
15	1	37		23.17	23.07	22.96
15	1	74		23.26	23.14	23.05
15	36	0		22.99	22.83	22.73
15	36	18		22.84	22.73	22.63
15	36	39		22.96	22.52	22.76
15	75	0		22.63	22.43	22.73
15	1	0	16-QAM	22.28	22.51	22.54
15	1	38		22.16	22.06	22.01
15	1	75		22.01	21.84	21.79
20	1	0	QPSK	23.42	23.45	23.58
20	1	49		23.41	23.31	23.51
20	1	99		23.28	23.39	23.51
20	50	0		23.19	23.11	23.05
20	50	24		23.06	22.95	22.84
20	50	49		22.73	22.76	22.89
20	100	0		22.51	22.76	22.71
20	1	0		22.49	22.53	22.69
20	1	49	16-QAM	22.13	22.01	22.06
20	1	99		22.01	21.84	21.77

Note:

For LTE Band 2/4/66 16QAM, 10M/15M/20 Bandwidth only present worst case 1RB test data. SAR

**BLE**

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]
BLE_1M	Ant1	2402	-0.06
		2440	-0.12
		2480	-0.94
BLE_2M	Ant1	2402	0.03
		2440	-0.07
		2480	-0.9

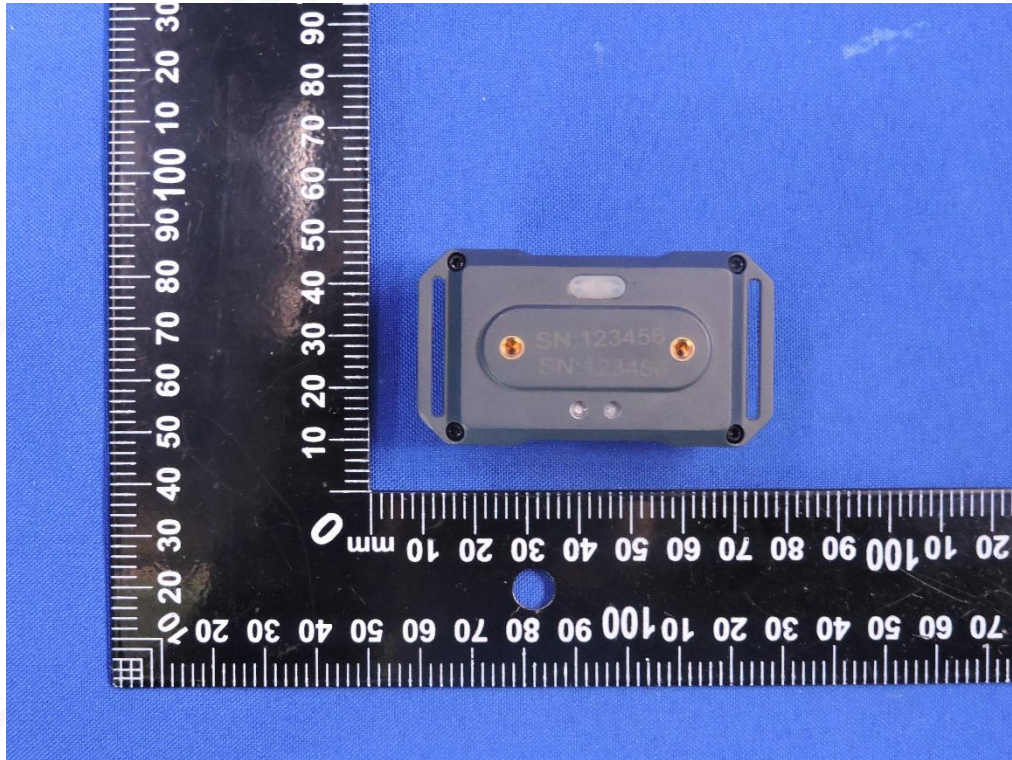
2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Conducted Power (dBm)	Output Power (mW)
802.11b	1	2412	13.00	19.95
	7	2437	13.61	22.96
	11	2462	13.21	20.94
802.11g	1	2412	15.43	34.91
	7	2437	16.13	41.02
	11	2462	15.72	37.33
802.11 n-HT20	1	2412	13.89	24.49
	7	2437	14.27	26.73
	11	2462	13.88	24.43

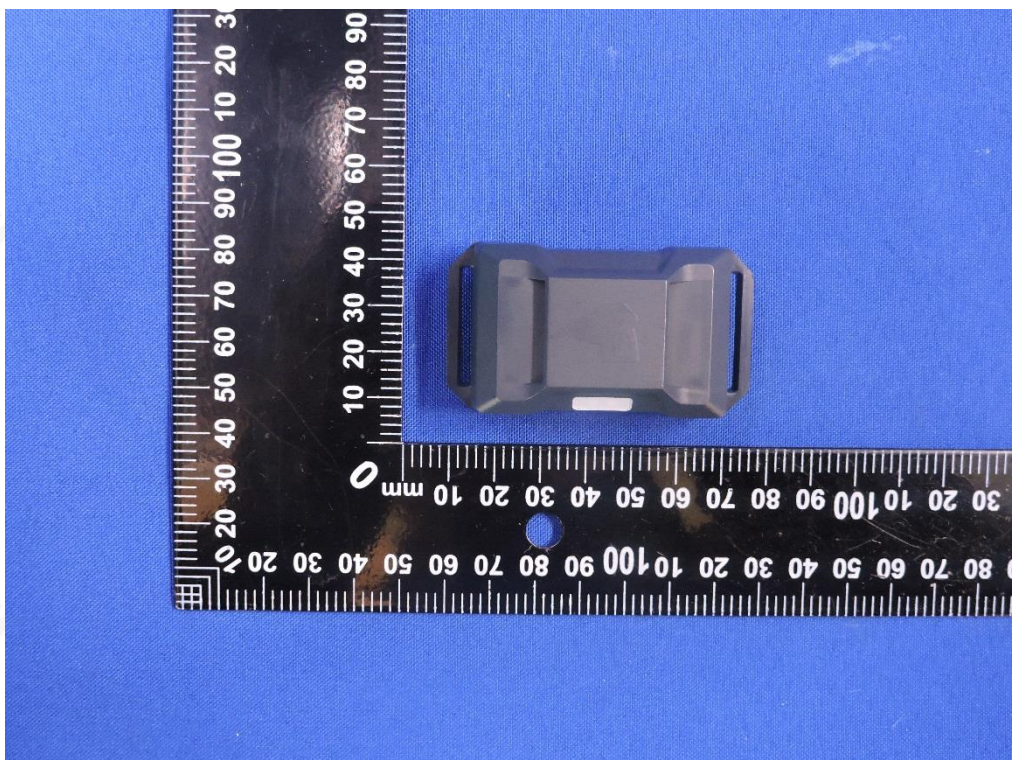
11. EUT and Test Setup Photo

11.1 EUT Photo

Front side

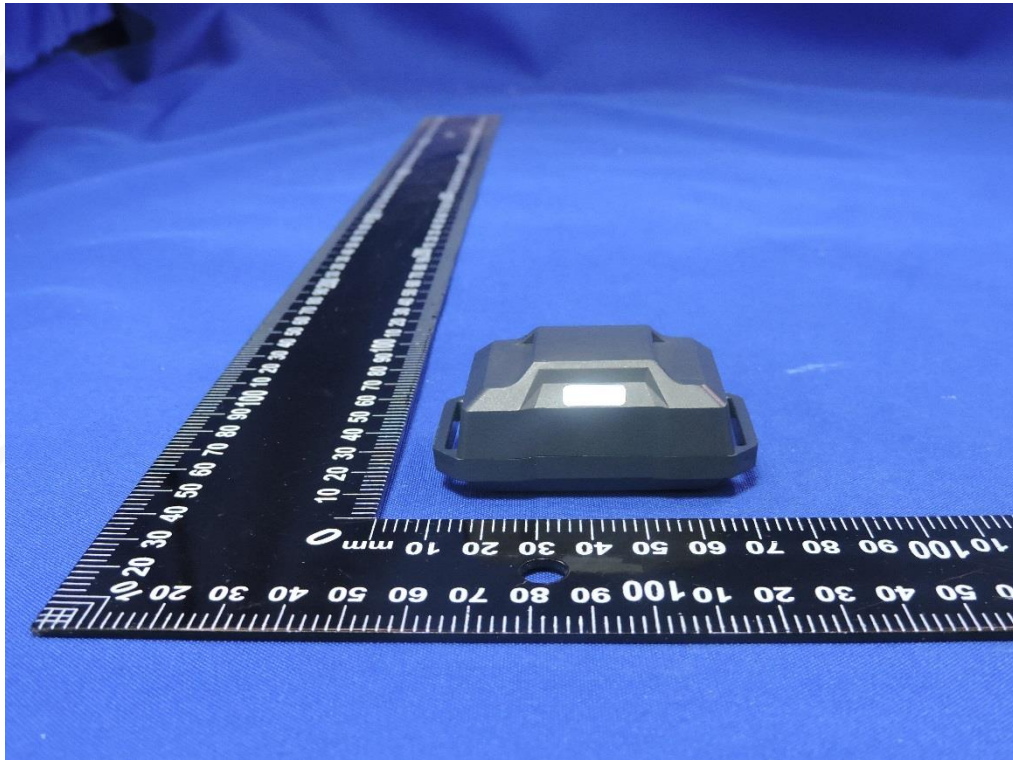


Back side

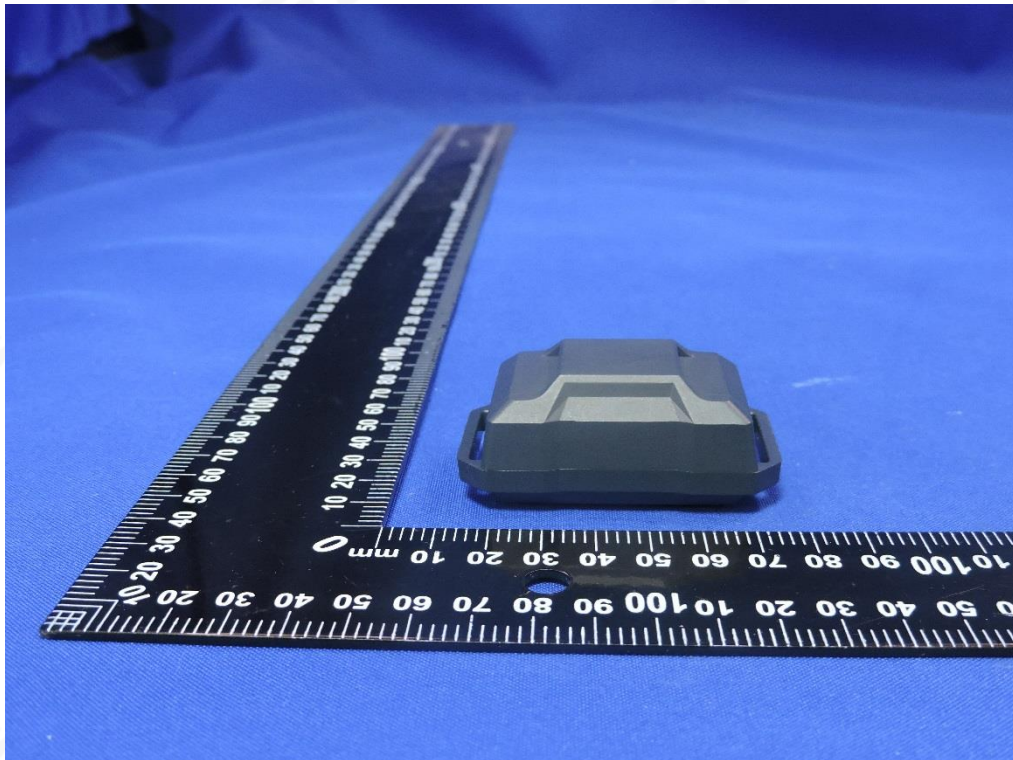




Top side

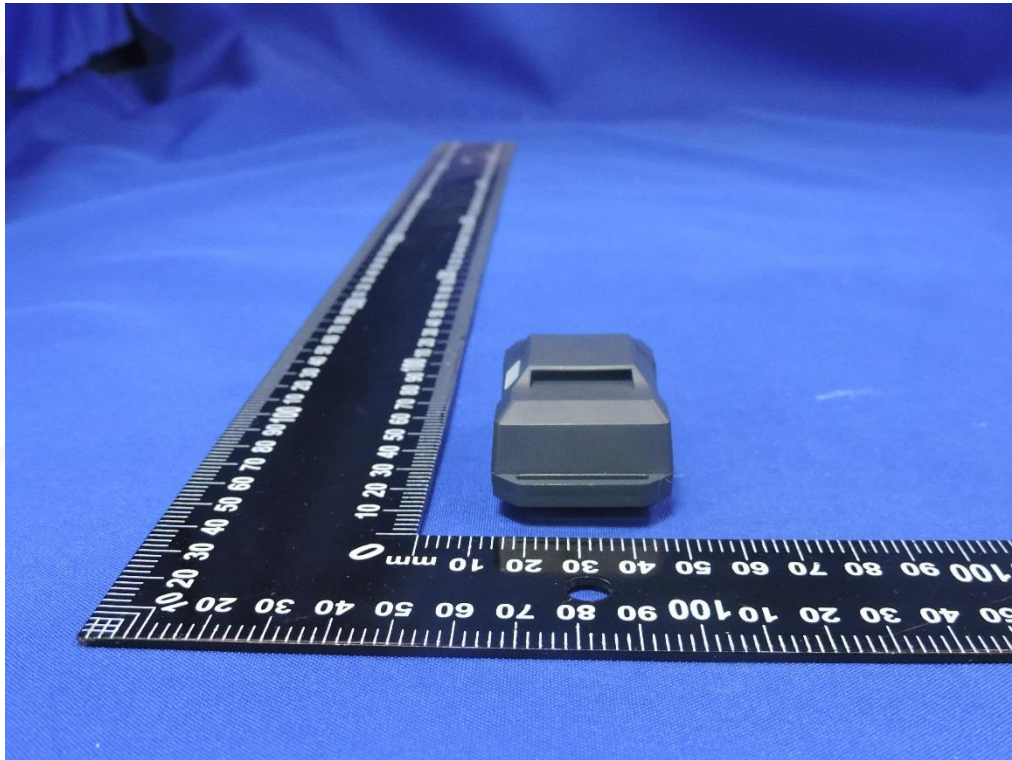


Bottom side

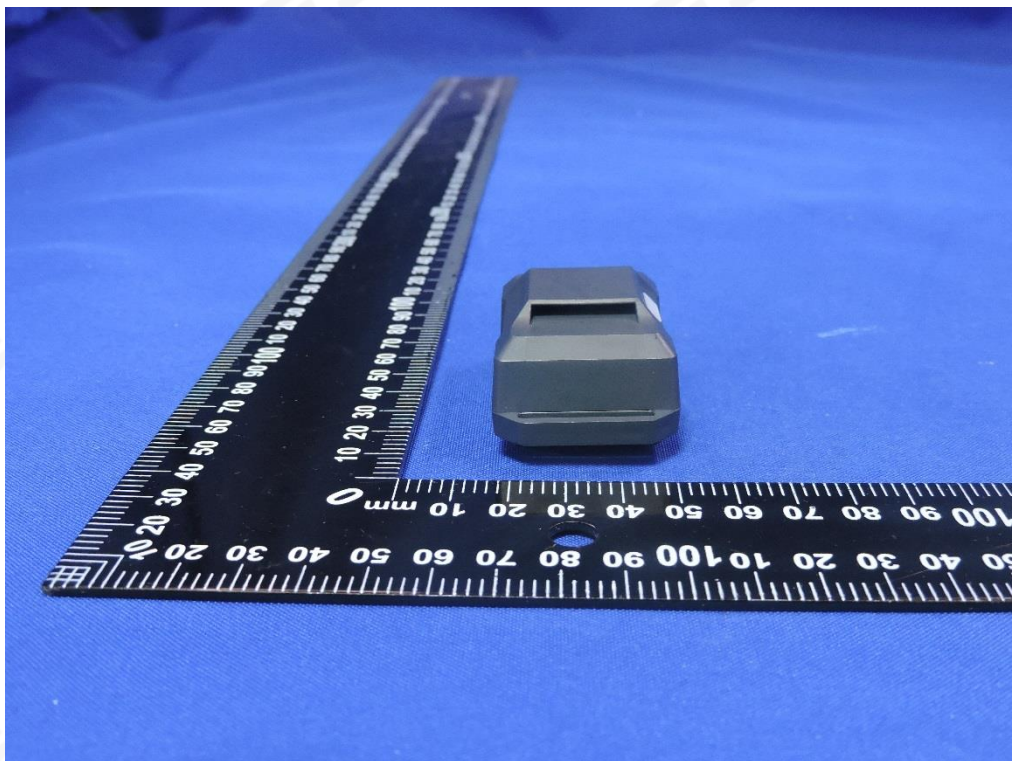




Left side

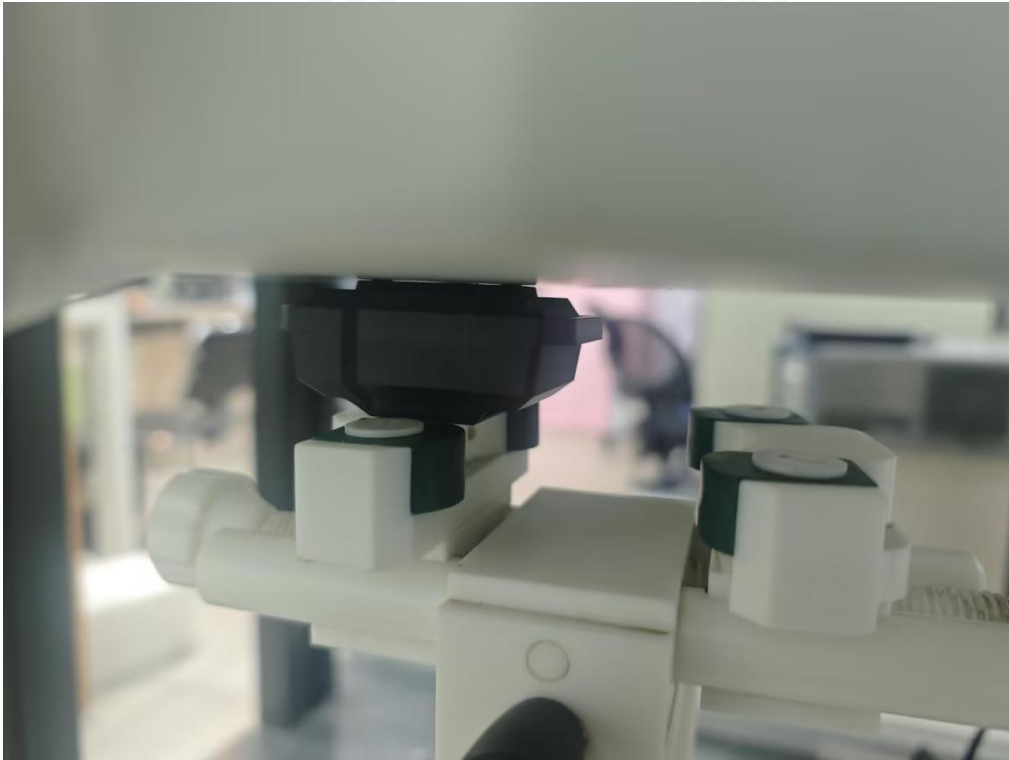


Right side



11.2 Setup Photo

Front side(separation distance is 0mm)



Back Side (separation distance is 0mm)



Left side(separation distance is 0mm)



Right Side (separation distance is 0mm)



Top side(separation distance is 0mm)

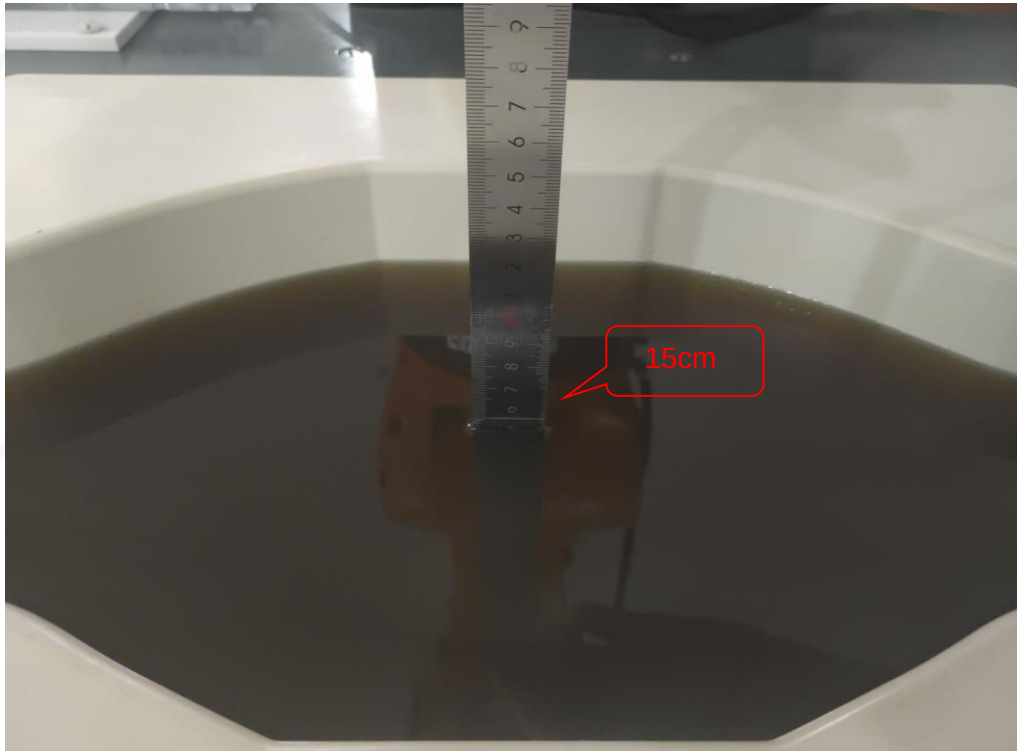


Bottom Side (separation distance is 0mm)





Liquid depth (15 cm)





12. SAR Result Summary

12.1 Body 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 2	20M	QPSK	1	0	Front side	1860	0.408	2.99	24	23.62	1.091	0.445	1
			50	0	Front side	1860	0.358	2.10	24	23.57	1.104	0.395	/
			100	0	Front side	1860	0.349	0.17	23	22.52	1.117	0.390	/
			1	0	Back Side	1860	0.189	-2.92	24	23.62	1.091	0.206	/
			50	0	Back Side	1860	0.174	1.26	24	23.57	1.104	0.192	/
			100	0	Back Side	1860	0.170	2.52	23	22.52	1.117	0.190	/
			1	0	Left Side	1860	0.152	3.81	24	23.62	1.091	0.166	/
			50	0	Left Side	1860	0.141	0.59	24	23.57	1.104	0.156	/
			100	0	Left Side	1860	0.134	-3.99	23	22.52	1.117	0.150	/
			1	0	Right Side	1860	0.118	-1.86	24	23.62	1.091	0.129	/
			50	0	Right Side	1860	0.112	-0.93	24	23.57	1.104	0.124	/
			100	0	Right Side	1860	0.101	2.09	23	22.52	1.117	0.113	/
			1	0	Top Side	1860	0.235	-1.36	24	23.62	1.091	0.256	/
			50	0	Top Side	1860	0.228	-3.03	24	23.57	1.104	0.252	/
			100	0	Top Side	1860	0.221	2.67	23	22.52	1.117	0.247	/
			1	0	Bottom Side	1860	0.178	3.12	24	23.62	1.091	0.194	/
			50	0	Bottom Side	1860	0.170	1.55	24	23.57	1.104	0.188	/
			100	0	Bottom Side	1860	0.161	-3.24	23	22.52	1.117	0.180	/
LTE Band 4	20M	QPSK	1	0	Front side	1745	0.518	-1.03	23.5	23.44	1.014	0.525	2
			50	49	Front side	1745	0.482	-3.02	23.5	23.33	1.040	0.501	/
			100	0	Front side	1732.5	0.459	1.04	23	22.76	1.057	0.485	/
			1	0	Back Side	1745	0.215	-0.64	23.5	23.44	1.014	0.218	/
			50	49	Back Side	1745	0.194	2.51	23.5	23.33	1.040	0.202	/
			100	0	Back Side	1732.5	0.174	-2.25	23	22.76	1.057	0.184	/
			1	0	Left Side	1745	0.166	3.33	23.5	23.44	1.014	0.168	/
			50	49	Left Side	1745	0.155	0.88	23.5	23.33	1.040	0.161	/
			100	0	Left Side	1732.5	0.143	1.40	23	22.76	1.057	0.151	/
			1	0	Right Side	1745	0.150	0.25	23.5	23.44	1.014	0.152	/
			50	49	Right Side	1745	0.146	-1.20	23.5	23.33	1.040	0.152	/



			100	0	Right Side	1732.5	0.141	2.79	23	22.76	1.057	0.149	/
			1	0	Top Side	1745	0.256	2.04	23.5	23.44	1.014	0.260	/
			50	49	Top Side	1745	0.232	1.94	23.5	23.33	1.040	0.241	/
			100	0	Top Side	1732.5	0.219	1.95	23	22.76	1.057	0.231	/
			1	0	Bottom Side	1745	0.238	-3.94	23.5	23.44	1.014	0.241	/
			50	49	Bottom Side	1745	0.217	2.07	23.5	23.33	1.040	0.226	/
			100	0	Bottom Side	1732.5	0.205	-1.89	23	22.76	1.057	0.217	/
LTE Band 5	10M	QPSK	1	0	Front side	836.5	0.326	2.36	24	23.57	1.104	0.360	3
			25	24	Front side	836.5	0.309	2.22	24	23.5	1.122	0.347	/
			50	0	Front side	836.5	0.285	-3.13	23	22.73	1.064	0.303	/
			1	0	Back Side	836.5	0.144	-1.88	24	23.57	1.104	0.159	/
			25	24	Back Side	836.5	0.138	1.37	24	23.5	1.122	0.155	/
			50	0	Back Side	836.5	0.120	-1.65	23	22.73	1.064	0.128	/
			1	0	Left Side	836.5	0.109	2.84	24	23.57	1.104	0.120	/
			25	24	Left Side	836.5	0.102	0.74	24	23.5	1.122	0.114	/
			50	0	Left Side	836.5	0.093	0.97	23	22.73	1.064	0.099	/
			1	0	Right Side	836.5	0.085	-3.44	24	23.57	1.104	0.094	/
			25	24	Right Side	836.5	0.081	2.16	24	23.5	1.122	0.091	/
			50	0	Right Side	836.5	0.080	2.74	23	22.73	1.064	0.085	/
			1	0	Top Side	836.5	0.129	-3.72	24	23.57	1.104	0.142	/
			25	24	Top Side	836.5	0.116	1.99	24	23.5	1.122	0.130	/
			50	0	Top Side	836.5	0.111	1.35	23	22.73	1.064	0.118	/
			1	0	Bottom Side	836.5	0.135	-2.30	24	23.57	1.104	0.149	/
			25	24	Bottom Side	836.5	0.127	2.05	24	23.5	1.122	0.142	/
			50	0	Bottom Side	836.5	0.122	-2.53	23	22.73	1.064	0.130	/
LTE Band 12	10M	QPSK	1	0	Front side	711	0.379	-1.05	22.5	22.47	1.007	0.382	4
			25	0	Front side	707.5	0.356	0.56	23.5	23.09	0.008	0.003	/
			50	0	Front side	711	0.344	-1.53	23	22.65	1.084	0.373	/
			1	0	Back Side	711	0.118	-1.09	22.5	22.47	1.007	0.119	/
			25	0	Back Side	707.5	0.101	2.01	23.5	23.09	1.099	0.111	/
			50	0	Back Side	711	0.092	-3.16	23	22.65	1.084	0.100	/
			1	0	Left Side	711	0.078	0.28	22.5	22.47	1.007	0.079	/
			25	0	Left Side	707.5	0.071	1.18	23.5	23.09	1.099	0.078	/



			50	0	Left Side	711	0.068	-2.72	23	22.65	1.084	0.074	/
			1	0	Right Side	711	0.084	-1.45	22.5	22.47	1.007	0.085	/
			25	0	Right Side	707.5	0.082	-2.59	23.5	23.09	1.099	0.090	/
			50	0	Right Side	711	0.079	-3.84	23	22.65	1.084	0.086	/
			1	0	Top Side	711	0.172	0.96	22.5	22.47	1.007	0.173	/
			25	0	Top Side	707.5	0.167	1.46	23.5	23.09	1.099	0.184	/
			50	0	Top Side	711	0.153	-3.52	23	22.65	1.084	0.166	/
			1	0	Bottom Side	711	0.148	-0.44	22.5	22.47	1.007	0.149	/
			25	0	Bottom Side	707.5	0.139	1.74	23.5	23.09	1.099	0.153	/
			50	0	Bottom Side	711	0.125	2.54	23	22.65	1.084	0.135	/
LTE Band 13	10M	QPSK	1	0	Front side	782	0.337	1.29	24	23.57	1.104	0.372	5
			25	0	Front side	782	0.305	0.84	23	22.95	1.012	0.309	/
			50	0	Front side	782	0.294	-3.54	23	22.54	1.112	0.327	/
			1	0	Back Side	782	0.088	-1.81	24	23.57	1.104	0.097	/
			25	0	Back Side	782	0.081	0.37	23	22.95	1.012	0.082	/
			50	0	Back Side	782	0.075	2.91	23	22.54	1.112	0.083	/
			1	0	Left Side	782	0.110	-0.89	24	23.57	1.104	0.121	/
			25	0	Left Side	782	0.104	1.52	23	22.95	1.012	0.105	/
			50	0	Left Side	782	0.095	-2.88	23	22.54	1.112	0.106	/
			1	0	Right Side	782	0.124	-3.99	24	23.57	1.104	0.137	/
			25	0	Right Side	782	0.121	0.11	23	22.95	1.012	0.122	/
			50	0	Right Side	782	0.118	-3.74	23	22.54	1.112	0.131	/
			1	0	Top Side	782	0.147	-1.91	24	23.57	1.104	0.162	/
			25	0	Top Side	782	0.136	0.56	23	22.95	1.012	0.138	/
			50	0	Top Side	782	0.115	-0.78	23	22.54	1.112	0.128	/
			1	0	Bottom Side	782	0.139	0.28	24	23.57	1.104	0.153	/
			25	0	Bottom Side	782	0.127	0.33	23	22.95	1.012	0.128	/
			50	0	Bottom Side	782	0.120	1.76	23	22.54	1.112	0.133	/
LTE Band 66	20M	QPSK	1	0	Front side	1720	0.461	-2.75	24	23.42	1.143	0.527	/
			1	0	Front side	1745	0.455	-0.38	24	23.45	1.135	0.516	/
			1	0	Front side	1770	0.507	-0.16	24	23.58	1.102	0.558	6
			50	0	Front side	1720	0.493	1.33	23.5	23.19	1.074	0.529	/
			100	0	Front side	1770	0.485	2.71	23	22.71	1.069	0.518	/



			1	0	Back Side	1770	0.174	3.50	24	23.58	1.102	0.192	/
			50	0	Back Side	1720	0.172	2.26	23.5	23.19	1.074	0.185	/
			100	0	Back Side	1770	0.165	1.19	23	22.71	1.069	0.176	/
			1	0	Left Side	1770	0.189	1.45	24	23.58	1.102	0.208	/
			50	0	Left Side	1720	0.177	3.02	23.5	23.19	1.074	0.190	/
			100	0	Left Side	1770	0.174	0.98	23	22.71	1.069	0.186	/
			1	0	Right Side	1770	0.221	-1.03	24	23.58	1.102	0.243	/
			50	0	Right Side	1720	0.216	2.59	23.5	23.19	1.074	0.232	/
			100	0	Right Side	1770	0.208	-3.16	23	22.71	1.069	0.222	/
			1	0	Top Side	1770	0.305	3.73	24	23.58	1.102	0.336	/
			50	0	Top Side	1720	0.294	1.07	23.5	23.19	1.074	0.316	/
			100	0	Top Side	1770	0.281	1.76	23	22.71	1.069	0.300	/
			1	0	Bottom Side	1770	0.279	-3.78	24	23.58	1.102	0.307	/
			50	0	Bottom Side	1720	0.270	0.76	23.5	23.19	1.074	0.290	/
			100	0	Bottom Side	1770	0.268	-3.01	23	22.71	1.069	0.287	/
2.4GHz WLAN	N/A	802.11b	N/A	N/A	Front Side	2437	0.118	1.81	14.00	13.61	1.094	0.129	/
					Back Side	2437	0.047	3.23	14.00	13.61	1.094	0.051	/
					Left Side	2437	0.051	3.83	14.00	13.61	1.094	0.056	/
					Right Side	2437	0.050	-1.67	14.00	13.61	1.094	0.055	/
					Top Side	2437	0.062	1.77	14.00	13.61	1.094	0.068	/
					Bottom Side	2437	0.054	-3.40	14.00	13.61	1.094	0.059	/
	N/A	802.11g	N/A	N/A	Front Side	2437	0.142	3.47	16.50	16.13	1.089	0.155	7
					Back Side	2437	0.055	-0.37	16.50	16.13	1.089	0.060	/
					Left Side	2437	0.062	-0.32	16.50	16.13	1.089	0.068	/
					Right Side	2437	0.057	-2.66	16.50	16.13	1.089	0.062	/
					Top Side	2437	0.074	2.07	16.50	16.13	1.089	0.081	/
					Bottom Side	2437	0.068	-3.76	16.50	16.13	1.089	0.074	/

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
	2. LTE + BLE

NOTE:

1. BLE 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.

Estimated SAR		Maximum Average Power		Dis.	Frequency(GHz)	Stand alone SAR(1g) [W/kg]
		dBm	mW			
BT	Body	0.5	1.122	5	2.402	0.046

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition a

Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
LTE + 2.4G WLAN	Body	LTE	0.558	0.713
		2.4G WLAN	0.155	
LTE + BLE	Body	LTE	0.558	0.604
		BLE	0.046	

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
750MHz Dipole	MVG	SID750	SN 30/14 DIP0G750-331	2023.07.04	2026.07.03
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2023.07.04	2026.07.03
1800MHz Dipole	MVG	SID1800	5023-DIP1G800-747	2023.12.20	2026.12.19
1900MHz Dipole	MVG	SID1900	SN 30/14 DIP1G900-333	2023.09.14	2026.09.13
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	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	2025-09-25	2026-09-24
Power Amplifier	DESAY	WCS-DLNA50M8G50G1	CSKJLNA231227A	2025-09-29	2026-09-28
Power Meter	R&S	NRP	100510	2025-09-25	2026-09-24
Power Sensor	R&S	NRP-Z11	101919	2025-09-25	2026-09-24
Power Sensor	Keysight	U2021XA	MY56280002	2025-09-25	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 (750MHz)

Type: Phone measurement (Complete)

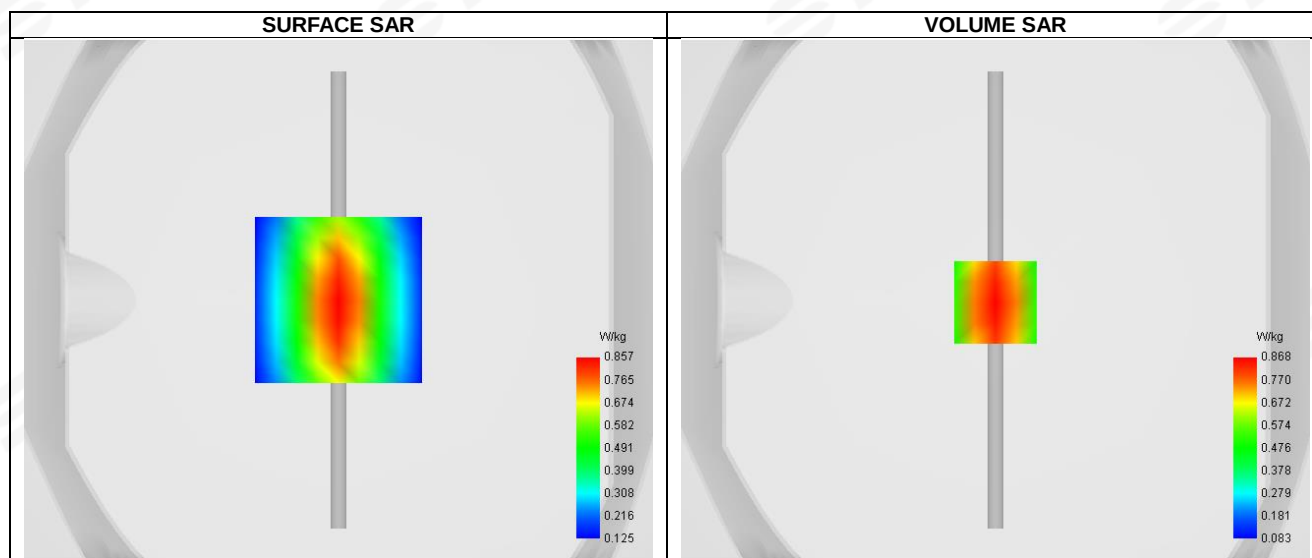
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-01-10

Experimental conditions.

Device Position	Validation plane
Band	750 MHz
Channels	-
Signal	CW
Frequency (MHz)	750
Relative permittivity	42.17
Conductivity (S/m)	0.90
Probe	SN 08/21 EPGO352
ConvF	1.51
Crest factor:	1:1

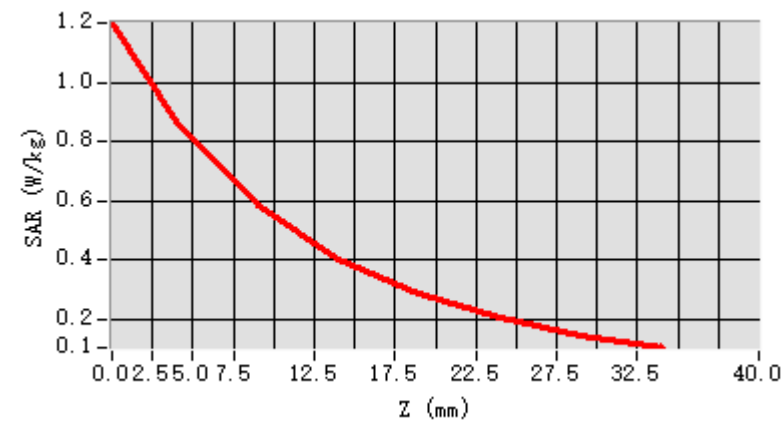


Maximum location: X=0.00, Y=-1.00 ; SAR Peak: 1.20 W/kg

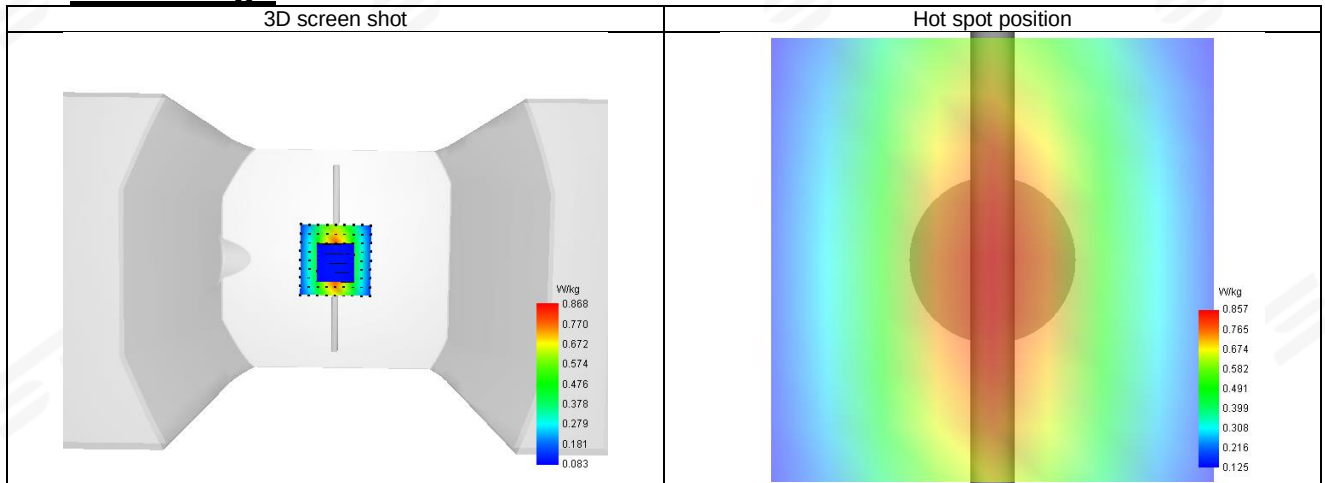
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.571
SAR 1g (W/Kg)	0.875
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	54.221014

E. Z Axis Scan



F. 3D Image



**System Performance Check Data (750MHz)**

Type: Phone measurement (Complete)

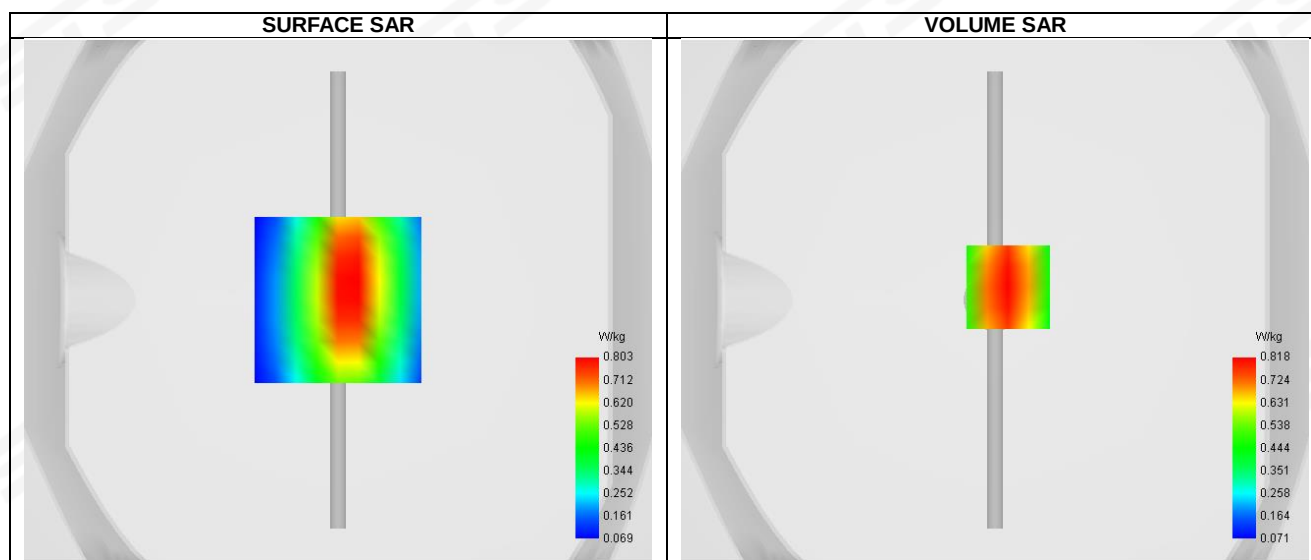
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-02-11

Experimental conditions.

Device Position	Validation plane
Band	750 MHz
Channels	-
Signal	CW
Frequency (MHz)	750
Relative permittivity	42.61
Conductivity (S/m)	0.88
Probe	SN 08/21 EPGO352
ConvF	1.51
Crest factor:	1:1



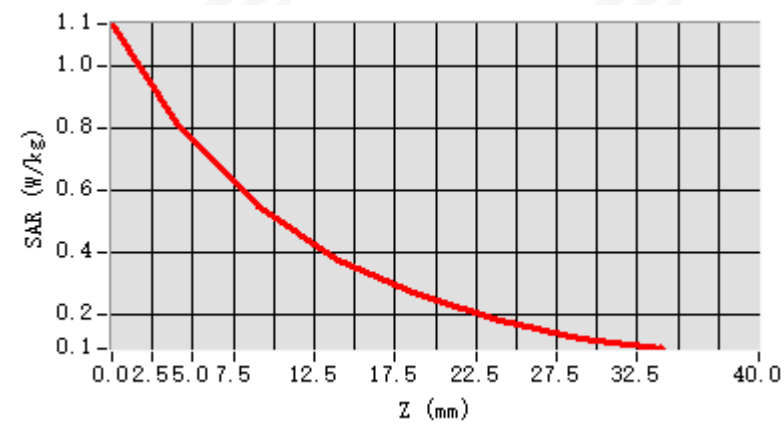
Maximum location: X=5.00, Y=5.00 ; SAR Peak: 1.13 W/kg

D. SAR 1g & 10g

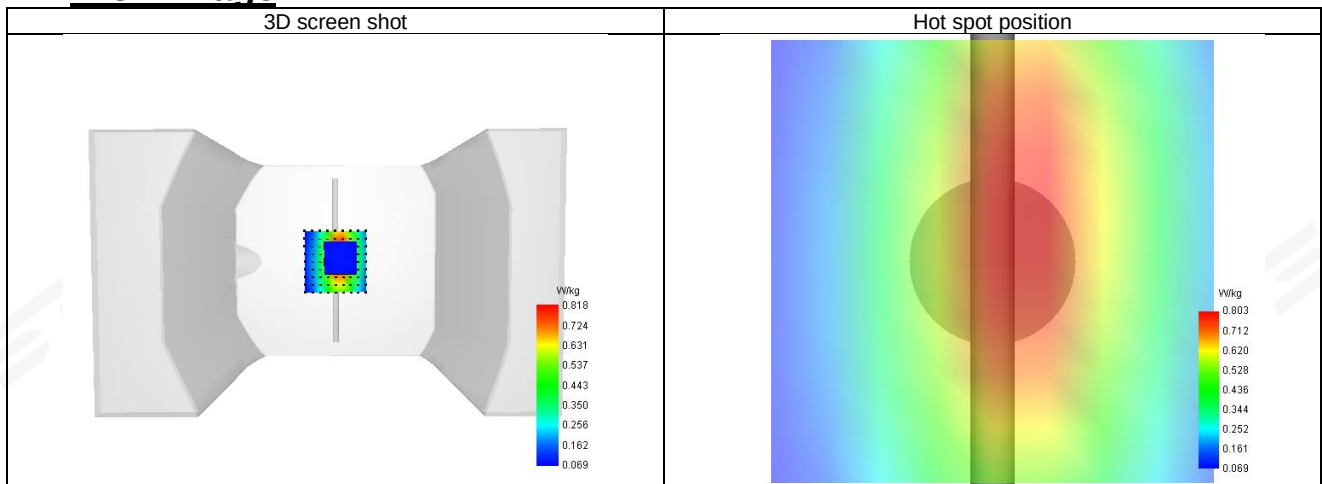
SAR 10g (W/Kg)	0.556
SAR 1g (W/Kg)	0.864
Horizontal validation criteria: minimum distance (mm)	11.359818
Vertical validation criteria: SAR ratio M2/M1 (%)	67.359413

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.135	0.818	0.551	0.377	0.266	0.184	0.127



F. 3D Image



**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)

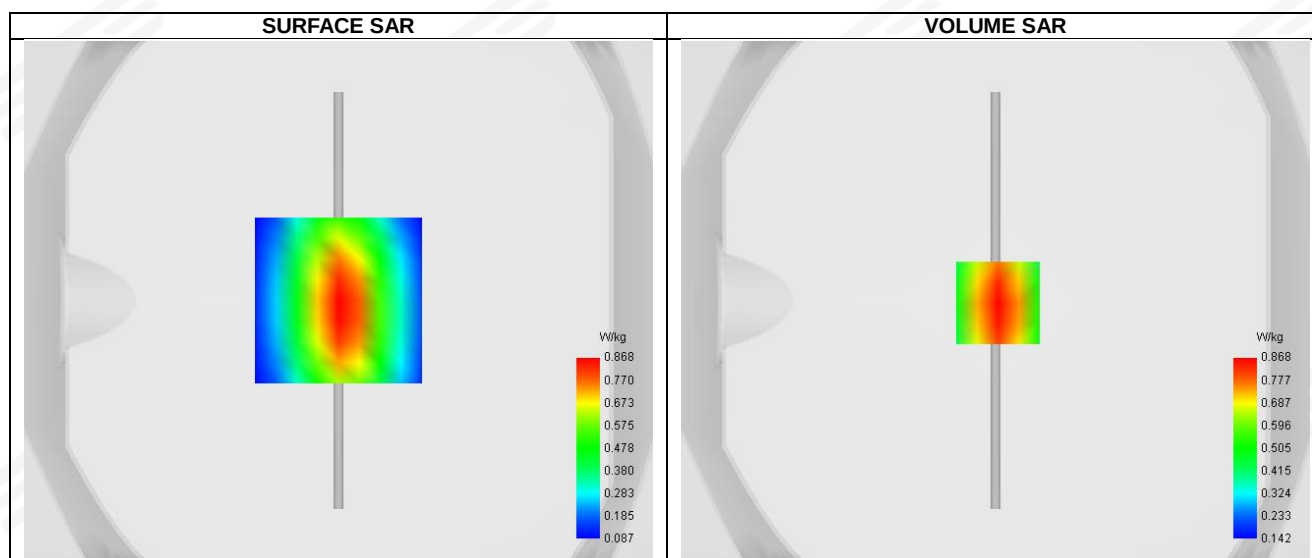
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-01-10

Experimental conditions.

Device Position	Validation plane
Band	835 MHz
Channels	-
Signal	CW
Frequency (MHz)	835
Relative permittivity	42.09
Conductivity (S/m)	0.89
Probe	SN 08/21 EPGO352
ConvF	1.49
Crest factor:	1:1

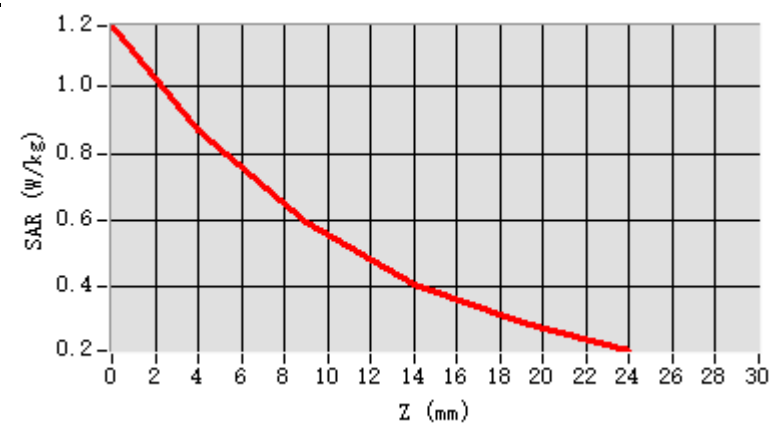


Maximum location: X=1.00, Y=-1.00 ; SAR Peak: 1.19 W/kg

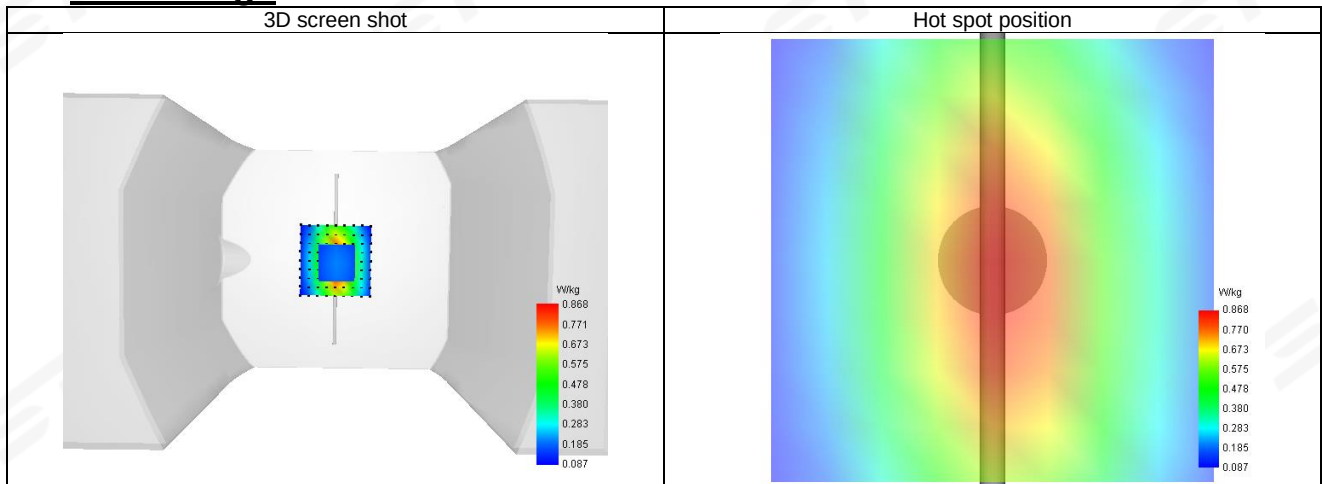
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.597
SAR 1g (W/Kg)	0.953
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	55.952100

E. Z Axis Scan



F. 3D Image



**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)

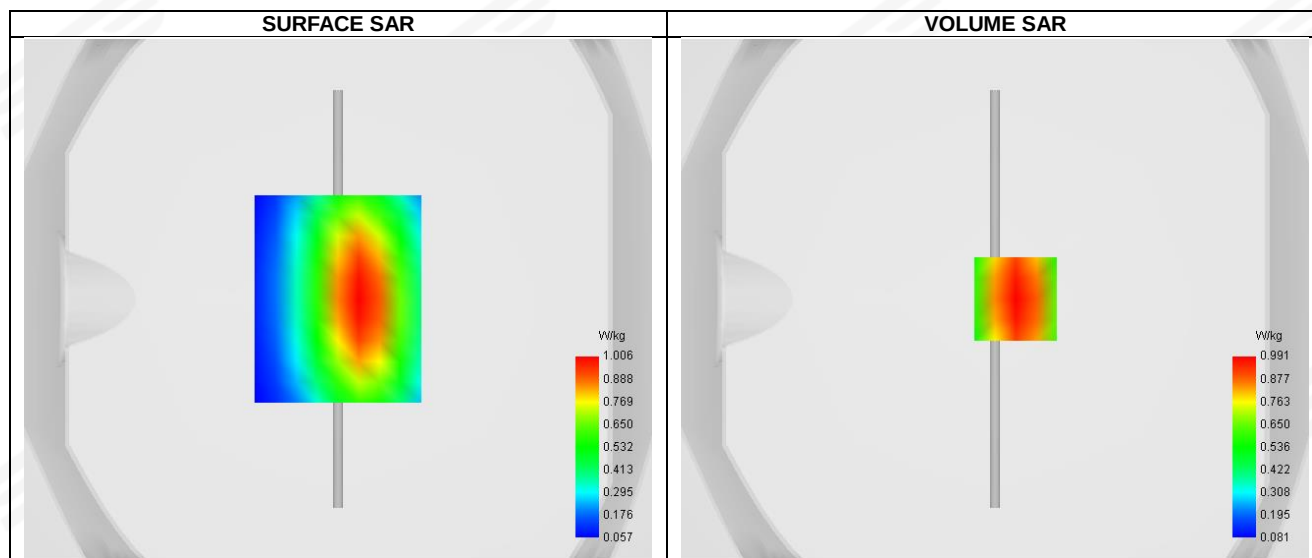
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-02-11

Experimental conditions.

Device Position	Validation plane
Band	835 MHz
Channels	-
Signal	CW
Frequency (MHz)	835
Relative permittivity	41.44
Conductivity (S/m)	0.87
Probe	SN 08/21 EPGO352
ConvF	1.49
Crest factor:	1:1



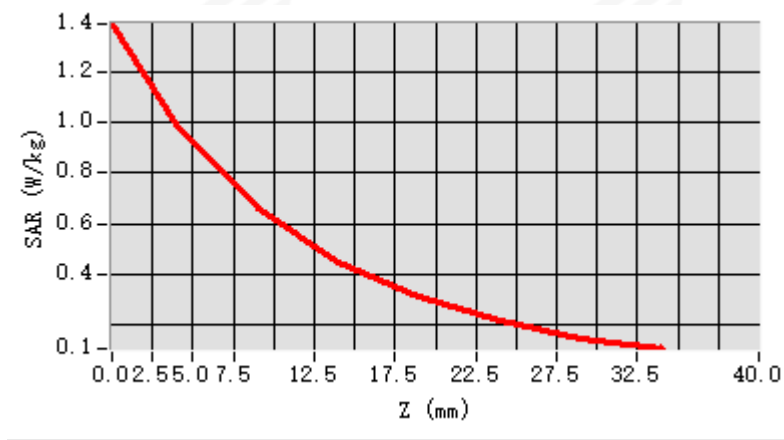
Maximum location: X=8.00, Y=0.00 ; SAR Peak: 1.38 W/kg

D. SAR 1g & 10g

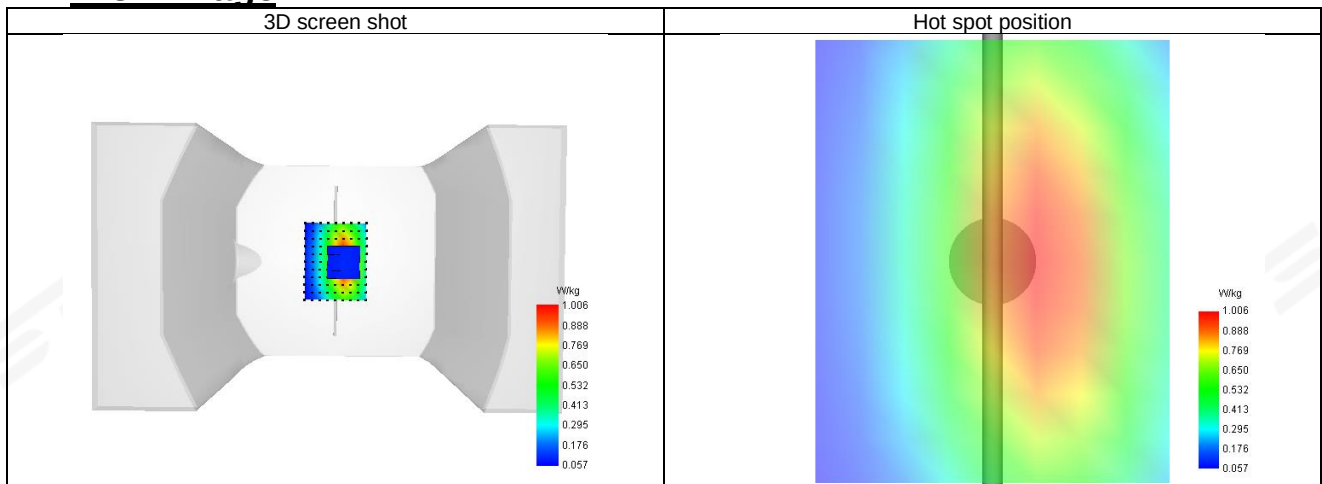
SAR 10g (W/Kg)	0.601
SAR 1g (W/Kg)	0.963
Horizontal validation criteria: minimum distance (mm)	13.659172
Vertical validation criteria: SAR ratio M2/M1 (%)	66.599394

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.387	0.991	0.660	0.449	0.315	0.216	0.148



F. 3D Image



**System Performance Check Data (1800MHz)**

Type: Phone measurement (Complete)

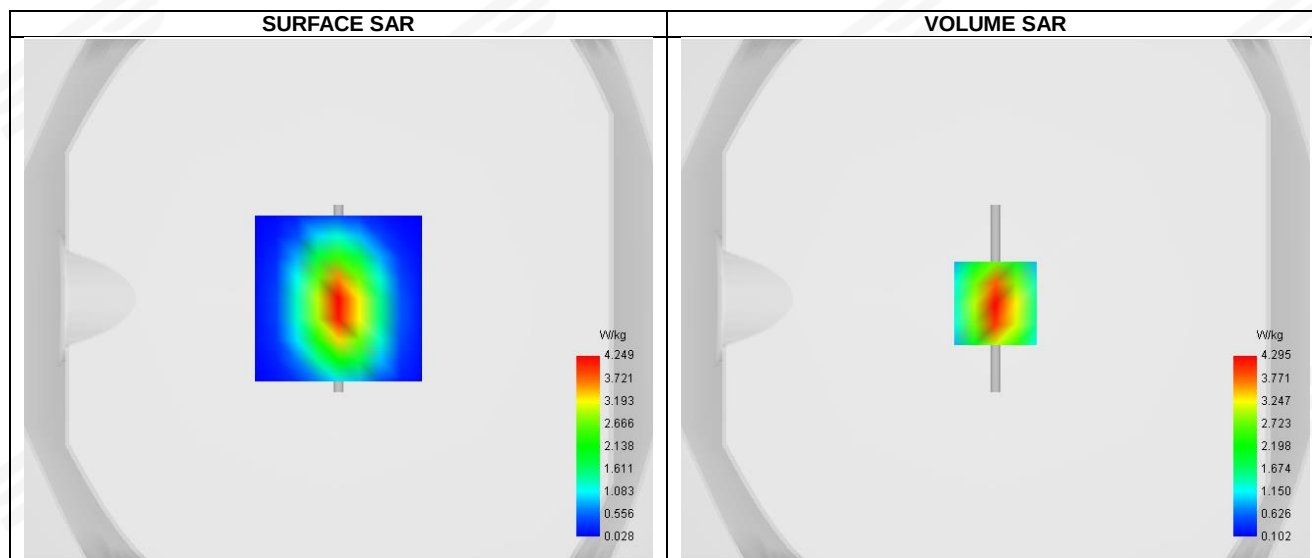
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-01-10

Experimental conditions.

Device Position	Validation plane
Band	1800 MHz
Channels	-
Signal	CW
Frequency (MHz)	1800
Relative permittivity	39.92
Conductivity (S/m)	1.41
Probe	SN 08/21 EPGO352
ConvF	1.54
Crest factor:	1:1

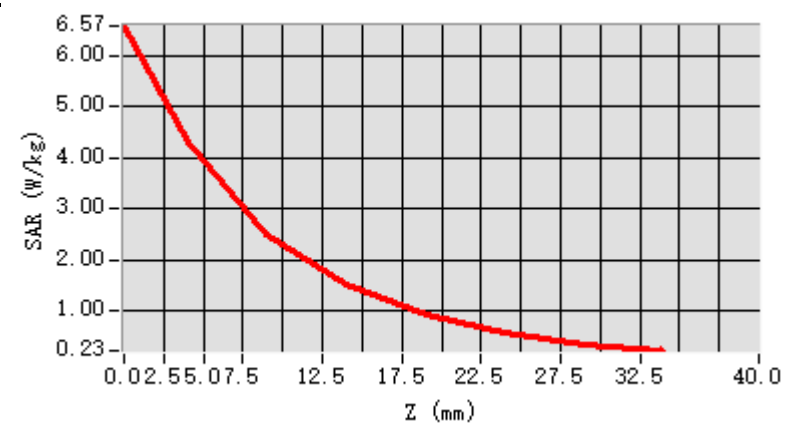


Maximum location: X=0.00, Y=-2.00 ; SAR Peak: 6.54 W/kg

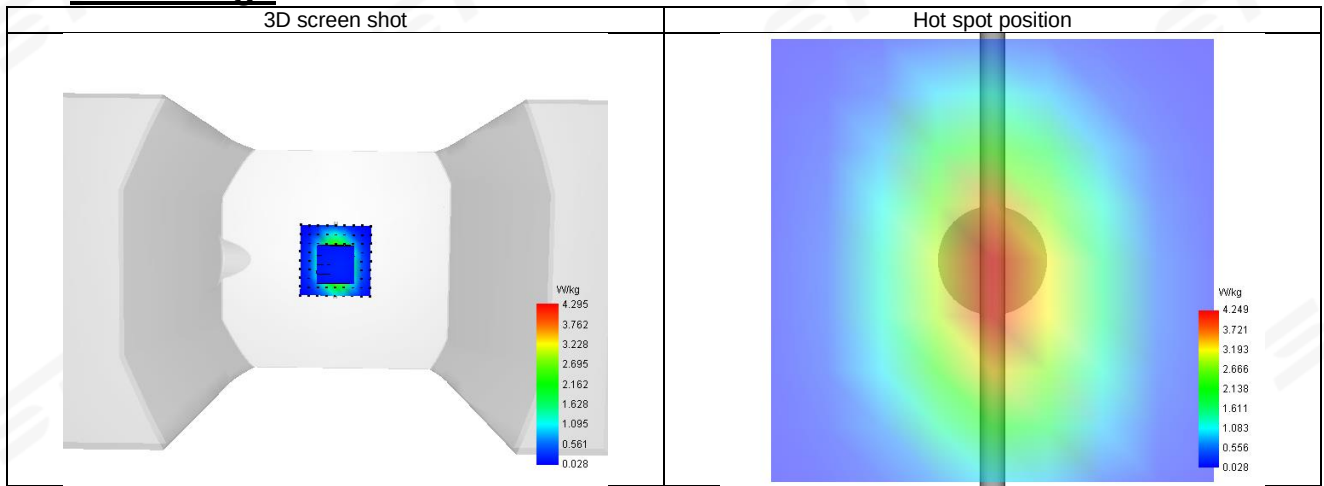
D. SAR 1g & 10g

SAR 10g (W/Kg)	2.009
SAR 1g (W/Kg)	3.756
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	58.154868

E. Z Axis Scan



F. 3D Image



**System Performance Check Data (1800MHz)**

Type: Phone measurement (Complete)

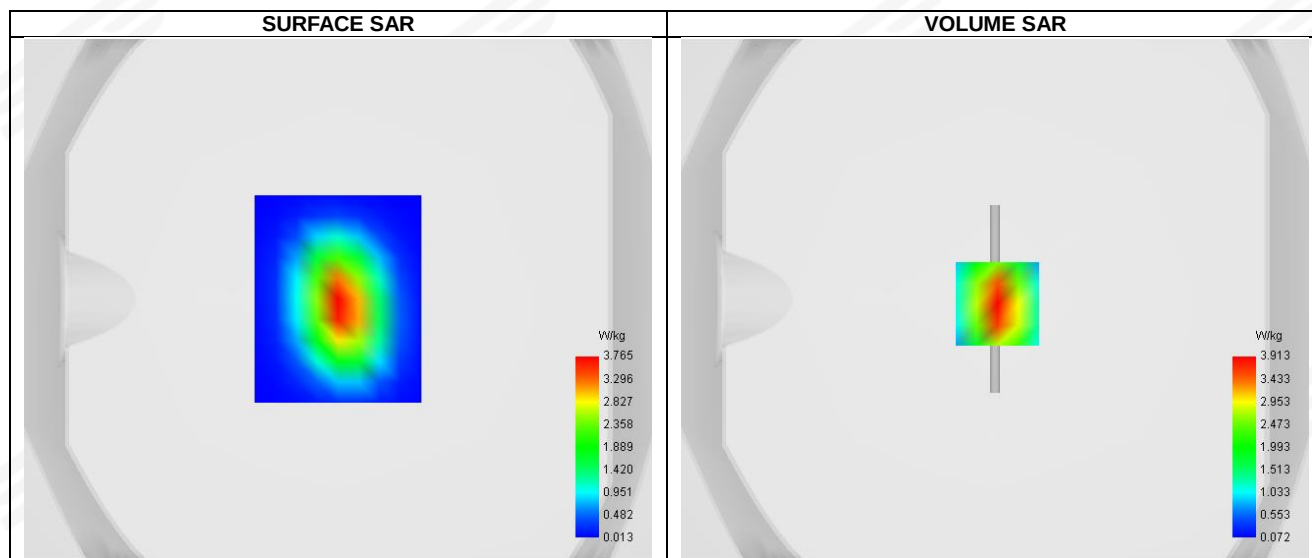
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-02-11

Experimental conditions.

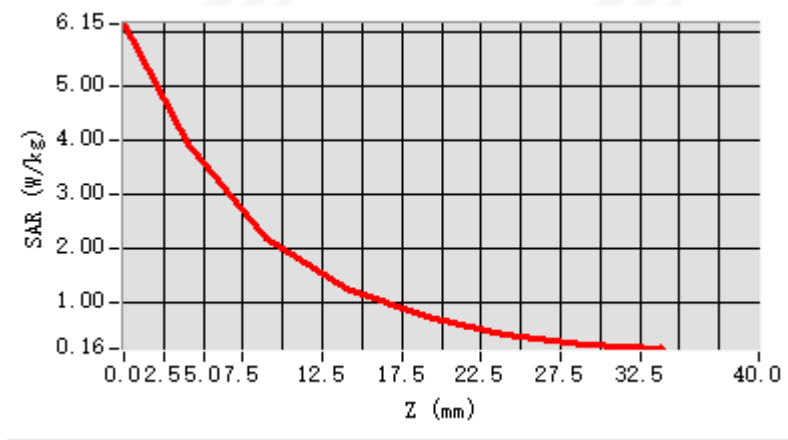
Device Position	Validation plane
Band	1800 MHz
Channels	-
Signal	CW
Frequency (MHz)	1800
Relative permittivity	40.61
Conductivity (S/m)	1.41
Probe	SN 08/21 EPGO352
ConvF	1.54
Crest factor:	1:1

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

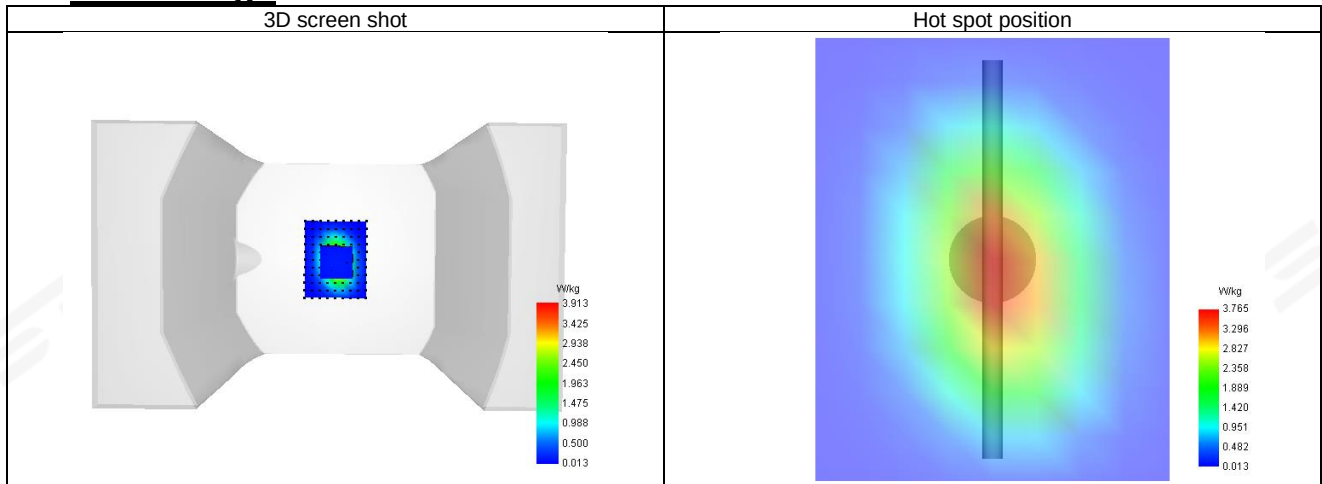
SAR 10g (W/Kg)	2.137
SAR 1g (W/Kg)	3.694
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	55.907080

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.149	3.913	2.188	1.253	0.740	0.427	0.246



F. 3D Image



**System Performance Check Data (1900MHz)**

Type: Phone measurement (Complete)

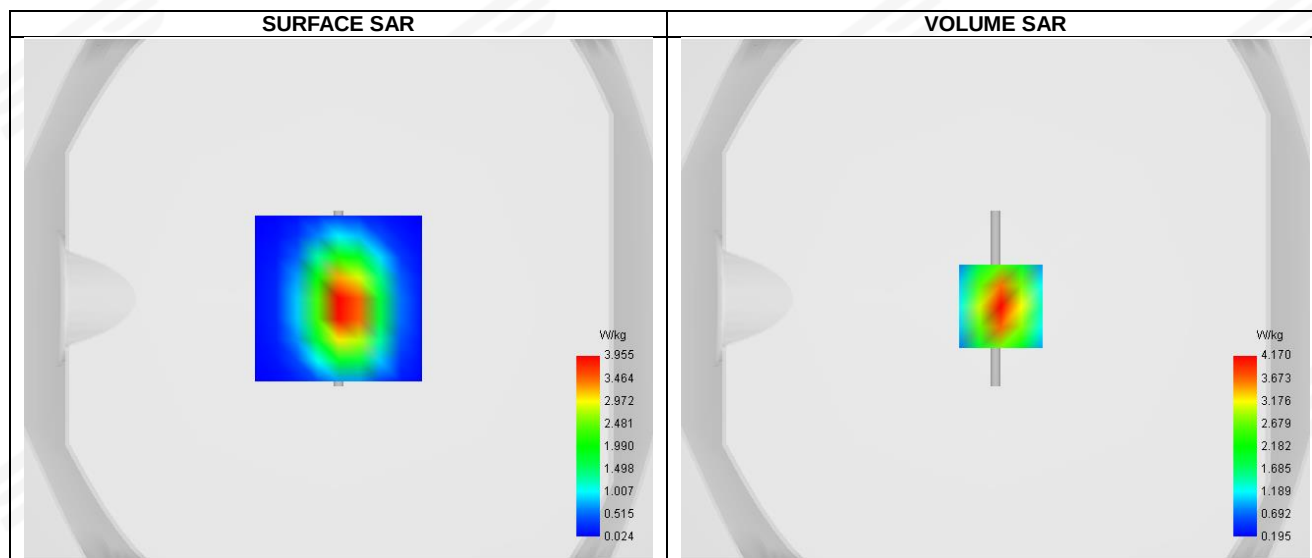
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-01-11

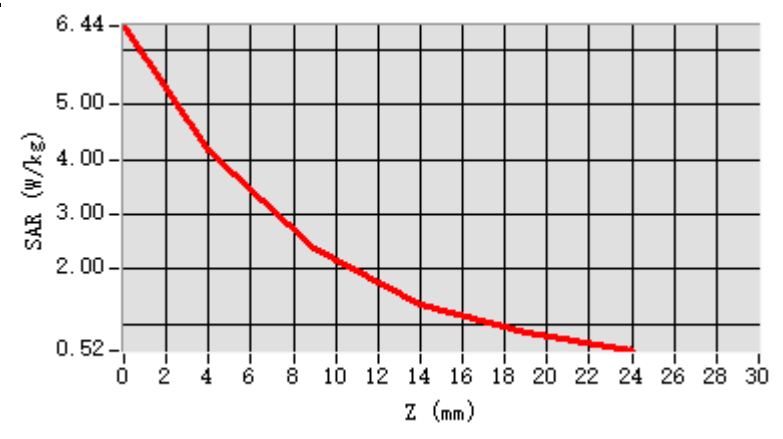
Experimental conditions.

Device Position	Validation plane
Band	1900 MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	40.39
Conductivity (S/m)	1.39
Probe	SN 08/21 EPGO352
ConvF	1.73
Crest factor:	1:1

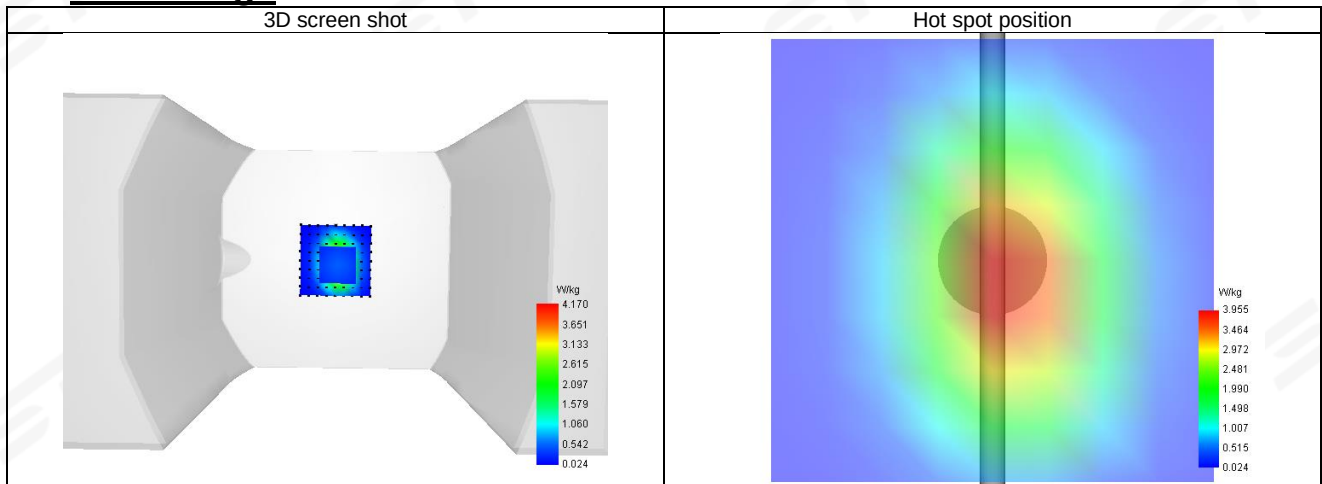
**D. SAR 1g & 10g**

SAR 10g (W/Kg)	1.999
SAR 1g (W/Kg)	3.954
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	59.365210

E. Z Axis Scan



F. 3D Image



**System Performance Check Data (1900MHz)**

Type: Phone measurement (Complete)

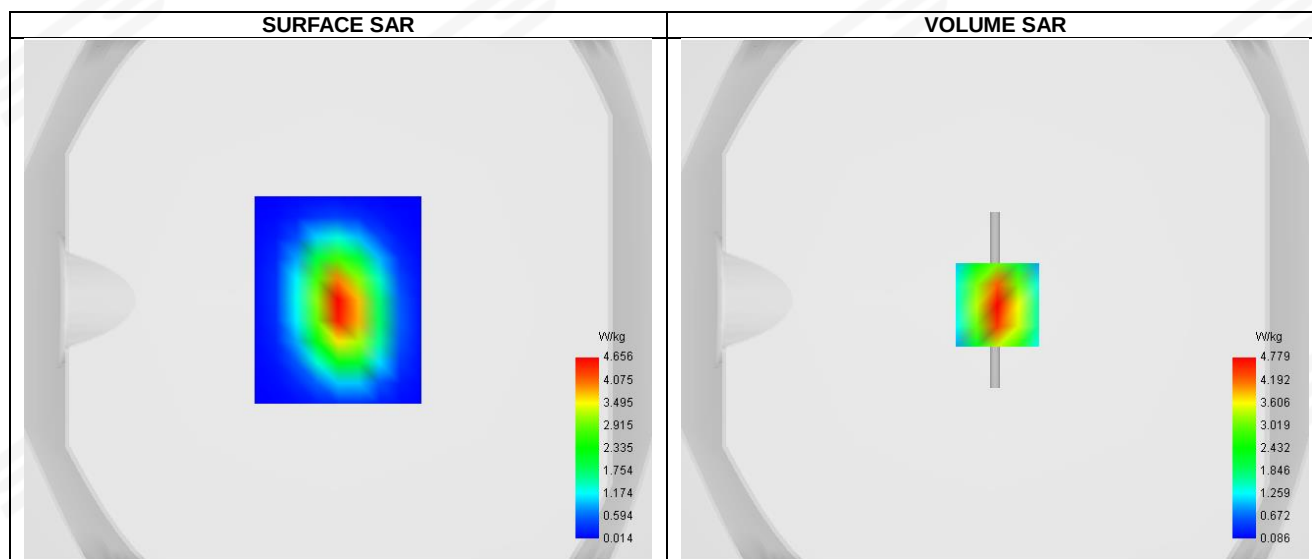
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-02-11

Experimental conditions.

Device Position	Validation plane
Band	1900 MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	40.87
Conductivity (S/m)	1.41
Probe	SN 08/21 EPGO352
ConvF	1.73
Crest factor:	1:1



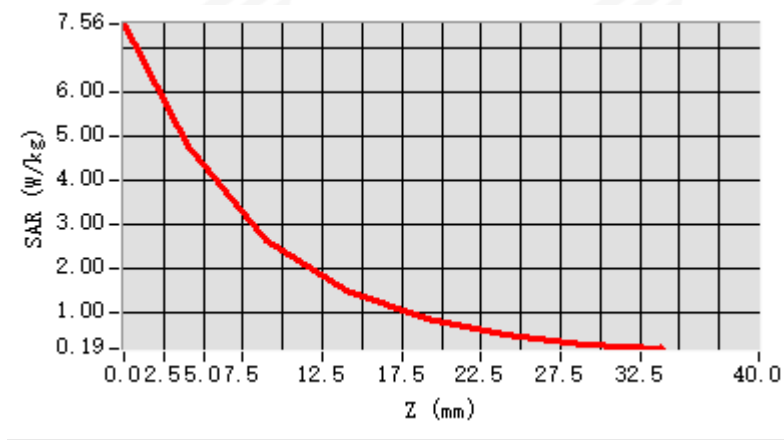
Maximum location: X=1.00, Y=-2.00 ; SAR Peak: 7.51 W/kg

D. SAR 1g & 10g

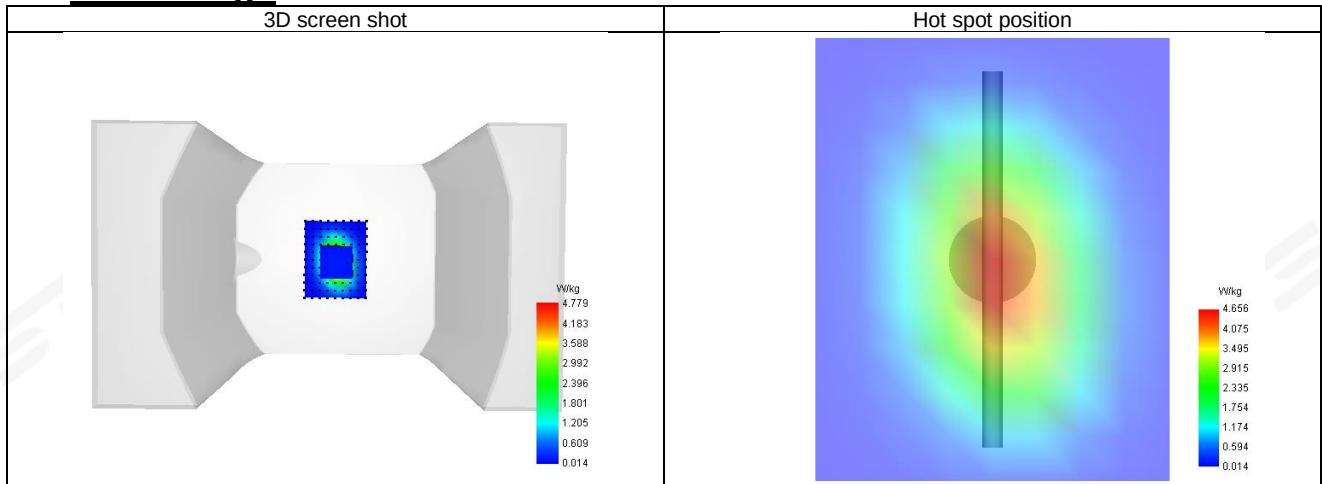
SAR 10g (W/Kg)	2.056
SAR 1g (W/Kg)	3.896
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	55.440766

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	7.562	4.779	2.649	1.520	0.896	0.516	0.297



F. 3D Image



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

Type: Phone measurement (Complete)

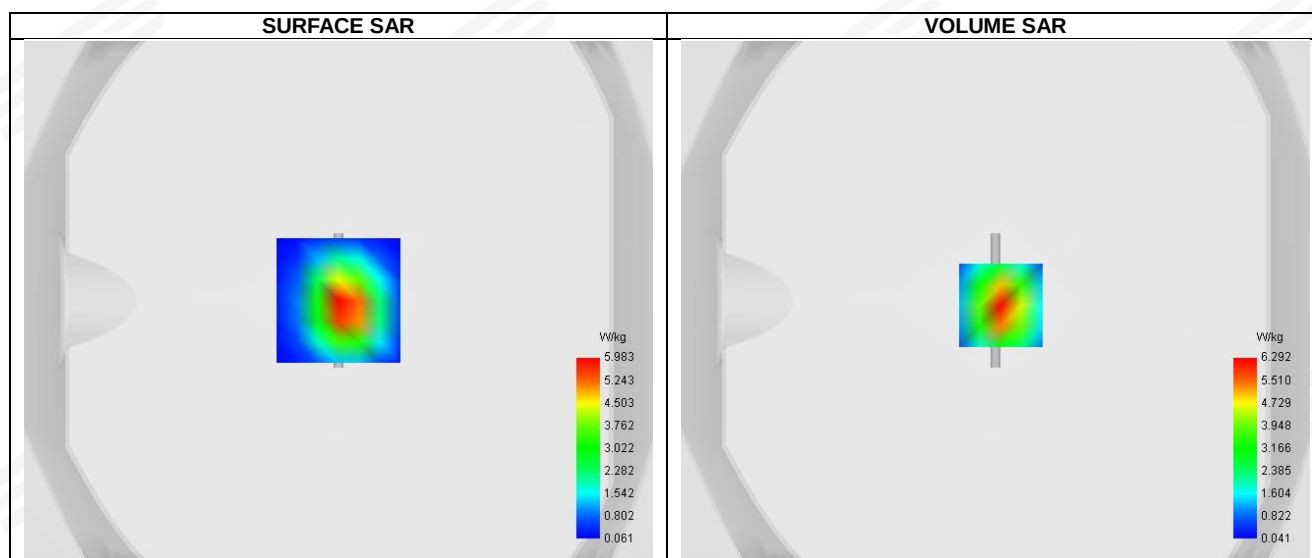
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2026-01-11

Experimental conditions.

Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.57
Conductivity (S/m)	1.79
Probe	SN 08/21 EPGO352
ConvF	1.82
Crest factor:	1:1

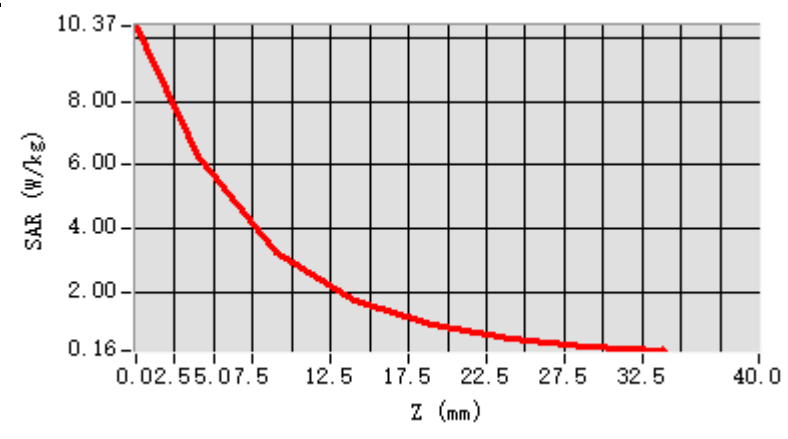


Maximum location: X=2.00, Y=-2.00 ; SAR Peak: 10.29 W/kg

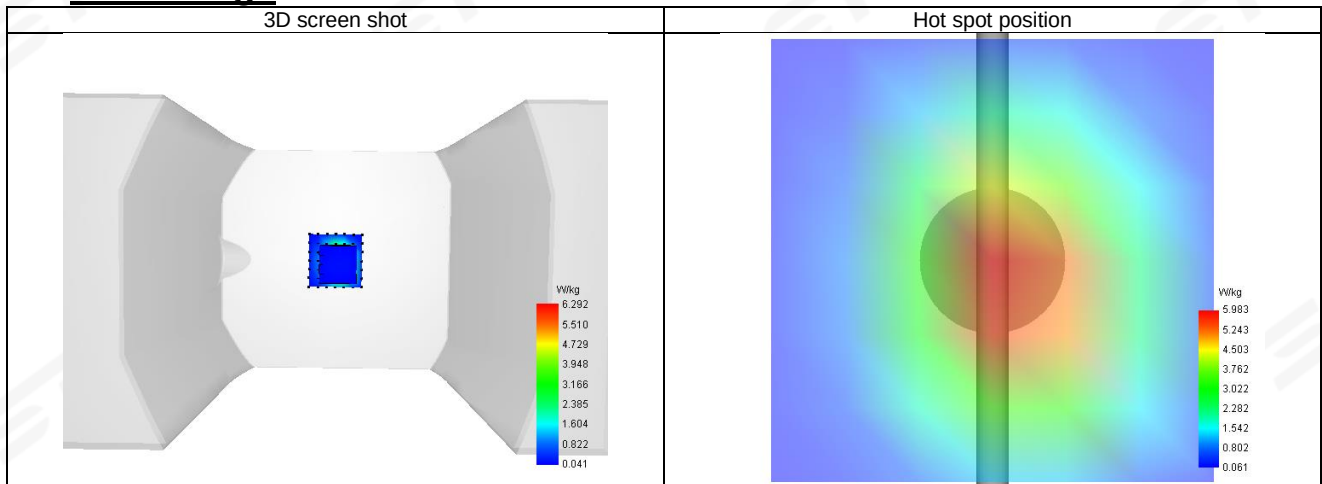
D. SAR 1g & 10g

SAR 10g (W/Kg)	2.456
SAR 1g (W/Kg)	5.434
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	51.545439

E. Z Axis Scan



F. 3D Image

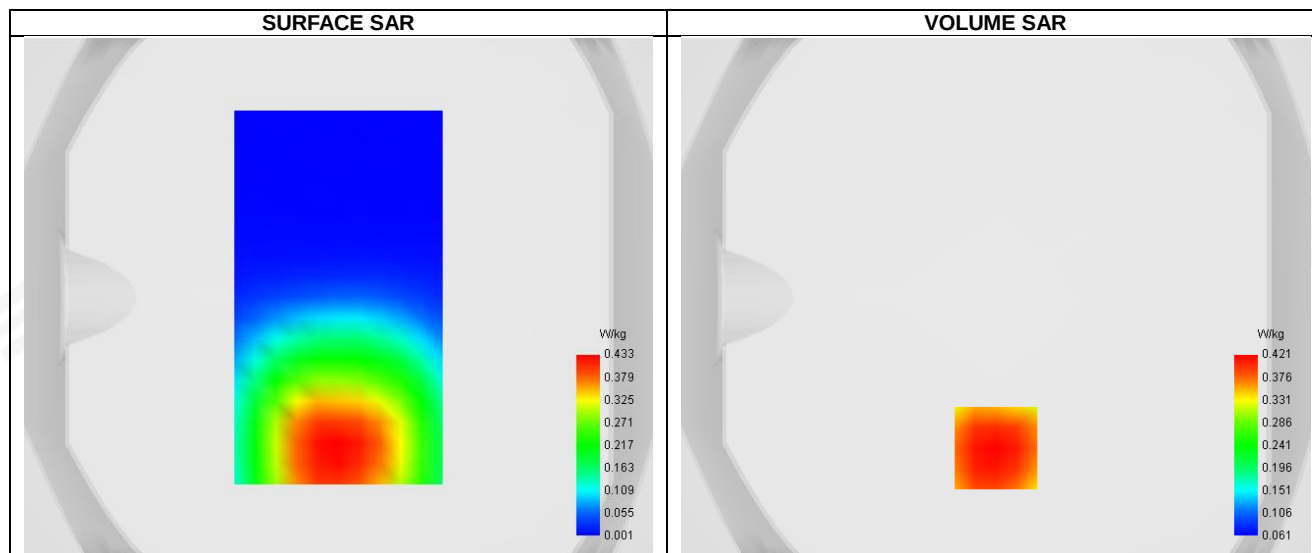




Appendix B. SAR Test Plots

Plot 1: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-11
ConvF	1.73
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 2
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.99
Conductivity (S/m)	1.39

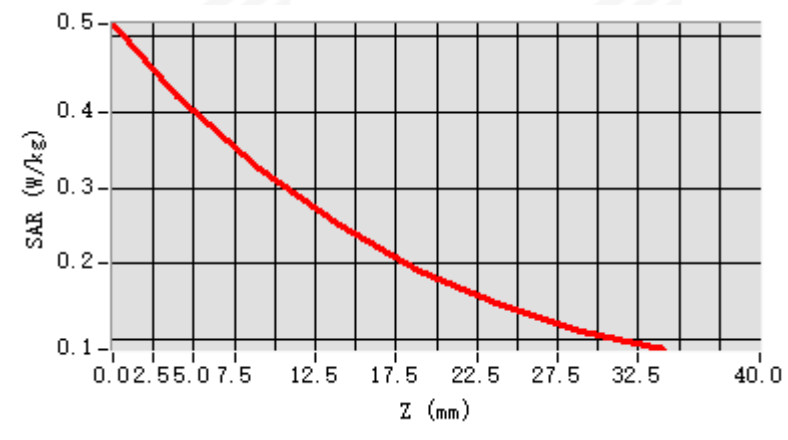


D. SAR 1g & 10g

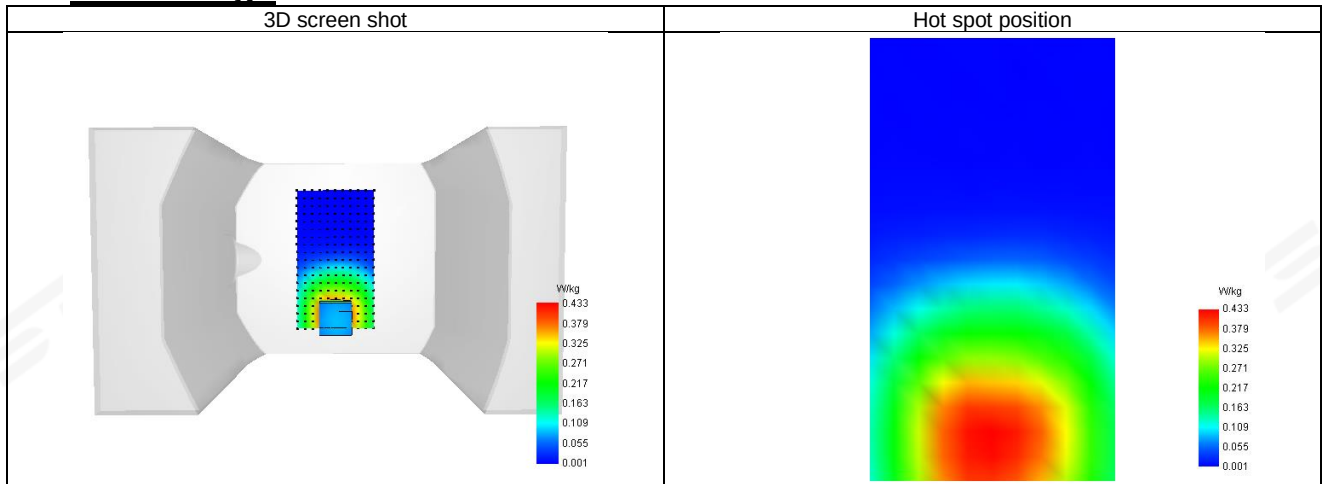
SAR 10g (W/Kg)	0.301
SAR 1g (W/Kg)	0.408
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	76.959619

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.516	0.421	0.324	0.251	0.191	0.146	0.112



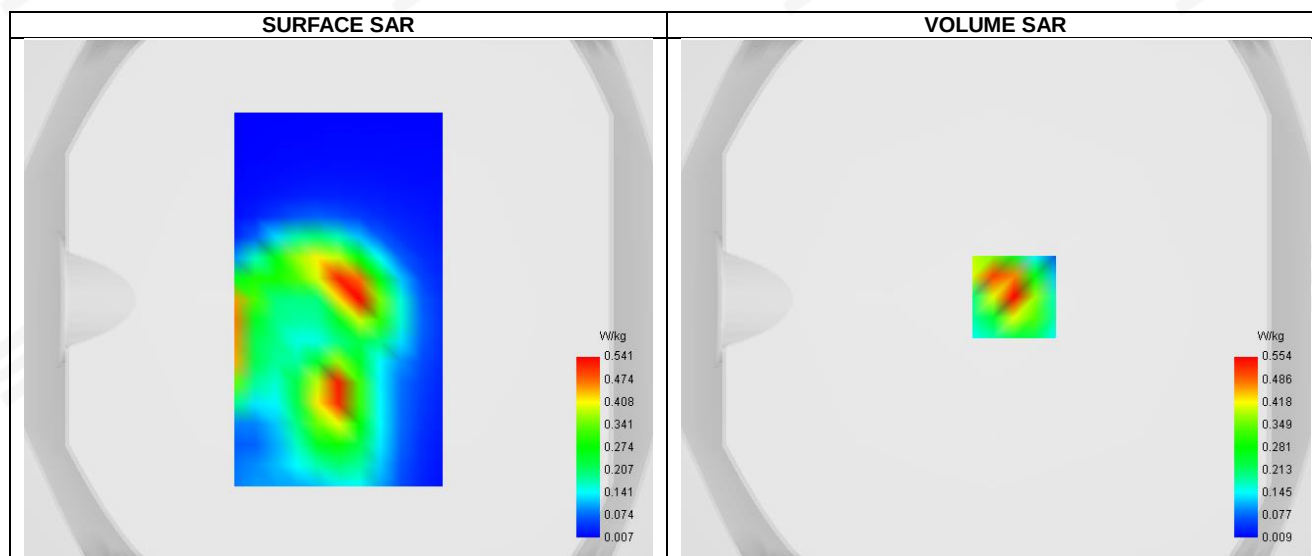
F. 3D Image





Plot 2: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-10
ConvF	1.54
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 4
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	39.83
Conductivity (S/m)	1.37



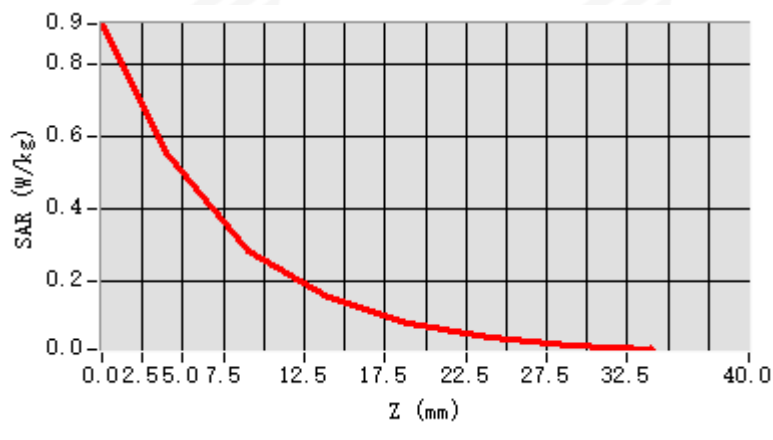
Maximum location: X=7.00, Y=1.00 ; SAR Peak: 0.92 W/kg

D. SAR 1g & 10g

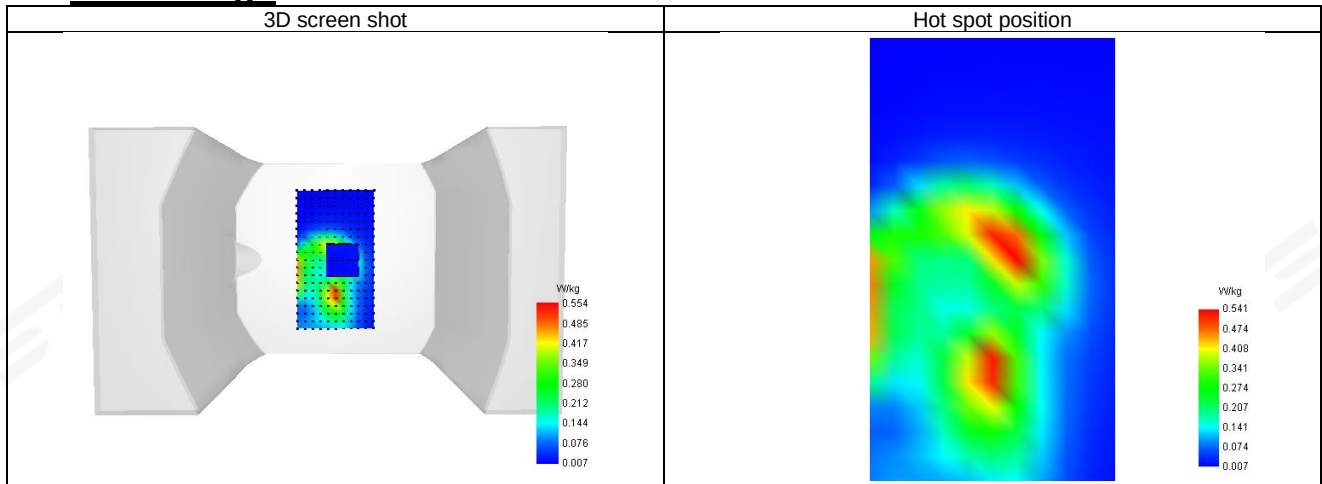
SAR 10g (W/Kg)	0.252
SAR 1g (W/Kg)	0.518
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	51.983993

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.908	0.554	0.288	0.160	0.087	0.047	0.025



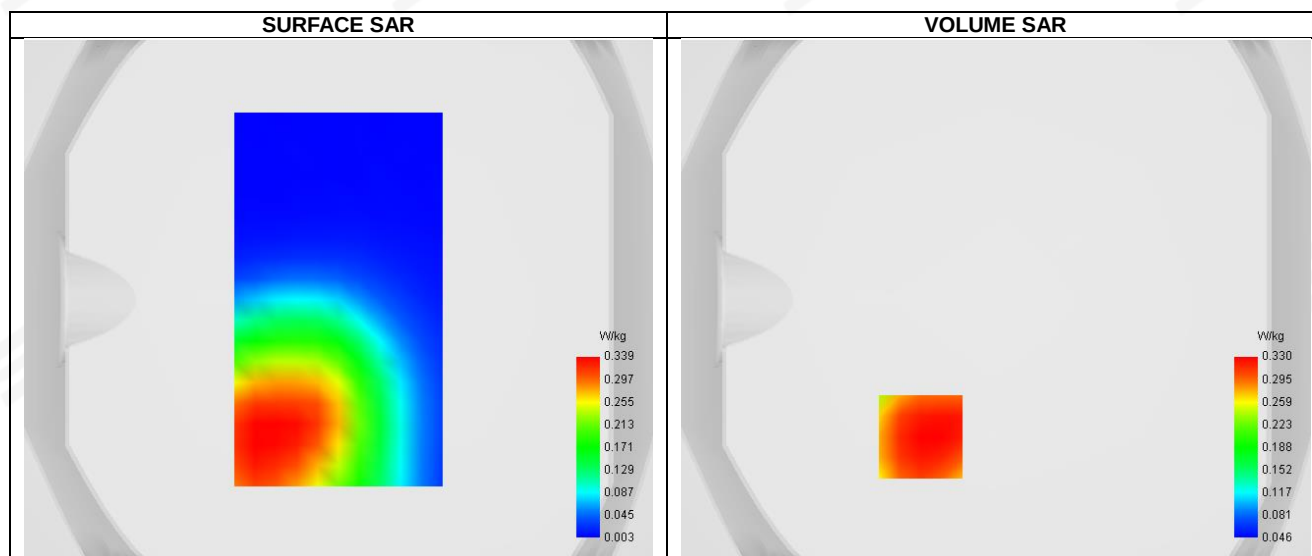
F. 3D Image





Plot 3: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-10
ConvF	1.49
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 5
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	40.92
Conductivity (S/m)	0.91



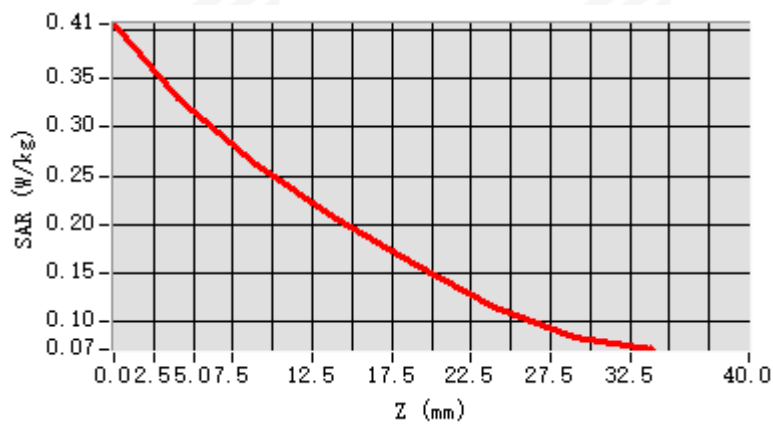
Maximum location: X=-29.00, Y=-53.00 ; SAR Peak: 0.41 W/kg

D. SAR 1g & 10g

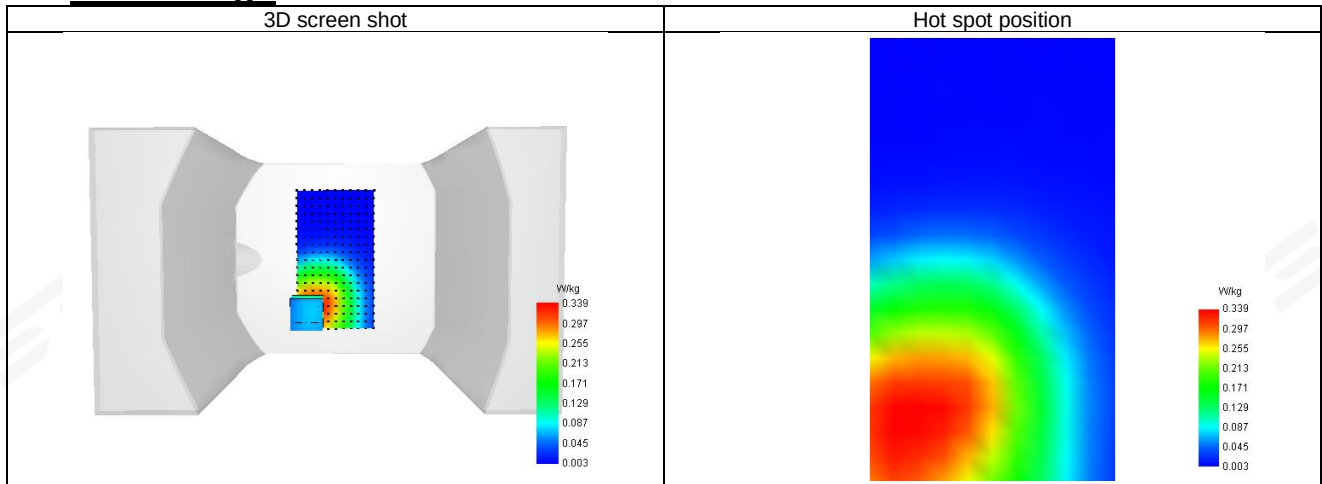
SAR 10g (W/Kg)	0.242
SAR 1g (W/Kg)	0.326
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	79.090909

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.406	0.330	0.261	0.205	0.159	0.115	0.084



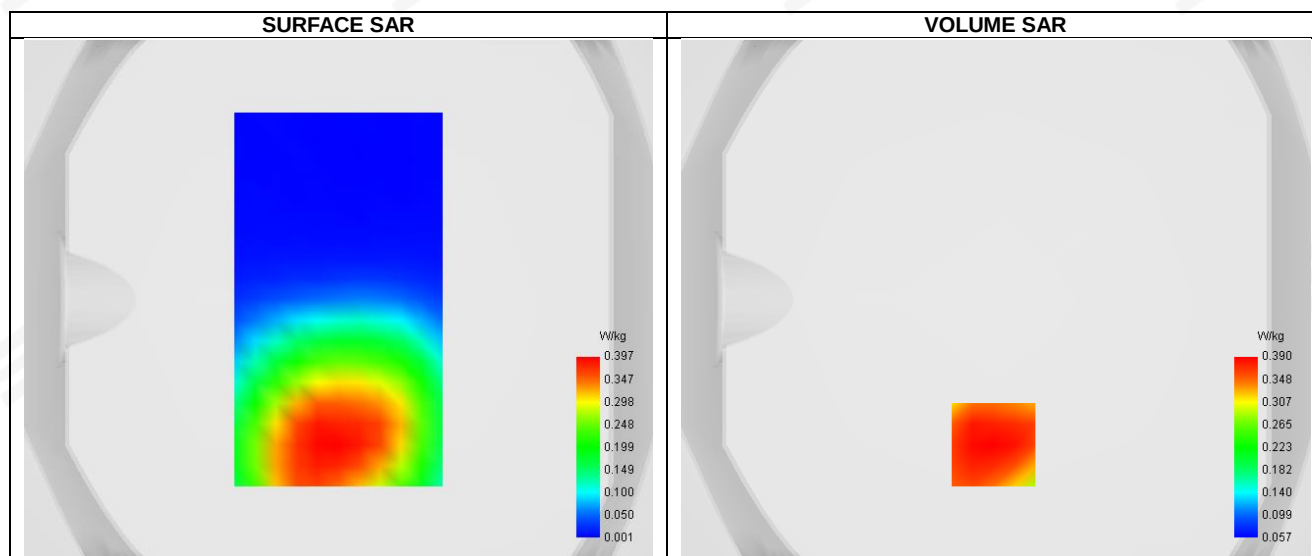
F. 3D Image





Plot 4: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-10
ConvF	1.51
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 12
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	42.03
Conductivity (S/m)	0.88

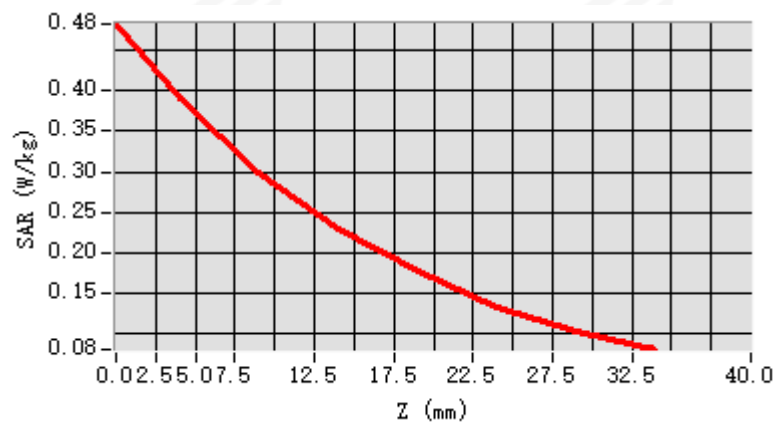


D. SAR 1g & 10g

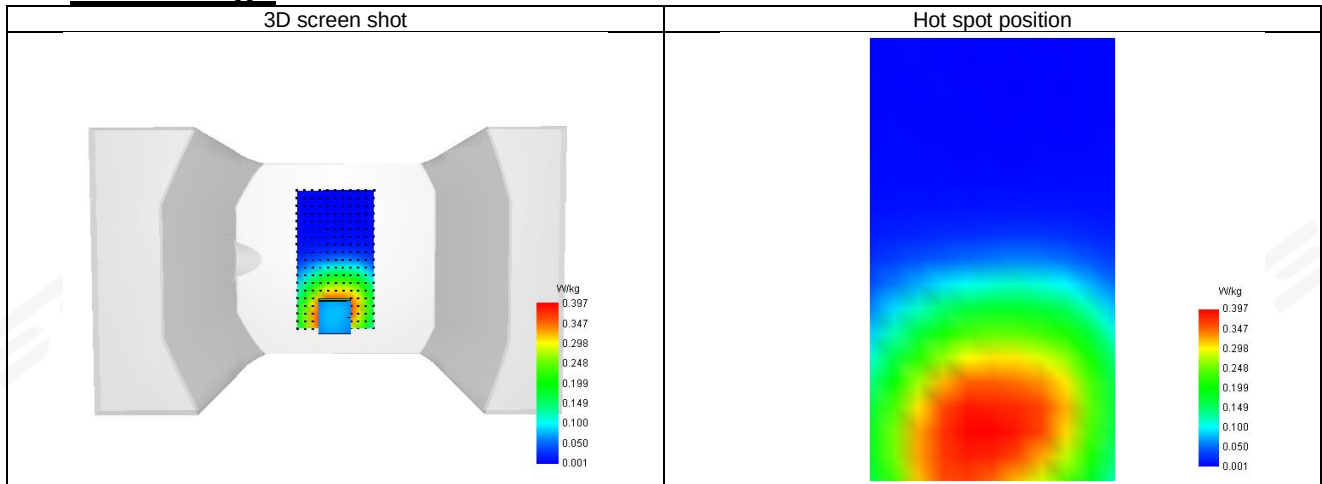
SAR 10g (W/Kg)	0.278
SAR 1g (W/Kg)	0.379
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	76.666666

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.482	0.390	0.299	0.231	0.177	0.133	0.103



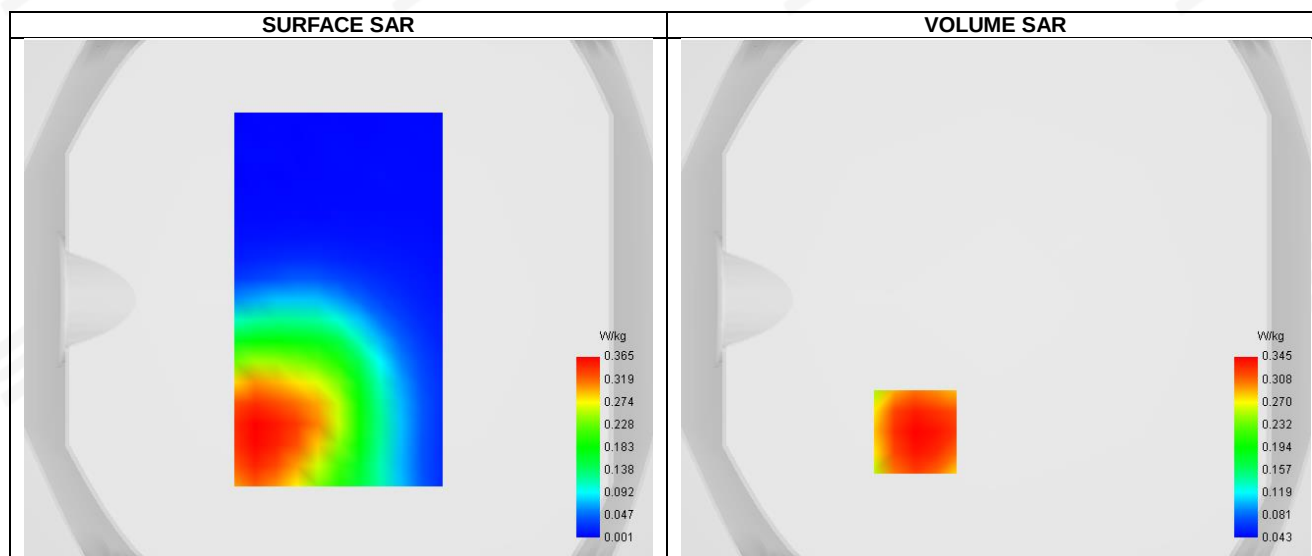
F. 3D Image





Plot 5: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-10
ConvF	1.51
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 13
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	42.20
Conductivity (S/m)	0.89



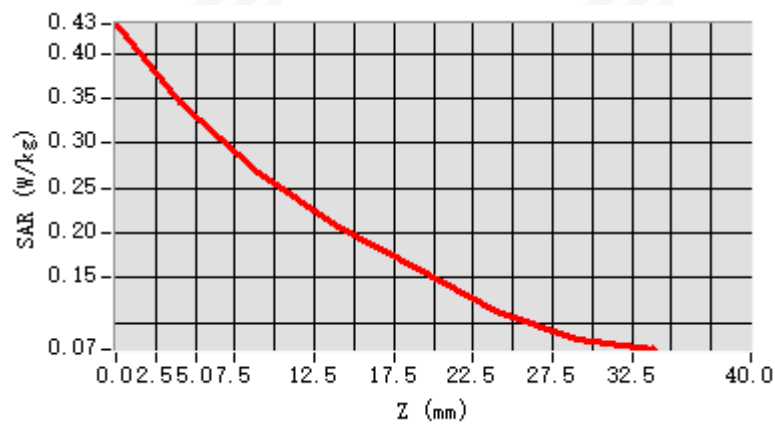
Maximum location: X=-31.00, Y=-51.00 ; SAR Peak: 0.43 W/kg

D. SAR 1g & 10g

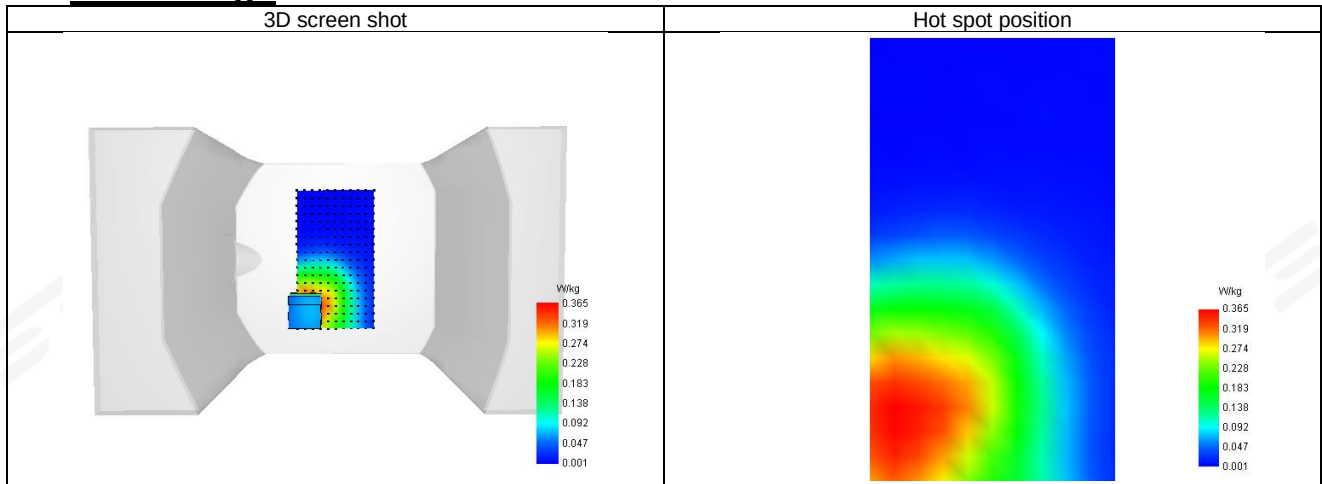
SAR 10g (W/Kg)	0.247
SAR 1g (W/Kg)	0.337
Horizontal validation criteria: minimum distance (mm)	11.562114
Vertical validation criteria: SAR ratio M2/M1 (%)	77.391304

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.433	0.345	0.267	0.208	0.159	0.114	0.082



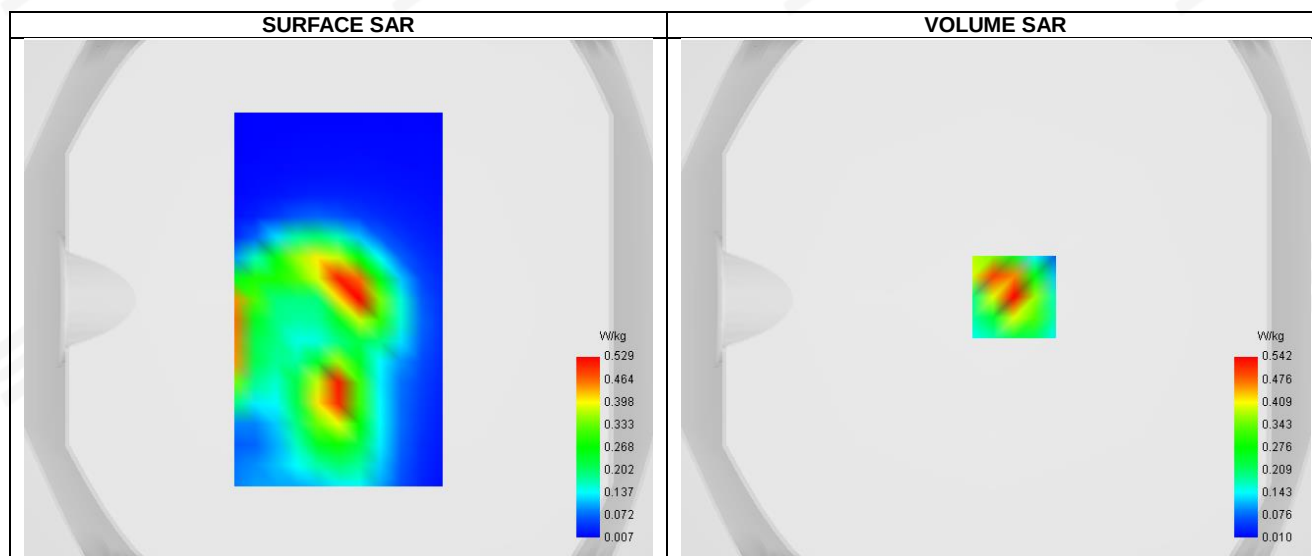
F. 3D Image





Plot 6: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-10
ConvF	1.54
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	LTE band 66
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1770
Relative permittivity (real part)	40.65
Conductivity (S/m)	1.36



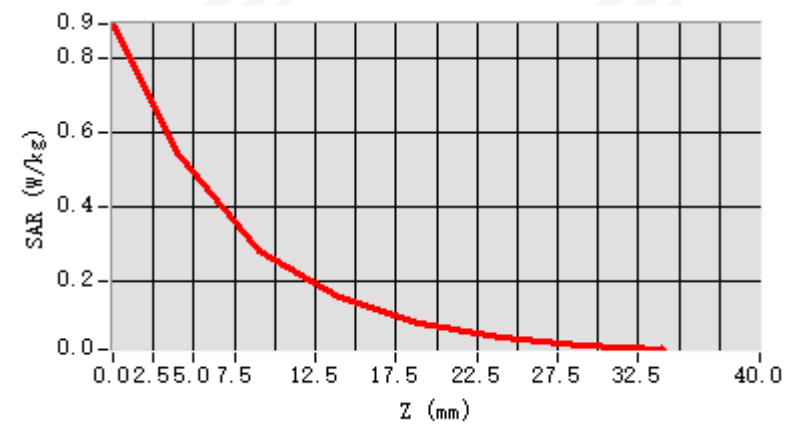
Maximum location: X=7.00, Y=1.00 ; SAR Peak: 0.90 W/kg

D. SAR 1g & 10g

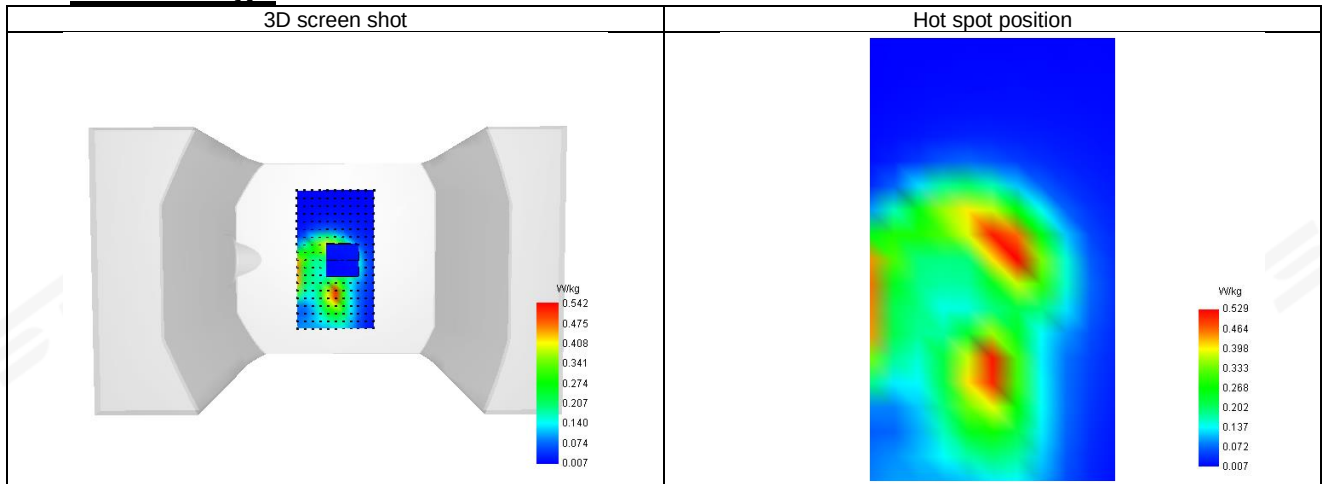
SAR 10g (W/Kg)	0.247
SAR 1g (W/Kg)	0.507
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	51.927596

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.890	0.542	0.282	0.156	0.084	0.045	0.024



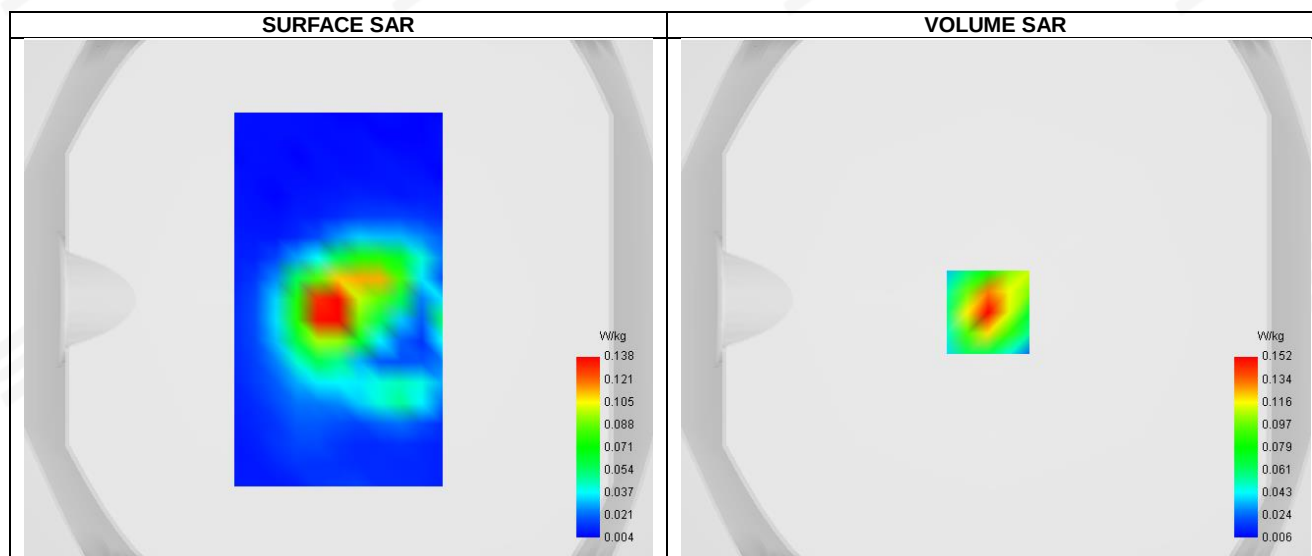
F. 3D Image





Plot 7: DUT: Smart Dog Training Collar; EUT Model: TK331

Test Date	2026-01-11
ConvF	1.82
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Body
Device Position	Front Side
Band	2.4GHz WLAN
Signal	802.11g (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.50
Conductivity (S/m)	1.80



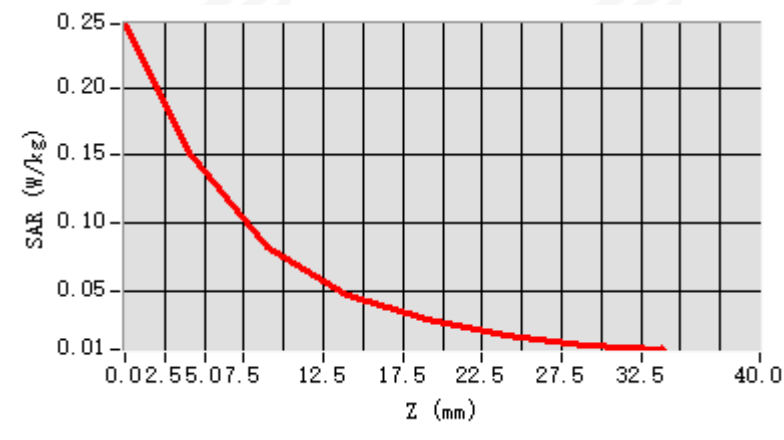
Maximum location: X=-3.00, Y=-5.00 ; SAR Peak: 0.25 W/kg

D. SAR 1g & 10g

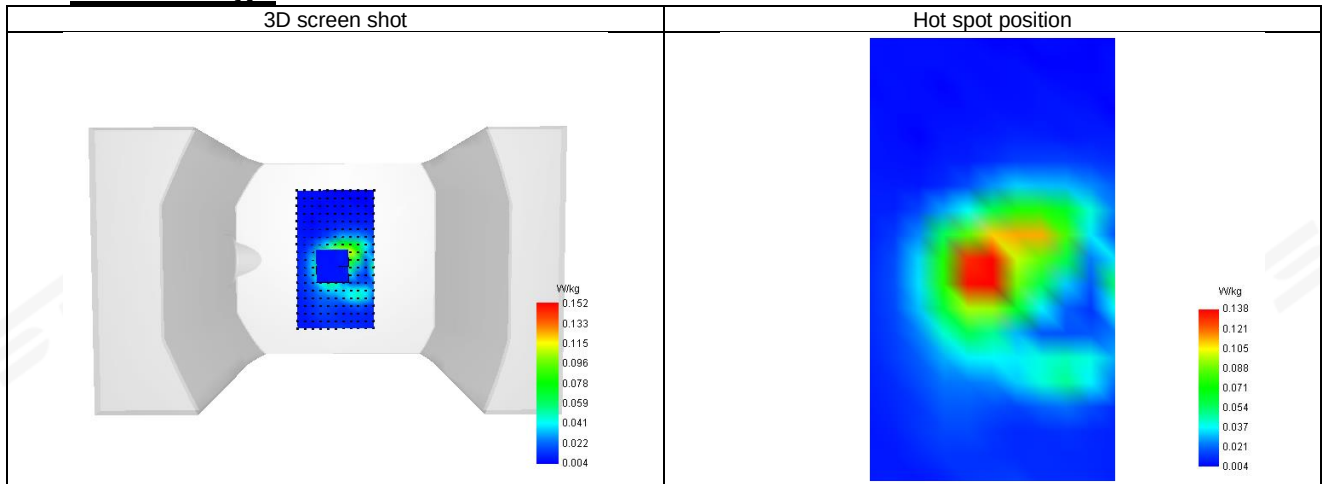
SAR 10g (W/Kg)	0.072
SAR 1g (W/Kg)	0.142
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	54.131131

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.247	0.152	0.082	0.046	0.028	0.016	0.009



F. 3D Image





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※