



SAR Test Report

For

Applicant Name: Xtratech Computer SA
Address: Industrial Sector Los Alamos, Blanca Munoz Street and Elias Munoz Avenue, Guayaquil, Ecuador
EUT Name: Tablet
Brand Name: Xtratech
Model Number: X11MK87

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: Plant 101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, Guangdong, China

Report Number: BTF260831R00401
Test Standards: 47 CFR Part 2.1093 IEEE1528-2013 IEEE C95.1-2019
FCC ID: 2BXNR-X11MK87

Test Conclusion: Pass
Test Date: 2026-09-04 to 2026-09-13
Date of Issue: 2026-09-14

Tested By: Ella. ku
Ella Ku / Tester
Date: 2026-09-14

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Amenda Zhong / Project Engineer
Date: 2026-09-14

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Ryan.CJ / EMC Manager
Date: 2026-09-14



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Revision History		
Version	Issue Date	Revisions Content
R_V0	2026-09-14	Original
<i>Note: Once the revision has been made, then previous versions reports are invalid.</i>		

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1. Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	Plant 101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Test Location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	Plant 101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, Guangdong, China
Description:	All measurement facilities used to collect the measurement data are located at Plant 101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, Guangdong, China
FCC Registration Number	518915
Designation Number	CN1409

1.3 Laboratory Condition

Ambient Temperature:	21°C to 25°C
Ambient Relative Humidity:	48% to 59%
Ambient Pressure:	100 kPa to 102 kPa

1.4 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2. Product Information

2.1 Application Information

Company Name:	Xtratech Computer SA
Address:	Industrial Sector Los Alamos, Blanca Munoz Street and Elias Munoz Avenue, Guayaquil, Ecuador

2.2 Manufacturer Information

Company Name:	Shenzhen Bmorn Technology Co., Ltd.
Address:	20th floor, Wanting Building, Baoyuan Road, Bao'an District, Shenzhen, Guangdong, China

2.3 Factory Information

Company Name:	Shenzhen Bmorn Technology Co., Ltd.
Address:	20th floor, Wanting Building, Baoyuan Road, Bao'an District, Shenzhen, Guangdong, China

2.4 General Description of Equipment under Test (EUT)

EUT Name	Tablet
Under Test Model Name	X11MK87
Sample No.	BTFSN260831007

2.5 Equipment under Test Ancillary Equipment

Ancillary Equipment 1	Rechargeable Battery	
	Rated Capacity	8000mAh
	Rated Voltage	3.8V

2.6 Technical Information

Network and Wireless connectivity	2G Network GPRS/EGPRS 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/5 4G Network FDD LTE Band 2/4 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) BT (BDR/EDR+BLE)
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	802.11b/g/n(HT20)	2412 ~ 2462 MHz	
	802.11n(HT40)	2422 ~ 2452 MHz	
	802.11a /802.11n(HT20/40) /802.11ac(VHT20/40/80)	U-NII-1: 5150 MHz ~ 5250 MHz, U-NII-3: 5725 MHz ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: Internal Antenna WLAN: Internal Antenna BT: Internal Antenna		
Hotspot Function	Support		
Power Reduction	Not Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		

3. Summary of Test Results

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radio frequency radiation exposure evaluation: portable devices
2	IEEE1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate in the Human Head from Wireless Communications Devices: Measurement Techniques
3	IEEE C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz
4	KDB 447498 D01	General RF Exposure Guidance v06
5	KDB 865664 D01	SAR measurement 100MHz to 6GHz v01r04
6	KDB 865664 D02	RF Exposure Reporting v01r02
7	KDB 941225 D01	3G SAR Procedures v03r01
8	KDB 941225 D05	SAR for LTE Devices v02r05
9	KDB 248227 D01	802.11 Wi-Fi SAR v02r02
10	KDB 941225 D06	Hotspot Mode v02r01
11	KDB 616217 D04	SAR for laptop and tablets v01r02
12	KDB 690783 D01	SAR Listings on Grant v01r03

3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ Controlled Exposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

NOTE:

General Population/Uncontrolled Exposure: Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment- related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Occupational/Controlled Exposure: Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure. In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

3.3 Test Result Summary

The maximum results of Specific Absorption Rate (SAR) found during test as bellows:

<Highest Reported standalone SAR>

Exposure Position	Frequency Band	Reported SAR (W/kg)	Equipment Class	Highest Reported SAR (W/kg)
Body (Hotspot) 1-g SAR (0 mm Gap)	GSM 850	0.657	PCB	0.792
	GSM 1900	0.792		
	WCDMA Band II	0.686		
	WCDMA Band V	0.598		
	LTE Band 2	0.762		
	LTE Band 4	0.591		
	WLAN 2.4 GHz	0.372	DTS	
	RLAN 5.2 GHz	0.211	NII	
	RLAN 5.8 GHz	0.195		
	Bluetooth(BDR/EDR)	0.031	DSS	

This device is in compliance with Specific Absorption Rate(SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC47 CFR part 2(2.1093) and ANSI/IEEE C95.1-2019, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

<Highest Reported Simultaneous SAR>

Exposure Position	Simultaneous Configuration	Highest Reported Simultaneous Transmission SAR (W/kg)	Limit (W/kg)	Verdict
Body(Hotspot) 1-g SAR (0 mm Gap)	PCB+DTS	1.164	1.6	Pass
Body(Hotspot) 1-g SAR (0 mm Gap)	PCB+NII	1.003	1.6	Pass
Body(Hotspot) 1-g SAR (0 mm Gap)	PCB+DSS	0.823	1.6	Pass

3.4 Test Uncertainty

3.4.1 Measurement uncertainty evaluation for SAR test (450MHz to 6GHz)

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Unc. $u(x_i)=a(x_i)/q_i$	Ci (1g)	Ci (10g)	1g Ui (+-%)	10 g Ui (+-%)	Vi veff
Measurement System									
Probe calibration	16	N (k = 2)	2	8.00	1	1	8.00	8.00	∞
Probe calibration drift	4	R	$\sqrt{3}$	2.31	1	1	2.31	2.31	∞
Probe linearity	4.7	R	$\sqrt{3}$	2.71	1	1	2.71	2.71	∞
detection limit	1	R	$\sqrt{3}$	0.58	1	1	0.58	0.58	∞
Probe isotropy	3.5	R	$\sqrt{3}$	2.02	0.71	0.71	1.43	1.43	∞
Hemispherical Isotropy	5.9	N	1	5.90	0.71	0.71	4.19	4.19	∞
Boundary effect	1	R	1.73	0.58	1	1	0.58	0.58	∞
Integration time	1.4	R	1.73	0.81	1	1	0.81	0.81	∞
Response time	0	R	1.73	0.00	1	1	0.00	0.00	∞
Readout electronics	0.5	N	1	0.50	1	1	0.50	0.50	∞
RF ambient and noise	3	R	$\sqrt{3}$	1.73	1	1	1.73	1.73	∞
Probe positioning errors	3.28	N	1	3.28	0.33	0.33	1.08	1.08	∞
Data processing errors	2.3	R	1	1.33	1	1	1.33	1.33	∞
Conductivity measurement	4.07	N	1	2.35	0.79	0.77	1.86	1.81	∞
Permittivity measurement	5.06	N	1	2.92	0.23	0.26	0.67	0.76	∞
Liquid Conductivity - Temperature Uncertainty	2.5	R	1	1.44	0.79	0.77	1.14	1.11	∞
Liquid Permittivity - Temperature Uncertainty	2.5	R	$\sqrt{3}$	1.44	0.23	0.26	0.33	0.38	∞
Shell permittivity	2.9	R	$\sqrt{3}$	1.67	0.25	0.25	0.42	0.42	∞
Repeatability of positioning the DUT or source against the phantom	2.7	N	1	2.70	2	2	5.40	5.40	∞
Uncertainty in accepted power	3	R	1	3.00	1	1	3.00	3.00	∞
Effect of operating mode on probe sensitivity	2.3	R	$\sqrt{3}$	1.33	1	1	1.33	1.33	∞
Variation in SAR due to drift in output of DUT	2.2	N	1	2.20	1	1	2.20	2.20	∞
Phantom deviation from target (ϵ' , σ)	1.9	N	1	1.90	1	1	1.90	1.90	∞
SAR scaling	0	R	$\sqrt{3}$	0.00	1	1	0.00	0.00	∞
Combined uncertainty	/						12.56	12.55	
Expanded Uncertainty (95% Confidence interval)	/						25.11	25.11	

* This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.4.2 Measurement uncertainty evaluation for system check

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Unc. $u(x_i)=a(x_i)/q_i$	Ci (1g)	Ci (10 g)	1g Ui (+-%)	10 g Ui (+-%)	Vi v _{eff}
Measurement System									
Probe calibration	16	N (k = 2)	2	8.00	1	1	8.00	8.00	∞
Probe calibration drift	4	R	1.73	2.31	1	1	2.31	2.31	∞
Probe linearity	4.7	R	1.73	2.72	1	1	2.72	2.72	∞
Detection limit	1	R	1.73	0.58	1	1	0.58	0.58	∞
Axial Isotropy	3.5	R	1.73	2.02	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	1.73	3.41	0.71	0.71	2.42	2.42	∞
Boundary effect	1	R	1.73	0.58	0.71	0.71	0.41	0.41	∞
Integration time	1.4	R	1.73	0.81	1	1	0.81	0.81	∞
Response time	0	R	1.73	0.00	1	1	0.00	0.00	∞
Readout electronics	0.5	N	1	0.50	1	1	0.50	0.50	∞
Noise	3	R	1.73	1.73	1	1	1.73	1.73	∞
Reflections	3	R	1.73	1.73	1	1	1.73	1.73	∞
Positioner Mechanical Tolerance	3.28	R	1.73	1.90	0.33	0.33	0.63	0.63	∞
Positioning with respect to Phantom Shell	3.28	R	1.73	1.90	0.33	0.33	0.63	0.63	∞
Data processing errors	2.3	R	1.73	1.33	1	1	1.33	1.33	∞
Conductivity measurement	4.07	N	1	4.07	0.79	0.77	3.22	3.13	∞
Permittivity measurement	5.06	N	1	5.06	0.23	0.26	1.16	1.32	∞
Liquid Conductivity - Temperature Uncertainty	2.5	R	1.73	1.45	0.79	0.77	1.14	1.11	∞
Liquid Permittivity - Temperature Uncertainty	2.5	R	1.73	1.45	0.23	0.26	0.33	0.38	∞
Shell permittivity	2.9	R	1.73	1.68	0.25	0.25	0.42	0.42	∞
Distance between the radiating element of the DUT and the phantom medium	2.7	N	1	2.70	2	2	5.40	5.40	∞
Deviation of experimental antennas	4.5	N	1.73	2.60	1	1	2.60	2.60	∞
Other uncertainty contributions	2	R	1	2.00	1	1	2.00	2.00	∞
Uncertainty in accepted power	3	R	1.73	1.73	1	1	1.73	1.73	∞
Phantom deviation from target (ϵ' , σ)	1.9	N	1	1.90	1	0.87	1.90	1.65	∞
$u(\Delta SAR)$	\						12.51	12.47	
Expanded uncertainty (95% confidence interval)	\						25.02	24.93	

4. Measurement System

4.1 Specific Absorption Rate (SAR) Definition

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:

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

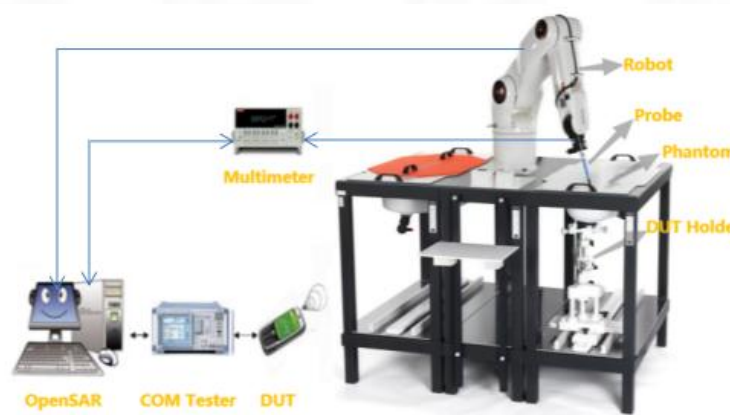
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

4.2 MVG SAR System

4.2.1 SAR system diagram



4.2.2 Robot



A standard high precision 6-axis robot (Denso) with teaches pendant with Scanning System

- It must be able to scan all the volume of the phantom to evaluate the tridimensional distribution of SAR.
- Must be able to set the probe orthogonal of the surface of the phantom ($\pm 30^\circ$).
- Detects stresses on the probe and stop itself if necessary to keep the integrity of the probe.

4.2.3 E-Field Probe

For the measurements the Specific Dosimetric E-Field Probe 0125-EPGO-445 with following specifications is used:

- Probe Length: 330 mm
- Length of Individual Dipoles: 2mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Calibration range: 150 to 6000 MHz for head & body simulating liquid
- Axial Isotropy: <0.10 dB
- Spherical Isotropy: <0.10 dB
- Angle between probe axis (evaluation axis) and surface normal line: less than 30° .



4.2.4 Phantoms

SAM Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The probe scanning of the E-Field is done in the 2 halves of the normalized head. The normalized shape of the phantom corresponds to the dimensions of 90% of an adult head size. It enables the dosimetric evaluation of left and right-hand phone usage and includes an additional flat phantom part for the simplified body performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



SAM Phantom

The thickness of the phantom amounts to $2\text{ mm} \pm 0.2\text{ mm}$. The materials for the phantom do not affect the radiation of the device under test (DUT) : $\epsilon_r' < 5$
The head is filled with tissue simulating liquid. The hand do not have to be modeled.

TWIN SAM phantom

	Mechanical	Electrical	
Overall thickness	$2 \pm 0.2\text{ mm}$ (except ear area)	Relative permittivity	3.4
Dimensions	1000 mm(L) x 500 mm(W) x 200 mm(H)	Loss tangent	0.02
Maximum volume	27 L		
Material	Fiberglass based		

ELLIPTICAL Phantom

The phantom is for Body performance check filled with tissue-equivalent liquid to a depth of at least 150 mm, whose shell material is resistant to damage or reaction with tissue-equivalent liquid chemicals.



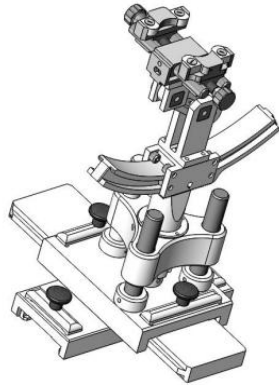
ELLI Phantom

The shape of the phantom is an ellipse with length $600\text{ mm} \pm 5\text{ mm}$ and width $400\text{ mm} \pm 5\text{ mm}$.
The phantom shell is made of low-loss and low-permittivity material, having loss tangent $\tan \delta \leq 0.05$ and relative permittivity:
 $\epsilon_r' \leq 5$ for $f \leq 3\text{ GHz}$
 $3 \leq \epsilon_r' \leq 5$ for $f > 3\text{ GHz}$
The thickness of the bottom-wall of the flat phantom is 2.0 mm with a tolerance of $\pm 0.2\text{ mm}$.

Technical & mechanical characteristics

Shell thickness	$2\text{ mm} \pm 0.2\text{ mm}$
Filling volume	25 L
Dimensions	600 mm x 400 mm x 200 mm
Permittivity	4.4
Loss tangent	0.017

4.2.5 Device Holder



System Material	Permittivity	Loss tangent
Delrin	3.7	0.005

(The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.)

System Material	Permittivity	Loss tangent
PMMA	2.9	0.028

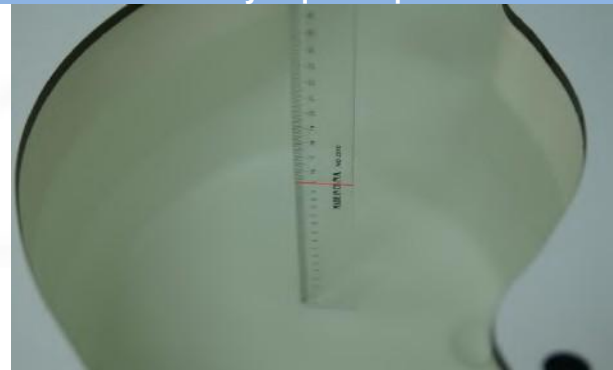
4.2.6 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.

Head Liquid Depth



Body Liquid Depth



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

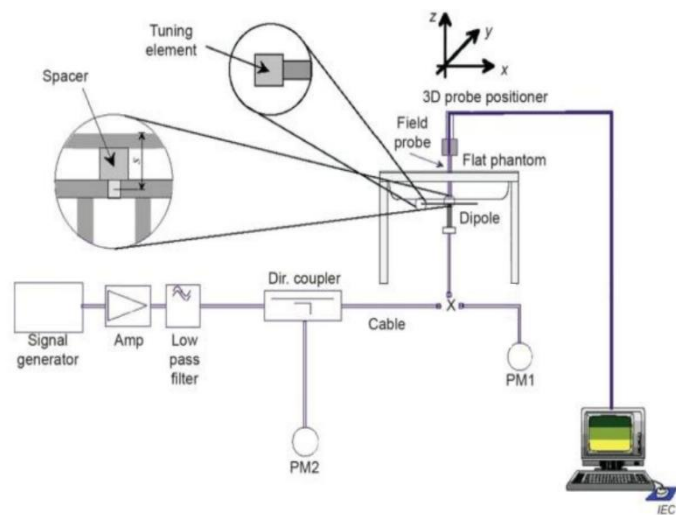
Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ϵ
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	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

5. System Verification

5.1 Purpose of System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. The setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

5.2 System Check Setup



6. TEST POSITION CONFIGURATIONS

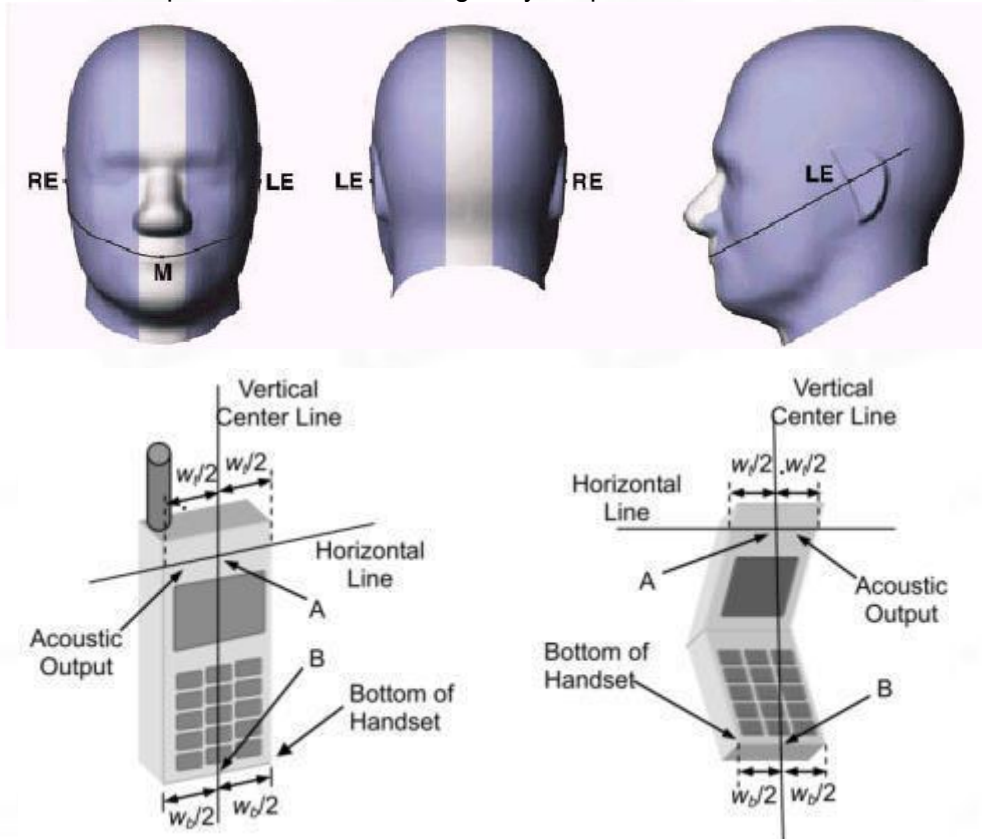
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

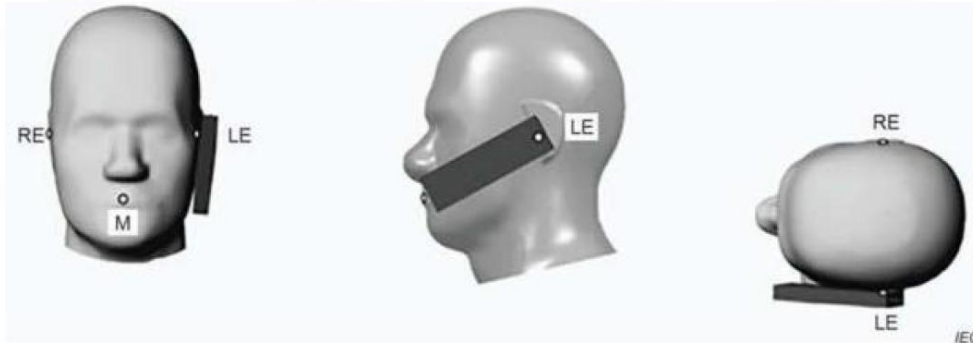
6.1.1 Two Imaginary Lines on the Handset

- The vertical center line passes through two points on the front side of the handset - the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.
- The horizontal line is perpendicular to the vertical center line and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
- 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 center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



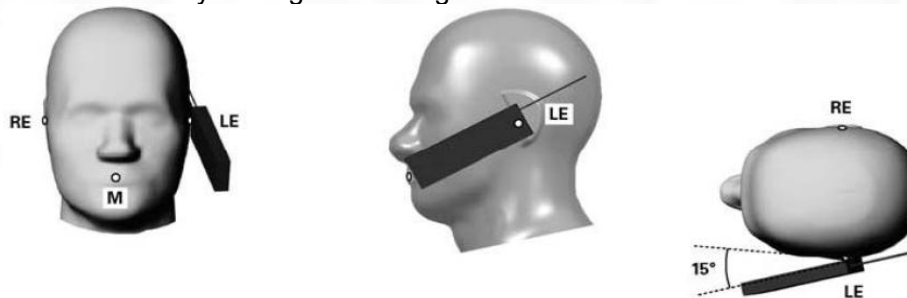
6.1.2 Two Imaginary Lines on the Handset

- (a) 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 three 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.
- (b) 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 the 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.



6.1.3 Titled Position

- (a) To position the device in the “cheek” position described above.
- (b) While maintaining the device 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 contact with the ear is lost.

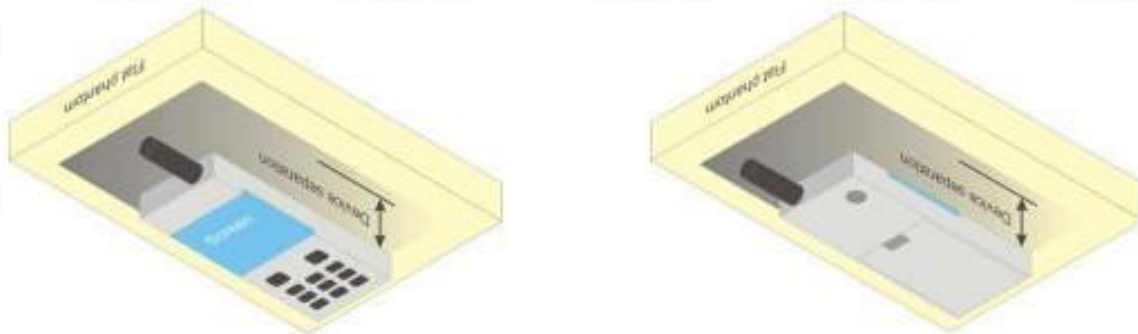


6.2 Body-worn Position Conditions

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 447498 are used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode. When the reported SAR for a body-worn accessory.

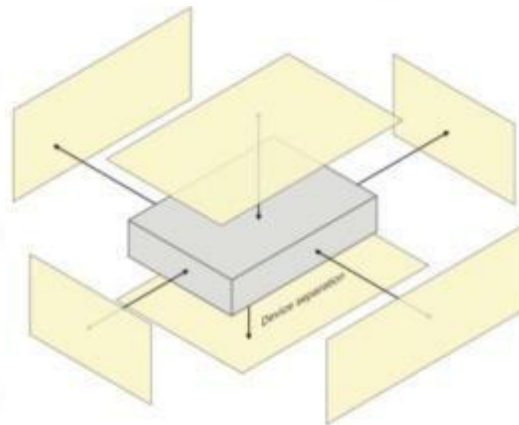
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required. A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance ≤ 5 mm to support compliance.



6.3 Hotspot Mode Exposure Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing functions, the relevant hand and body exposure conditions 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 surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge. When the form factor of a handset is smaller than 9 cm x 5 cm, a test separation distance of 5 mm (instead of 10 mm) is required for testing hotspot mode. When the separation 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).



6.4 Product Specific 10g Exposure Consideration

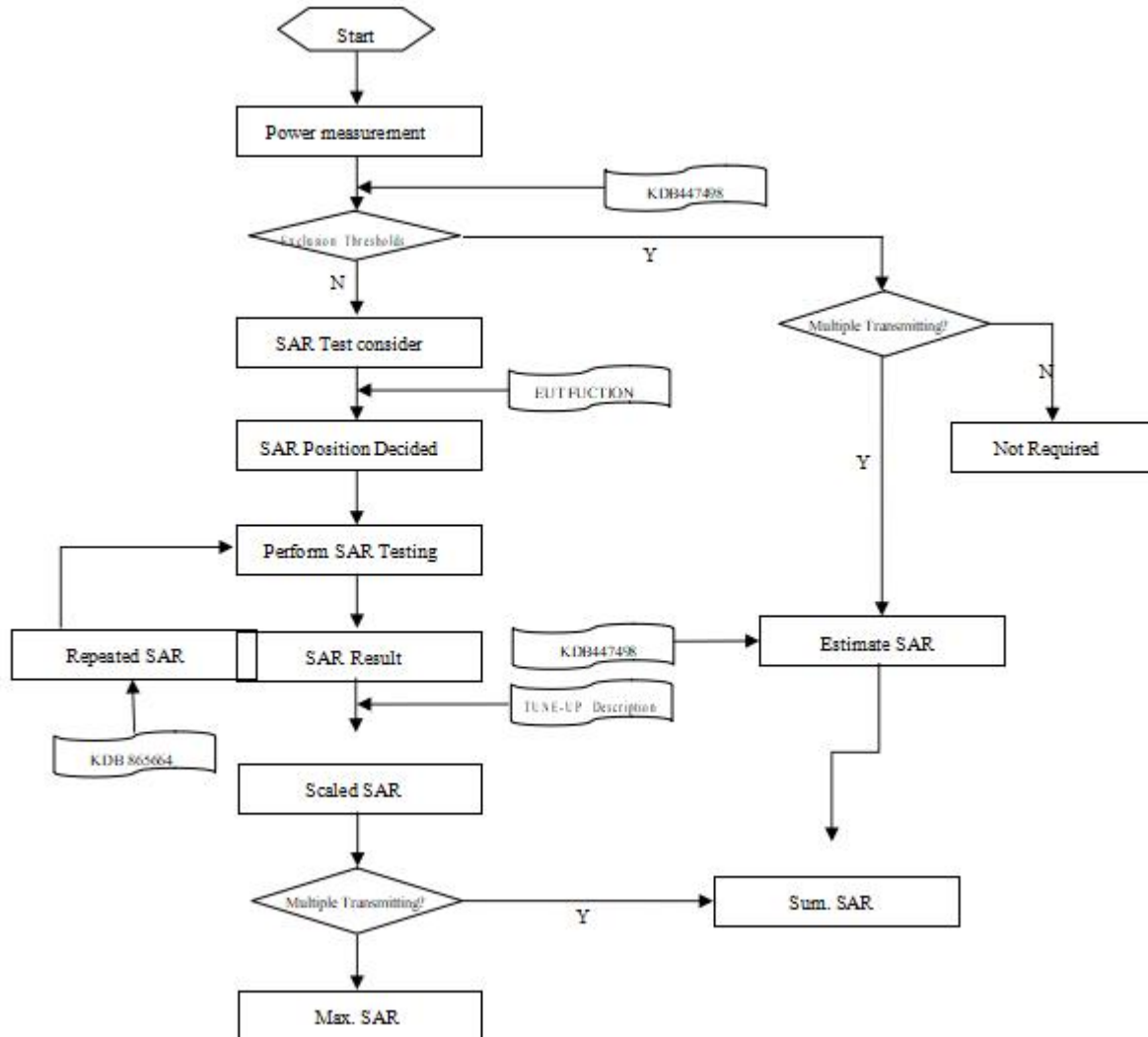
According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance;

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

7. Measurement Procedure

7.1 Measurement Process Diagram

Body SAR



7.2 SAR Scan General Requirement

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1 g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013.

			≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximum area scan spatial resolution: Δx Area , Δy Area			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom			≤ 2 GHz: ≤ 8 mm 2–3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: Δz Zoom (n)		≤ 5 mm	3–4 GHz: ≤ 4 mm
				4–5 GHz: ≤ 3 mm
				5–6 GHz: ≤ 2 mm
	graded grid	Δz Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
				5–6 GHz: ≤ 2 mm
		≤ 1.5·Δz Zoom (n-1)		
Minimum zoom scan volume	x, y, z		≥30 mm	3–4 GHz: ≥ 28 mm
				4–5 GHz: ≥ 25 mm
				5–6 GHz: ≥ 22 mm
Note:				
1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528- 2011 for details.				
2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB				
447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

7.3 Measurement Procedure

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.

7.4 Area & Zoom Scan Procedure

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 D01v01r04 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.

7.5 Add Descriptions of Test Method Steps and Configurations.

Large Tablet Body SAR Scan Procedure

Due to the physical dimensions of the tablet being larger than the effective scanning area of the flat phantom, the entire DUT-to-body interface could not be evaluated within a single Area Scan. Therefore, multiple Area Scans were performed by translating the DUT relative to the phantom while maintaining the same DUT-to-phantom separation distance, orientation, operating mode and output power.

Adjacent scanning regions were overlapped to ensure complete coverage of the applicable body-facing surface and to prevent omission of any potential SAR peak between scan regions. The DUT was sequentially shifted in the longitudinal and/or lateral direction until the complete applicable exposure surface, including the antenna region, had been evaluated.

The peak SAR locations obtained from all Area Scans were compared, and the position producing the highest SAR was identified as the worst-case position. The DUT was then repositioned so that the identified peak was sufficiently within the valid measurement area of the phantom, and a Zoom Scan was performed to determine the peak spatial-average 1-g SAR.

Brief description of the added steps to locate the worst scanning position:

Initial Position → Area Scan #1 → Shift DUT → Area Scan #2 → Shift DUT → Area Scan #3 → Compare all peaks → Identify global maximum → Reposition worst-case peak to phantom valid region → Zoom Scan → 1-g SAR → Power Drift

The SAR scan resolution, zoom-scan volume and post-processing procedures were applied in accordance with FCC KDB 865664 D01 and the applicable measurement principles of IEEE Std 1528-2013.

8. Conducted RF Output Power

8.1 GSM

Mode: GSM850		Maximum Tune-up(dBm)	Burst Average Power (dBm)			Division Factors	Frame-Average Power (dBm)		
			CH128	CH190	CH251		CH128	CH190	CH251
			824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM		32.50	32.20	31.20	30.27	-9.03	23.17	22.17	21.24
GPRS (GMSK)	1Tx slot	32.50	32.25	31.23	30.25	-9.03	23.22	22.20	21.22
	2Tx slots	32.00	31.53	30.49	29.51	-6.02	25.51	24.47	23.49
	3Tx slots	30.00	29.75	28.72	27.73	-4.26	25.49	24.46	23.47
	4Tx slots	29.00	28.60	27.60	26.61	-3.01	25.59	24.59	23.60
EGPRS (8PSK)	1Tx slot	27.00	26.75	25.22	26.05	-9.03	17.72	16.19	17.02
	2Tx slots	26.00	25.99	24.34	23.05	-6.02	19.97	18.32	17.03
	3Tx slots	24.00	23.90	22.39	21.00	-4.26	19.64	18.13	16.74
	4Tx slots	23.00	22.78	21.31	19.75	-3.01	19.77	18.30	16.74
Mode: GSM1900		Maximum Tune-up(dBm)	Burst Average Power (dBm)			Division Factors	Frame-Average Power (dBm)		
			CH512	CH661	CH810		CH512	CH661	CH810
			1850.2MHz	1880.0MHz	1909.8MHz		1850.2MHz	1880.0MHz	1909.8MHz
GSM		28.00	25.94	26.38	27.78	-9.03	16.91	17.35	18.75
GPRS (GMSK)	1Tx slot	28.00	25.95	26.37	27.77	-9.03	16.92	17.34	18.74
	2Tx slots	27.50	25.23	25.65	27.08	-6.02	19.21	19.63	21.06
	3Tx slots	25.50	23.49	23.83	25.33	-4.26	19.23	19.57	21.07
	4Tx slots	24.50	22.42	22.82	24.27	-3.01	19.41	19.81	21.26
EGPRS (8PSK)	1Tx slot	25.50	24.73	24.34	25.27	-9.03	15.70	15.31	16.24
	2Tx slots	25.50	23.73	23.34	25.02	-6.02	17.71	17.32	19.00
	3Tx slots	22.50	21.85	21.37	22.27	-4.26	17.59	17.11	18.01
	4Tx slots	21.50	20.88	20.29	21.11	-3.01	17.87	17.28	18.10
Note: 1) Division Factors To average the power, the division factor is as follows: 1Tx-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB 2Tx-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB 3Tx-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB 4Tx-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB									

8.2 WCDMA

Mode		Maximum Tune-up(dBm)	WCDMA Band II		
			Conducted Power (dBm)		
			CH9262	CH9400	CH9538
			1852.4	1880.0	1907.6
RMC 12.2K		22.50	21.24	21.14	22.24
HSDPA	Subtest-1	20.00	19.08	18.97	19.98
	Subtest-2	20.00	19.10	18.95	19.98
	Subtest-3	20.00	19.11	18.96	19.98
	Subtest-4	20.00	19.07	18.96	19.99
HSUPA	Subtest-1	18.00	16.31	16.23	17.53
	Subtest-2	18.00	16.44	16.32	17.89
	Subtest-3	18.00	16.46	16.25	17.88
	Subtest-4	17.50	16.44	16.34	17.42
	Subtest-5	19.00	17.07	17.50	18.61
Mode		Maximum Tune-up(dBm)	WCDMA Band V		
			Conducted Power (dBm)		
			CH4132	CH4183	CH4233
			826.4	836.6	846.6
RMC 12.2K		23.50	22.95	22.14	21.30
HSDPA	Subtest-1	21.00	20.76	19.90	19.00
	Subtest-2	21.00	20.80	19.90	18.98
	Subtest-3	21.00	20.81	19.91	19.01
	Subtest-4	21.00	20.83	19.91	19.00
HSUPA	Subtest-1	18.00	17.88	17.28	16.23
	Subtest-2	18.50	18.44	17.87	16.28
	Subtest-3	18.00	17.88	17.30	16.27
	Subtest-4	18.50	18.46	17.86	16.28
	Subtest-5	19.00	18.66	18.53	16.49
Per KDB 941225 D01, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/2$ dB higher than the primary mode (RMC12.2kbps) or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.					

8.3 LTE

Band 2

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
1.4MHz	QPSK	1	0	22.00	21.98	21.69	21.36
			2	22.50	22.11	21.82	21.48
			5	22.00	21.99	21.67	21.37
		3	0	22.50	22.06	21.84	21.45
			2	22.50	22.09	21.87	21.50
			3	22.50	22.02	21.79	21.45
		6	0	21.50	21.09	20.78	20.42
	16QAM	1	0	21.50	21.11	20.74	20.37
			2	21.50	21.17	20.82	20.48
			5	21.50	21.10	20.74	20.40
		3	0	21.50	20.99	21.00	20.51
			2	21.50	21.01	21.05	20.49
			3	21.50	21.01	21.01	20.48
		6	0	20.50	20.04	19.80	19.37
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
3MHz	QPSK	1	0	22.50	22.11	21.78	21.40
			7	22.50	22.22	21.92	21.55
			14	22.50	22.06	21.74	21.36
		8	0	21.50	21.06	20.79	20.44
			4	21.50	21.05	20.83	20.45
			7	21.50	21.01	20.76	20.38
		15	0	21.00	20.99	20.76	20.42
	16QAM	1	0	21.50	21.06	20.95	20.97
			7	21.50	21.19	21.09	21.09
			14	21.50	21.00	20.91	20.89
		8	0	20.50	20.12	19.76	19.59
			4	20.50	20.08	19.78	19.61
			7	20.50	20.05	19.75	19.55
		15	0	20.50	20.01	19.75	19.48
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
5MHz	QPSK	1	0	22.50	22.00	21.76	21.37
			13	22.50	22.07	21.84	21.54
			24	22.00	21.94	21.71	21.37
		12	0	21.00	20.99	20.83	20.46
			6	21.50	21.08	20.86	20.52
			13	21.50	21.00	20.81	20.45
		25	0	21.50	21.00	20.83	20.47
	16QAM	1	0	21.50	21.05	21.02	20.28
			13	21.50	21.12	21.11	20.39
			24	21.00	20.98	20.92	20.22
		12	0	20.00	19.94	19.82	19.45
			6	20.50	20.01	19.88	19.50
			13	20.00	19.97	19.82	19.44
		25	0	20.50	20.00	19.80	19.51

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)				
Bandwidth	Modulation	RB allocation	RB offset		18650	18900	19150		
					1855.0MHz	1880.0MHz	1905.0MHz		
10MHz	QPSK	1	0	22.50	22.09	21.85	21.54		
			25	22.50	22.16	21.91	21.61		
			49	22.00	21.96	21.71	21.41		
		25	0	21.00	20.97	20.84	20.65		
			13	21.00	20.98	20.81	20.50		
			25	21.00	20.95	20.86	20.51		
		50	0	21.00	20.97	20.85	20.55		
			16QAM	1	0	21.50	21.05	20.99	21.09
					25	21.50	21.13	21.09	21.18
	49	21.00			20.93	20.87	20.93		
	25	0		20.50	20.04	19.87	19.70		
		13		20.50	20.06	19.87	19.57		
		25		20.50	20.05	19.90	19.59		
	50	0		20.00	19.98	19.85	19.60		
	Bandwidth	Modulation		RB allocation	RB offset	Maximum Tune-up(dBm)	18675	18900	19125
							1857.5MHz	1880.0MHz	1902.5MHz
15MHz	QPSK	1	0	22.50	22.01	21.81	21.57		
			38	22.00	21.98	21.82	21.51		
			74	22.00	21.90	21.66	21.37		
		36	0	21.50	21.06	20.88	20.73		
			18	21.50	21.07	20.86	20.59		
			39	21.50	21.00	20.87	20.54		
		75	0	21.50	21.04	20.88	20.62		
		16QAM	1	0	21.50	21.28	20.98	21.08	
				38	21.50	21.31	20.96	21.10	
	74			21.50	21.26	20.82	20.93		
	36		0	20.00	19.97	19.84	19.72		
			18	20.00	19.99	19.84	19.62		
			39	20.00	19.93	19.83	19.56		
	75		0	20.50	20.00	19.89	19.61		
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18700	18900	19100	
						1860.0MHz	1880.0MHz	1900.0MHz	
20MHz	QPSK	1	0	22.00	21.83	21.72	21.48		
			50	22.50	22.06	21.96	21.72		
			99	22.00	21.68	21.51	21.23		
		50	0	21.00	20.94	20.83	20.80		
			25	21.00	20.98	20.83	20.61		
			50	21.00	20.90	20.90	20.44		
		100	0	21.00	20.94	20.87	20.62		
		16QAM	1	0	21.50	21.31	20.94	20.74	
				50	22.00	21.63	21.04	21.00	
	99			21.50	21.25	20.65	20.50		
	50		0	20.00	19.95	19.86	19.79		
			25	20.00	19.99	19.85	19.62		
			50	20.00	19.88	19.89	19.44		
	100		0	20.00	19.95	19.87	19.70		

Band 4

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		19957	20175	20393
					1710.7MHz	1732.5MHz	1754.3MHz
1.4MHz	QPSK	1	0	22.00	21.73	21.52	21.41
			2	22.00	21.85	21.64	21.52
			5	22.00	21.72	21.54	21.42
		3	0	22.00	21.81	21.67	21.56
			2	22.00	21.85	21.70	21.57
			3	22.00	21.83	21.66	21.56
		6	0	21.00	20.78	20.63	20.49
	16QAM	1	0	21.00	20.73	20.73	20.45
			2	21.00	20.85	20.82	20.56
			5	21.00	20.75	20.71	20.45
		3	0	21.00	20.87	20.65	20.71
			2	21.00	20.89	20.67	20.80
			3	21.00	20.87	20.67	20.67
		6	0	20.00	19.77	19.68	19.52
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19965	20175	20385
					1711.5MHz	1732.5MHz	1753.5MHz
3MHz	QPSK	1	0	23.00	21.76	21.52	22.84
			7	23.50	21.90	21.68	23.03
			14	23.00	21.72	21.52	22.88
		8	0	22.00	20.75	20.58	21.88
			4	22.00	20.76	20.58	21.93
			7	22.00	20.73	20.53	21.87
		15	0	22.00	20.71	20.57	21.89
	16QAM	1	0	22.50	20.79	20.76	22.41
			7	23.00	20.90	20.83	22.58
			14	22.50	20.70	21.66	22.41
		8	0	21.50	19.86	20.49	21.05
			4	21.50	19.87	20.54	21.08
			7	21.50	19.83	20.53	21.06
		15	0	21.00	19.84	20.51	20.96
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19976	20175	20375
					1712.5MHz	1732.5MHz	1752.5MHz
5MHz	QPSK	1	0	23.00	21.70	22.34	22.69
			13	23.00	21.92	22.52	22.87
			24	23.00	21.86	22.43	22.78
		12	0	22.00	20.79	21.45	21.78
			6	22.00	20.92	21.52	21.88
			13	22.00	20.92	21.50	21.82
		25	0	22.00	20.83	21.49	21.82
	16QAM	1	0	22.00	20.80	21.61	21.56
			13	22.00	21.00	21.81	21.69
			24	22.00	20.94	21.71	21.61
		12	0	21.00	19.83	20.56	20.78
			6	21.00	19.96	20.62	20.89
			13	21.00	19.93	20.63	20.79
		25	0	21.00	19.95	20.54	20.85

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20000	20175	20350
					1715.0MHz	1732.5MHz	1750.0MHz
10MHz	QPSK	1	0	23.00	21.78	22.27	22.62
			25	23.00	22.14	22.61	22.90
			49	23.00	22.10	22.51	22.80
		25	0	22.00	20.89	21.44	21.73
			13	22.00	20.97	21.50	21.80
			25	22.00	21.08	21.60	21.80
		50	0	22.00	21.00	21.53	21.75
	16QAM	1	0	22.50	20.79	21.51	22.20
			25	22.50	21.15	21.80	22.45
			49	22.50	21.10	21.71	22.35
		25	0	21.00	20.07	20.55	20.80
			13	21.00	20.13	20.61	20.86
			25	21.00	20.23	20.71	20.85
		50	0	21.00	20.09	20.65	20.79
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20025	20175	20325
					1717.5MHz	1732.5MHz	1747.5MHz
15MHz	QPSK	1	0	22.50	21.66	22.18	22.48
			38	23.00	22.05	22.45	22.76
			74	23.00	22.12	22.50	22.69
		36	0	22.00	20.92	21.43	21.68
			18	22.00	21.06	21.49	21.80
			39	22.00	21.16	21.61	21.80
		75	0	22.00	21.04	21.52	21.76
	16QAM	1	0	22.50	21.07	21.36	22.07
			38	22.50	21.47	21.66	22.29
			74	22.50	21.55	21.68	22.27
		36	0	21.00	19.97	20.45	20.74
			18	21.00	20.07	20.56	20.82
			39	21.00	20.18	20.65	20.81
		75	0	21.00	20.09	20.57	20.74
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20050	20175	20300
					1720.0MHz	1732.5MHz	1745.0MHz
20MHz	QPSK	1	0	22.50	21.51	21.97	22.24
			50	23.00	22.23	22.63	22.84
			99	23.00	22.12	22.42	22.56
		50	0	22.00	21.00	21.38	21.59
			25	22.00	21.13	21.52	21.68
			50	22.00	21.25	21.62	21.76
		100	0	22.00	21.13	21.52	21.71
	16QAM	1	0	22.00	21.09	21.17	21.56
			50	22.50	21.81	21.85	22.08
			99	22.00	21.69	21.62	21.87
		50	0	21.00	20.05	20.43	20.64
			25	21.00	20.21	20.58	20.77
			50	21.00	20.31	20.72	20.78
		100	0	21.00	20.22	20.59	20.74

8.4 Wi-Fi

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	16.78	17.00	No
		6	2437	17.01	17.50	Yes
		11	2462	16.89	17.00	No
	802.11g	1	2412	14.97	15.00	No
		6	2437	15.03	15.50	No
		11	2462	14.94	15.00	No
	802.11n(HT20)	1	2412	14.85	15.00	No
		6	2437	14.93	15.00	No
		11	2462	14.82	15.00	No
	802.11n(HT40)	3	2422	14.59	15.00	No
		6	2437	14.56	15.00	No
		9	2452	14.30	14.50	No

Note: SAR is not required for the following 2.4 GHz OFDM conditions as the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is $\leq 1.2\text{W/kg}$.

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-1 (5.150~5.250)	802.11a	36	5180	15.14	15.50	No
		40	5200	15.07	15.50	No
		48	5240	14.89	15.00	No
	802.11n(HT20)	36	5180	15.04	15.50	No
		40	5200	14.82	15.00	No
		48	5240	14.53	15.00	No
	802.11ac(VHT20)	36	5180	14.97	15.00	No
		40	5200	14.87	15.00	No
		48	5240	14.67	15.00	No
	802.11n(HT40)	38	5190	15.30	15.50	Yes
		46	5230	14.95	15.00	No
	802.11ac(VHT40)	38	5190	14.70	15.00	No
		46	5230	14.49	14.50	No
	802.11ac(VHT80)	42	5210	15.07	15.50	No

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-3 (5.725~5.850)	802.11a	149	5745	14.36	14.50	No
		157	5785	14.02	14.50	No
		165	5825	13.94	14.00	No
	802.11n(HT20)	149	5745	14.08	14.50	No
		157	5785	14.05	14.50	No
		165	5825	13.72	14.00	No
	802.11ac(VHT20)	149	5745	13.82	14.00	No
		157	5785	13.39	13.50	No
		165	5825	13.22	13.50	No
	802.11n(HT40)	151	5755	14.42	14.50	No
		159	5795	14.40	14.50	No
	802.11ac(VHT40)	151	5755	14.05	14.50	No
		159	5795	13.73	14.00	No
	802.11ac(VHT80)	155	5775	14.64	15.00	Yes

8.5 Bluetooth

BDR/EDR	Mode	Maximum Tune-up(dBm)	Conducted Output Power(dBm)		
			0	39	78
			2402MHz	2441MHz	2480MHz
	GFSK	5.00	3.82	4.84	4.10
	$\pi/4$ QPSK	4.50	3.07	4.08	3.34
	8DPSK	4.50	3.07	4.07	3.34
BLE	Mode	Maximum Tune-up(dBm)	Conducted Output Power(dBm)		
			0	19	39
			2402MHz	2440MHz	2480MHz
	GFSK_1Mbps	-2.00	-3.12	-2.16	-2.99
	GFSK_2Mbps	-2.00	-3.11	-2.16	-2.97

Note:

1. Per KDB 447498 D01 General RF Exposure Guidance v06, the 1-g SAR test SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 25 mm (Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.) by:

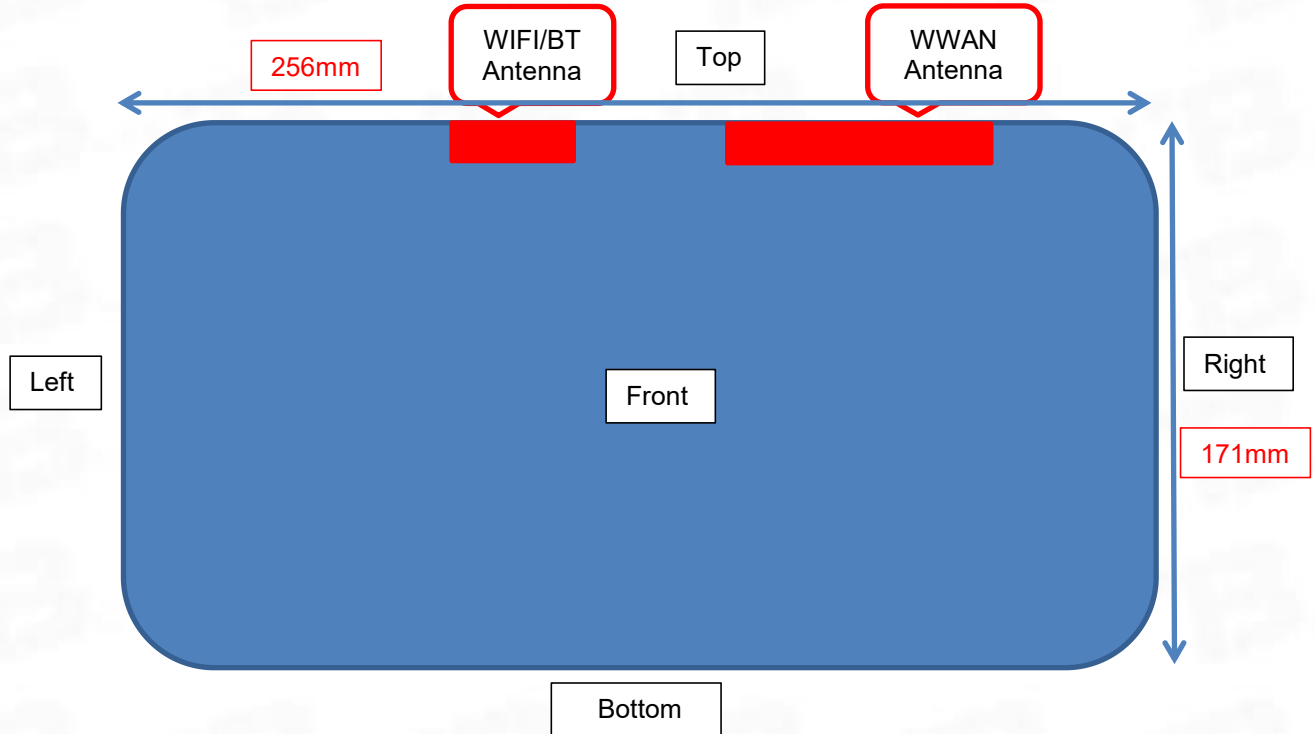
MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

*When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine estimated SAR.

2. Per KDB 248227 D01 v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion. The output power of all data rate were prescan, just the worst case (the lowest data rate) of all mode were shown in report.

9. Test Exclusion Consideration

Antenna information:



WWAN Antenna	GSM/WCDMA/LTE TX/RX
WLAN Antenna	WLAN TX/RX
Note: 1. KDB 447498 D01v06, particular DUT edges were not required to be evaluated for SAR if the antenna-to-edge distance is greater than 2.5cm. 2. Per KDB648474 D04, 10-g extremity SAR is not required when Body-Worn mode 1-g reported SAR<1.2W/Kg.	

Distance of The Antenna to the EUT surface and edge (mm)						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	<25	<25	165	<25	<25	156
WIFI/BT	<25	<25	96	139	<25	162
Positions for SAR tests						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	Yes	Yes	No	Yes	Yes	No
WIFI/BT	Yes	Yes	No	No	Yes	No

9.1 SAR Test Exclusion Consideration Table

Per KDB 447498 requires when the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following format to determine simultaneous transmission SAR test exclusion:

$$(\text{max.power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x]$$

W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

0.4 W/Kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

10. Test Result

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Reported SAR (W/kg)	Meas. No.
GPRS 850+4slots	Front	128	824.2	0.760	0.486	28.60	29.00	1.096	0.533	/
	Back	128	824.2	2.350	0.520	28.60	29.00	1.096	0.570	/
	Right	128	824.2	-1.630	0.355	28.60	29.00	1.096	0.389	/
	Top	128	824.2	-2.480	0.599	28.60	29.00	1.096	0.657	1#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Reported SAR (W/kg)	Meas. No.
GPRS 1900+4slots	Front	810	1909.8	2.870	0.621	24.27	24.50	1.054	0.655	/
	Back	810	1909.8	0.370	0.713	24.27	24.50	1.054	0.752	/
	Right	810	1909.8	-4.510	0.362	24.27	24.50	1.054	0.382	/
	Top	810	1909.8	-2.460	0.751	24.27	24.50	1.054	0.792	2#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Reported SAR (W/kg)	Meas. No.
WCDMA Band 2 (RMC*)	Front	9538	1907.6	0.300	0.522	22.24	22.50	1.062	0.554	/
	Back	9538	1907.6	-3.240	0.600	22.24	22.50	1.062	0.637	/
	Right	9538	1907.6	1.080	0.413	22.24	22.50	1.062	0.439	/
	Top	9538	1907.6	-3.570	0.646	22.24	22.50	1.062	0.686	3#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Reported SAR (W/kg)	Meas. No.
WCDMA Band 5 (RMC*)	Front	4132	826.4	-4.020	0.411	22.95	23.50	1.135	0.466	/
	Back	4132	826.4	-3.330	0.450	22.95	23.50	1.135	0.511	/
	Right	4132	826.4	4.380	0.286	22.95	23.50	1.135	0.325	/
	Top	4132	826.4	4.810	0.527	22.95	23.50	1.135	0.598	4#

Body(hotspot open, 0mm Gap)											
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 2 (BW: 20MHz)	1RB	Front	18700	1860.0	1.980	0.513	22.06	22.50	1.107	0.568	/
		Back	18700	1860.0	4.050	0.578	22.06	22.50	1.107	0.640	/
		Right	18700	1860.0	-0.470	0.367	22.06	22.50	1.107	0.406	/
		Top	18700	1860.0	-2.320	0.688	22.06	22.50	1.107	0.762	5#
	50%RB	Front	18700	1860.0	-0.930	0.477	20.98	21.00	1.005	0.479	/
		Back	18700	1860.0	-3.360	0.542	20.98	21.00	1.005	0.545	/
		Right	18700	1860.0	1.900	0.331	20.98	21.00	1.005	0.333	/
		Top	18700	1860.0	-1.340	0.622	20.98	21.00	1.005	0.625	/

Body(hotspot open, 0mm Gap)											
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 4 (BW: 20MHz)	1RB	Front	20300	1745.0	3.380	0.384	22.84	23.00	1.038	0.399	/
		Back	20300	1745.0	-0.660	0.501	22.84	23.00	1.038	0.520	/
		Right	20300	1745.0	-4.250	0.267	22.84	23.00	1.038	0.277	/
		Top	20300	1745.0	-4.390	0.569	22.84	23.00	1.038	0.591	6#
	50%RB	Front	20300	1745.0	-2.800	0.342	21.76	22.00	1.057	0.361	/
		Back	20300	1745.0	2.660	0.452	21.76	22.00	1.057	0.478	/
		Right	20300	1745.0	0.360	0.226	21.76	22.00	1.057	0.239	/
		Top	20300	1745.0	-1.610	0.517	21.76	22.00	1.057	0.546	/

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
2.4g (2.4~2.4835) 802.11b	Front	6	2437	1.510	0.223	17.01	17.50	1.119	0.250	/
	Back	6	2437	0.420	0.260	17.01	17.50	1.119	0.291	/
	Top	6	2437	-3.100	0.332	17.01	17.50	1.119	0.372	7#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-1 (5.150~5.250) 802.11n(HT40)	Front	38	5190	-4.160	0.113	15.30	15.50	1.047	0.118	/
	Back	38	5190	2.910	0.152	15.30	15.50	1.047	0.159	/
	Top	38	5190	-4.200	0.202	15.30	15.50	1.047	0.211	8#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-3 (5.725~5.850) 802.11ac(VHT80)	Front	155	5775	-1.880	0.120	14.64	15.00	1.086	0.130	/
	Back	155	5775	2.150	0.145	14.64	15.00	1.086	0.157	/
	Top	155	5775	2.040	0.180	14.64	15.00	1.086	0.195	9#

Body(hotspot open, 0mm Gap)										
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
BDR/EDR	Front	39	2441	3.930	0.020	4.84	5.00	1.038	0.021	/
	Back	39	2441	2.880	0.024	4.84	5.00	1.038	0.025	/
	Top	39	2441	3.420	0.030	4.84	5.00	1.038	0.031	10#

Note:

- The maximum SAR Value of each test band is marked bold.
- SAR plot is provided only for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
- Per KDB 447498 D01 v06, for each exposure position, if the highest output power channel Reported SAR $\leq 0.8\text{W/kg}$, other channels SAR testing is not necessary.
- Per KDB 616217 D04, tablet use is evaluated with the device positioned at 0mm from a flat phantom respectively filled with head tissue-equivalent medium.
- Per KDB 447498 D01 v06, the report SAR is measured SAR value adjusted for maximum tune-up tolerance. Scaling Factor= $10^{[(\text{tune-up limit power(dBm)} - \text{Ave.power power (dBm)})/10]}$, where tune-up limit is the maximum rated power among all production units.
Reported SAR(W/kg)=Measured SAR (W/kg)*Scaling Factor.

11. SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 , or when the original or repeated measurement is ≥ 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 , and the original, first or second repeated measurement is ≥ 1.5 W/kg, perform a third repeated measurement.

Note: For 1g SAR, the highest measured 1g SAR is $0.751 < 0.80$ W/kg, repeated measurement is not required.

12. Simultaneous Transmission

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR 1g 1.6 W/kg), the simultaneous transmission SAR is not required.

When the sum of SAR 1g is greater than the SAR limit (SAR 1g 1.6 W/kg), SAR test exclusion is determined by the SAR to Peak Location Ratio (SPLSR).

12.1 Simultaneous Transmission Mode Considerations

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. The device has 2 Tx antennas, WWAN main antenna, Wifi/BT antenna supports 2.4G/5G Wi-Fi and BT. The 2 antennas can always transmit simultaneously. The work mode combination is showed as below table.

Application Simultaneous Transmission information:

NO.	Configuration	Body-worn
1	WWAN+WIFI(2.4g)	Yes
2	WWAN+WIFI(5g)	Yes
3	WWAN+BT	Yes

12.2 Sum SAR of Simultaneous Transmission

Hotspot(body-worn)

Band	Test Position	Scaled				Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5.2G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
		WWAN	WIFI 2.4G	WIFI 5.2G	Bluetooth					
GPRS 1900+4slots	Front	0.655	0.25	0.118	0.021	0.905	0.773	0.676	N/A	N/A
	Back	0.752	0.291	0.159	0.025	1.043	0.911	0.777	N/A	N/A
	Right	0.382	/	/	/	0.382	0.382	0.382	N/A	N/A
	Top	0.792	0.372	0.211	0.031	1.164	1.003	0.823	N/A	N/A

13. Test Equipment List

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
E-Field Probe	MVG	SSE2	0125-EPGO-445	2026/03/03	2027/03/02
6 1/2 Digital Multimeter	Keithley	DMM6500	4527164	2025/10/20	2026/10/19
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	161997	2025/10/17	2026/10/16
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2025/10/17	2026/10/16
E-Series Avg. Power Sensor	KEYSIGHT	E9300A	MY55050017	2026/04/02	2027/04/01
EPM Series Power Meter	KEYSIGHT	E4418B	MY41293435	2026/04/02	2027/04/01
MXA Signal Analyzer	KEYSIGHT	N9020A	MY54410409	2025/10/17	2026/10/16
Low Noise Amplifier	Tongyue	N/A	N/A	2026/07/30	2027/07/29
Coupler	MERRIMAC	CWM-10R-10.8G	LOT-83391	N/A	N/A
835MHz Validation Dipole	MVG	SID835	0722-DIP0G835-656	2025/05/26	2028/05/25
1800MHz Validation Dipole	MVG	SID1800	0722-DIP1G800-657	2025/05/26	2028/05/25
1900MHz Validation Dipole	MVG	SID1900	4721-DIP1G900-658	2025/05/26	2028/05/25
2450MHz Validation Dipole	MVG	SID2450	0722-DIP2G450-662	2025/05/26	2028/05/25
5200MHz-5800MHz Validation Dipole	MVG	SID5000	0722-DIP5G000-670	2025/05/26	2028/05/25
LIMESAR Dielectric Probe	MVG	SCLMP	0622-OC PG88	2026/04/07	2027/04/06
ENA Series Network Analyzer	Agilent	E5071B	MY42301221	2025/10/17	2026/10/16
Thermometer	Riters	DT-232	21A11	2026/04/02	2027/04/01
Antenna network emulator	MVG	ANTA 74	07/22 ANTA 74	N/A	N/A
SAM Phantom	MVG	SAM	07/22 SAM149	N/A	N/A
Mobile Phone Positioning System	MVG	MSH 118	07/22 MSH 118	N/A	N/A
Mechanical Calibration Kit	PNA	N/A	N/A	2025/10/21	2026/10/20
Open SAR test software	MVG	N/A	V5.3.5	N/A	N/A
Note: For dipole antennas, BTF has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria: 1. There is no physical damage on the dipole; 2. System validation with specific dipole is within 10% of calibrated value; 3. Return-loss in within 20% of calibrated measurement. 4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.					

ANNEX A Simulating Liquid Verification Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an SCLMP Dielectric Probe Kit.

Dielectric performance of tissue simulating liquid									
Frequency (MHz)	ϵ_r		σ (s/m)		Delta (ϵ_r)	Delta (σ)	Limit	Temp (°C)	Date
	Target	Measured	Target	Measured					
835	41.50	43.41	0.90	0.88	4.60%	-2.22%	±5%	21.4	4/9/2026
1800	40.00	38.52	1.40	1.42	-3.70%	1.43%	±5%	21.8	5/9/2026
1900	40.00	38.26	1.40	1.39	-4.35%	-0.71%	±5%	22.3	6/9/2026
2450	39.20	40.72	1.80	1.82	3.88%	1.11%	±5%	23.1	7/9/2026
5200	36.00	36.36	4.66	4.61	1.00%	-1.07%	±5%	21.3	10/9/2026
5800	35.30	35.03	5.27	5.12	-0.76%	-2.85%	±5%	21.3	11/9/2026

NOTE: The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.

ANNEX B System Check Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of 10 %(for 1g & 10 g).

Frequency (MHz)	Input Power (mW)	10g SAR (W/Kg)	1g SAR (W/Kg)	10g SAR 1W input power normalized (W/Kg)	1g SAR 1W input power normalized (W/Kg)	10g SAR Standard target (1W) (W/Kg)	1g SAR Standard target (1W) (W/Kg)	10g SAR Deviation	1g SAR Deviation
835	100	0.655	0.981	6.55	9.81	6.12	9.46	7.03%	3.70%
1800	100	2.122	3.912	21.22	39.12	19.83	37.93	7.01%	3.14%
1900	100	2.182	4.096	21.82	40.96	20.82	40.29	4.80%	1.66%
2450	100	2.370	4.991	23.70	49.91	24.55	52.72	-3.46%	-5.33%
5200	100	2.357	7.886	23.57	78.86	22.78	78.16	3.47%	0.90%
5800	100	2.349	7.852	23.49	78.52	22.71	78.32	3.43%	0.26%

System Performance Check Data (835 MHz)

System check at 835 MHz

Date of measurement: 4/9/2026

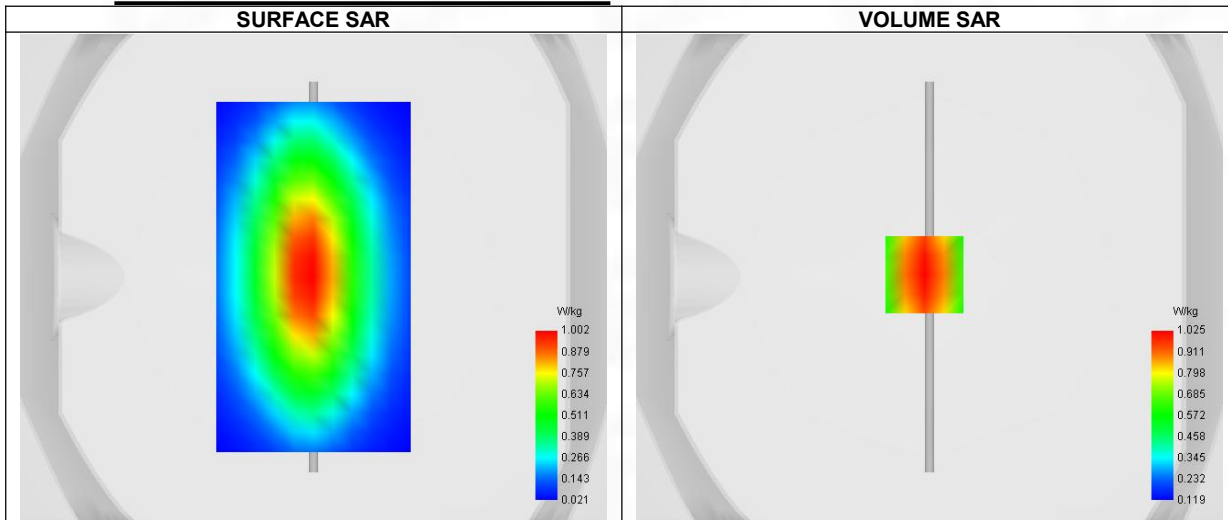
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.15
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	835.000
Relative permittivity (real part)	43.410
Relative permittivity (imaginary part)	19.962
Conductivity (S/m)	0.884

C. SAR Surface and Volume



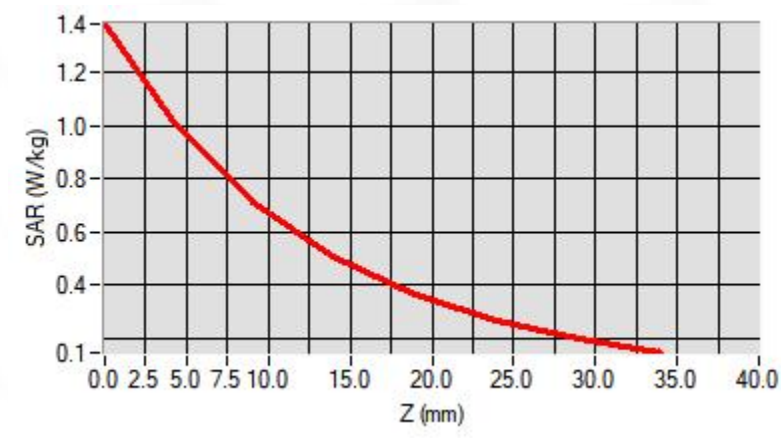
Maximum location: X=-2.00, Y=1.00 ; SAR Peak: 1.38 W/kg

D. SAR 1g & 10g

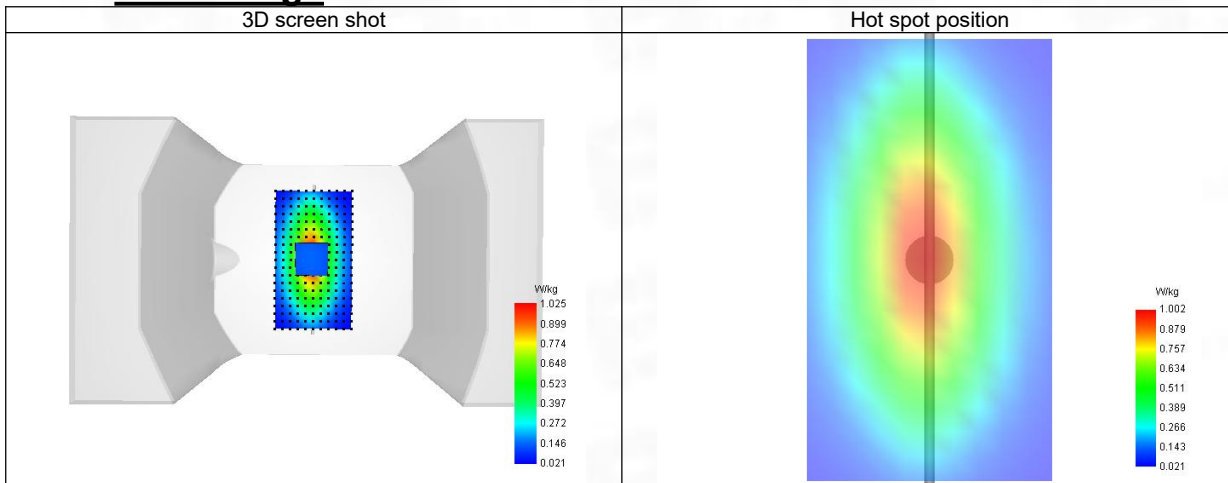
SAR 10g (W/Kg)	0.655
SAR 1g (W/Kg)	0.981
Variation (%)	-1.630
Horizontal validation criteria: minimum distance (mm)	22.627417
Vertical validation criteria: SAR ratio M2/M1 (%)	69.474509

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.381	1.025	0.712	0.505	0.363	0.268	0.195



F. 3D Image



System Performance Check Data (1800 MHz)

System check at 1800 MHz

Date of measurement: 5/9/2026

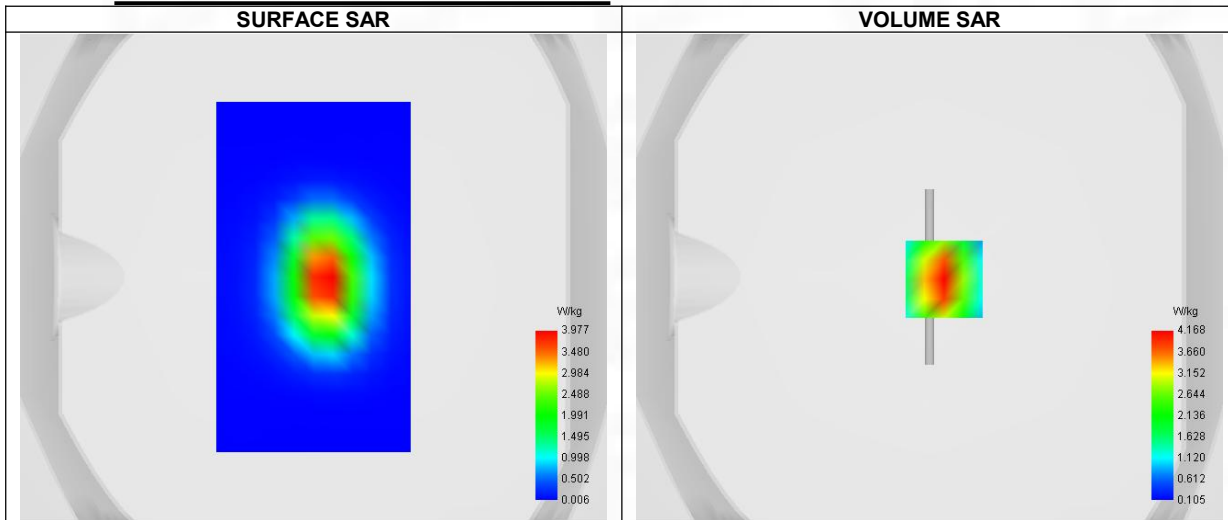
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	0.88
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	1800.000
Relative permittivity (real part)	38.522
Relative permittivity (imaginary part)	13.564
Conductivity (S/m)	1.421

C. SAR Surface and Volume



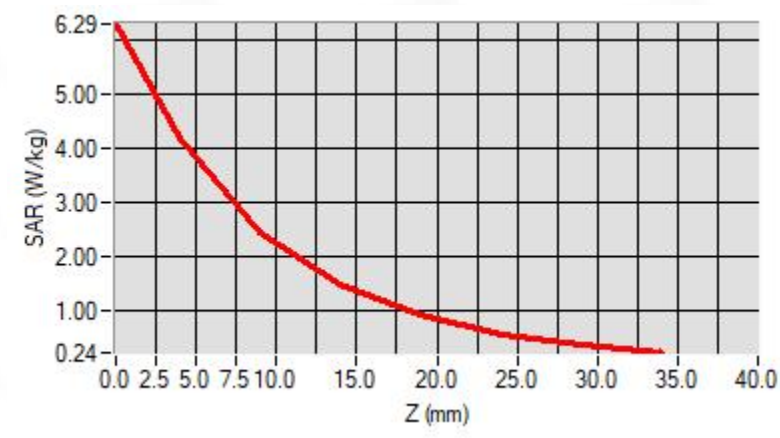
Maximum location: X=6.00, Y=-1.00 ; SAR Peak: 6.30 W/kg

D. SAR 1g & 10g

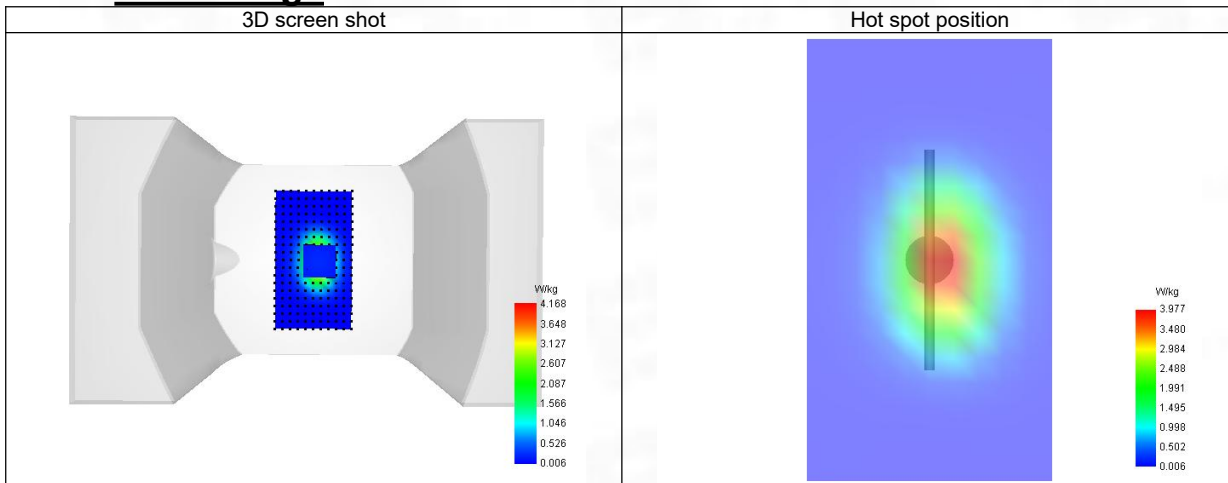
SAR 10g (W/Kg)	2.122
SAR 1g (W/Kg)	3.912
Variation (%)	1.050
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	59.186844

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.287	4.168	2.467	1.498	0.931	0.581	0.373



F. 3D Image



System Performance Check Data (1900 MHz)

System check at 1900 MHz

Date of measurement: 6/9/2026

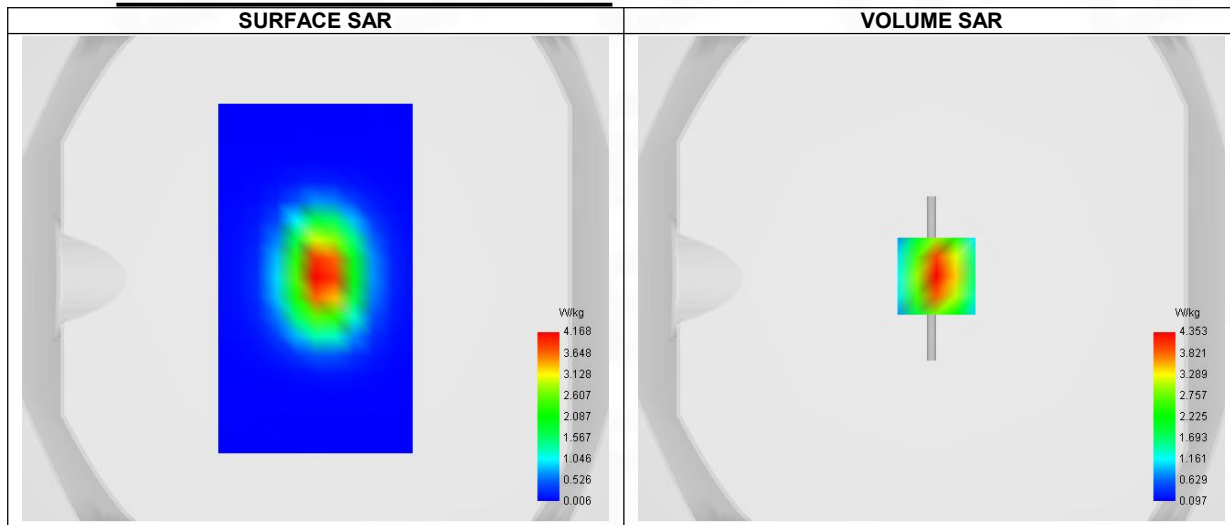
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.27
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	1900.000
Relative permittivity (real part)	38.264
Relative permittivity (imaginary part)	13.103
Conductivity (S/m)	1.391

C. SAR Surface and Volume



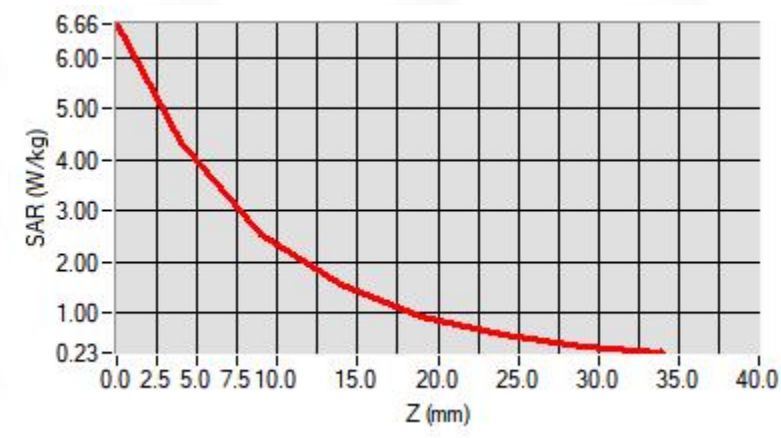
Maximum location: X=2.00, Y=1.00 ; SAR Peak: 6.64 W/kg

D. SAR 1g & 10g

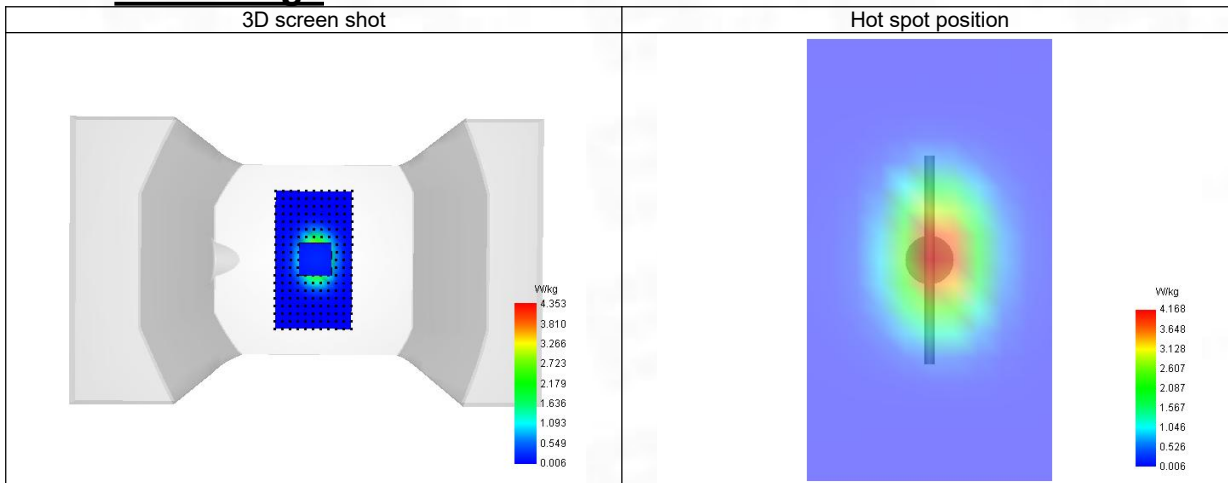
SAR 10g (W/Kg)	2.182
SAR 1g (W/Kg)	4.096
Variation (%)	2.900
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	58.126961

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.662	4.353	2.530	1.549	0.948	0.582	0.365



F. 3D Image



System Performance Check Data (2450 MHz)

System check at 2450 MHz

Date of measurement: 7/9/2026

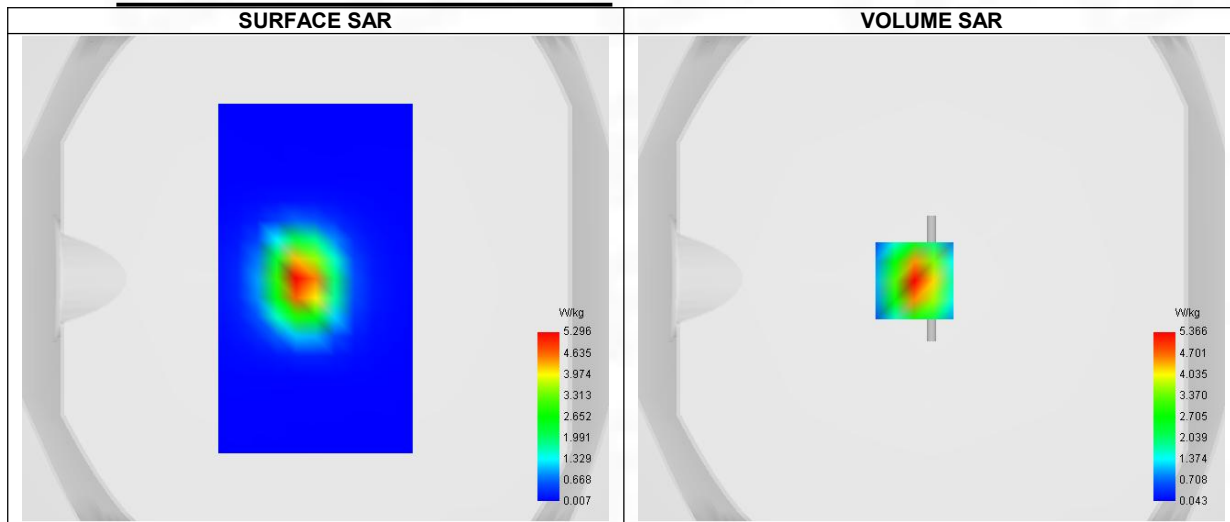
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.31
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5.0mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	2450.000
Relative permittivity (real part)	40.718
Relative permittivity (imaginary part)	13.612
Conductivity (S/m)	1.824

C. SAR Surface and Volume



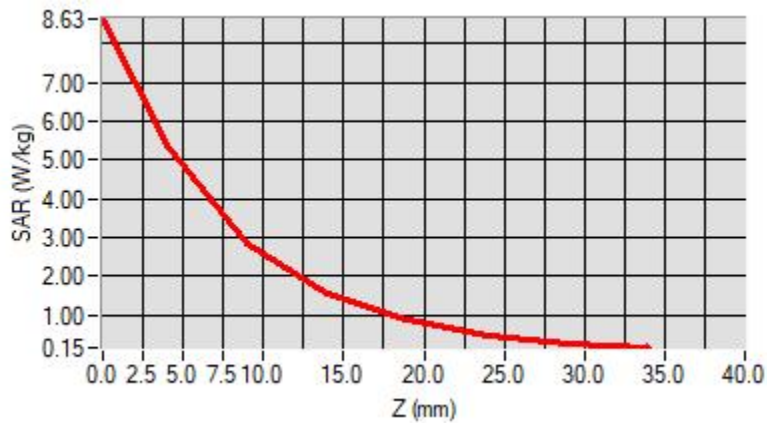
Maximum location: X=-7.00, Y=-1.00 ; SAR Peak: 8.64 W/kg

D. SAR 1g & 10g

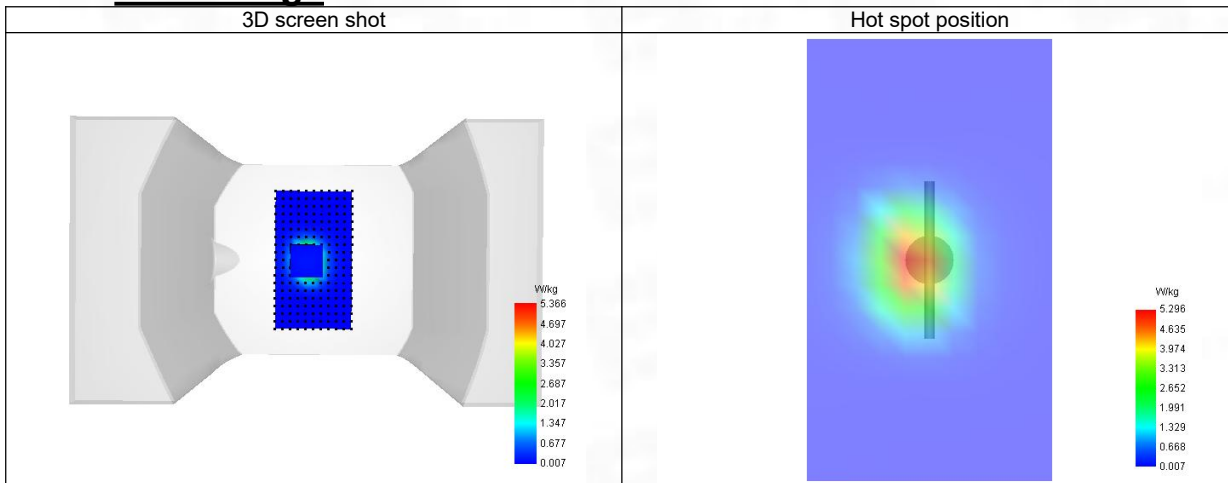
SAR 10g (W/Kg)	2.370
SAR 1g (W/Kg)	4.991
Variation (%)	1.410
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	53.333036

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	8.634	5.366	2.862	1.560	0.852	0.469	0.257



F. 3D Image



System Performance Check Data (5200 MHz)

System check at 5200 MHz

Date of measurement: 10/9/2026

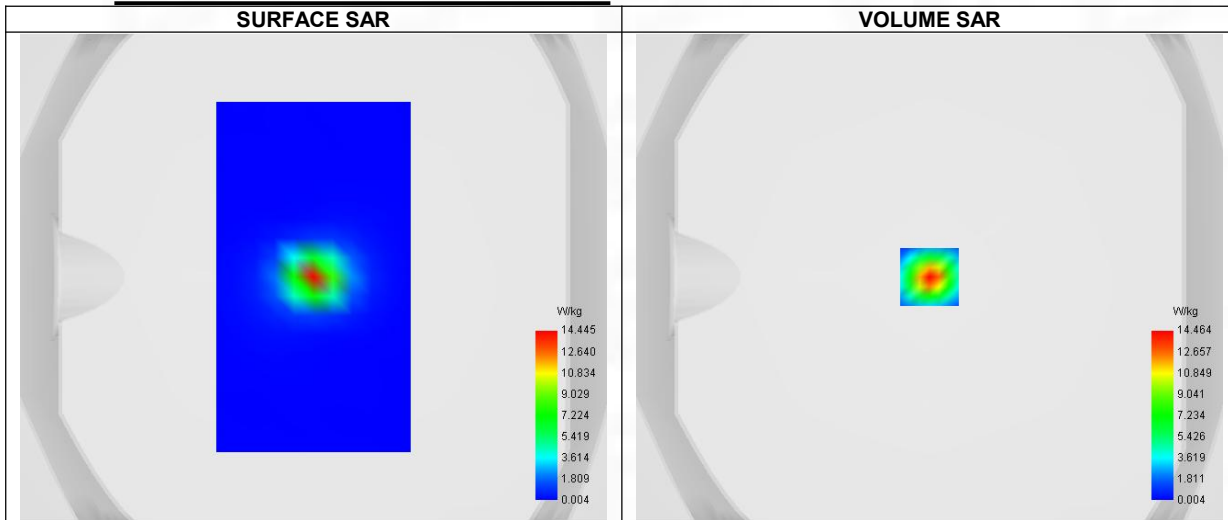
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.16
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	5200.000
Relative permittivity (real part)	36.363
Relative permittivity (imaginary part)	14.856
Conductivity (S/m)	4.566

C. SAR Surface and Volume



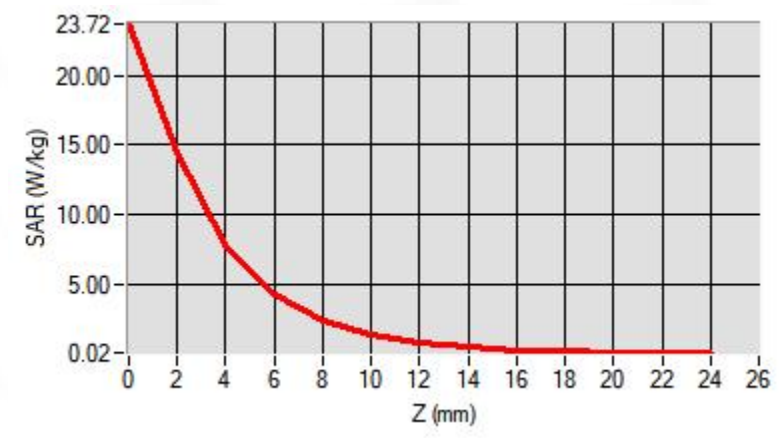
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 24.87 W/kg

D. SAR 1g & 10g

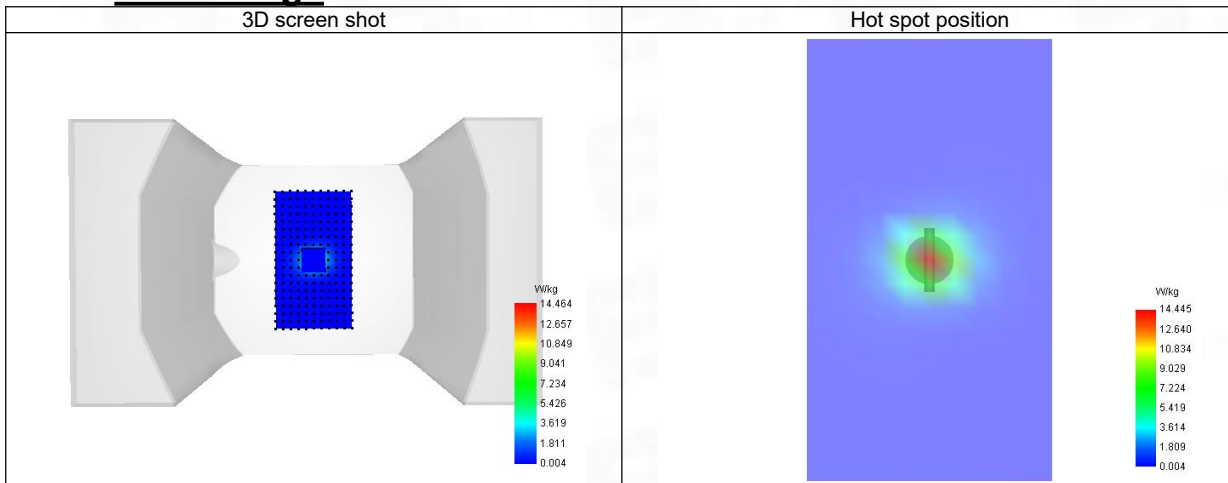
SAR 10g (W/Kg)	2.357
SAR 1g (W/Kg)	7.886
Variation (%)	-4.500
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	53.809794

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	23.720	14.464	7.783	4.278	2.337	1.301	0.728	0.386	0.218	0.111	0.063	0.030



F. 3D Image



System Performance Check Data (5800 MHz)

System check at 5800 MHz

Date of measurement: 11/9/2026

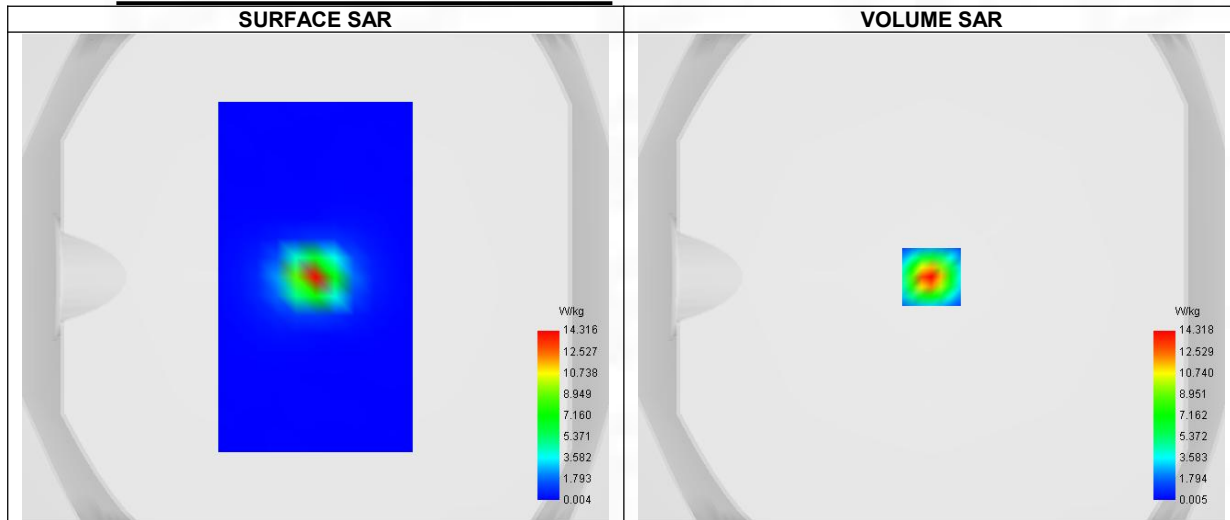
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.10
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels/Frequency	Middle
Signal	CW

B. Permittivity

Middle TX Frequency (MHz)	5800.000
Relative permittivity (real part)	35.026
Relative permittivity (imaginary part)	15.564
Conductivity (S/m)	5.122

C. SAR Surface and Volume



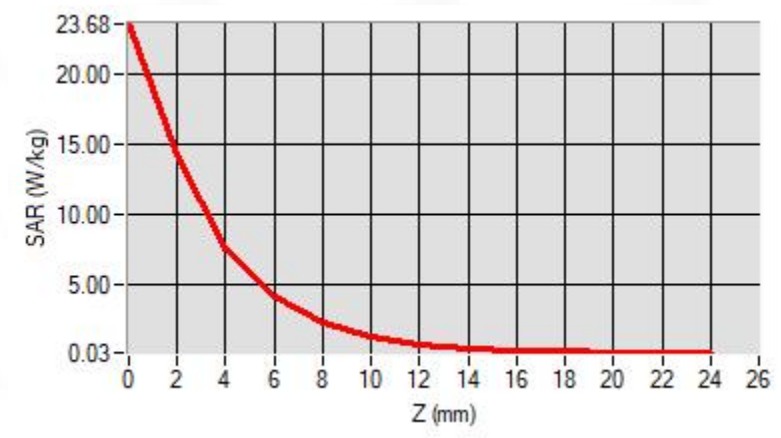
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 24.94 W/kg

D. SAR 1g & 10g

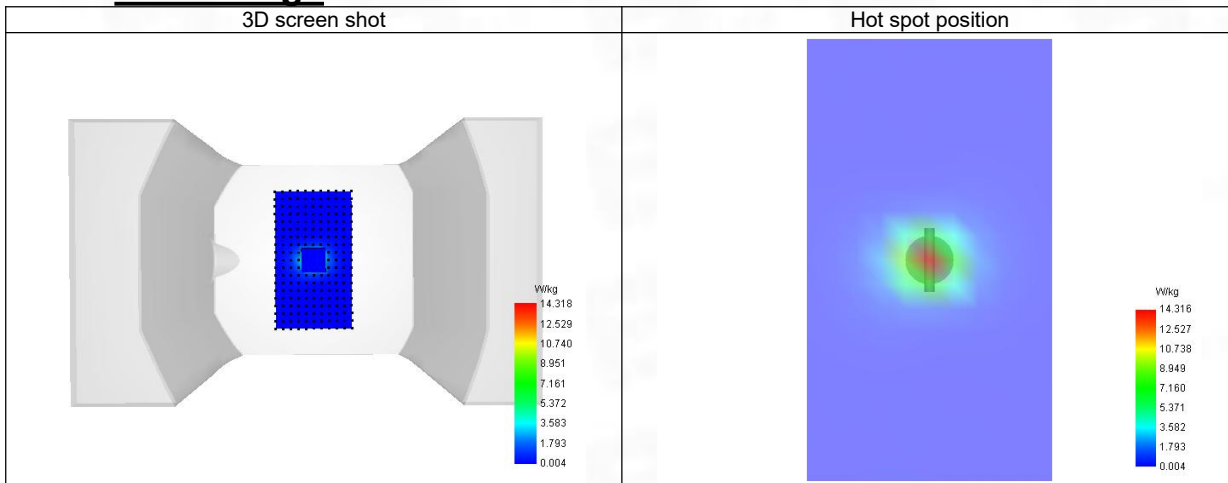
SAR 10g (W/Kg)	2.349
SAR 1g (W/Kg)	7.852
Variation (%)	-0.010
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	52.956554

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	23.677	14.318	7.583	4.083	2.197	1.180	0.636	0.346	0.181	0.100	0.048	0.028



F. 3D Image



ANNEX C Test Data

1-Body with Top position in dist. 0mm on Channel 128 in GPRS 850+4slots

SAR Measurement at GPRS850 (Body, Validation Plane)

Date of measurement: 4/9/2026

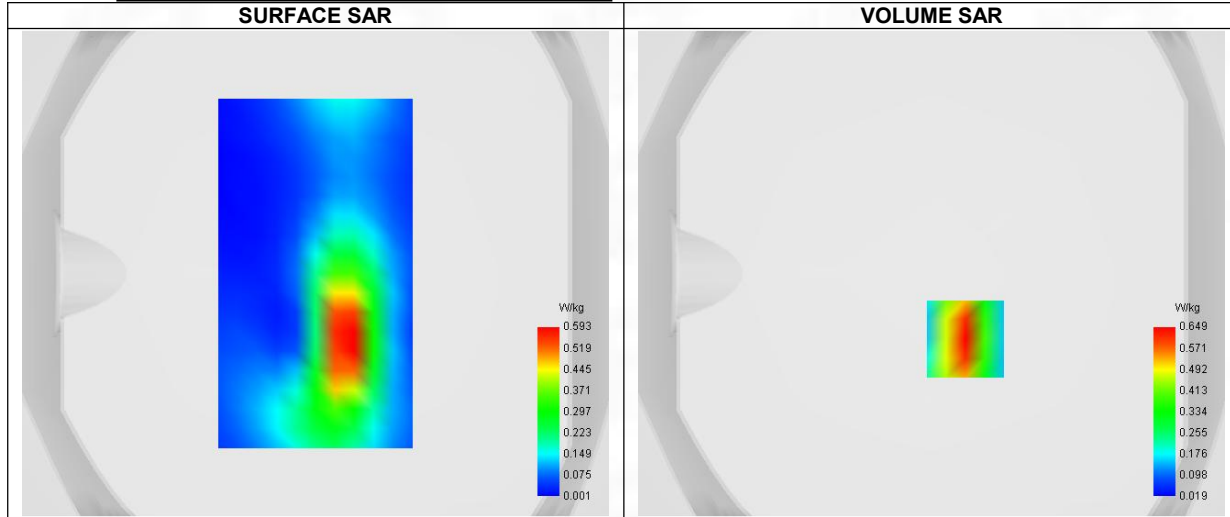
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.15
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels/Frequency	Lower (128)/ frequency 824.200 Mhz
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

B. Permittivity

Middle TX Frequency (MHz)	824.200
Relative permittivity (real part)	43.445
Relative permittivity (imaginary part)	20.058
Conductivity (S/m)	0.881

C. SAR Surface and Volume

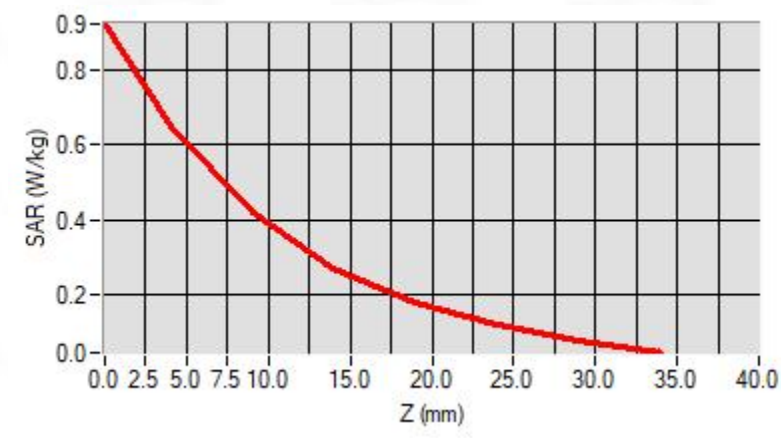


D. SAR 1g & 10g

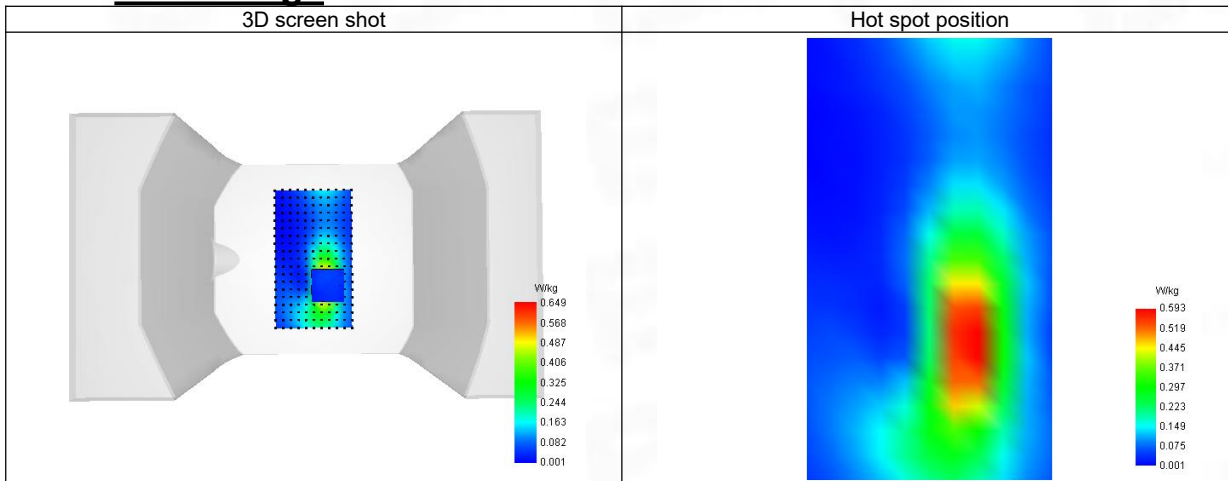
SAR 10g (W/Kg)	0.339
SAR 1g (W/Kg)	0.599
Variation (%)	-2.480
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	64.569462

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.921	0.649	0.419	0.269	0.180	0.122	0.078



F. 3D Image



2-Body with Top position in dist. 0mm on Channel 810 in GPRS 1900+4slots

SAR Measurement at GPRS1900 (Body, Validation Plane)

Date of measurement: 10/9/2026

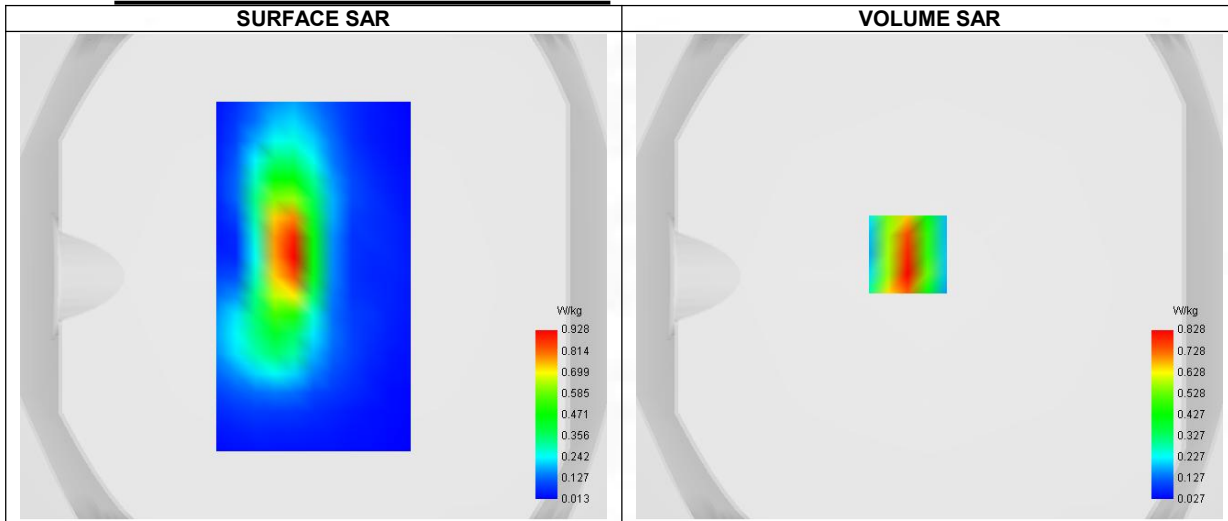
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.27
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels/Frequency	Higher (810)/ frequency 1909.800 Mhz
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

B. Permittivity

Middle TX Frequency (MHz)	1909.800
Relative permittivity (real part)	39.961
Relative permittivity (imaginary part)	12.330
Conductivity (S/m)	1.308

C. SAR Surface and Volume



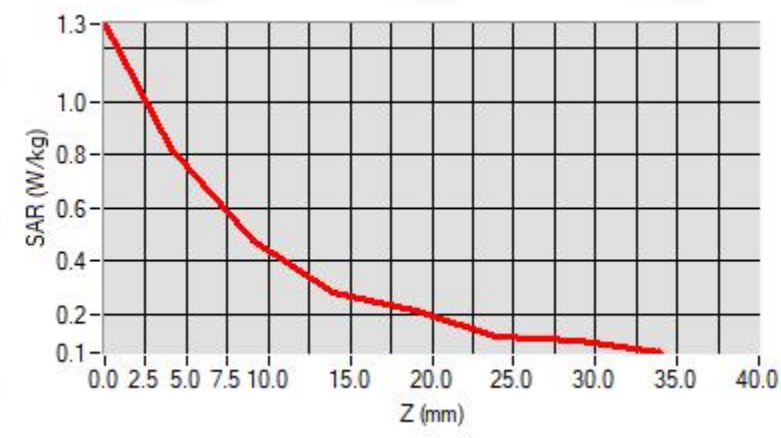
Maximum location: X=-9.00, Y=9.00 ; SAR Peak: 1.38 W/kg

D. SAR 1g & 10g

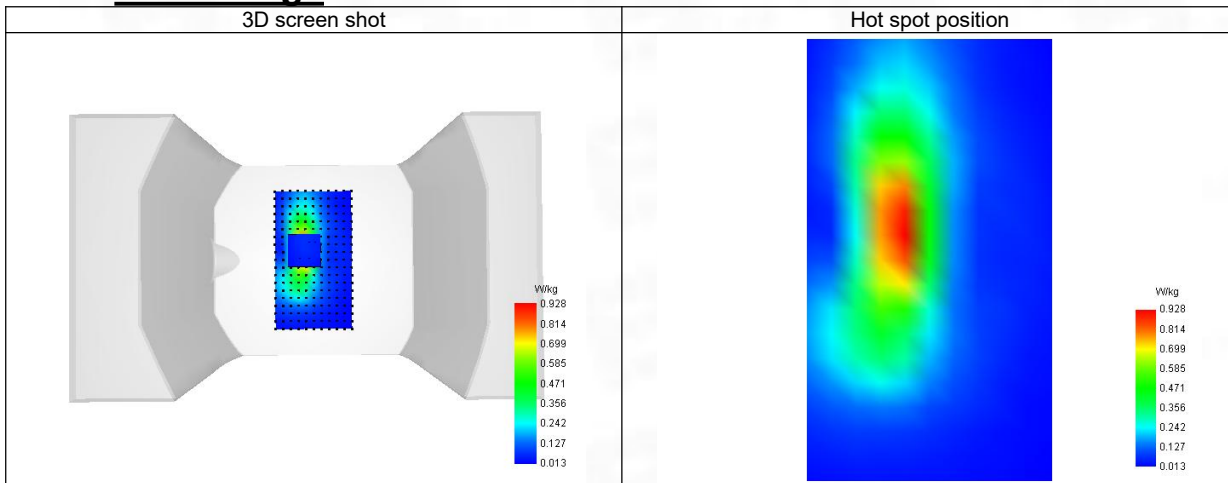
SAR 10g (W/Kg)	0.353
SAR 1g (W/Kg)	0.751
Variation (%)	-2.460
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	51.956678

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.294	0.828	0.478	0.279	0.212	0.117	0.101



F. 3D Image



3-Body with Top position in dist. 0mm on Channel 9538 in WCDMA Band 2

SAR Measurement at Band 2 (1900) (Body, Validation Plane)

Date of measurement: 6/9/2026

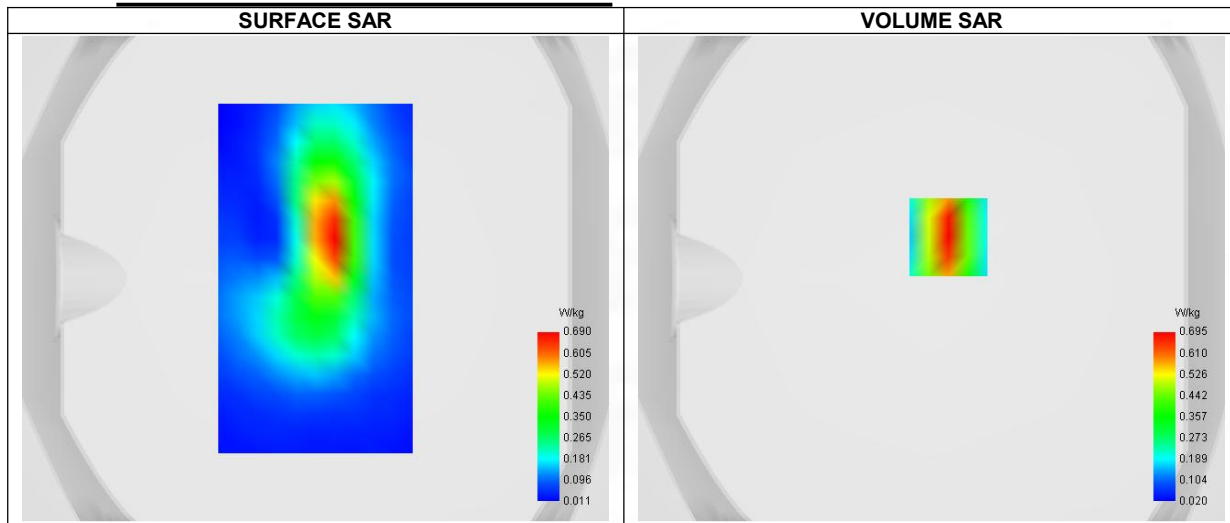
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.27
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Channels/Frequency	Higher (9538)/ frequency 1907.600 Mhz
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	1907.600
Relative permittivity (real part)	38.298
Relative permittivity (imaginary part)	13.110
Conductivity (S/m)	1.397

C. SAR Surface and Volume



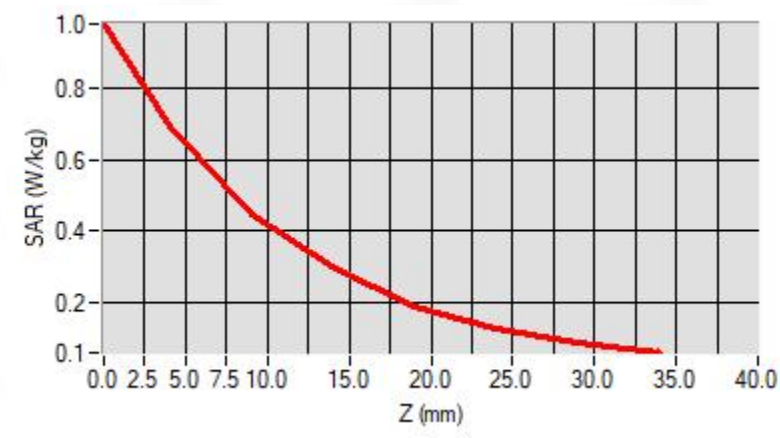
Maximum location: X=7.00, Y=17.00 ; SAR Peak: 1.01 W/kg

D. SAR 1g & 10g

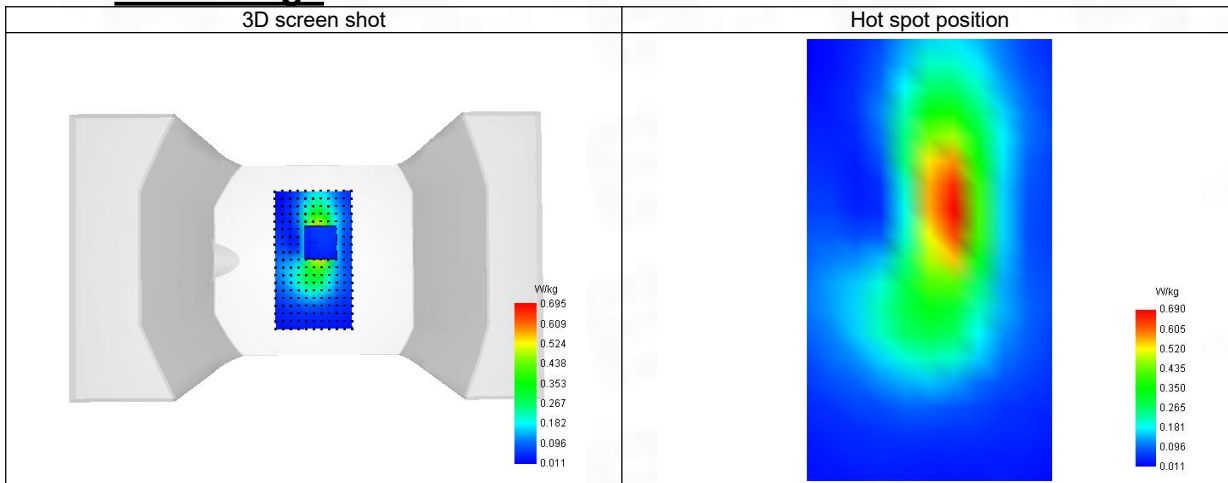
SAR 10g (W/Kg)	0.369
SAR 1g (W/Kg)	0.646
Variation (%)	-3.570
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	64.443593

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.978	0.695	0.448	0.301	0.192	0.129	0.088



F. 3D Image



4-Body with Top position in dist. 0mm on Channel 4132 in WCDMA Band 5

SAR Measurement at Band 5 (850) (Body, Validation Plane)

Date of measurement: 4/9/2026

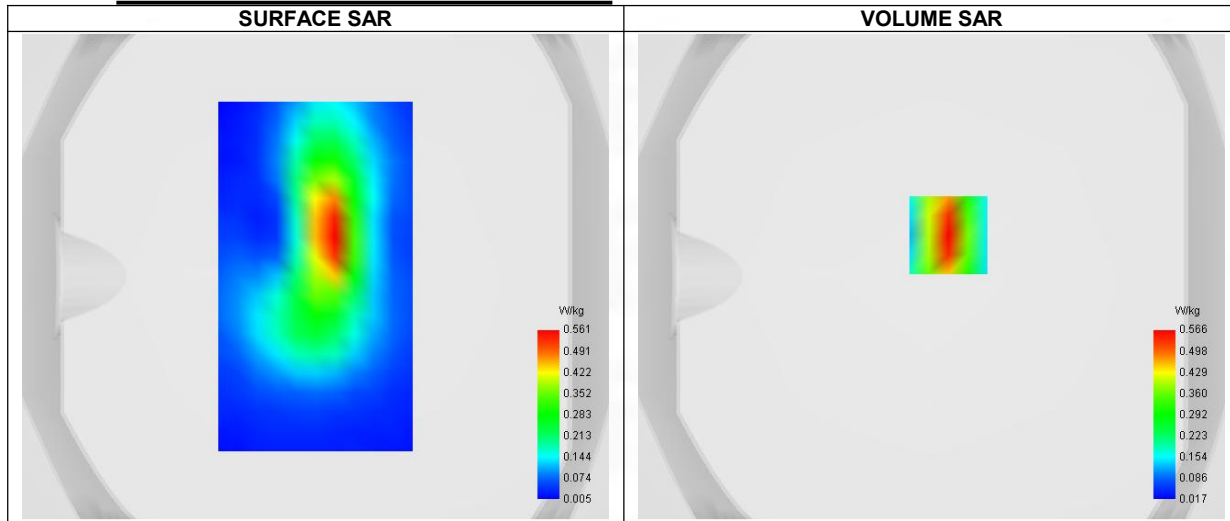
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.15
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Channels/Frequency	Lower (4132)/ frequency 826.400 Mhz
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Middle TX Frequency (MHz)	826.400
Relative permittivity (real part)	43.438
Relative permittivity (imaginary part)	20.039
Conductivity (S/m)	0.882

C. SAR Surface and Volume



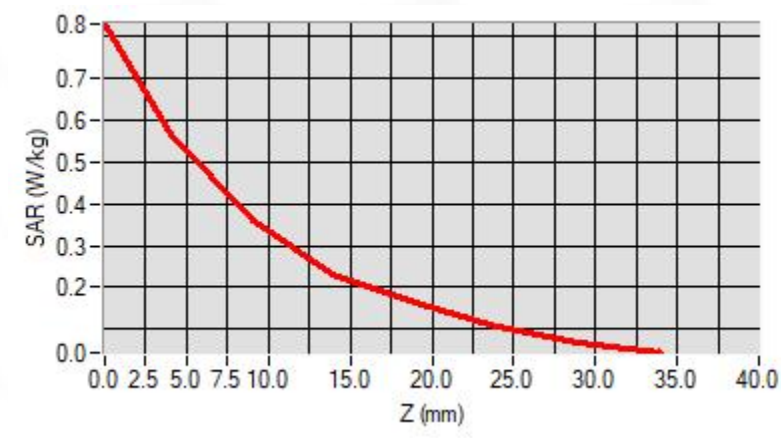
Maximum location: X=7.00, Y=17.00 ; SAR Peak: 0.82 W/kg

D. SAR 1g & 10g

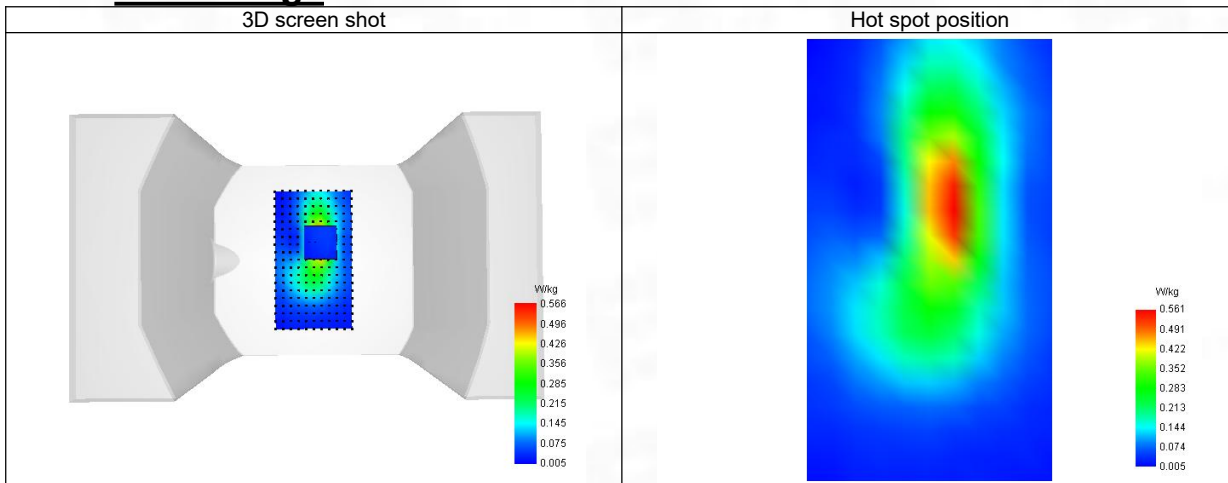
SAR 10g (W/Kg)	0.300
SAR 1g (W/Kg)	0.527
Variation (%)	4.810
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	63.678337

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.829	0.566	0.361	0.231	0.164	0.106	0.068



F. 3D Image



5-Body with Top position in dist. 0mm on Channel 18700 in LTE band 2

SAR Measurement at LTE band 2 (Body, Validation Plane)

Date of measurement: 6/9/2026

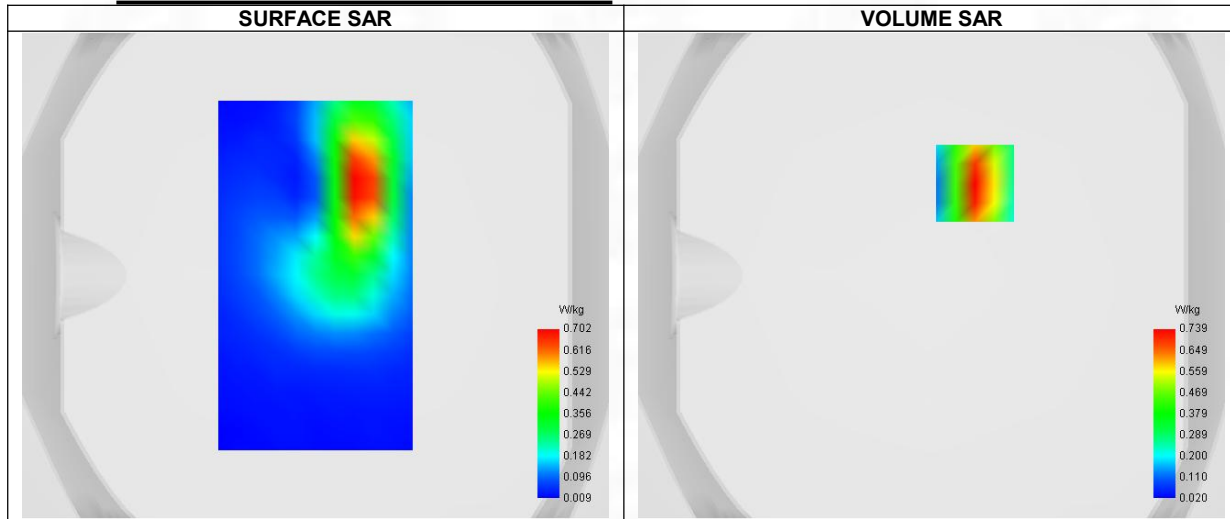
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.27
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels/Frequency	Lower (18700)/ frequency 1860.000 Mhz
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Middle TX Frequency (MHz)	1860.000
Relative permittivity (real part)	38.367
Relative permittivity (imaginary part)	13.287
Conductivity (S/m)	1.403

C. SAR Surface and Volume



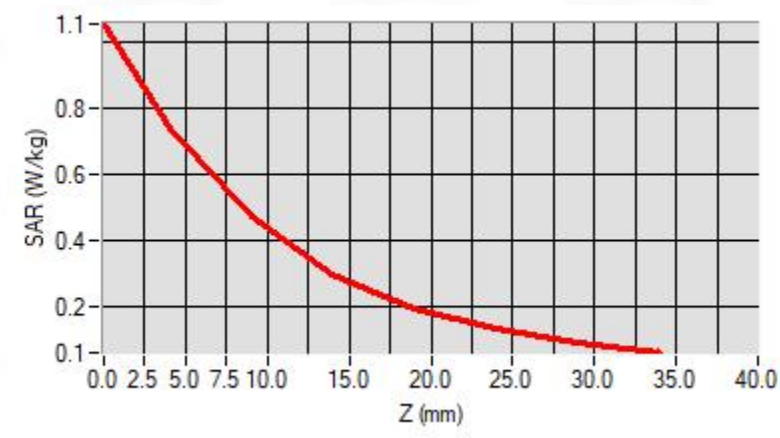
Maximum location: X=18.00, Y=38.00 ; SAR Peak: 1.07 W/kg

D. SAR 1g & 10g

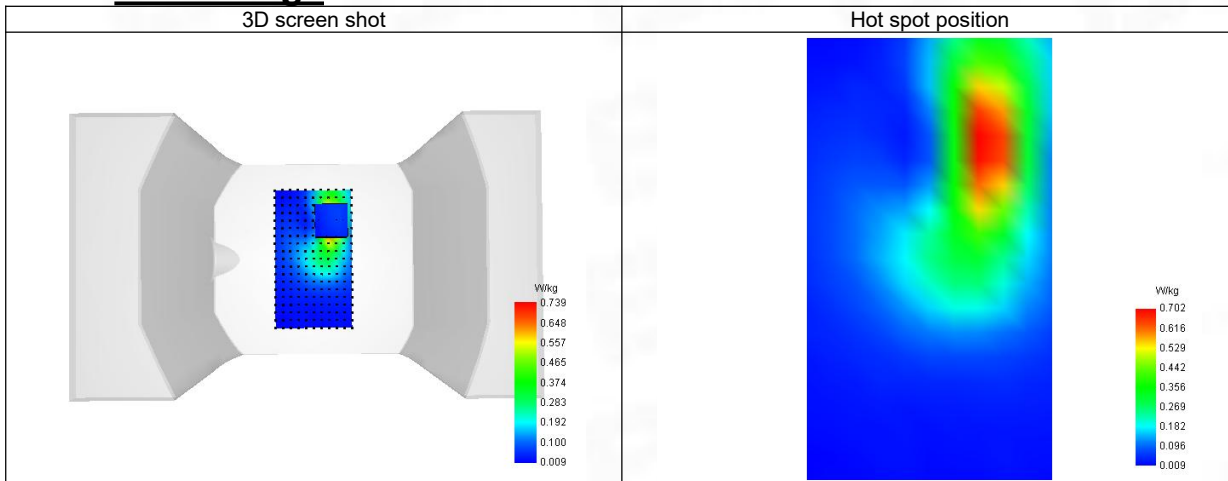
SAR 10g (W/Kg)	0.391
SAR 1g (W/Kg)	0.688
Variation (%)	-2.320
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	63.830342

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.055	0.739	0.472	0.296	0.195	0.137	0.091



F. 3D Image



6-Body with Top position in dist. 0mm on Channel 20300 in LTE band 4

SAR Measurement at LTE band 4 (Body, Validation Plane)

Date of measurement: 5/9/2026

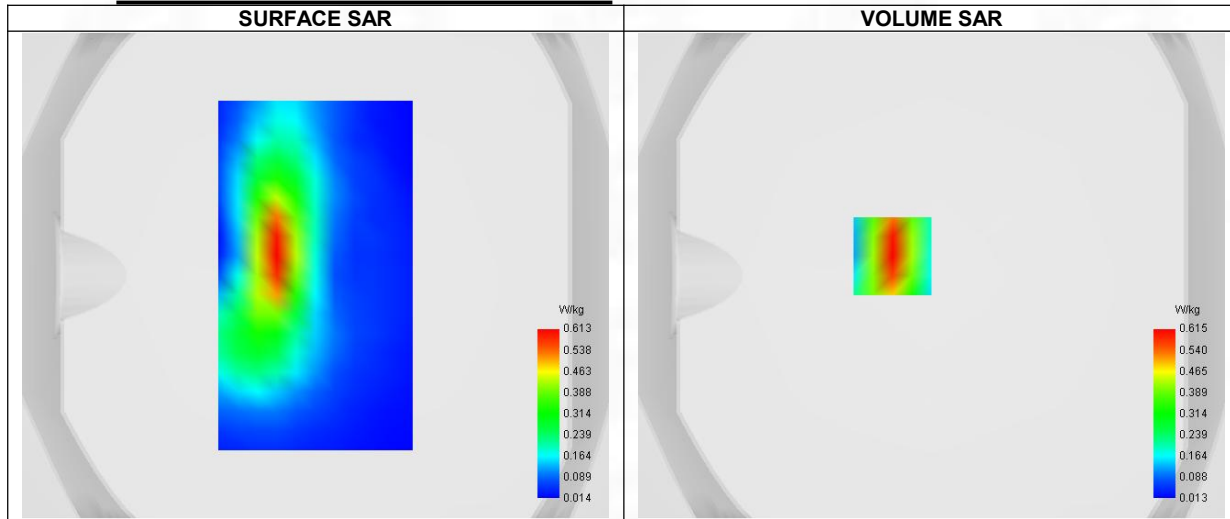
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	0.88
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels/Frequency	Higher (20300)/ frequency 1745.000 Mhz
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Middle TX Frequency (MHz)	1745.000
Relative permittivity (real part)	38.801
Relative permittivity (imaginary part)	13.929
Conductivity (S/m)	1.390

C. SAR Surface and Volume

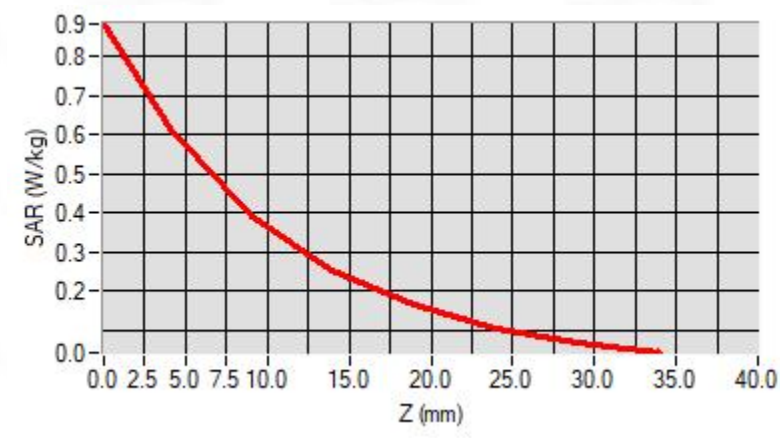


D. SAR 1g & 10g

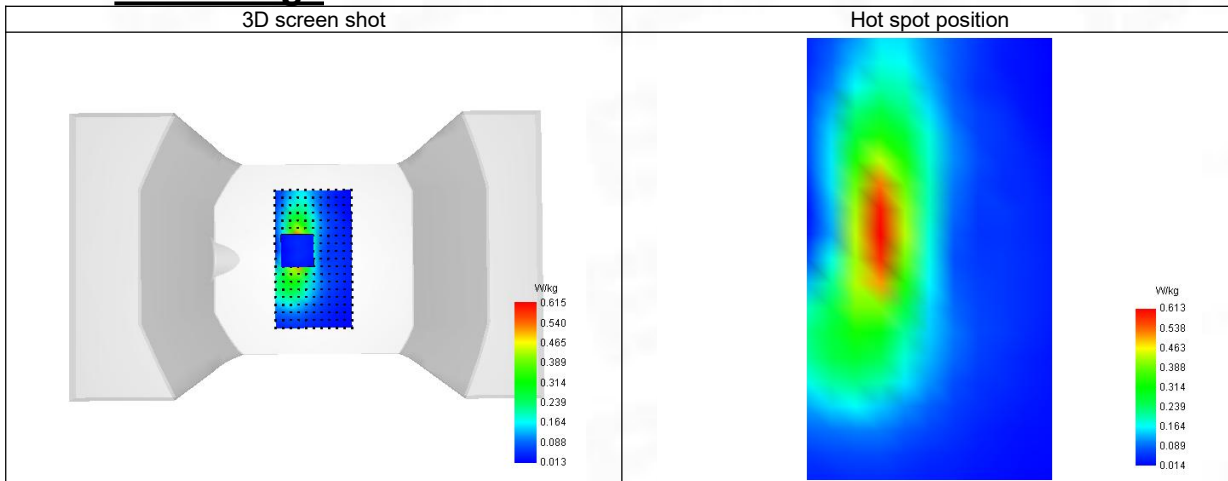
SAR 10g (W/Kg)	0.324
SAR 1g (W/Kg)	0.569
Variation (%)	-4.390
Horizontal validation criteria: minimum distance (mm)	16.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	63.466351

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.884	0.615	0.391	0.254	0.166	0.107	0.069



F. 3D Image



7-Body with Top position in dist. 0mm on Channel 6 in IEEE 802.11b ISM

SAR Measurement at ISM (Body, Validation Plane)

Date of measurement: 7/9/2026

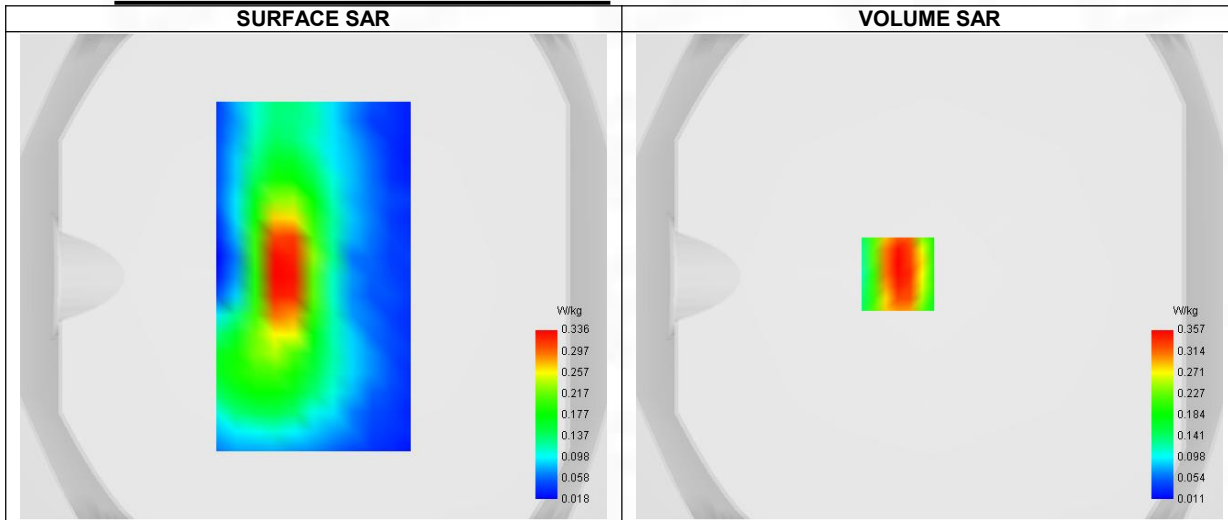
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.31
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x7, dx=5mm dy=5mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	ISM
Channels/Frequency	Middle (6)/ frequency 2437.000 Mhz
Signal	IEEE 802.11 b

B. Permittivity

Middle TX Frequency (MHz)	2437.000
Relative permittivity (real part)	40.660
Relative permittivity (imaginary part)	13.600
Conductivity (S/m)	1.814

C. SAR Surface and Volume

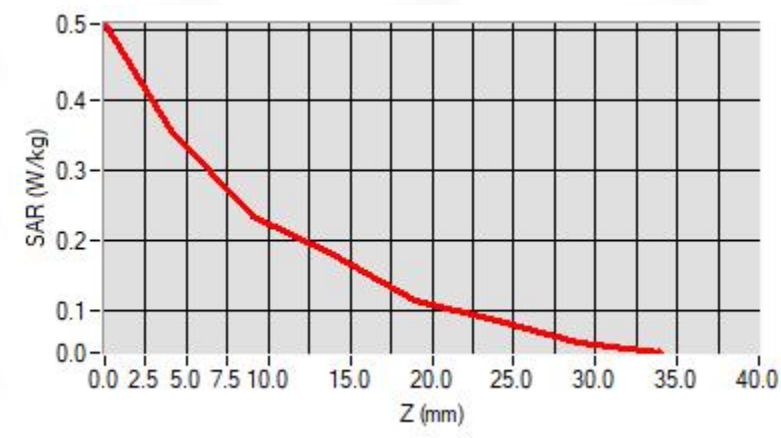


D. SAR 1g & 10g

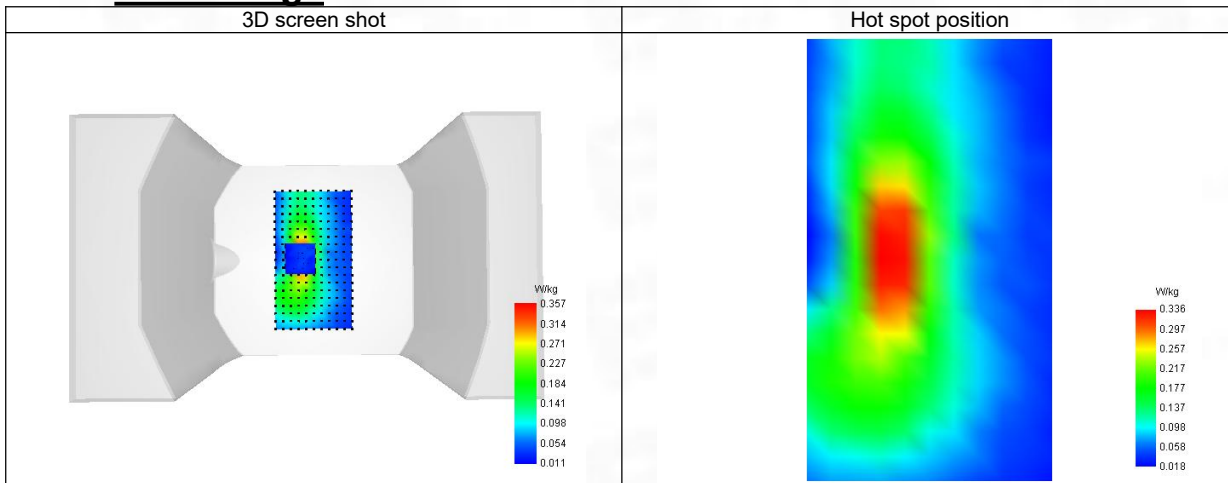
SAR 10g (W/Kg)	0.198
SAR 1g (W/Kg)	0.332
Variation (%)	-3.100
Horizontal validation criteria: minimum distance (mm)	15.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	70.091805

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.509	0.357	0.234	0.178	0.114	0.085	0.052



F. 3D Image



8-Body with Top position in dist. 0mm on Channel 38 in IEEE 802.11n U-NII

SAR Measurement at U-NII-1 (Body, Validation Plane)

Date of measurement: 10/9/2026

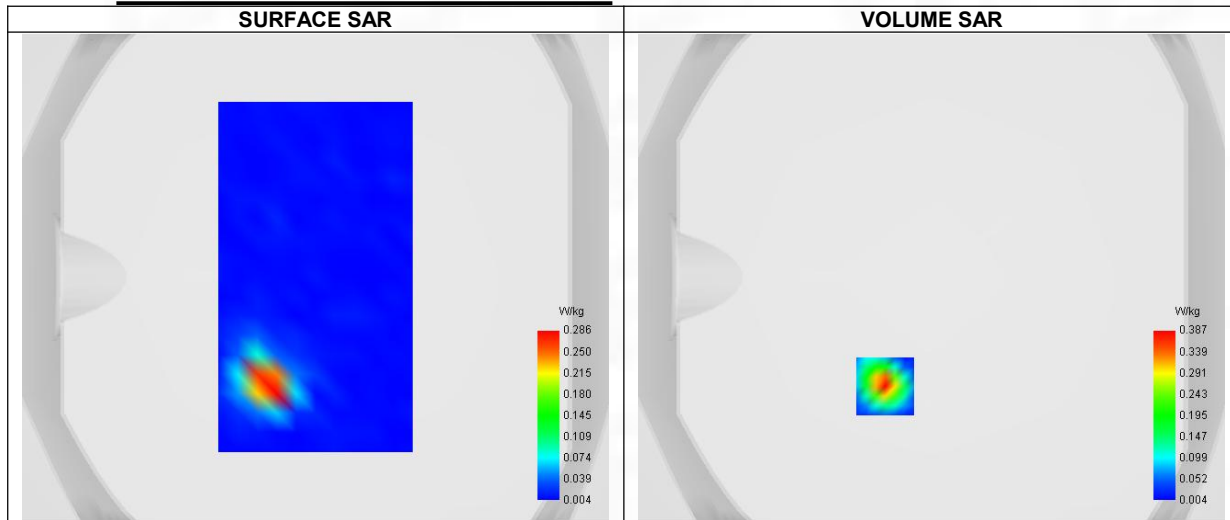
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.16
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm,Complete
Phantom	Validation plane
Device Position	Body
Band	U-NII-1
Channels/Frequency	Lower (38)/ frequency 5190.000 Mhz
Signal	IEEE 802.11 n

B. Permittivity

Middle TX Frequency (MHz)	5190.000
Relative permittivity (real part)	36.378
Relative permittivity (imaginary part)	14.850
Conductivity (S/m)	4.556

C. SAR Surface and Volume



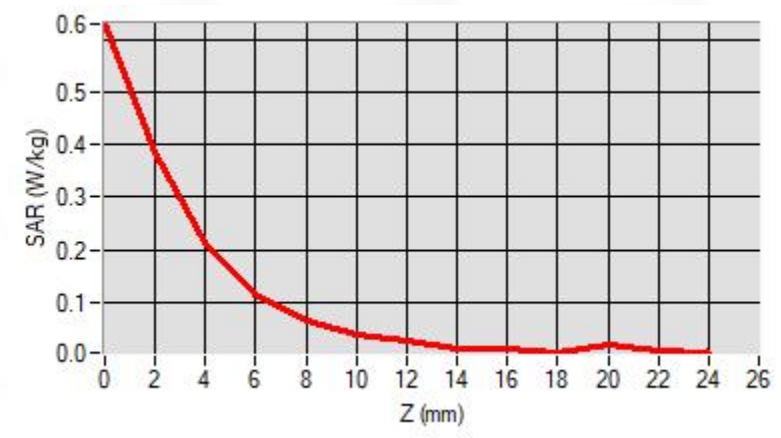
Maximum location: X=-19.00, Y=-45.00 ; SAR Peak: 0.65 W/kg

D. SAR 1g & 10g

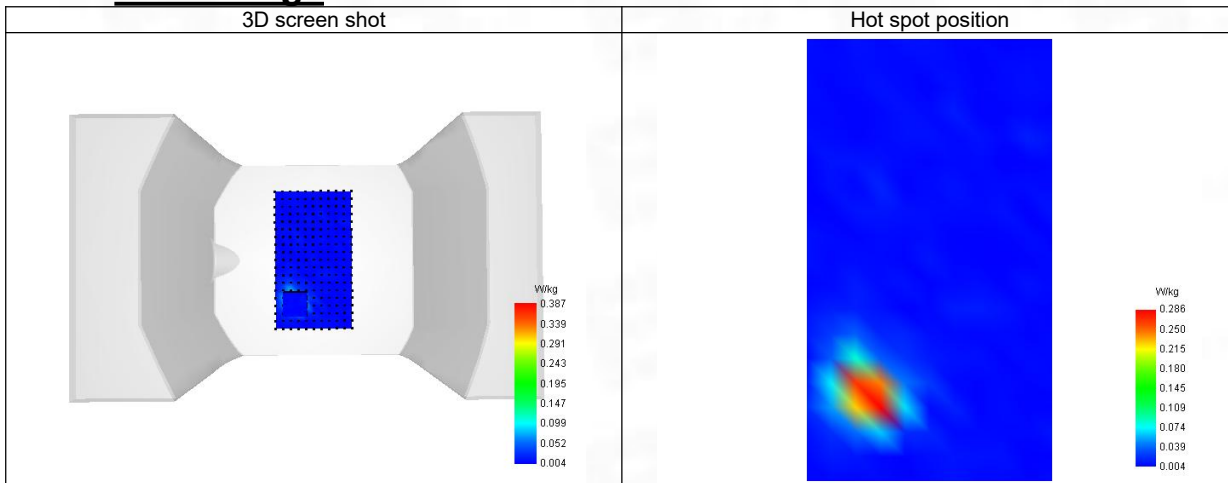
SAR 10g (W/Kg)	0.118
SAR 1g (W/Kg)	0.202
Variation (%)	-4.200
Horizontal validation criteria: minimum distance (mm)	8.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	55.097411

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.629	0.387	0.213	0.115	0.065	0.037	0.029	0.013	0.011	0.004	0.019	0.006



F. 3D Image



9-Body with Top position in dist. 0mm on Channel 155 in IEEE 802.11ac U-NII

SAR Measurement at U-NII-2 (Body, Validation Plane)

Date of measurement: 11/9/2026

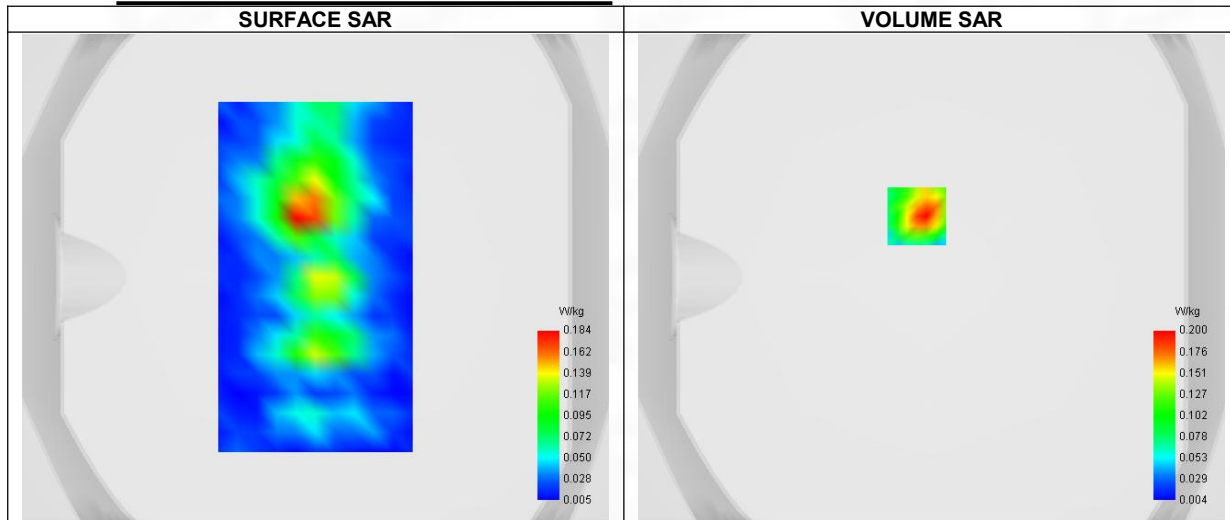
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.10
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm,Complete
Phantom	Validation plane
Device Position	Body
Band	U-NII-2
Channels/Frequency	Middle (155)/ frequency 5775.000 Mhz
Signal	IEEE 802.11 ac

B. Permittivity

Middle TX Frequency (MHz)	5775.000
Relative permittivity (real part)	35.049
Relative permittivity (imaginary part)	15.500
Conductivity (S/m)	5.122

C. SAR Surface and Volume



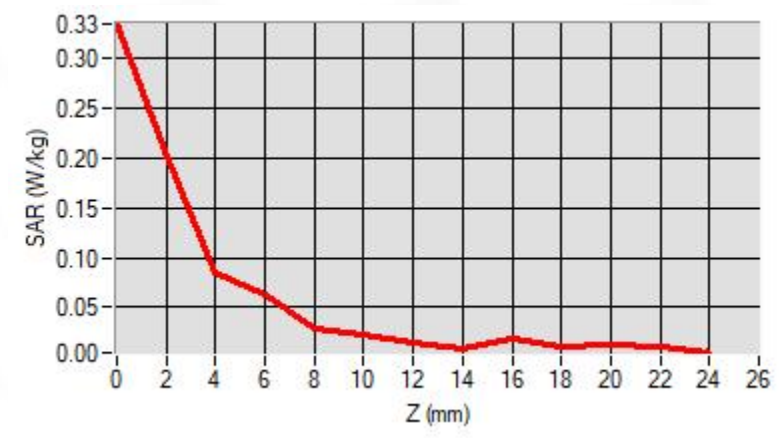
Maximum location: X=-6.00, Y=25.00 ; SAR Peak: 0.37 W/kg

D. SAR 1g & 10g

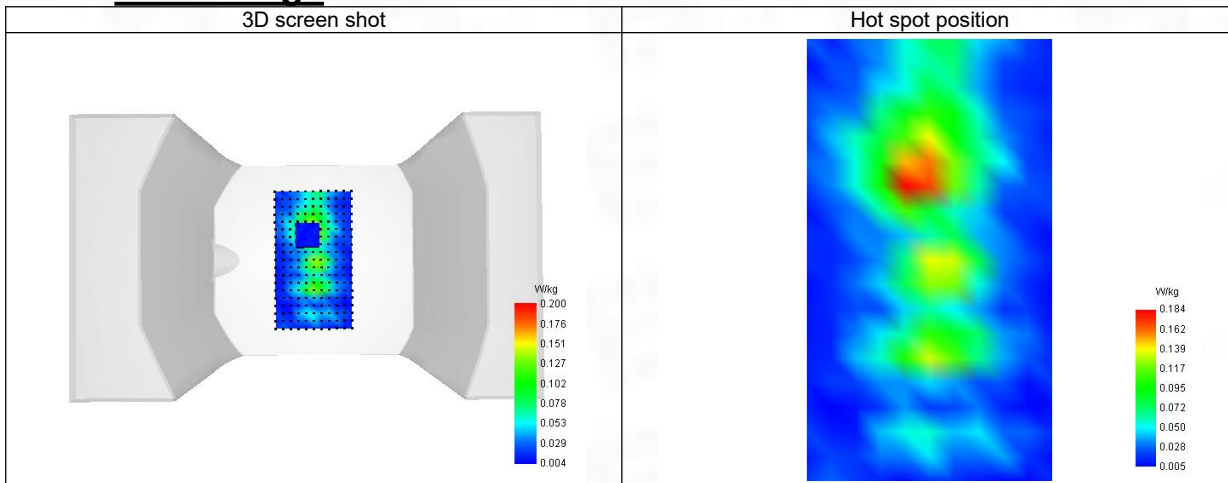
SAR 10g (W/Kg)	0.086
SAR 1g (W/Kg)	0.180
Variation (%)	2.040
Horizontal validation criteria: minimum distance (mm)	11.313708
Vertical validation criteria: SAR ratio M2/M1 (%)	51.816893

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.334	0.200	0.085	0.062	0.029	0.022	0.016	0.009	0.018	0.011	0.012	0.011



F. 3D Image



10-Body with Top position in dist. 0mm on Channel 39 in Bluetooth

SAR Measurement at Bluetooth (Body, Validation Plane)

Date of measurement: 7/9/2026

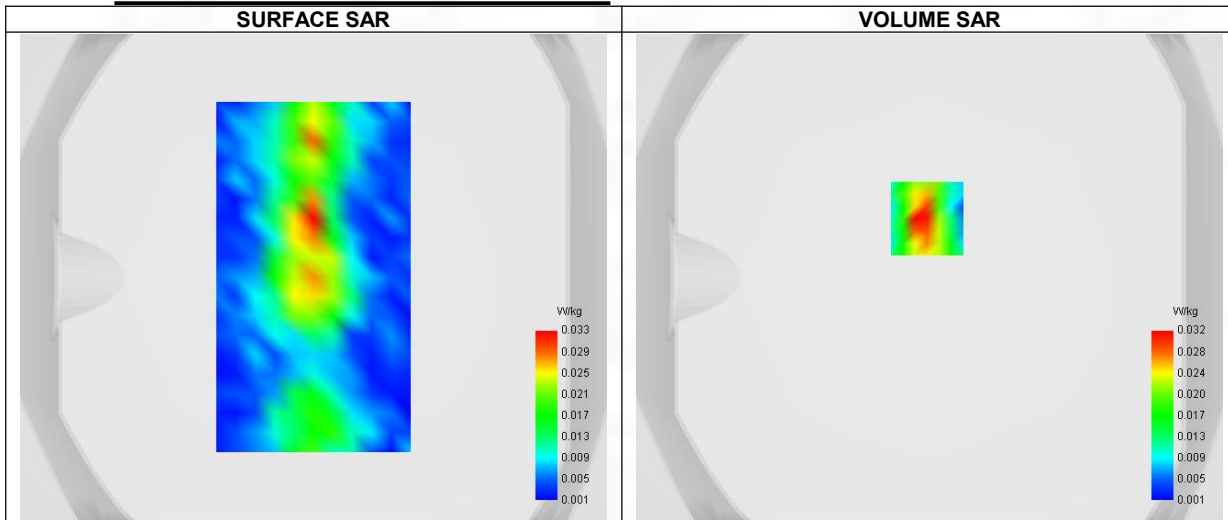
A. Experimental conditions.

Probe	0125-EPGO-445
ConvF	1.31
Area Scan	dx=8mm dy=8mm, Complete
Zoom Scan	7x7x7, dx=5mm dy=5mm dz=5.0mm, Complete
Phantom	Validation plane
Device Position	Body
Band	Bluetooth
Channels/Frequency	Middle (39)/ frequency 2441.000 Mhz
Signal	Bluetooth

B. Permittivity

Middle TX Frequency (MHz)	2441.000
Relative permittivity (real part)	40.678
Relative permittivity (imaginary part)	13.604
Conductivity (S/m)	1.817

C. SAR Surface and Volume



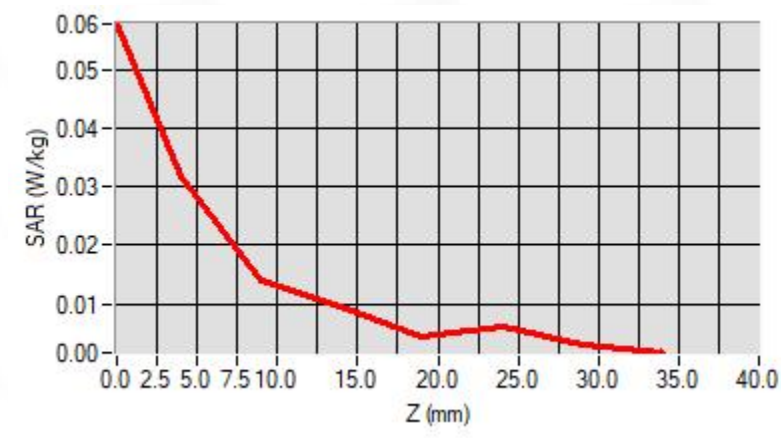
Maximum location: X=-1.00, Y=24.00 ; SAR Peak: 0.06 W/kg

D. SAR 1g & 10g

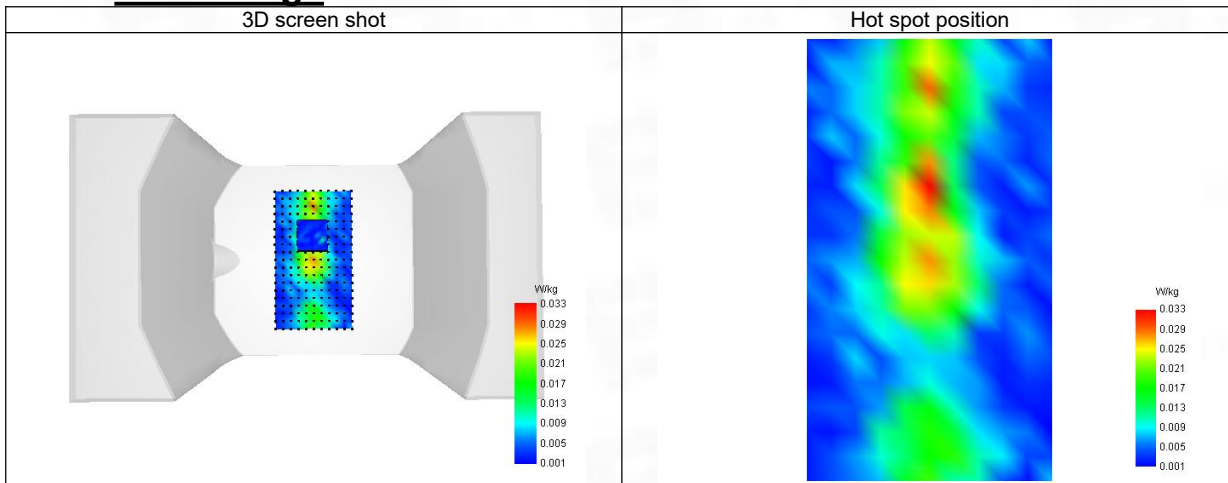
SAR 10g (W/Kg)	0.013
SAR 1g (W/Kg)	0.030
Variation (%)	3.420
Horizontal validation criteria: minimum distance (mm)	10.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	41.238757

E. Z Axis Scan

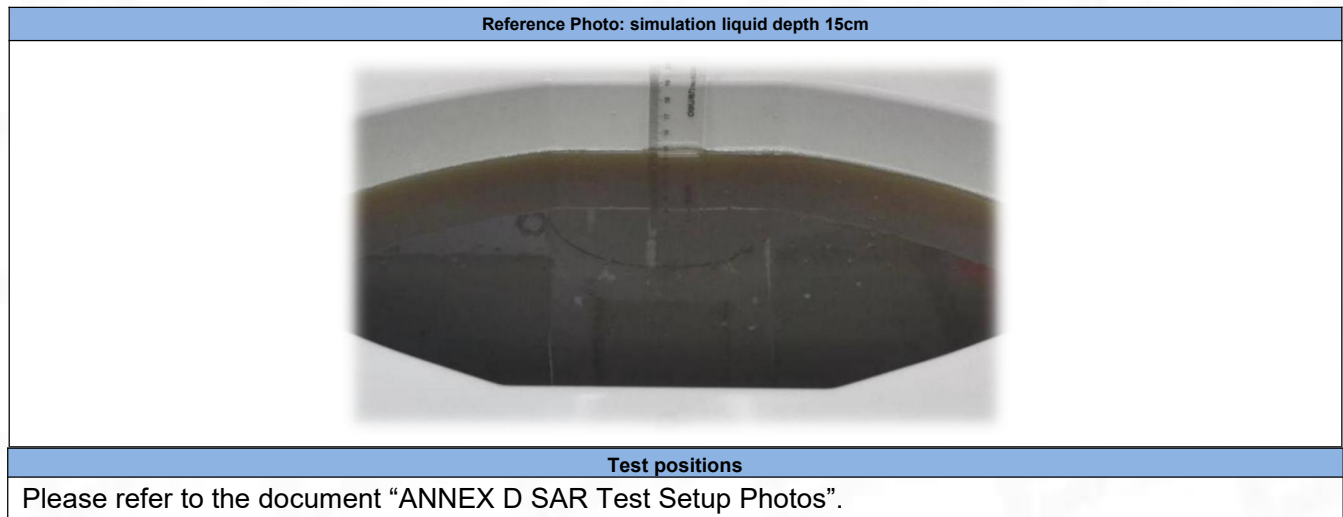
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.058	0.032	0.014	0.010	0.005	0.006	0.003



F. 3D Image



ANNEX D SAR Test Setup Photos



ANNEX E EUT External and Internal Photos

Please refer to EUT photo file number: BTF260831R00207 & BTF260831R00208.

ANNEX F Calibration Information

Please refer to the attached SAR calibration report.



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--END OF REPORT--