TEST REPORT

Report No.:	BCTC2504680066E
Applicant:	Shenzhen Baseus Technology Co., Ltd.
Product Name:	Mifi Power bank
Test Model:	PPMF-2067
Tested Date:	2025-07-21 to 2025-09-03
Issued Date:	2025-09-03

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2A482-PPMF2067

Product Name:	Mifi Power bank
Trademark:	baseus
Model/Type reference:	PPMF-2067
Prepared For:	Shenzhen Baseus Technology Co., Ltd.
Address:	2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen, China.
Manufacturer:	Shenzhen Baseus Technology Co., Ltd.
Address:	2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen, China.
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2025-04-27
Sample tested Date:	2025-07-21 to 2025-09-03
Issue Date:	2025-09-03
Test Standards:	IEEE Std C95.1-2019 IEEE Std 1528-2013 FCC Part 2.1093
Test Results:	PASS
Remark:	This is SAR test report

Tested by:

Min Zhi Cheng / Project Handler

Approved by:

Zero Zhou / Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2504680066E	2025-09-03	Original	Valid

2. Test Standards

IEEE Std C95.1-2019: IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0Hz to 300GHz. It specifies the maximum exposure limit of 1.6W/kg as averaged over any 1gram of tissue for portable devices being used within 20cm of the user in the uncontrolled environment.
IEEE Std 1528-2013: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
FCC Part 2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices
KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r04: SAR Measurement Requirements for 100MHz to 6GHz
KDB 865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations
KDB 248227 D01 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 941225 D01 3G SAR Procedures: 3G SAR MEAUREMENT PROCEDURES
KDB 941225 D05 SAR for LTE Devices: SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES
KDB 941225 D06 Hotspot Mode v02r01: SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
KDB 648474 D04 Handset SAR v01r03: SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS

3. Test Summary

The maximum results of Specific Absorption Rate (SAR) have found during testing are as follows:

Frequency Band	Maximum SAR_{1g} (W/kg)	Limit SAR_{1g} (W/kg)
	Body (5mm Gap)	
WIFI 2.4G	0.160	1.6
WIFI 5G	0.473	
WCDMA	0.741	
LTE	0.796	
Simultaneous Transmission	1.269	

The device in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2019, and had been tested in accordance with the measurement methods and procedure specified in IEEE 1528-2013.

Explanation: During the Body test, the EUT is in the Hostpot mode.

4. SAR Limits

Exposure Limits	SAR (W/kg)	
	General Population	Occupational
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (Averaged over any 1g of tissue)	1.6	8.0
Spatial Peak (Hand/wrist/foot/ankle average over 10g)	4.0	20.0

General Population: Uncontrolled Environments are defined as locations where there is the exposure of individual 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).

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is <3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k=2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6. Product Information and Test Setup

6.1 Product Information

Model/Type reference:	PPMF-2067
Model differences:	N/A
Hardware Version:	AB300-MB-V0.3
Software Version:	MOCOR_20A_UIS8310_W24.48.7
Model/Type reference:	PPMF-2067
Ratings:	USB-C1/USB-C2 Input: 5V⎓3A;9V⎓3A;12V⎓3A;15V⎓3A;20V⎓3.25A USB-C1/USB-C2 Output: 5V⎓3A;9V⎓3A;10V⎓2.25A;12V⎓3A;15V⎓3A;20V⎓3.35A USB-A Output: 5V⎓ 3A;9V⎓ 2A;12V⎓ 1.5A;10V⎓2.25A;11V⎓3A Total: 5V⎓3A Battery: 5000mAh 14.6V/73Wh(4 sets of 5000mAh batteries connected in series)
WIFI 2.4G	
Operation Frequency:	802.11b/g/n20/ax20MHz:2412~2462 MHz 802.11n40/ax40MHz:2422~2452 MHz
Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n Up to 150Mbps 802.11ax Up to 240Mbps
Type of Modulation:	OFDM/DSSS/OFDMA
Number Of Channel	802.11b/g/n20/ax20MHz:11 CH 802.11n40/ax40MHz: 7 CH
Antenna installation:	Internal antenna
Antenna Gain:	2.4 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.

WIFI 5G

IEEE 802.11 WLAN Mode Supported	802.11a/n/ac/ax(20MHz channel bandwidth) 802.11n/ac/ax(40MHz channel bandwidth) 802.11ac/ax(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20)/ac(HT20)/ax(HT20); 5190-5230MHz for 802.11n(HT40)/ac(HT40)/ax(HT40); 5210MHz for 802.11 ac(HT80)/ax(HT80); 5260-5320MHz for 802.11a/n(HT20)/ac(HT20)/ax(HT20); 5270-5310MHz for 802.11n (HT40)/ac(HT40)/ax(HT40); 5290MHz for 802.11 ac(HT80)/ax(HT80); 5500-5700MHz for 802.11a/n(HT20)/ac(HT20)/ax(HT20); 5410-5670MHz for 802.11n (HT40)/ac(HT40)/ax(HT40); 5530-5610MHz for 802.11 ac(HT80)/ax(HT80); 5745-5825 MHz for 802.11a/n(HT20)/ac(HT20)/ax(HT20); 5755-5795 MHz for 802.11n(HT40)/ac(HT40)/ax(HT40); 5775MHz for 802.11 ac(HT80)/ax(HT80);
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac/ax(VHT20): NSS1, MCS0-MCS8 802.11ac/ax(VHT40/VHT80):NSS1, MCS0-MCS11
Type of Modulation:	OFDM/OFDMA
Antenna installation:	Internal antenna
Antenna Gain:	3.92 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.

3G

Operation Frequency:	WCDMA Band II: TX: 1852.40~1907.60MHz; Rx: 1932.60~1987.40MHz; WCDMA Band V: TX: 826.40~846.60MHz; RX: 871.40~ 891.60MHz;
Max RF Output Power:	WCDMA Band II: 22.98 dBm WCDMA Band V: 23.37 dBm
Type of Modulation:	WCDMA Mode with BPSK Modulation HSDPA Mode with QPSK, 16QAM Modulation HSUPA Mode with QPSK, 16QAM Modulation
Type of Emission:	WCDMA Band II: 4M16F9W WCDMA Band V: 4M15F9W
Antenna installation:	Internal antenna
Antenna Gain:	WCDMA Band II: 1.95 dBi WCDMA Band V: -1.92 dBi Remark: ☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. ☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.

4G

Tx Frequency:	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500MHz-2570MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777MHz~787MHz LTE Band 17: 704MHz ~ 716MHz LTE Band 25: 1850MHz~1915MHz LTE Band 26: 814MHz ~ 824MHz 824MHz ~ 849MHz LTE Band 66: 1710MHz ~ 1780MHz
Rx Frequency:	LTE Band 2: 1930 MHz ~ 1990 MHz LTE Band 4: 2110 MHz ~ 2155 MHz LTE Band 5: 869 MHz ~ 894 MHz LTE Band 7: 2620MHz ~ 2690MHz LTE Band 12: 729 MHz ~ 746 MHz LTE Band 13: 746MHz~756MHz LTE Band 17: 734MHz ~ 746MHz LTE Band 25: 1930MHz~1995MHz LTE Band 26: 859MHz ~ 869MHz 869MHz ~ 894MHz LTE Band 66: 2110MHz ~ 2200MHz
Bandwidth:	LTE Band 2: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz LTE Band 4: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz LTE Band 5: 1.4MHz /3MHz /5MHz /10MHz LTE Band 7: 5MHz /10MHz /15MHz /20MHz LTE Band 12: 1.4MHz /3MHz /5MHz /10MHz LTE Band 13: 5MHz /10MHz LTE Band 17: 5MHz /10MHz LTE Band 25: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz LTE Band 26: 1.4MHz /3MHz /5MHz /10MHz 1.4MHz /3MHz /5MHz /10MHz /15MHz LTE Band 66: 1.4MHz /3MHz /5MHz /10MHz /15MHz /20MHz
The Max RF Output Power (EIRP/ERP)	LTE Band 2: 27.12 dBm LTE Band 4: 27.26 dBm LTE Band 5: 21.06 dBm LTE Band 7: 25.67 dBm LTE Band 12: 20.96 dBm LTE Band 13: 21.01 dBm LTE Band 17: 20.48 dBm LTE Band 25: 27.18 dBm LTE Band 26: 21.57 dBm 21.36 dBm LTE Band 66: 27.26 dBm
99% Occupied Bandwidth:	LTE Band 2: 18M1W7D LTE Band 4: 18M0W7D LTE Band 5: 9M03G7D LTE Band 7: 18M0W7D LTE Band 12: 9M04G7D LTE Band 13: 9M03G7D LTE Band 17: 9M03G7D LTE Band 25: 18M1W7D LTE Band 26: 9M09G7D 13M5G7D LTE Band 66: 18M1W7D
Type of Modulation:	QPSK/16QAM

Antenna Type:	Internal Antenna
Antenna Gain:	LTE Band 2: 1.95 dBi LTE Band 4: 2.14 dBi LTE Band 5: -1.92 dBi LTE Band 7: 1.25 dBi LTE Band 12: -1.92 dBi LTE Band 13: -1.92 dBi LTE Band 17: -2.4 dBi LTE Band 25: 1.95 dBi LTE Band 26: -1.92 dBi LTE Band 66: 2.14dBi

Remark:

☒ The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information.

☐ The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.

6.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

6.3 Support Equipment

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	--	--	Applicant	---	Yes/No	--
2	--	--	BCTC	--	Yes/No	--

No.	Device Type	Brand	Model	Series No.	Note
1.	---	---	---	---	---
2.	--	--	--	--	--

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

6.4 Test Environment

1. Normal Test Conditions:

Humidity(%):	35-75
Atmospheric Pressure(kPa):	95-105
Temperature(℃):	18-25

2. Extreme Test Conditions:
N/A

7. Test Facility and Test Instrument Used

7.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850
A2LA certificate registration number is: CN1212
ISED Registered No.: 23583
ISED CAB identifier: CN0017

7.2 Test Instrument Used

Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
PC	DELL	\	\	N/A	N/A
SAR Measurement system	SATIMO	\	\	N/A	N/A
Signal Generator	Keysight	N5182B	MY56200519	May 16, 2024	May 15, 2025
Multimeter	Keithley	1160271	\	Nov 10, 2024	Nov 09, 2025
Network Analyzer	R&S	ZVB 8	101353	May 16, 2024	May 15, 2025
Wideband Radio Communication Tester	R&S	CMW500	\	Nov 10, 2024	Nov 09, 2025
E SAR PROBE 6GHz	MVG	SSE2	2623-EPGO-420	July 18, 2025	July 17, 2026
DIPOLE 750	SATIMO	SID 750	SN 47/21 DIP 0G750-620	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 835	SATIMO	SID 835	SN 47/21 DIP 0G835-621	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 1800	SATIMO	SID 1800	SN 47/21 DIP 1G800-623	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 1900	SATIMO	SID 1900	SN 47/21 DIP 1G900-624	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 2450	SATIMO	SID 2450	SN 47/21 DIP 2G450-627	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 2600	SATIMO	SID 2600	SN 47/21 DIP 2G600-628	Nov. 25, 2024	Nov. 24, 2027
DIPOLE 5000	SATIMO	SID 5000	SN 47/21 DIP 5G000-629	Nov. 25, 2024	Nov. 24, 2027
COMOSAR OPEN Coaxial Probe	SATIMO	\	\	Nov 18, 2024	Nov 17, 2025
SAR Locator	SATIMO	\	\	Nov 18, 2024	Nov 17, 2025
Communication Antenna	SATIMO	\	\	Nov 18, 2024	Nov 17, 2025
FEATURE PHONEPOSITIONING DEVICE	SATIMO	\	\	N/A	N/A
DUMMY PROBE	SATIMO	\	\	N/A	N/A
SAM Phantom	MVG	\	SN 13/09 SAM68	N/A	N/A
Liquid measurement Kit	HP	85033D	3423A08186	N/A	N/A
Power meter	Keysight	E4419	A00065	May 14, 2025	May 13, 2026
Power sensor	Keysight	E9300A	US39211659	May 14, 2025	May 13, 2026
Power sensor	Keysight	E9300A	US39211305	May 14, 2025	May 13, 2026
Directional Coupler	Krytar 158020	131467	\	N/A	N/A
Thermometer	BTE	\	\	N/A	N/A
Broad Band Tissue Simulation Liquid	Schmid	\	\	N/A	N/A

Note:
Per KDB865664D01 requirements for dipole calibration, the test laboratory has adopted three year extended calibration interval. Each measured dipole is expected to evalute with following criteria at least on annual interval.

1. There is no physical damage on the dipole;
2. System check with specific dipole is within 10% of calibrated values;
3. The most recent return-loss results, measued at least annually, deviates by no more than 20% from the previous measurement;
4. The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the provious measurement.

8. Specific Absorption Rate (SAR)

8.1 Introduction

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 techiques 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.

8.2 SAR Definition

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

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where: C is the specific heat capacity, δ T is the temperature rise and δ t is the exposure duration, or related to the

electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

9. SAR Measurement System

9.1 The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:
- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

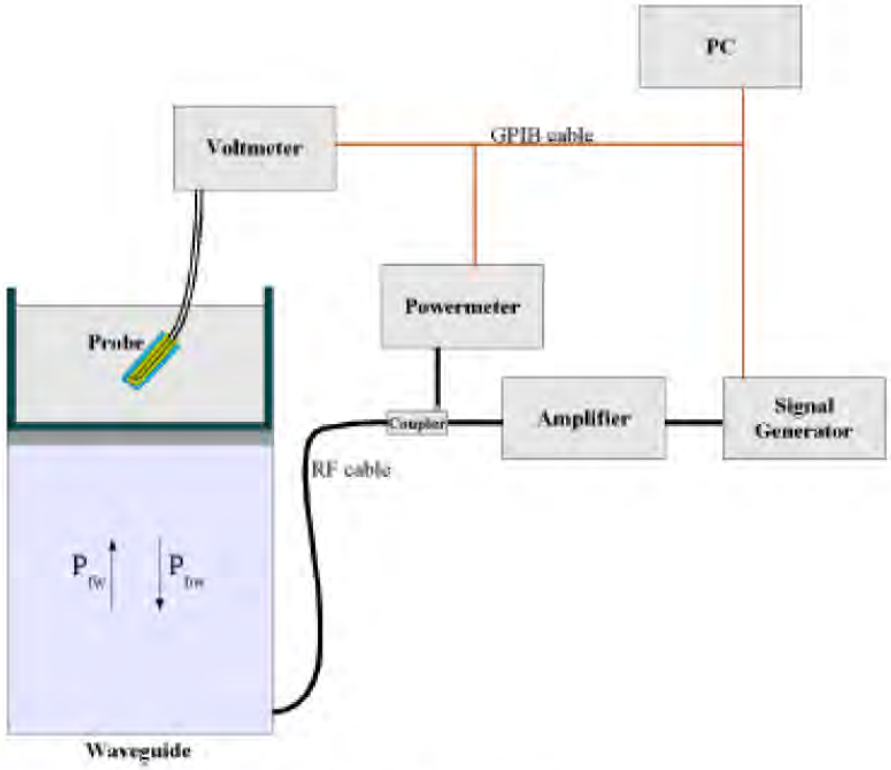
The following figure shows the system.

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

9.2 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 26/23 EPGO420 with following specifications is used
- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 5 mm
- Distance between probe tip and sensor center: 2.10mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm)
- Probe linearity: ＜0.25 dB
- Axial Isotropy: ＜0.25 dB
- Spherical Isotropy: ＜0.50 dB
- Calibration range: 835 to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and surface normal line:1ess than 30°
Probe calibration is realized, in compliance with EN 62209-1 and IEEE 1528 STD, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1 annex technique using reference guide at the five frequencies.



$$SAR = \frac{4(p_{\int w} - p_{Pbw})}{ab\delta} cos^2 \left(\pi \frac{y}{a}\right) c^{(2\pi/\delta)}$$

Where :
Pfw = Forward Power
Pbw = Backward Power
a and b =Waveguide dimensions
l = Skin depth

Keithley configuration:
Rate = Medium; Filter = ON; RDGS = 10; Filter type = Moving Average; Range auto after each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

CF(N)=SAR(N)/Vlin(N) (N=1,2,3)

The linearised output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

Vlin(N)=V(N)*(1+V(N)/DCP(N)) (N=1,2,3)

where DCP is the diode compression point in mV.

9.3 Probe Calibration Process

Dosimetric Assessment Procedure
Each E-Probe/Probe Amplifier combination has unique calibration parameters. SATIMO Probe calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm2) using an with CALISAR, Antenna proprietary calibration system.

Free Space Assessment Procedure
The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1mW/cm2.

Temperature Assessment Procedure
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated head tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where:
Δt = exposure time (30 seconds),
C = heat capacity of tissue (brain or muscle),
ΔT = temperature increase due to RF exposure.

SAR is proportional to $\Delta T/\Delta t$, the initial rate of tissue heating, before thermal diffusion takes place. The electric field in the simulated tissue can be used to estimate SAR by equating the thermally derived SAR to that with the E- field component.

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

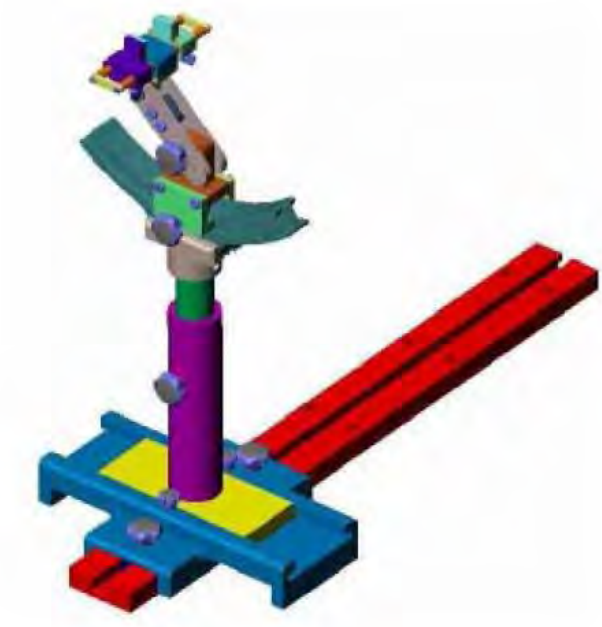
Where:
σ = simulated tissue conductivity,
ρ = Tissue density (1.25 g/cm3 for brain tissue)

9.4 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.

9.5 Device Holder

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
Delrin	3.7	0.005

10. Tissue Simulating Liquids

10.1 Composition of Tissue Simulating Liquid

For the measurement of the field distribution inside the SAM phantom with SMTIMO, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. 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. Please see the following photos for the liquid height.

Liquid Height for Body SAR

The Composition of Tissue Simulating Liquid

Frequency (MHz)	Water (%)	Salt (%)	1,2-Propane diol (%)	HEC (%)	Preventol (%)	DGBE (%)
Head/Body						
835	40.3	1.4	57.9	0.2	0.2	0
900	40.3	1.4	57.9	0.2	0.2	0
1800-2000	55.2	0.3	0	0	0	44.5
2450	55.0	0.1	0	0	0	44.9
2600	54.9	0.1	0	0	0	45.0

Frequency (MHz)	Water (%)	Hexyl Carbitol (%)	Triton X-100 (%)
Head/Body			
5000-6000	65.52	17.24	17.24

10.2 Limit

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters

computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Target Frequency (MHz)	Head	
	Conductivity (σ)	Permittivity (ε_r)
150	0.76	52.3
300	0.87	45.3
450	0.87	43.5
750	0.89	41.9
835	0.90	41.5
900	0.97	41.5
915	0.98	41.5
1450	1.20	40.5
1610	1.29	40.3
1800-2000	1.40	40.0
2450	1.80	39.2
2600	1.96	39.0
3000	2.40	38.5
5200	4.66	36.0
5400	4.86	35.8
5600	5.07	35.5
5800	5.27	35.3

10.3 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an R&S ZVB 8. Dielectric Probe Kit and an Agilent Network Analyzer.

Calibration Result for Dielectric Parameters of Tissue Simulating Liquid

Frequency (MHz)	Target		Measured		Deviation		Limit	Air (°C)	Date
	(σ)	(ε_r)	(σ)	(ε_r)	(σ)	(ε_r)			
750	0.89	41.90	0.895	40.402	0.56	-3.58	±5	23.4	30/7/2025
835	0.90	41.50	0.888	43.104	-1.33	3.87	±5	23.4	30/7/2025
1800	1.40	40.00	1.462	40.334	4.43	0.84	±5	23.2	29/7/2025
1900	1.40	40.00	1.376	39.324	-1.71	-1.69	±5	23.2	29/7/2025
2450	1.80	39.20	1.752	37.597	-2.67	-4.09	±5	23.4	28/7/2025
2600	1.96	39.00	1.911	38.327	-2.50	-1.73	±5	23.2	29/7/2025
5200	4.66	36.00	4.545	34.548	-2.47	-4.03	±5	23.4	28/7/2025
5400	4.86	35.80	4.792	35.862	-1.40	0.17	±5	23.4	28/7/2025
5600	5.07	35.50	4.890	36.298	-3.55	2.25	±5	23.4	28/7/2025
5800	5.27	35.30	5.245	35.324	-0.47	0.07	±5	23.4	28/7/2025

Remark:

1. The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.
2. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

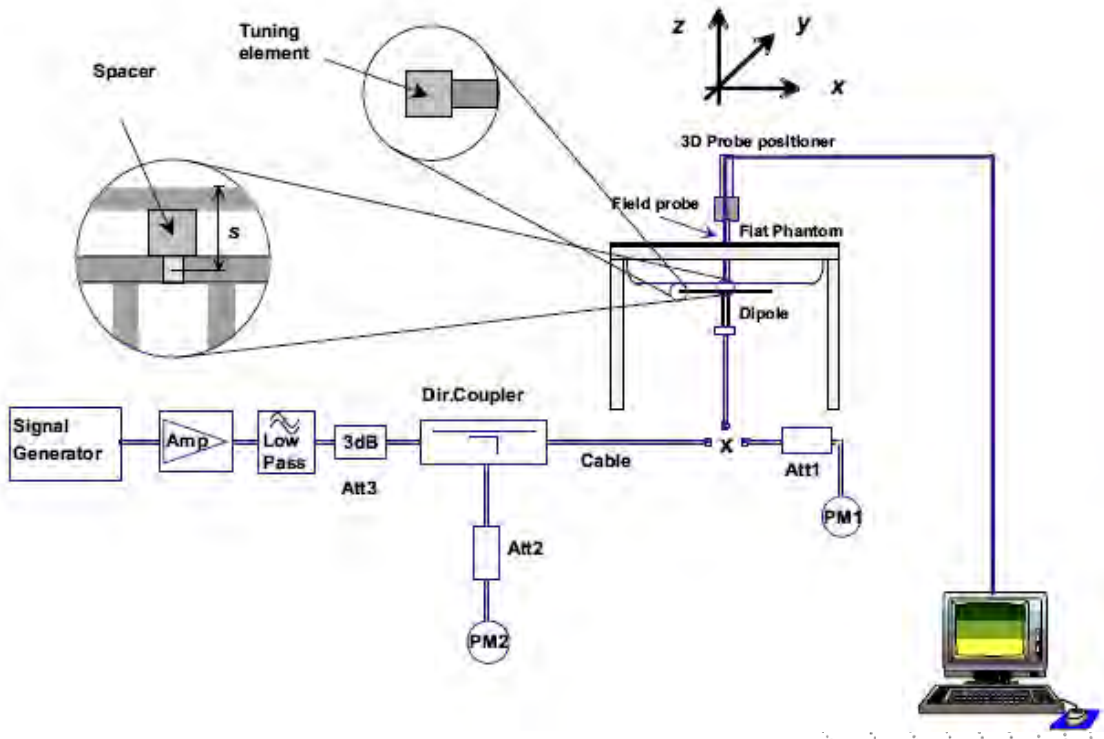
11. System Check

11.1 Purpose of System Performance Check

At the device test frequencies. System check verifies the measurement repeatability of a SAR system before compliance testing and is not a validation of all system specifications. The latter is not required for testing a device but is mandatory before the system is deployed. The system check detects possible short-term drift and unacceptable measurement errors or uncertainties in the system.

11.2 System Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator at frequency 600MHz-6000MHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The output power on dipole port must be calibrated to 20 dBm (100 mW) before dipole is connected.



System Verification Setup Block Diagram

Setup Photo of Dipole Antenna

11.3 Validation Results

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %. The following table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion.

Frequency (MHz)	Power	Measured SAR_{1g}(W/Kg)	Measured Normalized	Target Normalized	Drift	Limit	Liquid (°C)	Date
750	250mW	2.046	8.182	8.58	-4.64	±10	23.2	30/7/2025
835	250mW	2.614	10.455	10.01	4.45	±10	23.2	30/7/2025
1800	250mW	9.420	37.678	39.74	-5.19	±10	23.3	29/7/2025
1900	250mW	10.430	41.718	41.26	1.11	±10	23.3	29/7/2025
2450	250mW	13.573	54.293	55.16	-1.57	±10	23.1	28/7/2025
2600	250mW	13.846	55.384	56.50	-1.98	±10	23.3	29/7/2025
5200	250mW	18.201	72.802	76.41	-4.72	±10	23.1	28/7/2025
5400	250mW	19.329	77.315	80.52	-3.98	±10	23.1	28/7/2025
5600	250mW	20.501	82.002	79.08	3.69	±10	23.1	28/7/2025
5800	250mW	19.842	79.369	76.49	3.76	±10	23.1	28/7/2025

12. EUT Testing Position

Body-supported Device

Other devices that fall into this category include tablet type portable computers and credit card transaction authorisation terminals, point-of-sale and/or inventory terminals. Where these devices may be torso or limb-supported, the same principles for body-supported devices are applied.

positioned against the flat phantom that correspond to the intended use as specified by the manufacturer. If the intended use is not specified in the user instructions, the device shall be tested directly against the flat phantom in all usable orientations.

13. SAR Measurement Procedures

13.1 Measurement Procedures

The measurement procedures are as follows:
(a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
(b) Keep EUT to radiate maximum output power or 100% factor (if applicable)
(c) Measure output power through RF cable and power meter.
(d) Place the EUT in the positions as Annex D demonstrates.
(e) Set scan area, grid size and other setting on the SATIMO software.
(f) Measure SAR results for the highest power channel on each testing position.
(g) Find out the largest SAR result on these testing positions of each band
(h) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:
(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

13.2 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The SATIMO software includes all numerical procedures necessary to evaluate the spatial peak SAR value.
The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.
The entire evaluation of the spatial peak values is performed within the post-processing engine. The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:
(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

13.3 Area & Zoom Scan Procedures

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 measures 5x5x7 points with step size 8, 8 and 5mm for 300MHz to 3GHz, and 8x8x8 points with step size 4, 4 and 2.5 mm for 3GHz to 6GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10g.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 mm ± 1 mm</td><td>½·δ·ln(2) mm ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

13.4 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software can combine and subsequently superpose these measurement data to calculating the multiband SAR.

13.5 SAR Averaged Methods

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10g and 1 g requires a very fine resolution in the three dimensional scanned data array.

13.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In SATIMO measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

14. SAR Test Result

14.1 Conducted RF Output Power

WIFI 2.4G			
Mode	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
b	2412	13.75	14.5
b	2437	**14.16**	
b	2462	13.10	
g	2412	12.11	12.5
g	2437	11.38	
g	2462	10.71	
n20	2412	10.95	11.0
n20	2437	10.52	
n20	2462	9.99	
n40	2422	9.51	10.0
n40	2437	8.08	
n40	2452	7.61	
ax20	2412	10.84	11.0
ax20	2437	9.58	
ax20	2462	9.44	
ax40	2422	9.40	9.5
ax40	2437	7.46	
ax40	2452	7.33	

WIFI 5.1G			
Mode	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
a	5180	**12.57**	13.0
a	5200	11.52	
a	5240	11.35	
n20	5180	11.51	12.0
n20	5200	10.54	
n20	5240	10.1	
n40	5190	10.43	10.5
n40	5230	8.62	
ac20	5180	11.34	11.5
ac20	5200	9.91	
ac20	5240	9.93	
ac40	5190	10.92	11.0
ac40	5230	9.46	
ac80	5210	8.56	9.0
ax20	5180	10.92	11.5
ax20	5200	11.14	
ax20	5240	9.76	
ax40	5190	9.81	10.0
ax40	5230	7.98	
ax80	5210	8.06	8.5

WIFI 5.3G			
Mode	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
a	5260	**12.12**	12.5
a	5280	11.18	
a	5320	11.87	
n20	5260	11.15	11.5
n20	5280	10.17	
n20	5320	10.05	
n40	5270	10.31	10.5
n40	5310	7.9	
ac20	5260	10.87	11.0
ac20	5280	9.72	
ac20	5320	10.79	
ac40	5270	10.15	10.5
ac40	5310	8.57	
ac80	5290	9.17	9.5
ax20	5260	9.88	10.5
ax20	5280	9.22	
ax20	5320	10.03	
ax40	5270	9.97	10.0
ax40	5310	8.19	
ax80	5290	8.28	8.5

WIFI 5.6G			
Mode	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
a	5500	10.98	12.0
a	5580	10.85	
a	5700	**11.94**	
n20	5500	10.39	11.0
n20	5580	10.01	
n20	5700	10.86	
n40	5510	8.65	9.0
n40	5550	7.05	
n40	5670	8.94	
ac20	5500	9.52	11.0
ac20	5580	10.12	
ac20	5700	10.63	
ac40	5510	8.67	9.0
ac40	5550	6.79	
ac40	5670	8.93	
ac80	5530	7.54	8.0
ax20	5500	10.3	10.5
ax20	5580	9.16	
ax20	5700	10.17	
ax40	5510	8.6	9.0
ax40	5550	6.71	
ax40	5670	8.18	
ax80	5530	7.25	7.5

WIFI 5.8G			
Mode	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
a	5745	**10.56**	11.0
a	5785	8.64	
a	5825	7.96	
n20	5745	9.06	9.5
n20	5785	6.66	
n20	5825	6.73	
n40	5755	7.78	8.0
n40	5795	6.4	
ac20	5745	8.91	9.0
ac20	5785	6.76	
ac20	5825	6.52	
ac40	5755	7.99	8.0
ac40	5795	6.07	
ac80	5775	7.18	7.5
ax20	5745	8.91	9.0
ax20	5785	6.77	
ax20	5825	6.66	
ax40	5755	7.85	8.0
ax40	5795	5.71	
ax80	5775	6.88	7.0

Band	WCDMA Band II				WCDMA Band V			
Channel	9262	9400	9538	Tune-up	4132	4182	4233	Tune-up
Frequency (MHz)	1852.4	1880.0	1907.6		826.4	836.4	846.6	
RMC 12.2K	22.64	**22.98**	22.98	23.0	**23.37**	23.22	23.17	23.5
HSDPA Subtest-1	22.41	22.52	22.45	23.0	22.89	22.66	22.73	23.0
HSDPA Subtest-2	22.01	22.32	21.94		22.62	22.51	22.53	
HSDPA Subtest-3	21.66	21.74	21.96		22.50	22.06	22.10	
HSDPA Subtest-4	21.62	22.00	21.83		22.18	22.11	21.93	
HSUPA Subtest-1	22.34	22.28	22.23	23.0	22.94	22.75	22.53	23.0
HSUPA Subtest-2	22.20	22.53	22.35		22.89	22.65	22.77	
HSUPA Subtest-3	21.96	21.92	22.09		22.44	22.43	22.39	
HSUPA Subtest-4	22.25	22.51	22.42		22.86	22.69	22.71	
HSUPA Subtest-5	21.99	22.14	22.23		22.76	22.53	22.68	

Note:
1. Per KDB 941225 D01 v03, the 12.2kbps RMC mode was selected for SAR testing (the primary mode).
2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤1/4dB 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.

See Appendix 1 for RF conduction data for LTE.

14.2 Transmit Antennas and SAR Measurement Position

Left

Front

Right

Back

Antennas	Support Band
MAIN-WWAN	GSM 850/1900 + WCDMA Band 2/4/5 + LTE Band 2/4/5/7/12/13/17/25/26/66 TX
DIV-WWAN	GSM 850/1900 + WCDMA Band 2/4/5 + LTE Band 2/4/5/7/12/13/17/25/26/66 RX
BT/WIFI	Bluetooth + WIFI

Distance of The Antenna to the EUT surface and edge (mm)						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
MAIN-WWAN	<25	<25	96	<25	<25	<25
BT/WIFI	<25	<25	<25	102	<25	50

Positions for SAR tests; Body mode						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
MAIN-WWAN	Yes	Yes	No	Yes	Yes	Yes
BT/WIFI	Yes	Yes	Yes	No	Yes	No

14.3 Measured and Reported (Scaled) SAR Results

WIFI 2.4G									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	802.11b	Front Face	2437	14.16	14.5	1.081	0.107	0.116	
		Back Face	2437	14.16	14.5	1.081	0.085	0.092	
		Left Side	2437	14.16	14.5	1.081	0.148	**0.160**	**1**
		Top Side	2437	14.16	14.5	1.081	0.136	0.147	

WIFI 5.1G									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	802.11a	Front Face	5180	12.57	13.0	1.104	0.428	**0.473**	**2**
		Back Face	5180	12.57	13.0	1.104	0.205	0.226	
		Left Side	5180	12.57	13.0	1.104	0.301	0.332	
		Top Side	5180	12.57	13.0	1.104	0.426	0.470	

WIFI 5.3G									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	802.11a	Front Face	5260	12.12	12.5	1.091	0.314	0.343	
		Back Face	5260	12.12	12.5	1.091	0.281	0.307	
		Left Side	5260	12.12	12.5	1.091	0.347	0.379	
		Top Side	5260	12.12	12.5	1.091	0.401	**0.438**	**3**

WIFI 5.6G									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	802.11a	Front Face	5700	11.94	12.0	1.014	0.343	0.348	
		Back Face	5700	11.94	12.0	1.014	0.399	0.405	
		Left Side	5700	11.94	12.0	1.014	0.403	0.409	
		Top Side	5700	11.94	12.0	1.014	0.467	**0.473**	**4**

WIFI 5.8G									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	802.11a	Front Face	5745	10.56	11.0	1.107	0.293	0.324	
		Back Face	5745	10.56	11.0	1.107	0.336	0.372	
		Left Side	5745	10.56	11.0	1.107	0.407	**0.450**	**5**
		Top Side	5745	10.56	11.0	1.107	0.281	0.311	

WCDMA Band 2									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	RMC	Front Face	1880	22.98	23.0	1.005	0.721	**0.724**	**6**
		Back Face	1880	22.98	23.0	1.005	0.101	0.101	
		Left Side	1880	22.98	23.0	1.005	0.087	0.087	
		Right Side	1880	22.98	23.0	1.005	0.468	0.470	
		Bottom Side	1880	22.98	23.0	1.005	0.318	0.319	

WCDMA Band 5									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	RMC	Front Face	826.4	23.37	23.5	1.030	0.352	0.363	
		Back Face	826.4	23.37	23.5	1.030	0.491	0.506	
		Left Side	826.4	23.37	23.5	1.030	0.116	0.120	
		Right Side	826.4	23.37	23.5	1.030	0.719	**0.741**	**7**
		Bottom Side	826.4	23.37	23.5	1.030	0.493	0.508	

LTE Band 2 (20MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	1880	25.17	25.5	1.079	0.738	**0.796**	**8**
		Back Face	1880	25.17	25.5	1.079	0.276	0.298	
		Left Side	1880	25.17	25.5	1.079	0.042	0.045	
		Right Side	1880	25.17	25.5	1.079	0.137	0.148	
		Bottom Side	1880	25.17	25.5	1.079	0.425	0.459	
	QPSK, 50%RB	Front Face	1880	23.97	24.0	1.007	0.590	0.594	
		Back Face	1880	23.97	24.0	1.007	0.135	0.136	
		Left Side	1880	23.97	24.0	1.007	0.033	0.033	
		Right Side	1880	23.97	24.0	1.007	0.106	0.107	
		Bottom Side	1880	23.97	24.0	1.007	0.336	0.338	

LTE Band 4 (20MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	1732.5	25.12	25.5	1.091	0.685	**0.748**	**9**
		Back Face	1732.5	25.12	25.5	1.091	0.231	0.252	
		Left Side	1732.5	25.12	25.5	1.091	0.117	0.128	
		Right Side	1732.5	25.12	25.5	1.091	0.400	0.437	
		Bottom Side	1732.5	25.12	25.5	1.091	0.228	0.249	
	QPSK, 50%RB	Front Face	1732.5	23.92	24.0	1.019	0.475	0.484	
		Back Face	1732.5	23.92	24.0	1.019	0.147	0.150	
		Left Side	1732.5	23.92	24.0	1.019	0.086	0.088	
		Right Side	1732.5	23.92	24.0	1.019	0.332	0.338	
		Bottom Side	1732.5	23.92	24.0	1.019	0.169	0.172	

LTE Band 5 (10MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	829	24.97	25.0	1.007	0.137	0.138	
		Back Face	829	24.97	25.0	1.007	0.066	0.066	
		Left Side	829	24.97	25.0	1.007	0.079	0.080	
		Right Side	829	24.97	25.0	1.007	0.344	0.346	
		Bottom Side	829	24.97	25.0	1.007	0.358	**0.360**	**10**
	QPSK, 50%RB	Front Face	829	24.01	24.5	1.119	0.105	0.118	
		Back Face	829	24.01	24.5	1.119	0.122	0.137	
		Left Side	829	24.01	24.5	1.119	0.063	0.071	
		Right Side	829	24.01	24.5	1.119	0.238	0.266	
		Bottom Side	829	24.01	24.5	1.119	0.246	0.275	

LTE Band 7 (20MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	2535	24.40	24.5	1.023	0.700	**0.716**	**11**
		Back Face	2535	24.40	24.5	1.023	0.361	0.369	
		Left Side	2535	24.40	24.5	1.023	0.046	0.047	
		Right Side	2535	24.40	24.5	1.023	0.216	0.221	
		Bottom Side	2535	24.40	24.5	1.023	0.359	0.367	
	QPSK, 50%RB	Front Face	2560	23.17	23.5	1.079	0.642	0.693	
		Back Face	2560	23.17	23.5	1.079	0.225	0.243	
		Left Side	2560	23.17	23.5	1.079	0.041	0.044	
		Right Side	2560	23.17	23.5	1.079	0.168	0.181	
		Bottom Side	2560	23.17	23.5	1.079	0.266	0.287	

LTE Band 12 (10MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	711	25.03	25.5	1.114	0.307	0.342	
		Back Face	711	25.03	25.5	1.114	0.111	0.124	
		Left Side	711	25.03	25.5	1.114	0.074	0.082	
		Right Side	711	25.03	25.5	1.114	0.384	**0.428**	**12**
		Bottom Side	711	25.03	25.5	1.114	0.210	0.234	
	QPSK, 50%RB	Front Face	711	23.80	24.0	1.047	0.269	0.282	
		Back Face	711	23.80	24.0	1.047	0.078	0.082	
		Left Side	711	23.80	24.0	1.047	0.049	0.051	
		Right Side	711	23.80	24.0	1.047	0.269	0.282	
		Bottom Side	711	23.80	24.0	1.047	0.118	0.124	

LTE Band 13 (10MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	782	24.90	25.0	1.023	0.285	0.292	
		Back Face	782	24.90	25.0	1.023	0.102	0.104	
		Left Side	782	24.90	25.0	1.023	0.069	0.071	
		Right Side	782	24.90	25.0	1.023	0.454	**0.465**	**13**
		Bottom Side	782	24.90	25.0	1.023	0.245	0.251	
	QPSK, 50%RB	Front Face	782	23.93	24.0	1.016	0.216	0.220	
		Back Face	782	23.93	24.0	1.016	0.076	0.077	
		Left Side	782	23.93	24.0	1.016	0.043	0.044	
		Right Side	782	23.93	24.0	1.016	0.256	0.260	
		Bottom Side	782	23.93	24.0	1.016	0.176	0.179	

LTE Band 17 (10MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	711	25.03	25.5	1.114	0.328	0.365	
		Back Face	711	25.03	25.5	1.114	0.248	0.276	
		Left Side	711	25.03	25.5	1.114	0.066	0.074	
		Right Side	711	25.03	25.5	1.114	0.496	**0.553**	**14**
		Bottom Side	711	25.03	25.5	1.114	0.112	0.125	
	QPSK, 50%RB	Front Face	711	23.77	24.0	1.054	0.306	0.323	
		Back Face	711	23.77	24.0	1.054	0.198	0.209	
		Left Side	711	23.77	24.0	1.054	0.054	0.057	
		Right Side	711	23.77	24.0	1.054	0.336	0.354	
		Bottom Side	711	23.77	24.0	1.054	0.081	0.085	

LTE Band 25 (20MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	1882.5	25.20	25.5	1.072	0.661	**0.708**	**15**
		Back Face	1882.5	25.20	25.5	1.072	0.147	0.158	
		Left Side	1882.5	25.20	25.5	1.072	0.066	0.071	
		Right Side	1882.5	25.20	25.5	1.072	0.339	0.363	
		Bottom Side	1882.5	25.20	25.5	1.072	0.248	0.266	
	QPSK, 50%RB	Front Face	1882.5	23.96	24.0	1.009	0.585	0.590	
		Back Face	1882.5	23.96	24.0	1.009	0.082	0.083	
		Left Side	1882.5	23.96	24.0	1.009	0.047	0.047	
		Right Side	1882.5	23.96	24.0	1.009	0.296	0.299	
		Bottom Side	1882.5	23.96	24.0	1.009	0.217	0.219	

LTE Band 26 (10MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	819	25.30	25.5	1.047	0.171	0.179	
		Back Face	819	25.30	25.5	1.047	0.063	0.066	
		Left Side	819	25.30	25.5	1.047	0.079	0.083	
		Right Side	819	25.30	25.5	1.047	0.377	**0.395**	**16**
		Bottom Side	819	25.30	25.5	1.047	0.136	0.142	
	QPSK, 50%RB	Front Face	819	24.46	24.5	1.009	0.145	0.146	
		Back Face	819	24.46	24.5	1.009	0.056	0.057	
		Left Side	819	24.46	24.5	1.009	0.053	0.053	
		Right Side	819	24.46	24.5	1.009	0.339	0.342	
		Bottom Side	819	24.46	24.5	1.009	0.086	0.087	

LTE Band 26 (15MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	821.5	25.16	25.5	1.081	0.214	0.231	
		Back Face	821.5	25.16	25.5	1.081	0.079	0.085	
		Left Side	821.5	25.16	25.5	1.081	0.031	0.034	
		Right Side	821.5	25.16	25.5	1.081	0.387	**0.419**	**17**
		Bottom Side	821.5	25.16	25.5	1.081	0.126	0.136	
	QPSK, 50%RB	Front Face	821.5	24.29	24.5	1.050	0.187	0.196	
		Back Face	821.5	24.29	24.5	1.050	0.061	0.064	
		Left Side	821.5	24.29	24.5	1.050	0.028	0.029	
		Right Side	821.5	24.29	24.5	1.050	0.363	0.381	
		Bottom Side	821.5	24.29	24.5	1.050	0.076	0.080	

LTE Band 66 (20MHz Bandwidth)									
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Power (dBm)		Scaling Factor	SAR_{1g} (W/kg)		Plot No.
				Meas.	Tuen-up		Meas.	Scaled	
Body (5mm)	QPSK, 1RB	Front Face	1745	25.12	25.5	1.091	0.675	**0.737**	**18**
		Back Face	1745	25.12	25.5	1.091	0.356	0.389	
		Left Side	1745	25.12	25.5	1.091	0.084	0.092	
		Right Side	1745	25.12	25.5	1.091	0.383	0.418	
		Bottom Side	1745	25.12	25.5	1.091	0.263	0.287	
	QPSK, 50%RB	Front Face	1745	23.83	24.0	1.040	0.436	0.453	
		Back Face	1745	23.83	24.0	1.040	0.221	0.230	
		Left Side	1745	23.83	24.0	1.040	0.045	0.047	
		Right Side	1745	23.83	24.0	1.040	0.228	0.237	
		Bottom Side	1745	23.83	24.0	1.040	0.162	0.168	

14.4 SAR Measurement Variability

According to KDB865664, Repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg. If the measured SAR value of the initial repeated measurement is < 1.45 W/kg with ≤ 20% variation, only one repeated measurement is required to reaffirm that the results are not expected to have substantial variations, which may introduce significant compliance concerns. A second repeated measurement is required only if the measured result for the initial repeated measurement is within 10% of the SAR limit and vary by more than 20%, which are often related to device and measurement setup difficulties. The following procedures are applied to determine if repeated measurements are required. The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.19 The repeated measurement results must be clearly identified in the SAR report. All measured SAR, including the repeated results, must be considered to determine compliance and for reporting according to KDB 690783.Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

1) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
2) Perform a second repeated measurement only 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 (~ 10% from the 1-g SAR limit).
3) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

Test Mode	Frequency (MHz)	RF Exposure Conditions	Test Position	Repeated SAR (yes/no)	Highest Measured SAR1-g (W/Kg)	First Repeated	
						Measured SAR1-g (W/Kg)	Largest to Smallest SAR Ratio
/	/	/	/	/	/	/	/

14.5 Simultaneous Transmission Evaluation

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmiting antenna.

Application Simultaneous Transmission information:

No.	Configurations	Body SAR
1	WWAN+WIFI	Yes
2	WWAN+Bluetooth	Yes
3	WIFI+Bluetooth	No

Remark:
1. The MAIN antenna and the DIV antenna both have WWAN functionality and cannot transmit data simultaneously.
2. Bluetooth and WIFI share the same antenna and cannot transmit data at the same time.
3. According to the KDB 447498 D01 v06, 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:
● (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.
● 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

Estimated stand alone SAR						
Mode	**Frequency (MHz)**	**Tune-up Power (dBm)**	**Tune-up Power (mW)**	**Separation Distance (mm)**	**X**	**Estimated SAR1-g (W/kg)**
/	/	/	/	5	7.5	/

Note:
1. Bluetooth*- Including Lower power Bluetooth
2. Maximum average power including tune-up tolerance;
3. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4. Per FCC KD B447498 D01, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the transmitting antenna in a specific a physical test configuration is ≤1.6 W/Kg. When the sum is greater than the SAR limit, SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio}=\frac{(SAR_1+SAR_2)^{1.5}}{(\text{peak location separation,mm})}<0.04$$

5. Simultaneous transmission of maximum SAR sum calculation.

RF Exposure Conditions	Test Position	Scaled SAR_{1g} (W/kg)		Summed SAR_{1g} (W/kg)	Limit SAR_{1g} (W/kg)
		BT/WIFI	WWAN		
Body (5mm)	Front Face	0.473	0.796	**1.269**	1.6
	Back Face	0.405	0.506	0.911	
	Left Side	0.450	0.128	0.578	
	Right Side	/	0.741	0.741	
	Top Side	0.473	/	0.473	
	Bottom Side	0.405	0.506	0.911	

15. Test Plots

15.1 System Performance Check

System check at 750 MHz
Date of measurement: 30/7/2025

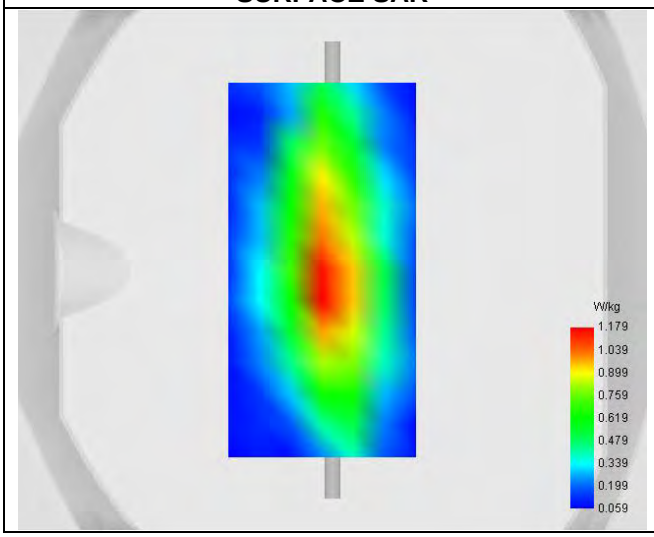
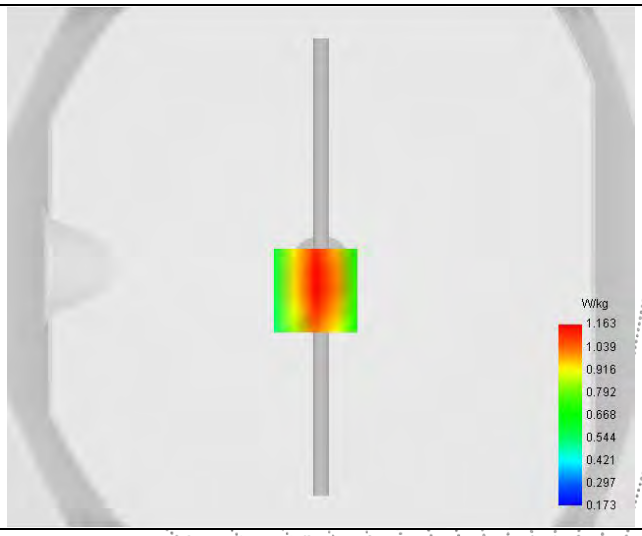
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Signal	CW

B. Permitivity

Frequency (MHz)	750.000
Relative permitivity (real part)	40.402
Relative permitivity (imaginary part)	24.595
Conductivity (S/m)	0.895

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

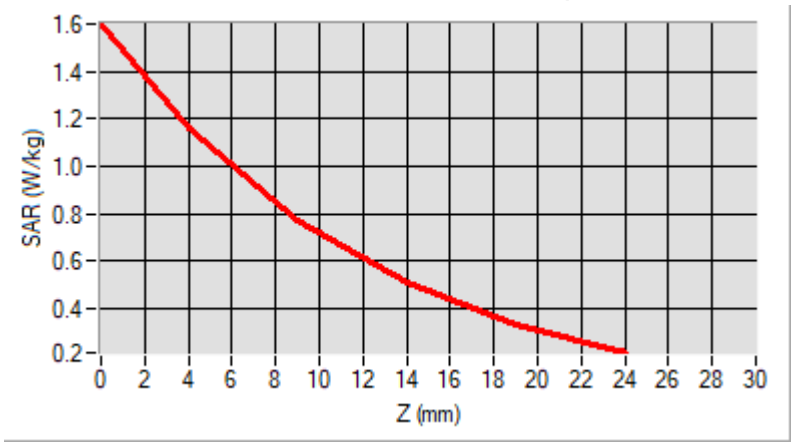
Maximum location: X=-2.00, Y=-9.00 ; SAR Peak: 1.61 W/kg

D. SAR 1g & 10g

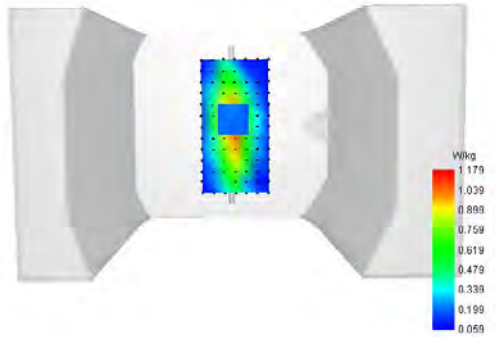
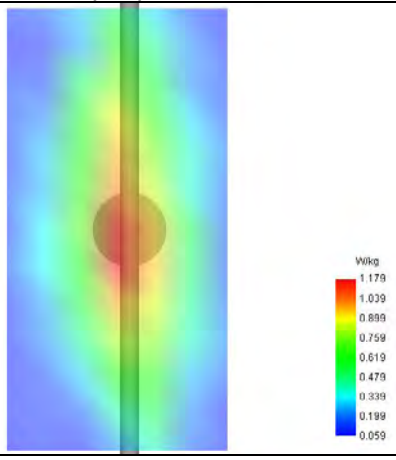
SAR 10g (W/Kg)	1.376
SAR 1g (W/Kg)	2.046
Variation (%)	2.725

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.603	1.163	0.769	0.506	0.333



F. 3D Image

3D screen shot	Hot spot position
	

System check at 835 MHz
Date of measurement: 30/7/2025

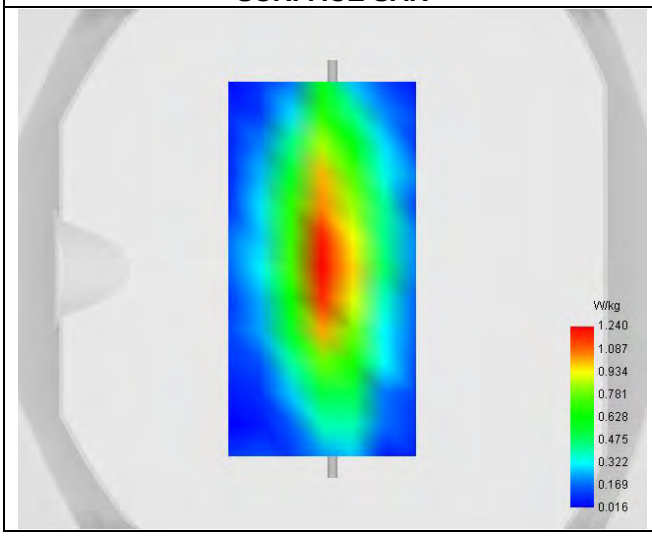
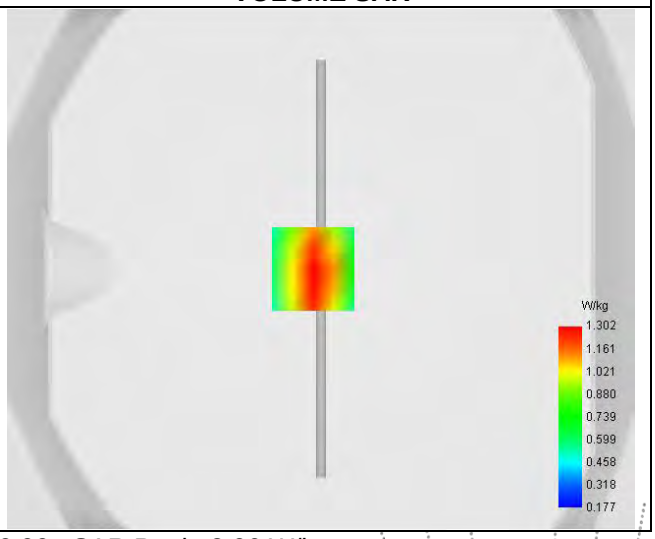
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	CW

B. Permitivity

Frequency (MHz)	835.000
Relative permitivity (real part)	43.104
Relative permitivity (imaginary part)	20.910
Conductivity (S/m)	0.888

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

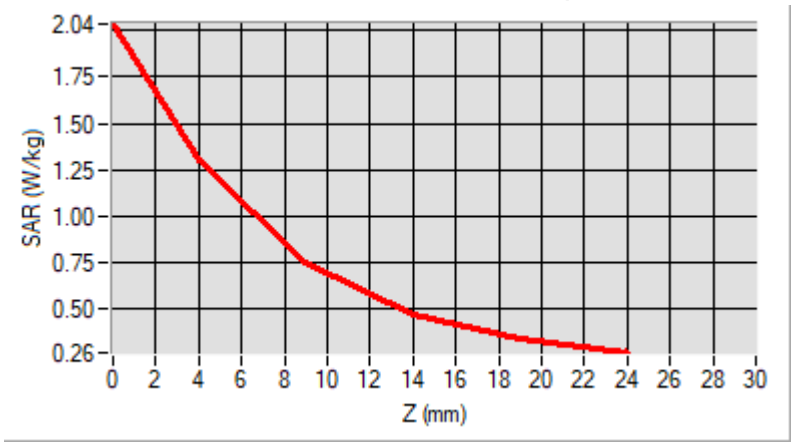
Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 2.06 W/kg

D. SAR 1g & 10g

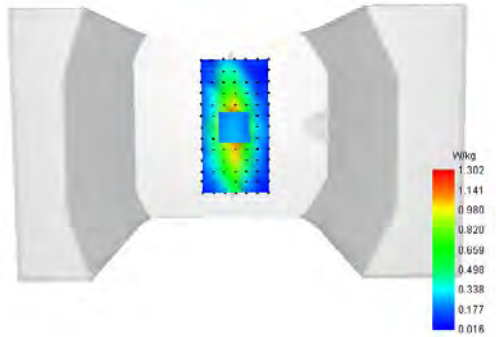
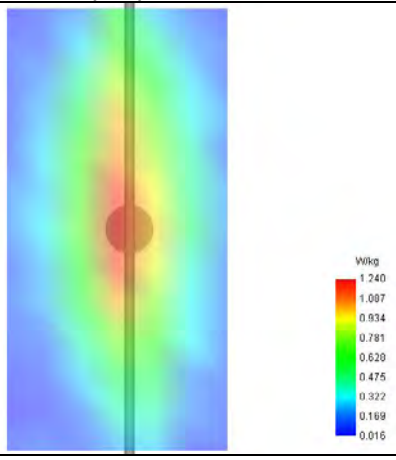
SAR 10g (W/Kg)	1.567
SAR 1g (W/Kg)	2.614
Variation (%)	1.677

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.036	1.302	0.747	0.462	0.331



F. 3D Image

3D screen shot	Hot spot position
	

System check at 1800 MHz
Date of measurement: 29/7/2025

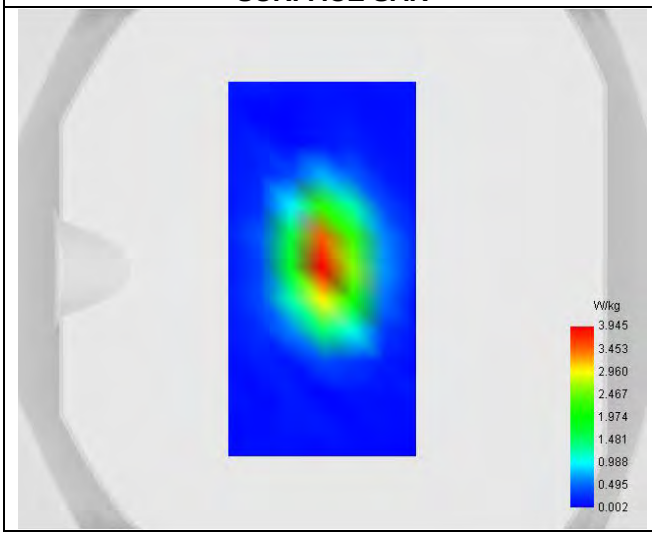
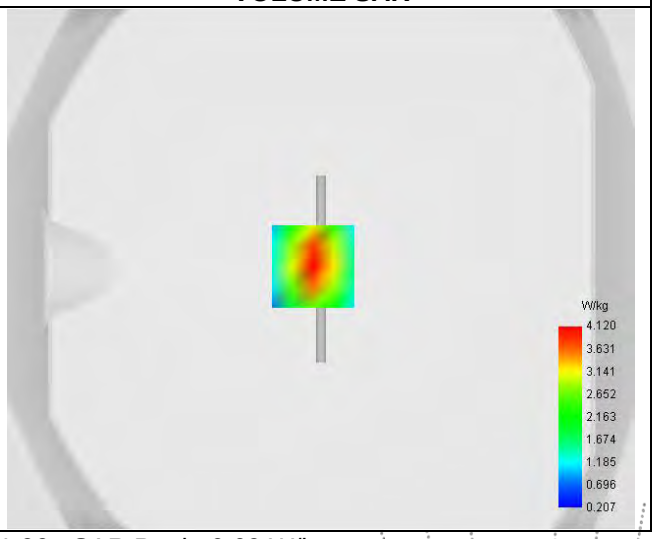
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW

B. Permitivity

Frequency (MHz)	1800.000
Relative permitivity (real part)	40.334
Relative permitivity (imaginary part)	15.200
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

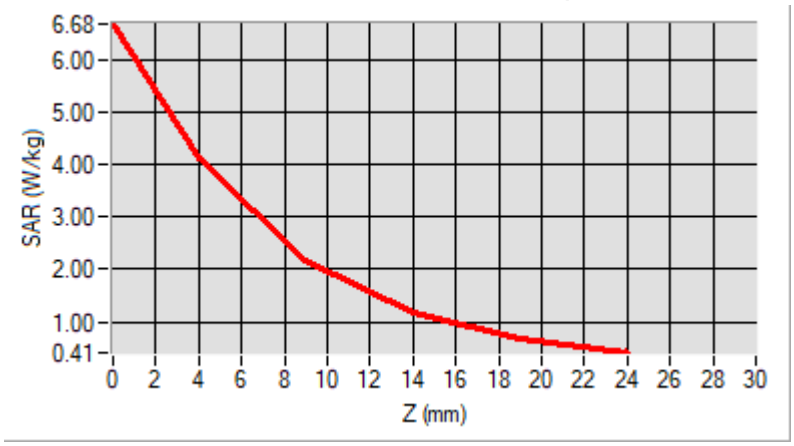
Maximum location: X=-3.00, Y=1.00 ; SAR Peak: 6.69 W/kg

D. SAR 1g & 10g

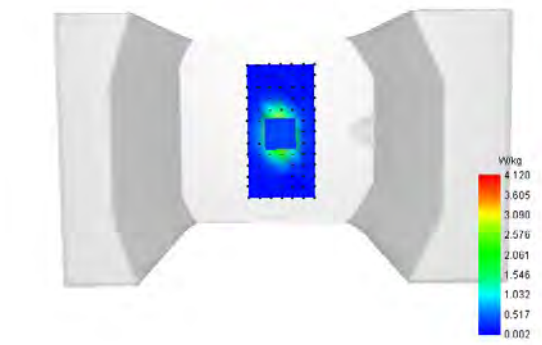
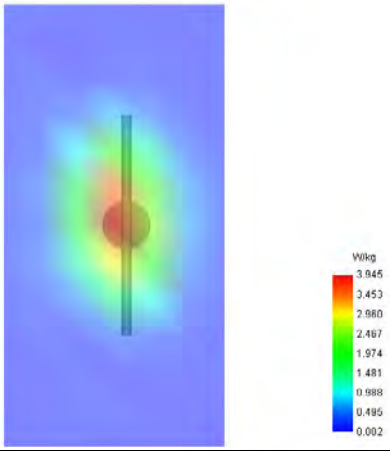
SAR 10g (W/Kg)	5.468
SAR 1g (W/Kg)	9.420
Variation (%)	4.074

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	6.684	4.120	2.184	1.177	0.685



F. 3D Image

3D screen shot	Hot spot position
	

System check at 1900 MHz
Date of measurement: 29/7/2025

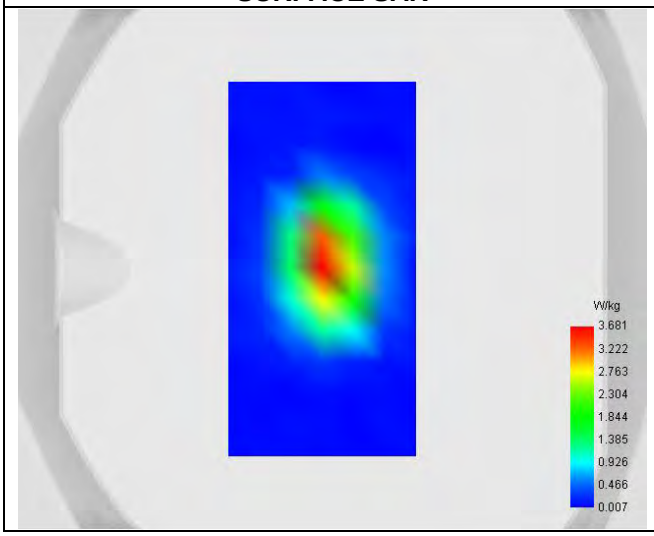
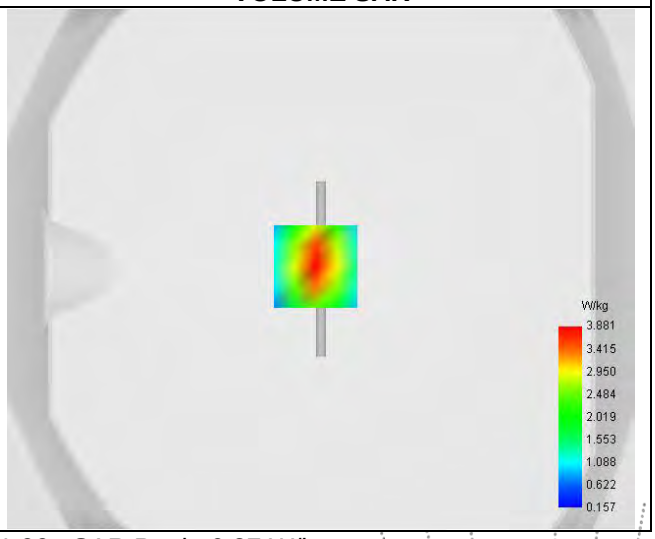
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	CW

B. Permitivity

Frequency (MHz)	1900.000
Relative permitivity (real part)	39.324
Relative permitivity (imaginary part)	14.400
Conductivity (S/m)	1.376

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

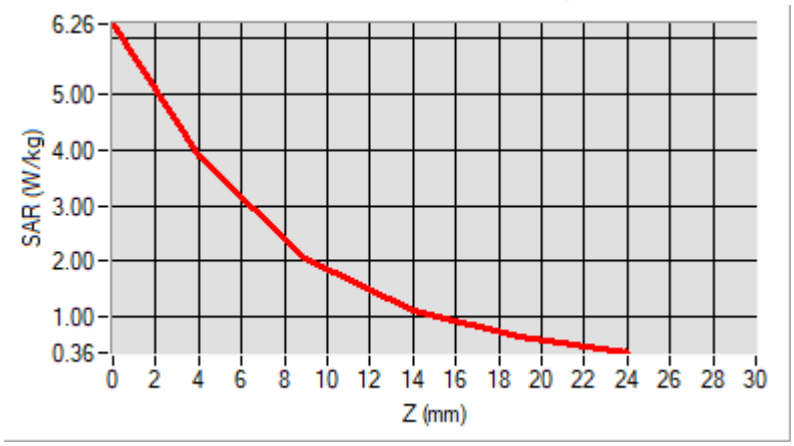
Maximum location: X=-2.00, Y=1.00 ; SAR Peak: 6.27 W/kg

D. SAR 1g & 10g

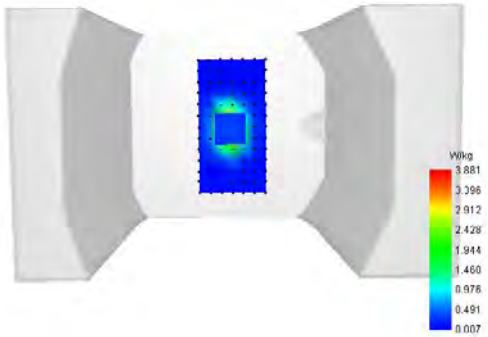
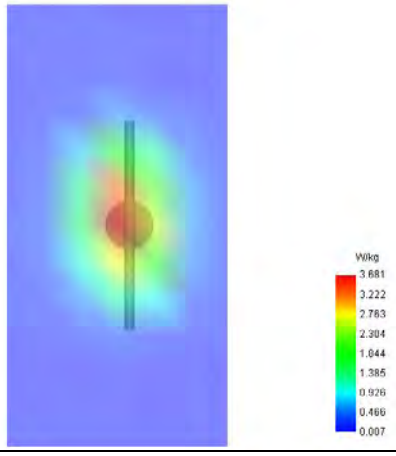
SAR 10g (W/Kg)	5.312
SAR 1g (W/Kg)	10.430
Variation (%)	1.083

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	6.259	3.881	2.069	1.111	0.634



F. 3D Image

3D screen shot	Hot spot position
	

System check at 2450 MHz
Date of measurement: 28/7/2025

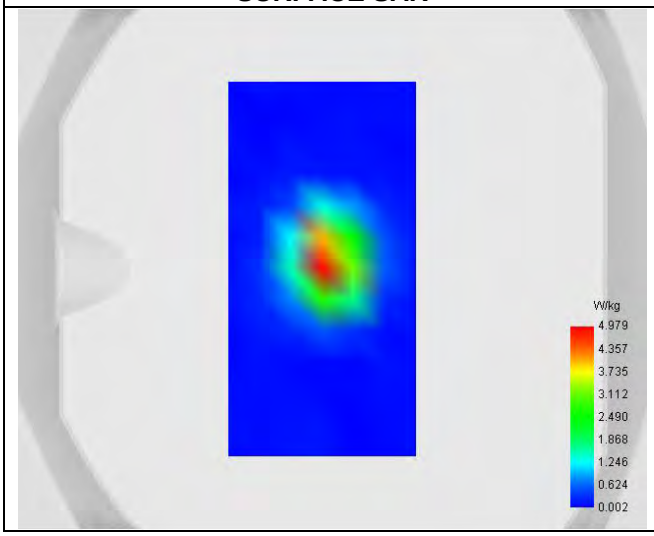
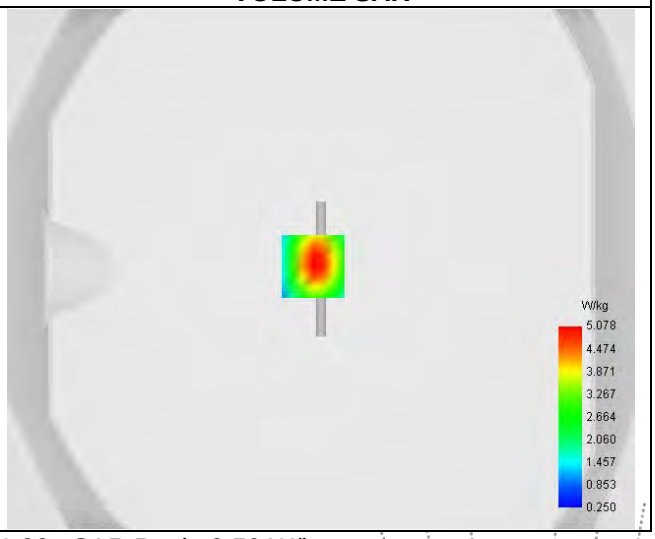
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	CW

B. Permitivity

Frequency (MHz)	2450.000
Relative permitivity (real part)	37.597
Relative permitivity (imaginary part)	14.330
Conductivity (S/m)	1.752

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

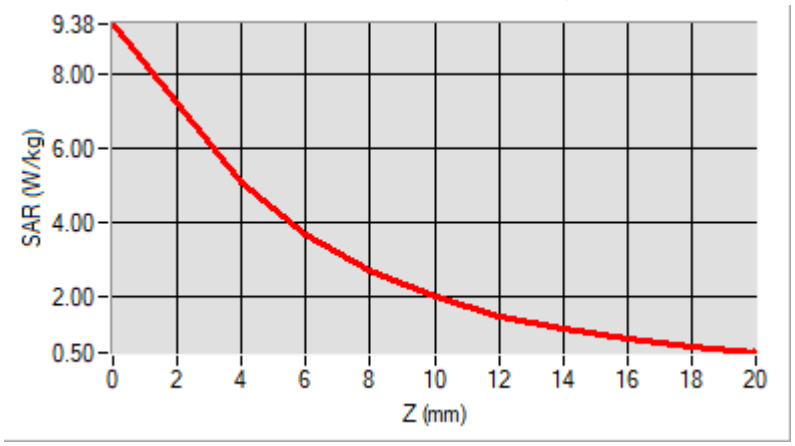
Maximum location: X=-3.00, Y=1.00 ; SAR Peak: 9.50 W/kg

D. SAR 1g & 10g

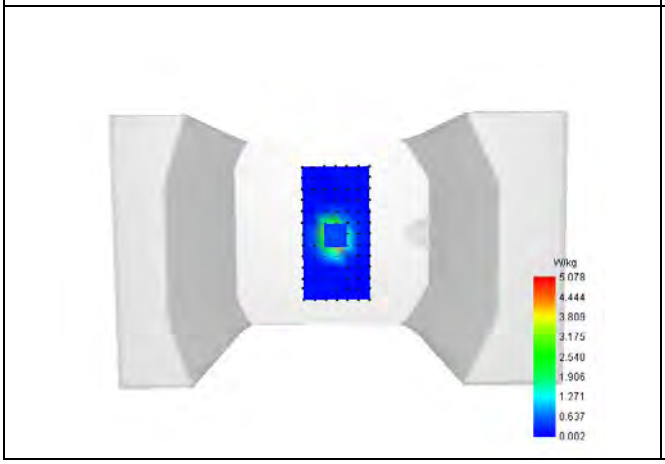
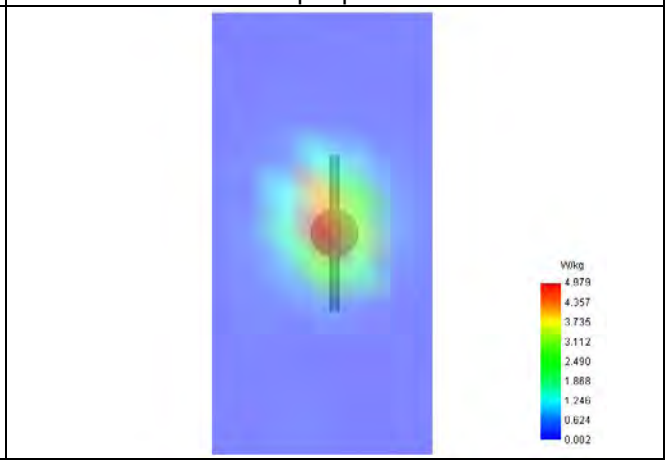
SAR 10g (W/Kg)	6.065
SAR 1g (W/Kg)	13.573
Variation (%)	-2.465

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	9.380	5.078	3.712	2.709	2.001	1.499	1.138	0.871	0.667



F. 3D Image

3D screen shot	Hot spot position
	

System check at 2600 MHz
Date of measurement: 29/7/2025

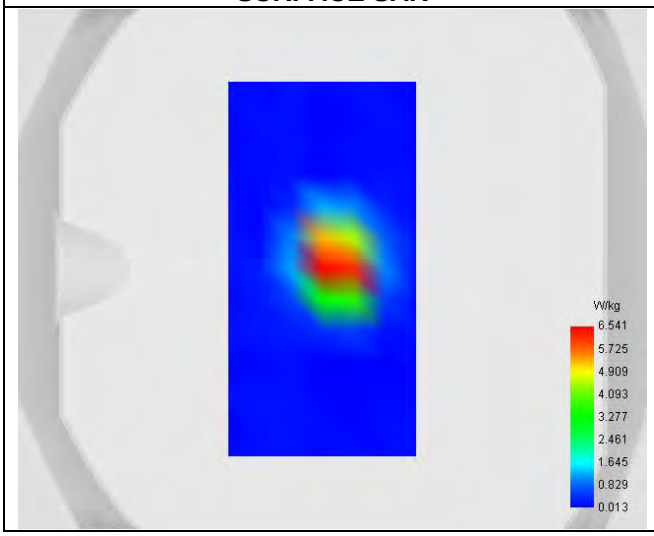
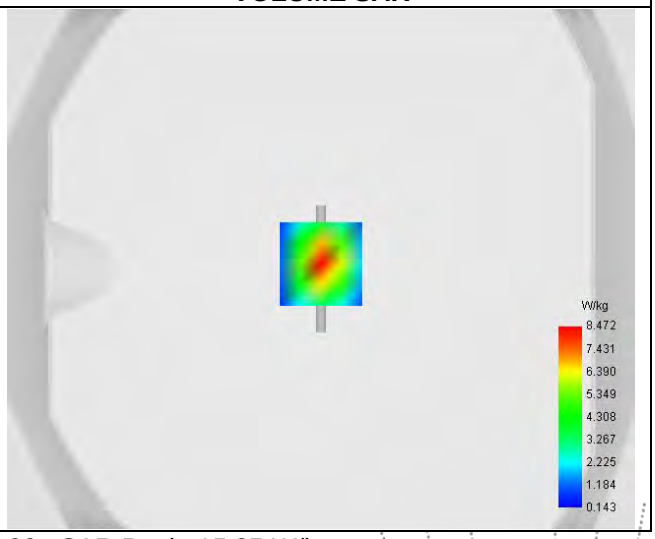
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.03
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	CW

B. Permitivity

Frequency (MHz)	2600.000
Relative permitivity (real part)	38.327
Relative permitivity (imaginary part)	14.889
Conductivity (S/m)	1.911

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

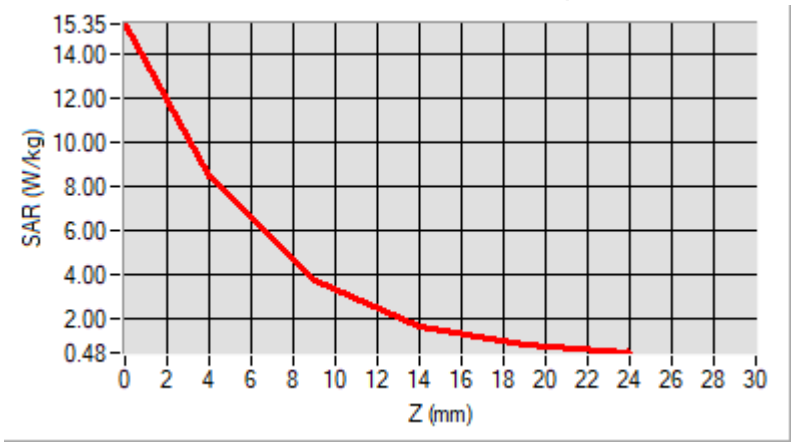
Maximum location: X=0.00, Y=2.00 ; SAR Peak: 15.35 W/kg

D. SAR 1g & 10g

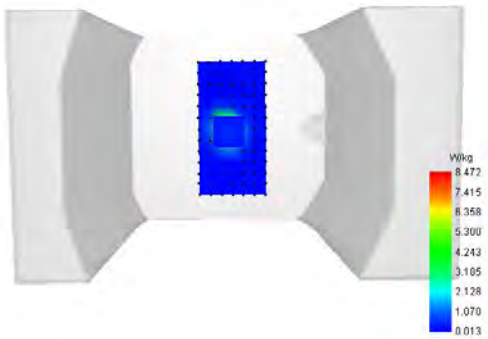
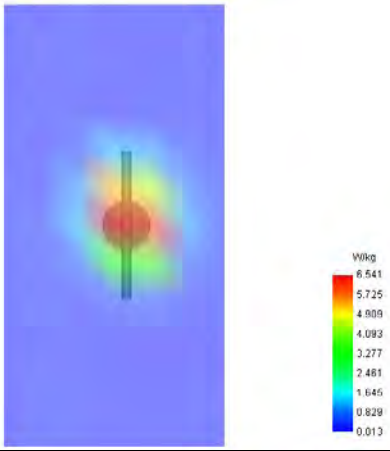
SAR 10g (W/Kg)	6.159
SAR 1g (W/Kg)	13.846
Variation (%)	2.711

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	15.347	8.472	3.768	1.677	0.856



F. 3D Image

3D screen shot	Hot spot position
	

System check at 5200 MHz
Date of measurement: 28/7/2025

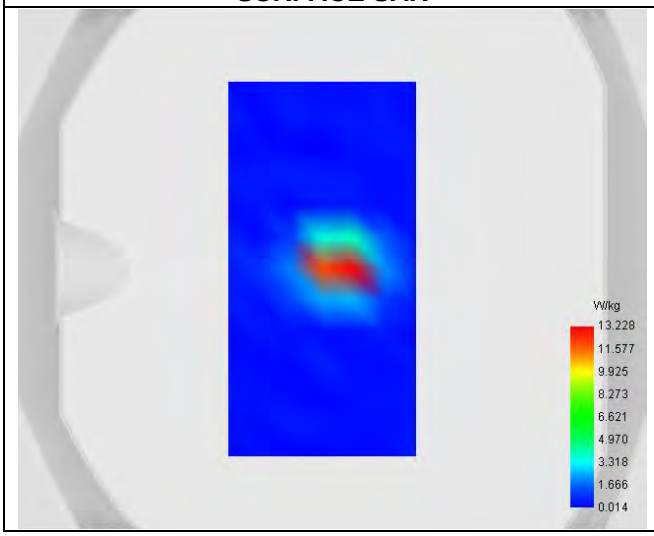
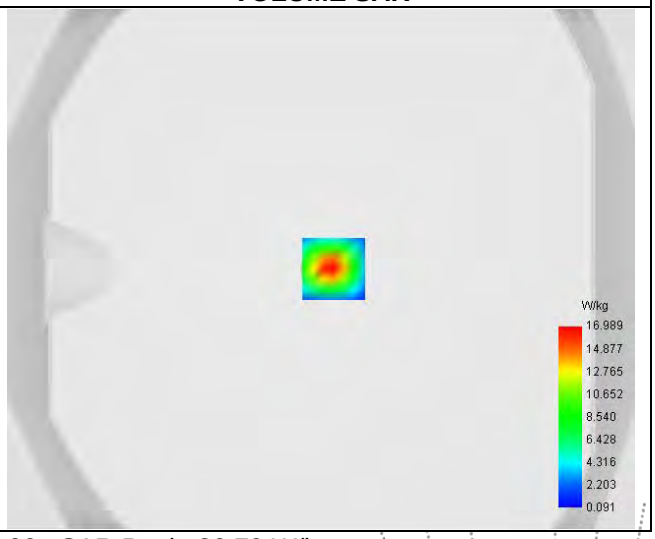
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.18
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Signal	CW

B. Permitivity

Frequency (MHz)	5200.000
Relative permitivity (real part)	34.548
Relative permitivity (imaginary part)	18.140
Conductivity (S/m)	4.545

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

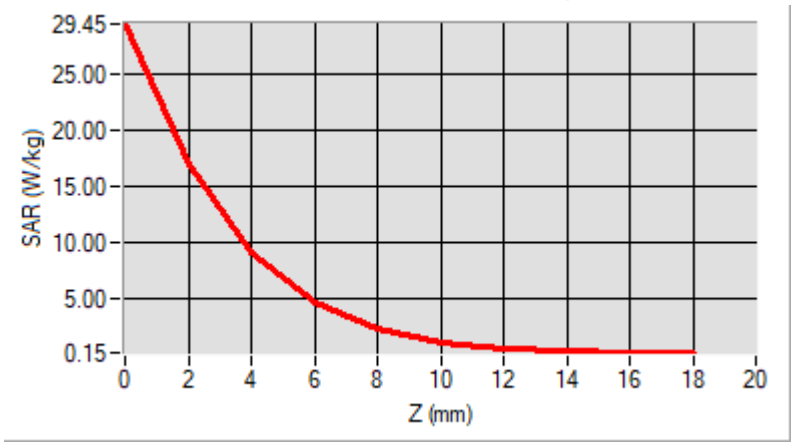
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 30.79 W/kg

D. SAR 1g & 10g

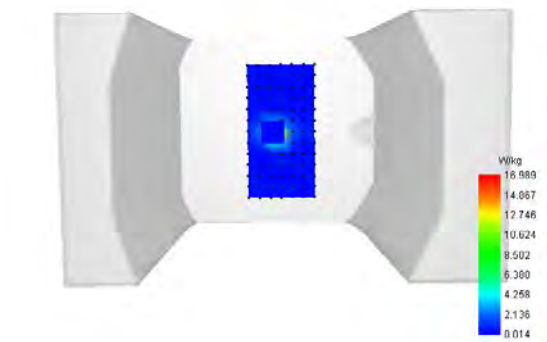
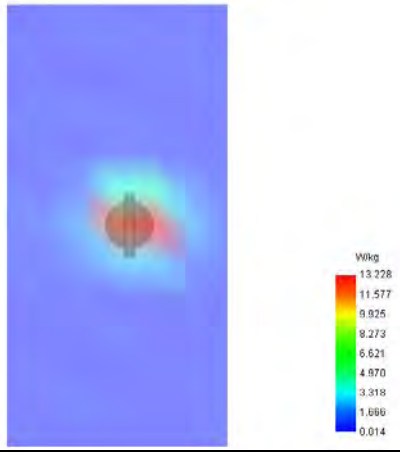
SAR 10g (W/Kg)	5.371
SAR 1g (W/Kg)	18.201
Variation (%)	1.252

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	29.452	16.989	9.130	4.585	2.232	1.083	0.552	0.315	0.209



F. 3D Image

3D screen shot	Hot spot position
	

System check at 5400 MHz
Date of measurement: 28/7/2025

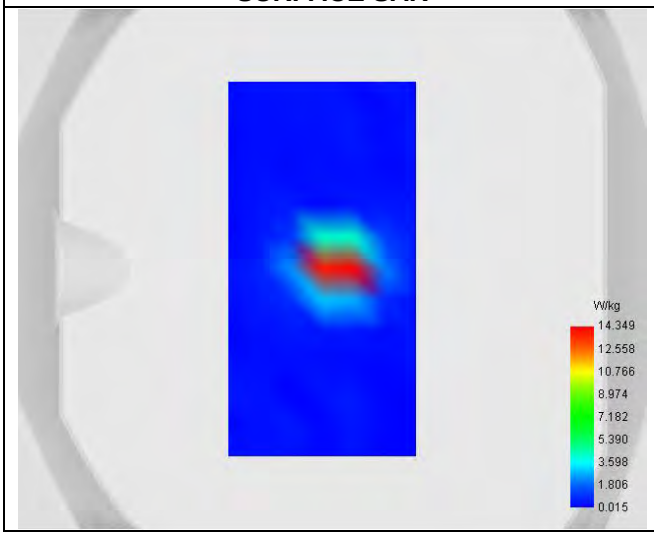
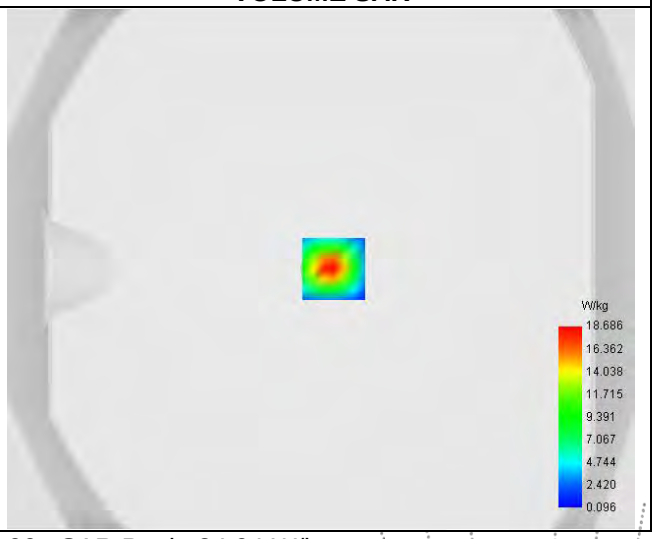
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.17
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Signal	CW

B. Permitivity

Frequency (MHz)	5400.000
Relative permitivity (real part)	35.862
Relative permitivity (imaginary part)	18.300
Conductivity (S/m)	4.792

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

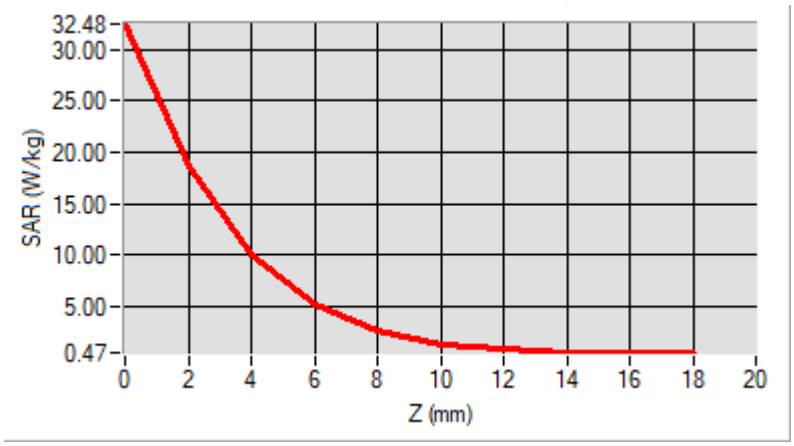
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 34.04 W/kg

D. SAR 1g & 10g

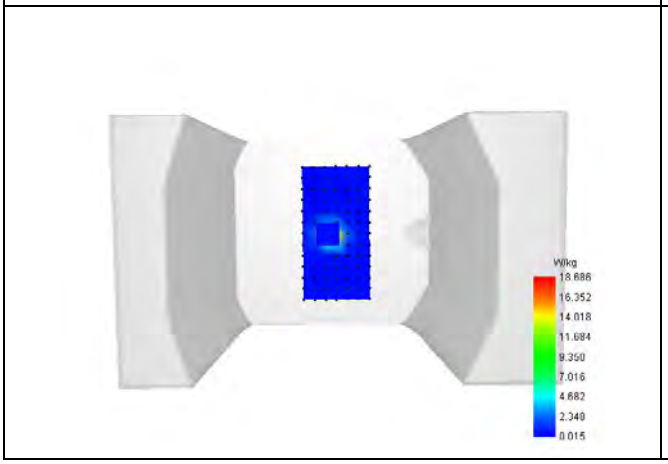
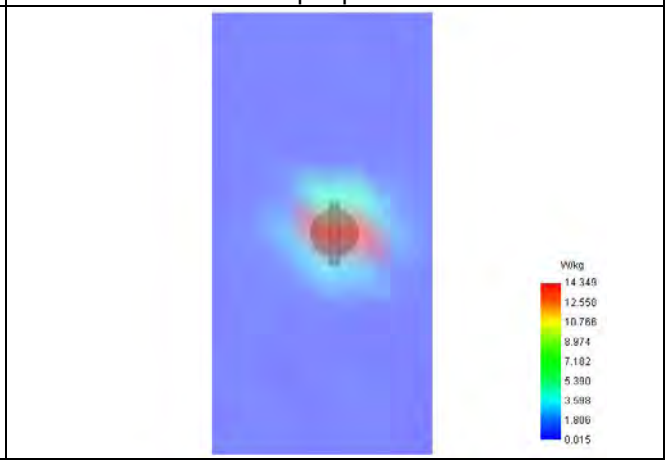
SAR 10g (W/Kg)	5.907
SAR 1g (W/Kg)	19.329
Variation (%)	0.053

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	32.476	18.686	10.034	5.088	2.563	1.347	0.796	0.566	0.487



F. 3D Image

3D screen shot	Hot spot position
	

System check at 5600 MHz
Date of measurement: 28/7/2025

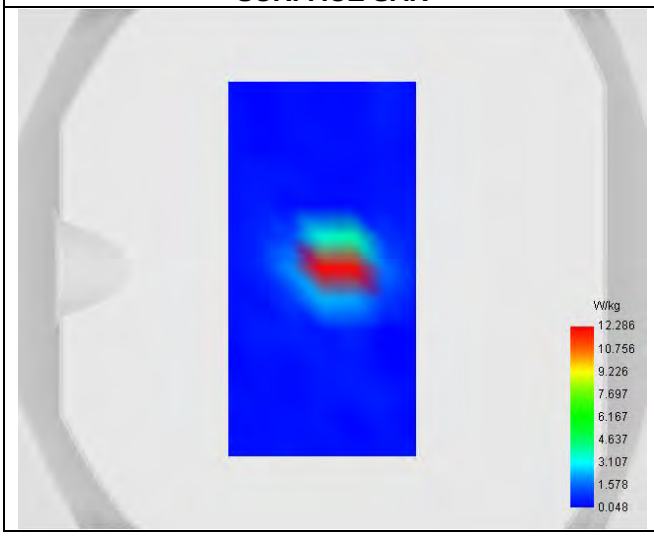
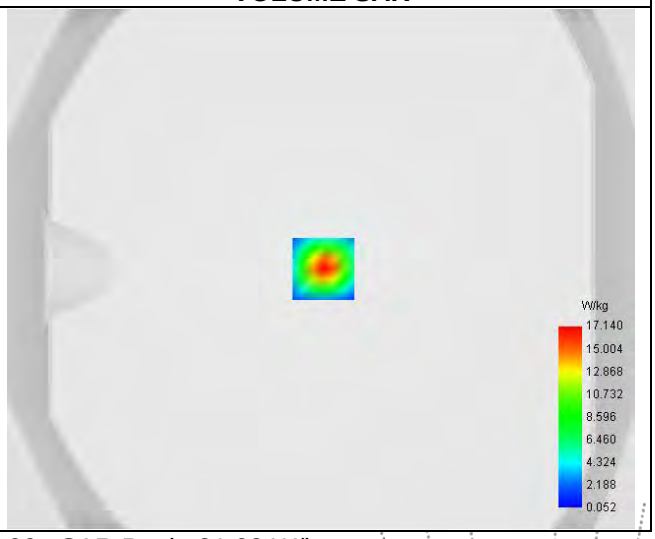
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.20
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5600
Signal	CW

B. Permitivity

Frequency (MHz)	5600.000
Relative permitivity (real part)	36.298
Relative permitivity (imaginary part)	18.460
Conductivity (S/m)	4.890

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

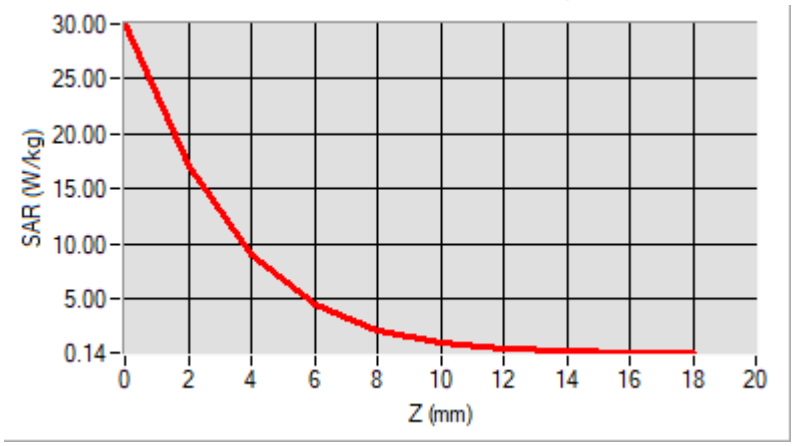
Maximum location: X=1.00, Y=0.00 ; SAR Peak: 31.08 W/kg

D. SAR 1g & 10g

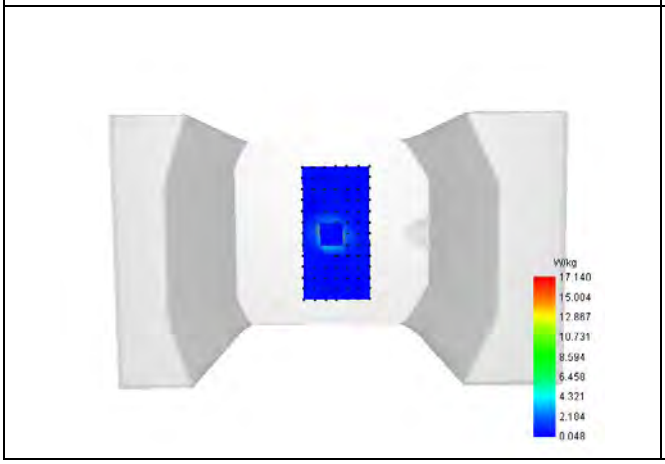
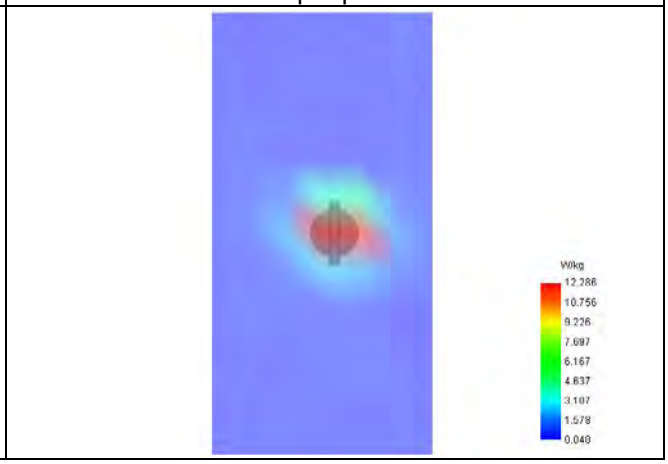
SAR 10g (W/Kg)	5.890
SAR 1g (W/Kg)	20.501
Variation (%)	3.711

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	30.005	17.140	9.077	4.467	2.119	0.999	0.495	0.280	0.189



F. 3D Image

3D screen shot	Hot spot position
	

System check at 5800 MHz
Date of measurement: 28/7/2025

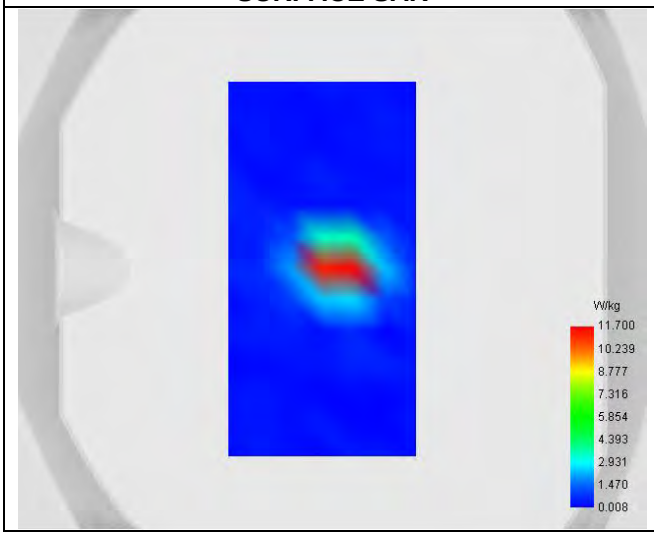
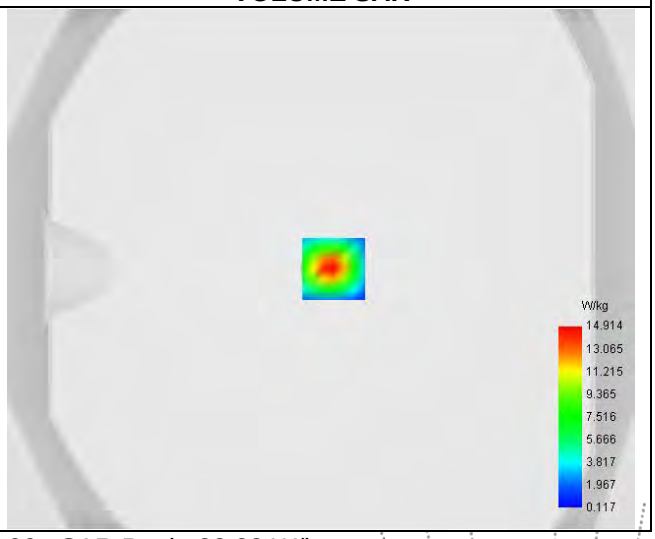
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.15
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Signal	CW

B. Permitivity

Frequency (MHz)	5800.000
Relative permitivity (real part)	35.324
Relative permitivity (imaginary part)	18.620
Conductivity (S/m)	5.245

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

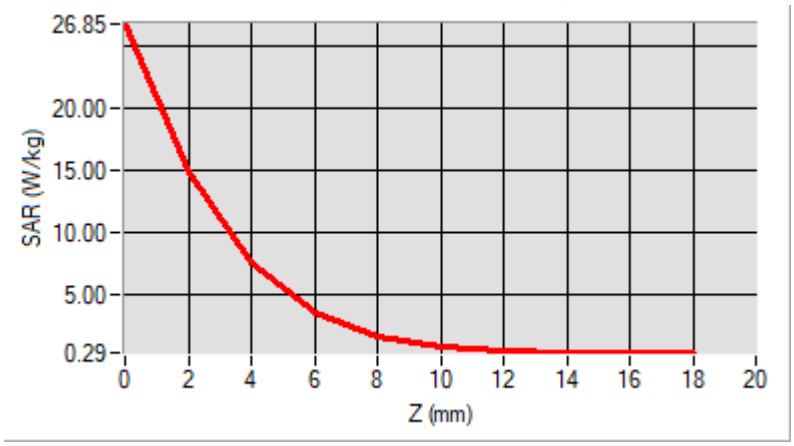
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 28.22 W/kg

D. SAR 1g & 10g

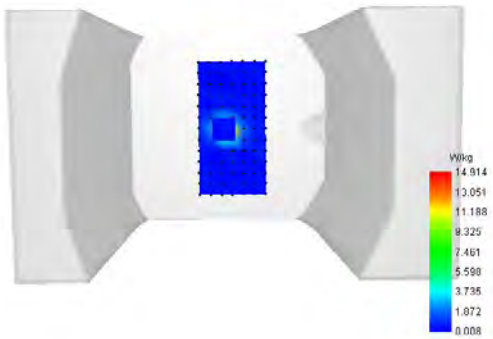
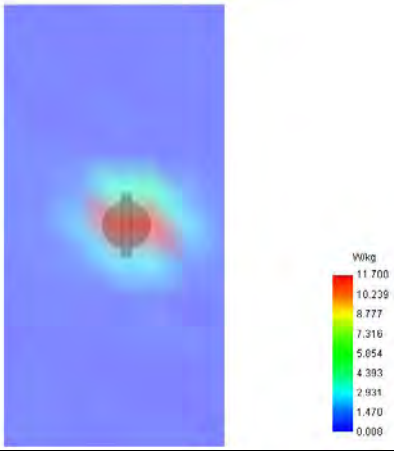
SAR 10g (W/Kg)	5.232
SAR 1g (W/Kg)	19.842
Variation (%)	-2.604

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	26.852	14.914	7.581	3.559	1.627	0.770	0.423	0.303	0.288



F. 3D Image

3D screen shot	Hot spot position
	

15.2 SAR Test Graph Results

Plot 1
Date of measurement: 28/7/2025

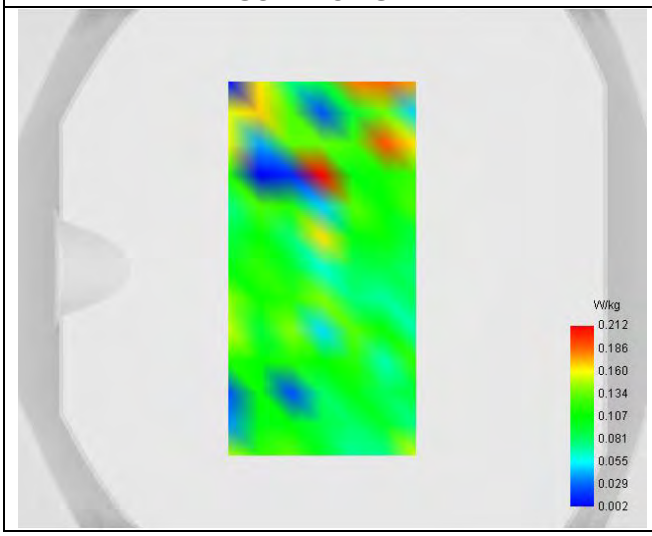
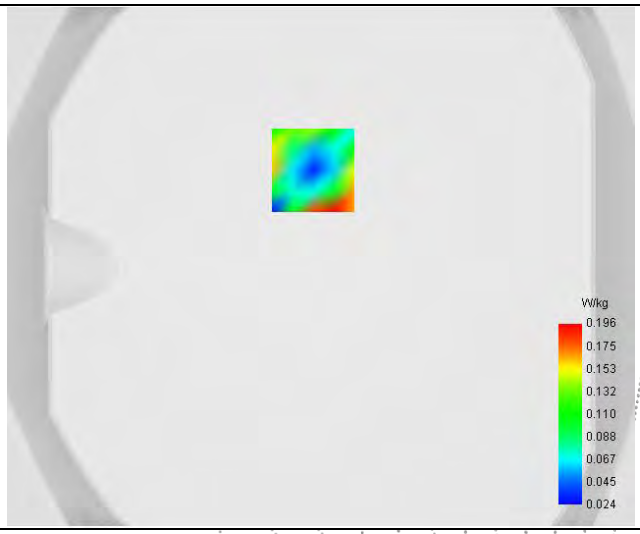
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	WIFI 2.4G
Signal	802.11b

B. Permitivity

Frequency (MHz)	2437.000
Relative permitivity (real part)	37.597
Relative permitivity (imaginary part)	13.207
Conductivity (S/m)	1.752

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

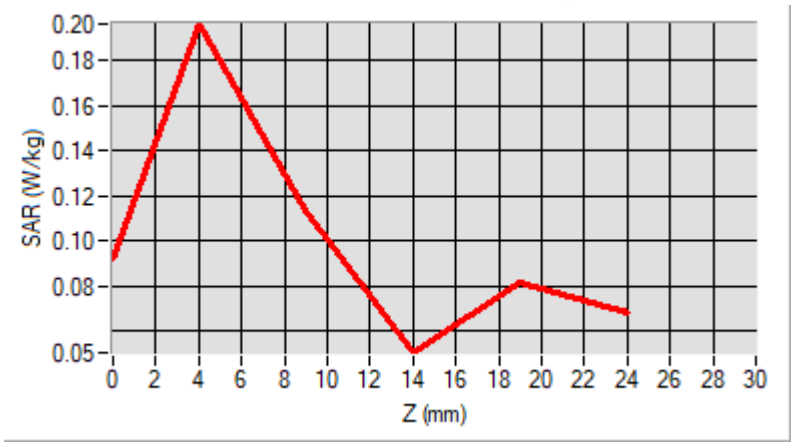
Maximum location: X=-3.00, Y=37.00 ; SAR Peak: 0.43 W/kg

D. SAR 1g & 10g

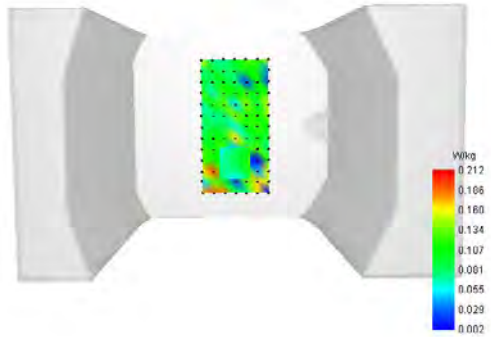
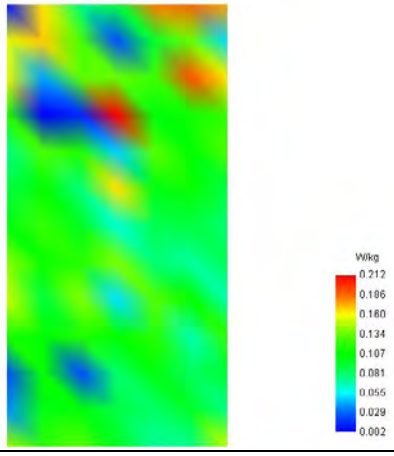
SAR 10g (W/Kg)	0.065
SAR 1g (W/Kg)	0.148
Variation (%)	-3.510

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.092	0.196	0.113	0.050	0.082



F. 3D Image

3D screen shot	Hot spot position
	

Plot 2
Date of measurement: 28/7/2025

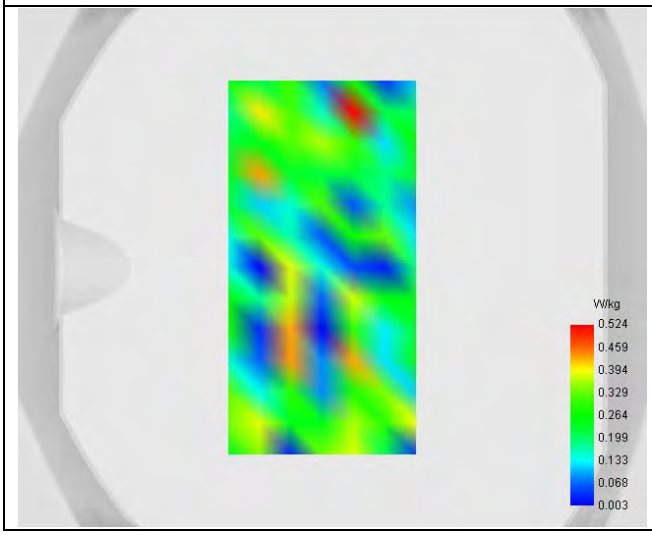
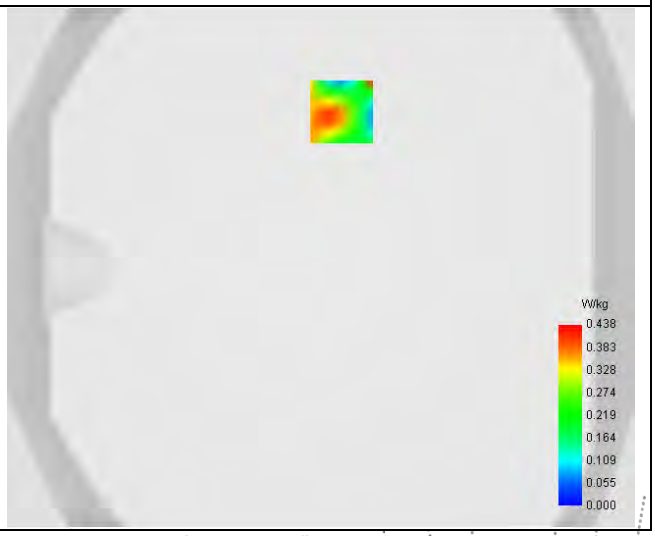
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.18
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Body
Band	WIFI 5.1G
Signal	802.11a

B. Permitivity

Frequency (MHz)	5180.000
Relative permitivity (real part)	34.548
Relative permitivity (imaginary part)	16.130
Conductivity (S/m)	4.545

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

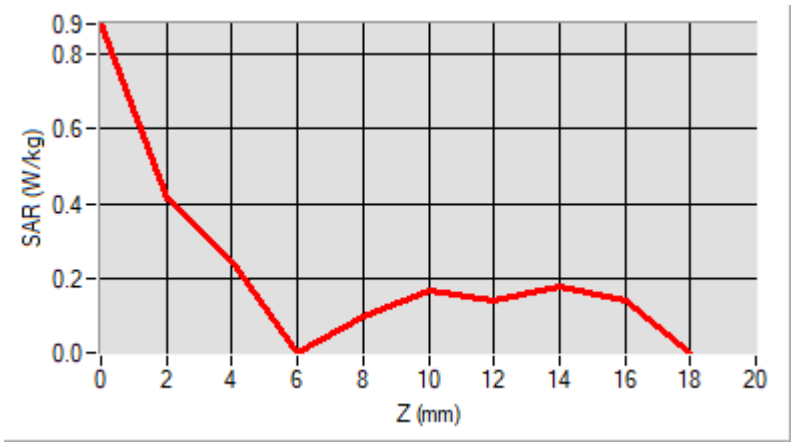
Maximum location: X=8.00, Y=60.00 ; SAR Peak: 1.26 W/kg

D. SAR 1g & 10g

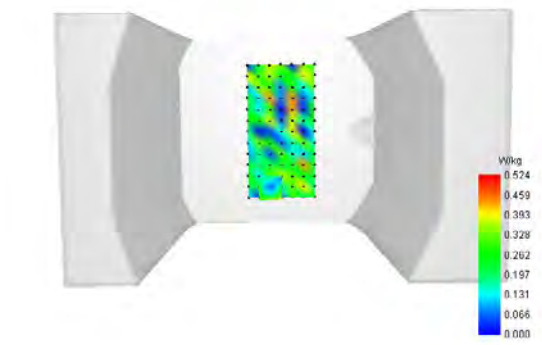
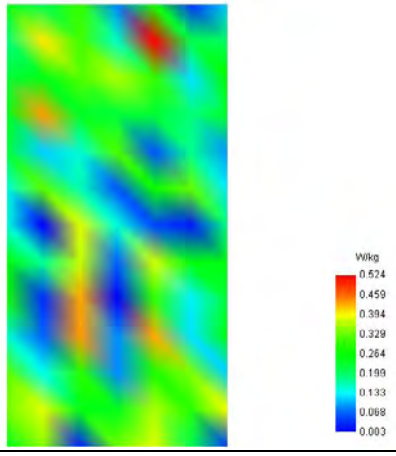
SAR 10g (W/Kg)	0.162
SAR 1g (W/Kg)	0.428
Variation (%)	2.470

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.882	0.412	0.248	0.001	0.095	0.169	0.140	0.177	0.138



F. 3D Image

3D screen shot	Hot spot position
	

Plot 3
Date of measurement: 28/7/2025

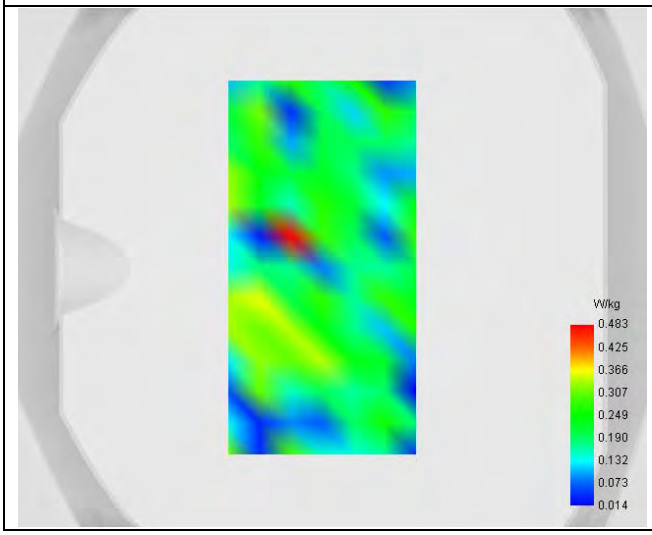
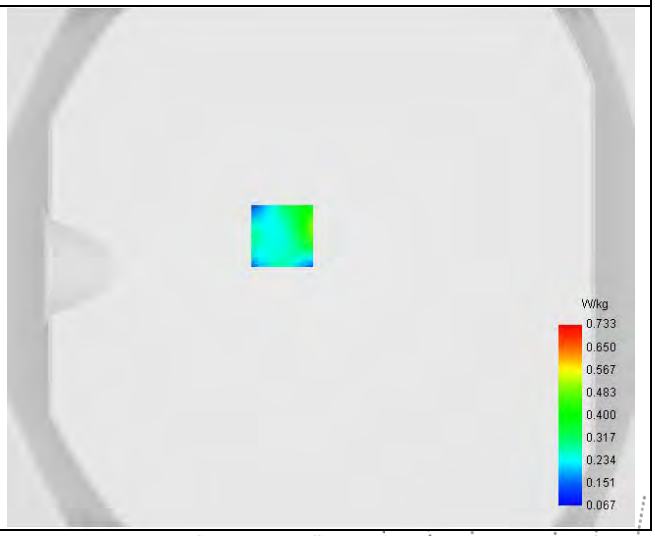
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.18
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Body
Band	WIFI 5.3G
Signal	802.11a

B. Permitivity

Frequency (MHz)	5260.000
Relative permitivity (real part)	35.862
Relative permitivity (imaginary part)	16.158
Conductivity (S/m)	4.792

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

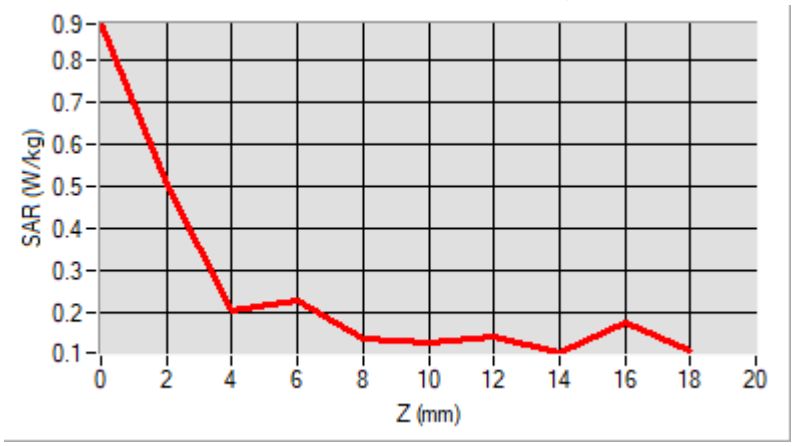
Maximum location: X=-15.00, Y=12.00 ; SAR Peak: 0.85 W/kg

D. SAR 1g & 10g

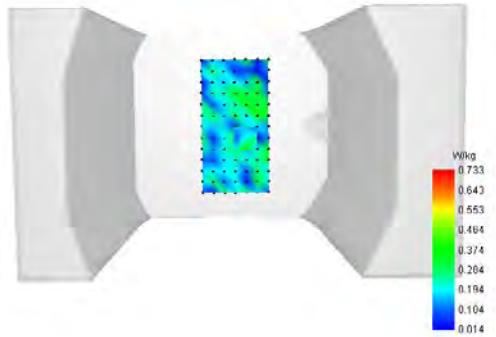
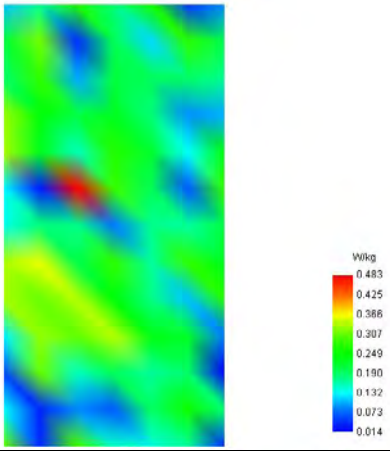
SAR 10g (W/Kg)	0.188
SAR 1g (W/Kg)	0.401
Variation (%)	0.420

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.886	0.507	0.204	0.229	0.138	0.130	0.141	0.105	0.179



F. 3D Image

3D screen shot	Hot spot position
	

Plot 4
Date of measurement: 28/7/2025

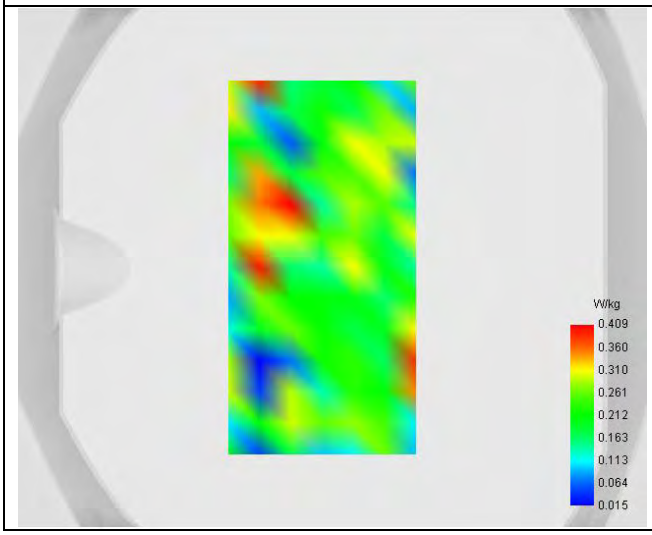
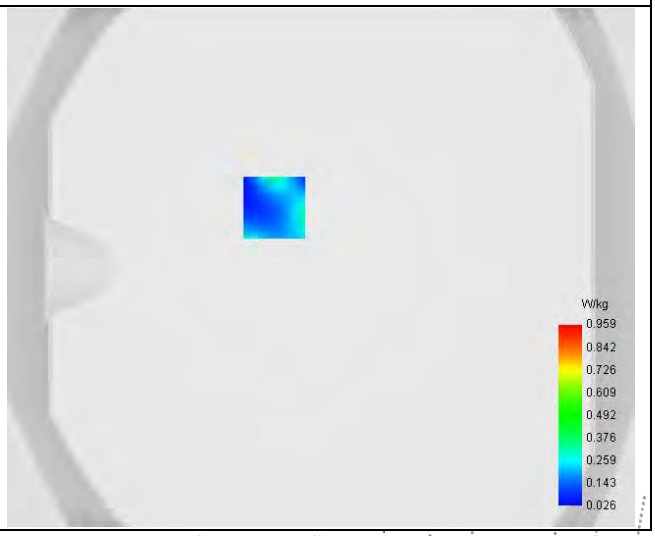
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.20
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Body
Band	WIFI 5.6G
Signal	802.11a

B. Permitivity

Frequency (MHz)	5700.000
Relative permitivity (real part)	36.298
Relative permitivity (imaginary part)	16.290
Conductivity (S/m)	4.890

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

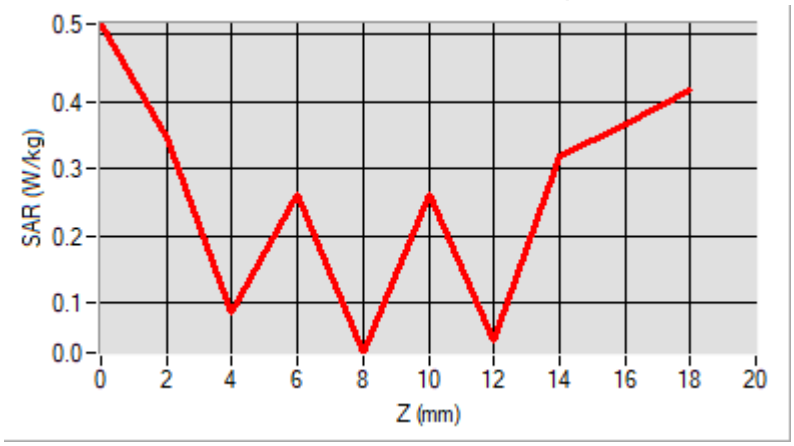
Maximum location: X=-18.00, Y=23.00 ; SAR Peak: 1.39 W/kg

D. SAR 1g & 10g

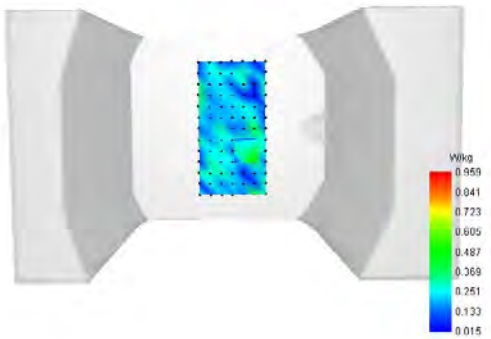
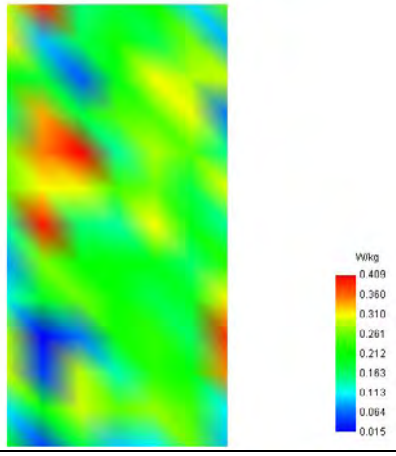
SAR 10g (W/Kg)	0.246
SAR 1g (W/Kg)	0.467
Variation (%)	-2.730

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.516	0.347	0.087	0.263	0.026	0.262	0.045	0.320	0.365



F. 3D Image

3D screen shot	Hot spot position
	

Plot 5
Date of measurement: 28/7/2025

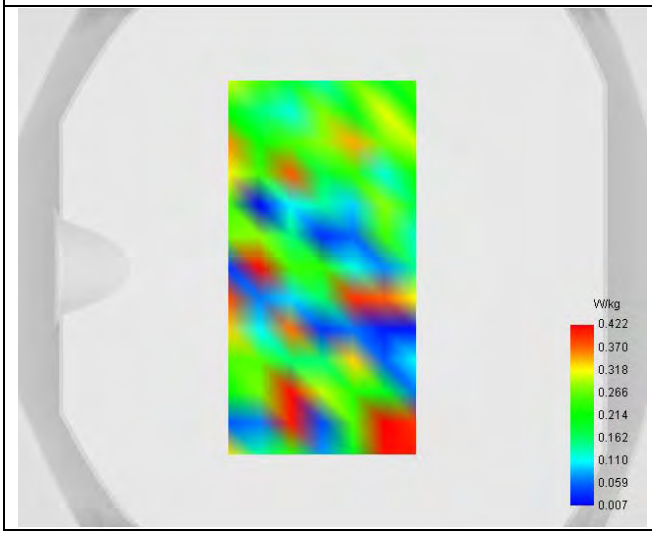
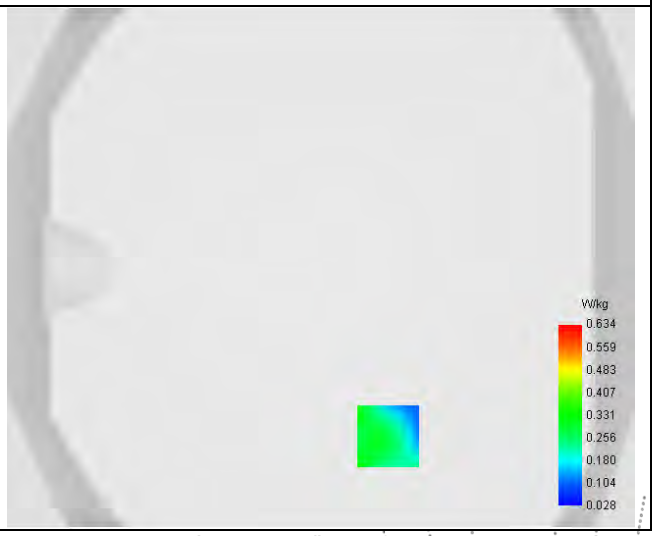
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.15
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2.0mm
Phantom	Validation plane
Device Position	Body
Band	WIFI 5.8G
Signal	802.11a

B. Permitivity

Frequency (MHz)	5745.000
Relative permitivity (real part)	35.324
Relative permitivity (imaginary part)	16.355
Conductivity (S/m)	5.245

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

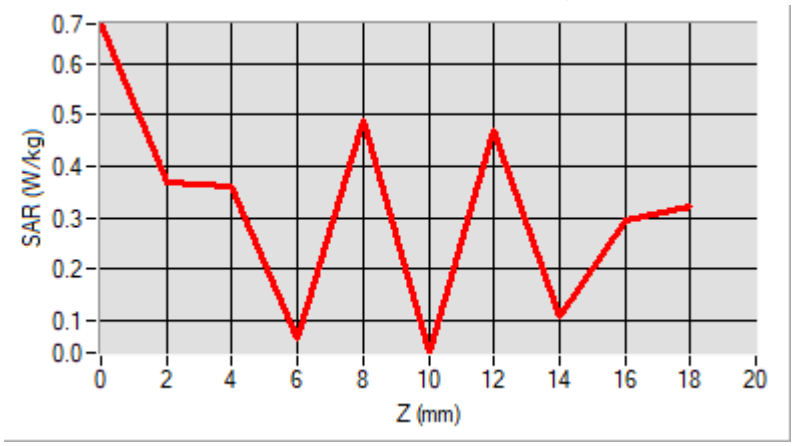
Maximum location: X=26.00, Y=-65.00 ; SAR Peak: 0.66 W/kg

D. SAR 1g & 10g

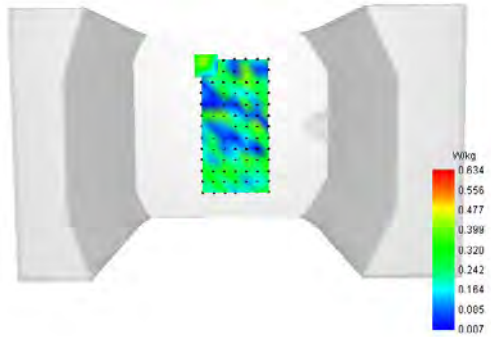
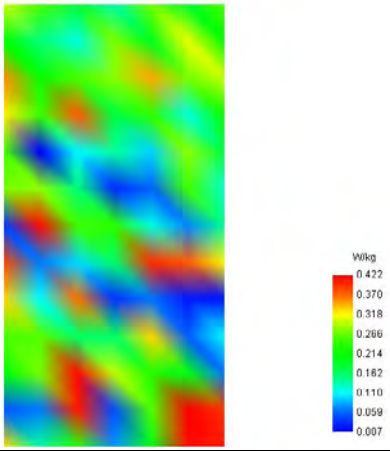
SAR 10g (W/Kg)	0.300
SAR 1g (W/Kg)	0.407
Variation (%)	3.600

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.677	0.368	0.361	0.067	0.489	0.038	0.472	0.109	0.296



F. 3D Image

3D screen shot	Hot spot position
	

Plot 6
Date of measurement: 29/7/2025

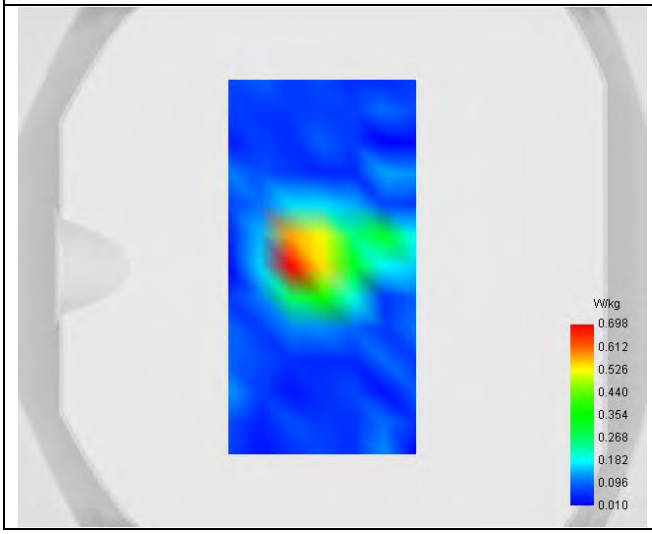
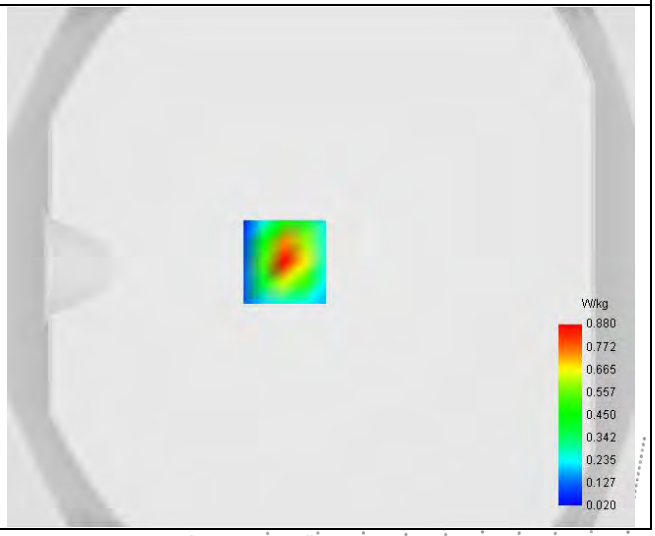
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	39.324
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.376

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

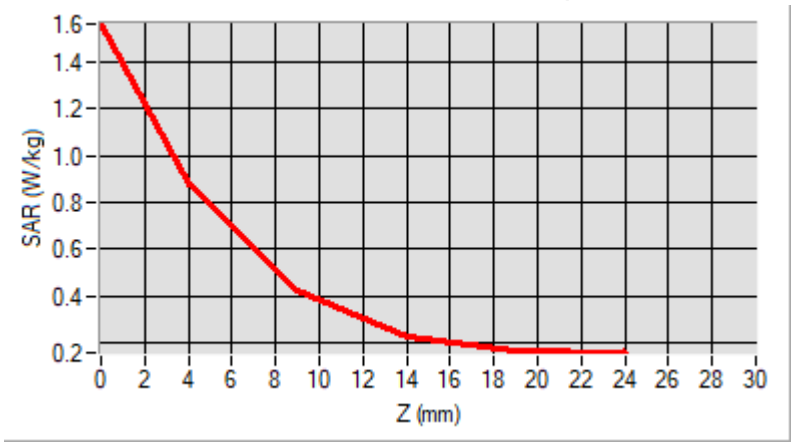
Maximum location: X=-14.00, Y=2.00 ; SAR Peak: 1.56 W/kg

D. SAR 1g & 10g

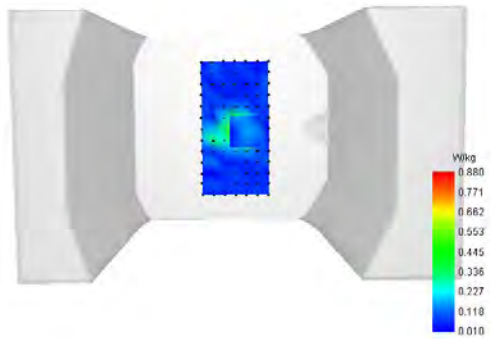
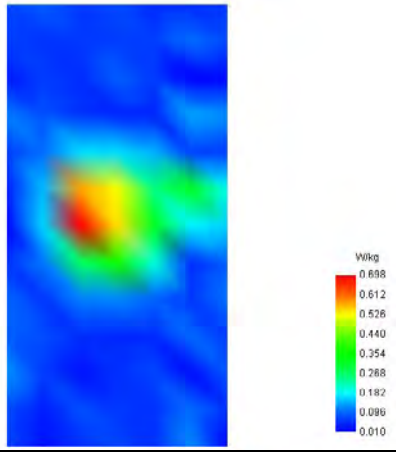
SAR 10g (W/Kg)	0.391
SAR 1g (W/Kg)	0.721
Variation (%)	-2.670

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.561	0.880	0.422	0.231	0.171



F. 3D Image

3D screen shot	Hot spot position
	

Plot 7

Date of measurement: 30/7/2025

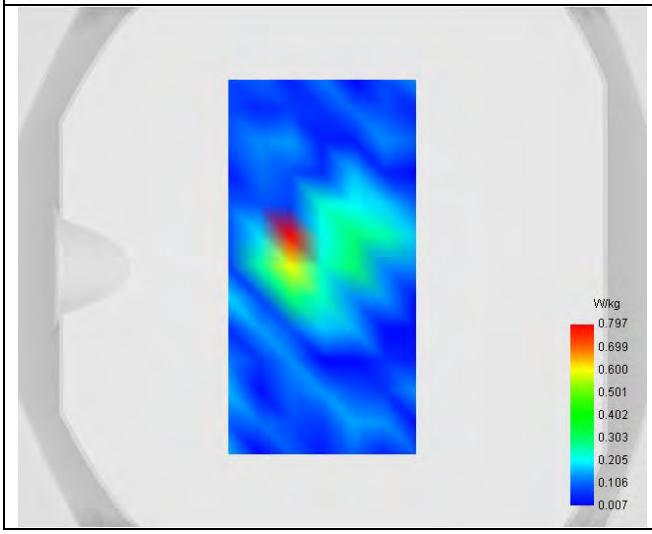
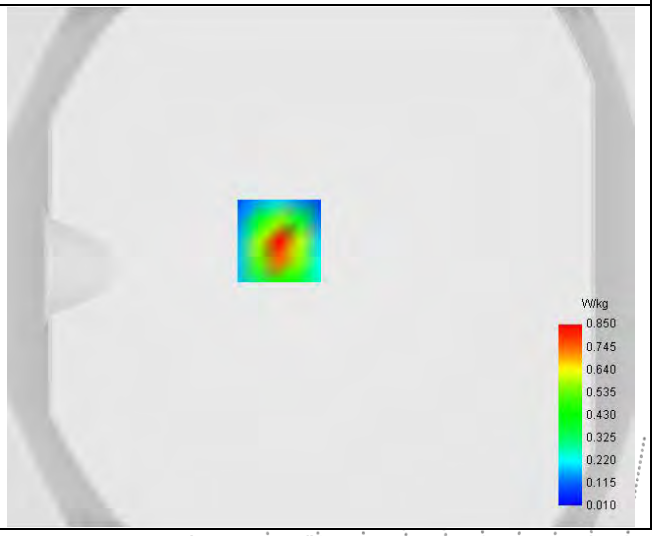
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permitivity

Frequency (MHz)	826.400
Relative permitivity (real part)	43.104
Relative permitivity (imaginary part)	19.400
Conductivity (S/m)	0.888

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

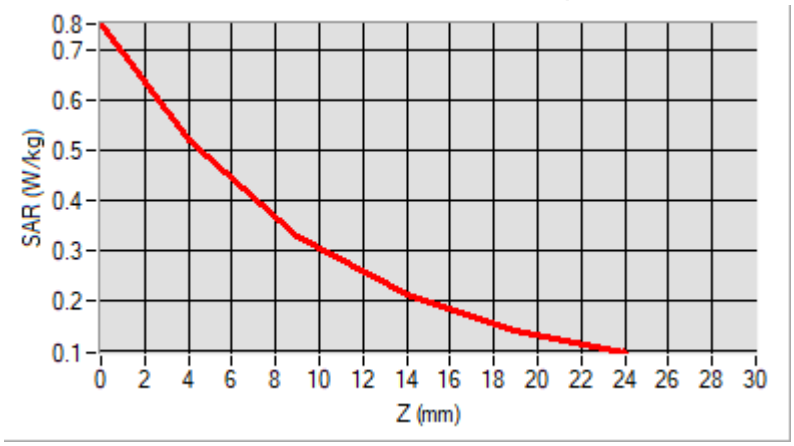
Maximum location: X=-2.00, Y=13.00 ; SAR Peak: 0.76 W/kg

D. SAR 1g & 10g

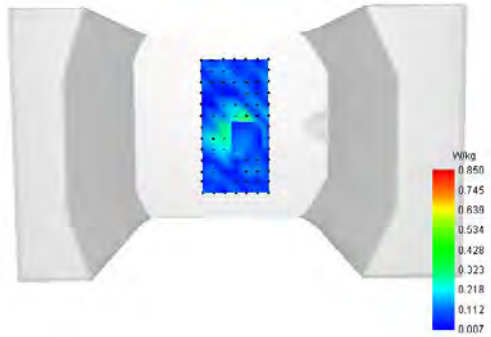
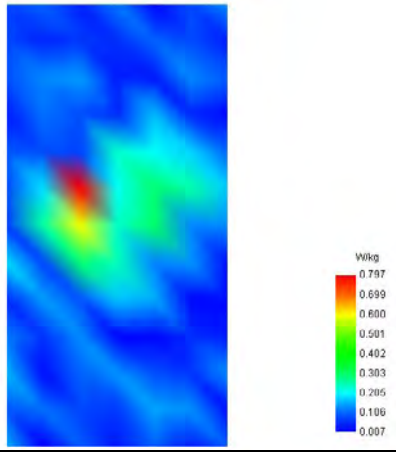
SAR 10g (W/Kg)	0.279
SAR 1g (W/Kg)	0.719
Variation (%)	1.180

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.751	0.520	0.327	0.210	0.142



F. 3D Image

3D screen shot	Hot spot position
	

Plot 8
Date of measurement: 29/7/2025

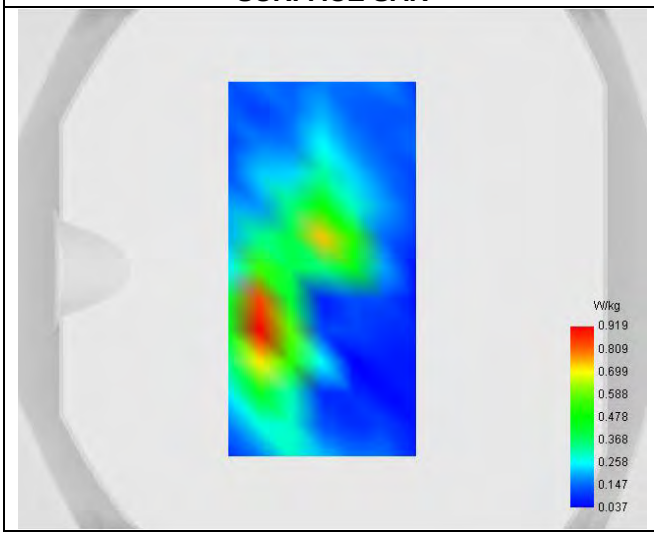
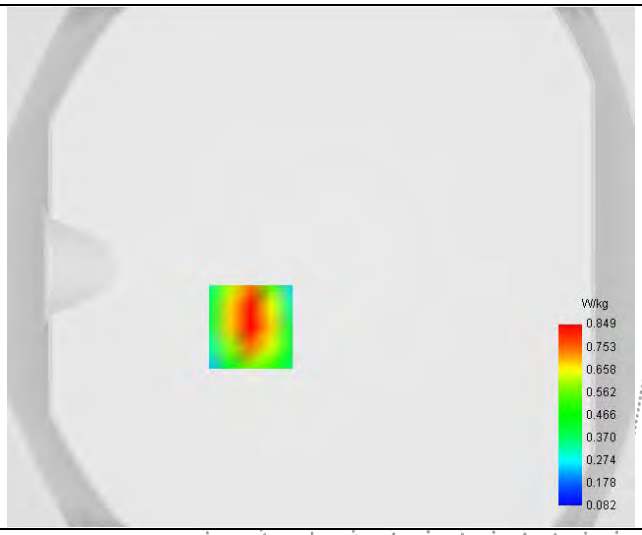
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	39.324
Relative permitivity (imaginary part)	13.455
Conductivity (S/m)	1.376

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

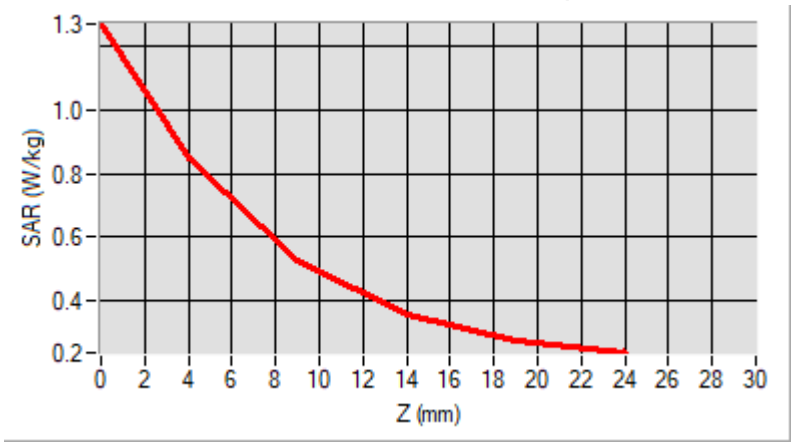
Maximum location: X=-27.00, Y=-23.00 ; SAR Peak: 1.29 W/kg

D. SAR 1g & 10g

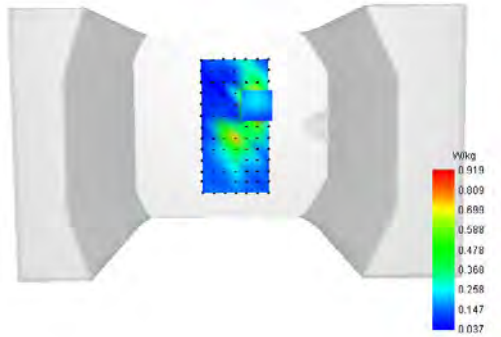
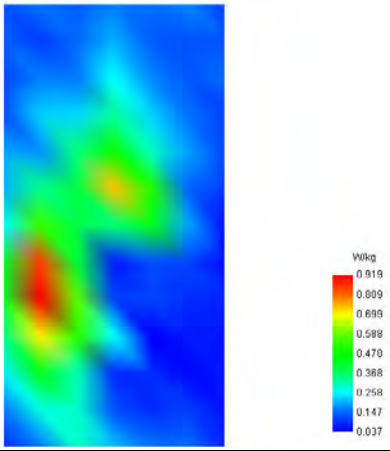
SAR 10g (W/Kg)	0.490
SAR 1g (W/Kg)	0.738
Variation (%)	2.410

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.273	0.849	0.523	0.352	0.273



F. 3D Image

3D screen shot	Hot spot position
	

Plot 9
Date of measurement: 29/7/2025

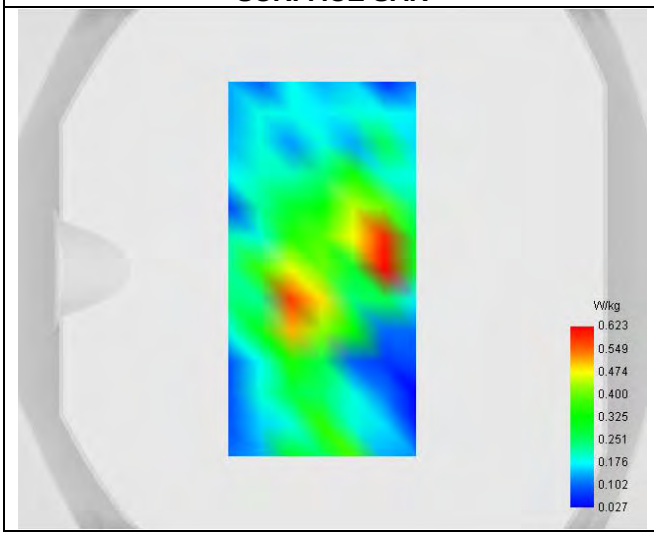
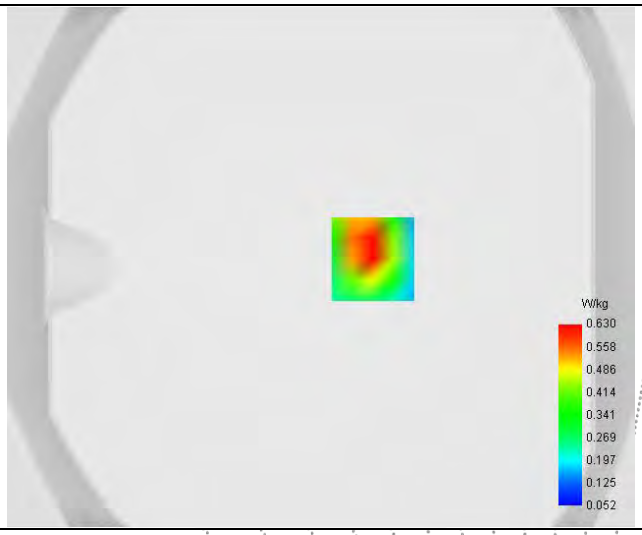
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	1732.500
Relative permitivity (real part)	40.334
Relative permitivity (imaginary part)	14.153
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

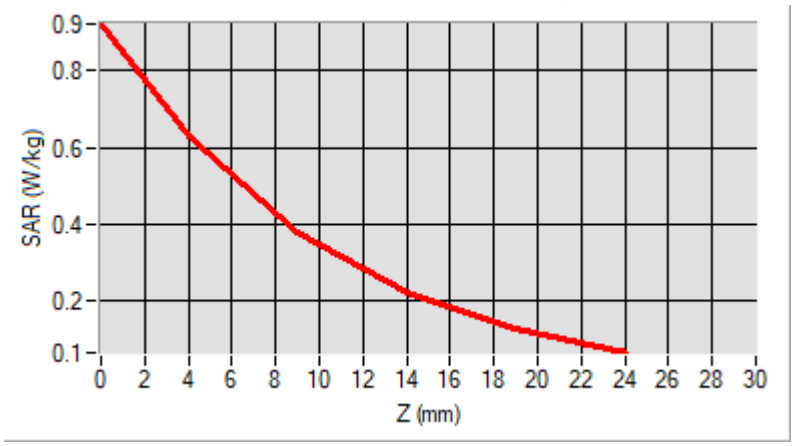
Maximum location: X=20.00, Y=3.00 ; SAR Peak: 0.94 W/kg

D. SAR 1g & 10g

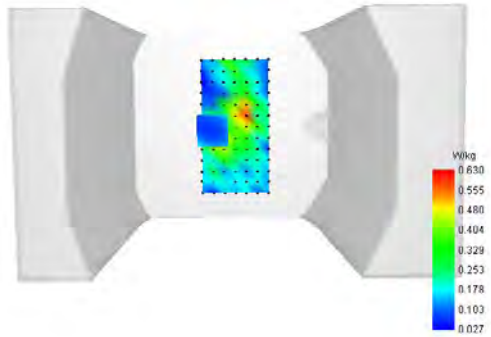
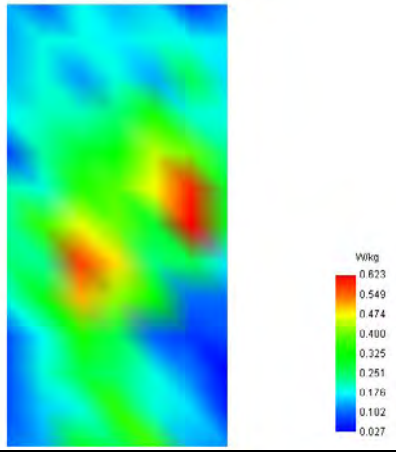
SAR 10g (W/Kg)	0.328
SAR 1g (W/Kg)	0.685
Variation (%)	1.880

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.922	0.630	0.381	0.224	0.129



F. 3D Image

3D screen shot	Hot spot position
	

Plot 10
Date of measurement: 30/7/2025

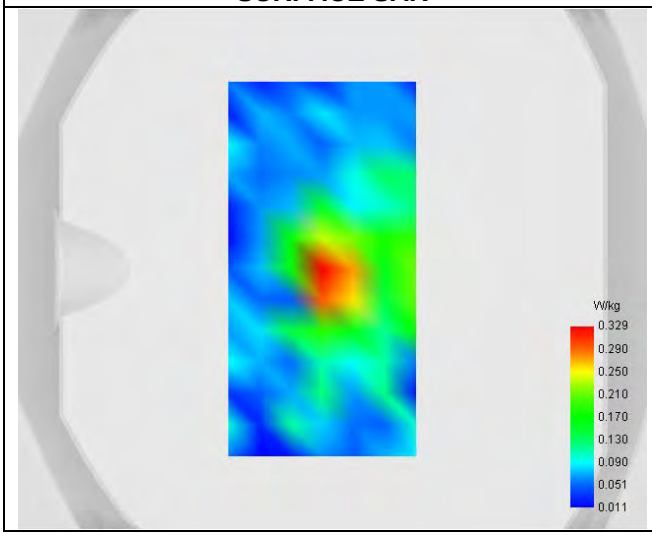
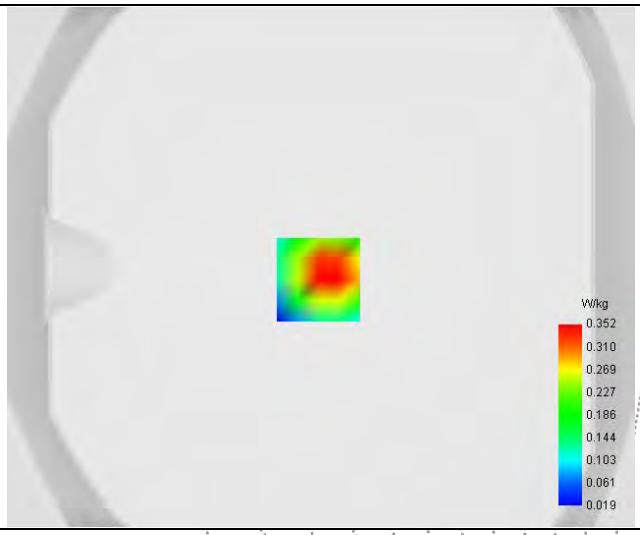
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	829.000
Relative permitivity (real part)	43.104
Relative permitivity (imaginary part)	19.407
Conductivity (S/m)	0.888

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

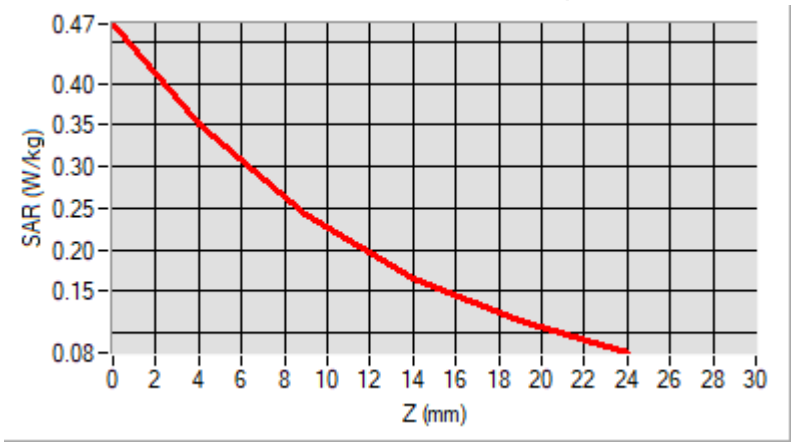
Maximum location: X=-1.00, Y=-5.00 ; SAR Peak: 0.50 W/kg

D. SAR 1g & 10g

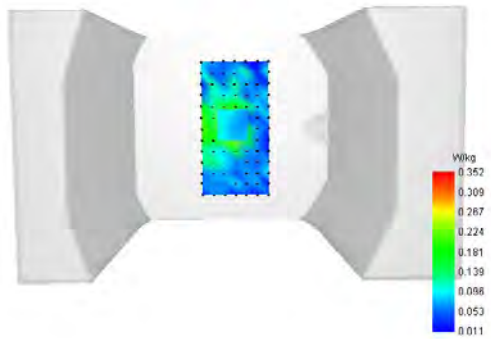
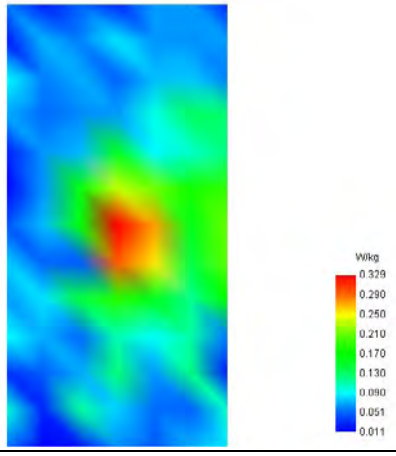
SAR 10g (W/Kg)	0.210
SAR 1g (W/Kg)	0.358
Variation (%)	2.760

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.472	0.352	0.242	0.166	0.114



F. 3D Image

3D screen shot	Hot spot position
	

Plot 11
Date of measurement: 29/7/2025

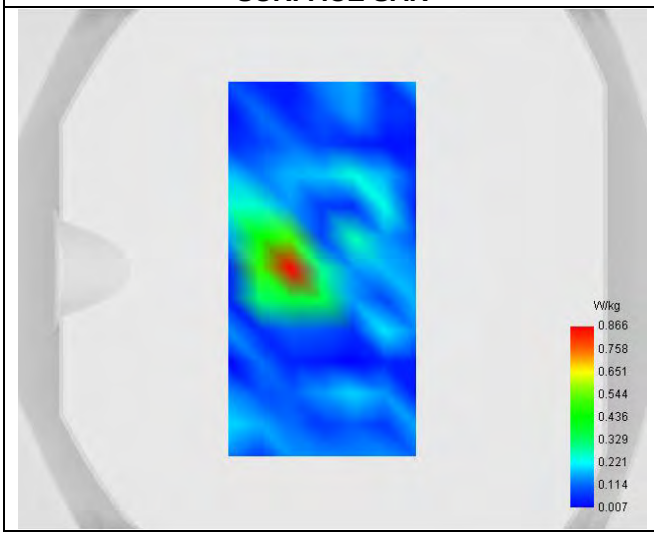
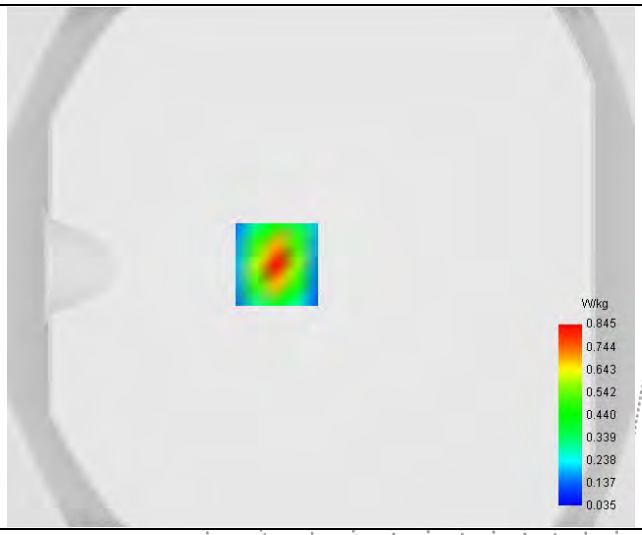
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.03
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	2535.000
Relative permitivity (real part)	38.327
Relative permitivity (imaginary part)	13.404
Conductivity (S/m)	1.911

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

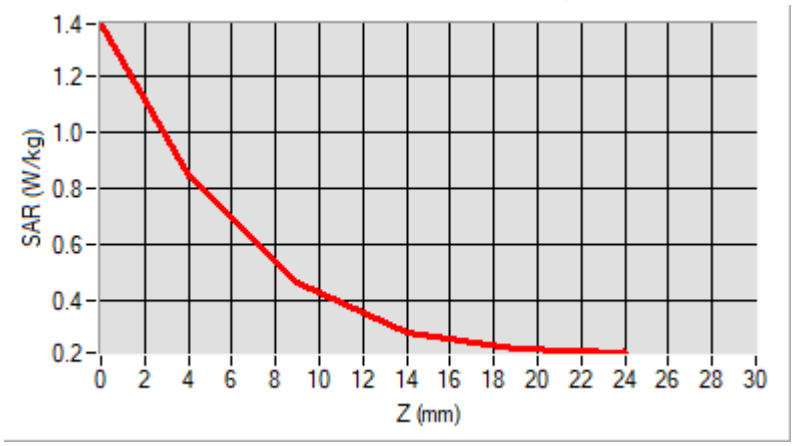
Maximum location: X=-17.00, Y=1.00 ; SAR Peak: 1.39 W/kg

D. SAR 1g & 10g

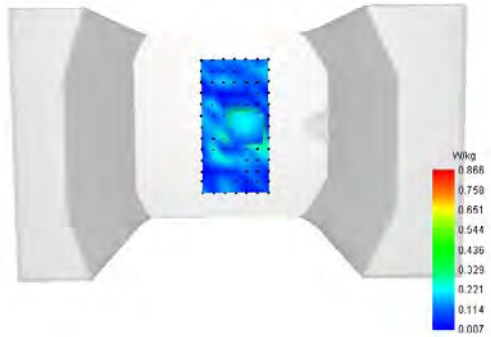
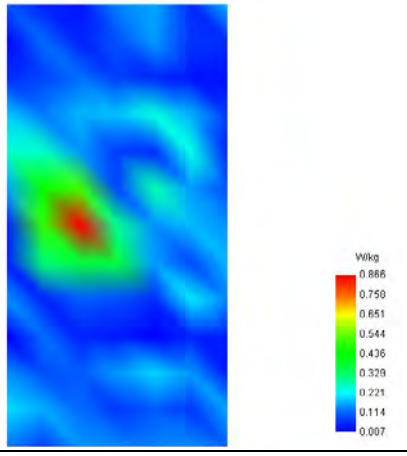
SAR 10g (W/Kg)	0.391
SAR 1g (W/Kg)	0.700
Variation (%)	1.880

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.385	0.845	0.463	0.290	0.231



F. 3D Image

3D screen shot	Hot spot position
	

Plot 12
Date of measurement: 30/7/2025

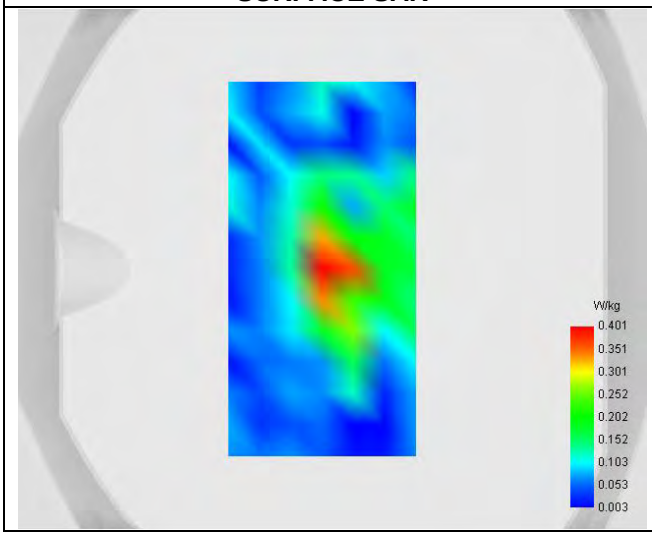
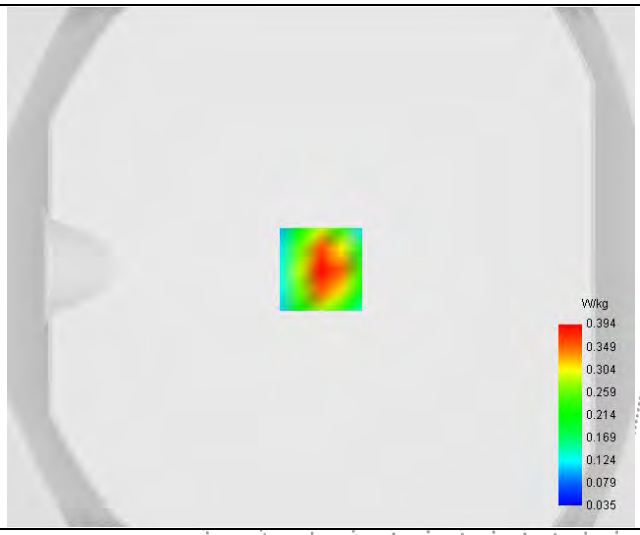
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 12
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	711.000
Relative permitivity (real part)	40.402
Relative permitivity (imaginary part)	23.345
Conductivity (S/m)	0.895

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

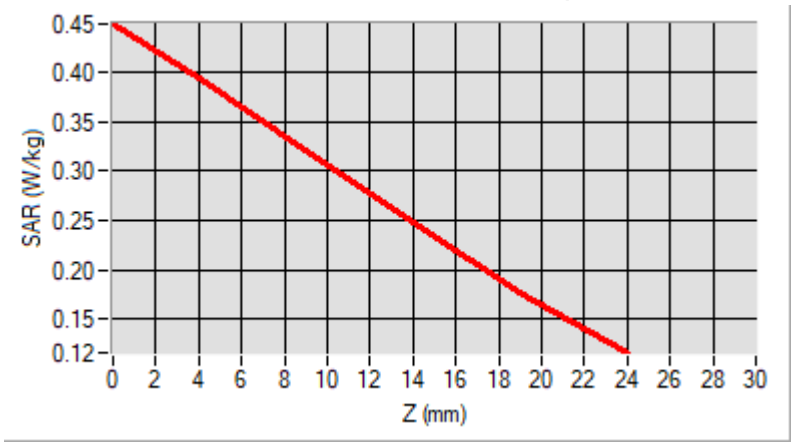
Maximum location: X=0.00, Y=-1.00 ; SAR Peak: 0.48 W/kg

D. SAR 1g & 10g

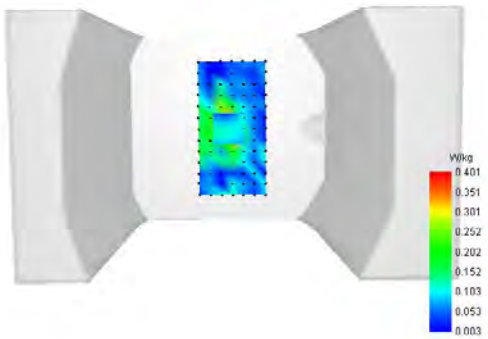
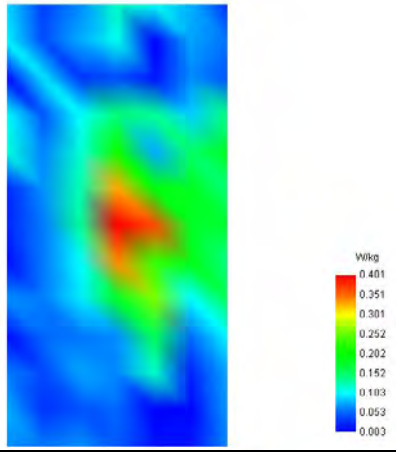
SAR 10g (W/Kg)	0.251
SAR 1g (W/Kg)	0.384
Variation (%)	-4.110

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.449	0.394	0.321	0.247	0.177



F. 3D Image

3D screen shot	Hot spot position
	

Plot 13
Date of measurement: 30/7/2025

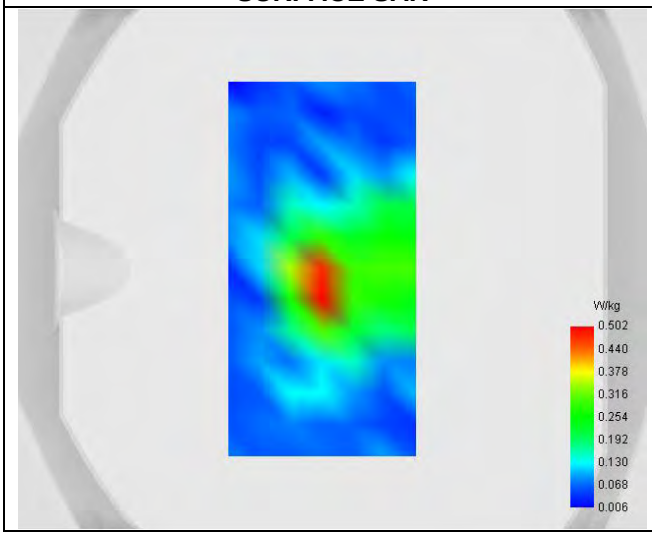
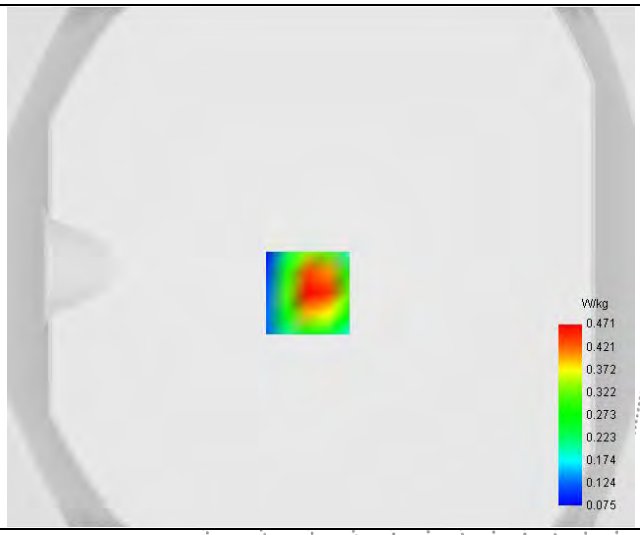
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 13
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	782.000
Relative permitivity (real part)	40.402
Relative permitivity (imaginary part)	20.664
Conductivity (S/m)	0.895

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

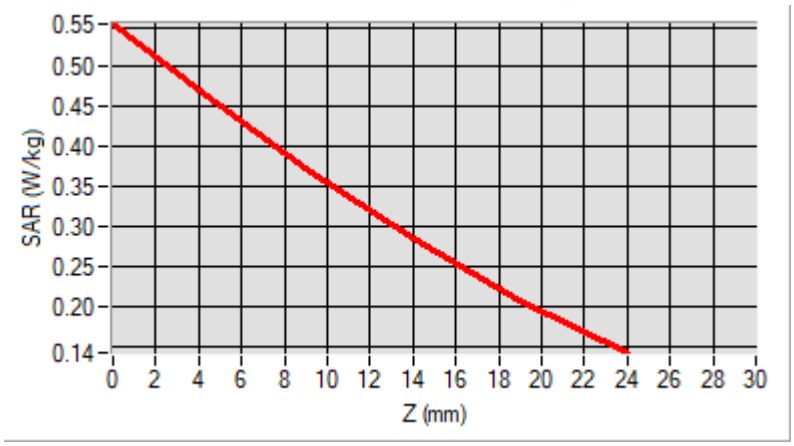
Maximum location: X=-5.00, Y=-10.00 ; SAR Peak: 0.57 W/kg

D. SAR 1g & 10g

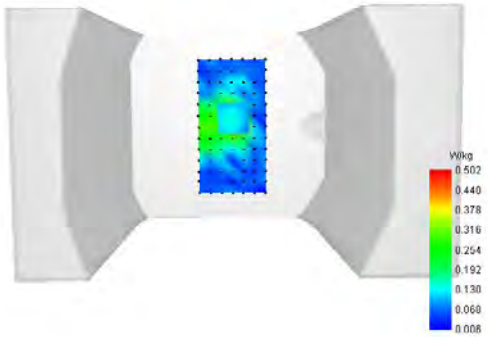
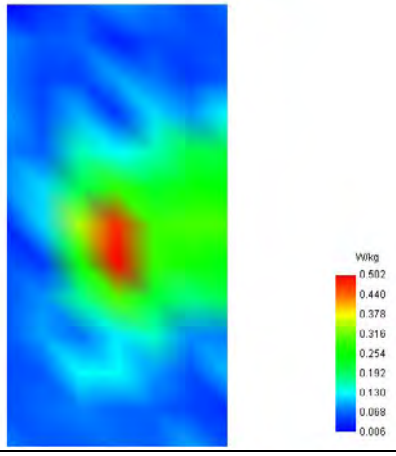
SAR 10g (W/Kg)	0.302
SAR 1g (W/Kg)	0.454
Variation (%)	-0.570

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.554	0.471	0.374	0.287	0.209



F. 3D Image

3D screen shot	Hot spot position
	

Plot 14
Date of measurement: 30/7/2025

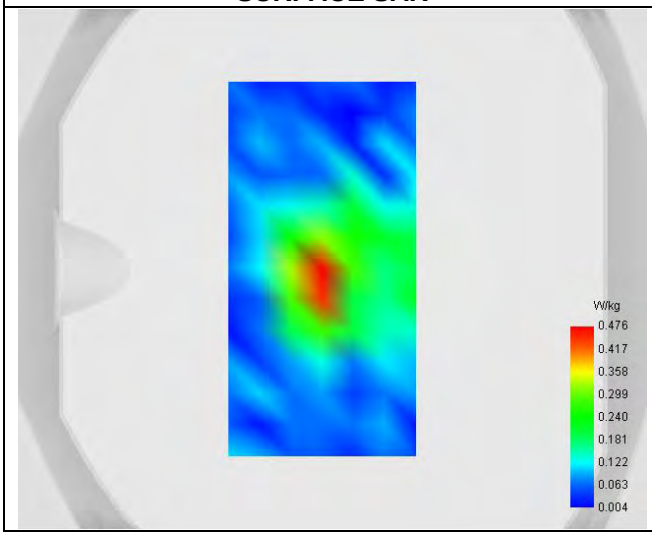
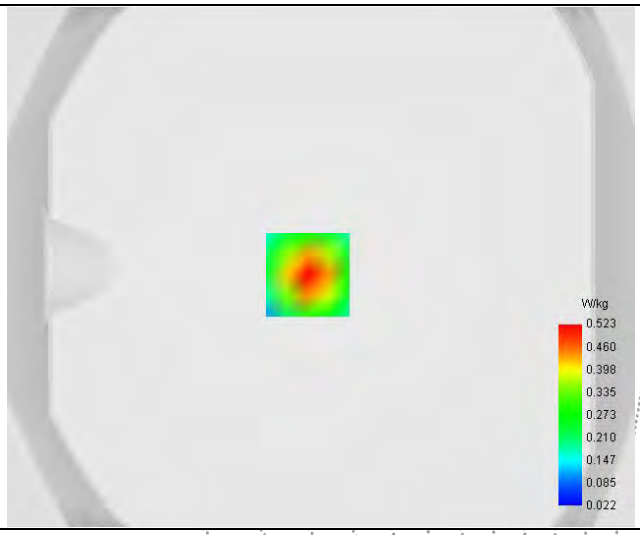
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 17
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	711.000
Relative permitivity (real part)	40.402
Relative permitivity (imaginary part)	23.233
Conductivity (S/m)	0.895

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

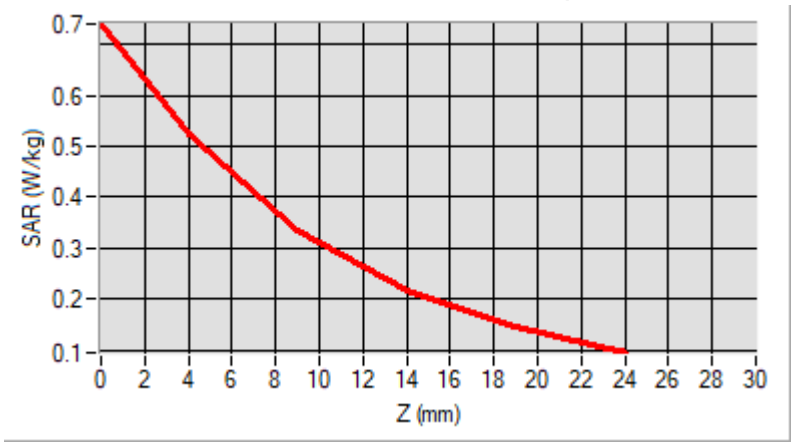
Maximum location: X=-5.00, Y=-3.00 ; SAR Peak: 0.74 W/kg

D. SAR 1g & 10g

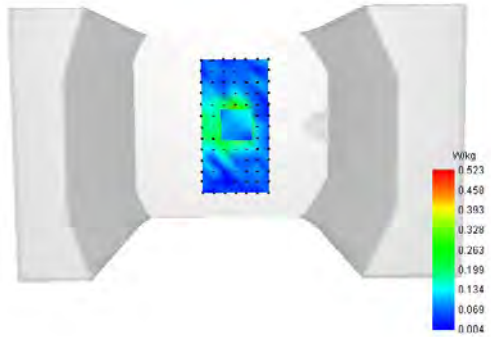
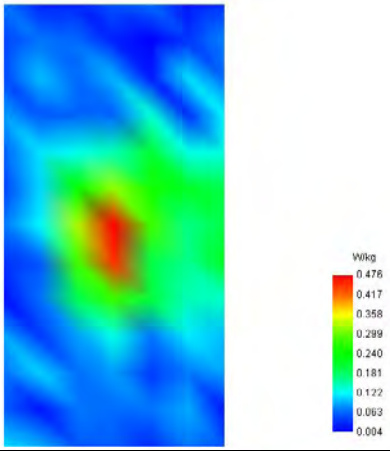
SAR 10g (W/Kg)	0.287
SAR 1g (W/Kg)	0.496
Variation (%)	-3.500

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.740	0.523	0.336	0.219	0.146



F. 3D Image

3D screen shot	Hot spot position
	

Plot 15
Date of measurement: 29/7/2025

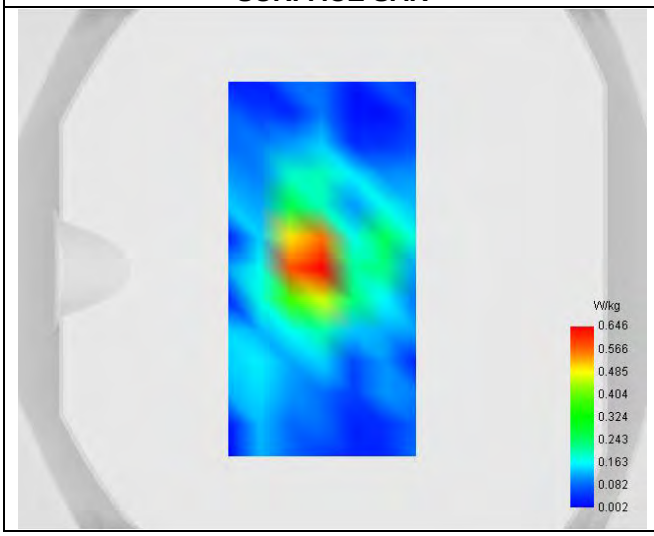
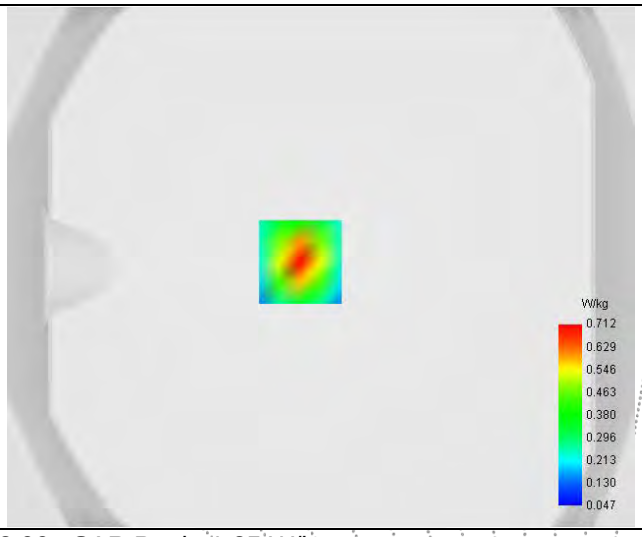
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 25
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	1882.500
Relative permitivity (real part)	39.324
Relative permitivity (imaginary part)	13.436
Conductivity (S/m)	1.376

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

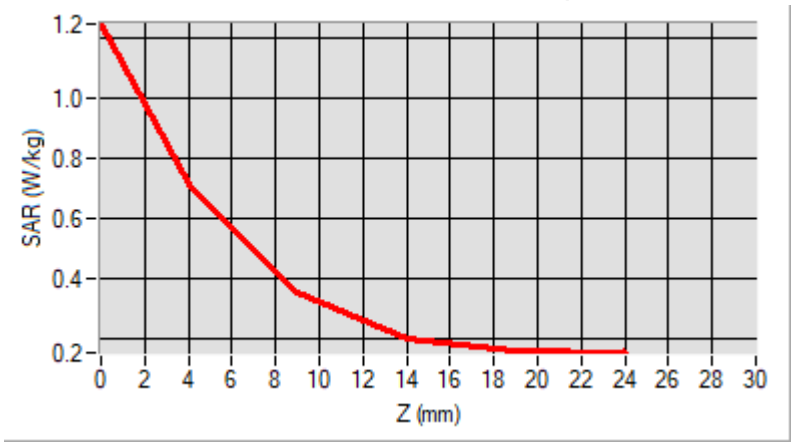
Maximum location: X=-8.00, Y=2.00 ; SAR Peak: 1.25 W/kg

D. SAR 1g & 10g

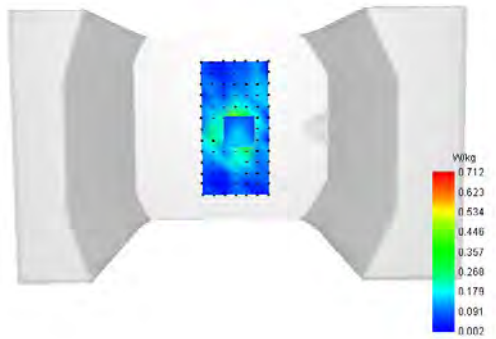
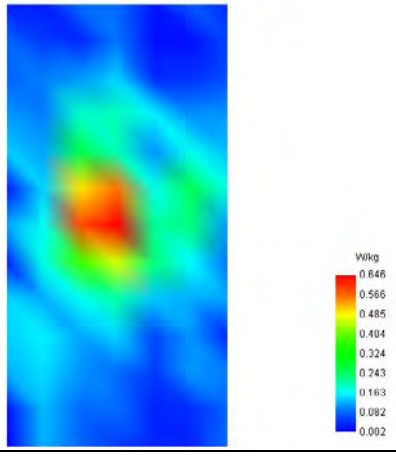
SAR 10g (W/Kg)	0.329
SAR 1g (W/Kg)	0.661
Variation (%)	-2.790

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.248	0.712	0.351	0.201	0.158



F. 3D Image

3D screen shot	Hot spot position
	

Plot 16
Date of measurement: 30/7/2025

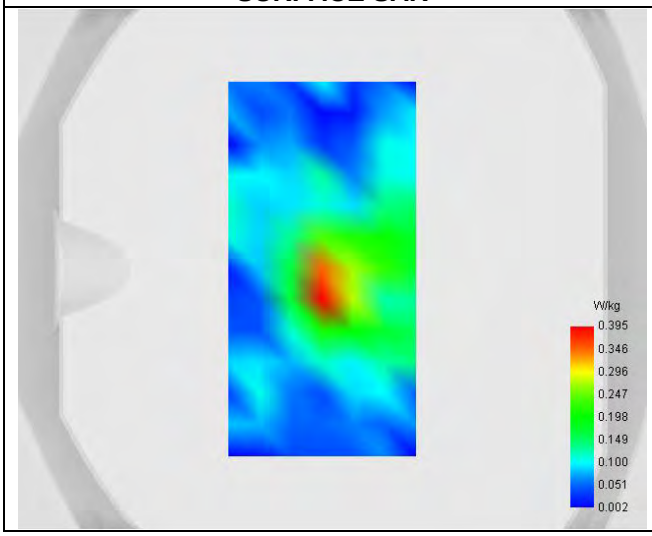
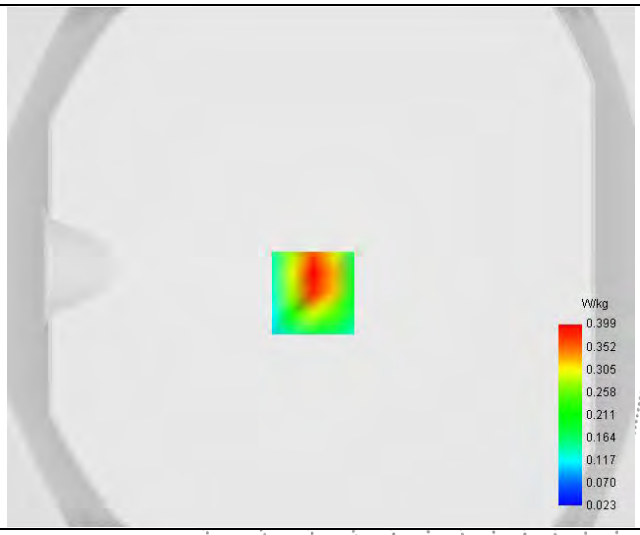
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 26
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	819.000
Relative permitivity (real part)	43.104
Relative permitivity (imaginary part)	19.810
Conductivity (S/m)	0.888

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

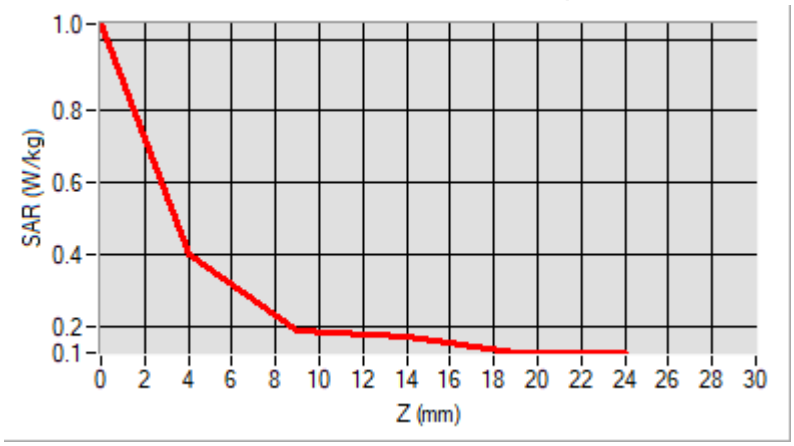
Maximum location: X=-3.00, Y=-10.00 ; SAR Peak: 0.61 W/kg

D. SAR 1g & 10g

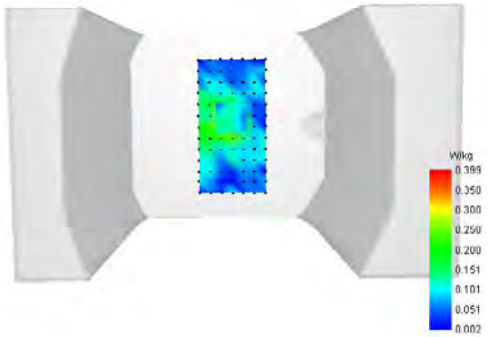
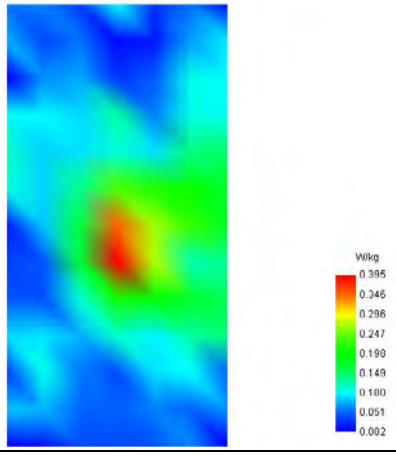
SAR 10g (W/Kg)	0.233
SAR 1g (W/Kg)	0.377
Variation (%)	-0.720

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.044	0.399	0.189	0.171	0.125



F. 3D Image

3D screen shot	Hot spot position
	

Plot 17
Date of measurement: 30/7/2025

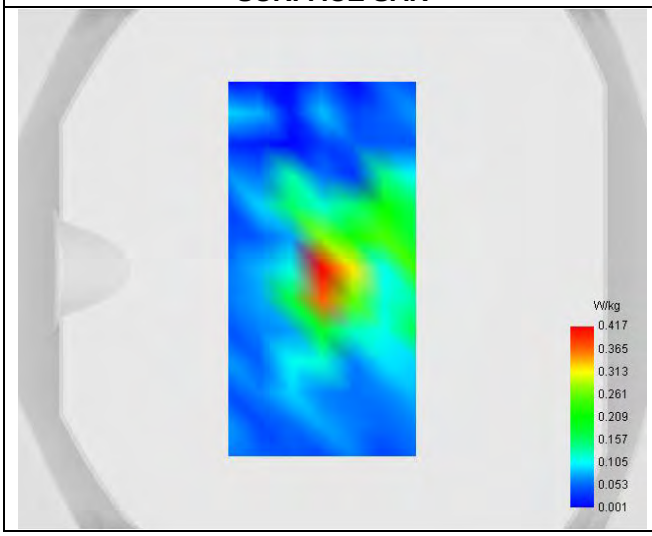
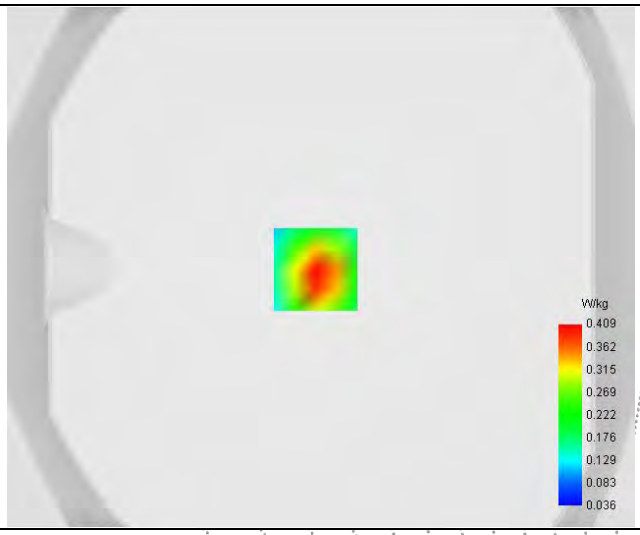
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.81
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 26
Signal	LTE FDD
Cell Bandwidth	15 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	821.500
Relative permitivity (real part)	43.104
Relative permitivity (imaginary part)	19.574
Conductivity (S/m)	0.888

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

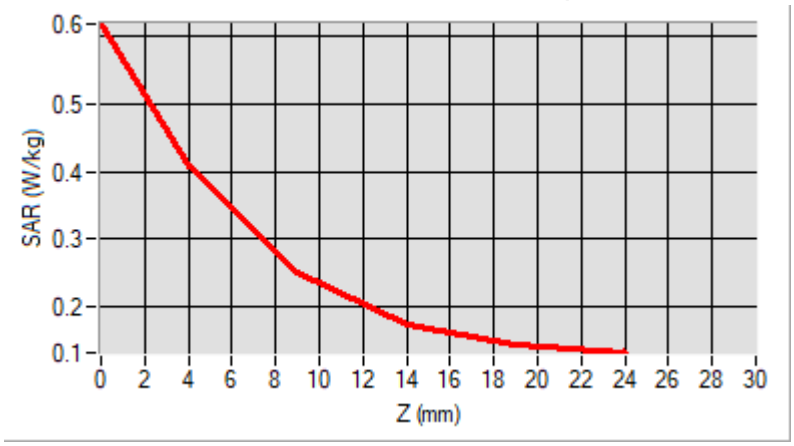
Maximum location: X=-2.00, Y=-1.00 ; SAR Peak: 0.63 W/kg

D. SAR 1g & 10g

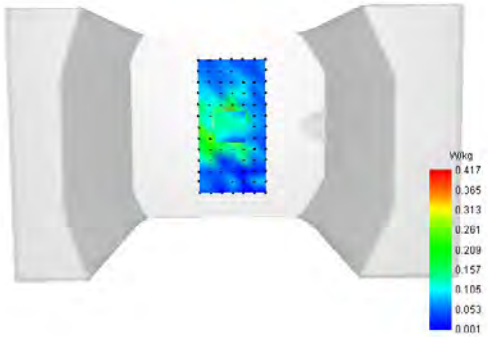
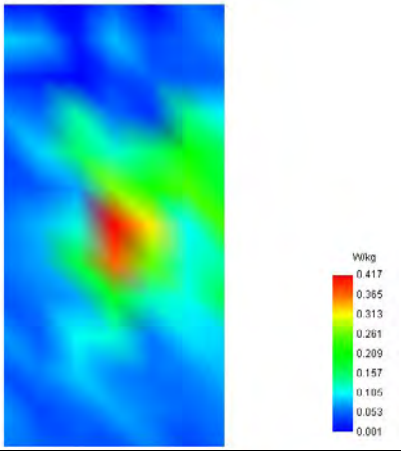
SAR 10g (W/Kg)	0.234
SAR 1g (W/Kg)	0.387
Variation (%)	-2.300

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.618	0.409	0.251	0.174	0.143



F. 3D Image

3D screen shot	Hot spot position
	

Plot 18
Date of measurement: 29/7/2025

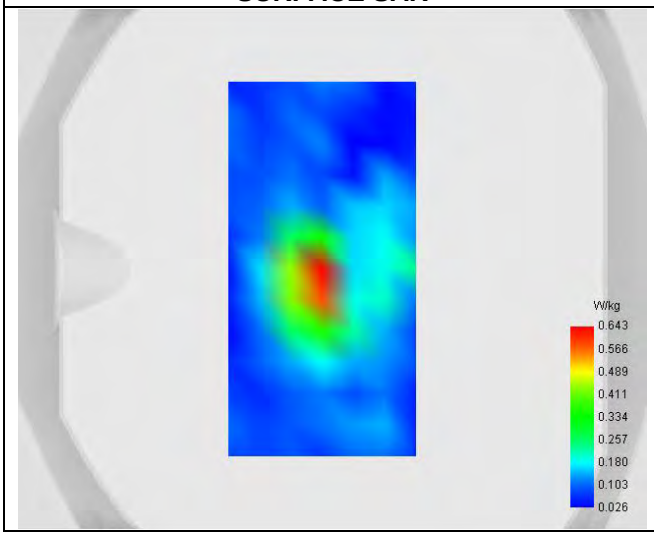
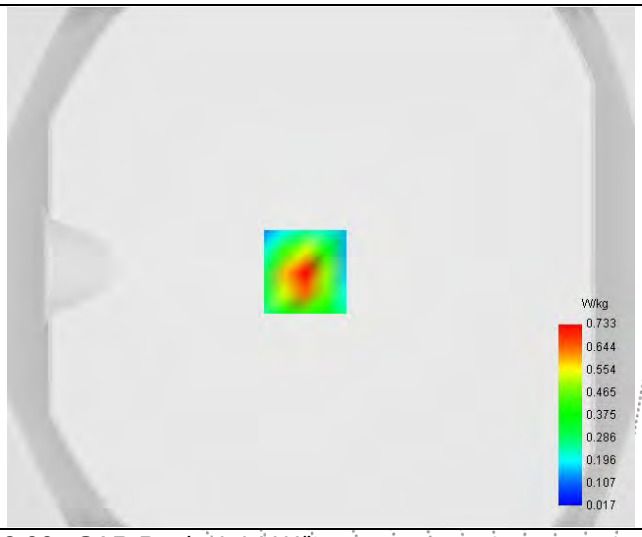
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5.0mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 66
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	1745.000
Relative permitivity (real part)	40.334
Relative permitivity (imaginary part)	14.120
Conductivity (S/m)	1.462

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

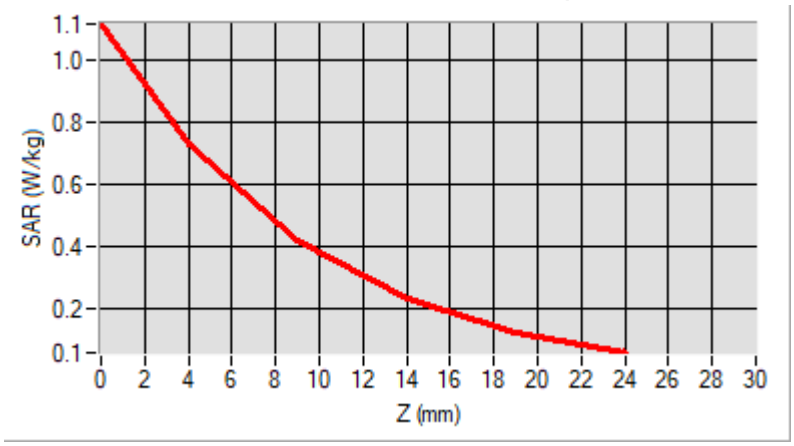
Maximum location: X=-6.00, Y=-2.00 ; SAR Peak: 1.14 W/kg

D. SAR 1g & 10g

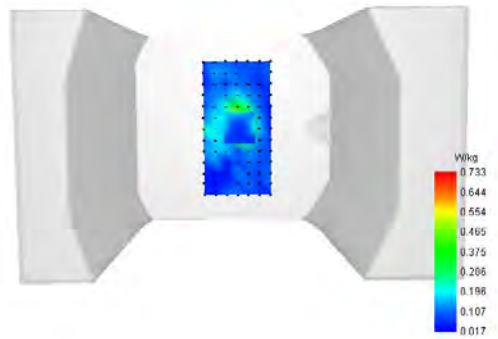
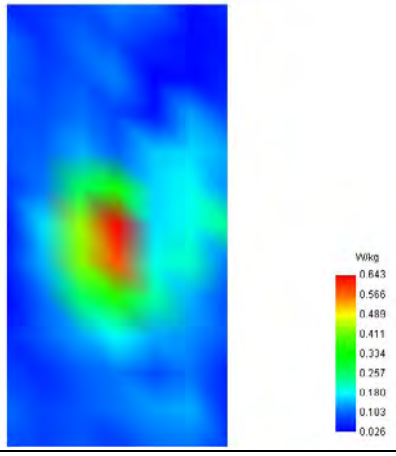
SAR 10g (W/Kg)	0.346
SAR 1g (W/Kg)	0.675
Variation (%)	-0.820

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.119	0.733	0.416	0.228	0.121



F. 3D Image

3D screen shot	Hot spot position
	

16. CALIBRATION CERTIFICATES

Probe-EPGO420 Calibration Certificate
SID750Dipole Calibration Ceriticate
SID835Dipole Calibration Ceriticate
SID1800Dipole Calibration Ceriticate
SID1900Dipole Calibration Ceriticate
SID2450Dipole Calibration Ceriticate
SID2600Dipole Calibration Ceriticate
SID5000Dipole Calibration Ceriticate

COMOSAR E-Field Probe Calibration Report

Ref : ACR.199.1.2.BES.A

SHENZHEN BCTC TECHNOLOGY CO., LTD.
1 ~2/ F, NO. B FACTORY BUILDING, PENGZHOU INDUSTRIAL PARK, FUYUAN 1ST ROAD, TANGWEI COMMUNITY, FUHAI STREET, BAO'AN DISTRICT, SHENZHEN, GUANGDONG,CHINA

MVG COMOSAR DOSIMETRIC E-FIELD PROBE

SERIAL NO.: 2623-EPGO-420

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 7/18/2025

Accreditations #2-6789
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited COMOSAR Dosimetric E-Field Probe calibration performed at MVG, using the CALIPROBE test bench, for use with a MVG COMOSAR system only. The test results covered by accreditation are traceable to the International System of Units (SI).

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.199.1.25.BES.A

	Name	*Function*	*Date*	*Signature*
Prepared by :	Cyrille ONNEE	Measurement Responsible	7/18/2025	
Checked & approved by:	Jérôme Luc	Technical Manager	7/18/2025	
Authorized by:	Yann Toutain	Laboratory Director	7/18/2025	

Yann Toutain ID Signature numérique de Yann Toutain ID Date: 2025.07.18 10:38:49 +02'00'

	Customer Name
Distribution :	Shenzhen BCTC Technology Co., Ltd.

Issue	*Name*	*Date*	*Modifications*
A	Cyrille ONNEE	7/18/2025	Initial release

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1 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Manufacturer	MVG
Model	SSE2
Serial Number	2623-EPGO-420
Product Condition (new / used)	New
Frequency Range of Probe	0.15 GHz-7.5GHz
Resistance of Three Dipoles at Connector	Dipole 1: R1=0.228 MΩ Dipole 2: R2=0.238 MΩ Dipole 3: R3=0.230 MΩ

2 PRODUCT DESCRIPTION

2.1 GENERAL INFORMATION

MVG's COMOSAR E field Probes are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards.

Figure 1 – *MVG COMOSAR Dosimetric E field Probe*

Probe Length	330 mm
Length of Individual Dipoles	24.5 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.55 mm
Distance between dipoles / probe extremity	12.7 mm

3 MEASUREMENT METHOD

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards provide recommended practices for the probe calibrations, including the performance characteristics of interest and methods by which to assess their effect. All calibrations / measurements performed meet the fore-mentioned standards.

3.1 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (air and tissue simulating liquid) using waveguides as outlined in the standards for frequency range 600-7500MHz and using the calorimeter cell method (transfer method) as outlined in the standards for frequency 150-450 MHz.