TEST REPORT

Report No.:	BCTC2411355861E
Applicant:	Acer India PVT Limited
Product Name:	Tablet
Test Model:	ACER ONE T11-22L
Tested Date:	2024-11-14 to 2024-12-31
Issued Date:	2025-02-20

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2A94K-T11-22L

Product Name:	Tablet
Trademark:	acer
Model/Type Reference:	ACER ONE T11-22L YMT11LM
Prepared For:	Acer India PVT Limited
Address:	Acer India PVT Limited, 6th Floor, Embassy Heights, No.13, Magrath Road, Bangalore, 560025, India
Manufacturer:	Acer India PVT Limited
Address:	Acer India PVT Limited, 6th Floor, Embassy Heights, No.13, Magrath Road, Bangalore, 560025, India
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:	2024-11-14
Sample tested Date:	2024-11-14 to 2024-12-31
Issue Date:	2025-02-20
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

Min Zhi Cheng/ Project Handler

Approved by:

Zero Zhou/ Reviewer

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2411355861E	2025-02-20	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, 0 Hz to 300 GHz. It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.
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 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz
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
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	Report SAR_{1g} (W/kg)		SAR_{1g} Limit (W/kg)
	Body (0mm Gap)	Hotspot (0mm Gap)	
Bluetooth	0.059	/	1.6
WIFI 2.4G	0.118	0.118	1.6
WIFI 5G	0.555	0.601	1.6
GSM	0.965	0.965	1.6
LTE	0.354	0.354	1.6
Simultaneous Transmission	1.520	1.520	1.6

The device is 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.

4. SAR Limits

FCC Limit (1g Tissue)

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average(averaged over the whole body)	0.08	0.4
Spatial Peak(averaged over any 1 g of tissue)	1.6	8.0
Spatial Peak(hands/wrists/ feet/anklesaveraged over 10 g)	4.0	20.0

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:	ACER ONE T11-22L YMT11LM
Model Differences:	All the model are the same circuit and RF module, except model names and appearance of the color.
Bluetooth Version:	5.2
Hardware Version:	N/A
Software Version:	N/A
Ratings:	DC 9V from adapter/DC 3.8V from battery
Adapter 1 Information:	Model: 623022C-1U Input: 100-240V~ 50/60Hz 0.8A Max Type-C Output: 5.0V⎓3.0A, 9.0V⎓2.0A, 12.0V⎓1.5A 18.0W Max PPS: 3.3-5.9V⎓3.0A 17.7W Max, 3.3-11.0V⎓1.65A 18.2W Max
Adapter 2 Information:	Model: TPD-203A120167UF01 Input: 100-240V~ 50/60Hz 0.6A USB-C Output: 5.0V⎓3.0A or 9.0V⎓2.22A or 12.0V⎓1.67A

Bluetooth

Operation Frequency:	2402-2480MHz
Type of Modulation:	GFSK, π/ 4 DQPSK, 8DPSK
Number Of Channel	79CH
Antenna Type:	Internal antenna
Antenna Gain:	1.96 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.

BLE

Operation Frequency:	2402-2480MHz
Type of Modulation:	GFSK
Data Rate:	LE 1M PHY
Number Of Channel	40CH
Antenna Type:	Internal antenna
Antenna Gain:	1.96 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 2.4G

Operation Frequency:	802.11b/g/n20MHz:2412~2462 MHz 802.11n40MHz: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
Type of Modulation:	OFDM/DSSS
Number Of Channel	802.11b/g/n20MHz:11 CH 802.11n40MHz: 7 CH
Antenna Gain:	1.96 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(20MHz channel bandwidth) 802.11n/ac(40MHz channel bandwidth) 802.11ac(80MHz channel bandwidth)
Operation Frequency:	5180-5240MHz for 802.11a/n(HT20)/ac(HT20); 5190-5230MHz for 802.11n(HT40)/ac(HT40); 5210MHz for 802.11 ac(HT80); 5745-5825 MHz for 802.11a/n(HT20)/ac(HT20); 5755-5795 MHz for 802.11n(HT40)/ac(HT40); 5775MHz for 802.11 ac(HT80);
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS
Type of Modulation:	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
Number Of Channel	4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band ; 2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ; 1 channels for 802.11 ac80 in the 5210MHz band ; 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ; 1 channels for 802.11 ac80 in the 5775MHz band
Antenna Type:	Internal antenna
Antenna Gain:	2.78 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.

2G

Operation Frequency:	GSM/GPRS/EGPRS 850: TX: 824~849MHz; RX: 869~894MHz; GSM/GPRS/EGPRS 1900: TX:1850~1910MHz; RX:1930~1990MHz;
GPRS Class:	Class 12
Max RF Output Power:	GSM/GPRS/EGPRS 850: 33.29 dBm, GSM/GPRS/EGPRS 1900: 30.60 dBm
Type of Modulation:	GSM with GMSK Modulation
Type of Emission:	GSM/GPRS 850: 250GXW EGPRS 850:260G7W GSM/GPRS 1900: 249KGXW EGPRS 1900:251KG7W
Antenna installation:	Internal antenna
Antenna Gain:	GSM850: -1.7 dBi GSM1900: 1.56 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 5: 824 MHz ~ 849 MHz LTE Band 41: 2535MHz~2655MHz
Rx Frequency:	LTE Band 5: 869 MHz ~ 894 MHz LTE Band 41: 2535MHz~2655MHz
Bandwidth:	LTE Band 5: 1.4MHz /3MHz /5MHz /10MHz LTE Band 41: 5MHz /10MHz /15MHz /20MHz
The Max RF Output Power (EIRP/ERP)	LTE Band 5: 25.53 dBm LTE Band 41: 25.91 dBm
99% Occupied Bandwidth:	LTE Band 5: 8M98G7D LTE Band 41: 18M0G7D
Type of Modulation:	QPSK/16QAM
Antenna Type:	Internal Antenna
Antenna Gain:	LTE Band 5: 1.4 dBi LTE Band 41: 1.17 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.

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	83711B	US37100131	Aug. 29, 2024	Aug. 28, 2025
Multimeter	Keithley	1160271	\	Nov. 10, 2024	Nov 09, 2025
S-parameter Network Analyzer	R&S	ZVB 8	101353	Dec. 07, 2024	Dec. 06, 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, 2024	July 17, 2025
DIPOLE 835	SATIMO	SID 835	SN 47/21 DIP 0G835-621	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 5000	SATIMO	SID 5000	SN 47/21 DIP 5G000-629	Nov. 25, 2024	Nov. 24, 2027
COMOSAR OPENCoaxial 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 16, 2024	May 15, 2025
Power sensor	Keysight	E9300A	US39211659	May 16, 2024	May 15, 2025
Power sensor	Keysight	E9300A	US39211305	May 16, 2024	May 15, 2025
Directional Coupler	Krytar 158020	131467	\	Nov. 10, 2024	Nov 09, 2025
Thermometer	BTE	\	\	Dec. 02, 2024	Dec. 01, 2025
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

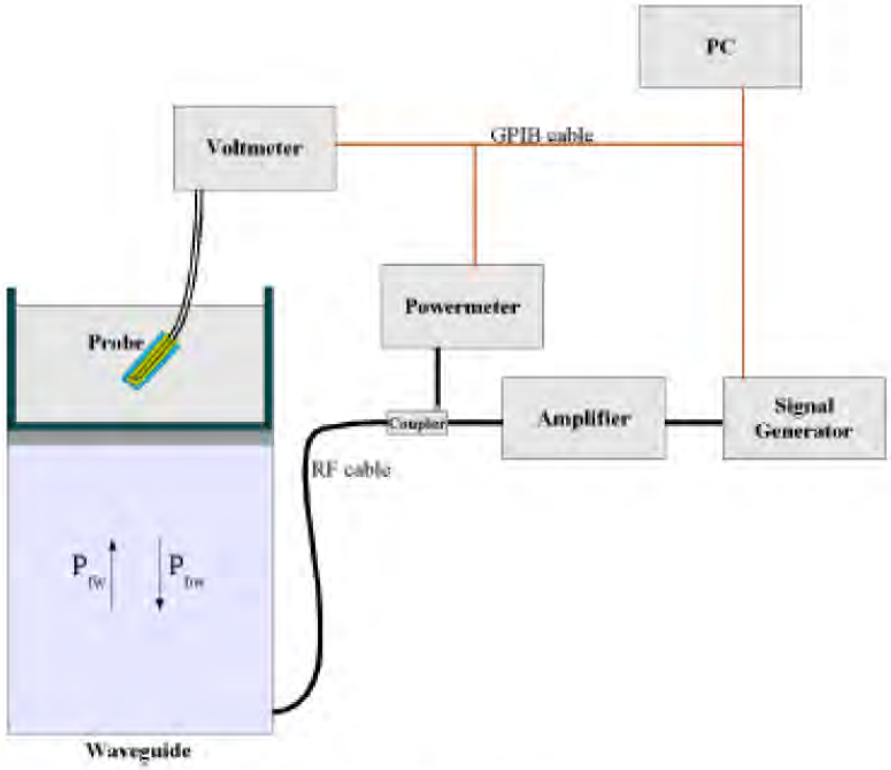
The following figure shows the system.

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 46/21 EPGO362 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.



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

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)	Liquid	Target (σ)	Target (ε_r)	Measured (σ)	Measured (ε_r)	Delta (σ)%	Delta (ε_r)%	Limit (%)	Temp. TSL (°C)	Date
835	Head	0.90	41.50	0.913	40.561	1.44	-2.26	±5	23.5	17/12/2024
1900	Head	1.40	40.00	1.423	41.504	1.64	3.76	±5	23.1	26/11/2024
2600	Head	1.96	39.00	2.041	38.225	4.13	-1.99	±5	23.5	17/12/2024
5200	Head	4.66	36.00	4.609	35.129	-1.09	-2.42	±5	23.4	13/12/2024
5800	Head	5.27	35.30	5.332	34.657	1.18	-1.82	±5	23.4	13/12/2024

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.

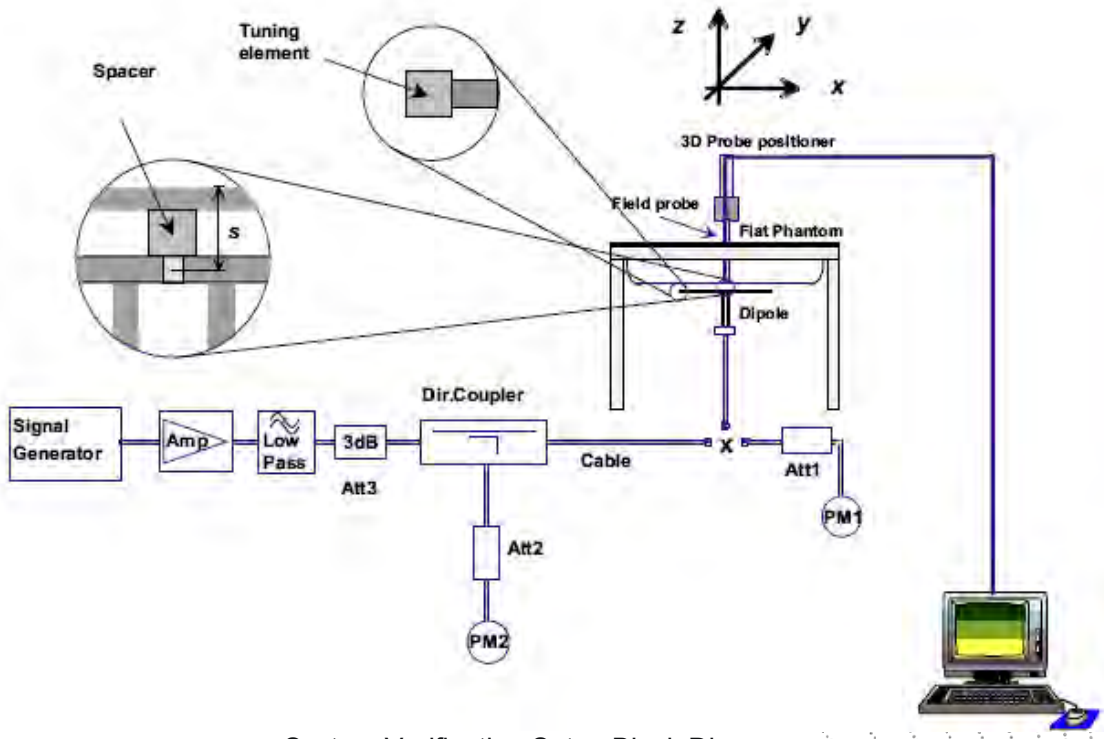
11. System Check

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)	Normalize to 1 Watt	Drift (%)	1W Target SAR_{1g} (W/Kg)	Difference Percentage (%)	Limit (%)	Liquid Temp	Date
835	250mW	2.942	11.769	-3.468	11.39	3.327	±10	23.4	17/12/2024
1900	250mW	10.326	41.305	1.583	41.26	0.109	±10	22.9	26/11/2024
2600	250mW	14.465	57.859	0.692	56.5	2.405	±10	23.4	17/12/2024
5200	250mW	18.883	75.530	-1.654	76.41	-1.152	±10	23.6	13/12/2024
5800	250mW	18.229	72.916	0.418	76.49	-4.673	±10	23.6	13/12/2024

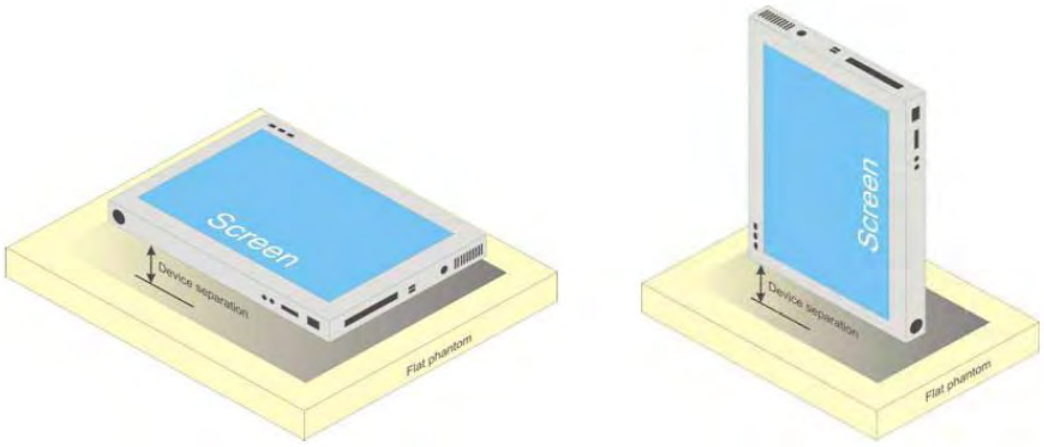
12. EUT Testing Position

Body Position

A typical example of a body supported device is a wireless enabled laptop device that among other orientations may be supported on the thighs of a sitting user. To represent this orientation, the device shall be positioned with its base against the flat phantom. Other orientations may be specified by the manufacturer in the user instructions. If the intended use is not specified, the device shall be tested directly against the flat phantom in all usable orientations.

The example shows a tablet form factor portable computer for which SAR should be separately assessed with

a). each surface and
b). the separation distances



Tablet form factor portable computer

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

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: 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.

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

Bluetooth			
Modulation	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
1-DH1	2402	-1.06	0.0
	2441	-0.63	
	2480	-0.16	
2-DH1	2402	-1.79	-0.5
	2441	-1.40	
	2480	-0.92	
3-DH1	2402	-2.08	-1.0
	2441	-1.65	
	2480	-1.18	

BLE			
Mode	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
BLE 1M	2402	0.58	1.5
	2440	0.92	
	2480	1.39	

Note:
Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for1-g SAR and ≤ 7.5 for 10-g extremity SAR

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison

Turn up Power (dBm)	Turn up Power (mW)	Separation Distance (mm)	Frequency (MHz)	Result	Exclusion Thresholds
1.5	1.41	5	2480	0.44	3.0

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
According to the calculation results in the table above, Bluetooth SAR does not need to be tested.

WIFI 2.4G			
Mode	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
b	2412	3.75	4.5
	2437	4.32	
	2462	4.22	
g	2412	2.89	3.5
	2437	3.19	
	2462	2.57	
n20	2412	1.11	1.5
	2437	1.11	
	2462	1.07	
n40	2422	0.61	1.0
	2437	-0.41	
	2452	-0.21	

Note:
Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for1-g SAR and ≤ 7.5 for 10-g extremity SAR

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison

Turn up Power (dBm)	Turn up Power (mW)	Separation Distance (mm)	Frequency (MHz)	Result	Exclusion Thresholds
4.5	2.82	5	2480	0.89	3.0

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
According to the calculation results in the table above, WIFI 2.4G SAR does not need to be tested.

WIFI 5.2G			
Mode	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
a	5180	13.49	14.0
	5200	13.82	
	5240	12.93	
n20	5180	11.62	13.0
	5200	11.49	
	5240	12.70	
n40	5190	10.09	10.5
	5230	9.75	
ac20	5180	12.40	12.5
	5200	12.04	
	5240	12.41	
ac40	5190	10.18	10.5
	5230	10.16	
ac80	5210	8.20	8.5

WIFI 5.8G			
Mode	Frequency (MHz)	Output Power (dBm)	Tune-up power (dBm)
a	5745	9.60	10.0
	5785	9.97	
	5825	9.14	
n20	5745	9.20	9.5
	5785	8.85	
	5825	8.06	
n40	5755	8.31	8.5
	5795	7.75	
ac20	5745	9.22	9.5
	5785	8.86	
	5825	8.07	
ac40	5755	8.42	8.5
	5795	7.83	
ac80	5775	7.93	8.0

GSM - Burst Average Power (dBm)								
Band	**GSM850**			**Tune-up**	**GSM1900**			**Tune-up**
Channel	**128**	**190**	**251**		**512**	**661**	**810**	
Frequency (MHz)	**824.2**	**836.6**	**848.8**		**1850.2**	**1880**	**1909.8**	
GSM	33.28	**33.29**	33.10	33.5	30.46	**30.60**	30.06	31.0
GPRS Slot -1	33.29	33.28	33.12	33.5	30.42	30.58	30.00	31.0
GPRS Slot -2	32.38	32.38	32.21	32.5	29.52	29.65	29.13	30.0
GPRS Slot -3	30.39	30.41	30.29	30.5	29.50	27.66	27.16	30.0
GPRS Slot -4	29.16	29.24	29.10	29.5	26.32	26.50	26.10	27.0
EGPRS Slot -1	25.91	26.13	26.09	26.5	25.60	24.63	24.92	26.0
EGPRS Slot -2	25.20	25.02	25.32	25.5	24.43	23.66	23.75	24.5
EGPRS Slot -3	22.66	22.92	22.92	23.0	22.34	21.10	21.31	22.5
EGPRS Slot -4	21.69	21.53	21.27	22.0	20.21	19.78	19.74	20.5

GSM - Source-Based Time-Average Power (dBm)						
Band	**GSM850**			**GSM1900**		
Channel	**128**	**190**	**251**	**512**	**661**	**810**
Frequency (MHz)	**824.2**	**836.6**	**848.8**	**1850.2**	**1880**	**1909.8**
GSM	24.28	24.29	24.10	21.46	21.60	21.06
GPRS Slot -1	24.29	24.28	24.12	21.42	21.58	21.00
GPRS Slot -2	26.38	**26.38**	26.21	23.52	23.65	23.13
GPRS Slot -3	26.14	26.16	26.04	**25.25**	23.41	22.91
GPRS Slot -4	26.16	26.24	26.10	23.32	23.50	23.10
EGPRS Slot -1	16.91	17.13	17.09	16.60	15.63	15.92
EGPRS Slot -2	19.20	19.02	19.32	18.43	17.66	17.75
EGPRS Slot -3	18.41	18.67	18.67	18.09	16.85	17.06
EGPRS Slot -4	18.69	18.53	18.27	17.21	16.78	16.74

Notes:
1. Division Factors
To average the power, the division factor is as follows:
1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.00dB
2TX-slot = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.00dB
3TX-slot = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB
4TX-slot = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.00dB
.

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Gain (dBm)	EIRP (dBm)	Verdict
Band5	1.4	20407	1	#0	QPSK	23.82	1.4	25.22	PASS
Band5	1.4	20407	1	#Mid	QPSK	23.97	1.4	25.37	PASS
Band5	1.4	20407	1	#Max	QPSK	23.85	1.4	25.25	PASS
Band5	1.4	20407	3	#0	QPSK	23.85	1.4	25.25	PASS
Band5	1.4	20407	3	#Mid	QPSK	23.88	1.4	25.28	PASS
Band5	1.4	20407	3	#Max	QPSK	23.82	1.4	25.22	PASS
Band5	1.4	20407	6	#0	QPSK	22.90	1.4	24.30	PASS
Band5	1.4	20407	1	#0	16QAM	22.83	1.4	24.23	PASS
Band5	1.4	20407	1	#Mid	16QAM	22.98	1.4	24.38	PASS
Band5	1.4	20407	1	#Max	16QAM	22.91	1.4	24.31	PASS
Band5	1.4	20407	3	#0	16QAM	23.00	1.4	24.40	PASS
Band5	1.4	20407	3	#Mid	16QAM	23.02	1.4	24.42	PASS
Band5	1.4	20407	3	#Max	16QAM	23.00	1.4	24.40	PASS
Band5	1.4	20407	6	#0	16QAM	22.07	1.4	23.47	PASS
Band5	1.4	20525	1	#0	QPSK	23.74	1.4	25.14	PASS
Band5	1.4	20525	1	#Mid	QPSK	23.83	1.4	25.23	PASS
Band5	1.4	20525	1	#Max	QPSK	23.74	1.4	25.14	PASS
Band5	1.4	20525	3	#0	QPSK	23.89	1.4	25.29	PASS
Band5	1.4	20525	3	#Mid	QPSK	23.93	1.4	25.33	PASS
Band5	1.4	20525	3	#Max	QPSK	23.88	1.4	25.28	PASS
Band5	1.4	20525	6	#0	QPSK	22.90	1.4	24.30	PASS
Band5	1.4	20525	1	#0	16QAM	22.98	1.4	24.38	PASS
Band5	1.4	20525	1	#Mid	16QAM	22.97	1.4	24.37	PASS
Band5	1.4	20525	1	#Max	16QAM	22.99	1.4	24.39	PASS
Band5	1.4	20525	3	#0	16QAM	23.10	1.4	24.50	PASS
Band5	1.4	20525	3	#Mid	16QAM	23.15	1.4	24.55	PASS
Band5	1.4	20525	3	#Max	16QAM	23.11	1.4	24.51	PASS
Band5	1.4	20525	6	#0	16QAM	22.13	1.4	23.53	PASS
Band5	1.4	20643	1	#0	QPSK	23.87	1.4	25.27	PASS
Band5	1.4	20643	1	#Mid	QPSK	23.98	1.4	25.38	PASS
Band5	1.4	20643	1	#Max	QPSK	23.87	1.4	25.27	PASS
Band5	1.4	20643	3	#0	QPSK	23.91	1.4	25.31	PASS
Band5	1.4	20643	3	#Mid	QPSK	23.93	1.4	25.33	PASS
Band5	1.4	20643	3	#Max	QPSK	23.88	1.4	25.28	PASS
Band5	1.4	20643	6	#0	QPSK	22.97	1.4	24.37	PASS
Band5	1.4	20643	1	#0	16QAM	22.58	1.4	23.98	PASS
Band5	1.4	20643	1	#Mid	16QAM	22.67	1.4	24.07	PASS
Band5	1.4	20643	1	#Max	16QAM	22.58	1.4	23.98	PASS
Band5	1.4	20643	3	#0	16QAM	22.99	1.4	24.39	PASS
Band5	1.4	20643	3	#Mid	16QAM	23.03	1.4	24.43	PASS
Band5	1.4	20643	3	#Max	16QAM	22.98	1.4	24.38	PASS
Band5	1.4	20643	6	#0	16QAM	22.14	1.4	23.54	PASS
Band5	3	20415	1	#0	QPSK	23.54	1.4	24.94	PASS
Band5	3	20415	1	#Mid	QPSK	23.59	1.4	24.99	PASS
Band5	3	20415	1	#Max	QPSK	23.59	1.4	24.99	PASS
Band5	3	20415	8	#0	QPSK	22.77	1.4	24.17	PASS
Band5	3	20415	8	#Mid	QPSK	22.87	1.4	24.27	PASS
Band5	3	20415	8	#Max	QPSK	22.86	1.4	24.26	PASS
Band5	3	20415	15	#0	QPSK	22.76	1.4	24.16	PASS
Band5	3	20415	1	#0	16QAM	23.00	1.4	24.40	PASS
Band5	3	20415	1	#Mid	16QAM	23.08	1.4	24.48	PASS
Band5	3	20415	1	#Max	16QAM	23.01	1.4	24.41	PASS
Band5	3	20415	8	#0	16QAM	21.89	1.4	23.29	PASS
Band5	3	20415	8	#Mid	16QAM	21.92	1.4	23.32	PASS

Band5	3	20415	8	#Max	16QAM	21.84	1.4	23.24	PASS
Band5	3	20415	15	#0	16QAM	21.82	1.4	23.22	PASS
Band5	3	20525	1	#0	QPSK	23.57	1.4	24.97	PASS
Band5	3	20525	1	#Mid	QPSK	23.69	1.4	25.09	PASS
Band5	3	20525	1	#Max	QPSK	23.60	1.4	25.00	PASS
Band5	3	20525	8	#0	QPSK	22.82	1.4	24.22	PASS
Band5	3	20525	8	#Mid	QPSK	22.88	1.4	24.28	PASS
Band5	3	20525	8	#Max	QPSK	22.89	1.4	24.29	PASS
Band5	3	20525	15	#0	QPSK	22.86	1.4	24.26	PASS
Band5	3	20525	1	#0	16QAM	22.81	1.4	24.21	PASS
Band5	3	20525	1	#Mid	16QAM	22.92	1.4	24.32	PASS
Band5	3	20525	1	#Max	16QAM	22.88	1.4	24.28	PASS
Band5	3	20525	8	#0	16QAM	21.80	1.4	23.20	PASS
Band5	3	20525	8	#Mid	16QAM	21.91	1.4	23.31	PASS
Band5	3	20525	8	#Max	16QAM	21.85	1.4	23.25	PASS
Band5	3	20525	15	#0	16QAM	21.80	1.4	23.20	PASS
Band5	3	20635	1	#0	QPSK	23.71	1.4	25.11	PASS
Band5	3	20635	1	#Mid	QPSK	23.86	1.4	25.26	PASS
Band5	3	20635	1	#Max	QPSK	23.79	1.4	25.19	PASS
Band5	3	20635	8	#0	QPSK	22.91	1.4	24.31	PASS
Band5	3	20635	8	#Mid	QPSK	22.96	1.4	24.36	PASS
Band5	3	20635	8	#Max	QPSK	22.88	1.4	24.28	PASS
Band5	3	20635	15	#0	QPSK	22.87	1.4	24.27	PASS
Band5	3	20635	1	#0	16QAM	22.51	1.4	23.91	PASS
Band5	3	20635	1	#Mid	16QAM	22.59	1.4	23.99	PASS
Band5	3	20635	1	#Max	16QAM	22.46	1.4	23.86	PASS
Band5	3	20635	8	#0	16QAM	21.86	1.4	23.26	PASS
Band5	3	20635	8	#Mid	16QAM	21.91	1.4	23.31	PASS
Band5	3	20635	8	#Max	16QAM	21.85	1.4	23.25	PASS
Band5	3	20635	15	#0	16QAM	21.95	1.4	23.35	PASS
Band5	5	20425	1	#0	QPSK	23.79	1.4	25.19	PASS
Band5	5	20425	1	#Mid	QPSK	23.91	1.4	25.31	PASS
Band5	5	20425	1	#Max	QPSK	23.84	1.4	25.24	PASS
Band5	5	20425	12	#0	QPSK	22.76	1.4	24.16	PASS
Band5	5	20425	12	#Mid	QPSK	22.90	1.4	24.30	PASS
Band5	5	20425	12	#Max	QPSK	22.91	1.4	24.31	PASS
Band5	5	20425	25	#0	QPSK	22.84	1.4	24.24	PASS
Band5	5	20425	1	#0	16QAM	23.32	1.4	24.72	PASS
Band5	5	20425	1	#Mid	16QAM	23.47	1.4	24.87	PASS
Band5	5	20425	1	#Max	16QAM	23.36	1.4	24.76	PASS
Band5	5	20425	12	#0	16QAM	21.78	1.4	23.18	PASS
Band5	5	20425	12	#Mid	16QAM	21.91	1.4	23.31	PASS
Band5	5	20425	12	#Max	16QAM	21.93	1.4	23.33	PASS
Band5	5	20425	25	#0	16QAM	21.87	1.4	23.27	PASS
Band5	5	20525	1	#0	QPSK	23.84	1.4	25.24	PASS
Band5	5	20525	1	#Mid	QPSK	23.97	1.4	25.37	PASS
Band5	5	20525	1	#Max	QPSK	23.93	1.4	25.33	PASS
Band5	5	20525	12	#0	QPSK	22.93	1.4	24.33	PASS
Band5	5	20525	12	#Mid	QPSK	22.96	1.4	24.36	PASS
Band5	5	20525	12	#Max	QPSK	22.94	1.4	24.34	PASS
Band5	5	20525	25	#0	QPSK	22.90	1.4	24.30	PASS
Band5	5	20525	1	#0	16QAM	23.20	1.4	24.60	PASS
Band5	5	20525	1	#Mid	16QAM	23.28	1.4	24.68	PASS
Band5	5	20525	1	#Max	16QAM	23.23	1.4	24.63	PASS
Band5	5	20525	12	#0	16QAM	21.88	1.4	23.28	PASS
Band5	5	20525	12	#Mid	16QAM	21.95	1.4	23.35	PASS
Band5	5	20525	12	#Max	16QAM	21.86	1.4	23.26	PASS

Band5	5	20525	25	#0	16QAM	21.96	1.4	23.36	PASS
Band5	5	20625	1	#0	QPSK	23.86	1.4	25.26	PASS
Band5	5	20625	1	#Mid	QPSK	23.93	1.4	25.33	PASS
Band5	5	20625	1	#Max	QPSK	23.89	1.4	25.29	PASS
Band5	5	20625	12	#0	QPSK	22.91	1.4	24.31	PASS
Band5	5	20625	12	#Mid	QPSK	23.00	1.4	24.40	PASS
Band5	5	20625	12	#Max	QPSK	22.88	1.4	24.28	PASS
Band5	5	20625	25	#0	QPSK	22.92	1.4	24.32	PASS
Band5	5	20625	1	#0	16QAM	23.20	1.4	24.60	PASS
Band5	5	20625	1	#Mid	16QAM	23.20	1.4	24.60	PASS
Band5	5	20625	1	#Max	16QAM	23.11	1.4	24.51	PASS
Band5	5	20625	12	#0	16QAM	21.95	1.4	23.35	PASS
Band5	5	20625	12	#Mid	16QAM	22.02	1.4	23.42	PASS
Band5	5	20625	12	#Max	16QAM	21.88	1.4	23.28	PASS
Band5	5	20625	25	#0	16QAM	21.92	1.4	23.32	PASS
Band5	10	20450	1	#0	QPSK	23.83	1.4	25.23	PASS
Band5	10	20450	1	#Mid	QPSK	23.95	1.4	25.35	PASS
Band5	10	20450	1	#Max	QPSK	23.91	1.4	25.31	PASS
Band5	10	20450	25	#0	QPSK	22.69	1.4	24.09	PASS
Band5	10	20450	25	#Mid	QPSK	22.92	1.4	24.32	PASS
Band5	10	20450	25	#Max	QPSK	22.91	1.4	24.31	PASS
Band5	10	20450	50	#0	QPSK	22.84	1.4	24.24	PASS
Band5	10	20450	1	#0	16QAM	23.28	1.4	24.68	PASS
Band5	10	20450	1	#Mid	16QAM	23.32	1.4	24.72	PASS
Band5	10	20450	1	#Max	16QAM	23.33	1.4	24.73	PASS
Band5	10	20450	25	#0	16QAM	21.80	1.4	23.20	PASS
Band5	10	20450	25	#Mid	16QAM	21.97	1.4	23.37	PASS
Band5	10	20450	25	#Max	16QAM	21.95	1.4	23.35	PASS
Band5	10	20450	50	#0	16QAM	21.84	1.4	23.24	PASS
Band5	10	20525	1	#0	QPSK	23.90	1.4	25.30	PASS
Band5	10	20525	1	#Mid	QPSK	24.01	1.4	25.41	PASS
Band5	10	20525	1	#Max	QPSK	24.03	1.4	25.43	PASS
Band5	10	20525	25	#0	QPSK	22.89	1.4	24.29	PASS
Band5	10	20525	25	#Mid	QPSK	23.02	1.4	24.42	PASS
Band5	10	20525	25	#Max	QPSK	22.96	1.4	24.36	PASS
Band5	10	20525	50	#0	QPSK	22.93	1.4	24.33	PASS
Band5	10	20525	1	#0	16QAM	23.02	1.4	24.42	PASS
Band5	10	20525	1	#Mid	16QAM	23.20	1.4	24.60	PASS
Band5	10	20525	1	#Max	16QAM	23.20	1.4	24.60	PASS
Band5	10	20525	25	#0	16QAM	21.90	1.4	23.30	PASS
Band5	10	20525	25	#Mid	16QAM	22.01	1.4	23.41	PASS
Band5	10	20525	25	#Max	16QAM	22.03	1.4	23.43	PASS
Band5	10	20525	50	#0	16QAM	21.97	1.4	23.37	PASS
Band5	10	20600	1	#0	QPSK	23.98	1.4	25.38	PASS
Band5	10	20600	1	#Mid	QPSK	24.11	1.4	25.51	PASS
Band5	10	20600	1	#Max	QPSK	24.13	1.4	25.53	PASS
Band5	10	20600	25	#0	QPSK	22.91	1.4	24.31	PASS
Band5	10	20600	25	#Mid	QPSK	22.99	1.4	24.39	PASS
Band5	10	20600	25	#Max	QPSK	22.87	1.4	24.27	PASS
Band5	10	20600	50	#0	QPSK	22.94	1.4	24.34	PASS
Band5	10	20600	1	#0	16QAM	22.84	1.4	24.24	PASS
Band5	10	20600	1	#Mid	16QAM	22.88	1.4	24.28	PASS
Band5	10	20600	1	#Max	16QAM	22.83	1.4	24.23	PASS
Band5	10	20600	25	#0	16QAM	21.94	1.4	23.34	PASS
Band5	10	20600	25	#Mid	16QAM	22.01	1.4	23.41	PASS
Band5	10	20600	25	#Max	16QAM	21.90	1.4	23.30	PASS
Band5	10	20600	50	#0	16QAM	21.92	1.4	23.32	PASS

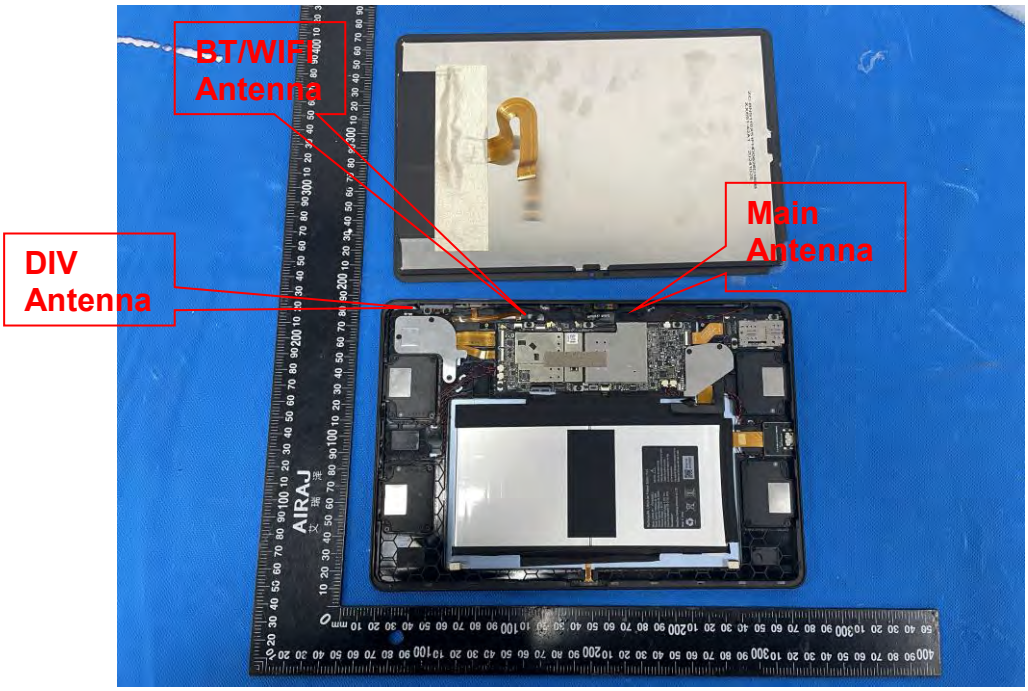
Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Gain (dBm)	EIRP (dBm)	Verdict
Band41(2535-2655)	5	40065	1	#0	QPSK	24.15	1.17	25.32	PASS
Band41(2535-2655)	5	40065	1	#Mid	QPSK	24.31	1.17	25.48	PASS
Band41(2535-2655)	5	40065	1	#Max	QPSK	24.20	1.17	25.37	PASS
Band41(2535-2655)	5	40065	12	#0	QPSK	23.24	1.17	24.41	PASS
Band41(2535-2655)	5	40065	12	#Mid	QPSK	23.28	1.17	24.45	PASS
Band41(2535-2655)	5	40065	12	#Max	QPSK	23.31	1.17	24.48	PASS
Band41(2535-2655)	5	40065	25	#0	QPSK	23.28	1.17	24.45	PASS
Band41(2535-2655)	5	40065	1	#0	16QAM	23.51	1.17	24.68	PASS
Band41(2535-2655)	5	40065	1	#Mid	16QAM	23.63	1.17	24.80	PASS
Band41(2535-2655)	5	40065	1	#Max	16QAM	23.54	1.17	24.71	PASS
Band41(2535-2655)	5	40065	12	#0	16QAM	22.27	1.17	23.44	PASS
Band41(2535-2655)	5	40065	12	#Mid	16QAM	22.32	1.17	23.49	PASS
Band41(2535-2655)	5	40065	12	#Max	16QAM	22.33	1.17	23.50	PASS
Band41(2535-2655)	5	40065	25	#0	16QAM	22.26	1.17	23.43	PASS
Band41(2535-2655)	5	40640	1	#0	QPSK	24.50	1.17	25.67	PASS
Band41(2535-2655)	5	40640	1	#Mid	QPSK	24.66	1.17	25.83	PASS
Band41(2535-2655)	5	40640	1	#Max	QPSK	24.56	1.17	25.73	PASS
Band41(2535-2655)	5	40640	12	#0	QPSK	23.52	1.17	24.69	PASS
Band41(2535-2655)	5	40640	12	#Mid	QPSK	23.62	1.17	24.79	PASS
Band41(2535-2655)	5	40640	12	#Max	QPSK	23.54	1.17	24.71	PASS
Band41(2535-2655)	5	40640	25	#0	QPSK	23.60	1.17	24.77	PASS
Band41(2535-2655)	5	40640	1	#0	16QAM	24.08	1.17	25.25	PASS
Band41(2535-2655)	5	40640	1	#Mid	16QAM	24.21	1.17	25.38	PASS
Band41(2535-2655)	5	40640	1	#Max	16QAM	24.08	1.17	25.25	PASS
Band41(2535-2655)	5	40640	12	#0	16QAM	22.55	1.17	23.72	PASS
Band41(2535-2655)	5	40640	12	#Mid	16QAM	22.65	1.17	23.82	PASS
Band41(2535-2655)	5	40640	12	#Max	16QAM	22.55	1.17	23.72	PASS
Band41(2535-2655)	5	40640	25	#0	16QAM	22.61	1.17	23.78	PASS
Band41(2535-2655)	5	41215	1	#0	QPSK	24.28	1.17	25.45	PASS
Band41(2535-2655)	5	41215	1	#Mid	QPSK	24.40	1.17	25.57	PASS
Band41(2535-2655)	5	41215	1	#Max	QPSK	24.27	1.17	25.44	PASS
Band41(2535-2655)	5	41215	12	#0	QPSK	23.37	1.17	24.54	PASS
Band41(2535-2655)	5	41215	12	#Mid	QPSK	23.37	1.17	24.54	PASS
Band41(2535-2655)	5	41215	12	#Max	QPSK	23.28	1.17	24.45	PASS
Band41(2535-2655)	5	41215	25	#0	QPSK	23.36	1.17	24.53	PASS
Band41(2535-2655)	5	41215	1	#0	16QAM	23.55	1.17	24.72	PASS
Band41(2535-2655)	5	41215	1	#Mid	16QAM	23.63	1.17	24.80	PASS
Band41(2535-2655)	5	41215	1	#Max	16QAM	23.49	1.17	24.66	PASS
Band41(2535-2655)	5	41215	12	#0	16QAM	22.32	1.17	23.49	PASS
Band41(2535-2655)	5	41215	12	#Mid	16QAM	22.37	1.17	23.54	PASS
Band41(2535-2655)	5	41215	12	#Max	16QAM	22.25	1.17	23.42	PASS
Band41(2535-2655)	5	41215	25	#0	16QAM	22.40	1.17	23.57	PASS
Band41(2535-2655)	10	40090	1	#0	QPSK	24.26	1.17	25.43	PASS
Band41(2535-2655)	10	40090	1	#Mid	QPSK	24.38	1.17	25.55	PASS
Band41(2535-2655)	10	40090	1	#Max	QPSK	24.36	1.17	25.53	PASS
Band41(2535-2655)	10	40090	25	#0	QPSK	23.25	1.17	24.42	PASS
Band41(2535-2655)	10	40090	25	#Mid	QPSK	23.37	1.17	24.54	PASS
Band41(2535-2655)	10	40090	25	#Max	QPSK	23.41	1.17	24.58	PASS
Band41(2535-2655)	10	40090	50	#0	QPSK	23.35	1.17	24.52	PASS
Band41(2535-2655)	10	40090	1	#0	16QAM	23.73	1.17	24.90	PASS
Band41(2535-2655)	10	40090	1	#Mid	16QAM	23.82	1.17	24.99	PASS
Band41(2535-2655)	10	40090	1	#Max	16QAM	23.80	1.17	24.97	PASS
Band41(2535-2655)	10	40090	25	#0	16QAM	22.29	1.17	23.46	PASS
Band41(2535-2655)	10	40090	25	#Mid	16QAM	22.41	1.17	23.58	PASS
Band41(2535-2655)	10	40090	25	#Max	16QAM	22.44	1.17	23.61	PASS

Band41(2535-2655)	10	40090	50	#0	16QAM	22.33	1.17	23.50	PASS
Band41(2535-2655)	10	40640	1	#0	QPSK	24.60	1.17	25.77	PASS
Band41(2535-2655)	10	40640	1	#Mid	QPSK	24.66	1.17	25.83	PASS
Band41(2535-2655)	10	40640	1	#Max	QPSK	24.63	1.17	25.80	PASS
Band41(2535-2655)	10	40640	25	#0	QPSK	23.62	1.17	24.79	PASS
Band41(2535-2655)	10	40640	25	#Mid	QPSK	23.62	1.17	24.79	PASS
Band41(2535-2655)	10	40640	25	#Max	QPSK	23.64	1.17	24.81	PASS
Band41(2535-2655)	10	40640	50	#0	QPSK	23.59	1.17	24.76	PASS
Band41(2535-2655)	10	40640	1	#0	16QAM	23.74	1.17	24.91	PASS
Band41(2535-2655)	10	40640	1	#Mid	16QAM	23.80	1.17	24.97	PASS
Band41(2535-2655)	10	40640	1	#Max	16QAM	23.80	1.17	24.97	PASS
Band41(2535-2655)	10	40640	25	#0	16QAM	22.63	1.17	23.80	PASS
Band41(2535-2655)	10	40640	25	#Mid	16QAM	22.65	1.17	23.82	PASS
Band41(2535-2655)	10	40640	25	#Max	16QAM	22.63	1.17	23.80	PASS
Band41(2535-2655)	10	40640	50	#0	16QAM	22.62	1.17	23.79	PASS
Band41(2535-2655)	10	41190	1	#0	QPSK	24.35	1.17	25.52	PASS
Band41(2535-2655)	10	41190	1	#Mid	QPSK	24.40	1.17	25.57	PASS
Band41(2535-2655)	10	41190	1	#Max	QPSK	24.35	1.17	25.52	PASS
Band41(2535-2655)	10	41190	25	#0	QPSK	23.41	1.17	24.58	PASS
Band41(2535-2655)	10	41190	25	#Mid	QPSK	23.39	1.17	24.56	PASS
Band41(2535-2655)	10	41190	25	#Max	QPSK	23.27	1.17	24.44	PASS
Band41(2535-2655)	10	41190	50	#0	QPSK	23.39	1.17	24.56	PASS
Band41(2535-2655)	10	41190	1	#0	16QAM	23.31	1.17	24.48	PASS
Band41(2535-2655)	10	41190	1	#Mid	16QAM	23.36	1.17	24.53	PASS
Band41(2535-2655)	10	41190	1	#Max	16QAM	23.33	1.17	24.50	PASS
Band41(2535-2655)	10	41190	25	#0	16QAM	22.45	1.17	23.62	PASS
Band41(2535-2655)	10	41190	25	#Mid	16QAM	22.44	1.17	23.61	PASS
Band41(2535-2655)	10	41190	25	#Max	16QAM	22.32	1.17	23.49	PASS
Band41(2535-2655)	10	41190	50	#0	16QAM	22.37	1.17	23.54	PASS
Band41(2535-2655)	15	40115	1	#0	QPSK	24.26	1.17	25.43	PASS
Band41(2535-2655)	15	40115	1	#Mid	QPSK	24.42	1.17	25.59	PASS
Band41(2535-2655)	15	40115	1	#Max	QPSK	24.37	1.17	25.54	PASS
Band41(2535-2655)	15	40115	36	#0	QPSK	23.30	1.17	24.47	PASS
Band41(2535-2655)	15	40115	36	#Mid	QPSK	23.41	1.17	24.58	PASS
Band41(2535-2655)	15	40115	36	#Max	QPSK	23.47	1.17	24.64	PASS
Band41(2535-2655)	15	40115	75	#0	QPSK	23.39	1.17	24.56	PASS
Band41(2535-2655)	15	40115	1	#0	16QAM	23.74	1.17	24.91	PASS
Band41(2535-2655)	15	40115	1	#Mid	16QAM	23.87	1.17	25.04	PASS
Band41(2535-2655)	15	40115	1	#Max	16QAM	23.79	1.17	24.96	PASS
Band41(2535-2655)	15	40115	36	#0	16QAM	22.31	1.17	23.48	PASS
Band41(2535-2655)	15	40115	36	#Mid	16QAM	22.43	1.17	23.60	PASS
Band41(2535-2655)	15	40115	36	#Max	16QAM	22.47	1.17	23.64	PASS
Band41(2535-2655)	15	40115	75	#0	16QAM	22.38	1.17	23.55	PASS
Band41(2535-2655)	15	40640	1	#0	QPSK	24.56	1.17	25.73	PASS
Band41(2535-2655)	15	40640	1	#Mid	QPSK	24.67	1.17	25.84	PASS
Band41(2535-2655)	15	40640	1	#Max	QPSK	24.58	1.17	25.75	PASS
Band41(2535-2655)	15	40640	36	#0	QPSK	23.57	1.17	24.74	PASS
Band41(2535-2655)	15	40640	36	#Mid	QPSK	23.65	1.17	24.82	PASS
Band41(2535-2655)	15	40640	36	#Max	QPSK	23.61	1.17	24.78	PASS
Band41(2535-2655)	15	40640	75	#0	QPSK	23.66	1.17	24.83	PASS
Band41(2535-2655)	15	40640	1	#0	16QAM	23.72	1.17	24.89	PASS
Band41(2535-2655)	15	40640	1	#Mid	16QAM	23.86	1.17	25.03	PASS
Band41(2535-2655)	15	40640	1	#Max	16QAM	23.77	1.17	24.94	PASS
Band41(2535-2655)	15	40640	36	#0	16QAM	22.69	1.17	23.86	PASS
Band41(2535-2655)	15	40640	36	#Mid	16QAM	22.72	1.17	23.89	PASS
Band41(2535-2655)	15	40640	36	#Max	16QAM	22.69	1.17	23.86	PASS
Band41(2535-2655)	15	40640	75	#0	16QAM	22.63	1.17	23.80	PASS

Band41(2535-2655)	15	41165	1	#0	QPSK	24.39	1.17	25.56	PASS
Band41(2535-2655)	15	41165	1	#Mid	QPSK	24.50	1.17	25.67	PASS
Band41(2535-2655)	15	41165	1	#Max	QPSK	24.40	1.17	25.57	PASS
Band41(2535-2655)	15	41165	36	#0	QPSK	23.40	1.17	24.57	PASS
Band41(2535-2655)	15	41165	36	#Mid	QPSK	23.39	1.17	24.56	PASS
Band41(2535-2655)	15	41165	36	#Max	QPSK	23.30	1.17	24.47	PASS
Band41(2535-2655)	15	41165	75	#0	QPSK	23.39	1.17	24.56	PASS
Band41(2535-2655)	15	41165	1	#0	16QAM	23.55	1.17	24.72	PASS
Band41(2535-2655)	15	41165	1	#Mid	16QAM	23.66	1.17	24.83	PASS
Band41(2535-2655)	15	41165	1	#Max	16QAM	23.50	1.17	24.67	PASS
Band41(2535-2655)	15	41165	36	#0	16QAM	22.38	1.17	23.55	PASS
Band41(2535-2655)	15	41165	36	#Mid	16QAM	22.40	1.17	23.57	PASS
Band41(2535-2655)	15	41165	36	#Max	16QAM	22.28	1.17	23.45	PASS
Band41(2535-2655)	15	41165	75	#0	16QAM	22.39	1.17	23.56	PASS
Band41(2535-2655)	20	40140	1	#0	QPSK	24.20	1.17	25.37	PASS
Band41(2535-2655)	20	40140	1	#Mid	QPSK	24.50	1.17	25.67	PASS
Band41(2535-2655)	20	40140	1	#Max	QPSK	24.35	1.17	25.52	PASS
Band41(2535-2655)	20	40140	50	#0	QPSK	23.24	1.17	24.41	PASS
Band41(2535-2655)	20	40140	50	#Mid	QPSK	23.42	1.17	24.59	PASS
Band41(2535-2655)	20	40140	50	#Max	QPSK	23.43	1.17	24.60	PASS
Band41(2535-2655)	20	40140	100	#0	QPSK	23.32	1.17	24.49	PASS
Band41(2535-2655)	20	40140	1	#0	16QAM	23.42	1.17	24.59	PASS
Band41(2535-2655)	20	40140	1	#Mid	16QAM	23.73	1.17	24.90	PASS
Band41(2535-2655)	20	40140	1	#Max	16QAM	23.54	1.17	24.71	PASS
Band41(2535-2655)	20	40140	50	#0	16QAM	22.29	1.17	23.46	PASS
Band41(2535-2655)	20	40140	50	#Mid	16QAM	22.51	1.17	23.68	PASS
Band41(2535-2655)	20	40140	50	#Max	16QAM	22.49	1.17	23.66	PASS
Band41(2535-2655)	20	40140	100	#0	16QAM	22.36	1.17	23.53	PASS
Band41(2535-2655)	20	40640	1	#0	QPSK	24.55	1.17	25.72	PASS
Band41(2535-2655)	20	40640	1	#Mid	QPSK	24.74	1.17	25.91	PASS
Band41(2535-2655)	20	40640	1	#Max	QPSK	24.60	1.17	25.77	PASS
Band41(2535-2655)	20	40640	50	#0	QPSK	23.68	1.17	24.85	PASS
Band41(2535-2655)	20	40640	50	#Mid	QPSK	23.69	1.17	24.86	PASS
Band41(2535-2655)	20	40640	50	#Max	QPSK	23.62	1.17	24.79	PASS
Band41(2535-2655)	20	40640	100	#0	QPSK	23.60	1.17	24.77	PASS
Band41(2535-2655)	20	40640	1	#0	16QAM	23.72	1.17	24.89	PASS
Band41(2535-2655)	20	40640	1	#Mid	16QAM	23.94	1.17	25.11	PASS
Band41(2535-2655)	20	40640	1	#Max	16QAM	23.78	1.17	24.95	PASS
Band41(2535-2655)	20	40640	50	#0	16QAM	22.63	1.17	23.80	PASS
Band41(2535-2655)	20	40640	50	#Mid	16QAM	22.69	1.17	23.86	PASS
Band41(2535-2655)	20	40640	50	#Max	16QAM	22.65	1.17	23.82	PASS
Band41(2535-2655)	20	40640	100	#0	16QAM	22.60	1.17	23.77	PASS
Band41(2535-2655)	20	41140	1	#0	QPSK	24.29	1.17	25.46	PASS
Band41(2535-2655)	20	41140	1	#Mid	QPSK	24.47	1.17	25.64	PASS
Band41(2535-2655)	20	41140	1	#Max	QPSK	24.33	1.17	25.50	PASS
Band41(2535-2655)	20	41140	50	#0	QPSK	23.42	1.17	24.59	PASS
Band41(2535-2655)	20	41140	50	#Mid	QPSK	23.48	1.17	24.65	PASS
Band41(2535-2655)	20	41140	50	#Max	QPSK	23.28	1.17	24.45	PASS
Band41(2535-2655)	20	41140	100	#0	QPSK	23.35	1.17	24.52	PASS
Band41(2535-2655)	20	41140	1	#0	16QAM	23.48	1.17	24.65	PASS
Band41(2535-2655)	20	41140	1	#Mid	16QAM	23.69	1.17	24.86	PASS
Band41(2535-2655)	20	41140	1	#Max	16QAM	23.48	1.17	24.65	PASS
Band41(2535-2655)	20	41140	50	#0	16QAM	22.51	1.17	23.68	PASS
Band41(2535-2655)	20	41140	50	#Mid	16QAM	22.59	1.17	23.76	PASS
Band41(2535-2655)	20	41140	50	#Max	16QAM	22.33	1.17	23.50	PASS
Band41(2535-2655)	20	41140	100	#0	16QAM	22.37	1.17	23.54	PASS

14.2 Transmit Antennas and SAR Measurement Position

EUT Antenna Location:



Antennas	Support Band
Main	GSM 850/1900 + LTE Band 5/41 TX
DIV	GSM 850/1900 + LTE Band 5/41 RX
BT/WIFI	Bluetooth + WIFI 2.4G

Distance of The Antenna to the EUT surface and edge (mm)						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
Main	<25	<25	<25	170	185	54
BT/WIFI	<25	<25	<25	170	100	135

Body mode: Positions for SAR tests						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
Main	Yes	Yes	Yes	No	No	No
BT/WIFI	Yes	Yes	Yes	No	No	No

14.3 Measured and Reported (Scaled) SAR Results

The calculated SAR is obtained by the following formula:

1. Reported SAR for WWAN=Measured SAR * Tune-up Scaling factor
2. Reported SAR for WLAN and Bluetooth=Measured SAR * Tune-up Scaling factor * Duty Cycle Scaling factor
3. Duty Cycle Scaling factor=1/ Duty Cycle (%)

KDB 447498 D01 General RF Exposure Guidance:

Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR v01r03:

1. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.
2. when the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, using the same wireless mode test configuration for voice and data, such as UMTS, LTE and Wi-Fi, and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface)
3. For Smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

KDB 941225 D01 3G SAR Procedures:

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.

KDB 941225 D05 SAR for LTE Devices:

1. Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. SAR measurement is not required for the 16QAM and 64QAM. When the highest maximum output power for 16QAM and 64QAM is ≤ ½ dB higher than the QPSK or when the reported SAR for the QPSK configuration is ≤ 1.45 W/kg.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

KDB 248227 D01 802.11 Wi-Fi SAR

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements.

For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions.

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.16 The initial test position procedure is described in the following:

a) When the *reported* SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).

b) When the *reported* SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the *reported* SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.

c) For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.

When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2 W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR

WIFI 5.2G								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	802.11a	Front	5200	13.82	14.0	0.279	0.291	
	802.11a	Back	5200	13.82	14.0	0.373	0.389	
Hotspot	802.11a	Top Side	5200	13.82	14.0	0.391	**0.408**	**1**

WIFI 5.8G								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	802.11a	Front	5785	9.97	10.0	0.551	0.555	
	802.11a	Back	5785	9.97	10.0	0.500	0.503	
Hotspot	802.11a	Top Side	5785	9.97	10.0	0.597	**0.601**	**2**

GSM 850								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	GSM	Front	836.6	33.29	33.5	0.094	0.099	
	GSM	Back	836.6	33.29	33.5	0.079	0.083	
	GPRS Slot-2	Front	836.6	32.38	32.5	0.172	**0.177**	**3**
	GPRS Slot-2	Back	836.6	32.38	32.5	0.057	0.059	
Hotspot	GPRS Slot-2	Top Side	836.6	32.38	32.5	0.139	0.143	

GSM 1900								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	GSM	Front	1880	30.60	31.0	0.515	0.565	
	GSM	Back	1880	30.60	31.0	0.268	0.294	
	GPRS Slot-4	Front	1850.2	29.50	30.0	0.822	0.922	
	GPRS Slot-4	Back	1850.2	29.50	30.0	0.348	0.390	
	GPRS Slot-4	Front	1880	27.66	30.0	0.563	**0.965**	**4**
	GPRS Slot-4	Front	1909.8	27.16	30.0	0.486	0.935	
Hotspot	GPRS Slot-4	Top Side	1850.2	29.50	30.0	0.562	0.631	

LTE Band 5 (10MHz Bandwidth)								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	QPSK, 1RB	Front	844	24.13	24.5	0.121	**0.132**	**5**
	QPSK, 1RB	Back	844	24.13	24.5	0.105	0.114	
	QPSK, 50%RB	Front	836.5	23.02	23.5	0.088	0.098	
	QPSK, 50%RB	Back	836.5	23.02	23.5	0.112	0.125	
Hotspot	QPSK, 1RB	Top Side	844	24.13	24.5	0.080	0.087	
	QPSK, 50%RB	Top Side	836.5	23.02	23.5	0.033	0.037	

LTE Band 5 (10MHz Bandwidth)								
RF Exposure Conditions	Mode	Test Position	Freq. (MHz)	Output Power (dBm)		SAR1g (W/kg)		Plot No.
				Meas.	Turn- up	Meas.	Scaled	
Body & Hotspot	QPSK, 1RB	Front	2593	24.74	25.0	0.333	**0.354**	**6**
	QPSK, 1RB	Back	2593	24.74	25.0	0.220	0.234	
	QPSK, 50%RB	Front	2593	23.69	24.0	0.308	0.331	
	QPSK, 50%RB	Back	2593	23.69	24.0	0.215	0.231	
Hotspot	QPSK, 1RB	Top Side	2593	24.74	25.0	0.316	0.335	
	QPSK, 50%RB	Top Side	2593	23.69	24.0	0.298	0.320	

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 Band (MHz)	RF Exposure Configuration	Test Position	Repeated SAR (yes/no)	Highest Measured SAR1-g (W/Kg)	First Repeated	
						Measured SAR1-g (W/Kg)	Largest to Smallest SAR Ratio
GSM 1900	1850.2	Body	Front	yes	0.822	0.808	1.017

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 2.4G + WIFI 5G	No
4	WIFI + Bluetooth	No

Remark:
1. Wi-Fi 2.4GHz and Wi-Fi 5GHz cannot transmit simultaneously.
2. WIFI2.4G and Bluetooth are the same antenna and cannot be sent 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	**Maximum Power (dBm)**	**Maximum Power (mW)**	**Separation Distance (mm)**	**X**	**Estimated SAR1-g (W/kg)**
Bluetooth	1.5	1.41	5	3.0	0.059
WIFI 2.4G	4.5	2.82	5	3.0	0.118

Note:
1. Maximum average power including tune-up tolerance;
2. 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	Standalone SAR (W/kg)		Summed SAR (W/kg)
		WWAN	BT/WIFI	
Body & Hotspot (0mm)	Front	0.965	0.555	1.520
	Back	0.390	0.503	0.893
Hotspot (0mm)	Left Side	/	/	/
	Right Side	/	/	/
	Top Side	0.631	0.601	1.232
	Bottom Side	/	/	/

15. Test Plots

15.1 System Performance Check

System check at 835 MHz
Date of measurement: 17/12/2024

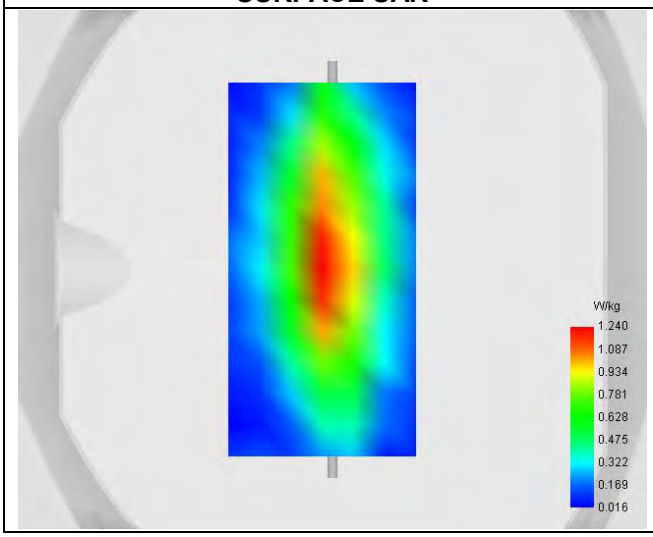
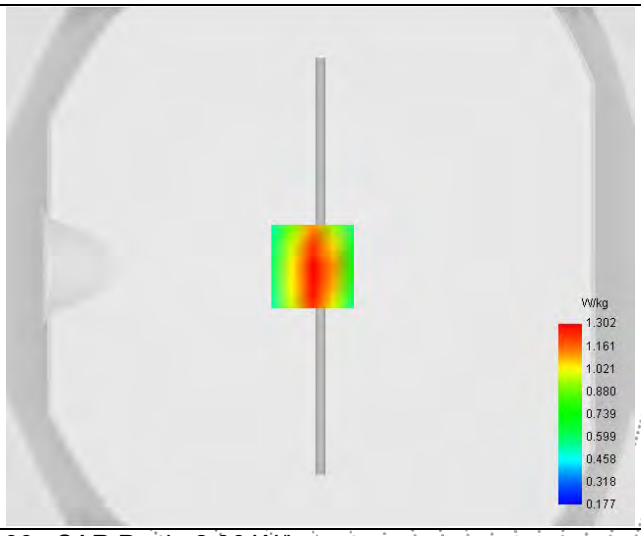
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.80
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	CW

B. Permitivity

Frequency (MHz)	835.000
Relative permitivity (real part)	40.561
Relative permitivity (imaginary part)	20.910
Conductivity (S/m)	0.913

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

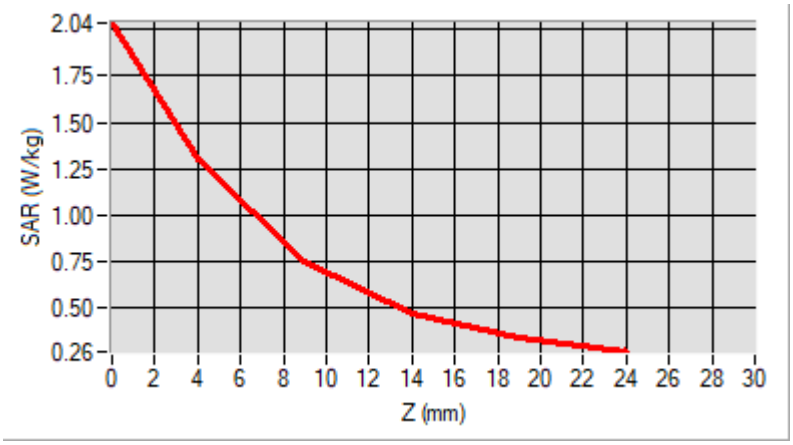
Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 2.06 W/kg

D. SAR 1g & 10g

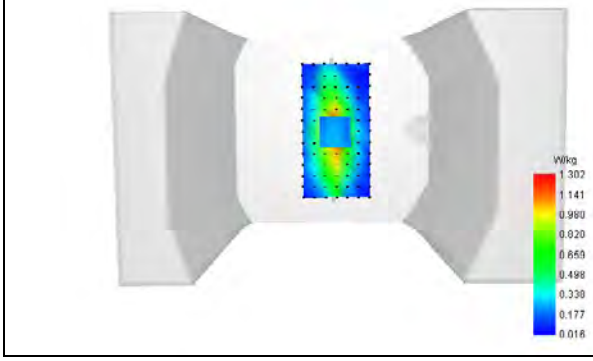
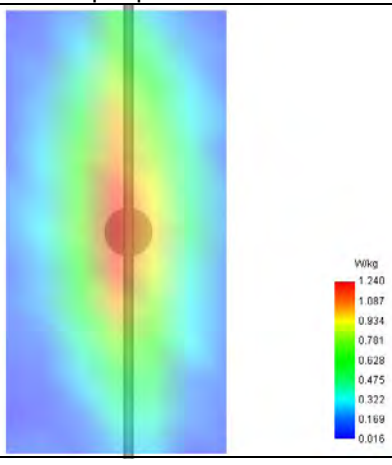
SAR 10g (W/Kg)	1.571
SAR 1g (W/Kg)	2.942
Variation (%)	-3.468
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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 1900 MHz

Date of measurement: 26/11/2024

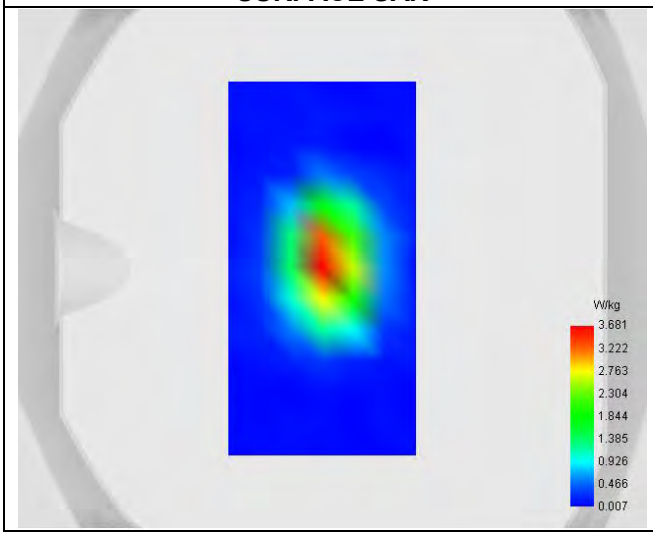
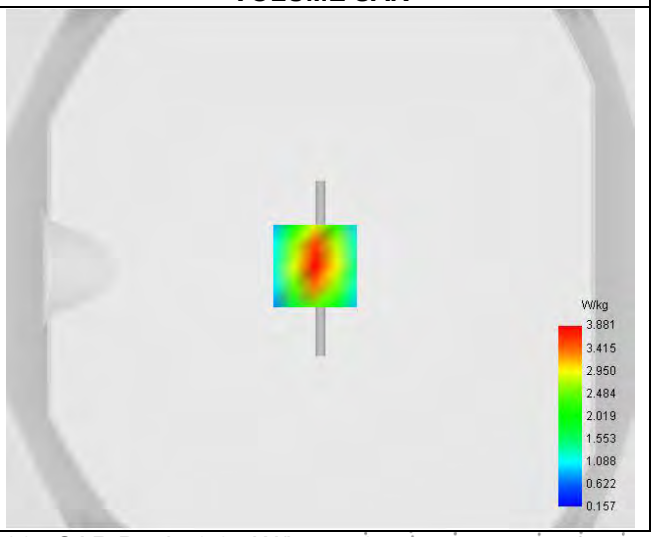
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.11
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	CW

B. Permitivity

Frequency (MHz)	1900.000
Relative permitivity (real part)	41.504
Relative permitivity (imaginary part)	14.400
Conductivity (S/m)	1.423

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

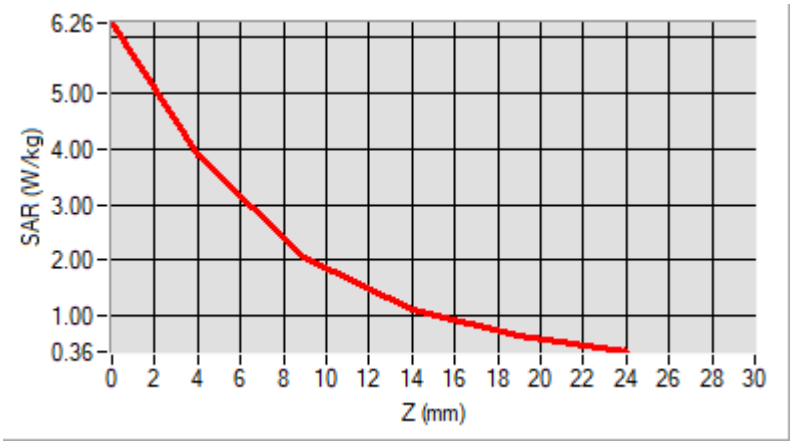
Maximum location: X=-2.00, Y=1.00 ; SAR Peak: 6.27 W/kg

D. SAR 1g & 10g

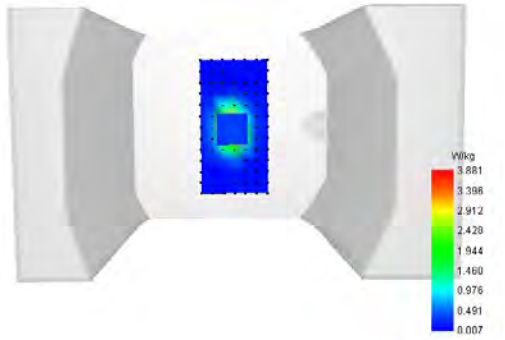
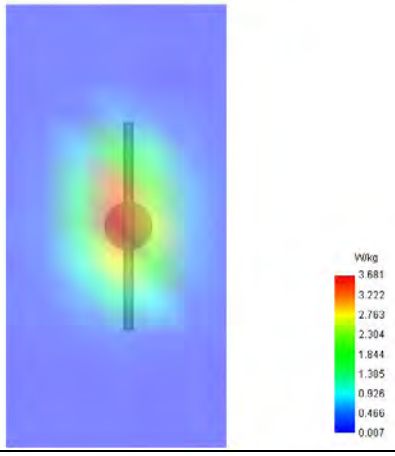
SAR 10g (W/Kg)	5.493
SAR 1g (W/Kg)	10.326
Variation (%)	1.583
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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 2600MHz
Date of measurement: 17/12/2024

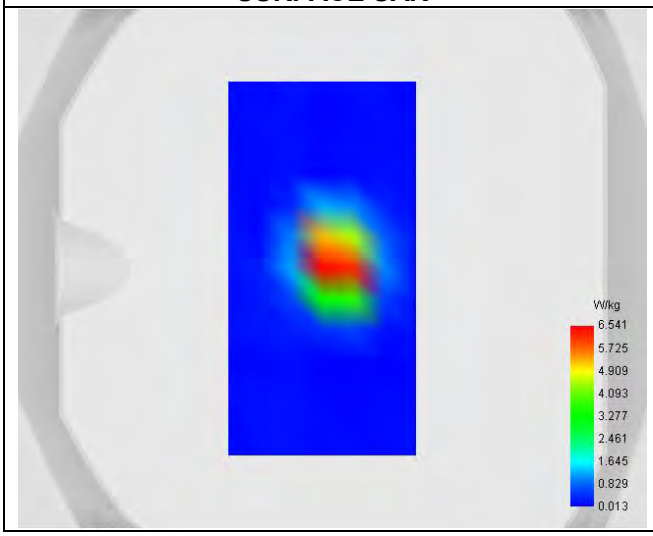
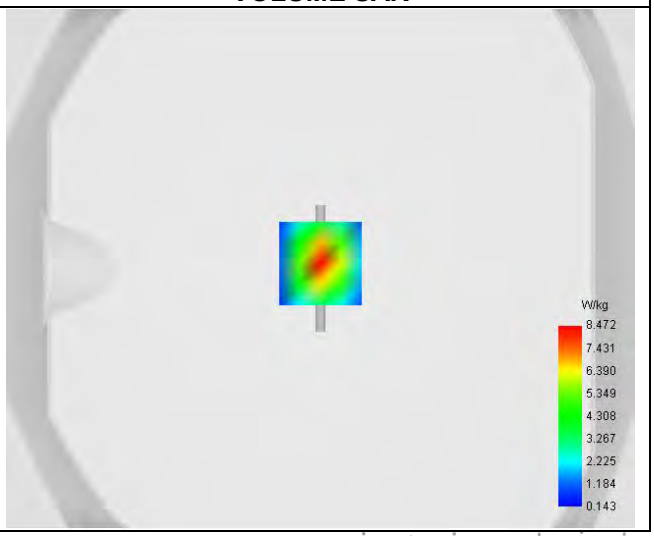
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.19
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	CW

B. Permitivity

Frequency (MHz)	2600.000
Relative permitivity (real part)	38.225
Relative permitivity (imaginary part)	14.889
Conductivity (S/m)	2.041

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

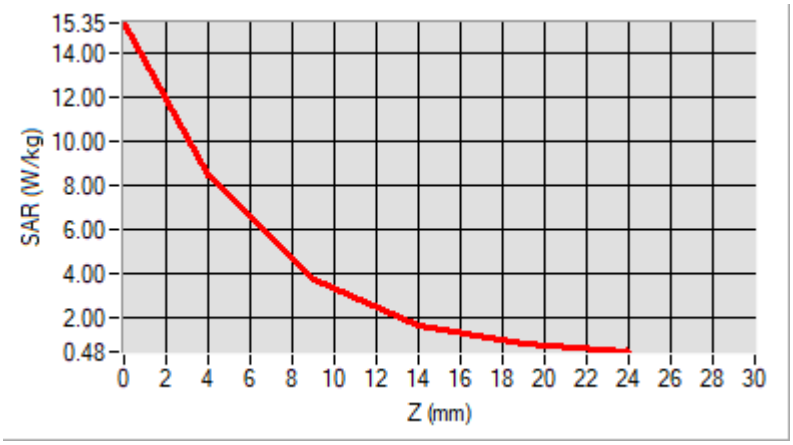
Maximum location: X=0.00, Y=2.00 ; SAR Peak: 15.35 W/kg

D. SAR 1g & 10g

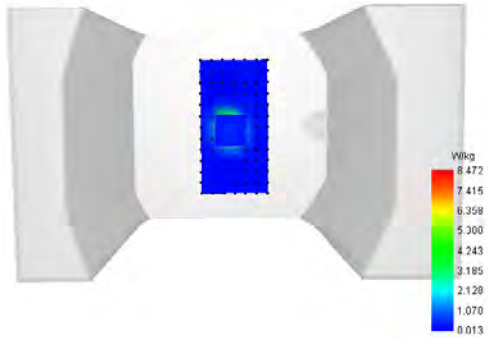
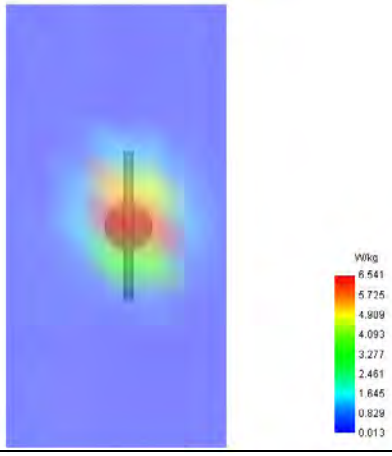
SAR 10g (W/Kg)	6.049
SAR 1g (W/Kg)	14.465
Variation (%)	0.692
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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: 13/12/2024

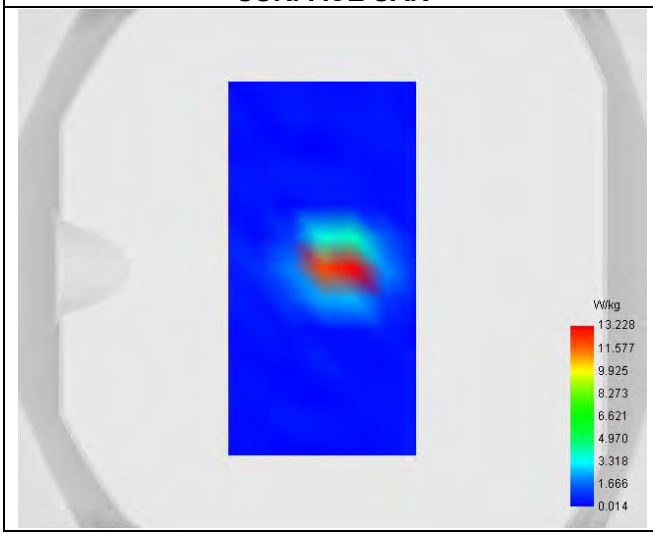
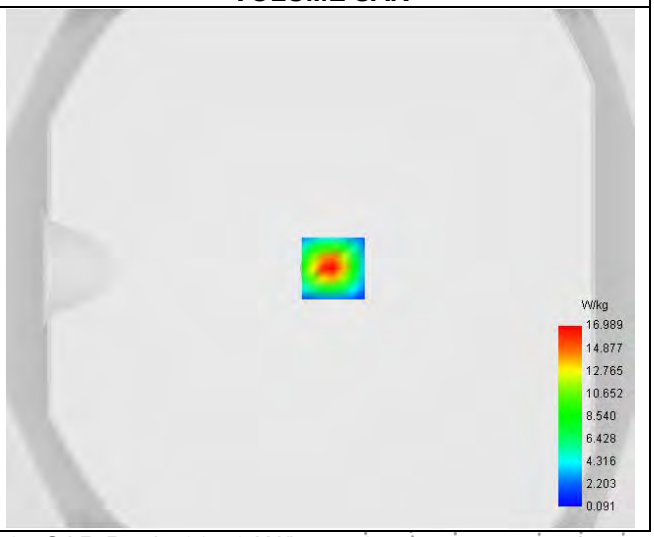
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	0.97
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Signal	CW

B. Permitivity

Frequency (MHz)	5200.000
Relative permitivity (real part)	35.129
Relative permitivity (imaginary part)	18.140
Conductivity (S/m)	4.609

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

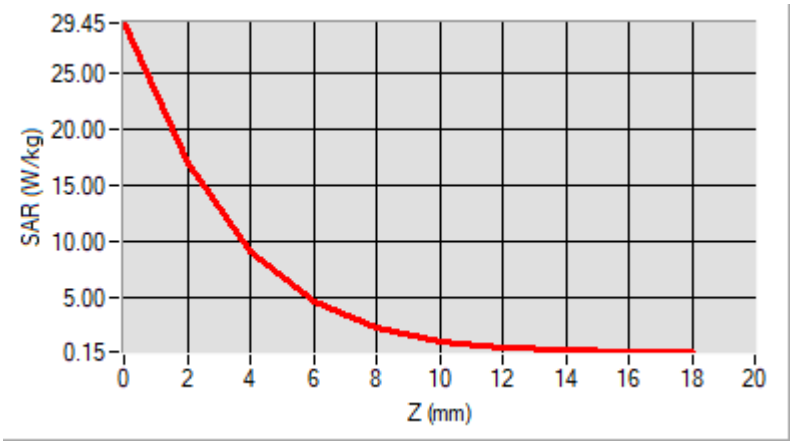
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 30.79 W/kg

D. SAR 1g & 10g

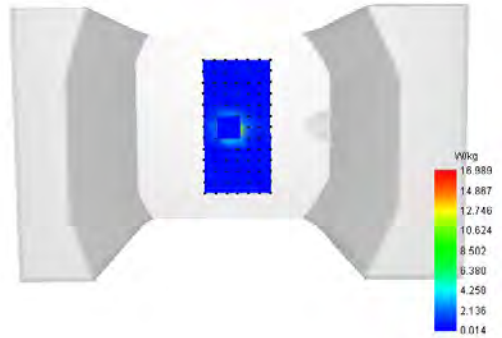
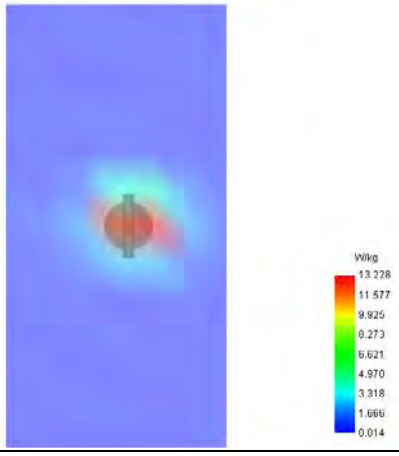
SAR 10g (W/Kg)	5.494
SAR 1g (W/Kg)	18.883
Variation (%)	-1.654
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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 5800 MHz

Date of measurement: 13/12/2024

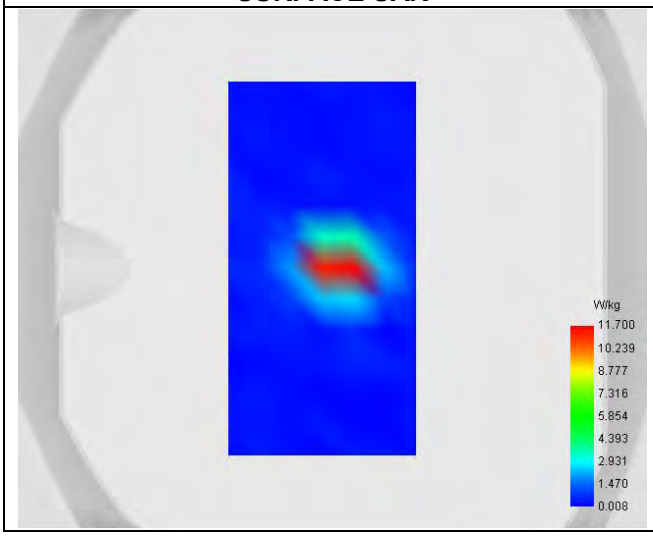
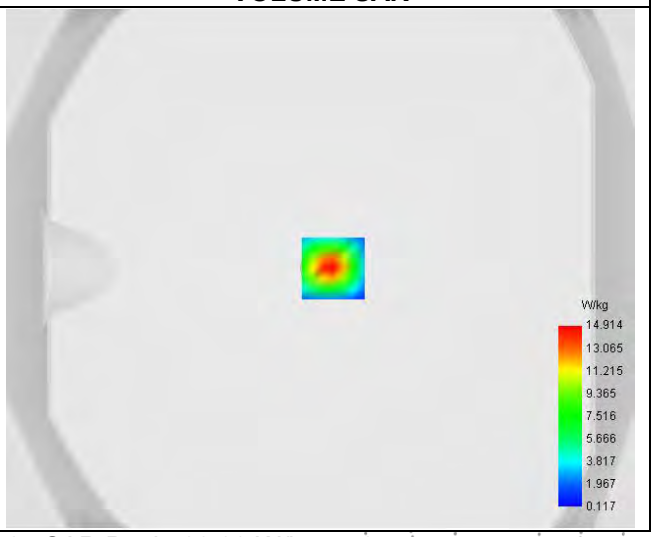
A. Experimental conditions.

Probe	SN 26/23 EPGO420
ConvF	1.05
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Signal	CW

B. Permitivity

Frequency (MHz)	5800.000
Relative permitivity (real part)	34.657
Relative permitivity (imaginary part)	18.620
Conductivity (S/m)	5.332

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

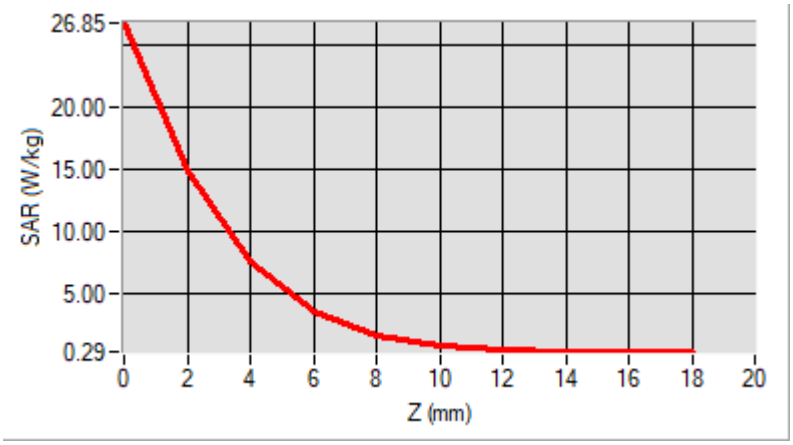
Maximum location: X=5.00, Y=0.00 ; SAR Peak: 28.22 W/kg

D. SAR 1g & 10g

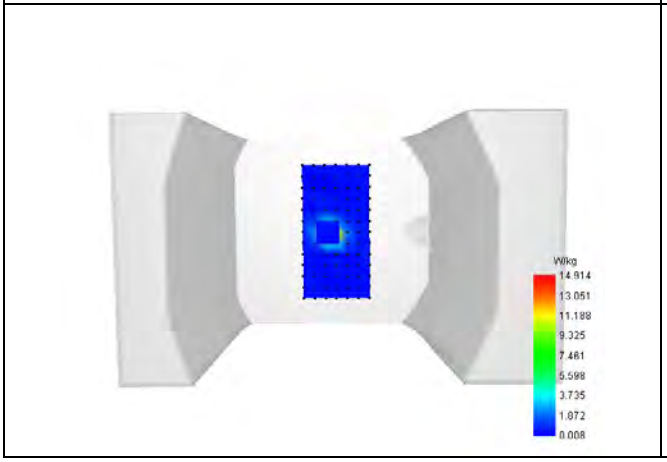
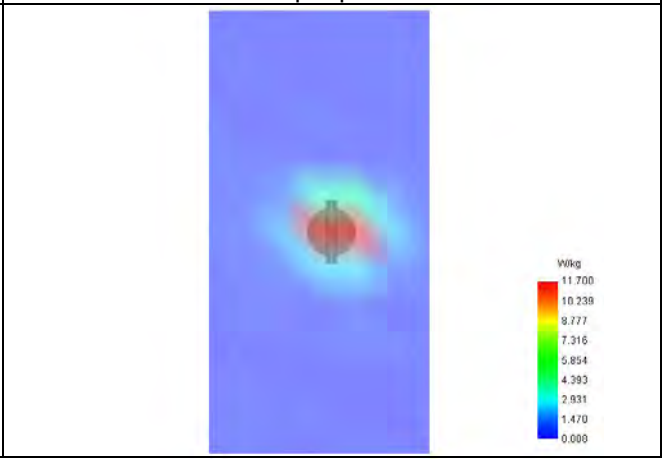
SAR 10g (W/Kg)	5.739
SAR 1g (W/Kg)	18.229
Variation (%)	0.418
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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: 13/12/2024

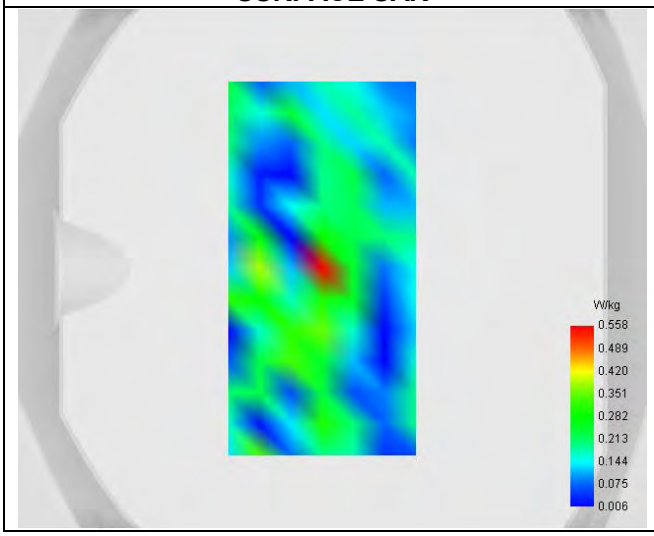
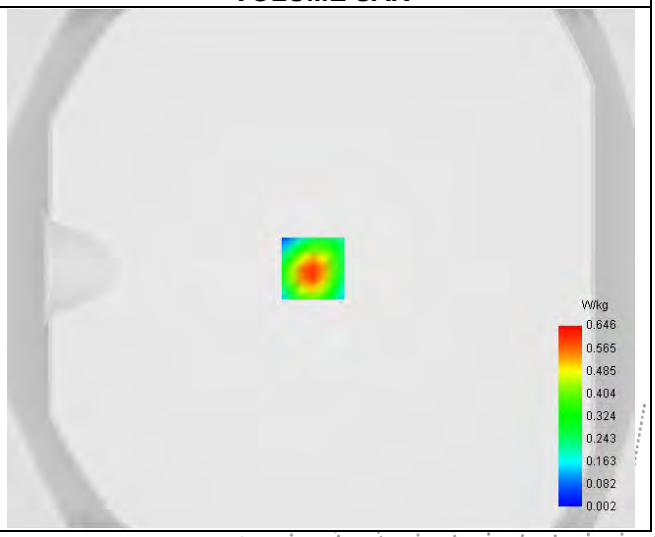
A. Experimental conditions.

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	5200
Signal	--

B. Permitivity

Frequency (MHz)	5200.000
Relative permitivity (real part)	34.657
Relative permitivity (imaginary part)	16.130
Conductivity (S/m)	5.332

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

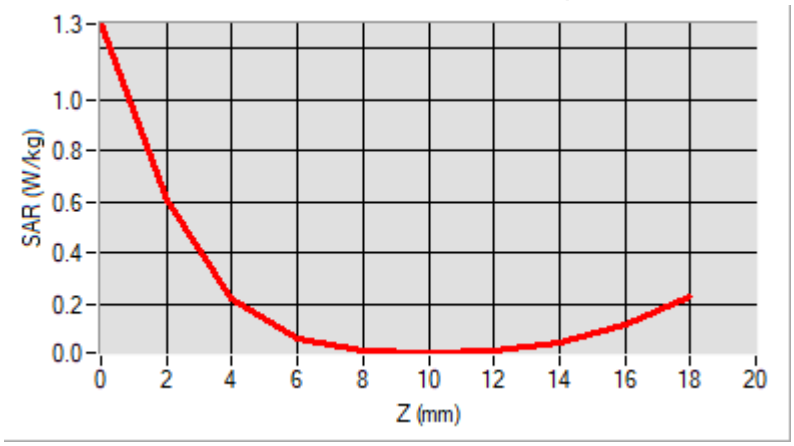
Maximum location: X=-3.00, Y=0.00 ; SAR Peak: 1.35 W/kg

D. SAR 1g & 10g

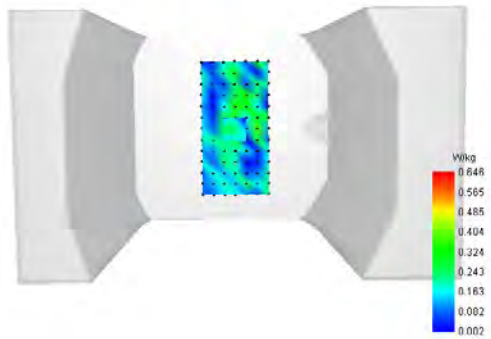
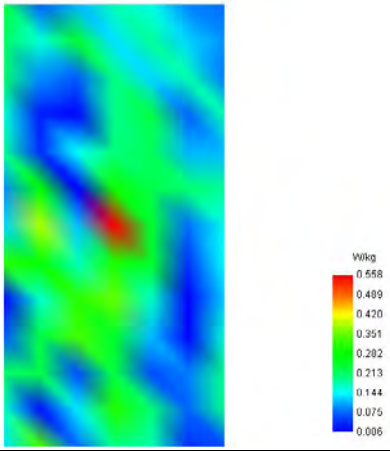
SAR 10g (W/Kg)	0.154
SAR 1g (W/Kg)	0.391
Variation (%)	-1.820
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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)	1.296	0.608	0.223	0.067	0.021	0.013	0.021	0.053	0.120



F. 3D Image

3D screen shot	Hot spot position
	

Plot 2

Date of measurement: 13/12/2024

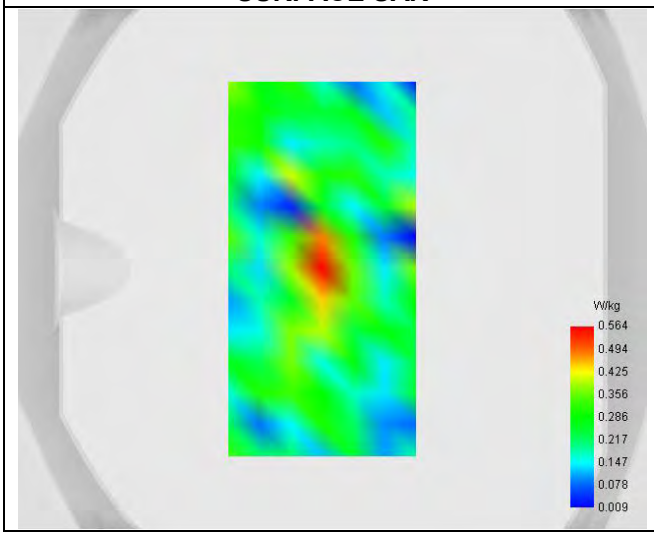
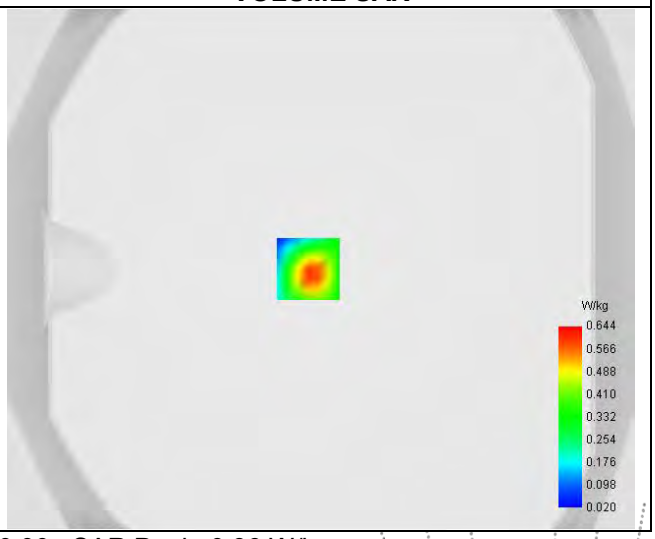
A. Experimental conditions.

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	5800
Signal	--

B. Permitivity

Frequency (MHz)	5785.000
Relative permitivity (real part)	35.129
Relative permitivity (imaginary part)	16.355
Conductivity (S/m)	4.609

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

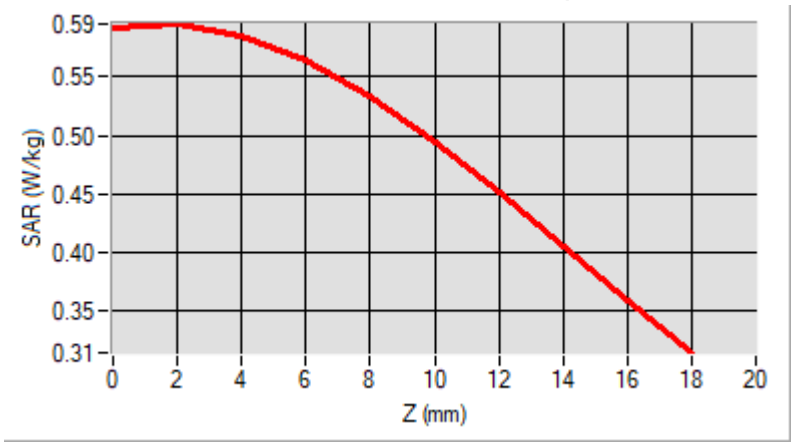
Maximum location: X=-5.00, Y=0.00 ; SAR Peak: 0.86 W/kg

D. SAR 1g & 10g

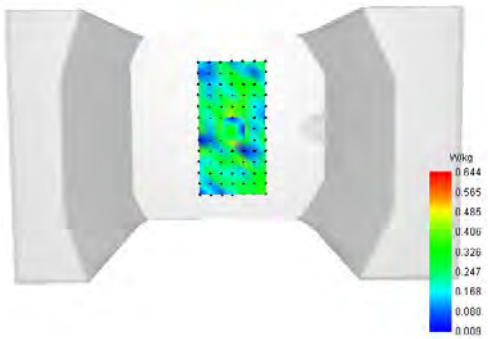
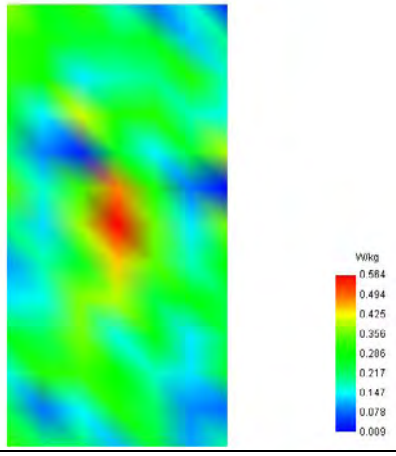
SAR 10g (W/Kg)	0.295
SAR 1g (W/Kg)	0.597
Variation (%)	2.940
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

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)	0.592	0.595	0.584	0.564	0.533	0.495	0.451	0.406	0.359



F. 3D Image

3D screen shot	Hot spot position
	

Plot 3
Date of measurement: 17/12/2024

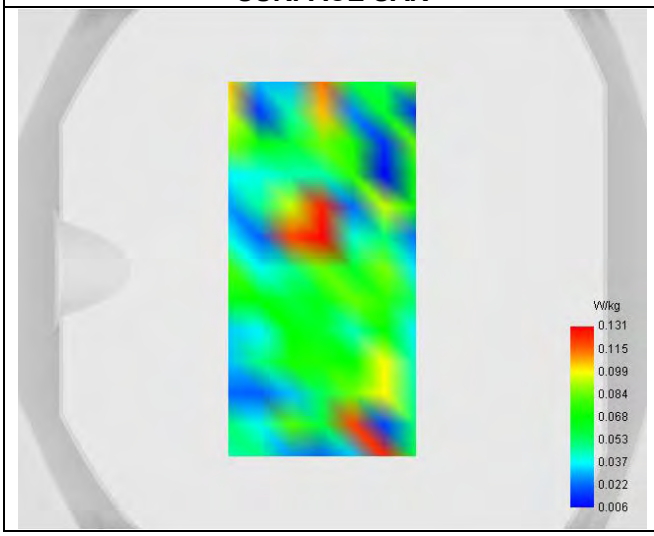
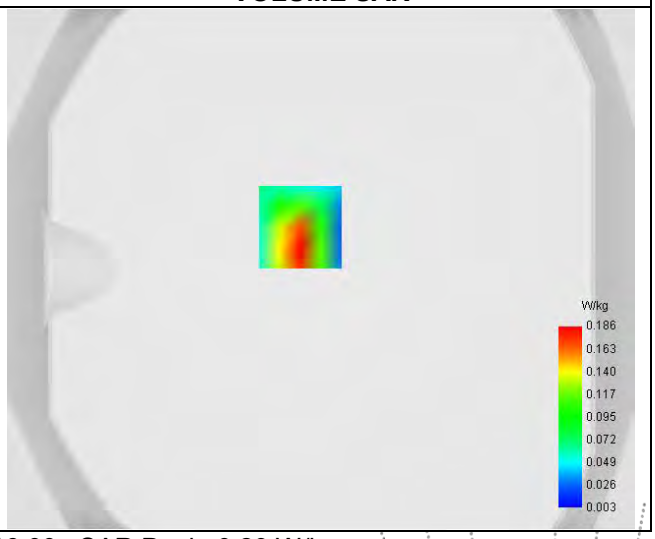
A. Experimental conditions.

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	GPRS850
Signal	TDMA (GPRS)

B. Permitivity

Frequency (MHz)	836.600
Relative permitivity (real part)	40.561
Relative permitivity (imaginary part)	19.400
Conductivity (S/m)	0.913

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

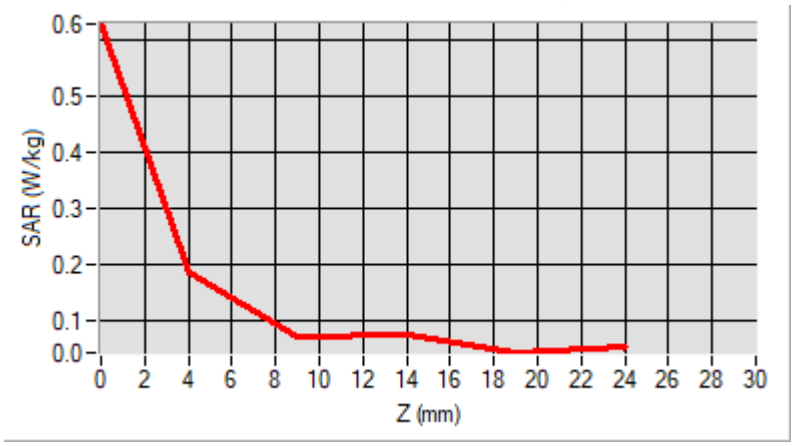
Maximum location: X=-8.00, Y=16.00 ; SAR Peak: 0.29 W/kg

D. SAR 1g & 10g

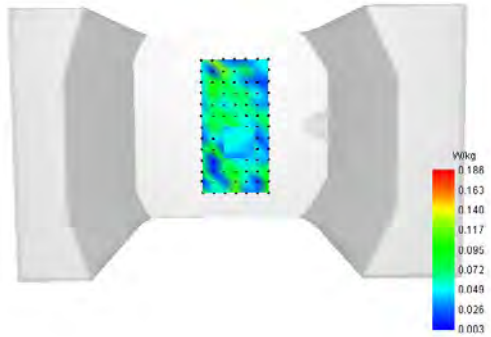
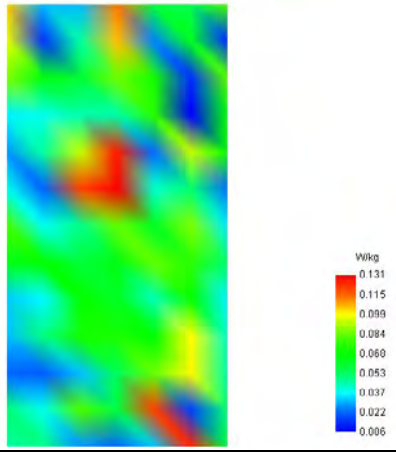
SAR 10g (W/Kg)	0.093
SAR 1g (W/Kg)	0.172
Variation (%)	-1.350
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.627	0.186	0.069	0.074	0.042



F. 3D Image

3D screen shot	Hot spot position
	

Plot 4
Date of measurement: 26/11/2024

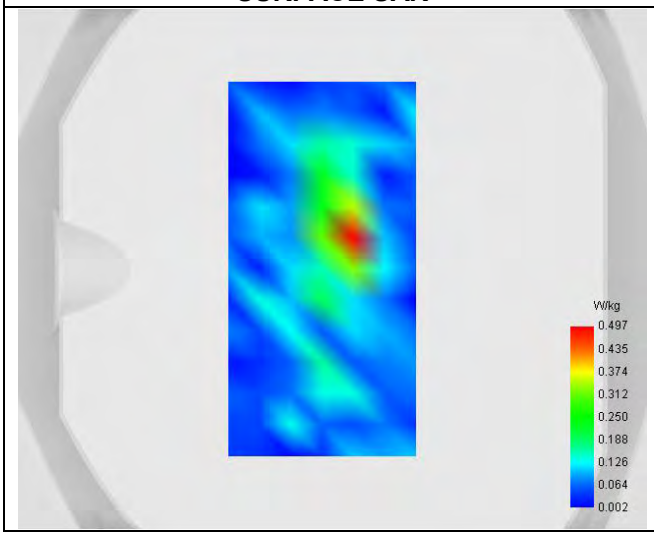
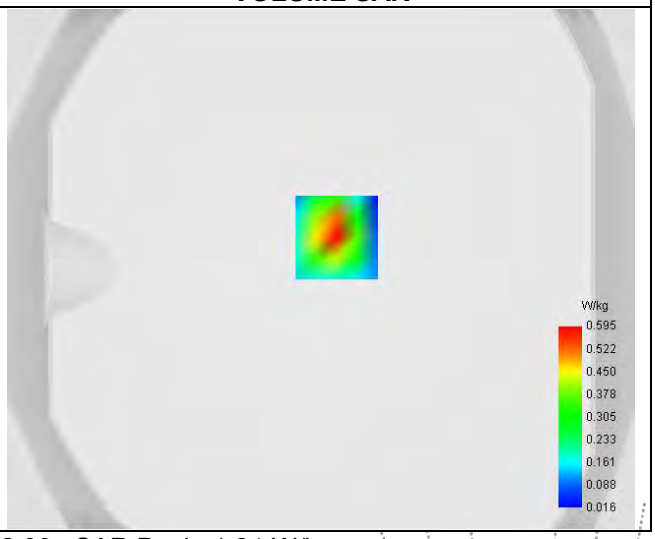
A. Experimental conditions.

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	GPRS1900
Signal	TDMA (GPRS)

B. Permitivity

Frequency (MHz)	1880.000
Relative permitivity (real part)	41.504
Relative permitivity (imaginary part)	13.408
Conductivity (S/m)	1.423

C. SAR Surface and Volume

SURFACE SAR	**VOLUME SAR**
	

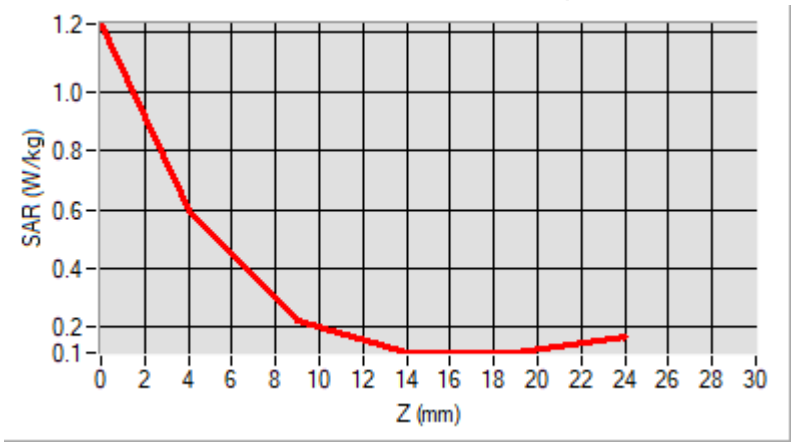
Maximum location: X=6.00, Y=12.00 ; SAR Peak: 1.24 W/kg

D. SAR 1g & 10g

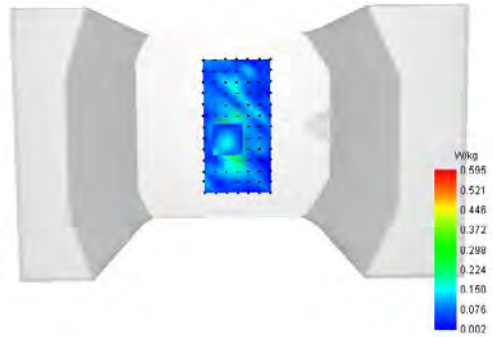
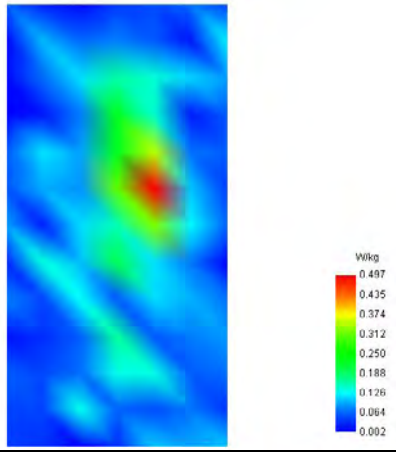
SAR 10g (W/Kg)	0.241
SAR 1g (W/Kg)	0.563
Variation (%)	-3.880
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.230	0.595	0.226	0.115	0.116



F. 3D Image

3D screen shot	Hot spot position
	

Plot 5
Date of measurement: 17/12/2024

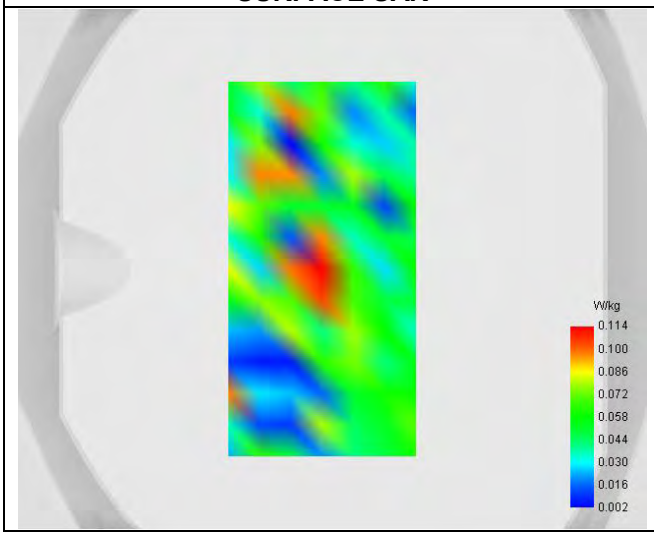
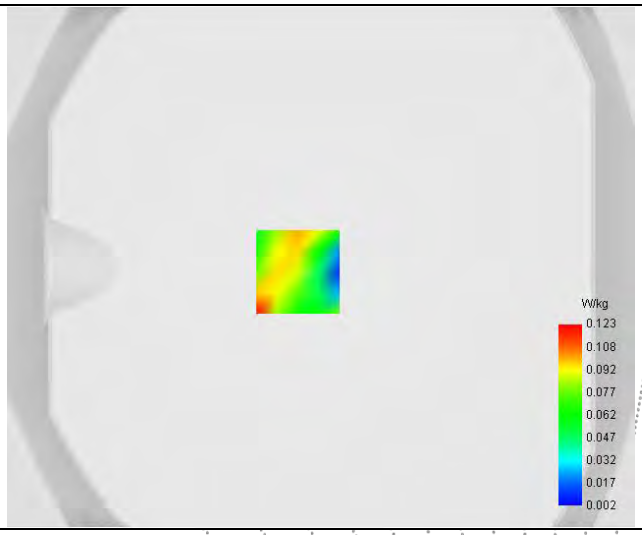
A. Experimental conditions.

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)	844.000
Relative permitivity (real part)	40.561
Relative permitivity (imaginary part)	19.407
Conductivity (S/m)	0.913

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

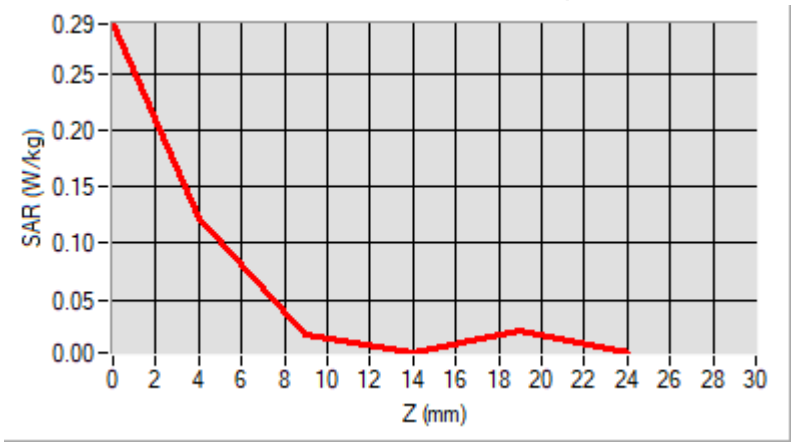
Maximum location: X=-9.00, Y=-2.00 ; SAR Peak: 0.31 W/kg

D. SAR 1g & 10g

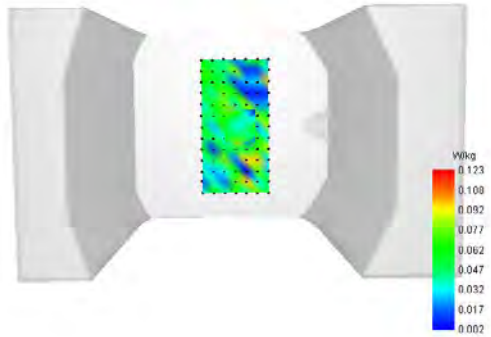
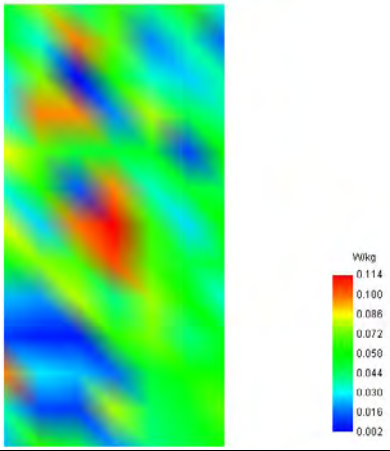
SAR 10g (W/Kg)	0.073
SAR 1g (W/Kg)	0.121
Variation (%)	2.370
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.294	0.123	0.019	0.004	0.022



F. 3D Image

3D screen shot	Hot spot position
	

Plot 6
Date of measurement: 17/12/2024

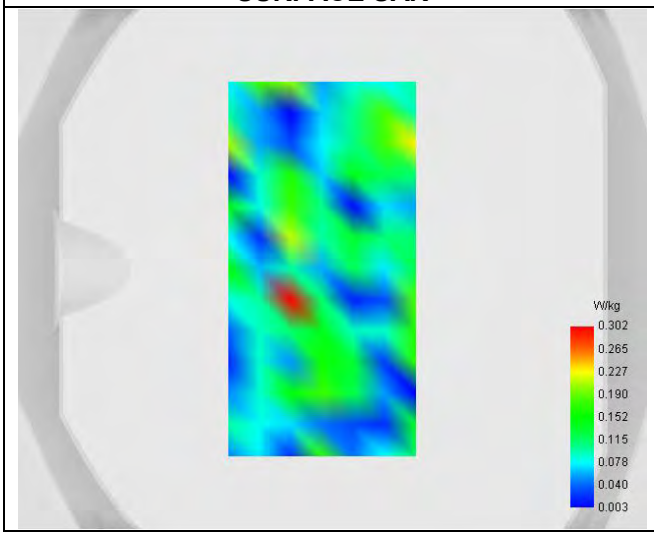
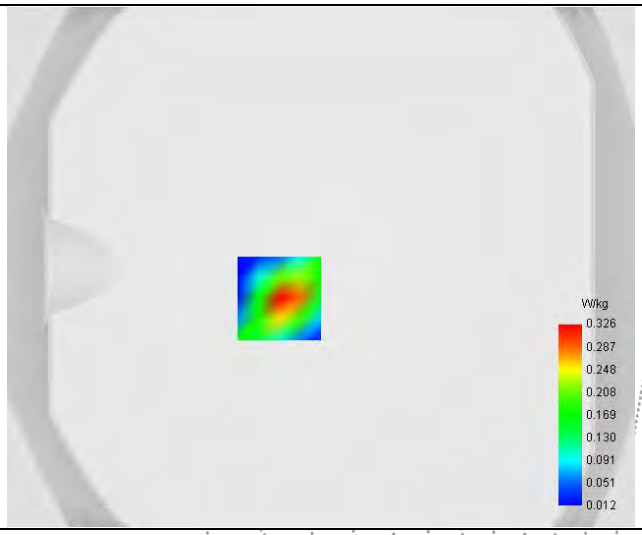
A. Experimental conditions.

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 41
Signal	LTE TDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	5
RB size	20

B. Permitivity

Frequency (MHz)	2593.000
Relative permitivity (real part)	38.225
Relative permitivity (imaginary part)	13.539
Conductivity (S/m)	2.041

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

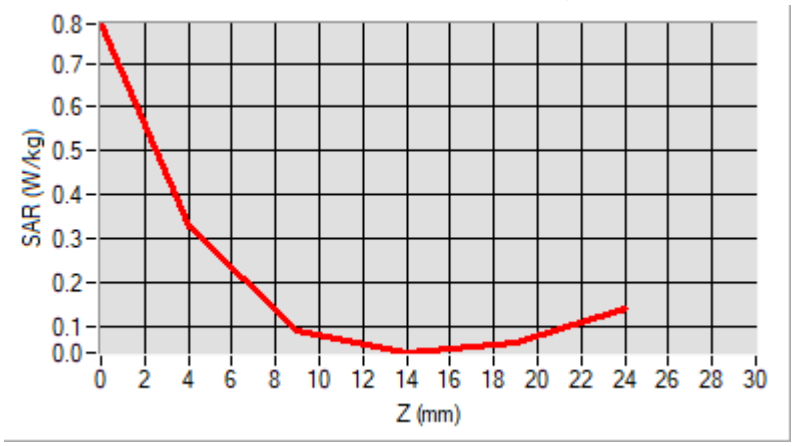
Maximum location: X=-16.00, Y=-12.00 ; SAR Peak: 0.79 W/kg

D. SAR 1g & 10g

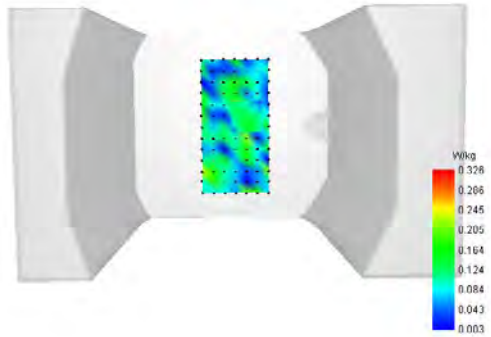
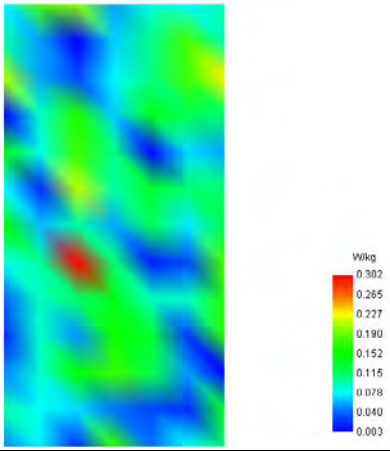
SAR 10g (W/Kg)	0.145
SAR 1g (W/Kg)	0.333
Variation (%)	-2.430
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.789	0.326	0.090	0.040	0.063



F. 3D Image

3D screen shot	Hot spot position
	

16 CALIBRATION CERTIFICATES

Probe-EPGO420 Calibration Certificate
SID835Dipole Calibration Ceriticate
SID1900Dipole Calibration Ceriticate
SID2600Dipole Calibration Ceriticate
SID5000Dipole Calibration Ceriticate

COMOSAR E-Field Probe Calibration Report

Ref : ACR.199.1.23.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: 7/18/2024

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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