TEST REPORT

Reference No.	:	WTX23X05111880W
FCC ID	:	2ARTX-LT108
Applicant	:	LAVA International Limited
Address	:	A-56, Sector-64, Gautam Buddha Nagar, Noida, Uttar Pradesh, 201301
Manufacturer		LAVA International Limited
Address		A-154D, Sector-63, Gautam Buddha Nagar, Noida, Uttar Pradesh, 201301
Product Name	:	Tablet
Model No.	:	LT108
Standards	:	FCC Part 2.1093 IEEE Std C95.1: 2019 IEEE Std C95.3: 2002 + Rev. 2008 IEC/IEEE 62209-1528 Ed. 1.0 (2020-10)
Date of Receipt sample	:	2023-05-25
Date of Test	:	2023-05-25 to 2023-06-08
Date of Issue	:	2023-06-08
Test Report Form No.	:	WTX_IEEE_1528W
Test Result	:	**Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Report version

Version No.	Date of issue	Description
Rev.00	2023-06-08	Original
/	/	/

1. General Information

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT:	
Product Name:	Tablet
Brand Name:	LAVA
Model No.:	LT108
Adding Model(s):	LT108A, LT108B
Rated Voltage:	DC3.8V
Battery:	7000mAh
Adapter Model:	/
Software Version:	V02
Hardware Version:	2.1
Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model LT108, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT:	
2G	
Support Networks:	GSM, GPRS, EDGE
Support Band:	GSM850/PCS1900
Uplink Frequency:	GSM/GPRS/EDGE 850: 824~849MHz GSM/GPRS/EDGE 1900: 1850~1910MHz
Downlink Frequency:	GSM/GPRS/EDGE 850: 869~894MHz GSM/GPRS/EDGE 1900: 1930~1990MHz
Max RF Output Power:	GSM850: 32.47dBm, GSM1900: 30.15dBm EDGE850: 27.00dBm, EDGE1900: 26.45dBm
Type of Modulation:	GMSK, 8PSK
Type of Antenna:	FPC Antenna
Antenna Gain:	GSM850: -1.7dBi; GSM1900: 1.56dBi
GPRS/EDGE Class:	Class 12
4G	
Support Networks:	FDD-LTE, TDD-LTE
Support Band:	FDD-LTE Band 5, TDD-LTE Band 40, 41
Uplink Frequency:	FDD-LTE Band 5: Tx: 824-849MHz, TDD-LTE Band 40-1: Tx: 2305-2315MHz, TDD-LTE Band 40-2: Tx: 2350-2360MHz, TDD-LTE Band 41: Tx: 2555-2655MHz

Downlink Frequency:	FDD-LTE Band 5: Rx: 869-894MHz, TDD-LTE Band 40-1: Rx: 2305-2315MHz, TDD-LTE Band 40-2: Rx: 2350-2360MHz, TDD-LTE Band 41: Rx: 2555-2655MHz
RF Output Power:	FDD-LTE Band 5: 22.67dBm, TDD-LTE Band 40(2305-2315MHz): 23.75dBm, TDD-LTE Band 40(2350-2360MHz): 23.67dBm, TDD-LTE Band 41(2555-2655MHz): 24.59dBm
Type of Modulation:	QPSK, 16QAM
Antenna Type:	FPC Antenna
Antenna Gain:	FDD-LTE Band 5: -1.7dBi, TDD-LTE Band 40: 0.2dBi, TDD-LTE Band 41: 1.14dBi
Wi-Fi(5GHz)	
Support Standards:	802.11a, 802.11n-HT20/40, 802.11ac-VHT80
Frequency Range:	Band 1: 5180-5240MHz,Band 2: 5260-5320MHz, Band 4: 5745-5825MHz
RF Output Power:	15.45dBm(Conducted)
Type of Modulation:	QPSK, 16QAM, 64QAM
Type of Antenna:	FPC Antenna
Antenna Gain:	2.27dBi
Wi-Fi(2.4GHz)	
Support Standards:	802.11b, 802.11g, 802.11n
Frequency Range:	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
RF Output Power:	15.67dBm(Conducted)
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Quantity of Channels:	11 for 802.11b/g/n(HT20); 7 for 802.11n(HT40)
Channel Separation:	5MHz
Antenna Type:	FPC Antenna
Antenna Gain:	2.13dBi
Bluetooth	
Bluetooth Version:	V5.1
Frequency Range:	2402-2480MHz
RF Output Power:	0.08dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, π/4 DQPSK, 8DPSK
Quantity of Channels:	79/40
Channel Separation:	1MHz/2MHz
Antenna Type:	FPC Antenna
Antenna Gain:	2.13dBi
Note: The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Test Standards

The following report is accordance with FCC 47 CFR Part 2.1093, IEEE Std C95.1: 2019, IEEE Std C95.3: 2002 + Rev. 2008, IEC/IEEE 62209-1528 Ed. 1.0 (2020-10), KDB 447498 D01 v06, KDB 616217 D04 v01r02, KDB 248227 D01 v02r02, KDB 941225 D01 v03r01, KDB 941225 D05 v02r05 , and KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02.

The objective is to determine compliance with FCC Part 2.1093 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which is result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02. The public notice KDB 447498 D01 v06 for Mobile and Portable Devices RF Exposure Procedure also.

1.4 Test Facility

Address of the test laboratory
Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990
Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010.Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A
The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

2. Summary of Test Results

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

Frequency Band	Body (0mm Gap)	SAR_{1g} Limit (W/kg)
	Maximum SAR_{1g} (W/kg)	
GSM	0.618	1.6
LTE	**0.756**	1.6
WLAN 5GHz	0.474	1.6
WLAN 2.4GHz	0.259	1.6
Simultaneous Transmission	**1.230**	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 2.1093 and IEEE Std C95.1: 2019 and had been tested in accordance with the measurement methods and procedure specified in IEC/IEEE 62209-1528 Ed. 1.0 (2020-10) and KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02.

3. Specific Absorption Rate (SAR)

3.1 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 techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

3.2 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.

4. SAR Measurement System

4.1 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

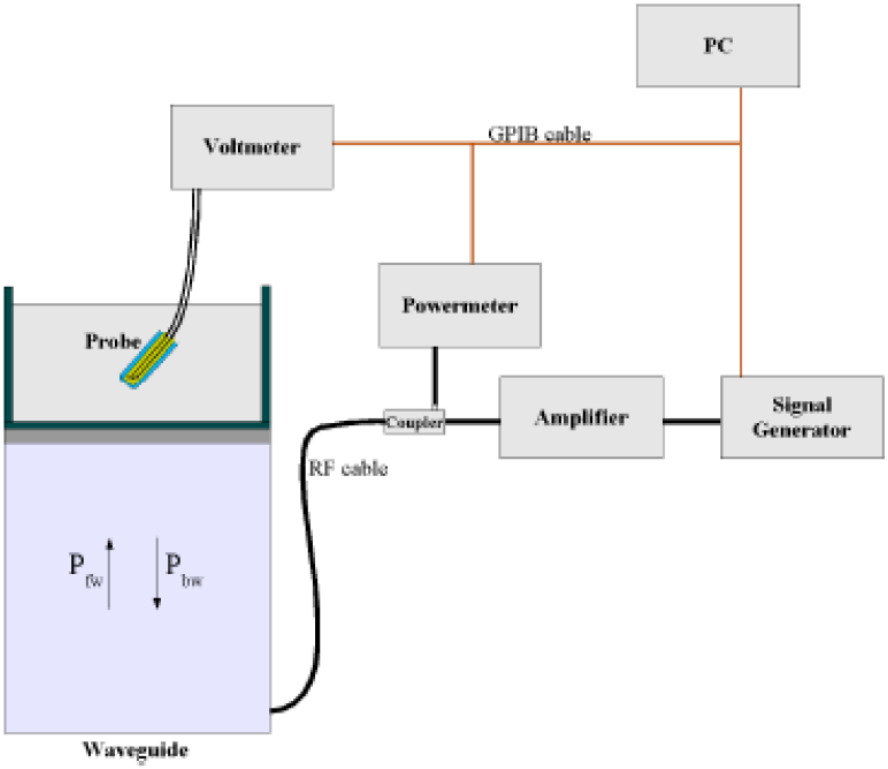
The following figure shows the system.

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.

4.2 Probe

For the measurements the Specific Dosimetric E-Field Probe SSE2 SN 18/21 EPGO356, and refer to the calibration report for probe parameters.

Probe calibration is realized, in compliance with EN 62209-1 and IEC/IEEE 62209-1528 Ed. 1.0 (2020-10) STD, with CALISAR, Antenna proprietary calibration system. The calibration is performed with the EN 62209-1 annexes technique using reference guide at the five frequencies.



$$SAR = \frac{4\,(P_{fw} - P_{bw})}{ab\delta}\cos^2\left(\pi\frac{y}{a}\right)e^{-(2z/\delta)}$$

Where :

Pfw = Forward Power

Pbw = Backward Power

a and b =Waveguide dimensions

I = 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.

4.3 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 ΔT/Δt, 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,

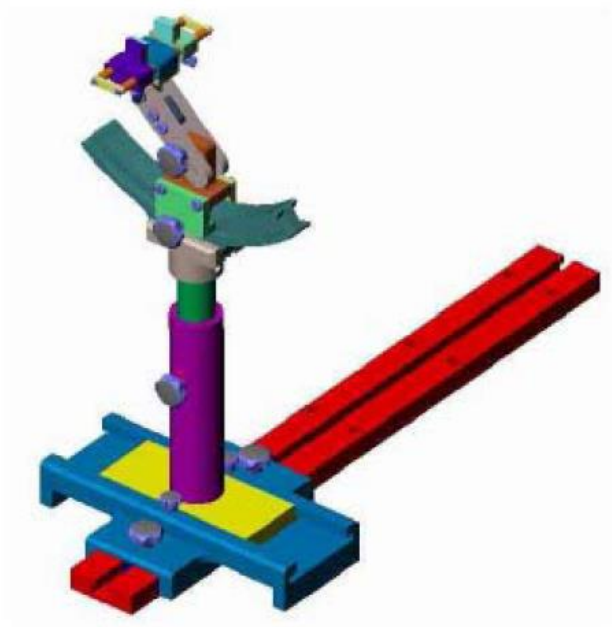
ρ = Tissue density (1.25 g/cm3 for brain tissue)

4.4 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.

4.5 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

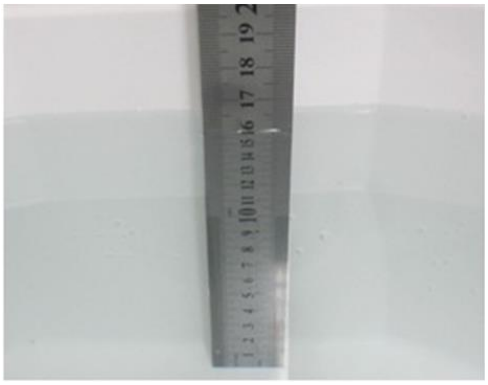
4.6 Test Equipment List

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
E-Field Probe	MVG	SSE2	SN 18/21 EPGO356	2022-07-08	2023-07-07
835MHz Dipole	MVG	SID835	SN 09/15 DIP 0G835-358	2020-08-29	2023-08-28
1900MHz Dipole	MVG	SID1900	SN 09/15 DIP 1G900-361	2020-08-29	2023-08-28
2300 MHz Dipole	MVG	SID2300	SN 50/20 DIP 2G300-513	2021-01-14	2024-01-13
2450MHz Dipole	MVG	SID2450	SN 09/15 DIP 2G450-363	2020-08-29	2023-08-28
2600MHz Dipole	MVG	SID2600	SN 28/21 DIP 2G600-590	2021-07-16	2024-07-15
5 GHz Dipole	MVG	SWG5500	SN 49/16 WGA45	2020-07-03	2023-07-02
Dielectric Probe	SATIMO	SCLMP	SN 47/12 OCPG49	2023-02-25	2024-02-24
SAM Phantom	SATIMO	SAM	SN/ 47/12 SAM95	N/A	N/A
Multi Meter	Keithley	Keithley 2000	4006367	2023-02-25	2024-02-24
Power meter	Keithley	3500	JC-2017-09-001	2023-02-25	2024-02-24
Power meter	Keithley	3500	JC-2017-09-001	2023-02-25	2024-02-24
Power Sensor	HP	11636B	JC-2017-10-002	2023-02-25	2024-02-24
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY61252892	2023-02-25	2024-02-24
Universal Tester	Rohde & Schwarz	CMU200	112315	2023-02-25	2024-02-24
Universal Radio Communication Tester	Rohde & Schwarz	CMW500	148650	2023-02-25	2024-02-24
Network Analyzer	HP	8753C	2901A00831	2023-02-25	2024-02-24

5. Tissue Simulating Liquids

5.1 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 Head/Body SAR

The Composition of Tissue Simulating Liquid

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	HEC (%)	Preventol (%)	DGBE (%)
Head/Body						
835	40.3	1.4	57.9	0.2	0.2	0
1700-2000	55.2	0.3	0	0	0	44.5
2300	68.6	0.1	0	0	0	31.3
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			
5200-5800	78.6	10.7	10.7

5.2 Tissue Dielectric Parameters for Head and Body Phantoms

According to FCC KDBs, IEC/IEEE 62209-1528 Ed. 1.0 (2020-10) and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

Target Frequency (MHz)	Head		Body	
	Conductivity (σ)	Permittivity (ε_r)	Conductivity (σ)	Permittivity (ε_r)
150	0.76	52.3	0.80	61.9
300	0.87	45.3	0.92	58.2
450	0.87	43.5	0.94	56.7
750	0.89	41.9	0.96	55.5
835	**0.90**	**41.5**	**0.97**	**55.2**
900	0.97	41.5	1.05	55.0
915	0.98	41.5	1.06	55.0
1450	1.20	40.5	1.30	54.0
1610	1.29	40.3	1.40	53.8
1800-2000	**1.40**	**40.0**	**1.52**	**53.3**
2300	**1.67**	**39.5**	**1.81**	**52.9**
2450	**1.80**	**39.2**	**1.95**	**52.7**
2600	**1.96**	**39.0**	**2.16**	**52.5**
3000	2.40	38.5	2.73	52.0
5200	**4.66**	**36.0**	**5.30**	**49.0**
5400	**4.86**	**35.8**	**5.53**	**48.7**
5600	5.07	35.5	5.77	48.5
5800	**5.27**	**35.3**	**6.00**	**48.2**

5.3 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using COMOSAR Dielectric Probe Kit and an Agilent Network Analyzer.

Calibration Result for Dielectric Parameters of Tissue Simulating Liquid

Head/Body Tissue Simulating Liquid									
Freq. MHz.	Temp. (℃)	Conductivity			Permittivity			Limit (%)	Date
		Reading (σ)	Target (σ)	Delta (%)	Reading (ε r)	Target (ε r)	Delta (%)		
835	22.2	0.92	0.90	2.22	41.31	41.5	-0.46	±5	2023-06-06
1900	22.2	1.43	1.40	2.14	41.12	40.0	2.80	±5	2023-06-06
2300	22.1	1.65	1.67	-1.20	40.79	39.5	3.27	±5	2023-06-07
2450	22.1	1.83	1.80	1.67	40.58	39.2	3.52	±5	2023-06-07
2600	22.1	2.01	1.96	2.55	40.26	39.0	3.23	±5	2023-06-07
5200	22.3	4.69	4.66	0.64	36.89	36.0	2.47	±5	2023-06-08
5400	22.3	4.85	4.86	-0.21	36.12	35.8	0.89	±5	2023-06-08
5800	22.3	5.24	5.27	-0.57	36.01	35.3	2.01	±5	2023-06-08

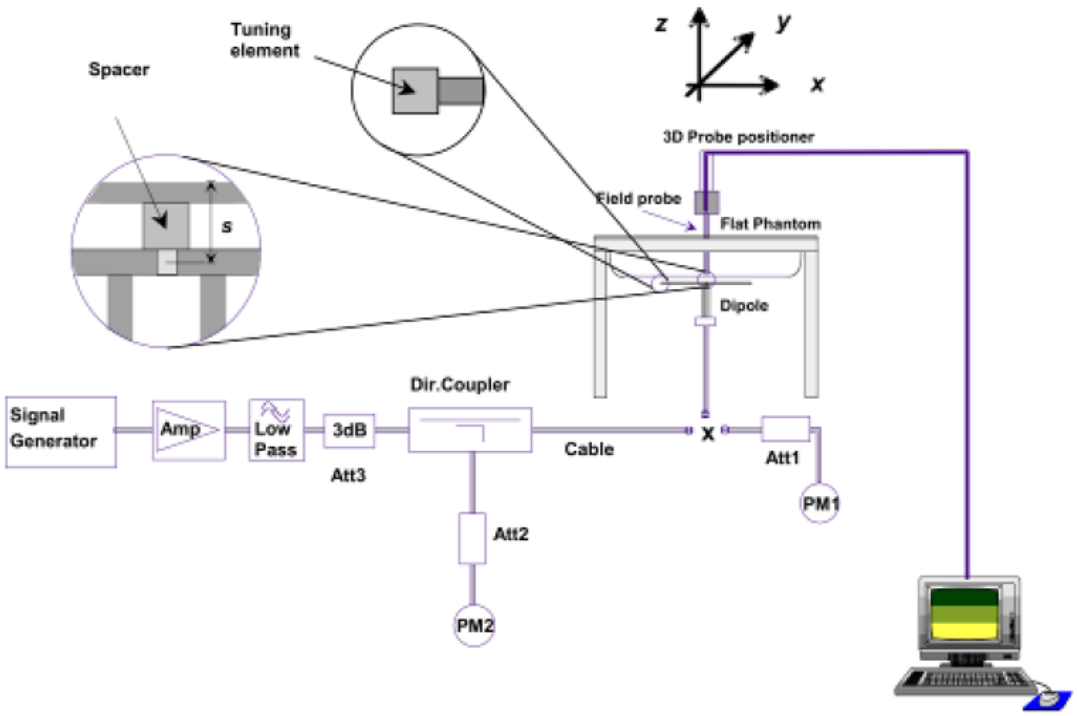
6. SAR Measurement Evaluation

6.1 Purpose of System Performance Check

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

6.2 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 835MHz ,1800MHz, 1900MHz 2450MHz,2600MHz,and 5GHz. 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.



System Verification Setup Block Diagram

Setup Photo of Dipole Antenna

The output power on dipole port must be calibrated to 24 dBm(250 mW) before dipole is connected.
The output power on 5 GHz Waveguide must be calibrated to 20 dBm (100mW) before 5 GHz Waveguide is connected.

6.3 Validation Results

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %. Table 6.1 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	Targeted SAR_{1g}	Measured SAR_{1g}	Normalized SAR_{1g}	Tolerance	Date
MHz	(W/kg)	(W/kg)	(W/kg)	(%)	
Head/Body					
835	9.58	2.51	10.04	4.80	2023-06-06
1900	39.49	9.46	37.84	-4.18	2023-06-06
2300	49.27	12.51	50.04	1.56	2023-06-07
2450	54.31	12.59	50.36	-7.27	2023-06-07
2600	56.81	13.54	54.16	-4.66	2023-06-07
5200	161.23	16.681	166.81	3.46	2023-06-08
5400	165.58	17.330	173.33	4.68	2023-06-08
5800	179.32	16.681	166.81	-6.98	2023-06-08

Remark: Referring to IEC/IEEE 62209-1528 Ed. 1.0 (2020-10), the system check shall be performed at a test frequency that is within ±10% or ±100 MHz of the compliance test mid-band frequency, so the 1750 MHz system verification is made of 1800MHz Dipole.

Targeted and Measurement SAR

Please refer to Annex A for the plots of system performance check.

7. EUT Testing Position

7.1 Body Position

(a) To position the device parallel to the phantom surface with each side.
(b) To adjust the device parallel to the flat phantom.
(c) To adjust the distance between the device surface and the flat phantom to 0mm.

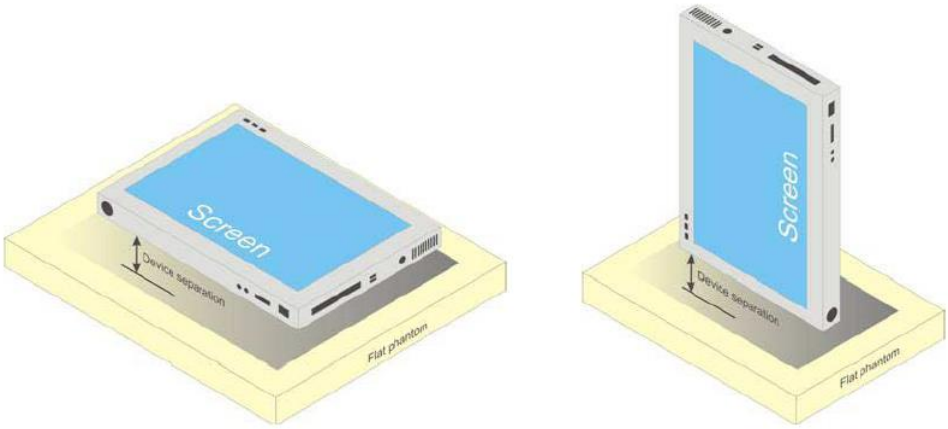
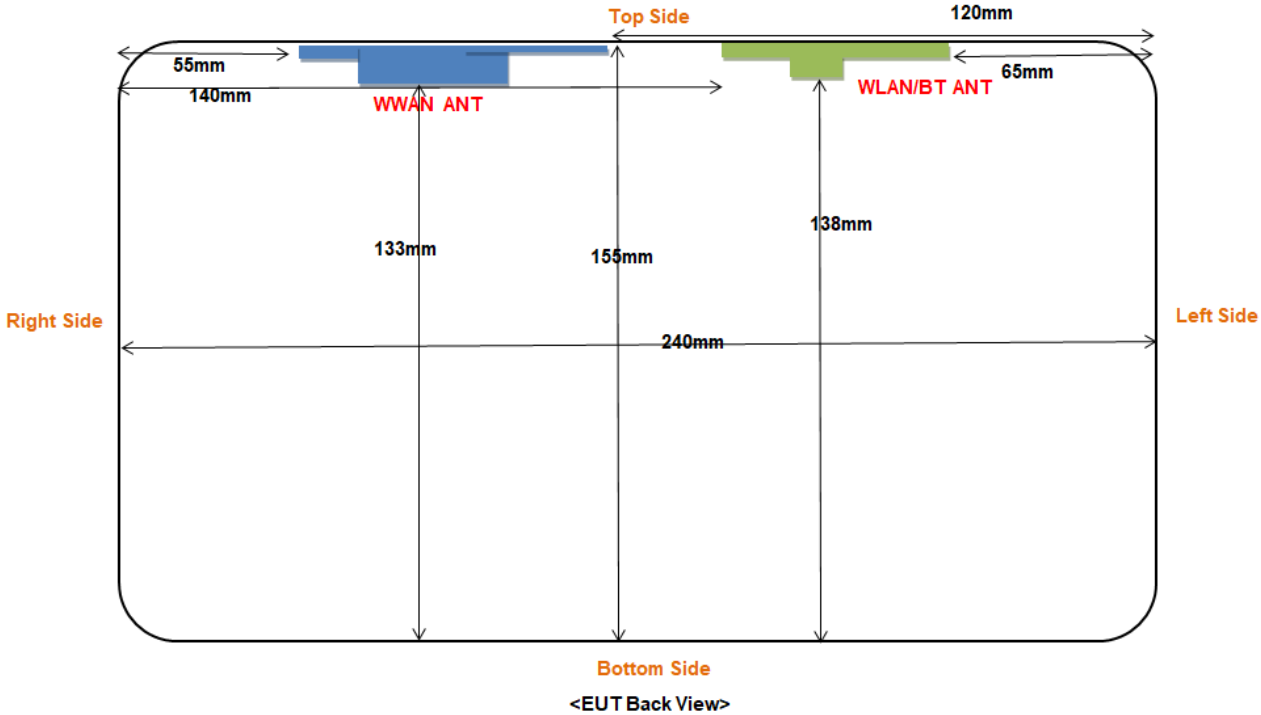


Illustration for Body Position

7.2 EUT Antenna Position



Block Diagram for EUT Antenna Position

Distance of EUT antenna-to-edge/surface(mm), Test distance:0mm						
Antennas	Back side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
WWAN	<25	<25	120	55	<25	135
WLAN/BT	<25	<25	65	140	<25	138

7.3 EUT Testing Position

Body mode SAR assessments are required for this device. This EUT was tested in different positions for different SAR test modes, more information as below:

Body SAR tests, Test distance: 0mm						
Antennas	**Front**	**Back**	**Right Side**	**Left Side**	**Top Side**	**Bottom Side**
WWAN	Yes	Yes	No	No	Yes	No
WLAN/BT	Yes	Yes	No	No	Yes	No

Remark:

1. Referring to KDB 616217 D04 v01r02, KDB 248227 D01 v02r02 and KDB 447498 D01 v06, this device is overall diagonal dimension(>20cm) tablet, tested in direct contact (no gap) with flat phantom.
2. Referring to KDB 616217 D04 v01r02, Exposures from antennas through the front (top) surface of the display section of a full-size tablet, away from the edges, are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary.

Please refer to Annex D for the EUT test setup photos.

8. SAR Measurement Procedures

8.1 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

8.2 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

8.3 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.

8.4 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.

8.5 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.

8.6 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.

9. SAR Test Result

9.1 Conducted RF Output Power

GSM - Burst Average Power (dBm)								
Band	**GSM850**			**Tune-up power (dBm)**	**PCS1900**			**Tune-up power (dBm)**
Channel	**128**	**190**	**251**		**512**	**661**	**810**	
Frequency (MHz)	**824.2**	**836.6**	**848.8**		**1850.2**	**1880**	**1909.8**	
GSM	**32.45**	32.33	32.33	32.5	29.65	30.09	**30.12**	30.5
GPRS (1 slot)	32.47	32.33	32.32	32.5	29.70	30.11	30.15	30.5
GPRS (2 slots)	31.83	31.66	31.63	32.0	28.95	29.32	**29.40**	29.5
GPRS (3 slots)	30.21	29.97	29.89	30.0	27.05	27.34	27.54	28.0
GPRS (4 slots)	**29.16**	28.93	28.83	29.5	25.85	26.12	26.34	26.5
EDGE (1 slot)	27.00	26.57	26.53	27.5	26.45	26.18	25.86	26.5
EDGE (2 slots)	25.93	25.49	25.38	26.0	25.35	25.12	24.82	25.5
EDGE (3 slots)	23.83	23.42	23.28	24.0	23.22	22.87	22.71	23.5
EDGE (4 slots)	22.70	22.30	22.20	23.0	21.96	21.61	21.54	22.0

GSM - Source-Based Time-Average Power (dBm)								
Band	**GSM850**			**Tune-up power (dBm)**	**PCS1900**			**Tune-up power (dBm)**
Channel	**128**	**190**	**251**		**512**	**661**	**810**	
Frequency (MHz)	**824.2**	**836.6**	**848.8**		**1850.2**	**1880**	**1909.8**	
GSM	23.45	23.33	23.33	23.5	20.65	21.09	21.12	21.5
GPRS (1 slot)	23.47	23.33	23.32	23.5	20.70	21.11	21.15	21.5
GPRS (2 slots)	25.83	25.66	25.63	26.0	22.95	23.32	**23.40**	23.5
GPRS (3 slots)	25.96	25.72	25.64	26.0	22.80	23.09	23.29	23.5
GPRS (4 slots)	**26.16**	25.93	25.83	26.5	22.85	23.12	23.34	23.5
EDGE (1 slot)	18.00	17.57	17.53	18.5	17.45	17.18	16.86	17.5
EDGE (2 slots)	19.93	19.49	19.38	20.0	19.35	19.12	18.82	19.5
EDGE (3 slots)	19.58	19.17	19.03	20.0	18.97	18.62	18.46	19.0
EDGE (4 slots)	19.70	19.30	19.20	20.0	18.96	18.61	18.54	19.0
Note: The source-based time-averaged power is linearly scaled the maximum burst averaged power based on time slots. The calculated method are shown as below: Source based time-average power = Burst averaged power - Duty cycle factor in dB Duty cycle factor = 9 dB for 1 Tx slot, 6 dB for 2 Tx slots, 4.25 dB for 3 Tx slots, 3 dB for 4 Tx slots								

Remark:

1. For Body SAR testing, GPRS should be evaluated; therefore the EUT was set in GPRS (4TX slots) for GSM850 and GPRS (2TX slots) for GSM1900 due to its highest source-based time-average power.
2. Per KDB 447498 D01 v06, the maximum output power channel is used for SAR testing and for further SAR

test reduction.

3. The DUT do not support DTM function.

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	22.57	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	22.61	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	22.47	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	22.58	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	22.57	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	22.56	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	21.57	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	22.03	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	22.21	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	22.00	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	22.12	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	22.08	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	22.09	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	21.05	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	22.04	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	22.14	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	22.05	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	22.12	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	22.12	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	22.17	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	21.09	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	21.66	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	21.89	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	21.60	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	21.47	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	21.45	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	21.39	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	20.62	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	21.20	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	21.33	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	21.15	PASS
Band5	1.4MHz	16QAM	20525	3RB#0	20.99	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	20.96	PASS

Band5	1.4MHz	16QAM	20525	3RB#3	20.96	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	20.19	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	21.19	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	21.38	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	21.17	PASS
Band5	1.4MHz	16QAM	20643	3RB#0	21.01	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	21.00	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	21.05	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	20.06	PASS
Band5	3MHz	QPSK	20415	1RB#0	22.61	PASS
Band5	3MHz	QPSK	20415	1RB#8	22.51	PASS
Band5	3MHz	QPSK	20415	1RB#14	22.50	PASS
Band5	3MHz	QPSK	20415	8RB#0	21.55	PASS
Band5	3MHz	QPSK	20415	8RB#4	21.57	PASS
Band5	3MHz	QPSK	20415	8RB#7	21.49	PASS
Band5	3MHz	QPSK	20415	15RB#0	21.53	PASS
Band5	3MHz	QPSK	20525	1RB#0	22.14	PASS
Band5	3MHz	QPSK	20525	1RB#8	22.13	PASS
Band5	3MHz	QPSK	20525	1RB#14	22.08	PASS
Band5	3MHz	QPSK	20525	8RB#0	21.14	PASS
Band5	3MHz	QPSK	20525	8RB#4	21.09	PASS
Band5	3MHz	QPSK	20525	8RB#7	21.11	PASS
Band5	3MHz	QPSK	20525	15RB#0	21.08	PASS
Band5	3MHz	QPSK	20635	1RB#0	22.18	PASS
Band5	3MHz	QPSK	20635	1RB#8	22.09	PASS
Band5	3MHz	QPSK	20635	1RB#14	22.12	PASS
Band5	3MHz	QPSK	20635	8RB#0	21.13	PASS
Band5	3MHz	QPSK	20635	8RB#4	21.08	PASS
Band5	3MHz	QPSK	20635	8RB#7	21.11	PASS
Band5	3MHz	QPSK	20635	15RB#0	21.12	PASS
Band5	3MHz	16QAM	20415	1RB#0	21.84	PASS
Band5	3MHz	16QAM	20415	1RB#8	21.72	PASS
Band5	3MHz	16QAM	20415	1RB#14	21.63	PASS
Band5	3MHz	16QAM	20415	8RB#0	20.67	PASS
Band5	3MHz	16QAM	20415	8RB#4	20.72	PASS
Band5	3MHz	16QAM	20415	8RB#7	20.64	PASS
Band5	3MHz	16QAM	20415	15RB#0	20.62	PASS

Band5	3MHz	16QAM	20525	1RB#0	21.36	PASS
Band5	3MHz	16QAM	20525	1RB#8	21.30	PASS
Band5	3MHz	16QAM	20525	1RB#14	21.26	PASS
Band5	3MHz	16QAM	20525	8RB#0	20.28	PASS
Band5	3MHz	16QAM	20525	8RB#4	20.24	PASS
Band5	3MHz	16QAM	20525	8RB#7	20.17	PASS
Band5	3MHz	16QAM	20525	15RB#0	20.15	PASS
Band5	3MHz	16QAM	20635	1RB#0	21.34	PASS
Band5	3MHz	16QAM	20635	1RB#8	21.31	PASS
Band5	3MHz	16QAM	20635	1RB#14	21.31	PASS
Band5	3MHz	16QAM	20635	8RB#0	20.19	PASS
Band5	3MHz	16QAM	20635	8RB#4	20.19	PASS
Band5	3MHz	16QAM	20635	8RB#7	20.19	PASS
Band5	3MHz	16QAM	20635	15RB#0	20.11	PASS
Band5	5MHz	QPSK	20425	1RB#0	22.45	PASS
Band5	5MHz	QPSK	20425	1RB#12	22.48	PASS
Band5	5MHz	QPSK	20425	1RB#24	22.30	PASS
Band5	5MHz	QPSK	20425	12RB#0	21.44	PASS
Band5	5MHz	QPSK	20425	12RB#6	21.41	PASS
Band5	5MHz	QPSK	20425	12RB#13	21.36	PASS
Band5	5MHz	QPSK	20425	25RB#0	21.41	PASS
Band5	5MHz	QPSK	20525	1RB#0	22.03	PASS
Band5	5MHz	QPSK	20525	1RB#12	22.11	PASS
Band5	5MHz	QPSK	20525	1RB#24	21.98	PASS
Band5	5MHz	QPSK	20525	12RB#0	21.03	PASS
Band5	5MHz	QPSK	20525	12RB#6	21.04	PASS
Band5	5MHz	QPSK	20525	12RB#13	21.03	PASS
Band5	5MHz	QPSK	20525	25RB#0	21.05	PASS
Band5	5MHz	QPSK	20625	1RB#0	22.02	PASS
Band5	5MHz	QPSK	20625	1RB#12	22.19	PASS
Band5	5MHz	QPSK	20625	1RB#24	22.05	PASS
Band5	5MHz	QPSK	20625	12RB#0	21.02	PASS
Band5	5MHz	QPSK	20625	12RB#6	21.07	PASS
Band5	5MHz	QPSK	20625	12RB#13	21.03	PASS
Band5	5MHz	QPSK	20625	25RB#0	21.09	PASS
Band5	5MHz	16QAM	20425	1RB#0	21.50	PASS
Band5	5MHz	16QAM	20425	1RB#12	21.55	PASS

Band5	5MHz	16QAM	20425	1RB#24	21.27	PASS
Band5	5MHz	16QAM	20425	12RB#0	20.52	PASS
Band5	5MHz	16QAM	20425	12RB#6	20.48	PASS
Band5	5MHz	16QAM	20425	12RB#13	20.35	PASS
Band5	5MHz	16QAM	20425	25RB#0	20.48	PASS
Band5	5MHz	16QAM	20525	1RB#0	21.09	PASS
Band5	5MHz	16QAM	20525	1RB#12	21.18	PASS
Band5	5MHz	16QAM	20525	1RB#24	20.97	PASS
Band5	5MHz	16QAM	20525	12RB#0	20.06	PASS
Band5	5MHz	16QAM	20525	12RB#6	20.07	PASS
Band5	5MHz	16QAM	20525	12RB#13	20.10	PASS
Band5	5MHz	16QAM	20525	25RB#0	20.13	PASS
Band5	5MHz	16QAM	20625	1RB#0	21.15	PASS
Band5	5MHz	16QAM	20625	1RB#12	21.36	PASS
Band5	5MHz	16QAM	20625	1RB#24	21.24	PASS
Band5	5MHz	16QAM	20625	12RB#0	20.13	PASS
Band5	5MHz	16QAM	20625	12RB#6	20.11	PASS
Band5	5MHz	16QAM	20625	12RB#13	20.13	PASS
Band5	5MHz	16QAM	20625	25RB#0	20.13	PASS
Band5	10MHz	QPSK	20450	1RB#0	**22.67**	PASS
Band5	10MHz	QPSK	20450	1RB#24	22.40	PASS
Band5	10MHz	QPSK	20450	1RB#49	22.11	PASS
Band5	10MHz	QPSK	20450	25RB#0	21.46	PASS
Band5	10MHz	QPSK	20450	25RB#12	21.52	PASS
Band5	10MHz	QPSK	20450	25RB#25	21.26	PASS
Band5	10MHz	QPSK	20450	50RB#0	21.32	PASS
Band5	10MHz	QPSK	20525	1RB#0	22.16	PASS
Band5	10MHz	QPSK	20525	1RB#24	22.19	PASS
Band5	10MHz	QPSK	20525	1RB#49	21.89	PASS
Band5	10MHz	QPSK	20525	25RB#0	21.13	PASS
Band5	10MHz	QPSK	20525	25RB#12	21.15	PASS
Band5	10MHz	QPSK	20525	25RB#25	21.08	PASS
Band5	10MHz	QPSK	20525	50RB#0	21.08	PASS
Band5	10MHz	QPSK	20600	1RB#0	22.01	PASS
Band5	10MHz	QPSK	20600	1RB#24	22.21	PASS
Band5	10MHz	QPSK	20600	1RB#49	22.04	PASS
Band5	10MHz	QPSK	20600	25RB#0	21.23	PASS

Band5	10MHz	QPSK	20600	25RB#12	21.24	PASS
Band5	10MHz	QPSK	20600	25RB#25	21.10	PASS
Band5	10MHz	QPSK	20600	50RB#0	21.19	PASS
Band5	10MHz	16QAM	20450	1RB#0	21.66	PASS
Band5	10MHz	16QAM	20450	1RB#24	21.62	PASS
Band5	10MHz	16QAM	20450	1RB#49	21.26	PASS
Band5	10MHz	16QAM	20450	25RB#0	20.59	PASS
Band5	10MHz	16QAM	20450	25RB#12	20.53	PASS
Band5	10MHz	16QAM	20450	25RB#25	20.33	PASS
Band5	10MHz	16QAM	20450	50RB#0	20.38	PASS
Band5	10MHz	16QAM	20525	1RB#0	21.40	PASS
Band5	10MHz	16QAM	20525	1RB#24	21.35	PASS
Band5	10MHz	16QAM	20525	1RB#49	21.13	PASS
Band5	10MHz	16QAM	20525	25RB#0	20.24	PASS
Band5	10MHz	16QAM	20525	25RB#12	20.24	PASS
Band5	10MHz	16QAM	20525	25RB#25	20.11	PASS
Band5	10MHz	16QAM	20525	50RB#0	20.15	PASS
Band5	10MHz	16QAM	20600	1RB#0	21.13	PASS
Band5	10MHz	16QAM	20600	1RB#24	21.46	PASS
Band5	10MHz	16QAM	20600	1RB#49	21.22	PASS
Band5	10MHz	16QAM	20600	25RB#0	20.33	PASS
Band5	10MHz	16QAM	20600	25RB#12	20.31	PASS
Band5	10MHz	16QAM	20600	25RB#25	20.19	PASS
Band5	10MHz	16QAM	20600	50RB#0	20.24	PASS

Band 40(2305-2315MHz)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band40	5MHz	QPSK	38725	1RB#0	23.48	PASS
Band40	5MHz	QPSK	38725	1RB#12	23.57	PASS
Band40	5MHz	QPSK	38725	1RB#24	23.55	PASS
Band40	5MHz	QPSK	38725	12RB#0	22.53	PASS
Band40	5MHz	QPSK	38725	12RB#6	22.52	PASS
Band40	5MHz	QPSK	38725	12RB#13	22.63	PASS
Band40	5MHz	QPSK	38725	25RB#0	22.57	PASS
Band40	5MHz	QPSK	38750	1RB#0	23.38	PASS
Band40	5MHz	QPSK	38750	1RB#12	23.52	PASS
Band40	5MHz	QPSK	38750	1RB#24	23.40	PASS

Band40	5MHz	QPSK	38750	12RB#0	22.58	PASS
Band40	5MHz	QPSK	38750	12RB#6	22.57	PASS
Band40	5MHz	QPSK	38750	12RB#13	22.63	PASS
Band40	5MHz	QPSK	38750	25RB#0	22.61	PASS
Band40	5MHz	QPSK	38775	1RB#0	23.63	PASS
Band40	5MHz	QPSK	38775	1RB#12	23.72	PASS
Band40	5MHz	QPSK	38775	1RB#24	23.64	PASS
Band40	5MHz	QPSK	38775	12RB#0	22.60	PASS
Band40	5MHz	QPSK	38775	12RB#6	22.61	PASS
Band40	5MHz	QPSK	38775	12RB#13	22.68	PASS
Band40	5MHz	QPSK	38775	25RB#0	22.65	PASS
Band40	5MHz	16QAM	38725	1RB#0	22.75	PASS
Band40	5MHz	16QAM	38725	1RB#12	22.97	PASS
Band40	5MHz	16QAM	38725	1RB#24	22.85	PASS
Band40	5MHz	16QAM	38725	12RB#0	21.48	PASS
Band40	5MHz	16QAM	38725	12RB#6	21.48	PASS
Band40	5MHz	16QAM	38725	12RB#13	21.52	PASS
Band40	5MHz	16QAM	38725	25RB#0	21.60	PASS
Band40	5MHz	16QAM	38750	1RB#0	22.76	PASS
Band40	5MHz	16QAM	38750	1RB#12	22.93	PASS
Band40	5MHz	16QAM	38750	1RB#24	22.84	PASS
Band40	5MHz	16QAM	38750	12RB#0	21.55	PASS
Band40	5MHz	16QAM	38750	12RB#6	21.58	PASS
Band40	5MHz	16QAM	38750	12RB#13	21.66	PASS
Band40	5MHz	16QAM	38750	25RB#0	21.63	PASS
Band40	5MHz	16QAM	38775	1RB#0	22.67	PASS
Band40	5MHz	16QAM	38775	1RB#12	22.84	PASS
Band40	5MHz	16QAM	38775	1RB#24	22.72	PASS
Band40	5MHz	16QAM	38775	12RB#0	21.56	PASS
Band40	5MHz	16QAM	38775	12RB#6	21.57	PASS
Band40	5MHz	16QAM	38775	12RB#13	21.63	PASS
Band40	5MHz	16QAM	38775	25RB#0	21.63	PASS
Band40	10MHz	QPSK	38750	1RB#0	23.58	PASS
Band40	10MHz	QPSK	38750	1RB#24	**23.75**	PASS
Band40	10MHz	QPSK	38750	1RB#49	23.63	PASS
Band40	10MHz	QPSK	38750	25RB#0	22.64	PASS
Band40	10MHz	QPSK	38750	25RB#12	22.69	PASS

Band40	10MHz	QPSK	38750	25RB#25	22.70	PASS
Band40	10MHz	QPSK	38750	50RB#0	22.69	PASS
Band40	10MHz	16QAM	38750	1RB#0	22.78	PASS
Band40	10MHz	16QAM	38750	1RB#24	23.01	PASS
Band40	10MHz	16QAM	38750	1RB#49	22.88	PASS
Band40	10MHz	16QAM	38750	25RB#0	21.75	PASS
Band40	10MHz	16QAM	38750	25RB#12	21.75	PASS
Band40	10MHz	16QAM	38750	25RB#25	21.75	PASS
Band40	10MHz	16QAM	38750	50RB#0	21.70	PASS

Band 40(2350-2360MHz)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band40	5MHz	QPSK	39175	1RB#0	23.55	PASS
Band40	5MHz	QPSK	39175	1RB#12	23.63	PASS
Band40	5MHz	QPSK	39175	1RB#24	23.41	PASS
Band40	5MHz	QPSK	39175	12RB#0	22.57	PASS
Band40	5MHz	QPSK	39175	12RB#6	22.59	PASS
Band40	5MHz	QPSK	39175	12RB#13	22.47	PASS
Band40	5MHz	QPSK	39175	25RB#0	22.57	PASS
Band40	5MHz	QPSK	39200	1RB#0	23.37	PASS
Band40	5MHz	QPSK	39200	1RB#12	23.46	PASS
Band40	5MHz	QPSK	39200	1RB#24	23.23	PASS
Band40	5MHz	QPSK	39200	12RB#0	22.52	PASS
Band40	5MHz	QPSK	39200	12RB#6	22.52	PASS
Band40	5MHz	QPSK	39200	12RB#13	22.45	PASS
Band40	5MHz	QPSK	39200	25RB#0	22.52	PASS
Band40	5MHz	QPSK	39225	1RB#0	23.51	PASS
Band40	5MHz	QPSK	39225	1RB#12	23.57	PASS
Band40	5MHz	QPSK	39225	1RB#24	23.39	PASS
Band40	5MHz	QPSK	39225	12RB#0	22.49	PASS
Band40	5MHz	QPSK	39225	12RB#6	22.48	PASS
Band40	5MHz	QPSK	39225	12RB#13	22.46	PASS
Band40	5MHz	QPSK	39225	25RB#0	22.47	PASS
Band40	5MHz	16QAM	39175	1RB#0	22.85	PASS
Band40	5MHz	16QAM	39175	1RB#12	22.92	PASS

Band40	5MHz	16QAM	39175	1RB#24	22.75	PASS
Band40	5MHz	16QAM	39175	12RB#0	21.51	PASS
Band40	5MHz	16QAM	39175	12RB#6	21.51	PASS
Band40	5MHz	16QAM	39175	12RB#13	21.41	PASS
Band40	5MHz	16QAM	39175	25RB#0	21.57	PASS
Band40	5MHz	16QAM	39200	1RB#0	22.72	PASS
Band40	5MHz	16QAM	39200	1RB#12	22.77	PASS
Band40	5MHz	16QAM	39200	1RB#24	22.63	PASS
Band40	5MHz	16QAM	39200	12RB#0	21.51	PASS
Band40	5MHz	16QAM	39200	12RB#6	21.55	PASS
Band40	5MHz	16QAM	39200	12RB#13	21.47	PASS
Band40	5MHz	16QAM	39200	25RB#0	21.50	PASS
Band40	5MHz	16QAM	39225	1RB#0	22.54	PASS
Band40	5MHz	16QAM	39225	1RB#12	22.57	PASS
Band40	5MHz	16QAM	39225	1RB#24	22.44	PASS
Band40	5MHz	16QAM	39225	12RB#0	21.41	PASS
Band40	5MHz	16QAM	39225	12RB#6	21.43	PASS
Band40	5MHz	16QAM	39225	12RB#13	21.35	PASS
Band40	5MHz	16QAM	39225	25RB#0	21.38	PASS
Band40	10MHz	QPSK	39200	1RB#0	23.59	PASS
Band40	10MHz	QPSK	39200	1RB#24	**23.67**	PASS
Band40	10MHz	QPSK	39200	1RB#49	23.38	PASS
Band40	10MHz	QPSK	39200	25RB#0	22.57	PASS
Band40	10MHz	QPSK	39200	25RB#12	22.61	PASS
Band40	10MHz	QPSK	39200	25RB#25	22.50	PASS
Band40	10MHz	QPSK	39200	50RB#0	22.55	PASS
Band40	10MHz	16QAM	39200	1RB#0	22.83	PASS
Band40	10MHz	16QAM	39200	1RB#24	22.84	PASS
Band40	10MHz	16QAM	39200	1RB#49	22.62	PASS
Band40	10MHz	16QAM	39200	25RB#0	21.66	PASS
Band40	10MHz	16QAM	39200	25RB#12	21.65	PASS
Band40	10MHz	16QAM	39200	25RB#25	21.58	PASS
Band40	10MHz	16QAM	39200	50RB#0	21.55	PASS

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band41	5MHz	QPSK	40265	1RB#0	23.53	PASS
Band41	5MHz	QPSK	40265	1RB#12	23.72	PASS
Band41	5MHz	QPSK	40265	1RB#24	23.54	PASS
Band41	5MHz	QPSK	40265	12RB#0	22.46	PASS
Band41	5MHz	QPSK	40265	12RB#6	22.47	PASS
Band41	5MHz	QPSK	40265	12RB#13	22.57	PASS
Band41	5MHz	QPSK	40265	25RB#0	22.47	PASS
Band41	5MHz	QPSK	40740	1RB#0	24.00	PASS
Band41	5MHz	QPSK	40740	1RB#12	24.14	PASS
Band41	5MHz	QPSK	40740	1RB#24	23.98	PASS
Band41	5MHz	QPSK	40740	12RB#0	23.00	PASS
Band41	5MHz	QPSK	40740	12RB#6	22.89	PASS
Band41	5MHz	QPSK	40740	12RB#13	22.94	PASS
Band41	5MHz	QPSK	40740	25RB#0	22.94	PASS
Band41	5MHz	QPSK	41215	1RB#0	24.08	PASS
Band41	5MHz	QPSK	41215	1RB#12	24.28	PASS
Band41	5MHz	QPSK	41215	1RB#24	24.19	PASS
Band41	5MHz	QPSK	41215	12RB#0	23.14	PASS
Band41	5MHz	QPSK	41215	12RB#6	23.13	PASS
Band41	5MHz	QPSK	41215	12RB#13	23.13	PASS
Band41	5MHz	QPSK	41215	25RB#0	23.10	PASS
Band41	5MHz	16QAM	40265	1RB#0	22.78	PASS
Band41	5MHz	16QAM	40265	1RB#12	22.95	PASS
Band41	5MHz	16QAM	40265	1RB#24	22.81	PASS
Band41	5MHz	16QAM	40265	12RB#0	21.37	PASS
Band41	5MHz	16QAM	40265	12RB#6	21.38	PASS
Band41	5MHz	16QAM	40265	12RB#13	21.48	PASS
Band41	5MHz	16QAM	40265	25RB#0	21.51	PASS
Band41	5MHz	16QAM	40740	1RB#0	23.21	PASS
Band41	5MHz	16QAM	40740	1RB#12	23.36	PASS
Band41	5MHz	16QAM	40740	1RB#24	23.23	PASS
Band41	5MHz	16QAM	40740	12RB#0	21.89	PASS
Band41	5MHz	16QAM	40740	12RB#6	21.87	PASS
Band41	5MHz	16QAM	40740	12RB#13	21.84	PASS
Band41	5MHz	16QAM	40740	25RB#0	21.90	PASS

Band41	5MHz	16QAM	41215	1RB#0	23.25	PASS
Band41	5MHz	16QAM	41215	1RB#12	23.45	PASS
Band41	5MHz	16QAM	41215	1RB#24	23.31	PASS
Band41	5MHz	16QAM	41215	12RB#0	22.10	PASS
Band41	5MHz	16QAM	41215	12RB#6	22.07	PASS
Band41	5MHz	16QAM	41215	12RB#13	22.11	PASS
Band41	5MHz	16QAM	41215	25RB#0	22.09	PASS
Band41	10MHz	QPSK	40290	1RB#0	23.68	PASS
Band41	10MHz	QPSK	40290	1RB#24	23.95	PASS
Band41	10MHz	QPSK	40290	1RB#49	23.80	PASS
Band41	10MHz	QPSK	40290	25RB#0	22.59	PASS
Band41	10MHz	QPSK	40290	25RB#12	22.54	PASS
Band41	10MHz	QPSK	40290	25RB#25	22.69	PASS
Band41	10MHz	QPSK	40290	50RB#0	22.61	PASS
Band41	10MHz	QPSK	40740	1RB#0	24.15	PASS
Band41	10MHz	QPSK	40740	1RB#24	24.34	PASS
Band41	10MHz	QPSK	40740	1RB#49	24.02	PASS
Band41	10MHz	QPSK	40740	25RB#0	23.05	PASS
Band41	10MHz	QPSK	40740	25RB#12	23.02	PASS
Band41	10MHz	QPSK	40740	25RB#25	22.97	PASS
Band41	10MHz	QPSK	40740	50RB#0	23.02	PASS
Band41	10MHz	QPSK	41190	1RB#0	24.30	PASS
Band41	10MHz	QPSK	41190	1RB#24	24.33	PASS
Band41	10MHz	QPSK	41190	1RB#49	24.36	PASS
Band41	10MHz	QPSK	41190	25RB#0	23.12	PASS
Band41	10MHz	QPSK	41190	25RB#12	23.16	PASS
Band41	10MHz	QPSK	41190	25RB#25	23.12	PASS
Band41	10MHz	QPSK	41190	50RB#0	23.10	PASS
Band41	10MHz	16QAM	40290	1RB#0	22.89	PASS
Band41	10MHz	16QAM	40290	1RB#24	23.14	PASS
Band41	10MHz	16QAM	40290	1RB#49	22.91	PASS
Band41	10MHz	16QAM	40290	25RB#0	21.65	PASS
Band41	10MHz	16QAM	40290	25RB#12	21.62	PASS
Band41	10MHz	16QAM	40290	25RB#25	21.69	PASS
Band41	10MHz	16QAM	40290	50RB#0	21.61	PASS
Band41	10MHz	16QAM	40740	1RB#0	23.31	PASS
Band41	10MHz	16QAM	40740	1RB#24	23.55	PASS

Band41	10MHz	16QAM	40740	1RB#49	23.27	PASS
Band41	10MHz	16QAM	40740	25RB#0	22.07	PASS
Band41	10MHz	16QAM	40740	25RB#12	22.09	PASS
Band41	10MHz	16QAM	40740	25RB#25	22.03	PASS
Band41	10MHz	16QAM	40740	50RB#0	21.95	PASS
Band41	10MHz	16QAM	41190	1RB#0	22.94	PASS
Band41	10MHz	16QAM	41190	1RB#24	23.25	PASS
Band41	10MHz	16QAM	41190	1RB#49	23.06	PASS
Band41	10MHz	16QAM	41190	25RB#0	22.04	PASS
Band41	10MHz	16QAM	41190	25RB#12	22.08	PASS
Band41	10MHz	16QAM	41190	25RB#25	22.08	PASS
Band41	10MHz	16QAM	41190	50RB#0	22.05	PASS
Band41	15MHz	QPSK	40315	1RB#0	23.58	PASS
Band41	15MHz	QPSK	40315	1RB#38	23.74	PASS
Band41	15MHz	QPSK	40315	1RB#74	23.78	PASS
Band41	15MHz	QPSK	40315	38RB#0	22.79	PASS
Band41	15MHz	QPSK	40315	38RB#18	22.75	PASS
Band41	15MHz	QPSK	40315	38RB#37	22.80	PASS
Band41	15MHz	QPSK	40315	75RB#0	22.78	PASS
Band41	15MHz	QPSK	40740	1RB#0	24.04	PASS
Band41	15MHz	QPSK	40740	1RB#38	24.10	PASS
Band41	15MHz	QPSK	40740	1RB#74	23.88	PASS
Band41	15MHz	QPSK	40740	38RB#0	23.13	PASS
Band41	15MHz	QPSK	40740	38RB#18	23.13	PASS
Band41	15MHz	QPSK	40740	38RB#37	23.15	PASS
Band41	15MHz	QPSK	40740	75RB#0	23.14	PASS
Band41	15MHz	QPSK	41165	1RB#0	24.18	PASS
Band41	15MHz	QPSK	41165	1RB#38	24.37	PASS
Band41	15MHz	QPSK	41165	1RB#74	24.23	PASS
Band41	15MHz	QPSK	41165	38RB#0	23.24	PASS
Band41	15MHz	QPSK	41165	38RB#18	23.16	PASS
Band41	15MHz	QPSK	41165	38RB#37	23.12	PASS
Band41	15MHz	QPSK	41165	75RB#0	23.19	PASS
Band41	15MHz	16QAM	40315	1RB#0	22.85	PASS
Band41	15MHz	16QAM	40315	1RB#38	22.93	PASS
Band41	15MHz	16QAM	40315	1RB#74	22.95	PASS
Band41	15MHz	16QAM	40315	38RB#0	22.79	PASS

Band41	15MHz	16QAM	40315	38RB#18	22.77	PASS
Band41	15MHz	16QAM	40315	38RB#37	22.78	PASS
Band41	15MHz	16QAM	40315	75RB#0	21.72	PASS
Band41	15MHz	16QAM	40740	1RB#0	23.30	PASS
Band41	15MHz	16QAM	40740	1RB#38	23.28	PASS
Band41	15MHz	16QAM	40740	1RB#74	23.05	PASS
Band41	15MHz	16QAM	40740	38RB#0	23.12	PASS
Band41	15MHz	16QAM	40740	38RB#18	23.11	PASS
Band41	15MHz	16QAM	40740	38RB#37	23.09	PASS
Band41	15MHz	16QAM	40740	75RB#0	22.04	PASS
Band41	15MHz	16QAM	41165	1RB#0	22.80	PASS
Band41	15MHz	16QAM	41165	1RB#38	23.08	PASS
Band41	15MHz	16QAM	41165	1RB#74	23.05	PASS
Band41	15MHz	16QAM	41165	38RB#0	23.21	PASS
Band41	15MHz	16QAM	41165	38RB#18	23.21	PASS
Band41	15MHz	16QAM	41165	38RB#37	23.19	PASS
Band41	15MHz	16QAM	41165	75RB#0	22.05	PASS
Band41	20MHz	QPSK	40340	1RB#0	23.44	PASS
Band41	20MHz	QPSK	40340	1RB#49	24.04	PASS
Band41	20MHz	QPSK	40340	1RB#99	23.72	PASS
Band41	20MHz	QPSK	40340	50RB#0	22.53	PASS
Band41	20MHz	QPSK	40340	50RB#25	22.51	PASS
Band41	20MHz	QPSK	40340	50RB#50	22.74	PASS
Band41	20MHz	QPSK	40340	100RB#0	22.65	PASS
Band41	20MHz	QPSK	40740	1RB#0	23.96	PASS
Band41	20MHz	QPSK	40740	1RB#49	**24.59**	PASS
Band41	20MHz	QPSK	40740	1RB#99	23.73	PASS
Band41	20MHz	QPSK	40740	50RB#0	23.06	PASS
Band41	20MHz	QPSK	40740	50RB#25	23.05	PASS
Band41	20MHz	QPSK	40740	50RB#50	22.92	PASS
Band41	20MHz	QPSK	40740	100RB#0	23.03	PASS
Band41	20MHz	QPSK	41140	1RB#0	23.79	PASS
Band41	20MHz	QPSK	41140	1RB#49	24.40	PASS
Band41	20MHz	QPSK	41140	1RB#99	24.03	PASS
Band41	20MHz	QPSK	41140	50RB#0	22.90	PASS
Band41	20MHz	QPSK	41140	50RB#25	22.92	PASS
Band41	20MHz	QPSK	41140	50RB#50	22.90	PASS

Band41	20MHz	QPSK	41140	100RB#0	22.97	PASS
Band41	20MHz	16QAM	40340	1RB#0	22.52	PASS
Band41	20MHz	16QAM	40340	1RB#49	23.00	PASS
Band41	20MHz	16QAM	40340	1RB#99	22.74	PASS
Band41	20MHz	16QAM	40340	50RB#0	21.52	PASS
Band41	20MHz	16QAM	40340	50RB#25	21.54	PASS
Band41	20MHz	16QAM	40340	50RB#50	21.74	PASS
Band41	20MHz	16QAM	40340	100RB#0	21.63	PASS
Band41	20MHz	16QAM	40740	1RB#0	23.01	PASS
Band41	20MHz	16QAM	40740	1RB#49	23.34	PASS
Band41	20MHz	16QAM	40740	1RB#99	22.79	PASS
Band41	20MHz	16QAM	40740	50RB#0	22.07	PASS
Band41	20MHz	16QAM	40740	50RB#25	22.05	PASS
Band41	20MHz	16QAM	40740	50RB#50	21.88	PASS
Band41	20MHz	16QAM	40740	100RB#0	21.97	PASS
Band41	20MHz	16QAM	41140	1RB#0	22.26	PASS
Band41	20MHz	16QAM	41140	1RB#49	22.78	PASS
Band41	20MHz	16QAM	41140	1RB#99	22.50	PASS
Band41	20MHz	16QAM	41140	50RB#0	21.84	PASS
Band41	20MHz	16QAM	41140	50RB#25	21.84	PASS
Band41	20MHz	16QAM	41140	50RB#50	21.91	PASS
Band41	20MHz	16QAM	41140	100RB#0	21.89	PASS

Remark:

1. Per KDB941225 D05 v02r05, Start with the largest channel bandwidth then measure SAR for QPSK with 1 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. When the reported SAR is≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. 6 When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2. Per KDB941225 D05 v02r05, The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.
3. Per KDB941225 D05 v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations, and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8

W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB941225 D05 v02r05, For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in 5.2.1, 5.2.2, and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

WLAN(2.4GHz)					
Test Mode	**Data Rate**	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
802.11b	11Mbps	CH 01	2412	**15.67**	16.0
		CH 06	2437	15.64	16.0
		CH 11	2462	15.52	16.0
802.11g	54Mbps	CH 01	2412	14.29	14.5
		CH 06	2437	14.47	14.5
		CH 11	2462	14.33	14.5
802.11n (20MHz)	MCS7	CH 01	2412	13.17	13.5
		CH 06	2437	13.30	13.5
		CH 11	2462	13.20	13.5
802.11n (40MHz)	MCS7	CH 03	2422	12.29	12.5
		CH 06	2437	12.43	12.5
		CH 09	2452	12.20	12.5

WLAN(5.2GHz)				
Test Mode	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
802.11a	CH 36	5180	**9.34**	9.5
	CH 40	5200	9.03	9.5
	CH 48	5240	8.90	9.5
802.11n (HT20)	CH 36	5180	8.50	9.5
	CH 40	5200	8.75	9.5
	CH 48	5240	8.67	9.5
802.11n (HT40)	CH 38	5190	7.41	7.5
	CH 46	5230	7.39	7.5
802.11ac-VHT80	CH 42	5210	6.54	7.0

WLAN(5.3GHz)				
Test Mode	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
802.11a	CH 52	5260	11.31	12.0
	CH 56	5280	11.66	12.0
	CH 64	5320	**11.91**	12.0
802.11n (HT20)	CH 52	5260	10.44	11.0
	CH 56	5280	10.77	11.0
	CH 64	5320	10.68	11.0
802.11n (HT40)	CH 54	5270	10.19	11.0
	CH62	5310	10.67	11.0
802.11ac-VHT80	CH 58	5290	9.48	10.0

WLAN(5.8GHz)				
Test Mode	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
802.11a	CH 149	5745	**15.45**	15.5
	CH 157	5785	15.09	15.5
	CH 165	5825	14.67	15.5
802.11n (HT20)	CH 149	5745	14.38	14.5
	CH 157	5785	14.31	14.5
	CH 165	5825	14.11	14.5
802.11n (HT40)	CH 151	5755	14.29	14.5
	CH159	5795	14.05	14.5
802.11ac-VHT80	CH155	5775	13.93	14.0

Remark:

1. Per KDB 248227 D01 v02r02, for 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.
2. Per KDB 248227 D01 v02r02, For 802.11b DSSS SAR measurements ,when the reported SAR of the highest measured maximum output power channel (see 3.1) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.
3. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2W/kg.

Bluetooth			
Test Mode	**Data Rate**	**Conducted Power (dBm)**	**Tune-up power (dBm)**
GFSK	1Mbps	**0.08**	1
π/4 DQPSK	2Mbps	-1.55	0
8DPSK	3Mbps	-0.72	0

Bluetooth				
Test Mode	**Data Rate**	**Channel**	**Frequency (MHz)**	**Conducted Power (dBm)**
BLE	1Mbps	CH 00	2402	-6.80
		CH 19	2440	-8.91
		CH 39	2480	-7.46
	2Mbps	CH 00	2402	-6.64
		CH 19	2440	-8.78
		CH 39	2480	-7.32

Remark:

Bluetooth maximum output power is 0.08dBm, Maximum Tune-Up output power is 1dBm. Per KDB 447498 D01 V06, 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 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,16 where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation17
- The result is rounded to one decimal place for comparison

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	Result	Limit
1	1.26	5	2.480	0.397	3

The exclusion thresholds is 0.397< 3, therefore, the RF exposure evaluation is not required.

9.2 Test Results for Standalone SAR Test

Body SAR

GSM850 – Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
1.	GSM	Back Face	128	824.2	32.45	32.5	1.012	0.367	**0.371**
	GPRS_4TX	Back Face	128	824.2	32.5	29.5	0.501	0.626	0.314
	GPRS_4TX	Top Side	128	824.2	32.5	29.5	0.501	0.423	0.212

GSM1900 – Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
	GSM	Back Face	810	1909.8	30.12	30.5	1.091	0.132	0.144
2.	GPRS_2TX	Back Face	810	1909.8	29.40	29.5	1.023	0.604	**0.618**
	GPRS_2TX	Top Side	810	1909.8	29.40	29.5	1.023	0.375	0.384

LTE Band 5–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
3.	QPSK 10MHz 1RB	Back Face	829	22.67	23.0	1.079	0.568	**0.613**
	QPSK 10MHz 1RB	Top Side	829	22.67	23.0	1.079	0.311	0.336
	QPSK 10MHz 50%RB	Back Face	829	22.67	23.0	1.079	0.432	0.466
	QPSK 10MHz 50%RB	Top Side	829	22.67	23.0	1.079	0.256	0.276

LTE Band 40(2305-2315MHz)–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
4.	QPSK 10MHz 1RB	Back Face	2310	23.75	24.0	1.059	0.714	**0.756**
	QPSK 10MHz 1RB	Top Side	2310	23.75	24.0	1.059	0.607	0.643
	QPSK 10MHz 50%RB	Back Face	2310	23.75	24.0	1.059	0.645	0.683
	QPSK 10MHz 50%RB	Top Side	2310	23.75	24.0	1.059	0.543	0.575

LTE Band 40(2350-2360MHz)–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
5.	QPSK 10MHz 1RB	Back Face	2355	23.67	24.0	1.079	0.613	**0.661**
	QPSK 10MHz 1RB	Top Side	2355	23.67	24.0	1.079	0.485	0.523
	QPSK 10MHz 50%RB	Back Face	2355	23.67	24.0	1.079	0.512	0.552
	QPSK 10MHz 50%RB	Top Side	2355	23.67	24.0	1.079	0.369	0.398

LTE Band 41(2555-2655MHz)–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
6.	QPSK 20MHz 1RB	Back Face	2605	24.59	25.0	1.099	0.118	**0.130**
	QPSK 20MHz 1RB	Top Side	2605	24.59	25.0	1.099	0.061	0.067
	QPSK 20MHz 50%RB	Back Face	2605	24.59	25.0	1.099	0.103	0.113
	QPSK 20MHz 50%RB	Top Side	2605	24.59	25.0	1.099	0.048	0.053

WLAN 2.4GHz –Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
7.	802.11b	Back Face	CH 01	2412	15.67	16.0	1.079	0.240	**0.259**
	802.11b	Top Side	CH 01	2412	15.67	16.0	1.079	0.205	0.221

WLAN 5.2GHz– Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
8.	802.11a	Back Face	36	5180	9.34	9.5	1.038	0.236	**0.245**
	802.11a	Top Side	36	5180	9.34	9.5	1.038	0.175	0.182

WLAN 5.3GHz– Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
9.	802.11a	Back Face	64	5320	11.91	12.0	1.021	0.455	**0.465**
	802.11a	Top Side	64	5320	11.91	12.0	1.021	0.322	0.329

WLAN 5.8GHz– Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
10.	802.11a	Back Face	149	5745	15.45	15.5	1.012	0.469	**0.474**
	802.11a	Top Side	149	5745	15.45	15.5	1.012	0.397	0.402

Remark: Per KDB 447498 D01 v06, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

9.3 Simultaneous Multi-band Transmission SAR Analysis

List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Body SAR
1	**GSM(Voice/Data) + WLAN(2.4GHz)(Data)**	Yes
2	**WCDMA (Voice/Data)+ WLAN(2.4GHz)(Data)**	Yes
3	**LTE(Data) + WLAN(2.4GHz)(Data)**	Yes
4	**GSM(Voice/Data) + WLAN(5GHz)(Data)**	Yes
5	**WCDMA (Voice/Data)+ WLAN(5GHz)(Data)**	Yes
6	**LTE(Data) + WLAN(5GHz)(Data)**	Yes
7	**GSM(Voice/Data) + Bluetooth(Data)**	Yes
8	**WCDMA (Voice/Data) + Bluetooth(Data)**	Yes
9	**LTE(Data) + Bluetooth(Data)**	Yes

Remark:

1. GSM and LTE share the same antenna, and cannot transmit simultaneously.
2. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
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.
For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 v06 as below:

Bluetooth:

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	X	SAR(1g) 5mm
1	1.26	5/10	2.48	7.5	0.053

4. The maximum SAR summation is calculated based on the same configuration and test position.

Body SAR

WWAN and WLAN

	WWAN		WLAN(2.4GHz)	Summed SAR (W/kg)
Position	**Band**	**Scaled SAR (W/kg)**	**Scaled SAR (W/kg)**	
Back	GSM	**0.618**	**0.259**	0.877
Front	GSM	--	--	--
Right side	GSM	--	--	--
Left side	GSM	--	--	--
Bottom side	GSM	--	--	--
Top side	GSM	0.384	0.221	0.605
Back	LTE	**0.756**	**0.259**	**1.015**
Front	LTE	--	--	--
Right side	LTE	--	--	--
Left side	LTE	--	--	--
Bottom side	LTE	--	--	--
Top side	LTE	0.643	0.221	0.864

	WWAN		WLAN(5GHz)	Summed SAR (W/kg)
Position	**Band**	**Scaled SAR (W/kg)**	**Scaled SAR (W/kg)**	
Back	GSM	**0.618**	**0.474**	1.092
Front	GSM	--	--	--
Right side	GSM	--	--	--
Left side	GSM	--	--	--
Bottom side	GSM	--	--	--
Top side	GSM	0.384	0.402	0.786
Back	LTE	**0.756**	**0.474**	**1.230**
Front	LTE	--	--	--
Right side	LTE	--	--	--
Left side	LTE	--	--	--
Bottom side	LTE	--	--	--
Top side	LTE	0.643	0.402	1.045

Note:

1. Bluetooth output power is less than WIFI2.4GHz, so the simultaneous transmission is not evaluated.

10. Measurement Uncertainty

10.1 Uncertainty for SAR Test

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	**Sec.**	**Tol (+- %)**	**Prob. Dist.**	**Div.**	**Ci (1g)**	**Ci (10g)**	**1g Ui (+-%)**	**10g Ui (+-%)**	**Vi**
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∝
Axial Isotropy	E.2.2	2.5	R	√3	(1_Cp)^1/2	(1_Cp)^1/2	1.02	1.02	∝
Hemispherical Isotropy	E.2.2	4.0	R	√3	(Cp)^1/2	(Cp)^1/2	1.63	1.63	∝
Boundary effect	E.2.3	1.0	R	√3	1	1	0.58	0.58	∝
Linearity	E.2.4	5.0	R	√3	1	1	2.89	2.89	∝
System detection limits	E.2.5	1.0	R	√3	1	1	0.58	0.58	∝
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∝
Reponse Time	E.2.7	3.0	R	√3	1	1	1.73	1.73	∝
Integration Time	E.2.8	2.0	R	√3	1	1	1.15	1.15	∝
RF ambient Conditions – Noise	E.6.1	0	R	√3	1	1	1.73	1.73	∝
RF ambient Conditions - Reflections	E.6.1	0	R	√3	1	1	1.73	1.73	∝
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	√3	1	1	1.15	1.15	∝
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	√3	1	1	0.03	0.03	∝
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5	5.0	R	√3	1	1	2.89	2.89	∝
Test Sample Related									
Test sample positioning	E.4.2	0.03	N	1	1	1	0.03	0.03	N–1
Device Holder Uncertainty	E.4.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	E.2.9	12.02	R	√3	1	1	6.94	6.94	∝
SAR scaling	E6.5	0.0	R	√3	1	1	0.0	0.0	∝
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	√3	1	1	0.03	0.03	∝
Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	1.9	R	√3	1	0.84	1.10	0.90	∝

Liquid conductivity - deviation from target value	E.3.2	5.00	R	√3	0.64	0.43	1.85	1.24	∝
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	∝
Liquid permittivity - deviation from target value	E.3.2	0.37	R	√3	0.6	0.49	0.13	0.10	∝
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	∝
Combined Standard Uncertainty			RSS				10.20	10.00	
Expanded Uncertainty (95% Confidence interval)			K=2				20.40	20.00	

Annex A. Plots of System Performance Check

MEASUREMENT 1

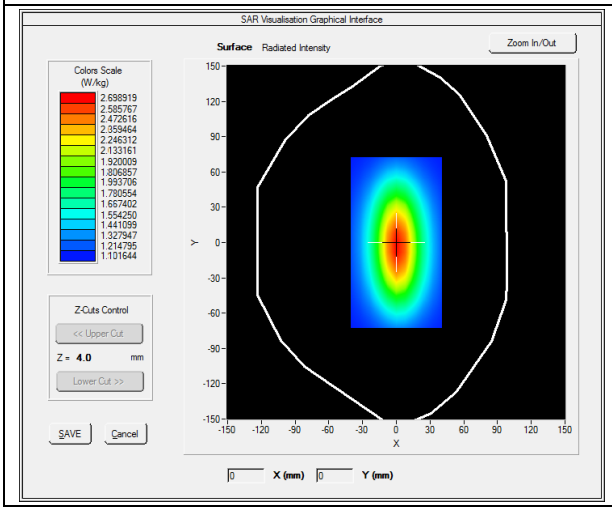
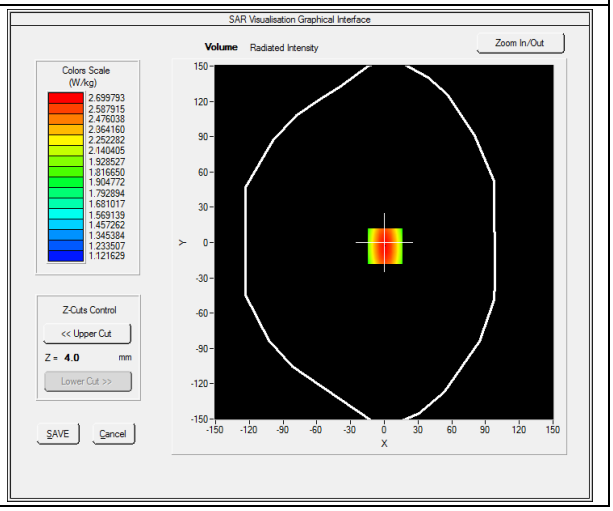
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-06
Measurement duration: 7 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 1.71; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	41.314245
Conductivity (S/m)	0.922451
Power Variation (%)	0.428437
Ambient Temperature	22.2
Liquid Temperature	22.2

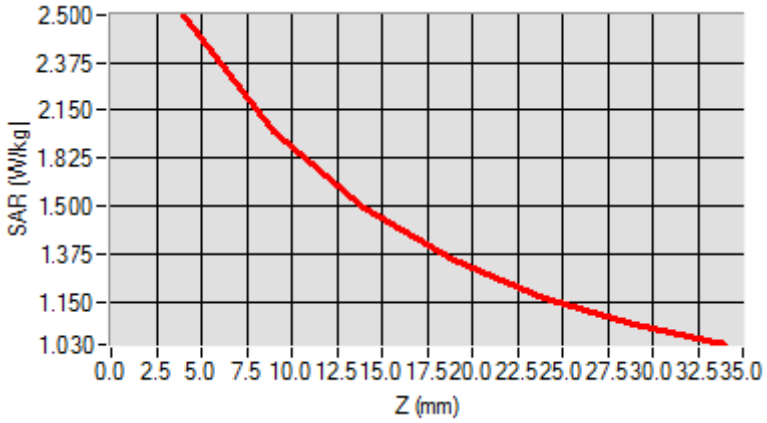
SURFACE SAR	VOLUME SAR
	

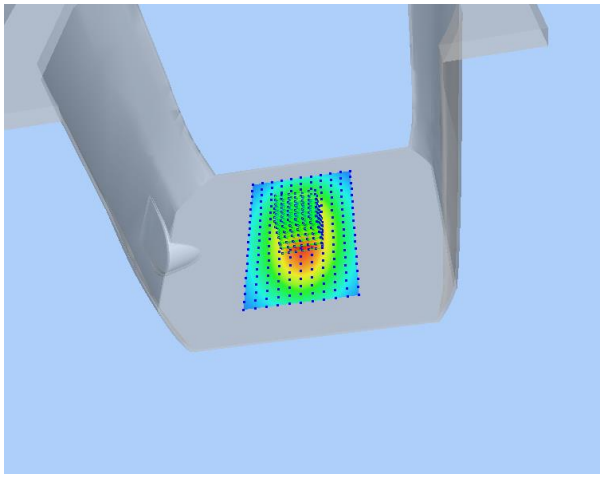
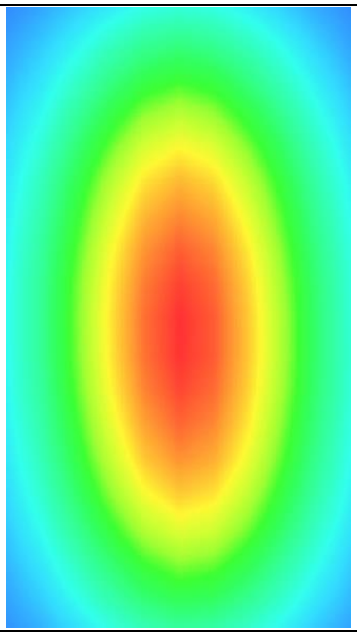
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.519489
SAR 1g (W/Kg)	2.511253

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.4900	1.8942	1.4811	1.3541	1.1123	1.0539



3D screen shot	Hot spot position
	

MEASUREMENT 2

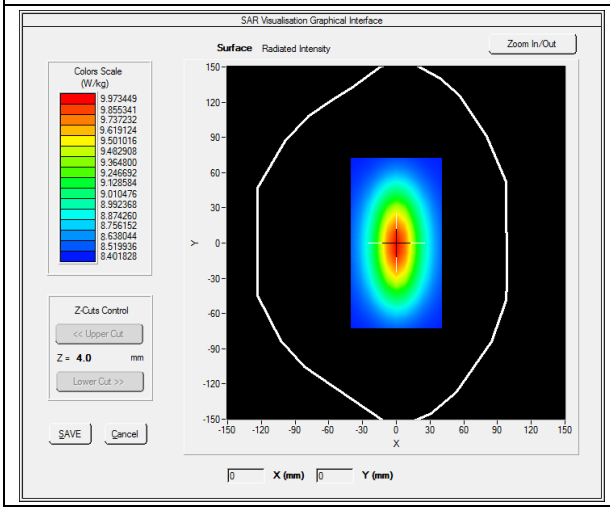
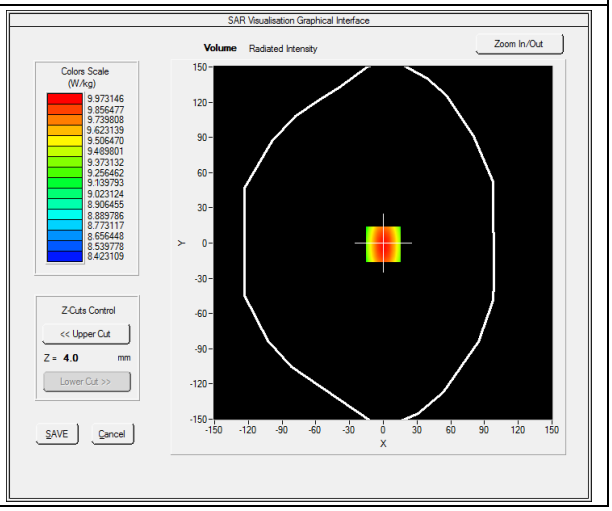
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-06
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.21; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative Permittivity (real part)	41.121090
Conductivity (S/m)	1.432510
Power Variation (%)	1.041232
Ambient Temperature	22.2
Liquid Temperature	22.2

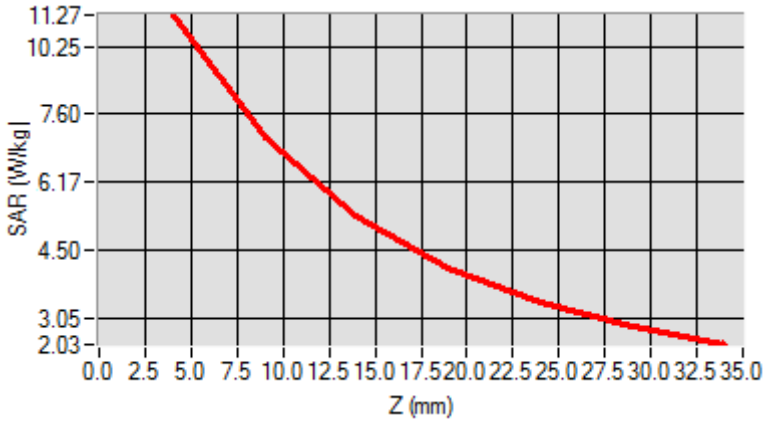
SURFACE SAR	VOLUME SAR
	

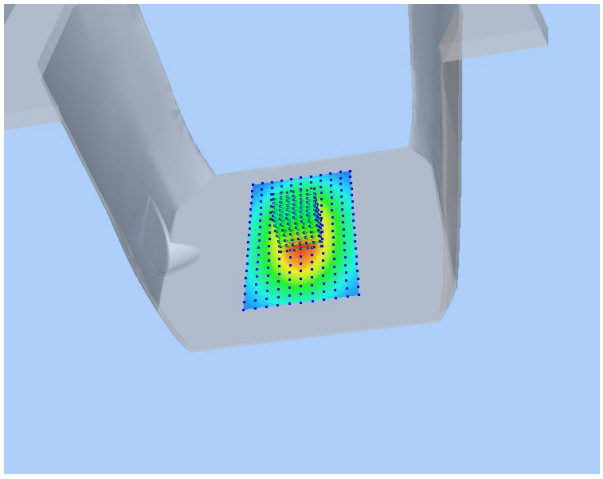
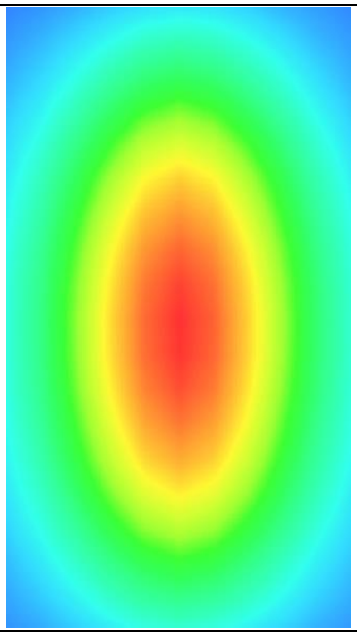
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.081252
SAR 1g (W/Kg)	9.461217

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.3455	7.1125	5.1026	3.425	3.0242	2.1125



3D screen shot	Hot spot position
	

MEASUREMENT 3

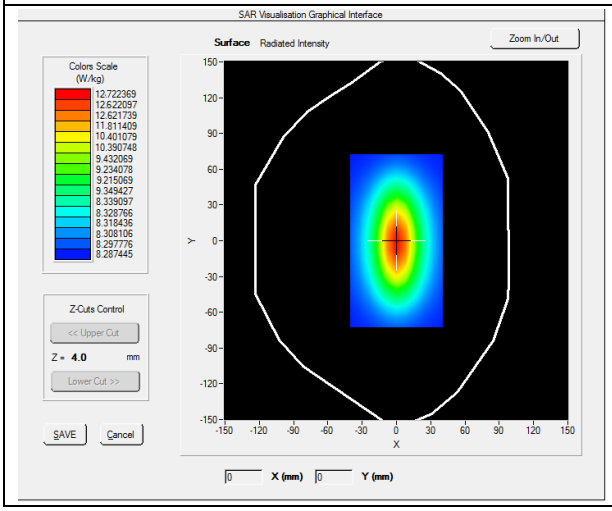
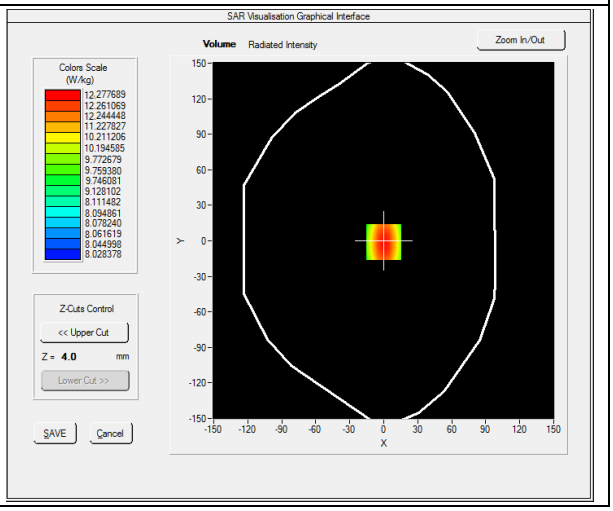
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.41; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2300
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2300.000000
Relative Permittivity (real part)	40.792124
Conductivity (S/m)	1.652554
Power Variation (%)	1.974514
Ambient Temperature	22.1
Liquid Temperature	22.1

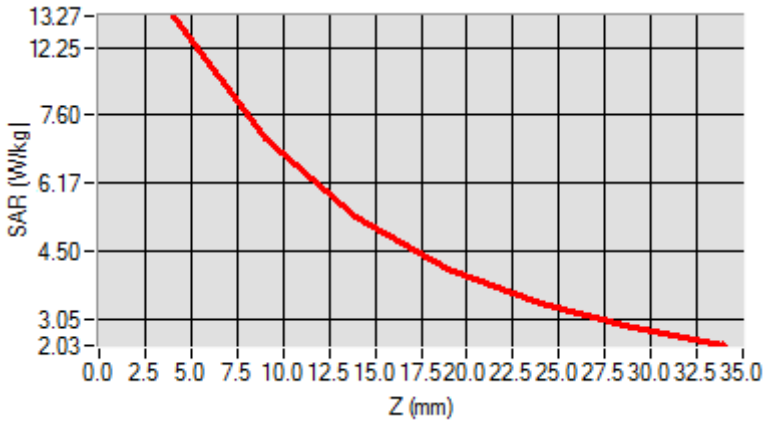
SURFACE SAR	VOLUME SAR
	

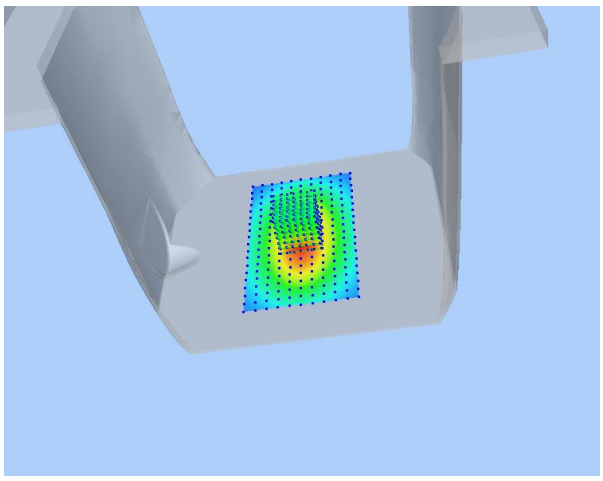
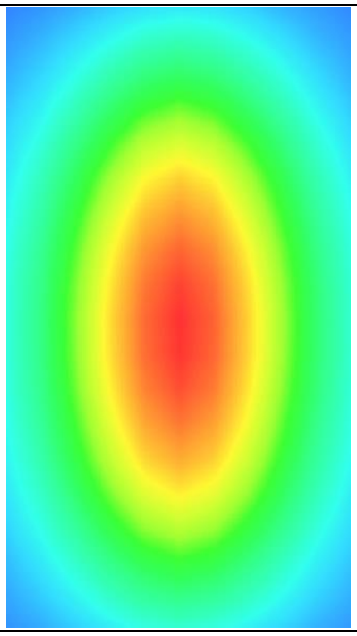
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.114210
SAR 1g (W/Kg)	12.505243

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.1891	11.7779	9.2852	8.5315	6.3698	4.6231



3D screen shot	Hot spot position
	

MEASUREMENT 4

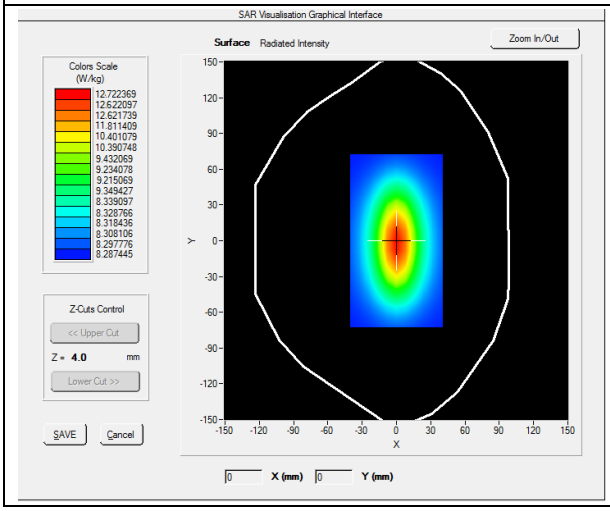
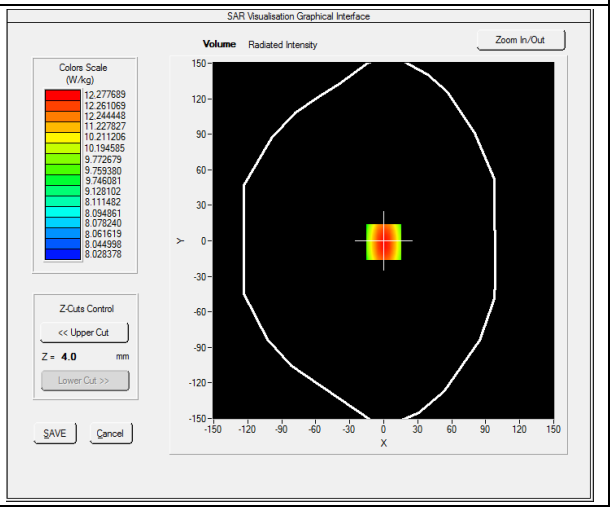
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.29; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	40.582128
Conductivity (S/m)	1.832655
Power Variation (%)	1.369745
Ambient Temperature	22.1
Liquid Temperature	22.1

SURFACE SAR	**VOLUME SAR**
	

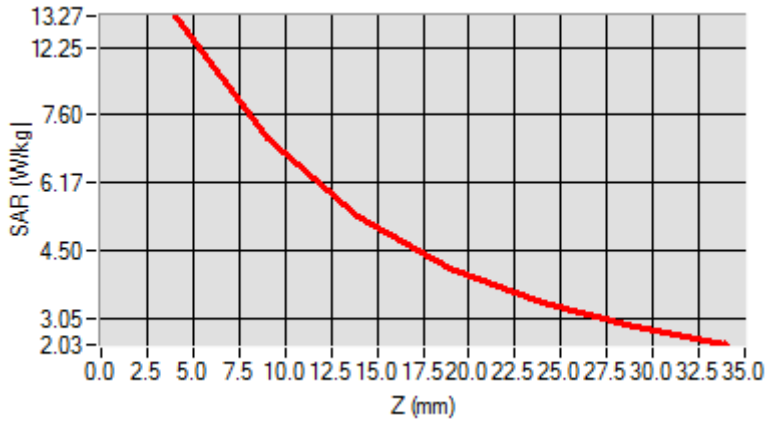
Maximum location: X=0.00, Y=0.00

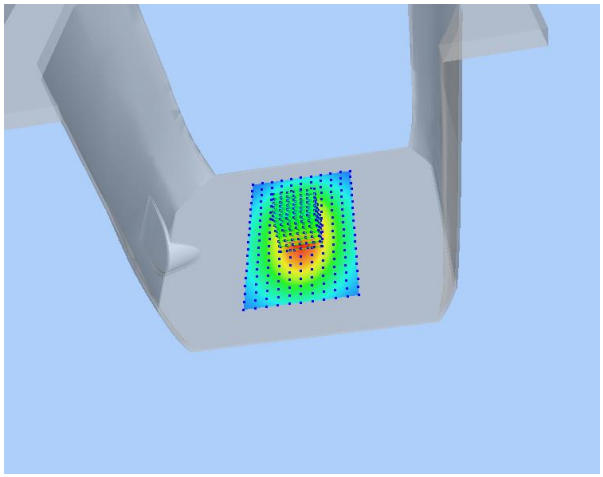
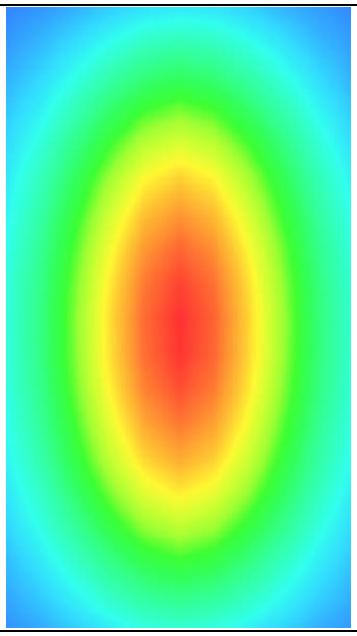
SAR 10g (W/Kg)	**6.119522**

SAR 1g (W/Kg)	12.592360

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.1911	11.7951	9.2945	8.5400	6.3712	4.6225



3D screen shot	Hot spot position
	

MEASUREMENT 5

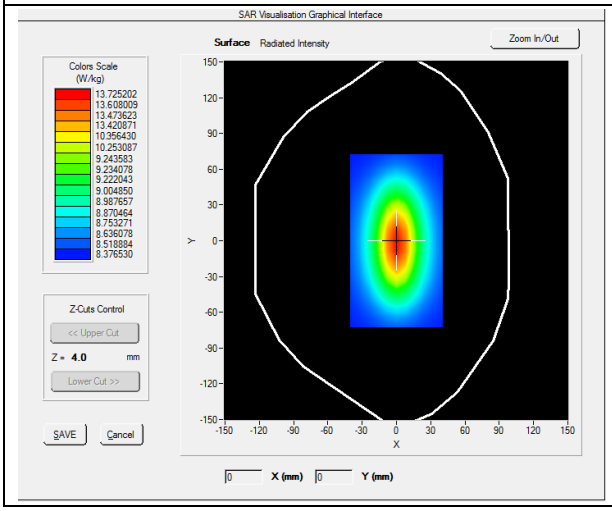
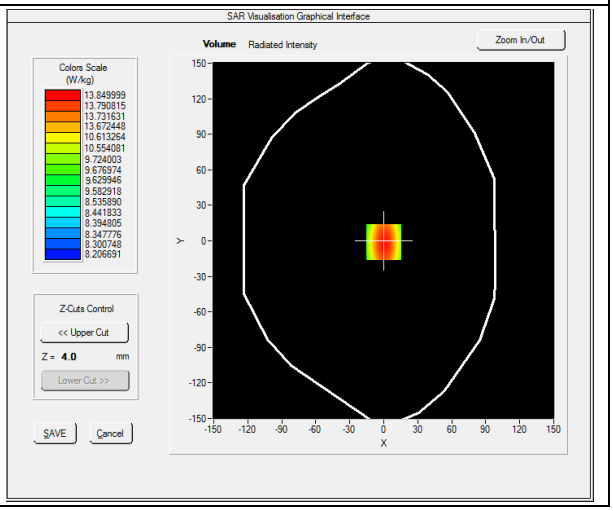
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.22; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	40.264092
Conductivity (S/m)	2.013182
Power Variation (%)	0.886021
Ambient Temperature	22.1
Liquid Temperature	22.1

SURFACE SAR	**VOLUME SAR**
	

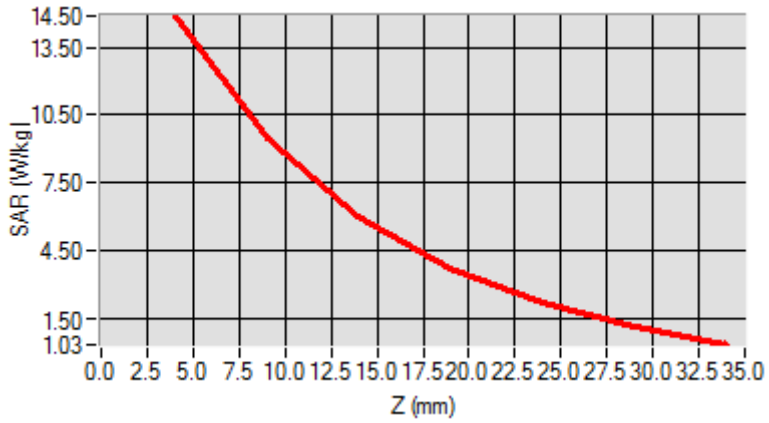
Maximum location: X=0.00, Y=0.00

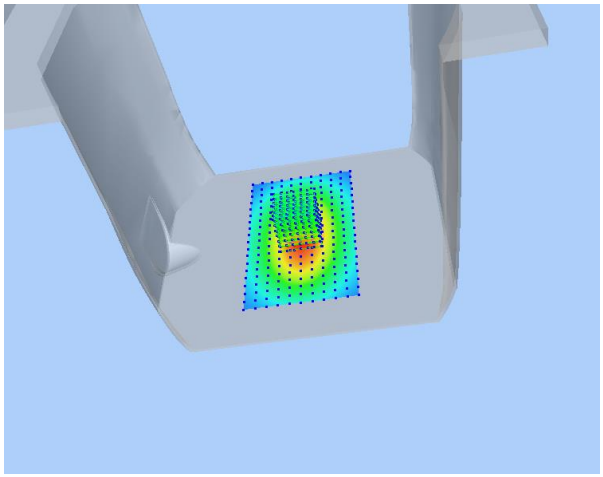
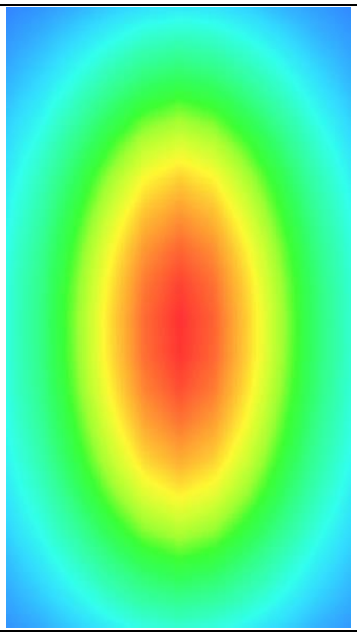
SAR 10g (W/Kg)	**8.230801**

SAR 1g (W/Kg)	13.539282

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.0426	12.1354	10.2965	7.4854	5.9354	4.5186



3D screen shot	Hot spot position
	

MEASUREMENT 6

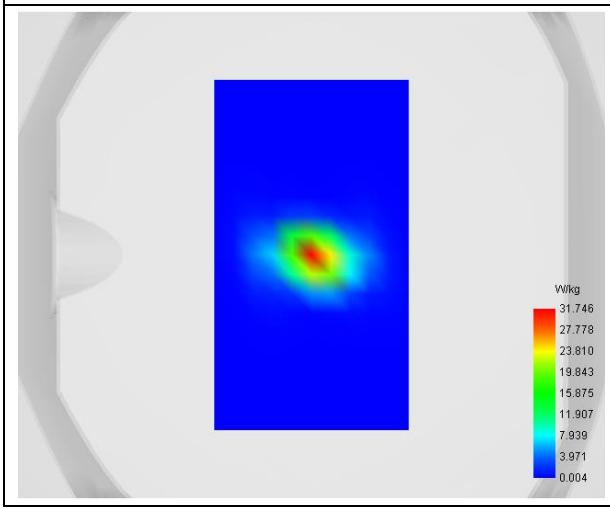
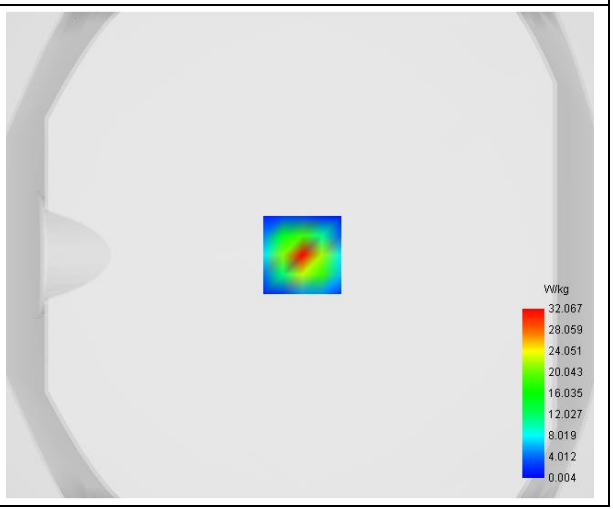
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 1.91; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Signal	Duty Cycle 1:1

B. SAR Measurement Results

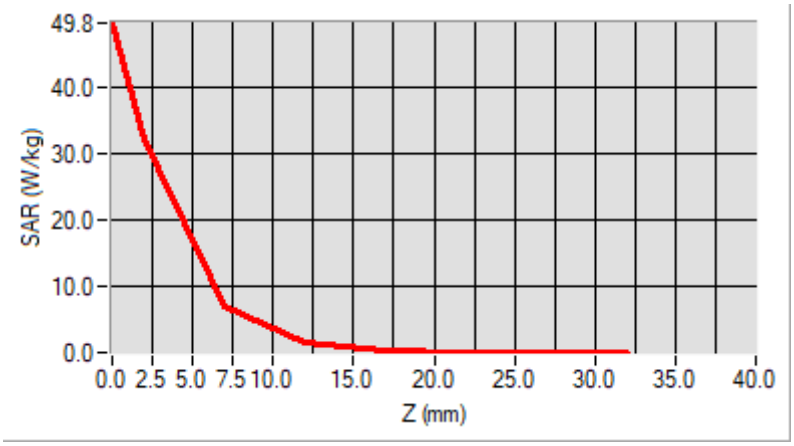
Frequency (MHz)	5200.000000
Relative Permittivity (real part)	36.894415
Conductivity (S/m)	4.691358
Power Variation (%)	0.749201
Ambient Temperature	22.3
Liquid Temperature	22.3

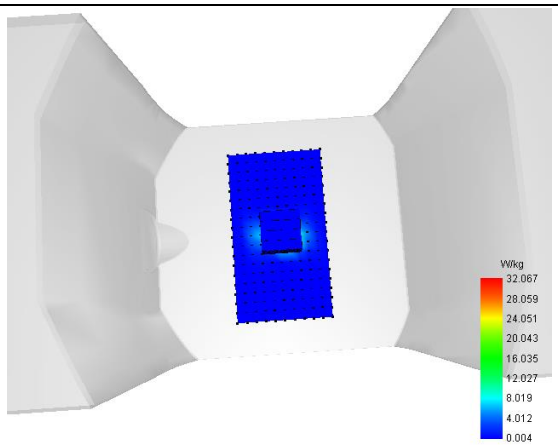
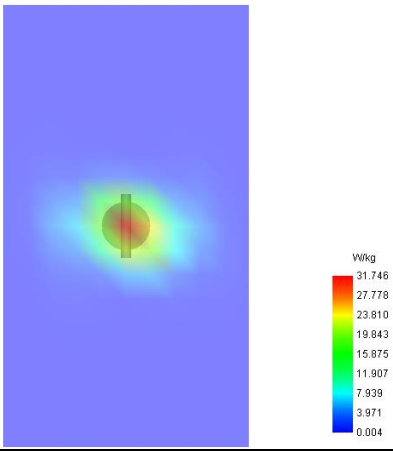
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	6.047588
SAR 1g (W/Kg)	16.681175

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	49.8193	32.0669	7.0244	1.5969	0.3410	0.0635	0.0070



3D screen shot	Hot spot position
	

MEASUREMENT 7

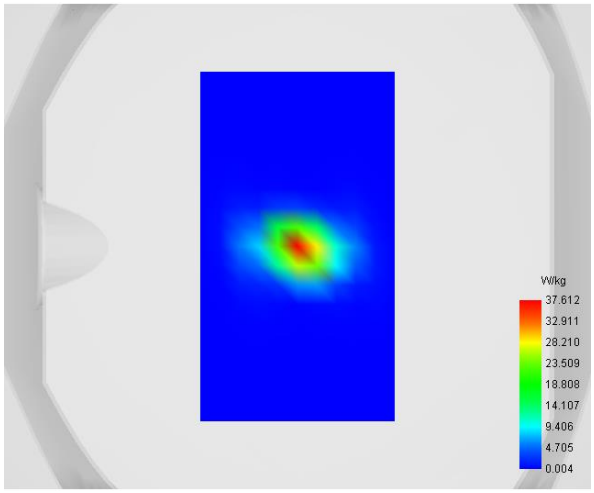
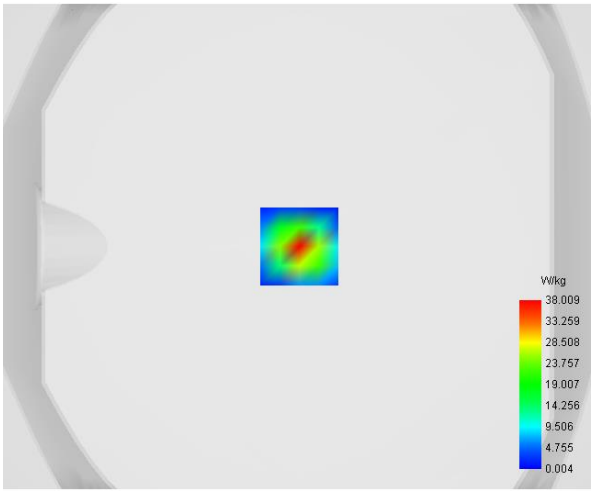
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.12; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	5400.000000
Relative Permittivity (real part)	36.122911
Conductivity (S/m)	4.854833
Power Variation (%)	0.943782
Ambient Temperature	22.3
Liquid Temperature	22.3

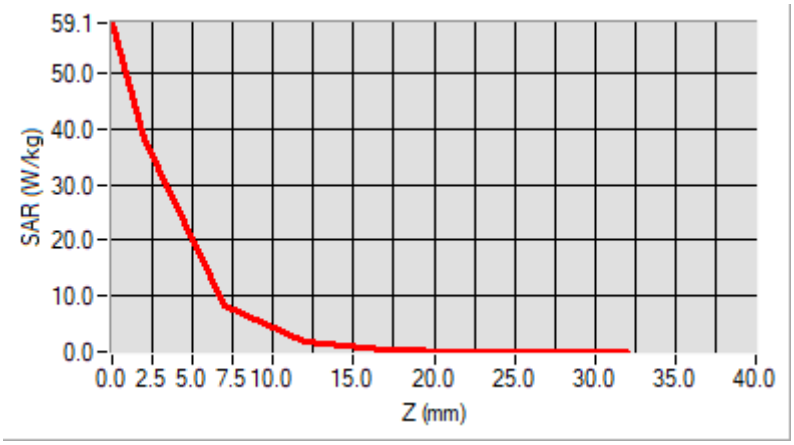
SURFACE SAR	VOLUME SAR
	

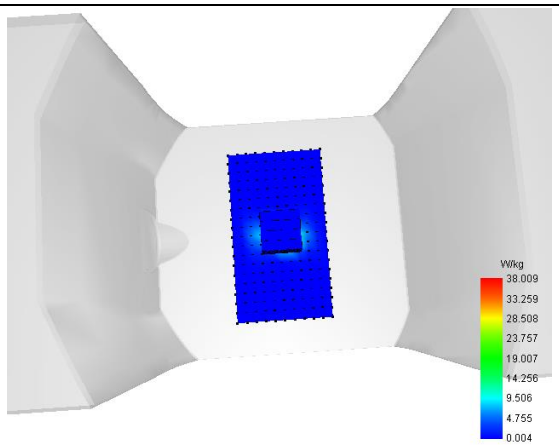
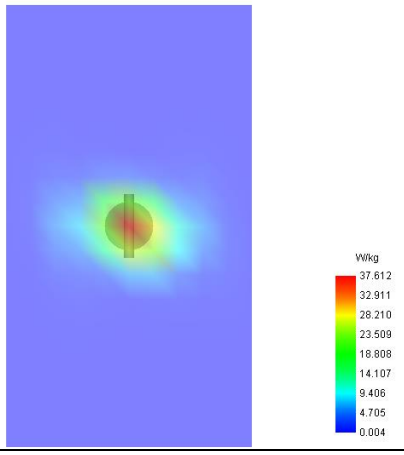
Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	**5.872241**

SAR 1g (W/Kg)	17.329716

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	59.0521	38.0093	8.3284	1.8732	0.3993	0.0816	0.0132



3D screen shot	Hot spot position
	

MEASUREMENT 8

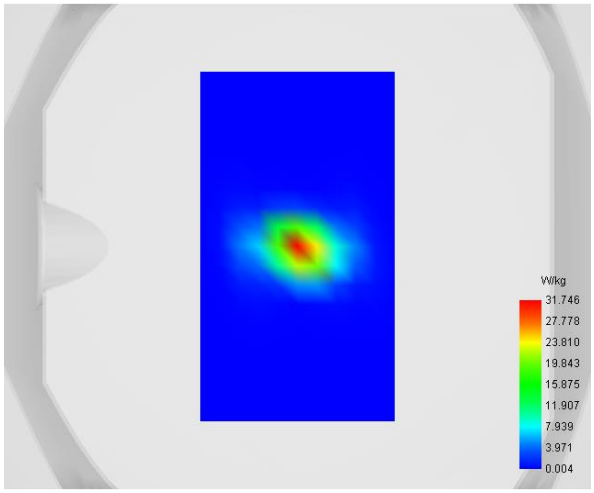
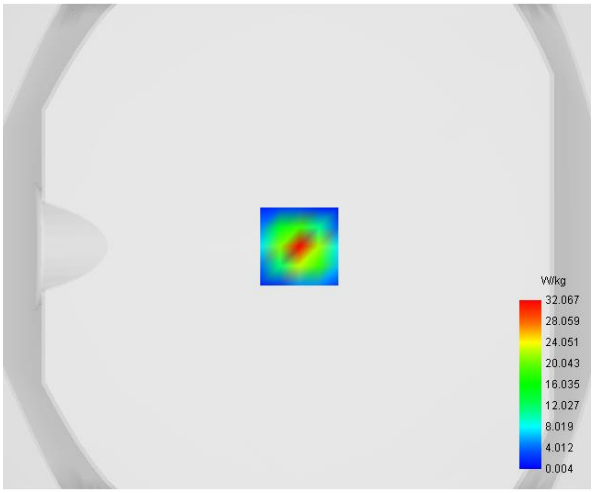
Type: Validation measurement (Fast, 75.00 %)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 21 seconds
E-field Probe: SSE2 - SN 18/21 EPGO356; ConvF: 2.14; Calibrated: 2022-07-08

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Signal	Duty Cycle 1:1

B. SAR Measurement Results

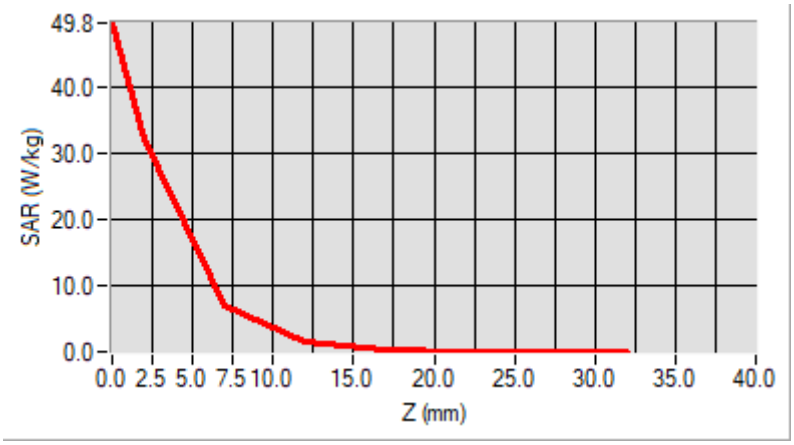
Frequency (MHz)	5800.000000
Relative Permittivity (real part)	5.241939
Conductivity (S/m)	36.014872
Power Variation (%)	0.749201
Ambient Temperature	22.3
Liquid Temperature	22.3

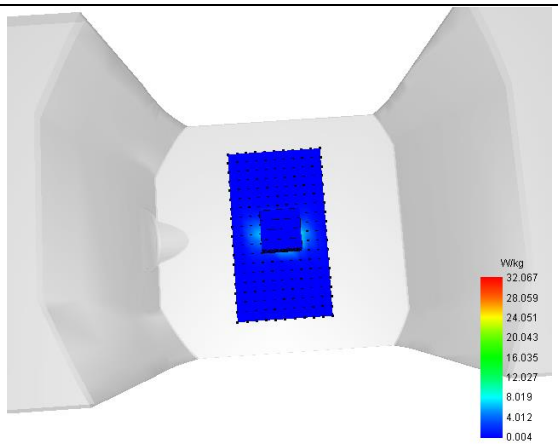
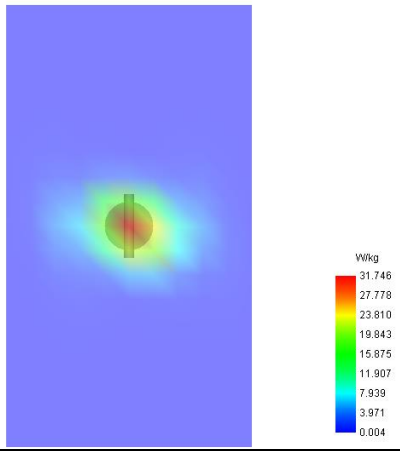
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	6.047588
SAR 1g (W/Kg)	16.681175

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	49.8193	32.0669	7.0244	1.5969	0.3410	0.0635	0.0070



3D screen shot	Hot spot position
	

Annex B. Plots of SAR Measurement

MEASUREMENT 1

Type: Phone measurement (Complete)
Date of measurement: 2023-06-06
Measurement duration: 11 minutes 48 seconds

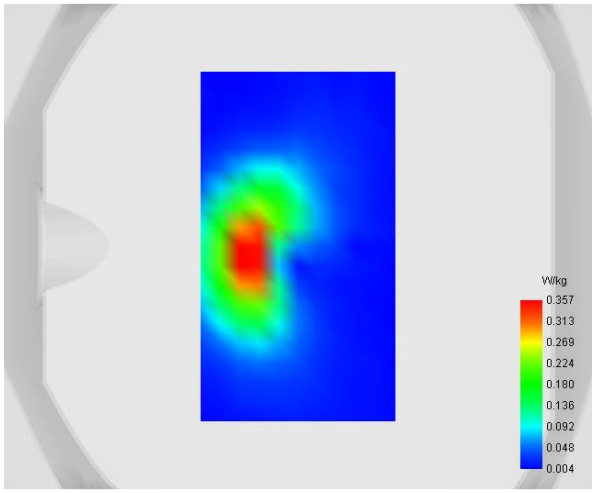
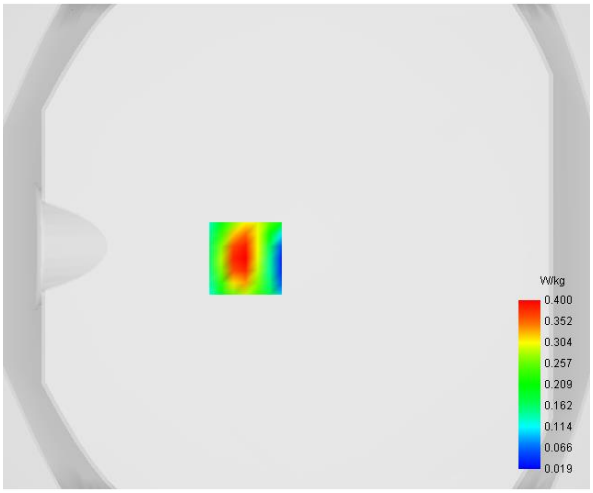
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	824.200000
Relative Permittivity (real part)	41.312459
Conductivity (S/m)	0.921245
Power Variation (%)	1.453600
Ambient Temperature	22.2
Liquid Temperature	22.2

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

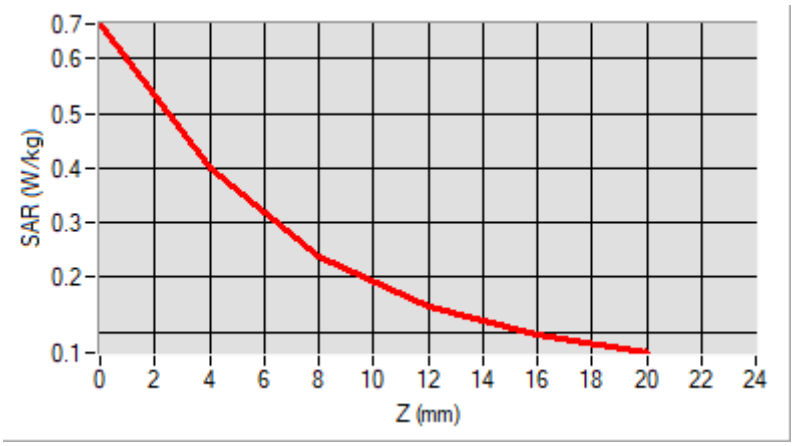
Maximum location: X=-21.00, Y=-5.00

D. SAR 1g & 10g

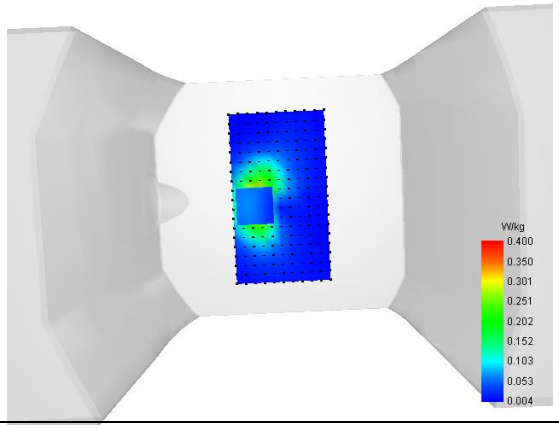
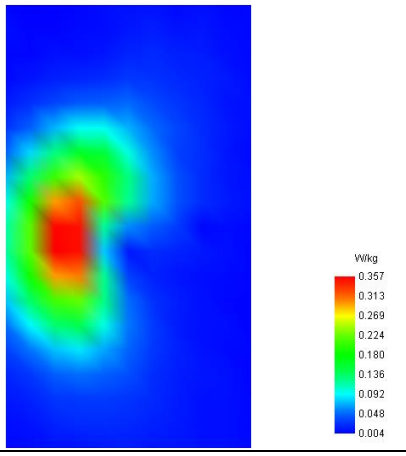
SAR 10g (W/Kg)	**0.190673**
SAR 1g (W/Kg)	**0.367481**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**0.6634**	**0.3996**	**0.2377**	**0.1452**	**0.0943**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 2

Type: Phone measurement (Complete)
Date of measurement: 2023-06-06
Measurement duration: 11 minutes 48 seconds

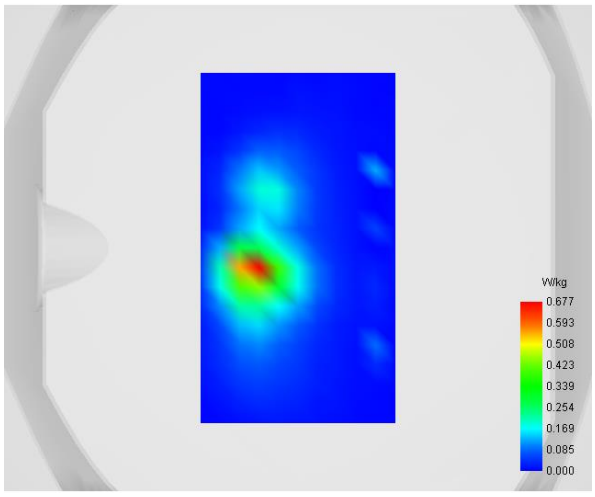
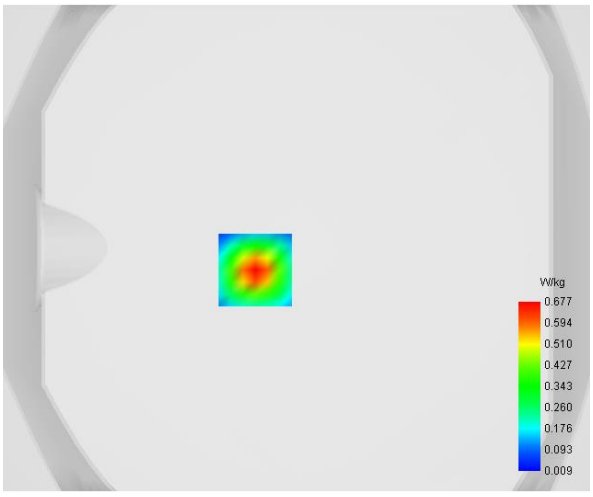
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	GPRS1800_2TX
Channels	High
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

Frequency (MHz)	1909.800000
Relative Permittivity (real part)	41.121249
Conductivity (S/m)	1.433698
Power Variation (%)	-1.155700
Ambient Temperature	22.2
Liquid Temperature	22.2

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

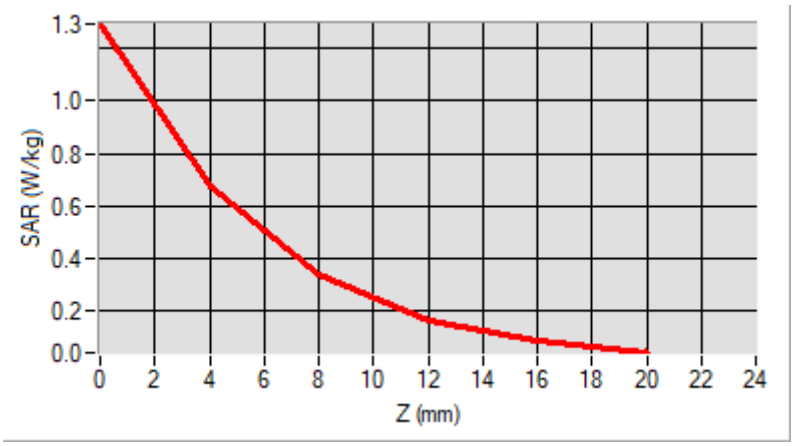
Maximum location: X=-17.00, Y=-9.00

D. SAR 1g & 10g

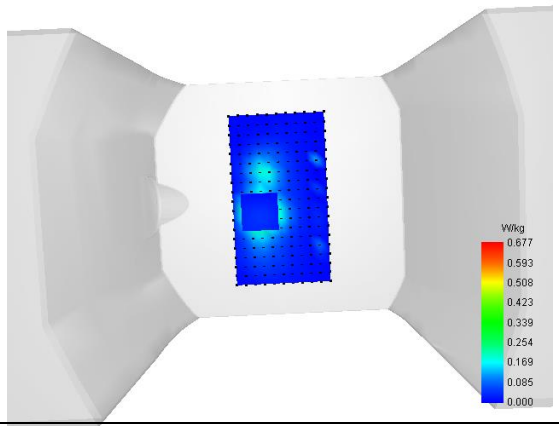
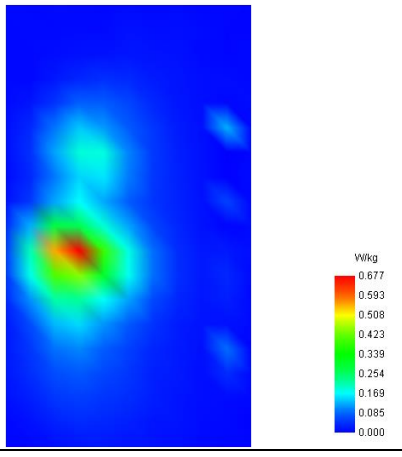
SAR 10g (W/Kg)	**0.257448**
SAR 1g (W/Kg)	**0.603906**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**1.2901**	**0.6774**	**0.3368**	**0.1659**	**0.0864**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 3

Type: Phone measurement (Complete)
Date of measurement: 2023-06-06
Measurement duration: 12 minutes 3 seconds

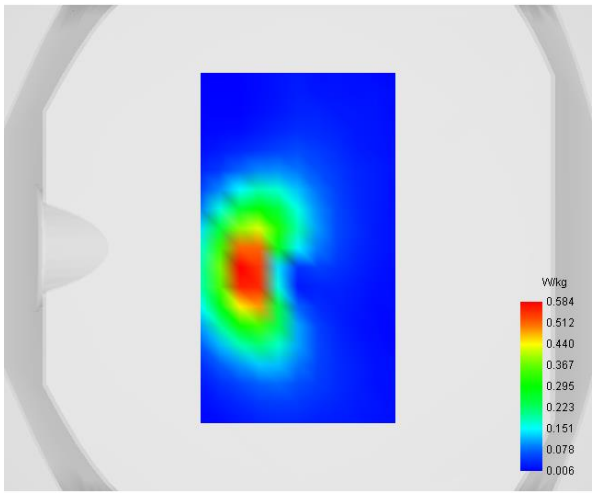
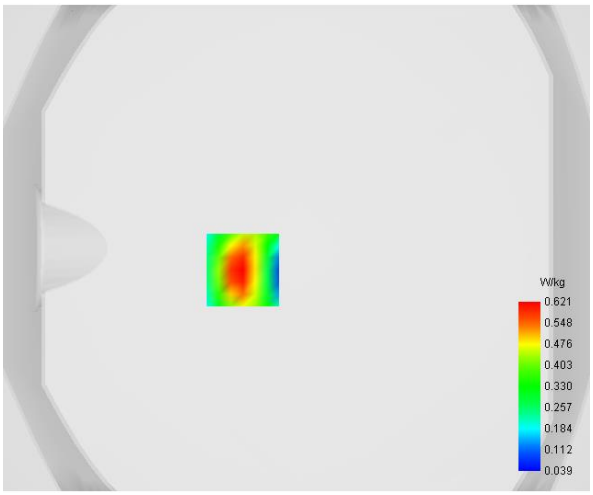
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 5
Channels	QPSK, 10MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	829.000000
Relative Permittivity (real part)	41.312458
Conductivity (S/m)	0.922459
Power Variation (%)	-0.874700
Ambient Temperature	22.2
Liquid Temperature	22.2

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

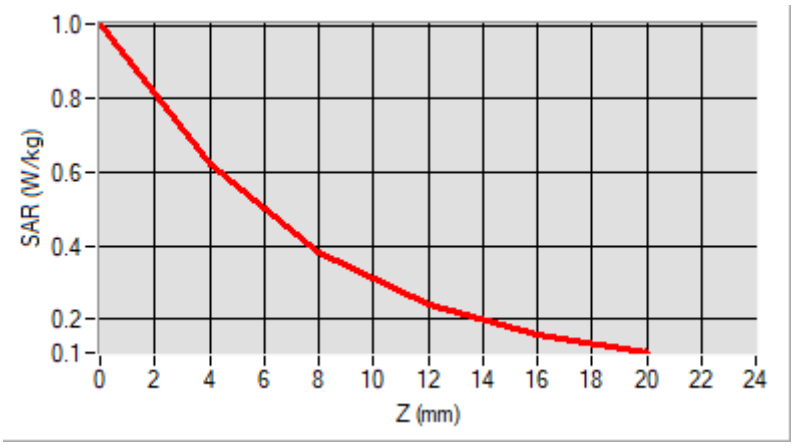
Maximum location: X=-22.00, Y=-9.00

D. SAR 1g & 10g

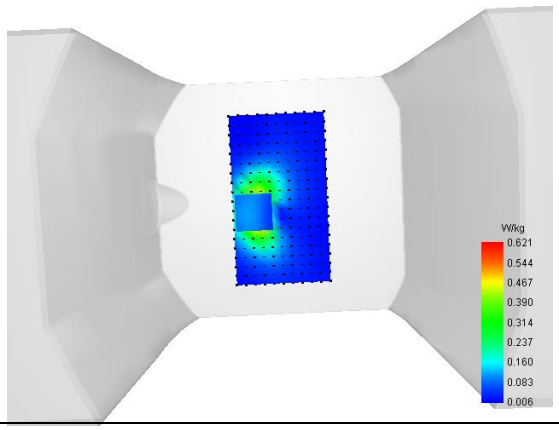
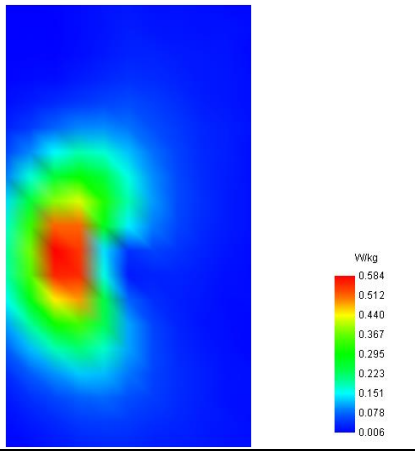
SAR 10g (W/Kg)	**0.304035**
SAR 1g (W/Kg)	**0.568025**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**1.0037**	**0.6212**	**0.3814**	**0.2408**	**0.1610**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 4

Type: Phone measurement (Complete)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 3 seconds

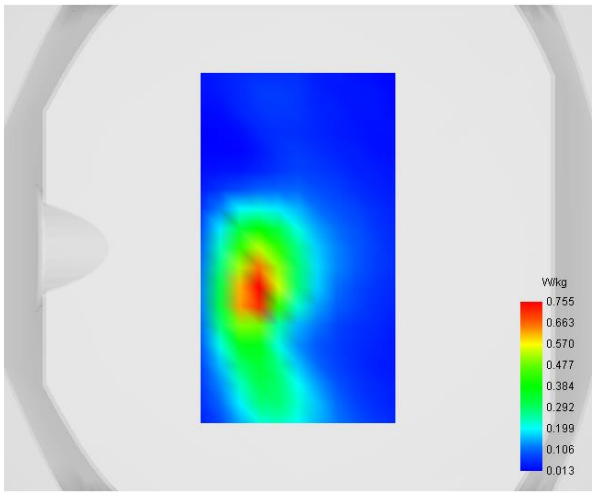
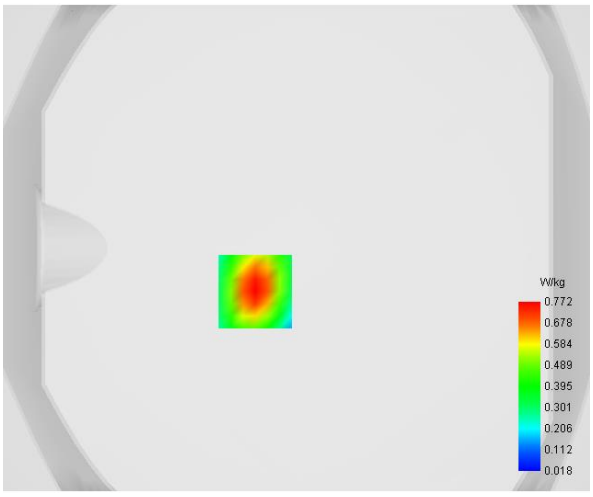
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 40(2305-2315MHz)
Channels	QPSK, 10MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2310.000000
Relative Permittivity (real part)	40.792668
Conductivity (S/m)	1.653696
Power Variation (%)	-1.054700
Ambient Temperature	22.1
Liquid Temperature	22.1

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

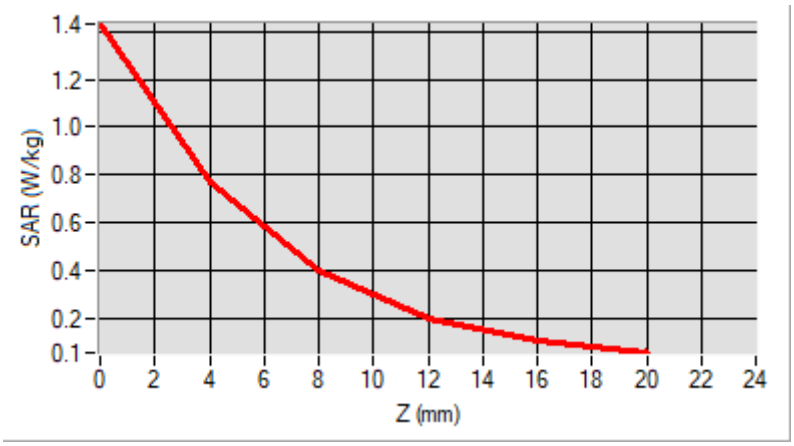
Maximum location: X=-17.00, Y=-18.00

D. SAR 1g & 10g

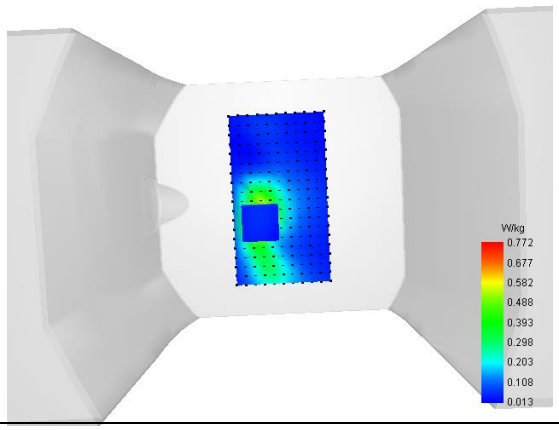
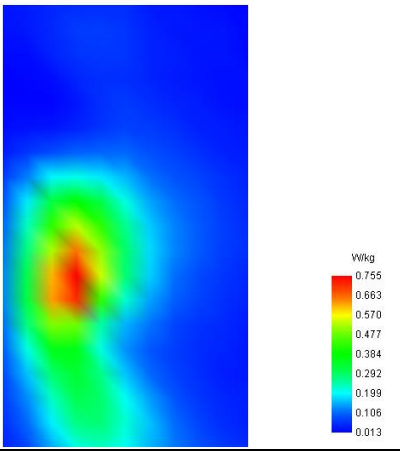
SAR 10g (W/Kg)	**0.340583**
SAR 1g (W/Kg)	**0.713692**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**1.4307**	**0.7721**	**0.3979**	**0.2042**	**0.1103**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 5

Type: Phone measurement (Complete)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 3 seconds

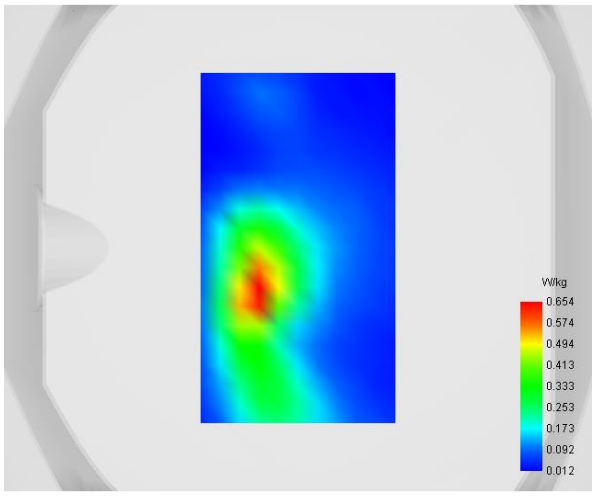
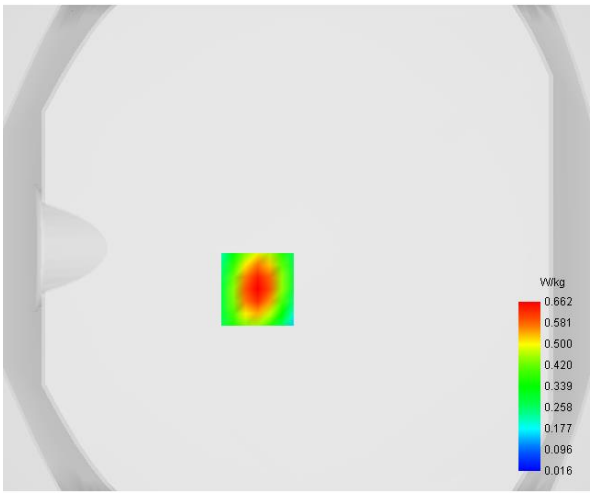
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 40(2350-2360MHz)
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2355.000000
Relative Permittivity (real part)	40.792647
Conductivity (S/m)	1.653696
Power Variation (%)	-1.054700
Ambient Temperature	22.1
Liquid Temperature	22.1

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

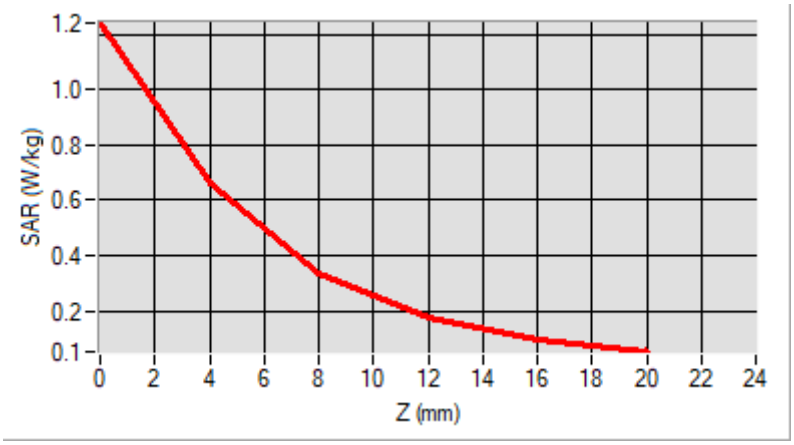
Maximum location: X=-16.00, Y=-17.00

D. SAR 1g & 10g

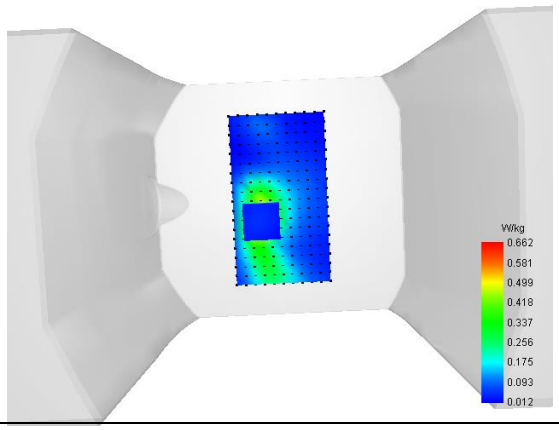
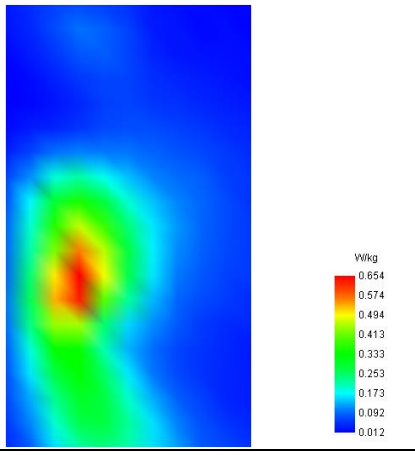
SAR 10g (W/Kg)	**0.293999**
SAR 1g (W/Kg)	**0.613390**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**1.2401**	**0.6619**	**0.3375**	**0.1727**	**0.0948**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 6

Type: Phone measurement (Complete)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 3 seconds

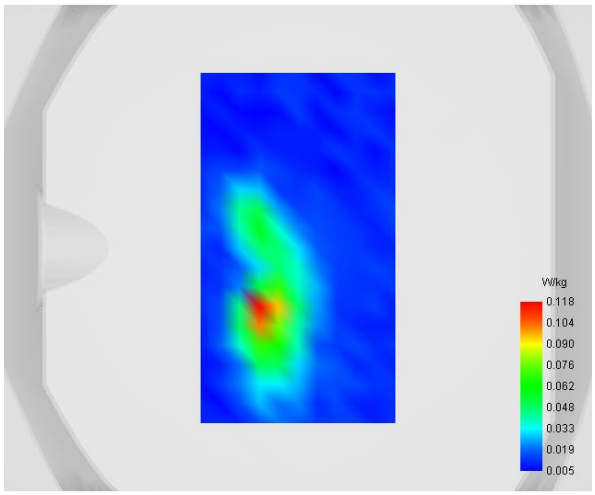
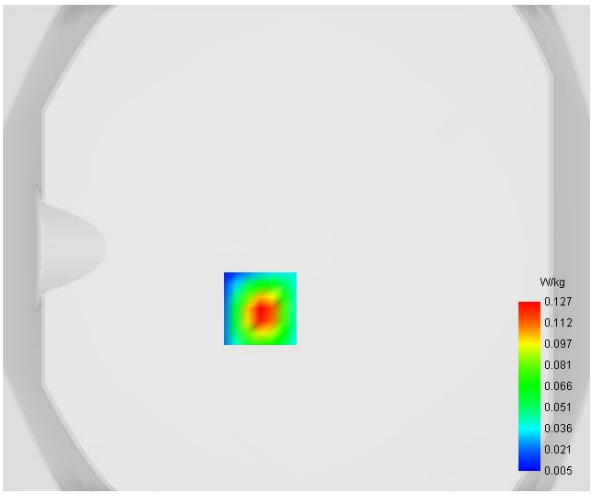
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 41(2555-2655MHz)
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2605.00000
Relative Permittivity (real part)	40.262668
Conductivity (S/m)	2.012696
Power Variation (%)	-1.050000
Ambient Temperature	22.1
Liquid Temperature	22.1

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

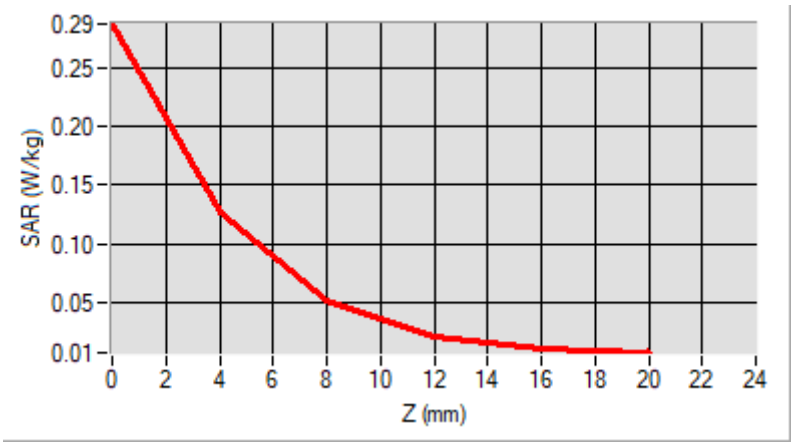
Maximum location: X=-15.00, Y=-25.00

D. SAR 1g & 10g

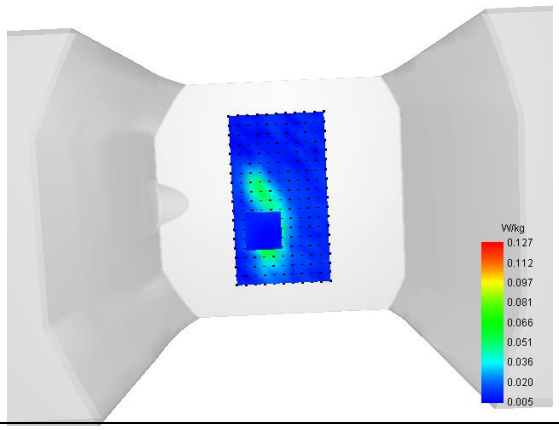
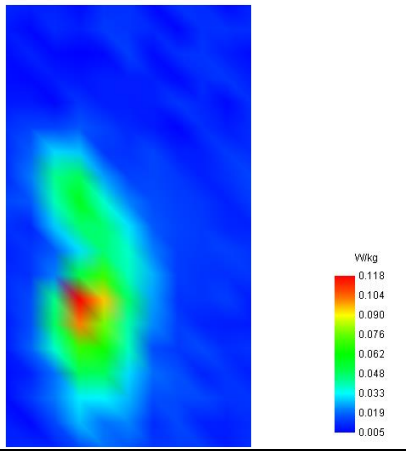
SAR 10g (W/Kg)	**0.048623**
SAR 1g (W/Kg)	**0.118270**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**0.2884**	**0.1271**	**0.0502**	**0.0198**	**0.0099**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 7

Type: Phone measurement (Complete)
Date of measurement: 2023-06-07
Measurement duration: 12 minutes 3 seconds

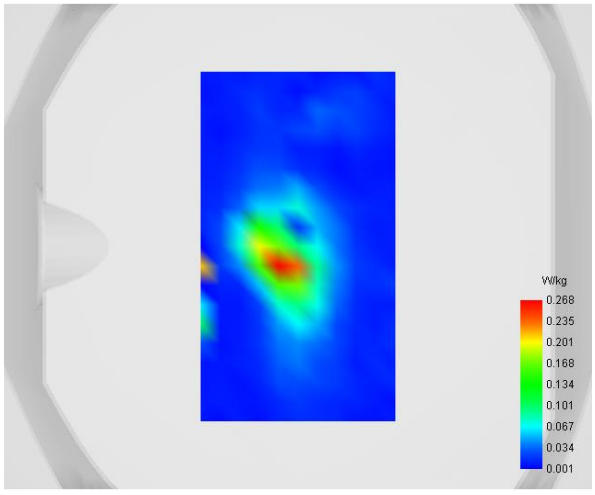
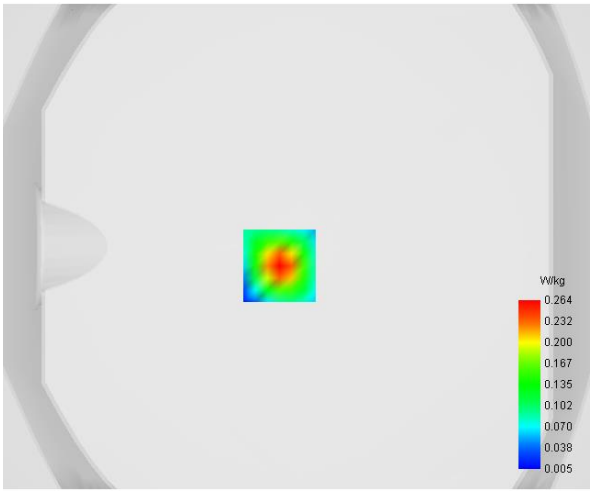
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=5mm dy=5mm dz=4mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi_802.11b
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative Permittivity (real part)	40.582129
Conductivity (S/m)	1.832559
Power Variation (%)	2.472100
Ambient Temperature	22.1
Liquid Temperature	22.1

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

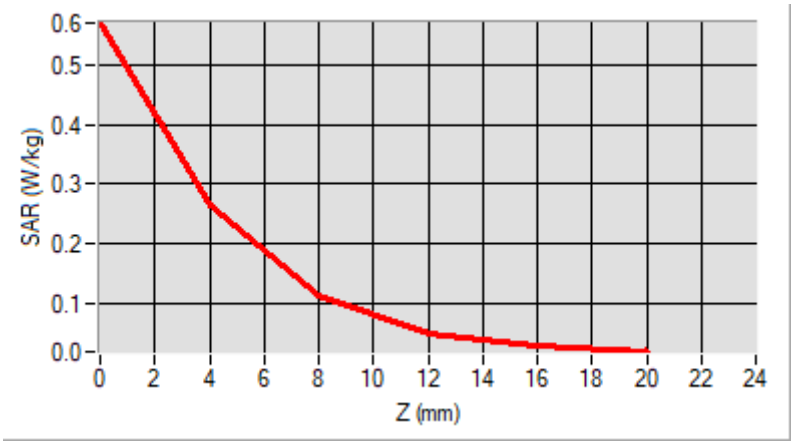
Maximum location: X=-7.00, Y=-8.00

D. SAR 1g & 10g

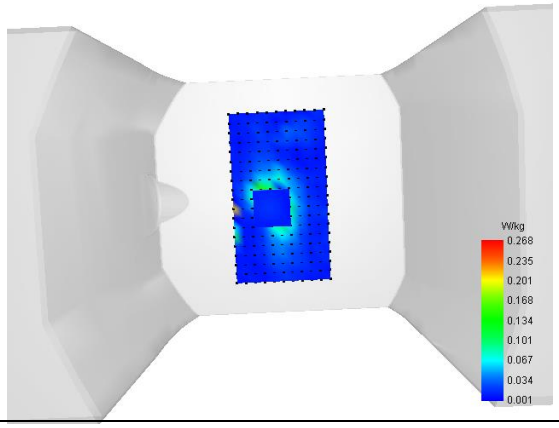
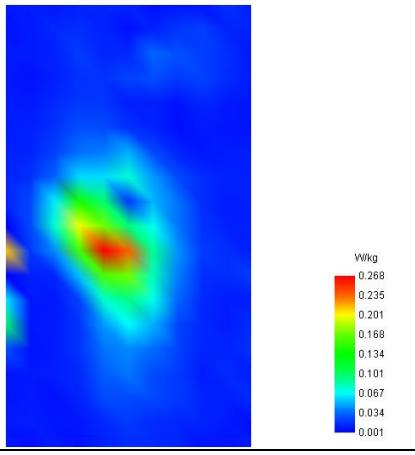
SAR 10g (W/Kg)	**0.099162**
SAR 1g (W/Kg)	**0.240297**

E. Z Axis Scan

Z (mm)	**0.00**	**4.00**	**8.00**	**12.00**	**16.00**
SAR (W/Kg)	**0.5705**	**0.2643**	**0.1129**	**0.0495**	**0.0270**



F. 3D Image

3D screen shot	**Hot spot position**
	

MEASUREMENT 8

Type: Phone measurement (Complete)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 3 seconds

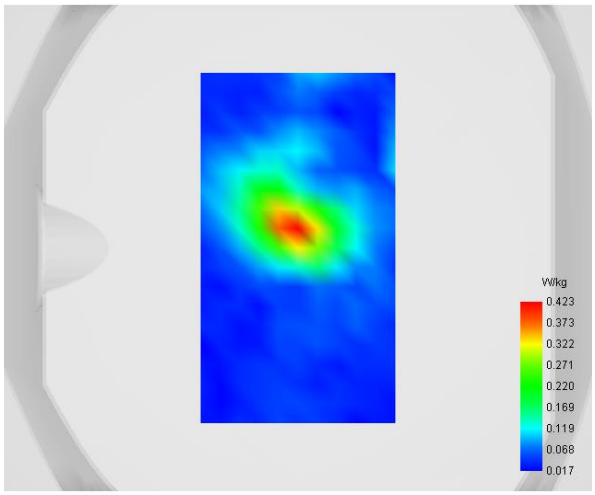
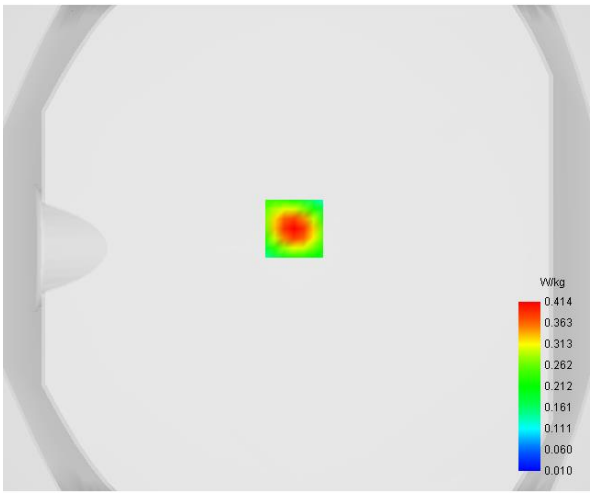
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi(5.2GHz)_802.11a
Channels	Low
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	5180.000000
Relative Permittivity (real part)	36.892911
Conductivity (S/m)	4.692483
Power Variation (%)	1.542660
Ambient Temperature	22.3
Liquid Temperature	22.3

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

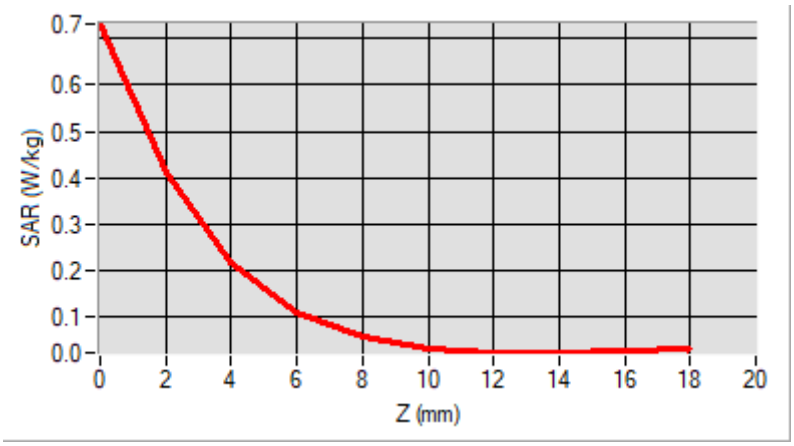
Maximum location: X=-1.00, Y=8.00

D. SAR 1g & 10g

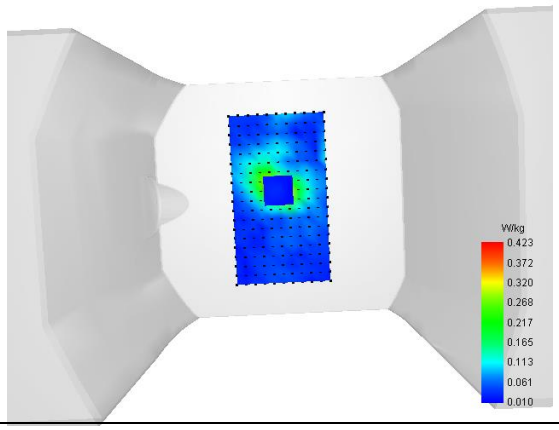
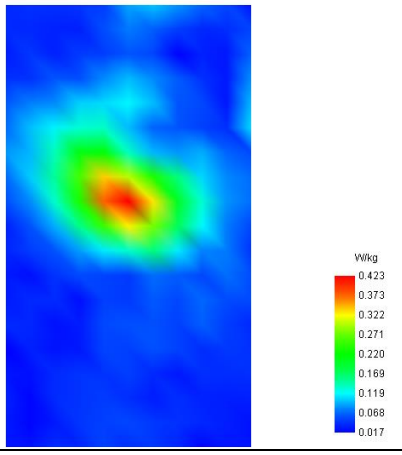
SAR 10g (W/Kg)	**0.091628**
SAR 1g (W/Kg)	**0.236022**

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)	0.7316	0.4138	0.2176	0.1095	0.0570	0.0335	0.0244	0.0229	0.0260



F. 3D Image

3D screen shot	Hot spot position
	

MEASUREMENT 9

Type: Phone measurement (Complete)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 3 seconds

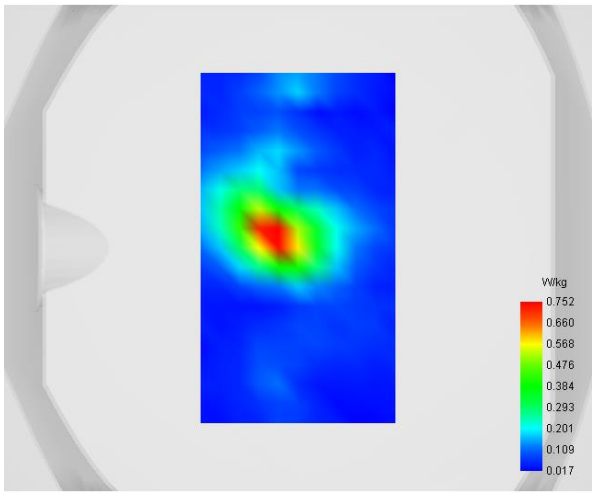
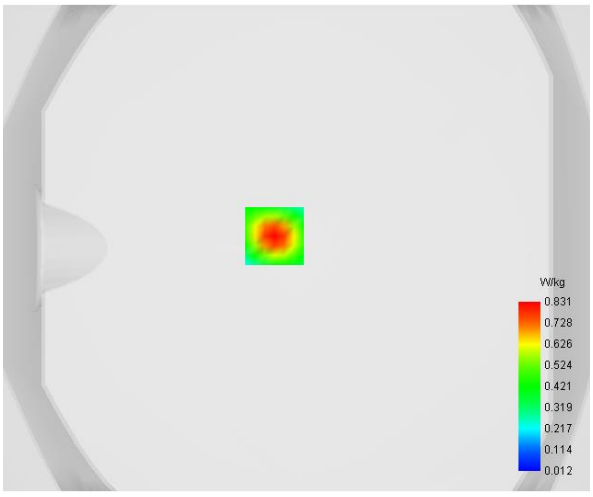
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi(5.3GHz)_802.11a
Channels	Middle
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	5320.000000
Relative Permittivity (real part)	36.122839
Conductivity (S/m)	4.851928
Power Variation (%)	1.463700
Ambient Temperature	22.3
Liquid Temperature	22.3

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

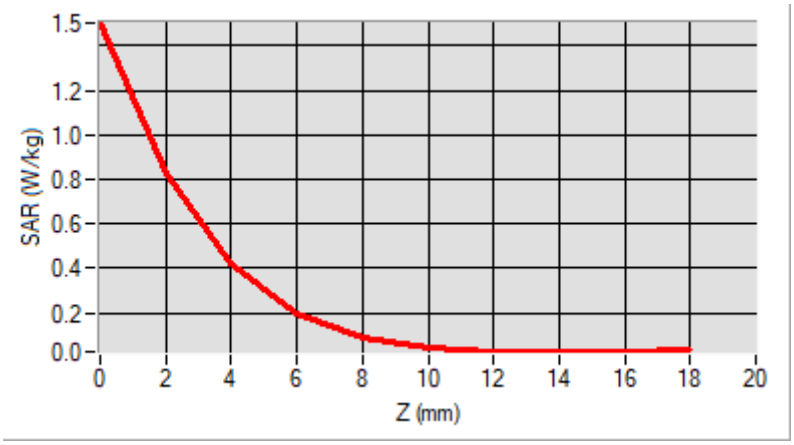
Maximum location: X=-9.00, Y=5.00

D. SAR 1g & 10g

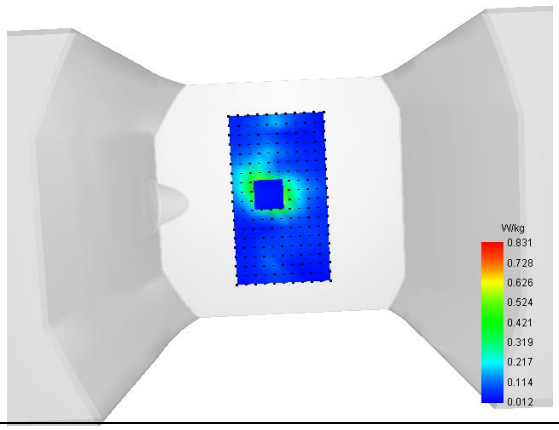
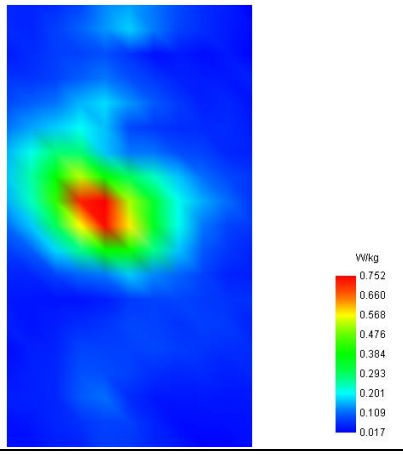
SAR 10g (W/Kg)	**0.156971**
SAR 1g (W/Kg)	**0.455390**

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)	1.5034	0.8308	0.4199	0.1976	0.0929	0.0475	0.0301	0.0259	0.0287



F. 3D Image

3D screen shot	Hot spot position
	

MEASUREMENT 10

Type: Phone measurement (Complete)
Date of measurement: 2023-06-08
Measurement duration: 12 minutes 3 seconds

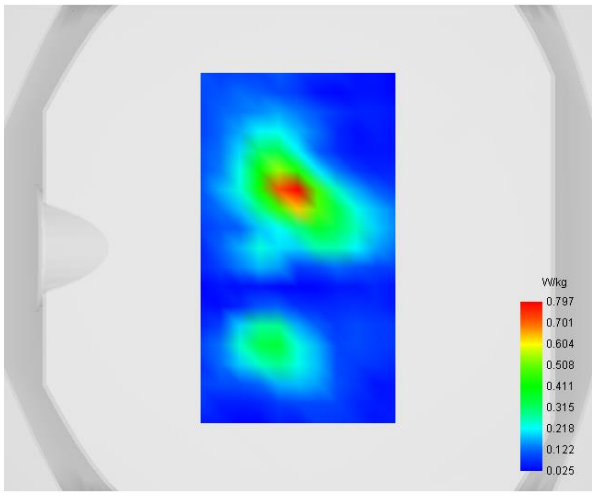
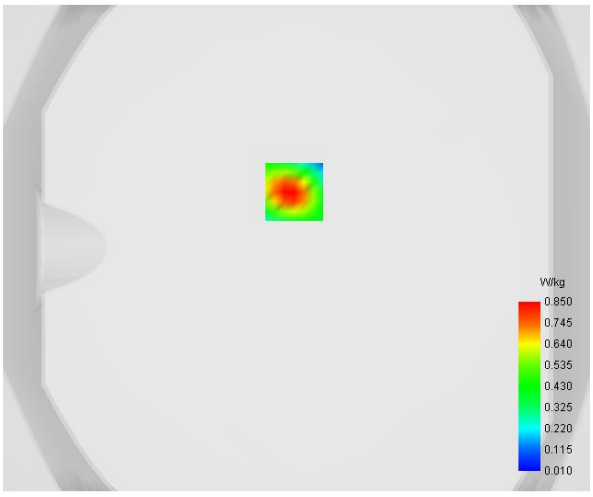
A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi(5.8GHz)_802.11a
Channels	Low
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	5745.000000
Relative Permittivity (real part)	36.012839
Conductivity (S/m)	5.241254
Power Variation (%)	1.210512
Ambient Temperature	22.3
Liquid Temperature	22.3

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

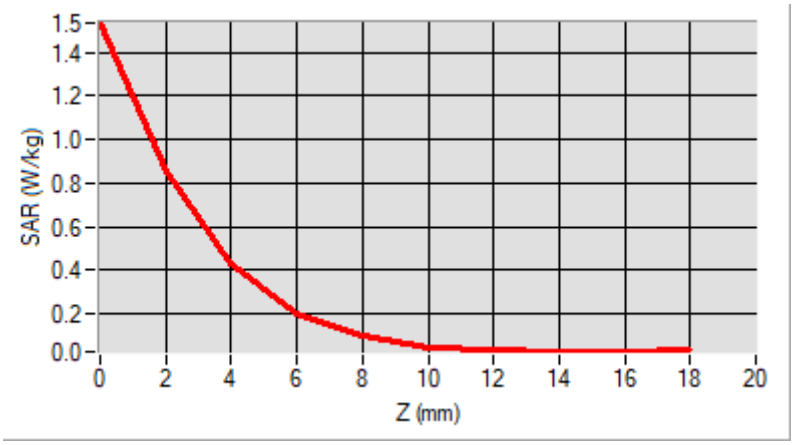
Maximum location: X=-1.00, Y=23.00

D. SAR 1g & 10g

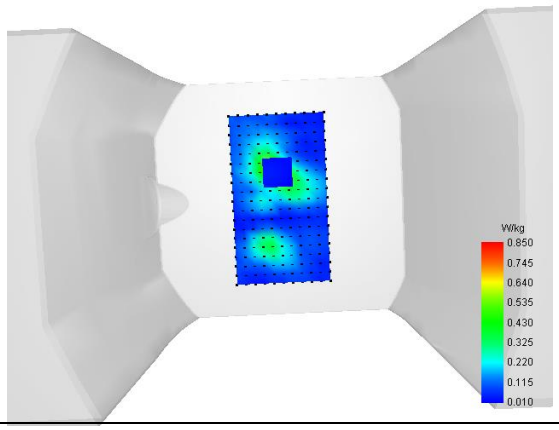
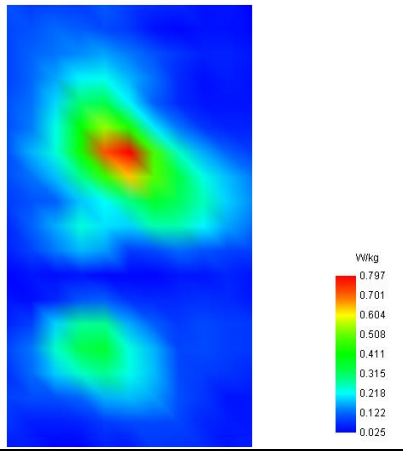
SAR 10g (W/Kg)	**0.160137**
SAR 1g (W/Kg)	**0.468901**

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)	1.5358	0.8501	0.4306	0.2032	0.0956	0.0487	0.0306	0.0259	0.0283

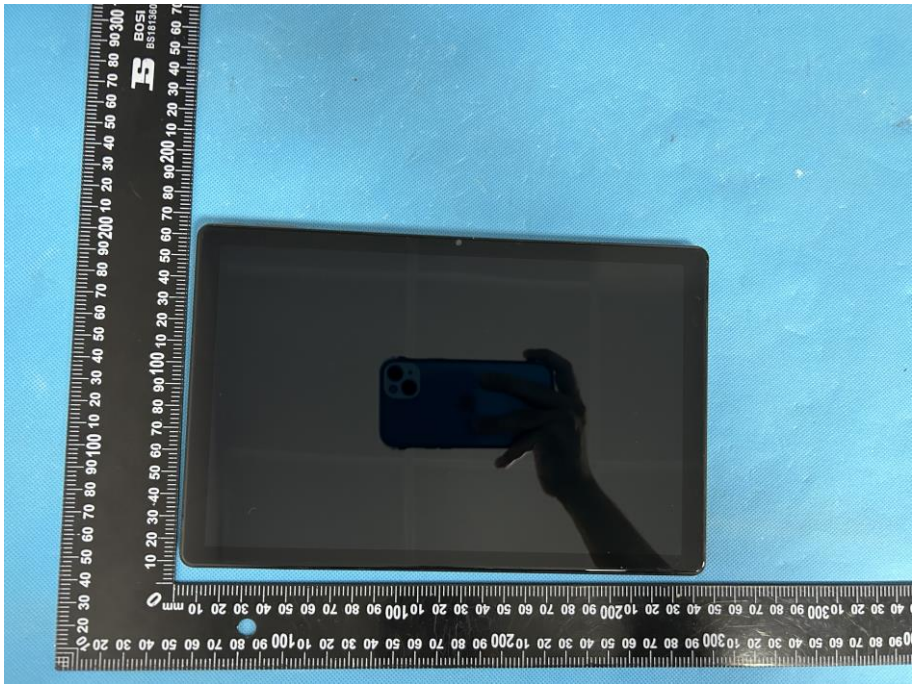


F. 3D Image

3D screen shot	Hot spot position
	

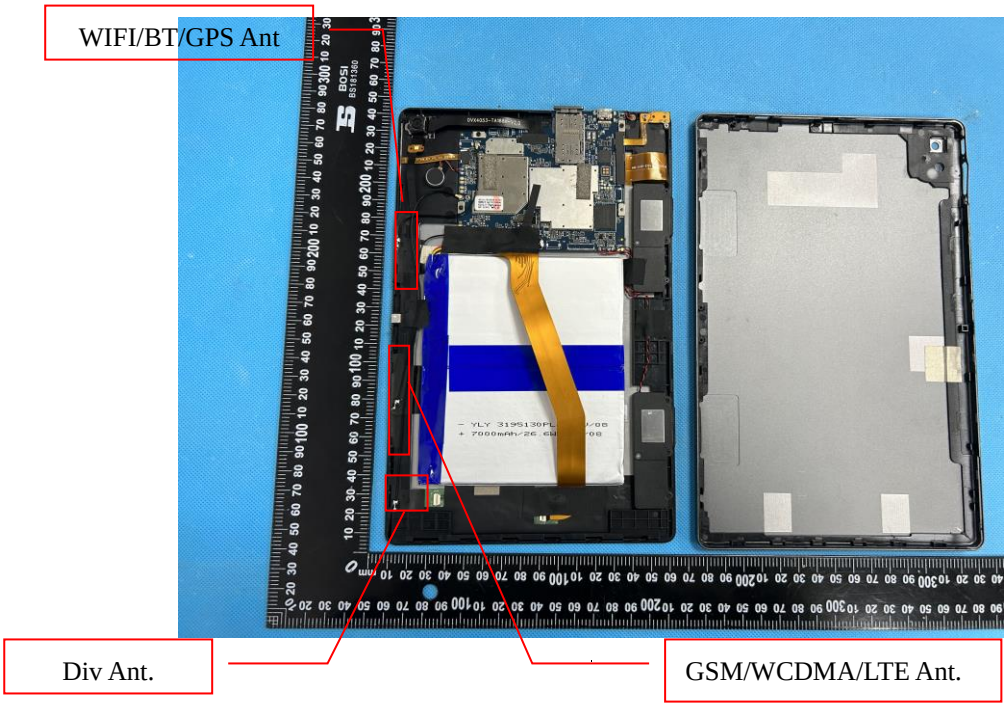
Annex C. EUT Photos

EUT View 1



EUT View 2

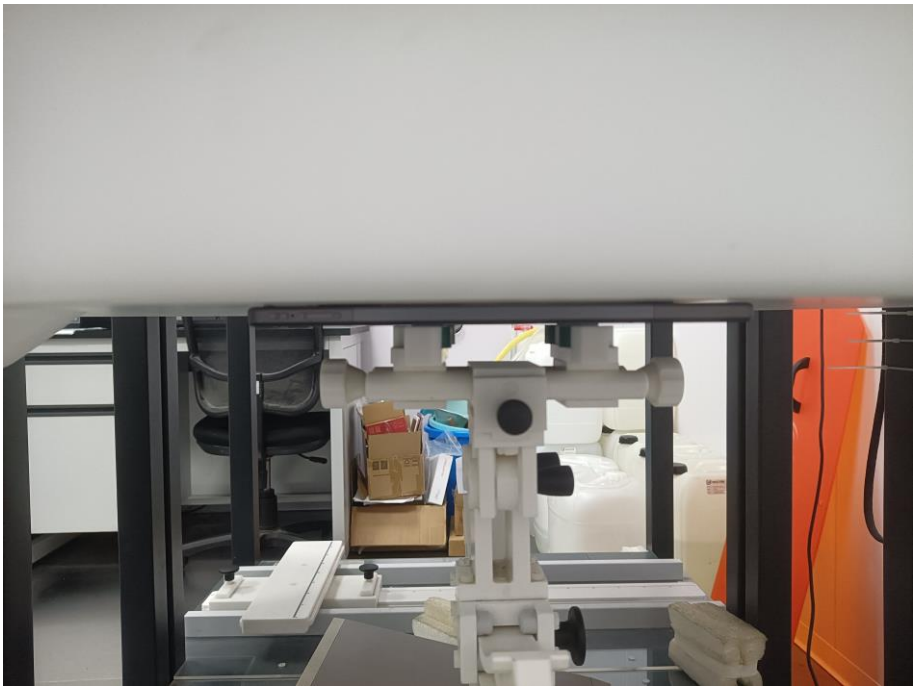
Antenna View



Annex D. Test Setup Photos

Body mode Exposure Conditions
Test distance: 0mm

Body Back



Body Top

Annex E. Calibration Certificate

Please refer to the exhibit for the calibration certificate

******* END OF REPORT *******