FCC SAR EVALUATION REPORT

In accordance with the requirements of
FCC 47 CFR Part 2(2.1093) and
IEEE Std 1528-2013

Product Name： Wireless POS

Trademark： N/A

Model Name： AF930

Family Model： N/A

FCC ID： 2BLHD-AF930

Report No.： S24062804303001

Prepared for

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TEST RESULT CERTIFICATION

Applicant's name	Beijing Shenzhou Anfu Technology Co., Ltd
Address	1102, Block A, Longyu center, Huilongguan, Changping District, Beijing
Manufacturer's Name	Beijing Shenzhou Anfu Technology Co., Ltd
Address	1102, Block A, Longyu center, Huilongguan, Changping District, Beijing

Product description

Product name	Wireless POS
Trademark	N/A
Model Name	AF930
Family Model	N/A
Standards	FCC 47 CFR Part 2(2.1093); IEEE Std 1528-2013; Published RF exposure KDB procedures

This device described above has been tested by Shenzhen NTEK. In accordance with the measurement methods and procedures specified in IEEE Std 1528-2013 and KDB865664 D01. Testing has shown that this device is capable of compliance with localized specific absorption rate (SAR) specified in FCC 47 CFR Part 2(2.1093). The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

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Test Sample Number S240628043003

Date of Test

Date (s) of performance of tests ..... Aug. 26, 2024~Sep. 10, 2024

Date of Issue ..... Sep. 27, 2024

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

Prepared By :	Reviewed By :	Approved By :
Owen Xiao	Aaron Cheng	Alex Li
(Project Engineer)	(Supervisor)	(Manager)

※ ※ Revision History ※ ※

REV.	DESCRIPTION	ISSUED DATE	REMARK
Rev.1.0	Initial Test Report Release	Sep. 27, 2024	Owen Xiao

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1. General Information

1.1. RF exposure limits

(A).Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B).Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: ***Whole-Body SAR*** is averaged over the entire body, ***partial-body SAR*** isaveraged over any 1 gram of tissue defined as a tissue volume in the shape of a cube.***SAR for hands, wrists, feet and ankles*** is averaged over any 10 grams of tissue definedas a tissue volume in the shape of a cube.

Occupational/Controlled Environments:

Are defined as locations where there is exposure that may be incurred by people who areaware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have noknowledge or control of their exposure.

NOTE
TRUNK EXTREMITY LIMIT for 4.0 W/kg
APPLIED TO THIS EUT

1.2. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for AF930 are as follows.

RF Exposure Conditions	Equipment Class -Highest Reported SAR (W/kg)				Max. Reported SAR (W/kg)
	PCB	DTS	NII	DSS	
10-g Extremity (Separation distance of 0mm)	0.399	0.018	0.086	0.133	0.399
Max Simultaneous Tx	0.532	0.417	0.323	0.532	0.532

Note: The Max Simultaneous Txis calculated based on the same configuration and test position.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolledexposure limits (trunk limit for 1.6 W/kg and extremity limit for 4.0 W/kg) specified in FCC 47 CFR Part 2(2.1093), and hadbeen tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013&KDB 865664 D01.

1.3. EUT Description

Device Information			
Product Name	Wireless POS		
Trade Name	N/A		
Model Name	AF930		
Family Model	N/A		
Model Difference	N/A		
FCC ID	2BLHD-AF930		
Device Phase	Identical Prototype		
Exposure Category	General population / Uncontrolled environment		
Antenna	FPC Antenna		
Battery	DC 3.7V,5600mAh, 20.72Wh		
Hardware version	AF930_MAIN_V2.0_1001		
Software version	SZANFU_AF930_V1.14_00_20240102_userdebug		
Device Operating Configurations			
Supporting Mode(s)	GSM 850/1900, WCDMABand2/4/5, LTEBand2/4/5/7/41,WLAN 2.4G/5G, Bluetooth, NFC		
Test Modulation	GSM(GMSK/8PSK),WCDMA(QPSK), LTE(QPSK/16QAM), WLAN(DSSS/OFDM), Bluetooth(GFSK, π/4-DQPSK, 8DPSK),		
Device Class	B		
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824-849	869-894
	GSM 1900	1850-1910	1930-1990
	WCDMA Band 2	1850-1910	1930-1990

	WCDMA Band 4	1710-1755	2110-2155
	WCDMA Band 5	824-849	869-894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110-2155
	LTE Band 5	824-849	869-894
	LTE Band 7	2500-2570	2620-2690
	LTE Band 41	2535-2655	
	WLAN 2.4G	2412-2462	
	WLAN 5.2G	5180-5240	
	WLAN 5.8G	5745-5825	
	Bluetooth	2402-2480	
	NFC	13.56-13.56	
GPRS Multislot Class(12)	Max Number of Timeslots in Uplink	4	
	Max Number of Timeslots in Downlink	4	
	Max Total Timeslot	5	
EGPRS Multislot Class(12)	Max Number of Timeslots in Uplink	4	
	Max Number of Timeslots in Downlink	4	
	Max Total Timeslot	5	
Power Class	4, tested with power level 5(GSM 850)		
	1, tested with power level 0(GSM 1900)		
	3, tested with power control “all 1”(WCDMA Band 2)		
	3, tested with power control “all 1”(WCDMA Band 4)		
	3, tested with power control “all 1”(WCDMA Band 5)		
	3, tested with power control all Max.(LTE Band 2)		
	3, tested with power control all Max.(LTE Band 4)		
	3, tested with power control all Max.(LTE Band 5)		
	3, tested with power control all Max.(LTE Band 7)		
	3, tested with power control all Max.(LTE Band 41)		

1.4. Test specification(s)

FCC 47 CFR Part 2(2.1093)
IEEE Std 1528-2013
KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 447498 D01 General RF Exposure Guidance v06
KDB 248227 D01 802.11 Wi-Fi SAR v02r02

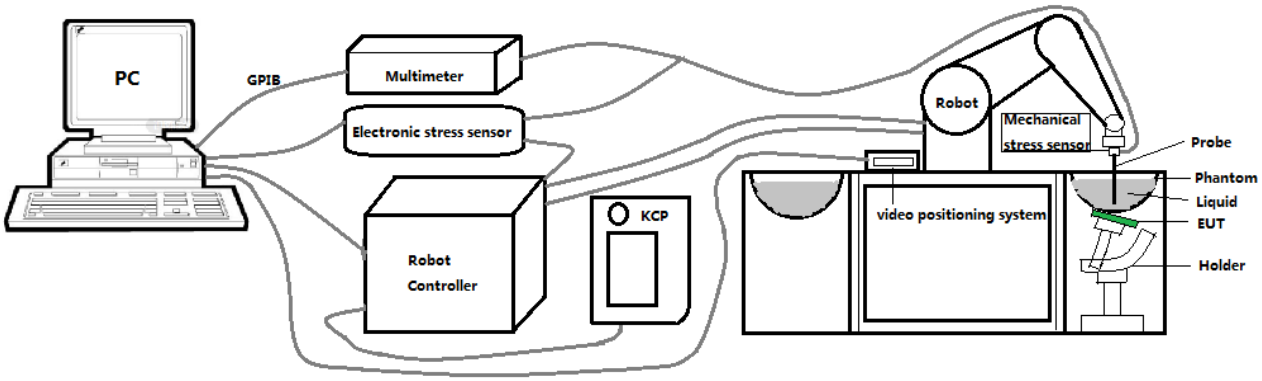
KDB 941225 D01 3G SAR Procedures v03r01
KDB 941225 D05 SAR for LTE Devices v01r02

1.5. Ambient Condition

Ambient temperature	20°C – 24°C
Relative Humidity	30% – 70%

2. SAR Measurement System

2.1. SATIMO SAR Measurement Set-upDiagram



These measurements were performed with the automated near-field scanning system OPENSAR from SATIMO.The system is based on a high precision robot (working range: 901 mm), which positions the probes with apositional repeatability of better than ±0.03mm.The SAR measurements were conducted with dosimetric probe (manufactured by SATIMO), designed in theclassical triangular configuration and optimized for dosimetric evaluation.

The first step of the field measurement is the evaluation of the voltages induced on the probe by the device under test. Probe diode detectors are nonlinear. Below the diode compression point, the output voltage is proportional to the square of the applied E-field; above the diode compression point, it is linear to the applied E-field. The compression point depends on the diode, and a calibration procedure is necessary for each sensor of the probe.

The Keithley multimeter reads the voltage of each sensor and send these three values to the PC. The corresponding E field value is calculated using the probe calibration factors, which are stored in the working directory. This evaluation includes linearization of the diode characteristics. The field calculation is done separately for each sensor. Each component of the E field is displayed on the "Dipole Area Scan Interface" and the total E field is displayed on the "3D Interface"

2.2. Robot

The SATIMO SAR system uses the high precision robots from KUKA. For the 6-axis controller system, the robotcontroller version (KUKA) from KUKA is used. The KUKA robot series have many features that are important forour application:

- High precision (repeatability±0.03 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallicconstruction shields against motor control fields)

2.3. E-Field Probe

This E-field detection probe is composed of three orthogonal dipoles linked to special Schottky diodes with low detection thresholds. The probe allows the measurement of electric fields in liquids such as the one defined in the IEEE and CENELEC standards.

For the measurements the Specific Dosimetric E-Field Probe 3423-EPGO-426 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- TipDiameter : 2.5 mm
- Distance between probe tip and sensor center: 1 mm

-Distance between sensor center and the inner phantom surface: 2 mm (repeatability better than ±1 mm).

- Probe linearity: ±0.06 dB
- Axial isotropy: ±0.01 dB
- Hemispherical Isotropy: ±0.01 dB
- Calibration range: 650MHz to 5900MHz for head & body simulating liquid.
- Lowerdetection limit: 8mW/kg

Angle between probe axis (evaluation axis) and surface normal line: less than 30°.

2.3.1. E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ±10%. The spherical isotropy shall be evaluated and within ±0.25dB. The sensitivity parameters (NormX, NormY, and NormZ),the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix D of this report.

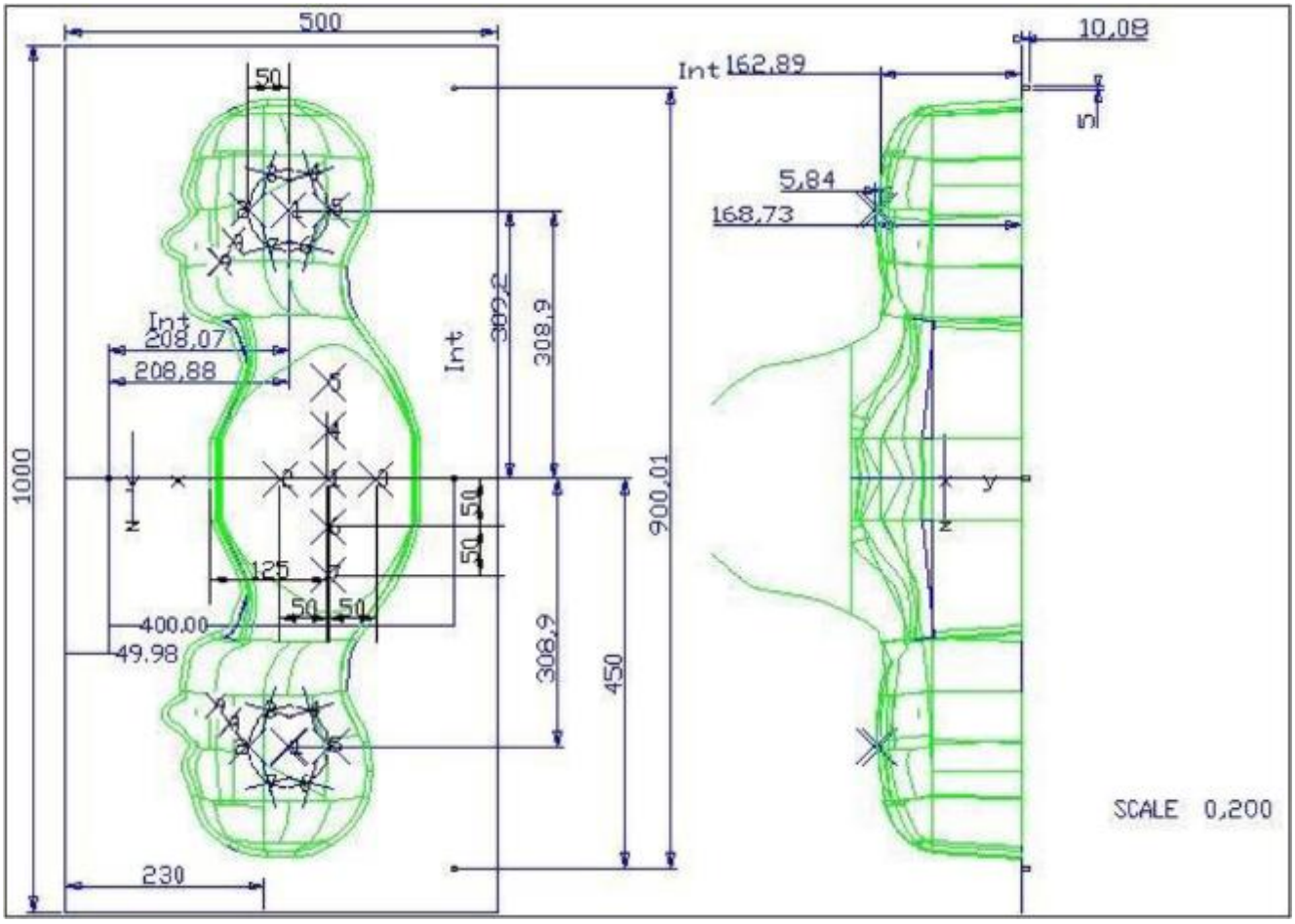
2.4. SAM phantoms

Photo of SAM phantom SN 16/15 SAM119

The SAM phantom is used to measure the SAR relative to people exposed to electro-magnetic field radiated by mobile phones.

2.4.1. Technical Data

Serial Number	Shell thickness	Filling volume	Dimensions	Positionner Material	Permittivity	Loss Tangent
SN 16/15 SAM119	2 mm ±0.2 mm	27 liters	Length:1000 mm Width:500 mm Height:200 mm	Gelcoat with fiberglass	3.4	0.02

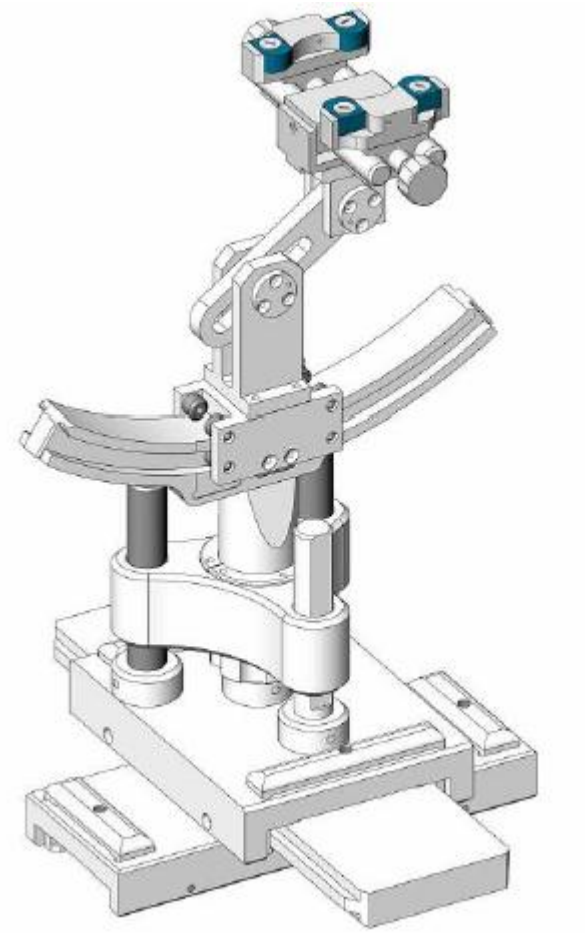


Serial Number	Left Head(mm)		Right Head(mm)		Flat Part(mm)	
SN 16/15 SAM119	2	2.02	2	2.08	1	2.09
	3	2.05	3	2.06	2	2.06
	4	2.07	4	2.07	3	2.08
	5	2.08	5	2.08	4	2.10
	6	2.05	6	2.07	5	2.10
	7	2.05	7	2.05	6	2.07
	8	2.07	8	2.06	7	2.07
	9	2.08	9	2.06	-	-

The test, based on ultrasonic system, allows measuring the thickness with an accuracy of 10 µm.

2.5. 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 degree.



Serial Number	Holder Material	Permittivity	Loss Tangent
SN 16/15 MSH100	Delrin	3.7	0.005

2.6. Test Equipment List

This table gives a complete overview of the SAR measurement equipment.
Devices used during the test described are marked ☒

	Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
					Last Cal.	Due Date
☒	MVG	E FIELD PROBE	SSE2	3423-EPGO-426	Sep. 18,2023	Sep. 17,2024
☐	MVG	750 MHz Dipole	SID750	SN 03/15 DIP 0G750-355	Feb. 21,2024	Feb. 20,2027
☒	MVG	835 MHz Dipole	SID835	SN 03/15 DIP 0G835-347	Feb. 21,2024	Feb. 20,2027
☐	MVG	900 MHz Dipole	SID900	SN 03/15 DIP 0G900-348	Feb. 21,2024	Feb. 20,2027
☒	MVG	1800 MHz Dipole	SID1800	SN 03/15 DIP 1G800-349	Feb. 21,2024	Feb. 20,2027
☒	MVG	1900 MHz Dipole	SID1900	SN 03/15 DIP 1G900-350	Feb. 21,2024	Feb. 20,2027
☐	MVG	2000 MHz Dipole	SID2000	SN 03/15 DIP 2G000-351	Feb. 21,2024	Feb. 20,2027
☐	MVG	2300 MHz Dipole	SID2300	SN 03/16 DIP 2G300-358	Feb. 21,2024	Feb. 20,2027
☒	MVG	2450 MHz Dipole	SID2450	SN 03/15 DIP 2G450-352	Feb. 21,2024	Feb. 20,2027
☒	MVG	2600 MHz Dipole	SID2600	SN 03/15 DIP 2G600-356	Feb. 21,2024	Feb. 20,2027
☒	MVG	5000 MHz Dipole	SWG5500	SN 13/14 WGA 33	Feb. 21,2024	Feb. 20,2027
☒	MVG	Liquid measurement Kit	SCLMP	SN 21/15 OCPG 72	NCR	NCR
☒	MVG	Power Amplifier	N.A	AMPLISAR_28/14_003	NCR	NCR
☒	KEITHLEY	Millivoltmeter	2000	4072790	NCR	NCR
☒	R&S	Universal radio communication tester	CMU200	105747	Apr. 26, 2024	Apr. 25, 2025
☒	R&S	Wideband radio communicationtester	CMW500	103917	Apr. 26, 2024	Apr. 25, 2025
☒	HP	Network Analyzer	8753D	3410J01136	Apr. 26, 2024	Apr. 25, 2025
☒	Agilent	MXG Vector Signal	N5182A	MY47070317	Apr. 25,	Apr. 24,

		Generator			2024	2025
☒	Agilent	Power meter	E4419B	MY45102538	Apr. 25, 2024	Apr. 24, 2025
☒	Agilent	Power sensor	E9301A	MY41495644	Apr. 25, 2024	Apr. 24, 2025
☒	Agilent	Power sensor	E9301A	US39212148	Apr. 25, 2024	Apr. 24, 2025
☒	MCLI/USA	Directional Coupler	CB11-20	0D2L51502	Apr. 26, 2024	Apr. 25, 2027
☒	N/A	Thermometer	N/A	LES-085	Mar. 27, 2023	Mar. 26, 2026
☒	MVG	SAM Phantom	SSM2	SN 16/15 SAM119	NCR	NCR
☒	MVG	Device Holder	SMPPD	SN 16/15 MSH100	NCR	NCR

Measurement Software

Manufacturer	Software Name	Software Version
SATIMO	OpenSAR	V4_02_31

3. SAR Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conductedconnection with RF cable, at maximum power in each supported wireless interface and frequency band.

(b) Read the WWAN RF power level from the base station simulator.

(c) For WLAN/Bluetooth power measurement, use engineering software to configure EUT WLAN/Bluetooth continuouslytransmission, at maximum RF power in each supported wireless interface and frequency band.

(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/Bluetooth output power.

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineeringsoftware to configure EUT WLAN/Bluetooth continuously transmission, at maximum RF power, in the highest powerchannel.

(b) Place the EUT in the positions as Appendix A demonstrates.

(c) Set scan area, grid size and other setting on the OPENSAR software.

(d) Measure SAR results for the highest power channel on each testing position.

(e) Find out the largest SAR result on these testing positions of each band.

(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest powerchannel is larger than 0.8 W/kg.

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR valueconsists of the following steps:

(a) Power reference measurement

(b) Area scan

(c)Zoom scan

(d) Power drift measurement

3.1. Power Reference

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of thedevice under test in the batch process. The minimum distance of probe sensors to surface determines the closestmeasurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

3.2. Area scan & Zoom scan

The area scan is a 2D scan to find the hot spot location on the DUT. The zoom scan is a 3D scan above the hot spot to calculate the 1g and 10g SAR value.

MeasurementoftheSARdistributionwithagridof8to16mm * 8to16 mm and a constant distance tothe inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme. Around this point, a cube of 30 * 30 *30 mm or 32 * 32 *32 mm is assessedby measuring 5 or 8 * 5 or 8 * 4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

From the scanned SAR distribution, identify the position of the maximum SAR value, in addition identify thepositions of any local maxima with SAR values within 2 dB of the maximum value that will not be within the zoomscan of other peaks; additional peaks shall be measured only when the primary peak is within 2 dB of the SARcompliance limit (e.g., 1 W/kg for 1,6 W/kg 1 g limit, or 1,26 W/kg for 2 W/kg, 10 g limit).

Area scan & Zoom scan scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

3.3. Description of interpolation/extrapolation scheme

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 minimise 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 1 mm 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 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

3.4. Volumetric Scan

The volumetric scan consists to a full 3D scan over a specific area.This 3D scan is useful form multi Tx SAR measurement. Indeed, it is possible with OpenSAR to add, point by point, several volumetric scan to calculate the SAR value of the combined measurement as it is define in the standard IEEE1528 and IEC62209.

3.5. Power Drift

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In OpenSAR 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 V/m. If the power drifts more than ±5%, the SAR will be retested.

4. System Verification Procedure

4.1. Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% of weight)	Head Tissue								
Frequency Band (MHz)	750	835	900	1800	1900	2000	2450	2600	5000
Water	34.40	34.40	34.40	55.36	55.36	71.88	71.88	71.88	65.53
NaCl	0.79	0.79	0.79	0.35	0.35	0.16	0.16	0.16	0.00
1,2-Propanediol	64.81	64.81	64.81	0.00	0.00	0.00	0.00	0.00	0.00
Triton X-100	0.00	0.00	0.00	30.45	30.45	19.97	19.97	19.97	17.24
DGBE	0.00	0.00	0.00	13.84	13.84	7.99	7.99	7.99	0.00

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquiddepth from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm.

Photo of Liquid depth for Head Position	Photo of Liquid depth for Body Position
	

4.1.1. Tissue Dielectric Parameter Check Results

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ±5% of the target values.

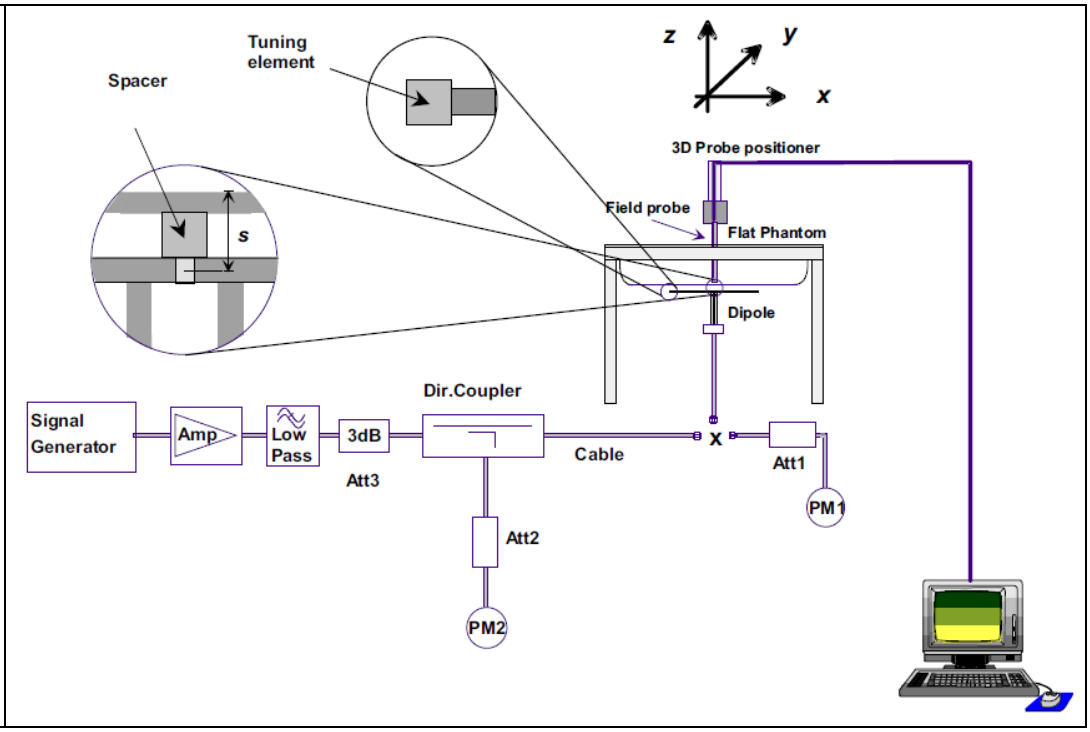
Tissue Type	Measured Frequency (MHz)	Target Tissue		Measured Tissue		Liquid Temp.	Test Date
		εr (±5%)	σ (S/m) (±5%)	εr	σ (S/m)		
Head 850	835	41.50 (39.43~43.58)	0.90 (0.86~0.95)	41.51	0.91	21.5 °C	Aug. 30, 2024
Head 1800	1800	40.00 (38.00~42.00)	1.40 (1.33~1.47)	38.93	1.37	21.7 °C	Aug. 28, 2024
Head 1900	1900	40.00 (38.00~42.00)	1.40 (1.33~1.47)	38.87	1.45	21.5 °C	Sep. 10, 2024
Head 2450	2450	39.20 (37.24~41.16)	1.80 (1.71~1.89)	37.79	1.77	21.5 °C	Aug. 26, 2024
Head 2600	2600	39.01 (37.06~40.96)	1.96 (1.86~2.06)	39.13	2.01	21.4 °C	Aug. 27, 2024
Head 5200	5200	36.00 (34.20~37.80)	4.66 (4.43~4.89)	34.58	4.53	21.5 °C	Sep. 03, 2024
Head 5800	5800	35.30 (33.54~37.07)	5.27 (5.01~5.53)	34.01	5.18	21.9 °C	Sep. 06, 2024

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

4.2. System Verification Procedure

The system verification is performed for verifying the accuracy of the complete measurement system and performance of the software. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100mW(below 5GHz) or 100mW(above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system verification to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system verification to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

The system verification is shown as below picture:



4.2.1. System Verification Results

Comparing to the original SAR value provided by SATIMO, the verification data should be within its specification of ±10%. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance verification can meet the variation criterion and the plots can be referred to Appendix B of this report.

System Verification	Target SAR (1W) (±10%)		Input Power	Measured SAR (Normalized to 1W)		Liquid Temp.	Test Date
	1-g (W/Kg)	10-g (W/Kg)		1-g (W/Kg)	10-g (W/Kg)		
835MHz	9.40 (8.46~10.34)	6.28 (5.65~6.91)	20dBm	8.98	6.50	21.5 °C	Aug. 30, 2024
1800MHz	37.06 (33.35~40.77)	20.01 (18.01~22.01)	20dBm	34.87	18.85	21.7 °C	Aug. 28, 2024
1900MHz	39.69 (35.72~43.66)	20.92 (18.83~23.01)	20dBm	38.91	20.66	21.5 °C	Sep. 10, 2024
2450MHz	50.05 (45.05~55.06)	23.80 (21.42~26.18)	20dBm	46.18	25.21	21.5 °C	Aug. 26, 2024
2600MHz	54.16 (48.74~59.58)	24.85 (22.37~27.34)	20dBm	59.13	26.99	21.4 °C	Aug. 27, 2024
5200MHz	162.59 (146.33~178.85)	56.21 (50.59~61.83)	20dBm	170.90	61.18	21.5 °C	Sep. 03, 2024
5800MHz	182.20 (163.98~200.42)	61.32 (55.19~67.45)	20dBm	165.19	57.29	21.9 °C	Sep. 06, 2024

5. SAR Measurement variability and uncertainty

5.1. SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

5.2. SAR measurement uncertainty

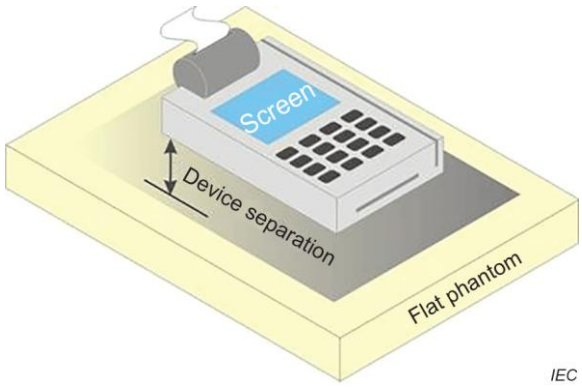
Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz,when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

6. RF Exposure Positions

6.1. Devices used next to or against the body without an accessory

A typical example of a device used next to the body is a wireless enabled laptop or a tablet device containing a peripheral plug-in radio transmitter that can be supported on the user's body. Other devices that fall into this category include tablets of equivalent sizes or larger than a netbook computer (> 20 cm diagonal display), credit card transaction authorization terminals, and point-of-sale and/or inventory terminals.

The DUT shall be positioned with its base (bottom surface) and applicable edges against the flat phantom. The orientations and other use positions can be host device specific. Therefore, these should be determined according to the transmitter and antenna locations on the host device.



Test positions for body supported devices (Wireless credit card transaction authorization terminal)

6.2. Extremity exposure considerations

1. Based on the actual use, we always hold it by our left hand, so we only take the Extremity SAR of left side, front side and back side at device into consideration. We will test the front side, left side and right side of this device. (We test the right side aiming to stimulate left hand for finger exposes to LTE, WCDMA, GSM when using.)

2. WIFI antenna is the nearest away from left side at the device. LTE, WCDMA, GSM antenna are far away from left side at the device.

3. The nearest distance between the left hand's fingers and the LTE, WCDMA, GSM antenna is 6cm, when we always hold it by our left hand. And we use 0cm from the phantom to the right side at the device to test SAR, which is substitution method we mentioned, to evaluate the SAR of the left hand's fingers.

4. The Extremity SAR of the backside of this device for WIFI antenna, we will calculate it by following SAR exemption.

7. RF Output Power

7.1. GSM Conducted Power

Band GSM850	Burst-Averaged output Power (dBm)				Frame-Averaged output Power (dBm)			
Tx Channel	Tune-up	128	189	251	Tune-up	128	189	251
Frequency (MHz)	(dBm)	824.2	836.4	848.8	(dBm)	824.2	836.4	848.8
GSM (GMSK)	33.00	32.79	32.63	32.77	23.97	23.76	23.60	23.74
GPRS(GMSK,1 Tx slot)	33.00	32.74	32.56	32.73	23.97	23.71	23.53	23.70
GPRS(GMSK,2 Tx slot)	32.00	31.95	31.84	31.98	25.98	25.93	25.82	25.96
GPRS(GMSK,3 Tx slot)	30.50	30.32	30.15	30.28	26.24	26.06	25.89	26.02
GPRS(GMSK,4 Tx slot)	29.50	29.06	28.86	28.96	26.49	26.05	25.85	25.95
EGPRS(8PSK,1 Tx slot)	28.00	27.90	27.63	27.87	18.97	18.87	18.60	18.84
EGPRS(8PSK,2 Tx slot)	27.00	26.51	26.66	26.94	20.98	20.49	20.64	20.92
EGPRS(8PSK,3 Tx slot)	25.00	24.25	24.19	24.54	20.74	19.99	19.93	20.28
EGPRS(8PSK,4 Tx slot)	23.00	22.85	22.64	22.55	19.99	19.84	19.63	19.54

Band GSM1900	Burst-Averaged output Power (dBm)				Frame-Averaged output Power (dBm)			
Tx Channel	Tune-up	512	661	810	Tune-up	512	661	810
Frequency (MHz)	(dBm)	1850.2	1880	1909.8	(dBm)	1850.2	1880	1909.8
GSM (GMSK)	30.50	30.25	30.45	30.35	21.47	21.22	21.42	21.32
GPRS(GMSK,1 Tx slot)	30.50	30.19	30.41	30.33	21.47	21.16	21.38	21.30
GPRS(GMSK,2 Tx slot)	29.50	29.28	29.44	29.34	23.48	23.26	23.42	23.32
GPRS(GMSK,3 Tx slot)	28.00	27.35	27.52	27.42	23.74	23.09	23.26	23.16
GPRS(GMSK,4 Tx slot)	26.50	26.15	26.36	26.24	23.49	23.14	23.35	23.23
EGPRS(8PSK,1 Tx slot)	27.50	26.84	27.03	26.64	18.47	17.81	18.00	17.61
EGPRS(8PSK,2 Tx slot)	26.00	25.95	25.60	25.52	19.98	19.93	19.58	19.50
EGPRS(8PSK,3 Tx slot)	24.00	23.55	23.45	23.35	19.74	19.29	19.19	19.09
EGPRS(8PSK,4 Tx slot)	22.50	21.62	21.95	22.22	19.49	18.61	18.94	19.21

7.2. WCDMA Conducted Power

WCDMA Band 2	Burst-Averaged output Power (dBm)			
Tx Channel	Tune-up	9262	9400	9538
Frequency (MHz)	(dBm)	1852.4	1880	1907.6
RMC12.2K	25.00	24.54	24.52	24.68
HSDPA Sub 1	24.00	23.60	23.58	23.76
HSDPA Sub 2	23.50	23.14	23.20	23.35
HSDPA Sub 3	22.50	21.87	21.82	22.21

HSDPA Sub 4	22.50	22.11	21.70	22.31
HSUPA Sub 1	24.00	22.59	23.41	23.57
HSUPA Sub 2	24.00	23.55	23.37	23.58
HSUPA Sub 3	23.00	21.57	22.11	22.56
HSUPA Sub 4	24.00	23.61	23.58	23.76
HSUPA Sub 5	23.50	22.28	22.88	23.08
WCDMA Band 4	Burst-Averaged output Power (dBm)			
Tx Channel	Tune-up	1312	1413	1513
Frequency (MHz)	(dBm)	1712.4	1732.6	1752.6
RMC12.2K	25.00	24.57	24.54	24.75
HSDPA Sub 1	24.00	23.61	23.59	23.78
HSDPA Sub 2	23.50	23.19	23.21	23.40
HSDPA Sub 3	22.50	22.06	22.17	22.33
HSDPA Sub 4	22.50	22.24	22.20	21.98
HSUPA Sub 1	24.00	22.24	23.39	23.63
HSUPA Sub 2	24.00	23.45	23.30	23.78
HSUPA Sub 3	22.50	21.99	22.46	22.18
HSUPA Sub 4	24.00	23.58	23.59	23.79
HSUPA Sub 5	23.50	22.09	22.91	23.06
WCDMA Band 5	Burst-Averaged output Power (dBm)			
Tx Channel	Tune-up	4132	4182	4233
Frequency (MHz)	(dBm)	826.4	836.4	846.6
RMC12.2K	24.50	24.11	24.09	23.96
HSDPA Sub 1	23.50	23.12	23.09	23.01
HSDPA Sub 2	23.00	22.85	22.81	22.35
HSDPA Sub 3	22.00	21.69	21.57	21.49
HSDPA Sub 4	22.00	21.81	21.54	21.23
HSUPA Sub 1	23.00	21.95	22.96	22.79
HSUPA Sub 2	23.50	23.10	22.93	22.99
HSUPA Sub 3	22.00	21.30	21.64	21.90
HSUPA Sub 4	23.50	23.13	23.11	23.02
HSUPA Sub 5	22.50	21.82	22.22	22.41

7.3. LTE Conducted Power

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18607/1850.7	18900/1880	19193/1909.3
LTE Band 2	1.4MHz	QPSK	1	0	24.50	23.50	23.40	24.27
			1	2	24.50	23.90	24.14	24.38
			1	5	24.50	23.79	23.99	24.27
			3	0	24.50	23.87	24.10	24.35
			3	1	24.50	23.91	24.30	24.36
			3	2	24.50	23.91	24.09	23.80
			6	0	24.00	23.40	23.93	23.38
		16QAM	1	0	24.00	23.15	23.31	23.61
			1	2	24.00	23.22	23.49	23.74
			1	5	24.00	23.06	23.39	23.50
			3	0	23.50	22.89	21.70	23.39
			3	1	23.50	22.91	23.18	23.44
			3	2	23.50	22.89	23.11	23.34
			6	0	23.00	22.02	22.23	22.51
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18615/1851.5	18900/1880	19185/1908.5
LTE Band 2	3MHz	QPSK	1	0	24.50	23.82	24.07	24.31
			1	7	24.50	23.85	24.10	24.36
			1	14	24.50	23.81	24.06	24.31
			8	0	23.50	22.87	23.10	23.36
			8	4	23.50	22.93	23.13	23.39
			8	7	23.50	22.85	23.10	23.34
			15	0	23.50	22.98	23.09	23.33
		16QAM	1	0	24.00	23.17	23.35	23.63
			1	7	24.00	23.07	23.33	23.54
			1	14	24.00	23.16	23.34	23.61
			8	0	22.50	21.97	22.16	22.48
			8	4	22.50	22.28	22.22	22.49
			8	7	22.50	21.94	22.16	22.41
			15	0	22.50	21.88	22.11	22.39
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18625/1852.5	18900/1880	19175/1907.5
LTE Band 2	5MHz	QPSK	1	0	24.50	23.73	23.97	23.77
			1	12	24.50	23.84	24.11	24.35

			1	24	24.50	23.69	23.94	24.24
			12	0	23.50	22.89	23.08	23.38
			12	6	23.50	22.92	23.16	23.41
			12	11	23.50	22.84	23.04	23.30
			25	0	23.50	22.86	23.04	23.37
		16QAM	1	0	24.00	22.97	22.22	23.45
			1	12	24.00	23.09	23.39	23.68
			1	24	24.00	23.23	23.17	23.46
			12	0	22.50	21.88	22.08	22.40
			12	6	22.50	21.61	22.15	22.42
			12	11	22.50	21.87	22.09	22.32
			25	0	24.00	22.20	22.07	23.86
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18650/1855	18900/1880	19150/1905
LTE Band 2	10MHz	QPSK	1	0	24.50	23.92	24.19	23.82
			1	24	24.50	23.57	24.06	24.36
			1	49	24.50	22.95	23.15	23.35
			25	0	23.50	22.88	23.01	23.38
			25	12	23.50	22.88	23.07	23.31
			25	24	23.50	22.91	23.10	23.33
			50	0	24.00	23.11	23.30	23.53
		16QAM	1	0	24.00	23.24	23.44	23.50
			1	24	24.00	23.18	23.43	23.69
			1	49	24.00	22.03	22.14	22.36
			25	0	22.50	21.93	21.83	22.40
			25	12	22.50	21.02	22.09	22.35
			25	24	22.50	21.94	22.11	22.38
			50	0	24.50	24.05	24.28	23.78
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18675/1857.5	18900/1880	19125/1902.5
LTE Band 2	15MHz	QPSK	1	0	24.50	23.82	24.11	24.36
			1	37	24.50	23.74	23.96	24.27
			1	74	24.50	22.94	23.11	23.29
			36	0	23.50	22.87	23.14	23.36
			36	18	23.50	22.90	23.10	23.31
			36	37	23.50	22.92	23.08	22.05
			75	0	24.00	23.06	23.21	23.56
		16QAM	1	0	24.00	23.10	23.37	23.61

			1	37	24.00	22.98	23.31	23.60
			1	74	24.00	22.25	22.08	22.31
			36	0	22.50	21.86	22.34	22.35
			36	18	22.50	21.89	22.09	22.33
			36	37	22.50	21.93	22.08	22.32
			75	0	24.50	23.90	24.19	22.32
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		18700/1860	18900/1880	19100/1900
LTE Band 2	20MHz	QPSK	1	0	24.50	23.60	23.80	24.09
			1	49	24.50	23.92	24.22	24.42
			1	99	24.50	23.71	23.78	24.06
			50	0	24.00	22.95	23.09	23.27
			50	24	24.00	22.89	23.14	23.38
			50	49	24.00	22.92	22.98	23.30
			100	0	24.00	22.93	23.05	23.30
		16QAM	1	0	24.00	22.91	23.13	23.15
			1	49	24.00	23.32	23.43	23.71
			1	99	24.00	23.41	23.13	23.30
			50	0	22.50	21.95	22.09	22.31
			50	24	22.50	21.90	22.15	22.37
			50	49	22.50	21.93	22.02	22.03
			100	0	22.50	21.92	22.03	22.33

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		19957/1710.7	20175/1732.5	20393/1754.3
LTE Band 4	1.4MHz	QPSK	1	0	24.50	23.49	24.00	24.11
			1	2	24.50	23.61	24.12	24.26
			1	5	24.50	23.47	23.99	24.14
			3	0	24.50	23.57	24.08	24.20
			3	1	24.50	23.63	24.14	24.24
			3	2	24.50	23.60	24.11	24.22
			6	0	23.50	22.65	23.18	23.26
		16QAM	1	0	24.00	22.78	23.14	23.29
			1	2	24.00	22.86	23.37	23.53
			1	5	24.00	22.78	23.26	23.49
			3	0	23.50	22.61	23.09	23.26
			3	1	23.50	22.60	23.11	23.29

			3	2	21.00	22.54	23.00	23.21
			6	0	19.50	21.68	22.23	22.37
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		19965/1711.5	20175/1732.5	20385/1753.5
LTE Band 4	3MHz	QPSK	1	0	24.50	23.53	23.99	24.13
			1	7	24.50	23.50	24.02	24.16
			1	14	24.50	23.49	24.01	24.14
			8	0	23.50	22.56	23.09	23.18
			8	4	23.50	22.61	23.12	23.24
			8	7	23.50	22.57	23.11	23.22
			15	0	23.50	22.57	23.13	23.21
		16QAM	1	0	23.50	22.76	23.13	23.47
			1	7	23.50	22.76	23.28	23.32
			1	14	23.50	22.66	23.22	23.39
			8	0	22.50	21.63	22.11	22.27
			8	4	22.50	21.68	22.16	22.29
			8	7	22.50	21.66	22.14	22.25
			15	0	22.50	21.57	22.11	22.23
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		19975/1712.5	20175/1732.5	20375/1752.5
LTE Band 4	5MHz	QPSK	1	0	24.50	23.41	23.86	23.92
			1	12	24.50	23.50	24.03	24.07
			1	24	24.50	23.39	23.94	23.97
			12	0	23.50	22.54	23.12	23.08
			12	6	23.50	22.62	23.16	23.15
			12	11	23.50	22.58	23.12	23.13
			25	0	23.50	22.58	23.13	23.12
		16QAM	1	0	23.50	22.77	23.08	23.15
			1	12	23.50	22.81	23.21	23.34
			1	24	23.50	22.59	23.13	23.32
			12	0	22.50	21.51	22.10	22.09
			12	6	22.50	21.58	22.15	22.11
			12	11	22.50	21.60	22.07	22.14
			25	0	22.50	21.61	22.13	22.10
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		

			RB Size	RB Offset		20000/1715	20175/1732.5	20350/1750
LTE Band 4	10MHz	QPSK	1	0	24.50	23.52	23.94	23.96
			1	24	24.50	23.65	24.13	24.15
			1	49	24.50	23.61	24.06	24.09
			25	0	23.50	22.59	23.24	23.11
			25	12	23.50	22.67	23.20	23.15
			25	24	23.50	22.78	23.21	23.24
			50	0	23.50	22.72	23.24	23.21
		16QAM	1	0	23.50	22.79	23.16	23.20
			1	24	23.50	22.92	23.25	23.44
			1	49	23.50	22.77	23.31	23.43
			25	0	22.50	21.63	22.20	22.15
			25	12	22.50	21.67	22.19	22.17
			25	24	22.50	21.75	22.20	22.24
			50	0	22.50	21.69	22.22	22.18

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20025/1717.5	20175/1732.5	20325/1747.5
LTE Band 4	15MHz	QPSK	1	0	24.50	23.40	23.80	23.82
			1	37	24.50	23.57	24.04	24.00
			1	74	24.50	23.68	23.94	23.97
			36	0	23.50	22.58	23.14	23.07
			36	18	23.50	22.70	23.19	23.10
			36	37	23.50	22.80	23.18	23.17
			75	0	23.50	22.69	23.17	23.11
		16QAM	1	0	23.50	22.65	23.03	23.09
			1	37	23.50	22.80	23.27	23.31
			1	74	23.50	22.87	23.22	23.21
			36	0	22.50	21.54	22.10	22.04
			36	18	22.50	21.64	22.12	22.09
			36	37	22.50	21.73	22.13	22.15
			75	0	22.50	21.67	22.12	22.10

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20050/1720	20175/1732.5	20300/1745
LTE Band	20MHz	QPSK	1	0	24.50	23.20	23.53	23.60
			1	49	24.50	23.70	24.14	24.07

4			1	99	24.50	23.63	23.79	23.79
			50	0	23.5	22.55	23.16	23.07
			50	24	23.5	22.76	23.21	23.10
			50	49	23.5	22.89	23.17	23.16
			100	0	23.5	22.71	23.15	23.09
		16QAM	1	0	23.50	22.44	22.76	22.80
			1	49	23.50	22.85	23.32	23.26
			1	99	23.50	22.88	23.03	23.06
			50	0	22.50	21.52	22.12	22.06
			50	24	22.50	21.74	22.17	22.08
			50	49	22.50	21.84	22.12	22.17
			100	0	22.50	21.67	22.11	22.08

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20407/824.7	20525/836.5	20643/848.3
LTE Band 5	1.4MHz	QPSK	1	0	24.00	23.40	23.57	23.44
			1	2	24.00	23.57	23.71	23.58
			1	5	24.00	23.43	23.58	23.41
			3	0	24.00	23.50	23.67	23.52
			3	1	24.00	23.55	23.70	23.51
			3	2	24.00	23.52	23.65	23.49
			6	0	23.00	22.52	22.68	22.60
		16QAM	1	0	23.00	22.75	22.79	22.67
			1	2	23.00	22.91	23.00	22.89
			1	5	23.00	22.68	22.81	22.70
			3	0	23.00	22.52	22.63	22.54
			3	1	23.00	22.59	22.68	22.52
			3	2	23.00	22.54	22.73	22.53
			6	0	22.00	21.63	21.74	21.67
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20415/825.5	20525/836.5	20635/847.5
LTE Band 5	3MHz	QPSK	1	0	24.00	23.46	23.62	23.54
			1	7	24.00	23.49	23.62	23.53
			1	14	24.00	23.48	23.63	23.45
			8	0	23.00	22.52	22.66	22.61
			8	4	23.00	22.54	22.70	22.58
			8	7	23.00	22.51	22.67	22.56
			15	0	23.00	22.53	22.66	22.58

			1	0	23.50	22.66	23.01	22.83
			1	7	23.50	22.83	22.92	22.82
			1	14	23.50	22.74	22.92	22.82
		16QAM	8	0	22.00	21.60	21.74	21.67
			8	4	22.00	21.64	21.76	21.64
			8	7	22.00	21.58	21.73	21.57
			15	0	22.00	21.53	21.67	21.57
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20425/826.5	20525/836.5	20625/846.5
LTE Band 5	5MHz	QPSK	1	0	24.00	23.34	23.54	23.50
			1	12	24.00	23.47	23.62	23.54
			1	24	24.00	23.44	23.50	23.36
			12	0	23.00	22.55	22.64	22.69
			12	6	23.00	22.56	22.72	22.64
			12	11	23.00	22.53	22.72	22.53
			25	0	23.00	22.52	22.68	22.62
		16QAM	1	0	23.50	22.74	22.79	22.73
			1	12	23.50	22.75	23.02	22.84
			1	24	23.50	22.79	22.88	22.56
			12	0	22.00	21.54	21.65	21.67
			12	6	22.00	21.57	21.74	21.60
			12	11	22.00	21.54	21.71	21.53
			25	0	22.00	21.54	21.70	21.62
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20450/829	20525/836.5	20600/844
LTE Band 5	10MHz	QPSK	1	0	24.00	23.48	23.57	23.64
			1	24	24.00	23.63	23.72	23.65
			1	49	24.00	23.57	23.57	23.42
			25	0	23.00	22.62	22.66	22.77
			25	12	23.00	22.59	22.70	22.67
			25	24	23.00	22.65	22.77	22.56
			50	0	23.00	22.66	22.72	22.68
		16QAM	1	0	23.00	22.77	22.90	22.94
			1	24	23.00	22.95	22.98	22.89
			1	49	23.00	22.94	22.88	22.74
			25	0	22.00	21.66	21.68	21.77
			25	12	22.00	21.62	21.73	21.69
			25	24	22.00	21.69	21.78	21.58

			50	0	22.00	21.66	21.74	21.68

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20775/2502.5	21100/2535	21425/2567.5
LTE Band 7	5MHz	QPSK	1	0	24.50	23.90	24.14	24.26
			1	12	24.50	24.11	24.29	24.40
			1	24	24.50	23.98	24.13	24.21
			12	0	24.00	23.07	23.34	23.46
			12	6	24.00	23.18	23.37	23.50
			12	11	24.00	23.14	23.33	23.40
			25	0	23.50	23.13	23.36	23.45
		16QAM	1	0	24.00	23.18	23.46	23.49
			1	12	24.00	23.36	23.59	23.71
			1	24	24.00	23.31	23.48	23.43
			12	0	22.50	22.05	22.34	22.41
			12	6	22.50	22.14	22.40	22.46
			12	11	22.50	22.16	22.35	22.38
			25	0	22.50	22.13	22.34	22.45

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20800/2505	21100/2535	21400/2565
LTE Band 7	10MHz	QPSK	1	0	25.00	23.97	24.19	24.39
			1	24	25.00	24.20	24.40	24.50
			1	49	25.00	24.08	24.19	24.27
			25	0	24.00	23.13	23.39	23.53
			25	12	24.00	23.23	23.39	23.51
			25	24	24.00	23.30	23.37	23.49
			50	0	24.00	23.23	23.39	23.50
		16QAM	1	0	24.00	23.31	23.49	23.63
			1	24	24.00	23.56	23.70	23.69
			1	49	24.00	23.33	23.41	23.56
			25	0	23.00	22.14	22.39	22.55
			25	12	23.00	22.23	22.38	22.50
			25	24	23.00	22.30	22.39	22.50
			50	0	22.50	22.21	22.39	22.48

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20825/2507.5	21100/2535	21375/2562.5
LTE	15MHz	QPSK	1	0	24.50	23.94	24.10	24.26

Band 7			1	37	24.50	24.16	24.30	24.46
			1	74	24.50	23.91	24.10	24.20
			36	0	24.00	23.16	23.36	23.49
			36	18	24.00	23.27	23.40	23.53
			36	37	24.00	23.26	23.36	23.49
			75	0	23.50	23.22	23.36	23.47
		16QAM	1	0	24.00	23.25	23.43	23.62
			1	37	24.00	23.39	23.66	23.76
			1	74	24.00	23.15	23.33	23.47
			36	0	23.00	22.13	22.34	22.45
			36	18	23.00	22.23	22.37	22.50
			36	37	23.00	22.22	22.33	22.46
			75	0	22.50	22.21	22.34	22.48

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		20850/2510	21100/2535	21350/2560
LTE Band 7	20MHz	QPSK	1	0	24.50	23.74	23.84	24.03
			1	49	24.50	24.26	24.39	24.47
			1	99	24.50	23.63	23.88	24.02
			50	0	24.00	23.10	23.30	23.43
			50	24	24.00	23.21	23.41	23.54
			50	49	24.00	23.21	23.38	23.48
			100	0	23.50	23.14	23.32	23.45
		16QAM	1	0	24.00	22.99	23.20	23.33
			1	49	24.00	23.55	23.60	23.86
			1	99	24.00	23.00	23.24	23.27
			50	0	23.00	22.12	22.31	22.44
			50	24	23.00	22.21	22.40	22.53
			50	49	23.00	22.19	22.33	22.46
			100	0	22.50	22.14	22.32	22.44

Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		40065	40640	41215
LTE Band 41	5MHz	QPSK	1	0	25.00	24.62	24.67	24.32
			1	12	25.00	24.73	24.73	24.39
			1	24	25.00	24.63	24.62	24.25
			12	0	24.00	23.70	23.77	23.40
			12	6	24.00	23.76	23.74	23.37

			12	11	24.00	23.77	23.71	23.35
			25	0	24.00	23.74	23.72	23.44
		16QAM	1	0	24.00	23.79	23.82	23.48
			1	12	24.00	23.93	23.91	23.56
			1	24	24.00	23.84	23.79	23.42
			12	0	22.50	22.72	22.76	22.55
			12	6	22.50	22.78	22.78	22.40
			12	11	22.50	22.78	22.73	22.38
			25	0	23.00	22.78	22.79	22.44
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		39700	40620	41540
LTE Band 41	10MHz	QPSK	1	0	25.00	24.72	24.76	24.46
			1	24	25.00	24.86	24.86	24.51
			1	49	25.00	24.63	24.72	24.33
			25	0	24.00	23.73	23.85	23.47
			25	12	24.00	23.86	23.78	23.43
			25	24	24.00	23.77	23.75	23.45
			50	0	23.50	23.57	23.84	23.32
		16QAM	1	0	24.50	23.93	23.93	23.63
			1	24	24.50	24.08	24.03	23.69
			1	49	24.50	23.86	23.82	23.51
			25	0	23.00	22.78	22.90	22.51
			25	12	23.00	22.79	22.84	22.49
			25	24	23.00	22.78	22.80	22.47
			50	0	22.50	22.83	22.88	22.43
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		39725	40620	41515
LTE Band 41	15MHz	QPSK	1	0	25.50	24.64	24.68	24.42
			1	37	25.50	24.73	24.76	24.44
			1	74	25.50	24.41	24.55	24.25
			36	0	23.50	23.75	23.84	23.51
			36	18	23.50	23.78	23.81	23.49
			36	37	23.50	23.73	23.75	23.46
			75	0	23.50	23.67	23.78	23.42
		16QAM	1	0	23.50	23.84	23.85	23.60
			1	37	23.50	23.93	23.94	23.62
			1	74	23.50	23.74	23.74	23.42
			36	0	23.00	22.69	22.81	22.49

			36	18	23.00	22.74	22.78	22.45
			36	37	23.00	22.68	22.72	22.36
			75	0	22.50	22.69	22.81	22.45
Band	Band Width	Modulation	RB Configuration		Tune-up (dBm)	Channel/Frequency(MHz)		
			RB Size	RB Offset		39750	40620	41490
LTE Band 41	20MHz	QPSK	1	0	25.00	24.49	24.52	24.32
			1	49	25.00	24.74	24.84	24.54
			1	99	25.00	24.19	24.33	24.07
			50	0	24.00	23.59	23.87	23.50
			50	24	24.00	23.75	23.82	23.53
			50	49	24.00	23.73	23.72	23.27
			100	0	24.00	23.72	23.83	23.47
		16QAM	1	0	24.00	23.70	23.72	23.50
			1	49	24.00	23.93	24.01	23.72
			1	99	24.00	23.42	23.55	23.26
			50	0	23.00	22.64	22.91	22.57
			50	24	23.00	22.75	22.86	22.56
			50	49	23.00	22.73	22.75	22.34
			100	0	23.00	22.75	22.87	22.51

7.4. WLAN & Bluetooth Output Power

Mode	Channel	Frequency (MHz)	Tune-up (dBm)	Output Power (dBm)
802.11b	1	2412	18.50	17.73
	6	2437	18.50	17.81
	11	2462	18.50	18.08
802.11g	1	2412	16.00	15.58
	6	2437	16.00	15.78
	11	2462	16.00	15.92
802.11n HT20	1	2412	15.50	14.89
	6	2437	15.50	15.28
	11	2462	15.50	15.41
802.11n HT40	3	2422	15.500	15.170
	6	2437	15.500	14.880
	9	2452	15.500	14.980

NOTE: Power measurement results of WLAN 2.4G.

Mode	Channel	Frequency (MHz)	Tune-up (dBm)	Output Power (dBm)
802.11a	36	5180	12.5	11.37
	40	5200	12.5	12.20
	48	5240	12.5	12.34
802.11n HT20	36	5180	12.5	11.32
	40	5200	12.5	12.17
	48	5240	12.5	11.29
802.11n HT40	38	5190	10	9.11
	46	5230	10	9.90
802.11ac VHT20	36	5180	12	10.35
	40	5200	12	11.75
	48	5240	12	11.75
802.11ac VHT40	38	5190	11	10.10
	46	5230	11	11.00
802.11ac VHT80	42	5210	10	9.86

NOTE: Power measurement results of WLAN 5.2G.

Mode	Channel	Frequency (MHz)	Tune-up (dBm)	Output Power (dBm)
802.11a	149	5745	15.00	14.27
	157	5785	15.00	14.46
	165	5825	15.00	14.79
802.11n HT20	149	5745	15.00	14.18
	157	5785	15.00	14.25
	165	5825	15.00	14.66
802.11n HT40	151	5755	15.00	14.84
	159	5795	15.00	14.42
802.11ac VHT20	149	5745	15.00	14.12
	157	5785	15.00	14.42
	165	5825	15.00	14.76
802.11ac VHT40	151	5755	15.00	14.86
	159	5795	15.00	14.40
802.11ac VHT80	155	5775	15.00	14.95

NOTE: Power measurement results of WLAN 5.8G.

BR+EDR	Output Power (dBm)		
	Data Rates	Tune-up	Channel

		(dBm)	0CH	39CH	78CH
	1M	9	8.66	8.80	8.35
	2M	9	7.90	8.03	7.64
	3M	9	7.87	8.02	7.64

BLE	Data Rates	Tune-up (dBm)	Output Power (dBm)		
			0CH	39CH	78CH
	1M	-3	-4.15	-3.48	-4.01
	2M	-3	-4.21	-3.52	-4.01

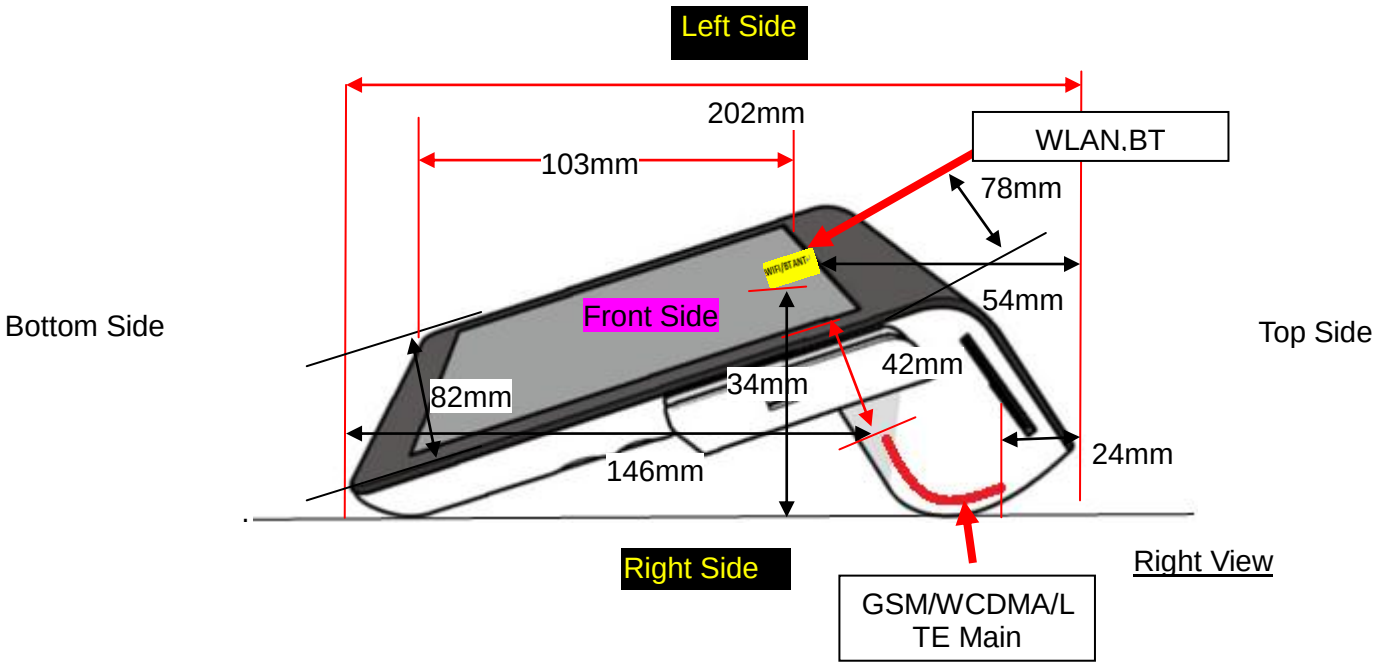
NOTE: Power measurement results of Bluetooth.

7.5. NFC

Frequency (MHz)	Min Distance (mm)	Level (dBuV/m)	EIRP (dBm)	Max Power (mW)	Limit (mW)	SAR Test Exclusion
13.561	5	61.48	-33.75±1	0.0005	443	Yes

SAR testing is not necessary.

8. Antenna Location



Note: Since the confidentiality request of EUT，the antenna location example diagram see as above.

Distance of the Antenna to the EUT surface/edge						
Antennas	Front Side	Back Side	Left Side	Right Side	Top Side	Bottom Side
GSM/WCDMA/LTE Main	42	5	5	5	24	146
WLAN/ BT	5	34	5	78	54	103

Note: When the minimum separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Distance of the Antenna to the EUT surface/edge						
Antennas	Front Side	Back Side	Left Side	Right Side	Top Side	Bottom Side
WWAN Main ANT	>25mm	≤ 25mm	≤ 25mm	≤ 25mm	≤ 25mm	>25mm
WLAN & Bluetooth	≤ 25mm	> 25mm	≤25mm	>25mm	>25mm	>25mm
Positions for SAR tests						
Antennas	Front Side	Back Side	Left Side	Right Side	Top Side	Bottom Side
WWAN Main ANT	NO	Yes	Yes	Yes	Yes	NO
WLAN & Bluetooth	Yes	NO	Yes	NO	NO	NO

9. Stand-alone SAR test exclusion

Refer to FCC KDB 447498D01, the 1-g SAR 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)]·[$\sqrt{f_{(GHZ)}}$]

≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

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

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

Mode	P_{max} (dBm)	P_{max} (mW)	Distance (mm)	f (GHz)	Calculation Result	SAR Exclusion threshold	SAR test exclusion
Bluetooth	9.00	2.51	5	2.480	2.502	3	Yes

NOTE:Standalone SAR test exclusion for Bluetooth.

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)] * [$\sqrt{f_{(GHZ)}}$/x] W/kg for test separation distances ≤ 50mm,where x = 7.5 for 1-g SAR and x = 18.75 for 10-g SAR.

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

Mode	Position	P_{max} (dBm)	P_{max} (mW)	Distance (mm)	f (GHz)	x	Estimated SAR (W/Kg)
Bluetooth	Extremity	9.00	2.51	5	2.48	18.75	0.133

NOTE:Estimated SAR calculation for Bluetooth

10. SAR Results

10.1. SAR measurement results

10.1.1. SAR measurement Result of GSM850

Test Position	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 10g (W/Kg)	Date	Plot
			1g	10g						
Extremity with 0mm										
Front Side	189/836.4	GPRS(GMSK 4TS)	0.042	0.022	-1.97	28.86	29.50	0.025	2024/8/30	
Right Side	189/836.4	GPRS(GMSK 4TS)	0.146	0.091	-4.52	28.86	29.50	0.105	2024/8/30	1#
Left Side	189/836.4	GPRS(GMSK 4TS)	0.030	0.018	-3.38	28.86	29.50	0.021	2024/8/30	
Back Side	189/836.4	GPRS(GMSK 4TS)	0.056	0.035	-1.22	28.86	29.50	0.041	2024/8/30	

Top Side	189/836.4	GPRS(GMSK 4TS)	0.053	0.032	-2.65	28.86	29.50	0.037	2024/8/30	

10.1.2. SAR measurement Result of GSM1900

Test Position	Test channel /Freq.	Test Mode	SAR Value (W/kg)		Power Drift (±5%)	Conducted power (dBm)	Tune-up power (dBm)	Scaled SAR 10g (W/Kg)	Date	Plot
			1g	10g						
Extremity with 0mm										
Front Side	661/1880	GPRS(GMSK 3TS)	0.078	0.035	-0.25	27.52	28.00	0.039	2024/9/10	
Right Side	661/1880	GPRS(GMSK 3TS)	0.524	0.281	0.06	27.52	28.00	0.314	2024/9/10	2#
Left Side	661/1880	GPRS(GMSK 3TS)	0.342	0.176	-1.35	27.52	28.00	0.197	2024/9/10	
Back Side	661/1880	GPRS(GMSK 3TS)	0.275	0.146	-3.15	27.52	28.00	0.163	2024/9/10	
Top Side	661/1880	GPRS(GMSK 3TS)	0.216	0.116	-3.15	27.52	28.00	0.130	2024/9/10	

10.1.3. SAR measurement Result of WCDMA Band 2

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
Front Side	9400/1880	RMC12.2K	0.152	0.075	-0.4	24.52	25.00	0.084	2024/9/10	
Right Side	9400/1880	RMC12.2K	0.677	0.357	-3.14	24.52	25.00	0.399	2024/9/10	3#
Left Side	9400/1880	RMC12.2K	0.414	0.212	1.78	24.52	25.00	0.237	2024/9/10	
Back Side	9400/1880	RMC12.2K	0.340	0.177	-0.47	24.52	25.00	0.198	2024/9/10	
Top Side	9400/1880	RMC12.2K	0.276	0.143	3.58	24.52	25.00	0.160	2024/9/10	

10.1.4. SAR measurement Result of WCDMA Band 4

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
Front Side	1413/1732.6	RMC12.2K	0.102	0.056	-0.24	24.54	25.00	0.062	2024/8/28	
Right Side	1413/1732.6	RMC12.2K	0.340	0.187	1.55	24.54	25.00	0.208	2024/8/28	4#
Left Side	1413/1732.6	RMC12.2K	0.210	0.116	3.4	24.54	25.00	0.129	2024/8/28	
Back Side	1413/1732.6	RMC12.2K	0.195	0.106	-3.98	24.54	25.00	0.118	2024/8/28	
Top Side	1413/1732.6	RMC12.2K	0.140	0.075	-1.99	24.54	25.00	0.083	2024/8/28	

10.1.5. SAR measurement Result of WCDMA Band 5

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
Front Side	4182/836.4	RMC12.2K	0.147	0.072	2.98	24.09	24.50	0.079	2024/8/30	
Right Side	4182/836.4	RMC12.2K	0.470	0.232	-2.96	24.09	24.50	0.255	2024/8/30	5#
Left Side	4182/836.4	RMC12.2K	0.288	0.135	-2.16	24.09	24.50	0.148	2024/8/30	
Back Side	4182/836.4	RMC12.2K	0.235	0.116	-0.6	24.09	24.50	0.127	2024/8/30	
Top Side	4182/836.4	RMC12.2K	0.024	0.011	-3.14	24.09	24.50	0.012	2024/8/30	

10.1.6. SAR measurement Result of LTE Band 2

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
1RB										
Front Side	18900/1880	20M QPSK(1,49)	0.054	0.029	1.24	24.22	24.50	0.031	2024/9/10	
Right Side	18900/1880	20M QPSK(1,49)	0.143	0.080	-0.83	24.22	24.50	0.085	2024/9/10	9#
Left Side	18900/1880	20M QPSK(1,49)	0.090	0.050	-3.27	24.22	24.50	0.053	2024/9/10	
Back Side	18900/1880	20M QPSK(1,49)	0.075	0.042	2.13	24.22	24.50	0.045	2024/9/10	
Top Side	18900/1880	20M QPSK(1,49)	0.032	0.017	-2.35	24.22	24.50	0.018	2024/9/10	
50%RB										
Front Side	18900/1880	20M QPSK(50,24)	0.048	0.027	3.65	23.14	23.50	0.029	2024/9/10	
Right Side	18900/1880	20M QPSK(50,24)	0.129	0.071	-4.89	23.14	23.50	0.077	2024/9/10	
Left Side	18900/1880	20M QPSK(50,24)	0.083	0.047	3.83	23.14	23.50	0.051	2024/9/10	
Back Side	18900/1880	20M QPSK(50,24)	0.068	0.039	0.81	23.14	23.50	0.042	2024/9/10	
Top Side	18900/1880	20M QPSK(50,24)	0.029	0.016	-4.24	23.14	23.50	0.017	2024/9/10	

10.1.7. SAR measurement Result of LTE Band 4

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
1RB										
Front Side	20175/1732.5	20M QPSK(1,49)	0.096	0.053	1.5	24.14	24.50	0.058	2024/8/28	
Right Side	20175/1732.5	20M QPSK(1,49)	0.277	0.154	0.94	24.14	24.50	0.167	2024/8/28	10#
Left Side	20175/1732.5	20M QPSK(1,49)	0.180	0.097	1.25	24.14	24.50	0.105	2024/8/28	
Back Side	20175/1732.5	20M QPSK(1,49)	0.160	0.086	-1.44	24.14	24.50	0.093	2024/8/28	
Top Side	20175/1732.5	20M QPSK(1,49)	0.044	0.024	-3.87	24.14	24.50	0.026	2024/8/28	
50%RB										
Front Side	20175/1732.5	20M QPSK(50,24)	0.087	0.047	4.92	23.21	23.50	0.050	2024/8/28	
Right Side	20175/1732.5	20M QPSK(50,24)	0.247	0.136	-0.73	23.21	23.50	0.145	2024/8/28	
Left Side	20175/1732.5	20M QPSK(50,24)	0.156	0.084	3.56	23.21	23.50	0.090	2024/8/28	
Back Side	20175/1732.5	20M QPSK(50,24)	0.145	0.077	0.15	23.21	23.50	0.082	2024/8/28	
Top Side	20175/1732.5	20M QPSK(50,24)	0.04	0.022	1.59	23.21	23.50	0.024	2024/8/28	

10.1.8. SAR measurement Result of LTE Band 5

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
1RB										
Front Side	20525/836.5	10M QPSK(1,24)	0.036	0.024	-3.74	23.72	24.00	0.026	2024/8/30	
Right Side	20525/836.5	10M QPSK(1,24)	0.075	0.050	-0.75	23.72	24.00	0.053	2024/8/30	11#
Left Side	20525/836.5	10M QPSK(1,24)	0.048	0.032	0.97	23.72	24.00	0.034	2024/8/30	
Back Side	20525/836.5	10M QPSK(1,24)	0.040	0.027	2.75	23.72	24.00	0.029	2024/8/30	
Top Side	20525/836.5	10M QPSK(1,24)	0.016	0.014	1.62	23.72	24.00	0.015	2024/8/30	
50%RB										
Front Side	20525/836.5	10M QPSK(25,24)	0.033	0.022	2.81	22.77	23.00	0.023	2024/8/30	
Back Side	20525/836.5	10M QPSK(25,24)	0.07	0.047	3.85	22.77	23.00	0.050	2024/8/30	
Left Side	20525/836.5	10M QPSK(25,24)	0.041	0.028	4.34	22.77	23.00	0.030	2024/8/30	
Right Side	20525/836.5	10M QPSK(25,24)	0.037	0.024	4	22.77	23.00	0.025	2024/8/30	
Top Side	20525/836.5	10M QPSK(25,24)	0.014	0.012	4.32	22.77	23.00	0.013	2024/8/30	

10.1.9. SAR measurement Result of LTE Band 7

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
1RB										
Front Side	21100/2535	20M QPSK(1,49)	0.120	0.068	2.24	24.39	24.50	0.070	2024/8/27	
Right Side	21100/2535	20M QPSK(1,49)	0.369	0.213	-1.32	24.39	24.50	0.218	2024/8/27	12#
Left Side	21100/2535	20M QPSK(1,49)	0.240	0.133	-0.28	24.39	24.50	0.136	2024/8/27	
Back Side	21100/2535	20M QPSK(1,49)	0.200	0.114	0.56	24.39	24.50	0.117	2024/8/27	
Top Side	21100/2535	20M QPSK(1,49)	0.164	0.090	3.88	24.39	24.50	0.092	2024/8/27	
50%RB										
Front Side	21100/2535	20M QPSK(50,24)	0.107	0.06	1.52	23.41	24.00	0.069	2024/8/27	
Right Side	21100/2535	20M QPSK(50,24)	0.335	0.189	-3.43	23.41	24.00	0.217	2024/8/27	
Left Side	21100/2535	20M QPSK(50,24)	0.225	0.12	-2.23	23.41	24.00	0.137	2024/8/27	
Back Side	21100/2535	20M QPSK(50,24)	0.183	0.103	4.41	23.41	24.00	0.118	2024/8/27	
Top Side	21100/2535	20M QPSK(50,24)	0.145	0.078	-4.96	23.41	24.00	0.089	2024/8/27	

10.1.10. SAR measurement Result of LTE Band 41

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Extremity with 0mm										
1RB										
Front Side	40620/2593	20M QPSK(1,0)	0.126	0.055	-2.18	24.84	25.00	0.057	2024/8/27	
Right Side	40620/2593	20M QPSK(1,0)	0.160	0.072	-3.24	24.84	25.00	0.075	2024/8/27	13#
Left Side	40620/2593	20M QPSK(1,0)	0.057	0.025	-0.59	24.84	25.00	0.026	2024/8/27	
Back Side	40620/2593	20M QPSK(1,0)	0.057	0.025	-1.03	24.84	25.00	0.026	2024/8/27	
Top Side	40620/2593	20M QPSK(1,0)	0.085	0.037	-1.06	24.84	25.00	0.038	2024/8/27	
50%RB										
Front Side	40620/2593	20M QPSK(50,0)	0.11	0.051	-0.65	23.87	24.00	0.053	2024/8/27	
Right Side	40620/2593	20M QPSK(50,0)	0.144	0.063	-2.62	23.87	24.00	0.065	2024/8/27	
Left Side	40620/2593	20M QPSK(50,0)	0.049	0.022	-1.44	23.87	24.00	0.023	2024/8/27	
Back Side	40620/2593	20M QPSK(50,0)	0.051	0.022	2.34	23.87	24.00	0.023	2024/8/27	
Top Side	40620/2593	20M QPSK(50,0)	0.081	0.033	-1.28	23.87	24.00	0.034	2024/8/27	

10.1.11. SAR measurement Result of WLAN 2.4G

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Body&Extremitywith 0mm										
Front Side	11/2462	802.11b	0.021	0.013	3.98	18.08	18.50	0.014	2024/8/26	
Left Side	11/2462	802.11b	0.034	0.016	2.15	18.08	18.50	0.018	2024/8/26	8#

10.1.12. SAR measurement Result of WLAN 5.2G

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Body&Extremitywith 0mm										
Front Side	40/5200	802.11n HT20	0.076	0.039	2.43	12.17	12.50	0.042	2024/9/03	
Left Side	40/5200	802.11n HT20	0.084	0.042	-3.82	12.17	12.50	0.045	2024/9/03	6#

10.1.13. SAR measurement Result of WLAN 5.8G

Test Position	Test channel /Freq.	Mode	SAR Value (W/kg)		Power Drift(%)	Conducted Power (dBm)	Tune-up Power (dBm)	Scaled SAR 10-g (W/Kg)	Date	Plot
			1-g	10-g						
Body&Extremitywith 0mm										
Front Side	155/5755	802.11ac VHT80	0.192	0.056	-1.85	14.95	15.00	0.057	2024/9/06	
Left Side	155/5755	802.11ac VHT80	0.278	0.085	0.64	14.95	15.00	0.086	2024/9/06	7#

10.2. SAR Summation Scenario

Per KDB 447498 D01, simultaneous transmission SAR is compliant if,

1) Scalar SAR summation < 1.6W/kg.

2) SPLSR = $(SAR_1 + SAR_2)^{1.5}$/ (min. separation distance, mm), and the peak separation distance is determinedfrom the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of theextrapolated peak SAR locations in the zoom scan. If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.

Test Position		Scaled SARMAX		Σ1-g SAR (W/Kg)	SPLSR	Remark
		WWAN	DTS			
Extremity	Front Side	0.084	0.014	0.098	N/A	N/A
	Back Side	0.198	N/A	0.198	N/A	N/A
	Left Side	0.237	0.018	0.255	N/A	N/A
	Right Side	**0.**399	N/A	0.399	N/A	N/A
	Top Side	0.160	N/A	0.160	N/A	N/A
	Bottom Side	N/A	N/A	N/A	N/A	N/A

Test Position		Scaled SARMAX		Σ1-g SAR (W/Kg)	SPLSR	Remark
		WWAN	NII			
Extremity	Front Side	0.084	0.057	0.141	N/A	N/A
	Back Side	0.198	N/A	0.198	N/A	N/A
	Left Side	0.237	0.086	0.323	N/A	N/A
	Right Side	**0.**399	N/A	0.399	N/A	N/A
	Top Side	0.160	N/A	0.160	N/A	N/A
	Bottom Side	N/A	N/A	N/A	N/A	N/A

Test Position		Scaled SARMAX		Σ1-g SAR (W/Kg)	SPLSR	Remark
		WWAN	DSS			
Extremity	Front Side	0.084	0.133	0.217	N/A	N/A
	Back Side	0.198	0.133	0.331	N/A	N/A
	Left Side	0.237	0.133	0.37	N/A	N/A
	Right Side	**0.**399	0.133	0.532	N/A	N/A
	Top Side	0.160	0.133	0.293	N/A	N/A
	Bottom Side	N/A	N/A	N/A	N/A	N/A

11. Appendix A. Photo documentation

Refer to appendix Test Setup photo---SAR

12. Appendix B. System Check Plots

Table of contents
MEASUREMENT 1 SystemPerformanceCheck-835MHz
MEASUREMENT 2 SystemPerformanceCheck-1800MHz
MEASUREMENT 2 SystemPerformanceCheck-1900MHz
MEASUREMENT 3 SystemPerformanceCheck-2450MHz
MEASUREMENT 4 SystemPerformanceCheck-2600MHz
MEASUREMENT 7 SystemPerformanceCheck-5600MHz
MEASUREMENT 8 SystemPerformanceCheck-5800MHz

MEASUREMENT 1

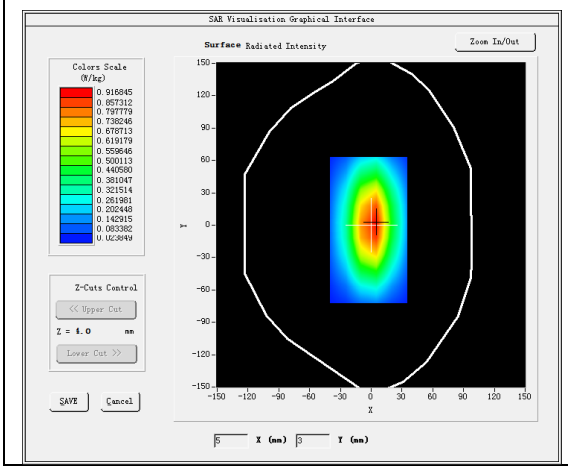
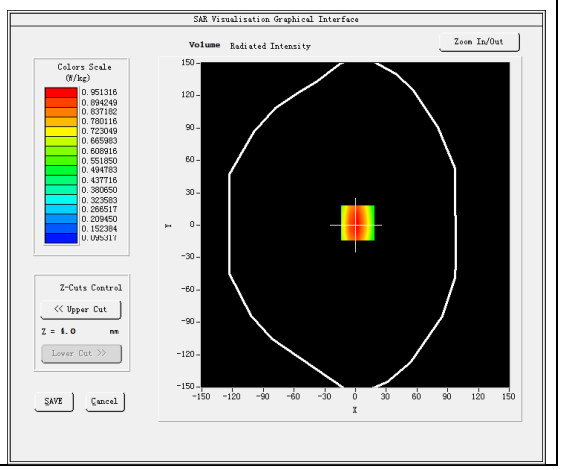
Date of measurement: 30/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	2.32

B. SAR Measurement Results

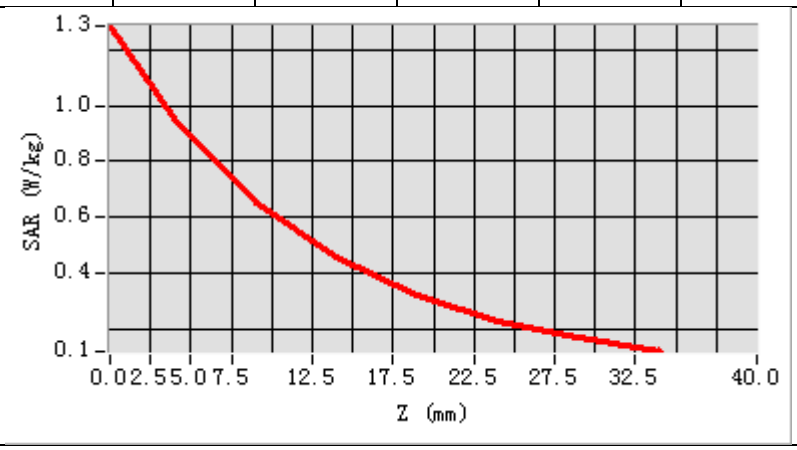
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.513135
Relative permittivity (imaginary part)	19.549945
Conductivity (S/m)	0.906900
Variation (%)	-2.720000

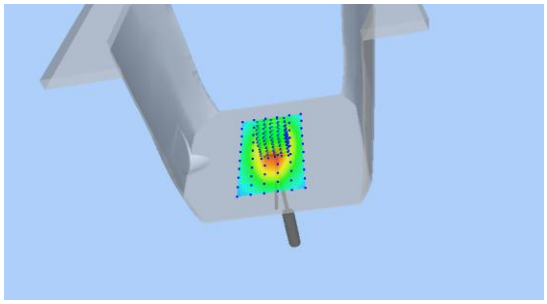
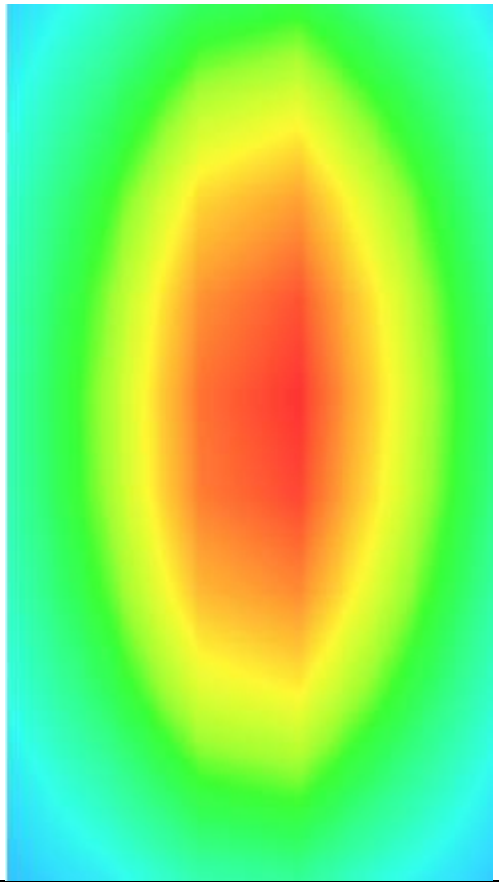
SURFACE SAR	VOLUME SAR
	

Maximum location: X=2.00, Y=2.00
SAR Peak: 1.29 W/kg

SAR 10g (W/Kg)	0.650333
SAR 1g (W/Kg)	0.898172

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.2821	0.9559	0.6532	0.4562	0.3263	0.2309	0.1726



3D screen shot	Hot spot position
	

MEASUREMENT 2

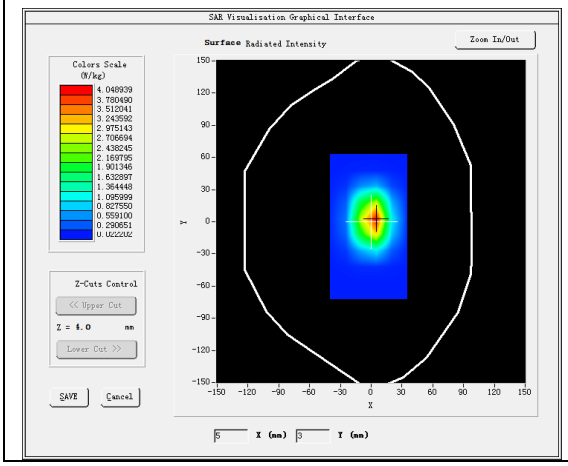
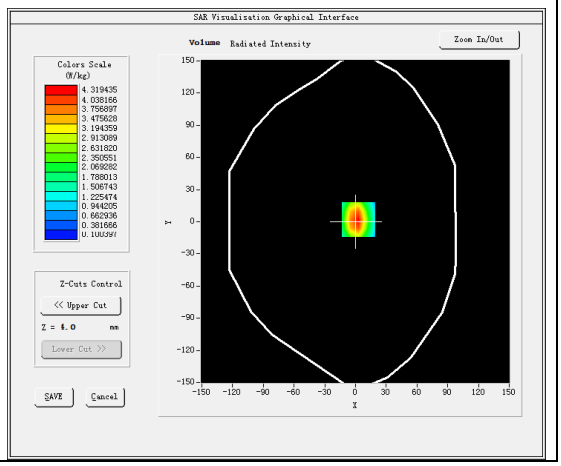
Date of measurement: 28/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	2.45

B. SAR Measurement Results

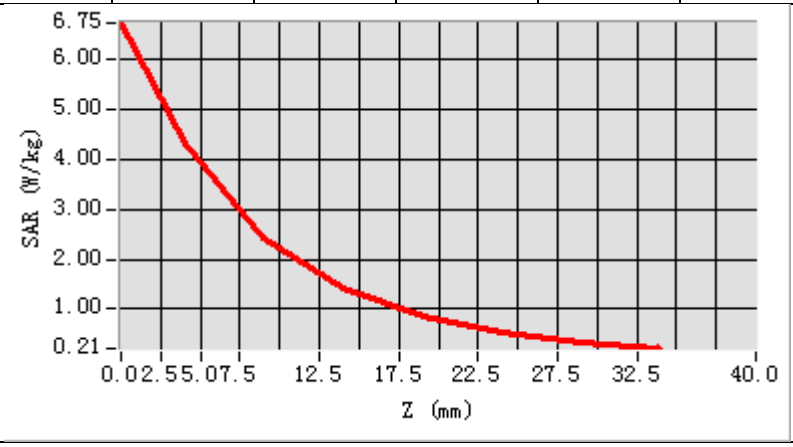
Frequency (MHz)	1800.000000
Relative permittivity (real part)	38.930183
Relative permittivity (imaginary part)	13.747547
Conductivity (S/m)	1.374755
Variation (%)	2.980000

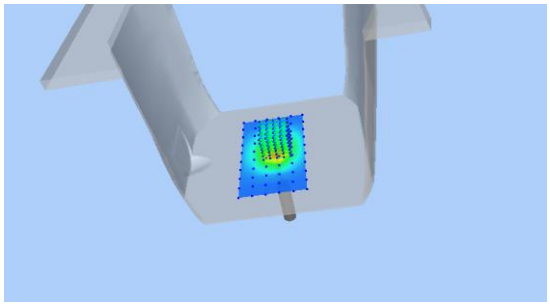
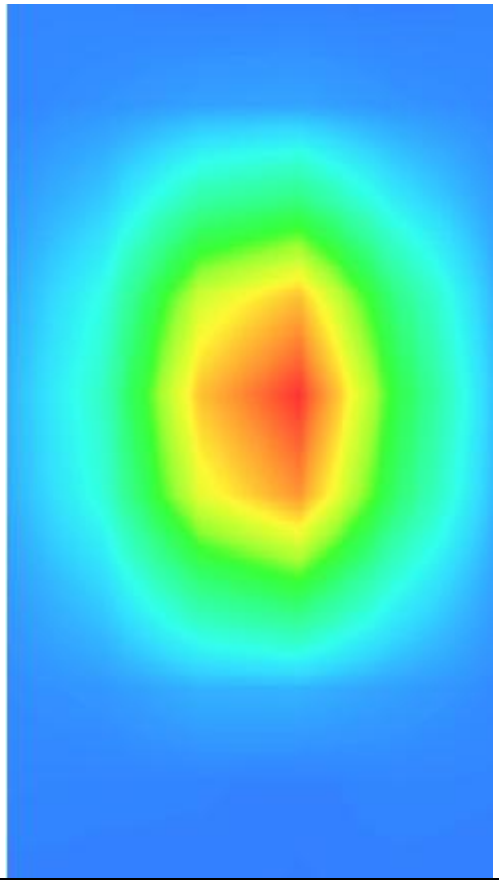
SURFACE SAR	VOLUME SAR
	

Maximum location: X=3.00, Y=2.00
SAR Peak: 6.82 W/kg

SAR 10g (W/Kg)	1.885307
SAR 1g (W/Kg)	3.487066

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.7474	4.3111	2.4329	1.4203	0.8572	0.5231	0.3234



3D screen shot	Hot spot position
	

MEASUREMENT 3

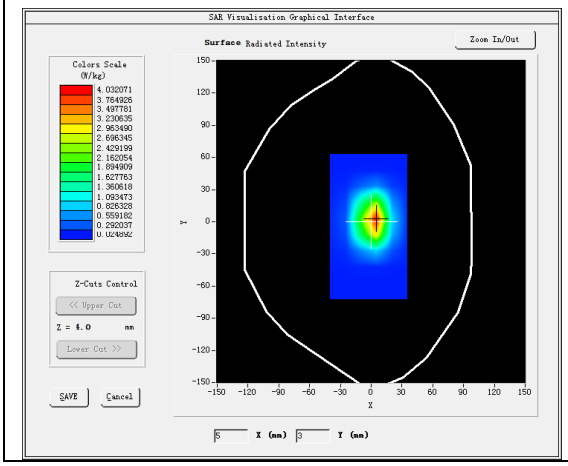
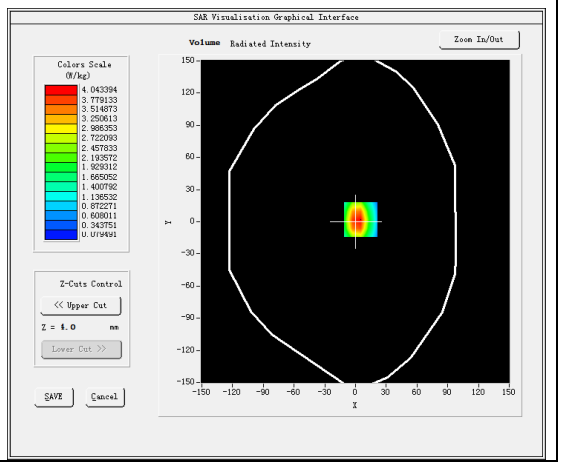
Date of measurement: 10/9/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	2.63

B. SAR Measurement Results

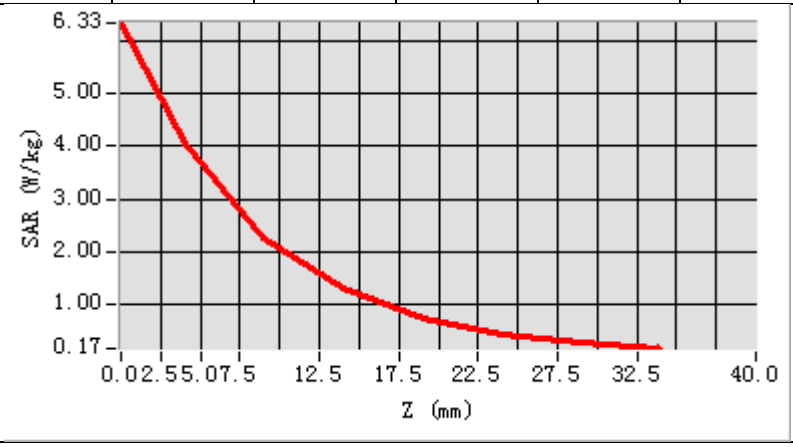
Frequency (MHz)	1900.000000
Relative permittivity (real part)	38.873668
Relative permittivity (imaginary part)	13.744242
Conductivity (S/m)	1.450781
Variation (%)	2.220000

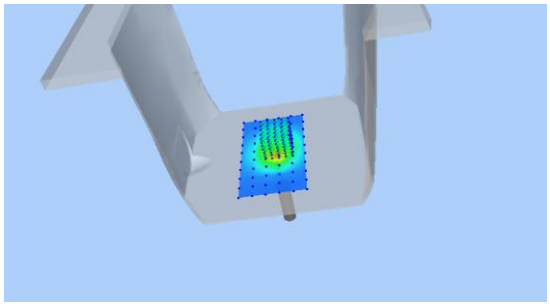
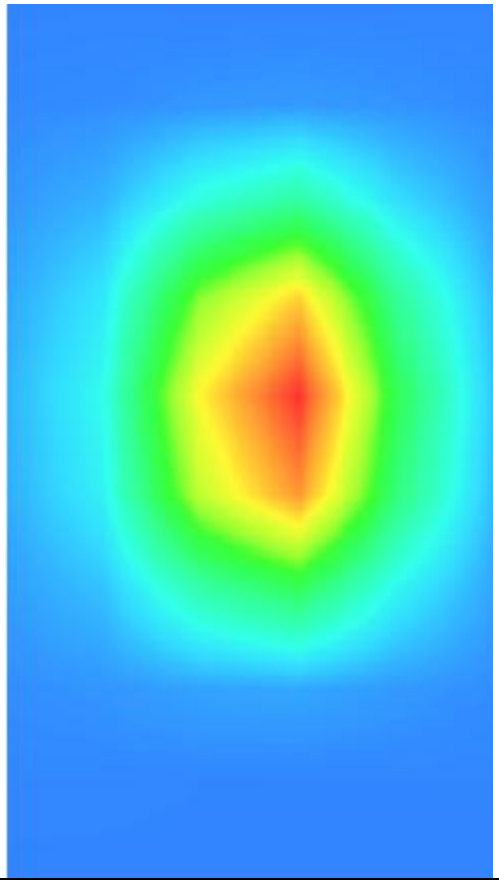
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=2.00
SAR Peak: 6.70 W/kg

SAR 10g (W/Kg)	2.066347
SAR 1g (W/Kg)	3.891221

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	6.3247	4.0419	2.2630	1.3026	0.7618	0.4514	0.2794



3D screen shot	Hot spot position
	

MEASUREMENT 4

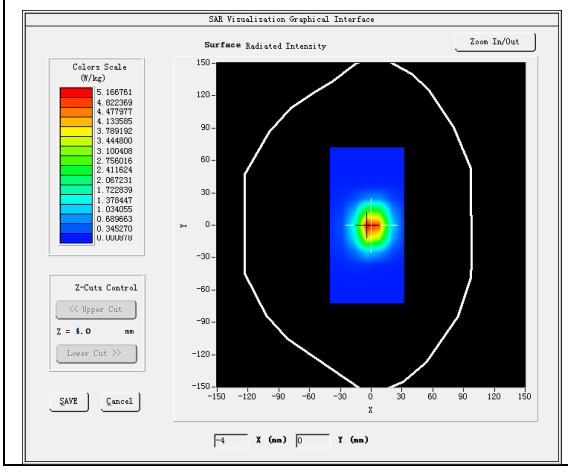
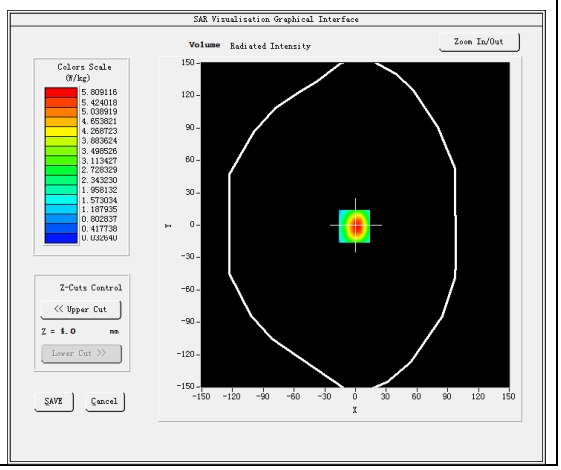
Date of measurement: 26/8/2024

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	1.98

B. SAR Measurement Results

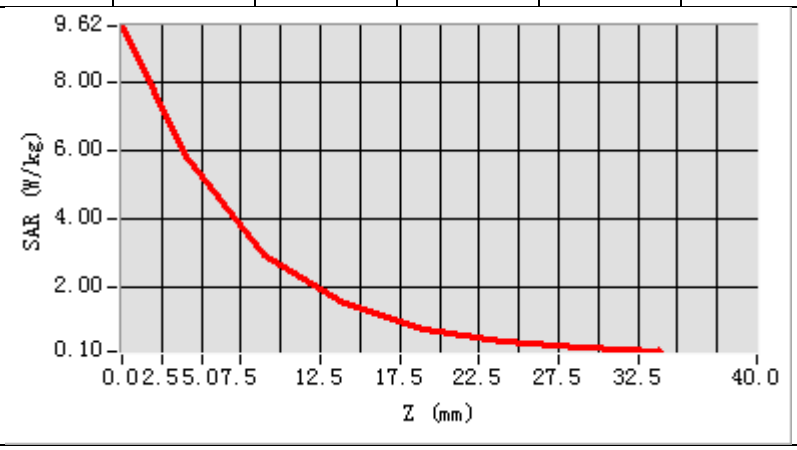
Frequency (MHz)	2450.000000
Relative permittivity (real part)	37.791465
Relative permittivity (imaginary part)	13.028121
Conductivity (S/m)	1.773272
Variation (%)	1.290000

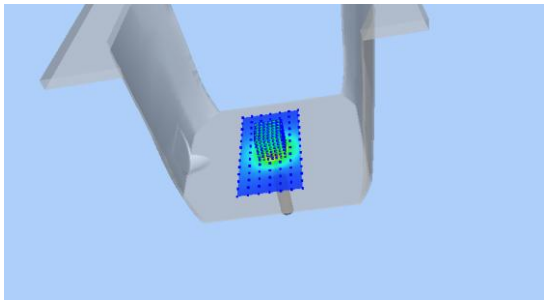
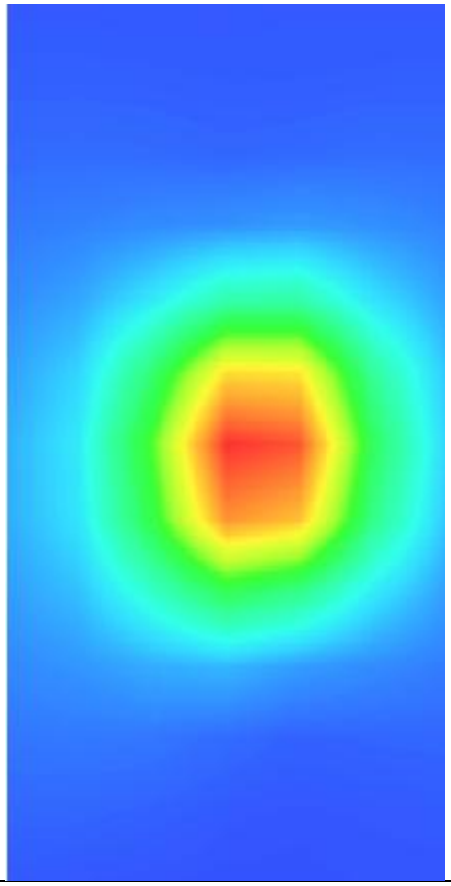
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-1.00, Y=-1.00
SAR Peak: 9.73 W/kg

SAR 10g (W/Kg)	2.521106
SAR 1g (W/Kg)	4.618340

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	9.6297	5.8053	2.9327	1.4826	0.7561	0.3898	0.1960



3D screen shot	Hot spot position
	

MEASUREMENT 5

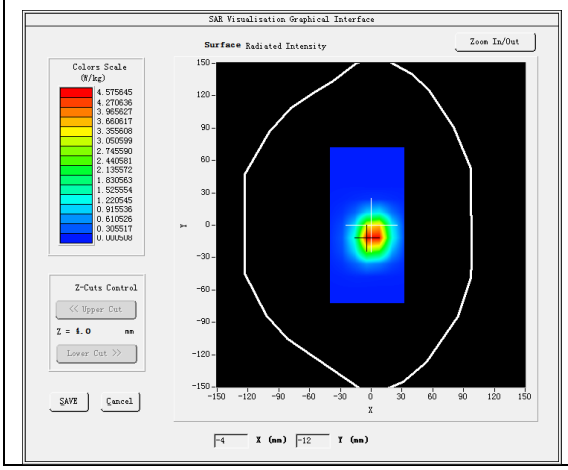
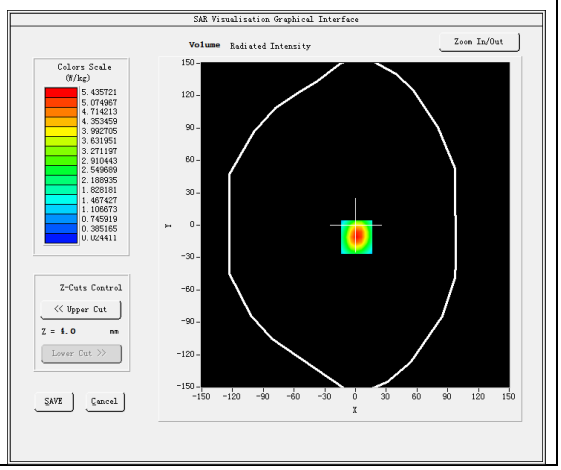
Date of measurement: 27/8/2024

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	1.87

B. SAR Measurement Results

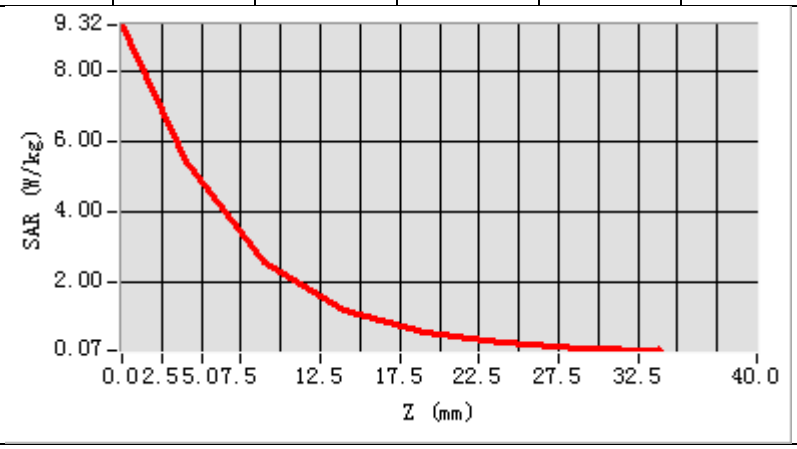
Frequency (MHz)	2600.000000
Relative permittivity (real part)	39.125963
Relative permittivity (imaginary part)	13.908930
Conductivity (S/m)	2.009068
Variation (%)	0.250000

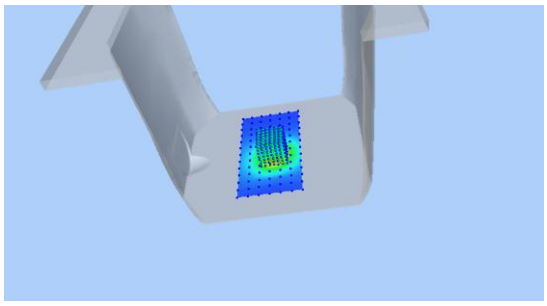
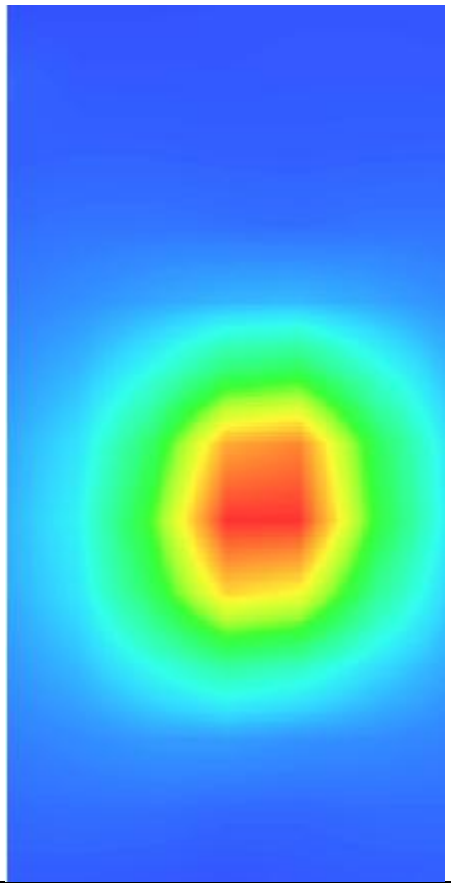
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=-11.00
SAR Peak: 9.29 W/kg

SAR 10g (W/Kg)	2.699037
SAR 1g (W/Kg)	5.913199

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	9.3168	5.4332	2.5963	1.2356	0.5961	0.2869	0.1379



3D screen shot	Hot spot position
	

MEASUREMENT 6

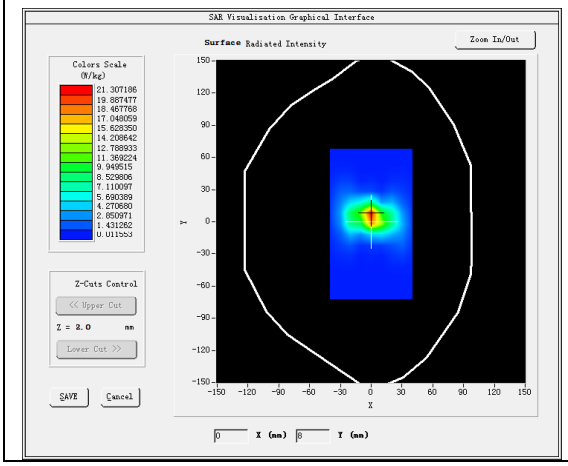
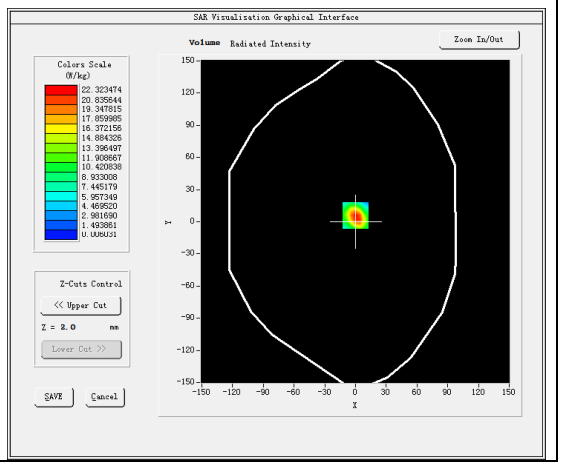
Date of measurement: 3/9/2024

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	2.07

B. SAR Measurement Results

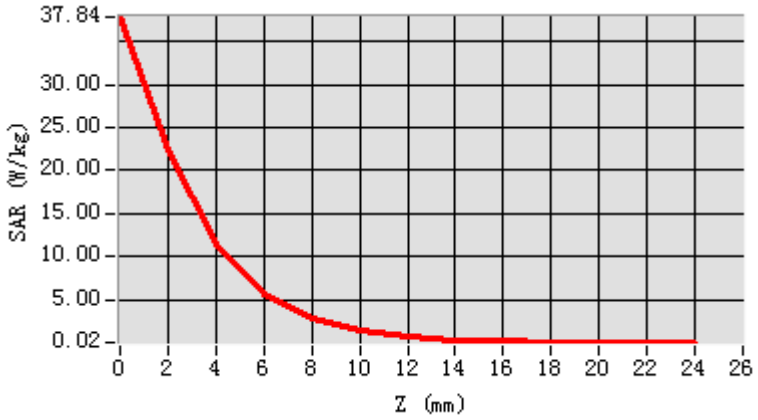
Frequency (MHz)	5200.000000
Relative permittivity (real part)	34.578385
Relative permittivity (imaginary part)	15.678512
Conductivity (S/m)	4.529348
Variation (%)	2.800000

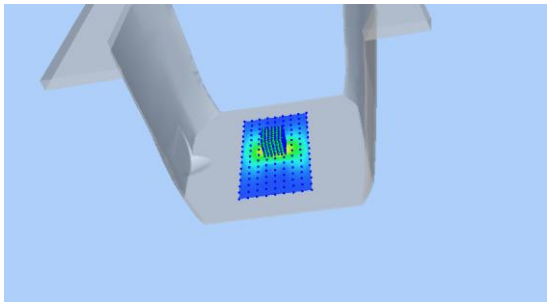
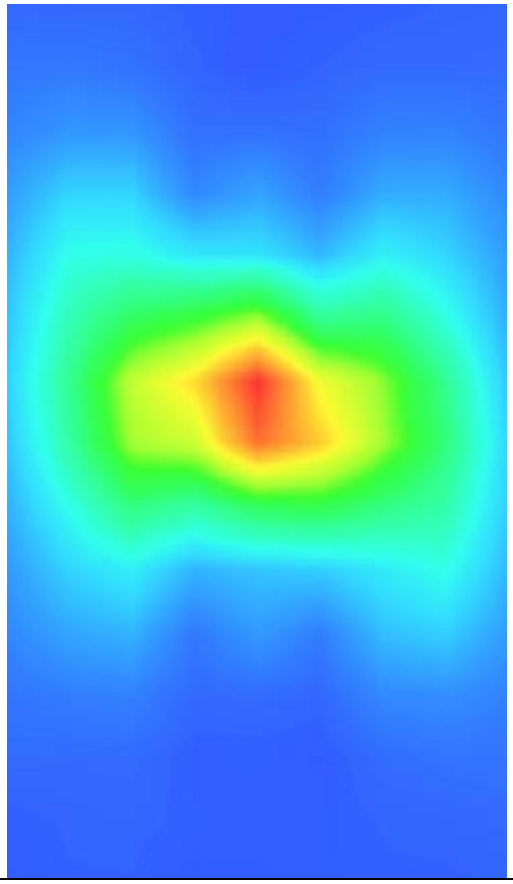
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=6.00
SAR Peak: 40.06 W/kg

SAR 10g (W/Kg)	6.118162
SAR 1g (W/Kg)	17.090032

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	37.891	22.391	11.377	5.6694	2.8291	1.4043	0.7150	0.3637	0.1802	0.1008	0.0527	0.0397



3D screen shot	Hot spot position
	

MEASUREMENT 7

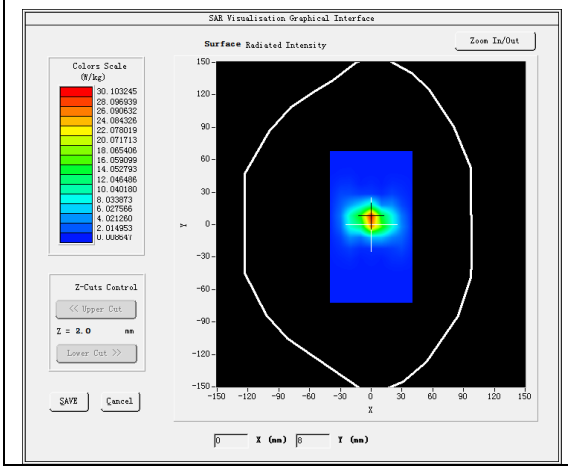
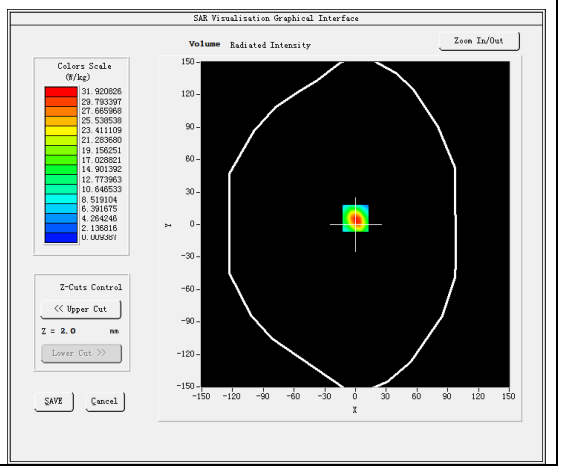
Date of measurement: 6/9/2024

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW (Crest factor: 1.0)
ConvF	2.04

B. SAR Measurement Results

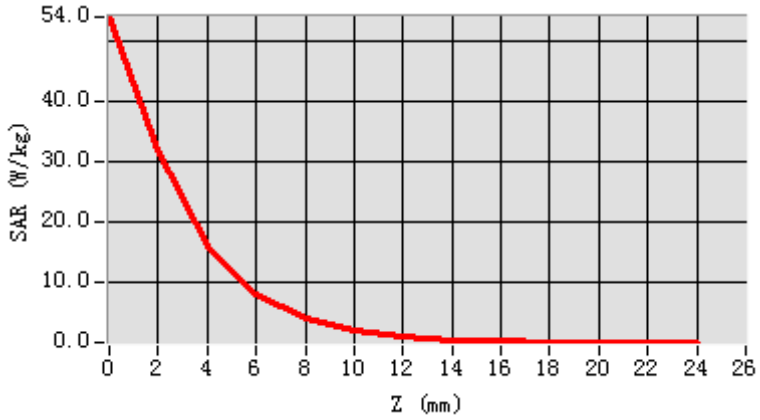
Frequency (MHz)	5800.000000
Relative permittivity (real part)	34.009535
Relative permittivity (imaginary part)	16.065283
Conductivity (S/m)	5.176591
Variation (%)	-0.500000

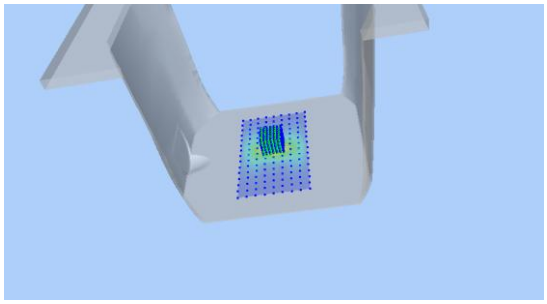
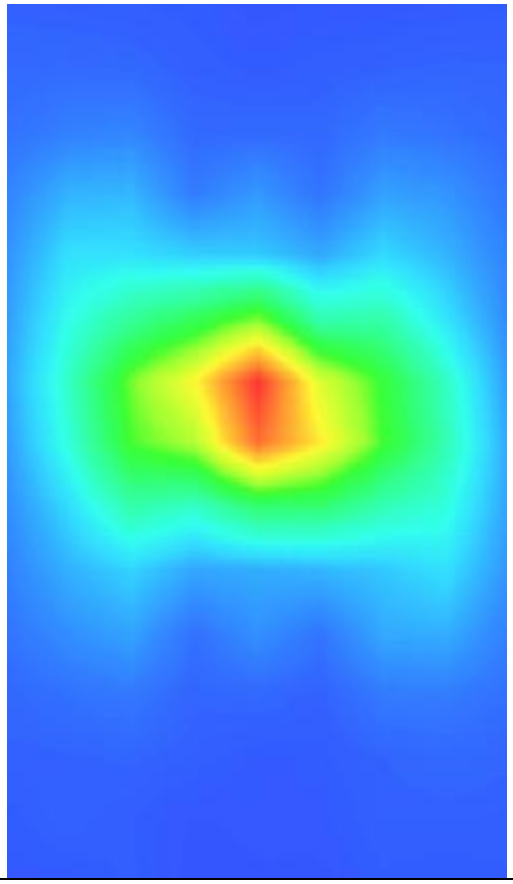
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=6.00
SAR Peak: 57.37 W/kg

SAR 10g (W/Kg)	5.729228
SAR 1g (W/Kg)	16.519190

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	54.036	31.948	16.144	8.1766	4.0890	2.0550	1.0361	0.5144	0.2795	0.1572	0.0788	0.0438



3D screen shot	Hot spot position
	

13. Appendix C. Plots of High SAR Measurement

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MEASUREMENT 1

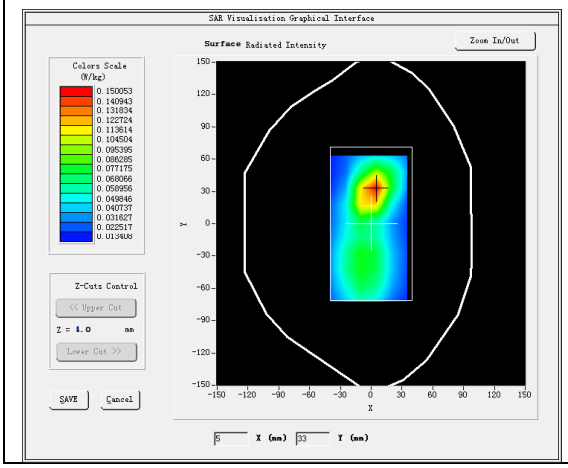
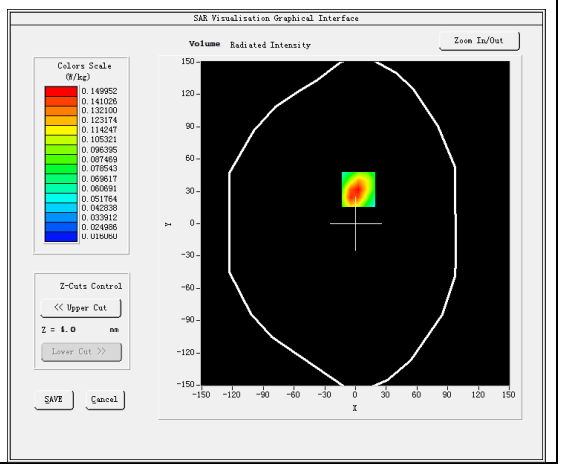
Date of measurement: 30/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)
ConvF	2.32

B. SAR Measurement Results

Frequency (MHz)	836.400000
Relative permittivity (real part)	41.522217
Relative permittivity (imaginary part)	19.557144
Conductivity (S/m)	0.908755
Variation (%)	-4.520000

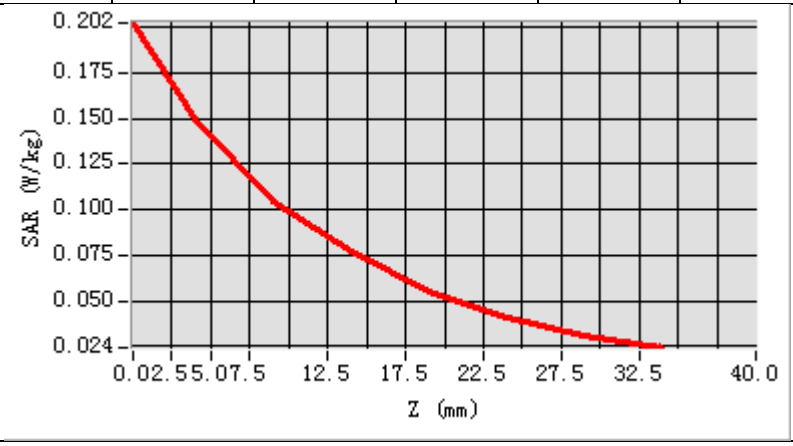
SURFACE SAR	VOLUME SAR
	

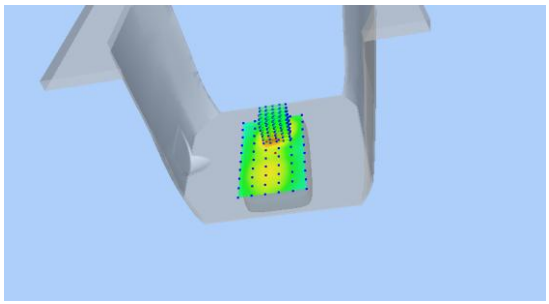
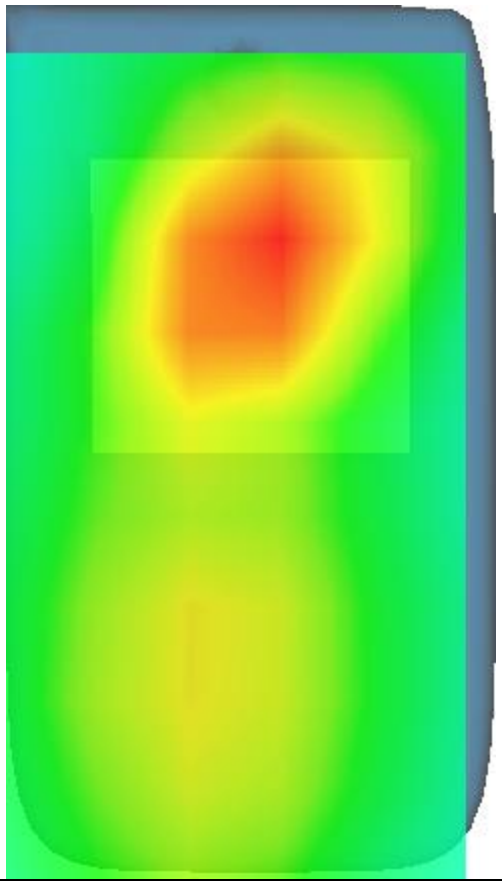
Maximum location: X=3.00, Y=32.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.090875
SAR 1g (W/Kg)	0.146212

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2024	0.1500	0.1041	0.0766	0.0553	0.0405	0.0313



3D screen shot	Hot spot position
	

MEASUREMENT 2

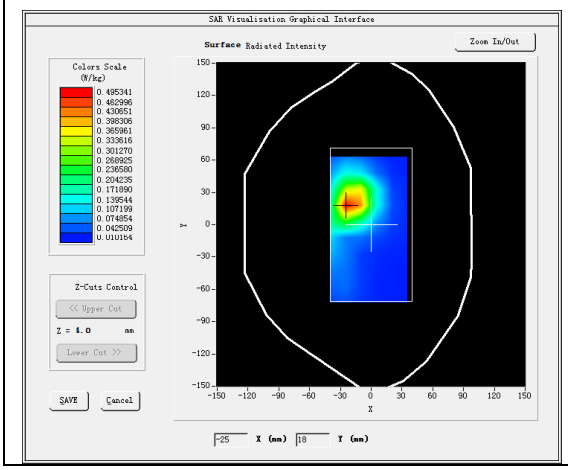
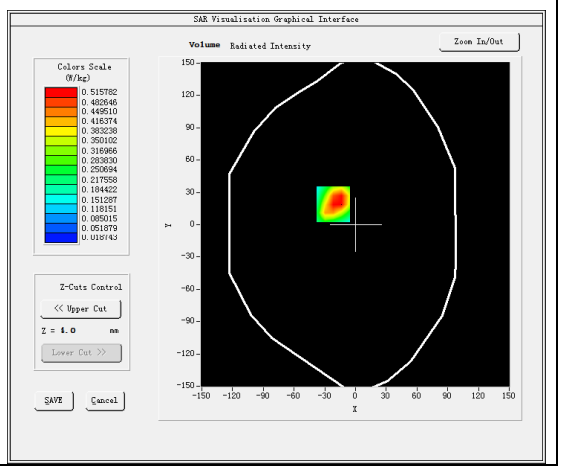
Date of measurement: 10/9/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)
ConvF	2.63

B. SAR Measurement Results

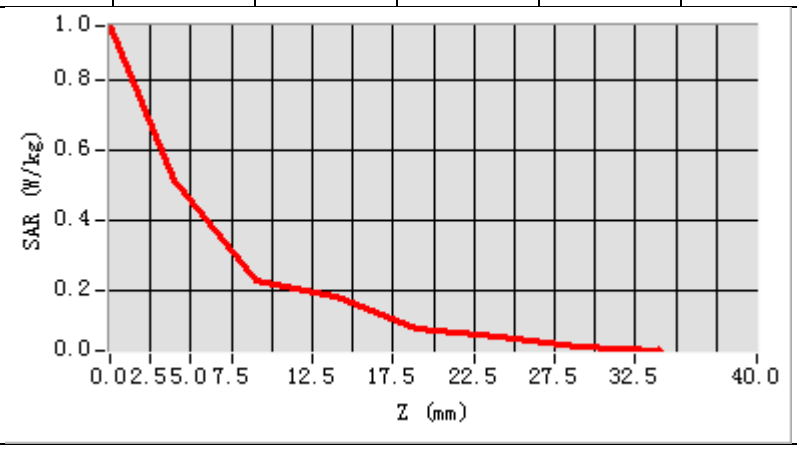
Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.948967
Relative permittivity (imaginary part)	13.792142
Conductivity (S/m)	1.440513
Variation (%)	0.060000

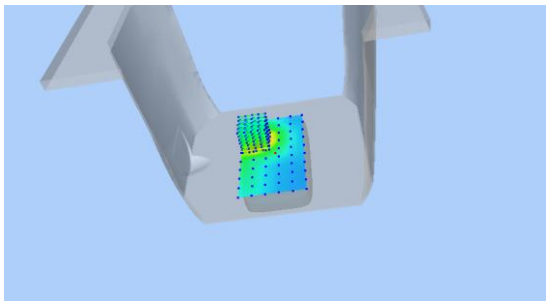
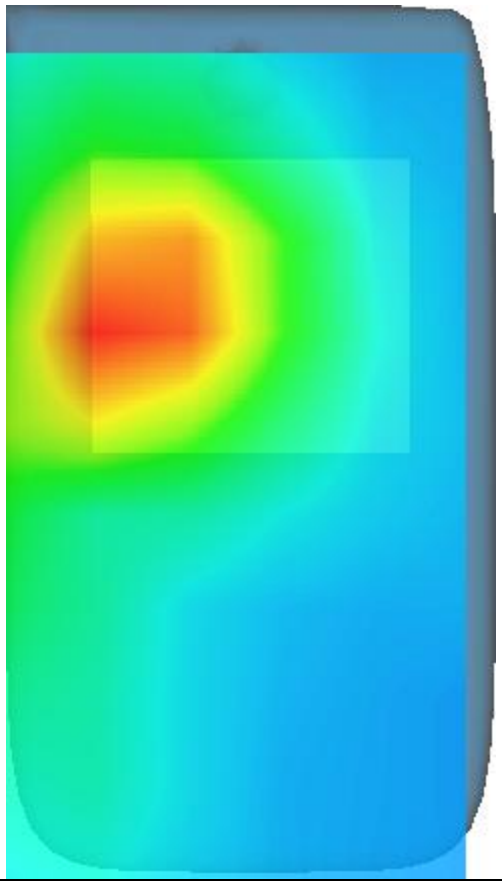
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-22.00, Y=19.00
SAR Peak: 0.86 W/kg

SAR 10g (W/Kg)	0.281353
SAR 1g (W/Kg)	0.524347

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.9522	0.5158	0.2275	0.1831	0.0963	0.0711	0.0423



3D screen shot	Hot spot position
	

MEASUREMENT 3

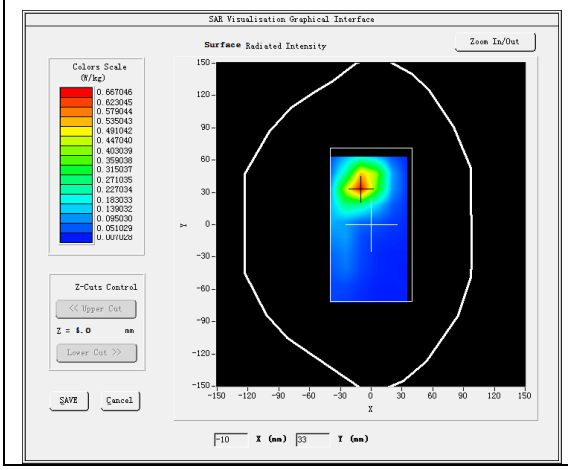
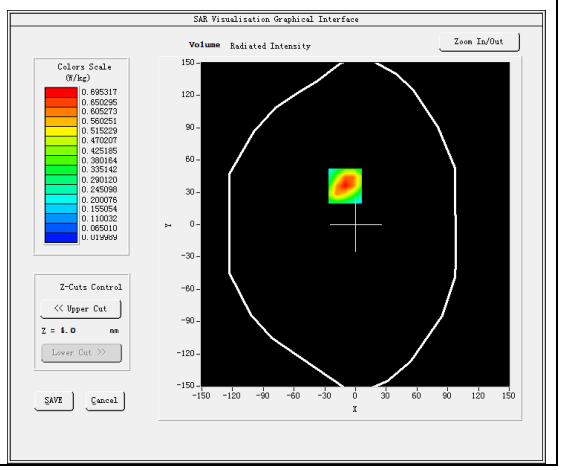
Date of measurement: 10/9/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band2_WCDMA1900
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
ConvF	2.63

B. SAR Measurement Results

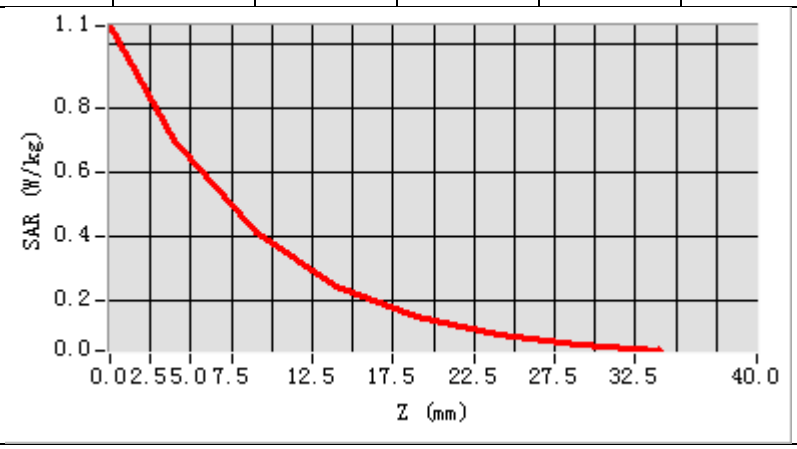
Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.948967
Relative permittivity (imaginary part)	13.792142
Conductivity (S/m)	1.440513
Variation (%)	-3.140000

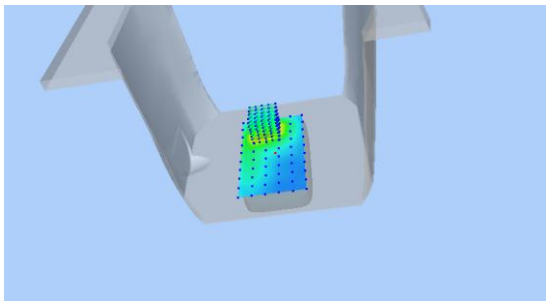
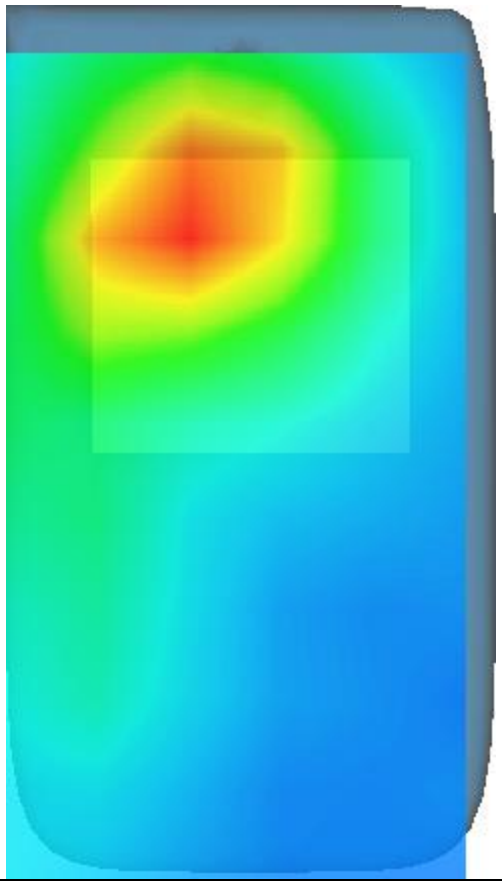
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-10.00, Y=36.00
SAR Peak: 1.11 W/kg

SAR 10g (W/Kg)	0.356506
SAR 1g (W/Kg)	0.676635

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	1.0541	0.6953	0.4069	0.2432	0.1472	0.0903	0.0581



3D screen shot	Hot spot position
	

MEASUREMENT 4

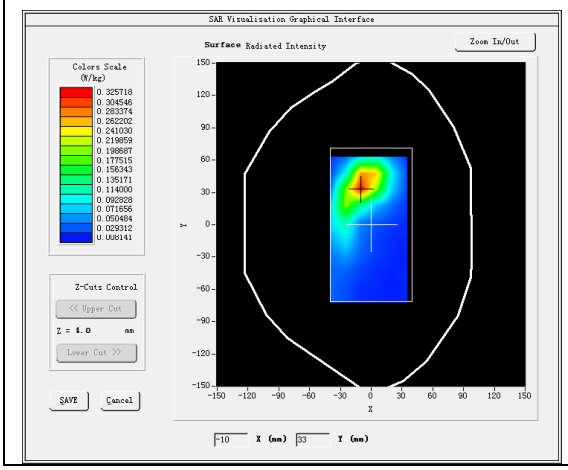
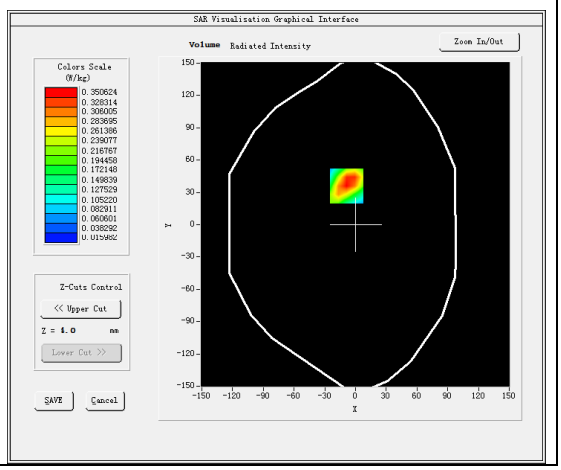
Date of measurement: 28/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band4_WCDMA1700
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
ConvF	2.45

B. SAR Measurement Results

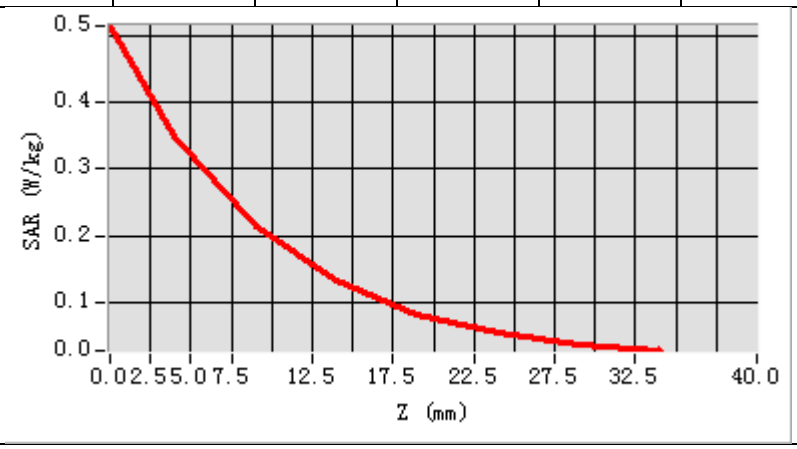
Frequency (MHz)	1732.600000
Relative permittivity (real part)	39.389881
Relative permittivity (imaginary part)	13.699847
Conductivity (S/m)	1.318230
Variation (%)	1.550000

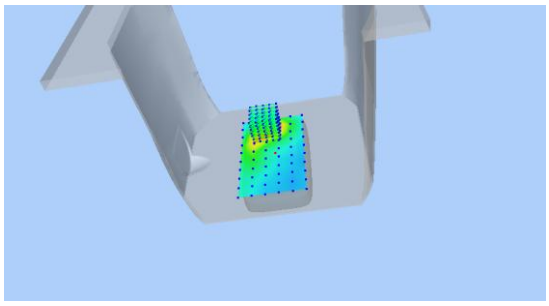
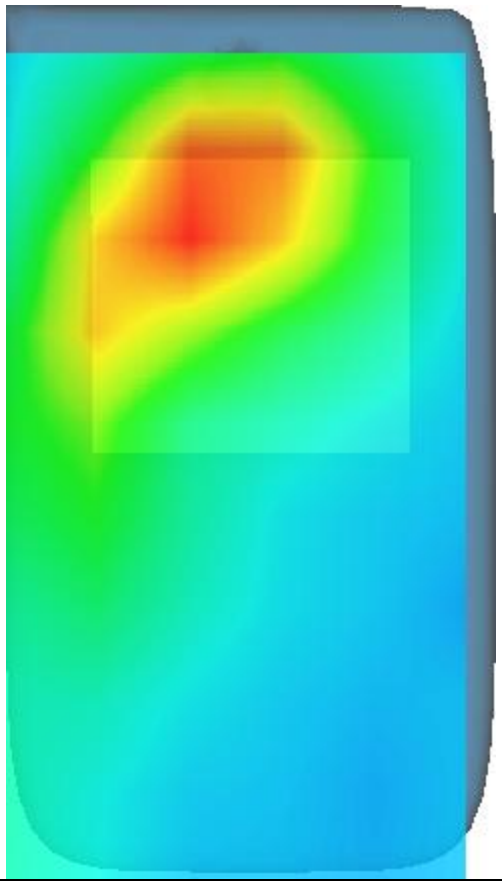
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-9.00, Y=36.00
SAR Peak: 0.56 W/kg

SAR 10g (W/Kg)	0.187318
SAR 1g (W/Kg)	0.340286

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5137	0.3506	0.2155	0.1323	0.0837	0.0553	0.0371



3D screen shot	Hot spot position
	

MEASUREMENT 5

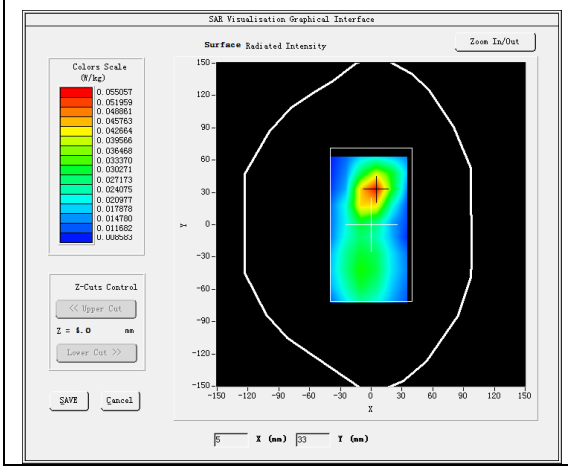
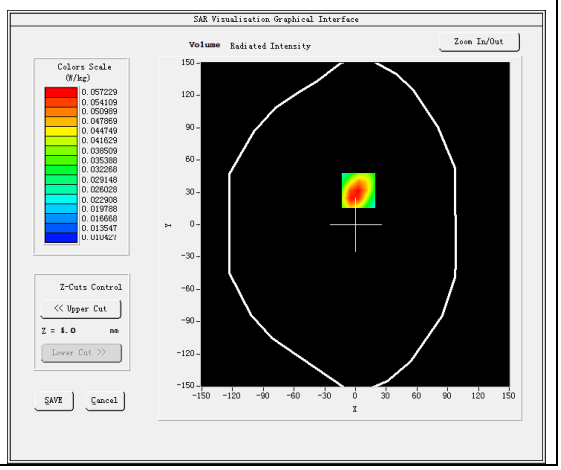
Date of measurement: 30/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
ConvF	2.32

B. SAR Measurement Results

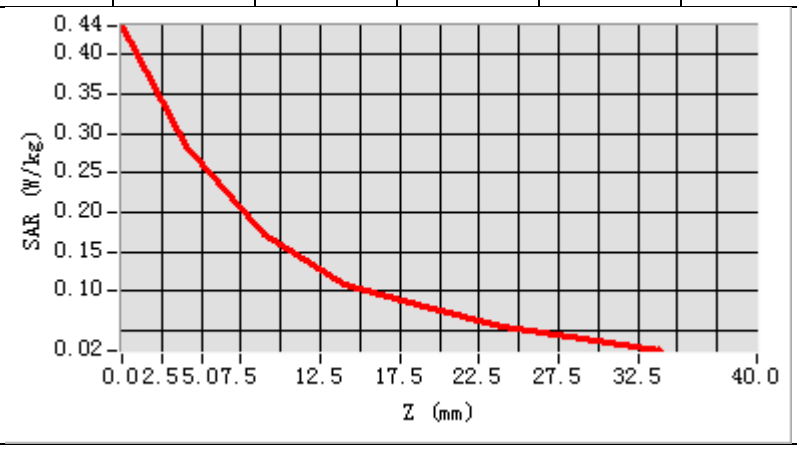
Frequency (MHz)	836.400000
Relative permittivity (real part)	41.522217
Relative permittivity (imaginary part)	19.557144
Conductivity (S/m)	0.908755
Variation (%)	-2.960000

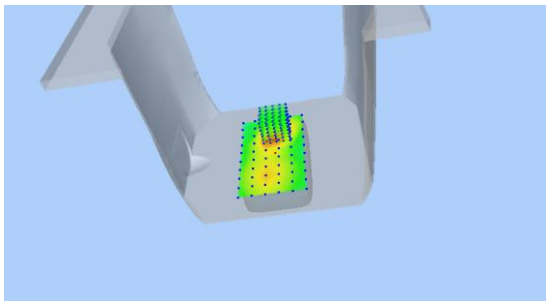
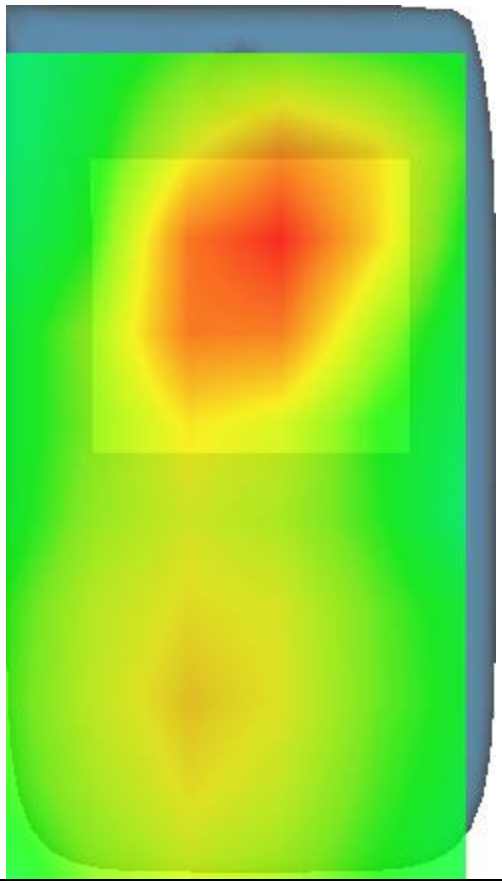
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=3.00, Y=32.00
SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.232268
SAR 1g (W/Kg)	0.470182

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4671	0.2937	0.2509	0.1578	0.1002	0.0835	0.0583



3D screen shot	Hot spot position
	

MEASUREMENT 6

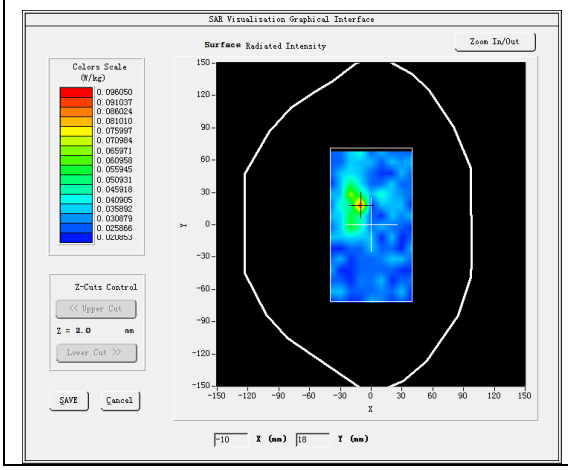
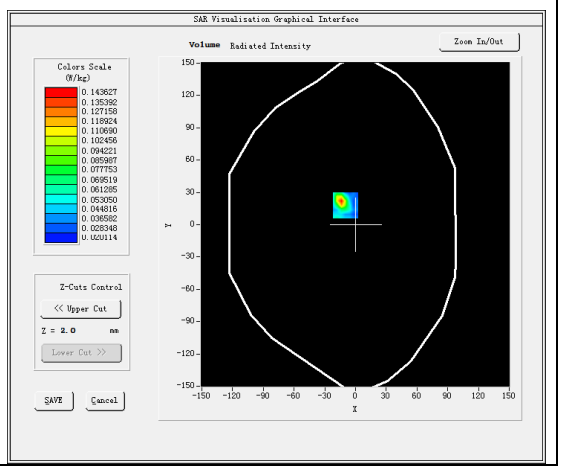
Date of measurement: 3/9/2024

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)
ConvF	2.07

B. SAR Measurement Results

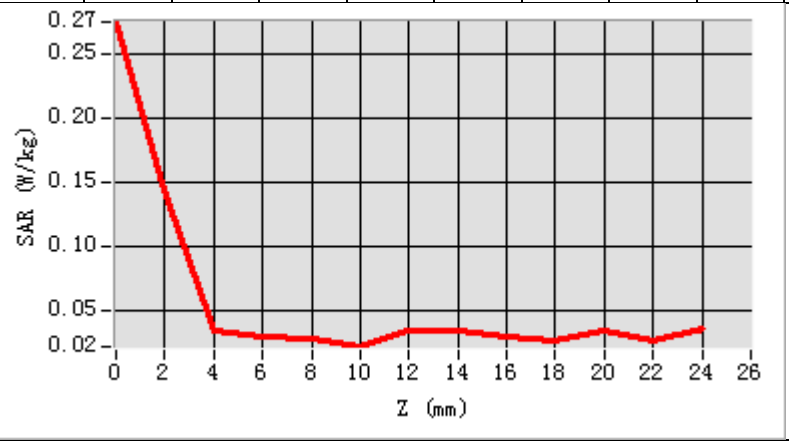
Frequency (MHz)	5200.000000
Relative permittivity (real part)	34.578384
Relative permittivity (imaginary part)	15.678512
Conductivity (S/m)	4.529348
Variation (%)	-3.820000

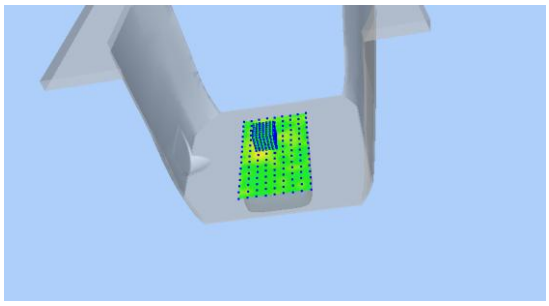
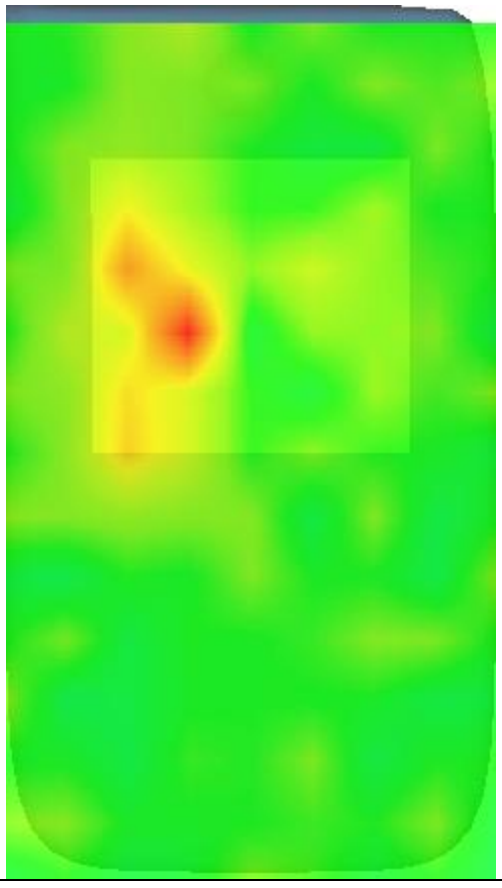
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-10.00, Y=18.00
SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.042469
SAR 1g (W/Kg)	0.084125

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	0.2741	0.1436	0.0341	0.0298	0.0277	0.0221	0.0348	0.0339	0.0301	0.0266	0.0347	0.0273



3D screen shot	Hot spot position
	

MEASUREMENT 7

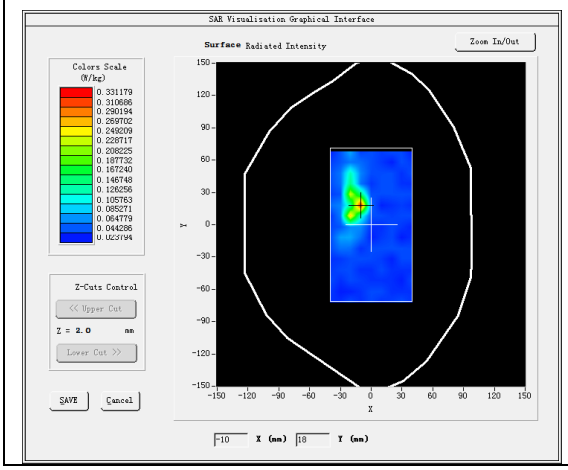
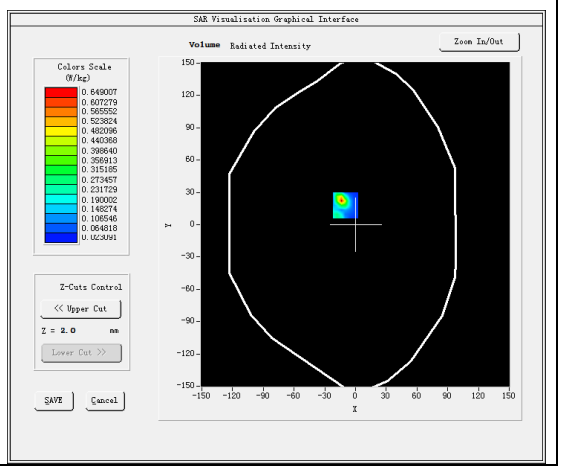
Date of measurement: 6/9/2024

A. Experimental conditions.

Area Scan	dx=10mm dy=10mm, h= 2.00 mm
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Middle
Signal	IEEE802.11a (Crest factor: 1.0)
ConvF	2.04

B. SAR Measurement Results

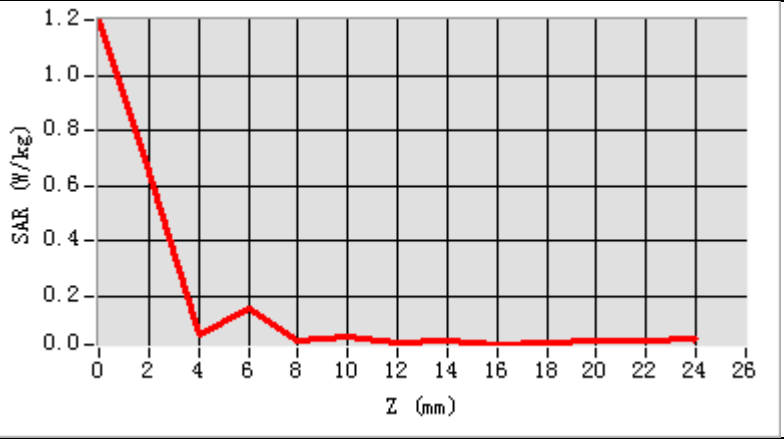
Frequency (MHz)	5785.000000
Relative permittivity (real part)	34.085487
Relative permittivity (imaginary part)	15.940840
Conductivity (S/m)	5.123209
Variation (%)	0.640000

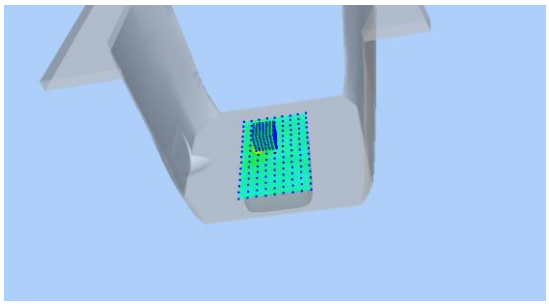
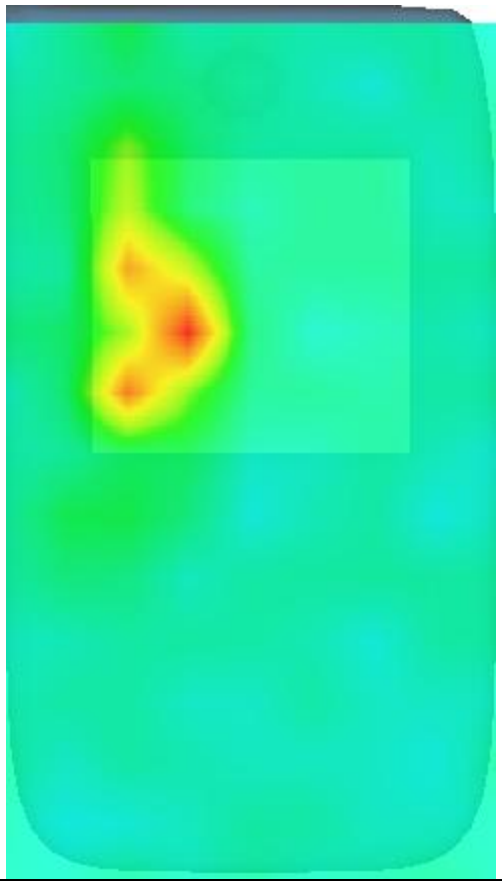
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-10.00, Y=18.00
SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.084752
SAR 1g (W/Kg)	0.278100

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
SAR (W/Kg)	1.1995	0.6490	0.0646	0.1533	0.0361	0.0549	0.0309	0.0395	0.0252	0.0304	0.0395	0.0415



3D screen shot	Hot spot position
	

MEASUREMENT 8

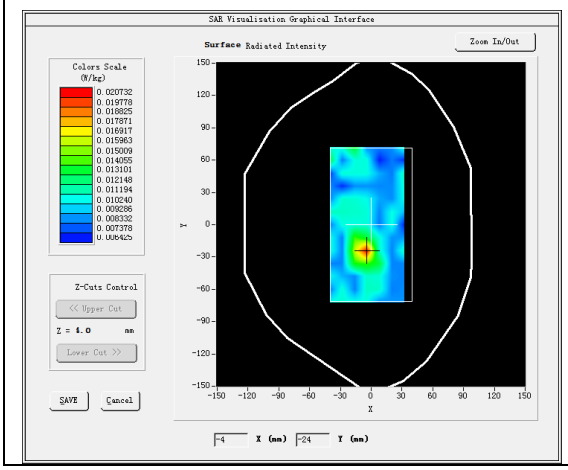
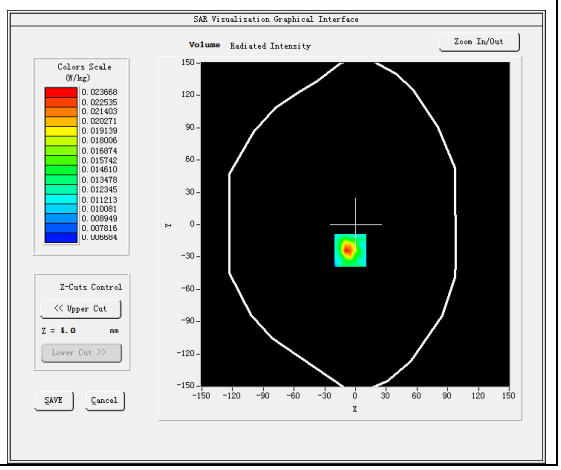
Date of measurement: 26/8/2024

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.11b (Crest factor: 1.0)
ConvF	2.85

B. SAR Measurement Results

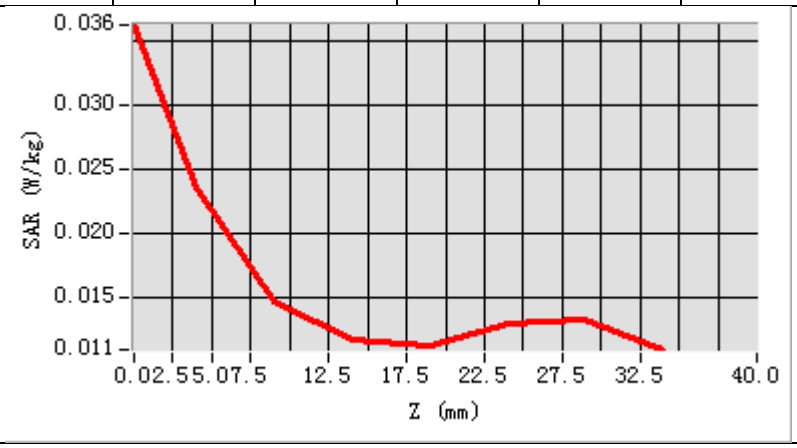
Frequency (MHz)	2437.000000
Relative permittivity (real part)	37.843565
Relative permittivity (imaginary part)	12.946621
Conductivity (S/m)	1.752829
Variation (%)	2.150000

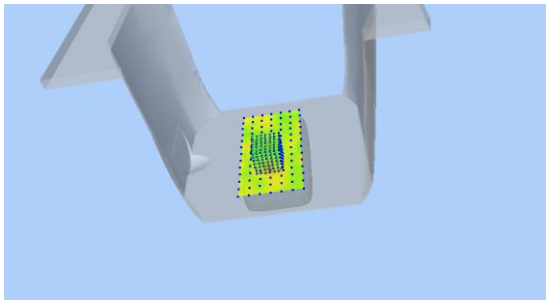
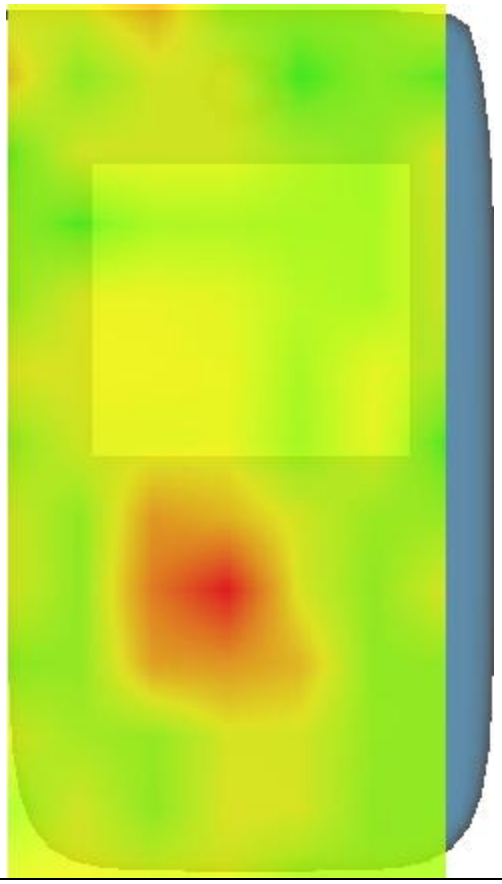
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-5.00, Y=-24.00
SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.016439
SAR 1g (W/Kg)	0.034328

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0363	0.0237	0.0146	0.0116	0.0112	0.0130	0.0133



3D screen shot	Hot spot position
	

MEASUREMENT 9

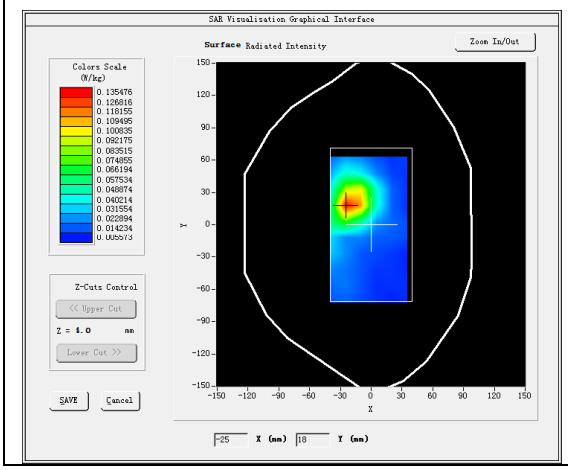
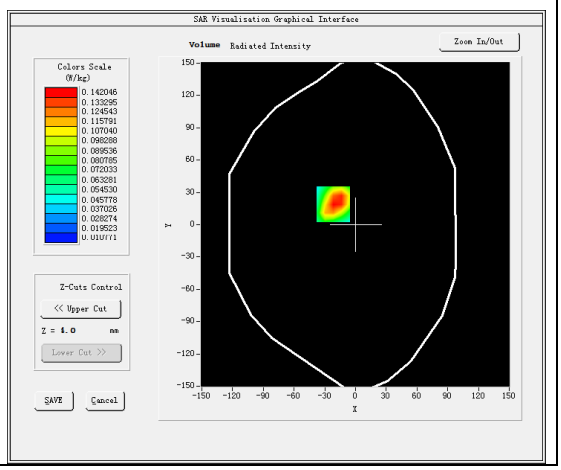
Date of measurement: 10/9/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle
Signal	LTE (Crest factor: 1.0)
ConvF	2.63

B. SAR Measurement Results

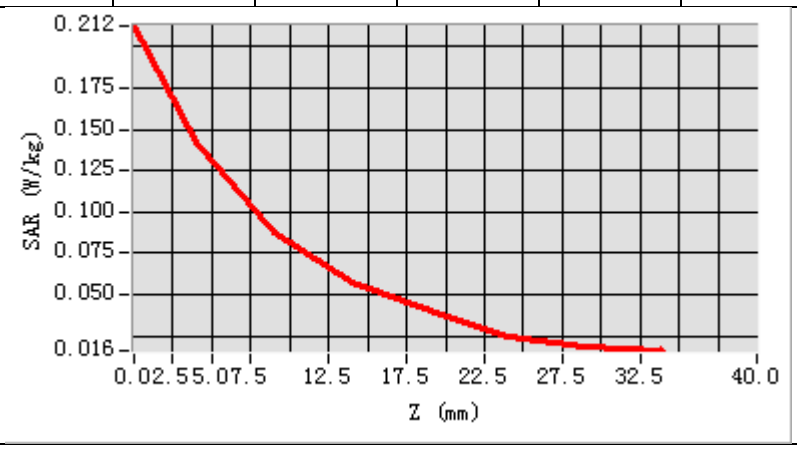
Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.948967
Relative permittivity (imaginary part)	13.792142
Conductivity (S/m)	1.440513
Variation (%)	-0.830000

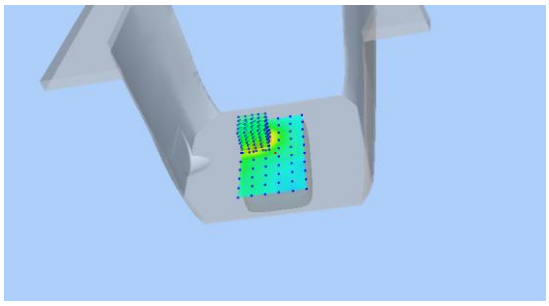
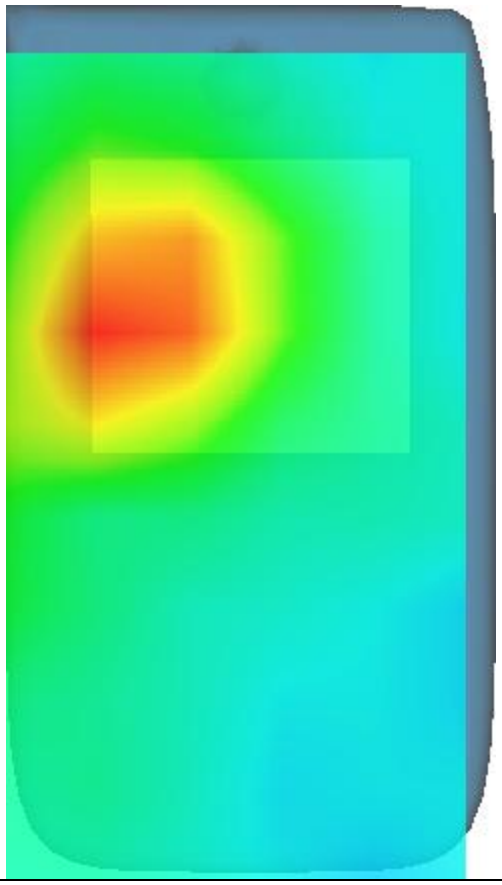
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-22.00, Y=19.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.079756
SAR 1g (W/Kg)	0.142510

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2125	0.1420	0.0876	0.0579	0.0399	0.0247	0.0186



3D screen shot	Hot spot position
	

MEASUREMENT 10

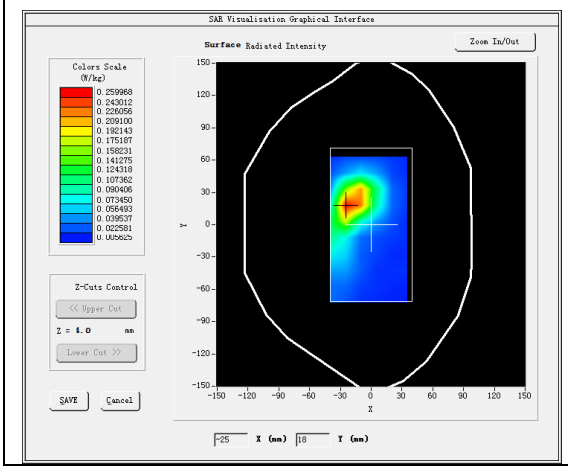
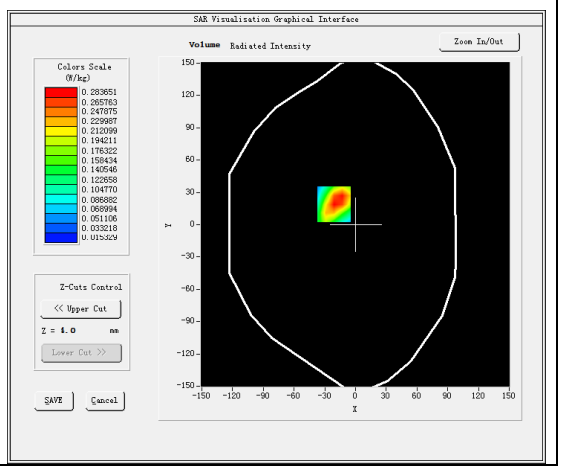
Date of measurement: 28/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Middle
Signal	LTE (Crest factor: 1.0)
ConvF	2.45

B. SAR Measurement Results

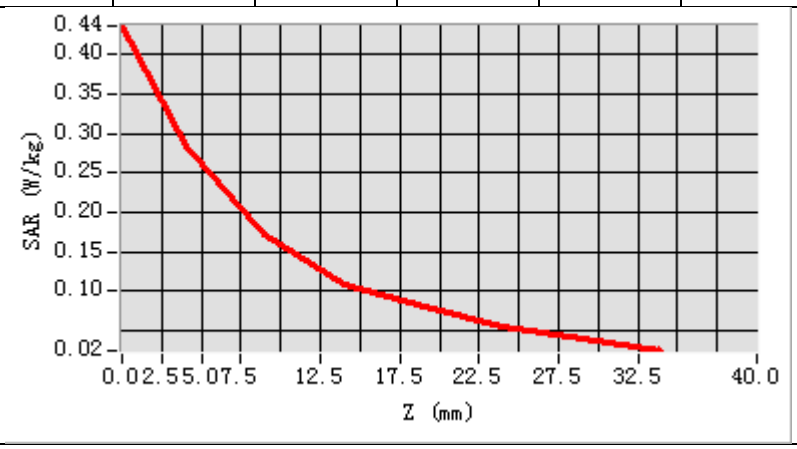
Frequency (MHz)	1732.500000
Relative permittivity (real part)	39.397781
Relative permittivity (imaginary part)	13.684697
Conductivity (S/m)	1.317152
Variation (%)	0.940000

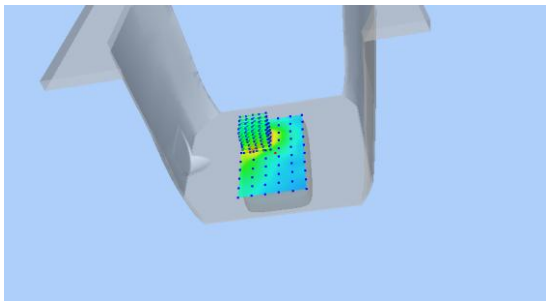
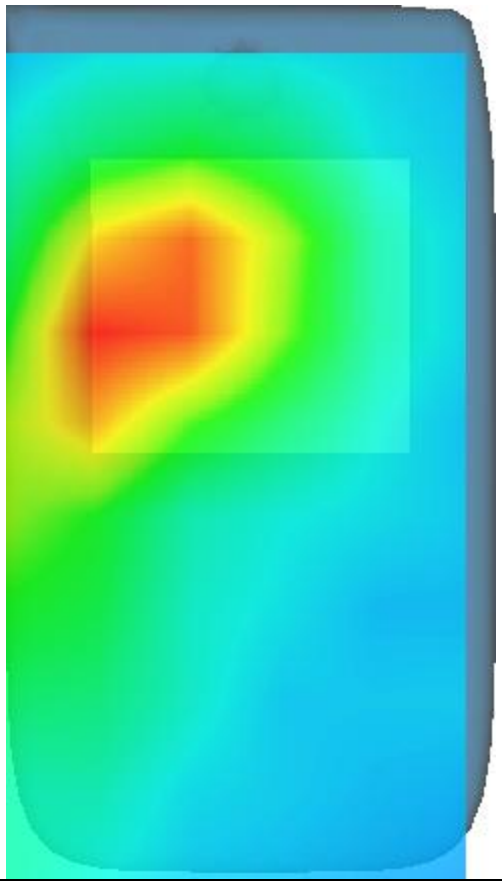
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-21.00, Y=19.00
SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.154344
SAR 1g (W/Kg)	0.276726

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4367	0.2837	0.1709	0.1078	0.0802	0.0535	0.0383



3D screen shot	Hot spot position
	

MEASUREMENT 11

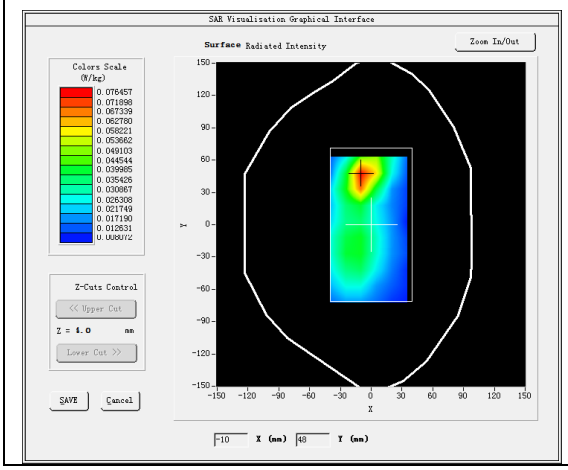
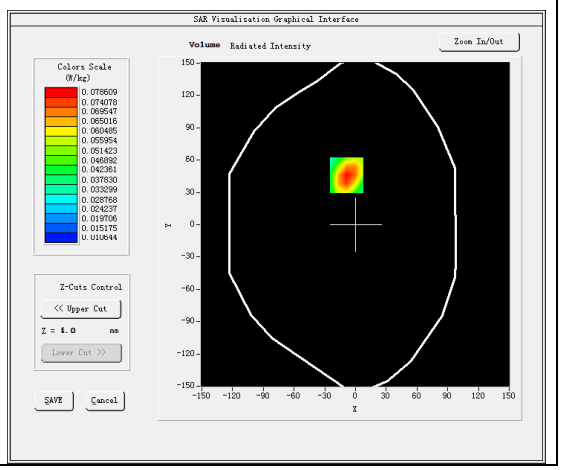
Date of measurement: 30/8/2024

A. Experimental conditions.

Area Scan	dx=15mm dy=15mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Channels	Middle
Signal	LTE (Crest factor: 1.0)
ConvF	2.32

B. SAR Measurement Results

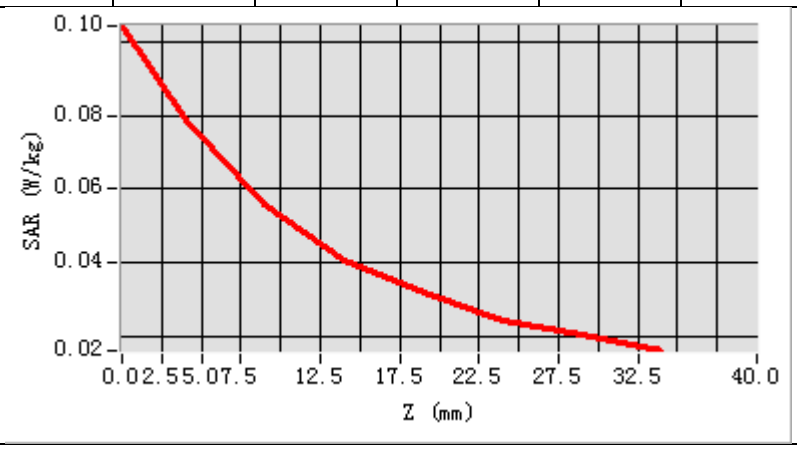
Frequency (MHz)	836.500000
Relative permittivity (real part)	41.524487
Relative permittivity (imaginary part)	19.558945
Conductivity (S/m)	0.908948
Variation (%)	-0.750000

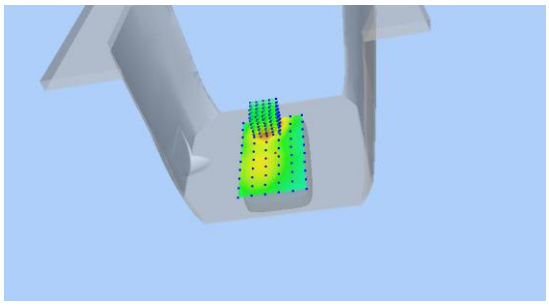
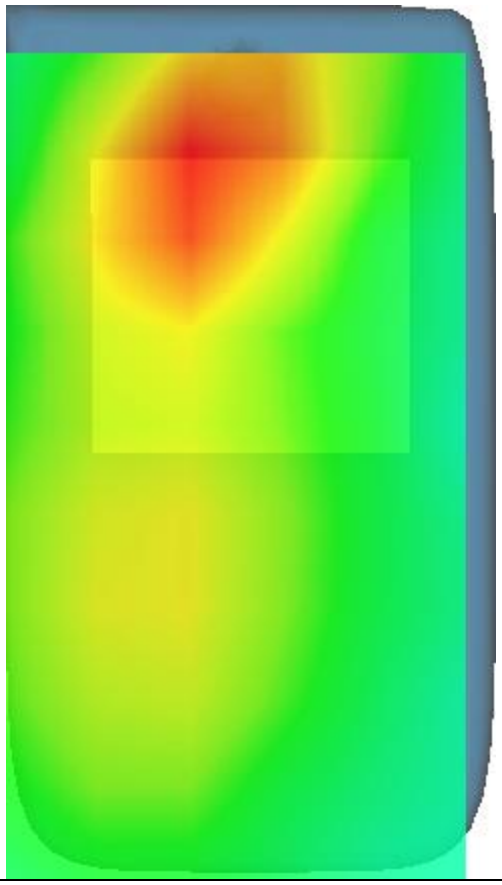
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-9.00, Y=46.00
SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.049776
SAR 1g (W/Kg)	0.075423

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1043	0.0786	0.0558	0.0407	0.0316	0.0242	0.0204



3D screen shot	Hot spot position
	

MEASUREMENT 12

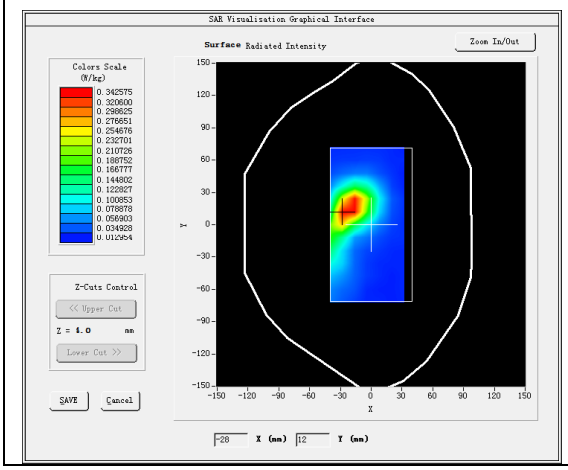
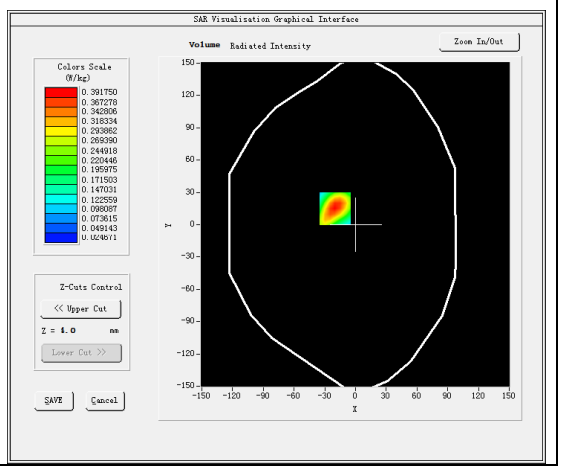
Date of measurement: 27/8/2024

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Channels	Middle
Signal	LTE (Crest factor: 1.0)
ConvF	2.65

B. SAR Measurement Results

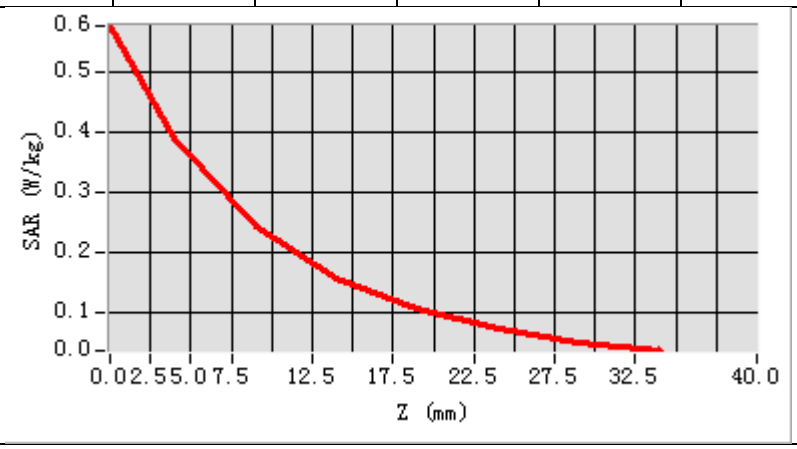
Frequency (MHz)	2535.000000
Relative permittivity (real part)	39.461262
Relative permittivity (imaginary part)	13.776830
Conductivity (S/m)	1.940237
Variation (%)	-1.320000

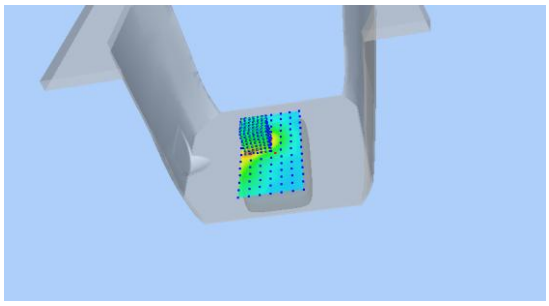
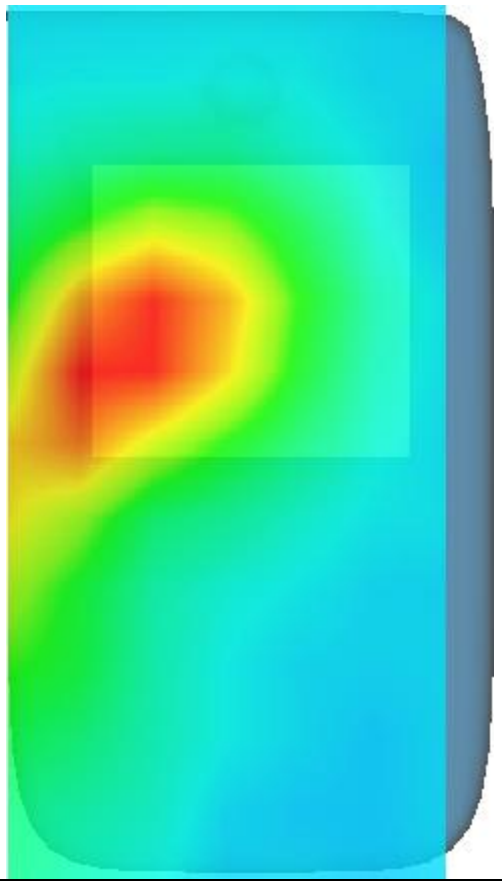
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-20.00, Y=15.00
SAR Peak: 0.58 W/kg

SAR 10g (W/Kg)	0.212675
SAR 1g (W/Kg)	0.369490

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5786	0.3917	0.2428	0.1549	0.1054	0.0712	0.0497



3D screen shot	Hot spot position
	

MEASUREMENT 13

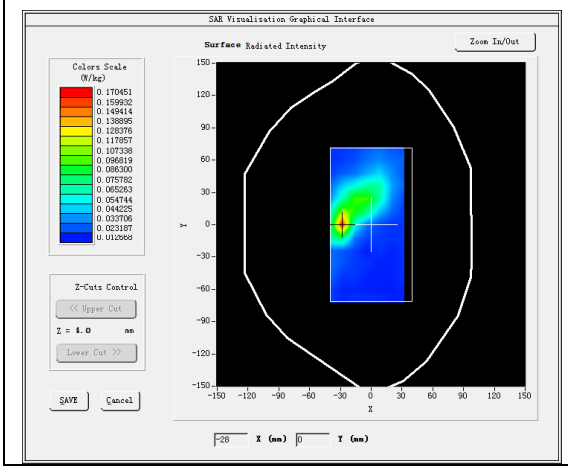
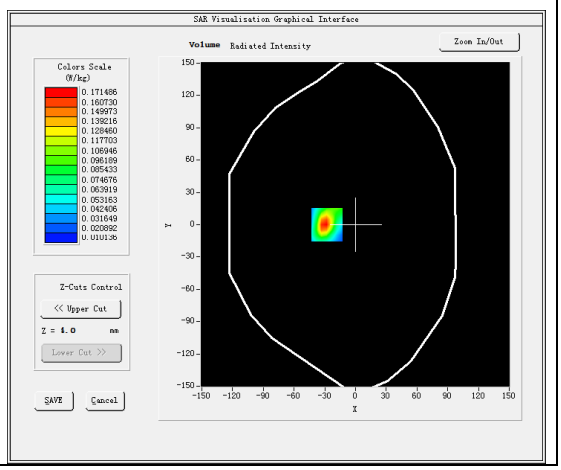
Date of measurement: 27/8/2024

A. Experimental conditions.

Area Scan	dx=12mm dy=12mm, h= 5.00 mm
ZoomScan	7x7x7,dx=5mm dy=5mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	LTE band 41
Channels	Middle
Signal	LTE (Crest factor: 1.6)
ConvF	2.65

B. SAR Measurement Results

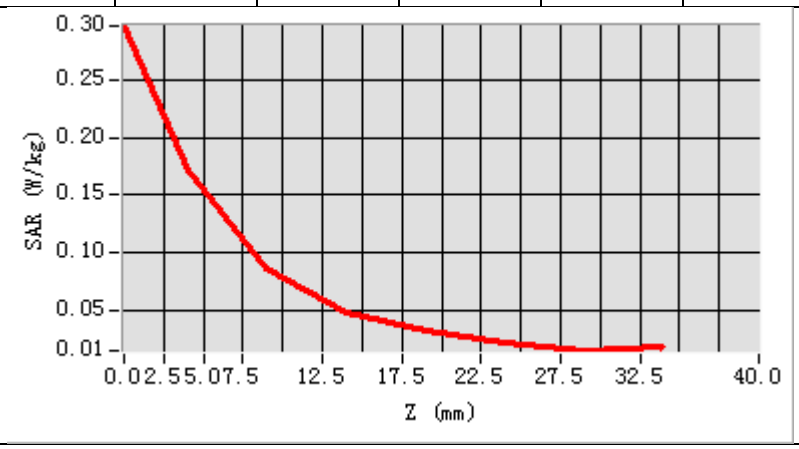
Frequency (MHz)	2593.000000
Relative permittivity (real part)	39.179764
Relative permittivity (imaginary part)	13.940430
Conductivity (S/m)	2.008196
Variation (%)	-3.240000

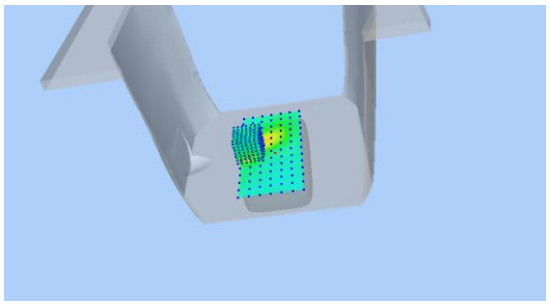
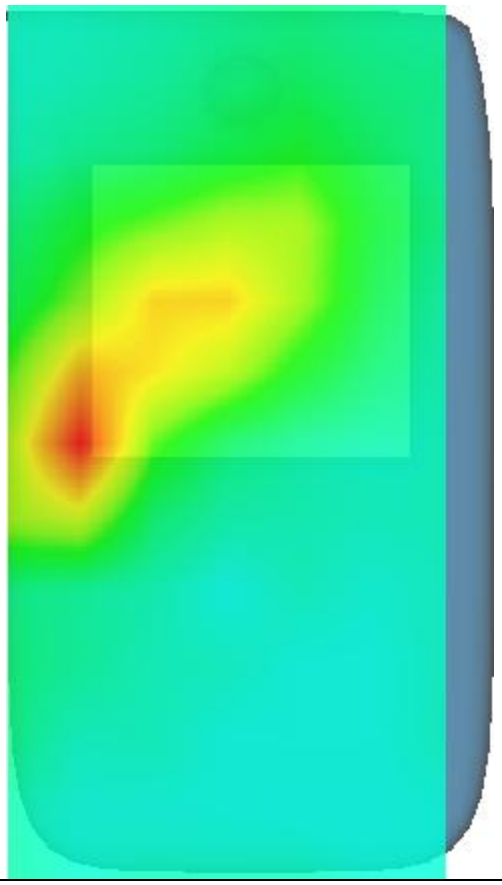
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-28.00, Y=0.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.072468
SAR 1g (W/Kg)	0.160473

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2975	0.1715	0.0869	0.0469	0.0319	0.0216	0.0144



3D screen shot	Hot spot position
	

14. Appendix D. Calibration Certificate

Table of contents
E Field Probe - 3423-EPGO-426
835 MHz Dipole - SN 03/15 DIP 0G835-347
1800 MHz Dipole - SN 03/15 DIP 1G800-349
1900 MHz Dipole - SN 03/15 DIP 1G900-350
2450 MHz Dipole - SN 03/15 DIP 2G450-352
2600 MHz Dipole - SN 03/15 DIP 2G600-356
5000-6000 MHz Dipole - SN 13/14 WGA 33

COMOSAR E-Field Probe Calibration Report

Ref : ACR.261.11.23.BES.A

SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

BUILDING E, FENDA SCIENCE PARK, SANWEI COMMUNITY, XIXIANG STREET,
BAO'AN DISTRICT, SHENZHEN GUANGDONG, CHINA

MVG COMOSAR DOSIMETRIC E-FIELD PROBE

SERIAL NO.: 3423-EPGO-426

Calibrated at MVG

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

Calibration date: 09/18/2023

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

Summary:

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

COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.261.11.23.BES.A

	Name	*Function*	*Date*	*Signature*
Prepared by :	Cyrille ONNEE	Measurement Responsible	9/18/2023	
Checked & approved by:	Jérôme Luc	Technical Manager	9/18/2023	
Authorized by:	Yann Toutain	Laboratory Director	9/19/2023	

Yann Toutain ID Signature numérique de Yann Toutain ID Date : 2023.09.19 09:08:14 +02'00'

	Customer Name
Distribution :	SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

Issue	*Name*	*Date*	*Modifications*
A	Cyrille ONNEE	9/18/2023	Initial release

TABLE OF CONTENTS

1 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Manufacturer	MVG
Model	SSE2
Serial Number	3423-EPGO-426
Product Condition (new / used)	New
Frequency Range of Probe	0.15 GHz-7.5GHz
Resistance of Three Dipoles at Connector	Dipole 1: R1=0.261 MΩ Dipole 2: R2=0.213 MΩ Dipole 3: R3=0.233 MΩ

2 PRODUCT DESCRIPTION

2.1 GENERAL INFORMATION

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

Figure 1 – *MVG COMOSAR Dosimetric E field Probe*

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

3 MEASUREMENT METHOD

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

3.1 SENSITIVITY

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

3.2 LINEARITY

The evaluation of the linearity was done in free space using the waveguide, performing a power sweep to cover the SAR range 0.01W/kg to 100W/kg.

3.3 ISOTROPY

The axial isotropy was evaluated by exposing the probe to a reference wave from a standard dipole with the dipole mounted under the flat phantom in the test configuration suggested for system validations and checks. The probe was rotated along its main axis from 0 to 360 degrees in 15-degree steps. The hemispherical isotropy is determined by inserting the probe in a thin plastic box filled with tissue-equivalent liquid, with the plastic box illuminated with the fields from a half wave dipole. The dipole is rotated about its axis (0°–180°) in 15° increments. At each step the probe is rotated about its axis (0°–360°).

3.4 BOUNDARY EFFECT

The boundary effect is defined as the deviation between the SAR measured data and the expected exponential decay in the liquid when the probe is oriented normal to the interface. To evaluate this effect, the liquid filled flat phantom is exposed to fields from either a reference dipole or waveguide. With the probe normal to the phantom surface, the peak spatial average SAR is measured and compared to the analytical value at the surface.

The boundary effect uncertainty can be estimated according to the following uncertainty approximation formula based on linear and exponential extrapolations between the surface and $d_{be} + d_{step}$ along lines that are approximately normal to the surface:

$$\mathrm{SAR}_{\mathrm{uncertainty}}[\%] = \delta\mathrm{SAR}_{be} \frac{(d_{be} + d_{step})^2}{2d_{step}} \frac{\left(e^{-d_{be}/(\delta/2)}\right)}{\delta/2} \quad \text{for } (d_{be} + d_{step}) < 10 \text{ mm}$$

where

$\mathrm{SAR}_{\mathrm{uncertainty}}$	is the uncertainty in percent of the probe boundary effect
d_{be}	is the distance between the surface and the closest *zoom-scan* measurement point, in millimetre
Δ_{step}	is the separation distance between the first and second measurement points that are closest to the phantom surface, in millimetre, assuming the boundary effect at the second location is negligible
δ	is the minimum penetration depth in millimetres of the head tissue-equivalent liquids defined in this standard, i.e., $\delta \approx 14$ mm at 3 GHz;
$\Delta\mathrm{SAR}_{be}$	in percent of SAR is the deviation between the measured SAR value, at the distance d_{be} from the boundary, and the analytical SAR value.

The measured worst case boundary effect SARuncertainty[%] for scanning distances larger than 4mm is 1.0% Limit ,2%).

4 MEASUREMENT UNCERTAINTY

The guidelines outlined in the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards were followed to generate the measurement uncertainty associated with a SAR probe calibration using the waveguide or calorimetric cell technique depending on the frequency.

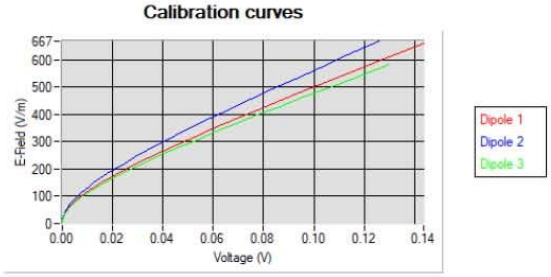
The estimated expanded uncertainty (k=2) in calibration for SAR (W/kg) is +/-11% for the frequency range 150-450MHz.
The estimated expanded uncertainty (k=2) in calibration for SAR (W/kg) is +/-14% for the frequency range 600-7500MHz.

5 CALIBRATION RESULTS

Ambient condition	
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

5.1 CALIBRATION IN AIR

The following curve represents the measurement in waveguide of the voltage picked up by the probe toward the E-field generated inside the waveguide.



From this curve, the sensitivity in air is calculated using the below formula.

$$E^2 = \sum_{i=1}^{3} \frac{V_i \left(1 + {}^{V_i}/_{DCP_i}\right)}{Norm_i}$$

where
Vi=voltage readings on the 3 channels of the probe
DCPi=diode compression point given below for the 3 channels of the probe
Normi=dipole sensitivity given below for the 3 channels of the probe

Normx dipole 1 (μV/(V/m)^2)	Normy dipole 2 (μV/(V/m)^2)	Normz dipole 3 (μV/(V/m)^2)
0.78	0.62	0.85

DCP dipole 1 (mV)	DCP dipole 2 (mV)	DCP dipole 3 (mV)
105	108	107

5.2 CALIBRATION IN LIQUID

The calorimeter cell or the waveguide is used to determine the calibration in liquid using the formula below.

$$ConvF = \frac{E_{liquid}^2}{E_{air}^2}$$

The E-field in the liquid is determined from the SAR measurement according to the below formula.

$$E_{liquid}^2 = \frac{\rho\, SAR}{\sigma}$$

where
σ=the conductivity of the liquid
ρ=the volumetric density of the liquid
SAR=the SAR measured from the formula that depends on the setup used. The SAR formulas are given below

For the calorimeter cell (150-450 MHz), the formula is:

$$SAR = c\frac{dT}{dt}$$

where
c=the specific heat for the liquid
dT/dt=the temperature rises over the time

For the waveguide setup (600-75000 MHz), the formula is:

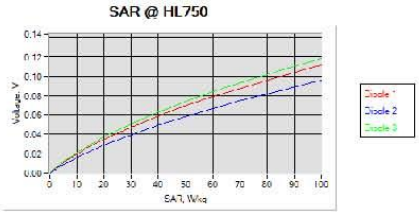
$$SAR = \frac{4P_W}{ab\delta} e^{\frac{-2z}{\delta}}$$

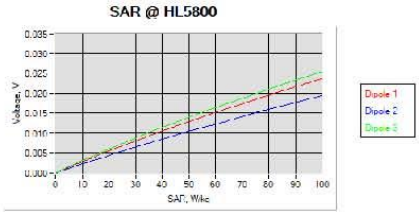
where
a=the larger cross-sectional of the waveguide
b=the smaller cross-sectional of the waveguide
δ=the skin depth for the liquid in the waveguide
Pw=the power delivered to the liquid

The below table summarize the ConvF for the calibrated liquid. The curves give examples for the measured SAR depending on the voltage in some liquid.

Liquid	Frequency (MHz*)	ConvF
HL750	750	2.37
HL850	835	2.32
HL900	900	2.23
HL1800	1800	2.45
HL1900	1900	2.63
HL2000	2000	2.83
HL2300	2300	2.81
HL2450	2450	2.85
HL2600	2600	2.65
HL3300	3300	2.21
HL3500	3500	2.20
HL3700	3700	2.11
HL3900	3900	2.40
HL4200	4200	2.40
HL4600	4600	2.33
HL4900	4900	2.37
HL5200	5200	2.07
HL5400	5400	2.11
HL5600	5600	2.20
HL5800	5800	2.04

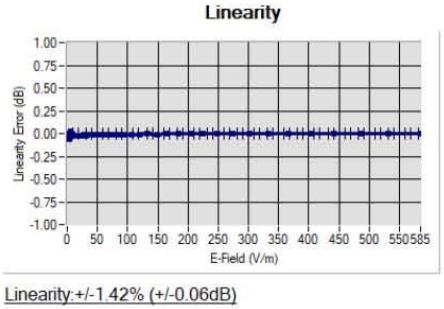
(*) Frequency validity is +/-50MHz below 600MHz, +/-100MHz from 600MHz to 6GHz and +/-700MHz above 6GHz



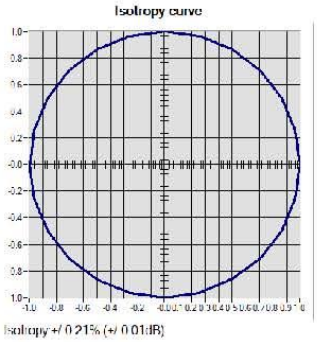


6 VERIFICATION RESULTS

The figures below represent the measured linearity and axial isotropy for this probe. The probe specification is +/-0.2 dB for linearity and +/-0.15 dB for axial isotropy.



Linearity:+/-1.42% (+/-0.06dB)



Isotropy:+/-0.21% (+/-0.01dB)

7 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	**Manufacturer / Model**	**Identification No.**	**Current Calibration Date**	**Next Calibration Date**
CALIPROBE Test Bench	Version 2	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rohde & Schwarz ZVM	100203	08/2021	08/2024
Network Analyzer	Agilent 8753ES	MY40003210	10/2019	10/2023
Network Analyzer – Calibration kit	HP 85033D	3423A08186	06/2021	06/2027
Network Analyzer – Calibration kit	Rohde & Schwarz ZV-Z235	101223	07/2022	07/2025
Multimeter	Keithley 2000	4013982	02/2023	02/2026
Signal Generator	Rohde & Schwarz SMB	106589	03/2022	03/2025
Amplifier	MVG	MODU-023-C-0002	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	NI-USB 5680	170100013	06/2021	06/2024
Power Meter	Keysight U2000A	SN: MY62340002	10/2022	10/2025
Directional Coupler	Krytar 158020	131467	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Fluoroptic Thermometer	LumaSense Luxtron 812	94264	09/2022	09/2025
Coaxial cell	MVG	SN 32/16 COAXCELL_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG2_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_0G600_1	Validated. No cal required.	Validated. No cal required.

Waveguide	MVG	SN 32/16 WG4_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_0G900_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG6_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG8_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800B_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800H_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG10_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_3G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG12_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_5G000_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG14_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_7G000_1	Validated. No cal required.	Validated. No cal required.
Temperature / Humidity Sensor	Testo 184 H1	44225320	06/2021	06/2024

SAR Reference Dipole Calibration Report

Ref : ACR.53.24.24.BES.A

SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

BUILDING E, FENDA SCIENCE PARK, SANWEI COMMUNITY, XIXIANG STREET,

BAO'AN DISTRICT, SHENZHEN GUANGDONG, CHINA

MVG COMOSAR REFERENCE DIPOLE

FREQUENCY: 835 MHZ

SERIAL NO.: SN 03/15DIP0G835-347

Calibrated at MVG

Z.I. de la pointe du diable

Technopôle Brest Iroise – 295 avenue Alexis de Rochon

29280 PLOUZANE - FRANCE

Calibration date: 02/21/2024

Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.

SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref : ACR.53.24.24.BES.A

	Name	*Function*	*Date*	*Signature*
Prepared by :	Pedro Ruiz	Measurement Responsible	2/22/2024	
Checked & approved by:	Jérôme Luc	Technical Manager	2/22/2024	
Authorized by:	Yann Toutain	Laboratory Director	2/27/2024	

Yann Toutain ID Signature numérique de Yann Toutain ID Date : 2024.02.27 08:55:11 +01'00'

	Customer Name
Distribution :	SHENZHEN NTEK TESTING TECHNOLOGY CO., LTD.

Issue	*Name*	*Date*	*Modifications*
A	Pedro Ruiz	2/22/2024	Initial release

TABLE OF CONTENTS

1 INTRODUCTION

This document contains a summary of the requirements set forth by the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards for reference dipoles used for SAR measurement system validations and the measurements that were performed to verify that the product complies with the fore mentioned standards.

2 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR 835 MHz REFERENCE DIPOLE
Manufacturer	MVG
Model	SID835
Serial Number	SN 03/15DIP0G835-347
Product Condition (new / used)	Used

3 PRODUCT DESCRIPTION

3.1 GENERAL INFORMATION

MVG's COMOSAR Validation Dipoles are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards. The product is designed for use with the COMOSAR test bench only.

Figure 1 – *MVG COMOSAR Validation Dipole*