



SAR TEST REPORT

Product Name: Wireless POS

Model Name: AF820

FCC ID: 2BLHD-AF820

Issued For : Beijing Shenzhou Anfu Technology Co.,Ltd

Room 1102, Block A, Longyu Center, Huilongguan,
Changping District, Beijing, China

Issued By : Shenzhen LGT Test Service Co., Ltd.

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Report Number: LGT25B081HA01

Sample Received Date: Feb. 21, 2025

Date of Test: Feb. 22, 2025 ~ Feb. 28, 2025

Date of Issue: Mar. 02, 2025

Max. SAR: Body: 0.971 W/kg(1g)

Limbs: 2.181 W/kg(10g)

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Revision History

Rev.	Issue Date	Contents
00	Mar. 02, 2025	Initial Issue



TEST REPORT CERTIFICATION

Applicant Beijing Shenzhou Anfu Technology Co.,Ltd
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Manufacture Beijing Shenzhou Anfu Technology Co.,Ltd
Address Room 1102, Block A, Longyu Center, Huilongguan,
Changping District, Beijing, China
Product Name Wireless POS
Trademark ANFU
Model Name AF820
Sample number LGT2502076-1

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
ANSI/IEEE Std. C95.1-2019 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013	PASS

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1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

1.1 EUT Description

Product Name	Wireless POS		
Trademark	ANFU		
Model Name	AF820		
Series Model	N/A		
Model Difference	N/A		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	V1.00		
Software Version	V1.00		
Frequency Range	LTE Band 2:1850 ~1910MHz LTE Band 4:1710 ~1755MHz LTE Band 5:824 ~ 849MHz LTE Band 7:2500 ~ 2570MHz LTE Band 38:2570~2620MHz LTE Band 41:2496~2690MHz WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz Bluetooth: 2402 ~ 2480 MHz NFC: 13.56 MHz		
Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Body:10mm Limb: 0mm	Mode	Body Worn and Hotspot (W/kg)(1g)	Limb(W/kg)(10g)
	LTE Band 2	0.971	2.181
	LTE Band 4	0.968	2.088
	LTE Band 5	0.258	0.676
	LTE Band 7	0.793	1.855
	LTE Band 38	0.841	2.086
	LTE Band 41	0.799	2.091
	2.4G WLAN	0.495	0.396
	BT	0.133	0.053
	NFC	0.0000078	0.0000031
1-g Sum SAR		1.6(W/ kg)	4(W/ kg)
Battery	Battery1: Rated Voltage:3.7V Capacity: 4800mAh Battery2: Rated Voltage:3.7V Capacity: 5200mAh		
Description test modes	SIM 1 and SIM 2 is a chipset unit and tested as single chipset, SIM 1 is used to tested		
Operating Mode:	LTE: QPSK, 16QAM 2.4G WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK		



	Bluetooth: GFSK + π /4DQPSK+8DPSK BLE: GFSK NFC: ASK
Antenna Specification	LTE: FPC Antenna Bluetooth: FPC Antenna WLAN: FPC Antenna NFC: Coil Antenna
Operating Mode	Maximum continuous output
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time
Hotspot Mode	Support
DTM Mode	Not Support
Note 1: The BT and NFC value was Estimated.	



1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (°C)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate	FCC Registration No.: 746540
	A2LA Certificate No.: 6727.01
	IC Registration No.: CN0136



2. Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(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 is averaged 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 defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

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

NOTE
GENERAL POPULATION/UNCONTROLLED EXPOSURE
PARTIAL BODY LIMIT
1.6 W/kg



3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

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

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

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

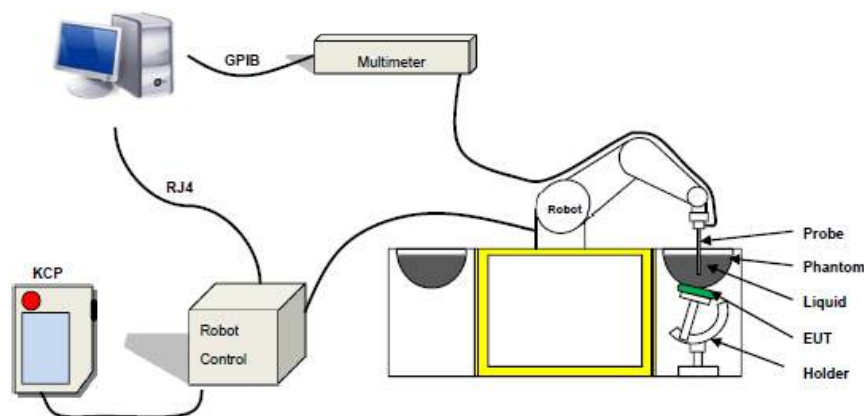
$$SAR = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue;

ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



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

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 04/22 EPG0364 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: < 0.10 dB
- Spherical Isotropy: < 0.10 dB
- Calibration range: 600 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°



Figure 1-MVG COMOSAR Dosimetric E field Probe

3.2.2 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



Figure-SN 06/22 SAM 148



Figure-SN 06/22 ELLI 51

3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.



4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine if the dielectric parameters are within the tolerances of the specified target values

The uncertainty due to the liquid conductivity and permittivity arises from two different sources. The first source of error is the deviation of the liquid conductivity from its target value (max _ 5 %) and the second source of error arises from the measurement procedures used to assess conductivity. The uncertainty shall be assessed using a rectangular probability For 1 g averaging, the maximum weighting coefficient for SAR is 0,5.

IEEE SCC-34/SC-2 RECOMMENDED TISSUE DIELECTRIC PARAMETERS

The head and body tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 have been incorporated in the following table.

Frequency	ϵ_r	σ 10g S/m
300	45.3	0.87
450	43.5	0.87
750	41.9	0.89
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1800 to 2000	40.0	1.40
2100	39.8	1.49
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5400	35.8	4.86
5600	35.5	5.07
5800	35.3	5.27



LIQUID MEASUREMENT RESULTS

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2025-02-28	22	53	835	21.7	Permittivity	41.50	40.79	-1.71	±5
					Conductivity	0.90	0.94	4.44	±5
2025-02-27	23.6	47	1800	23.3	Permittivity	40.00	39.98	-0.05	±5
					Conductivity	1.40	1.36	-2.86	±5
2025-02-22	21.1	44	1900	20.8	Permittivity	40.00	41.24	3.10	±5
					Conductivity	1.40	1.39	-0.71	±5
2025-02-27	23.4	48	2450	23.3	Permittivity	39.20	39.32	0.31	±5
					Conductivity	1.80	1.84	2.22	±5
2025-02-25	23.8	47	2600	23.6	Permittivity	39.00	39.69	1.77	±5
					Conductivity	1.96	1.95	-0.51	±5

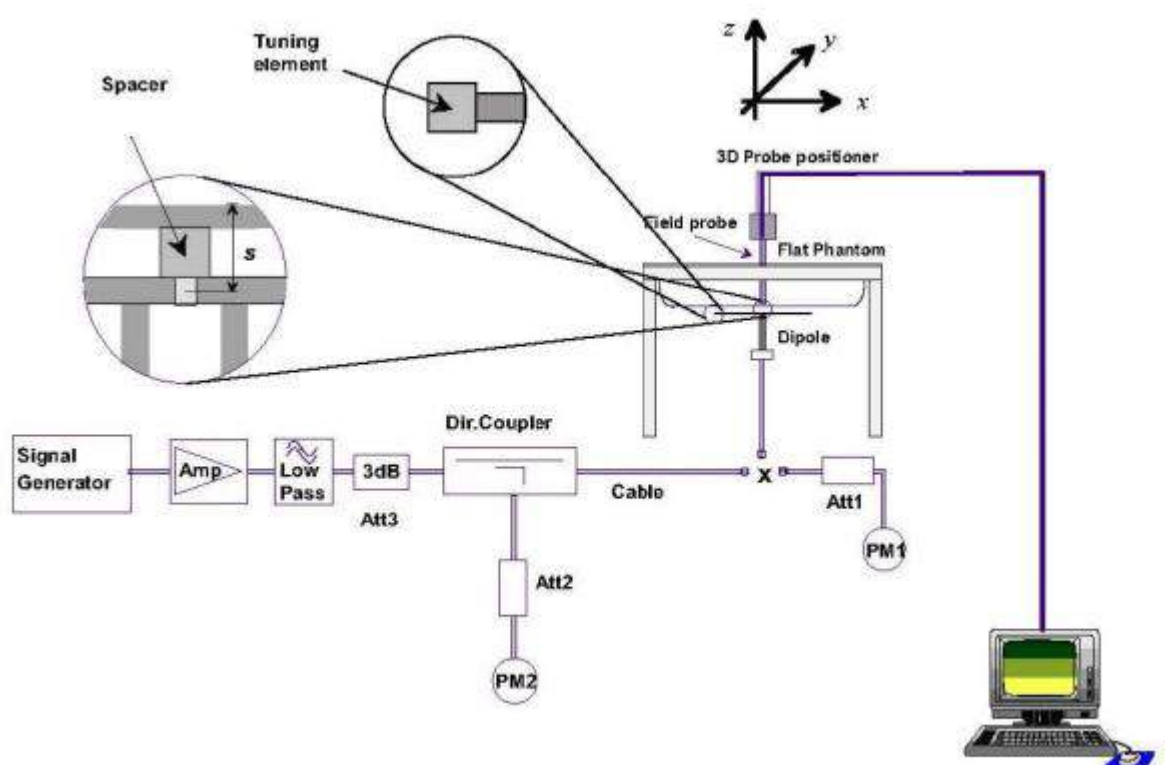


5. SAR System Validation

5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.





5.2 Validation Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of $\pm 10\%$.

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance	Limit
	(MHz)	(mW)	(W/Kg)	(W/kg)	1g(W/kg)	(%)	(%)
2025-02-28	835	100	0.958	9.58	9.73	-1.54	10
2025-02-27	1800	100	3.924	39.24	39.03	0.54	10
2025-02-22	1900	100	4.067	40.67	40.89	-0.54	10
2025-02-27	2450	100	5.404	54.04	54.21	-0.31	10
2025-02-25	2600	100	5.669	56.69	56.56	0.23	10

Note:

1. The tolerance limit of System validation $\pm 10\%$.
2. The dipole input power (forward power) was 100 mW.
3. The results are normalized to 1 W input power.



6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

➤ Area Scan & Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.

When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.



7. EUT Antenna Location Sketch

Please see FCC ID_SAR Setup photos

Antenna Separation Distance(mm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WLAN/BT	≤5	≤5	65	≤5	95	47
WWAN	≤5	≤5	65	≤5	≤5	135

Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



7.1 SAR test exclusion consider table

The WWAN/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 38
	Calculated Frequency (MHz)	1880	1720	844	2510	2595
	Maximum Turn-up power (dBm)	23	23	23.5	17.5	23
	Maximum rated power(mW)	199.53	199.53	223.87	56.23	199.53
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.33	9.47	9.31
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.33	9.47	9.31
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	65	65	65	65	65
	exclusion threshold(mW)	259.40	264.37	247.68	244.68	243.12
	Testing required?	NO	NO	NO	NO	NO
Right Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.33	9.47	9.31
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.33	9.47	9.31
	Testing required?	YES	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	135	135	135	135	135
	exclusion threshold(mW)	959.40	964.37	641.54	944.68	943.12
	Testing required?	NO	NO	NO	NO	NO



Exposure Position	Wireless Interface	LTE Band 41	BT	2.4G WLAN
	Calculated Frequency (MHz)	2506	2480	2437
	Maximum Turn-up power (dBm)	22	5	14
	Maximum rated power(mW)	158.49	3.16	25.12
Back Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.48	9.53	9.61
	Testing required?	YES	NO	YES
Front Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.48	9.53	9.61
	Testing required?	YES	NO	YES
Left Edge	Separation distance (mm)	65	65	65
	exclusion threshold(mW)	244.75	245.25	246.09
	Testing required?	NO	NO	NO
Right Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.48	9.53	9.61
	Testing required?	YES	NO	YES
Top Edge	Separation distance (mm)	5	95	95
	exclusion threshold(mW)	9.48	545.25	546.09
	Testing required?	YES	NO	NO
Bottom Edge	Separation distance (mm)	135	47	47
	exclusion threshold(mW)	944.75	89.54	90.32
	Testing required?	NO	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm, 25mm is user to determine SAR exclusion threshold
4. per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤ 50 mm are determined by:



$$\left[\frac{\text{max.power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$

f(GHz) is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation.

The result is rounded to one decimal place for comparison

For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare

5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following

a) [threshold at 50mm in step 1] + (test separation distance - 50mm) * (f (MHz)/150)]mW, at 100 MHz to 1500 MHz

b) [threshold at 50mm in step1] + (test separation distance - 50mm) * 10]mW at > 1500MHz and ≤ 6GHz

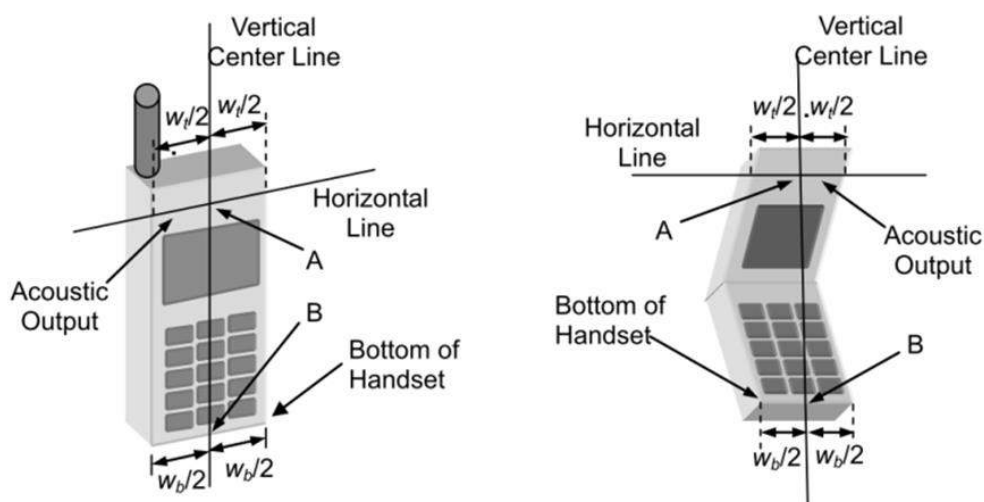
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.

8. EUT Test Position

This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

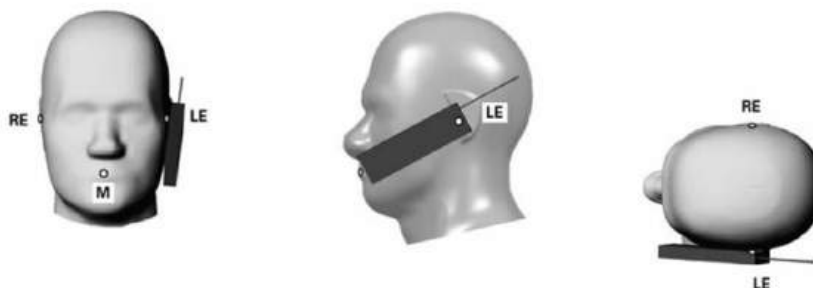
8.1 Define Two Imaginary Lines on the Handset

- (1) The vertical centerline passes through two points on the front side of the handset the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the handset.
- (2) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
- (3) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



Cheek Position

- 1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- 2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost





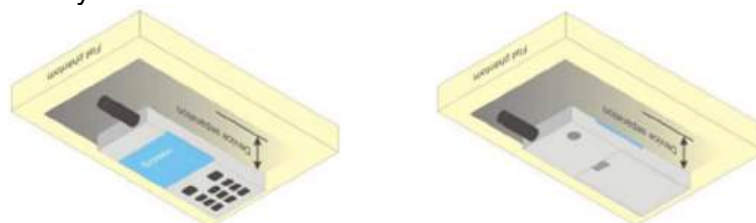
Title Position

- (1) To position the device in the “cheek” position described above.
- (2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.



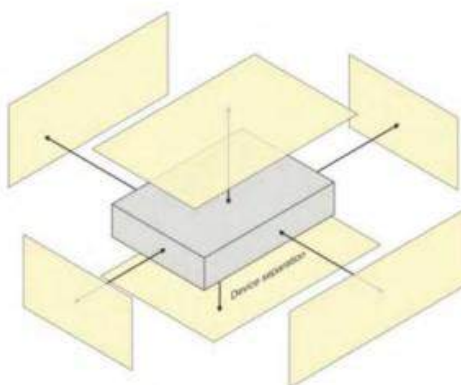
Body-worn Position Conditions:

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm from that surface or edge. When form factor of a handset is smaller than $9\text{cm} \times 5\text{cm}$, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).





9. Uncertainty

9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty Component	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	2.41	2.41	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	1.81	1.81	∞
RF ambient conditions-Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, Interpolation and Integration Algorithms for Max, SAR	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.60	2.60	11
Device holder uncertainty	3	N	1	1	1	3.00	3.00	7
Output Power Variation - SAR Drift Measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and tissue parameters								
Phantom uncertainty (shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	2	N	1	1	0.84	2.00	1.68	∞
Liquid Conductivity - Measurement Uncertainty)	4	N	1	0.78	0.71	3.12	2.84	5
Liquid Permittivity - Measurement Uncertainty	5	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.47	10.34	
Expanded Uncertainty (95% Confidence interval)		K				20.95	20.69	



9.2 System validation Uncertainty

Uncertainty Component	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	0.71	0.71	∞
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	0	N	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions- reflections	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, Interpolation and Integration Algorithms for Max, SAR	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Dipole								
Deviation of Experimental Source from Numerical Source	5	N	1	1	1	5.00	5.00	∞
Input Power and SAR Drift Measurement	0.5	R	$\sqrt{3}$	1	1	0.29	0.29	∞
Dipole Axis to Liquid Distance	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom uncertainty (shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	2	N	1	1	0.84	2.00	1.68	∞
Liquid Conductivity - Measurement Uncertainty)	4	N	1	0.78	0.71	3.12	2.84	5
Liquid Permittivity - Measurement Uncertainty	5	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid Permittivity (Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.16	10.03	
Expanded Uncertainty (95% Confidence interval)		K				20.32	20.06	



10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	1	2412	13.57	22.75
	7	2437	13.85	24.27
	11	2462	13.17	20.75
802.11g	1	2412	12.62	18.28
	7	2437	13.09	20.37
	11	2462	12.36	17.22
802.11 n-HT20	1	2412	12.54	17.95
	7	2437	13.31	21.43
	11	2462	12.66	18.45
802.11 n-HT40	3	2422	13.25	21.13
	6	2437	12.96	19.77
	9	2452	13.25	21.13

Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	1.95	1.57
	39	2441	2.95	1.97
	78	2480	4.85	3.05
$\pi/4$ -QPSK(2Mbps)	0	2402	1.22	1.32
	39	2441	2.26	1.68
	78	2480	4.01	2.52
8DPSK(3Mbps)	0	2402	1.32	1.36
	39	2441	2.37	1.73
	78	2480	4.07	2.55



BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	-5.54	0.28
	19	2440	-4.53	0.35
	39	2480	-5.68	0.27

NFC		
Mode	Field strength(dBuV/m)	ERP(dBm)
NFC	68.21	-26.99

Note. The power of this EUT NFC is -26.99dBm (0.002mW), this power is less than the defined low power exclusion level (Pmax: 39 mW), so NFC is exemption.

LTE Conducted Power

General Note:

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.20	22.54	22.59
1.4	1	2		22.34	22.72	22.77
1.4	1	5		22.11	22.53	22.60
1.4	3	0		22.28	22.55	22.30
1.4	3	1		22.28	22.57	22.35
1.4	3	2		22.22	22.54	22.35
1.4	6	0		21.28	21.59	21.60
1.4	1	0	16-QAM	21.27	21.30	21.25
1.4	1	2		21.34	21.45	21.40
1.4	1	5		21.28	21.31	21.26
1.4	3	0		21.36	21.63	21.35
1.4	3	1		21.38	21.61	21.41
1.4	3	2		21.35	21.63	21.37
1.4	6	0		20.35	20.71	20.54
3	1	0	QPSK	22.18	22.53	22.59
3	1	7		22.50	22.78	22.86
3	1	14		22.14	22.51	22.71
3	8	0		21.21	21.56	21.47
3	8	4		21.23	21.55	21.48
3	8	7		21.23	21.52	21.46
3	15	0		21.13	21.49	21.36
3	1	0	16-QAM	21.47	21.70	21.11
3	1	7		21.79	21.92	21.34
3	1	14		21.49	21.63	21.06
3	8	0		20.20	20.58	20.35
3	8	4		20.23	20.55	20.35
3	8	7		20.20	20.53	20.32
3	15	0		20.14	20.46	20.35



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.02	22.43	22.15
5	1	12		22.46	22.74	22.53
5	1	24		22.27	22.25	22.29
5	12	0		21.31	21.52	21.32
5	12	6		21.43	21.52	21.43
5	12	11		21.50	21.43	21.27
5	25	0		21.39	21.46	21.31
5	1	0	16-QAM	21.50	21.75	21.46
5	1	12		21.99	22.03	21.70
5	1	24		21.59	21.64	21.37
5	12	0		20.15	20.50	20.40
5	12	6		20.25	20.51	20.36
5	12	11		20.17	20.47	20.23
5	25	0		20.16	20.56	20.27
10	1	0	QPSK	22.20	22.55	22.47
10	1	24		22.30	22.64	22.64
10	1	49		22.23	22.41	22.67
10	25	0		21.28	21.57	21.45
10	25	12		21.25	21.51	21.43
10	25	24		21.29	21.50	21.30
10	50	0		21.30	21.53	21.37
10	1	0	16-QAM	21.49	21.66	21.26
10	1	24		21.63	21.76	21.28
10	1	49		21.66	21.54	21.08
10	25	0		20.30	20.59	20.46
10	25	12		20.26	20.53	20.38
10	25	24		20.30	20.53	20.27
10	50	0		20.27	20.56	20.33



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.13	22.47	22.41
15	1	37		22.56	22.80	22.81
15	1	74		22.33	22.31	22.60
15	36	0		21.38	21.68	21.48
15	36	18		21.35	21.64	21.55
15	36	39		21.43	21.60	21.47
15	75	0		21.46	21.66	21.50
15	1	0	16-QAM	21.41	21.64	21.39
15	1	38		21.84	21.83	21.69
15	1	75		21.74	21.45	21.40
15	36	0		20.36	20.67	20.39
15	36	18		20.35	20.63	20.42
15	36	39		20.45	20.56	20.32
15	75	0		20.39	20.57	20.46
20	1	0	QPSK	22.19	22.53	22.26
20	1	49		22.45	22.94	22.69
20	1	99		22.14	22.44	22.39
20	50	0		21.21	21.56	21.42
20	50	24		21.26	21.57	21.45
20	50	49		21.22	21.50	21.30
20	100	0		21.23	21.55	21.32
20	1	0	16-QAM	21.23	21.56	21.36
20	1	49		21.74	21.83	21.76
20	1	99		21.57	21.29	21.25
20	50	0		20.37	20.54	20.41
20	50	24		20.42	20.55	20.48
20	50	49		20.53	20.40	20.30
20	100	0		20.38	20.46	20.33



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.37	22.19	22.46
1.4	1	2		22.58	22.34	22.63
1.4	1	5		22.39	22.13	22.48
1.4	3	0		22.43	22.29	22.41
1.4	3	1		22.41	22.26	22.48
1.4	3	2		22.42	22.26	22.50
1.4	6	0		21.45	21.22	21.53
1.4	1	0	16-QAM	21.19	21.38	21.49
1.4	1	2		21.36	21.52	21.64
1.4	1	5		21.19	21.36	21.53
1.4	3	0		21.48	21.49	21.54
1.4	3	1		21.50	21.51	21.64
1.4	3	2		21.53	21.50	21.62
1.4	6	0		20.56	20.38	20.63
3	1	0	QPSK	22.38	22.27	22.49
3	1	7		22.61	22.52	22.72
3	1	14		22.31	22.19	22.55
3	8	0		21.41	21.25	21.47
3	8	4		21.44	21.27	21.50
3	8	7		21.44	21.24	21.46
3	15	0		21.35	21.23	21.41
3	1	0	16-QAM	21.75	21.45	21.29
3	1	7		22.10	21.78	21.54
3	1	14		21.78	21.38	21.30
3	8	0		20.42	20.24	20.47
3	8	4		20.42	20.27	20.47
3	8	7		20.40	20.23	20.46
3	15	0		20.38	20.16	20.49



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.18	22.29	22.05
5	1	12		22.54	22.44	22.48
5	1	24		21.95	22.04	22.18
5	12	0		21.42	21.26	21.30
5	12	6		21.46	21.28	21.39
5	12	11		21.42	21.24	21.38
5	25	0		21.44	21.28	21.32
5	1	0	16-QAM	21.76	21.46	21.55
5	1	12		22.16	21.81	21.94
5	1	24		21.79	21.41	21.61
5	12	0		20.36	20.15	20.42
5	12	6		20.45	20.23	20.46
5	12	11		20.38	20.13	20.42
5	25	0		20.37	20.19	20.37
10	1	0	QPSK	22.45	22.32	22.39
10	1	24		22.61	22.37	22.54
10	1	49		22.39	22.16	22.45
10	25	0		21.41	21.22	21.35
10	25	12		21.42	21.24	21.39
10	25	24		21.46	21.23	21.38
10	50	0		21.42	21.22	21.34
10	1	0	16-QAM	21.23	21.46	21.17
10	1	24		21.36	21.52	21.30
10	1	49		21.26	21.34	21.26
10	25	0		20.42	20.23	20.36
10	25	12		20.42	20.23	20.41
10	25	24		20.45	20.22	20.41
10	50	0		20.40	20.24	20.33



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.41	22.27	22.20
15	1	37		22.74	22.51	22.64
15	1	74		22.32	22.05	22.33
15	36	0		21.52	21.33	21.43
15	36	18		21.51	21.32	21.50
15	36	39		21.51	21.25	21.48
15	75	0		21.52	21.32	21.50
15	1	0	16-QAM	21.44	21.73	21.37
15	1	38		21.72	21.89	21.74
15	1	75		21.41	21.50	21.47
15	36	0		20.43	20.30	20.44
15	36	18		20.43	20.29	20.47
15	36	39		20.47	20.28	20.46
15	75	0		20.53	20.28	20.41
20	1	0	QPSK	22.35	22.17	22.28
20	1	49		22.83	22.50	22.69
20	1	99		22.31	22.13	22.28
20	50	0		21.39	21.21	21.40
20	50	24		21.48	21.31	21.44
20	50	49		21.41	21.20	21.41
20	100	0		21.41	21.22	21.40
20	1	0	16-QAM	21.48	21.52	21.24
20	1	49		21.90	21.64	21.70
20	1	99		21.28	21.23	21.40
20	50	0		20.46	20.27	20.37
20	50	24		20.55	20.29	20.44
20	50	49		20.46	20.28	20.42
20	100	0		20.45	20.27	20.33



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.70	22.84	22.96
1.4	1	2		22.83	22.97	23.13
1.4	1	5		22.74	22.84	22.95
1.4	3	0		22.63	22.80	22.88
1.4	3	1		22.66	22.81	22.94
1.4	3	2		22.66	22.79	22.97
1.4	6	0		21.69	21.86	21.97
1.4	1	0	16-QAM	21.74	21.58	21.95
1.4	1	2		21.85	21.74	22.13
1.4	1	5		21.76	21.60	21.98
1.4	3	0		21.81	21.88	21.98
1.4	3	1		21.80	21.94	22.06
1.4	3	2		21.79	21.94	22.04
1.4	6	0		20.76	21.01	21.10
3	1	0	QPSK	22.65	22.69	22.92
3	1	7		22.74	22.87	23.06
3	1	14		22.64	22.84	23.01
3	8	0		21.71	21.79	21.88
3	8	4		21.67	21.82	21.90
3	8	7		21.67	21.87	21.89
3	15	0		21.69	21.80	21.88
3	1	0	16-QAM	22.02	21.83	21.75
3	1	7		22.26	22.13	22.01
3	1	14		22.01	21.96	21.74
3	8	0		20.66	20.76	20.86
3	8	4		20.69	20.80	20.94
3	8	7		20.65	20.78	20.88
3	15	0		20.67	20.74	20.94



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.58	22.70	22.76
5	1	12		22.99	23.08	23.13
5	1	24		22.60	22.78	22.78
5	12	0		21.64	21.74	21.93
5	12	6		21.72	21.84	21.97
5	12	11		21.66	21.82	21.90
5	25	0		21.68	21.81	21.93
5	1	0	16-QAM	22.05	21.90	22.05
5	1	12		22.50	22.36	22.39
5	1	24		22.02	21.99	22.05
5	12	0		20.61	20.68	20.93
5	12	6		20.69	20.78	20.95
5	12	11		20.64	20.78	20.90
5	25	0		20.62	20.83	20.86
10	1	0	QPSK	22.67	22.72	22.94
10	1	24		22.95	23.02	23.33
10	1	49		22.63	22.77	23.06
10	25	0		21.65	21.78	21.91
10	25	12		21.72	21.84	21.94
10	25	24		21.64	21.83	21.91
10	50	0		21.64	21.73	21.90
10	1	0	16-QAM	22.01	21.79	21.67
10	1	24		22.12	21.98	21.83
10	1	49		21.98	21.96	21.74
10	25	0		20.74	20.75	20.90
10	25	12		20.69	20.78	20.92
10	25	24		20.70	20.87	20.88
10	50	0		20.66	20.83	20.87



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	18.03	17.56	17.12
5	1	12		18.35	17.89	17.45
5	1	24		17.93	17.48	17.10
5	12	0		17.08	16.59	16.27
5	12	6		17.09	16.66	16.35
5	12	11		17.01	16.58	16.31
5	25	0		17.04	16.60	16.30
5	1	0	16-QAM	17.37	16.81	16.44
5	1	12		17.64	17.14	16.78
5	1	24		17.28	16.72	16.45
5	12	0		16.00	15.54	15.25
5	12	6		16.05	15.55	15.33
5	12	11		15.94	15.49	15.28
5	25	0		15.97	15.60	15.24
10	1	0	QPSK	18.07	17.63	17.42
10	1	24		18.12	17.66	17.49
10	1	49		17.93	17.52	17.35
10	25	0		17.11	16.62	16.42
10	25	12		17.00	16.58	16.33
10	25	24		16.99	16.67	16.36
10	50	0		16.99	16.61	16.39
10	1	0	16-QAM	17.34	16.78	16.15
10	1	24		17.35	16.79	16.23
10	1	49		17.23	16.60	16.10
10	25	0		16.05	15.60	15.40
10	25	12		15.95	15.57	15.33
10	25	24		15.95	15.65	15.35
10	50	0		15.99	15.66	15.36



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	18.12	17.52	17.29
15	1	37		18.43	17.67	17.55
15	1	74		17.88	17.34	17.10
15	36	0		17.17	16.64	16.56
15	36	18		17.13	16.68	16.46
15	36	39		17.06	16.67	16.39
15	75	0		17.13	16.65	16.47
15	1	0	16-QAM	17.04	16.92	16.36
15	1	38		17.32	17.21	16.62
15	1	75		16.83	16.71	16.30
15	36	0		16.01	15.60	15.49
15	36	18		15.98	15.67	15.43
15	36	39		15.92	15.66	15.36
15	75	0		16.05	15.60	15.38
20	1	0	QPSK	17.93	17.50	17.30
20	1	49		18.14	17.77	17.48
20	1	99		17.53	17.29	17.00
20	50	0		17.02	16.55	16.43
20	50	24		16.97	16.63	16.34
20	50	49		16.87	16.59	16.29
20	100	0		16.94	16.54	16.40
20	1	0	16-QAM	17.08	16.62	16.35
20	1	49		17.29	16.90	16.60
20	1	99		16.78	16.33	16.24
20	50	0		16.04	15.50	15.43
20	50	24		15.97	15.60	15.39
20	50	49		15.83	15.53	15.27
20	100	0		15.91	15.55	15.37



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.23	21.31	21.02
5	1	12		21.51	21.55	21.30
5	1	24		21.08	20.99	20.82
5	12	0		20.30	20.30	20.04
5	12	6		20.36	20.27	20.06
5	12	11		20.38	20.25	20.01
5	25	0		20.37	20.27	20.05
5	1	0	16-QAM	20.43	20.40	20.06
5	1	12		20.72	20.56	20.28
5	1	24		20.24	20.01	19.85
5	12	0		19.37	19.27	19.07
5	12	6		19.43	19.27	19.06
5	12	11		19.41	19.21	19.06
5	25	0		19.38	19.29	19.04
10	1	0	QPSK	21.40	21.36	21.17
10	1	24		21.45	21.48	21.25
10	1	49		21.29	21.11	21.05
10	25	0		20.44	20.34	20.07
10	25	12		20.39	20.28	20.04
10	25	24		20.41	20.28	20.07
10	50	0		20.40	20.29	20.06
10	1	0	16-QAM	20.84	20.49	19.98
10	1	24		20.95	20.51	20.11
10	1	49		20.74	20.18	19.89
10	25	0		19.44	19.34	19.04
10	25	12		19.39	19.31	19.03
10	25	24		19.43	19.27	19.06
10	50	0		19.42	19.34	19.02



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.33	21.34	21.29
15	1	37		21.56	21.52	21.49
15	1	74		21.17	21.04	21.08
15	36	0		20.44	20.42	20.23
15	36	18		20.41	20.33	20.19
15	36	39		20.40	20.34	20.19
15	75	0		20.41	20.40	20.22
15	1	0	16-QAM	20.76	20.46	20.26
15	1	38		21.00	20.61	20.41
15	1	75		20.65	20.10	20.07
15	36	0		19.42	19.42	19.06
15	36	18		19.42	19.38	19.06
15	36	39		19.40	19.31	19.05
15	75	0		19.37	19.33	19.17
20	1	0	QPSK	22.02	22.43	22.15
20	1	49		22.46	22.74	22.53
20	1	99		22.27	22.25	22.29
20	50	0		21.31	21.52	21.32
20	50	24		21.43	21.52	21.43
20	50	49		21.50	21.43	21.27
20	100	0		21.39	21.46	21.31
20	1	0	16-QAM	21.23	21.56	21.36
20	1	49		21.74	21.83	21.76
20	1	99		21.57	21.29	21.25
20	50	0		20.37	20.54	20.41
20	50	24		20.42	20.55	20.48
20	50	49		20.53	20.40	20.30
20	100	0		20.38	20.46	20.33



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.59	20.86	20.35
5	1	12		21.89	21.09	20.27
5	1	24		21.57	20.72	20.35
5	12	0		20.66	19.87	19.53
5	12	6		20.69	19.82	19.28
5	12	11		20.60	19.81	19.37
5	25	0		20.61	19.91	19.59
5	1	0	16-QAM	21.03	20.73	20.23
5	1	12		21.31	20.65	19.84
5	1	24		21.05	19.91	19.55
5	12	0		19.63	18.74	18.41
5	12	6		19.64	18.85	18.48
5	12	11		19.55	18.83	18.33
5	25	0		19.56	18.81	18.42
10	1	0	QPSK	21.65	21.04	20.58
10	1	24		21.75	21.05	20.67
10	1	49		21.59	20.81	20.49
10	25	0		20.67	19.94	19.57
10	25	12		20.65	19.93	19.49
10	25	24		20.65	19.96	19.49
10	50	0		20.63	19.93	19.51
10	1	0	16-QAM	21.04	20.14	19.41
10	1	24		21.18	20.15	19.55
10	1	49		21.03	19.91	19.41
10	25	0		19.65	18.95	18.53
10	25	12		19.67	18.92	18.47
10	25	24		19.65	18.94	18.47
10	50	0		19.62	19.00	18.48



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.61	21.02	20.67
15	1	37		21.86	21.21	20.92
15	1	74		21.43	20.71	20.51
15	36	0		20.75	20.06	19.69
15	36	18		20.74	20.02	19.66
15	36	39		20.67	19.98	19.59
15	75	0		20.73	20.02	19.66
15	1	0	16-QAM	20.99	20.09	19.68
15	1	38		21.30	20.33	19.92
15	1	75		20.92	19.77	19.57
15	36	0		19.69	19.08	18.56
15	36	18		19.71	19.02	18.53
15	36	39		19.65	18.99	18.46
15	75	0		19.68	18.95	18.60
20	1	0	QPSK	21.59	20.86	20.35
20	1	49		21.89	21.09	21.00
20	1	99		21.57	20.72	20.35
20	50	0		20.66	19.87	19.53
20	50	24		20.69	19.82	19.76
20	50	49		20.60	19.81	19.37
20	100	0		20.61	19.91	19.28
20	1	0	16-QAM	20.64	20.10	19.58
20	1	49		21.04	20.36	19.75
20	1	99		20.46	19.67	19.38
20	50	0		19.66	18.95	18.57
20	50	24		19.69	18.93	18.55
20	50	49		19.67	18.90	18.46
20	100	0		19.66	18.97	18.50



11. EUT and Test Setup Photo

11.1 Setup Photos

Please see FCC ID_SAR Setup photos



12. SAR Result Summary

12.1 Body-worn and Hotspot SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4G WLAN	802.11b	Front Side	2437	0.087	3.30	14.00	13.85	0.090	/
		Back Side	2437	0.036	3.93	14.00	13.85	0.037	/
		Right Side	2437	0.478	3.89	14.00	13.85	0.495	1

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Front side	1880	0.256	1.25	23.00	22.94	0.260	/
			50	0	Front side	1880	0.219	0.18	22.00	21.57	0.242	/
			1	0	Back Side	1880	0.377	3.03	23.00	22.94	0.382	/
			50	0	Back Side	1880	0.323	-1.94	22.00	21.57	0.357	/
			1	0	Right Side	1860	0.788	-2.88	23.00	22.45	0.894	/
			1	0	Right Side	1880	0.958	2.52	23.00	22.94	0.971	2
			1	0	Right Side	1900	0.882	1.50	23.00	22.69	0.947	/
			50	0	Right Side	1860	0.705	-3.43	22.00	21.26	0.836	/
			50	0	Right Side	1880	0.817	-2.04	22.00	21.57	0.902	/
			50	0	Right Side	1900	0.754	3.43	22.00	21.45	0.856	/
			100	0	Right Side	1880	0.736	3.94	21.60	21.55	0.745	/
			1	0	Top Side	1880	0.102	3.61	23.00	22.94	0.103	/
			50	0	Top Side	1880	0.087	1.67	22.00	21.57	0.096	/
			1	0	Front side	1720	0.281	-0.41	23.00	22.83	0.292	/
LTE Band 4	20M	QPSK	50	0	Front side	1720	0.241	0.79	21.50	21.48	0.242	/
			1	0	Back Side	1720	0.423	1.72	23.00	22.83	0.440	/
			50	0	Back Side	1720	0.359	0.68	21.50	21.48	0.361	/
			1	0	Right Side	1720	0.931	-0.77	23.00	22.83	0.968	3
			1	0	Right Side	1732.5	0.766	2.67	23.00	22.50	0.859	/
			1	0	Right Side	1745	0.860	-1.29	23.00	22.69	0.924	/
			50	0	Right Side	1720	0.792	-1.27	21.50	21.48	0.796	/
			1	0	Top Side	1720	0.093	-3.56	23.00	22.83	0.097	/
			50	0	Top Side	1720	0.081	-0.84	21.50	21.48	0.081	/
			1	0	Front side	844	0.138	0.82	23.50	23.33	0.144	/
LTE Band 5	10M	QPSK	25	0	Front side	844	0.118	3.81	22.00	21.94	0.120	/
			1	0	Back Side	844	0.213	-0.76	23.50	23.33	0.222	/
			25	0	Back Side	844	0.181	2.23	22.00	21.94	0.184	/
			1	0	Right Side	844	0.248	1.51	23.50	23.33	0.258	4
			25	0	Right Side	844	0.214	1.78	22.00	21.94	0.217	/
			1	0	Top Side	844	0.062	3.49	23.50	23.33	0.064	/
			25	0	Top Side	844	0.055	2.32	22.00	21.94	0.056	/
			1	0	Top Side	844	0.055	2.32	22.00	21.94	0.056	/



LTE Band 7	20M	QPS K	1	0	Front side	2510	0.234	2.48	17.50	17.43	0.238	/
			50	0	Front side	2510	0.200	-1.99	16.50	16.17	0.216	/
			1	0	Back Side	2510	0.352	-1.94	17.50	17.43	0.358	/
			50	0	Back Side	2510	0.299	-2.13	16.50	16.17	0.323	/
			1	0	Right Side	2510	0.780	3.28	17.50	17.43	0.793	5
			50	0	Right Side	2510	0.663	3.36	16.50	16.17	0.715	/
			1	0	Top Side	2510	0.081	2.15	17.50	17.43	0.082	/
			50	0	Top Side	2510	0.070	-2.70	16.50	16.17	0.076	/
LTE Band 38	20M	QPS K	1	0	Front side	2595	0.240	3.12	23.00	22.74	0.255	/
			50	0	Front side	2595	0.203	0.72	22.00	21.52	0.227	/
			1	0	Back Side	2595	0.358	-2.91	23.00	22.74	0.380	/
			50	0	Back Side	2595	0.306	-1.98	22.00	21.52	0.342	/
			1	0	Right Side	2580	0.674	-3.08	23.00	22.46	0.763	/
			1	0	Right Side	2595	0.792	0.21	23.00	22.74	0.841	6
			1	0	Right Side	2610	0.721	-2.51	23.00	22.53	0.803	/
			50	0	Right Side	2595	0.673	1.26	22.00	21.52	0.752	/
			1	0	Top Side	2595	0.080	-3.96	23.00	22.74	0.085	/
			50	0	Top Side	2595	0.070	-3.55	22.00	21.52	0.078	/
LTE Band 41	20M	QPS K	1	0	Front side	2506	0.235	-2.15	22.00	21.89	0.241	/
			50	0	Front side	2506	0.199	-2.50	21.00	20.69	0.214	/
			1	0	Back Side	2506	0.352	-2.07	22.00	21.89	0.361	/
			50	0	Back Side	2506	0.298	-3.51	21.00	20.69	0.320	/
			1	0	Right Side	2506	0.779	3.20	22.00	21.89	0.799	7
			50	0	Right Side	2506	0.661	-1.07	21.00	20.69	0.710	/
			1	0	Top Side	2506	0.080	0.85	22.00	21.89	0.082	/
			50	0	Top Side	2506	0.070	-2.47	21.00	20.69	0.075	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor
3. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



12.2 limbs SAR

Band	Model	Test Position	Freq.	SAR (10g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4G WLAN	802.11b	Front Side	2437	0.073	1.70	14.00	13.85	0.076	/
		Back Side	2437	0.020	-2.46	14.00	13.85	0.021	/
		Right Side	2437	0.383	0.70	14.00	13.85	0.396	8

Band	BW (MHz)	Mod .	RB Size	R B off set	Test Position	Freq.	Result 10g (W/Kg)	Powe r Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scale d SAR (W/K g)	Meas. No.
LTE Band 2	20M	QP SK	1	0	Front side	1880	0.646	-3.31	23.00	22.94	0.655	/
			50	0	Front side	1880	0.551	1.21	22.00	21.57	0.608	/
			1	0	Back Side	1880	0.233	1.83	23.00	22.94	0.236	/
			50	0	Back Side	1880	0.196	-0.49	22.00	21.57	0.216	/
			1	0	Right Side	1860	1.766	1.22	23.00	22.45	2.004	/
			1	0	Right Side	1880	2.151	3.05	23.00	22.94	2.181	9
			1	0	Right Side	1900	1.983	2.17	23.00	22.69	2.130	/
			50	0	Right Side	1860	1.612	-1.50	22.00	21.26	1.911	/
			50	0	Right Side	1880	1.828	-1.18	22.00	21.57	2.018	/
			50	0	Right Side	1900	1.739	-0.60	22.00	21.45	1.974	/
			100	0	Right Side	1880	1.721	0.39	21.60	21.55	1.741	/
			1	0	Top Side	1880	0.216	-2.27	23.00	22.94	0.219	/
			50	0	Top Side	1880	0.182	3.65	22.00	21.57	0.201	/
LTE Band 4	20M	QP SK	1	0	Front side	1720	0.603	0.95	23.00	22.83	0.627	/
			50	0	Front side	1720	0.514	3.45	21.50	21.48	0.516	/
			1	0	Back Side	1720	0.223	1.88	23.00	22.83	0.232	/
			50	0	Back Side	1720	0.189	0.95	21.50	21.48	0.190	/
			1	0	Right Side	1720	2.008	0.93	23.00	22.83	2.088	10
			1	0	Right Side	1732.5	1.649	-0.07	23.00	22.50	1.850	/
			1	0	Right Side	1745	1.852	3.25	23.00	22.69	1.989	/
			50	0	Right Side	1720	1.710	-3.67	21.50	21.48	1.718	/
			1	0	Top Side	1720	0.204	-0.37	23.00	22.83	0.212	/
			50	0	Top Side	1720	0.173	0.96	21.50	21.48	0.174	/
LTE Band 5	10M	QP SK	1	0	Front side	844	0.195	2.64	23.50	23.33	0.203	/
			25	0	Front side	844	0.167	3.94	22.00	21.94	0.169	/
			1	0	Back Side	844	0.134	0.70	23.50	23.33	0.139	/
			25	0	Back Side	844	0.116	-1.98	22.00	21.94	0.118	/
			1	0	Right Side	844	0.650	-2.68	23.50	23.33	0.676	11
			25	0	Right Side	844	0.553	3.23	22.00	21.94	0.561	/
			1	0	Top Side	844	0.068	0.13	23.50	23.33	0.071	/
			25	0	Top Side	844	0.058	3.11	22.00	21.94	0.059	/



LTE Band 7	20M	QP SK	1	0	Front side	2510	0.549	2.08	17.50	17.43	0.558	/
			50	0	Front side	2510	0.469	3.62	16.50	16.17	0.506	/
			1	0	Back Side	2510	0.182	2.50	17.50	17.43	0.185	/
			50	0	Back Side	2510	0.158	0.77	16.50	16.17	0.170	/
			1	0	Right Side	2510	1.825	-2.00	17.50	17.43	1.855	12
			50	0	Right Side	2510	1.551	3.54	16.50	16.17	1.673	/
			1	0	Top Side	2510	0.185	3.78	17.50	17.43	0.188	/
			50	0	Top Side	2510	0.157	0.61	16.50	16.17	0.169	/
LTE Band 38	20M	QP SK	1	0	Front side	2595	0.593	0.81	23.00	22.74	0.630	/
			50	0	Front side	2595	0.505	-2.59	22.00	21.52	0.564	/
			1	0	Back Side	2595	0.199	3.95	23.00	22.74	0.211	/
			50	0	Back Side	2595	0.172	2.34	22.00	21.52	0.192	/
			1	0	Right Side	2580	1.712	-1.60	23.00	22.46	1.939	/
			1	0	Right Side	2595	1.965	1.63	23.00	22.74	2.086	13
			1	0	Right Side	2610	1.789	-0.63	23.00	22.53	1.993	/
			50	0	Right Side	2595	1.671	3.17	22.00	21.52	1.866	/
			1	0	Top Side	2595	0.199	0.69	23.00	22.74	0.211	/
			50	0	Top Side	2595	0.171	-0.19	22.00	21.52	0.191	/
LTE Band 41	20M	QP SK	1	0	Front side	2506	0.612	-0.99	22.00	21.89	0.628	/
			50	0	Front side	2506	0.522	2.90	21.00	20.69	0.561	/
			1	0	Back Side	2506	0.227	1.26	22.00	21.89	0.233	/
			50	0	Back Side	2506	0.193	-0.76	21.00	20.69	0.207	/
			1	0	Right Side	2506	2.039	-1.03	22.00	21.89	2.091	14
			1	0	Right Side	2593	1.633	1.98	22.00	21.09	2.014	/
			1	0	Right Side	2680	1.570	3.10	22.00	21.00	1.977	/
			50	0	Right Side	2506	1.735	-0.75	21.00	20.69	1.863	/
			1	0	Top Side	2506	0.205	-1.64	22.00	21.89	0.210	/
			50	0	Top Side	2506	0.175	-3.51	21.00	20.69	0.188	/

Note:

4. The test separation of all above table is 0mm.
5. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor
6. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



12.3 Repeated SAR

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)
LTE Band 2	20M	QPSK	1	0	Right Side	1860	0.771	0.15	23.00	22.45	0.875
			1	0	Right Side	1880	0.932	0.14	23.00	22.94	0.945
			1	0	Right Side	1900	0.865	-3.46	23.00	22.69	0.929
			50	0	Right Side	1860	0.704	-2.69	22.00	21.26	0.834
			50	0	Right Side	1880	0.806	-1.98	22.00	21.57	0.890
			50	0	Right Side	1900	0.725	-3.19	22.00	21.45	0.823
LTE Band 4	20M	QPSK	1	0	Right Side	1720	0.900	-0.66	23.00	22.83	0.936
			1	0	Right Side	1732.5	0.751	-2.18	23.00	22.50	0.842
			1	0	Right Side	1745	0.832	-3.81	23.00	22.69	0.894
LTE Band 38	20M	QPSK	1	0	Right Side	2595	0.785	-1.24	23.00	22.74	0.834
			1	0	Right Side	2610	0.717	0.93	23.00	22.53	0.799

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 10g (W/Kg)	Power Drift(%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR(W/Kg)
LTE Band 2	20M	QPSK	1	0	Right Side	1860	1.683	2.46	23.00	22.45	1.910
			1	0	Right Side	1880	2.073	1.38	23.00	22.94	2.102
			1	0	Right Side	1900	1.896	-1.88	23.00	22.69	2.036
			50	0	Right Side	1880	1.775	-0.14	22.00	21.57	1.960
LTE Band 4	20M	QPSK	1	0	Right Side	1720	1.924	0.56	23.00	22.83	2.000
LTE Band 38	20M	QPSK	1	0	Right Side	2595	1.870	2.53	23.00	22.74	1.985
LTE Band 41	20M	QPSK	1	0	Right Side	2506	2.035	-1.98	22.00	21.89	2.087
			1	0	Right Side	2593	1.563	-1.08	22.00	21.09	1.927



12.4 Repeated SAR measurement

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg) 1g (W/Kg)	1 st Repeated SAR 1g	Ratio
LTE Band 2	20M	QPSK	1	0	Right Side	1860	0.788	0.771	1.022
			1	0	Right Side	1880	0.958	0.932	1.028
			1	0	Right Side	1900	0.882	0.865	1.020
			50	0	Right Side	1860	0.705	0.704	1.002
			50	0	Right Side	1880	0.817	0.806	1.014
			50	0	Right Side	1900	0.754	0.725	1.040
LTE Band 4	20M	QPSK	1	0	Right Side	1720	0.931	0.900	1.034
			1	0	Right Side	1732.5	0.766	0.751	1.020
			1	0	Right Side	1745	0.860	0.832	1.033
LTE Band 38	20M	QPSK	1	0	Right Side	2595	0.792	0.785	1.008
			1	0	Right Side	2610	0.721	0.717	1.005

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 10g (W/kg)	1 st Repeated SAR 10g	Ratio
LTE Band 2	20M	QPSK	1	0	Right Side	1860	1.766	1.683	1.049
			1	0	Right Side	1880	2.151	2.073	1.038
			1	0	Right Side	1900	1.983	1.896	1.046
			50	0	Right Side	1880	1.828	1.775	1.030
LTE Band 4	20M	QPSK	1	0	Right Side	1720	2.008	1.924	1.044
LTE Band 38	20M	QPSK	1	0	Right Side	2595	1.965	1.870	1.051
LTE Band 41	20M	QPSK	1	0	Right Side	2506	2.039	2.035	1.002
			1	0	Right Side	2593	1.633	1.563	1.045

Note:

1. Per KDB 865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8 \text{ W/Kg}$.
2. Per KDB 865664 D01, if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤ 1.2 and the measured SAR $< 1.45 \text{ W/Kg}$, only one repeated measurement is required.
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 $\geq 1.45 \text{ W/Kg}$.
4. The ratio is the difference in percentage between original and repeated measured SAR.



12.5 Simultaneous Multi-band Transmission Evaluation

Application Simultaneous Transmission information:

Position	Simultaneous State
Body	1. LTE + 2.4GHz WLAN + NFC
	2. LTE + Bluetooth + NFC
Limbs	1. LTE + 2.4GHz WLAN + NFC
	2. LTE + Bluetooth + NFC

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
4. KDB 447498 / 4.3.2 (2) 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:
 - a) (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f (GHz) /x] W/kg for test separation distances ≤ 50 mm;
Where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
 - b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

Body

Estimated SAR		Maximum Turn-up Power		Antenna to user (mm)	Frequency (GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Body	5	3.162	5	2.48	0.133
NFC	Body	-26	0.002512	5	0.01356	0.0000078

Limbs

Estimated SAR		Maximum Turn-up Power		Antenna to user(mm)	Frequency (GHz)	Stand Alone SAR (10g) [W/kg]
		dBm	mW			
BT	Body	5	3.162	5	2.48	0.053
NFC	Body	-26	0.002512	5	0.01356	0.0000031



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
LTE + 2.4G WLAN + NFC	Body	LTE	0.971	1.422
		NFC	0.0000078	
		2.4G WLAN	0.451	
LTE + Bluetooth+ NFC	Body	LTE	0.971	1.104
		NFC	0.0000078	
		BT	0.133	

Simultaneous Mode	Position	Mode	Max. 10-g SAR	10-g Sum SAR
			(W/kg)	(W/kg)
LTE + 2.4G WLAN + NFC	Limbs	LTE	2.181	2.577
		NFC	0.0000031	
		2.4G WLAN	0.396	
LTE + Bluetooth+ NFC	Limbs	LTE	2.181	2.234
		NFC	0.0000031	
		BT	0.053	

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

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.



13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
835MHz Dipole	MVG	DIP0G835	SN 06/22 DIP0G835-639	2025.02.05	2026.02.04
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2025.02.05	2026.02.04
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2025.02.05	2026.02.04
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2025.02.05	2026.02.04
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2025.02.05	2026.02.04
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2025.02.05	2026.02.04
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2025.02.05	2026.02.04
Antenna	MVG	ANTA 73	SN 06/22 ANTA 73	N/A	N/A
Ellipsoid Phantom	MVG	ELLI 51	SN 06/22 ELLI 51	N/A	N/A
Phantom	MVG	SAM 148	SN 06/22 SAM148	N/A	N/A
Phone holder	MVG	MSH 117	SN 06/22 MSH 117	N/A	N/A
Laptop positioner	MVG	LSH 36	SN 06/22 LSH 38	N/A	N/A
Directional coupler	SHW	SHWDCP	202203280013	N/A	N/A
Network Analyzer	ZVL	R&S	116184-HC	2024.03.25	2025.03.24
Multi Meter	DMM6500	Keithley	4527252	2024.03.15	2025.03.14
Signal Generator	Keysight	N5182B	MY59100717	2024.03.09	2025.03.08
Wireless Communication Test Set	R&S	CMW500	137737	2024.03.09	2025.03.08
Power Sensor	R&S	Z11	116655	2024.03.09	2025.03.08
Electronic Temperature hygrometer	N/A	ST-W2318	N/A	2024.03.11	2025.03.10
Temperature hygrometer	N/A	TP101	N/A	2024.03.11	2025.03.10



Appendix A. System Validation Plots

System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

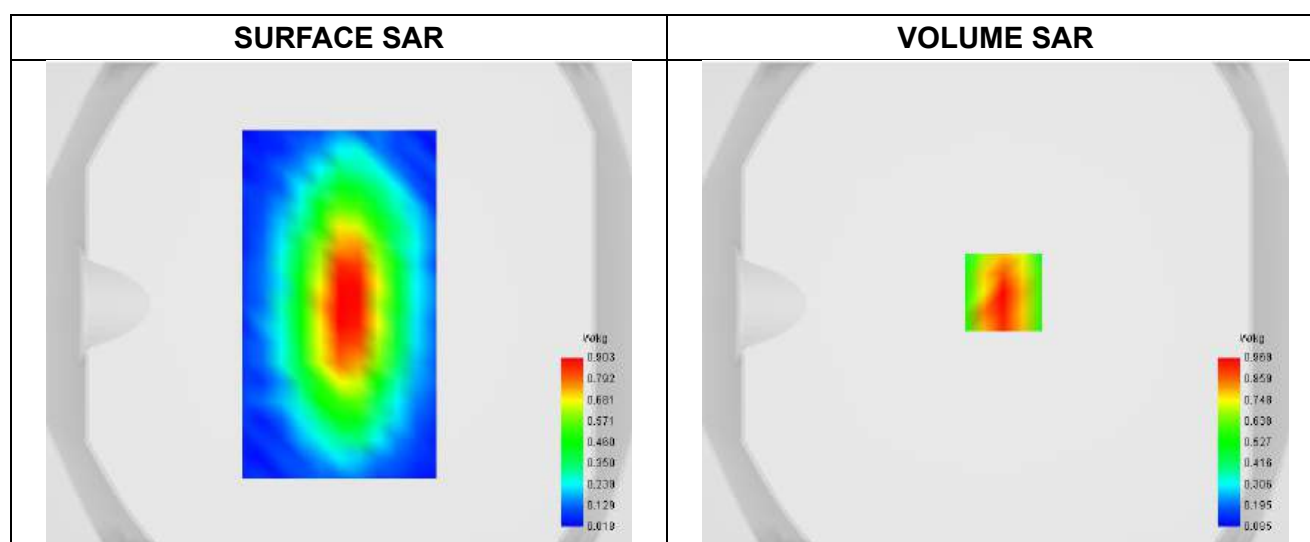
Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2025-02-28

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	40.79
Conductivity (S/m)	0.94
Probe	SN 04/22 EPGO364
ConvF	1.72
Crest factor:	1:1

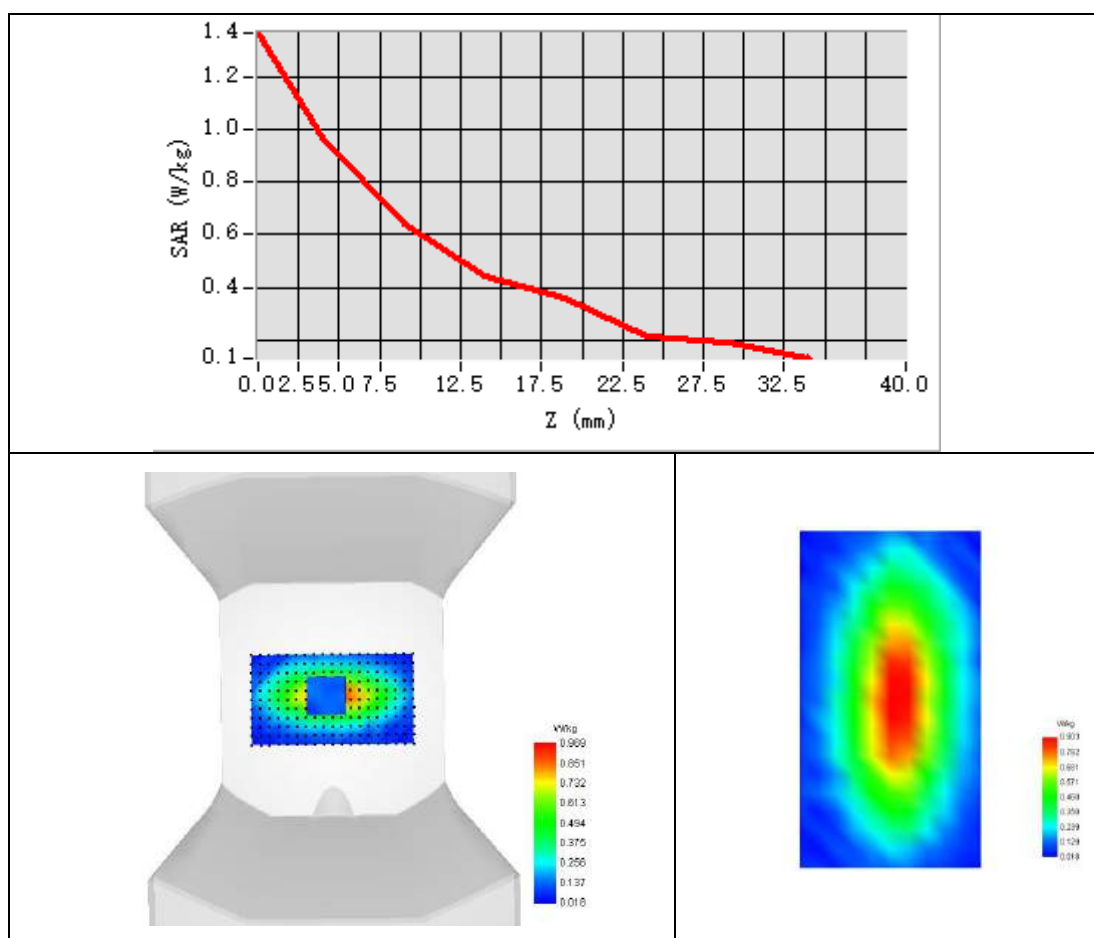


Maximum location: X=3.00, Y=5.00 ; SAR Peak: 1.37 W/kg

SAR 10g (W/Kg)	0.627
SAR 1g (W/Kg)	0.958



Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

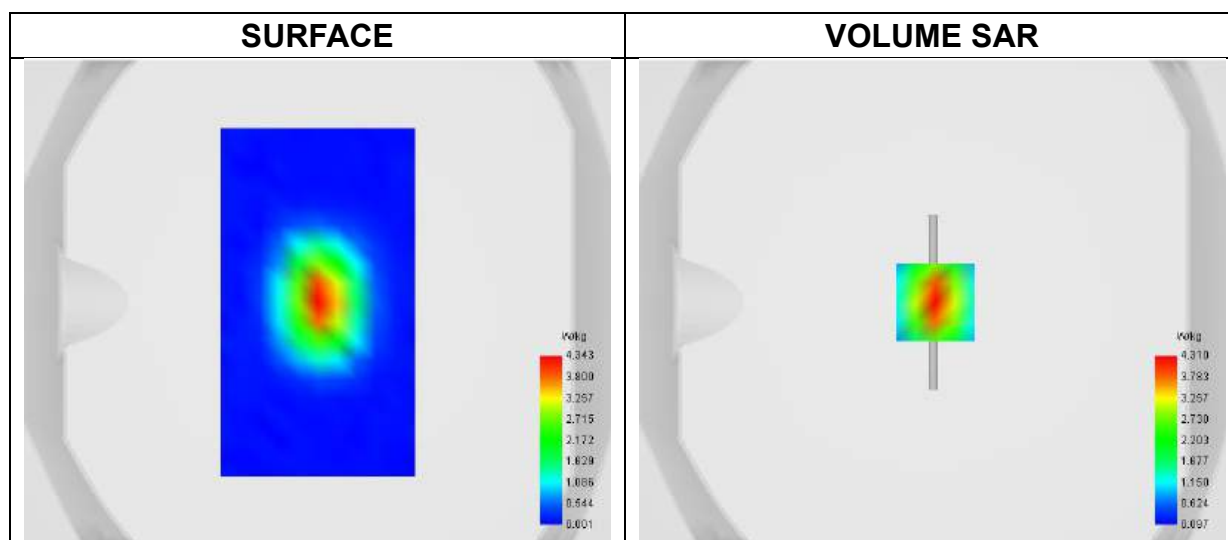
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement:2025-02-27

Experimental conditions.

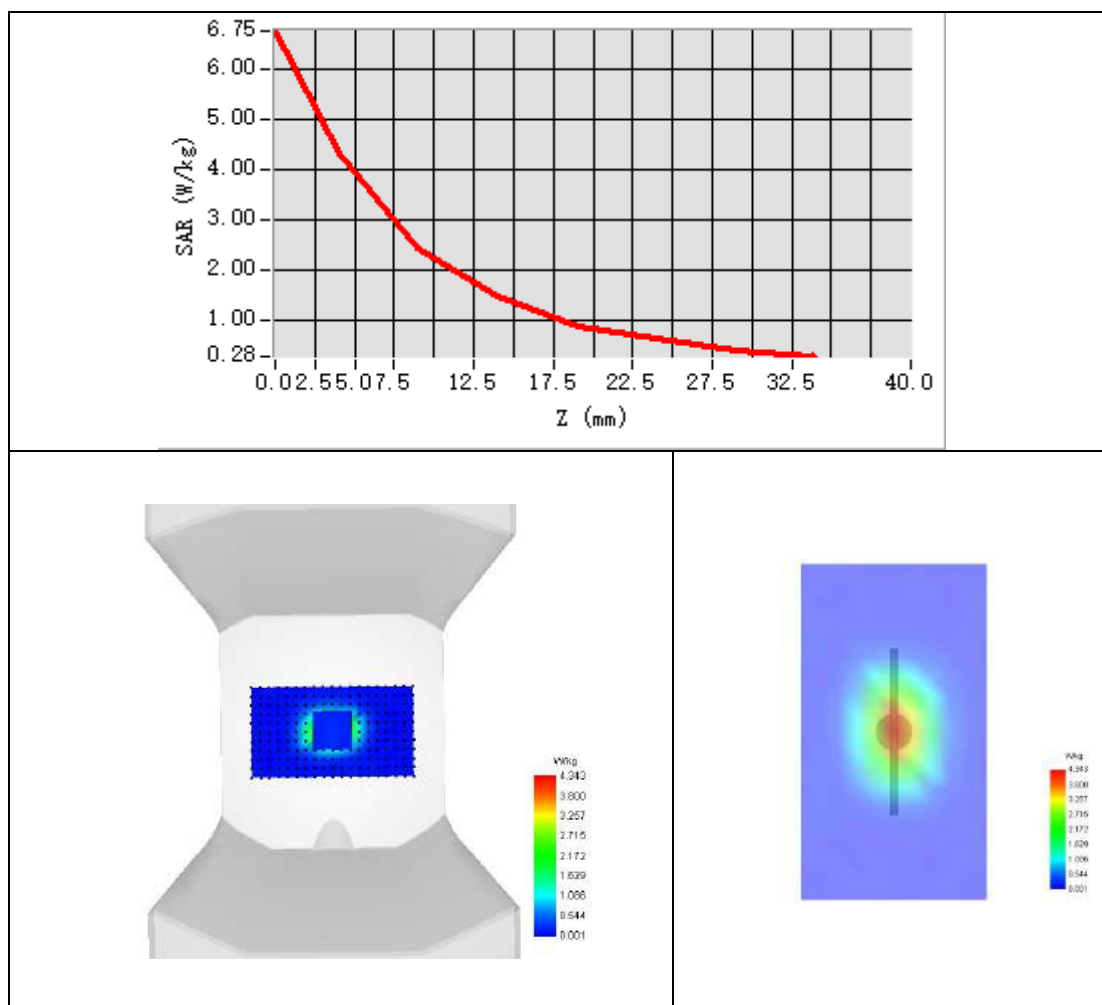
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	39.98
Conductivity (S/m)	1.36
Probe	SN 04/22 EPGO364
ConvF	1.92
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00 ; SAR Peak: 6.69 W/kg

SAR 10g (W/Kg)	2.068
SAR 1g (W/Kg)	3.924

Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

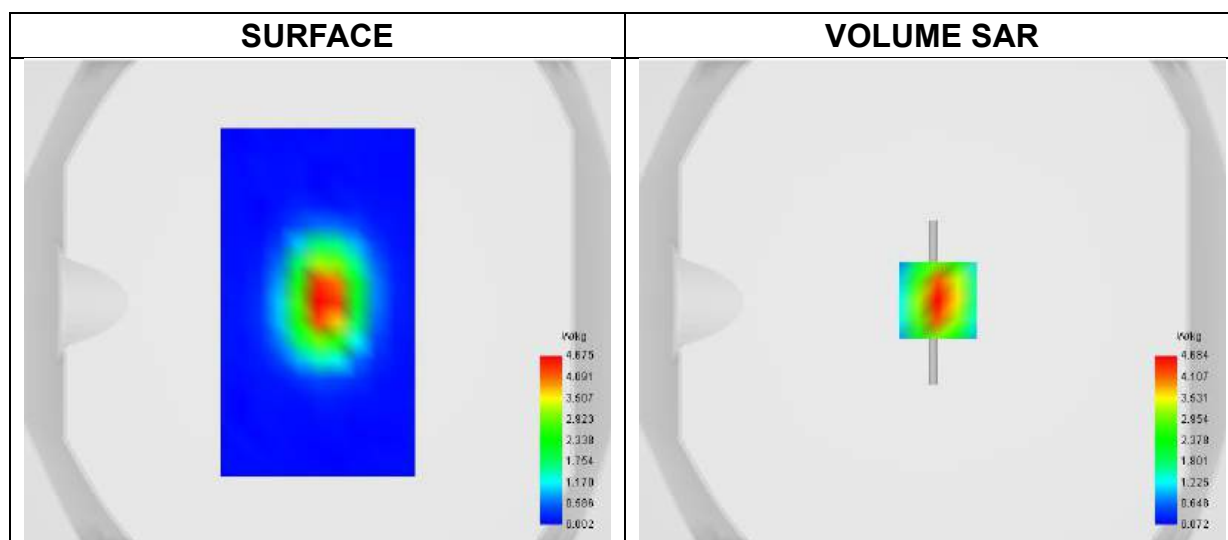
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement:2025-02-22

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	41.24
Conductivity (S/m)	1.39
Probe	SN 04/22 EPGO364
ConvF	2.20
Crest factor:	1:1

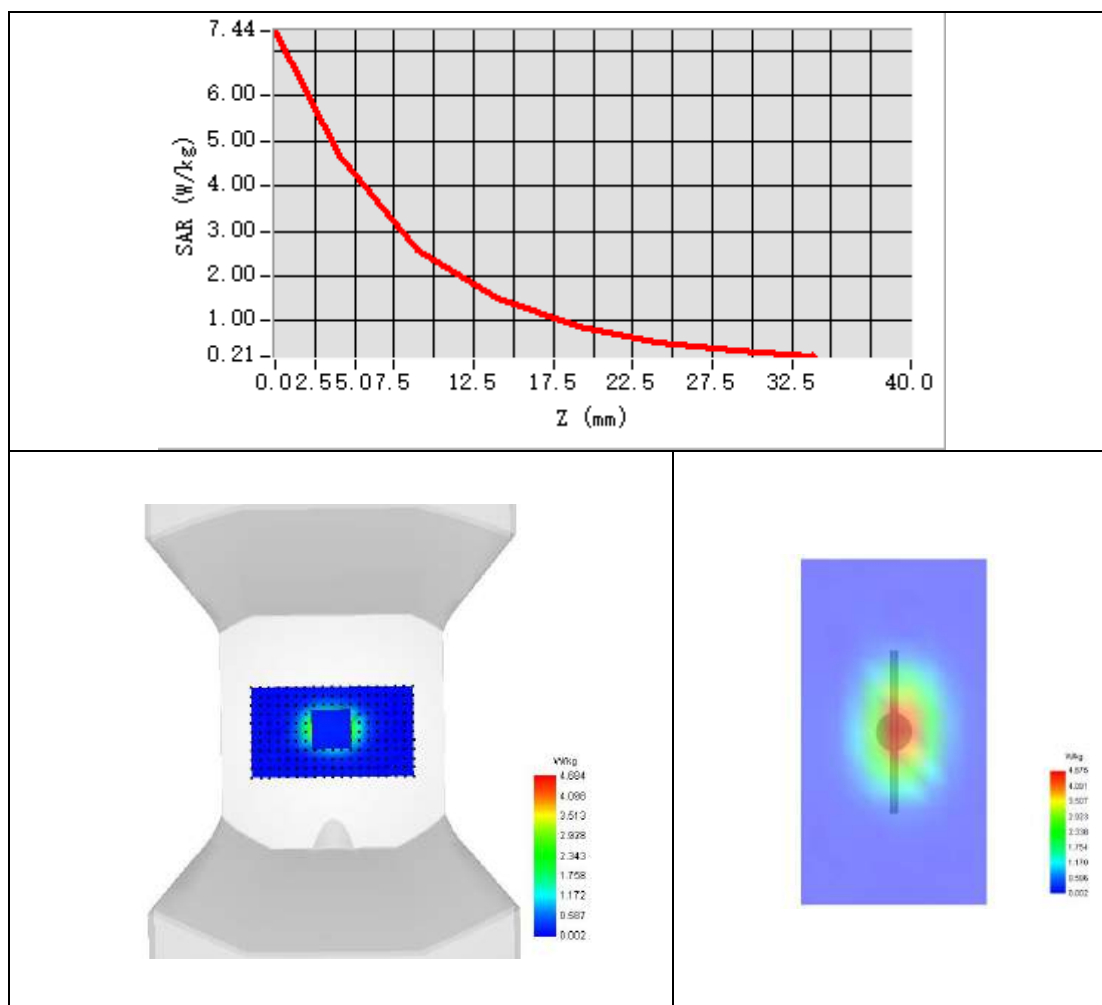


Maximum location: X=2.00, Y=1.00 ; SAR Peak: 7.38 W/kg

SAR 10g (W/Kg)	2.046
SAR 1g (W/Kg)	4.067



Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

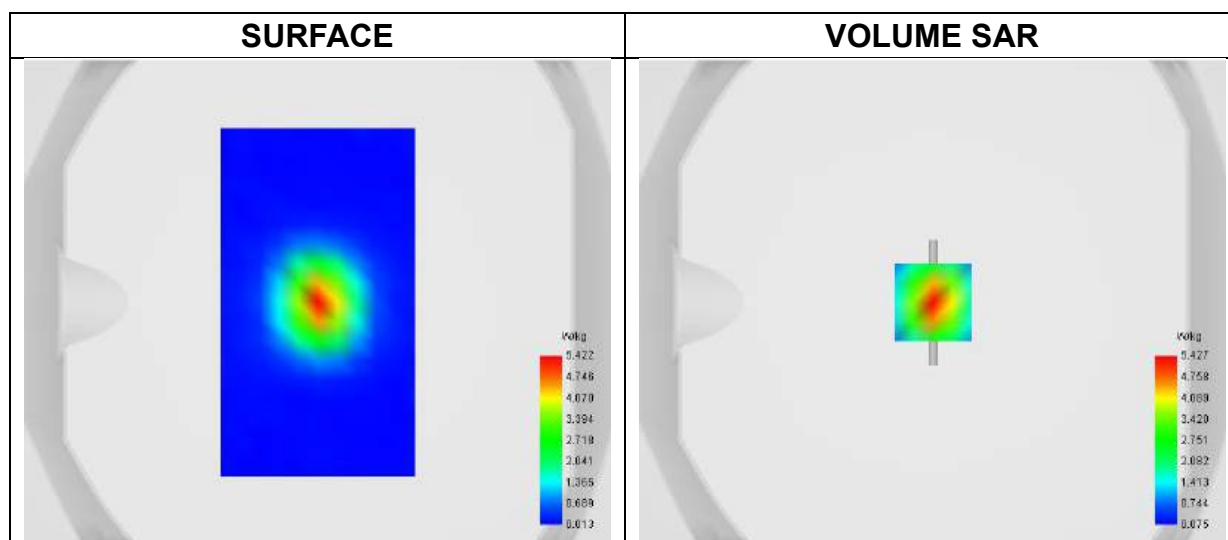
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement:2025-02-27

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.32
Conductivity (S/m)	1.84
Probe	SN 04/22 EPGO364
ConvF	2.33
Crest factor:	1:1

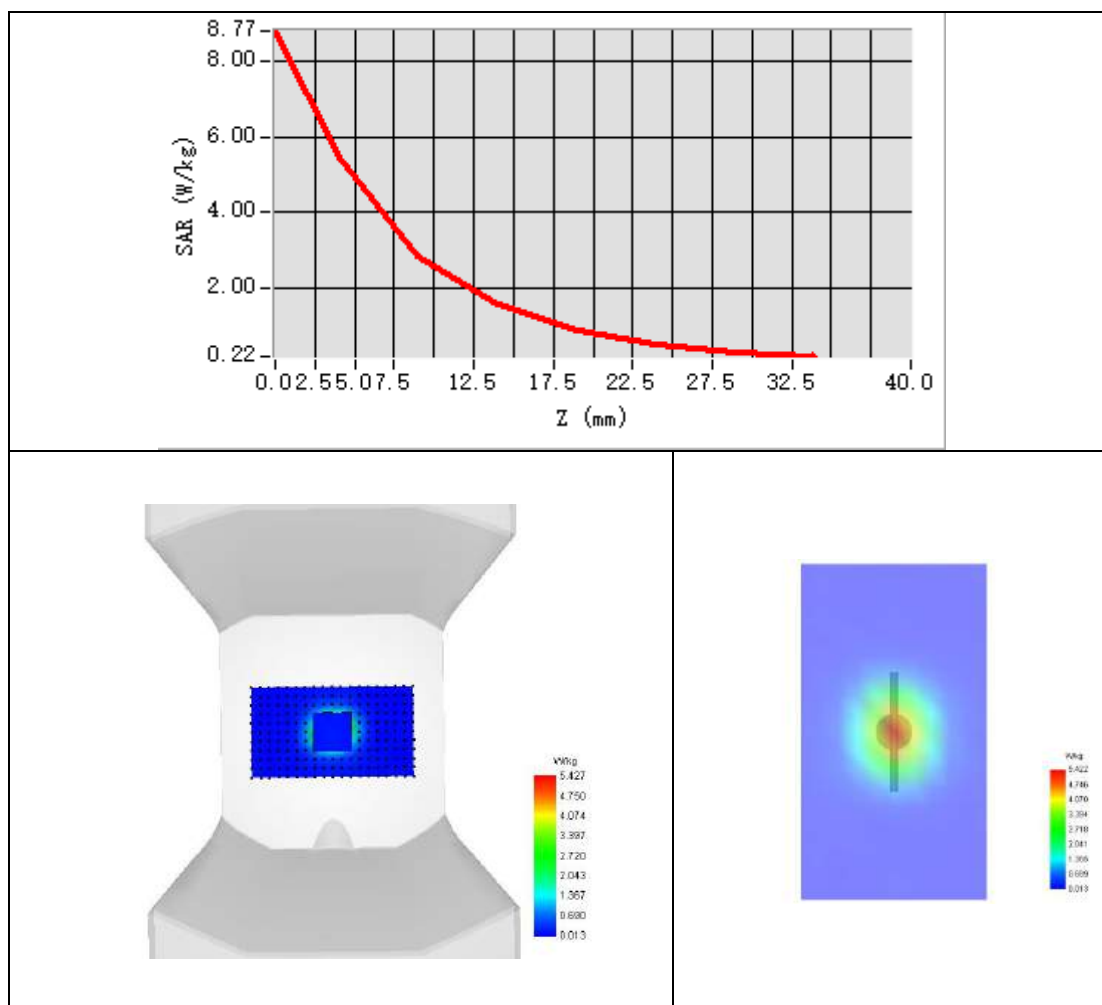


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 8.71 W/kg

SAR 10g (W/Kg)	2.384
SAR 1g (W/Kg)	5.404



Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

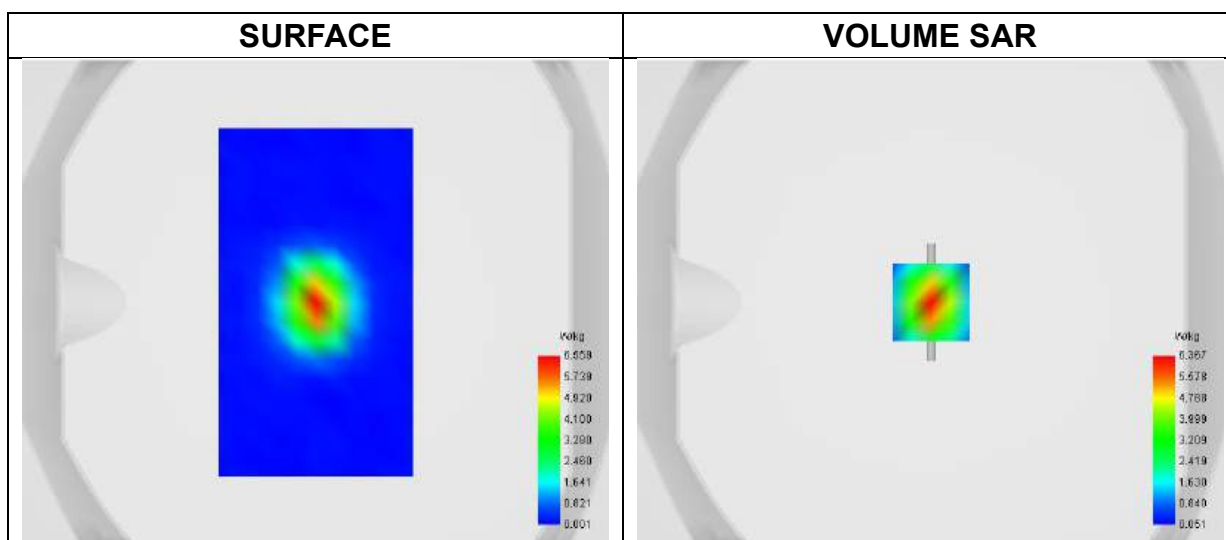
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement:2025-02-25

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.69
Conductivity (S/m)	1.95
Probe	SN 04/22 EPGO364
ConvF	2.37
Crest factor:	1:1

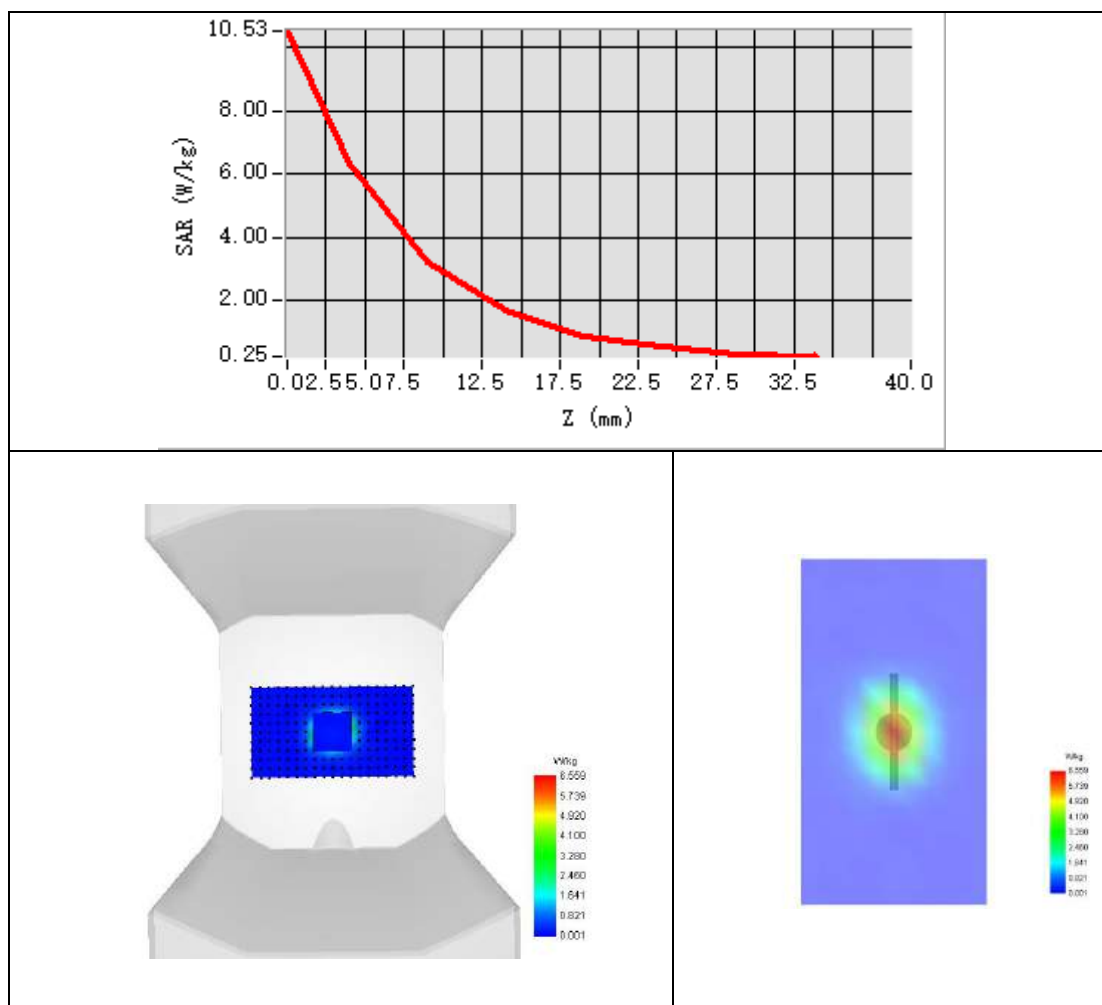


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 10.45 W/kg

SAR 10g (W/Kg)	2.436
SAR 1g (W/Kg)	5.669



Z Axis Scan



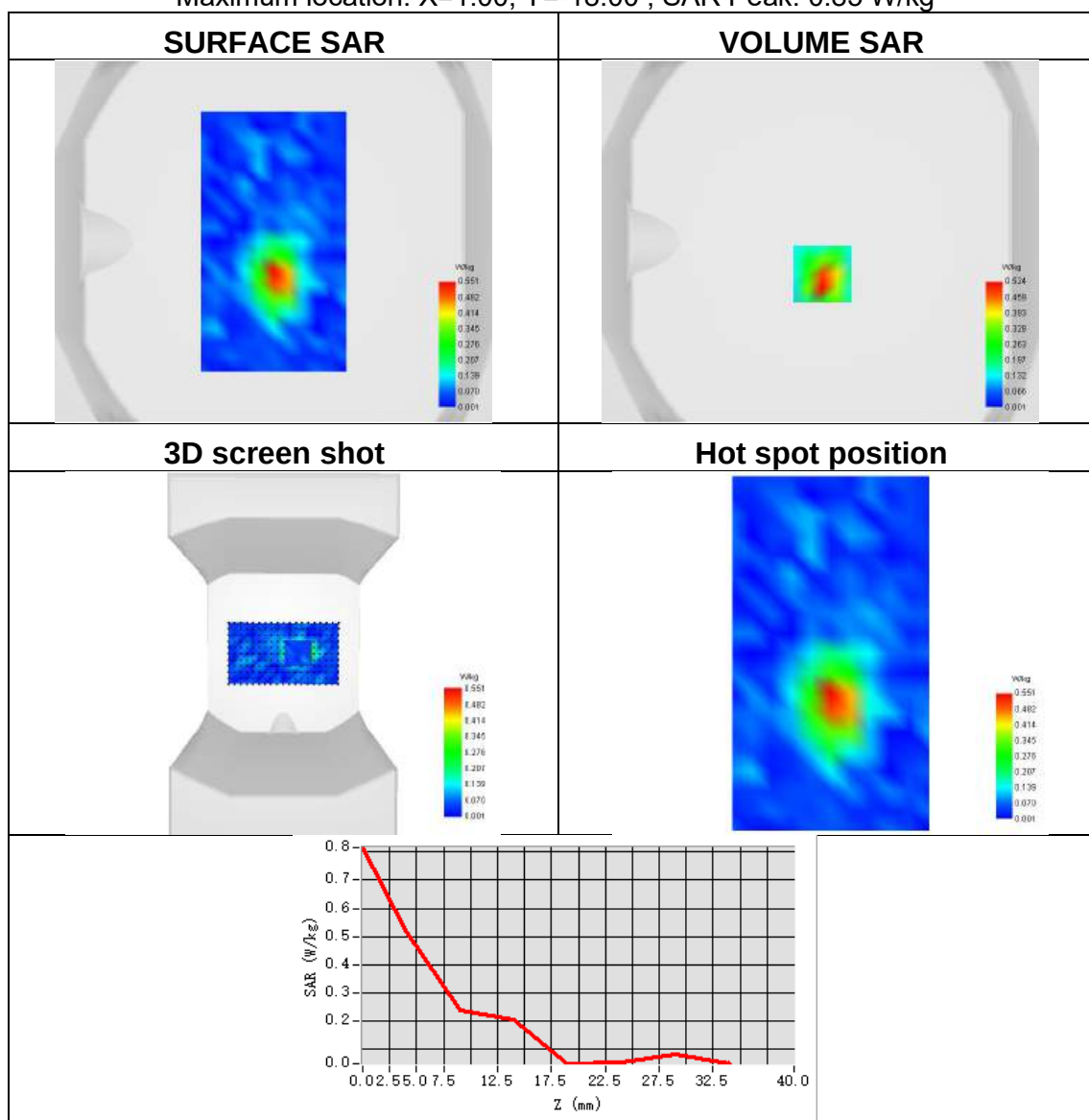


Appendix B. SAR Test Plots

Plot 1:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11 b
Frequency	2437
SAR 10g (W/Kg)	0.242
SAR 1g (W/Kg)	0.478
ConvF	2.33
Relative permittivity	39.32
Conductivity (S/m)	1.84

Maximum location: X=1.00, Y=-18.00 ; SAR Peak: 0.85 W/kg

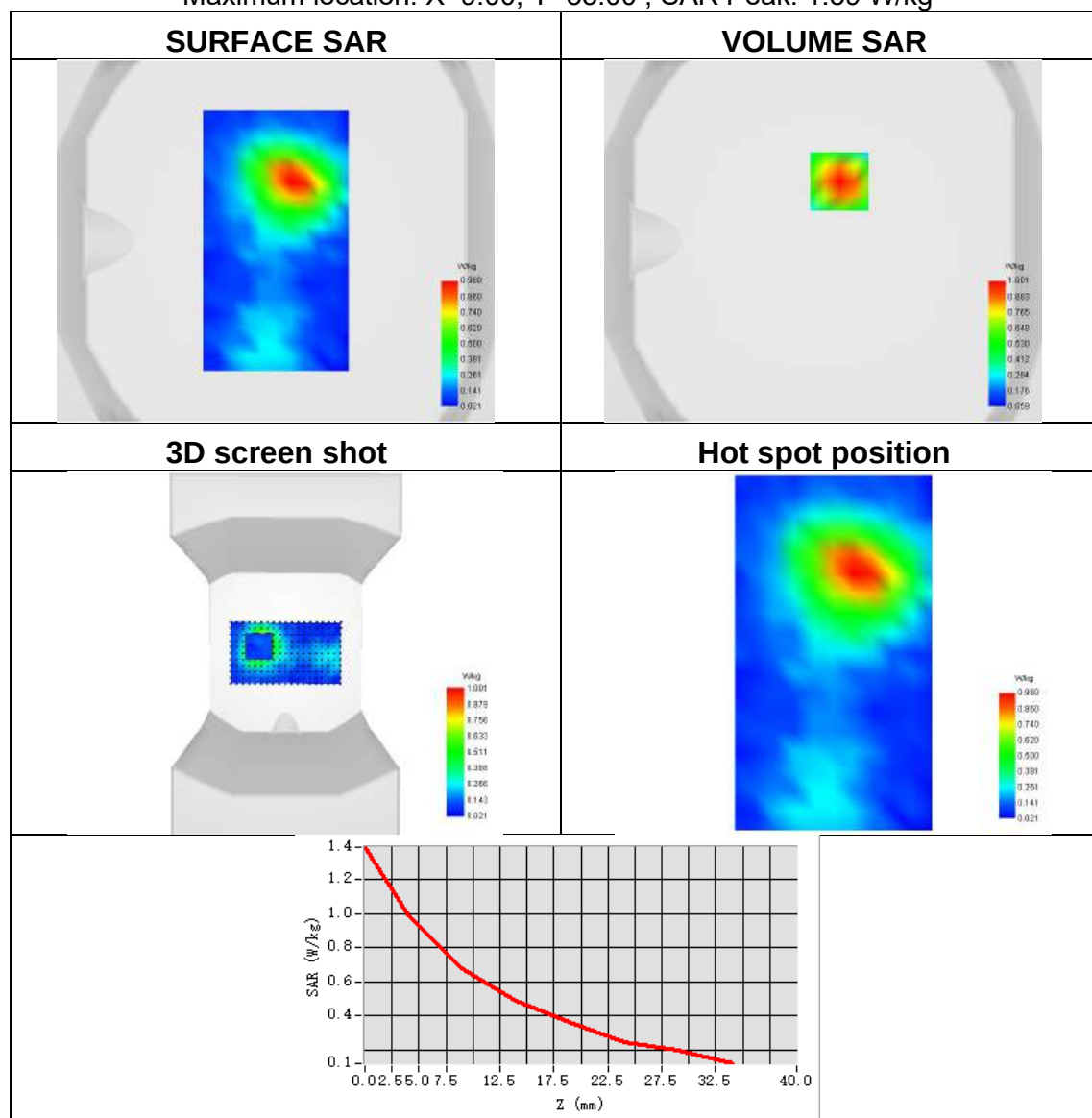




Plot 2:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 2
Signal	LTE FDD
Frequency	1880
SAR 10g (W/Kg)	0.587
SAR 1g (W/Kg)	0.958
ConvF	2.20
Relative permittivity	39.98
Conductivity (S/m)	1.36

Maximum location: X=9.00, Y=33.00 ; SAR Peak: 1.39 W/kg

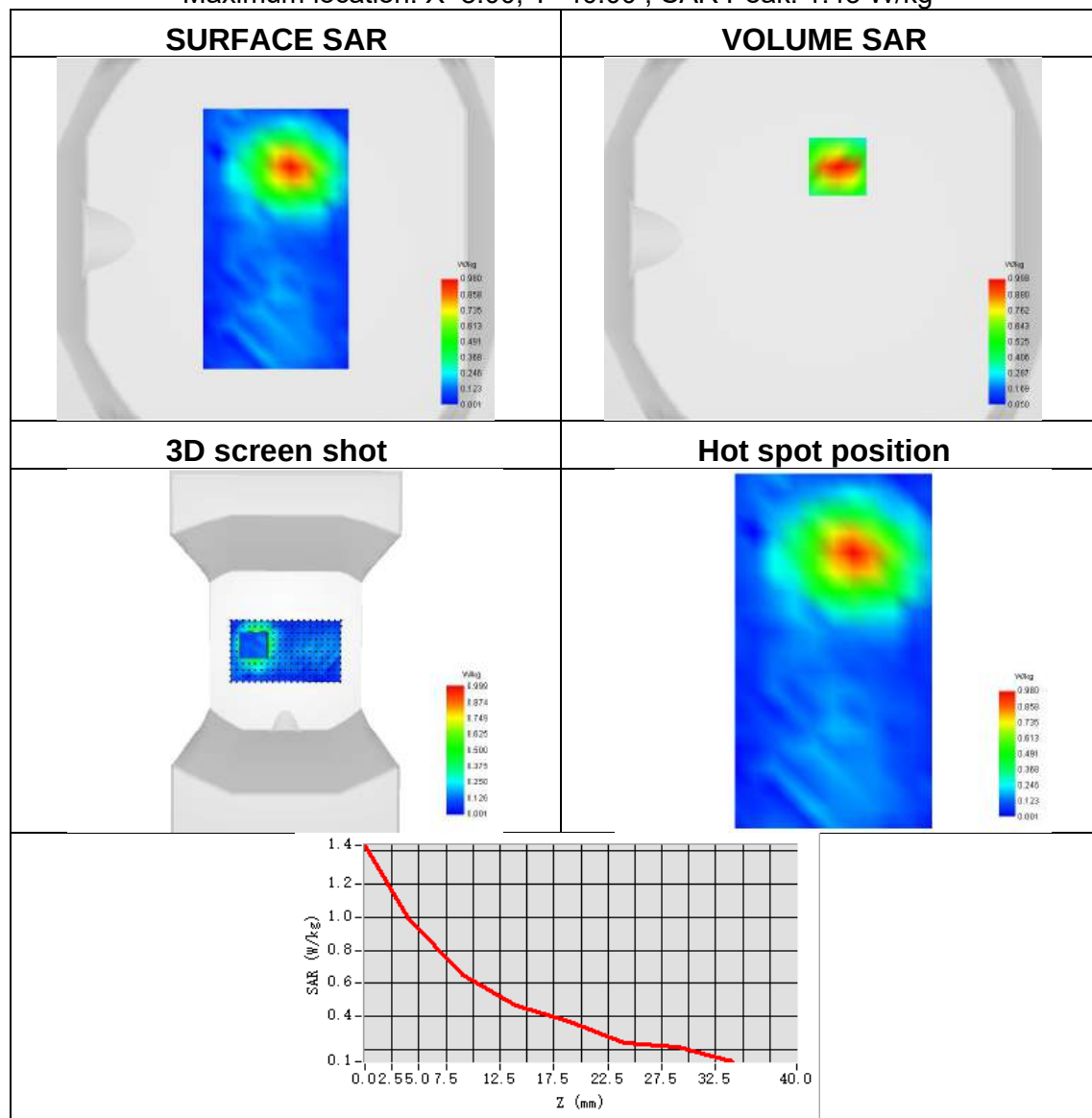




Plot 3:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 4
Signal	LTE FDD
Frequency	1720
SAR 10g (W/Kg)	0.559
SAR 1g (W/Kg)	0.931
ConvF	1.92
Relative permittivity	39.98
Conductivity (S/m)	1.36

Maximum location: X=8.00, Y=40.00 ; SAR Peak: 1.43 W/kg

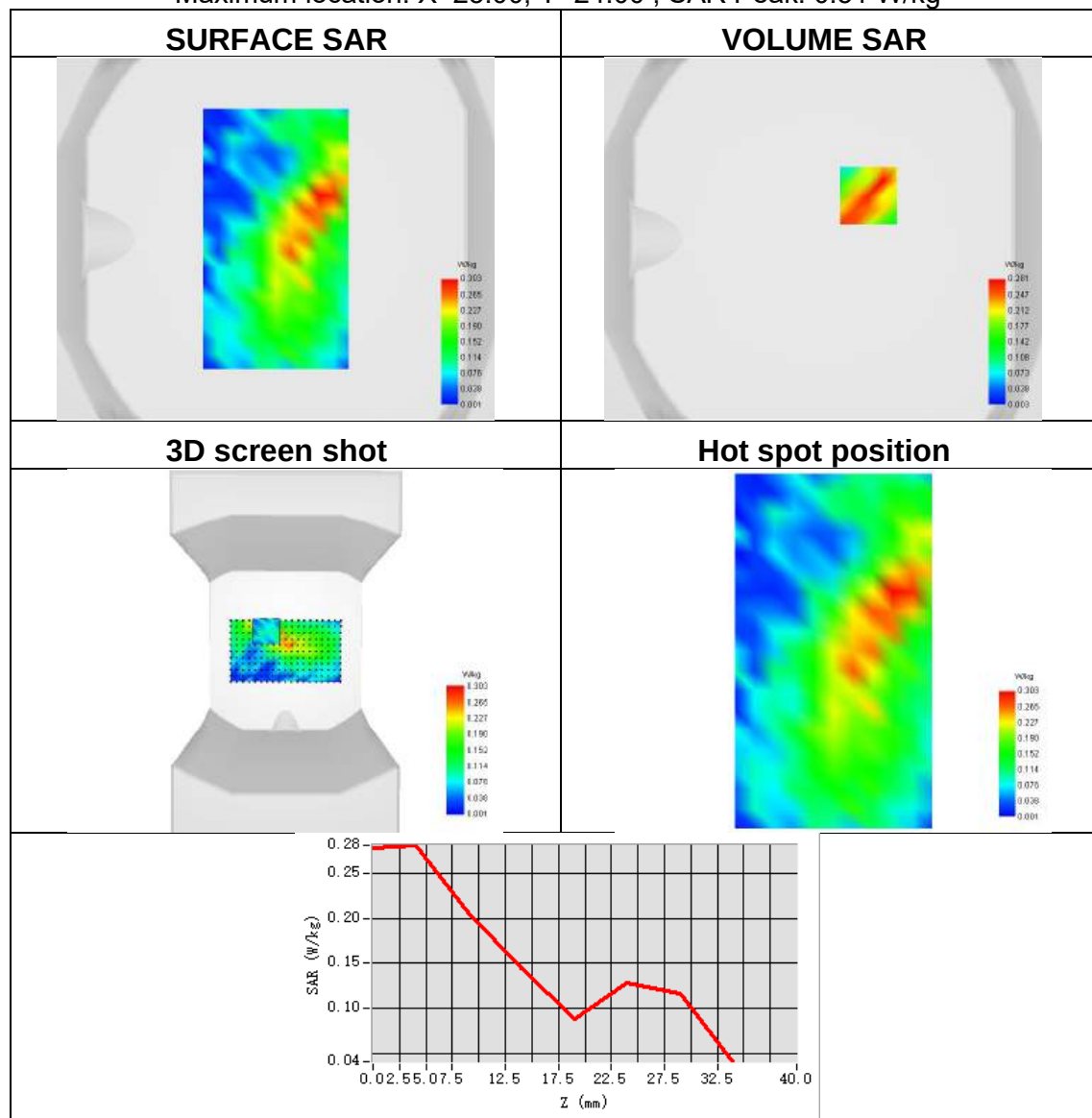




Plot 4:

Test Date	2025-02-28
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 5
Signal	LTE FDD
Frequency	844
SAR 10g (W/Kg)	0.149
SAR 1g (W/Kg)	0.248
ConvF	1.72
Relative permittivity	40.79
Conductivity (S/m)	0.94

Maximum location: X=25.00, Y=24.00 ; SAR Peak: 0.51 W/kg

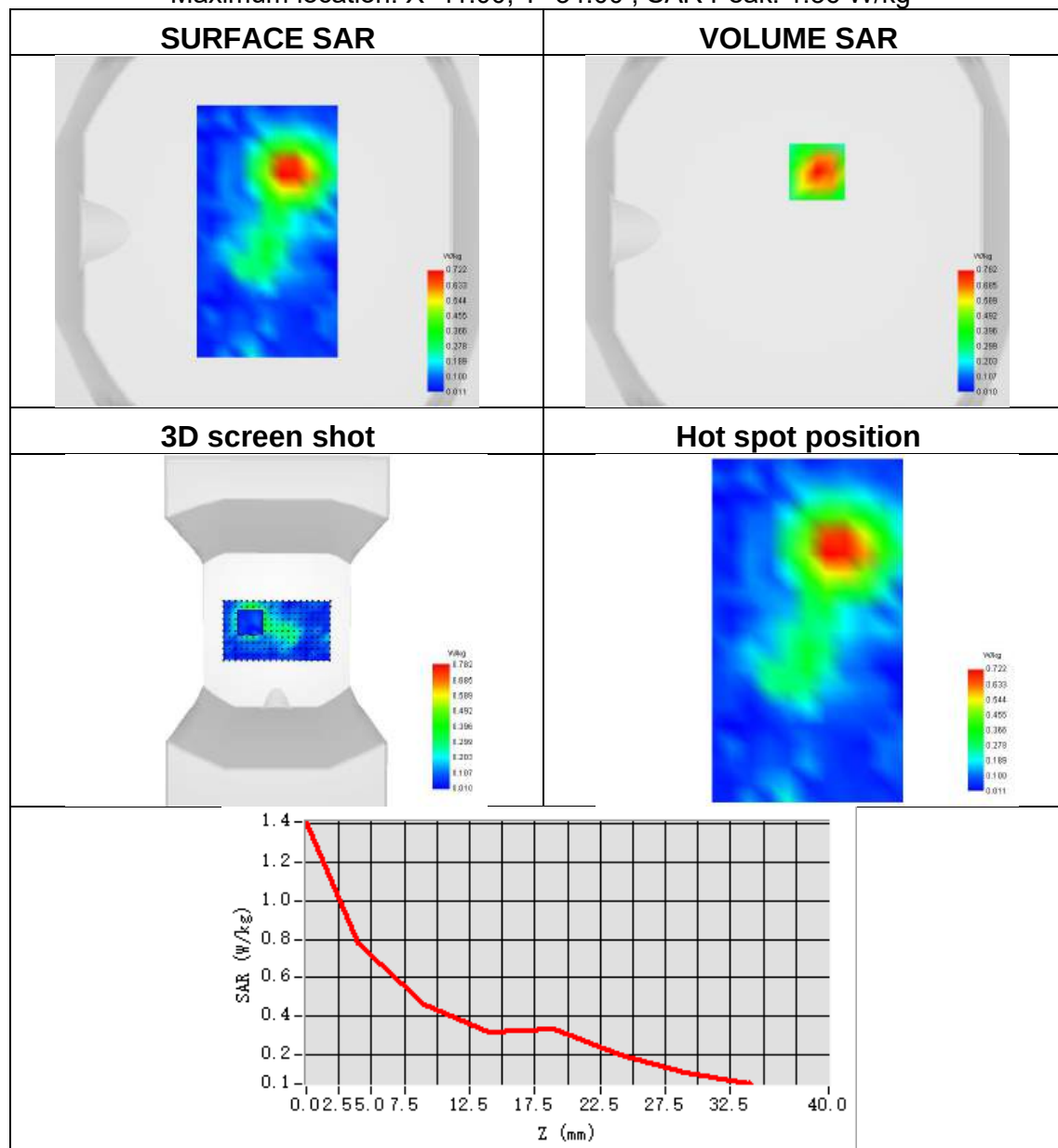




Plot 5:

Test Date	2025-02-25
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 7
Signal	LTE FDD
Frequency	2510
SAR 10g (W/Kg)	0.424
SAR 1g (W/Kg)	0.780
ConvF	2.37
Relative permittivity	39.69
Conductivity (S/m)	1.95

Maximum location: X=11.00, Y=34.00 ; SAR Peak: 1.36 W/kg

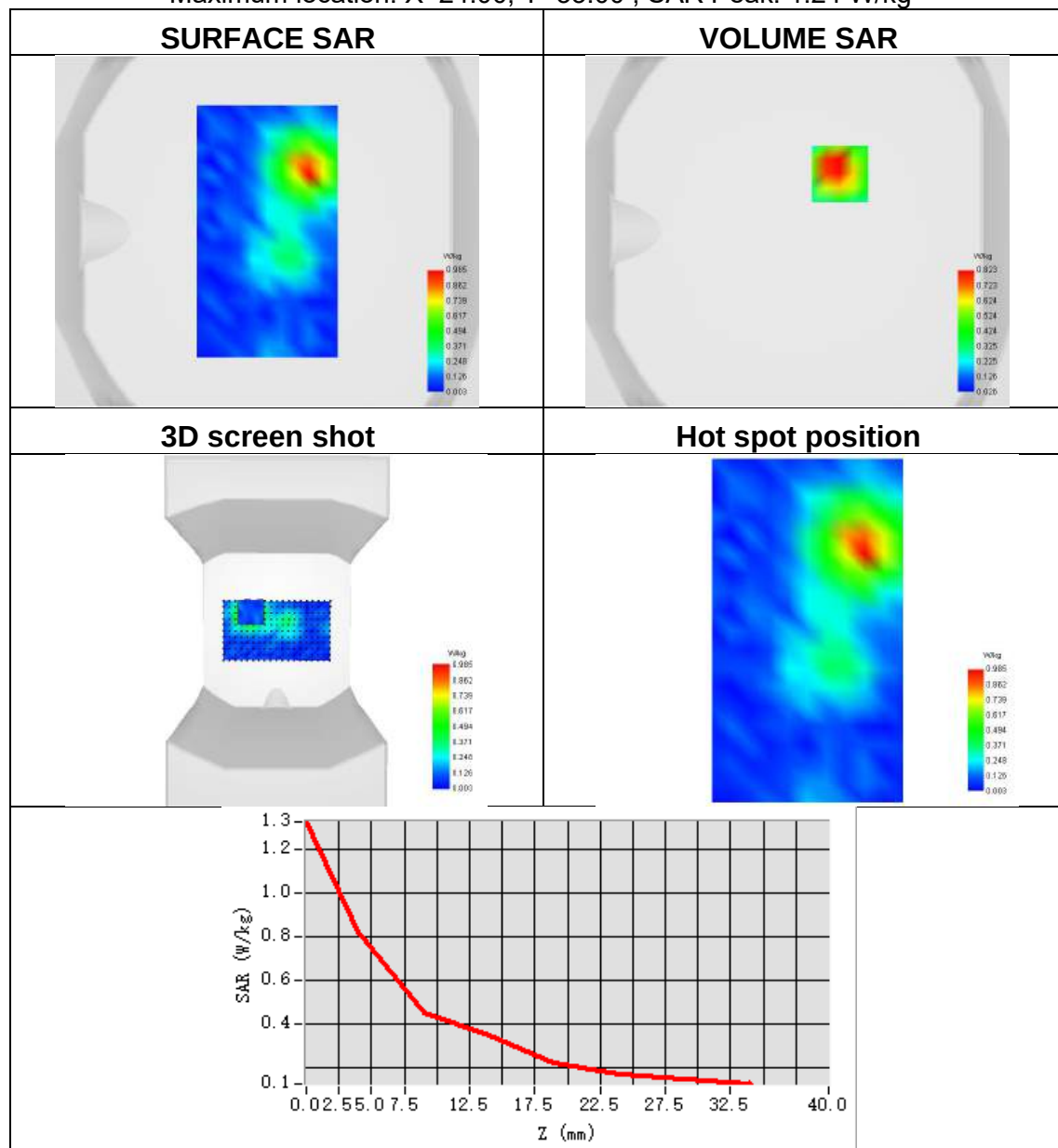




Plot 6:

Test Date	2025-02-25
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 38
Signal	LTE TDD
Frequency	2595
SAR 10g (W/Kg)	0.465
SAR 1g (W/Kg)	0.792
ConvF	2.37
Relative permittivity	39.69
Conductivity (S/m)	1.95

Maximum location: X=24.00, Y=33.00 ; SAR Peak: 1.24 W/kg

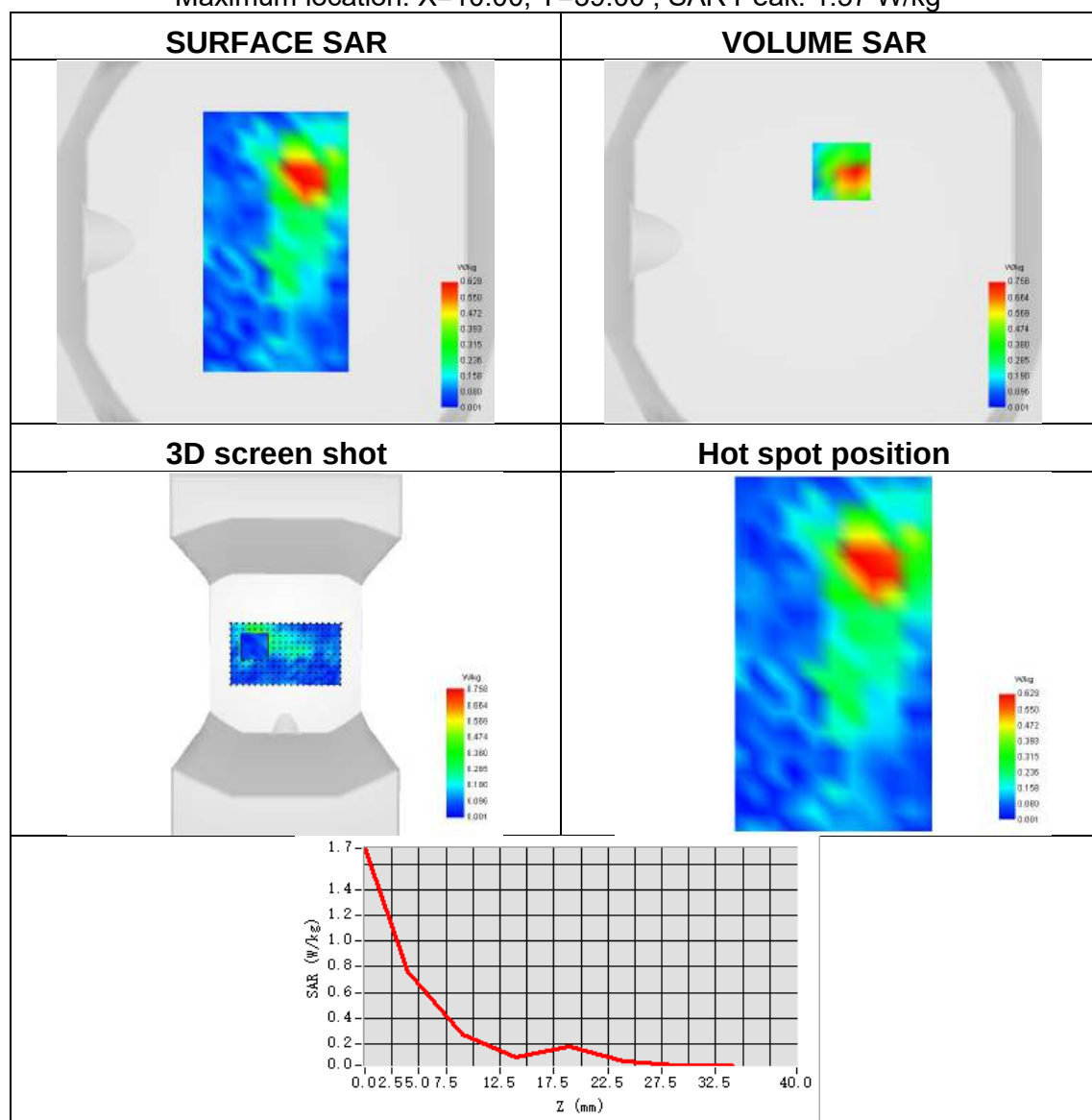




Plot 7:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 41
Signal	LTE TDD
Frequency	2506
SAR 10g (W/Kg)	0.379
SAR 1g (W/Kg)	0.779
ConvF	2.33
Relative permittivity	39.32
Conductivity (S/m)	1.84

Maximum location: X=10.00, Y=39.00 ; SAR Peak: 1.57 W/kg

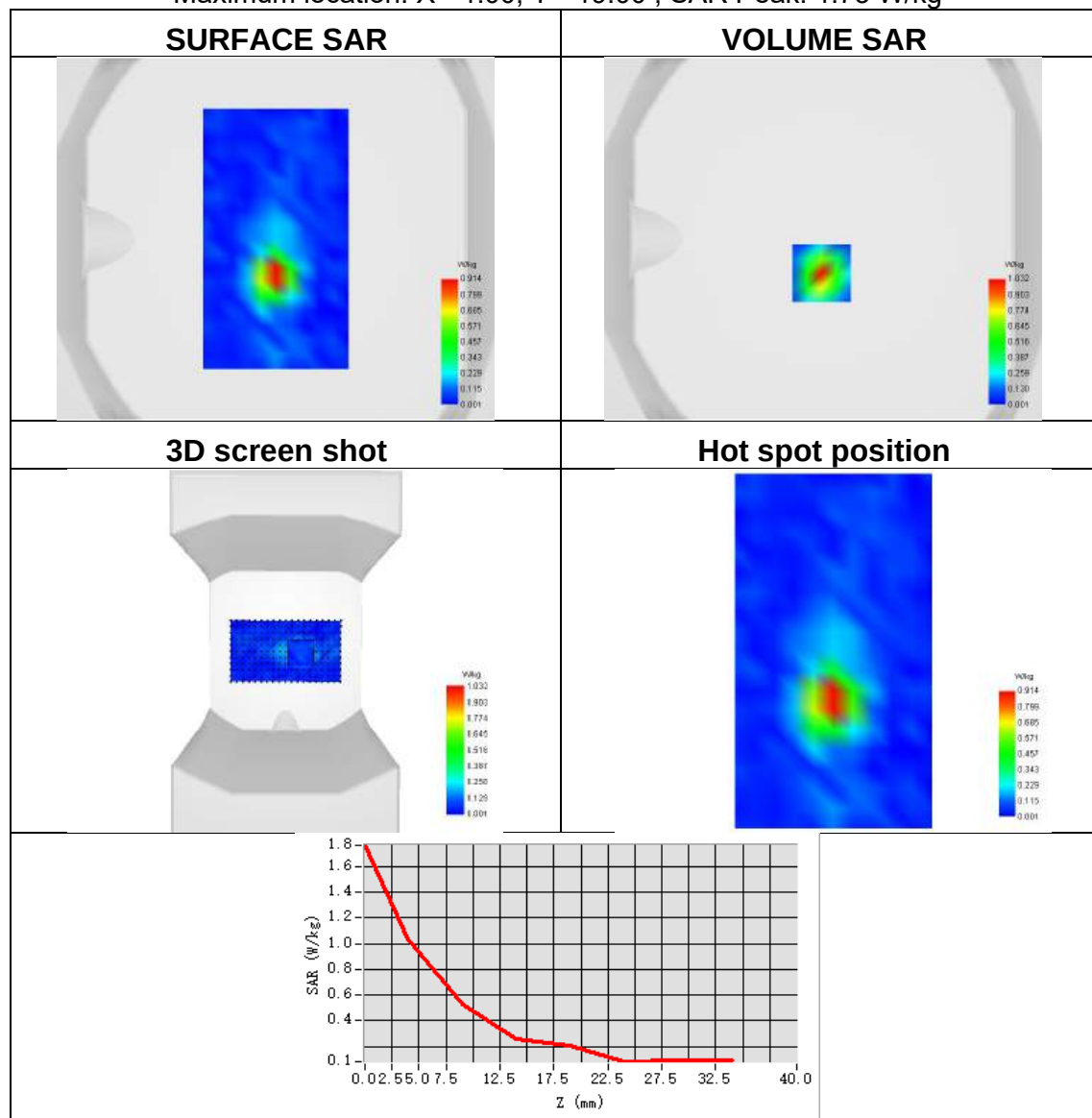




Plot 8:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11 b
Frequency	2437
SAR 10g (W/Kg)	0.383
SAR 1g (W/Kg)	0.902
ConvF	2.33
Relative permittivity	39.32
Conductivity (S/m)	1.84

Maximum location: X=-1.00, Y=-19.00 ; SAR Peak: 1.73 W/kg

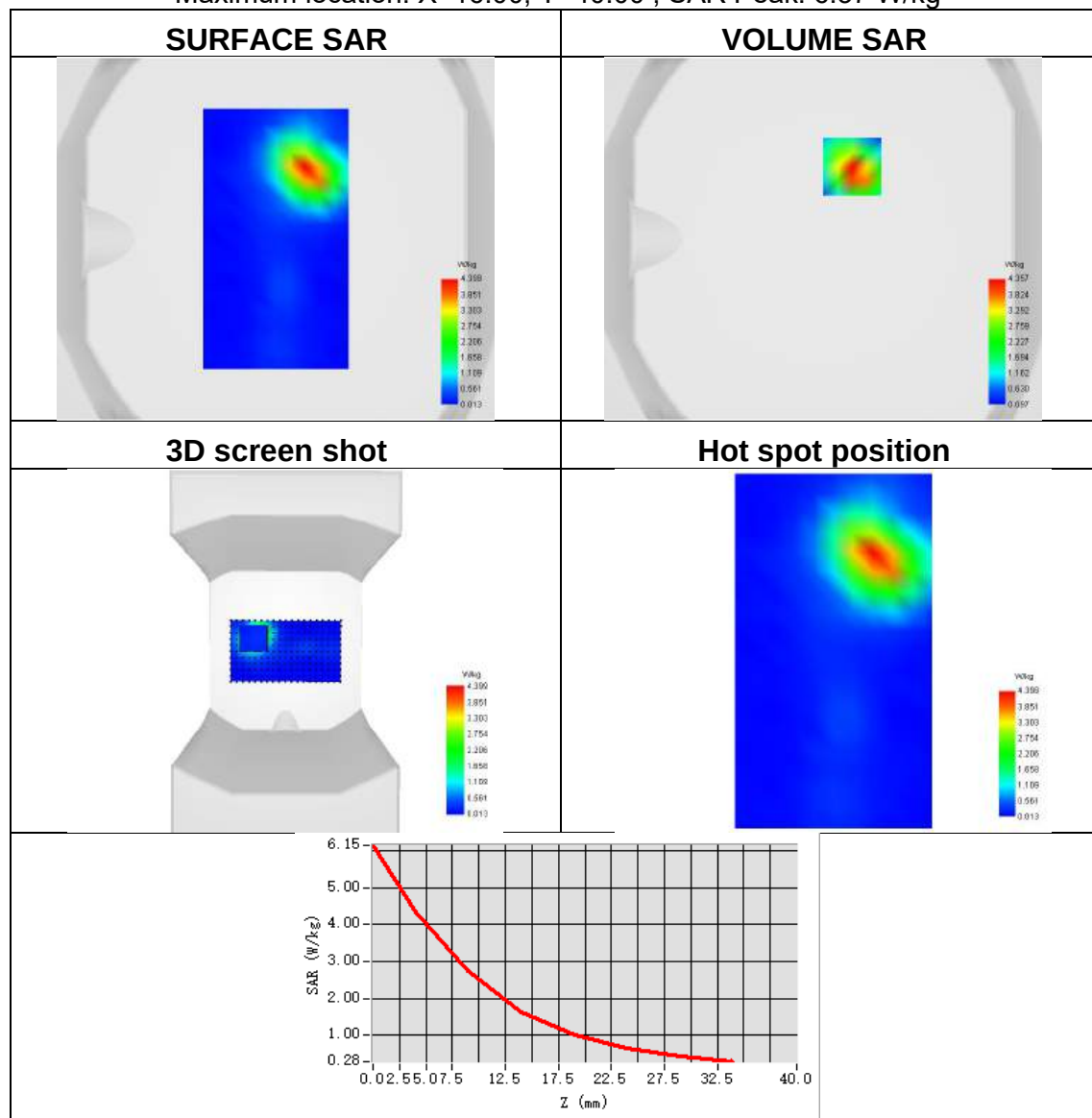




Plot 9:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 2
Signal	LTE FDD
Frequency	1880
SAR 10g (W/Kg)	2.151
SAR 1g (W/Kg)	4.056
ConvF	2.20
Relative permittivity	39.98
Conductivity (S/m)	1.36

Maximum location: X=16.00, Y=40.00 ; SAR Peak: 6.37 W/kg

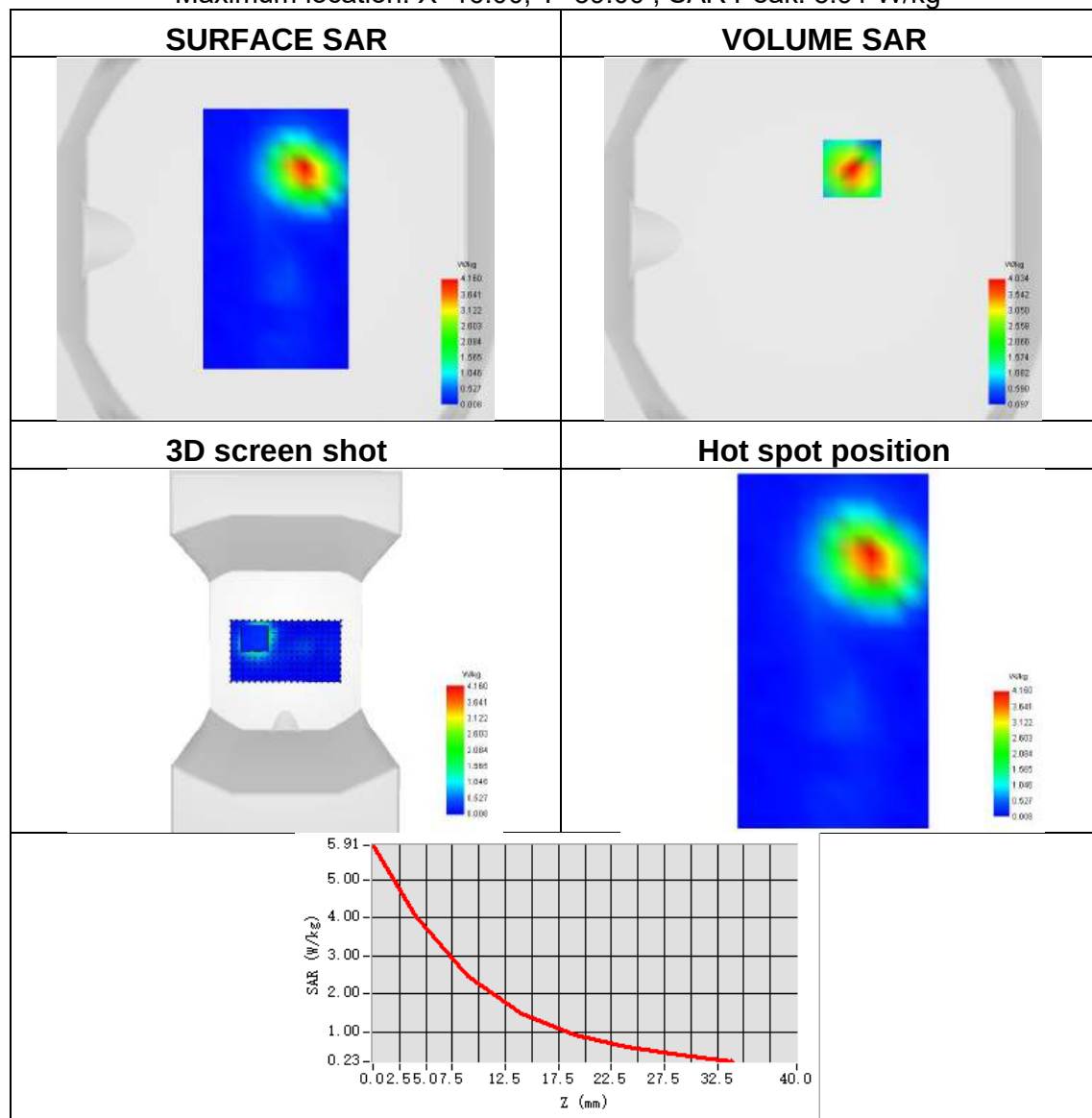




Plot 10:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 4
Signal	LTE FDD
Frequency	1720
SAR 10g (W/Kg)	2.008
SAR 1g (W/Kg)	3.723
ConvF	1.92
Relative permittivity	39.98
Conductivity (S/m)	1.36

Maximum location: X=16.00, Y=39.00 ; SAR Peak: 5.91 W/kg

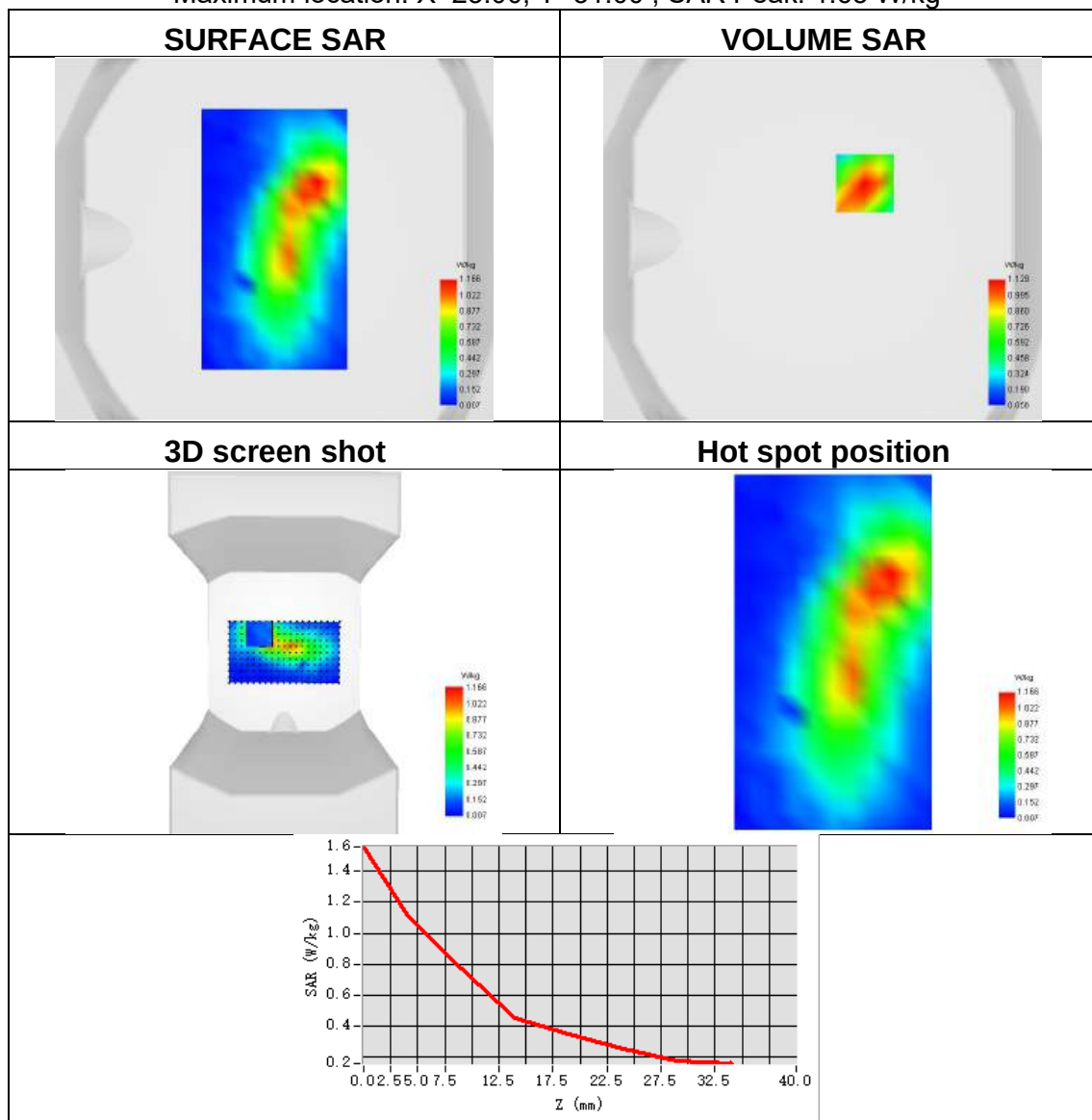




Plot 11:

Test Date	2025-02-28
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 5
Signal	LTE FDD
Frequency	844
SAR 10g (W/Kg)	0.650
SAR 1g (W/Kg)	1.070
ConvF	1.72
Relative permittivity	40.79
Conductivity (S/m)	0.94

Maximum location: X=23.00, Y=31.00 ; SAR Peak: 1.65 W/kg

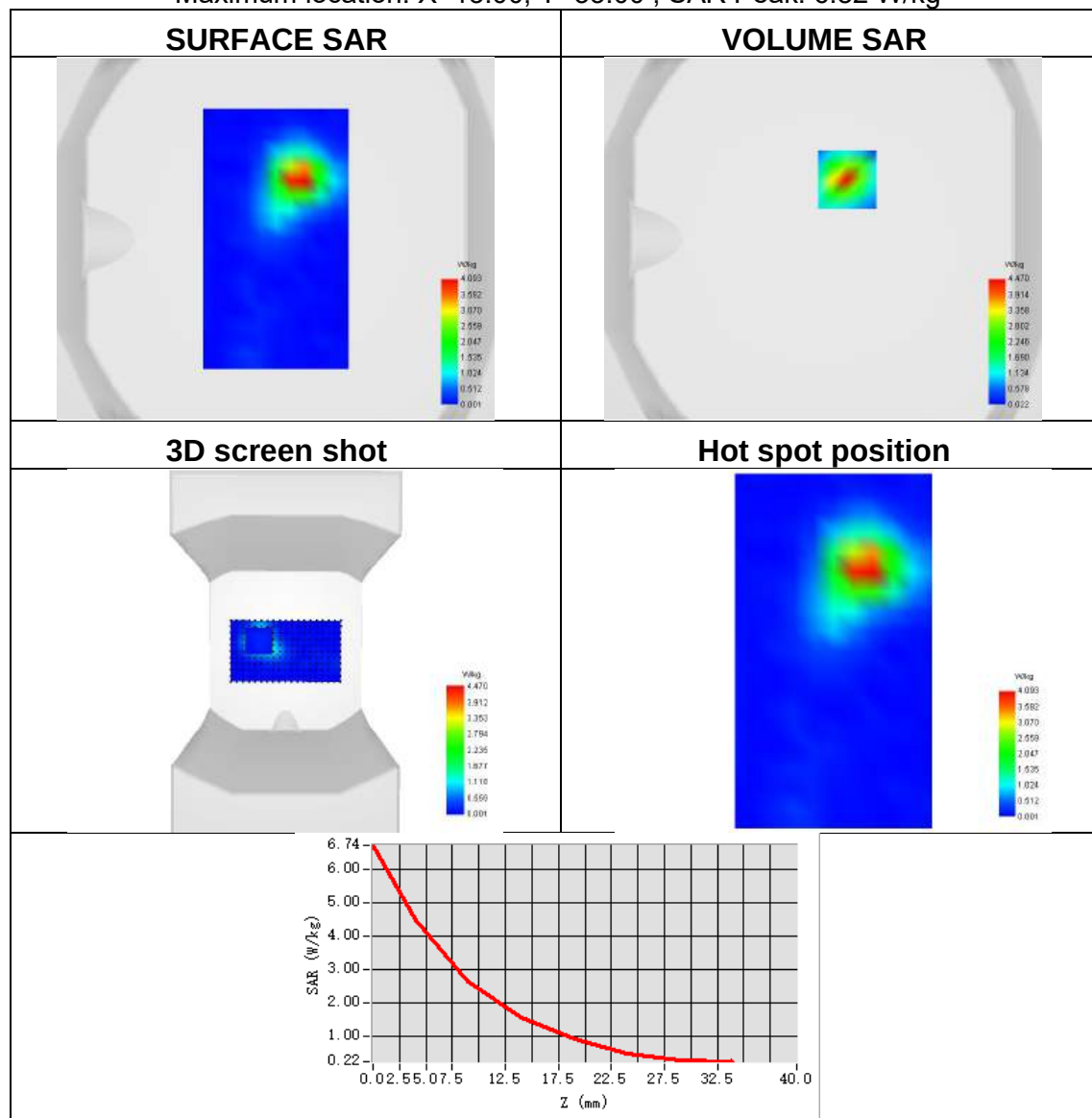




Plot 12:

Test Date	2025-02-25
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 7
Signal	LTE FDD
Frequency	2510
SAR 10g (W/Kg)	1.825
SAR 1g (W/Kg)	3.951
ConvF	2.37
Relative permittivity	39.69
Conductivity (S/m)	1.95

Maximum location: X=13.00, Y=33.00 ; SAR Peak: 6.82 W/kg

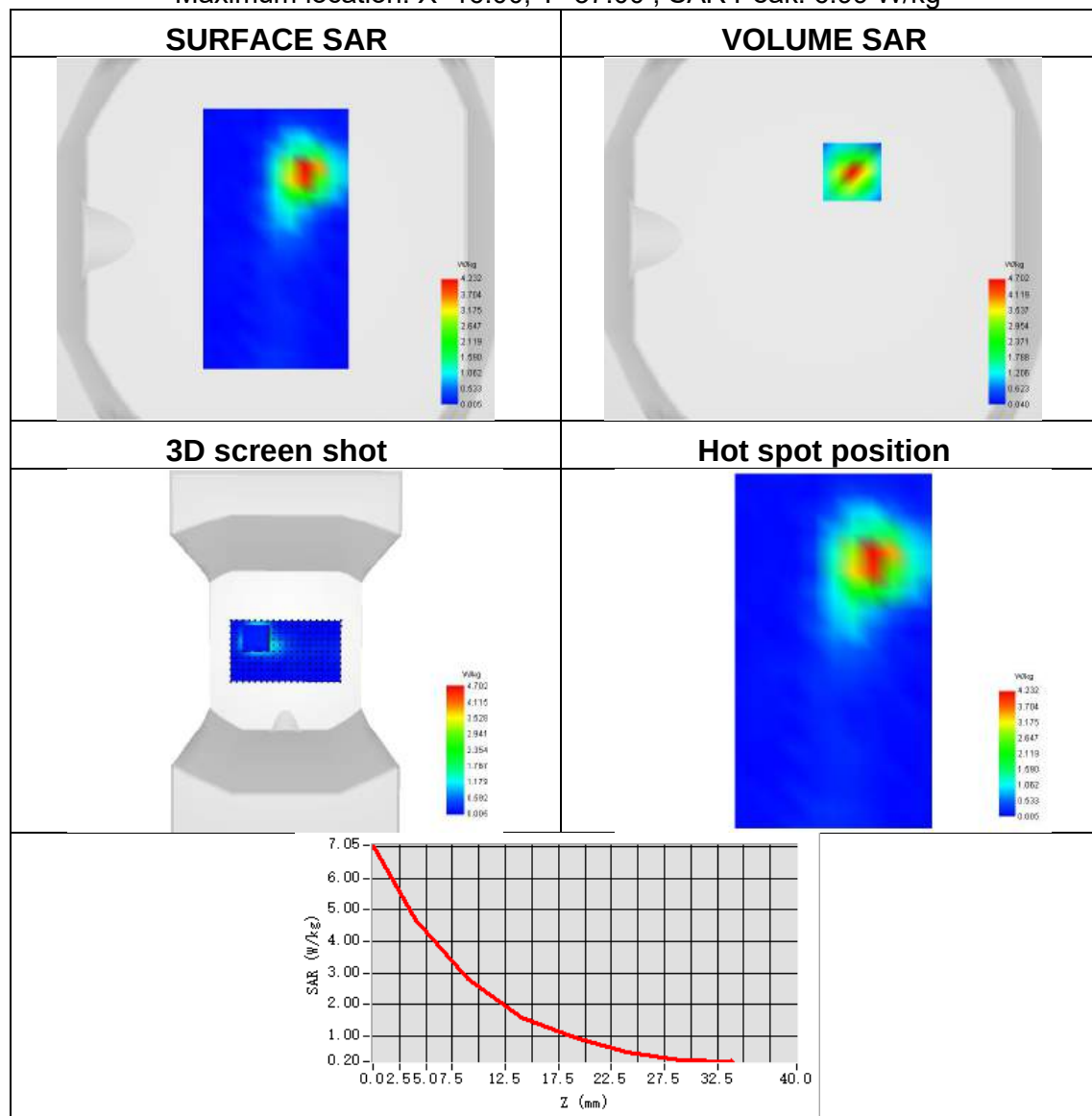




Plot 13:

Test Date	2025-02-25
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 38
Signal	LTE TDD
Frequency	2595
SAR 10g (W/Kg)	1.965
SAR 1g (W/Kg)	4.146
ConvF	2.37
Relative permittivity	39.69
Conductivity (S/m)	1.95

Maximum location: X=16.00, Y=37.00 ; SAR Peak: 6.99 W/kg

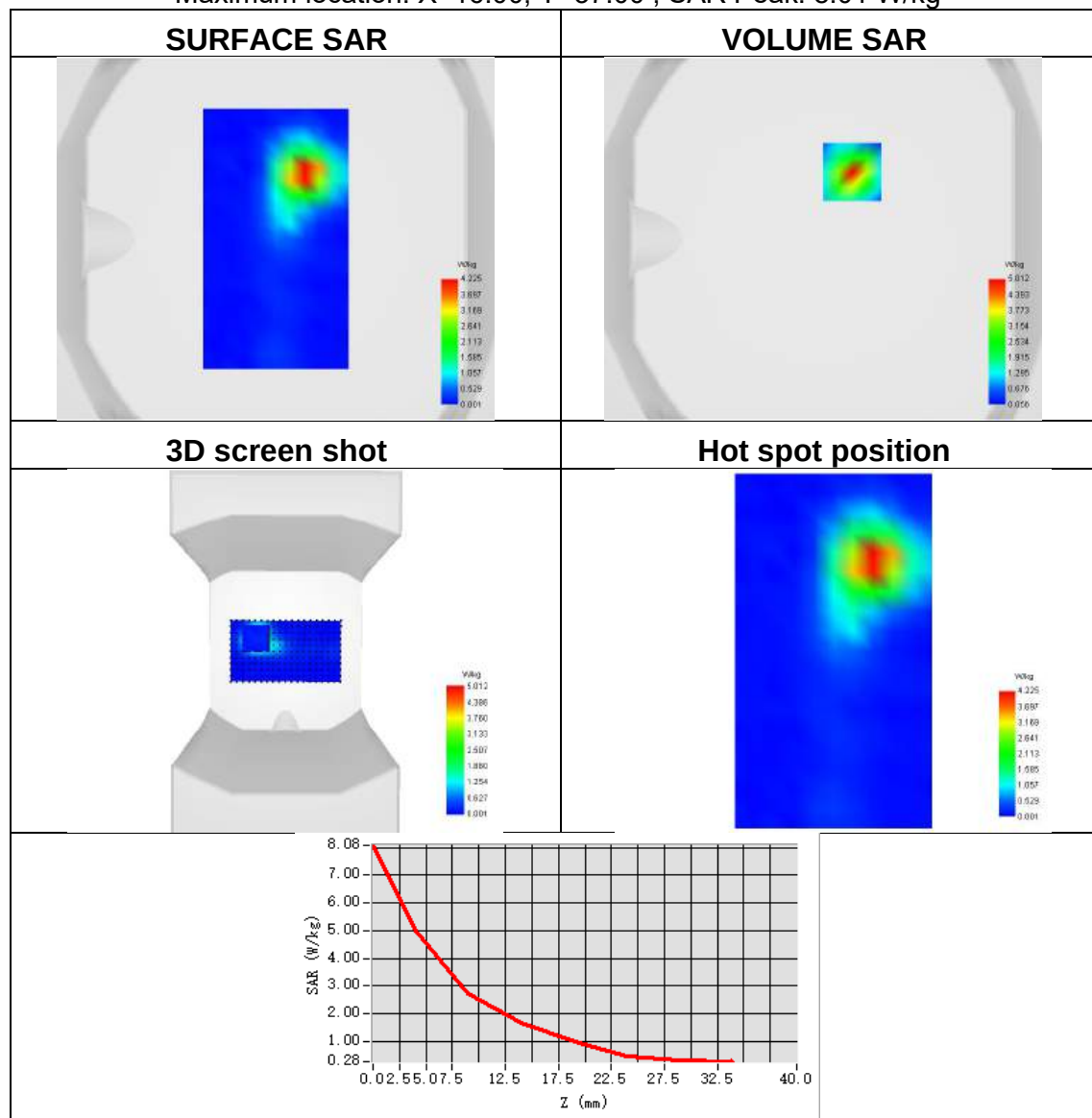




Plot 14:

Test Date	2025-02-27
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	LTE band 41
Signal	LTE TDD
Frequency	2506
SAR 10g (W/Kg)	2.039
SAR 1g (W/Kg)	4.459
ConvF	2.33
Relative permittivity	39.32
Conductivity (S/m)	1.84

Maximum location: X=16.00, Y=37.00 ; SAR Peak: 8.01 W/kg





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※