



SAR TEST REPORT

Product Name: Mobile Phone

Model Number: Bolt F1R

FCC ID: 2ADR3UBF1R

Issued For : UNNECTO HOLDING LIMITED

13/F HARBOUR COMMERCIAL BUILDING 122-124
CONNAUGHT ROAD CENTRAL SHEUNG WAN HK

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

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Report Number: LGT25I033HA01

Sample Received Date: Sep. 04, 2025

Date of Test Sep. 07, 2025 ~ Sep. 12, 2025

Date of Issue Sep. 19, 2025

Head:0.791 W/kg

Max. SAR (1g)

Body:0.614 W/kg

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Revision History

Rev.	Issue Date	Contents
00	Sep. 19, 2025	Initial Issue



TEST REPORT CERTIFICATION

Applicant UNNECTO HOLDING LIMITED
Address 13/F HARBOUR COMMERCIAL BUILDING 122-124
CONNAUGHT ROAD CENTRAL SHEUNG WAN HK
Manufacture Shenzhen Water World Information Co., LTD
Address Waterworld, Floor 12, Building B, Tsinghua Information
Port, Nanshan District, Shenzhen.
Product Name Mobile Phone
Trademark unnecto TM
Model Number Bolt F1R
Sample number LGT2509068

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	Mobile Phone		
Trademark	unnecto™		
Test Model Number	Bolt F1R		
Series Model	N/A		
Model Difference	N/A		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	FF615-MB-V3.6		
Software Version	N/A		
Frequency Range	GSM 850: 824 ~ 849 MHz PCS 1900: 1850 ~ 1910 MHz WCDMA Band II: 1850 ~ 1910 MHz WCDMA Band IV: 1710 ~ 1755 MHz WCDMA Band V: 824 ~ 849 MHz LTE Band 2: 1850 ~ 1910 MHz LTE Band 4: 1710 ~ 1755 MHz LTE Band 5: 824 ~ 849 MHz LTE Band 7: 2500 ~ 2570 MHz LTE Band 66: 1710 ~ 1780 MHz Bluetooth: 2402 ~ 2480 MHz		
Max. Reported SAR(1g): (Limit: 1.6W/kg) Test distance: Head: 0mm Body: 10mm	Mode	Head (W/ kg)	Body Worn (W/ kg)
	GSM 850	0.703	0.402
	PCS 1900	0.482	0.239
	WCDMA Band II	0.433	0.518
	WCDMA Band IV	0.236	0.234
	WCDMA Band V	0.791	0.556
	LTE Band 2	0.502	0.465
	LTE Band 4	0.336	0.557
	LTE Band 5	0.736	0.614
	LTE Band 7	0.287	0.550
	LTE Band 66	0.444	0.500
	Bluetooth ^{Note}	0.082	0.082
1-g Sum SAR		0.873	0.696
Battery	Rated Voltage: 3.7V Capacity: 5000mAh		
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:	GSM: GSM Voice; GPRS/EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 LTE: QPSK, 16QAM Bluetooth: GFSK +π/4DQPSK+8DPSK		



Antenna Specification	GSM/WCDMA/LTE: FPC Antenna Bluetooth: Monopole Antenna
Operating Mode	Maximum continuous output
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot trans mitting at the same time
Hotspot Mode	Support
DTM Mode	Not Support
Note 1: The BT 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 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets

(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

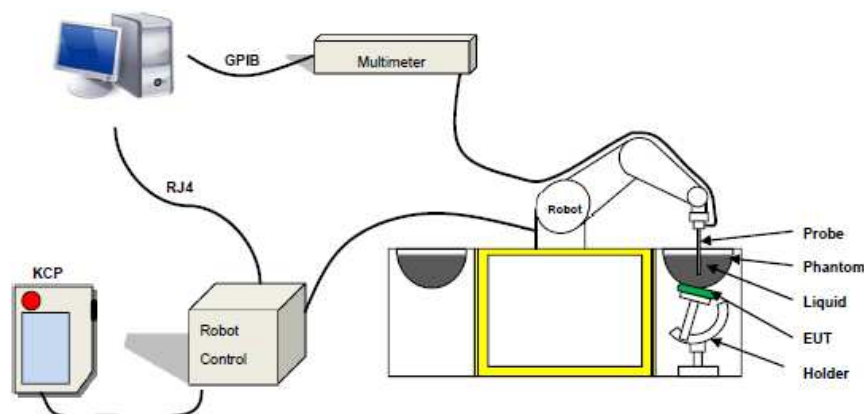
$$SAR = \frac{\sigma E^2}{\rho}$$

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 2225-EPGO-450 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: 0.15 GHz to 7.5 GHz for head 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.

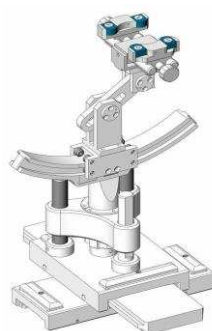


Figure-SN 06/22 SAM 148



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]					
2025-09-09	21.6	46	835	21.3	Permittivity	41.50	41.29	-0.51	±5
					Conductivity	0.90	0.94	4.44	±5
2025-09-07	23.2	58	1800	22.9	Permittivity	40.00	41.12	2.80	±5
					Conductivity	1.40	1.39	-0.71	±5
2025-09-11	21.8	48	1900	21.5	Permittivity	40.00	40.63	1.58	±5
					Conductivity	1.40	1.42	1.43	±5
2025-09-12	21.9	43	2600	21.6	Permittivity	39.00	39.80	2.05	±5
					Conductivity	1.96	2.03	3.57	±5

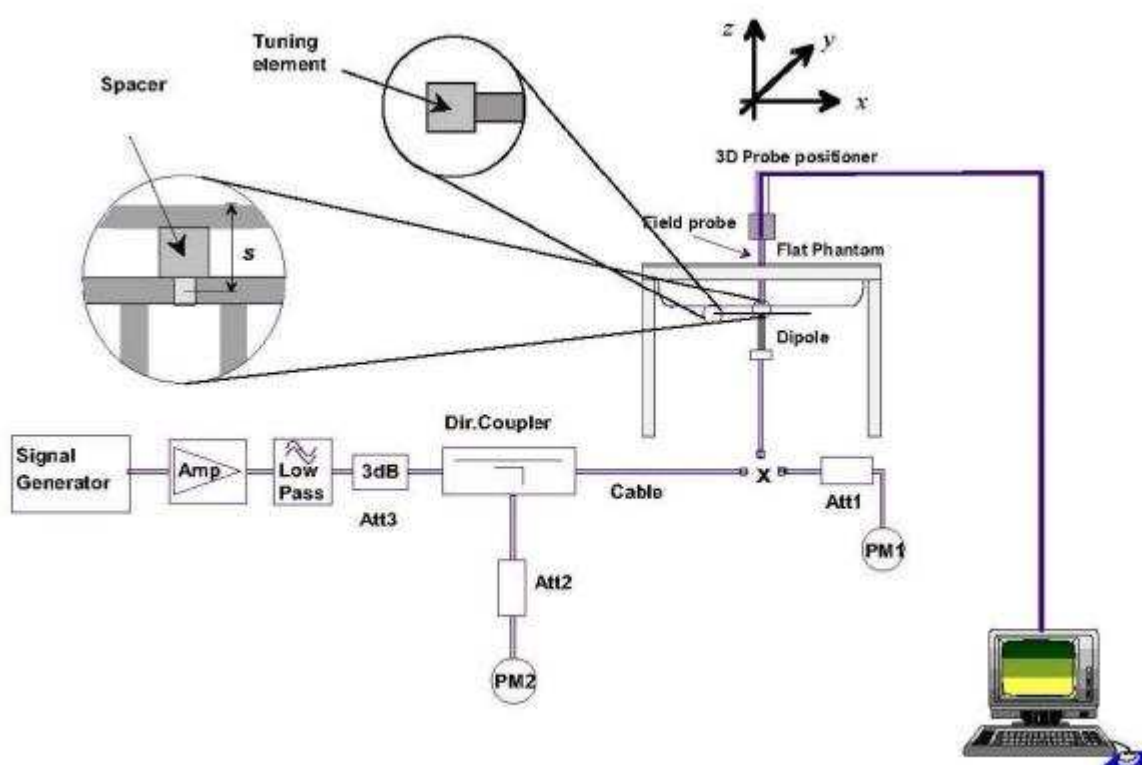


5. SAR System Validation

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)	(%)	(%)
2025-09-09	835	100	0.966	9.66	9.63	0.31	10
2025-09-07	1800	100	3.696	36.96	36.60	0.98	10
2025-09-11	1900	100	4.025	40.25	40.20	0.12	10
2025-09-12	2600	100	5.594	55.94	56.15	-0.37	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.



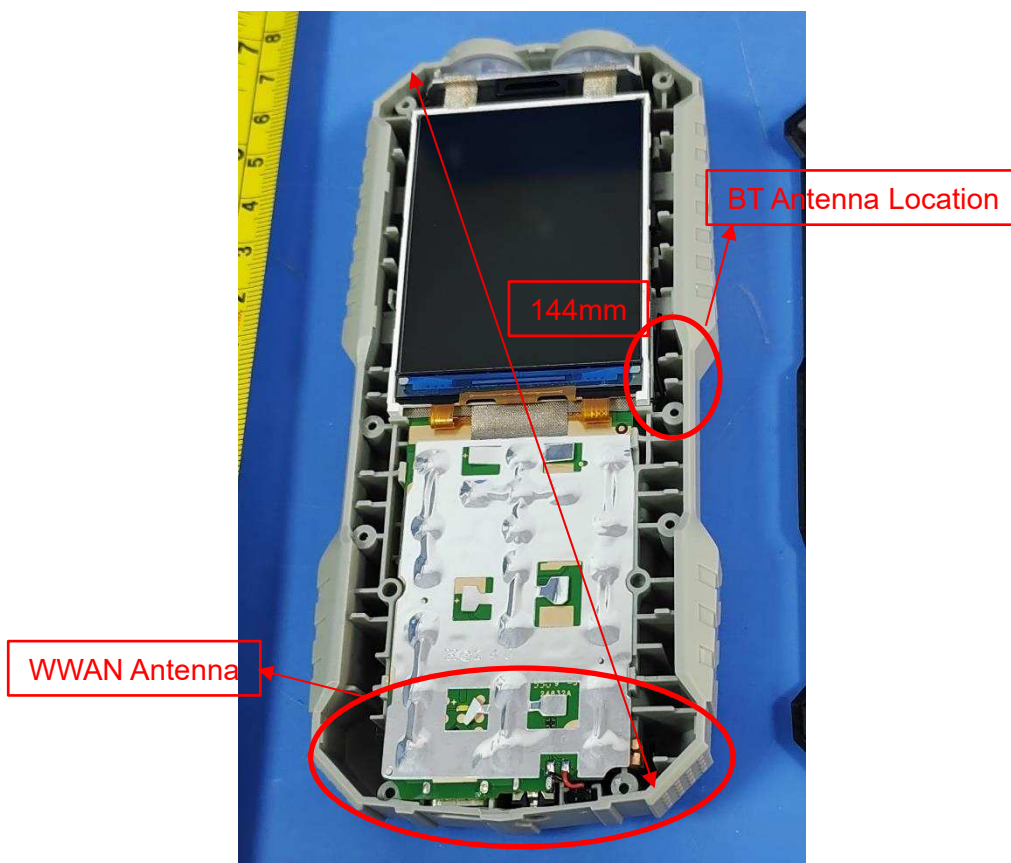
7. EUT Antenna Location Sketch

It is a Mobile Phone, support GSM/WCDMA/LTE/ BT mode.

Top side

Left side

Right side



Bottom side
(Front view)

Antenna Separation Distance(mm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
BT	≤0.5	≤0.5	52	≤0.5	60	62
WWAN	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5	≤0.5

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

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA IV	WCDMA V
	Calculated Frequency (MHz)	848.8	1850.2	1852.4	1752.4	836.4
	Maximum Turn-up power (dBm)	32.7	30.5	24.3	24	24
	Maximum rated power(mW)	1862.09	1122.02	269.15	251.19	251.19
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	11.02	11.33	16.40
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	11.02	11.33	16.40
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	11.02	11.33	16.40
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	11.02	11.33	16.40
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	102	102	102	102	102
	exclusion threshold(mW)	457.06	630.28	630.21	633.31	453.97
	Testing required?	YES	YES	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	11.02	11.33	16.40
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5
	Calculated Frequency (MHz)	1880	1720	836.5
	Maximum Turn-up power (dBm)	24.3	24	24.3
	Maximum rated power(mW)	269.15	251.19	269.15
Back Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.40
	Testing required?	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.40
	Testing required?	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.40
	Testing required?	YES	YES	YES
Right Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.40
	Testing required?	YES	YES	YES
Top Edge	Separation distance (mm)	102	102	102
	exclusion threshold(mW)	629.40	634.37	453.99
	Testing required?	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	10.94	11.44	16.40
	Testing required?	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 7	LTE Band 66	BT
	Calculated Frequency (MHz)	2510	1747	2402
	Maximum Turn-up power (dBm)	24	24	4
	Maximum rated power(mW)	251.19	251.19	2.51
Back Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.47	11.35	9.68
	Testing required?	YES	YES	NO
Front Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.47	11.35	9.68
	Testing required?	YES	YES	NO
Left Edge	Separation distance (mm)	5	5	52
	exclusion threshold(mW)	9.47	11.35	116.78
	Testing required?	YES	YES	NO
Right Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	9.47	11.35	9.68
	Testing required?	YES	YES	NO
Top Edge	Separation distance (mm)	102	102	60
	exclusion threshold(mW)	614.68	633.49	196.78
	Testing required?	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	62
	exclusion threshold(mW)	9.47	11.35	216.78
	Testing required?	YES	YES	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:

$$\left[\frac{\text{(max.power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance,}} \right]$$



mm)]*[$\sqrt{f(\text{GHz})}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, $f(\text{GHz})$ 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)*($f(\text{MHz})/150$)]mW, at 100 MHz to 1500 MHz
 - b) [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at > 1500MHz and $\leq 6\text{GHz}$

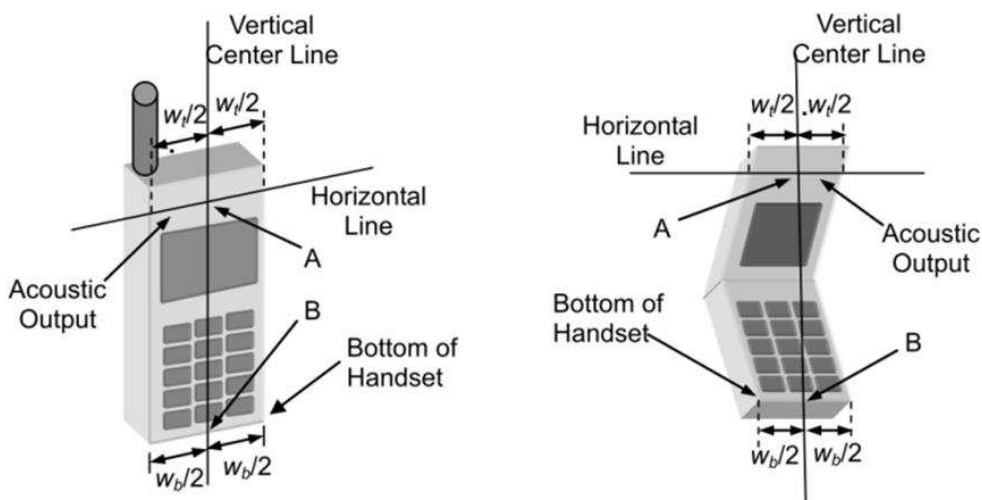


8. EUT Test Position

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

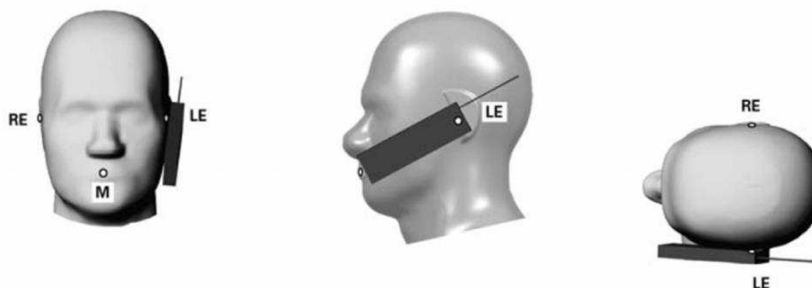
8.1 Define Two Imaginary Lines on the Handset

- (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

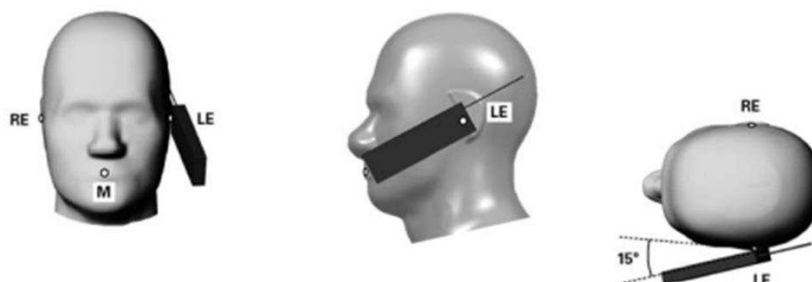
- 1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing 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





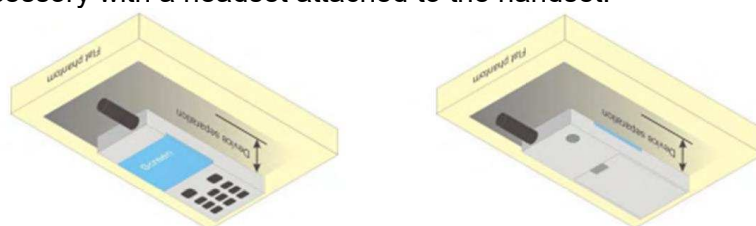
Title Position

- (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.



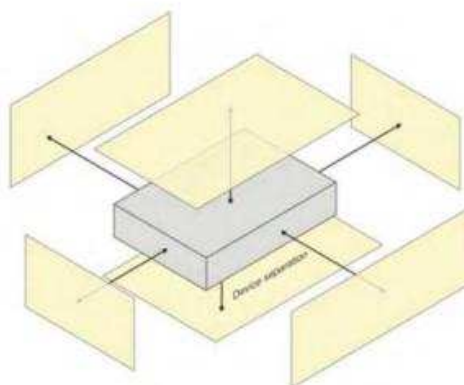
Body-worn Position Conditions:

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 9cm x 5cm, 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

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM (GMSK, 1-Slot)	33.07	33.35	33.51	30.29	30.17	30.18
GPRS (GMSK, 1-Slot)	33.26	33.54	33.66	30.38	30.30	30.32
GPRS (GMSK, 2-Slot)	31.34	31.41	31.60	28.78	27.97	27.25
GPRS (GMSK, 3-Slot)	29.27	29.31	29.50	27.04	26.20	25.42
GPRS (GMSK, 4-Slot)	26.99	26.95	27.21	24.89	24.01	23.21
EGPRS (8PSK, 1-Slot)	33.29	33.52	33.66	30.24	30.21	30.22
EGPRS (8PSK, 2-Slot)	31.38	31.45	31.61	28.71	27.88	27.18
EGPRS (8PSK, 3-Slot)	29.27	29.33	29.63	26.97	26.15	25.35
EGPRS (8PSK, 4-Slot)	27.02	26.99	27.24	24.81	23.95	23.22
Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme. Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link						

Frame- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM (GMSK, 1-Slot)	24.04	24.32	24.48	21.26	21.14	21.15
GPRS (GMSK, 1-Slot)	24.23	24.51	24.63	21.35	21.27	21.29
GPRS (GMSK, 2-Slot)	25.32	25.39	25.58	22.76	21.95	21.23
GPRS (GMSK, 3-Slot)	25.01	25.05	25.24	22.78	21.94	21.16
GPRS (GMSK, 4-Slot)	23.98	23.94	24.20	21.88	21.00	20.20
EGPRS (8PSK, 1-Slot)	24.26	24.49	24.63	21.21	21.18	21.19
EGPRS (8PSK, 2-Slot)	25.36	25.43	25.59	22.69	21.86	21.16
EGPRS (8PSK, 3-Slot)	25.01	25.07	25.37	22.71	21.89	21.09
EGPRS (8PSK, 4-Slot)	24.01	23.98	24.23	21.80	20.94	20.21
Remark: 1. SAR testing was performed on the maximum frame-averaged power mode. 2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum Burst - averaged power based on time slots. The calculated method is shown as below: Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB						



WCDMA

Band	WCDMA Band 2			WCDMA Band 4			WCDMA Band 5		
Channel	9262	9400	9538	1312	1450	1513	4132	4182	4233
Frequency (MHz)	1852.4	1880	1907.6	1712.6	1740	1752.4	826.4	836.4	846.6
RMC 12.2Kbps	23.99	23.97	23.94	23.68	23.83	23.85	23.88	23.95	23.78
HSDPA Subtest-1	24.01	24.26	23.97	23.83	23.57	23.55	23.54	23.53	23.41
HSDPA Subtest-2	23.7	23.81	23.66	23.51	23.33	23.31	23.02	23.24	23.06
HSDPA Subtest-3	23.34	23.72	23.4	23.14	23.1	22.87	22.85	23.02	22.84
HSDPA Subtest-4	23.25	23.63	23.31	23.04	22.91	23.02	22.8	22.94	22.8
HSUPA Subtest-1	23.71	24.16	23.79	23.97	23.51	23.56	23.67	23.31	23.42
HSUPA Subtest-2	23.92	24.18	23.93	23.91	23.59	23.62	23.26	23.56	23.4
HSUPA Subtest-3	23.45	23.7	23.61	23.58	23.23	23.24	23.01	23.3	23.21
HSUPA Subtest-4	23.97	23.96	23.93	23.87	23.55	23.64	23.2	23.45	23.42
HSUPA Subtest-5	23.67	24.12	23.7	23.68	23.22	23.36	23.06	23.42	23.26

According to 3GPP 25.101 sub-clause 6.2.2, the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM (db)	MPR (db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	$0 \leq CM \leq 3.5$	$MAX(CM-1,0)$
Note: CM=1 for $\beta_c/\beta_d=12/15$, $\beta_{hs}/\beta_c=24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.



Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	3.78	2.39
	39	2441	3.11	2.05
	78	2480	2.34	1.71
$\pi/4$ -QPSK(2Mbps)	0	2402	3.49	2.23
	39	2441	3.37	2.17
	78	2480	1.97	1.57
8DPSK(3Mbps)	0	2402	3.84	2.42
	39	2441	3.68	2.33
	78	2480	2.29	1.69



LTE Conducted Power

General Note:

1. 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	23.85	22.95	23.22
1.4	1	2		23.87	22.91	23.12
1.4	1	5		23.87	23.03	23.19
1.4	3	0		23.48	23.35	23.36
1.4	3	1		23.53	23.32	23.43
1.4	3	2		23.52	23.33	23.45
1.4	6	0		22.86	22.77	22.96
1.4	1	0	16-QAM	23.85	22.95	23.22
1.4	1	2		23.87	22.91	23.12
1.4	1	5		23.87	23.03	23.19
1.4	3	0		23.08	22.86	23.25
1.4	3	1		23.13	22.85	23.25
1.4	3	2		23.11	22.98	23.25
1.4	6	0		22.05	21.92	22.05
3	1	0	QPSK	23.19	23.24	23.60
3	1	7		23.21	23.29	23.53
3	1	14		23.26	23.41	23.54
3	8	0		22.87	22.80	22.96
3	8	4		22.86	22.85	22.95
3	8	7		22.93	22.97	22.90
3	15	0		22.84	22.96	22.89
3	1	0	16-QAM	23.32	23.29	23.38
3	1	7		23.37	23.27	23.36
3	1	14		23.38	23.34	23.36
3	8	0		21.88	21.80	22.30
3	8	4		21.90	21.84	22.07
3	8	7		21.96	21.83	22.12
3	15	0		21.91	22.09	21.93



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.33	23.34	23.39
5	1	12		23.35	23.30	23.45
5	1	24		23.43	23.33	23.46
5	12	0		22.86	22.86	23.01
5	12	6		22.94	22.87	22.91
5	12	11		22.94	22.90	22.98
5	25	0		23.04	22.88	22.98
5	1	0	16-QAM	22.87	22.92	22.64
5	1	12		22.97	22.91	22.64
5	1	24		23.03	23.04	22.68
5	12	0		21.85	21.91	22.03
5	12	6		21.88	21.85	21.97
5	12	11		21.91	21.84	21.77
5	25	0		21.85	22.08	22.19
10	1	0	QPSK	22.64	22.51	22.84
10	1	24		22.65	22.47	22.76
10	1	49		22.69	22.66	22.84
10	25	0		22.99	22.85	22.89
10	25	12		22.94	22.98	22.84
10	25	24		22.97	23	22.99
10	50	0		22.97	22.91	22.82
10	1	0	16-QAM	23.4	23.42	23.38
10	1	24		23.49	23.35	23.4
10	1	49		23.52	23.54	23.46
10	25	0		21.94	21.83	22.21
10	25	12		21.97	21.87	22.08
10	25	24		22.18	22.05	22.23



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.47	23.70	22.96
15	1	37		23.56	23.61	23.05
15	1	74		23.54	23.85	22.99
15	36	0		23.00	22.76	22.85
15	36	18		22.94	22.82	23.16
15	36	39		22.96	22.88	22.96
15	75	0		22.91	22.82	23.10
15	1	0	16-QAM	23.38	23.17	23.49
15	1	38		23.44	23.31	23.50
15	1	75		23.42	23.35	23.51
15	36	0		21.99	22.02	22.05
15	36	18		22.23	21.92	22.10
15	36	39		22.22	21.87	22.14
20	1	0	QPSK	22.88	23.95	23.55
20	1	49		22.94	23.87	23.56
20	1	99		22.95	24.01	23.6
20	50	0		22.94	22.87	23.1
20	50	24		23.04	22.88	23
20	50	49		22.95	22.91	23.03
20	100	0		23.01	22.91	22.97
20	1	0	16-QAM	23.35	23.57	23.51
20	1	49		23.44	23.45	23.51
20	1	99		23.41	23.57	23.66
20	50	0		21.99	22.06	21.95
20	50	24		22.09	22.07	22.1
20	50	49		21.99	22.04	22.12



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.57	23.29	23.13
1.4	1	2		23.59	23.37	23.16
1.4	1	5		23.57	23.34	23.36
1.4	3	0		23.16	23.21	23.22
1.4	3	1		23.23	23.25	23.34
1.4	3	2		23.17	23.20	23.29
1.4	6	0		22.68	22.60	22.79
1.4	1	0	16-QAM	23.28	23.07	23.51
1.4	1	2		23.23	23.13	23.47
1.4	1	5		23.22	23.12	23.45
1.4	3	0		22.93	22.79	23.03
1.4	3	1		22.93	22.78	23.06
1.4	3	2		22.92	22.76	23.00
1.4	6	0		21.92	21.67	21.93
3	1	0	QPSK	23.31	23.09	23.24
3	1	7		23.18	23.23	23.37
3	1	14		23.26	23.45	23.49
3	8	0		22.66	22.62	22.76
3	8	4		22.65	22.69	22.77
3	8	7		22.53	22.77	22.9
3	15	0		22.75	22.74	22.81
3	1	0	16-QAM	23.20	23.02	23.48
3	1	7		23.22	23.18	23.39
3	1	14		23.07	23.16	23.56
3	8	0		21.68	21.82	21.72
3	8	4		21.70	21.97	21.73
3	8	7		21.51	21.96	21.80
3	15	0		21.83	21.79	21.71



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.16	23.10	23.07
5	1	12		23.08	23.21	23.13
5	1	24		23.06	23.21	23.21
5	12	0		22.70	22.62	23.10
5	12	6		22.54	22.63	22.93
5	12	11		22.59	22.73	22.79
5	25	0		22.65	22.71	22.72
5	1	0	16-QAM	22.78	22.30	23.12
5	1	12		22.68	22.40	22.90
5	1	24		22.76	22.38	22.88
5	12	0		21.69	21.44	22.10
5	12	6		21.59	21.62	21.71
5	12	11		21.59	21.66	21.69
5	25	0		21.82	21.79	21.75
10	1	0	QPSK	23.65	23.27	23.51
10	1	24		23.6	23.36	23.54
10	1	49		23.66	23.41	23.49
10	25	0		22.59	22.67	22.64
10	25	12		22.65	22.67	22.79
10	25	24		22.68	22.62	22.71
10	50	0		22.76	22.73	22.85
10	1	0	16-QAM	23.1	23.09	23.35
10	1	24		23.06	23.14	23.41
10	1	49		23.11	23.19	23.34
10	25	0		21.71	21.62	22.17
10	25	12		21.7	21.8	21.87
10	25	24		21.75	21.84	21.84



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.64	22.59	23.4
15	1	37		23.56	22.71	23.41
15	1	74		23.6	22.76	23.42
15	36	0		22.71	22.62	22.73
15	36	18		22.62	22.74	22.74
15	36	39		22.59	22.71	23.06
15	75	0		22.6	22.79	22.7
15	1	0	16-QAM	23.09	23.14	23.44
15	1	38		22.98	23.31	23.42
15	1	75		23.05	23.32	23.44
15	36	0		21.66	21.93	21.96
15	36	18		21.64	21.73	22.28
15	36	39		22.05	21.7	22.28
20	1	0	QPSK	23.72	23.22	23.10
20	1	49		23.70	23.32	23.24
20	1	99		23.64	23.33	23.19
20	50	0		22.70	22.69	22.73
20	50	24		22.71	22.75	22.73
20	50	49		22.64	22.75	22.66
20	100	0		22.67	22.74	22.71
20	1	0	16-QAM	22.95	22.61	22.9
20	1	49		22.91	22.78	23.02
20	1	99		23	22.92	22.96
20	50	0		21.69	22.01	21.78
20	50	24		21.67	21.87	21.91
20	50	49		21.61	21.85	22.25



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.07	23.75	23.75
1.4	1	2		24.10	23.85	23.80
1.4	1	5		24.17	23.79	23.78
1.4	3	0		23.42	23.58	23.39
1.4	3	1		23.49	23.64	23.41
1.4	3	2		23.47	23.56	23.41
1.4	6	0		23.11	23.04	22.88
1.4	1	0	16-QAM	23.53	23.50	23.37
1.4	1	2		23.56	23.56	23.45
1.4	1	5		23.57	23.48	23.42
1.4	3	0		23.25	23.12	23.18
1.4	3	1		23.24	23.12	23.16
1.4	3	2		23.23	23.10	23.07
1.4	6	0		22.16	22.00	22.06
3	1	0	QPSK	23.96	23.73	23.71
3	1	7		23.88	23.76	23.65
3	1	14		23.98	23.74	23.69
3	8	0		23.04	22.99	22.87
3	8	4		23.05	23.02	22.93
3	8	7		23.01	23.08	22.90
3	15	0		22.99	23.10	22.85
3	1	0	16-QAM	23.47	23.51	23.36
3	1	7		23.47	23.53	23.38
3	1	14		23.46	23.45	23.49
3	8	0		21.88	22.23	21.79
3	8	4		21.88	22.20	21.89
3	8	7		21.97	22.33	21.79
3	15	0		22.04	22.14	21.89



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.48	23.53	23.27
5	1	12		23.44	23.58	23.29
5	1	24		23.48	23.42	23.35
5	12	0		23.04	23.05	22.84
5	12	6		23.07	23.06	22.84
5	12	11		23.06	22.95	22.86
5	25	0		23.08	23.01	22.89
5	1	0	16-QAM	23.12	22.70	22.77
5	1	12		23.19	22.75	22.88
5	1	24		23.16	22.65	22.80
5	12	0		21.96	21.91	21.82
5	12	6		22.03	21.89	21.79
5	12	11		21.92	21.85	21.77
5	25	0		22.17	22.10	21.83
10	1	0	QPSK	22.84	24.08	23.61
10	1	24		23.01	24.19	23.52
10	1	49		22.99	24.04	23.5
10	25	0		22.96	23.08	22.73
10	25	12		23.08	23.13	22.81
10	25	24		23.14	22.95	22.84
10	50	0		23.06	23.14	22.93
10	1	0	16-QAM	23.54	23.55	23.36
10	1	24		23.62	23.53	23.3
10	1	49		23.54	23.49	23.33
10	25	0		22.02	21.92	22.31
10	25	12		22.48	21.98	21.81
10	25	24		22.12	21.91	21.96



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.41	22.50	22.39
5	1	12		22.45	22.48	22.40
5	1	24		22.43	22.47	22.46
5	12	0		22.13	21.95	21.99
5	12	6		22.05	21.79	21.87
5	12	11		22.07	21.98	21.83
5	25	0		22.01	21.97	21.87
5	1	0	16-QAM	22.05	21.61	21.84
5	1	12		22.08	21.64	21.80
5	1	24		22.07	21.85	21.84
5	12	0		21.12	21.06	20.93
5	12	6		21.19	20.98	20.84
5	12	11		21.23	20.99	20.82
5	25	0		21.24	20.94	21.14
10	1	0	QPSK	22.86	22.89	22.17
10	1	24		22.88	22.77	22.3
10	1	49		23.16	22.81	22.28
10	25	0		22.12	21.94	21.81
10	25	12		22.17	21.92	21.8
10	25	24		22.25	21.79	21.84
10	50	0		22.24	21.89	21.78
10	1	0	16-QAM	22	21.9	21.88
10	1	24		22.06	21.77	21.81
10	1	49		22.14	21.85	21.82
10	25	0		21.25	21.09	21.08
10	25	12		21.31	21.03	21.06
10	25	24		21.32	21.04	21.06



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.49	23.65	22.4
15	1	37		23.58	23.5	22.53
15	1	74		23.76	23.54	22.43
15	36	0		22.07	22.02	21.87
15	36	18		22.08	21.92	21.85
15	36	39		22.33	21.9	21.86
15	75	0		22.07	21.86	21.9
15	1	0	16-QAM	22.1	21.84	21.83
15	1	38		22.11	21.71	21.86
15	1	75		22.27	21.75	22.02
15	36	0		21.31	21.07	20.87
15	36	18		21.4	20.98	20.96
15	36	39		21.4	20.94	20.9
20	1	0	QPSK	23.68	23.21	22.73
20	1	49		23.75	23.08	22.81
20	1	99		23.83	23.01	22.84
20	50	0		22.14	21.96	21.93
20	50	24		22.12	21.81	21.89
20	50	49		22.18	21.85	21.87
20	100	0		22.09	21.94	21.83
20	1	0	16-QAM	22.06	22.14	21.89
20	1	49		22.13	22.02	22.05
20	1	99		22.46	22.07	22.09
20	50	0		21.29	21.26	20.85
20	50	24		21.4	21.11	20.93
20	50	49		21.53	21.12	20.99



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.68	23.33	22.98
1.4	1	2		23.65	23.35	22.98
1.4	1	5		23.67	23.36	22.90
1.4	3	0		23.17	23.37	23.30
1.4	3	1		23.20	23.37	23.31
1.4	3	2		23.31	23.32	23.29
1.4	6	0		22.83	22.81	22.93
1.4	1	0	16-QAM	23.37	23.15	23.27
1.4	1	2		23.37	23.19	23.32
1.4	1	5		23.33	23.19	23.35
1.4	3	0		23.01	23.13	23.20
1.4	3	1		22.96	23.09	23.12
1.4	3	2		22.96	23.14	23.17
1.4	6	0		21.87	21.91	21.95
3	1	0	QPSK	23.80	23.33	22.93
3	1	7		23.74	23.33	22.89
3	1	14		23.76	23.29	22.94
3	8	0		22.73	22.73	22.79
3	8	4		22.73	22.75	22.74
3	8	7		22.81	22.70	22.86
3	15	0		22.83	22.74	22.82
3	1	0	16-QAM	23.19	23.18	23.32
3	1	7		23.28	23.25	23.36
3	1	14		23.20	23.17	23.40
3	8	0		21.64	22.21	21.85
3	8	4		21.56	22.23	21.80
3	8	7		21.61	22.18	21.77
3	15	0		21.71	22.10	21.80



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.21	23.3	23.18
5	1	12		23.09	23.36	23.25
5	1	24		23.1	23.29	23.41
5	12	0		22.81	22.81	22.81
5	12	6		22.87	22.68	22.79
5	12	11		22.82	22.77	22.85
5	25	0		22.77	22.82	22.76
5	1	0	16-QAM	22.80	22.48	22.71
5	1	12		22.83	22.50	22.83
5	1	24		22.78	22.43	22.79
5	12	0		21.66	21.94	21.81
5	12	6		21.69	21.89	21.84
5	12	11		21.66	21.68	21.77
5	25	0		21.91	22.07	21.78
10	1	0	QPSK	23.21	23.30	23.21
10	1	24		23.25	23.33	23.24
10	1	49		23.13	23.33	23.25
10	25	0		22.79	22.8	22.74
10	25	12		22.78	22.78	22.68
10	25	24		22.77	22.82	22.85
10	50	0		22.7	22.7	22.67
10	1	0	16-QAM	23.73	23.32	23.1
10	1	24		23.68	23.26	22.94
10	1	49		23.49	23.29	23.02
10	25	0		21.76	22.09	21.76
10	25	12		21.74	22.08	21.91
10	25	24		21.93	21.93	21.97



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.25	23.24	23.34
15	1	37		23.04	23.46	23.3
15	1	74		23.51	23.38	23.56
15	36	0		22.66	22.83	22.74
15	36	18		22.74	22.67	22.64
15	36	39		22.68	22.7	22.82
15	75	0		22.75	22.75	22.61
15	1	0	16-QAM	23.3	23.25	23.25
15	1	38		23.13	23.32	23.35
15	1	75		23.19	23.29	23.4
15	36	0		21.82	21.82	21.93
15	36	18		21.97	22.05	21.66
15	36	39		22.02	21.82	21.87
20	1	0	QPSK	23.43	23.76	22.74
20	1	49		23.32	23.77	22.76
20	1	99		23.34	23.84	22.98
20	50	0		22.76	22.94	22.7
20	50	24		22.53	22.76	22.8
20	50	49		22.7	22.71	22.81
20	100	0		22.66	22.8	22.69
20	1	0	16-QAM	22.43	23.25	22.61
20	1	49		22.34	23.13	22.55
20	1	99		23.23	23.03	22.75
20	50	0		21.82	21.94	21.72
20	50	24		21.7	22.13	21.98
20	50	49		21.96	22.08	21.88



11. EUT and Test Setup Photo

11.1 EUT Photos

Front side



Back side





Right Edge



Left Edge





Top Edge



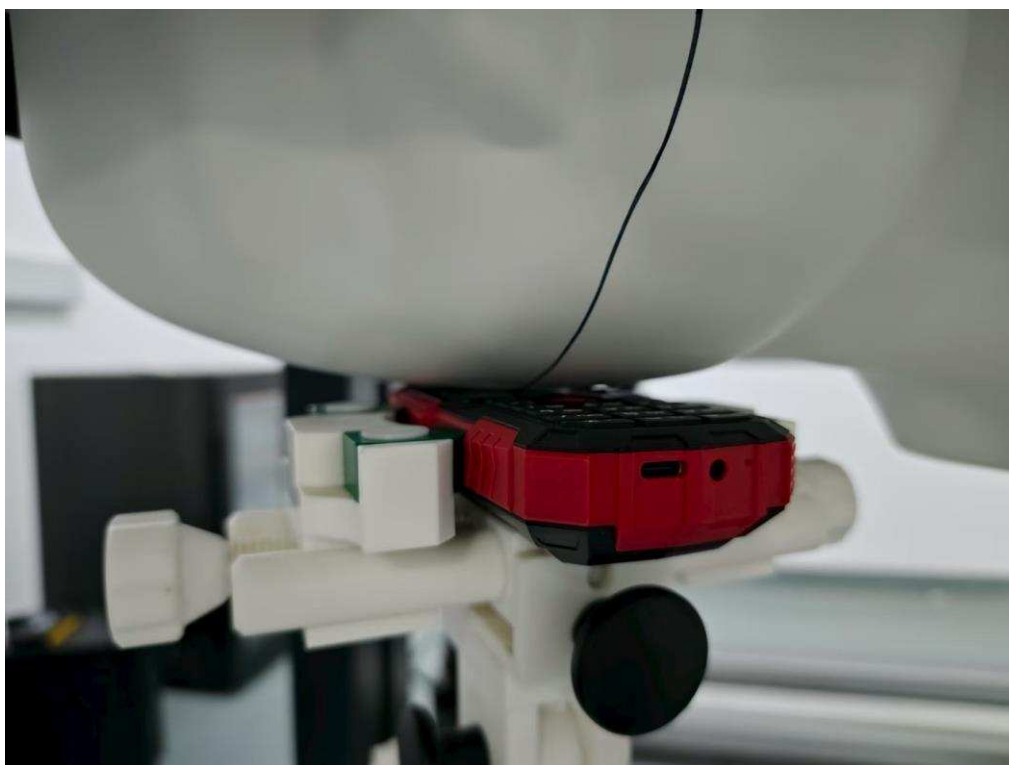
Bottom Edge





11.2 Setup Photos

Right Touch

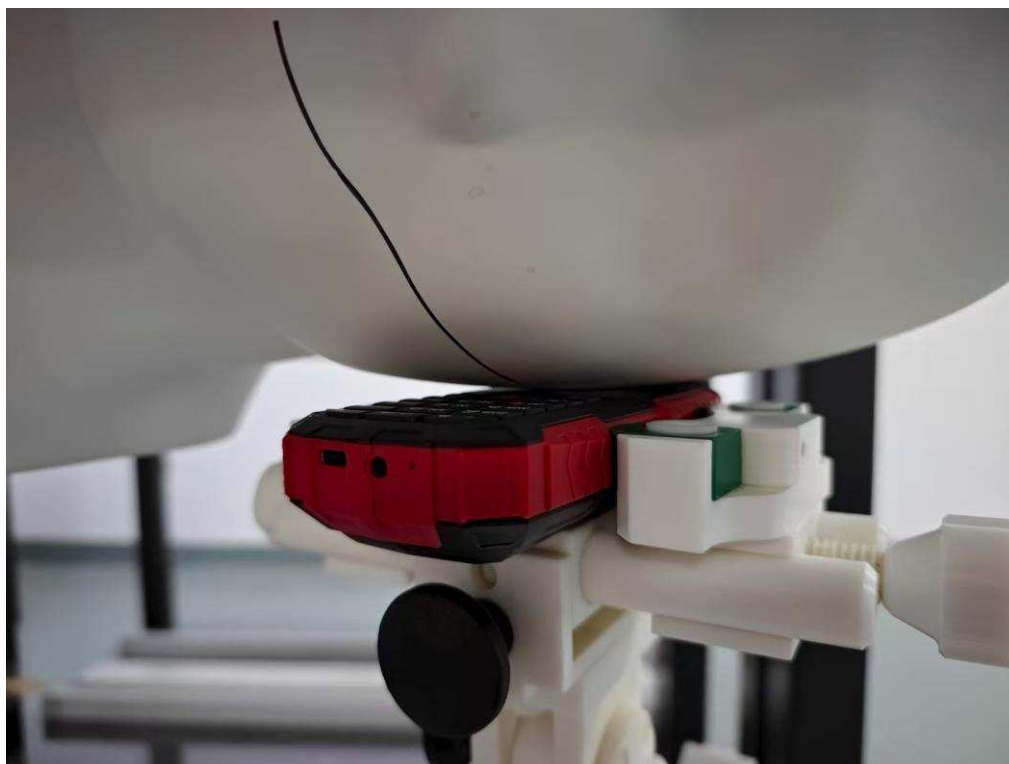


Right Tilt

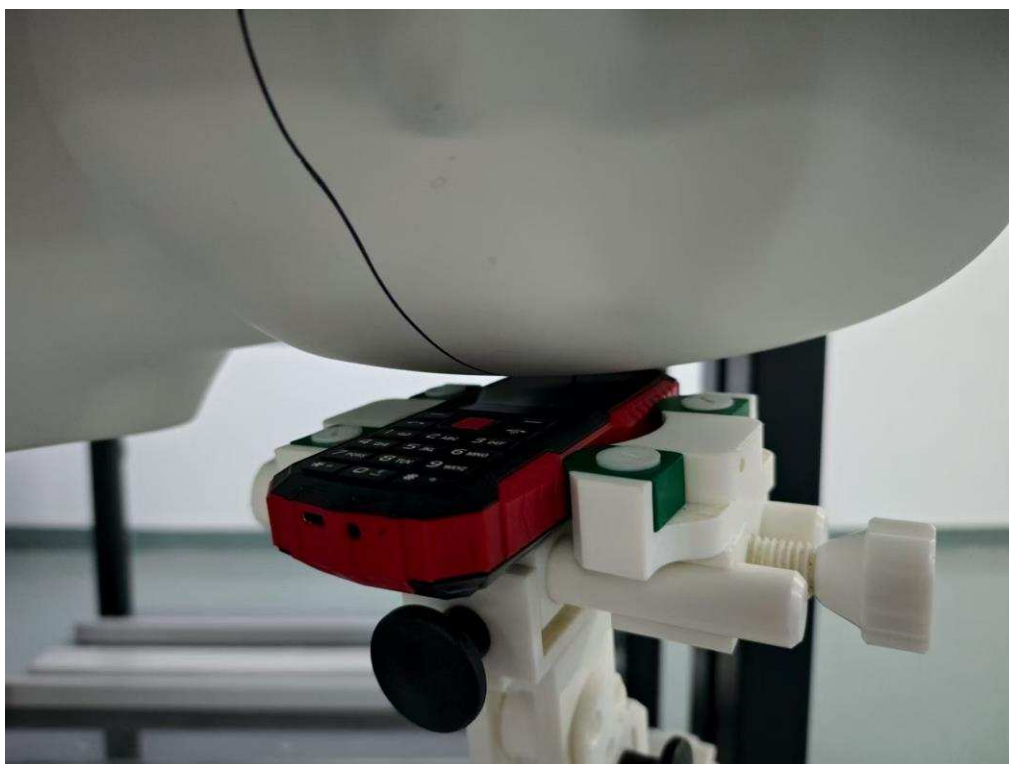




Left Touch



Left Tilt

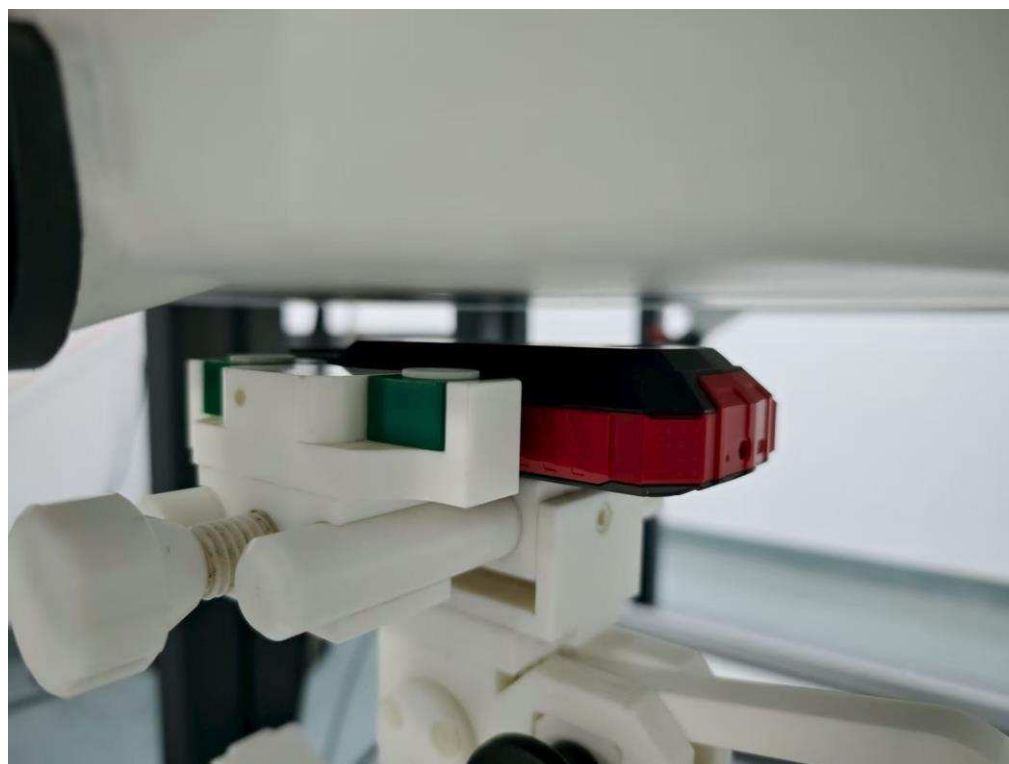




Body Front side (separation distance is 10mm)



Body Back side (separation distance 10mm)





Body Left side (separation distance is 10mm)



Body Right side (separation distance is 10mm)





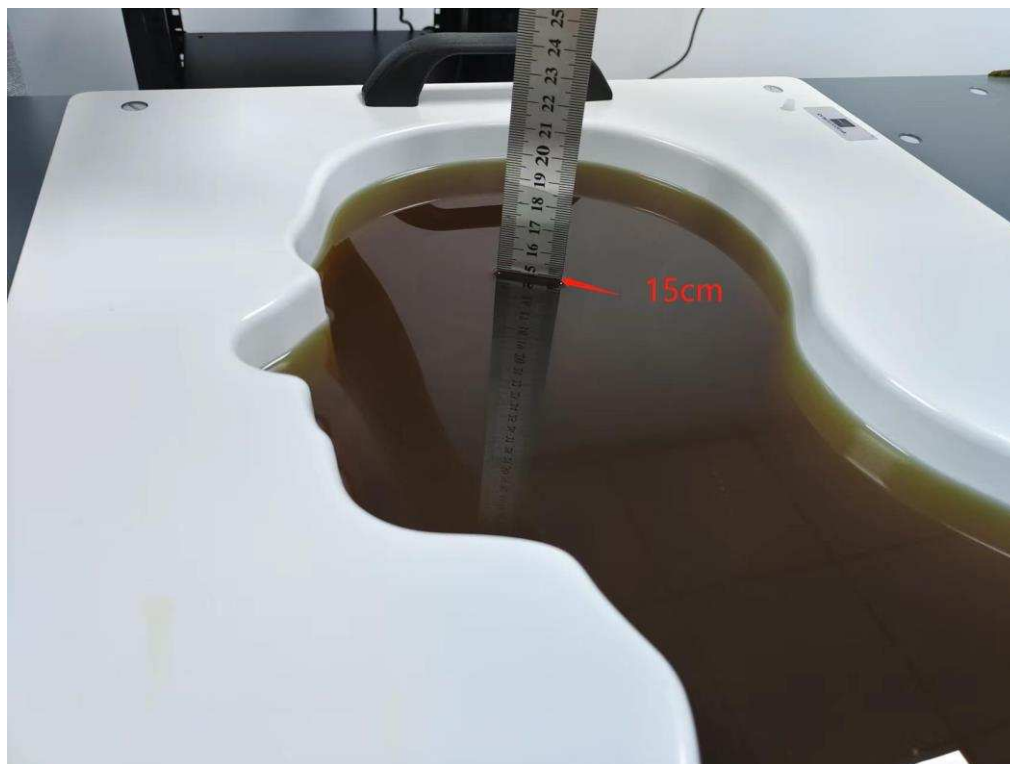
Body Top side (separation distance is 10mm)



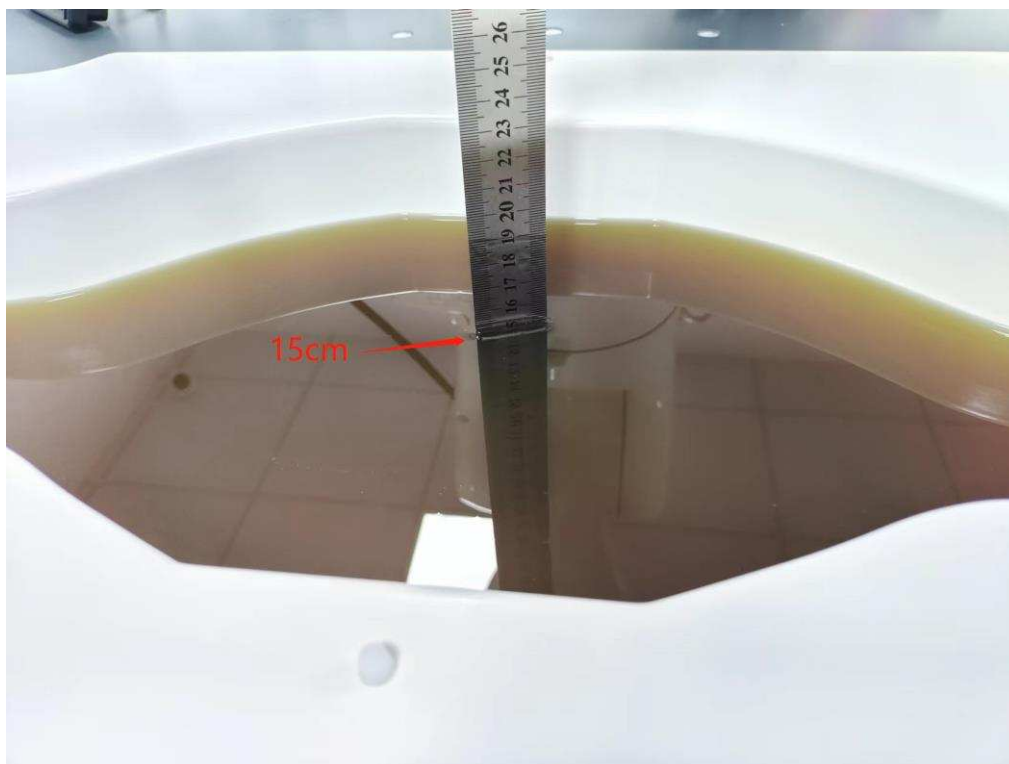
Body Bottom side (separation distance is 10mm)



Liquid depth (15 cm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaling Factor	Scaled SAR (W/Kg)	Meas. No.
GSM850	GSM	Right Cheek	848.8	0.673	-1.66	33.70	33.51	1.045	0.703	1
		Right Tilt	848.8	0.578	-2.87	33.70	33.51	1.045	0.604	/
		Left Cheek	848.8	0.540	0.55	33.70	33.51	1.045	0.564	/
		Left Tilt	848.8	0.464	3.04	33.70	33.51	1.045	0.485	/
PCS 1900	GSM	Right Cheek	1850.2	0.459	-3.70	30.50	30.29	1.050	0.482	3
		Right Tilt	1850.2	0.393	-2.74	30.50	30.29	1.050	0.412	/
		Left Cheek	1850.2	0.367	-3.07	30.50	30.29	1.050	0.385	/
		Left Tilt	1850.2	0.316	-3.29	30.50	30.29	1.050	0.332	/
WCDMA Band II	RMC	Right Cheek	1852.4	0.403	2.35	24.30	23.99	1.074	0.433	5
		Right Tilt	1852.4	0.348	1.87	24.30	23.99	1.074	0.374	/
		Left Cheek	1852.4	0.331	-1.57	24.30	23.99	1.074	0.355	/
		Left Tilt	1852.4	0.284	2.99	24.30	23.99	1.074	0.305	/
WCDMA Band IV	RMC	Right Cheek	1752.4	0.228	3.84	24.00	23.85	1.035	0.236	7
		Right Tilt	1752.4	0.196	-0.19	24.00	23.85	1.035	0.203	/
		Left Cheek	1752.4	0.187	-0.16	24.00	23.85	1.035	0.194	/
		Left Tilt	1752.4	0.160	3.18	24.00	23.85	1.035	0.166	/
WCDMA Band V	RMC	Right Cheek	826.4	0.753	1.09	24.00	23.88	1.028	0.774	/
		Right Cheek	836.4	0.782	-2.32	24.00	23.95	1.012	0.791	9
		Right Cheek	846.6	0.712	-0.50	24.00	23.78	1.052	0.749	/
		Right Tilt	836.4	0.669	-3.20	24.00	23.95	1.012	0.677	/
		Left Cheek	836.4	0.575	-0.11	24.00	23.95	1.012	0.582	/
		Left Tilt	836.4	0.491	-2.49	24.00	23.95	1.012	0.497	/



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)	Scaling Factor	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	99	Right Cheek	1880	0.470	-1.96	24.30	24.01	1.069	0.502	11
			50	0	Right Cheek	1900	0.424	0.14	23.30	23.10	1.047	0.444	/
			1	99	Right Tilt	1880	0.400	-2.57	24.30	24.01	1.069	0.428	/
			50	0	Right Tilt	1900	0.255	2.16	23.30	23.10	1.047	0.267	/
			1	99	Left Cheek	1880	0.377	3.89	24.30	24.01	1.069	0.403	/
			50	0	Left Cheek	1900	0.342	-1.18	23.30	23.10	1.047	0.358	/
			1	99	Left Tilt	1880	0.321	-3.82	24.30	24.01	1.069	0.343	/
			50	0	Left Tilt	1900	0.209	1.22	23.30	23.10	1.047	0.219	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1720	0.315	1.92	24.00	23.72	1.067	0.336	13
			50	49	Right Cheek	1732.5	0.284	3.51	23.00	22.75	1.059	0.301	/
			1	0	Right Tilt	1720	0.271	2.93	24.00	23.72	1.067	0.289	/
			50	49	Right Tilt	1732.5	0.170	-1.21	23.00	22.75	1.059	0.180	/
			1	0	Left Cheek	1720	0.255	-1.50	24.00	23.72	1.067	0.272	/
			50	49	Left Cheek	1732.5	0.233	0.62	23.00	22.75	1.059	0.247	/
			1	0	Left Tilt	1720	0.220	0.36	24.00	23.72	1.067	0.235	/
			50	49	Left Tilt	1732.5	0.144	0.57	23.00	22.75	1.059	0.153	/
LTE Band 5	10M	QPSK	1	24	Right Cheek	836.5	0.718	0.26	24.30	24.19	1.026	0.736	15
			25	24	Right Cheek	829	0.647	-0.39	23.30	23.14	1.038	0.671	/
			1	24	Right Tilt	836.5	0.612	-2.77	24.30	24.19	1.026	0.628	/
			25	24	Right Tilt	829	0.390	-3.27	23.30	23.14	1.038	0.405	/
			1	24	Left Cheek	836.5	0.574	2.75	24.30	24.19	1.026	0.589	/
			25	24	Left Cheek	829	0.518	-3.87	23.30	23.14	1.038	0.537	/
			1	24	Left Tilt	836.5	0.492	-0.63	24.30	24.19	1.026	0.505	/
			25	24	Left Tilt	829	0.313	-1.68	23.30	23.14	1.038	0.325	/
LTE Band 7	20M	QPSK	1	99	Right Cheek	2510	0.276	0.65	24.00	23.83	1.040	0.287	17
			50	49	Right Cheek	2510	0.247	2.65	22.30	22.18	1.028	0.254	/
			1	99	Right Tilt	2510	0.238	1.82	24.00	23.83	1.040	0.248	/
			50	49	Right Tilt	2510	0.149	-2.30	22.30	22.18	1.028	0.153	/
			1	99	Left Cheek	2510	0.221	0.37	24.00	23.83	1.040	0.230	/
			50	49	Left Cheek	2510	0.201	2.26	22.30	22.18	1.028	0.207	/
			1	99	Left Tilt	2510	0.190	3.64	24.00	23.83	1.040	0.198	/
			50	49	Left Tilt	2510	0.124	-1.04	22.30	22.18	1.028	0.127	/
LTE Band 66	20M	QPSK	1	99	Right Cheek	1745	0.428	-1.73	24.00	23.84	1.038	0.444	19



			50	0	Right Cheek	1745	0.384	1.92	23.00	22.94	1.014	0.389	/
			1	99	Right Tilt	1745	0.368	1.90	24.00	23.84	1.038	0.382	/
			50	0	Right Tilt	1745	0.232	-1.10	23.00	22.94	1.014	0.235	/
			1	99	Left Cheek	1745	0.344	0.04	24.00	23.84	1.038	0.357	/
			50	0	Left Cheek	1745	0.312	3.54	23.00	22.94	1.014	0.316	/
			1	99	Left Tilt	1745	0.292	3.54	24.00	23.84	1.038	0.303	/
			50	0	Left Tilt	1745	0.190	2.48	23.00	22.94	1.014	0.193	/

Note:

1. 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

2. Per KDB 865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg.



12.2 Body-worn SAR

Band	Model	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaling Factor	Scaled SAR (W/Kg)	Meas. No.
GSM850	EGPRS (8PSK, 2-Slot)	Front Side	848.8	0.387	-1.57	31.70	31.61	1.021	0.395	/
		Back Side	848.8	0.394	-2.00	31.70	31.61	1.021	0.402	2
		Left Side	848.8	0.233	1.89	31.70	31.61	1.021	0.238	/
		Right Side	848.8	0.212	1.39	31.70	31.61	1.021	0.216	/
		Top Side	848.8	0.031	-2.17	31.70	31.61	1.021	0.032	/
		Bottom Side	848.8	0.136	-1.56	31.70	31.61	1.021	0.139	/
PCS 1900	GPRS (GMSK, 3-Slot)	Front Side	1850.2	0.092	0.01	27.20	27.04	1.038	0.095	/
		Back Side	1850.2	0.230	-1.72	27.20	27.04	1.038	0.239	4
		Left Side	1850.2	0.049	-0.83	27.20	27.04	1.038	0.051	/
		Right Side	1850.2	0.108	2.91	27.20	27.04	1.038	0.112	/
		Top Side	1850.2	0.019	0.66	27.20	27.04	1.038	0.020	/
		Bottom Side	1850.2	0.069	-1.07	27.20	27.04	1.038	0.072	/
WCDMA Band II	RMC	Front Side	1852.4	0.169	1.24	24.30	23.99	1.074	0.182	/
		Back Side	1852.4	0.482	-1.45	24.30	23.99	1.074	0.518	6
		Left Side	1852.4	0.094	-2.91	24.30	23.99	1.074	0.101	/
		Right Side	1852.4	0.193	-1.41	24.30	23.99	1.074	0.207	/
		Bottom Side	1852.4	0.148	-0.33	24.30	23.99	1.074	0.159	/
WCDMA Band IV	RMC	Front Side	1752.4	0.093	-2.31	24.00	23.85	1.035	0.096	/
		Back Side	1752.4	0.226	3.51	24.00	23.85	1.035	0.234	8
		Left Side	1752.4	0.046	-0.15	24.00	23.85	1.035	0.048	/
		Right Side	1752.4	0.102	1.86	24.00	23.85	1.035	0.106	/
		Bottom Side	1752.4	0.069	2.91	24.00	23.85	1.035	0.071	/
WCDMA Band V	RMC	Front Side	836.4	0.550	-0.48	24.00	23.95	1.012	0.556	10
		Back Side	836.4	0.543	-1.65	24.00	23.95	1.012	0.549	/
		Left Side	836.4	0.310	-3.64	24.00	23.95	1.012	0.314	/
		Right Side	836.4	0.297	-0.07	24.00	23.95	1.012	0.300	/
		Bottom Side	836.4	0.170	3.38	24.00	23.95	1.012	0.172	/



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)	Scaling Factor	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	99	Front side	1880	0.177	1.52	24.30	24.01	1.069	0.189	/
			50	0	Front side	1900	0.161	1.08	23.30	23.10	1.047	0.169	/
			1	99	Back Side	1880	0.435	0.24	24.30	24.01	1.069	0.465	12
			50	0	Back Side	1900	0.394	-1.73	23.30	23.10	1.047	0.413	/
			1	99	Left Side	1880	0.091	2.41	24.30	24.01	1.069	0.097	/
			50	0	Left Side	1900	0.083	1.28	23.30	23.10	1.047	0.087	/
			1	99	Right Side	1880	0.196	-2.40	24.30	24.01	1.069	0.210	/
			50	0	Right Side	1900	0.180	-3.94	23.30	23.10	1.047	0.188	/
			1	99	Bottom Side	1880	0.132	2.48	24.30	24.01	1.069	0.141	/
			50	0	Bottom Side	1900	0.120	-1.53	23.30	23.10	1.047	0.126	/
LTE Band 4	20M	QPSK	1	0	Front side	1720	0.212	-3.27	24.00	23.72	1.067	0.226	/
			50	49	Front side	1732.5	0.192	2.59	23.00	22.75	1.059	0.203	/
			1	0	Back Side	1720	0.522	-0.79	24.00	23.72	1.067	0.557	14
			50	49	Back Side	1732.5	0.472	1.45	23.00	22.75	1.059	0.500	/
			1	0	Left Side	1720	0.107	-0.77	24.00	23.72	1.067	0.114	/
			50	49	Left Side	1732.5	0.097	1.98	23.00	22.75	1.059	0.103	/
			1	0	Right Side	1720	0.238	3.37	24.00	23.72	1.067	0.254	/
			50	49	Right Side	1732.5	0.214	-2.48	23.00	22.75	1.059	0.227	/
			1	0	Bottom Side	1720	0.158	-3.91	24.00	23.72	1.067	0.169	/
			50	49	Bottom Side	1732.5	0.142	1.00	23.00	22.75	1.059	0.150	/
LTE Band 5	10M	QPSK	1	24	Front side	829	0.422	3.51	24.30	23.01	1.346	0.568	/
			1	24	Front side	836.5	0.599	2.84	24.30	24.19	1.026	0.614	16
			1	24	Front side	844	0.507	-2.62	24.30	23.61	1.172	0.594	/
			25	24	Front side	829	0.540	2.65	23.30	23.14	1.038	0.560	/
			1	24	Back Side	836.5	0.546	-2.51	24.30	24.19	1.026	0.560	/
			25	24	Back Side	829	0.495	2.96	23.30	23.14	1.038	0.514	/
			1	24	Left Side	836.5	0.363	1.29	24.30	24.19	1.026	0.372	/
			25	24	Left Side	829	0.328	0.70	23.30	23.14	1.038	0.340	/
			1	24	Right Side	836.5	0.331	1.44	24.30	24.19	1.026	0.339	/
			25	24	Right Side	829	0.298	-2.09	23.30	23.14	1.038	0.309	/
			1	24	Bottom Side	836.5	0.211	0.48	24.30	24.19	1.026	0.216	/



			25	24	Bottom Side	829	0.193	-0.63	23.30	23.14	1.038	0.200	/
LTE Band 7	20M	QPSK	1	99	Front side	2510	0.215	0.05	24.00	23.83	1.040	0.224	/
			50	49	Front side	2510	0.196	0.65	22.30	22.18	1.028	0.201	/
			1	99	Back Side	2510	0.529	0.68	24.00	23.83	1.040	0.550	18
			50	49	Back Side	2510	0.476	-0.80	22.30	22.18	1.028	0.489	/
			1	99	Left Side	2510	0.107	-0.04	24.00	23.83	1.040	0.111	/
			50	49	Left Side	2510	0.095	1.66	22.30	22.18	1.028	0.098	/
			1	99	Right Side	2510	0.238	-3.08	24.00	23.83	1.040	0.248	/
			50	49	Right Side	2510	0.217	3.47	22.30	22.18	1.028	0.223	/
			1	99	Bottom Side	2510	0.161	3.81	24.00	23.83	1.040	0.167	/
			50	49	Bottom Side	2510	0.146	-2.55	22.30	22.18	1.028	0.150	/
LTE Band 66	20M	QPSK	1	99	Front side	1745	0.197	0.91	24.00	23.84	1.038	0.204	/
			50	0	Front side	1745	0.180	-3.85	23.00	22.94	1.014	0.183	/
			1	99	Back Side	1745	0.482	2.40	24.00	23.84	1.038	0.500	20
			50	0	Back Side	1745	0.433	0.88	23.00	22.94	1.014	0.439	/
			1	99	Left Side	1745	0.100	-2.73	24.00	23.84	1.038	0.104	/
			50	0	Left Side	1745	0.092	-0.02	23.00	22.94	1.014	0.093	/
			1	99	Right Side	1745	0.218	-1.03	24.00	23.84	1.038	0.226	/
			50	0	Right Side	1745	0.196	-1.08	23.00	22.94	1.014	0.199	/
			1	99	Bottom Side	1745	0.148	0.39	24.00	23.84	1.038	0.154	/
			50	0	Bottom Side	1745	0.134	-2.22	23.00	22.94	1.014	0.136	/

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



12.3 Simultaneous Multi-band Transmission Evaluation

Application Simultaneous Transmission information:

Position	Simultaneous State
Head	1. GSM + Bluetooth
	2. WCDMA + Bluetooth
	3. LTE + Bluetooth
Body	1. GSM + Bluetooth
	2. WCDMA + Bluetooth
	3. LTE + Bluetooth

NOTE:

1. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.

2. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.

3. 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) $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} \text{ (GHz)} / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$;

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 $>50\text{mm}$.

Estimated SAR		Maximum Turn-up Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	3	1.995	5	2.402	0.082
	Body			5	2.402	0.082

Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + Bluetooth	Head	GSM	0.558	0.640
		BT	0.082	
	Body	GSM	0.402	0.484
		BT	0.082	
WCDMA + Bluetooth	Head	WCDMA	0.791	0.873
		BT	0.082	
	Body	WCDMA	0.556	0.638
		BT	0.082	
LTE + Bluetooth	Head	LTE	0.736	0.818
		BT	0.082	
	Body	LTE	0.614	0.696
		BT	0.082	

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	2025.05.20	2028.05.19
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2025.05.20	2028.05.19
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2025.05.20	2028.05.19
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2025.05.20	2028.05.19
E-Field Probe	MVG	SSE2	2225-EPGO-450	2025.06.06	2026.06.05
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2025.06.02	2026.06.01
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	2025.03.05	2026.03.04
Multi Meter	DMM6500	Keithley	4527252	2025.03.06	2026.03.05
Signal Generator	Keysight	N5182B	MY59100717	2025.03.05	2026.03.04
Wireless Communication Test Set	R&S	CMW500	137737	2025.03.05	2026.03.04
Power Sensor	R&S	Z11	116184	2025.03.05	2026.03.04
Electronic Temperature hygrometer	N/A	ST-W2318	N/A	2025.03.05	2026.03.04
Temperature hygrometer	N/A	TP101	N/A	2025.03.05	2026.03.04



Appendix A. System Validation Plots

System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

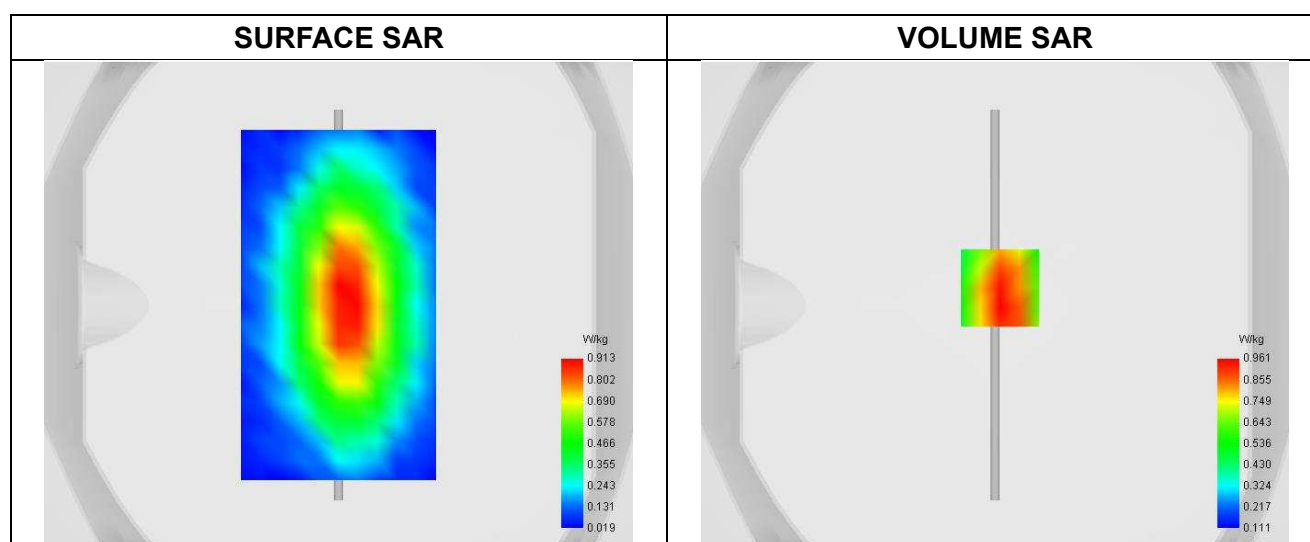
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2025-09-09

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	41.29
Conductivity (S/m)	0.94
Probe	2225-EPGO-450
ConvF	1.02
Crest factor:	1:1

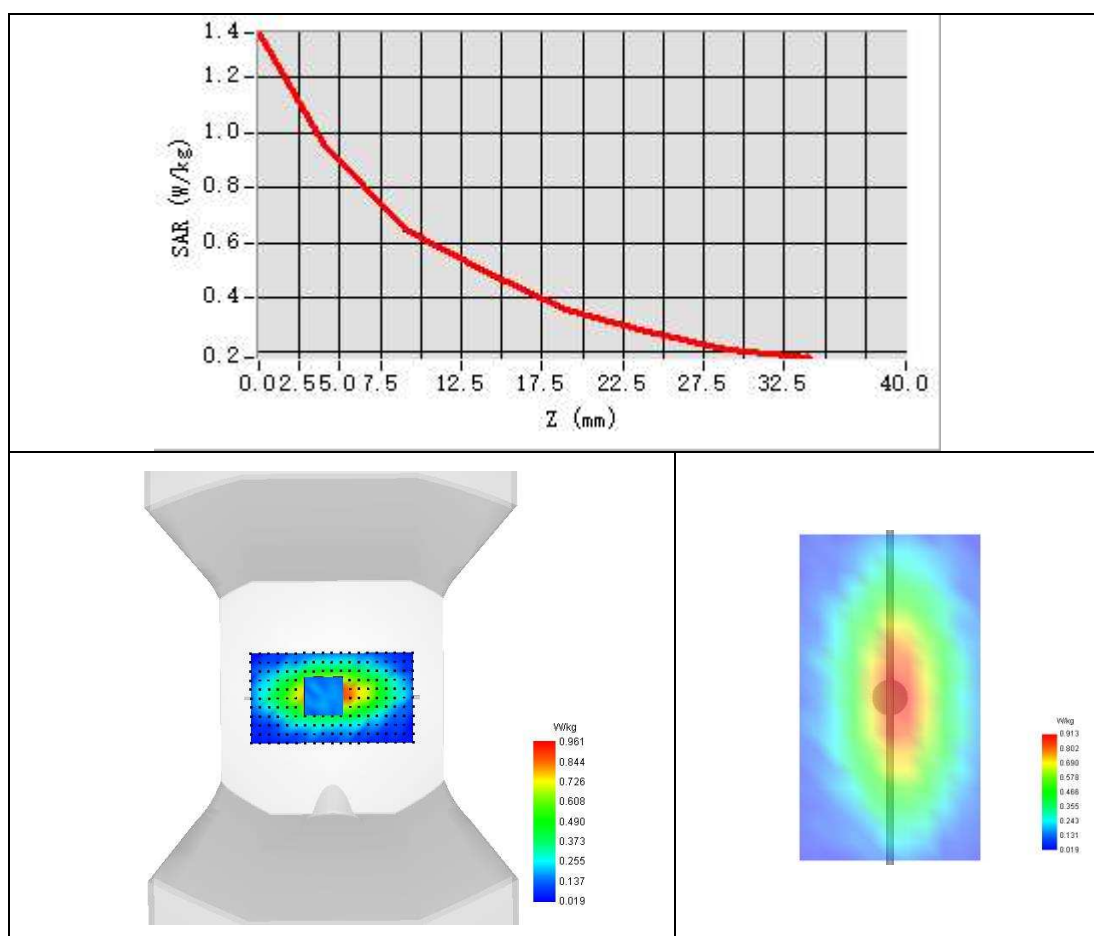


Maximum location: X=2.00, Y=7.00 ; SAR Peak: 1.36 W/kg

SAR 10g (W/Kg)	0.584
SAR 1g (W/Kg)	0.966



Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

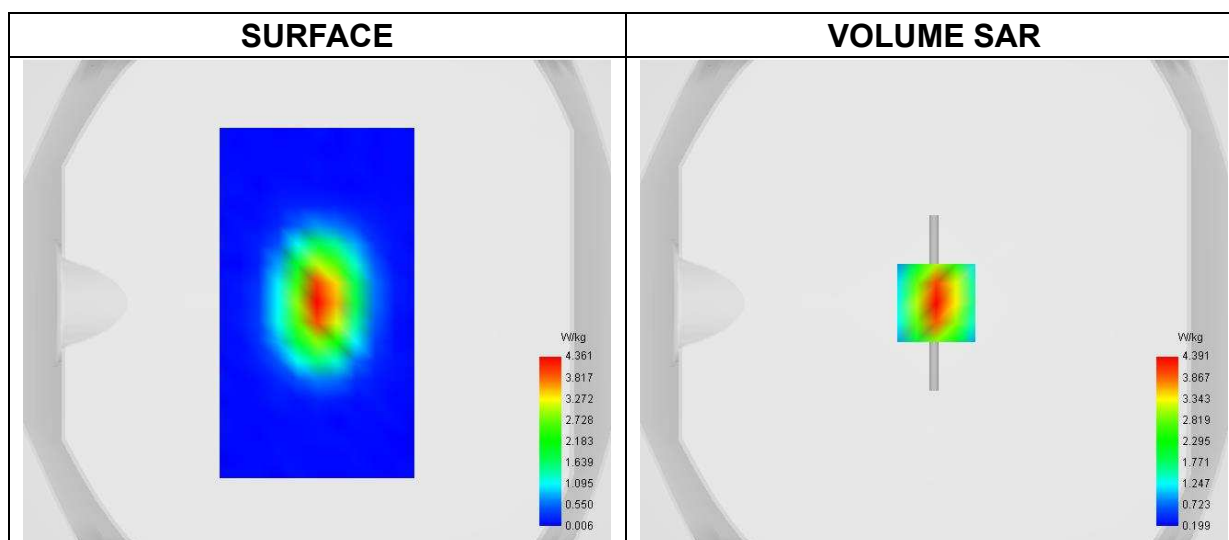
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2025-09-07

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	41.12
Conductivity (S/m)	1.39
Probe	2225-EPGO-450
ConvF	1.21
Crest factor:	1:1

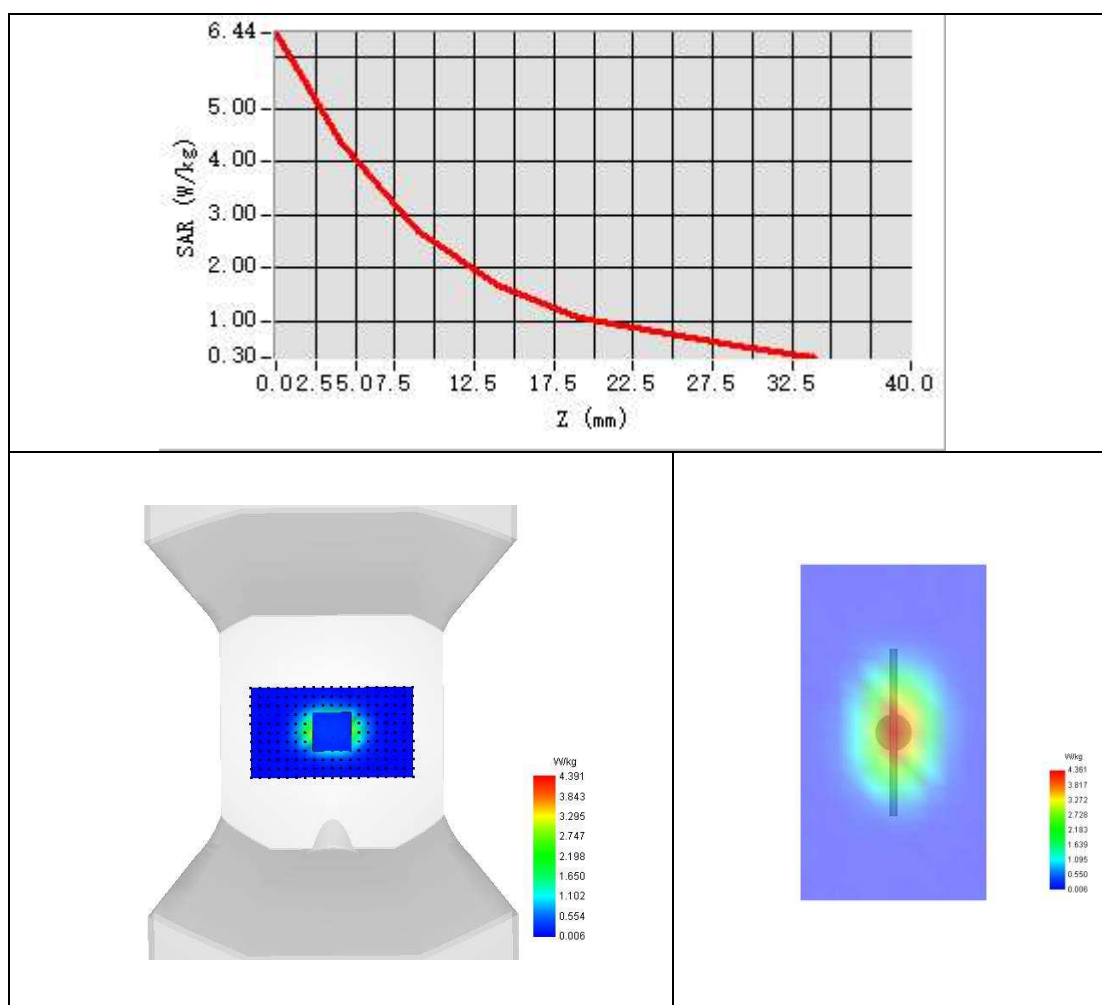


Maximum location: X=1.00, Y=0.00 ; SAR Peak: 6.49 W/kg

SAR 10g (W/Kg)	1.896
SAR 1g (W/Kg)	3.696



Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

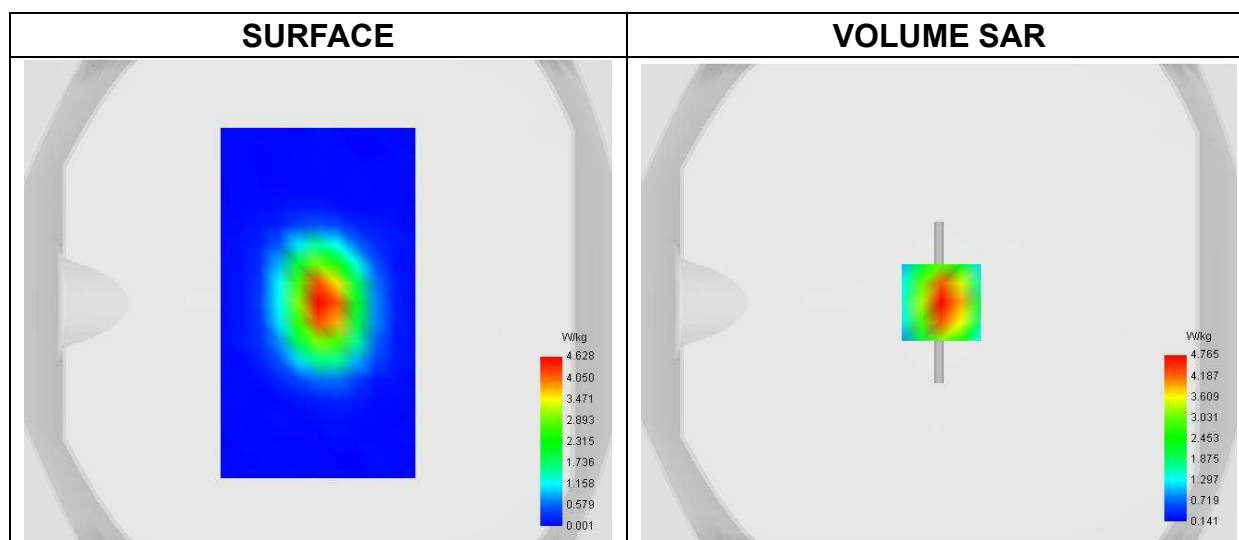
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2025-09-11

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	40.63
Conductivity (S/m)	1.42
Probe	2225-EPGO-450
ConvF	1.34
Crest factor:	1:1

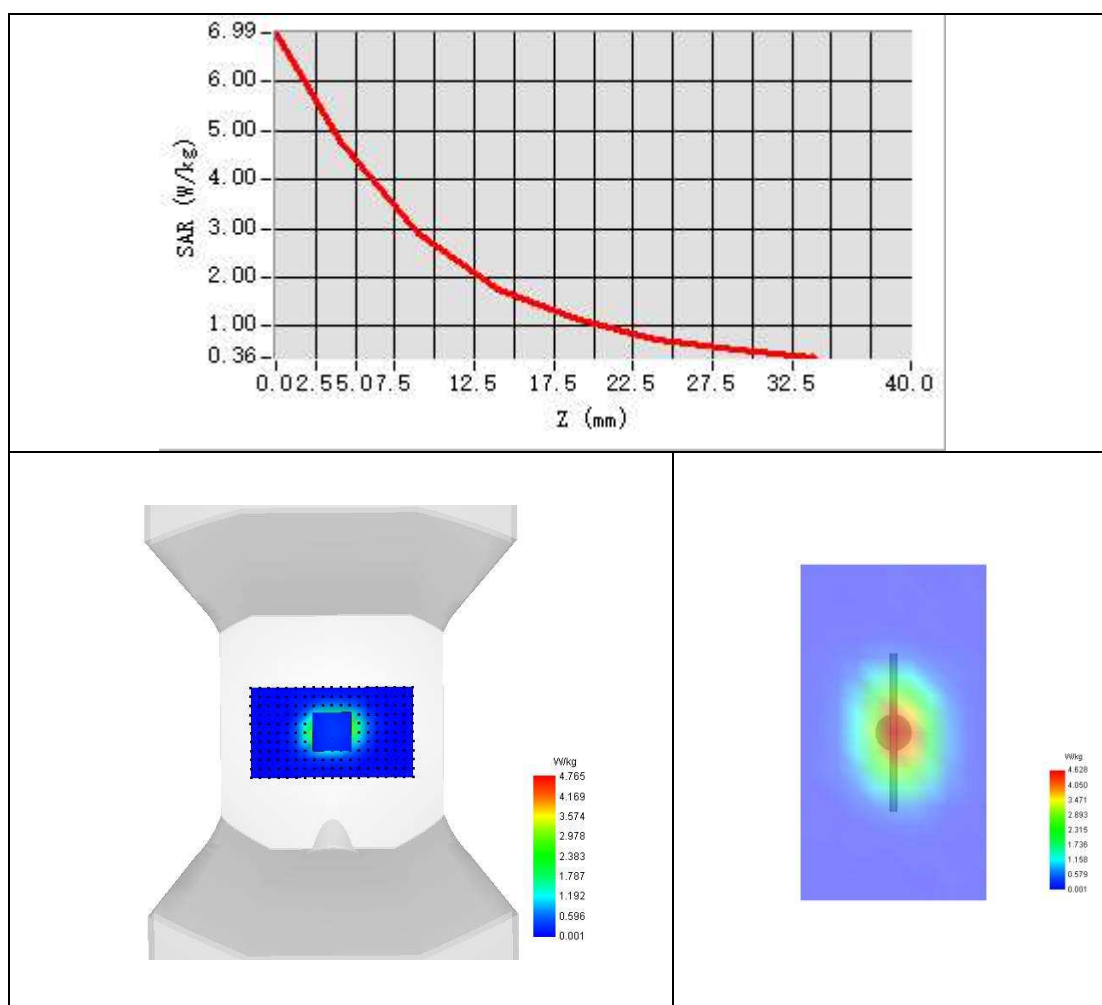


Maximum location: X=1.00, Y=0.00 ; SAR Peak: 7.04 W/kg

SAR 10g (W/Kg)	2.080
SAR 1g (W/Kg)	4.025



Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

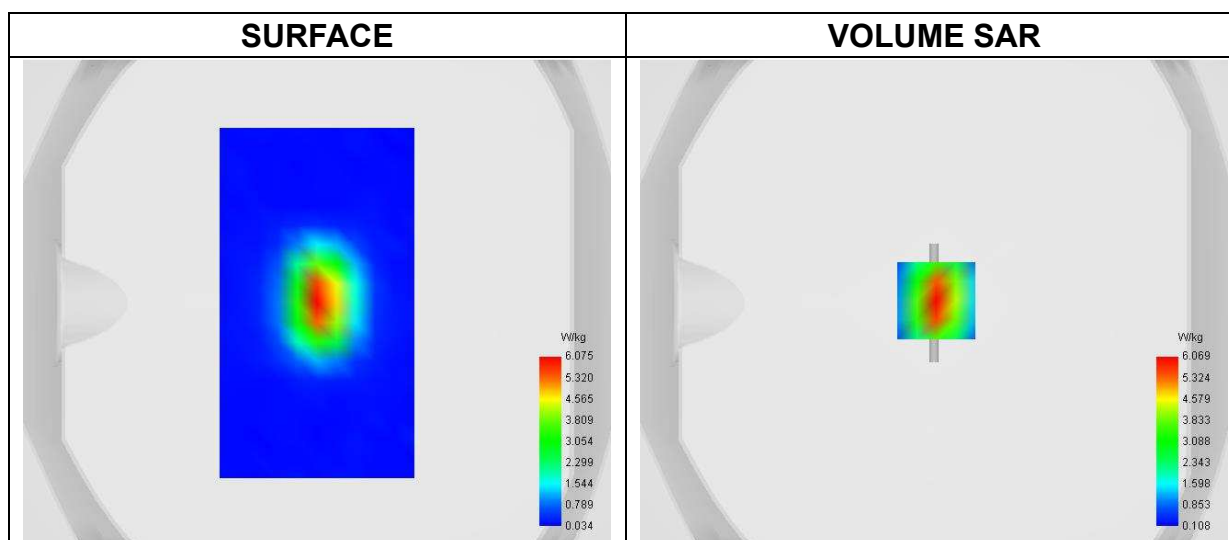
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2025-09-12

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.80
Conductivity (S/m)	2.03
Probe	2225-EPGO-450
ConvF	1.44
Crest factor:	1:1

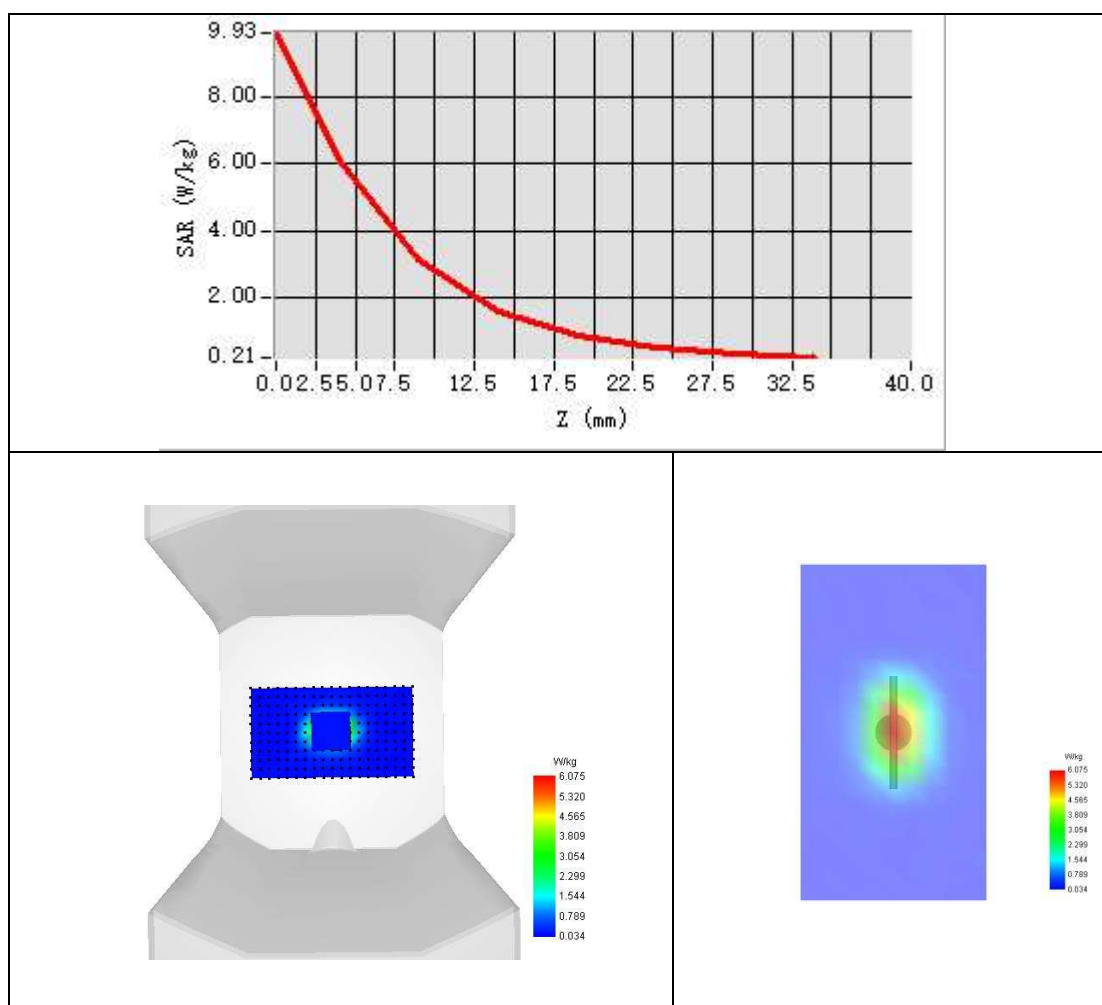


Maximum location: X=1.00, Y=1.00 ; SAR Peak: 9.97 W/kg

SAR 10g (W/Kg)	2.510
SAR 1g (W/Kg)	5.594



Z Axis Scan



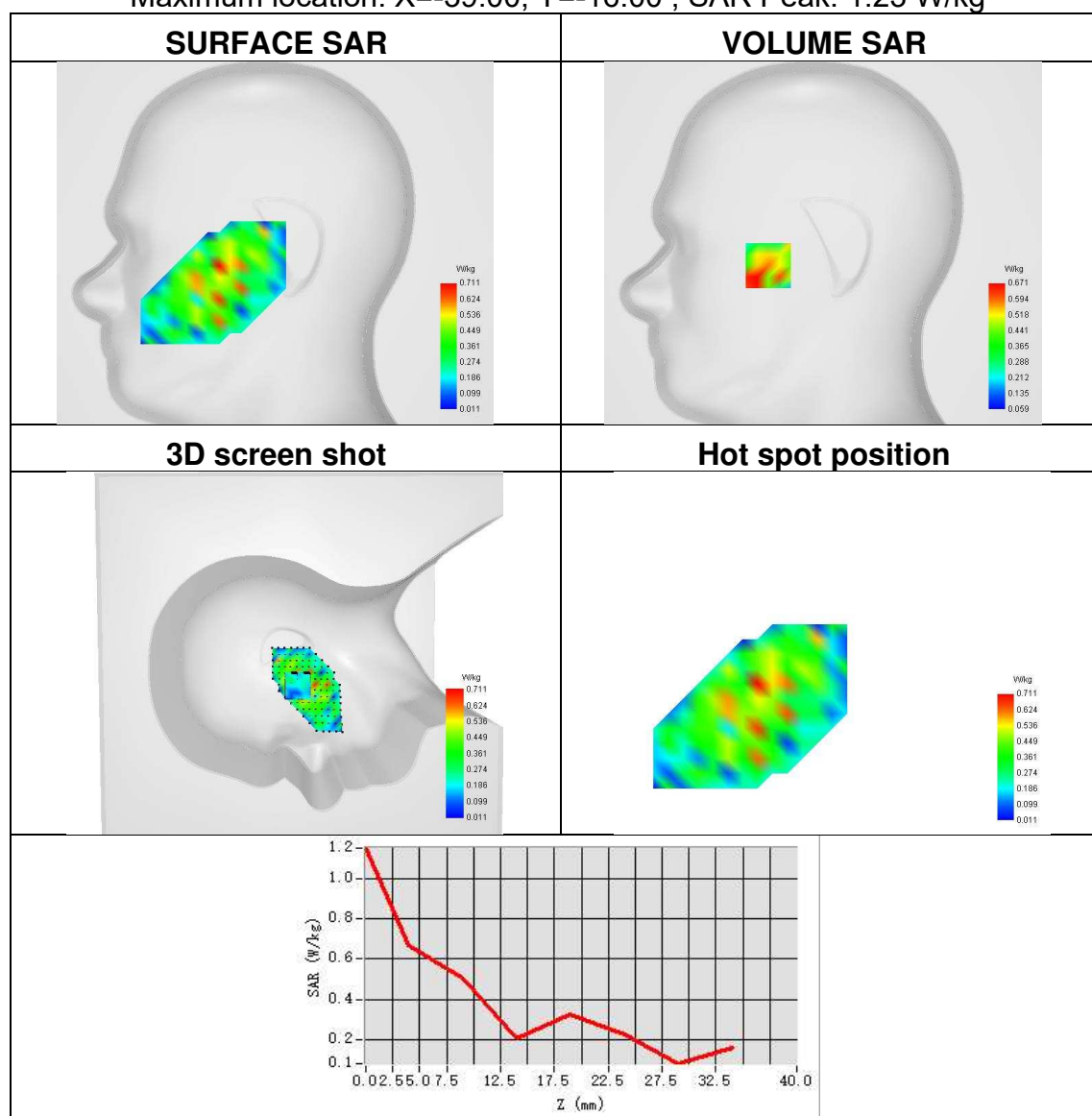


Appendix B. SAR Test Plots

Plot 1:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	GPRS850
Signal	TDMA (GPRS)
Frequency	848.8
SAR 10g (W/Kg)	0.385
SAR 1g (W/Kg)	0.673
ConvF	1.02
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=-39.00, Y=-16.00 ; SAR Peak: 1.23 W/kg

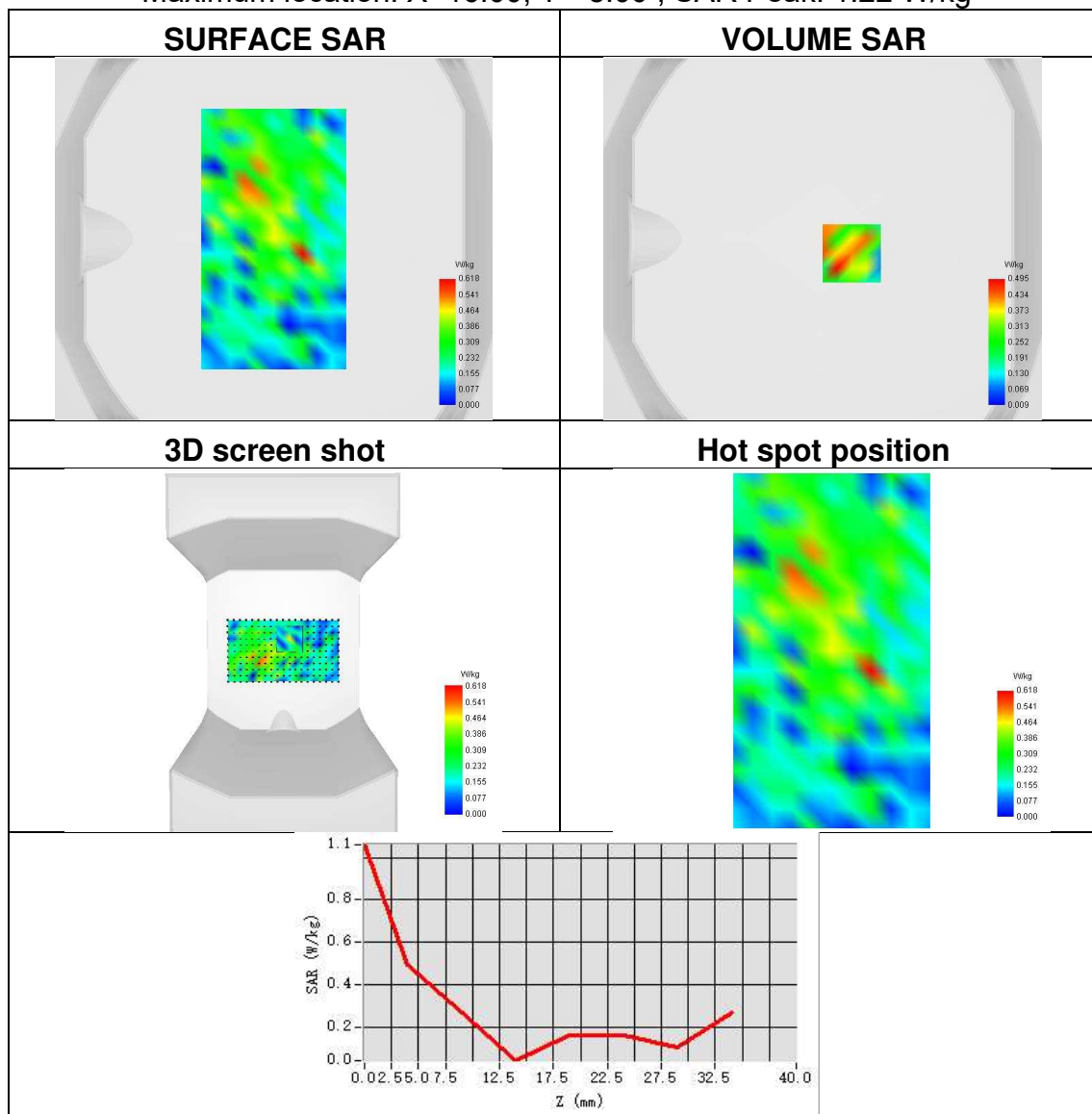




Plot 2:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS850
Signal	TDMA (GPRS)
Frequency	848.8
SAR 10g (W/Kg)	0.273
SAR 1g (W/Kg)	0.394
ConvF	1.02
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=16.00, Y=-8.00 ; SAR Peak: 1.22 W/kg

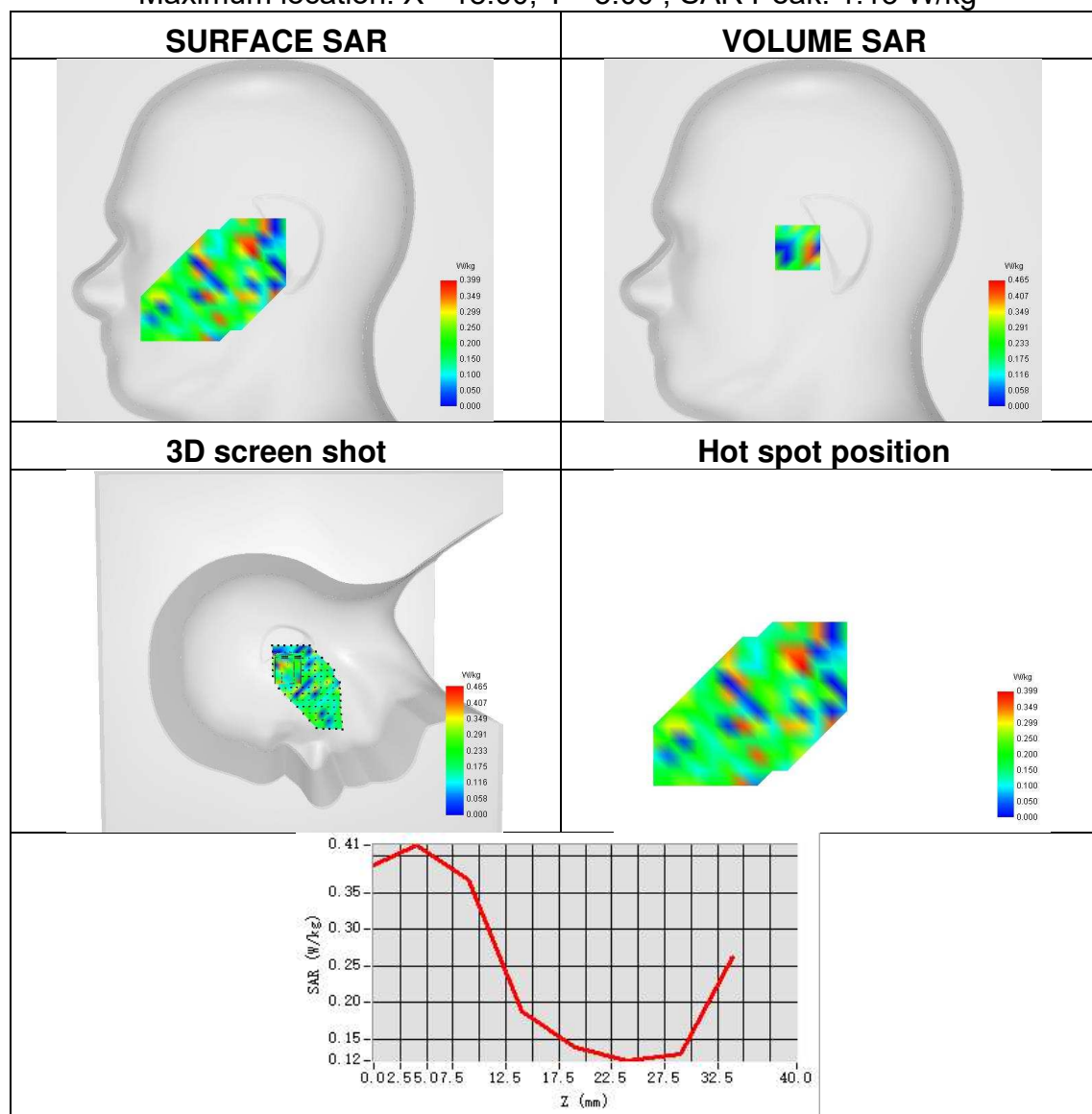




Plot 3:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	GPRS1900
Signal	TDMA (GPRS)
Frequency	1850.2
SAR 10g (W/Kg)	0.210
SAR 1g (W/Kg)	0.459
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=-18.00, Y=-5.00 ; SAR Peak: 1.13 W/kg

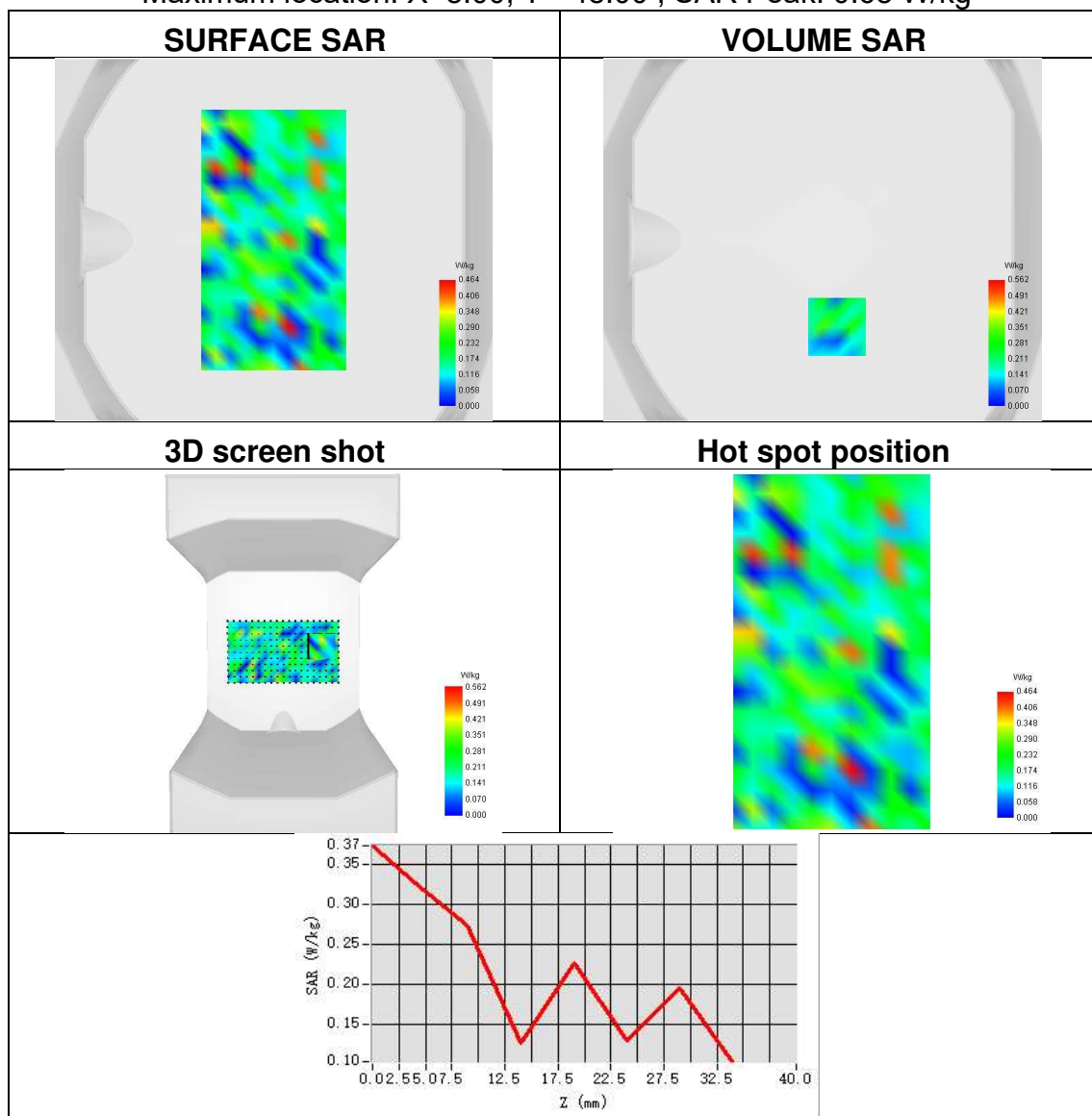




Plot 4:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS1900
Signal	TDMA (GPRS)
Frequency	1850.2
SAR 10g (W/Kg)	0.134
SAR 1g (W/Kg)	0.230
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=8.00, Y=-48.00 ; SAR Peak: 0.68 W/kg

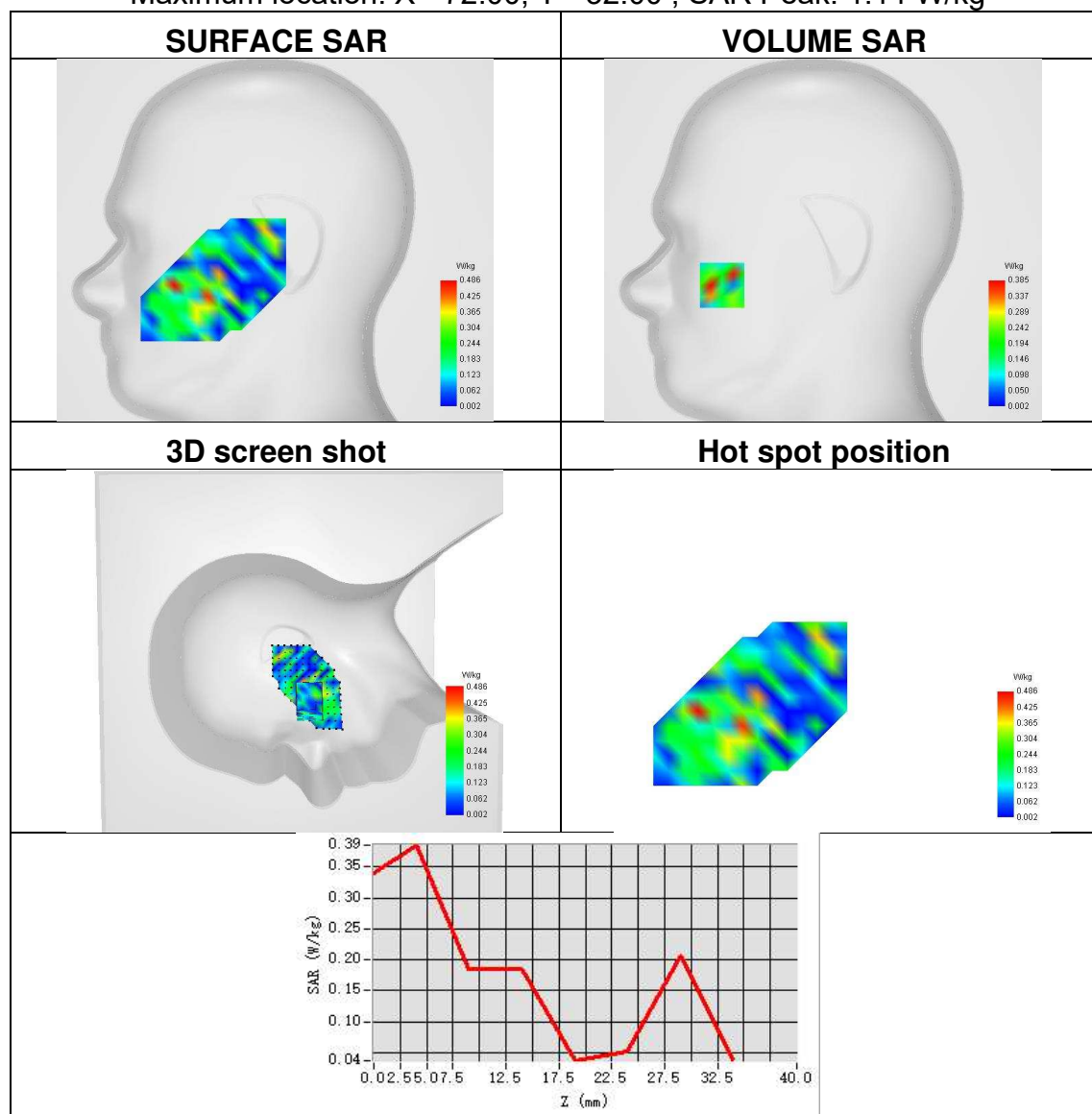




Plot 5:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	Band 2 (1900)
Signal	WCDMA
Frequency	1852.4
SAR 10g (W/Kg)	0.170
SAR 1g (W/Kg)	0.403
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=-72.00, Y=-32.00 ; SAR Peak: 1.14 W/kg

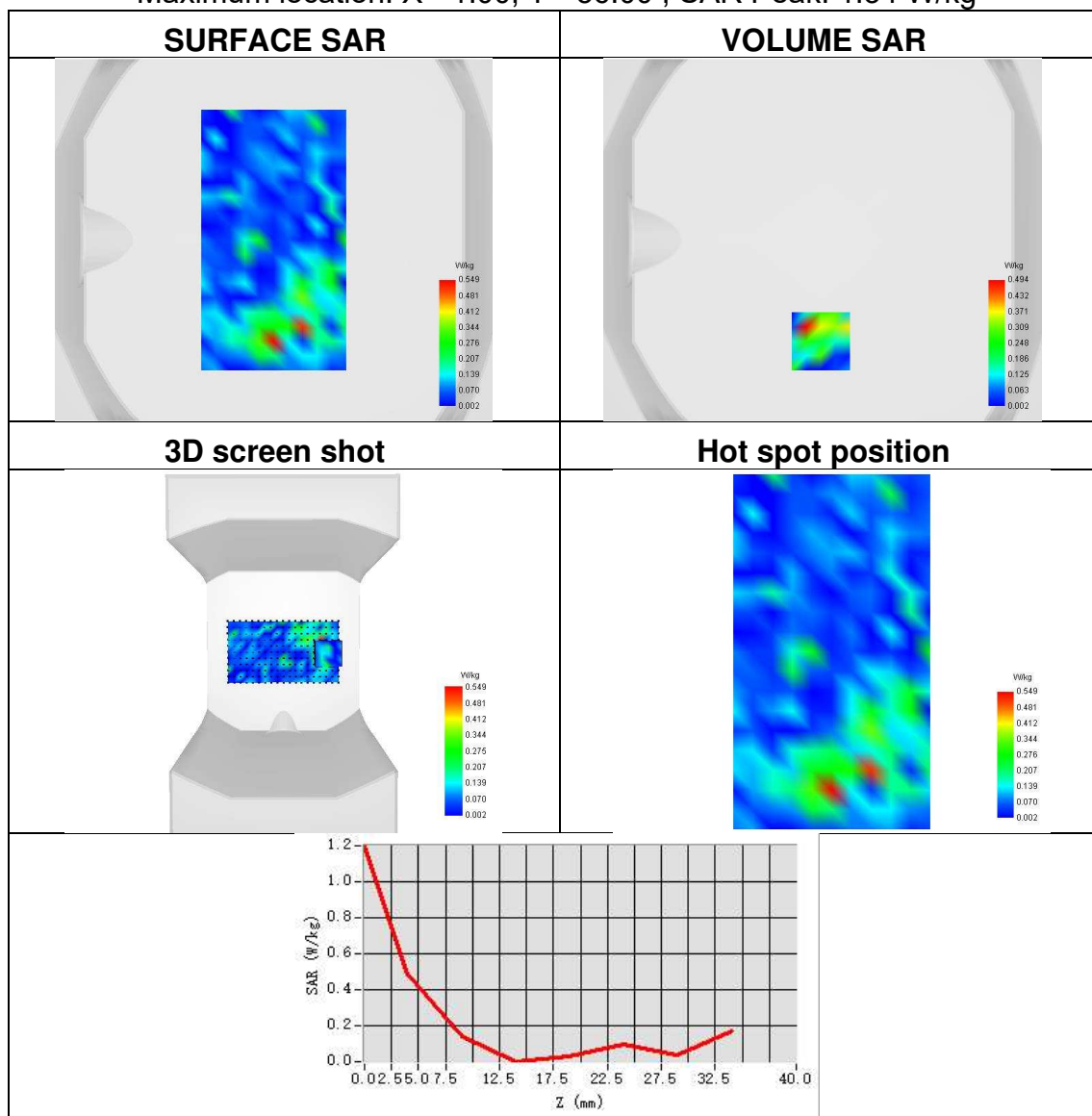




Plot 6:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	Band 2 (1900)
Signal	WCDMA
Frequency	1852.4
SAR 10g (W/Kg)	0.173
SAR 1g (W/Kg)	0.482
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=-1.00, Y=-56.00 ; SAR Peak: 1.34 W/kg

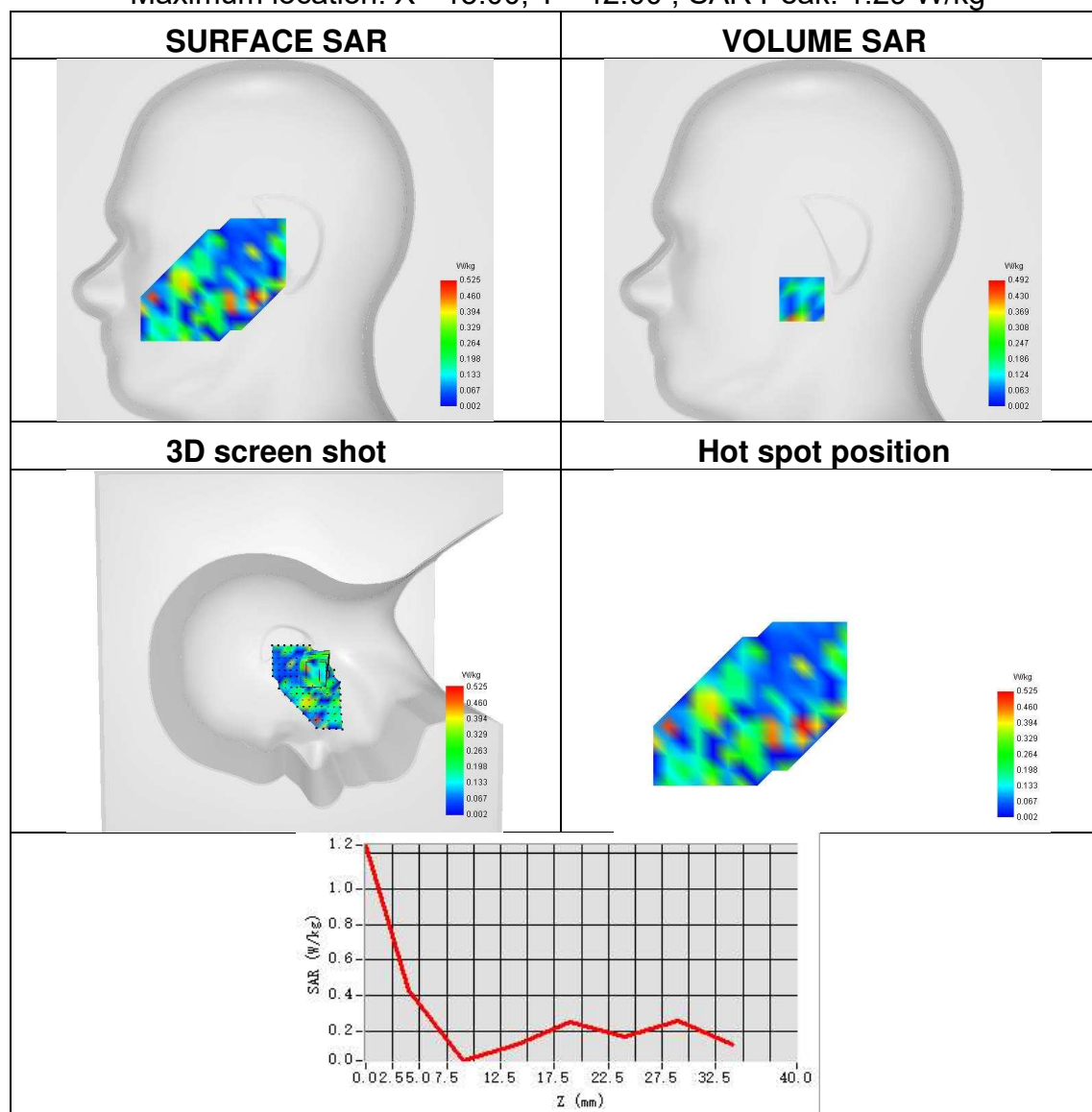




Plot 7:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	Band 4 (1700)
Signal	WCDMA
Frequency	1752.4
SAR 10g (W/Kg)	0.135
SAR 1g (W/Kg)	0.228
ConvF	1.21
Relative permittivity	41.12
Conductivity (S/m)	1.39

Maximum location: X=-15.00, Y=-42.00 ; SAR Peak: 1.29 W/kg

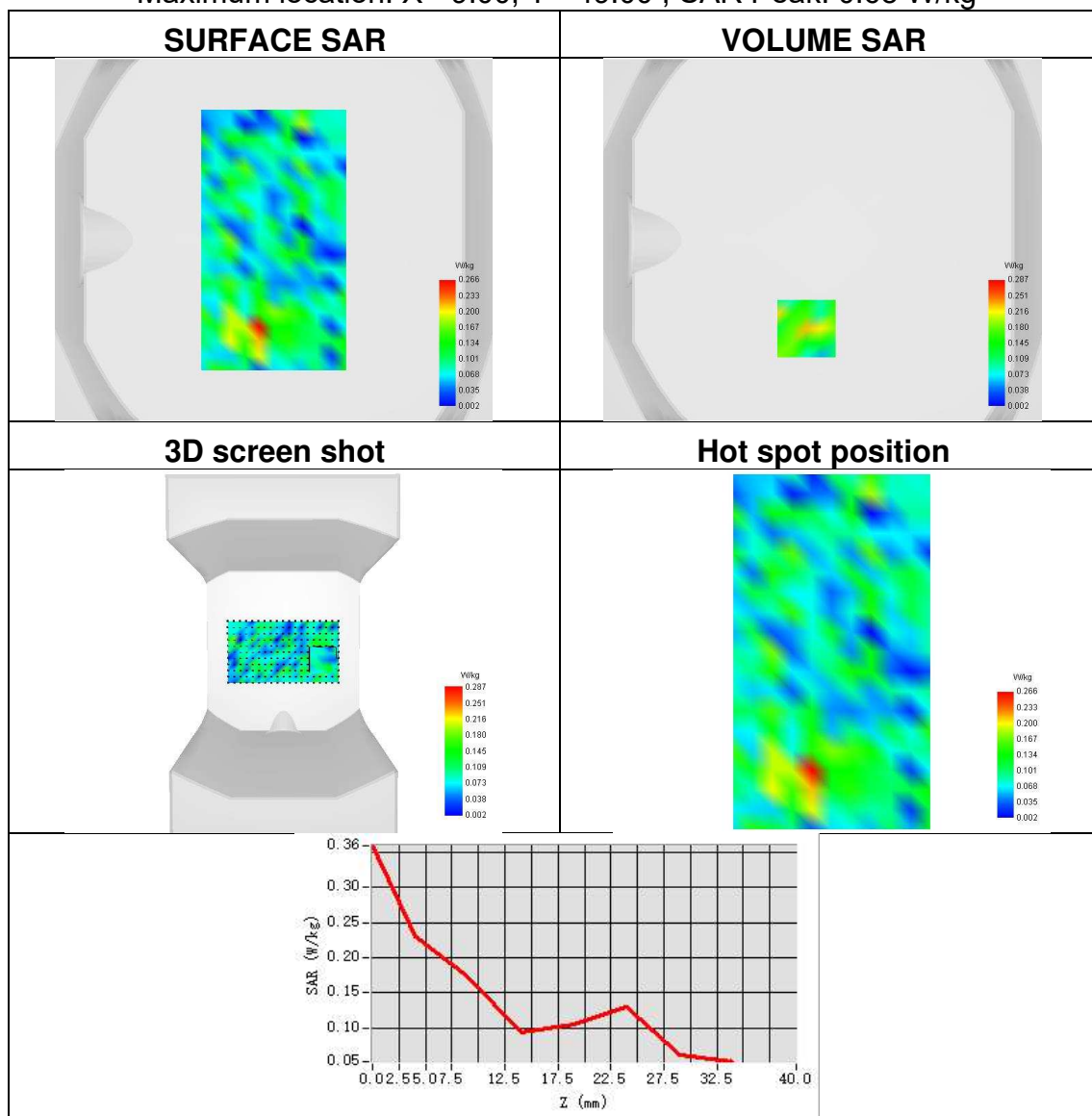




Plot 8:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	Band 4 (1700)
Signal	WCDMA
Frequency	1752.4
SAR 10g (W/Kg)	0.119
SAR 1g (W/Kg)	0.226
ConvF	1.21
Relative permittivity	41.12
Conductivity (S/m)	1.39

Maximum location: X=-9.00, Y=-49.00 ; SAR Peak: 0.68 W/kg

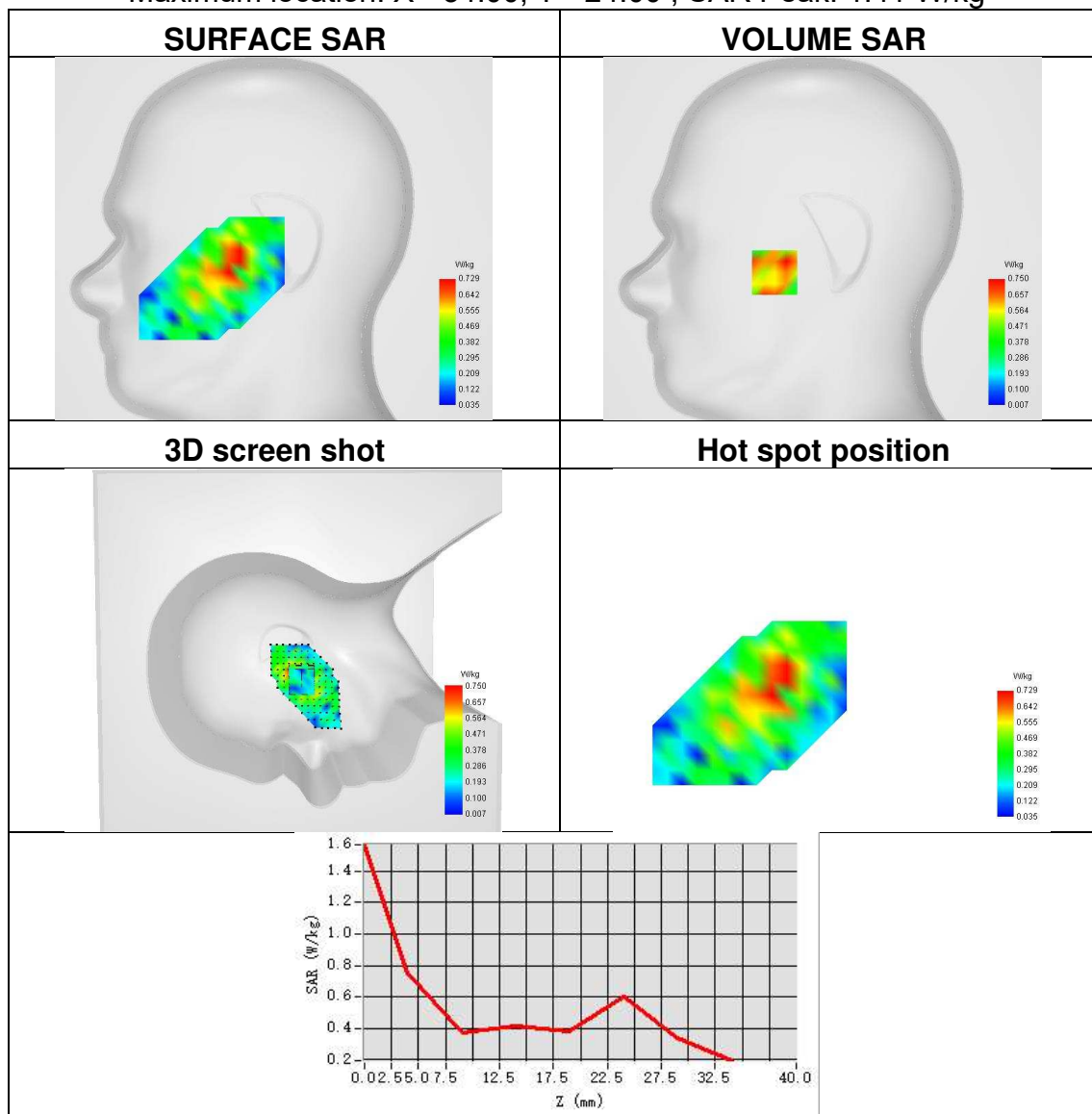




Plot 9:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	Band 5 (850)
Signal	WCDMA
Frequency	836.4
SAR 10g (W/Kg)	0.498
SAR 1g (W/Kg)	0.782
ConvF	1.02
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=-34.00, Y=-24.00 ; SAR Peak: 1.41 W/kg

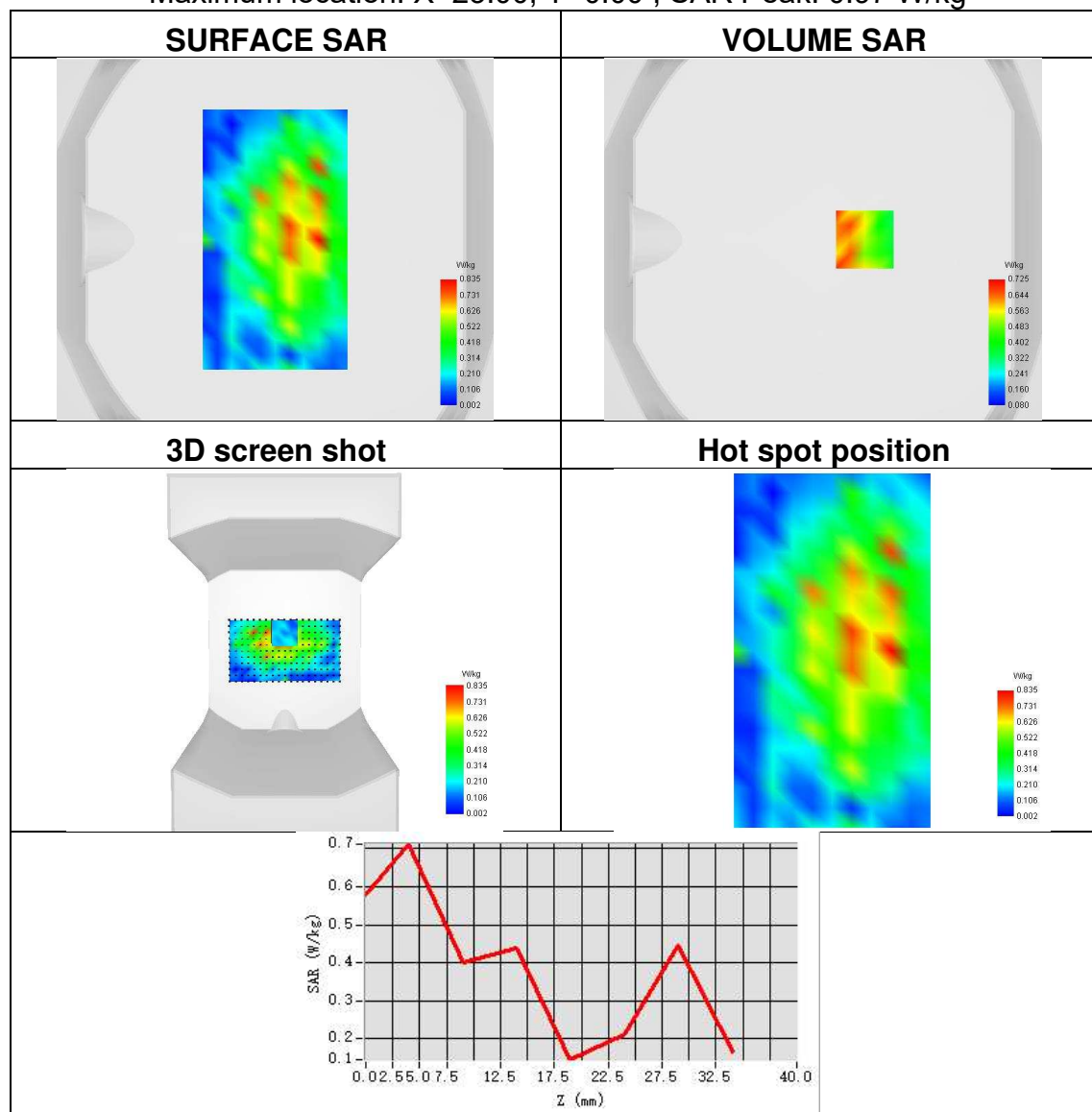




Plot 10:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Front side
Band	Band 5 (850)
Signal	WCDMA
Frequency	836.4
SAR 10g (W/Kg)	0.289
SAR 1g (W/Kg)	0.550
ConvF	1.02
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=23.00, Y=0.00 ; SAR Peak: 0.97 W/kg

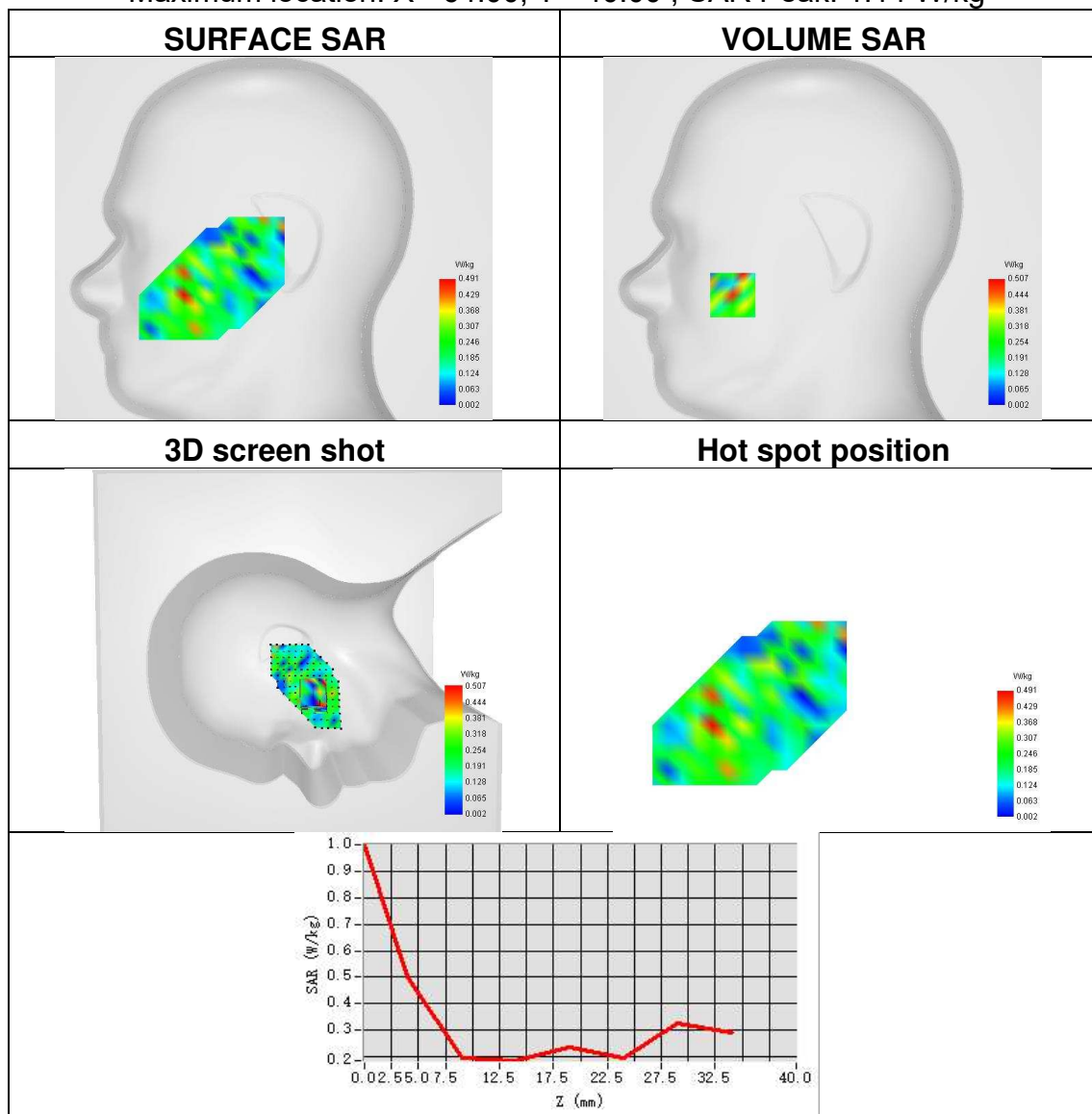




Plot 11:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 2
Signal	LTE FDD
Frequency	1880
SAR 10g (W/Kg)	0.234
SAR 1g (W/Kg)	0.470
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=-64.00, Y=-40.00 ; SAR Peak: 1.14 W/kg

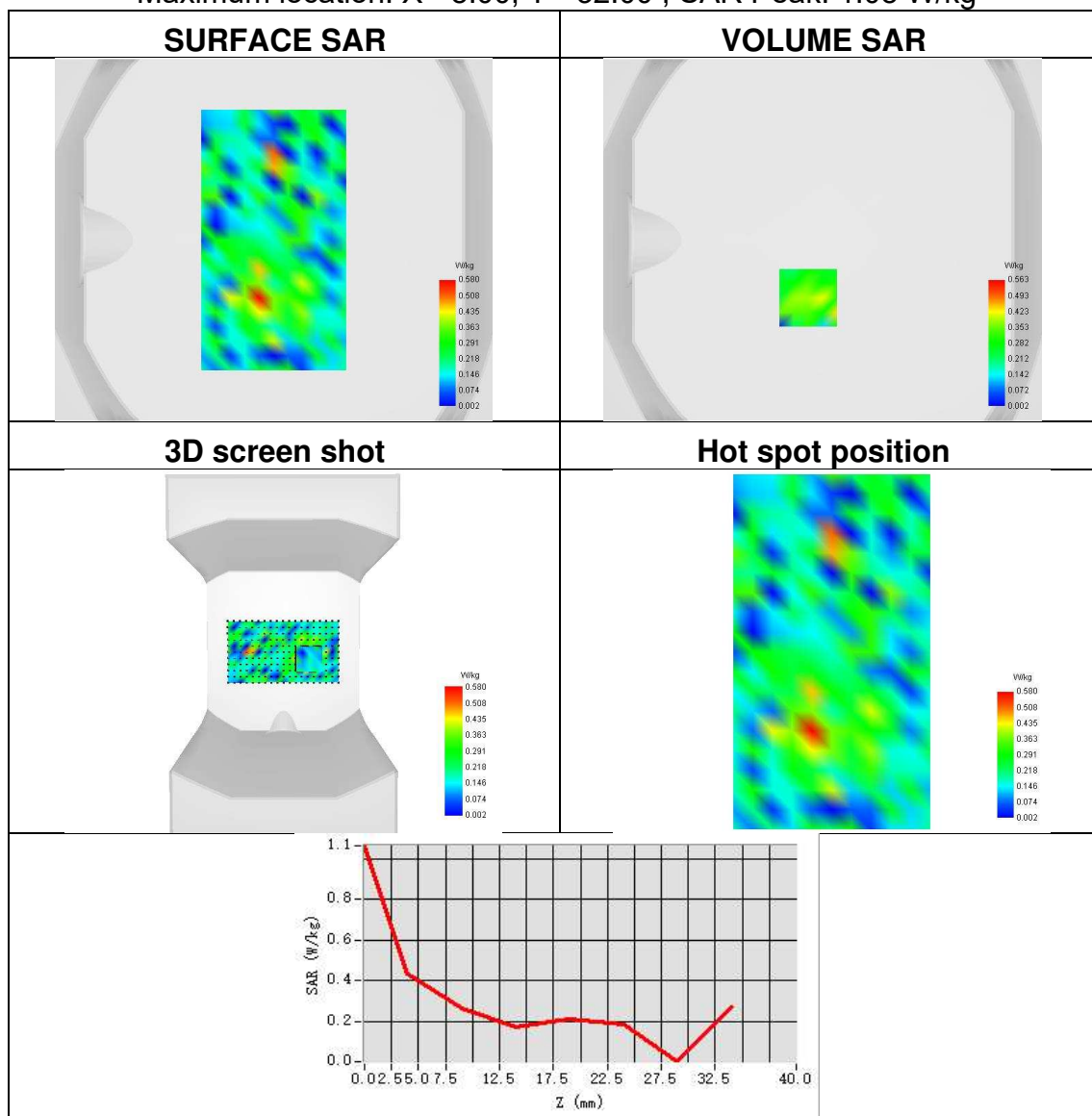




Plot 12:

Test Date	2025-09-11
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back side
Band	LTE band 2
Signal	LTE FDD
Frequency	1880
SAR 10g (W/Kg)	0.207
SAR 1g (W/Kg)	0.435
ConvF	1.34
Relative permittivity	40.63
Conductivity (S/m)	1.42

Maximum location: X=-8.00, Y=-32.00 ; SAR Peak: 1.08 W/kg

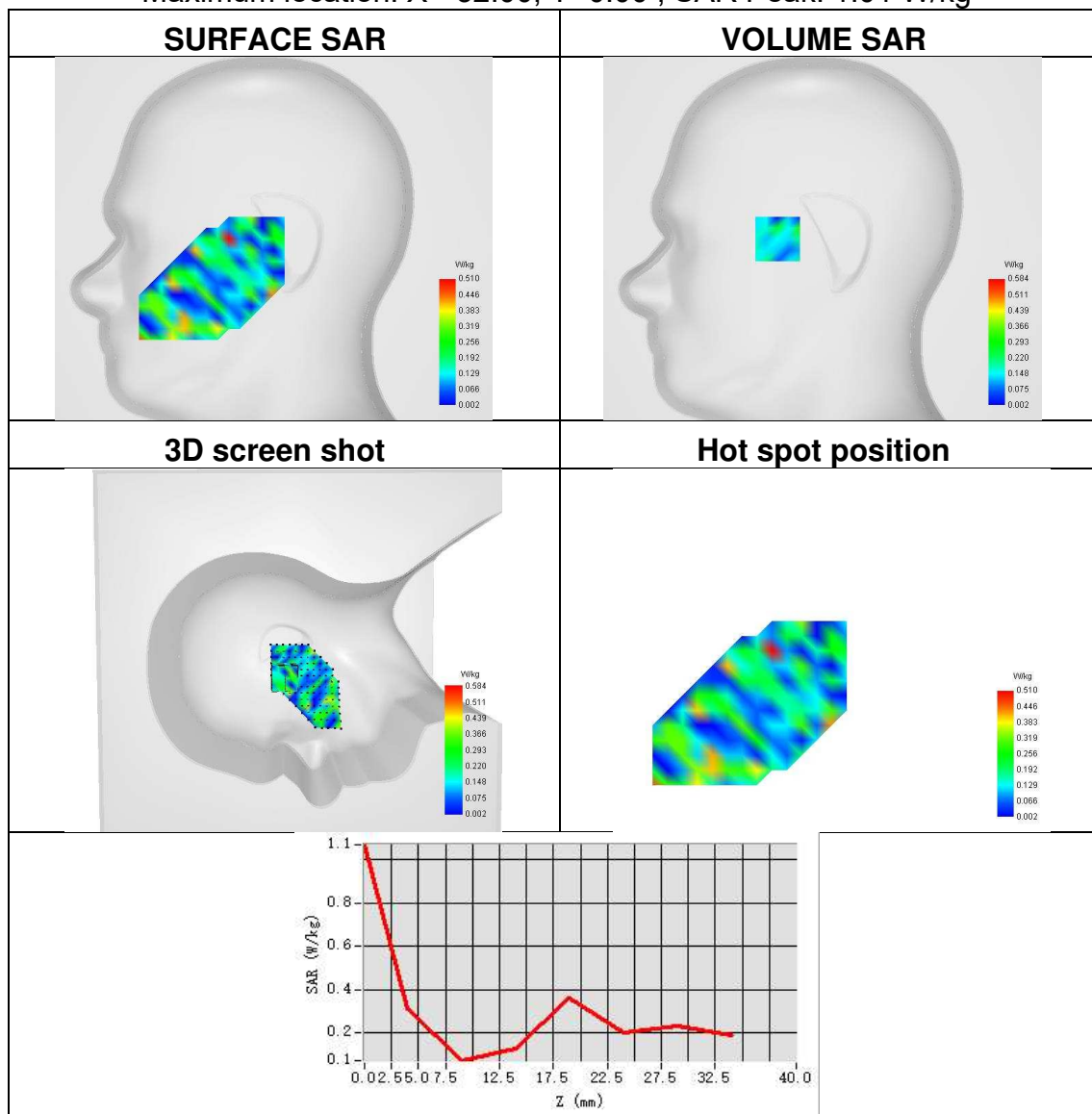




Plot 13:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 4
Signal	LTE FDD
Frequency	1720
SAR 10g (W/Kg)	0.165
SAR 1g (W/Kg)	0.315
ConvF	1.21
Relative permittivity	41.12
Conductivity (S/m)	1.39

Maximum location: X=-32.00, Y=0.00 ; SAR Peak: 1.01 W/kg

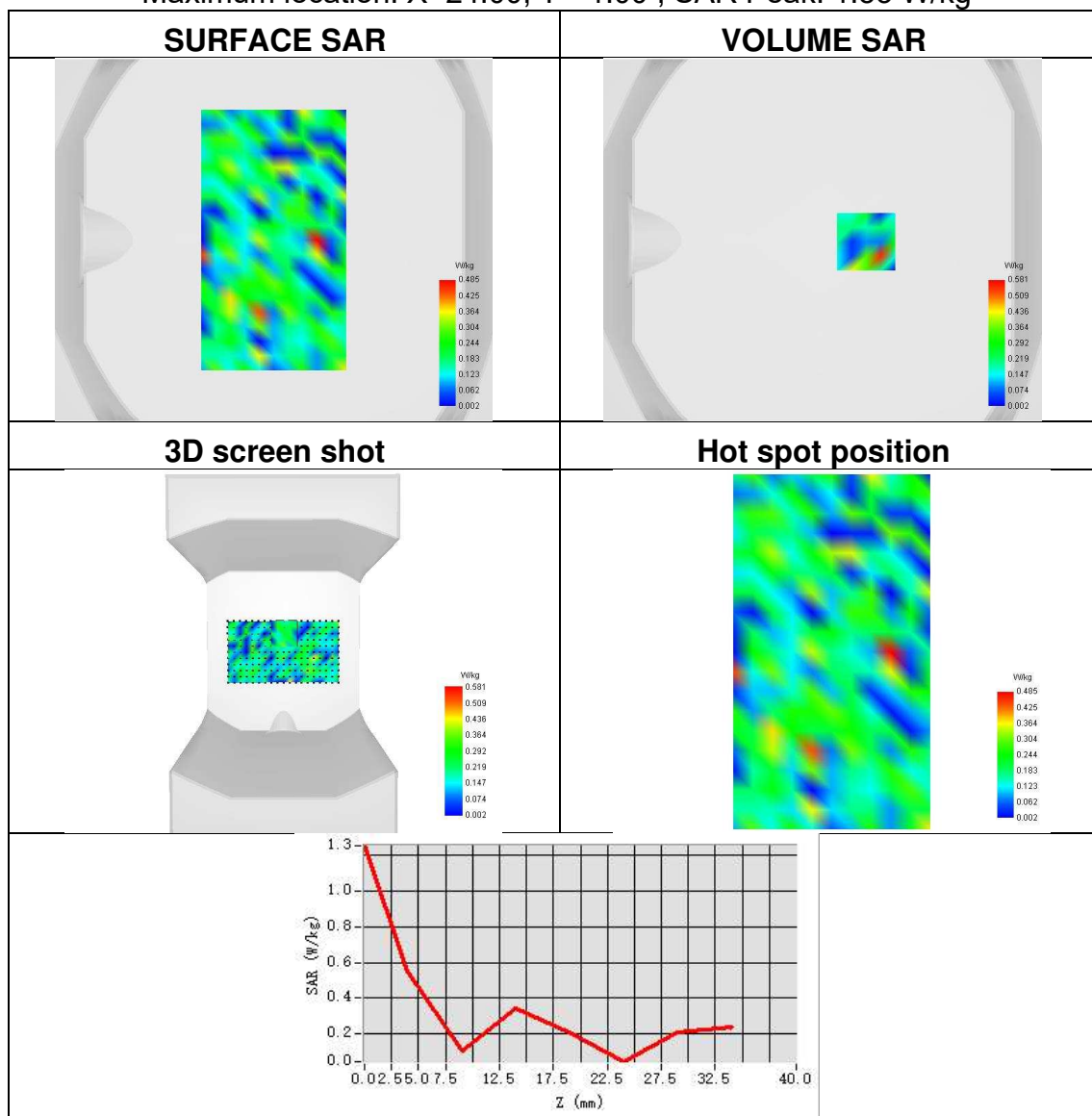




Plot 14:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back side
Band	LTE band 4
Signal	LTE FDD
Frequency	1720
SAR 10g (W/Kg)	0.183
SAR 1g (W/Kg)	0.522
ConvF	1.21
Relative permittivity	41.12
Conductivity (S/m)	1.39

Maximum location: X=24.00, Y=-1.00 ; SAR Peak: 1.53 W/kg

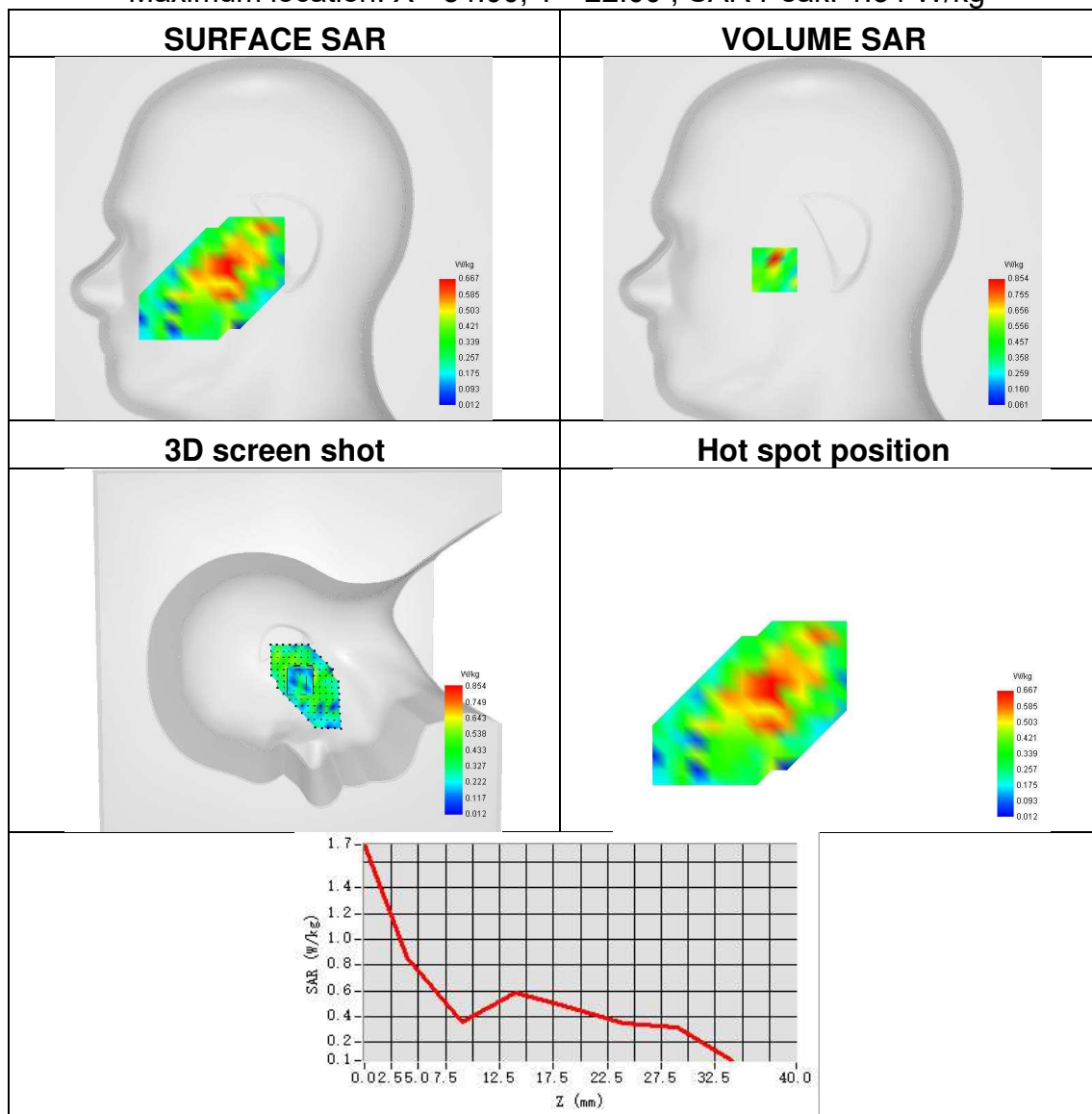




Plot 15:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 5
Signal	LTE FDD
Frequency	836.5
SAR 10g (W/Kg)	0.426
SAR 1g (W/Kg)	0.718
ConvF	1.02
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=-34.00, Y=-22.00 ; SAR Peak: 1.34 W/kg

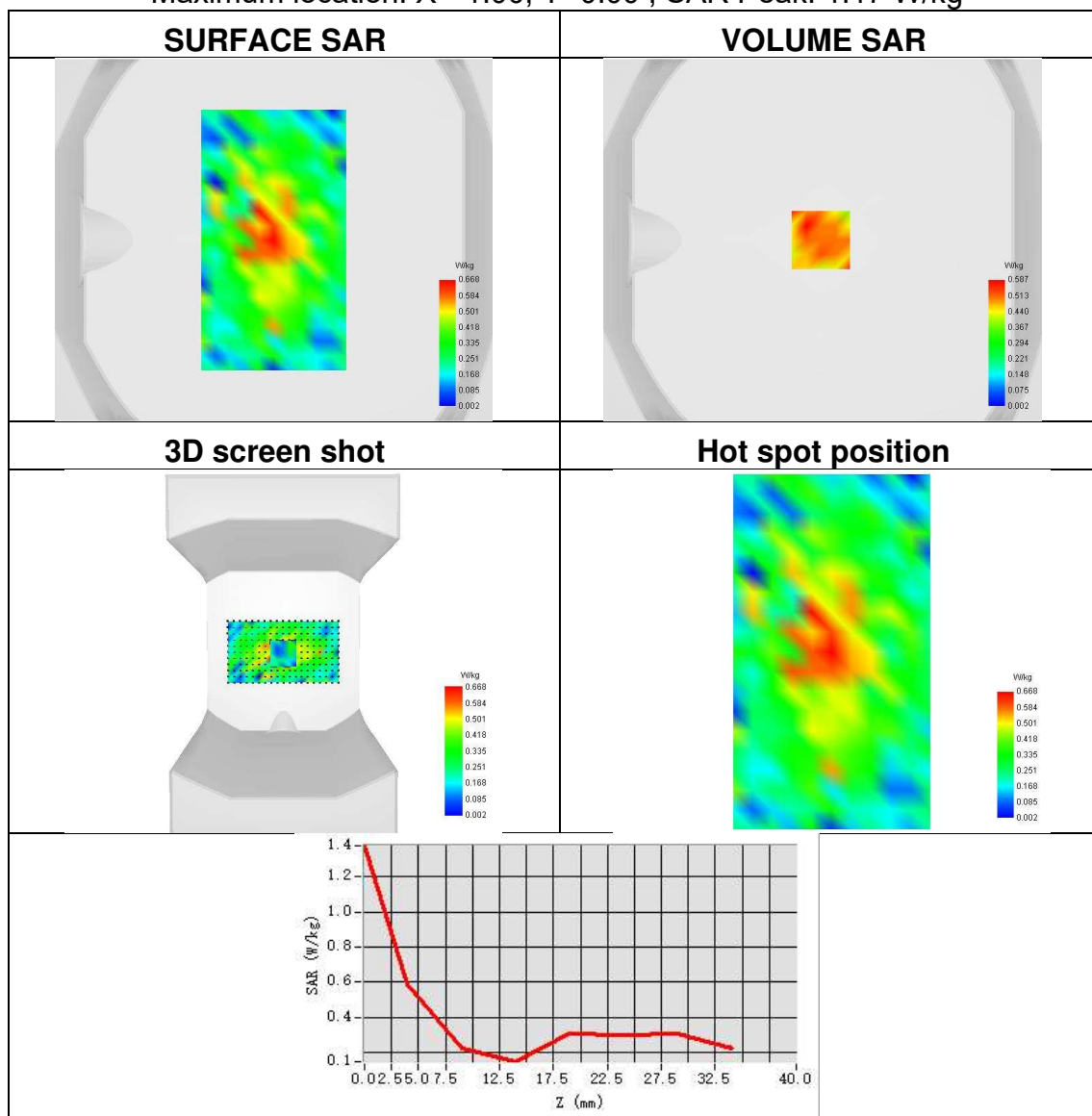




Plot 16:

Test Date	2025-09-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Front side
Band	LTE band 5
Signal	LTE FDD
Frequency	836.5
SAR 10g (W/Kg)	0.347
SAR 1g (W/Kg)	0.599
ConvF	1.72
Relative permittivity	41.29
Conductivity (S/m)	0.94

Maximum location: X=-1.00, Y=0.00 ; SAR Peak: 1.17 W/kg

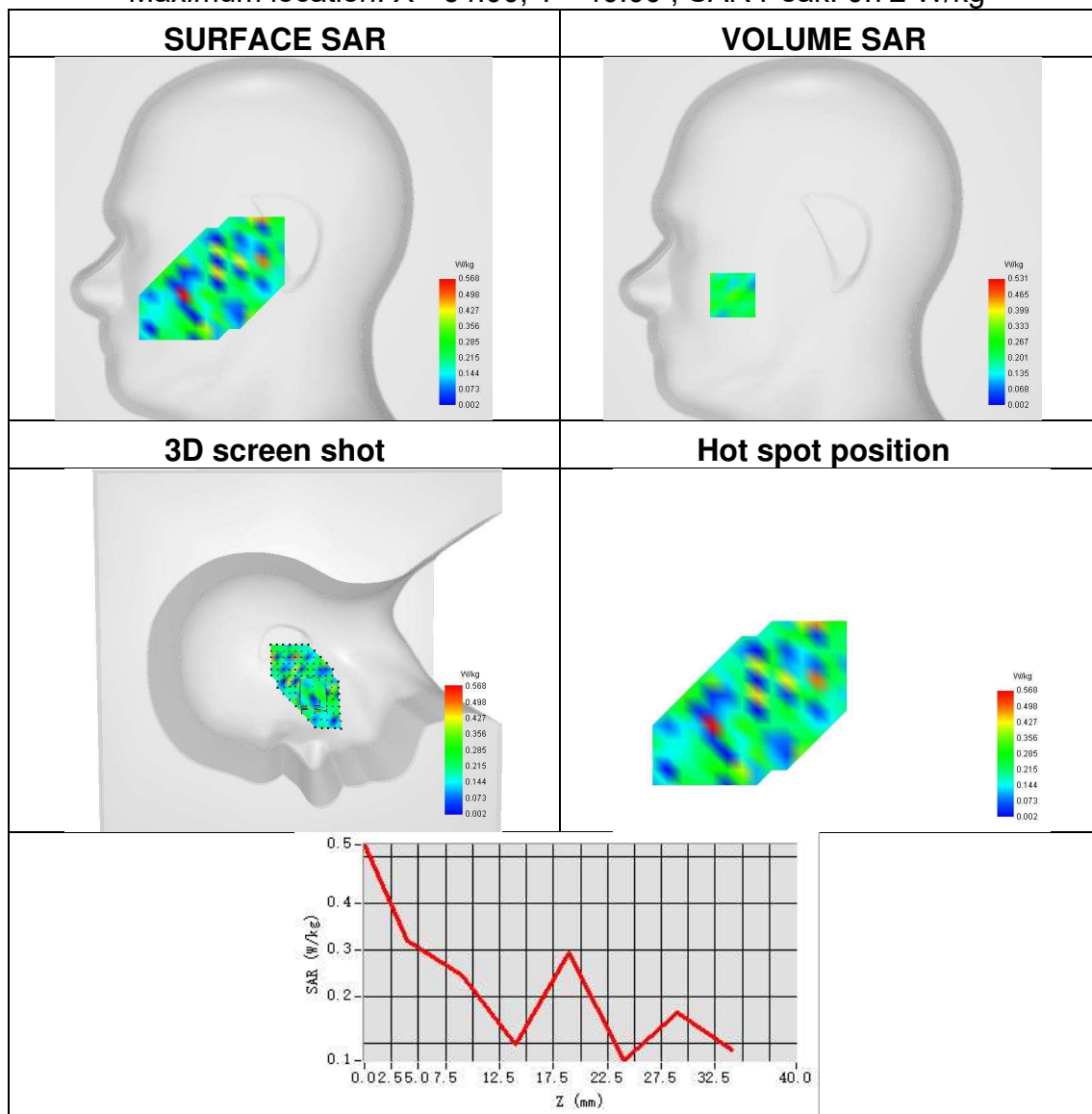




Plot 17:

Test Date	2025-09-12
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 7
Signal	LTE FDD
Frequency	2510
SAR 10g (W/Kg)	0.166
SAR 1g (W/Kg)	0.276
ConvF	1.44
Relative permittivity	39.80
Conductivity (S/m)	2.03

Maximum location: X=-64.00, Y=-40.00 ; SAR Peak: 0.72 W/kg

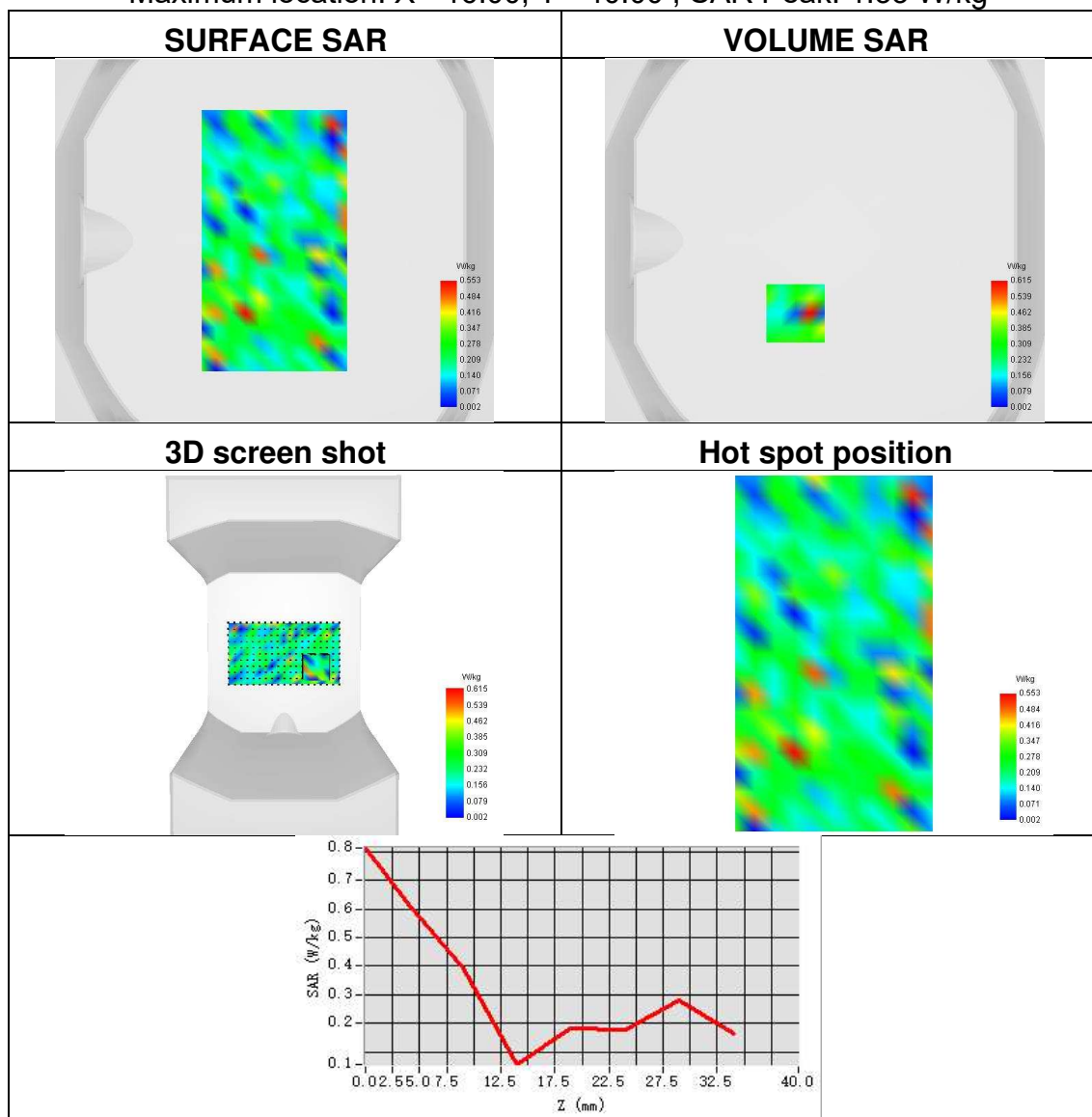




Plot 18:

Test Date	2025-09-12
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 7
Signal	LTE FDD
Frequency	2510
SAR 10g (W/Kg)	0.263
SAR 1g (W/Kg)	0.529
ConvF	1.44
Relative permittivity	39.80
Conductivity (S/m)	2.03

Maximum location: X=-16.00, Y=-40.00 ; SAR Peak: 1.33 W/kg

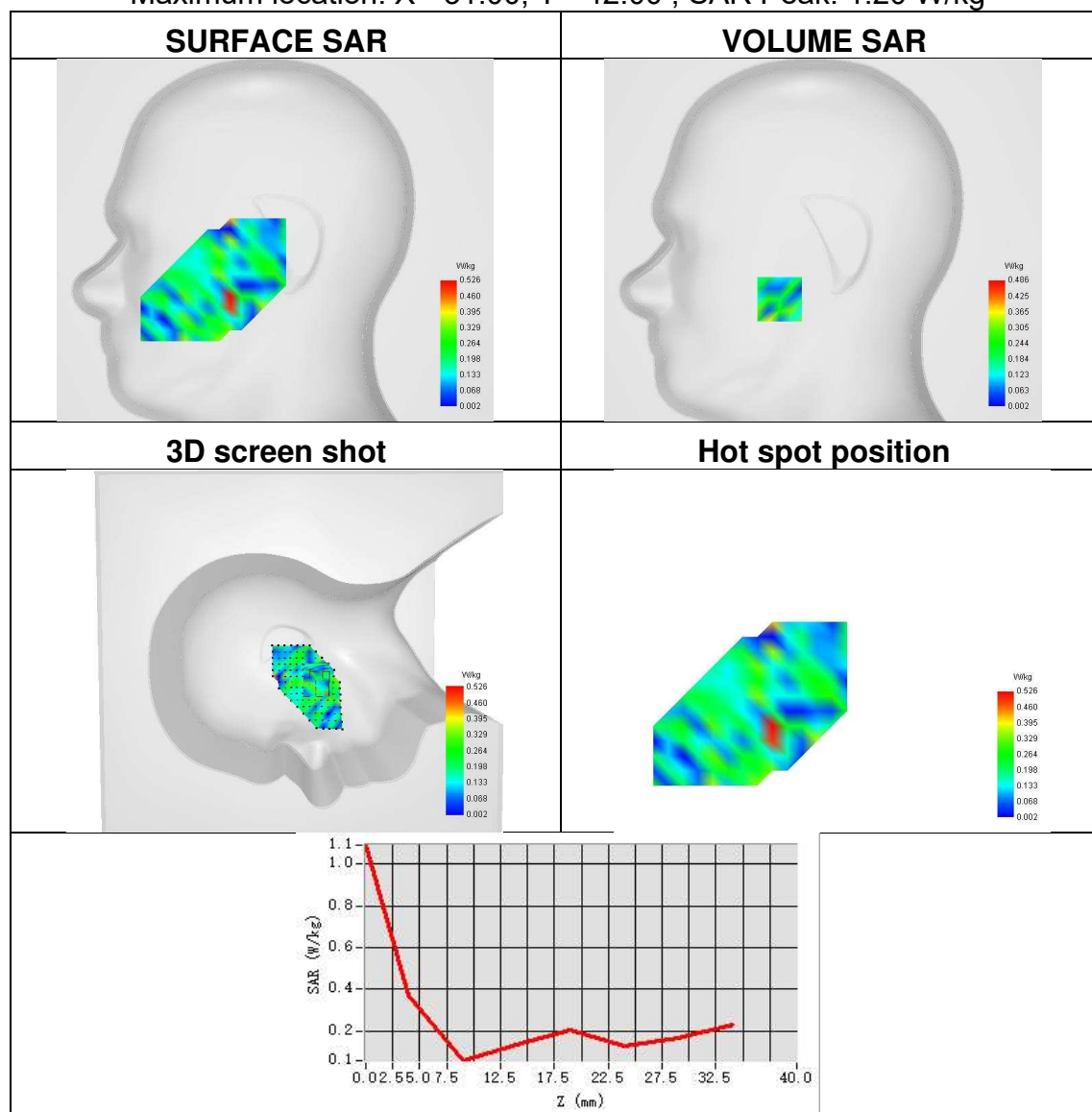




Plot 19:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 66
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.142
SAR 1g (W/Kg)	0.291
ConvF	1.21
Relative permittivity	40.99
Conductivity (S/m)	0.92

Maximum location: X=-31.00, Y=-42.00 ; SAR Peak: 1.20 W/kg

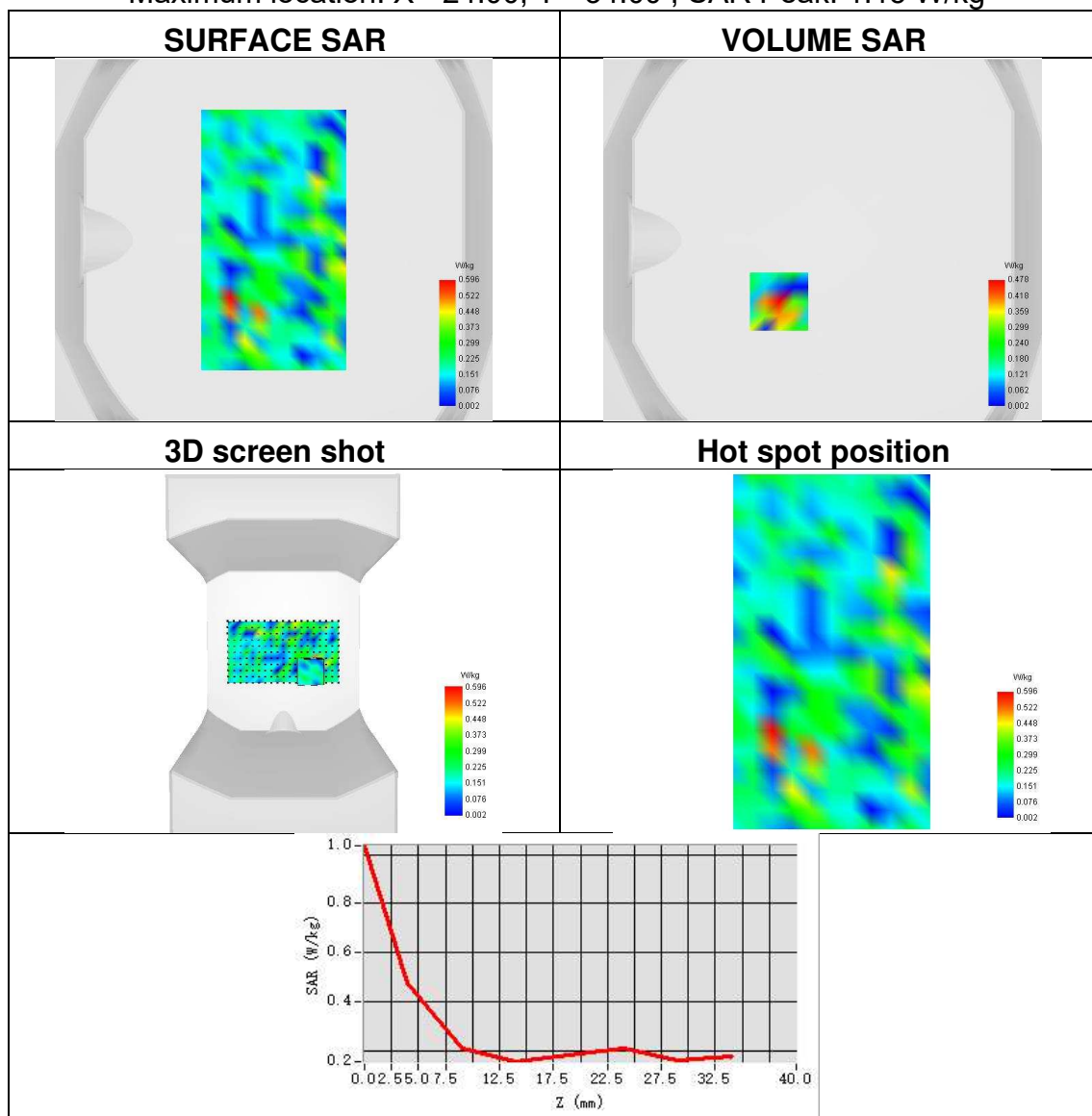




Plot 20:

Test Date	2025-09-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 66
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.207
SAR 1g (W/Kg)	0.482
ConvF	1.21
Relative permittivity	41.12
Conductivity (S/m)	1.39

Maximum location: X=-24.00, Y=-34.00 ; SAR Peak: 1.15 W/kg





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※