



SAR TEST REPORT

Product Name: 4G Mobile phone

Model Name: E3

FCC ID: 2BHBV-E3

Issued For : shenzhen redbeat technology co.,ltd

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

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Report Number: LGT24F037HA02

Sample Received Date: June 06, 2024

Date of Test: June 06, 2024 ~ June 19, 2024

Date of Issue: July 04, 2024

Head:1.116 W/kg

Max. SAR (1g):

Body:0.796 W/kg

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Revision History

Rev.	Issue Date	Contents
00	July 04, 2024	Initial Issue



TEST REPORT CERTIFICATION

Applicant shenzhen redbeat technology co.,ltd
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Manufacture shenzhen redbeat technology co.,ltd
Address 302,building 27,qiaocheng east street,xiangshan community,shahe street,nanshan district shenzhen
Product Name 4G Mobile phone
Trademark redbeat
Model Name E3
Sample number LGT2406041-1

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
ANSI/IEEE Std. C95.1-1992 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	4G Mobile phone		
Trademark	redbeat		
Model Name	E3		
Series Model	N/A		
Model Difference	N/A		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	V4.0.1		
Software Version	V1.0		
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 12: 699 ~ 716 MHz LTE Band 17: 704 ~ 716 MHz LTE Band 40: 2305 ~ 2315 MHz / 2350 ~ 2360 MHz LTE Band 41: 2535 ~ 2655 MHz LTE Band 66: 1710 ~ 1780 MHz WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 ~ 5250 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5250 ~ 5350 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 ~ 5850 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 and Hotspot (W/kg)
	GSM 850	0.366	0.456
	PCS 1900	0.844	0.502
	WCDMA Band II	0.464	0.461
	WCDMA Band IV	0.814	0.339
	WCDMA Band V	0.308	0.372
	LTE Band 2	0.973	0.542
	LTE Band 4	0.644	0.283
	LTE Band 5	0.316	0.439
	LTE Band 7	0.816	0.680
	LTE Band 12	0.199	0.303
	LTE Band 17	0.200	0.368
	LTE Band 40	0.442	0.272
	LTE Band 41	0.678	0.796



	LTE Band 66	1.116	0.450
	2.4G WLAN	0.423	0.211
	5.2G WLAN	0.418	0.304
	5.3G WLAN	0.616	0.173
	5.8G WLAN	0.415	0.263
	Bluetooth ^{Note}	0.118	0.118
1-g Sum SAR		1.539	1.100
Battery	Rated Voltage:3.87V Charge Limit Voltage:4.45V 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 2.4G WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK 802.11g(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 5G WLAN: 802.11a(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11ac (OFDM): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM Bluetooth: GFSK + π /4DQPSK+8DPSK BLE: GFSK		
Antenna Specification	GSM/WCDMA/LTE: FPC Antenna Bluetooth: FPC Antenna WLAN: FPC 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. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz 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

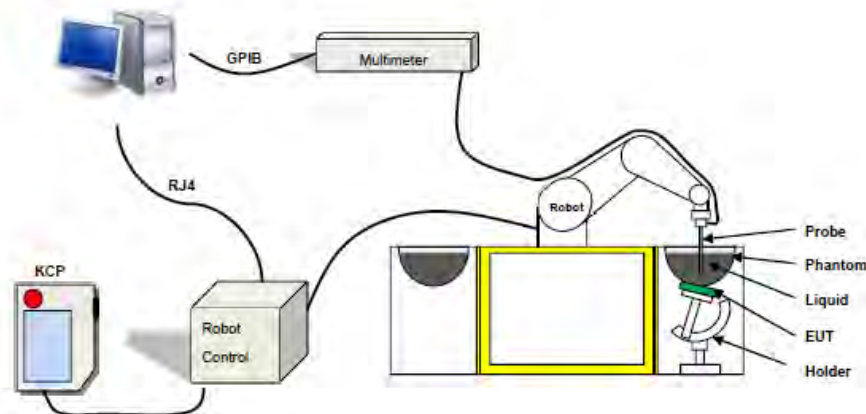
$$SAR = \frac{\sigma E^2}{\rho}$$

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.

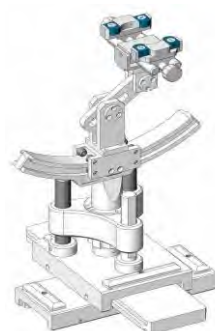


Figure-SN 06/22 SAM 148



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]					
2024-06-06	23	60	711	22.7	Permittivity	42.11	42.49	0.91	±5
					Conductivity	0.89	0.86	-3.09	±5
2024-06-06	22.9	60	750	22.6	Permittivity	41.90	42.30	0.95	±5
					Conductivity	0.89	0.92	3.37	±5
2024-06-07	21.6	44	829	21.3	Permittivity	41.53	41.76	0.56	±5
					Conductivity	0.90	0.89	-1.03	±5
2024-06-07	21.7	44	836.6	21.4	Permittivity	41.50	42.48	2.36	±5
					Conductivity	0.90	0.90	-0.19	±5
2024-06-07	21.6	44	844	21.4	Permittivity	41.50	42.55	2.53	±5
					Conductivity	0.91	0.94	3.33	±5
2024-06-07	21.7	44	846.6	21.4	Permittivity	41.50	42.79	3.11	±5
					Conductivity	0.91	0.88	-3.56	±5
2024-06-07	21.6	44	835	21.3	Permittivity	41.50	42.32	1.98	±5
					Conductivity	0.90	0.92	2.22	±5
2024-06-12	22.2	47	1712.6	22	Permittivity	40.12	41.10	2.43	±5
					Conductivity	1.35	1.41	4.44	±5
2024-06-12	22.3	46	1720	22	Permittivity	40.11	40.44	0.81	±5
					Conductivity	1.35	1.33	-1.79	±5
2024-06-12	22.3	46	1740	22	Permittivity	40.09	40.73	1.61	±5
					Conductivity	1.37	1.33	-2.62	±5
2024-06-12	22.2	46	1745	22	Permittivity	40.08	41.03	2.37	±5
					Conductivity	1.37	1.43	4.49	±5
2024-06-12	22.3	46	1752.4	22	Permittivity	40.07	40.92	2.13	±5
					Conductivity	1.37	1.39	1.25	±5
2024-06-12	22.2	46	1770	21.9	Permittivity	40.04	41.56	3.79	±5
					Conductivity	1.38	1.33	-3.82	±5
2024-06-12	22.2	46	1800	21.9	Permittivity	40.00	40.67	1.68	±5
					Conductivity	1.40	1.36	-2.86	±5
2024-06-10	23.1	52	1850.2	22.8	Permittivity	40.00	40.75	1.88	±5
					Conductivity	1.40	1.43	2.14	±5
2024-06-10	23.1	51	1860	22.7	Permittivity	40.00	41.30	3.25	±5
					Conductivity	1.40	1.45	3.57	±5
2024-06-10	23.1	51	1880	22.7	Permittivity	40.00	40.39	0.98	±5
					Conductivity	1.40	1.36	-2.86	±5
2024-06-10	23.1	51	1907.6	22.9	Permittivity	40.00	39.97	-0.08	±5
					Conductivity	1.40	1.38	-1.43	±5
2024-06-10	23	51	1909.8	22.7	Permittivity	40.00	40.25	0.63	±5
					Conductivity	1.40	1.42	1.43	±5
2024-06-10	23	51	1900	22.7	Permittivity	40.00	40.82	2.05	±5
					Conductivity	1.40	1.43	2.14	±5
2024-06-08	21.9	56	2355	21.5	Permittivity	39.33	40.72	3.54	±5
					Conductivity	1.70	1.75	3.02	±5

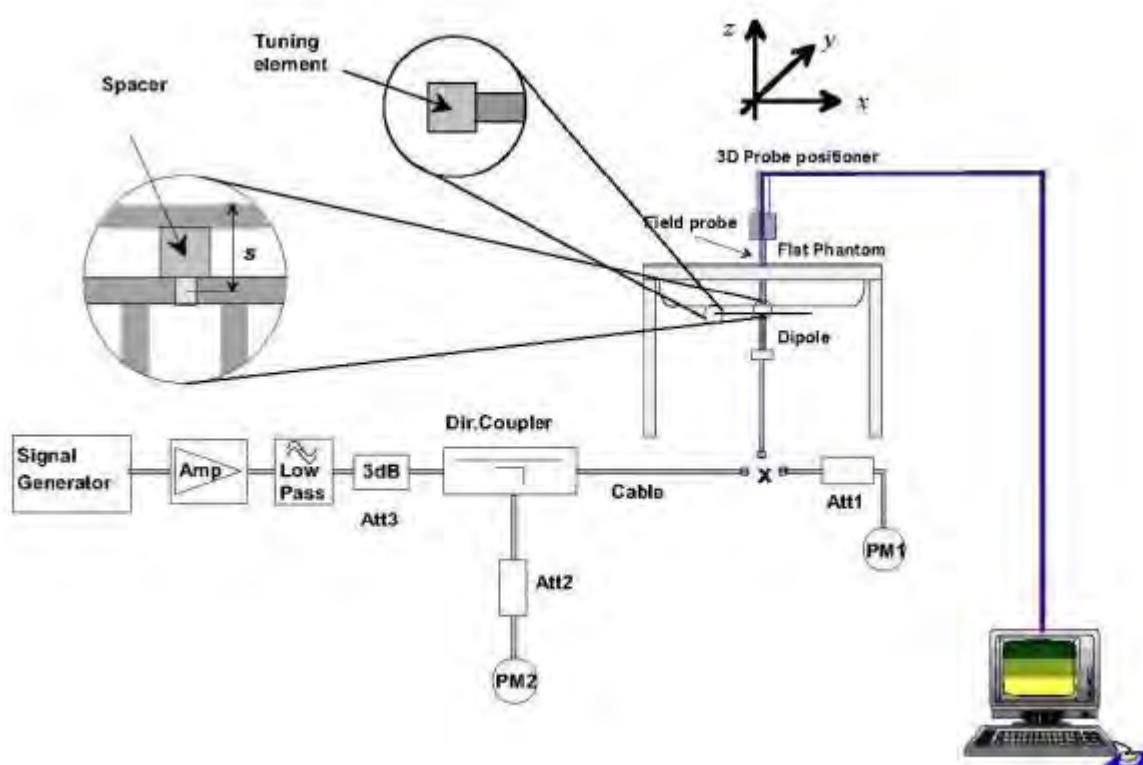


2024-06-08	22	56	2412	21.8	Permittivity	39.25	39.73	1.22	±5
					Conductivity	1.76	1.74	-1.11	±5
2024-06-08	21.9	56	2450	21.7	Permittivity	39.20	39.65	1.15	±5
					Conductivity	1.80	1.81	0.56	±5
2024-06-17	21	57	2510	20.7	Permittivity	39.11	39.54	1.09	±5
					Conductivity	1.86	1.83	-1.67	±5
2024-06-17	21	57	2535	20.8	Permittivity	39.08	39.82	1.89	±5
					Conductivity	1.89	1.90	0.61	±5
2024-06-17	20.9	58	2545	20.6	Permittivity	39.07	39.91	2.14	±5
					Conductivity	1.90	1.88	-1.12	±5
2024-06-17	21	57	2560	20.7	Permittivity	39.05	39.77	1.84	±5
					Conductivity	1.92	1.90	-0.84	±5
2024-06-17	20.9	57	2595	20.7	Permittivity	39.01	40.02	2.60	±5
					Conductivity	1.95	1.99	1.81	±5
2024-06-17	20.9	57	2645	20.6	Permittivity	38.94	39.56	1.58	±5
					Conductivity	2.01	2.02	0.52	±5
2024-06-17	20.8	40	2600	20.5	Permittivity	39.00	39.54	1.38	±5
					Conductivity	1.96	2.03	3.57	±5
2024-06-18	23	48	5200	22.7	Permittivity	36.00	36.71	1.97	±5
					Conductivity	4.66	4.63	-0.64	±5
2024-06-18	23	47	5260	22.7	Permittivity	35.94	36.31	1.03	±5
					Conductivity	4.72	4.68	-0.85	±5
2024-06-18	23	47	5400	22.7	Permittivity	35.80	36.83	2.88	±5
					Conductivity	4.86	4.90	0.82	±5
2024-06-19	23.3	47	5745	23	Permittivity	35.36	35.83	1.34	±5
					Conductivity	5.21	5.16	-1.00	±5
2024-06-19	23.2	47	5800	22.8	Permittivity	35.30	35.55	0.71	±5
					Conductivity	5.27	5.21	-1.14	±5

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	Power drift	Tested Value	Normalized SAR	Target SAR	Tolerance
	(MHz)	(mW)	(%)	(W/Kg)	(W/kg)	1g(W/kg)	(%)
2024-06-06	750	100	0.799	7.99	8.27	-3.39	10
2024-06-07	835	100	1.006	10.06	9.75	3.18	10
2024-06-12	1800	100	3.880	38.80	39.06	-0.67	10
2024-06-10	1900	100	4.106	41.06	40.85	0.51	10
2024-06-08	2450	100	5.417	54.17	54.28	-0.20	10
2024-06-17	2600	100	5.698	56.98	56.58	0.71	10
2024-16-18	5200	100	7.759	77.59	80.97	-4.17	10
2024-06-18	5300	100	8.008	80.08	84.61	-5.35	10
2024-06-19	5800	100	7.478	74.78	81.67	-8.44	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.

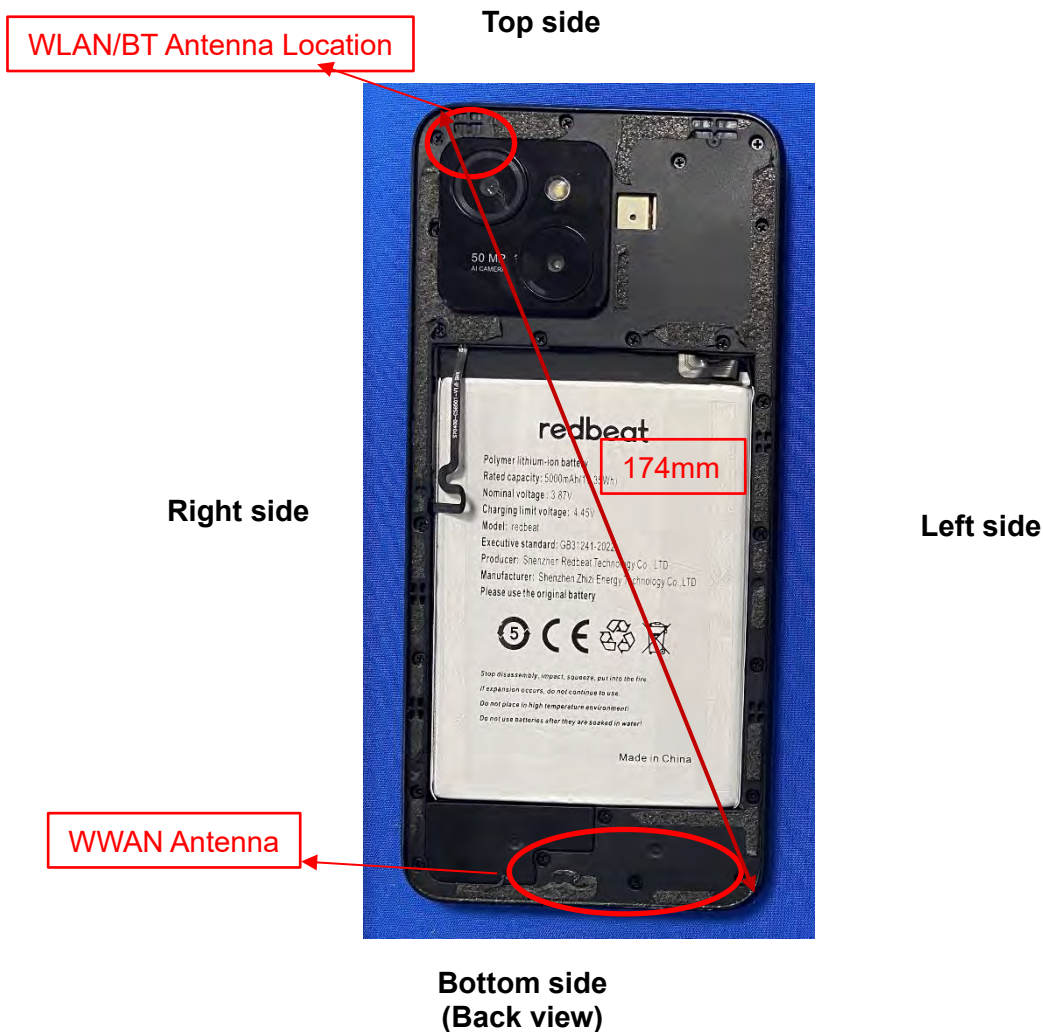
➤ Area Scan& Zoom Scan

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 4G Mobile phone, support GSM/WCDMA/LTE/WLAN/BT mode.



Antenna Separation Distance(mm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WLAN/BT	5	5	52	5	5	156
WWAN	5	5	5	27	155	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/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA IV	WCDMA V
	Calculated Frequency (MHz)	836.6	1880	1907.6	1740	846.6
	Maximum Turn-up power (dBm)	33	30.5	20	20.5	23.5
	Maximum rated power(mW)	1995.26	1122.02	100.00	112.20	223.87
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	10.86	11.37	16.30
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	10.86	11.37	16.30
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	10.86	11.37	16.30
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	27	27	27	27	27
	exclusion threshold(mW)	88.56	59.08	58.65	61.41	88.03
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	155	155	155	155	155
	exclusion threshold(mW)	749.62	1159.40	1158.60	1163.71	755.64
	Testing required?	YES	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.40	10.94	10.86	11.37	16.30
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12
	Calculated Frequency (MHz)	1880	1745	829	2535	711
	Maximum Turn-up power (dBm)	21	21.5	23	22	24.5
	Maximum rated power(mW)	125.89	141.25	199.53	158.49	281.84
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.36	16.47	9.42	17.79
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.36	16.47	9.42	17.79
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.36	16.47	9.42	17.79
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	27	27	27	27	27
	exclusion threshold(mW)	59.08	61.32	88.96	50.87	96.06
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	155	155	155	155	155
	exclusion threshold(mW)	1159.40	1163.55	745.05	1144.21	675.59
	Testing required?	NO	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	10.94	11.36	16.47	9.42	17.79
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 17	LTE Band 40	LTE Band 41	LTE Band 66	BT
	Calculated Frequency (MHz)	711	2355	2680	1770	2402
	Maximum Turn-up power (dBm)	25	14	24	20.5	4.5
	Maximum rated power(mW)	316.23	25.12	251.19	112.20	2.82
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	17.79	9.77	9.16	11.27	9.68
	Testing required?	YES	YES	YES	YES	NO
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	17.79	9.77	9.16	11.27	9.68
	Testing required?	YES	YES	YES	YES	NO
Left Edge	Separation distance (mm)	5	5	5	5	52
	exclusion threshold(mW)	17.79	9.77	9.16	11.27	116.78
	Testing required?	YES	YES	YES	YES	NO
Right Edge	Separation distance (mm)	27	27	27	27	5
	exclusion threshold(mW)	96.06	52.78	49.48	60.88	9.68
	Testing required?	YES	NO	YES	YES	NO
Top Edge	Separation distance (mm)	155	155	155	155	5
	exclusion threshold(mW)	675.59	1147.75	1141.63	1162.75	9.68
	Testing required?	NO	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	156
	exclusion threshold(mW)	17.79	9.77	9.16	11.27	1156.78
	Testing required?	YES	YES	YES	YES	NO



Exposure Position	Wireless Interface	2.4G WLAN	5.2G WLAN	5.3G WLAN	5.8G WLAN
	Calculated Frequency (MHz)	2412	5200	5260	5745
	Maximum Turn-up power (dBm)	16.5	13.5	12	12.5
	Maximum rated power(mW)	44.67	22.39	15.85	17.78
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.58	6.54	6.26
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.58	6.54	6.26
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	52	52	52	52
	exclusion threshold(mW)	116.58	85.78	85.40	82.58
	Testing required?	NO	NO	NO	NO
Right Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.58	6.54	6.26
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.58	6.54	6.26
	Testing required?	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	156	156	156	156
	exclusion threshold(mW)	1156.58	1125.78	1125.40	1122.58
	Testing required?	NO	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 $\leq 50\text{mm}$ are determined by:
$$\left[\frac{\text{max.power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \times \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation.}$$

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 step 1] + (test separation distance - 50mm) * 10] mW at > 1500MHz and $\leq 6\text{GHz}$
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.

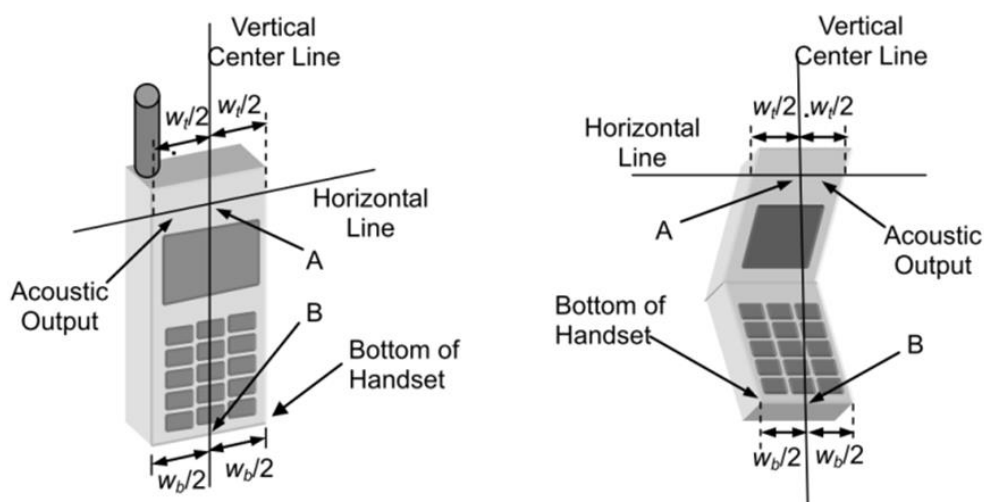


8. EUT Test Position

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

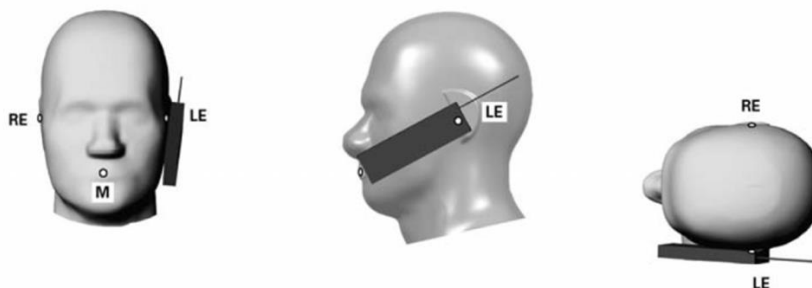
8.1 Define Two Imaginary Lines on the Handset

- (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.



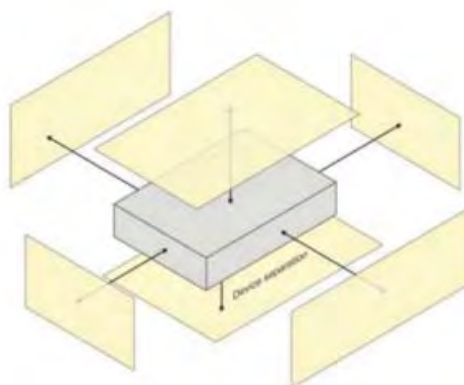
Body-worn Position Conditions:

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 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)	32.73	32.77	32.49	30.00	30.08	29.94
GPRS (GMSK, 1-Slot)	32.73	32.76	32.51	30.00	30.06	29.98
GPRS (GMSK, 2-Slot)	30.61	30.78	30.41	27.78	28.00	28.05
GPRS (GMSK, 3-Slot)	28.84	29.08	28.64	26.34	26.58	26.63
GPRS (GMSK, 4-Slot)	26.71	27.01	26.53	24.33	24.58	24.60
EGPRS (8PSK, 1-Slot)	25.45	25.64	24.93	26.06	25.49	24.23
EGPRS (8PSK, 2-Slot)	24.45	24.84	24.34	25.66	25.12	24.34
EGPRS (8PSK, 3-Slot)	22.88	22.82	22.19	24.01	23.17	22.55
EGPRS (8PSK, 4-Slot)	20.30	20.26	20.04	21.99	20.97	20.10
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)	23.70	23.74	23.46	20.97	21.05	20.91
GPRS (GMSK, 1-Slot)	23.70	23.73	23.48	20.97	21.03	20.95
GPRS (GMSK, 2-Slot)	24.59	24.76	24.39	21.76	21.98	22.03
GPRS (GMSK, 3-Slot)	24.58	24.82	24.38	22.08	22.32	22.37
GPRS (GMSK, 4-Slot)	23.70	24.00	23.52	21.32	21.57	21.59
EGPRS (8PSK, 1-Slot)	16.42	16.61	15.90	17.03	16.46	15.20
EGPRS (8PSK, 2-Slot)	18.43	18.82	18.32	19.64	19.10	18.32
EGPRS (8PSK, 3-Slot)	18.62	18.56	17.93	19.75	18.91	18.29
EGPRS (8PSK, 4-Slot)	17.29	17.25	17.03	18.98	17.96	17.09
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	19.75	19.8	19.97	19.9	20.15	20	22.93	23.16	23.42
HSDPA Subtest-1	19.67	19.97	19.85	19.65	20.18	19.69	22.83	22.6	22.29
HSDPA Subtest-2	19.17	19.65	19.58	19.35	19.87	19.39	22.49	22.36	22.11
HSDPA Subtest-3	19.02	19.39	19.4	19.06	19.45	19.18	22.19	21.83	21.66
HSDPA Subtest-4	18.71	19.02	19.12	18.66	19.32	18.66	22.03	22.11	21.65
HSUPA Subtest-1	19.5	19.73	19.59	19.53	19.98	19.49	22.9	22.37	22.14
HSUPA Subtest-2	19.59	19.92	19.78	19.53	20.09	19.61	22.62	22.6	22.22
HSUPA Subtest-3	19.17	19.57	19.31	19.04	19.8	19.08	22.12	22.13	22.16
HSUPA Subtest-4	19.56	19.69	19.88	19.46	20.13	19.61	22.64	22.59	22.26
HSUPA Subtest-5	19.28	19.66	19.45	19.32	19.86	19.43	22.24	22.37	22.08

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.



2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	1	2412	16.09	40.64
	6	2437	15.61	36.39
	11	2462	15.93	39.17
802.11g	1	2412	14.02	25.23
	6	2437	15.05	31.99
	11	2462	14.32	27.04
802.11 n-HT20	1	2412	13.16	20.70
	6	2437	14.11	25.76
	11	2462	13.52	22.49

Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	4.45	2.79
	39	2441	3.47	2.22
	78	2480	2.24	1.67
$\pi/4$ -QPSK(2Mbps)	0	2402	1.98	1.58
	39	2441	0.82	1.21
	78	2480	-1.76	0.67
8DPSK(3Mbps)	0	2402	2.16	1.64
	39	2441	0.88	1.22
	78	2480	-1.69	0.68

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	1.13	1.30
	19	2440	-0.45	0.90
	39	2480	-2.55	0.56
GFSK(2Mbps)	0	2402	0.71	1.18
	19	2440	-1.02	0.79
	39	2480	-3.24	0.47



5.2G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	36	5180	11.79	15.10
	40	5200	13.10	20.42
	48	5240	11.85	15.31
802.11 n-HT20	36	5180	9.09	8.11
	40	5200	10.32	10.76
	48	5240	9.15	8.22
802.11 n-HT40	38	5190	9.15	8.22
	46	5230	9.24	8.39
802.11ac-VHT20	36	5180	7.62	5.78
	40	5200	9.64	9.20
	48	5240	7.91	6.18
802.11ac-VHT40	38	5190	8.94	7.83
	46	5230	9.31	8.53
802.11ac-VHT80	42	5210	9.64	9.20

5.3G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	52	5260	11.72	14.86
	60	5300	11.19	13.15
	64	5320	10.69	11.72
802.11 n-HT20	52	5260	9.07	8.07
	60	5300	8.53	7.13
	64	5320	8.10	6.46
802.11 n-HT40	54	5270	8.08	6.43
	62	5310	7.13	5.16
802.11ac-VHT20	52	5260	7.72	5.92
	60	5300	7.06	5.08
	64	5320	6.49	4.46
802.11ac-VHT40	54	5270	7.84	6.08
	62	5310	7.12	5.15
802.11ac-VHT80	58	5290	7.50	5.62



5.8G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	149	5745	12.44	17.54
	157	5785	12.34	17.14
	165	5825	10.85	12.16
802.11 n-HT20	149	5745	8.17	6.56
	157	5785	8.94	7.83
	165	5825	8.29	6.75
802.11 n-HT40	151	5755	8.36	6.85
	159	5795	8.90	7.76
802.11ac-VHT20	149	5745	8.74	7.48
	157	5785	9.32	8.55
	165	5825	7.66	5.83
802.11ac-VHT40	151	5755	8.21	6.62
	159	5795	8.90	7.76
802.11ac-VHT80	155	5775	8.59	7.23



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	19.81	19.79	20.05
1.4	1	2		19.9	19.81	20.13
1.4	1	5		19.85	19.89	20.2
1.4	3	0		19.93	19.93	19.92
1.4	3	1		19.96	19.85	19.93
1.4	3	2		19.9	19.86	20.04
1.4	6	0		18.77	18.94	19.06
1.4	1	0	16-QAM	19.23	18.78	19.22
1.4	1	2		19.42	18.93	19.28
1.4	1	5		19.29	18.7	18.96
1.4	3	0		19.39	19.15	19.23
1.4	3	1		19.46	19.19	19.25
1.4	3	2		19.42	19.11	19.09
1.4	6	0		17.49	18.27	17.75
3	1	0	QPSK	19.98	19.87	20.03
3	1	7		19.99	19.9	20.04
3	1	14		20.01	19.89	20.1
3	8	0		19	19.23	19.51
3	8	4		19.07	19.21	19.4
3	8	7		19.09	19.11	19.19
3	15	0		19.02	19.16	19.34
3	1	0	16-QAM	19.23	18.94	18.96
3	1	7		19.5	18.98	18.83
3	1	14		19.42	18.68	18.35
3	8	0		17.45	18.32	17.94
3	8	4		17.56	18.32	17.88
3	8	7		17.58	18.23	17.69
3	15	0		17.55	18.23	17.89



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	19.88	19.94	19.79
5	1	12		19.88	19.88	19.9
5	1	24		19.91	19.93	19.84
5	12	0		19.04	19.41	20.04
5	12	6		19.25	19.45	19.95
5	12	11		19.18	19.18	19.56
5	25	0		19.11	19.3	19.86
5	1	0	16-QAM	19.44	19.23	19.22
5	1	12		20.04	19.51	19.18
5	1	24		19.68	18.81	18.22
5	12	0		17.35	18.22	18.2
5	12	6		17.59	18.27	18.09
5	12	11		17.56	18.02	17.68
5	25	0		17.44	18.18	17.91
10	1	0	QPSK	19.83	20.04	20.09
10	1	24		19.93	20.05	20.06
10	1	49		19.98	20.12	20.05
10	25	0		18.04	19.31	19.82
10	25	12		18.26	19.2	19.62
10	25	24		18.61	19.23	19.35
10	50	0		18.32	19.33	19.58
10	1	0	16-QAM	19.27	19.32	18.86
10	1	24		19.64	19.16	18.7
10	1	49		20.42	19.09	18.05
10	25	0		17.09	18.53	18.9
10	25	12		17.35	18.31	18.71
10	25	24		17.71	18.3	18.38
10	50	0		17.4	18.4	18.56



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	19.87	20.05	20.07
15	1	37		19.91	20.02	20.08
15	1	74		20.03	20.01	20.04
15	36	0		18.27	19.63	20.36
15	36	18		18.58	19.22	20.18
15	36	39		18.89	19.05	19.85
15	75	0		18.67	19.32	20.1
15	1	0	16-QAM	19.3	19.24	19.04
15	1	38		19.6	18.57	18.97
15	1	75		20.04	18.34	17.97
15	36	0		17.39	18.77	18.15
15	36	18		17.57	18.41	17.98
15	36	39		17.76	18.26	17.63
15	75	0		17.51	18.43	17.96
20	1	0	QPSK	20.39	20.58	20.54
20	1	49		20.53	20.53	20.61
20	1	99		20.61	20.69	20.69
20	50	0		18.76	19.87	20.63
20	50	24		18.82	19.16	20.53
20	50	49		19.11	19.14	20.43
20	100	0		18.91	19.49	20.51
20	1	0	16-QAM	19.78	19.66	19.88
20	1	49		19.85	18.08	19.66
20	1	99		20.52	18.6	19.06
20	50	0		18.1	19.62	18.79
20	50	24		18.2	18.96	18.72
20	50	49		18.51	18.97	18.58
20	100	0		18.25	19.28	18.65



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	19.1	18.7	18.97
1.4	1	2		19.23	18.88	19.13
1.4	1	5		19.05	18.66	18.9
1.4	3	0		19.05	18.79	19.01
1.4	3	1		19.09	18.84	19.06
1.4	3	2		19	18.76	18.96
1.4	6	0		18	17.71	17.92
1.4	1	0	16-QAM	18.13	17.83	17.77
1.4	1	2		18.29	18.01	17.93
1.4	1	5		18.07	17.81	17.72
1.4	3	0		18.2	17.99	18.14
1.4	3	1		18.24	18.04	18.18
1.4	3	2		18.15	17.98	18.12
1.4	6	0		17.1	16.88	17.04
3	1	0	QPSK	18.82	18.74	19.22
3	1	7		18.95	18.89	19.3
3	1	14		18.76	18.68	19.02
3	8	0		17.91	17.8	18.14
3	8	4		17.93	17.84	18.13
3	8	7		17.88	17.79	18.05
3	15	0		17.89	17.8	18.1
3	1	0	16-QAM	18.28	17.94	18.05
3	1	7		18.4	18.05	18.1
3	1	14		18.23	17.87	17.85
3	8	0		16.93	16.82	17.12
3	8	4		16.96	16.86	17.12
3	8	7		16.91	16.8	17.03
3	15	0		16.94	16.79	17.14



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	18.62	18.5	19.14
5	1	12		19.02	18.93	19.35
5	1	24		18.63	18.41	18.74
5	12	0		17.89	17.79	18.28
5	12	6		18.01	17.91	18.31
5	12	11		17.9	17.74	18.08
5	25	0		17.89	17.78	18.18
5	1	0	16-QAM	18.19	17.8	18.42
5	1	12		18.6	18.29	18.66
5	1	24		18.22	17.73	18.04
5	12	0		16.86	16.76	17.26
5	12	6		16.99	16.89	17.3
5	12	11		16.89	16.72	17.05
5	25	0		16.84	16.81	17.11
10	1	0	QPSK	18.53	18.79	20.02
10	1	24		18.77	18.93	19.65
10	1	49		19.39	19.11	19.62
10	25	0		17.58	17.88	18.81
10	25	12		17.75	17.95	18.62
10	25	24		18.06	18.05	18.56
10	50	0		17.82	17.96	18.67
10	1	0	16-QAM	17.82	17.84	18.79
10	1	24		18.14	18.08	18.46
10	1	49		18.7	18.18	18.39
10	25	0		16.6	16.87	17.73
10	25	12		16.78	16.94	17.56
10	25	24		17.08	17.05	17.49
10	50	0		16.82	16.99	17.6



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	18.77	18.99	20.22
15	1	37		18.83	18.9	19.42
15	1	74		19.56	18.79	18.9
15	36	0		17.74	18.04	18.96
15	36	18		17.85	17.94	18.5
15	36	39		18.25	17.94	18.22
15	75	0		17.99	17.98	18.57
15	1	0	16-QAM	18.05	18.13	19.33
15	1	38		18.19	18.07	18.58
15	1	75		18.88	17.96	18.04
15	36	0		16.76	17.12	17.91
15	36	18		16.89	17.01	17.47
15	36	39		17.29	17.01	17.18
15	75	0		16.99	16.99	17.61
20	1	0	QPSK	18.74	19.37	21.06
20	1	49		18.68	19.01	19.73
20	1	99		19.63	19.05	19.51
20	50	0		17.71	18.26	19.57
20	50	24		17.84	18.05	18.91
20	50	49		18.35	18.09	18.69
20	100	0		18.03	18.15	19.13
20	1	0	16-QAM	18.05	18.57	20.34
20	1	49		18.03	18.23	19.03
20	1	99		18.96	18.25	18.81
20	50	0		16.75	17.26	18.6
20	50	24		16.88	17.05	17.95
20	50	49		17.41	17.1	17.7
20	100	0		17.04	17.17	18.13



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.84	23.86	24.05
1.4	1	2		23.84	23.88	24.13
1.4	1	5		23.76	23.87	24.16
1.4	3	0		23.81	23.74	24.07
1.4	3	1		23.78	23.72	24.08
1.4	3	2		23.8	23.68	24.02
1.4	6	0		22.85	22.76	23.12
1.4	1	0	16-QAM	24.57	23.4	23.74
1.4	1	2		24.55	23.32	23.76
1.4	1	5		24.53	23.34	23.76
1.4	3	0		23.13	22.85	23.04
1.4	3	1		23.11	22.92	22.98
1.4	3	2		23.13	22.95	23.01
1.4	6	0		22.1	22.09	22.17
3	1	0	QPSK	23.8	23.83	24.12
3	1	7		23.73	23.85	24.14
3	1	14		23.72	23.91	24.17
3	8	0		22.71	22.68	22.92
3	8	4		22.86	22.83	22.93
3	8	7		22.68	22.85	23
3	15	0		22.82	22.77	23.06
3	1	0	16-QAM	24.37	23.34	24.43
3	1	7		24.4	23.32	24.43
3	1	14		24.37	23.45	24.46
3	8	0		21.68	21.83	22.07
3	8	4		21.7	21.91	21.96
3	8	7		21.65	21.98	22.01
3	15	0		21.97	21.86	22.15



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.71	23.74	23.9
5	1	12		23.66	23.77	23.86
5	1	24		23.63	23.86	23.91
5	12	0		22.71	22.76	22.94
5	12	6		22.75	22.9	23.02
5	12	11		22.68	22.92	23.01
5	25	0		22.7	22.81	23.13
5	1	0	16-QAM	23.46	23.38	24.18
5	1	12		23.4	23.39	24.18
5	1	24		23.41	23.48	24.15
5	12	0		21.79	21.62	22.05
5	12	6		21.65	21.72	22.06
5	12	11		21.75	21.74	22.08
5	25	0		21.75	21.98	22.17
10	1	0	QPSK	24.15	24.14	24.32
10	1	24		24.15	24.19	24.41
10	1	49		24.16	24.42	24.58
10	25	0		23.27	23.12	23.44
10	25	12		23.19	23.33	23.43
10	25	24		23.35	23.47	23.48
10	50	0		23.25	23.32	23.47
10	1	0	16-QAM	24.83	24.52	24.27
10	1	24		24.81	24.53	24.38
10	1	49		24.87	24.77	24.42
10	25	0		22.33	22.37	22.53
10	25	12		22.4	22.45	22.58
10	25	24		22.31	22.45	22.66
10	50	0		22.31	22.47	22.49



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.99	21.06	21.01
5	1	12		20.98	21.05	21.02
5	1	24		20.96	21.05	20.95
5	12	0		20.13	20.05	20.1
5	12	6		20	20	20.2
5	12	11		19.97	20.06	20.23
5	25	0		19.98	20.1	20.24
5	1	0	16-QAM	20.2	19.73	20.28
5	1	12		20.24	19.78	20.21
5	1	24		20.24	19.87	20.27
5	12	0		19.23	18.93	19.39
5	12	6		19.3	19.04	19.5
5	12	11		19.18	18.86	19.36
5	25	0		19.3	18.93	19.28
10	1	0	QPSK	21.03	21.09	21.15
10	1	24		21.02	21.16	21.13
10	1	49		21.05	21.12	21.21
10	25	0		19.97	20.03	20.25
10	25	12		20.12	20.05	20.28
10	25	24		19.94	20.11	20.13
10	50	0		19.99	20.01	20.13
10	1	0	16-QAM	21.22	20.11	20.3
10	1	24		21.21	20.16	20.29
10	1	49		21.3	21	20.34
10	25	0		19.72	19.79	19.39
10	25	12		19.7	19.8	19.39
10	25	24		19.91	19.93	19.58
10	50	0		19.76	19.87	19.43



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21	21.06	21.07
15	1	37		20.83	21.19	21.1
15	1	74		20.88	21.2	21.17
15	36	0		20.03	20.02	20.22
15	36	18		19.91	20.04	20.18
15	36	39		20.14	20.11	20.22
15	75	0		19.98	19.92	20.24
15	1	0	16-QAM	21.24	20.1	21.13
15	1	38		21.16	20.05	21.26
15	1	75		21.29	20.18	21.35
15	36	0		19.78	19.64	20.51
15	36	18		19.67	19.51	20.38
15	36	39		19.92	19.46	20.42
15	75	0		19.76	19.46	20.49
20	1	0	QPSK	20.82	21.35	21.16
20	1	49		20.84	21.49	21.21
20	1	99		20.89	21.49	21.31
20	50	0		19.92	20.06	20.13
20	50	24		19.96	20.03	20.11
20	50	49		20.11	20.03	20.25
20	100	0		20.06	20.01	20.16
20	1	0	16-QAM	19.88	20.06	20.53
20	1	49		19.86	20.11	20.66
20	1	99		19.87	20.15	20.7
20	50	0		17.74	19.54	19.53
20	50	24		17.68	19.29	19.22
20	50	49		18.15	19.31	19.33
20	100	0		17.89	19.4	19.35



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.17	24.3	24.51
1.4	1	2		24.25	24.29	24.44
1.4	1	5		24.2	24.28	24.49
1.4	3	0		24.28	24.24	24.4
1.4	3	1		24.19	24.25	24.37
1.4	3	2		24.26	24.21	24.38
1.4	6	0		23.33	23.51	23.31
1.4	1	0	16-QAM	24.42	23.19	23.35
1.4	1	2		24.44	23.63	23.47
1.4	1	5		24.42	23.71	23.39
1.4	3	0		23.43	23.64	23.28
1.4	3	1		23.43	23.67	23.27
1.4	3	2		23.46	23.61	23.38
1.4	6	0		22.75	22.8	22.42
3	1	0	QPSK	24.36	24.21	24.37
3	1	7		24.34	23.93	24.38
3	1	14		24.35	24.1	24.4
3	8	0		23.12	23.13	23.29
3	8	4		23.12	23.53	23.19
3	8	7		23.2	23.54	23.37
3	15	0		23.26	23.53	23.28
3	1	0	16-QAM	23.95	23.99	23.1
3	1	7		24.02	24.47	23.07
3	1	14		23.99	24.48	23.31
3	8	0		22.56	21.96	22.2
3	8	4		22.57	22.53	22.25
3	8	7		22.22	22.47	22.33
3	15	0		22.66	22.69	22.22



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.15	24.2	24.14
5	1	12		24.19	24.2	24.14
5	1	24		24.22	24.23	24.15
5	12	0		23.19	23.08	23.22
5	12	6		23.19	23.49	23.26
5	12	11		23.25	23.59	23.28
5	25	0		23.29	23.59	23.28
5	1	0	16-QAM	23.32	23.35	23.89
5	1	12		23.41	23.61	23.78
5	1	24		23.37	23.35	23.77
5	12	0		22.51	22	22.28
5	12	6		22.21	22.45	22.22
5	12	11		22.23	22.41	22.26
5	25	0		22.45	22.65	22.39
10	1	0	QPSK	24.2	24.24	24.16
10	1	24		24.22	24.17	24.14
10	1	49		24.24	24.36	24.38
10	25	0		23.36	23.24	23.64
10	25	12		23.27	23.53	23.29
10	25	24		23.08	23.31	23.37
10	50	0		23.16	23.49	23.22
10	1	0	16-QAM	24.08	23.82	23.7
10	1	24		24.11	23.62	23.68
10	1	49		24.6	23.37	23.83
10	25	0		22.27	22.21	22.67
10	25	12		22.14	22.7	22.7
10	25	24		22.24	22.74	22.32
10	50	0		22.19	22.69	22.61



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.96	23.98	24.24
5	1	12		23.99	24.04	24.32
5	1	24		23.93	24.06	24.51
5	12	0		23.19	23.11	23.23
5	12	6		23.2	23.28	23.3
5	12	11		23.18	23.29	23.34
5	25	0		23.19	23.22	23.37
5	1	0	16-QAM	24.11	23.41	23.31
5	1	12		23.67	23.48	23.4
5	1	24		23.7	23.57	23.38
5	12	0		22.54	22.06	22.18
5	12	6		22.53	22.26	22.17
5	12	11		22.13	22.21	22.21
5	25	0		22.65	22.4	22.36
10	1	0	QPSK	24.56	24.7	24.7
10	1	24		24.53	24.65	24.65
10	1	49		24.74	24.76	24.92
10	25	0		23.65	23.63	23.61
10	25	12		23.6	23.7	23.74
10	25	24		23.74	23.8	23.85
10	50	0		23.69	23.78	23.77
10	1	0	16-QAM	24.89	24.42	24.23
10	1	24		24.53	24.47	24.15
10	1	49		24.7	24.48	24.21
10	25	0		23.01	22.67	22.66
10	25	12		22.58	22.83	22.77
10	25	24		22.84	22.82	22.87
10	50	0		22.69	22.84	22.79



LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	12.9	12.98	12.98
5	1	12		13.52	13.52	13.38
5	1	24		13.08	12.85	12.87
5	12	0		12.3	12.29	12.2
5	12	6		12.47	12.43	12.28
5	12	11		12.34	12.23	12.11
5	25	0		12.32	12.25	12.17
5	1	0	16-QAM	12.21	12.3	12.56
5	1	12		12.82	12.82	12.98
5	1	24		12.34	12.16	12.48
5	12	0		11.21	11.27	11.17
5	12	6		11.39	11.41	11.26
5	12	11		11.25	11.2	11.09
5	25	0		11.28	11.18	11.09
10	1	0	QPSK	/	13.1	/
10	1	24		/	13.48	/
10	1	49		/	13.56	/
10	25	0		/	12.38	/
10	25	12		/	12.45	/
10	25	24		/	12.54	/
10	50	0		/	12.45	/
10	1	0	16-QAM	/	12.57	/
10	1	24		/	12.92	/
10	1	49		/	13.05	/
10	25	0		/	11.33	/
10	25	12		/	11.43	/
10	25	24		/	11.49	/
10	50	0		/	11.4	/



LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	13.23	13.06	13.08
5	1	12		13.77	13.58	13.65
5	1	24		13.26	13.14	13.11
5	12	0		12.53	12.41	12.43
5	12	6		12.68	12.58	12.57
5	12	11		12.53	12.43	12.41
5	25	0		12.54	12.4	12.42
5	1	0	16-QAM	12.51	12.47	12.76
5	1	12		13.04	12.95	13.29
5	1	24		12.55	12.47	12.76
5	12	0		11.43	11.4	11.38
5	12	6		11.59	11.5	11.58
5	12	11		11.45	11.37	11.39
5	25	0		11.49	11.29	11.3
10	1	0	QPSK	/	13.27	/
10	1	24		/	13.5	/
10	1	49		/	13.81	/
10	25	0		/	12.46	/
10	25	12		/	12.59	/
10	25	24		/	12.76	/
10	50	0		/	12.66	/
10	1	0	16-QAM	/	12.46	/
10	1	24		/	12.7	/
10	1	49		/	13.02	/
10	25	0		/	11.44	/
10	25	12		/	11.54	/
10	25	24		/	11.72	/
10	50	0		/	11.59	/



LTE Band 41 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest1	Lowest2	Middle	Highest 1	Highest 2
5	1	0	QPSK	23.21	22.75	23.16	22.71	23.06
5	1	12		23.31	22.85	23.12	22.67	23.36
5	1	24		23.26	22.81	23.21	22.76	22.75
5	12	0		22.25	21.81	22.23	21.80	23.07
5	12	6		22.20	21.78	22.32	21.88	23.00
5	12	11		22.10	21.66	22.34	21.91	22.90
5	25	0		22.10	21.67	22.21	21.77	22.99
5	1	0	16-QAM	22.01	21.58	22.66	22.21	22.72
5	1	12		21.92	21.50	22.68	22.24	22.75
5	1	24		22.09	21.65	22.83	22.39	22.71
5	12	0		21.27	20.86	21.43	21.02	22.11
5	12	6		21.18	20.77	21.40	20.99	22.18
5	12	11		21.31	20.89	21.45	21.02	22.07
5	25	0		21.51	21.09	21.66	21.24	22.33
10	1	0	QPSK	23.37	22.92	23.44	22.98	23.46
10	1	24		23.34	22.89	23.44	22.99	23.48
10	1	49		23.27	22.82	23.64	23.18	23.44
10	25	0		22.17	21.75	22.34	21.90	23.09
10	25	12		22.09	21.65	22.37	21.93	23.07
10	25	24		22.14	21.70	22.49	22.05	23.09
10	50	0		22.14	21.72	22.41	21.98	23.10
10	1	0	16-QAM	22.73	22.28	21.76	21.33	23.33
10	1	24		22.72	22.28	21.57	21.15	23.34
10	1	49		22.77	22.32	21.67	21.25	23.31
10	25	0		21.36	20.94	21.51	21.09	22.34
10	25	12		21.32	20.90	21.49	21.06	22.32
10	25	24		21.26	20.85	21.59	21.18	22.32
10	50	0		21.36	20.94	21.57	21.15	22.34



LTE Band 41 Maximum Average Power [dBm]								
BW [MHz]	RB Size	RB Offset	Mod	Lowest1	Lowest2	Middle	Highest 1	Highest 2
15	1	0	QPSK	23.26	22.81	23.46	23.01	23.86
15	1	37		23.27	22.81	23.49	23.03	23.59
15	1	74		23.41	22.94	23.71	23.24	23.28
15	36	0		22.26	21.83	22.38	21.95	23.01
15	36	18		22.23	21.79	22.32	21.88	23.02
15	36	39		22.18	21.75	22.34	21.89	23.06
15	75	0		22.13	21.70	22.41	21.97	23.06
15	1	0	16-QAM	22.77	22.33	21.52	21.10	23.43
15	1	38		22.90	22.45	21.65	21.22	23.40
15	1	75		22.85	22.40	21.69	21.26	23.36
15	36	0		21.29	20.87	21.70	21.28	22.20
15	36	18		21.29	20.87	21.65	21.23	22.12
15	36	39		21.39	20.96	21.86	21.43	22.14
15	75	0		21.30	20.88	21.67	21.24	22.29
20	1	0	QPSK	23.16	22.70	23.24	22.78	23.95
20	1	49		23.19	22.73	23.31	22.85	23.72
20	1	99		23.22	22.76	23.55	23.08	23.57
20	50	0		22.09	21.65	22.25	21.82	23.03
20	50	24		22.14	21.72	22.26	21.83	22.98
20	50	49		22.20	21.76	22.35	21.92	23.07
20	100	0		22.13	21.69	22.26	21.83	23.07
20	1	0	16-QAM	22.03	21.60	22.14	21.71	23.18
20	1	49		21.96	21.52	22.00	21.58	22.52
20	1	99		21.99	21.55	22.34	21.91	23.15
20	50	0		21.41	20.99	21.41	21.00	22.23
20	50	24		21.42	21.01	21.46	21.05	22.29
20	50	49		21.52	21.10	21.53	21.12	22.33
20	100	0		21.40	20.99	21.65	21.24	22.29



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	19.64	19.83	19.95
1.4	1	2		19.59	19.67	19.95
1.4	1	5		19.56	19.79	19.96
1.4	3	0		19.5	19.75	19.93
1.4	3	1		19.54	19.8	19.95
1.4	3	2		19.44	19.83	19.95
1.4	6	0		18.7	18.93	19.06
1.4	1	0	16-QAM	18.9	19.03	18.78
1.4	1	2		19.07	19.22	18.93
1.4	1	5		18.88	19.02	18.73
1.4	3	0		19.02	19.21	19.18
1.4	3	1		19.07	19.26	19.22
1.4	3	2		18.99	19.2	19.14
1.4	6	0		17.66	18.27	16.86
3	1	0	QPSK	19.42	19.74	19.95
3	1	7		19.41	19.69	19.99
3	1	14		19.44	19.76	20.06
3	8	0		18.81	19.08	19.35
3	8	4		18.85	19.1	19.37
3	8	7		18.82	19.03	19.26
3	15	0		18.83	19.07	19.32
3	1	0	16-QAM	19.01	19.04	18.89
3	1	7		19.15	19.11	19.02
3	1	14		19	18.85	18.75
3	8	0		17.49	18.28	16.8
3	8	4		17.52	18.28	16.82
3	8	7		17.47	18.19	16.73
3	15	0		17.5	18.21	16.85



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	19.45	19.84	19.72
5	1	12		19.44	19.85	19.8
5	1	24		19.4	19.85	19.79
5	12	0		19.03	19.75	19.43
5	12	6		19.18	19.83	19.51
5	12	11		19.11	19.61	19.26
5	25	0		19.1	19.72	19.3
5	1	0	16-QAM	19.27	19.24	19.18
5	1	12		19.71	19.59	19.43
5	1	24		19.38	18.96	18.85
5	12	0		17.3	18.18	16.84
5	12	6		17.44	18.23	16.91
5	12	11		17.35	18.01	16.68
5	25	0		17.3	18.15	16.72
10	1	0	QPSK	19.44	20.09	19.89
10	1	24		19.4	19.95	19.91
10	1	49		19.54	19.89	19.98
10	25	0		17.98	19.3	19.33
10	25	12		18.17	19.2	19.23
10	25	24		18.49	19.18	19.24
10	50	0		18.26	19.25	19.29
10	1	0	16-QAM	18.93	19.25	18.73
10	1	24		19.25	19.07	18.4
10	1	49		19.84	18.94	18.39
10	25	0		17.07	18.42	17.24
10	25	12		17.25	18.29	17.11
10	25	24		17.57	18.27	17.12
10	50	0		17.31	18.37	17.16



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	19.45	20.02	19.75
15	1	37		19.56	19.96	19.87
15	1	74		19.64	19.88	20.01
15	36	0		18.46	19.97	20.2
15	36	18		18.58	19.46	19.83
15	36	39		19	19.26	19.65
15	75	0		18.75	19.56	19.93
15	1	0	16-QAM	19.03	19.53	18.94
15	1	38		19.2	18.85	18.44
15	1	75		19.84	18.38	18.03
15	36	0		17.24	18.71	17.33
15	36	18		17.35	18.3	16.87
15	36	39		17.76	18.08	16.65
15	75	0		17.46	18.33	17.01
20	1	0	QPSK	19.58	20.03	19.78
20	1	49		19.51	19.98	19.94
20	1	99		19.81	19.96	20.13
20	50	0		18.26	19.96	20.22
20	50	24		18.32	19.27	19.85
20	50	49		18.82	19.05	19.69
20	100	0		18.51	19.48	19.97
20	1	0	16-QAM	19.07	19.31	19.25
20	1	49		19.1	18.08	18.66
20	1	99		19.91	17.85	18.37
20	50	0		17.12	19	17.68
20	50	24		17.27	18.34	17.33
20	50	49		17.76	18.13	17.1
20	100	0		17.4	18.58	17.33

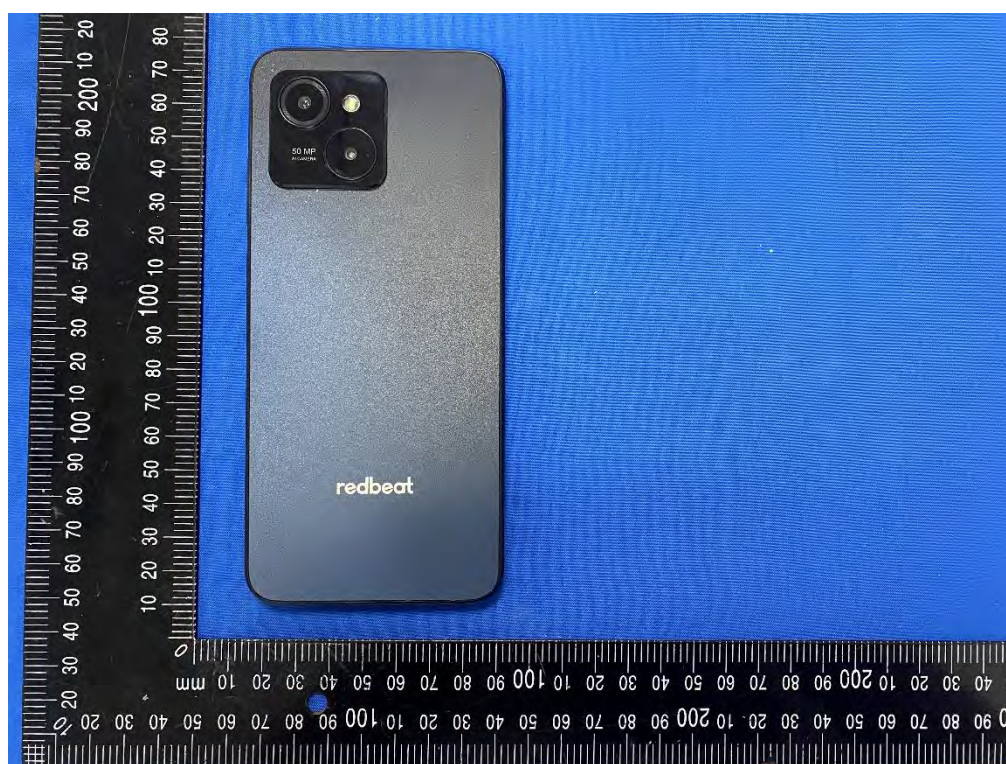
11. EUT and Test Setup Photo

11.1 EUT Photos

Front side

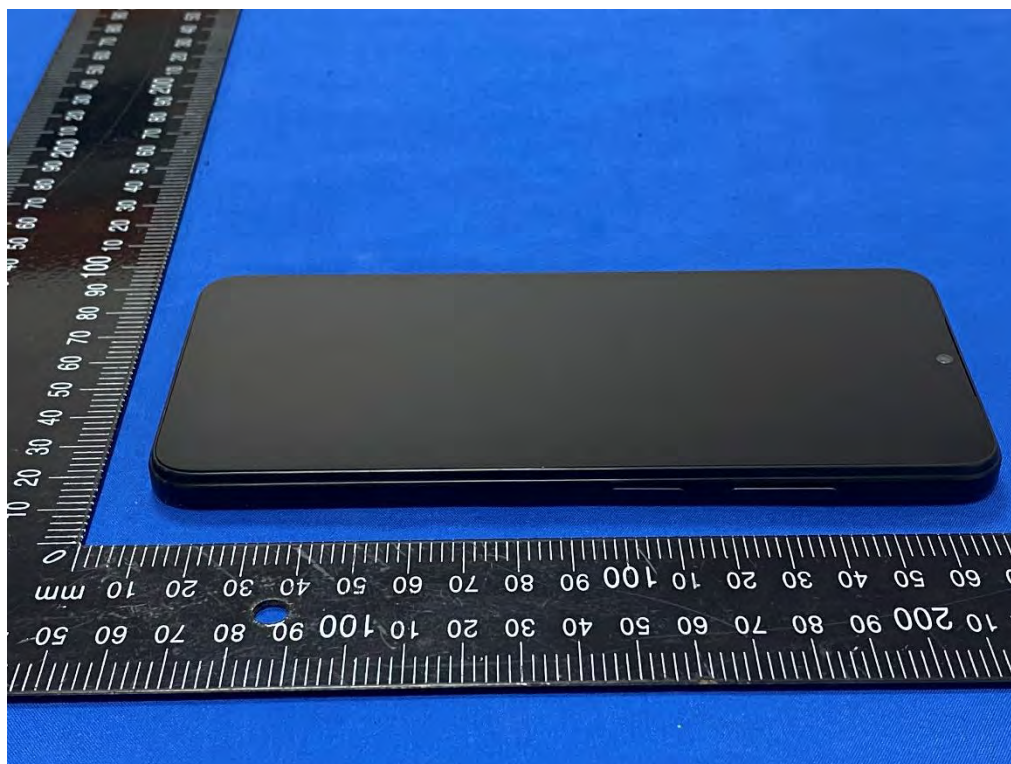


Back side

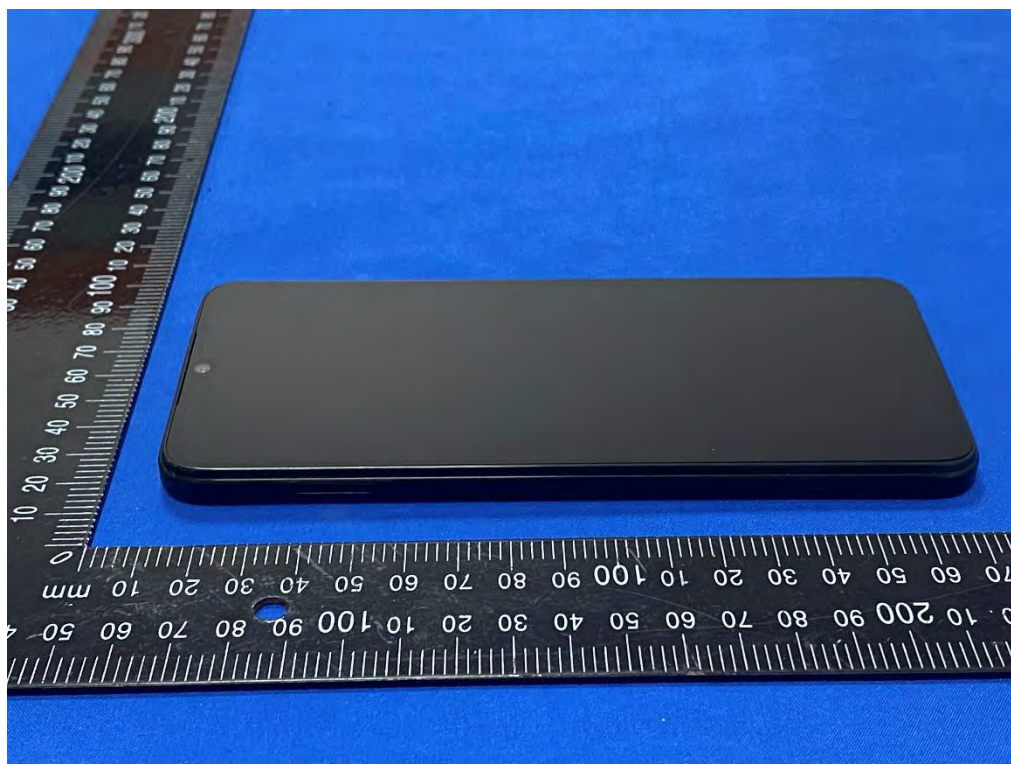




Right Edge



Left Edge





Top Edge



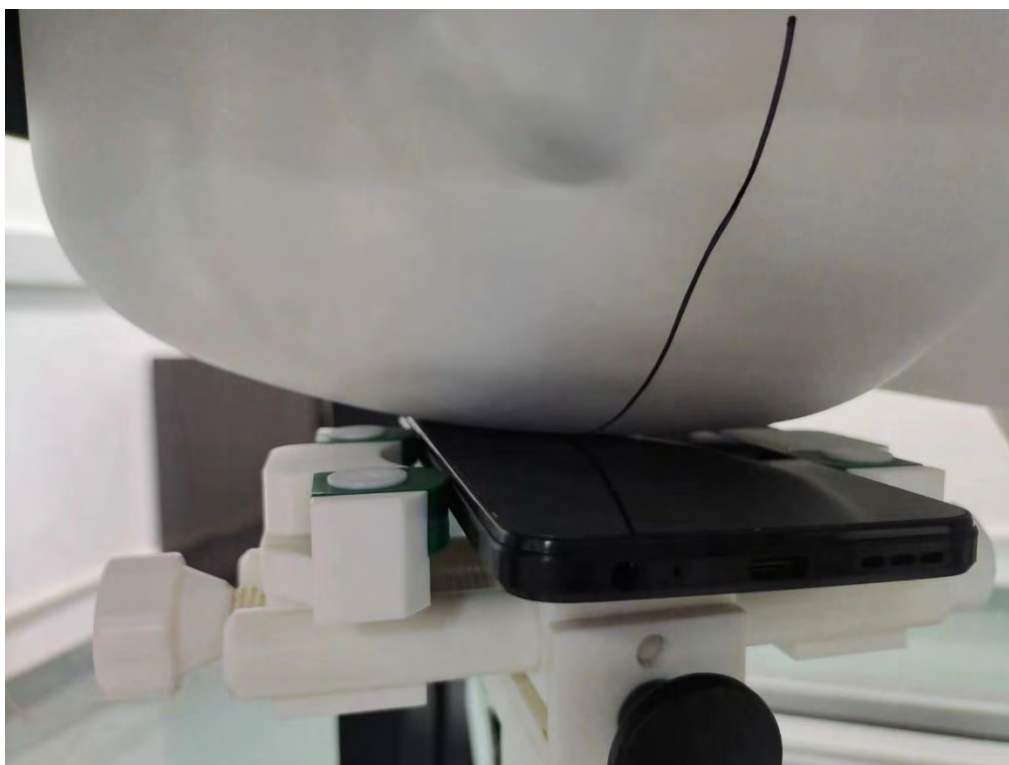
Bottom Edge



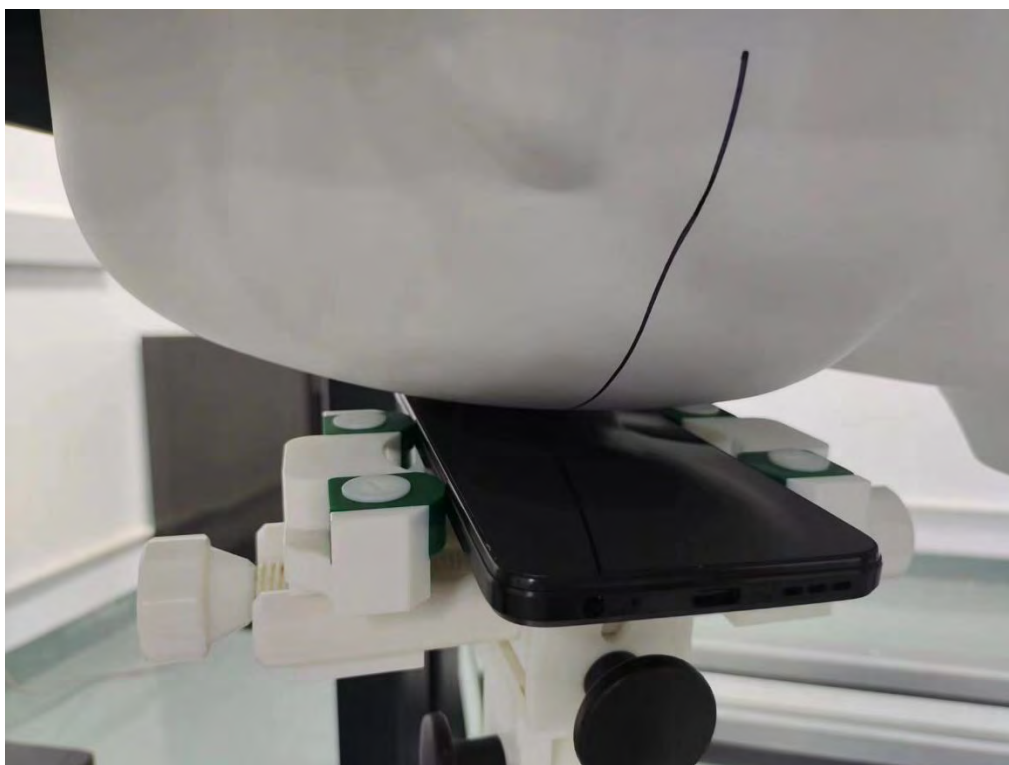


11.2 Setup Photos

Right Touch

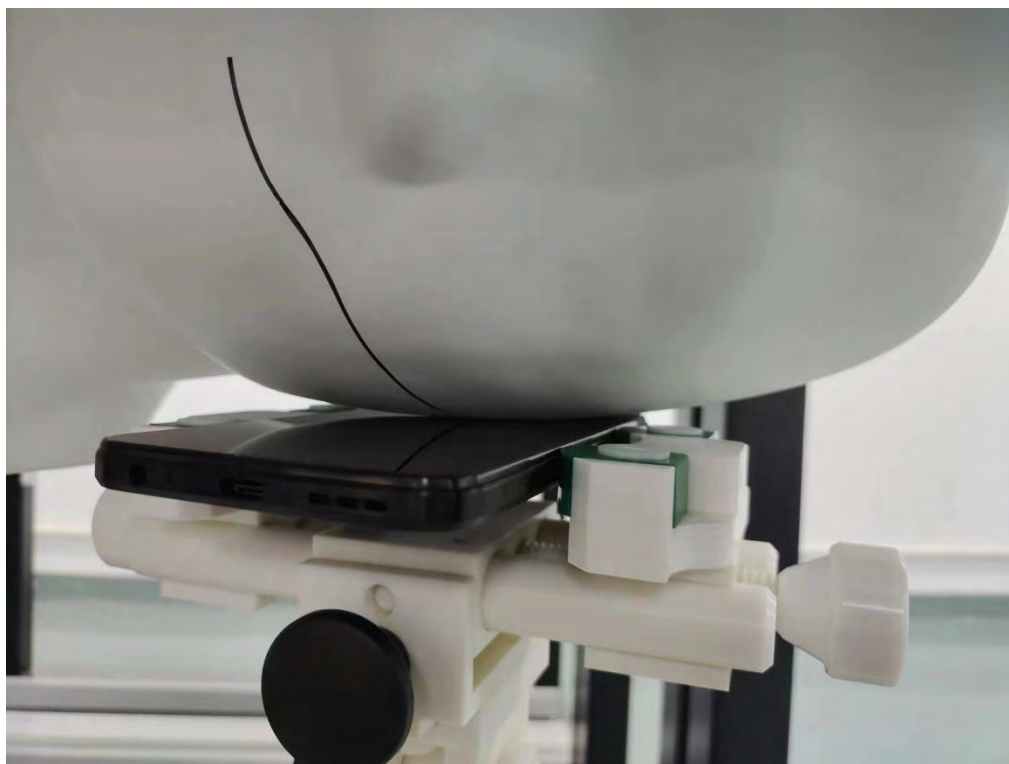


Right Tilt

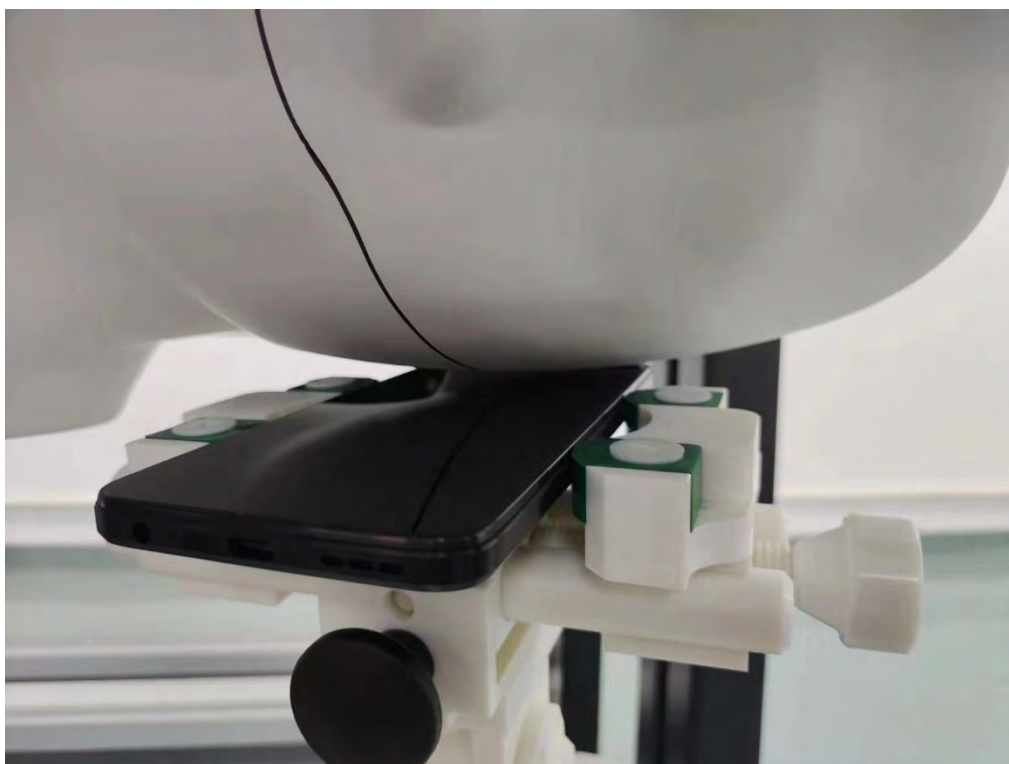




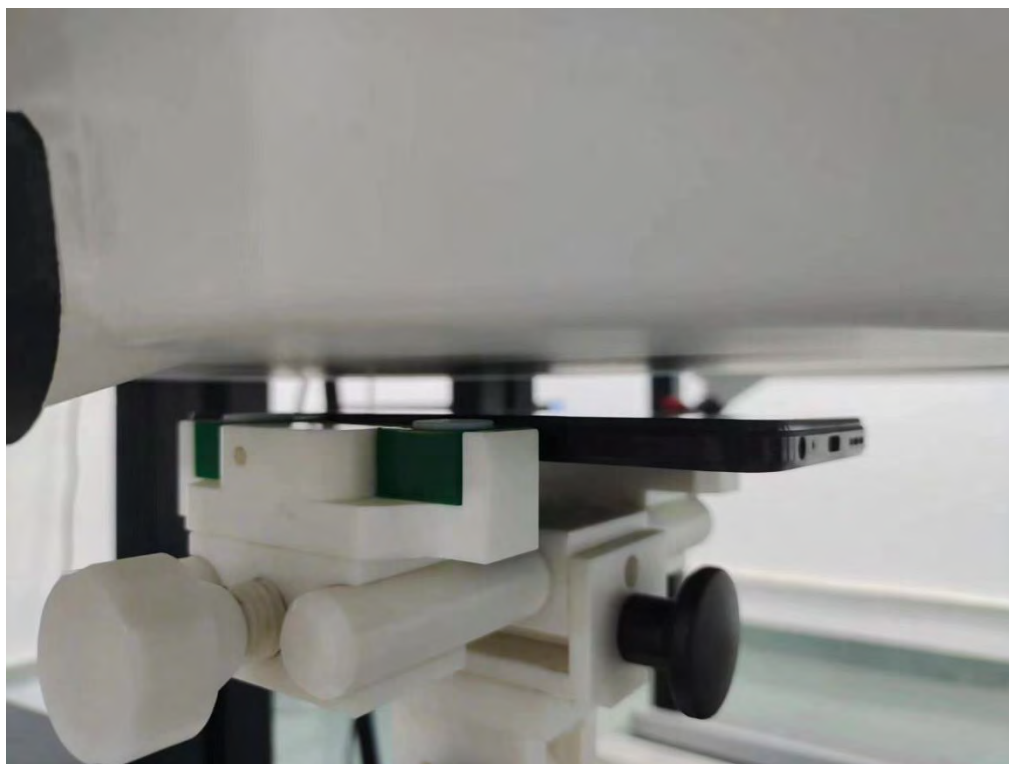
Left Touch



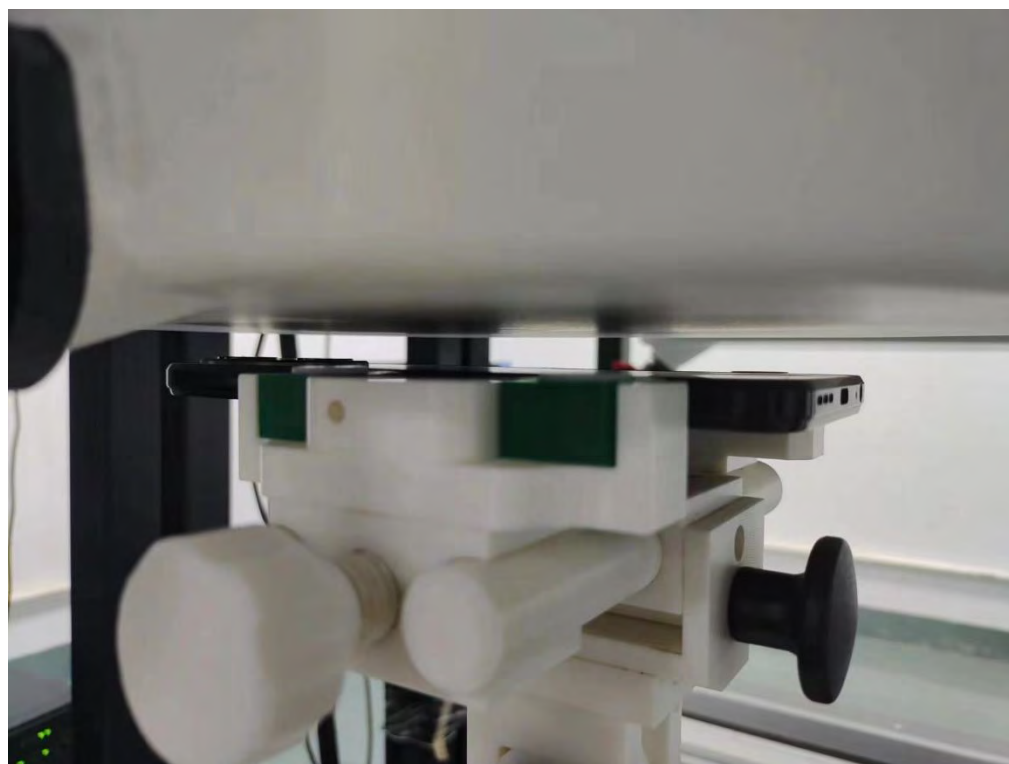
Left Tilt



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)



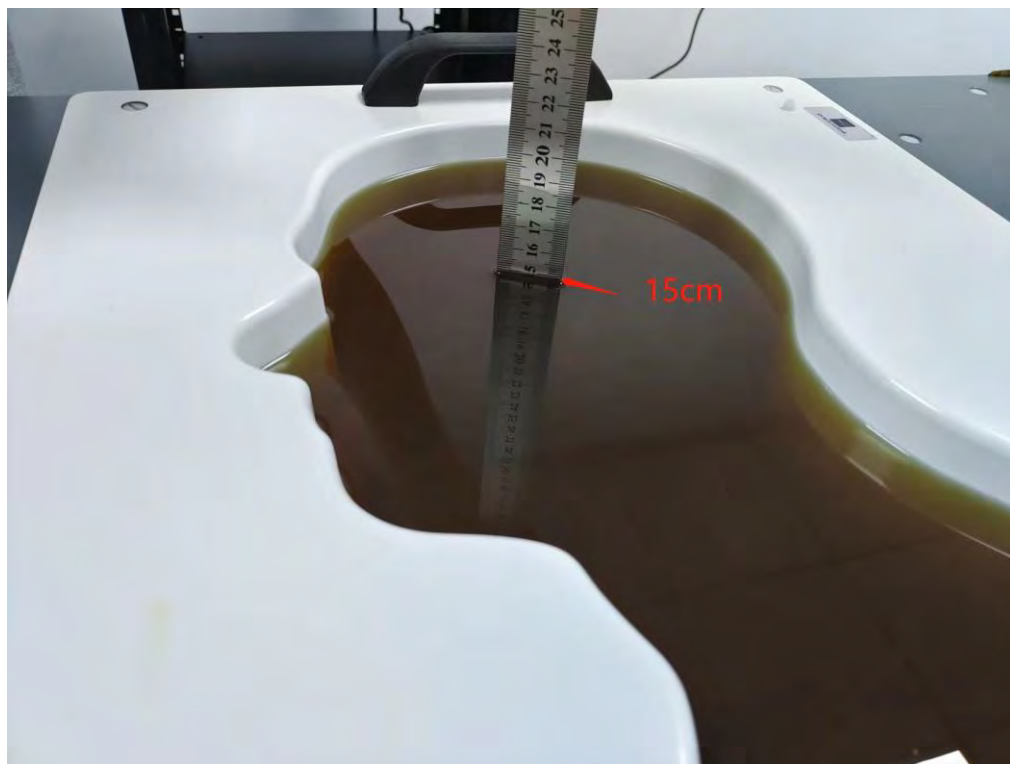
Body Top side (separation distance is 10mm)



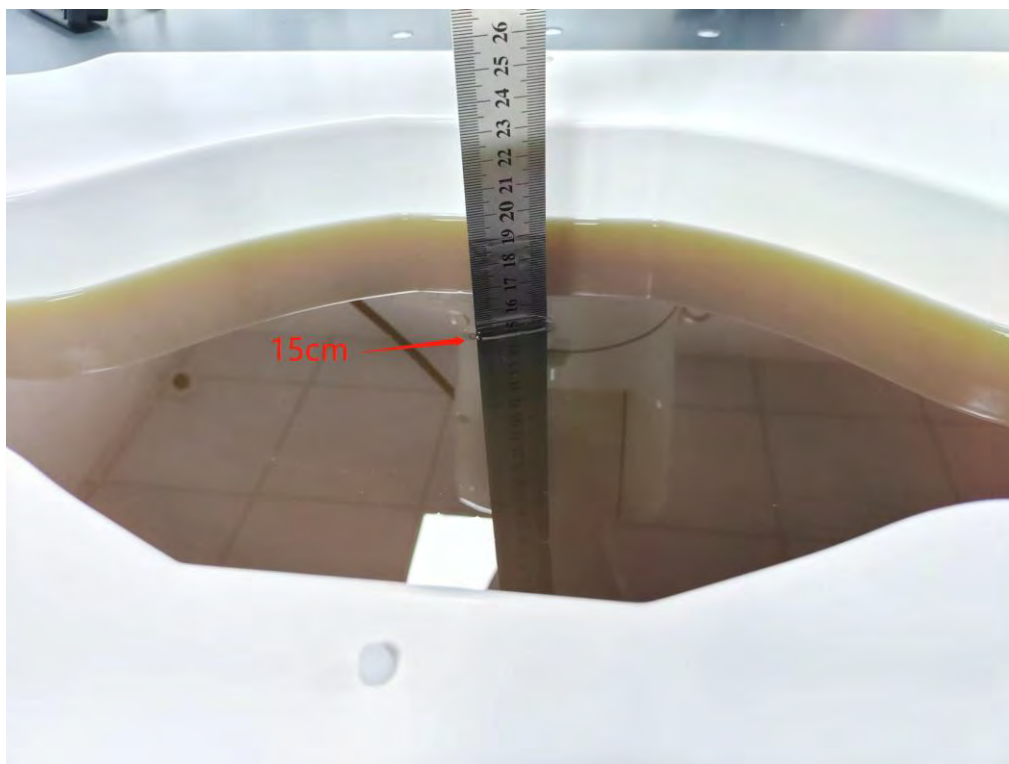
Body Bottom side (separation distance is 10mm)



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)	Scaled SAR (W/Kg)	Meas. No.
GSM850	GSM	Right Cheek	836.6	0.336	3.82	33.00	32.77	0.354	/
		Right Tilt	836.6	0.245	3.01	33.00	32.77	0.258	/
		Left Cheek	836.6	0.347	-1.17	33.00	32.77	0.366	1
		Left Tilt	836.6	0.249	-3.96	33.00	32.77	0.263	/
PCS 1900	GSM	Right Cheek	1850.2	0.734	-3.72	30.50	30.00	0.824	/
		Right Cheek	1880	0.766	3.66	30.50	30.08	0.844	3
		Right Cheek	1909.8	0.701	2.06	30.50	29.94	0.797	/
		Right Tilt	1880	0.594	2.42	30.50	30.08	0.654	/
		Left Cheek	1880	0.536	1.31	30.50	30.08	0.590	/
		Left Tilt	1880	0.500	-0.37	30.50	30.08	0.551	/
WCDMA Band II	RMC	Right Cheek	1907.6	0.461	-3.43	20.00	19.97	0.464	5
		Right Tilt	1907.6	0.331	2.18	20.00	19.97	0.333	/
		Left Cheek	1907.6	0.301	-0.66	20.00	19.97	0.303	/
		Left Tilt	1907.6	0.204	-0.35	20.00	19.97	0.205	/
WCDMA Band IV	RMC	Right Cheek	1712.6	0.689	-0.65	20.50	19.90	0.791	/
		Right Cheek	1740	0.751	2.62	20.50	20.15	0.814	7
		Right Cheek	1752.4	0.712	3.01	20.50	20.00	0.799	/
		Right Tilt	1740	0.531	-0.48	20.50	20.15	0.576	/
		Left Cheek	1740	0.490	0.18	20.50	20.15	0.531	/
		Left Tilt	1740	0.355	-3.45	20.50	20.15	0.385	/
WCDMA Band V	RMC	Right Cheek	846.6	0.302	1.22	23.50	23.42	0.308	9
		Right Tilt	846.6	0.212	-2.59	23.50	23.42	0.216	/
		Left Cheek	846.6	0.202	-0.78	23.50	23.42	0.206	/
		Left Tilt	846.6	0.148	-3.83	23.50	23.42	0.151	/
2.4G WLAN	802.11b	Right Cheek	2412	0.220	-1.55	16.50	16.09	0.242	/
		Right Tilt	2412	0.291	-2.78	16.50	16.09	0.320	/
		Left Cheek	2412	0.286	3.52	16.50	16.09	0.314	/
		Left Tilt	2412	0.385	2.90	16.50	16.09	0.423	11
5.2G WLAN	802.11a	Right Cheek	5200	0.196	-2.77	13.50	13.10	0.215	/
		Right Tilt	5200	0.265	2.50	13.50	13.10	0.291	/
		Left Cheek	5200	0.268	-2.61	13.50	13.10	0.294	/
		Left Tilt	5200	0.381	-2.37	13.50	13.10	0.418	13
5.3G WLAN	802.11a	Right Cheek	5260	0.277	-3.15	12.00	11.72	0.295	/
		Right Tilt	5260	0.391	-3.71	12.00	11.72	0.417	/
		Left Cheek	5260	0.420	-1.02	12.00	11.72	0.448	/
		Left Tilt	5260	0.578	-3.53	12.00	11.72	0.616	15
5.8G WLAN	802.11a	Right Cheek	5745	0.192	3.38	12.50	12.44	0.195	/
		Right Tilt	5745	0.270	0.52	12.50	12.44	0.274	/
		Left Cheek	5745	0.288	0.04	12.50	12.44	0.292	/
		Left Tilt	5745	0.409	1.56	12.50	12.44	0.415	17



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	SAR (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	Right Cheek	1860	0.814	-2.42	21.00	20.61	0.890	/
			1	0	Right Cheek	1880	0.906	0.64	21.00	20.69	0.973	19
			1	0	Right Cheek	1900	0.852	3.54	21.00	20.69	0.915	/
			50	0	Right Cheek	1900	0.728	-0.16	21.00	20.63	0.793	/
			1	0	Right Tilt	1880	0.634	1.51	21.00	20.69	0.681	/
			50	0	Right Tilt	1900	0.516	-0.50	21.00	20.63	0.562	/
			1	0	Left Cheek	1880	0.591	1.98	21.00	20.69	0.635	/
			50	0	Left Cheek	1900	0.473	-2.16	21.00	20.63	0.515	/
			1	0	Left Tilt	1880	0.420	3.36	21.00	20.69	0.451	/
			50	0	Left Tilt	1900	0.329	-3.46	21.00	20.63	0.358	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1745	0.582	-2.31	21.50	21.06	0.644	21
			50	0	Right Cheek	1745	0.480	-1.47	20.00	19.57	0.530	/
			1	0	Right Tilt	1745	0.420	1.30	21.50	21.06	0.465	/
			50	0	Right Tilt	1745	0.327	-0.50	20.00	19.57	0.361	/
			1	0	Left Cheek	1745	0.393	-0.42	21.50	21.06	0.435	/
			50	0	Left Cheek	1745	0.338	2.35	20.00	19.57	0.373	/
			1	0	Left Tilt	1745	0.275	3.01	21.50	21.06	0.304	/
			50	0	Left Tilt	1745	0.219	2.64	20.00	19.57	0.242	/
LTE Band 5	10M	16-QAM	1	0	Right Cheek	829	0.212	-1.52	25.00	24.87	0.218	/
			25	0	Right Cheek	844	0.172	1.06	23.00	22.66	0.186	/
			1	0	Right Tilt	829	0.153	0.55	25.00	24.87	0.158	/
			25	0	Right Tilt	844	0.117	-3.92	23.00	22.66	0.127	/
			1	0	Left Cheek	829	0.307	0.53	25.00	24.87	0.316	23
			25	0	Left Cheek	844	0.257	0.33	23.00	22.66	0.278	/
			1	0	Left Tilt	829	0.226	-2.38	25.00	24.87	0.233	/
			25	0	Left Tilt	844	0.178	2.06	23.00	22.66	0.192	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	2510	0.593	1.69	22.00	20.89	0.766	/
			1	0	Right Cheek	2535	0.726	2.35	22.00	21.49	0.816	25
			1	0	Right Cheek	2560	0.680	-2.99	22.00	21.31	0.797	/
			50	0	Right Cheek	2560	0.588	-2.12	20.50	20.25	0.623	/
			1	0	Right Tilt	2535	0.518	2.74	22.00	21.49	0.583	/
			50	0	Right Tilt	2560	0.433	2.69	20.50	20.25	0.459	/
			1	0	Left Cheek	2535	0.488	1.29	22.00	21.49	0.549	/
			50	0	Left Cheek	2560	0.379	3.59	20.50	20.25	0.401	/
			1	0	Left Tilt	2535	0.347	3.76	22.00	21.49	0.390	/
			50	0	Left Tilt	2560	0.285	-3.22	20.50	20.25	0.302	/
LTE Band 12	10M	QPSK	1	0	Right Cheek	711	0.134	-0.91	24.50	24.38	0.138	/
			25	0	Right Cheek	711	0.099	1.98	24.00	23.64	0.108	/
			1	0	Right Tilt	711	0.103	0.00	24.50	24.38	0.106	/
			25	0	Right Tilt	711	0.064	-0.30	24.00	23.64	0.070	/
			1	0	Left Cheek	711	0.194	-1.87	24.50	24.38	0.199	27
			25	0	Left Cheek	711	0.149	-2.17	24.00	23.64	0.162	/
			1	0	Left Tilt	711	0.131	-0.74	24.50	24.38	0.135	/
			25	0	Left Tilt	711	0.107	-2.63	24.00	23.64	0.116	/



LTE Band 17	10M	QPSK	1	0	Right Cheek	711	0.137	-3.80	25.00	24.92	0.140	/
			25	0	Right Cheek	711	0.093	-3.28	24.00	23.85	0.096	/
			1	0	Right Tilt	711	0.096	1.25	25.00	24.92	0.098	/
			25	0	Right Tilt	711	0.089	-2.93	24.00	23.85	0.092	/
			1	0	Left Cheek	711	0.196	1.48	25.00	24.92	0.200	29
			25	0	Left Cheek	711	0.142	-0.78	24.00	23.85	0.147	/
			1	0	Left Tilt	711	0.131	1.17	25.00	24.92	0.133	/
			25	0	Left Tilt	711	0.110	1.05	24.00	23.85	0.114	/
LTE Band 40	10M	QPSK	1	0	Right Cheek	2355	0.423	2.45	14.00	13.81	0.442	31
			50	0	Right Cheek	2355	0.336	3.24	13.00	12.76	0.355	/
			1	0	Right Tilt	2355	0.300	0.97	14.00	13.81	0.313	/
			50	0	Right Tilt	2355	0.234	1.91	13.00	12.76	0.247	/
			1	0	Left Cheek	2355	0.283	-3.80	14.00	13.81	0.296	/
			50	0	Left Cheek	2355	0.230	-0.82	13.00	12.76	0.243	/
			1	0	Left Tilt	2355	0.214	1.46	14.00	13.81	0.224	/
			50	0	Left Tilt	2355	0.161	-1.20	13.00	12.76	0.170	/
LTE Band 41	20M	QPSK	1	0	Right Cheek	2645	0.670	-3.10	24.00	23.95	0.678	33
			50	0	Right Cheek	2645	0.530	-2.50	23.50	23.07	0.585	/
			1	0	Right Tilt	2645	0.470	2.15	24.00	23.95	0.475	/
			50	0	Right Tilt	2645	0.389	3.68	23.50	23.07	0.429	/
			1	0	Left Cheek	2645	0.446	0.74	24.00	23.95	0.451	/
			50	0	Left Cheek	2645	0.342	3.60	23.50	23.07	0.378	/
			1	0	Left Tilt	2645	0.315	-1.23	24.00	23.95	0.319	/
			50	0	Left Tilt	2645	0.255	0.18	23.50	23.07	0.282	/
LTE Band 66	20M	QPSK	1	0	Right Cheek	1720	0.705	0.75	20.50	19.81	0.826	/
			1	0	Right Cheek	1745	0.782	-0.10	20.50	20.03	0.871	/
			1	0	Right Cheek	1770	0.856	2.79	20.50	20.13	0.932	/
			50	0	Right Cheek	1720	0.693	-1.69	20.50	18.82	1.020	/
			50	0	Right Cheek	1745	0.916	0.69	20.50	19.96	1.037	/
			50	0	Right Cheek	1770	1.046	2.61	20.50	20.22	1.116	35
			1	0	Right Tilt	1770	0.610	0.46	20.50	20.13	0.664	/
			50	0	Right Tilt	1770	0.741	0.97	20.50	20.22	0.790	/
			1	0	Left Cheek	1770	0.576	-0.69	20.50	20.13	0.627	/
			50	0	Left Cheek	1770	0.698	0.54	20.50	20.22	0.744	/
			1	0	Left Tilt	1770	0.413	2.69	20.50	20.13	0.450	/
			50	0	Left Tilt	1770	0.497	0.09	20.50	20.22	0.530	/

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 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.
GSM850	GPRS (GMSK, 3-Slot)	Front Side	836.6	0.331	3.73	29.50	29.08	0.365	/
		Back Side	836.6	0.414	-3.22	29.50	29.08	0.456	2
		Left Side	836.6	0.222	0.59	29.50	29.08	0.245	/
		Right Side	836.6	0.388	-1.44	29.50	29.08	0.427	/
		Top Side	836.6	0.084	2.12	29.50	29.08	0.093	/
		Bottom Side	836.6	0.215	-3.34	29.50	29.08	0.237	/
PCS 1900	GPRS (GMSK, 3-Slot)	Front Side	1909.8	0.284	3.74	27.00	26.63	0.309	/
		Back Side	1909.8	0.461	-3.39	27.00	26.63	0.502	4
		Left Side	1909.8	0.231	-3.40	27.00	26.63	0.252	/
		Right Side	1909.8	0.162	-2.85	27.00	26.63	0.176	/
		Bottom Side	1909.8	0.128	1.59	27.00	26.63	0.139	/
WCDMA Band II	RMC	Front Side	1907.6	0.269	-3.26	20.00	19.97	0.271	/
		Back Side	1907.6	0.458	-2.70	20.00	19.97	0.461	6
		Left Side	1907.6	0.244	1.02	20.00	19.97	0.246	/
		Right Side	1907.6	0.178	-0.37	20.00	19.97	0.179	/
		Bottom Side	1907.6	0.127	2.06	20.00	19.97	0.128	/
WCDMA Band IV	RMC	Front Side	1740	0.188	-3.58	20.50	20.15	0.204	/
		Back Side	1740	0.313	-3.94	20.50	20.15	0.339	8
		Left Side	1740	0.162	-3.04	20.50	20.15	0.176	/
		Right Side	1740	0.119	-3.69	20.50	20.15	0.129	/
		Bottom Side	1740	0.088	-2.16	20.50	20.15	0.095	/
WCDMA Band V	RMC	Front Side	846.6	0.247	-3.09	23.50	23.42	0.252	/
		Back Side	846.6	0.365	2.38	23.50	23.42	0.372	10
		Left Side	846.6	0.190	1.61	23.50	23.42	0.194	/
		Right Side	846.6	0.291	-3.87	23.50	23.42	0.296	/
		Bottom Side	846.6	0.183	2.89	23.50	23.42	0.186	/
2.4GHz WLAN	802.11b	Front Side	2412	0.135	-0.77	16.50	16.09	0.148	/
		Back Side	2412	0.192	-2.24	16.50	16.09	0.211	12
		Right Side	2412	0.156	0.65	16.50	16.09	0.171	/
		Top Side	2412	0.123	-0.93	16.50	16.09	0.135	/
5.2GHz WLAN	802.11a	Front Side	5200	0.222	-2.88	13.50	13.10	0.243	/
		Back Side	5200	0.277	-2.30	13.50	13.10	0.304	14
		Right Side	5200	0.183	-3.06	13.50	13.10	0.201	/
		Top Side	5200	0.239	-2.79	13.50	13.10	0.262	/
5.3GHz WLAN	802.11a	Front Side	5260	0.129	2.42	12.00	11.72	0.138	/
		Back Side	5260	0.162	1.76	12.00	11.72	0.173	16
		Right Side	5260	0.119	0.55	12.00	11.72	0.127	/
		Top Side	5260	0.148	-1.23	12.00	11.72	0.158	/
5.8GHz WLAN	802.11a	Front Side	5745	0.194	3.70	12.50	12.44	0.197	/
		Back Side	5745	0.259	0.34	12.50	12.44	0.263	18
		Right Side	5745	0.172	2.38	12.50	12.44	0.174	/
		Top Side	5745	0.224	-0.49	12.50	12.44	0.227	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	SAR (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	0.304	2.48	21.00	20.69	0.326	/
			50	0	Front side	1900	0.229	3.41	21.00	20.63	0.249	/
			1	0	Back Side	1880	0.505	3.28	21.00	20.69	0.542	20
			50	0	Back Side	1900	0.390	2.20	21.00	20.63	0.425	/
			1	0	Left Side	1880	0.257	-3.17	21.00	20.69	0.276	/
			50	0	Left Side	1900	0.207	-0.07	21.00	20.63	0.225	/
			1	0	Right Side	1880	0.188	2.63	21.00	20.69	0.202	/
			50	0	Right Side	1900	0.143	-3.92	21.00	20.63	0.156	/
			1	0	Bottom Side	1880	0.137	3.51	21.00	20.69	0.147	/
			50	0	Bottom Side	1900	0.099	2.13	21.00	20.63	0.108	/
LTE Band 4	20M	QPSK	1	0	Front side	1745	0.160	-0.29	21.50	21.06	0.177	/
			50	0	Front side	1745	0.106	-1.97	20.00	19.57	0.117	/
			1	0	Back Side	1745	0.256	2.73	21.50	21.06	0.283	22
			50	0	Back Side	1745	0.223	-0.21	20.00	19.57	0.246	/
			1	0	Left Side	1745	0.127	-2.34	21.50	21.06	0.141	/
			50	0	Left Side	1745	0.106	-2.62	20.00	19.57	0.117	/
			1	0	Right Side	1745	0.091	-0.71	21.50	21.06	0.101	/
			50	0	Right Side	1745	0.071	1.94	20.00	19.57	0.078	/
			1	0	Bottom Side	1745	0.086	2.80	21.50	21.06	0.095	/
			50	0	Bottom Side	1745	0.063	2.28	20.00	19.57	0.070	/
LTE Band 5	10M	16-QAM	1	0	Front side	829	0.285	0.54	25.00	24.87	0.294	/
			25	0	Front side	844	0.231	2.10	23.00	22.66	0.250	/
			1	0	Back Side	829	0.426	1.29	25.00	24.87	0.439	24
			25	0	Back Side	844	0.335	-0.82	23.00	22.66	0.362	/
			1	0	Left Side	829	0.224	-2.76	25.00	24.87	0.231	/
			25	0	Left Side	844	0.191	1.93	23.00	22.66	0.207	/
			1	0	Right Side	829	0.339	-3.17	25.00	24.87	0.349	/
			25	0	Right Side	844	0.272	3.32	23.00	22.66	0.294	/
			1	0	Bottom Side	829	0.214	2.40	25.00	24.87	0.221	/
			25	0	Bottom Side	844	0.164	-1.09	23.00	22.66	0.177	/



LTE Band 7	20M	QPSK	1	0	Front side	2535	0.364	-0.59	22.00	21.49	0.409	/
			50	0	Front side	2560	0.282	1.46	20.50	20.25	0.299	/
			1	0	Back Side	2535	0.605	-2.58	22.00	21.49	0.680	26
			50	0	Back Side	2560	0.487	3.02	20.50	20.25	0.516	/
			1	0	Left Side	2535	0.311	1.26	22.00	21.49	0.350	/
			50	0	Left Side	2560	0.272	3.60	20.50	20.25	0.288	/
			1	0	Right Side	2535	0.222	1.62	22.00	21.49	0.250	/
			50	0	Right Side	2560	0.182	1.01	20.50	20.25	0.193	/
			1	0	Bottom Side	2535	0.158	0.43	22.00	21.49	0.178	/
			50	0	Bottom Side	2560	0.121	3.62	20.50	20.25	0.128	/
LTE Band 12	10M	QPSK	1	0	Front side	711	0.207	-2.99	24.50	24.38	0.213	/
			25	0	Front side	711	0.162	1.62	24.00	23.64	0.176	/
			1	0	Back Side	711	0.295	0.72	24.50	24.38	0.303	28
			25	0	Back Side	711	0.225	2.69	24.00	23.64	0.244	/
			1	0	Left Side	711	0.159	-0.71	24.50	24.38	0.163	/
			25	0	Left Side	711	0.144	-3.40	24.00	23.64	0.156	/
			1	0	Right Side	711	0.223	-3.50	24.50	24.38	0.229	/
			25	0	Right Side	711	0.185	-1.76	24.00	23.64	0.201	/
			1	0	Bottom Side	711	0.164	-2.76	24.50	24.38	0.169	/
			25	0	Bottom Side	711	0.128	1.82	24.00	23.64	0.139	/
LTE Band 17	10M	QPSK	1	0	Front side	711	0.241	-2.01	25.00	24.92	0.245	/
			25	0	Front side	711	0.188	3.01	24.00	23.85	0.195	/
			1	0	Back Side	711	0.361	-2.56	25.00	24.92	0.368	30
			25	0	Back Side	711	0.275	-3.33	24.00	23.85	0.285	/
			1	0	Left Side	711	0.182	1.81	25.00	24.92	0.185	/
			25	0	Left Side	711	0.152	-2.43	24.00	23.85	0.157	/
			1	0	Right Side	711	0.290	2.01	25.00	24.92	0.295	/
			25	0	Right Side	711	0.214	-1.02	24.00	23.85	0.222	/
			1	0	Bottom Side	711	0.189	3.75	25.00	24.92	0.193	/
			25	0	Bottom Side	711	0.145	-3.63	24.00	23.85	0.150	/



LTE Band 40	10M	QPSK	1	0	Front side	2355	0.196	-2.85	14.00	13.81	0.205	/
			50	0	Front side	2355	0.152	2.69	13.00	12.76	0.161	/
			1	0	Back Side	2355	0.260	3.35	14.00	13.81	0.272	32
			50	0	Back Side	2355	0.200	1.72	13.00	12.76	0.211	/
			1	0	Left Side	2355	0.143	3.06	14.00	13.81	0.149	/
			50	0	Left Side	2355	0.117	-0.91	13.00	12.76	0.124	/
			1	0	Right Side	2355	0.104	-1.87	14.00	13.81	0.109	/
			50	0	Right Side	2355	0.093	1.61	13.00	12.76	0.098	/
			1	0	Bottom Side	2355	0.071	-3.18	14.00	13.81	0.074	/
			50	0	Bottom Side	2355	0.043	-1.27	13.00	12.76	0.045	/
LTE Band 41	20M	QPSK	1	0	Front side	2645	0.452	1.28	24.00	23.95	0.457	/
			50	0	Front side	2645	0.371	1.14	23.50	23.07	0.410	/
			1	0	Back Side	2545	0.591	-3.39	24.00	23.22	0.707	/
			1	0	Back Side	2595	0.643	-1.20	24.00	23.55	0.713	/
			1	0	Back Side	2645	0.787	3.27	24.00	23.95	0.796	34
			50	0	Back Side	2645	0.636	-0.84	23.50	23.07	0.702	/
			1	0	Left Side	2645	0.401	1.23	24.00	23.95	0.406	/
			50	0	Left Side	2645	0.327	1.55	23.50	23.07	0.361	/
			1	0	Right Side	2645	0.276	-2.00	24.00	23.95	0.279	/
			50	0	Right Side	2645	0.215	-2.00	23.50	23.07	0.237	/
			1	0	Bottom Side	2645	0.208	1.51	24.00	23.95	0.210	/
			50	0	Bottom Side	2645	0.163	3.63	23.50	23.07	0.180	/



LTE Band 66	20M	QPSK	1	0	Front side	1770	0.207	1.44	20.50	20.13	0.225	/
			50	0	Front side	1770	0.258	-2.37	20.50	20.22	0.275	/
			1	0	Back Side	1770	0.321	0.73	20.50	20.13	0.350	/
			50	0	Back Side	1770	0.422	-1.38	20.50	20.22	0.450	36
			1	0	Left Side	1770	0.162	-3.10	20.50	20.13	0.176	/
			50	0	Left Side	1770	0.215	0.22	20.50	20.22	0.229	/
			1	0	Right Side	1770	0.115	-3.48	20.50	20.13	0.125	/
			50	0	Right Side	1770	0.160	-3.20	20.50	20.22	0.171	/
			1	0	Bottom Side	1770	0.092	-0.40	20.50	20.13	0.100	/
			50	0	Bottom Side	1770	0.112	3.04	20.50	20.22	0.119	/

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.



12.3 Repeated SAR

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)
PCS 1900	GPRS Data-3 Slot	Right Cheek	1850.2	0.720	2.19	30.50	30.00	0.808
		Right Cheek	1880	0.739	-1.15	30.50	30.08	0.814
WCDMA Band IV	RMC	Right Cheek	1740	0.728	0.96	20.50	20.15	0.790

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 Cheek	1860	0.776	-3.90	21.00	20.61	0.849
			1	0	Right Cheek	1880	0.876	-1.59	21.00	20.69	0.940
			1	0	Right Cheek	1900	0.833	3.63	21.00	20.69	0.894
LTE Band 7	20M	QPSK	1	0	Right Cheek	2535	0.700	-2.65	22.00	21.49	0.787
LTE Band 66	20M	QPSK	1	0	Right Cheek	1720	0.681	-2.24	20.50	19.81	0.798
			1	0	Right Cheek	1745	0.773	0.16	20.50	20.03	0.862
			1	0	Right Cheek	1770	0.847	-1.39	20.50	20.13	0.922
			50	0	Right Cheek	1720	0.677	1.29	20.50	18.82	0.997
			50	0	Right Cheek	1745	0.882	-0.86	20.50	19.96	0.999
			50	0	Right Cheek	1770	0.994	-0.34	20.50	20.22	1.061



12.4 Repeated SAR measurement

Band	Mode	Test Position	Ch.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio
PCS 1900	GPRS Data-3 Slot	Right Cheek	1850.2	0.734	0.720	1.019
		Right Cheek	1880	0.766	0.739	1.036
WCDMA Band IV	RMC	Right Cheek	1740	0.751	0.728	1.031

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio
LTE Band 2	20M	QPSK	1	0	Right Cheek	1860	0.814	0.776	1.049
			1	0	Right Cheek	1880	0.906	0.876	1.035
			1	0	Right Cheek	1900	0.852	0.833	1.023
LTE Band 7	20M	QPSK	1	0	Right Cheek	2535	0.726	0.700	1.037
LTE Band 66	20M	QPSK	1	0	Right Cheek	1720	0.705	0.681	1.036
			1	0	Right Cheek	1745	0.782	0.773	1.011
			1	0	Right Cheek	1770	0.856	0.847	1.011
			50	0	Right Cheek	1720	0.693	0.677	1.023
			50	0	Right Cheek	1745	0.916	0.882	1.039
			50	0	Right Cheek	1770	1.046	0.994	1.052

Note:

1. Per KDB 865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 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 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 ≥ 1.45 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
Head	1. GSM + 2.4GHz WLAN/5G WLAN
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN/5G WLAN
	4. WCDMA + Bluetooth
	5. LTE + 2.4GHz WLAN/5G WLAN
	6. LTE + Bluetooth
Body	1. GSM + 2.4GHz WLAN/5G WLAN
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN/5G WLAN
	4. WCDMA + Bluetooth
	5. LTE + 2.4GHz WLAN/5G WLAN
	6. LTE + Bluetooth

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) $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} \text{ (GHz)} / x] \text{ W/kg}$ 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) 0.4 W/Kg for 1-g SAR and 1.0 W/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	4.5	2.818	5	2.48	0.118
	Body			5	2.48	0.118



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.844	1.267
		2.4G WLAN	0.423	
	Body	GSM	0.502	0.713
		2.4G WLAN	0.211	
GSM + Bluetooth	Head	GSM	0.844	0.962
		Bluetooth	0.118	
	Body	GSM	0.502	0.620
		Bluetooth	0.118	
GSM + 5G WLAN	Head	GSM	0.844	1.460
		5G WLAN	0.616	
	Body	GSM	0.502	0.806
		5G WLAN	0.304	
WCDMA + 2.4G WLAN	Head	WCDMA	0.814	1.237
		2.4G WLAN	0.423	
	Body	WCDMA	0.461	0.672
		2.4G WLAN	0.211	
WCDMA + Bluetooth	Head	WCDMA	0.814	0.932
		Bluetooth	0.118	
	Body	WCDMA	0.461	0.579
		Bluetooth	0.118	
WCDMA + 5G WLAN	Head	WCDMA	0.814	1.430
		5G WLAN	0.616	
	Body	WCDMA	0.461	0.765
		5G WLAN	0.304	
LTE + 2.4G WLAN	Head	LTE	1.116	1.539
		2.4G WLAN	0.423	
	Body	LTE	0.796	1.007
		2.4G WLAN	0.211	
LTE + Bluetooth	Head	LTE	1.116	1.234
		Bluetooth	0.118	
	Body	LTE	0.796	0.914
		Bluetooth	0.118	
LTE + 5G WLAN	Head Right Cheek	LTE	1.116	1.411
		5G WLAN	0.295	
	Head Left Tilt	LTE	0.530	1.141
		5G WLAN	0.611	
	Body	LTE	0.796	1.100
		5G WLAN	0.304	

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
750MHz Dipole	MVG	DIP0G750	SN 06/22 DIP0G750-638	2022.02.11	2025.02.10
835MHz Dipole	MVG	DIP0G835	SN 06/22 DIP0G835-639	2022.02.11	2025.02.10
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2022.02.11	2025.02.10
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2022.02.11	2025.02.10
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2022.02.11	2025.02.10
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2022.02.11	2025.02.10
5000MHz Dipole	MVG	DIP5G000	SN 06/22 DIP5G000-653	2022.02.11	2025.02.10
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2024.02.07	2025.02.06
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2024.02.07	2025.02.06
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	116184	2024.02.23	2025.02.22
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
Head Tissue Simulating Liquid	SPEAG	HBBL600-10000V6	SL AAH U16 BC	/	/



Appendix A. System Validation Plots

System Performance Check Data (750MHz)

Type: Phone measurement (Complete)

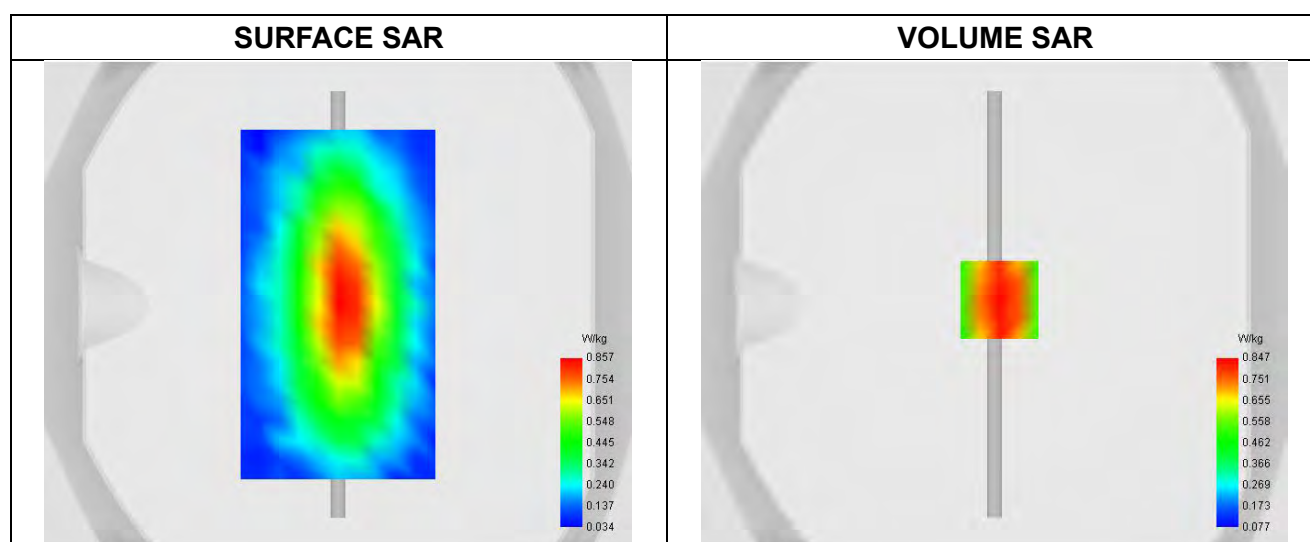
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2024-06-06

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW
Frequency (MHz)	750.000
Relative permittivity	42.30
Conductivity (S/m)	0.92
Probe	SN 04/22 EPGO364
ConvF	1.68
Crest factor:	1:1

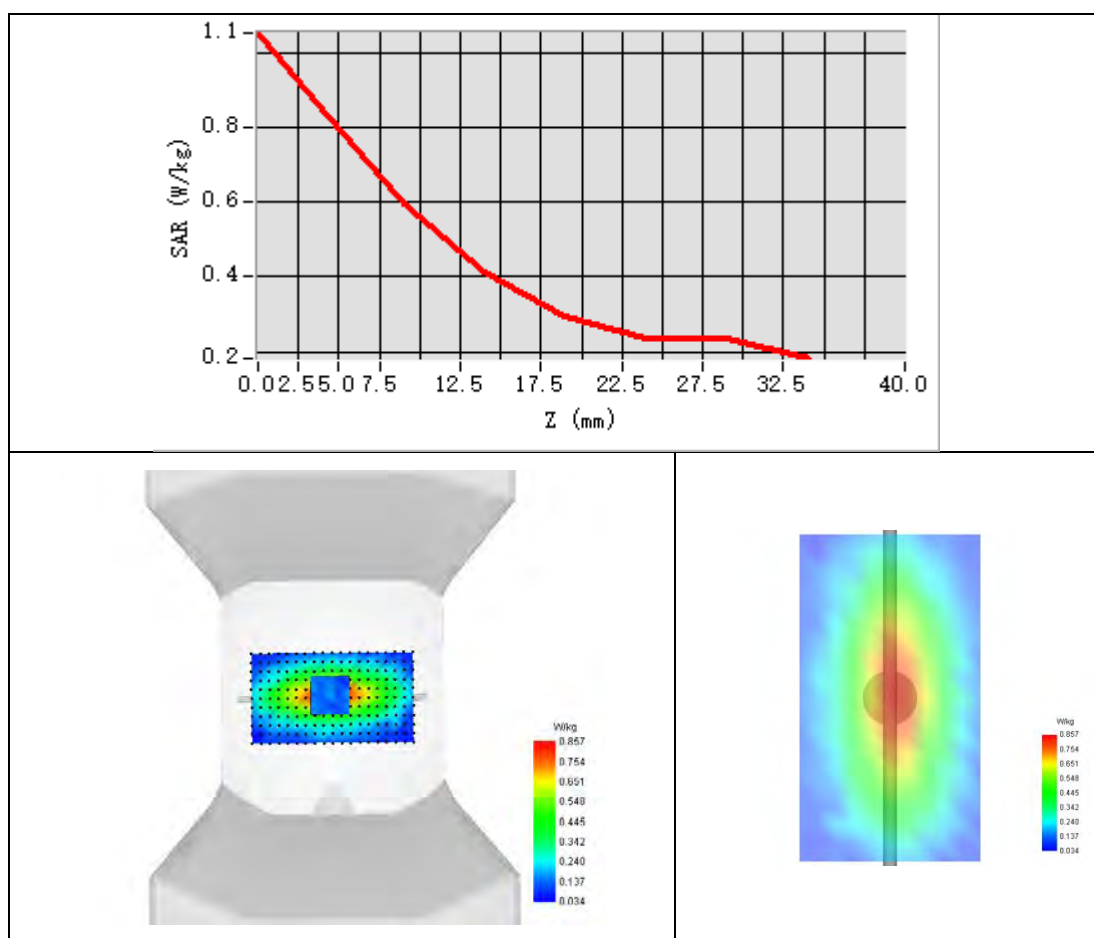


Maximum location: X=2.00, Y=2.00 ; SAR Peak: 1.18 W/kg

SAR 10g (W/Kg)	0.529
SAR 1g (W/Kg)	0.799



Z Axis Scan





System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

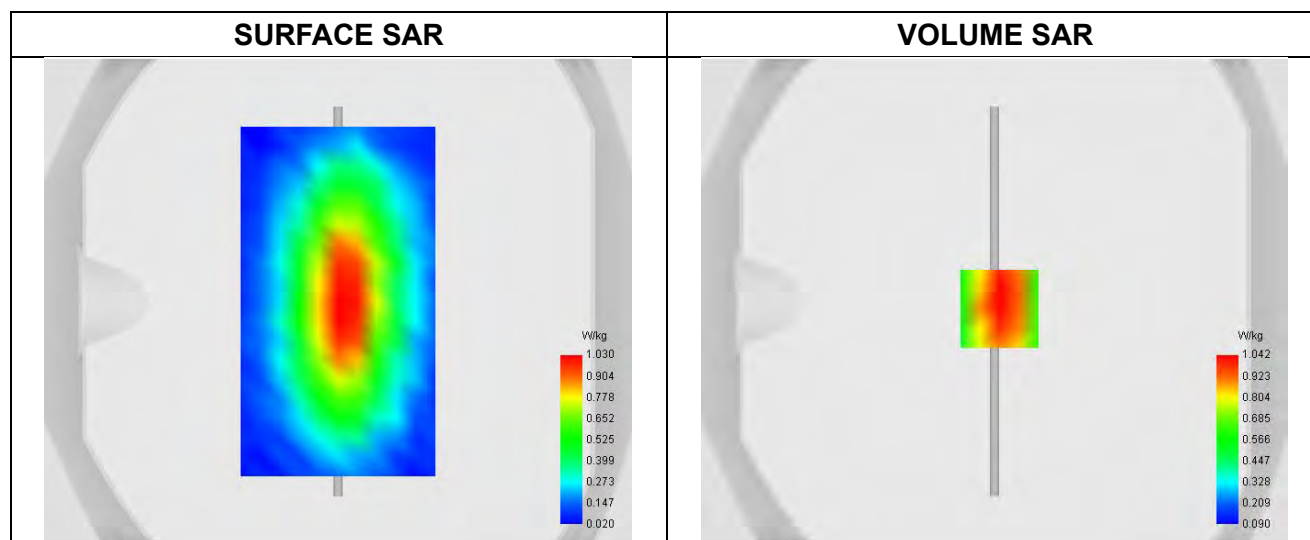
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2024-06-07

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	42.32
Conductivity (S/m)	0.92
Probe	SN 04/22 EPGO364
ConvF	1.70
Crest factor:	1:1

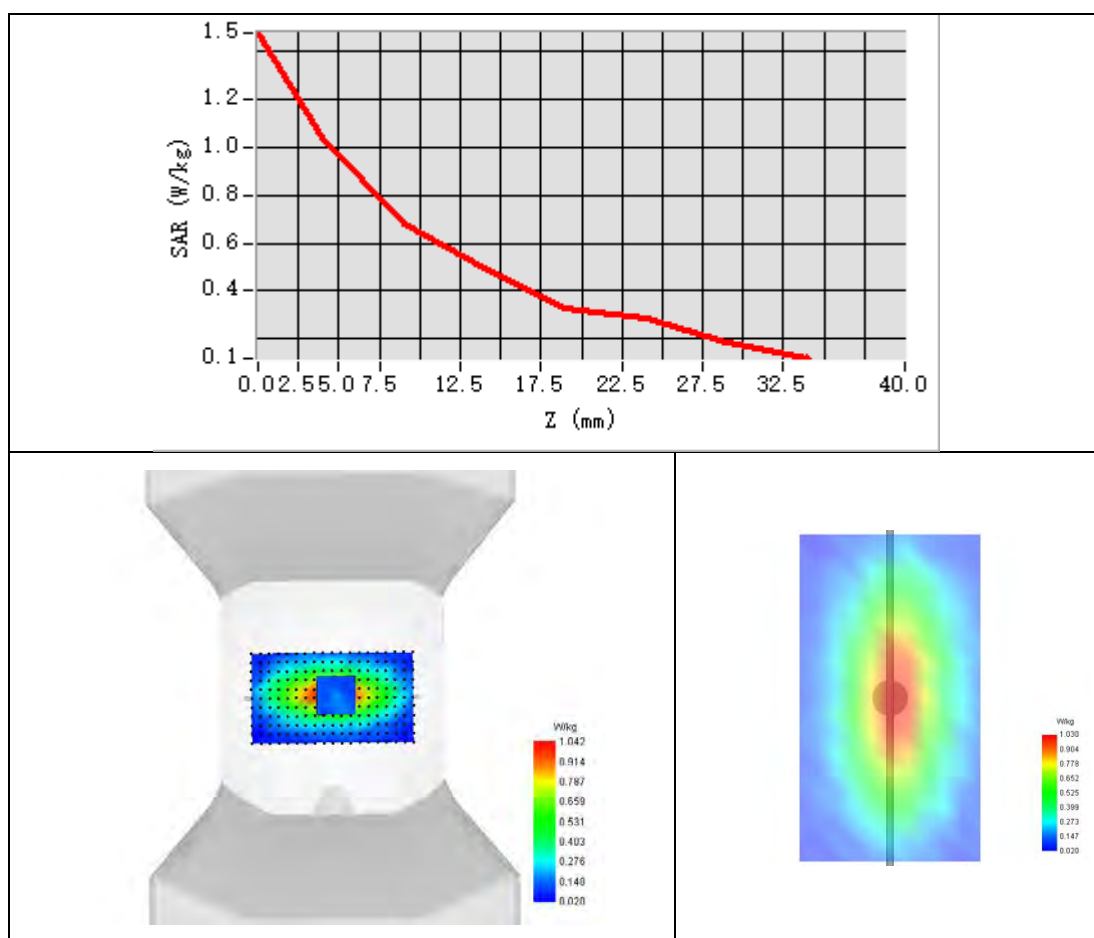


Maximum location: X=2.00, Y=-3.00 ; SAR Peak: 1.46 W/kg

SAR 10g (W/Kg)	0.643
SAR 1g (W/Kg)	1.006



Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

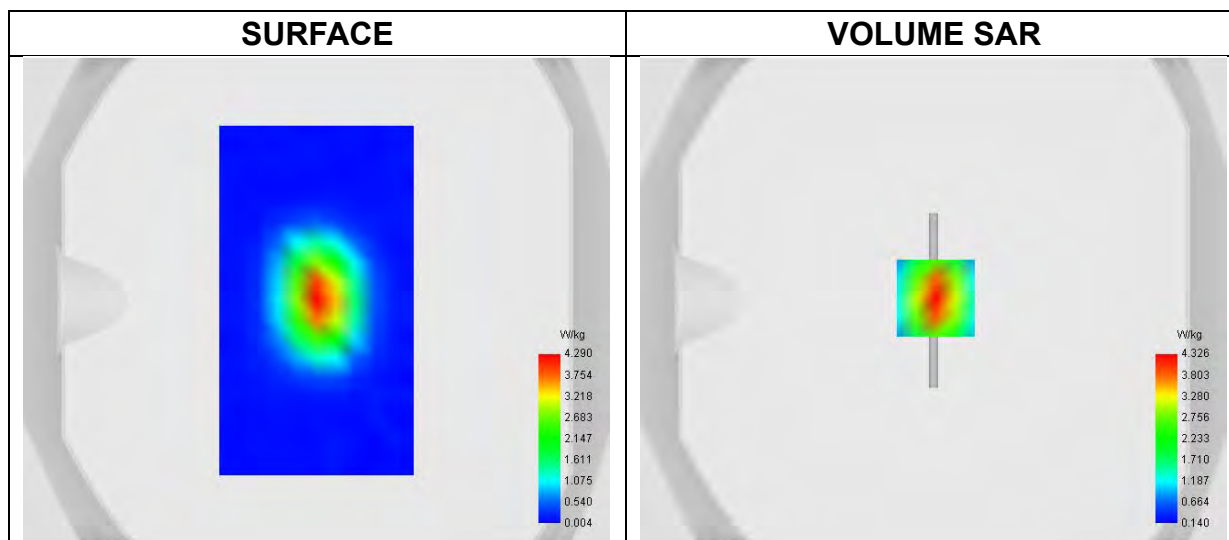
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-06-12

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	40.67
Conductivity (S/m)	1.36
Probe	SN 04/22 EPGO364
ConvF	1.91
Crest factor:	1:1

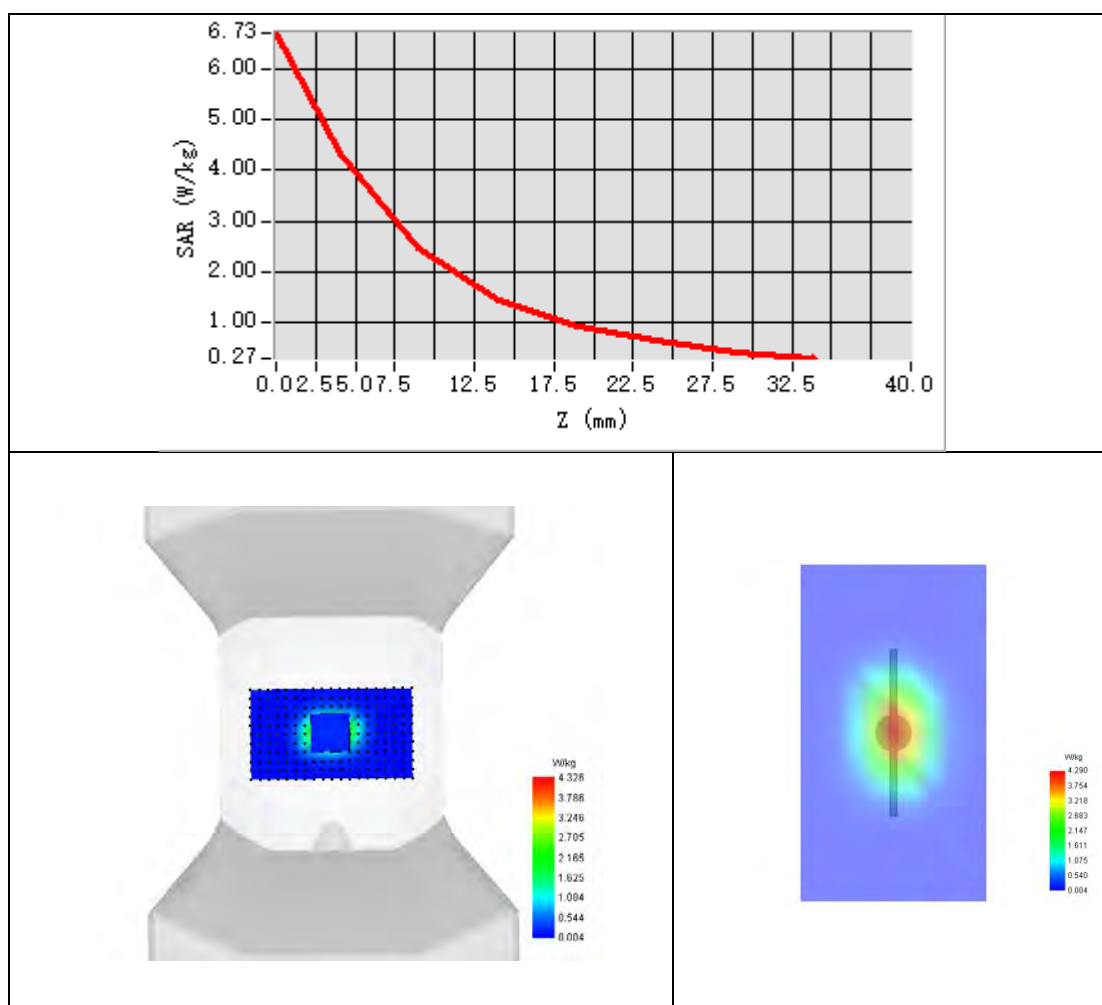


Maximum location: X=1.00, Y=1.00 ; SAR Peak: 6.68 W/kg

SAR 10g (W/Kg)	2.075
SAR 1g (W/Kg)	3.880



Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

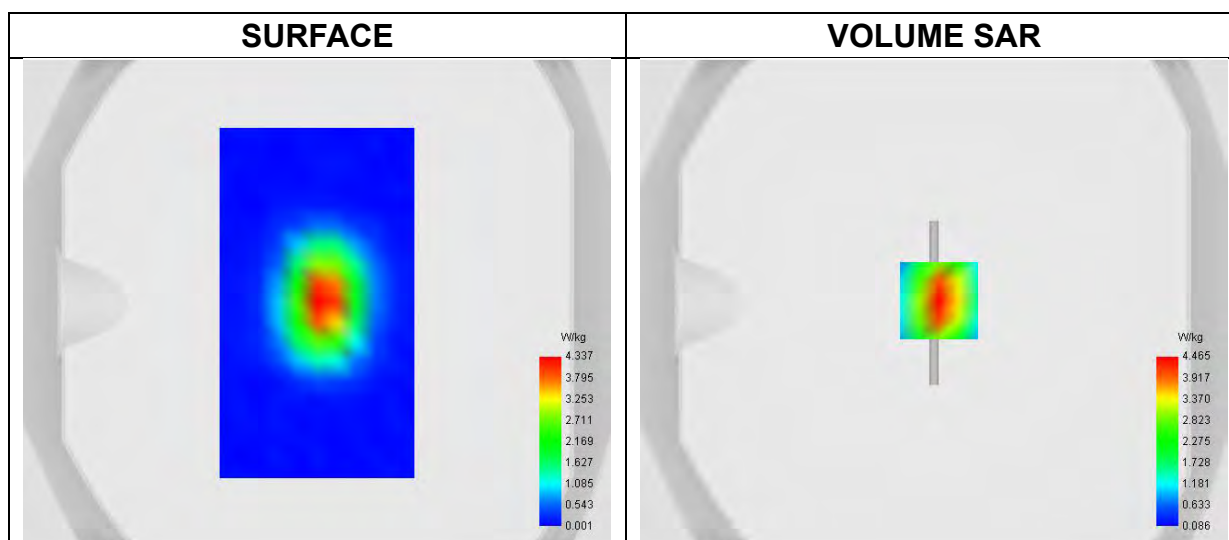
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-06-10

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	40.82
Conductivity (S/m)	1.43
Probe	SN 04/22 EPGO364
ConvF	2.24
Crest factor:	1:1

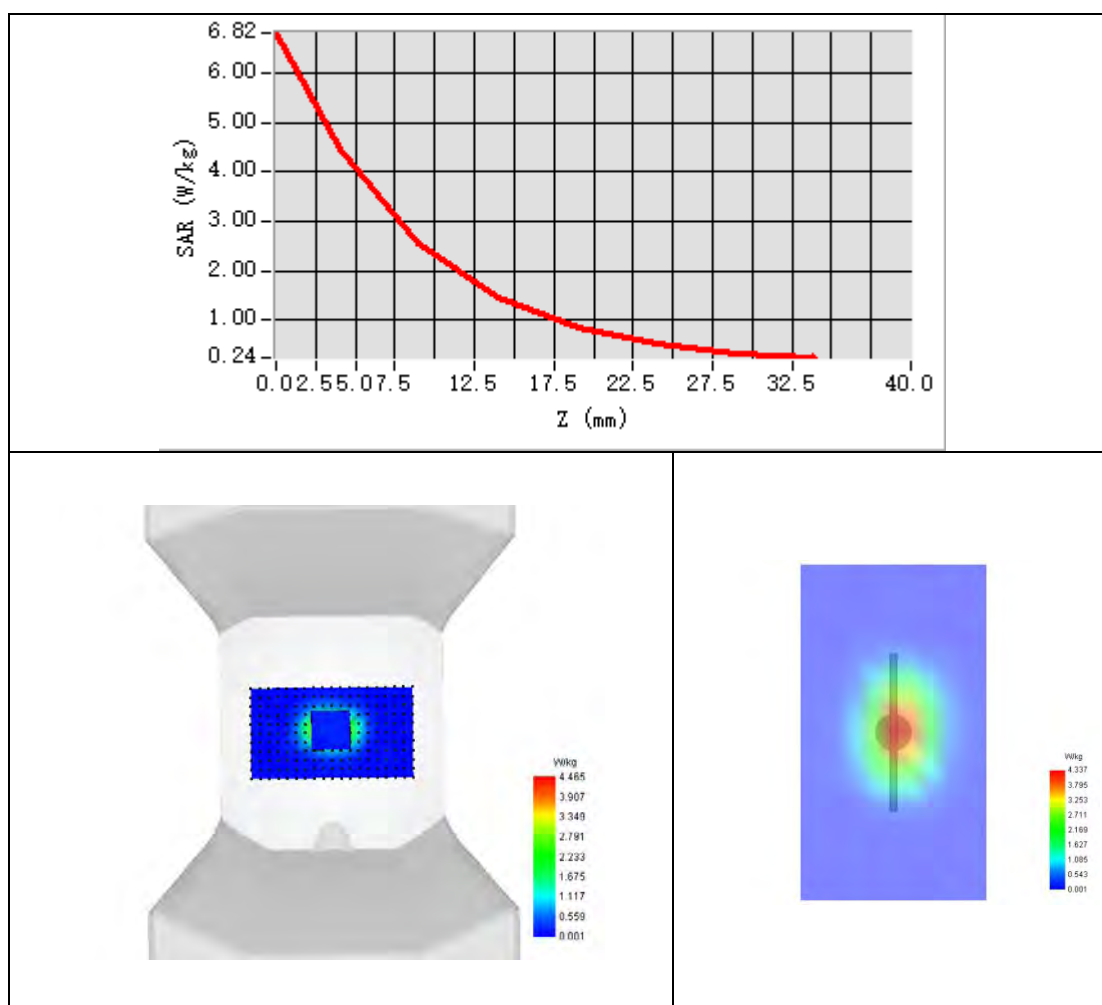


Maximum location: X=2.00, Y=1.00 ; SAR Peak: 6.92 W/kg

SAR 10g (W/Kg)	2.078
SAR 1g (W/Kg)	4.106



Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

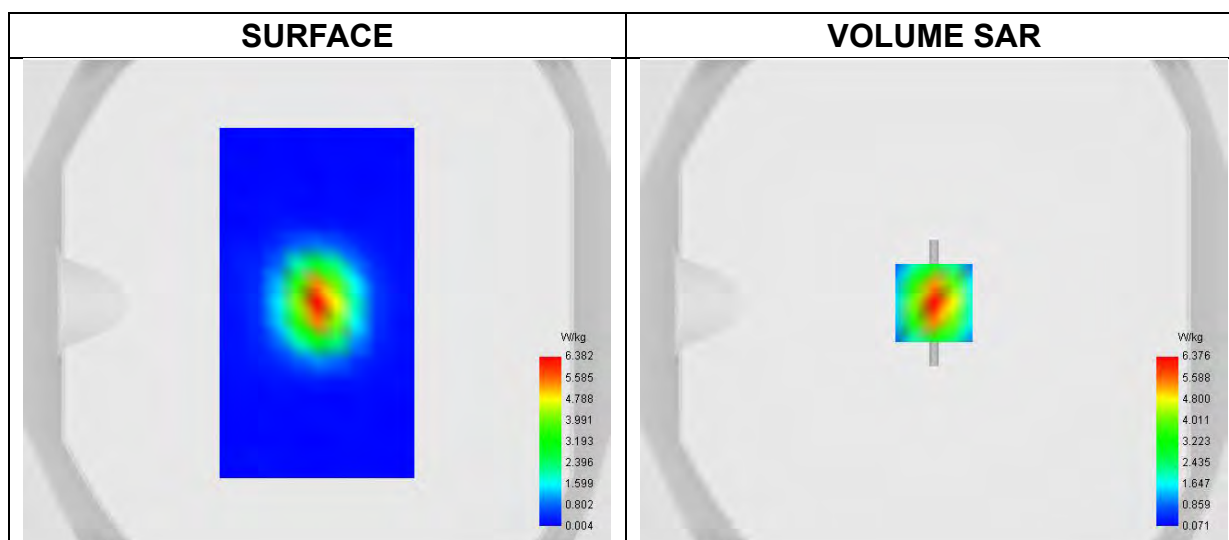
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-06-08

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.65
Conductivity (S/m)	1.81
Probe	SN 04/22 EPGO364
ConvF	2.30
Crest factor:	1:1

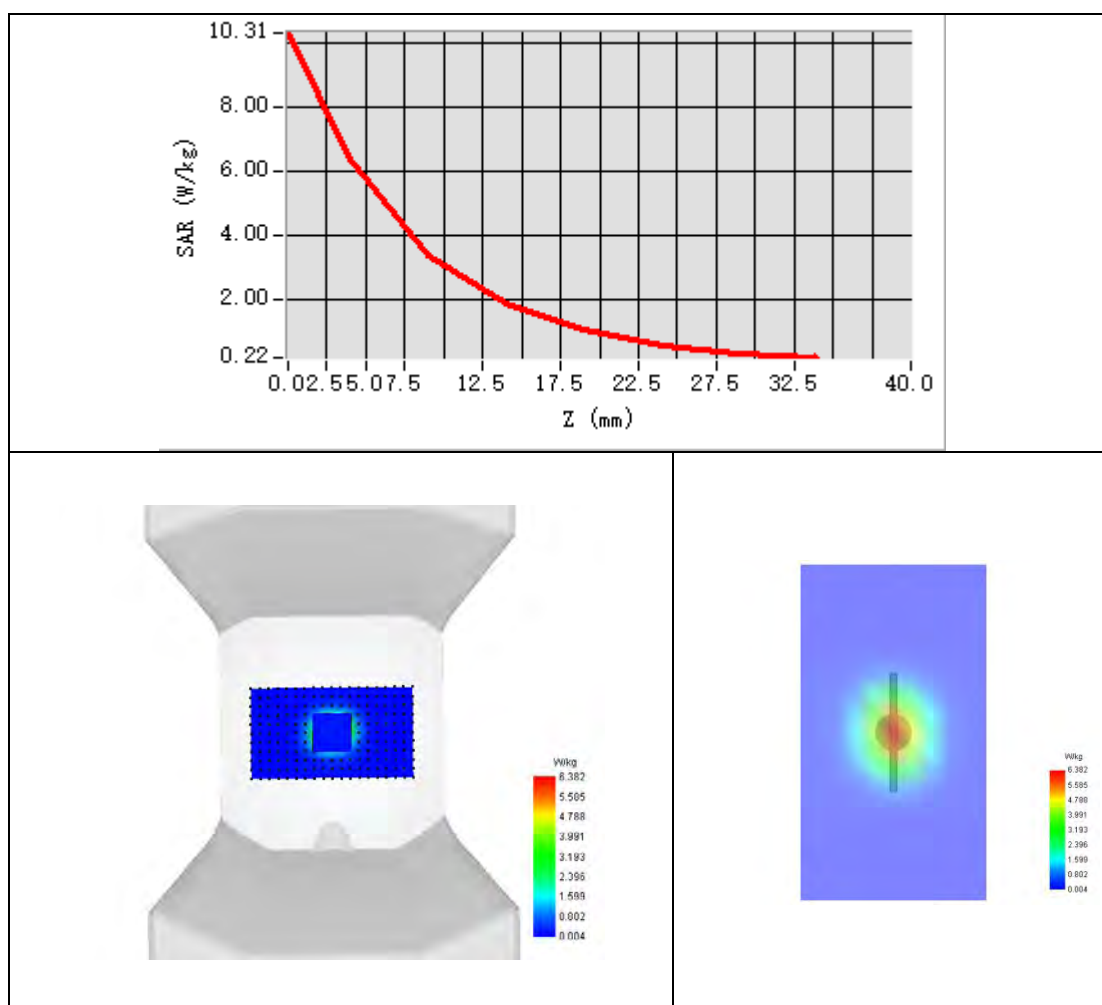


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 10.21 W/kg

SAR 10g (W/Kg)	2.399
SAR 1g (W/Kg)	5.417



Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

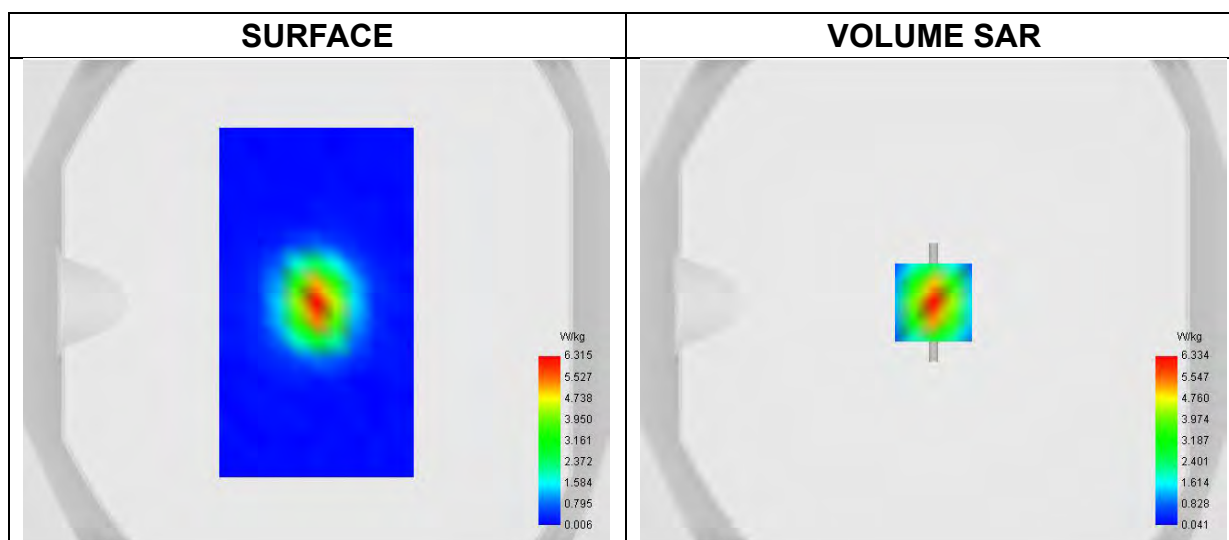
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-06-17

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.54
Conductivity (S/m)	2.03
Probe	SN 04/22 EPGO364
ConvF	2.35
Crest factor:	1:1

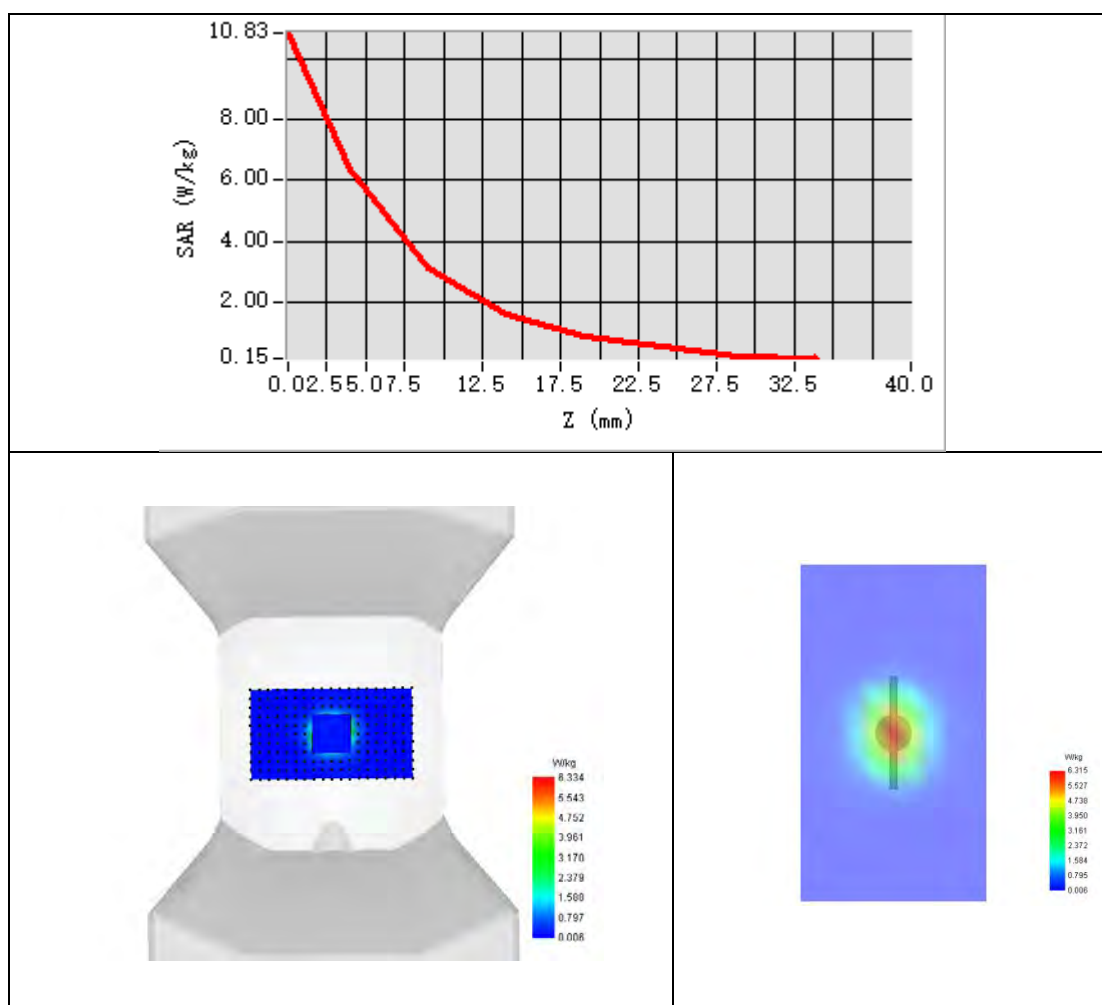


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 10.67 W/kg

SAR 10g (W/Kg)	2.397
SAR 1g (W/Kg)	5.698



Z Axis Scan





System Performance Check Data (5200MHz)

Type: Phone measurement (Complete)

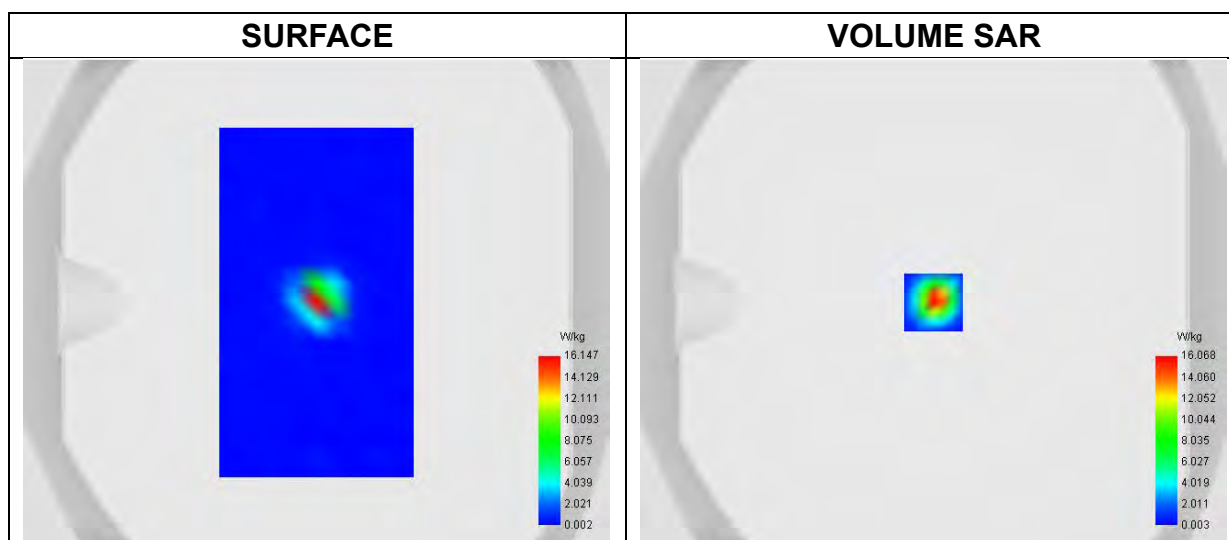
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2024-06-18

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW
Frequency (MHz)	5200.000
Relative permittivity	36.71
Conductivity (S/m)	4.63
Probe	SN 04/22 EPGO364
ConvF	1.98
Crest factor:	1:1

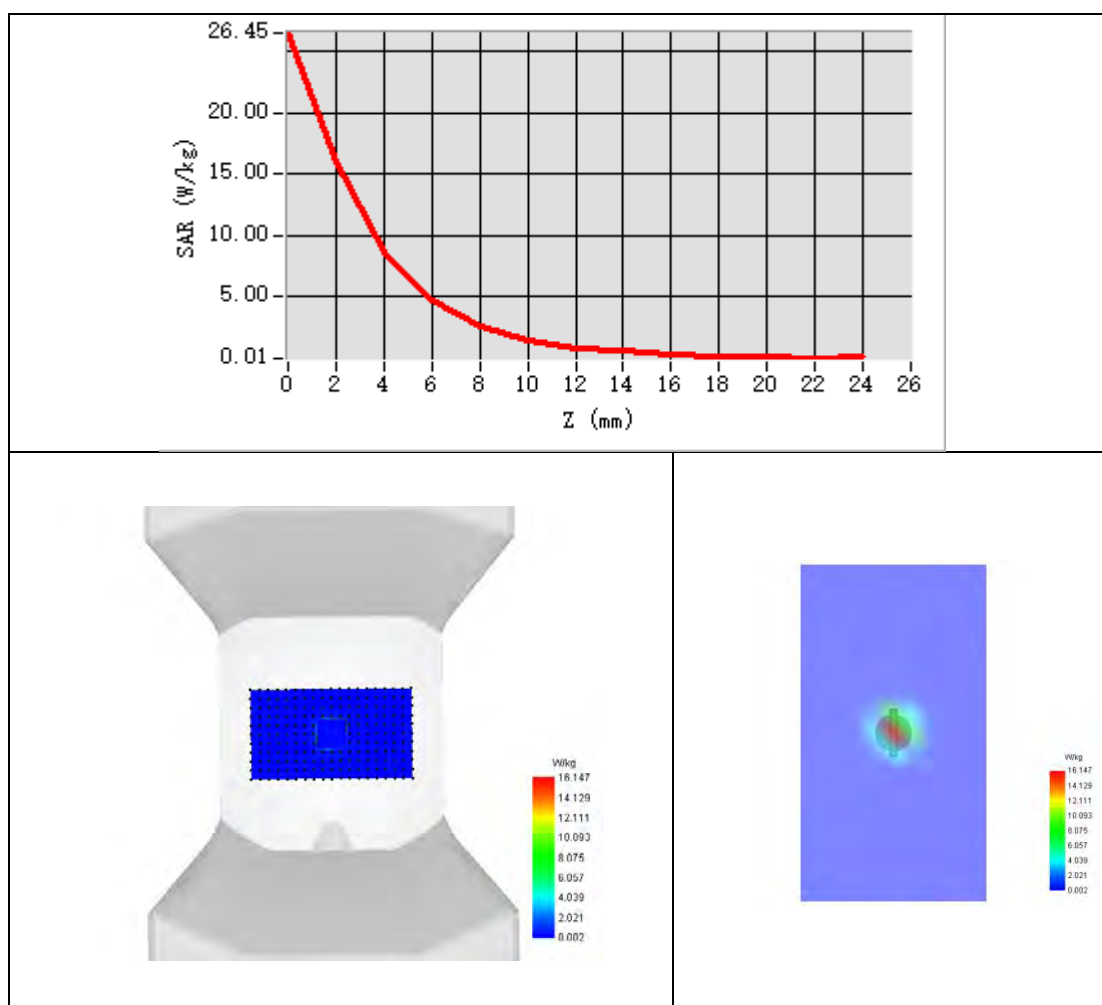


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 29.07 W/kg

SAR 10g (W/Kg)	2.180
SAR 1g (W/Kg)	7.759



Z Axis Scan





System Performance Check Data (5400MHz)

Type: Phone measurement (Complete)

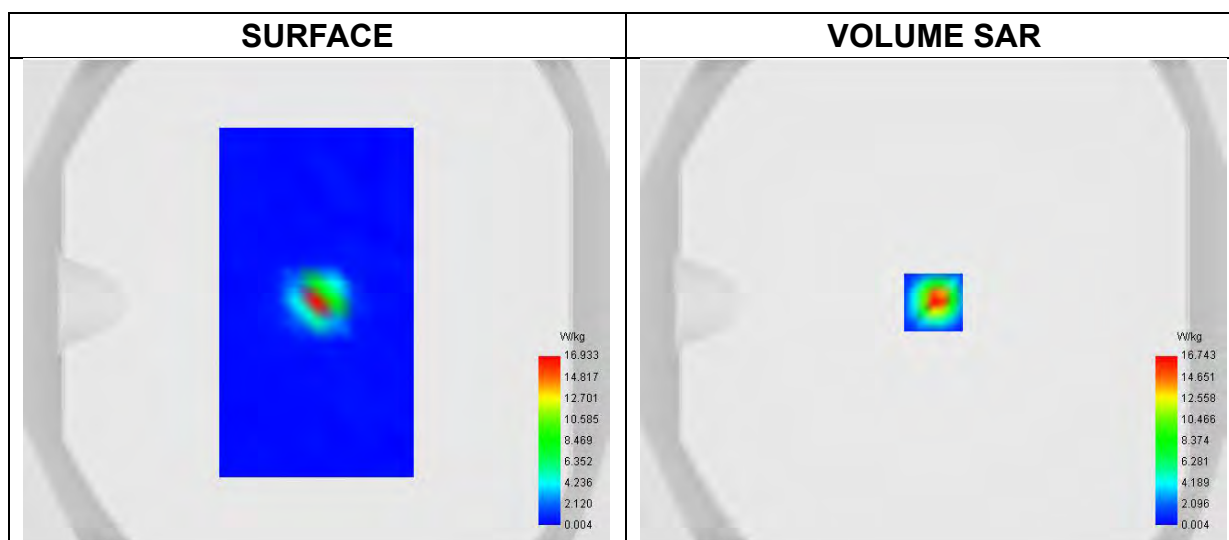
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2024-06-18

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Channels	Middle
Signal	CW
Frequency (MHz)	5400.000
Relative permittivity	36.83
Conductivity (S/m)	4.90
Probe	SN 04/22 EPGO364
ConvF	1.83
Crest factor:	1:1

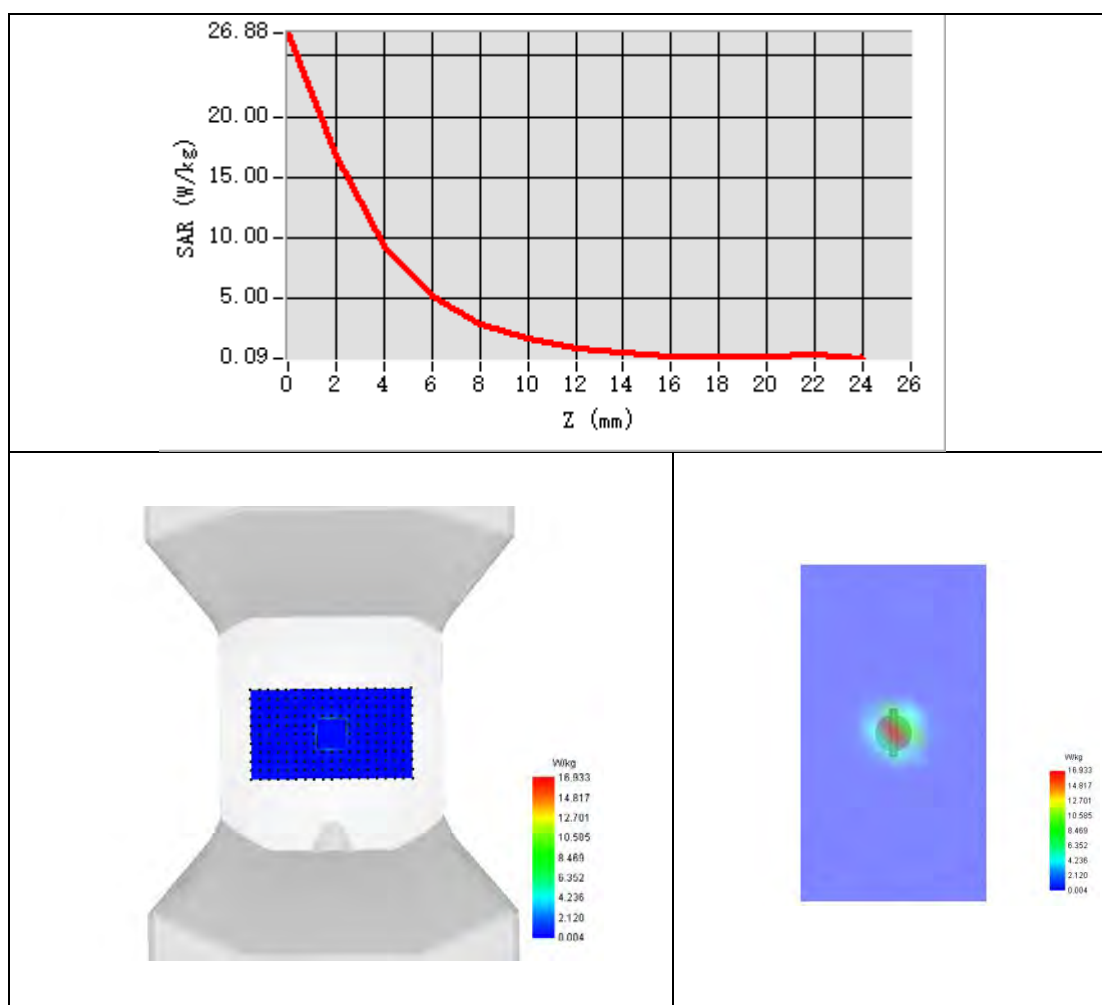


Maximum location: X=0.00, Y=0.00 ; SAR Peak: 29.40 W/kg

SAR 10g (W/Kg)	2.250
SAR 1g (W/Kg)	8.008



Z Axis Scan





System Performance Check Data (5800MHz)

Type: Phone measurement (Complete)

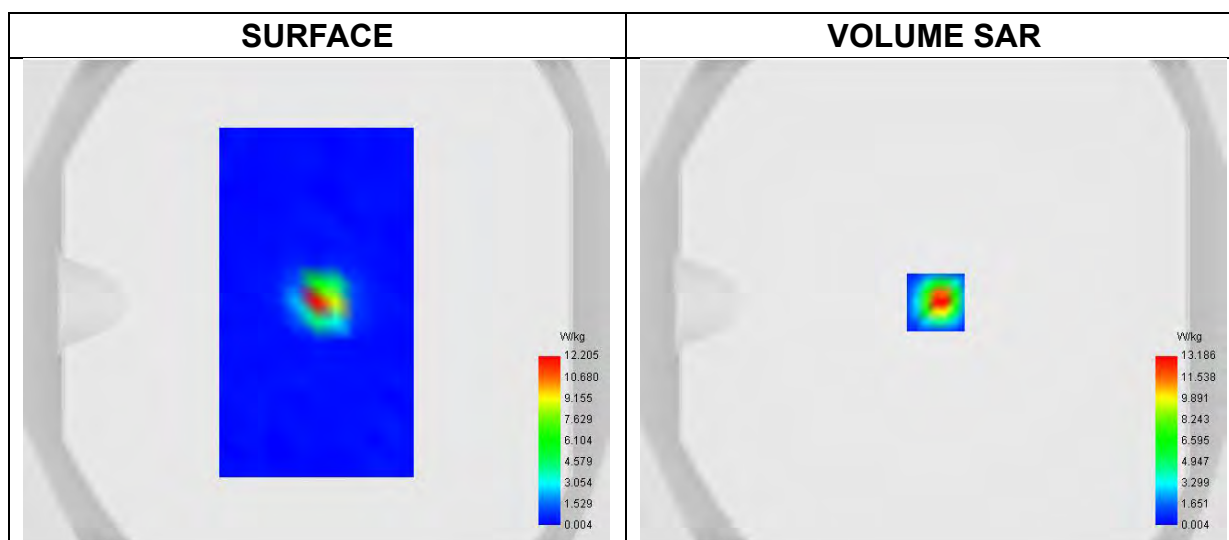
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2024-06-19

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW
Frequency (MHz)	5800.000
Relative permittivity	35.55
Conductivity (S/m)	5.21
Probe	SN 04/22 EPGO364
ConvF	1.71
Crest factor:	1:1

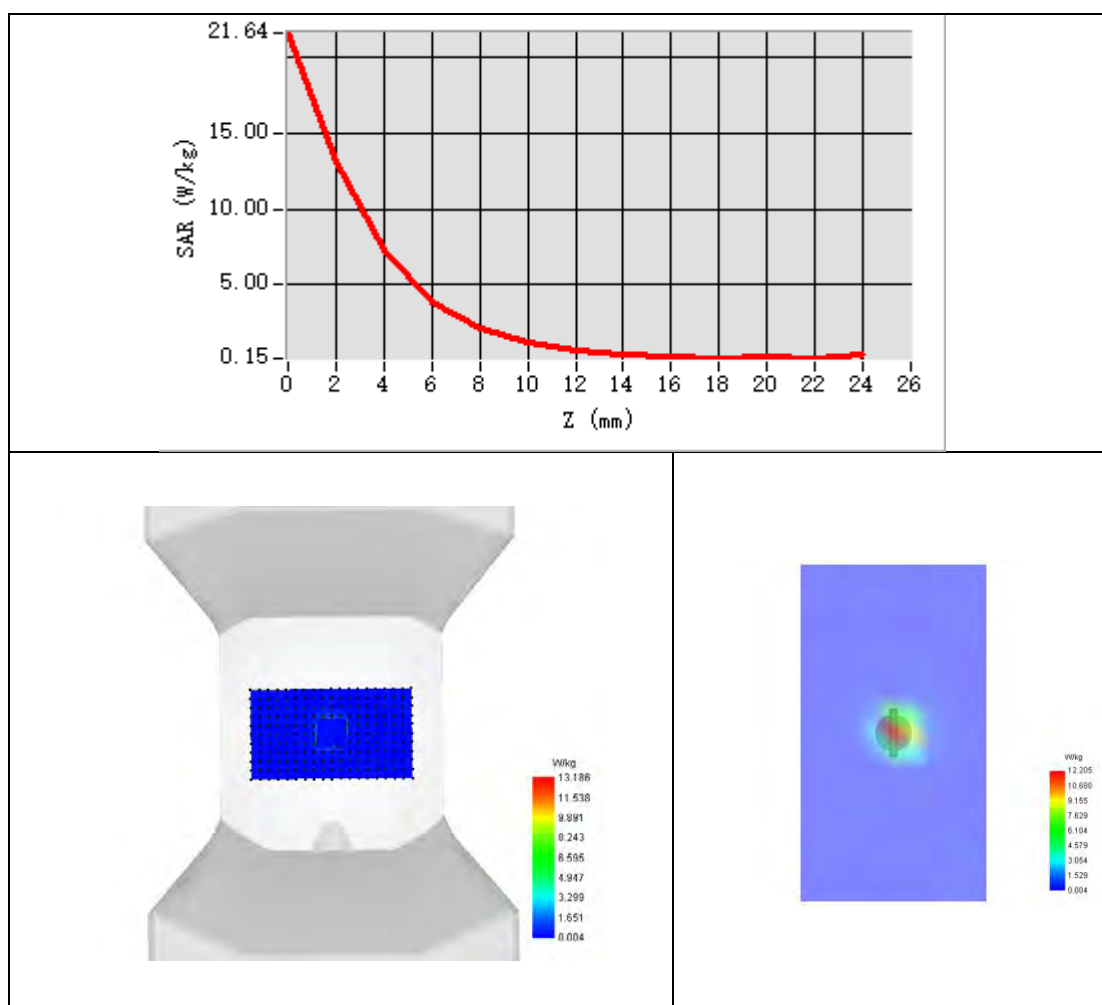


Maximum location: X=1.00, Y=0.00 ; SAR Peak: 23.53 W/kg

SAR 10g (W/Kg)	2.107
SAR 1g (W/Kg)	7.478



Z Axis Scan



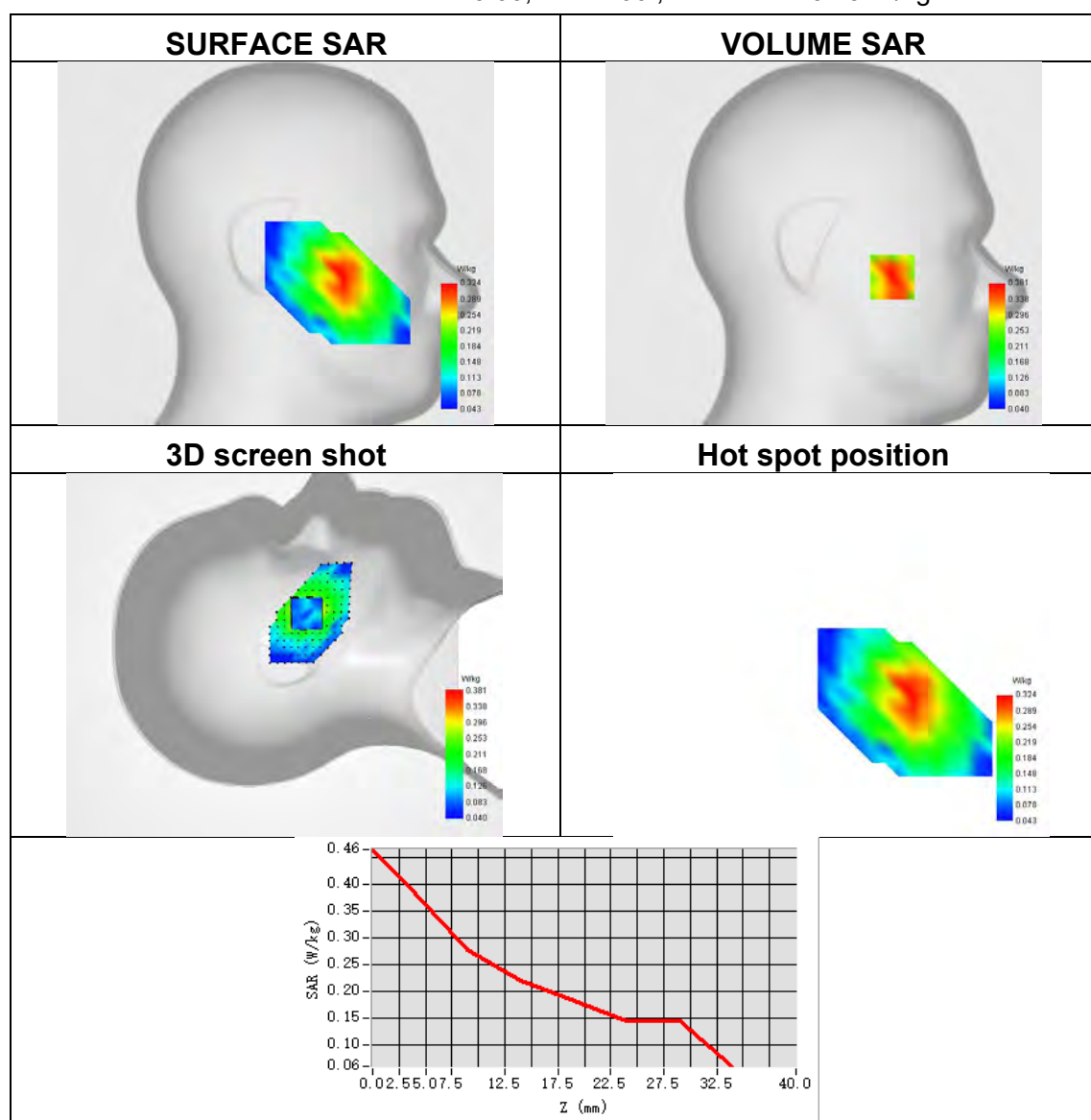


Appendix B. SAR Test Plots

Plot 1:

Test Date	2024-06-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM850
Signal	TDMA (GSM)
Frequency	836.6
SAR 10g (W/Kg)	0.240
SAR 1g (W/Kg)	0.347
ConvF	1.70
Relative permittivity	42.48
Conductivity (S/m)	0.90

Maximum location: X=-49.00, Y=-24.00 ; SAR Peak: 0.49 W/kg

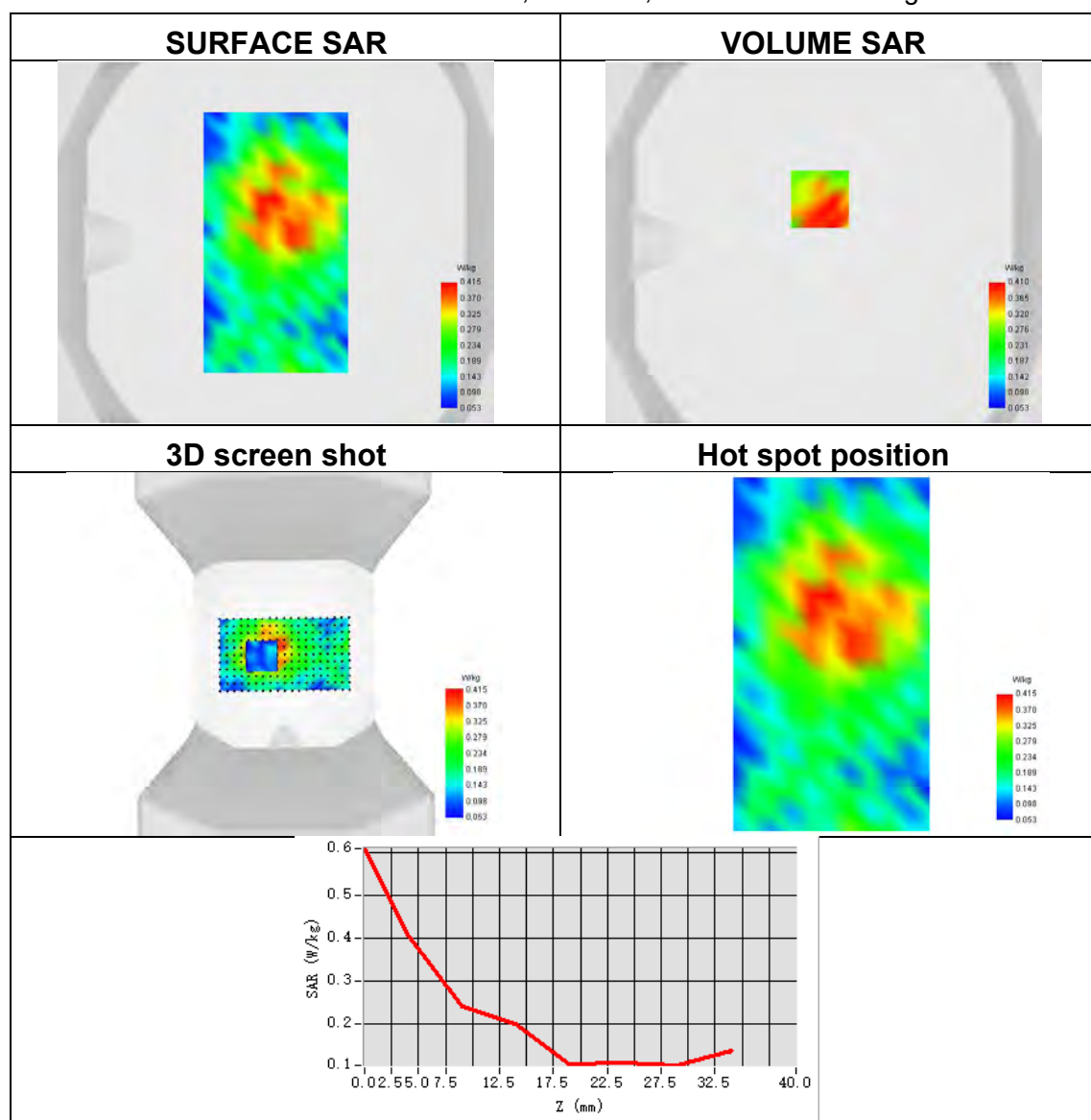




Plot 2:

Test Date	2024-06-07
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	836.6
SAR 10g (W/Kg)	0.250
SAR 1g (W/Kg)	0.414
ConvF	1.70
Relative permittivity	42.48
Conductivity (S/m)	0.90

Maximum location: X=-2.00, Y=24.00 ; SAR Peak: 0.70 W/kg

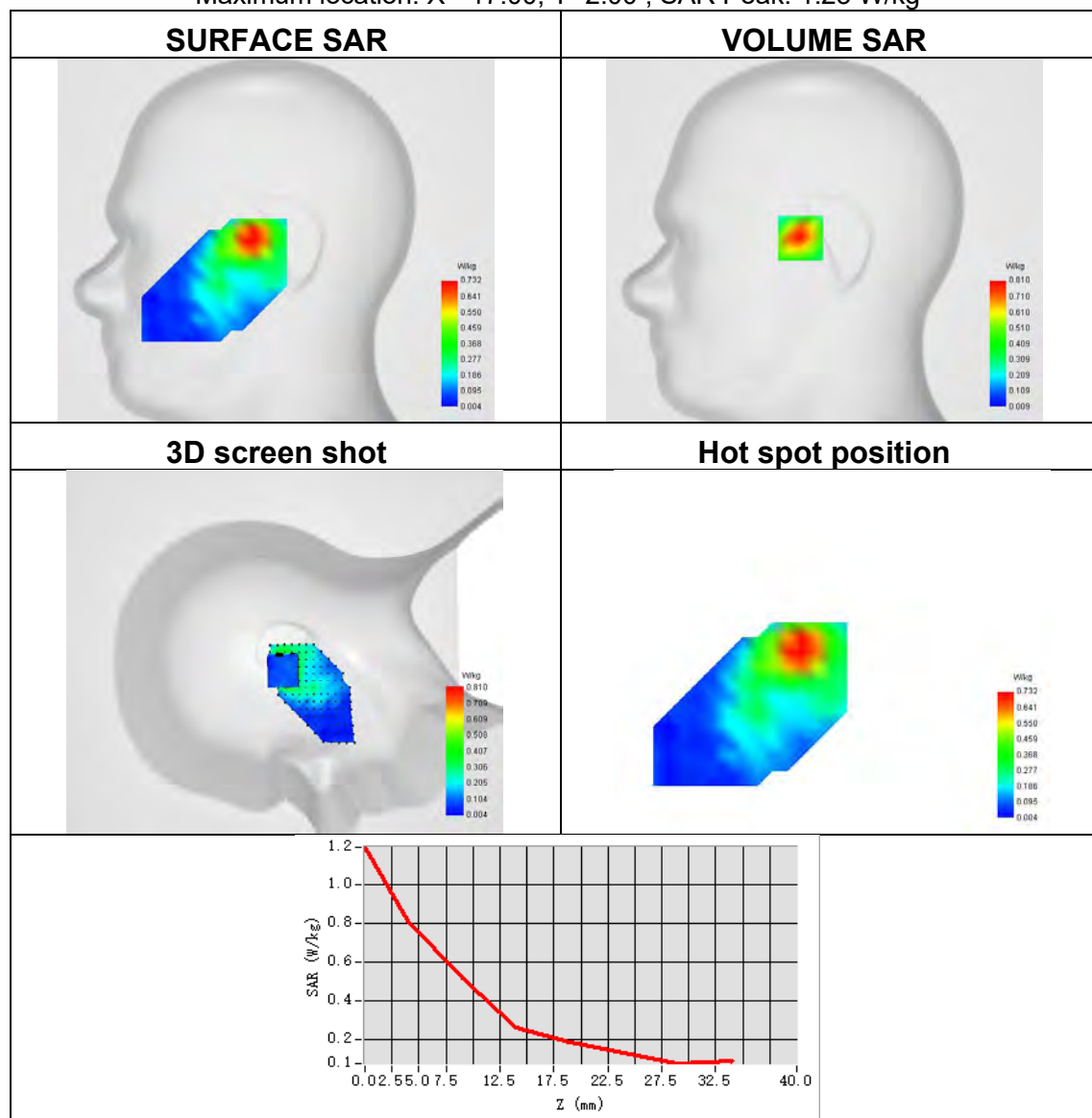




Plot 3:

Test Date	2024-06-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Signal	TDMA (GSM)
Frequency	1880
SAR 10g (W/Kg)	0.420
SAR 1g (W/Kg)	0.766
ConvF	2.23
Relative permittivity	40.39
Conductivity (S/m)	1.36

Maximum location: X=-17.00, Y=2.00 ; SAR Peak: 1.23 W/kg

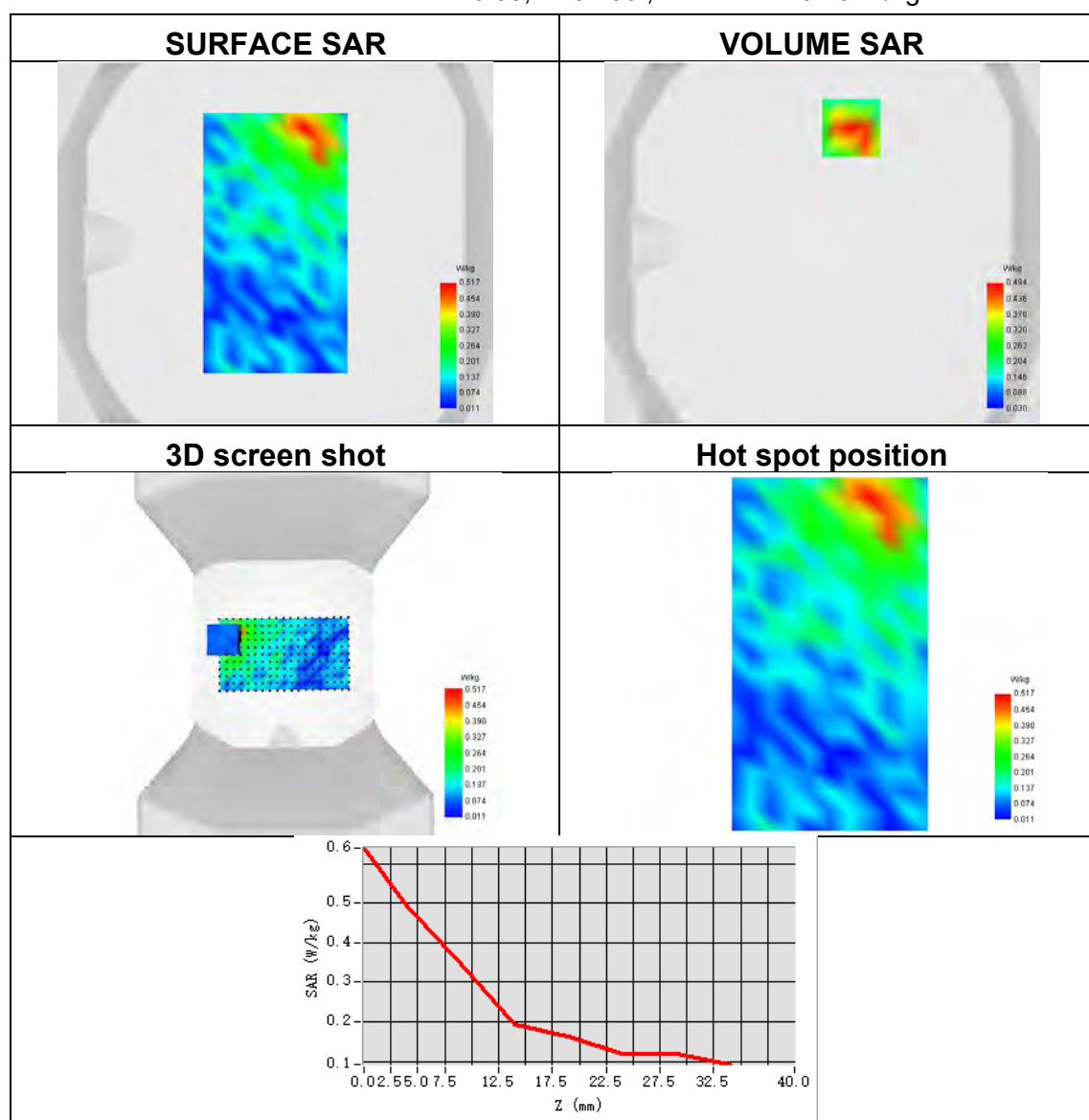




Plot 4:

Test Date	2024-06-10
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	1909.8
SAR 10g (W/Kg)	0.265
SAR 1g (W/Kg)	0.461
ConvF	2.23
Relative permittivity	40.39
Conductivity (S/m)	1.36

Maximum location: X=16.00, Y=64.00 ; SAR Peak: 0.75 W/kg

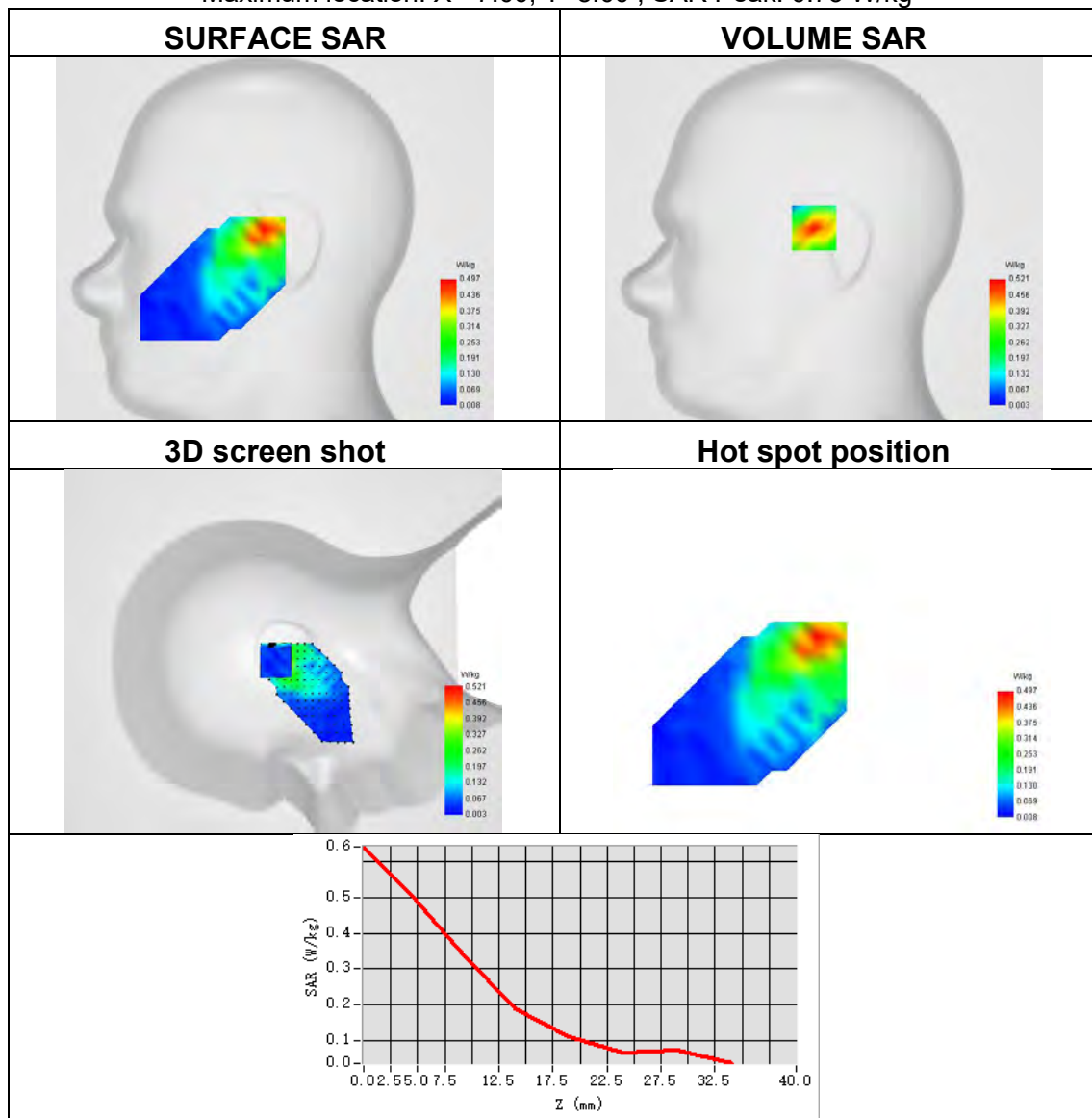




Plot 5:

Test Date	2024-06-10
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	1907.6
SAR 10g (W/Kg)	0.265
SAR 1g (W/Kg)	0.461
ConvF	2.23
Relative permittivity	39.97
Conductivity (S/m)	1.38

Maximum location: X=-7.00, Y=8.00 ; SAR Peak: 0.73 W/kg

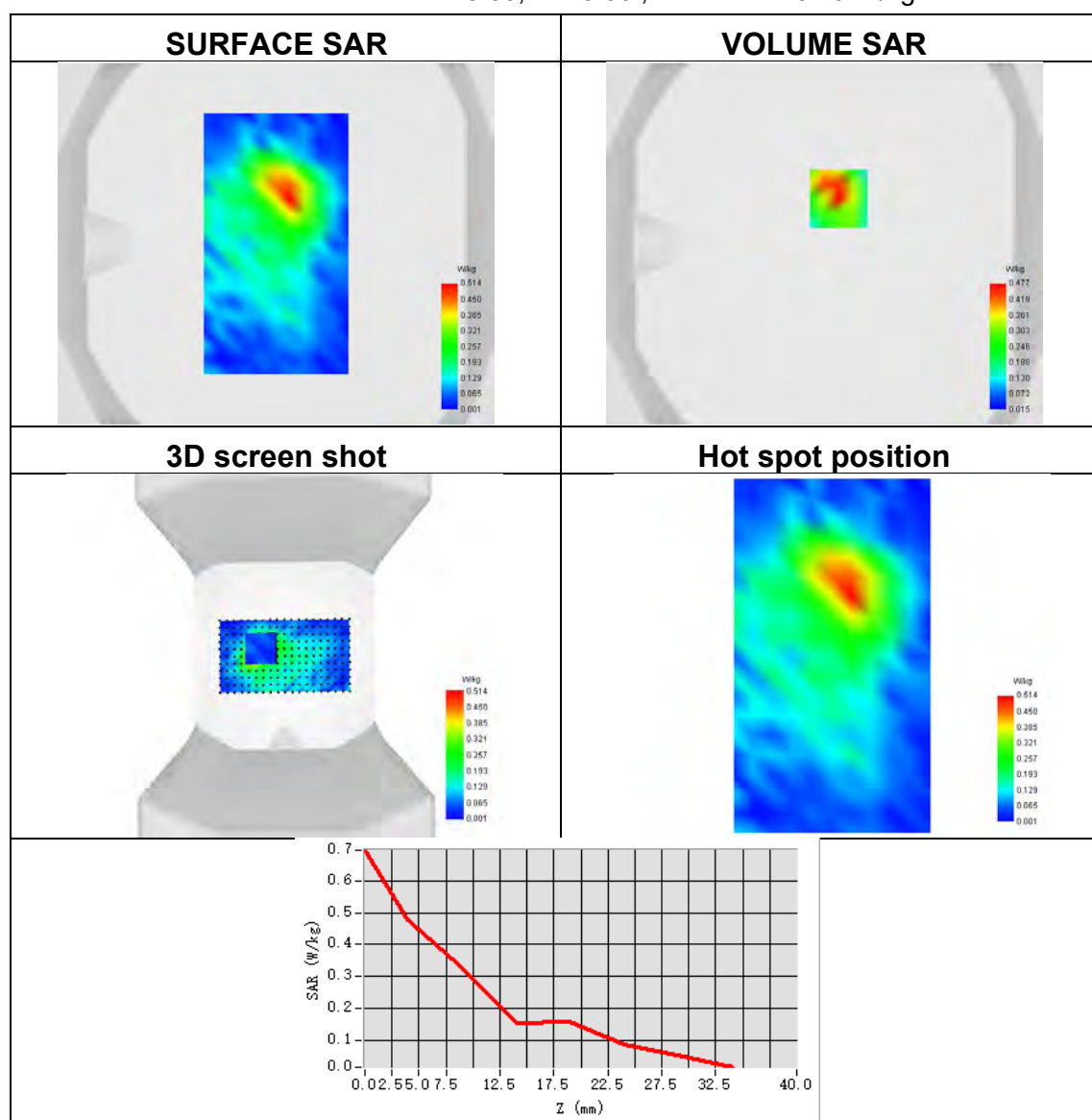




Plot 6:

Test Date	2024-06-10
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	1907.6
SAR 10g (W/Kg)	0.253
SAR 1g (W/Kg)	0.458
ConvF	2.23
Relative permittivity	39.97
Conductivity (S/m)	1.38

Maximum location: X=8.00, Y=25.00 ; SAR Peak: 0.79 W/kg

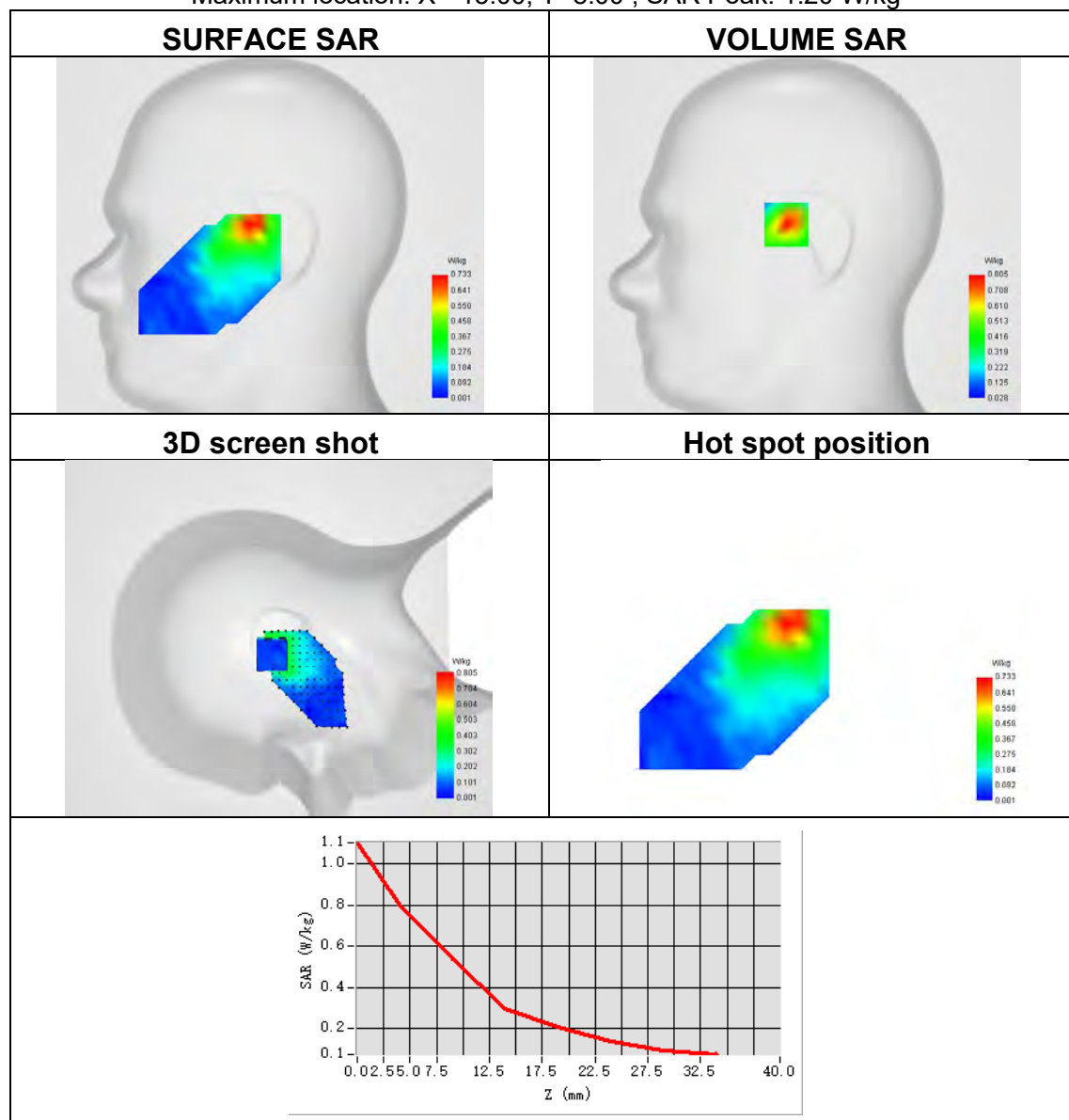




Plot 7:

Test Date	2024-06-12
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	1740
SAR 10g (W/Kg)	0.416
SAR 1g (W/Kg)	0.751
ConvF	1.91
Relative permittivity	40.73
Conductivity (S/m)	1.33

Maximum location: X=-15.00, Y=8.00 ; SAR Peak: 1.20 W/kg

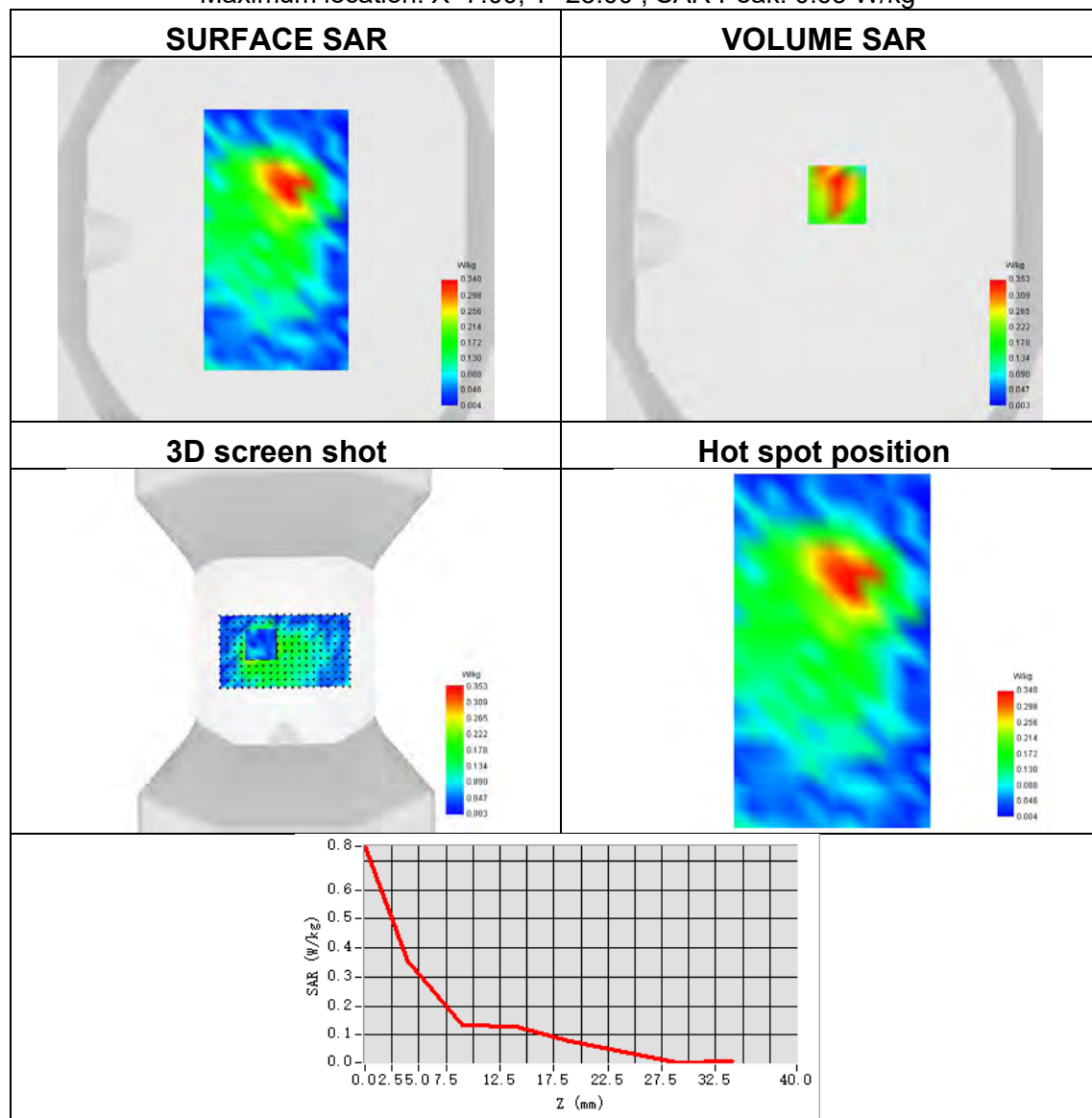




Plot 8:

Test Date	2024-06-12
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	1740
SAR 10g (W/Kg)	0.151
SAR 1g (W/Kg)	0.313
ConvF	1.91
Relative permittivity	40.73
Conductivity (S/m)	1.33

Maximum location: X=7.00, Y=25.00 ; SAR Peak: 0.65 W/kg

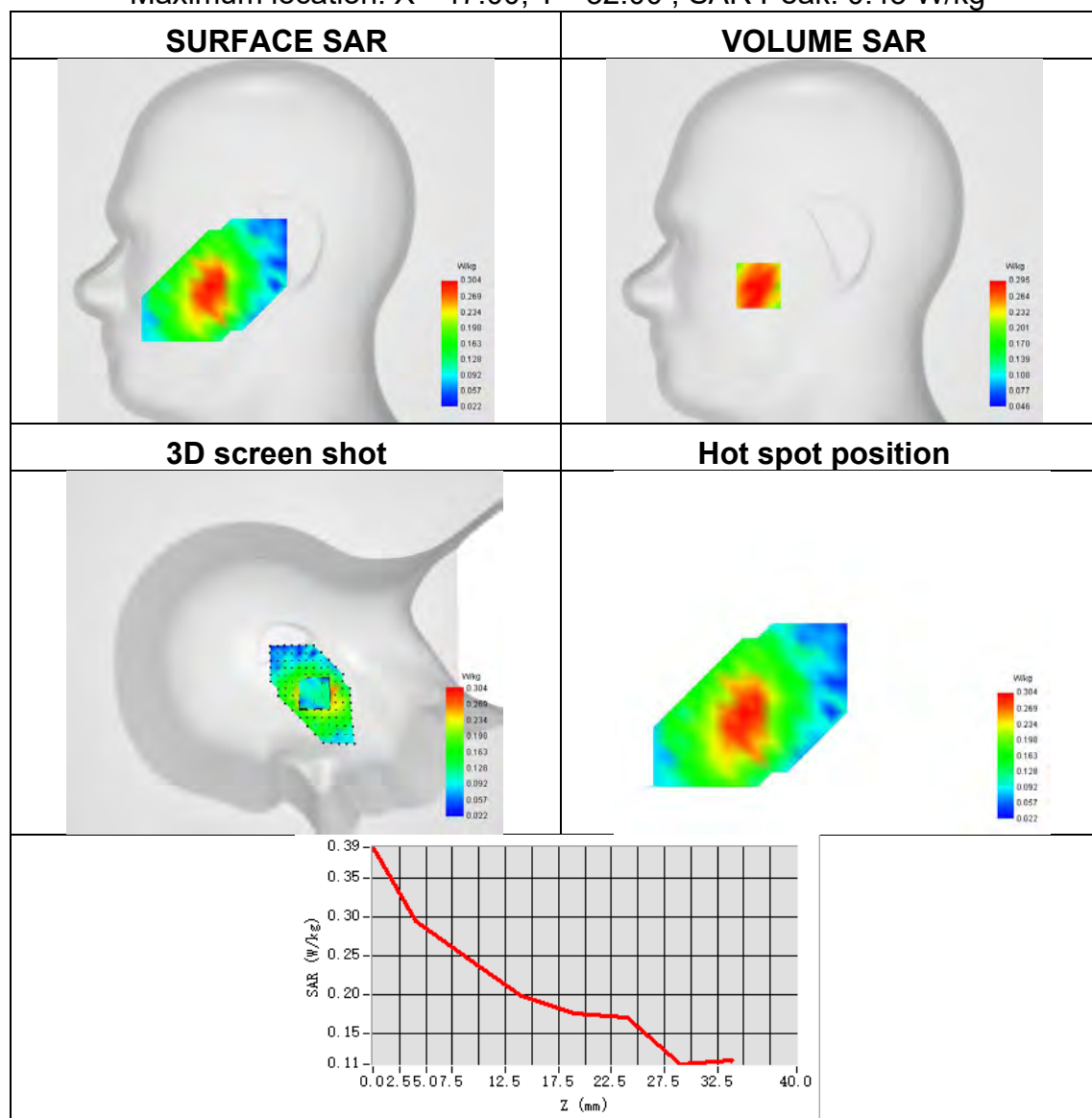




Plot 9:

Test Date	2024-06-07
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	846.6
SAR 10g (W/Kg)	0.219
SAR 1g (W/Kg)	0.302
ConvF	1.70
Relative permittivity	42.79
Conductivity (S/m)	0.88

Maximum location: X=-47.00, Y=-32.00 ; SAR Peak: 0.43 W/kg

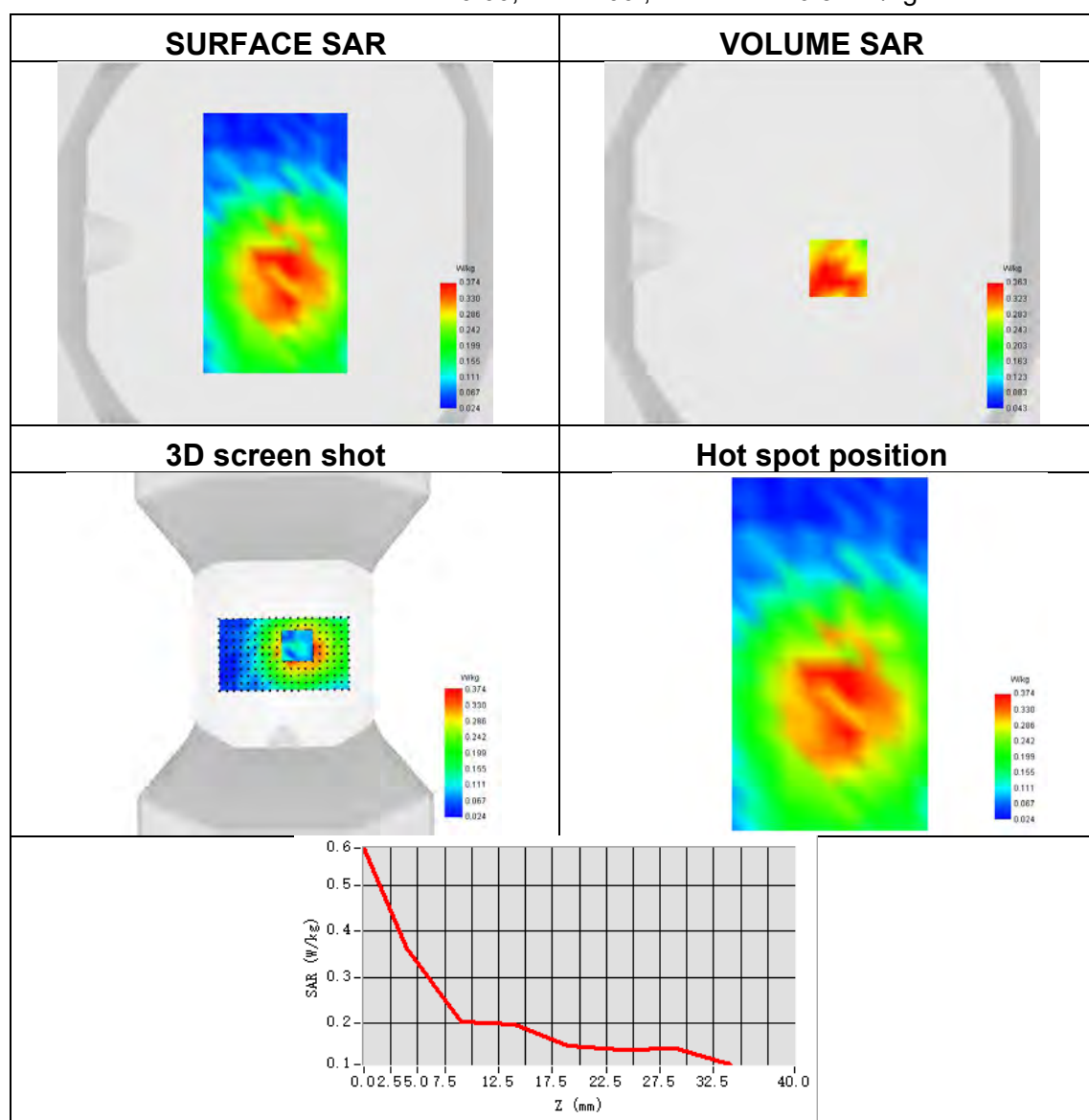




Plot 10:

Test Date	2024-06-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	Band 5 (850)
Signal	WCDMA
Frequency	846.6
SAR 10g (W/Kg)	0.237
SAR 1g (W/Kg)	0.365
ConvF	1.70
Relative permittivity	42.79
Conductivity (S/m)	0.88

Maximum location: X=9.00, Y=-14.00 ; SAR Peak: 0.52 W/kg

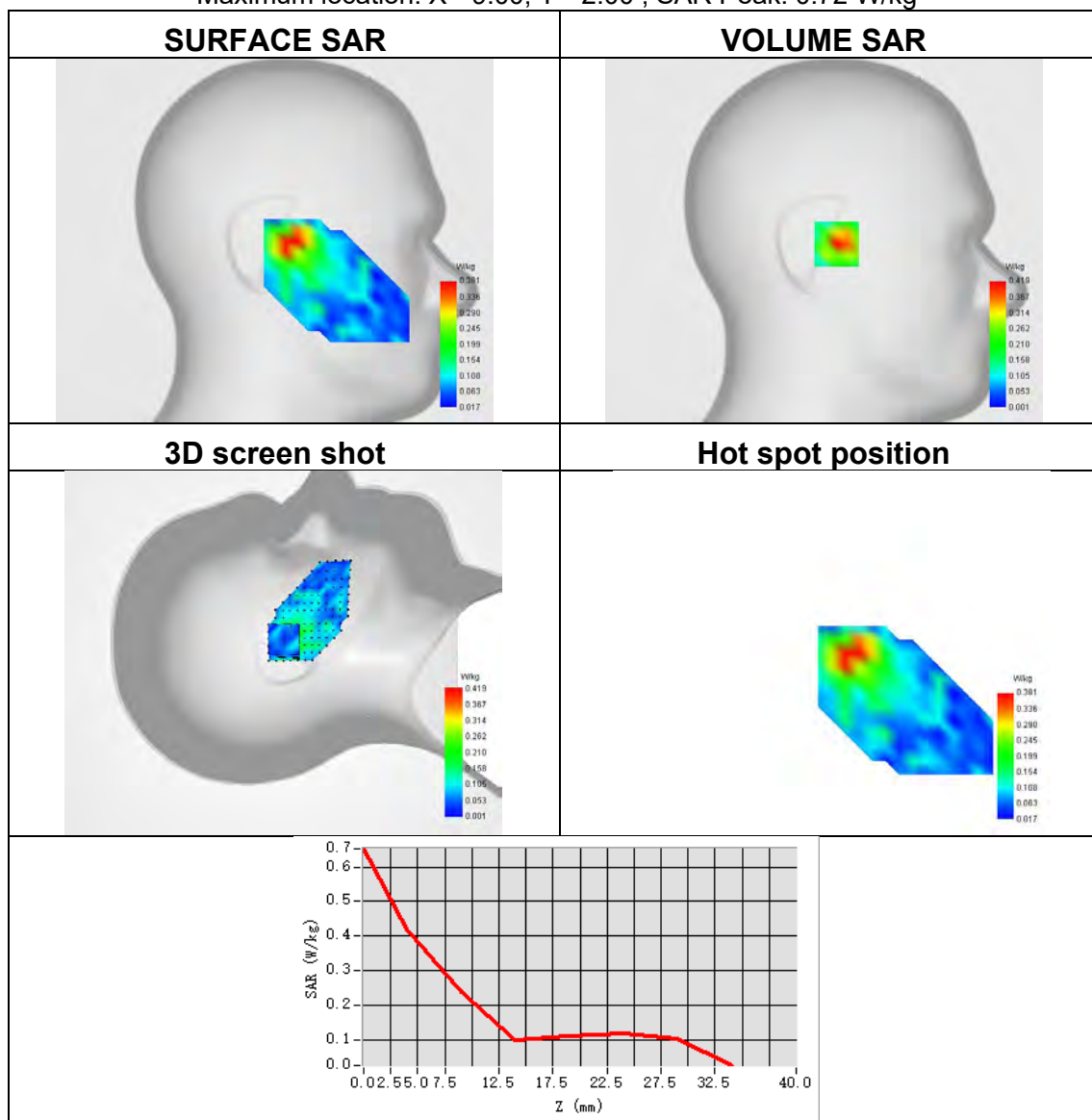




Plot 11:

Test Date	2024-06-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Tilt
Band	ISM
Signal	IEEE 802.11 b
Frequency	2412
SAR 10g (W/Kg)	0.201
SAR 1g (W/Kg)	0.385
ConvF	2.30
Relative permittivity	39.73
Conductivity (S/m)	1.74

Maximum location: X=-9.00, Y=-2.00 ; SAR Peak: 0.72 W/kg

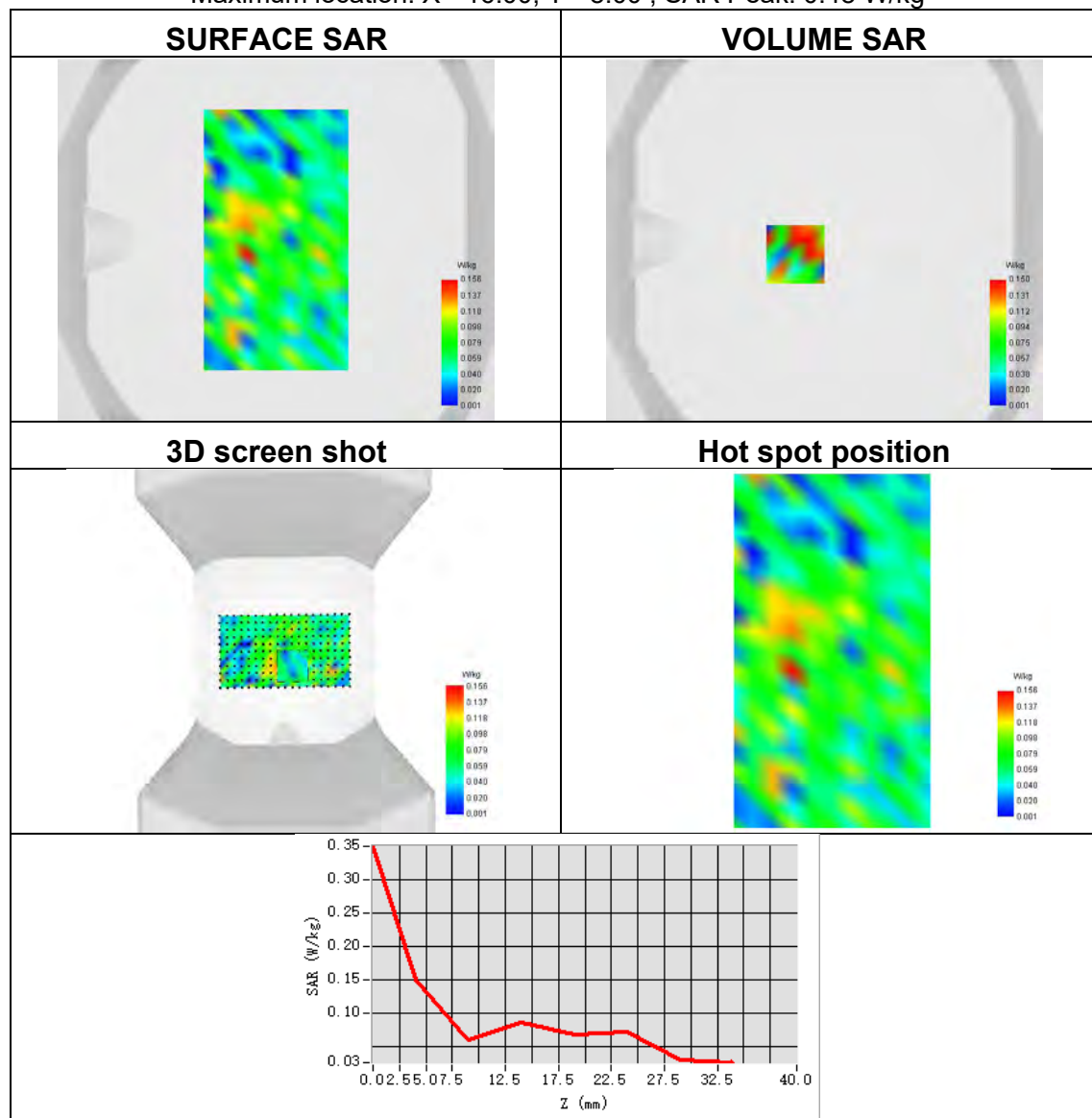




Plot 12:

Test Date	2024-06-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back side
Band	ISM
Signal	IEEE 802.11b
Frequency	2412
SAR 10g (W/Kg)	0.081
SAR 1g (W/Kg)	0.192
ConvF	2.30
Relative permittivity	39.73
Conductivity (S/m)	1.74

Maximum location: X=-16.00, Y=-8.00 ; SAR Peak: 0.48 W/kg

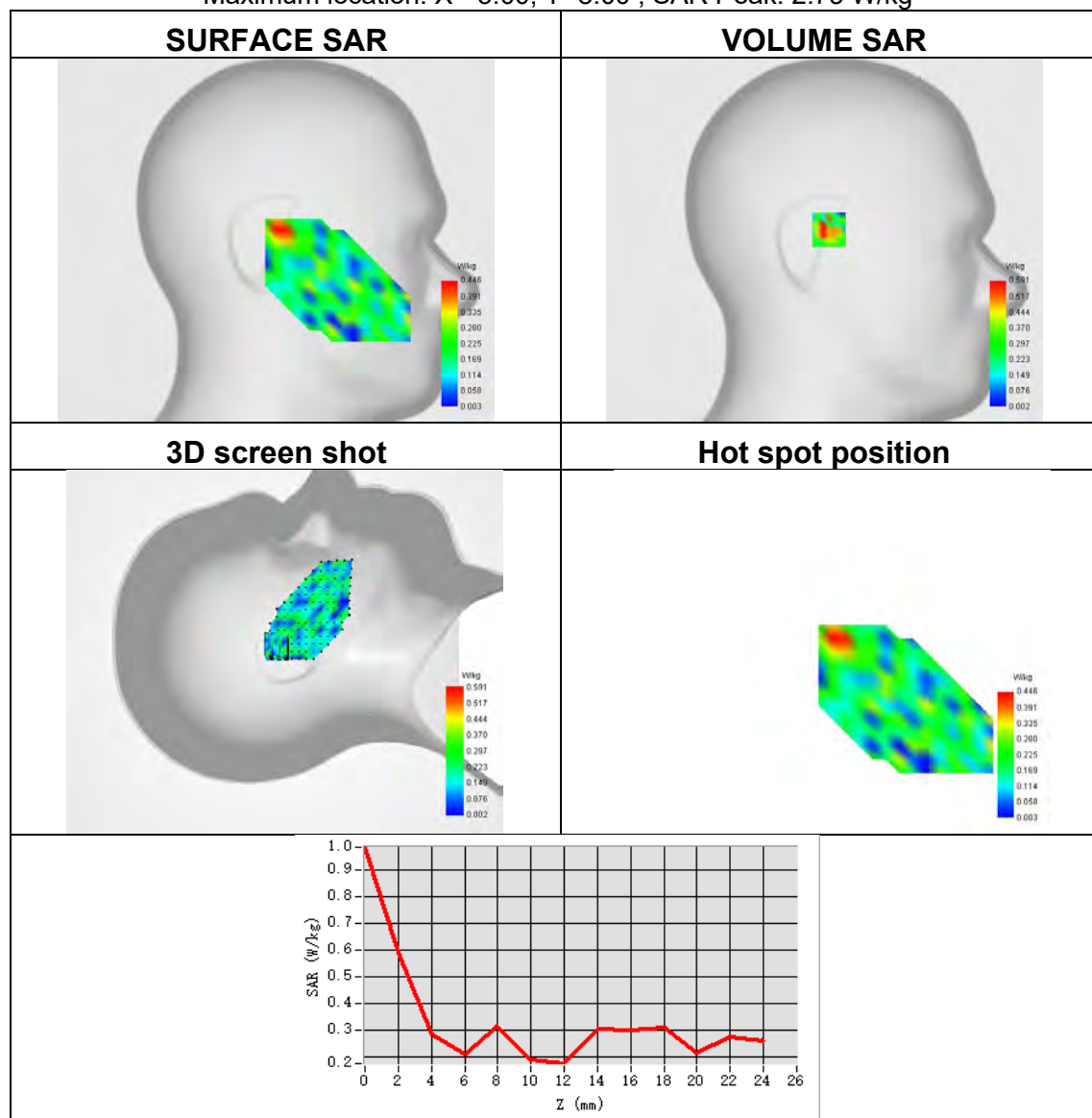




Plot 13:

Test Date	2024-06-18
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5200
SAR 10g (W/Kg)	0.206
SAR 1g (W/Kg)	0.381
ConvF	1.98
Relative permittivity	36.71
Conductivity (S/m)	4.63

Maximum location: X=-3.00, Y=8.00 ; SAR Peak: 2.73 W/kg

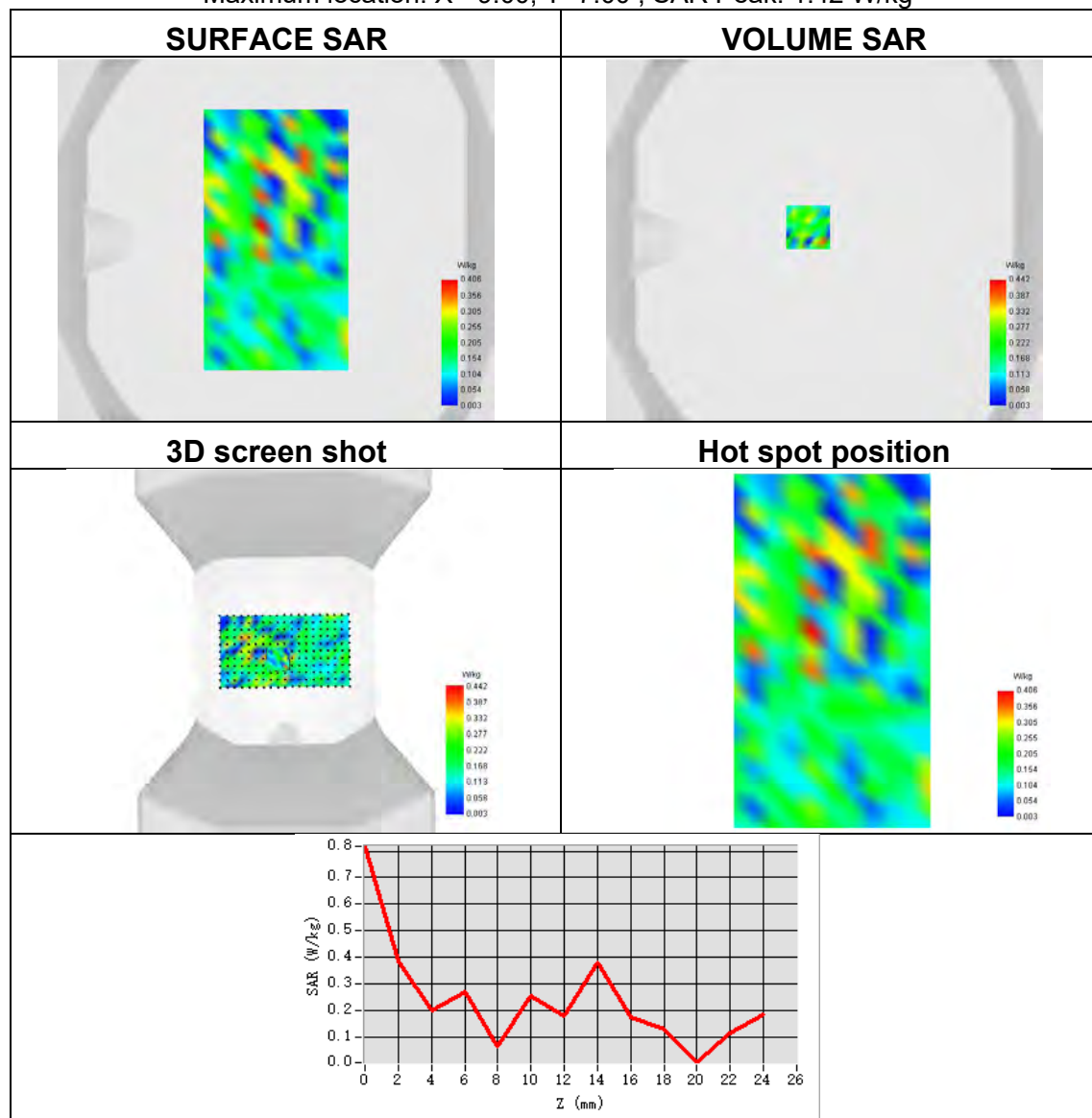




Plot 14:

Test Date	2024-06-18
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back side
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5200
SAR 10g (W/Kg)	0.138
SAR 1g (W/Kg)	0.277
ConvF	1.98
Relative permittivity	36.71
Conductivity (S/m)	4.63

Maximum location: X=-9.00, Y=7.00 ; SAR Peak: 1.42 W/kg

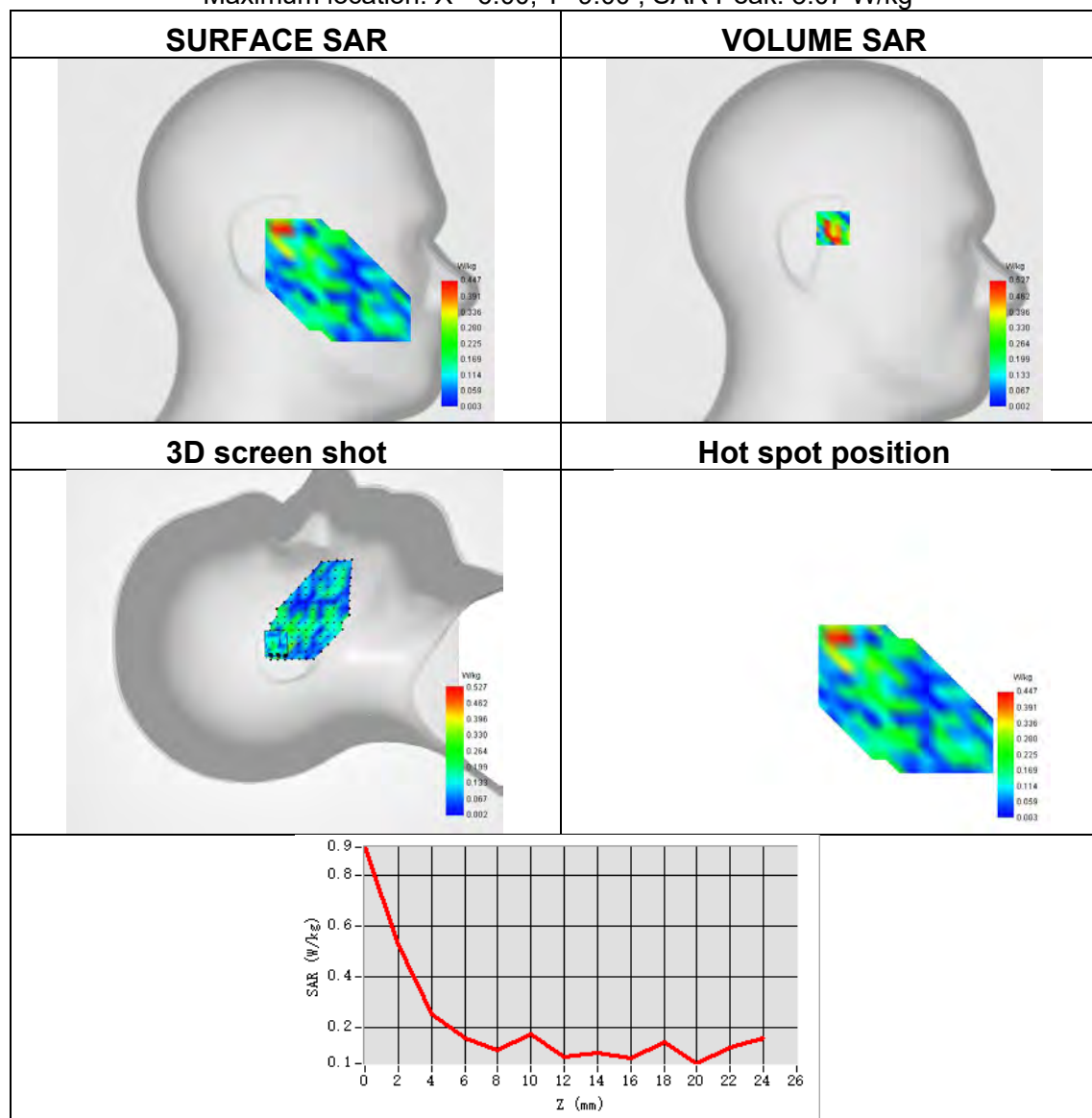




Plot 15:

Test Date	2024-06-18
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.174
SAR 1g (W/Kg)	0.578
ConvF	1.83
Relative permittivity	36.31
Conductivity (S/m)	4.68

Maximum location: X=-6.00, Y=9.00 ; SAR Peak: 3.07 W/kg

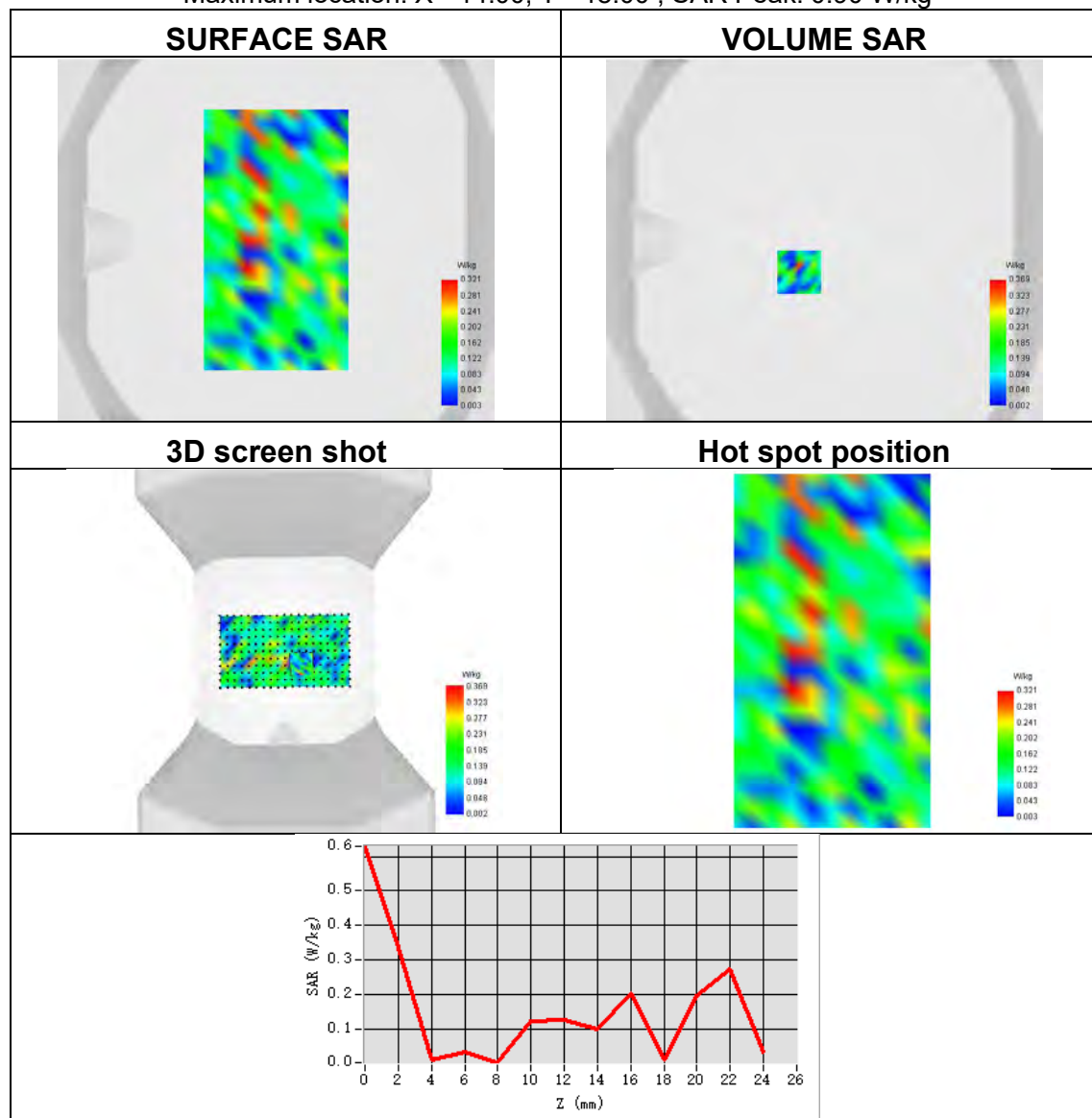




Plot 16:

Test Date	2024-06-18
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.090
SAR 1g (W/Kg)	0.162
ConvF	1.83
Relative permittivity	36.31
Conductivity (S/m)	4.68

Maximum location: X=-14.00, Y=-18.00 ; SAR Peak: 0.90 W/kg

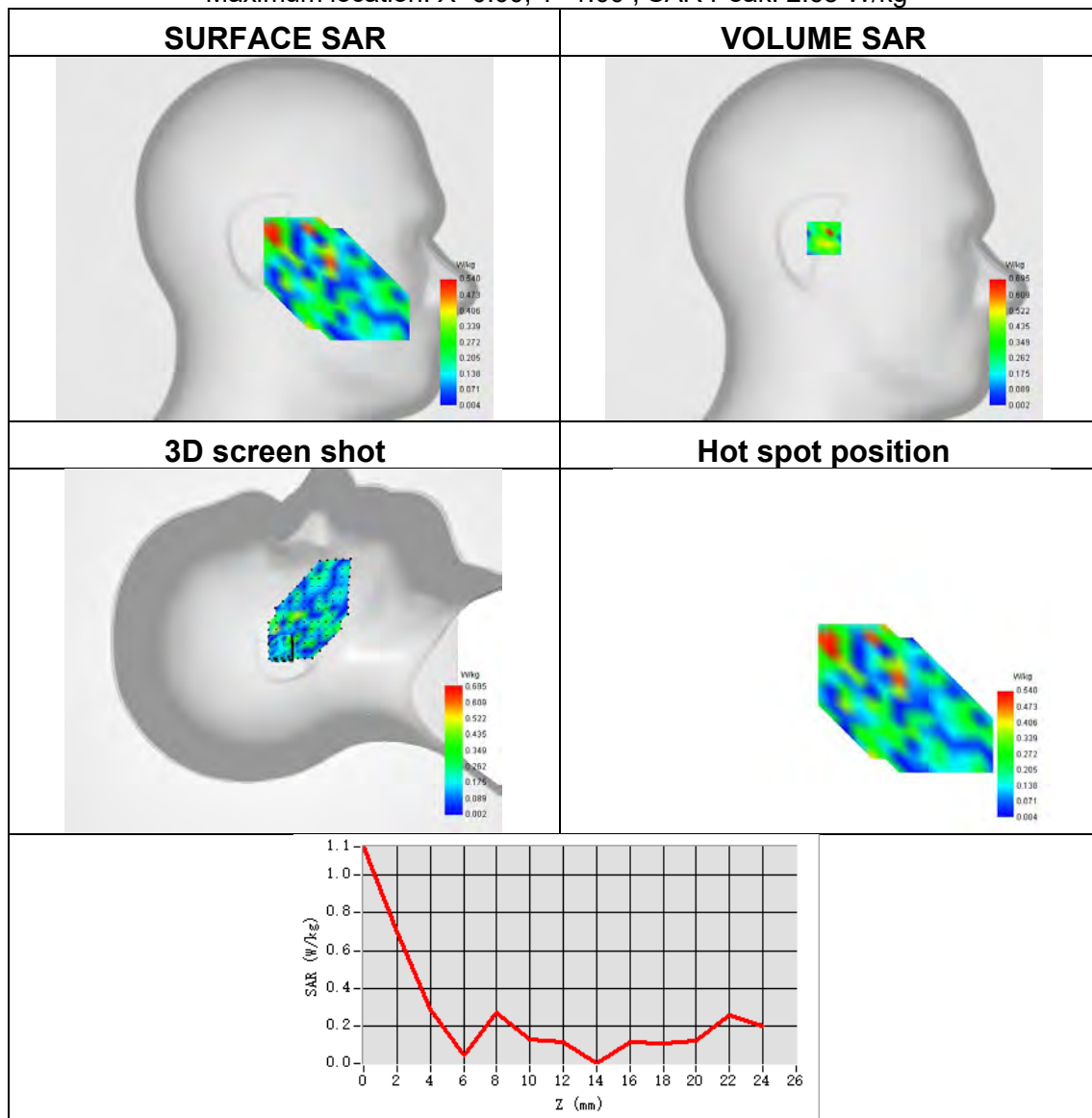




Plot 17:

Test Date	2024-06-19
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.175
SAR 1g (W/Kg)	0.409
ConvF	1.71
Relative permittivity	35.83
Conductivity (S/m)	5.16

Maximum location: X=0.00, Y=1.00 ; SAR Peak: 2.65 W/kg

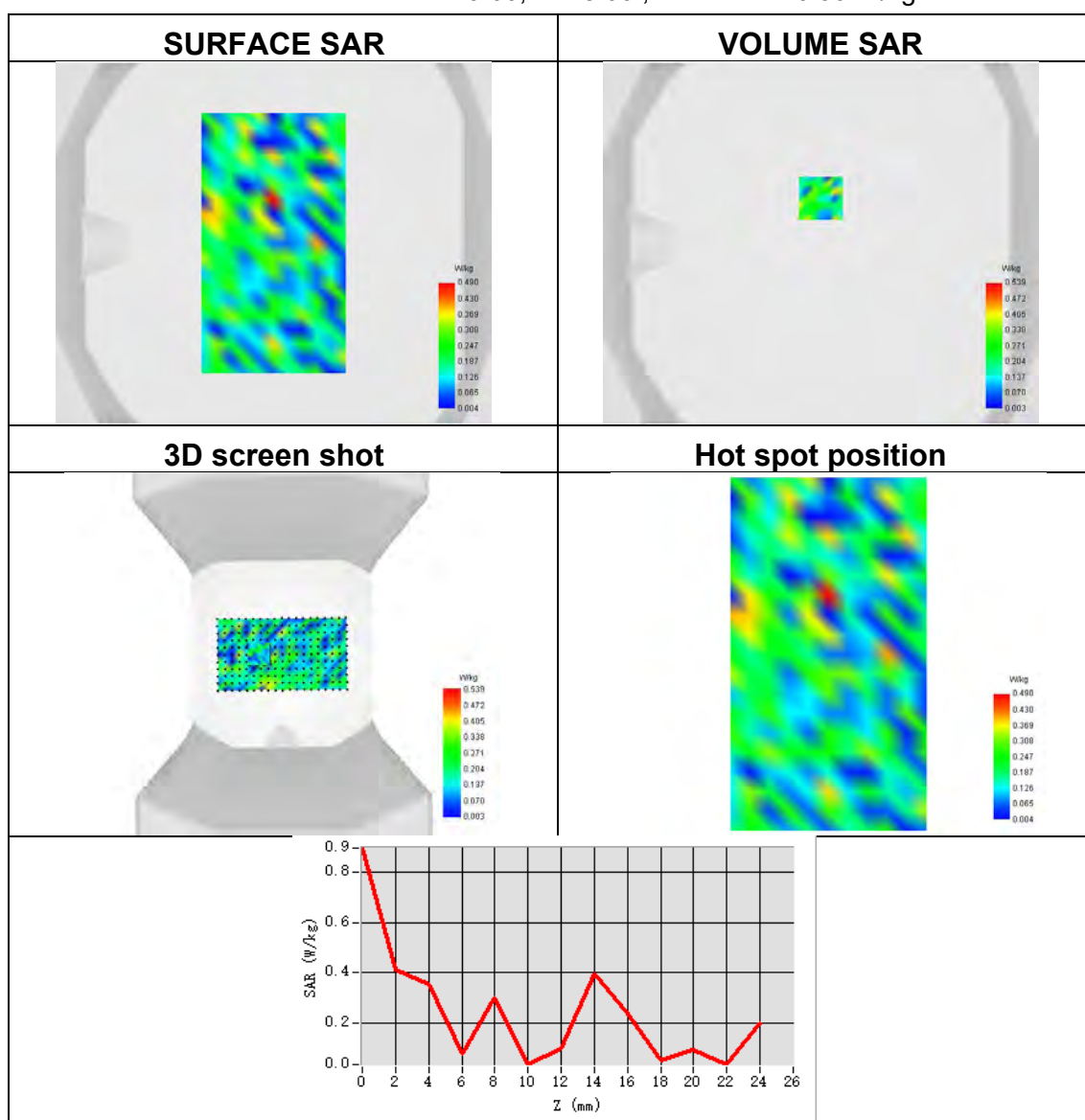




Plot 18:

Test Date	2024-06-19
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back Side
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.124
SAR 1g (W/Kg)	0.259
ConvF	1.71
Relative permittivity	35.83
Conductivity (S/m)	5.16

Maximum location: X=-9.00, Y=15.00 ; SAR Peak: 0.30 W/kg

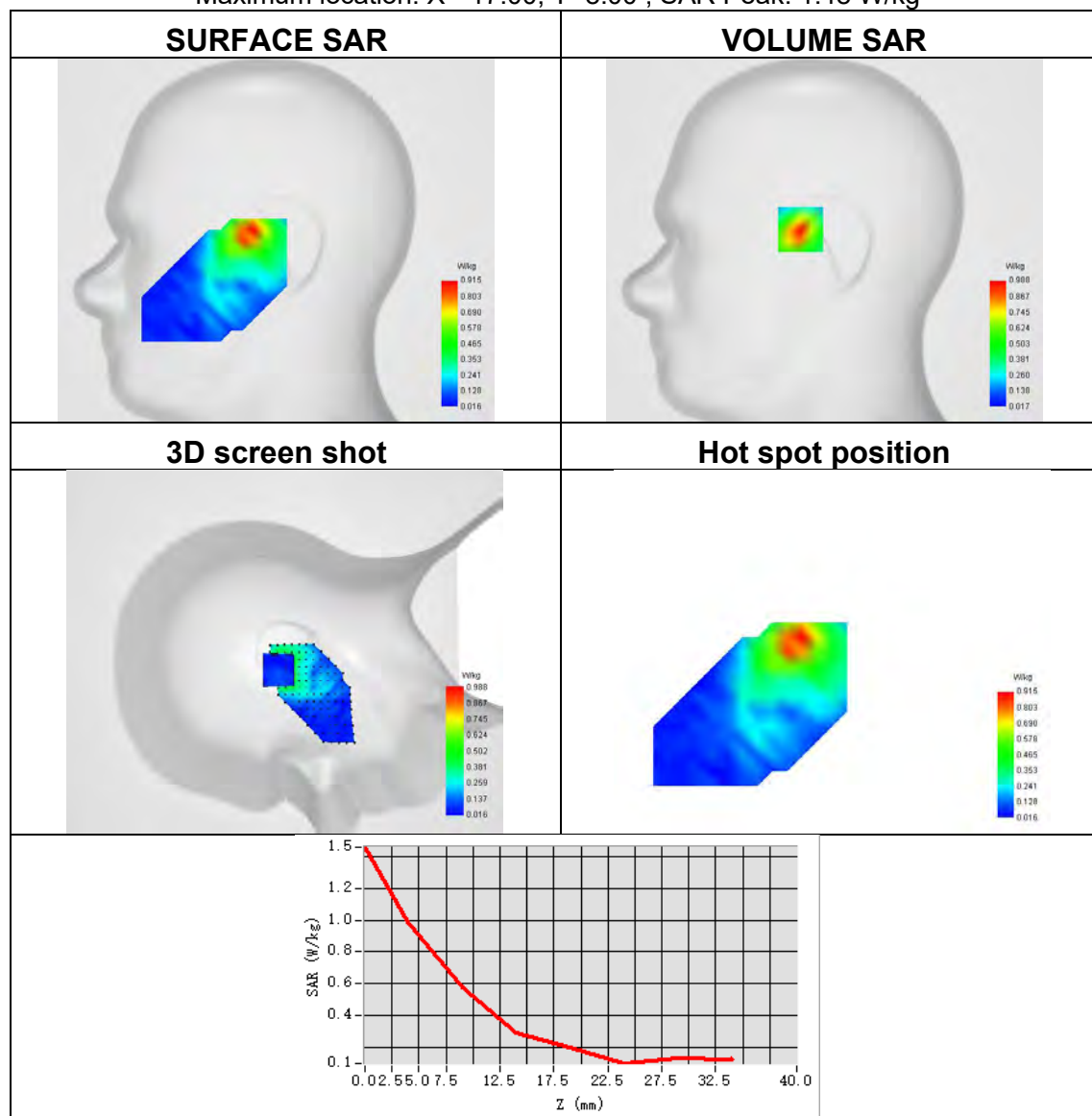




Plot 19:

Test Date	2024-06-10
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)	0.481
SAR 1g (W/Kg)	0.906
ConvF	2.24
Relative permittivity	40.39
Conductivity (S/m)	1.36

Maximum location: X=-17.00, Y=8.00 ; SAR Peak: 1.48 W/kg

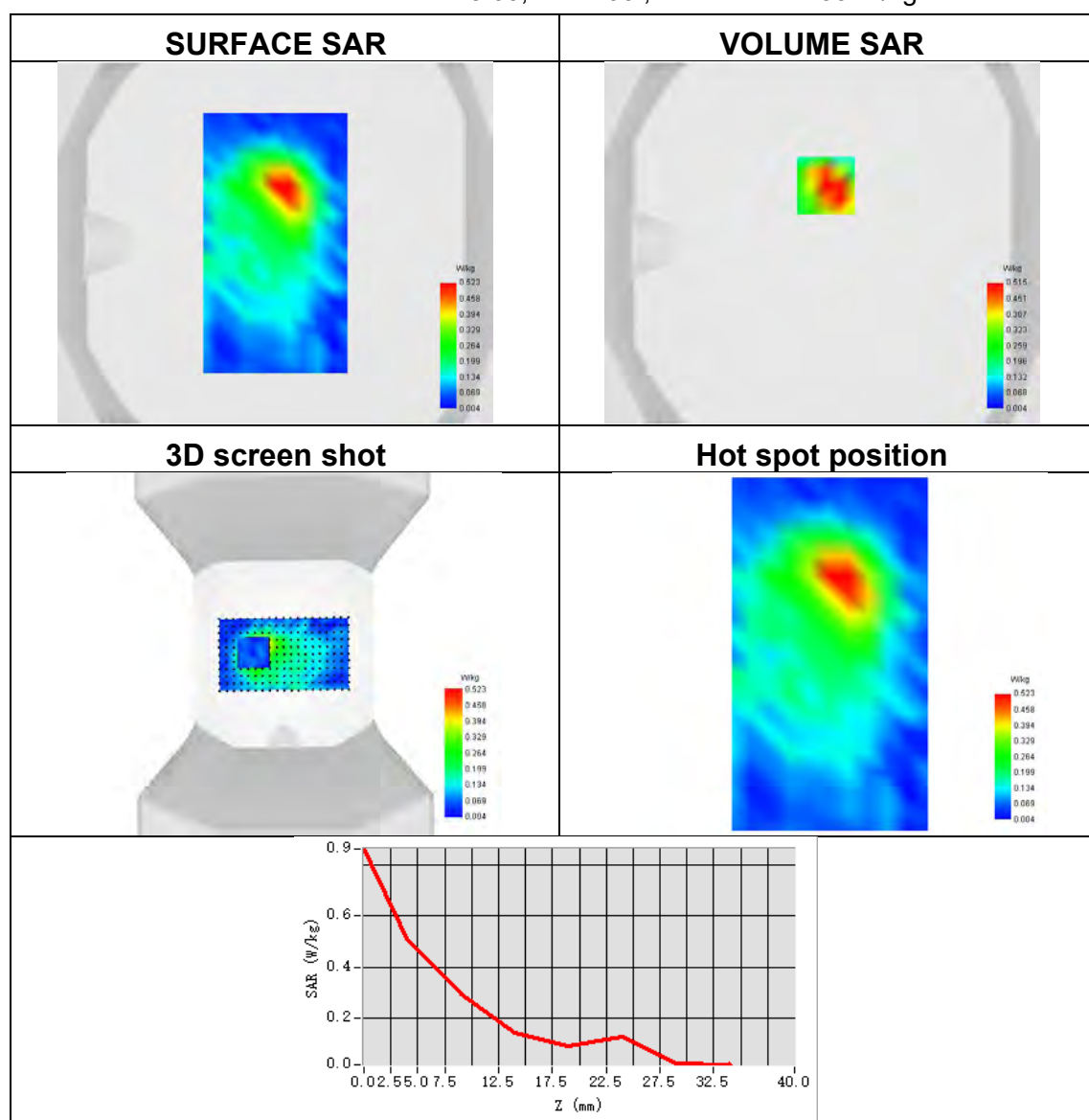




Plot 20:

Test Date	2024-06-10
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)	0.258
SAR 1g (W/Kg)	0.505
ConvF	2.24
Relative permittivity	40.39
Conductivity (S/m)	1.36

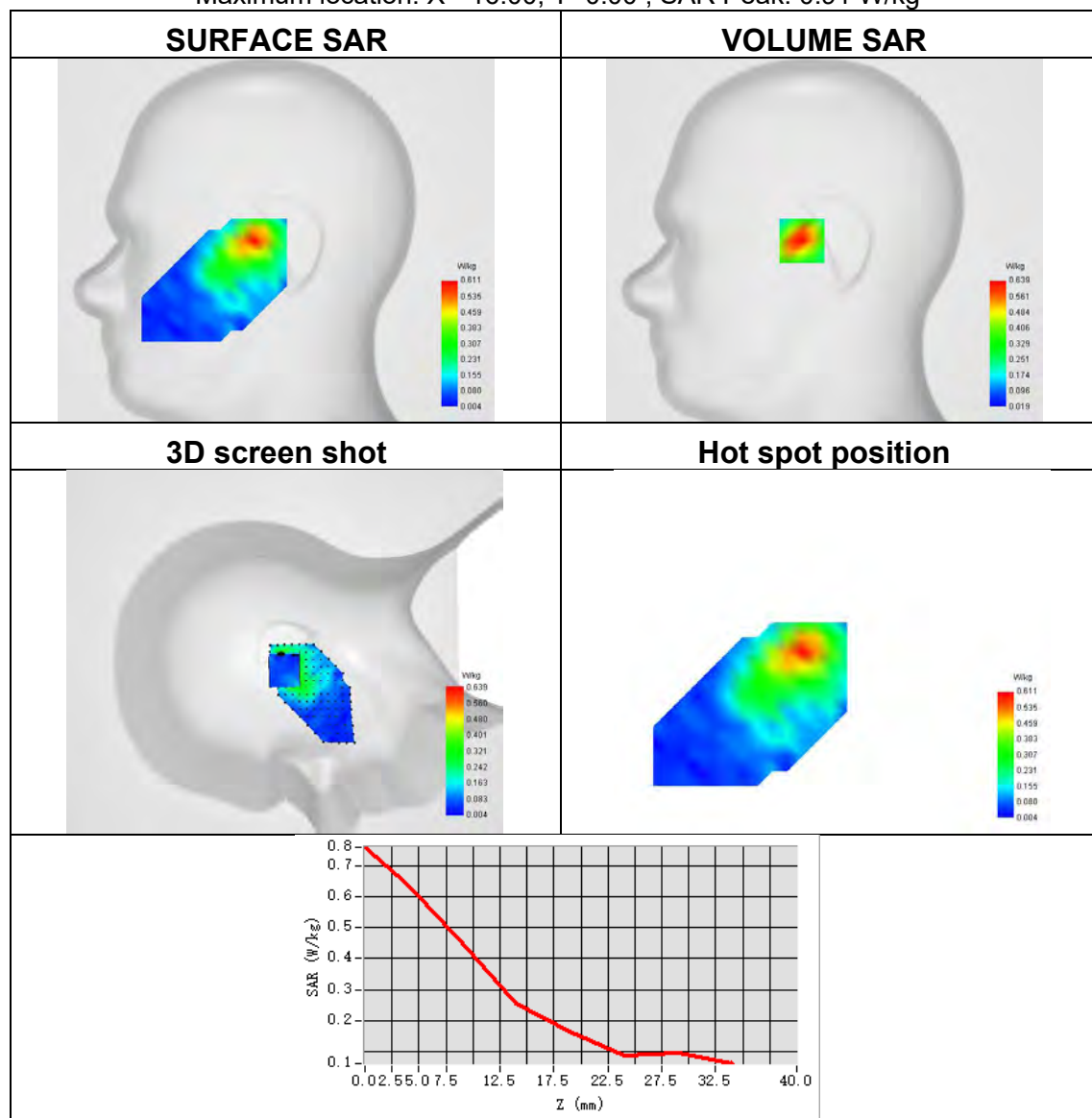
Maximum location: X=-8.00, Y=17.00 ; SAR Peak: 1.33 W/kg



Plot 21:

Test Date	2024-06-12
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 4
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.310
SAR 1g (W/Kg)	0.582
ConvF	1.91
Relative permittivity	41.03
Conductivity (S/m)	1.43

Maximum location: X=-16.00, Y=0.00 ; SAR Peak: 0.91 W/kg

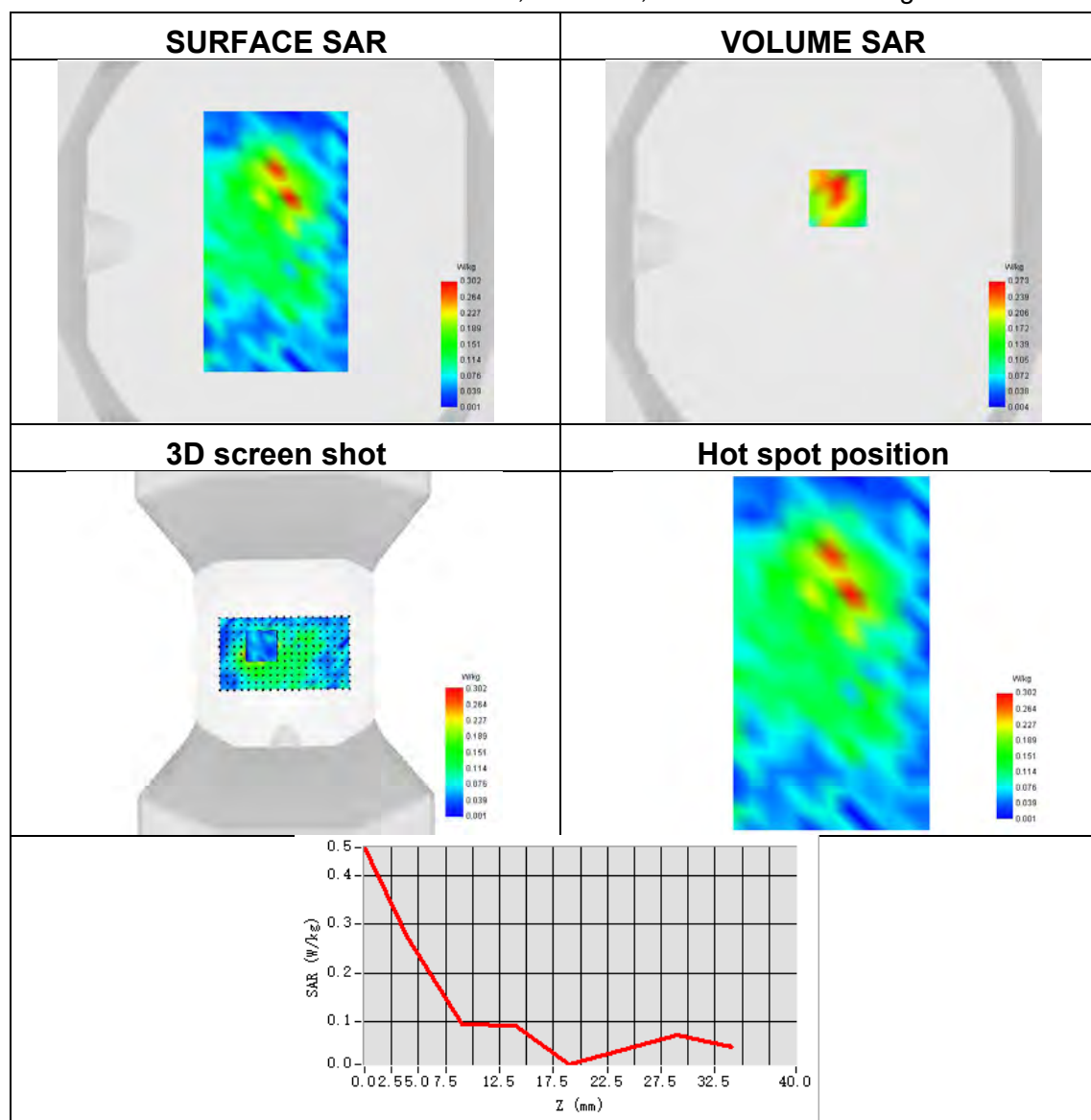




Plot 22:

Test Date	2024-06-12
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 4
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.134
SAR 1g (W/Kg)	0.256
ConvF	1.91
Relative permittivity	41.03
Conductivity (S/m)	1.43

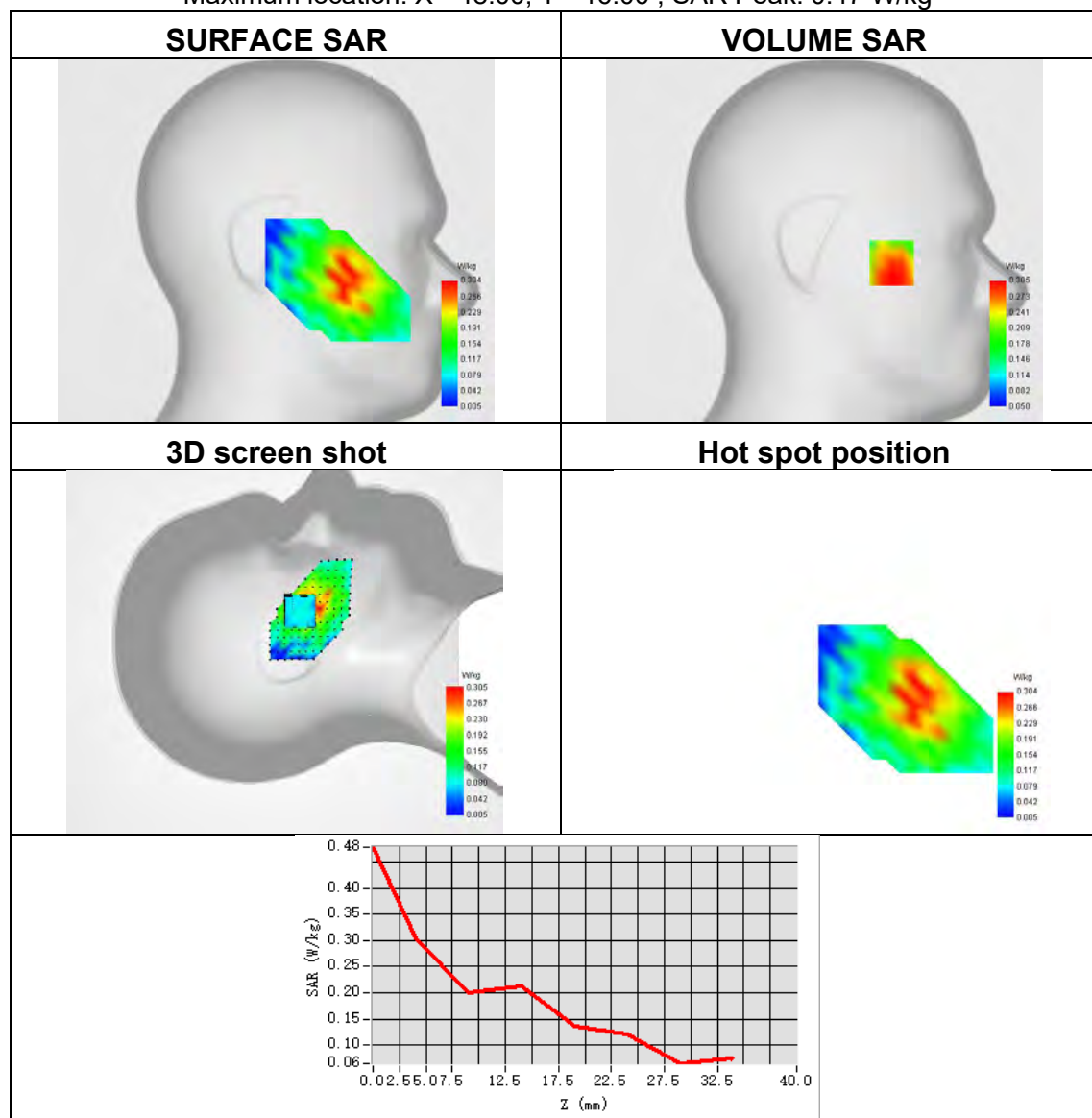
Maximum location: X=8.00, Y=24.00 ; SAR Peak: 0.44 W/kg



Plot 23:

Test Date	2024-06-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Signal	LTE FDD
Frequency	829
SAR 10g (W/Kg)	0.197
SAR 1g (W/Kg)	0.307
ConvF	1.70
Relative permittivity	41.76
Conductivity (S/m)	0.89

Maximum location: X=-48.00, Y=-16.00 ; SAR Peak: 0.47 W/kg

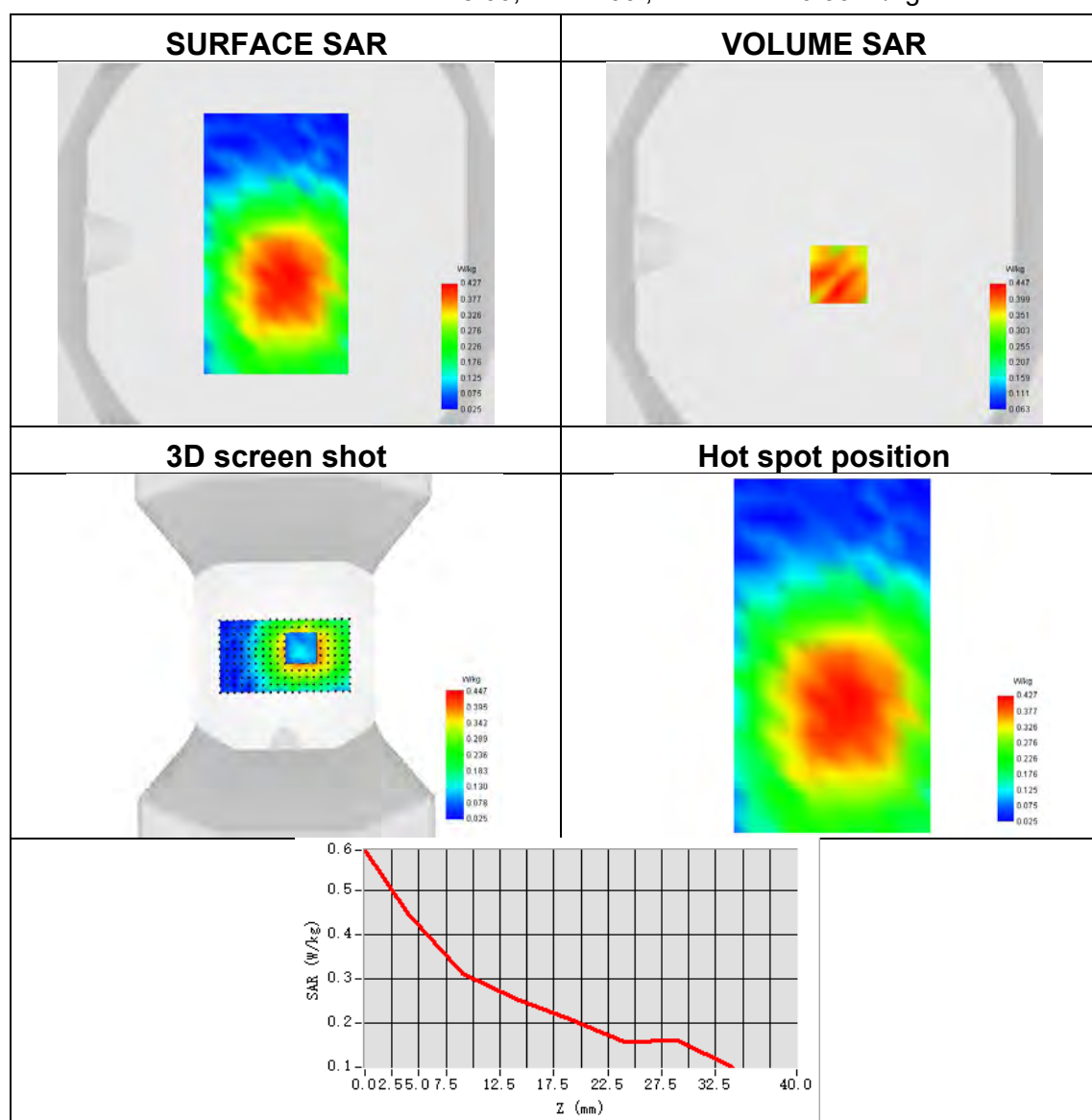




Plot 24:

Test Date	2024-06-07
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 5
Signal	LTE FDD
Frequency	829
SAR 10g (W/Kg)	0.263
SAR 1g (W/Kg)	0.426
ConvF	1.70
Relative permittivity	41.76
Conductivity (S/m)	0.89

Maximum location: X=8.00, Y=-17.00 ; SAR Peak: 0.66 W/kg

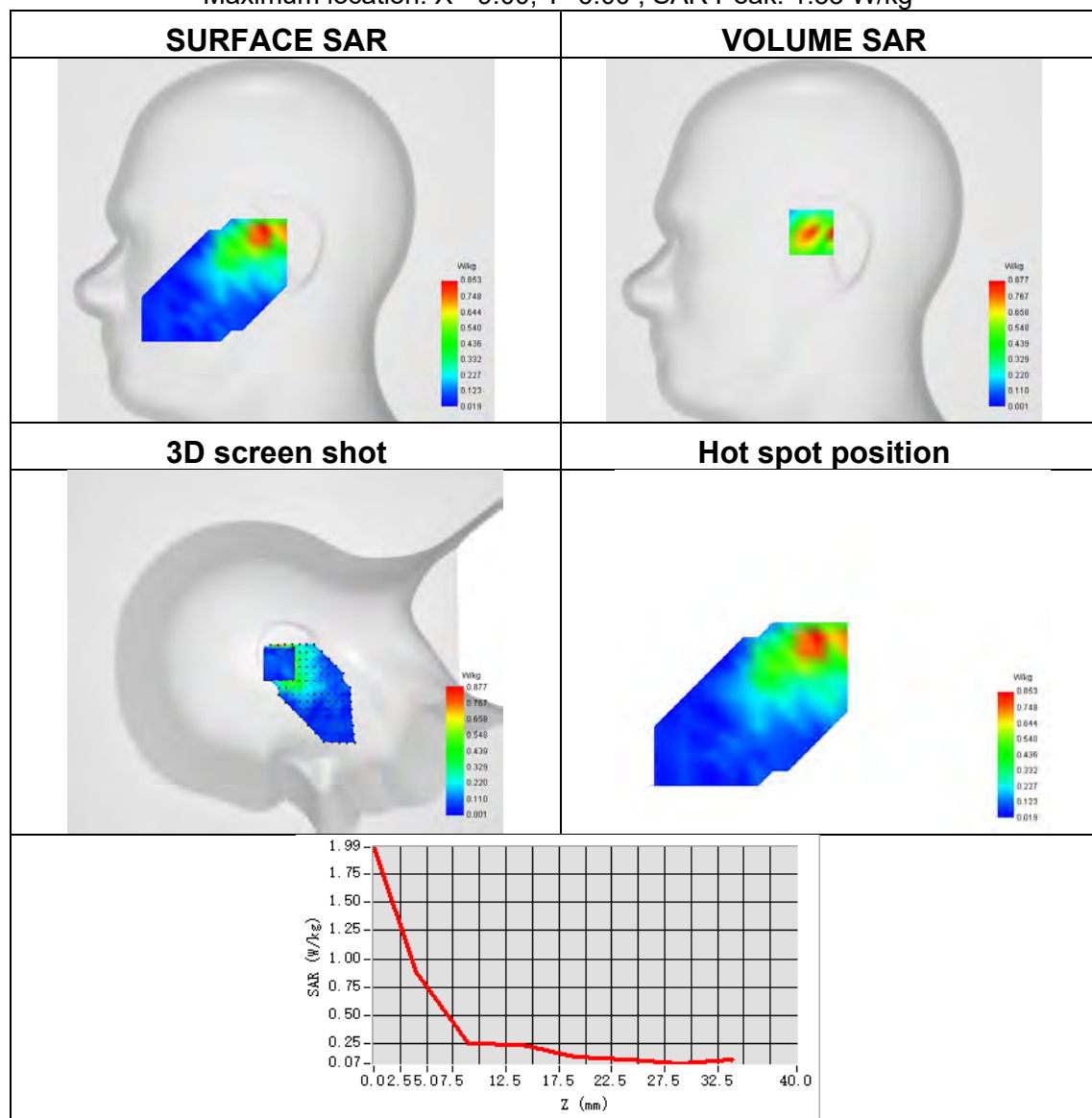




Plot 25:

Test Date	2024-06-17
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	2535
SAR 10g (W/Kg)	0.336
SAR 1g (W/Kg)	0.726
ConvF	2.30
Relative permittivity	39.82
Conductivity (S/m)	1.90

Maximum location: X=-9.00, Y=6.00 ; SAR Peak: 1.53 W/kg

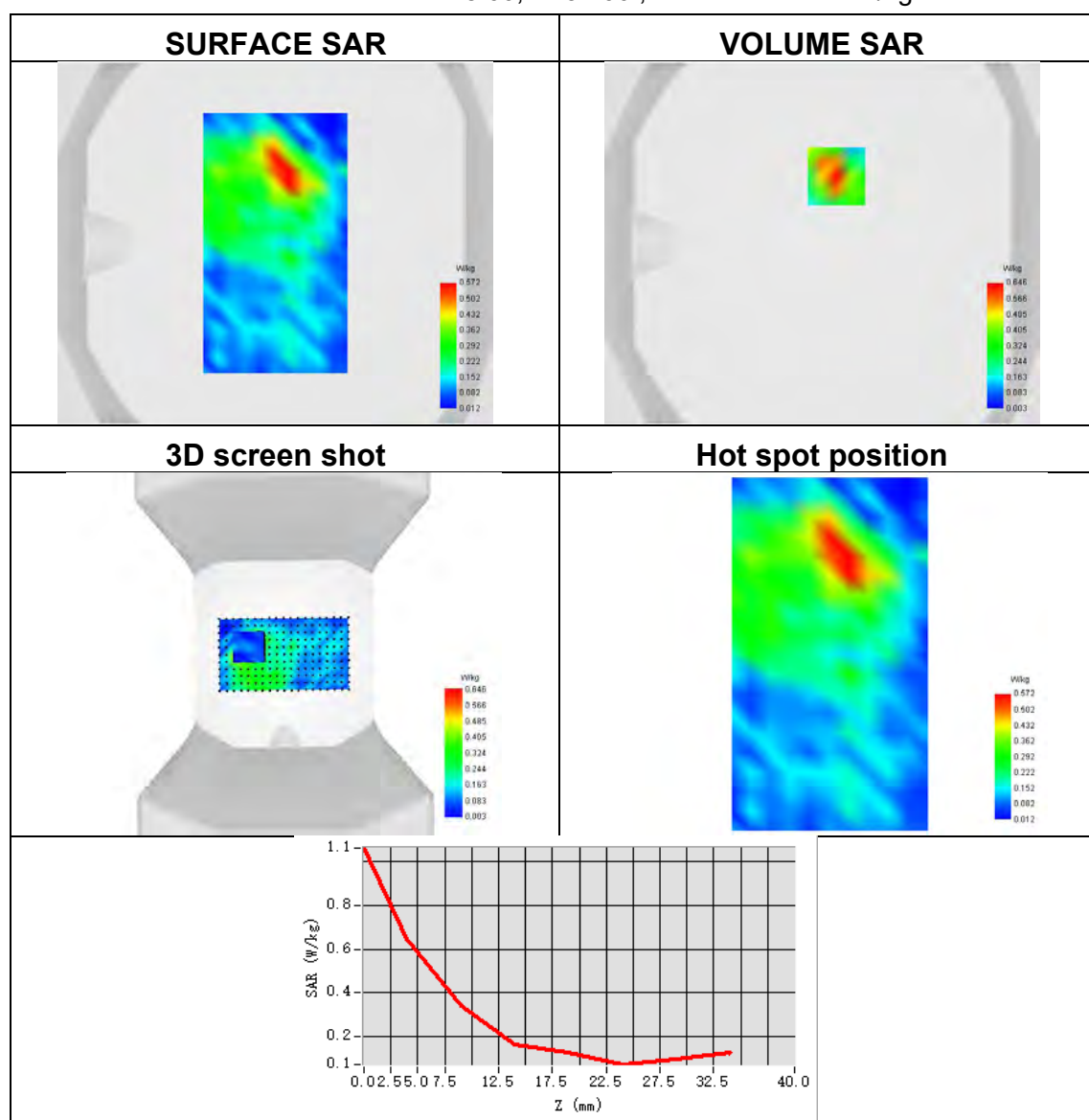




Plot 26:

Test Date	2024-06-17
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	2535
SAR 10g (W/Kg)	0.275
SAR 1g (W/Kg)	0.605
ConvF	2.30
Relative permittivity	39.82
Conductivity (S/m)	1.90

Maximum location: X=8.00, Y=37.00 ; SAR Peak: 1.17 W/kg

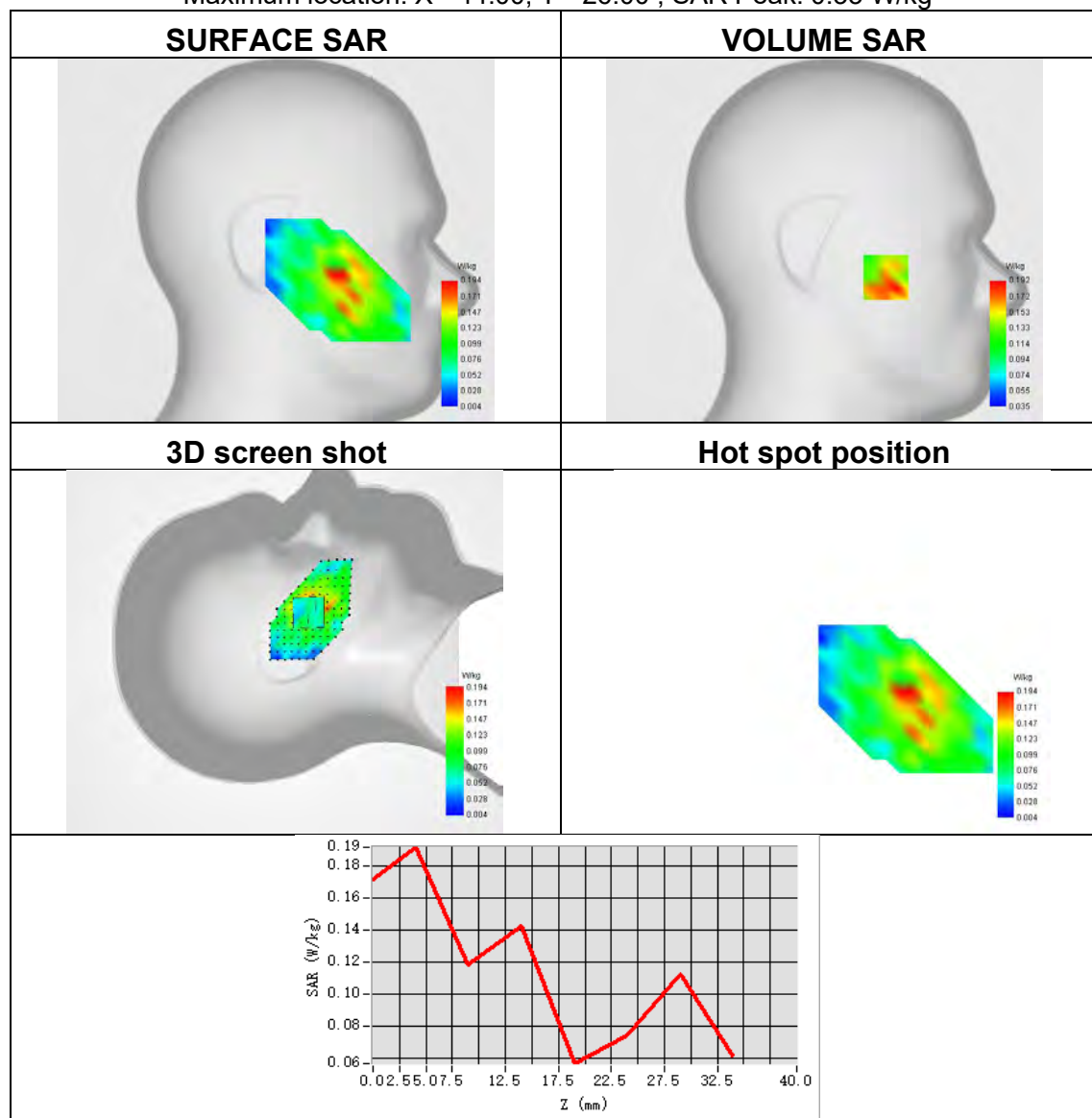




Plot 27:

Test Date	2024-06-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 12
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.111
SAR 1g (W/Kg)	0.194
ConvF	1.68
Relative permittivity	42.49
Conductivity (S/m)	0.86

Maximum location: X=-44.00, Y=-26.00 ; SAR Peak: 0.33 W/kg

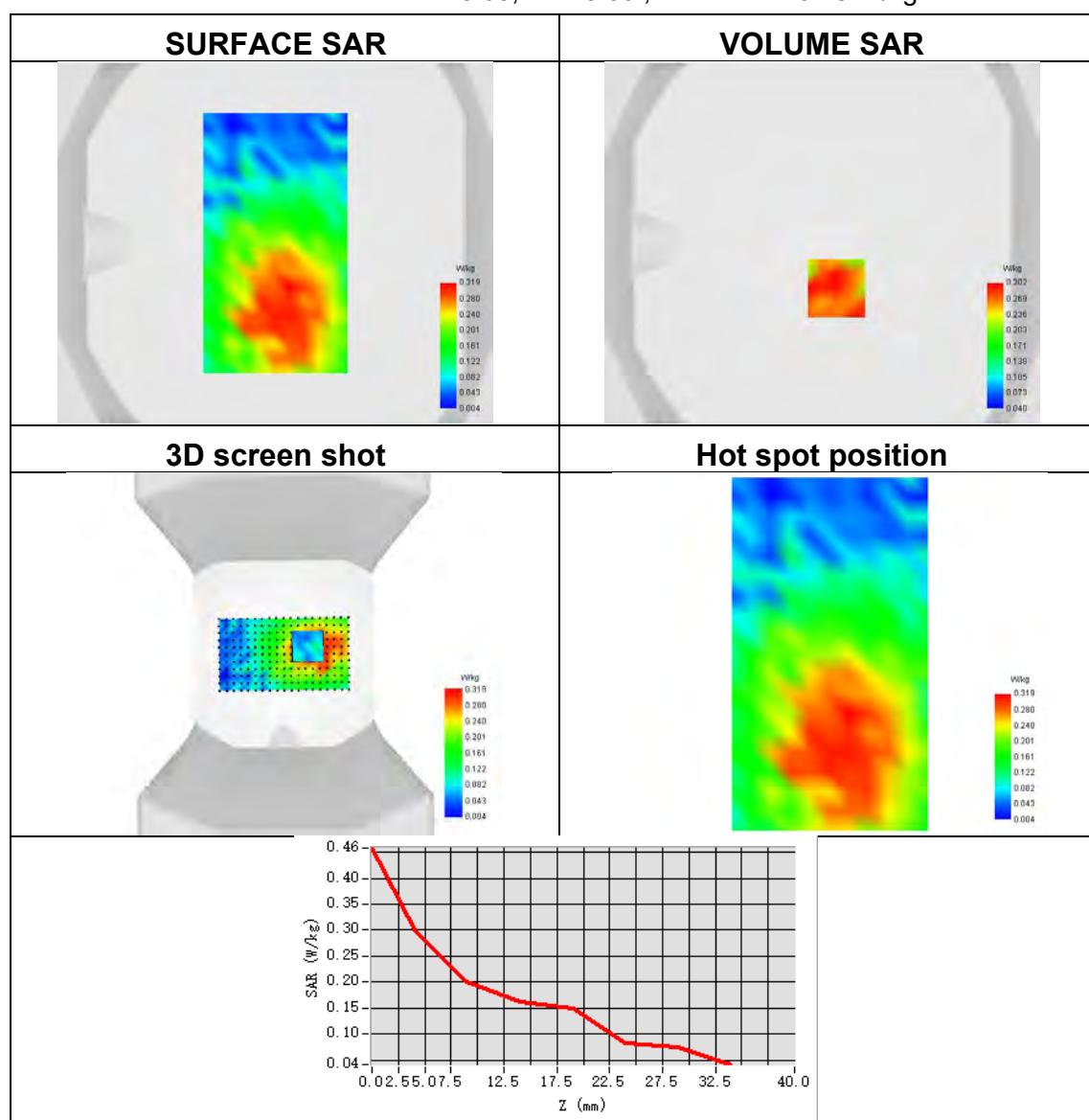




Plot 28:

Test Date	2024-06-06
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 12
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.186
SAR 1g (W/Kg)	0.295
ConvF	1.68
Relative permittivity	42.49
Conductivity (S/m)	0.86

Maximum location: X=8.00, Y=-25.00 ; SAR Peak: 0.45 W/kg

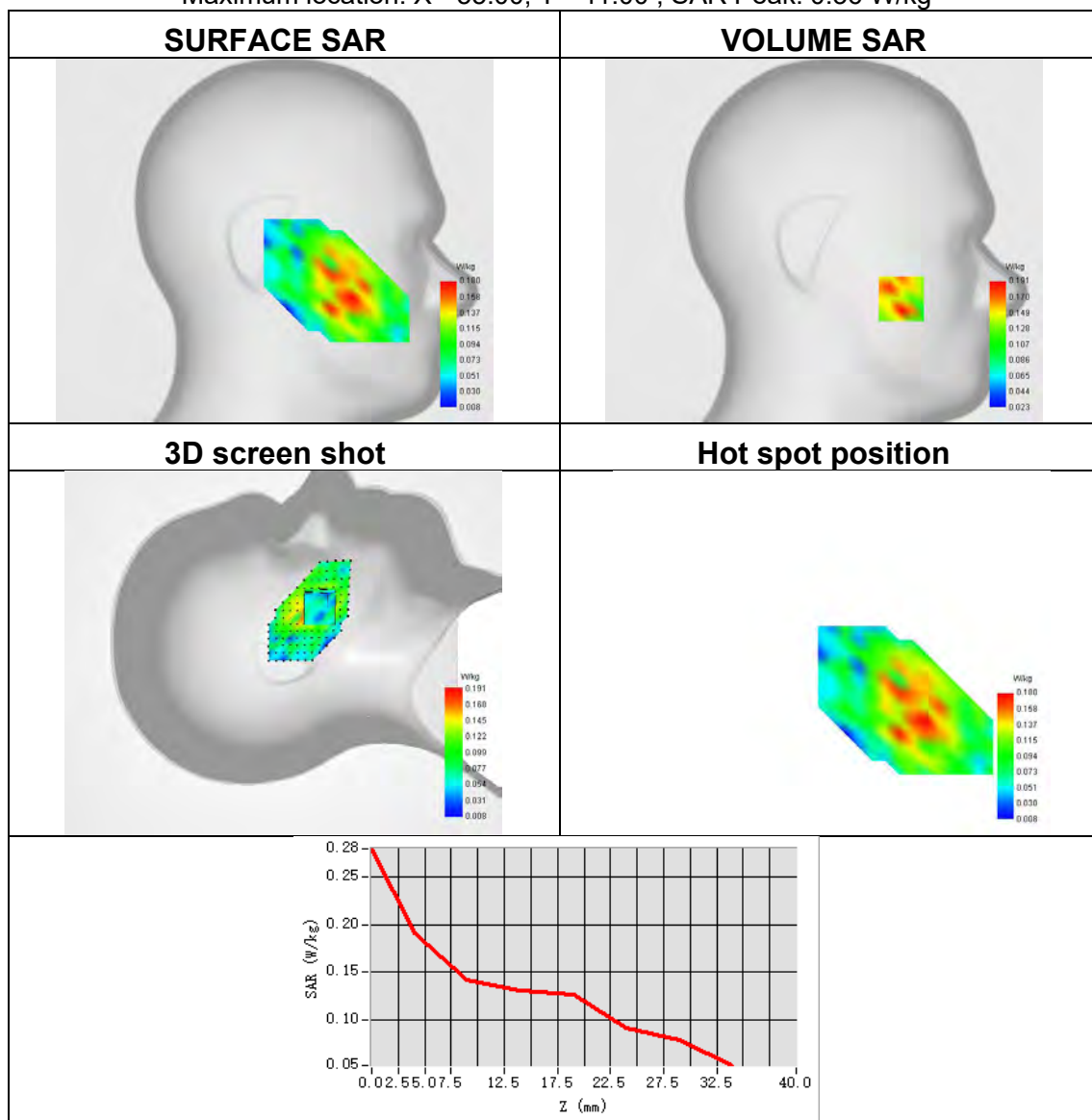




Plot 29:

Test Date	2024-06-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 17
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.115
SAR 1g (W/Kg)	0.196
ConvF	1.68
Relative permittivity	42.49
Conductivity (S/m)	0.86

Maximum location: X=-55.00, Y=-41.00 ; SAR Peak: 0.36 W/kg

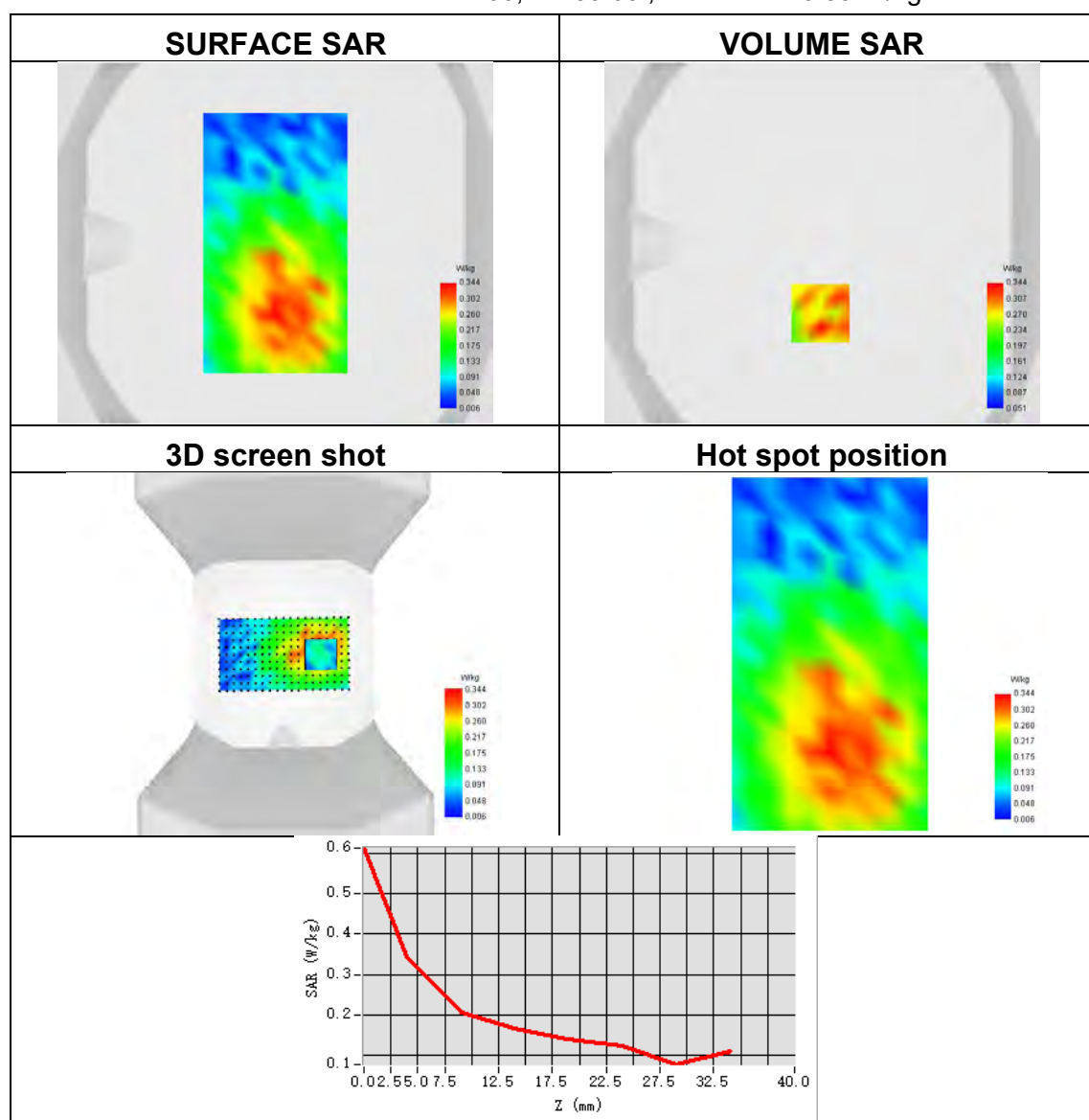




Plot 30:

Test Date	2024-06-06
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 17
Signal	LTE FDD
Frequency	711
SAR 10g (W/Kg)	0.213
SAR 1g (W/Kg)	0.361
ConvF	1.68
Relative permittivity	42.49
Conductivity (S/m)	0.86

Maximum location: X=-1.00, Y=-39.00 ; SAR Peak: 0.59 W/kg

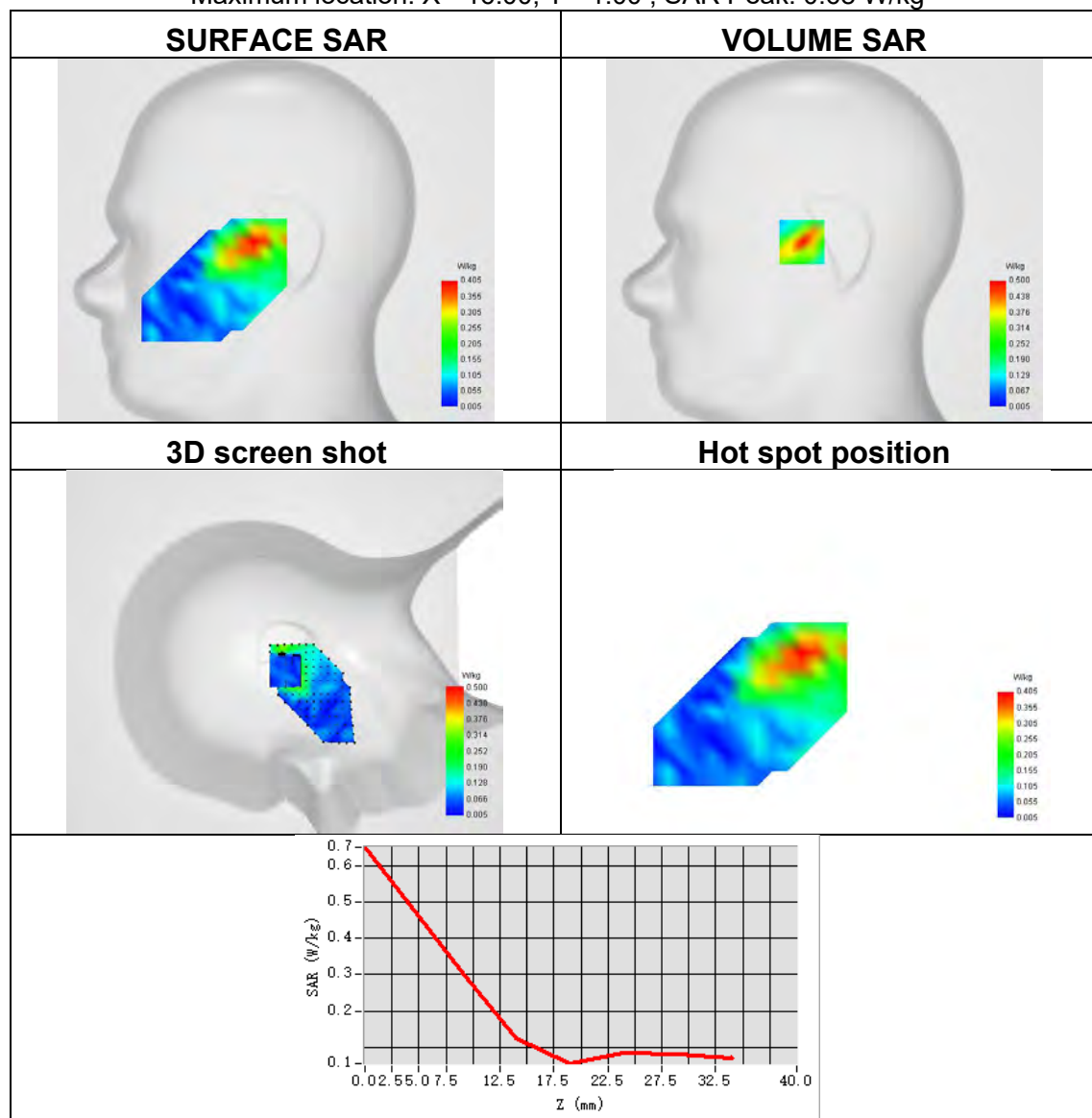




Plot 31:

Test Date	2024-06-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 40
Signal	LTE TDD
Frequency	2355
SAR 10g (W/Kg)	0.216
SAR 1g (W/Kg)	0.423
ConvF	2.30
Relative permittivity	40.72
Conductivity (S/m)	1.75

Maximum location: X=-16.00, Y=-1.00 ; SAR Peak: 0.68 W/kg

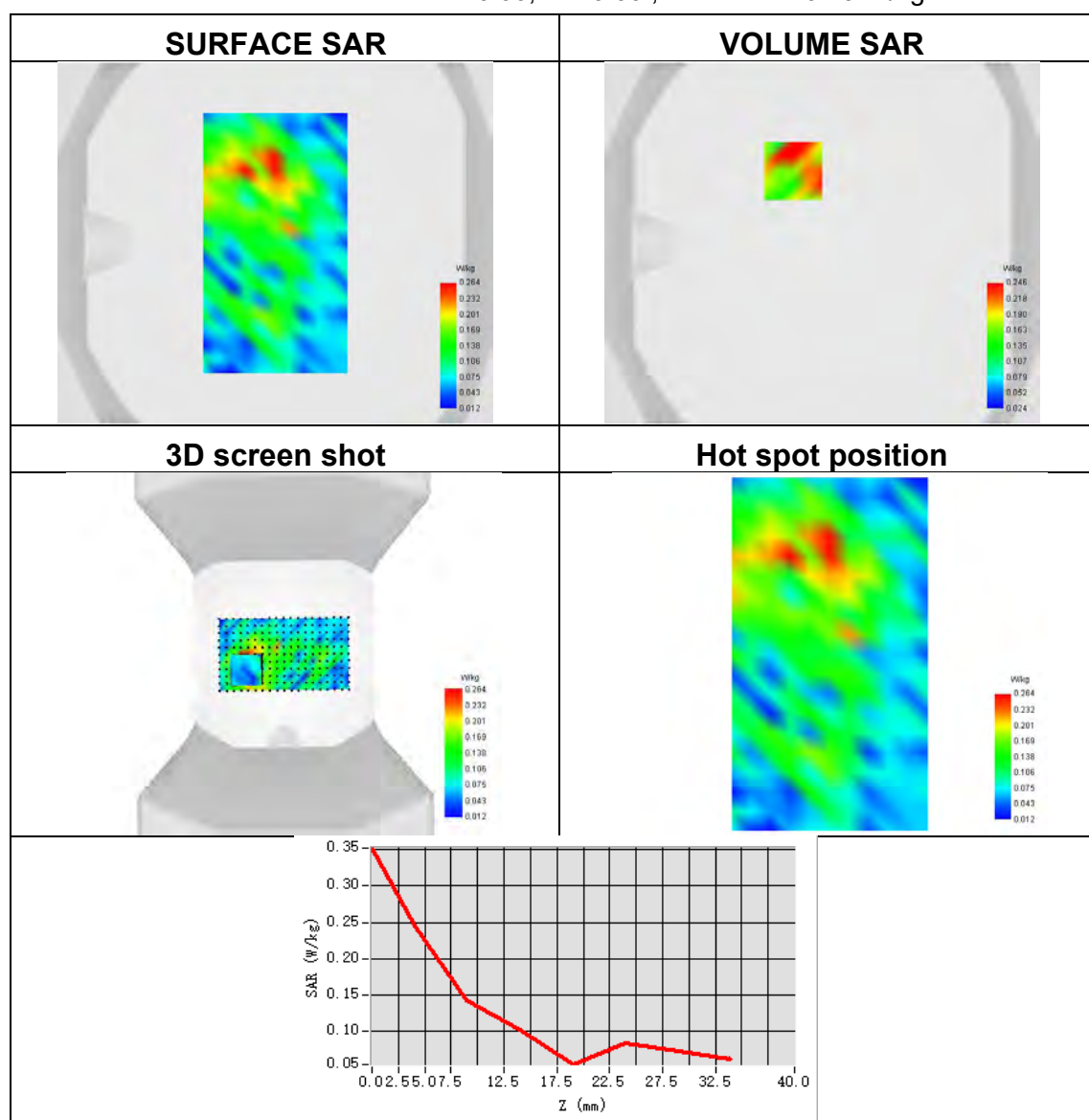




Plot 32:

Test Date	2024-06-08
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 40
Signal	LTE TDD
Frequency	2355
SAR 10g (W/Kg)	0.132
SAR 1g (W/Kg)	0.260
ConvF	2.30
Relative permittivity	40.72
Conductivity (S/m)	1.75

Maximum location: X=-16.00, Y=40.00 ; SAR Peak: 0.49 W/kg

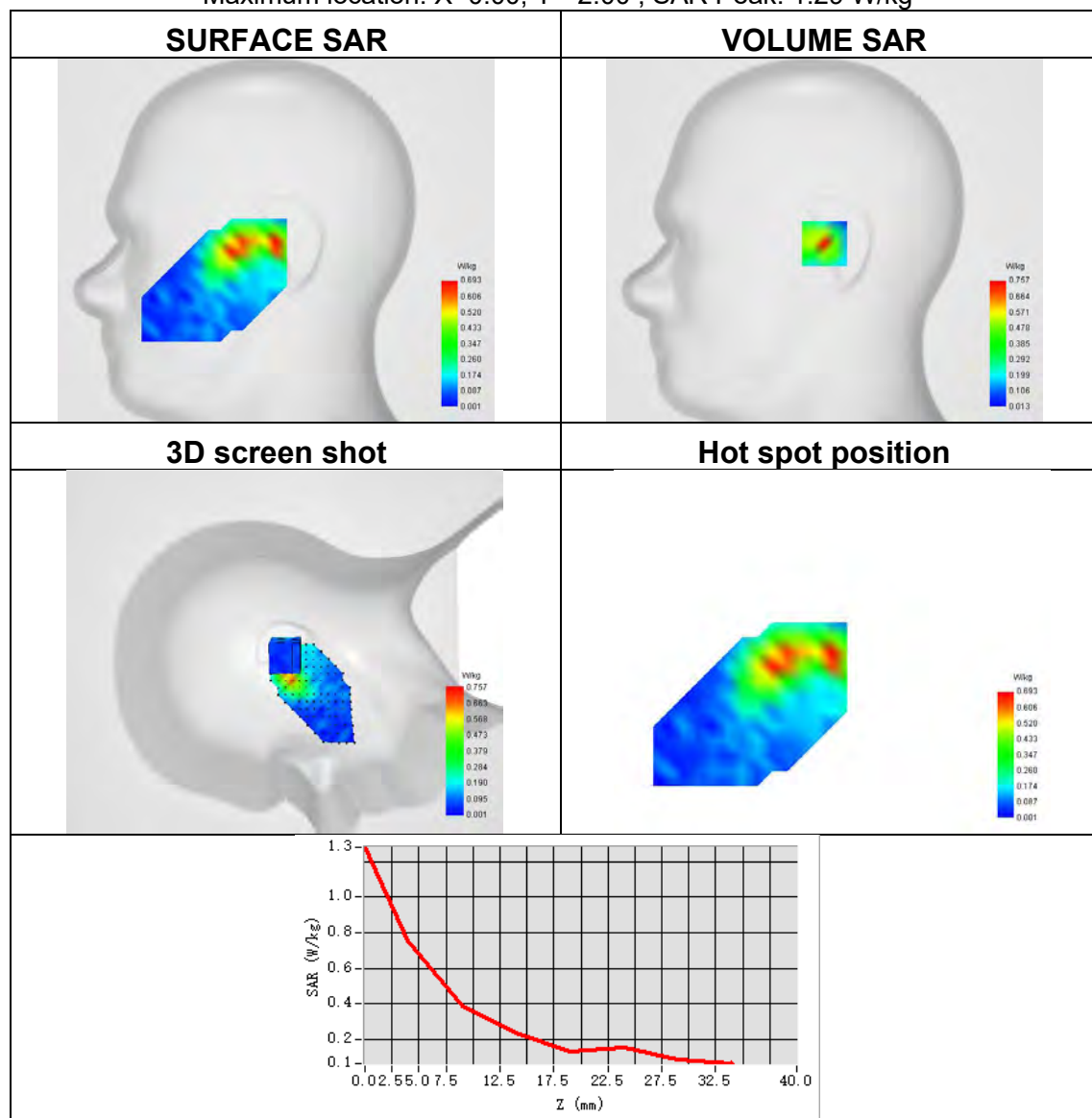




Plot 33:

Test Date	2024-06-17
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 41
Signal	LTE TDD
Frequency	2645
SAR 10g (W/Kg)	0.316
SAR 1g (W/Kg)	0.670
ConvF	2.35
Relative permittivity	39.56
Conductivity (S/m)	2.02

Maximum location: X=0.00, Y=-2.00 ; SAR Peak: 1.29 W/kg

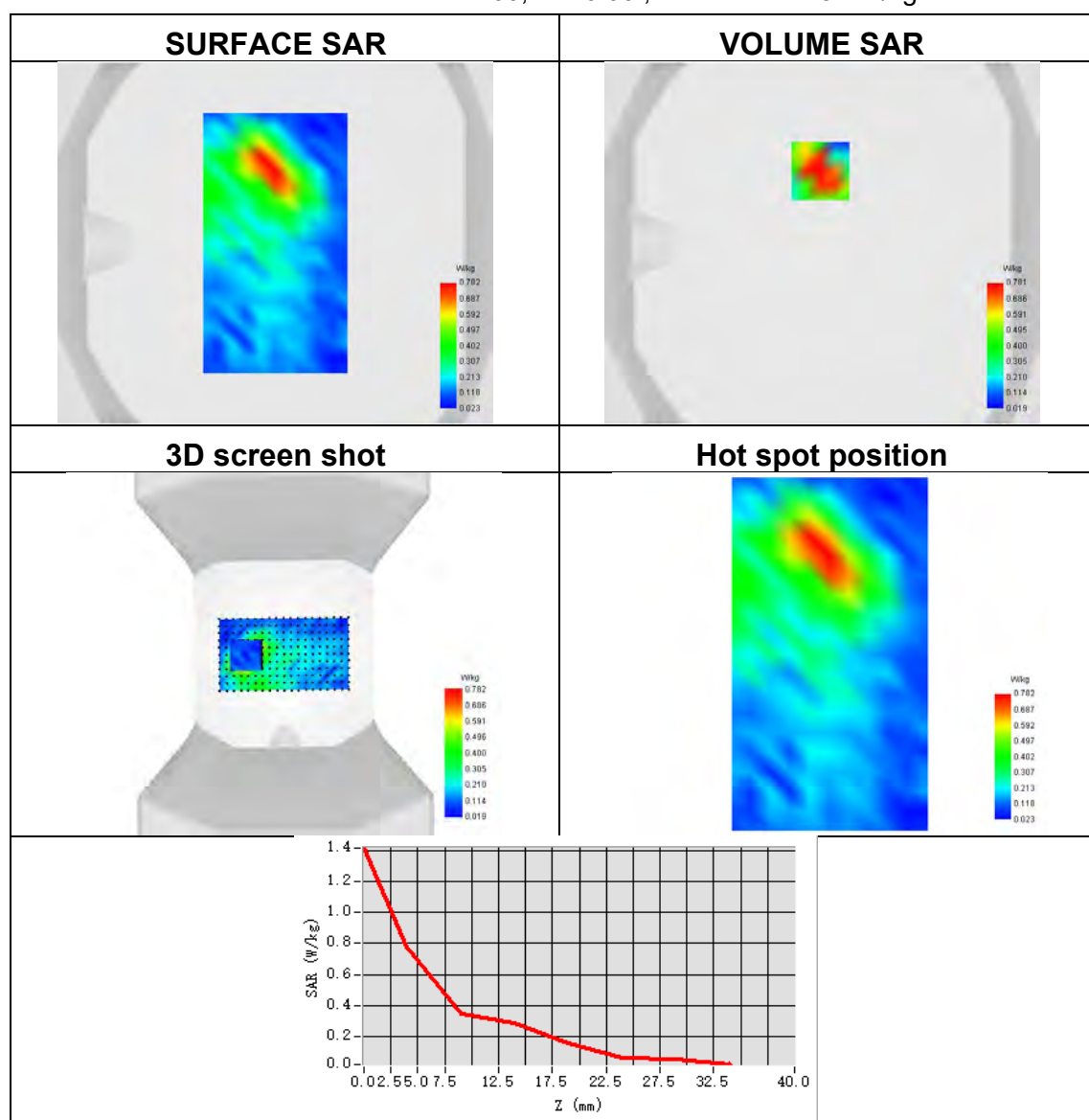




Plot 34:

Test Date	2024-06-17
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 41
Signal	LTE TDD
Frequency	2645
SAR 10g (W/Kg)	0.381
SAR 1g (W/Kg)	0.787
ConvF	2.35
Relative permittivity	39.56
Conductivity (S/m)	2.02

Maximum location: X=-1.00, Y=40.00 ; SAR Peak: 1.52 W/kg

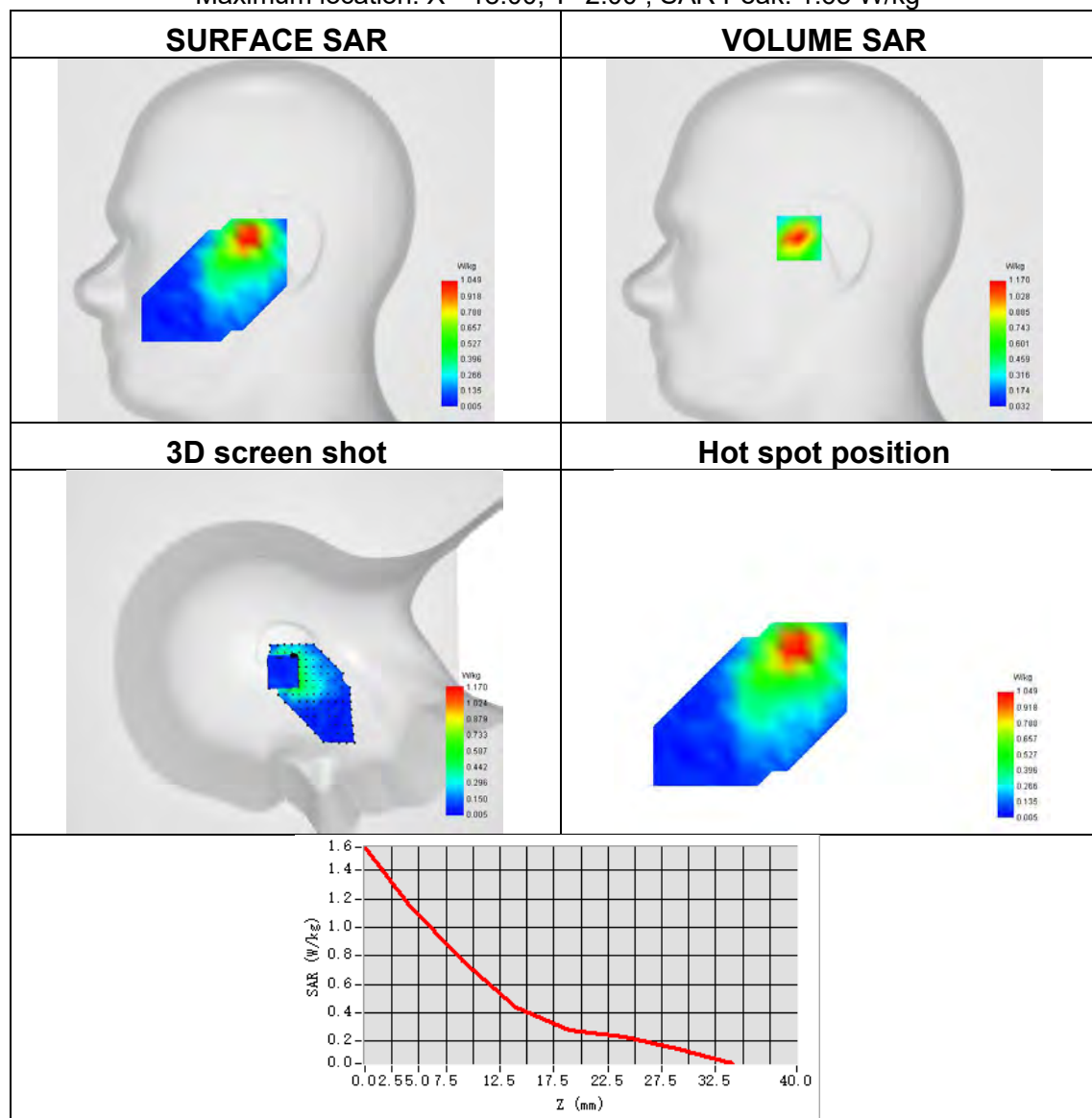




Plot 35:

Test Date	2024-06-12
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 66
Signal	LTE FDD
Frequency	1770
SAR 10g (W/Kg)	0.577
SAR 1g (W/Kg)	1.046
ConvF	1.91
Relative permittivity	41.56
Conductivity (S/m)	1.33

Maximum location: X=-18.00, Y=2.00 ; SAR Peak: 1.65 W/kg

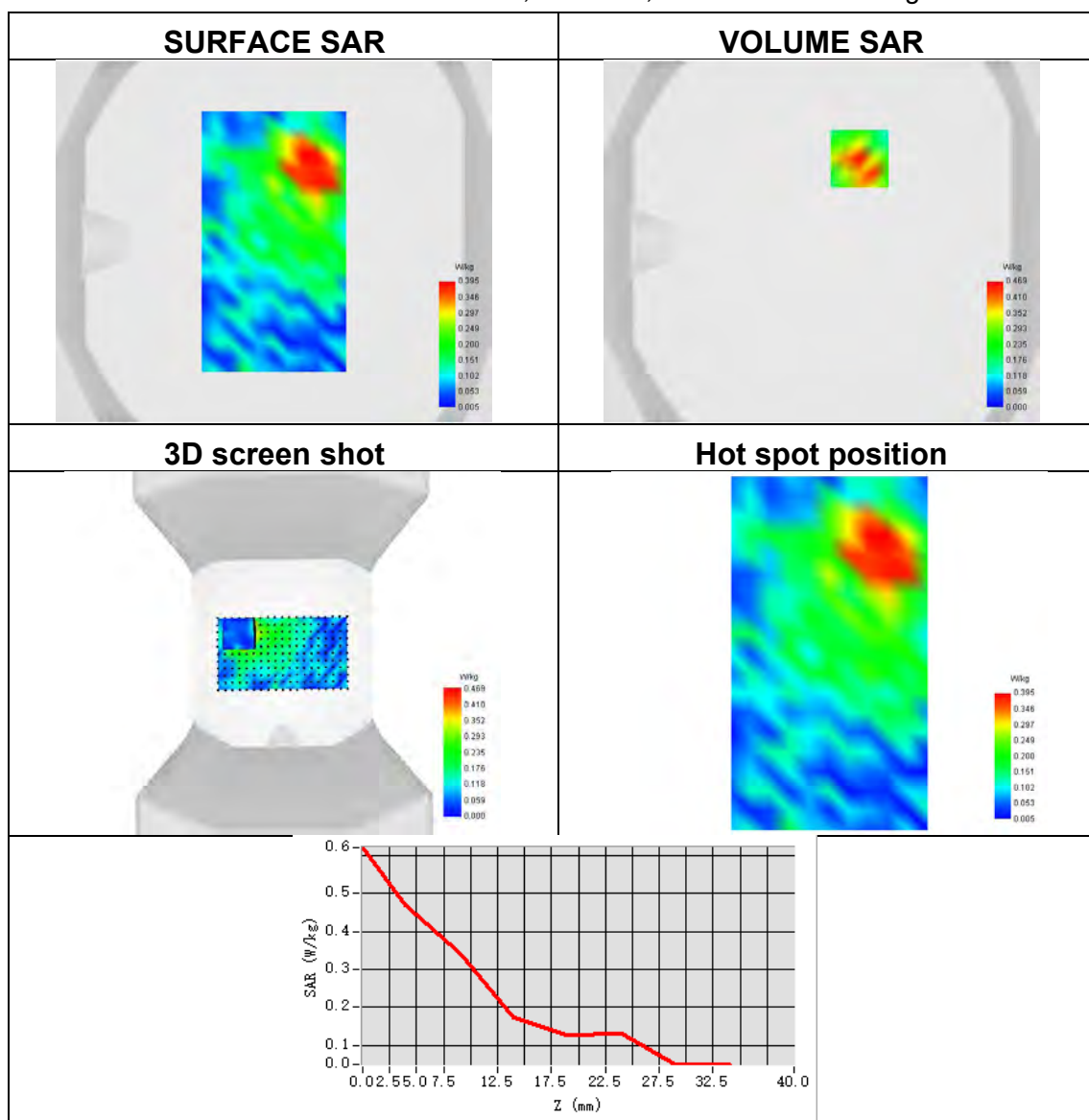




Plot 36:

Test Date	2024-06-12
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 66
Signal	LTE FDD
Frequency	1770
SAR 10g (W/Kg)	0.212
SAR 1g (W/Kg)	0.422
ConvF	1.91
Relative permittivity	41.56
Conductivity (S/m)	1.33

Maximum location: X=21.00, Y=46.00 ; SAR Peak: 0.76 W/kg





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※