



SAR TEST REPORT

Product Name: Smart Phone

Model Name: CP12p

FCC ID: R38YLCP12P

Issued For : Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Issued By : Shenzhen LGT Test Service Co., Ltd.
Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China

Report Number: LGT23C004HA01

Sample Received Date: Mar. 03, 2023

Date of Test: Mar. 11, 2023~ Mar. 25, 2023

Date of Issue: Mar. 27, 2023

Head: 0.909 W/kg

Max. SAR (1g):
Body: 1.219 W/kg

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Revision History

Rev.	Issue Date	Contents
00	Mar. 27, 2023	Initial Issue



TEST REPORT CERTIFICATION

Applicant Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Manufacture Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd
Address Floor 21, Block A, Coolpad Building, Intersection of Keyuan Avenue and Baoshen Road, North High-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Product Name Smart Phone

Trademark coolpad

Model Name CP12p

Sample number LGT2303006

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	Smart Phone		
Trademark	coolpad		
Model Name	CP12p		
Series Model	N/A		
Model Difference	N/A		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population/Uncontrolled		
IMEI	IMEI 1: 868405062509015 IMEI 2: 868405066581671		
Hardware Version	V1.0		
Software Version	CP12p.230327.0S.SE		
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 13: 777 ~ 787 MHz LTE Band 17: 704 ~ 716 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: 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	0.156	0.305
	PCS 1900	0.038	0.285
	WCDMA Band II	0.087	0.27
	WCDMA Band IV	0.114	0.676
	WCDMA Band V	0.077	0.14
	LTE Band 2	0.136	0.487
	LTE Band 4	0.146	0.605
	LTE Band 5	0.149	0.204
	LTE Band 7	0.066	1.219
	LTE Band 12	0.075	0.185
	LTE Band 13	0.075	0.119
	LTE Band 17	0.078	0.203



	LTE Band 66	0.147	0.657
	2.4G WLAN	0.233	0.038
	Bluetooth	0.087	0.026
	5.2G WLAN	0.437	0.046
	5.8G WLAN	0.909	0.034
1-g Sum SAR		1.065	1.265
Battery	Rated Voltage:3.85V Capacity: 4500mAh		
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 + $\pi/4$ DQPSK+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 transmitting at the same time		
Hotspot Mode	Support		
DTM Mode	Not Support		



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, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, 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 D04 v01	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices
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

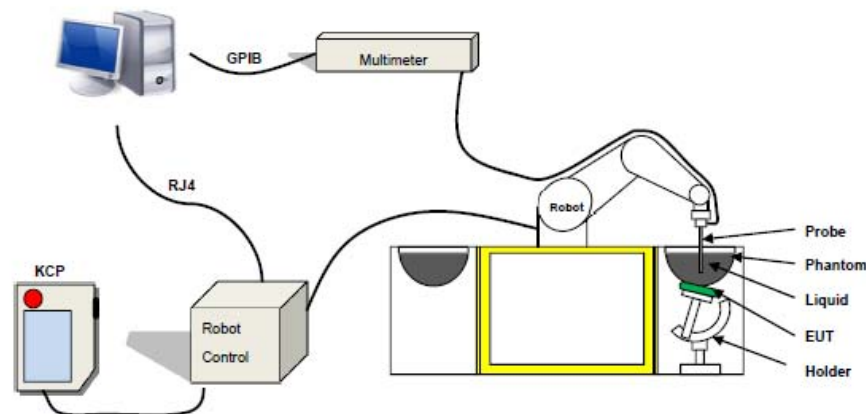
$$SAR = \frac{\sigma E^2}{\rho}$$

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 EPGO364 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°

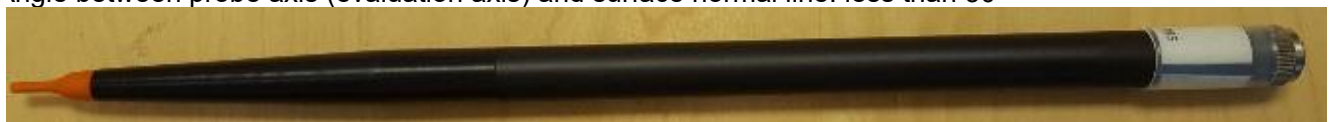


Figure 1-MVG COMOSAR Dosimetric E field Probe

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.

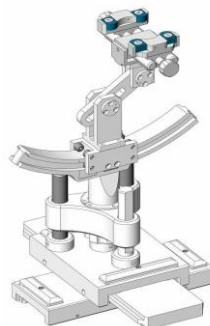


Figure-SN 06/22 SAM 148



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 1g S/m	
	Head	Body	Head	Body
300	45.3	45.3	0.87	0.87
450	43.5	43.5	0.87	0.87
900	41.5	41.5	0.97	0.97
1450	40.5	40.5	1.20	1.20
1800	40.0	40.0	1.40	1.40
2450	39.2	39.2	1.80	1.80
3000	38.5	38.5	2.40	2.40
5200	36.0	36.0	4.70	4.70



LIQUID MEASUREMENT RESULTS

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2023-03-20	23.1	55	750	22.8	Permittivity	41.90	41.96	0.14	±5
					Conductivity	0.89	0.85	-4.49	±5
2023-03-21	21.4	41	835	21.1	Permittivity	41.50	40.77	-1.76	±5
					Conductivity	0.90	0.89	-1.11	±5
2023-03-22	21.1	43	1800	20.8	Permittivity	40.00	41.50	3.75	±5
					Conductivity	1.40	1.39	-0.71	±5
2023-03-23	22.9	52	1900	22.6	Permittivity	40.00	41.09	2.73	±5
					Conductivity	1.40	1.44	2.86	±5
2023-03-11	20.9	42	2450	20.6	Permittivity	39.20	40.36	2.96	±5
					Conductivity	1.80	1.77	-1.67	±5
2023-03-13	20.5	48	2600	20.3	Permittivity	39.00	39.90	2.31	±5
					Conductivity	1.96	1.95	-0.51	±5
2023-03-24	20.2	53	5200	19.9	Permittivity	36.00	36.43	1.19	±5
					Conductivity	4.66	4.64	-0.43	±5
2023-03-25	21.9	60	5800	21.7	Permittivity	35.30	36.05	2.12	±5
					Conductivity	5.27	5.22	-0.95	±5

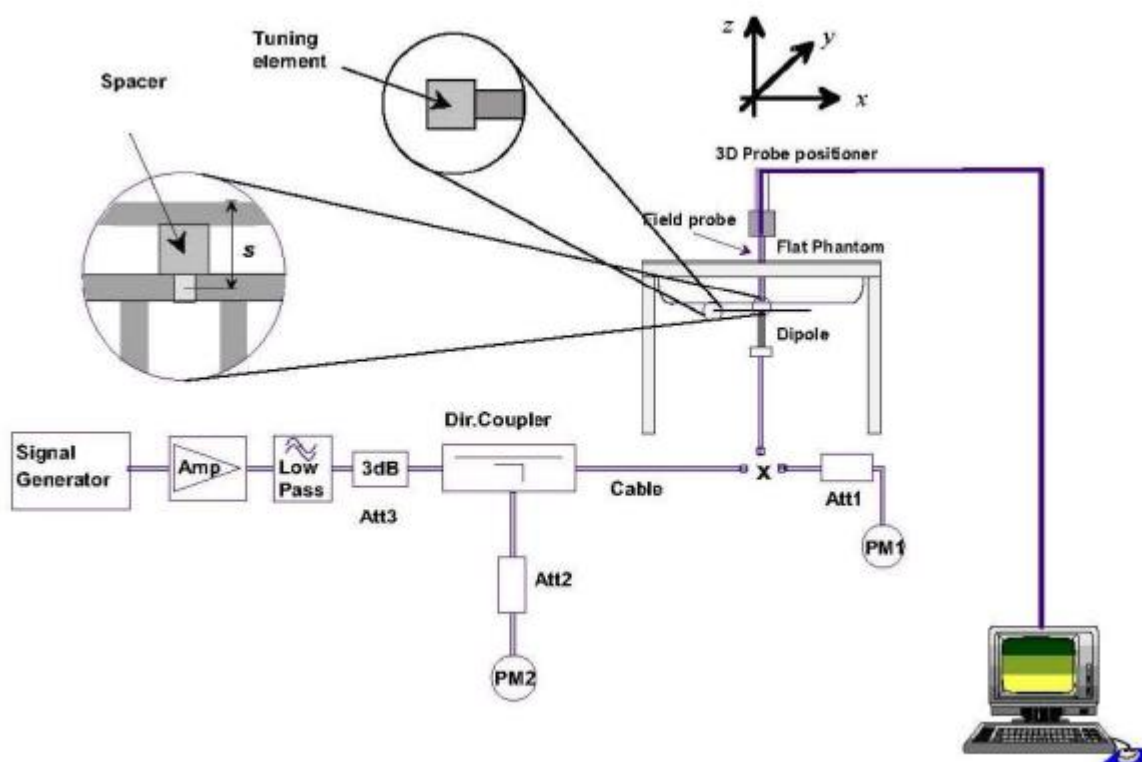


5. SAR System Validation

5.1 Validation System

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

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





5.2 Validation Result

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

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance	Limit
	(MHz)	(mW)	(W/Kg)	(W/kg)	1g(W/kg)	(%)	(%)
2023-03-20	750	100	0.883	8.83	8.27	6.77	10
2023-03-21	835	100	0.985	9.85	9.75	1.03	10
2023-03-22	1800	100	3.636	36.36	39.06	-6.91	10
2023-03-23	1900	100	3.720	37.20	40.85	-8.94	10
2023-03-11	2450	100	5.159	51.59	54.28	-4.96	10
2023-03-13	2600	100	5.530	55.30	56.58	-2.26	10
2023-03-24	5200	100	7.828	78.28	77.64	0.82	10
2023-03-24	5800	100	7.831	78.31	74.92	4.52	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.



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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.

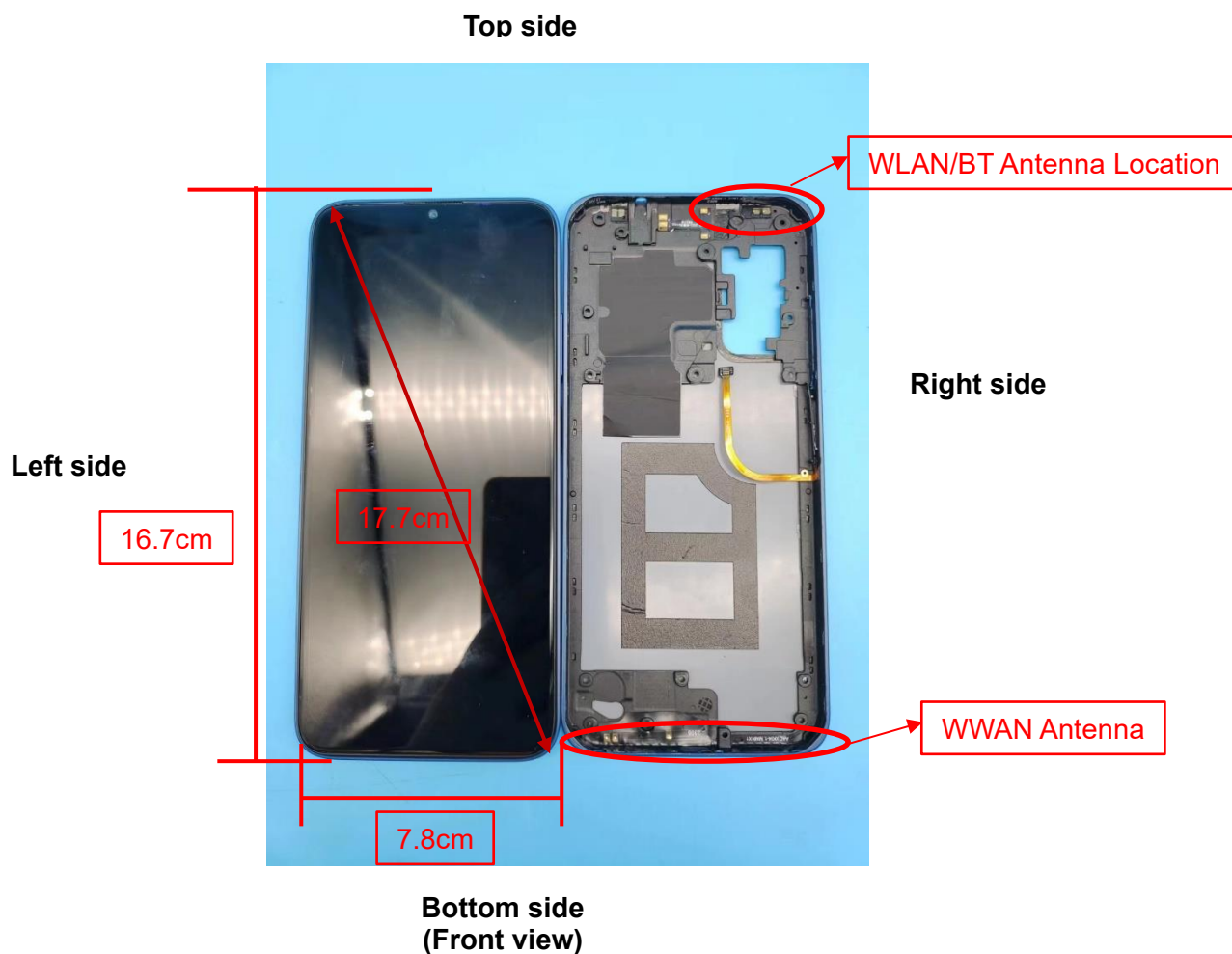
➤ Area Scan & Zoom Scan

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 Smart phone, support GSM/WCDMA/LTE/WLAN/BT mode.



Antenna Separation Distance(cm)						
ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WLAN/BT	≤0.5	≤0.5	4	≤0.5	≤0.5	15.5
WWAN	≤0.5	≤0.5	≤0.5	≤0.5	15.5	≤0.5

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



7.1 SAR test exclusion consider table

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

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA IV	WCDMA V
	Calculated Frequency (GHz)	0.8366	1.88	1.9076	1.7126	0.8264
	Maximum Turn-up power (dBm)	34	30.5	23.5	23	24.5
	Maximum rated power(mW)	2511.89	1122.02	223.87	199.53	281.84
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.22	3.39	3.35	3.66	9.38
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.22	3.39	3.35	3.66	9.38
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.22	3.39	3.35	3.66	9.38
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.22	3.39	3.35	3.66	9.38
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (cm)	15.5	15.5	15.5	15.5	15.5
	exclusion threshold(mW)	1189.82	1912.15	1910.61	1922.05	1177.71
	Testing required?	YES	NO	NO	NO	NO
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.22	3.39	3.35	3.66	9.38
	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 (GHz)	1.9	1.745	0.829	2.56	0.711
	Maximum Turn-up power (dBm)	24	23.5	24.5	24	24
	Maximum rated power(mW)	251.19	223.87	281.84	251.19	251.19
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.36	3.60	9.34	2.65	11.59
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.36	3.60	9.34	2.65	11.59
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.36	3.60	9.34	2.65	11.59
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.36	3.60	9.34	2.65	11.59
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (cm)	15.5	15.5	15.5	15.5	15.5
	exclusion threshold(mW)	1911.03	1920.05	1180.80	1879.75	1038.88
	Testing required?	NO	NO	NO	NO	NO
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.36	3.60	9.34	2.65	11.59
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 13	LTE Band 17	LTE Band 66	BT
	Calculated Frequency (GHz)	0.782	0.71	1.745	2.402
	Maximum Turn-up power (dBm)	19.5	24	23.5	7.5
	Maximum rated power(mW)	89.13	251.19	223.87	5.62
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	10.14	11.61	3.60	2.79
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	10.14	11.61	3.60	2.79
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (cm)	0.5	0.5	0.5	4
	exclusion threshold(mW)	10.14	11.61	3.60	144.27
	Testing required?	YES	YES	YES	NO
Right Edge	Separation distance (cm)	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	10.14	11.61	3.60	2.79
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (cm)	15.5	15.5	15.5	0.5
	exclusion threshold(mW)	1124.70	1037.66	1920.05	2.79
	Testing required?	NO	NO	NO	YES
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	15.5
	exclusion threshold(mW)	10.14	11.61	3.60	1886.39
	Testing required?	YES	YES	YES	NO



Exposure Position	Wireless Interface	2.4G WLAN	5.2G WLAN	5.8G WLAN
	Calculated Frequency (GHz)	2.422	5.18	5.825
	Maximum Turn-up power (dBm)	16	7	10
	Maximum rated power(mW)	39.81	5.01	10.00
Back Side	Separation distance (cm)	0.5	0.5	0.5
	exclusion threshold(mW)	2.77	1.51	1.37
	Testing required?	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5
	exclusion threshold(mW)	2.77	1.51	1.37
	Testing required?	YES	YES	YES
Left Edge	Separation distance (cm)	4	4	4
	exclusion threshold(mW)	143.85	110.29	105.86
	Testing required?	NO	NO	NO
Right Edge	Separation distance (cm)	0.5	0.5	0.5
	exclusion threshold(mW)	2.77	1.51	1.37
	Testing required?	YES	YES	YES
Top Edge	Separation distance (cm)	0.5	0.5	0.5
	exclusion threshold(mW)	2.77	1.51	1.37
	Testing required?	YES	YES	YES
Bottom Edge	Separation distance (cm)	15.5	15.5	15.5
	exclusion threshold(mW)	1885.53	1807.83	1796.13
	Testing required?	NO	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. Per KDB 447498 D04, 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 D04, if the maximum time-averaged power available does not exceed 1 mW. This stand-alone SAR exemption test.



4. Per KDB 447498 D04, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

5. Per KDB 447498 D04, An alternative to the SAR-based exemption is using below table and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in below table to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.



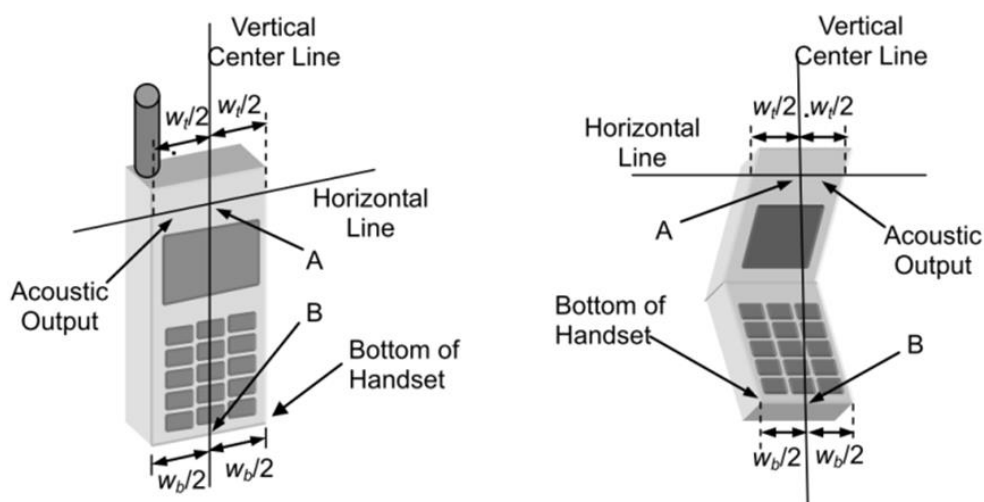
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8. for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode, thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.
8. Per KDB 248227, as maximum rated power for U-NII-2A > U-NII-1, U-NII-2A was chosen for SAR evaluation. Based on the measurements obtained, SAR measurements on U-NII-1 are not required as highest reported SAR from U-NII-2A band is $\leq 1.2\text{W/Kg}$.

8. EUT Test Position

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

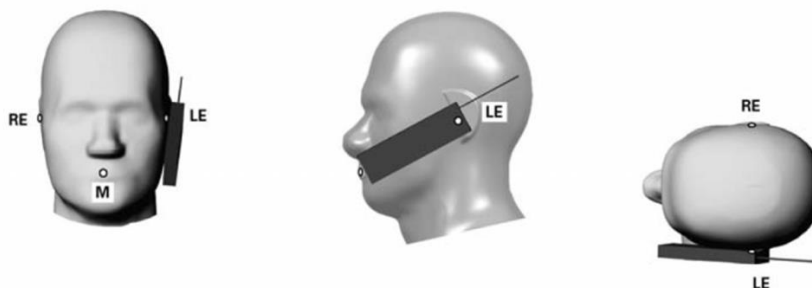
8.1 Define Two Imaginary Lines on the Handset

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



Cheek Position

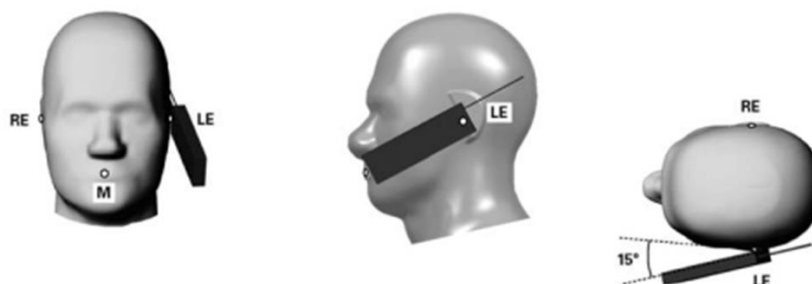
- 1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing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





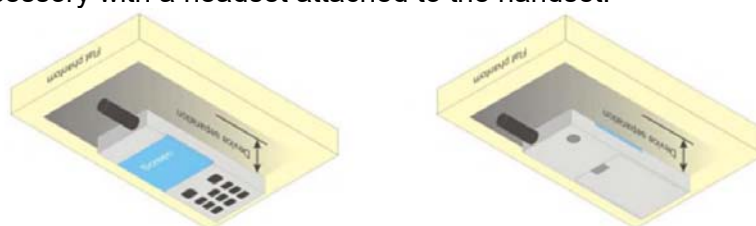
Title Position

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



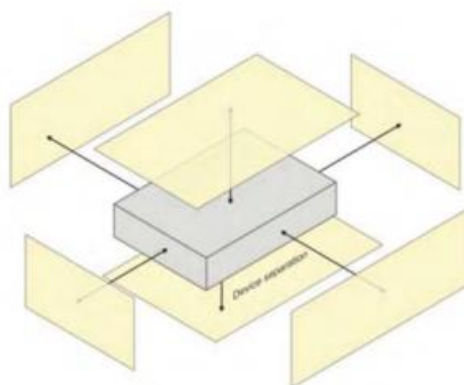
Body-worn Position Conditions:

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



8.2 Hotspot mode exposure position condition

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





9. Uncertainty

9.1 Measurement Uncertainty

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

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



9.2 System validation uncertainty

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



10. Conducted Power Measurement

10.1 Test Result:

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM (GMSK, 1-Slot)	33.1	33.71	33.51	29.95	30.16	29.95
GPRS (GMSK, 1-Slot)	33.1	33.69	33.5	29.94	30.13	29.94
GPRS (GMSK, 2-Slot)	32.13	32.76	32.57	29.07	29.3	29.13
GPRS (GMSK, 3-Slot)	30.23	30.77	30.58	27.16	27.41	27.24
GPRS (GMSK, 4-Slot)	28.92	29.53	29.34	26.03	26.33	26.17
EGPRS (8PSK, 1-Slot)	27.52	27.65	28.17	26.37	26.87	26.63
EGPRS (8PSK, 2-Slot)	26.15	27.08	26.82	25.63	25.41	25.56
EGPRS (8PSK, 3-Slot)	23.91	24.68	24.5	22.97	22.95	23.28
EGPRS (8PSK, 4-Slot)	22.66	23.28	22.81	21.75	21.78	21.85
Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme. Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link						

Frame- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM (GMSK, 1-Slot)	24.07	24.68	24.48	20.92	21.13	20.92
GPRS (GMSK, 1-Slot)	24.07	24.66	24.47	20.91	21.10	20.91
GPRS (GMSK, 2-Slot)	26.11	26.74	26.55	23.05	23.28	23.11
GPRS (GMSK, 3-Slot)	25.97	26.51	26.32	22.90	23.15	22.98
GPRS (GMSK, 4-Slot)	25.91	26.52	26.33	23.02	23.32	23.16
EGPRS (8PSK, 1-Slot)	18.49	18.62	19.14	17.34	17.84	17.60
EGPRS (8PSK, 2-Slot)	20.13	21.06	20.80	19.61	19.39	19.54
EGPRS (8PSK, 3-Slot)	19.65	20.42	20.24	18.71	18.69	19.02
EGPRS (8PSK, 4-Slot)	19.65	20.27	19.80	18.74	18.77	18.84
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	9262	9400	9538	9262	9400	9538
Frequency (MHz)	1852.4	1880	1907.6	1852.4	1880	1907.6	1852.4	1880	1907.6
RMC 12.2Kbps	23.21	23.18	23.22	22.59	22.49	22.49	23.97	23.8	23.61
HSDPA Subtest-1	22.3	22.27	22.29	21.61	21.58	21.57	23.06	22.84	22.74
HSDPA Subtest-2	21.84	21.67	21.8	21.26	21.21	21.12	22.38	22.42	22.35
HSDPA Subtest-3	20.83	20.85	20.51	19.87	20.23	19.93	21.56	21.18	21.61
HSDPA Subtest-4	20.5	20.83	20.92	19.83	20.18	20.12	21.58	21.15	21.19
HSUPA Subtest-1	20.95	22.01	22.11	20.77	21.36	21.36	21.65	22.68	22.63
HSUPA Subtest-2	22.13	22.13	22.16	21.49	21.45	21.43	22.96	22.76	22.66
HSUPA Subtest-3	20.34	20.88	20.76	19.73	20.33	20.23	21.2	21.59	21.41
HSUPA Subtest-4	22.28	22.2	22.31	21.58	21.56	21.52	23.02	22.85	22.72
HSUPA Subtest-5	20.75	21.4	21.64	20.14	20.92	20.79	21.67	21.93	21.96

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	14.53	28.38
	6	2437	14.44	27.80
	11	2462	14.39	27.48
802.11g	1	2412	15.50	35.48
	6	2437	15.28	33.73
	11	2462	15.05	31.99
802.11 n-HT20	1	2412	15.23	33.34
	6	2437	15.24	33.42
	11	2462	15.03	31.84
802.11 n-HT40	3	2422	15.81	38.11
	6	2437	14.42	27.67
	9	2452	15.51	35.56

Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	6.89	4.89
	39	2441	5.68	3.70
	78	2480	4.70	2.95
$\pi/4$ -QPSK(2Mbps)	0	2402	7.07	5.09
	39	2441	6.13	4.10
	78	2480	5.11	3.24
8DPSK(3Mbps)	0	2402	7.00	5.01
	39	2441	6.07	4.05
	78	2480	4.97	3.14

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	-5.51	0.28
	19	2440	-6.05	0.25
	39	2480	-8.45	0.14
GFSK(2Mbps)	0	2402	-5.46	0.28
	19	2440	-6.07	0.25
	39	2480	-7.42	0.18



WLAN (5.2Gband)

5.2G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	36	5180	1.67	1.47
	40	5200	1.09	1.29
	48	5240	0.26	1.06
802.11n-HT20	36	5180	2.41	1.74
	40	5200	1.84	1.53
	48	5240	0.75	1.19
802.11n-HT40	38	5190	2.08	1.61
	46	5230	0.91	1.23
802.11ac-VHT80	42	5210	1.14	1.30

WLAN (5.8G band)

5.8G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	149	5745	2.61	1.82
	157	5785	2.56	1.80
	165	5825	2.66	1.85
802.11n-HT20	149	5745	3.09	2.04
	157	5785	2.93	1.96
	165	5825	3.10	2.04
802.11n-HT40	151	5755	2.72	1.87
	159	5795	2.92	1.96
802.11ac-VHT80	155	5775	2.35	1.72



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	23.31	23.24	23.27
1.4	1	2		23.47	23.40	23.41
1.4	1	5		23.31	23.22	23.22
1.4	3	0		23.38	23.22	23.40
1.4	3	1		23.36	23.22	23.37
1.4	3	2		23.38	23.25	23.36
1.4	6	0		22.31	22.22	22.23
1.4	1	0	16-QAM	22.16	22.37	22.45
1.4	1	2		22.24	22.48	22.61
1.4	1	5		22.16	22.39	22.48
1.4	3	0		22.54	22.41	22.56
1.4	3	1		22.51	22.46	22.62
1.4	3	2		22.54	22.39	22.59
1.4	6	0		21.53	21.42	21.51
3	1	0	QPSK	23.30	23.18	23.35
3	1	7		23.53	23.45	23.63
3	1	14		23.29	23.24	23.38
3	8	0		22.25	22.21	22.29
3	8	4		22.30	22.19	22.32
3	8	7		22.29	22.19	22.27
3	15	0		22.25	22.15	22.29
3	1	0	16-QAM	22.71	22.43	22.22
3	1	7		23.00	22.56	22.51
3	1	14		22.71	22.40	22.21
3	8	0		21.36	21.27	21.39
3	8	4		21.39	21.25	21.34
3	8	7		21.35	21.23	21.35
3	15	0		21.36	21.20	21.40



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.23	23.15	23.19
5	1	12		23.59	23.54	23.53
5	1	24		23.25	23.11	23.23
5	12	0		22.32	22.20	22.33
5	12	6		22.32	22.19	22.36
5	12	11		22.29	22.11	22.20
5	25	0		22.29	22.17	22.31
5	1	0	16-QAM	22.76	22.52	22.56
5	1	12		23.10	22.87	22.90
5	1	24		22.76	22.45	22.55
5	12	0		21.32	21.16	21.44
5	12	6		21.39	21.28	21.45
5	12	11		21.37	21.12	21.29
5	25	0		21.30	21.30	21.33
10	1	0	QPSK	23.33	23.32	23.31
10	1	24		23.46	23.34	23.45
10	1	49		23.42	23.29	23.29
10	25	0		22.27	22.31	22.35
10	25	12		22.34	22.25	22.35
10	25	24		22.40	22.16	22.22
10	50	0		22.37	22.23	22.33
10	1	0	16-QAM	22.49	22.20	22.70
10	1	24		22.56	22.24	22.86
10	1	49		22.56	22.12	22.71
10	25	0		21.36	21.37	21.46
10	25	12		21.40	21.32	21.44
10	25	24		21.46	21.26	21.34
10	50	0		21.47	21.29	21.40



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.20	23.20	23.25
15	1	37		23.63	23.40	23.61
15	1	74		23.31	23.13	23.24
15	36	0		22.31	22.33	22.30
15	36	18		22.40	22.30	22.40
15	36	39		22.40	22.20	22.30
15	75	0		22.38	22.26	22.36
15	1	0	16-QAM	22.65	22.36	22.30
15	1	38		23.05	22.63	22.75
15	1	75		22.77	22.30	22.32
15	36	0		21.33	21.41	21.29
15	36	18		21.46	21.35	21.40
15	36	39		21.45	21.29	21.32
15	75	0		21.43	21.25	21.36
20	1	0	QPSK	23.08	23.07	23.02
20	1	49		23.51	23.34	23.53
20	1	99		23.17	22.98	23.16
20	50	0		22.27	22.29	22.25
20	50	24		22.40	22.25	22.36
20	50	49		22.46	22.14	22.22
20	100	0		22.37	22.25	22.25
20	1	0	16-QAM	22.33	22.39	22.26
20	1	49		22.77	22.66	22.66
20	1	99		22.42	22.33	22.41
20	50	0		21.36	21.38	21.28
20	50	24		21.56	21.36	21.38
20	50	49		21.55	21.27	21.27
20	100	0		21.45	21.31	21.34



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.72	22.59	22.61
1.4	1	2		22.94	22.79	22.79
1.4	1	5		22.68	22.61	22.63
1.4	3	0		22.79	22.60	22.76
1.4	3	1		22.78	22.64	22.75
1.4	3	2		22.75	22.64	22.70
1.4	6	0		21.75	21.61	21.71
1.4	1	0	16-QAM	21.63	21.77	21.87
1.4	1	2		21.78	21.90	21.99
1.4	1	5		21.60	21.83	21.84
1.4	3	0		21.95	21.85	21.98
1.4	3	1		21.95	21.85	21.99
1.4	3	2		22.00	21.86	21.98
1.4	6	0		20.97	20.82	20.88
3	1	0	QPSK	22.69	22.55	22.68
3	1	7		22.91	22.77	22.97
3	1	14		22.65	22.53	22.71
3	8	0		21.68	21.56	21.70
3	8	4		21.72	21.60	21.70
3	8	7		21.68	21.64	21.70
3	15	0		21.67	21.60	21.70
3	1	0	16-QAM	22.18	21.76	21.61
3	1	7		22.30	22.10	21.81
3	1	14		22.15	21.81	21.54
3	8	0		20.75	20.61	20.71
3	8	4		20.75	20.64	20.69
3	8	7		20.71	20.63	20.70
3	15	0		20.72	20.54	20.74



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.59	22.43	22.51
5	1	12		22.93	22.88	22.76
5	1	24		22.45	22.52	22.50
5	12	0		21.67	21.57	21.69
5	12	6		21.70	21.63	21.75
5	12	11		21.64	21.57	21.65
5	25	0		21.72	21.60	21.73
5	1	0	16-QAM	22.19	21.82	21.92
5	1	12		22.67	22.27	22.31
5	1	24		22.09	21.97	21.93
5	12	0		20.68	20.46	20.72
5	12	6		20.69	20.61	20.80
5	12	11		20.66	20.55	20.68
5	25	0		20.72	20.62	20.71
10	1	0	QPSK	22.69	22.55	22.66
10	1	24		22.67	22.71	22.73
10	1	49		22.50	22.76	22.59
10	25	0		21.72	21.54	21.82
10	25	12		21.63	21.61	21.81
10	25	24		21.62	21.66	21.73
10	50	0		21.68	21.60	21.76
10	1	0	16-QAM	21.91	21.46	22.14
10	1	24		21.89	21.56	22.24
10	1	49		21.77	21.53	22.09
10	25	0		20.75	20.56	20.86
10	25	12		20.67	20.63	20.81
10	25	24		20.65	20.69	20.74
10	50	0		20.73	20.58	20.76



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.60	22.36	22.59
15	1	37		22.90	22.76	23.05
15	1	74		22.43	22.50	22.59
15	36	0		21.66	21.54	21.89
15	36	18		21.60	21.68	21.91
15	36	39		21.54	21.71	21.82
15	75	0		21.58	21.66	21.86
15	1	0	16-QAM	21.75	21.86	21.83
15	1	38		21.93	22.33	22.19
15	1	75		21.60	22.01	21.82
15	36	0		20.63	20.55	20.87
15	36	18		20.56	20.67	20.94
15	36	39		20.57	20.69	20.80
15	75	0		20.63	20.64	20.79
20	1	0	QPSK	22.41	22.21	22.40
20	1	49		22.57	22.64	22.93
20	1	99		22.28	22.52	22.49
20	50	0		21.58	21.51	21.78
20	50	24		21.58	21.71	21.83
20	50	49		21.62	21.73	21.75
20	100	0		21.61	21.60	21.76
20	1	0	16-QAM	21.73	21.58	21.69
20	1	49		21.99	22.07	22.07
20	1	99		21.62	21.90	21.79
20	50	0		20.67	20.60	20.81
20	50	24		20.64	20.74	20.81
20	50	49		20.70	20.76	20.75
20	100	0		20.63	20.64	20.82



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.01	23.80	23.53
1.4	1	2		24.16	24.02	23.76
1.4	1	5		24.03	23.78	23.57
1.4	3	0		24.05	23.80	23.71
1.4	3	1		24.08	23.81	23.70
1.4	3	2		24.08	23.84	23.68
1.4	6	0		23.01	22.81	22.62
1.4	1	0	16-QAM	22.81	22.89	22.74
1.4	1	2		22.96	23.08	22.89
1.4	1	5		22.81	22.87	22.78
1.4	3	0		23.14	22.96	22.88
1.4	3	1		23.14	23.00	22.90
1.4	3	2		23.19	22.93	22.91
1.4	6	0		22.19	22.02	21.81
3	1	0	QPSK	24.05	23.77	23.61
3	1	7		24.33	24.01	23.87
3	1	14		24.07	23.71	23.63
3	8	0		22.97	22.75	22.61
3	8	4		23.00	22.77	22.64
3	8	7		22.98	22.76	22.65
3	15	0		22.95	22.73	22.63
3	1	0	16-QAM	22.82	23.25	22.80
3	1	7		23.16	23.43	23.07
3	1	14		22.83	23.19	22.83
3	8	0		22.05	21.87	21.71
3	8	4		22.07	21.89	21.73
3	8	7		22.03	21.86	21.68
3	15	0		22.11	21.87	21.65



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.86	23.77	23.47
5	1	12		24.27	24.08	23.88
5	1	24		23.90	23.64	23.54
5	12	0		23.01	22.71	22.62
5	12	6		23.02	22.84	22.70
5	12	11		22.98	22.75	22.58
5	25	0		23.01	22.76	22.64
5	1	0	16-QAM	23.41	23.02	22.84
5	1	12		23.90	23.30	23.16
5	1	24		23.48	22.96	22.85
5	12	0		22.03	21.78	21.69
5	12	6		22.07	21.85	21.78
5	12	11		22.06	21.79	21.69
5	25	0		22.04	21.89	21.64
10	1	0	QPSK	23.94	23.96	23.61
10	1	24		24.06	23.93	23.67
10	1	49		23.91	23.78	23.65
10	25	0		23.02	22.79	22.67
10	25	12		22.93	22.79	22.59
10	25	24		22.97	22.83	22.64
10	50	0		22.98	22.80	22.67
10	1	0	16-QAM	23.09	22.75	23.07
10	1	24		23.24	22.69	23.14
10	1	49		23.03	22.57	23.06
10	25	0		22.09	21.89	21.84
10	25	12		22.02	21.84	21.72
10	25	24		22.06	21.77	21.70
10	50	0		22.09	21.88	21.76



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.28	23.30	23.19
5	1	12		23.78	23.75	23.62
5	1	24		23.25	23.28	23.21
5	12	0		22.30	22.32	22.35
5	12	6		22.38	22.39	22.41
5	12	11		22.41	22.35	22.36
5	25	0		22.36	22.35	22.33
5	1	0	16-QAM	22.81	22.64	22.52
5	1	12		23.24	22.97	22.94
5	1	24		22.75	22.58	22.53
5	12	0		21.30	21.34	21.41
5	12	6		21.41	21.41	21.47
5	12	11		21.40	21.38	21.44
5	25	0		21.38	21.42	21.35
10	1	0	QPSK	23.38	23.38	23.30
10	1	24		23.50	23.48	23.48
10	1	49		23.42	23.26	23.33
10	25	0		22.27	22.43	22.38
10	25	12		22.32	22.38	22.36
10	25	24		22.34	22.41	22.37
10	50	0		22.35	22.44	22.36
10	1	0	16-QAM	22.17	22.83	22.42
10	1	24		22.28	22.89	22.64
10	1	49		22.13	22.68	22.47
10	25	0		21.33	21.51	21.43
10	25	12		21.37	21.45	21.42
10	25	24		21.40	21.49	21.45
10	50	0		21.34	21.51	21.46



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.26	23.43	23.13
15	1	37		23.61	23.75	23.57
15	1	74		23.23	23.27	23.24
15	36	0		22.37	22.47	22.39
15	36	18		22.39	22.54	22.42
15	36	39		22.45	22.46	22.42
15	75	0		22.35	22.46	22.42
15	1	0	16-QAM	22.47	22.50	22.57
15	1	38		22.65	22.78	23.02
15	1	75		22.40	22.27	22.67
15	36	0		21.40	21.46	21.44
15	36	18		21.45	21.49	21.48
15	36	39		21.43	21.40	21.43
15	75	0		21.36	21.52	21.41
20	1	0	QPSK	23.10	23.20	23.10
20	1	49		23.49	23.52	23.53
20	1	99		23.16	23.07	23.21
20	50	0		22.20	22.41	22.35
20	50	24		22.37	22.47	22.35
20	50	49		22.28	22.38	22.31
20	100	0		22.24	22.42	22.35
20	1	0	16-QAM	22.38	22.52	22.26
20	1	49		22.64	22.88	22.63
20	1	99		22.37	22.38	22.39
20	50	0		21.32	21.51	21.38
20	50	24		21.45	21.59	21.39
20	50	49		21.36	21.46	21.35
20	100	0		21.30	21.48	21.39



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.81	23.60	23.44
1.4	1	2		23.99	23.81	23.58
1.4	1	5		23.82	23.59	23.45
1.4	3	0		23.79	23.76	23.50
1.4	3	1		23.83	23.74	23.48
1.4	3	2		23.83	23.71	23.48
1.4	6	0		22.77	22.65	22.50
1.4	1	0	16-QAM	22.91	22.85	22.32
1.4	1	2		23.06	22.95	22.51
1.4	1	5		22.93	22.83	22.41
1.4	3	0		22.99	22.95	22.68
1.4	3	1		23.00	22.97	22.67
1.4	3	2		22.99	22.95	22.74
1.4	6	0		21.95	21.85	21.69
3	1	0	QPSK	23.75	23.66	23.56
3	1	7		24.02	23.87	23.89
3	1	14		23.70	23.62	23.53
3	8	0		22.77	22.67	22.49
3	8	4		22.76	22.67	22.52
3	8	7		22.76	22.65	22.51
3	15	0		22.73	22.63	22.46
3	1	0	16-QAM	23.18	22.91	22.47
3	1	7		23.51	23.24	22.73
3	1	14		23.15	22.84	22.36
3	8	0		21.75	21.68	21.48
3	8	4		21.79	21.68	21.48
3	8	7		21.76	21.65	21.50
3	15	0		21.75	21.58	21.52



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.63	23.61	23.39
5	1	12		24.05	23.97	23.76
5	1	24		23.65	23.53	23.32
5	12	0		22.75	22.69	22.57
5	12	6		22.78	22.72	22.57
5	12	11		22.74	22.69	22.47
5	25	0		22.75	22.68	22.54
5	1	0	16-QAM	23.19	22.93	22.75
5	1	12		23.61	23.33	23.14
5	1	24		23.28	22.91	22.76
5	12	0		21.71	21.59	21.56
5	12	6		21.78	21.67	21.62
5	12	11		21.74	21.64	21.44
5	25	0		21.73	21.73	21.51
10	1	0	QPSK	23.71	23.75	23.68
10	1	24		23.85	23.88	23.68
10	1	49		23.68	23.67	23.44
10	25	0		22.75	22.67	22.65
10	25	12		22.74	22.71	22.66
10	25	24		22.80	22.72	22.61
10	50	0		22.79	22.70	22.62
10	1	0	16-QAM	22.90	22.56	23.09
10	1	24		23.05	22.69	23.10
10	1	49		22.85	22.51	22.99
10	25	0		21.77	21.70	21.69
10	25	12		21.76	21.70	21.66
10	25	24		21.83	21.72	21.65
10	50	0		21.79	21.71	21.65



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	17.83	18.73	18.75
5	1	12		19.23	19.06	18.92
5	1	24		18.86	18.79	19.05
5	12	0		17.71	17.83	17.88
5	12	6		17.89	17.90	17.90
5	12	11		17.80	17.99	17.87
5	25	0		17.74	17.88	17.85
5	1	0	16-QAM	17.57	17.79	18.29
5	1	12		18.34	18.51	18.64
5	1	24		18.13	18.09	18.10
5	12	0		16.52	16.83	16.90
5	12	6		16.80	17.04	16.95
5	12	11		16.78	17.09	16.84
5	25	0		16.67	16.93	16.88
10	1	0	QPSK	/	18.01	/
10	1	24		/	18.97	/
10	1	49		/	19.16	/
10	25	0		/	17.73	/
10	25	12		/	17.90	/
10	25	24		/	18.05	/
10	50	0		/	17.87	/
10	1	0	16-QAM	/	17.59	/
10	1	24		/	18.07	/
10	1	49		/	17.99	/
10	25	0		/	16.73	/
10	25	12		/	16.96	/
10	25	24		/	17.06	/
10	50	0		/	16.95	/



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.72	23.62	23.47
5	1	12		24.08	23.95	23.82
5	1	24		23.61	23.57	23.36
5	12	0		22.74	22.61	22.62
5	12	6		22.79	22.69	22.64
5	12	11		22.74	22.59	22.51
5	25	0		22.74	22.65	22.58
5	1	0	16-QAM	23.26	23.00	22.79
5	1	12		23.66	23.24	23.18
5	1	24		23.23	22.87	22.82
5	12	0		21.74	21.53	21.61
5	12	6		21.76	21.67	21.65
5	12	11		21.78	21.53	21.57
5	25	0		21.75	21.66	21.58
10	1	0	QPSK	23.80	23.72	23.74
10	1	24		23.87	23.77	23.75
10	1	49		23.65	23.46	23.53
10	25	0		22.72	22.68	22.68
10	25	12		22.71	22.72	22.70
10	25	24		22.72	22.67	22.67
10	50	0		22.68	22.66	22.69
10	1	0	16-QAM	22.66	23.15	22.90
10	1	24		22.68	23.21	22.93
10	1	49		22.47	22.99	22.77
10	25	0		21.78	21.72	21.70
10	25	12		21.69	21.73	21.66
10	25	24		21.73	21.67	21.63
10	50	0		21.72	21.69	21.72



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.91	22.79	22.99
1.4	1	2		23.03	22.96	23.18
1.4	1	5		22.91	22.84	23.04
1.4	3	0		22.87	22.94	23.06
1.4	3	1		22.87	22.96	23.04
1.4	3	2		22.89	22.96	23.01
1.4	6	0		21.88	21.90	22.05
1.4	1	0	16-QAM	22.10	22.08	21.81
1.4	1	2		22.17	22.16	21.97
1.4	1	5		22.06	22.08	21.84
1.4	3	0		22.13	22.16	22.15
1.4	3	1		22.13	22.21	22.21
1.4	3	2		22.09	22.12	22.19
1.4	6	0		21.07	21.06	21.20
3	1	0	QPSK	22.76	22.89	22.91
3	1	7		23.14	23.29	23.23
3	1	14		22.77	22.90	22.98
3	8	0		21.84	21.92	22.01
3	8	4		21.88	21.94	22.01
3	8	7		21.85	21.90	22.02
3	15	0		21.82	21.88	21.97
3	1	0	16-QAM	22.10	21.74	22.36
3	1	7		22.25	22.06	22.63
3	1	14		22.05	21.73	22.38
3	8	0		20.89	20.88	21.03
3	8	4		20.88	20.92	21.06
3	8	7		20.85	20.89	21.05
3	15	0		20.81	20.95	21.01



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.68	22.76	22.73
5	1	12		23.11	23.19	23.12
5	1	24		22.57	22.73	22.84
5	12	0		21.82	21.86	21.90
5	12	6		21.86	21.94	22.02
5	12	11		21.79	21.81	21.99
5	25	0		21.84	21.86	21.98
5	1	0	16-QAM	22.31	22.12	22.14
5	1	12		22.77	22.57	22.54
5	1	24		22.24	22.10	22.19
5	12	0		20.85	20.80	20.98
5	12	6		20.83	20.87	21.05
5	12	11		20.82	20.77	20.95
5	25	0		20.84	20.88	20.95
10	1	0	QPSK	22.77	22.79	22.83
10	1	24		22.78	22.94	23.09
10	1	49		22.58	22.81	23.07
10	25	0		21.87	21.92	21.98
10	25	12		21.82	21.93	21.97
10	25	24		21.81	21.88	22.02
10	50	0		21.85	21.89	22.01
10	1	0	16-QAM	22.29	22.03	21.75
10	1	24		22.27	22.11	21.91
10	1	49		22.11	22.03	21.85
10	25	0		20.92	20.91	21.01
10	25	12		20.82	20.92	20.99
10	25	24		20.88	20.87	21.02
10	50	0		20.90	20.94	20.99



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.78	22.74	22.60
15	1	37		23.05	23.09	23.18
15	1	74		22.55	22.66	22.91
15	36	0		21.83	22.01	21.93
15	36	18		21.78	22.05	22.05
15	36	39		21.79	21.97	22.12
15	75	0		21.81	22.00	22.06
15	1	0	16-QAM	21.93	22.21	21.89
15	1	38		22.10	22.52	22.28
15	1	75		21.74	22.14	22.14
15	36	0		20.77	21.00	20.90
15	36	18		20.73	21.03	21.02
15	36	39		20.74	20.91	21.08
15	75	0		20.83	21.00	20.97
20	1	0	QPSK	22.54	22.54	22.49
20	1	49		22.76	22.99	22.97
20	1	99		22.47	22.55	22.84
20	50	0		21.75	21.96	21.80
20	50	24		21.72	21.98	21.95
20	50	49		21.81	21.88	21.93
20	100	0		21.79	21.89	21.83
20	1	0	16-QAM	21.91	21.91	21.71
20	1	49		22.08	22.30	22.17
20	1	99		21.77	21.97	22.07
20	50	0		20.79	21.05	20.80
20	50	24		20.79	21.01	20.95
20	50	49		20.84	20.96	20.92
20	100	0		20.79	20.90	20.85

11. EUT and Test Setup Photo

11.1 EUT Photos

Front side



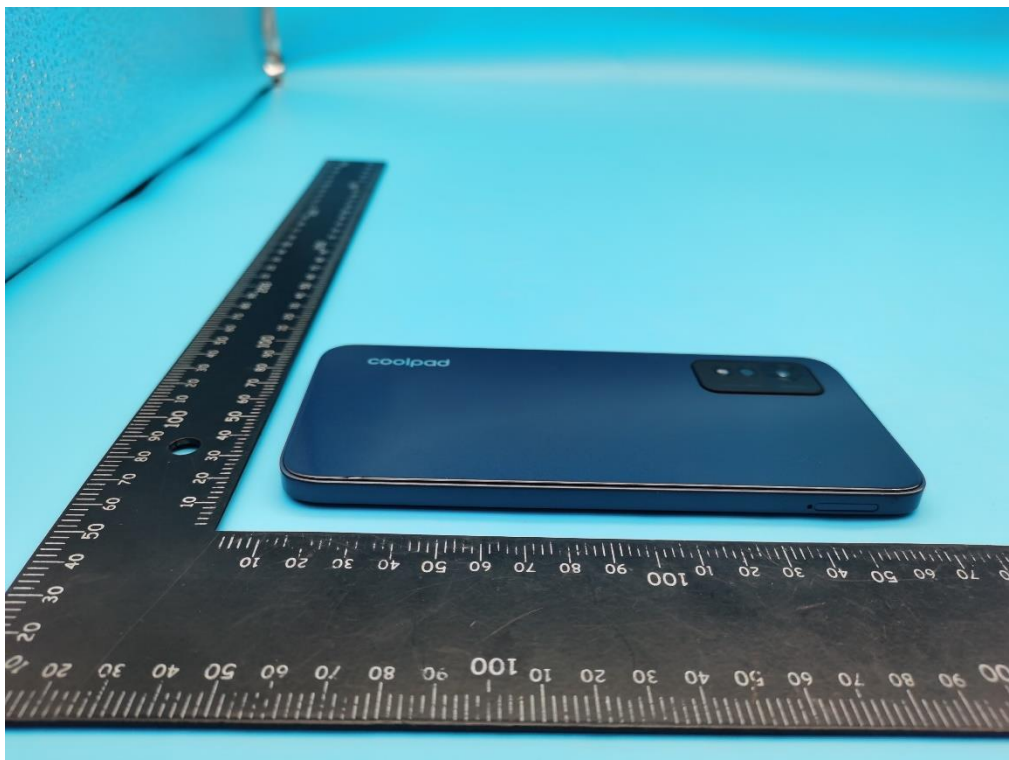
Back side



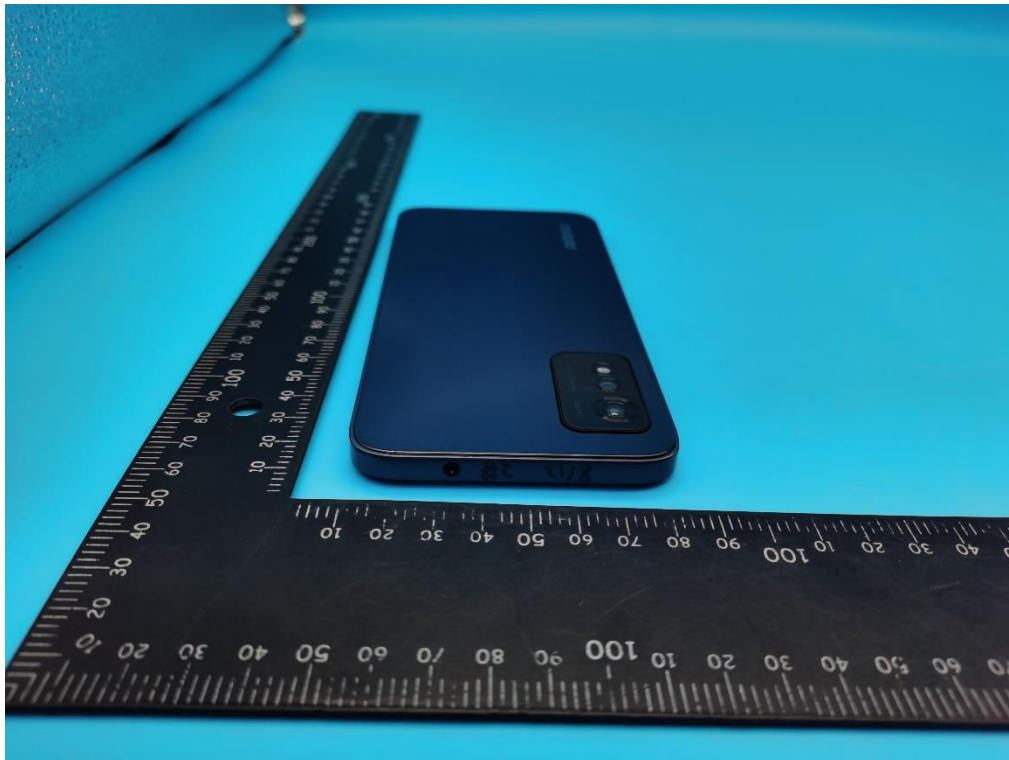
Right Edge



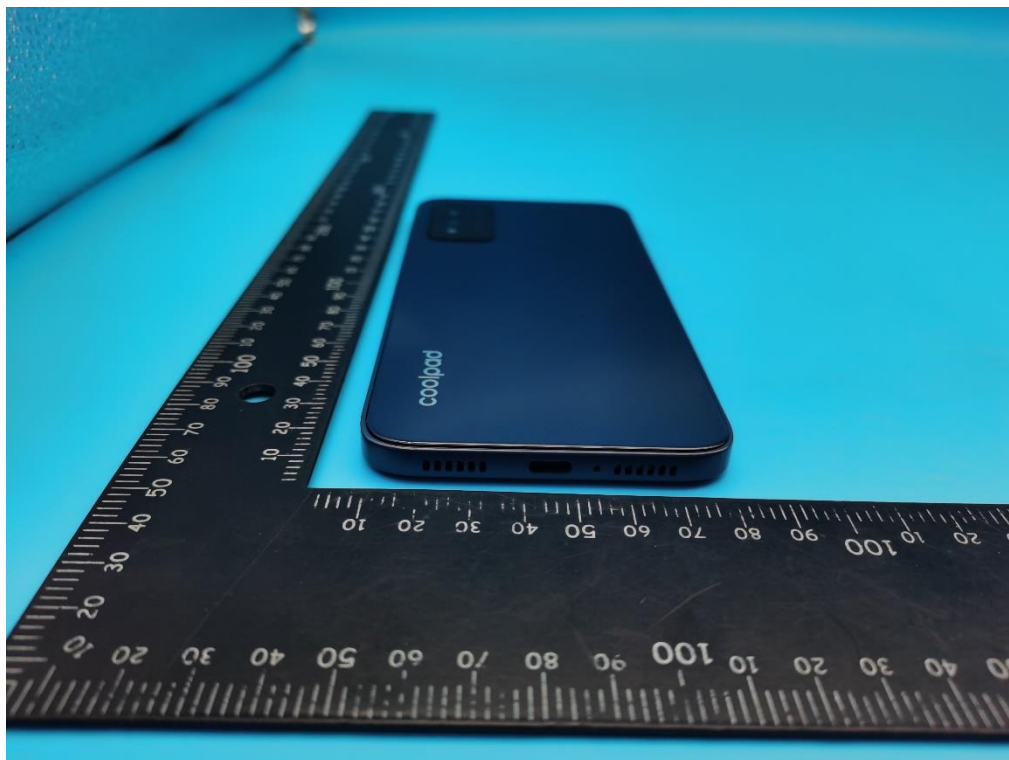
Left Edge



Top Edge

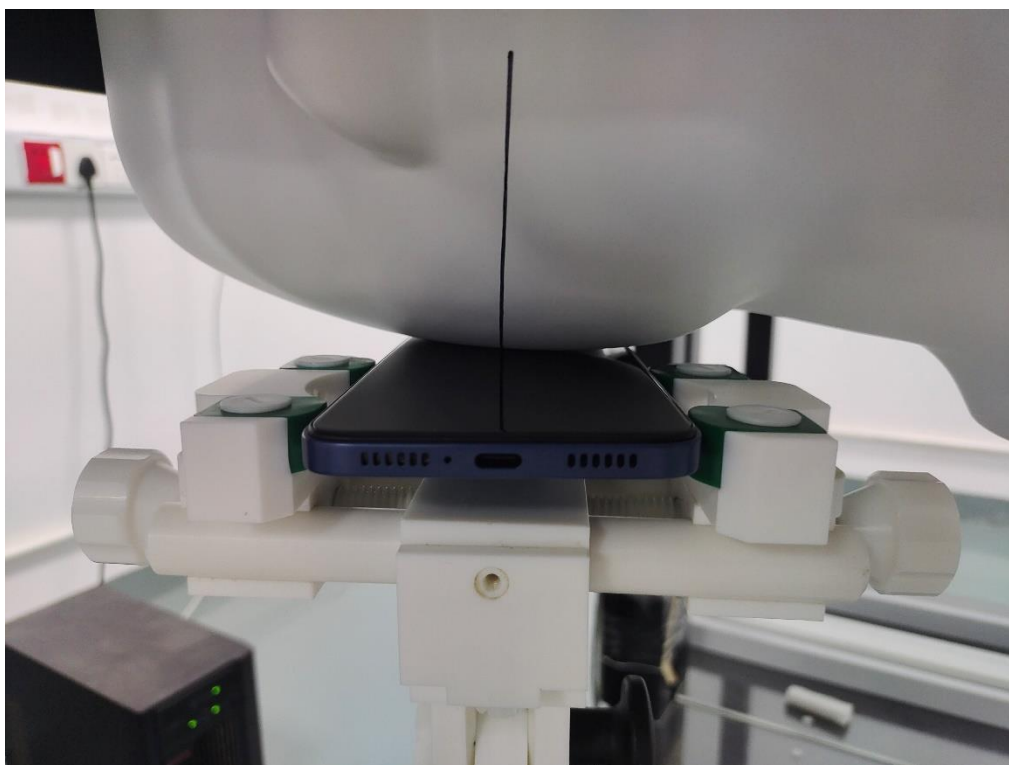


Bottom Edge

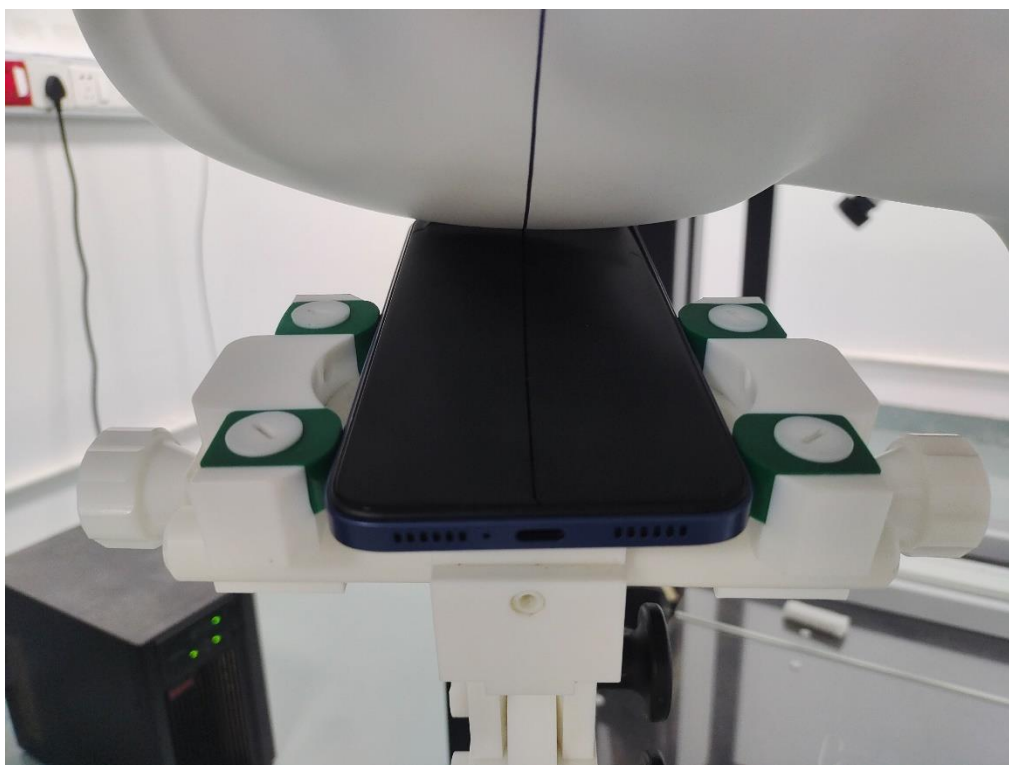


11.2 Setup Photos

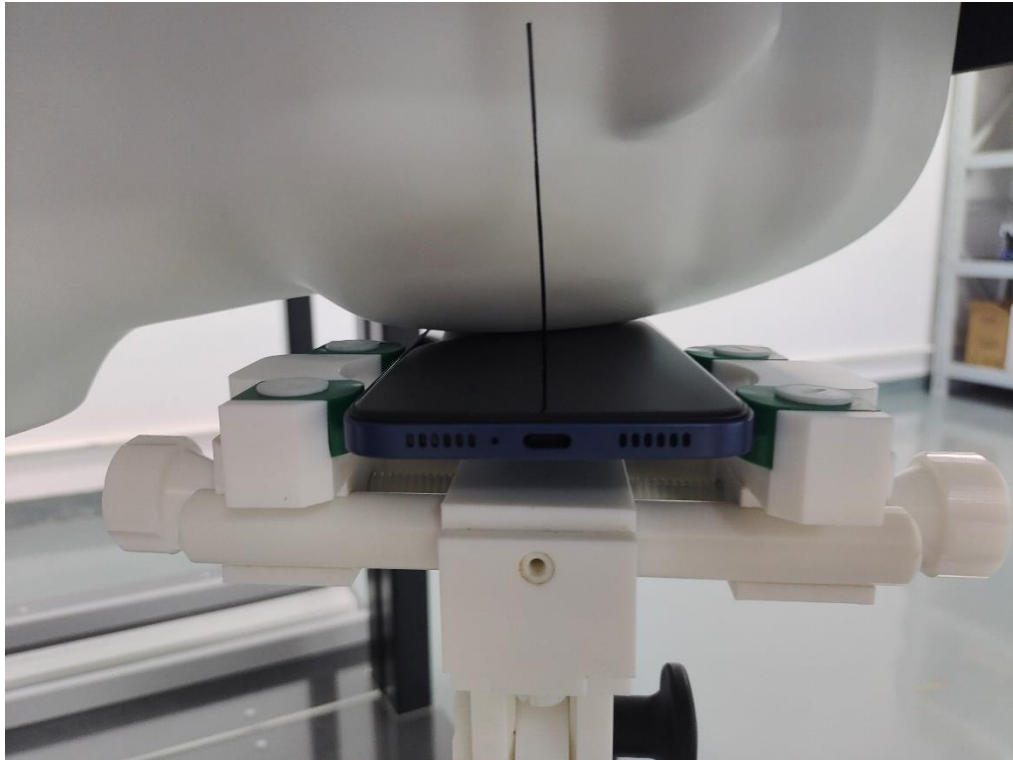
Right Touch



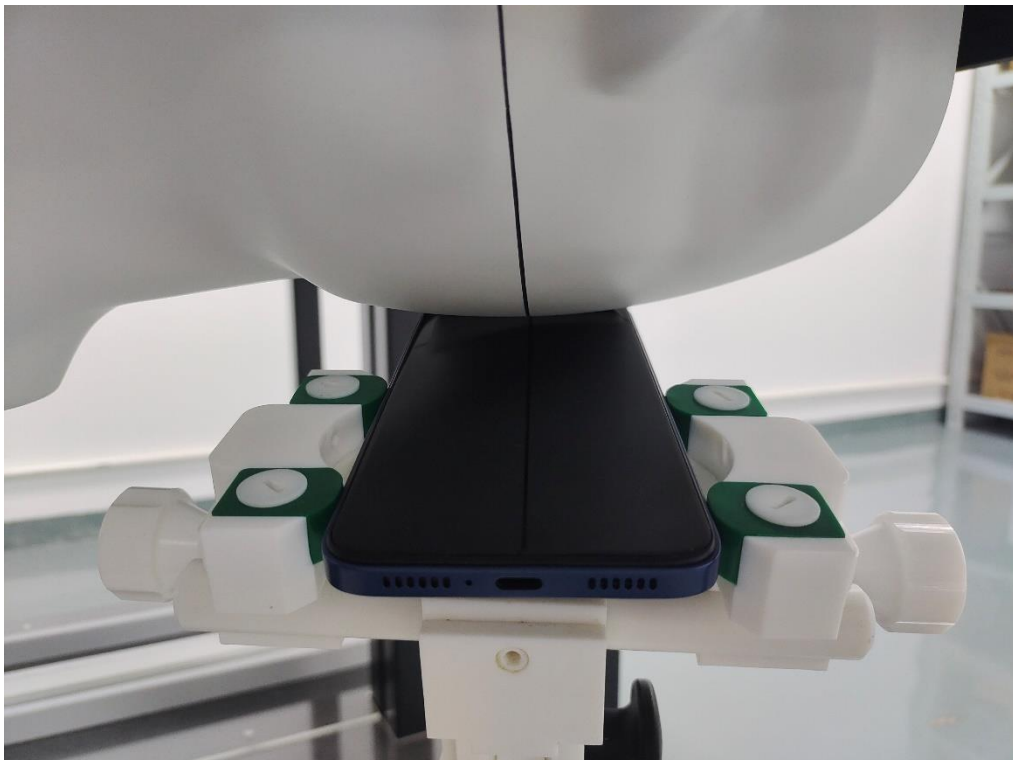
Right Tilt



Left Touch



Left Tilt



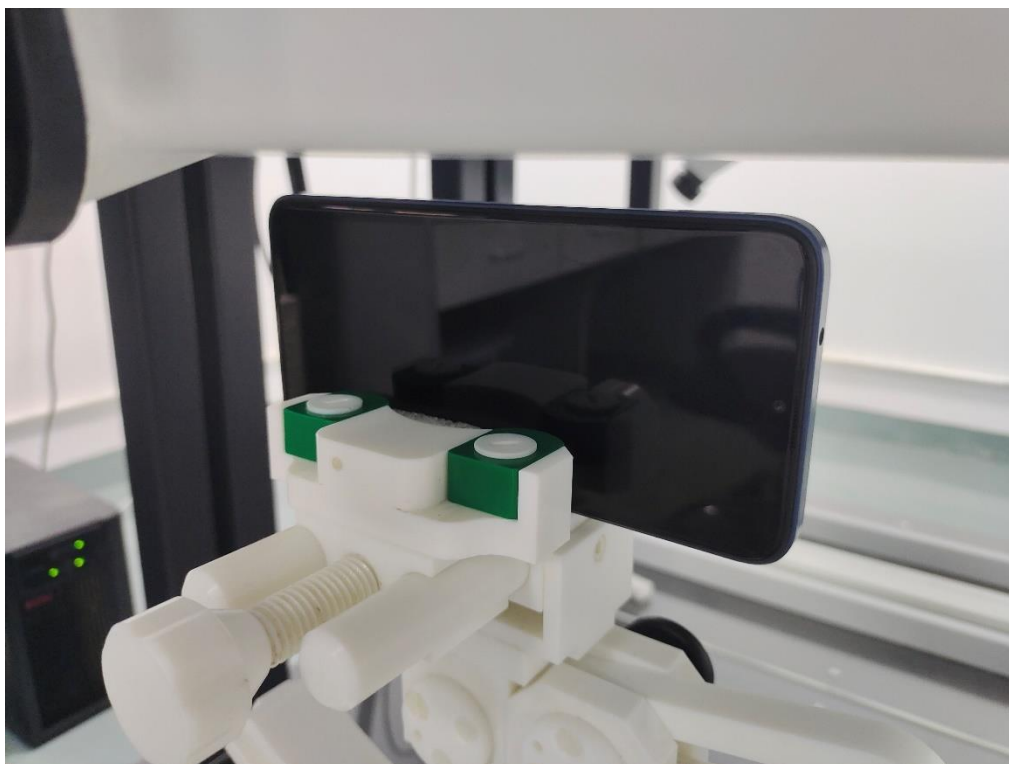
Body Front side (separation distance is 10mm)



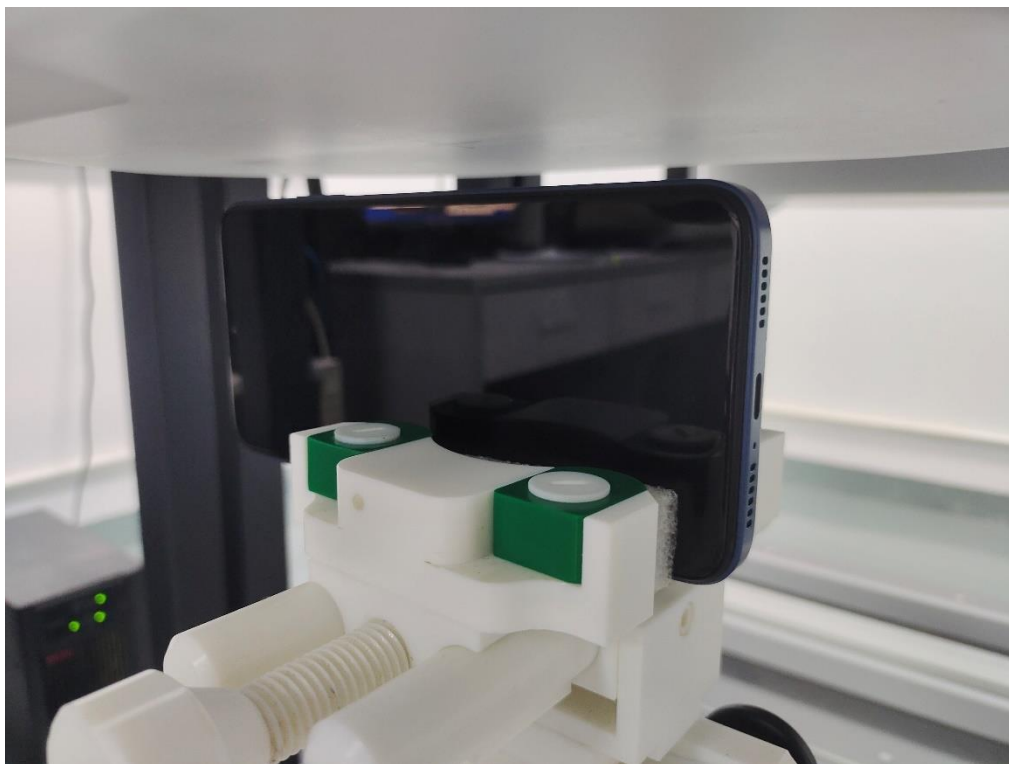
Body Back side (separation distance 10mm)



Body Left side (separation distance is 10mm)



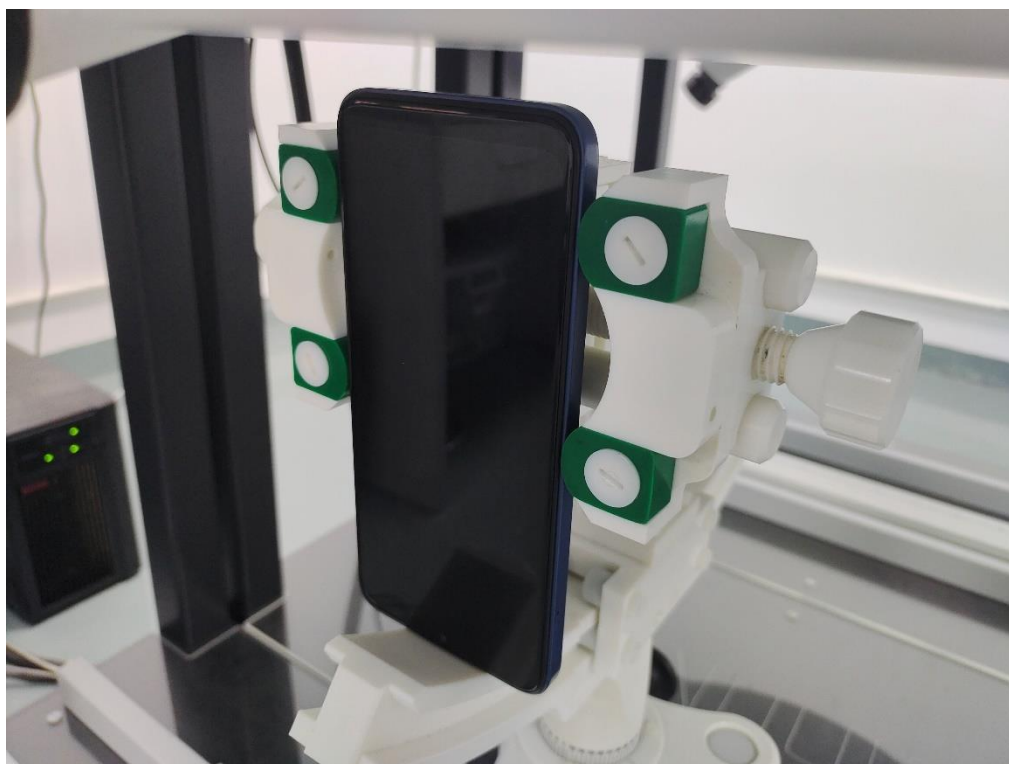
Body Right side (separation distance is 10mm)



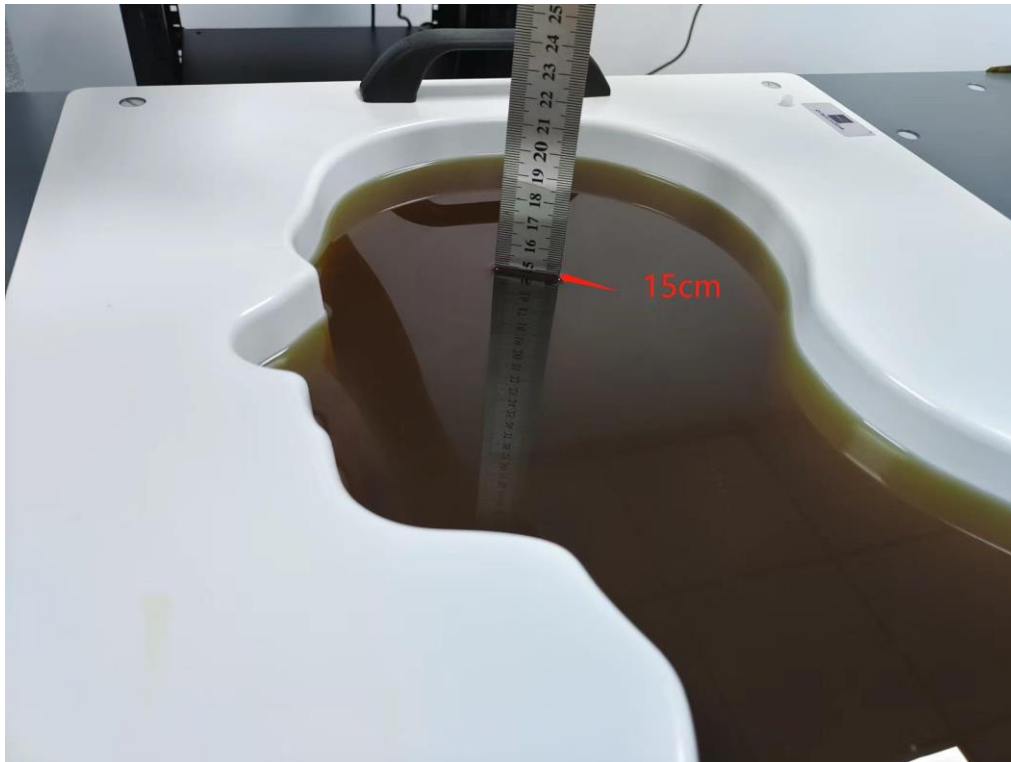
Body Top side (separation distance is 10mm)



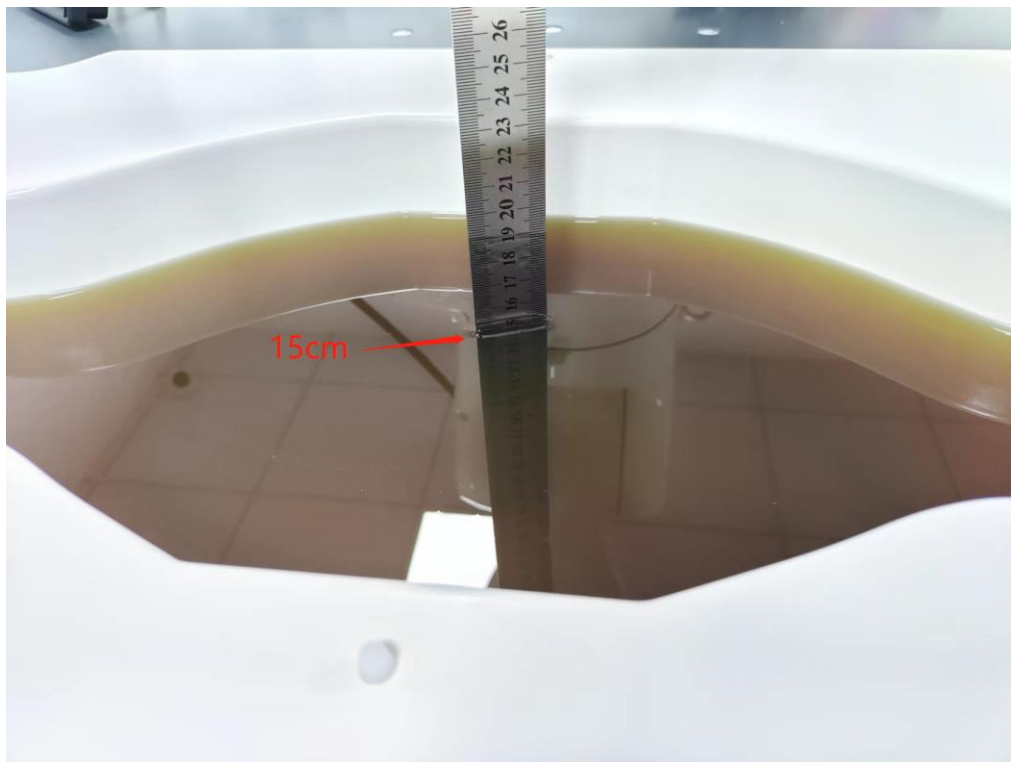
Body Bottom side (separation distance is 10mm)



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	0.146	-1.51	34.00	33.71	0.156	1
		Right Tilt	836.6	0.127	-3.17	34.00	33.71	0.136	/
		Left Cheek	836.6	0.144	2.80	34.00	33.71	0.154	/
		Left Tilt	836.6	0.119	-0.67	34.00	33.71	0.127	/
PCS 1900	GSM	Right Cheek	1880	0.035	-2.16	30.50	30.16	0.038	3
		Right Tilt	1880	0.035	-0.56	30.50	30.16	0.038	/
		Left Cheek	1880	0.029	-2.79	30.50	30.16	0.031	/
		Left Tilt	1880	0.028	-1.98	30.50	30.16	0.030	/
WCDMA Band II	RMC	Right Cheek	1907.6	0.038	-1.70	23.50	23.22	0.041	/
		Right Tilt	1907.6	0.035	1.75	23.50	23.22	0.037	/
		Left Cheek	1907.6	0.082	-3.21	23.50	23.22	0.087	5
		Left Tilt	1907.6	0.076	-0.13	23.50	23.22	0.081	/
WCDMA Band IV	RMC	Right Cheek	1712.6	0.067	2.97	23.00	22.59	0.074	/
		Right Tilt	1712.6	0.060	-2.81	23.00	22.59	0.066	/
		Left Cheek	1712.6	0.104	-2.15	23.00	22.59	0.114	7
		Left Tilt	1712.6	0.091	2.33	23.00	22.59	0.100	/
WCDMA Band V	RMC	Right Cheek	826.4	0.068	3.57	24.50	23.97	0.077	9
		Right Tilt	826.4	0.063	-3.79	24.50	23.97	0.071	/
		Left Cheek	826.4	0.038	-2.09	24.50	23.97	0.043	/
		Left Tilt	826.4	0.036	-1.25	24.50	23.97	0.041	/

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Right Cheek	1900	0.122	2.14	24	23.53	0.136	11
			50	0	Right Cheek	1860	0.085	-2.10	23	22.46	0.096	/
			1	0	Right Tilt	1900	0.108	1.26	24	23.53	0.120	/
			50	0	Right Tilt	1860	0.077	1.10	23	22.46	0.087	/
			1	0	Left Cheek	1900	0.104	1.54	24	23.53	0.116	/
			50	0	Left Cheek	1860	0.079	-0.42	23	22.46	0.089	/
			1	0	Left Tilt	1900	0.093	-0.27	24	23.53	0.104	/
			50	0	Left Tilt	1860	0.075	-1.94	23	22.46	0.085	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1745	0.085	3.24	23.5	22.93	0.097	/
			50	0	Right Cheek	1745	0.071	-3.12	22	21.83	0.074	/
			1	0	Right Tilt	1745	0.080	-3.59	23.5	22.93	0.091	/
			50	0	Right Tilt	1745	0.067	0.25	22	21.83	0.070	/
			1	0	Left Cheek	1745	0.128	-2.31	23.5	22.93	0.146	13
			50	0	Left Cheek	1745	0.106	-1.42	22	21.83	0.110	/
			1	0	Left Tilt	1745	0.113	-3.17	23.5	22.93	0.129	/
			50	0	Left Tilt	1745	0.099	0.56	22	21.83	0.103	/



LTE Band 5	10M	QPSK	1	0	Right Cheek	829	0.135	-3.12	24.5	24.06	0.149	/
			25	0	Right Cheek	829	0.117	-2.10	23.5	23.02	0.131	/
			1	0	Right Tilt	829	0.123	2.40	24.5	24.06	0.136	/
			25	0	Right Tilt	829	0.105	-0.29	23.5	23.02	0.117	/
			1	0	Left Cheek	829	0.135	1.79	24.5	24.06	0.149	15
			25	0	Left Cheek	829	0.122	1.36	23.5	23.02	0.136	/
			1	0	Left Tilt	829	0.128	0.94	24.5	24.06	0.142	/
			25	0	Left Tilt	829	0.119	1.07	23.5	23.02	0.133	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	2560	0.054	-1.21	24	23.53	0.060	/
			50	0	Right Cheek	2535	0.048	-2.64	23	22.47	0.054	/
			1	0	Right Tilt	2560	0.051	-3.23	24	23.53	0.057	/
			50	0	Right Tilt	2535	0.044	0.13	23	22.47	0.050	/
			1	0	Left Cheek	2560	0.059	1.13	24	23.53	0.066	17
			50	0	Left Cheek	2535	0.055	-0.20	23	22.47	0.062	/
			1	0	Left Tilt	2560	0.057	3.18	24	23.53	0.064	/
			50	0	Left Tilt	2535	0.050	-1.04	23	22.47	0.056	/
LTE Band 12	10M	QPSK	1	0	Right Cheek	711	0.044	0.67	24	23.88	0.045	/
			25	0	Right Cheek	704	0.037	1.17	23	22.80	0.039	/
			1	0	Right Tilt	711	0.040	-0.65	24	23.88	0.041	/
			25	0	Right Tilt	704	0.036	-0.34	23	22.80	0.038	/
			1	0	Left Cheek	711	0.073	-1.87	24	23.88	0.075	19
			25	0	Left Cheek	704	0.060	1.80	23	22.80	0.063	/
			1	0	Left Tilt	711	0.068	1.33	24	23.88	0.070	/
			25	0	Left Tilt	704	0.055	3.43	23	22.80	0.058	/
LTE Band 13	10M	QPSK	1	0	Right Cheek	782	0.041	-1.35	19.5	19.16	0.044	/
			25	0	Right Cheek	782	0.034	3.69	18.5	18.05	0.038	/
			1	0	Right Tilt	782	0.038	-2.44	19.5	19.16	0.041	/
			25	0	Right Tilt	782	0.033	-2.11	18.5	18.05	0.037	/
			1	0	Left Cheek	782	0.069	2.46	19.5	19.16	0.075	21
			25	0	Left Cheek	782	0.057	1.17	18.5	18.05	0.063	/
			1	0	Left Tilt	782	0.063	-1.21	19.5	19.16	0.068	/
			25	0	Left Tilt	782	0.055	-2.11	18.5	18.05	0.061	/
LTE Band 17	10M	QPSK	1	0	Right Cheek	709	0.037	0.20	24	23.87	0.038	/
			25	0	Right Cheek	710	0.031	-2.39	23	22.72	0.033	/
			1	0	Right Tilt	709	0.035	-3.63	24	23.87	0.036	/
			25	0	Right Tilt	710	0.029	-1.38	23	22.72	0.031	/
			1	0	Left Cheek	709	0.076	1.45	24	23.87	0.078	23
			25	0	Left Cheek	710	0.068	2.91	23	22.72	0.073	/
			1	0	Left Tilt	709	0.074	1.69	24	23.87	0.076	/
			25	0	Left Tilt	710	0.063	-3.34	23	22.72	0.067	/
LTE Band 66	20M	QPSK	1	0	Right Cheek	1745	0.090	-2.57	23.5	22.99	0.101	/
			50	0	Right Cheek	1745	0.082	-2.23	22.5	21.98	0.092	/
			1	0	Right Tilt	1745	0.087	1.67	23.5	22.99	0.098	/
			50	0	Right Tilt	1745	0.077	2.22	22.5	21.98	0.087	/
			1	0	Left Cheek	1745	0.131	-0.63	23.5	22.99	0.147	25
			50	0	Left Cheek	1745	0.106	-3.63	22.5	21.98	0.119	/
			1	0	Left Tilt	1745	0.113	-2.25	23.5	22.99	0.127	/
			50	0	Left Tilt	1745	0.101	3.23	22.5	21.98	0.114	/



Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4G WLAN	802.11n-HT40	Right Cheek	2422	0.208	-3.30	16.00	15.81	0.217	/
		Right Tilt	2422	0.223	-3.63	16.00	15.81	0.233	27
		Left Cheek	2422	0.177	1.07	16.00	15.81	0.185	/
		Left Tilt	2422	0.194	-1.76	16.00	15.81	0.203	/
BT	QPSK	Right Cheek	2402	0.073	-2.30	7.50	7.07	0.081	/
		Right Tilt	2402	0.079	1.36	7.50	7.07	0.087	29
		Left Cheek	2402	0.045	-2.61	7.50	7.07	0.050	/
		Left Tilt	2402	0.047	2.37	7.50	7.07	0.052	/
5.2G WLAN	802.11n-HT20	Right Cheek	5180	0.376	-0.56	2.50	2.41	0.384	/
		Right Tilt	5180	0.428	-0.15	2.50	2.41	0.437	31
		Left Cheek	5180	0.159	2.07	2.50	2.41	0.162	/
		Left Tilt	5180	0.172	0.77	2.50	2.41	0.176	/
5.8G WLAN	802.11n-HT20	Right Cheek	5825	0.716	2.61	3.50	3.10	0.785	/
		Right Tilt	5745	0.772	1.27	3.50	3.09	0.848	/
		Right Tilt	5785	0.693	-3.58	3.50	2.93	0.790	/
		Right Tilt	5825	0.829	0.76	3.50	3.10	0.909	33
		Left Cheek	5825	0.291	-0.56	3.50	3.10	0.319	/
		Left Tilt	5825	0.406	-3.69	3.50	3.10	0.445	/

Note:

1. Per KDB 447498 D04, 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, 2-Slot)	Front Side	836.6	0.219	3.38	33.00	32.76	0.231	/
		Back Side	836.6	0.289	-0.91	33.00	32.76	0.305	2
		Left Side	836.6	0.137	2.97	33.00	32.76	0.145	/
		Right Side	836.6	0.249	0.83	33.00	32.76	0.263	/
		Top Side	836.6	0.041	1.64	33.00	32.76	0.043	/
		Bottom Side	836.6	0.167	1.07	33.00	32.76	0.176	/
PCS 1900	GPRS (GMSK, 4-Slot)	Front Side	1880	0.274	0.98	26.50	26.33	0.285	4
		Back Side	1880	0.250	3.51	26.50	26.33	0.260	/
		Left Side	1880	0.079	-3.07	26.50	26.33	0.082	/
		Right Side	1880	0.075	-3.12	26.50	26.33	0.078	/
		Bottom Side	1880	0.249	0.66	26.50	26.33	0.259	/
WCDMA Band II	RMC	Front Side	1907.6	0.201	-2.67	23.50	23.22	0.214	/
		Back Side	1907.6	0.195	2.36	23.50	23.22	0.208	/
		Left Side	1907.6	0.155	-2.71	23.50	23.22	0.165	/
		Right Side	1907.6	0.043	0.35	23.50	23.22	0.046	/
		Bottom Side	1907.6	0.253	2.25	23.50	23.22	0.270	6
WCDMA Band IV	RMC	Front Side	1712.6	0.411	-2.84	23.00	22.59	0.452	/
		Back Side	1712.6	0.292	-3.10	23.00	22.59	0.321	/
		Left Side	1712.6	0.079	-0.81	23.00	22.59	0.087	/
		Right Side	1712.6	0.026	3.11	23.00	22.59	0.029	/
		Bottom Side	1712.6	0.615	0.60	23.00	22.59	0.676	8
WCDMA Band V	RMC	Front Side	826.4	0.099	2.85	24.50	23.97	0.112	/
		Back Side	826.4	0.124	1.25	24.50	23.97	0.140	10
		Left Side	826.4	0.048	-1.12	24.50	23.97	0.054	/
		Right Side	826.4	0.051	3.43	24.50	23.97	0.058	/
		Bottom Side	826.4	0.066	-3.16	24.50	23.97	0.075	/

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Front side	1900	0.437	0.35	24	23.53	0.487	12
			50	0	Front side	1860	0.283	-2.84	23	22.46	0.320	/
			1	0	Back Side	1900	0.368	-3.64	24	23.53	0.410	/
			50	0	Back Side	1860	0.240	1.63	23	22.46	0.272	/
			1	0	Left Side	1900	0.188	2.53	24	23.53	0.209	/
			50	0	Left Side	1860	0.152	0.62	23	22.46	0.172	/
			1	0	Right Side	1900	0.084	3.34	24	23.53	0.094	/
			50	0	Right Side	1860	0.075	-1.50	23	22.46	0.085	/
			1	0	Bottom Side	1900	0.266	-0.66	24	23.53	0.296	/
			50	0	Bottom Side	1860	0.179	-3.60	23	22.46	0.203	/



LTE Band 4	20M	QPSK	1	0	Front side	1745	0.295	-3.79	23.5	22.93	0.336	/
			50	0	Front side	1745	0.208	1.44	22	21.83	0.216	/
			1	0	Back Side	1745	0.313	-3.52	23.5	22.93	0.357	/
			50	0	Back Side	1745	0.225	3.74	22	21.83	0.234	/
			1	0	Left Side	1745	0.165	-3.81	23.5	22.93	0.188	/
			50	0	Left Side	1745	0.112	0.81	22	21.83	0.116	/
			1	0	Right Side	1745	0.063	-1.49	23.5	22.93	0.072	/
			50	0	Right Side	1745	0.050	3.69	22	21.83	0.052	/
			1	0	Bottom Side	1745	0.531	0.22	23.5	22.93	0.605	14
			50	0	Bottom Side	1745	0.440	-1.13	22	21.83	0.458	/
LTE Band 5	10M	QPSK	1	0	Front side	829	0.097	-2.81	24.5	24.06	0.107	/
			25	0	Front side	829	0.085	-1.37	23.5	23.02	0.095	/
			1	0	Back Side	829	0.184	3.26	24.5	24.06	0.204	16
			25	0	Back Side	829	0.136	-0.88	23.5	23.02	0.152	/
			1	0	Left Side	829	0.042	-1.20	24.5	24.06	0.046	/
			25	0	Left Side	829	0.035	-1.04	23.5	23.02	0.039	/
			1	0	Right Side	829	0.131	2.43	24.5	24.06	0.145	/
			25	0	Right Side	829	0.096	-2.40	23.5	23.02	0.107	/
			1	0	Bottom Side	829	0.078	-1.90	24.5	24.06	0.086	/
			25	0	Bottom Side	829	0.062	3.61	23.5	23.02	0.069	/
LTE Band 7	20M	QPSK	1	0	Front side	2560	0.330	-0.11	24	23.53	0.368	/
			50	0	Front side	2535	0.237	1.83	22.5	22.47	0.239	/
			1	0	Back Side	2510	0.719	-3.32	24	23.49	0.809	/
			1	0	Back Side	2535	0.862	-1.12	24	23.52	0.963	/
			1	0	Back Side	2560	0.902	-0.41	24	23.53	1.005	/
			50	0	Back Side	2535	0.788	-0.51	22.5	22.47	0.793	/
			1	0	Left Side	2560	0.145	2.55	24	23.53	0.162	/
			50	0	Left Side	2535	0.083	-1.69	22.5	22.47	0.084	/
			1	0	Right Side	2560	0.075	3.63	24	23.53	0.084	/
			50	0	Right Side	2535	0.058	0.43	22.5	22.47	0.058	/
			1	0	Bottom Side	2510	0.926	-0.16	24	23.49	1.041	/
			1	0	Bottom Side	2535	0.973	1.09	24	23.52	1.087	/
			1	0	Bottom Side	2560	1.094	-3.54	24	23.53	1.219	18
			50	0	Bottom Side	2510	0.812	-3.38	22.5	22.37	0.837	/
			50	0	Bottom Side	2535	0.893	-1.77	22.5	22.47	0.899	/
			50	0	Bottom Side	2560	0.781	2.33	22.5	22.35	0.808	/
			100	0	Bottom Side	2510	0.726	2.82	22.5	22.24	0.771	/
			100	0	Bottom Side	2535	0.820	-3.20	22.5	22.42	0.835	/
			100	0	Bottom Side	2560	0.743	1.54	22.5	22.35	0.769	/
LTE Band 12	10M	QPSK	1	0	Front side	711	0.061	1.43	24	23.88	0.063	/
			25	0	Front side	704	0.055	0.95	23	22.80	0.058	/
			1	0	Back Side	711	0.180	1.53	24	23.88	0.185	20
			25	0	Back Side	704	0.164	1.86	23	22.80	0.172	/
			1	0	Left Side	711	0.089	3.29	24	23.88	0.091	/
			25	0	Left Side	704	0.071	0.73	23	22.80	0.074	/
			1	0	Right Side	711	0.120	-3.03	24	23.88	0.123	/
			25	0	Right Side	704	0.107	-3.18	23	22.80	0.112	/
			1	0	Bottom Side	711	0.027	-2.04	24	23.88	0.028	/
			25	0	Bottom Side	704	0.025	-3.33	23	22.80	0.026	/



LTE Band 13	10M	QPSK	1	0	Front side	782	0.051	0.33	19.5	19.16	0.055	/
			25	0	Front side	782	0.046	3.35	18.5	18.05	0.051	/
			1	0	Back Side	782	0.110	2.12	19.5	19.16	0.119	22
			25	0	Back Side	782	0.087	0.14	18.5	18.05	0.096	/
			1	0	Left Side	782	0.037	1.43	19.5	19.16	0.040	/
			25	0	Left Side	782	0.030	1.79	18.5	18.05	0.033	/
			1	0	Right Side	782	0.082	-1.39	19.5	19.16	0.089	/
			25	0	Right Side	782	0.068	-2.99	18.5	18.05	0.075	/
			1	0	Bottom Side	782	0.065	-0.39	19.5	19.16	0.070	/
			25	0	Bottom Side	782	0.053	-3.60	18.5	18.05	0.059	/
LTE Band 17	10M	QPSK	1	0	Front side	709	0.090	-3.65	24	23.87	0.093	/
			25	0	Front side	710	0.076	1.90	23	22.72	0.081	/
			1	0	Back Side	709	0.197	-1.60	24	23.87	0.203	24
			25	0	Back Side	710	0.151	-0.15	23	22.72	0.161	/
			1	0	Left Side	709	0.118	2.31	24	23.87	0.122	/
			25	0	Left Side	710	0.094	-0.56	23	22.72	0.100	/
			1	0	Right Side	709	0.147	-3.05	24	23.87	0.151	/
			25	0	Right Side	710	0.100	3.63	23	22.72	0.107	/
			1	0	Bottom Side	709	0.022	-2.22	24	23.87	0.023	/
			25	0	Bottom Side	710	0.019	-2.07	23	22.72	0.020	/
LTE Band 66	20M	QPSK	1	0	Front side	1745	0.307	-1.25	23.5	22.99	0.345	/
			50	0	Front side	1745	0.225	0.42	22.5	21.98	0.254	/
			1	0	Back Side	1745	0.493	-3.76	23.5	22.99	0.554	/
			50	0	Back Side	1745	0.340	0.03	22.5	21.98	0.383	/
			1	0	Left Side	1745	0.167	2.97	23.5	22.99	0.188	/
			50	0	Left Side	1745	0.127	1.51	22.5	21.98	0.143	/
			1	0	Right Side	1745	0.085	-3.88	23.5	22.99	0.096	/
			50	0	Right Side	1745	0.066	0.91	22.5	21.98	0.074	/
			1	0	Bottom Side	1745	0.584	0.75	23.5	22.99	0.657	26
			50	0	Bottom Side	1745	0.416	1.56	22.5	21.98	0.469	/

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4GHz WLAN	802.11n(HT40)	Front Side	2422	0.025	3.43	16.00	15.81	0.026	/
		Back Side	2422	0.036	-3.25	16.00	15.81	0.038	28
		Right Side	2422	0.009	-0.37	16.00	15.81	0.009	/
		Top Side	2422	0.028	-1.13	16.00	15.81	0.029	/
BT	QPSK	Front Side	2402	0.024	3.89	7.50	7.07	0.026	/
		Back Side	2402	0.024	-1.01	7.50	7.07	0.026	30
		Right Side	2402	0.013	-0.52	7.50	7.07	0.014	/
		Top Side	2402	0.018	2.75	7.50	7.07	0.020	/
5.2GHz WLAN	802.11n-HT20	Front Side	5180	0.039	2.74	2.50	2.41	0.040	/
		Back Side	5180	0.045	-0.92	2.50	2.41	0.046	32
		Right Side	5180	0.021	-3.17	2.50	2.41	0.021	/
		Top Side	5180	0.042	0.45	2.50	2.41	0.043	/
5.8GHz WLAN	802.11n-HT20	Front Side	5825	0.036	0.85	3.50	3.10	0.039	/
		Back Side	5825	0.053	0.30	3.50	3.10	0.058	34
		Right Side	5825	0.023	1.37	3.50	3.10	0.025	/
		Top Side	5825	0.043	2.97	3.50	3.10	0.047	/



Note:

1. The test separation of all above table is 5mm.
2. Per KDB 447498 D04, 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.



Repeated SAR

Band	Mode	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)
5.8G WLAN	802.11n-HT20	Right Tilt	5745	0.763	3.17	3.5	3.09	0.839
5.8G WLAN	802.11n-HT20	Right Tilt	5825	0.827	1.99	3.5	3.1	0.907

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 7	20M	QPSK	1	0	Back Side	2510	0.708	1.49	24.5	24.26	0.748
			1	0	Back Side	2535	0.853	-1.72	24.5	24.29	0.895
			1	0	Back Side	2560	0.868	-2.94	24.5	24.38	0.892
			1	0	Bottom Side	2510	0.908	-1.26	24.3	23.92	0.991
			1	0	Bottom Side	2535	0.945	-2.78	24.3	24.21	0.965
			1	0	Bottom Side	2560	1.044	0.58	24.3	24.08	1.098
			50	0	Bottom Side	2510	0.801	-1.44	24	23.70	0.858
			50	0	Bottom Side	2535	0.873	-3.90	24	23.69	0.938
			50	0	Bottom Side	2560	0.758	0.69	24	23.84	0.787
			100	0	Bottom Side	2535	0.781	2.51	24.5	24.29	0.820

Repeated SAR measurement

Band	Mode	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio
5.8G WLAN	802.11n-HT20	Right Tilt	5745	0.772	0.763	1.012
5.8G WLAN	802.11n-HT20	Right Tilt	5825	0.829	0.827	1.003

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 7	20M	QPSK	1	0	Back Side	2510	0.719	0.708	1.016
			1	0	Back Side	2535	0.862	0.853	1.010
			1	0	Back Side	2560	0.902	0.868	1.039
			1	0	Bottom Side	2510	0.926	0.908	1.020



			1	0	Bottom Side	2535	0.973	0.945	1.029
			1	0	Bottom Side	2560	1.094	1.044	1.048
			50	0	Bottom Side	2510	0.812	0.801	1.014
			50	0	Bottom Side	2535	0.893	0.873	1.023
			50	0	Bottom Side	2560	0.781	0.758	1.030
			100	0	Bottom Side	2535	0.82	0.781	1.049

Note:

1. Per KDB 865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8 \text{ W/Kg}$.
2. Per KDB 865664 D01, if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤ 1.2 and the measured SAR $< 1.45 \text{ W/Kg}$, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is $\geq 1.45 \text{ W/Kg}$.
4. The ratio is the difference in percentage between original and repeated measured SAR.



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 Appendix E, 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:

$$SAR_{est} = 1.6 \cdot P_{ant} / P_{th} [W/kg]$$

P_{ant} is maximum time-averaged power or effective radiated power (ERP), whichever is greater, and P_{th} is defined in Formula KDB 447498 (B.2). 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.



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.156	0.389
		2.4G WLAN	0.233	
	Body	GSM	0.305	0.343
		2.4G WLAN	0.038	
GSM + Bluetooth	Head	GSM	0.156	0.243
		Bluetooth	0.087	
	Body	GSM	0.305	0.331
		Bluetooth	0.026	
GSM + 5G WLAN	Head	GSM	0.156	1.065
		5G WLAN	0.909	
	Body	GSM	0.305	0.351
		5G WLAN	0.046	
WCDMA + 2.4G WLAN	Head	WCDMA	0.114	0.347
		2.4G WLAN	0.233	
	Body	WCDMA	0.676	0.714
		2.4G WLAN	0.038	
WCDMA + Bluetooth	Head	WCDMA	0.114	0.201
		Bluetooth	0.087	
	Body	WCDMA	0.676	0.702
		Bluetooth	0.026	
WCDMA + 5G WLAN	Head	WCDMA	0.114	1.023
		5G WLAN	0.909	
	Body	WCDMA	0.676	0.722
		5G WLAN	0.046	
LTE + 2.4G WLAN	Head	LTE	0.149	0.382
		2.4G WLAN	0.233	
	Body	LTE	1.219	1.257
		2.4G WLAN	0.038	
LTE + Bluetooth	Head	LTE	0.149	0.236
		Bluetooth	0.087	
	Body	LTE	1.219	1.245
		Bluetooth	0.026	
LTE + 5G WLAN	Head	LTE	0.149	1.058
		5G WLAN	0.909	
	Body	LTE	1.219	1.265
		5G WLAN	0.046	

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	2023.02.10	2024.02.09
Dielectric Probe Kit	MVG	OCPG 87	SN 06/22 OCPG87	2023.02.10	2024.02.09
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 holder	MVG	LSH 36	SN 06/22 LSH 38	N/A	N/A
Directional coupler	SHW	SHWDCP	202203280013	N/A	N/A
Network Analyzer	Agilent	E5071C	MY46418070	2022.03.28	2023.03.27
Multi Meter	Keithley	DMM6500	DMM6500	2022.05.05	2023.05.04
Signal Generator	Keithley	N5182B	MY59100717	2022.04.29	2023.04.28
Wireless Communication Test Set	R&S	CMW500	137737	2022.04.29	2023.04.28
Power Sensor	R&S	Z11	116184	2022.03.28	2023.03.27
Temperature hygrometer	N/A	ST-W2318	N/A	2022.05.05	2023.05.04
Thermograph	N/A	TP101	N/A	2022.05.05	2023.05.04



Appendix A. System Validation Plots

System Performance Check Data (750MHz)

Type: Phone measurement (Complete)

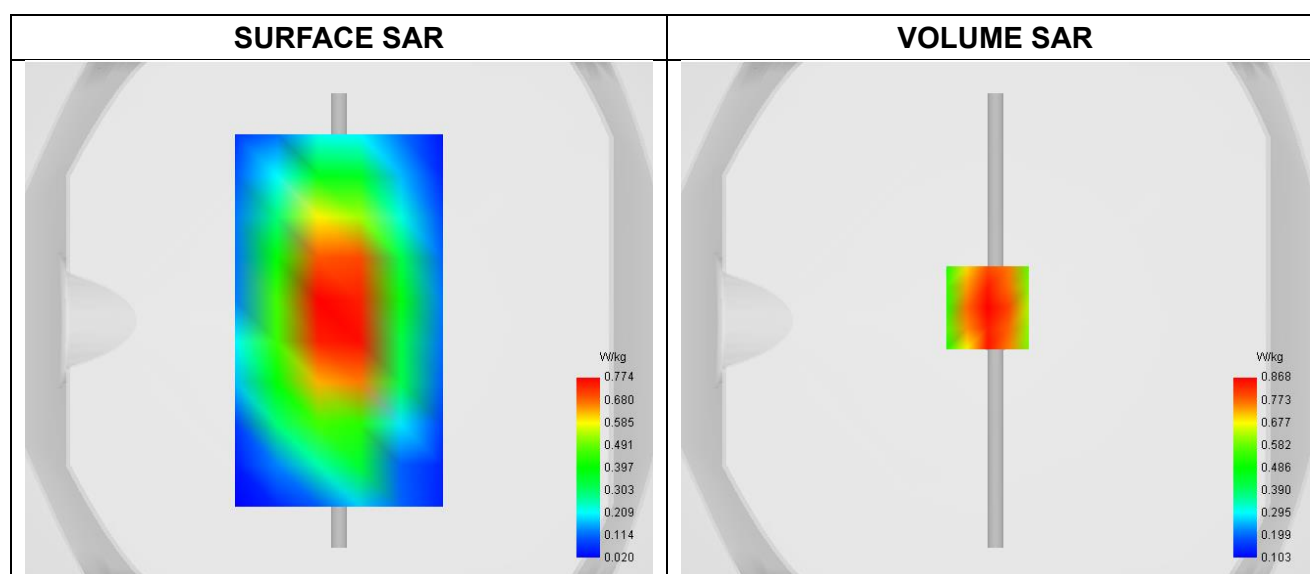
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2023-03-20

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW
Frequency (MHz)	750.000
Relative permittivity	41.96
Conductivity (S/m)	0.85
Probe	SN 04/22 EPGO364
ConvF	1.69
Crest factor:	1:1

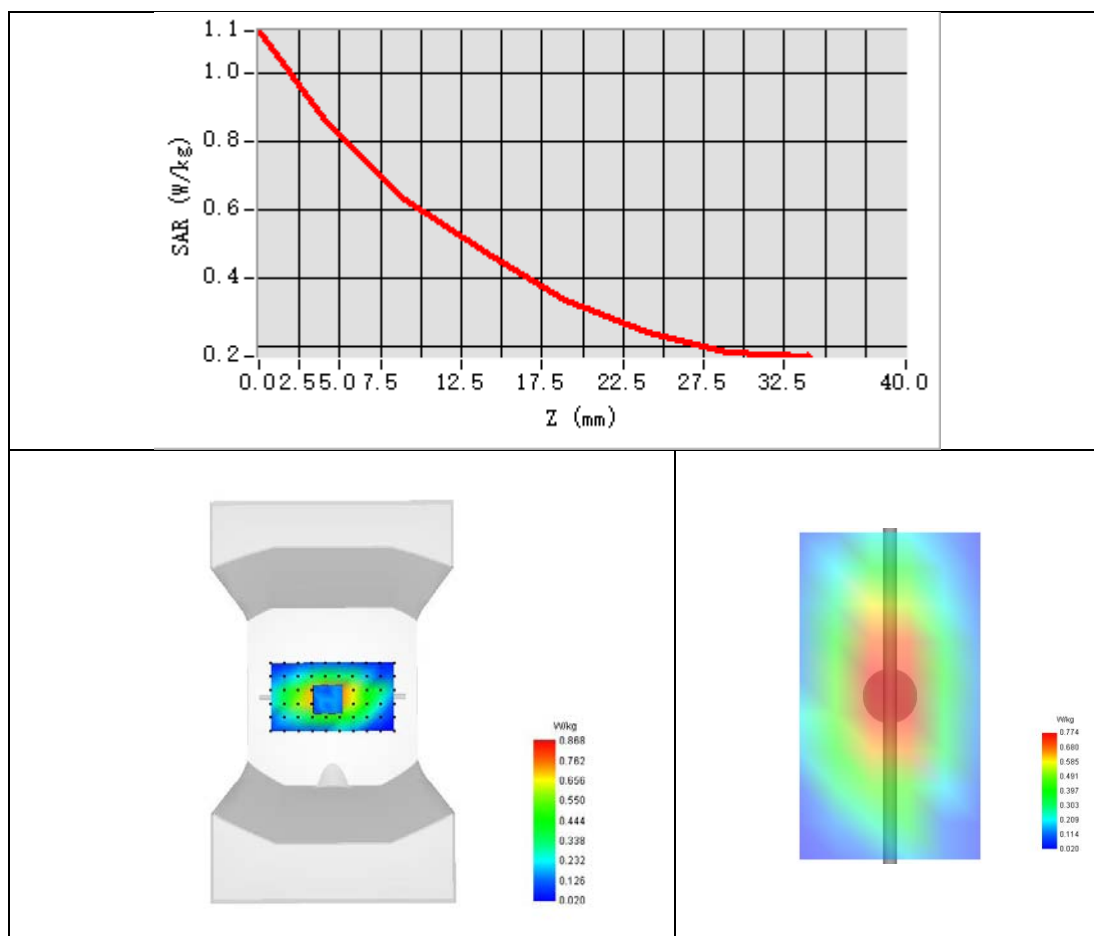


Maximum location: X=-3.00, Y=5.00 ; SAR Peak: 1.20 W/kg

SAR 10g (W/Kg)	0.591
SAR 1g (W/Kg)	0.883



Z Axis Scan





System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

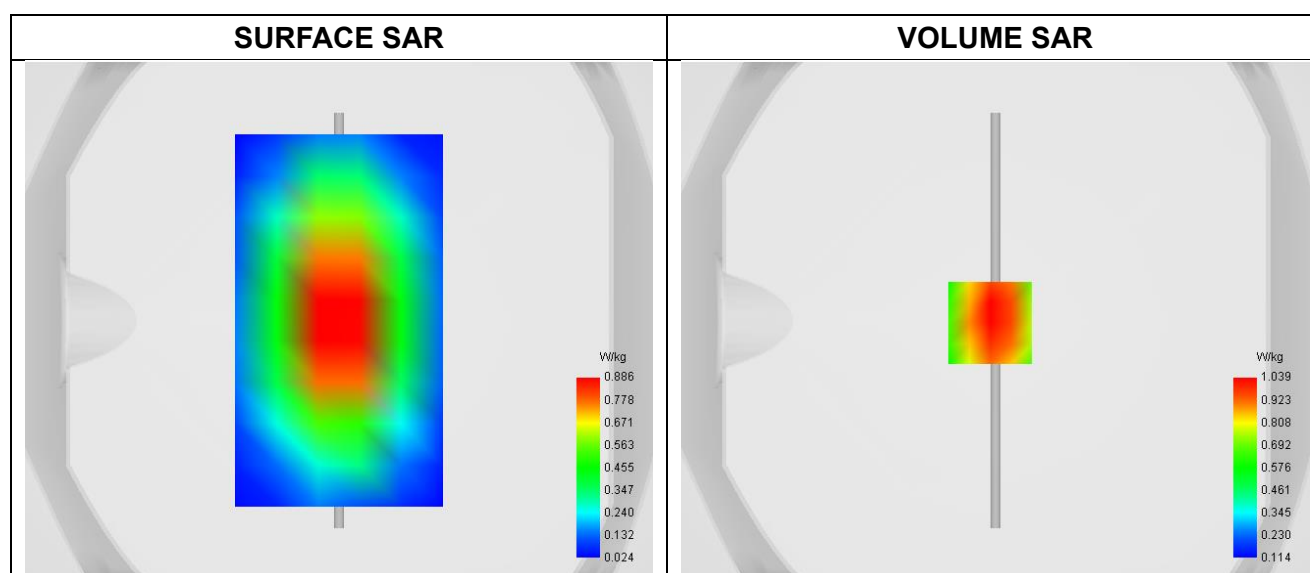
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2023-03-21

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	40.77
Conductivity (S/m)	0.89
Probe	SN 04/22 EPGO364
ConvF	1.72
Crest factor:	1:1

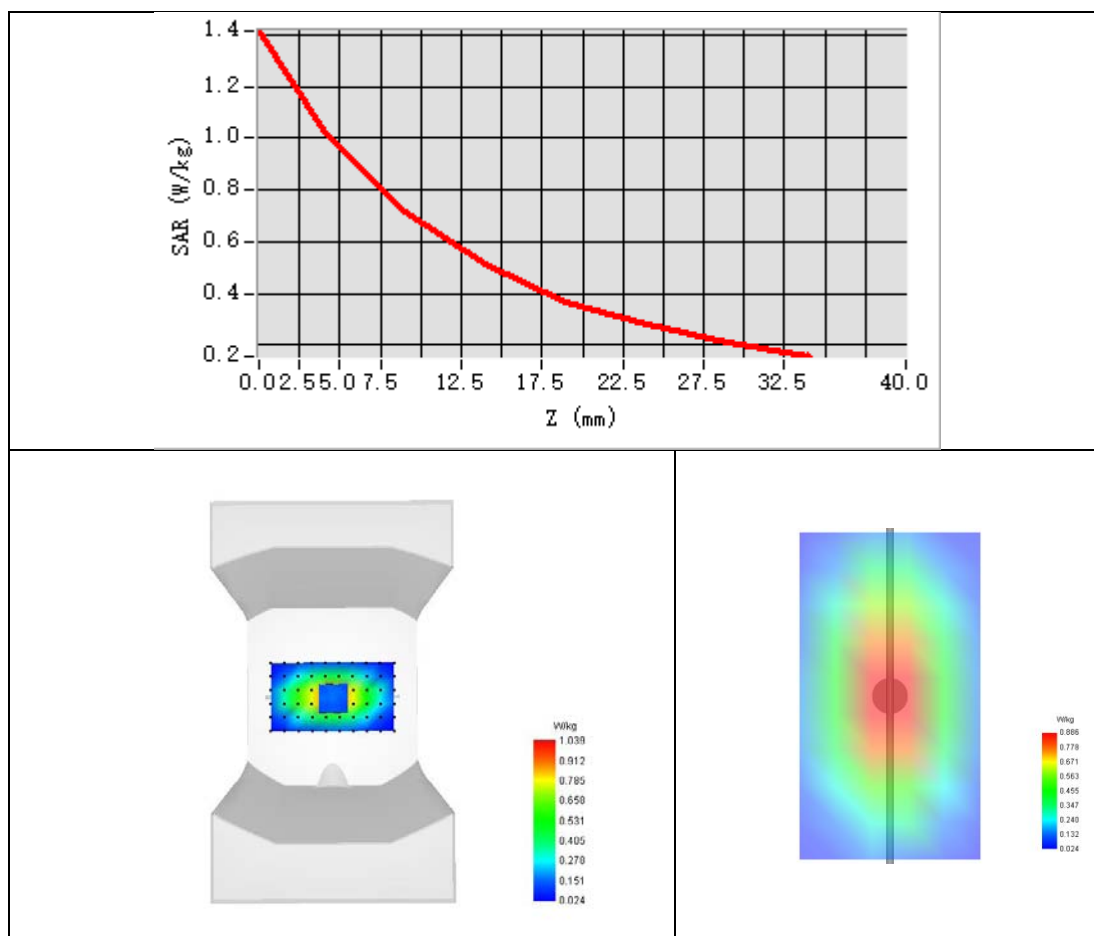


Maximum location: X=-2.00, Y=-1.00 ; SAR Peak: 1.50 W/kg

SAR 10g (W/Kg)	0.668
SAR 1g (W/Kg)	0.985



Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

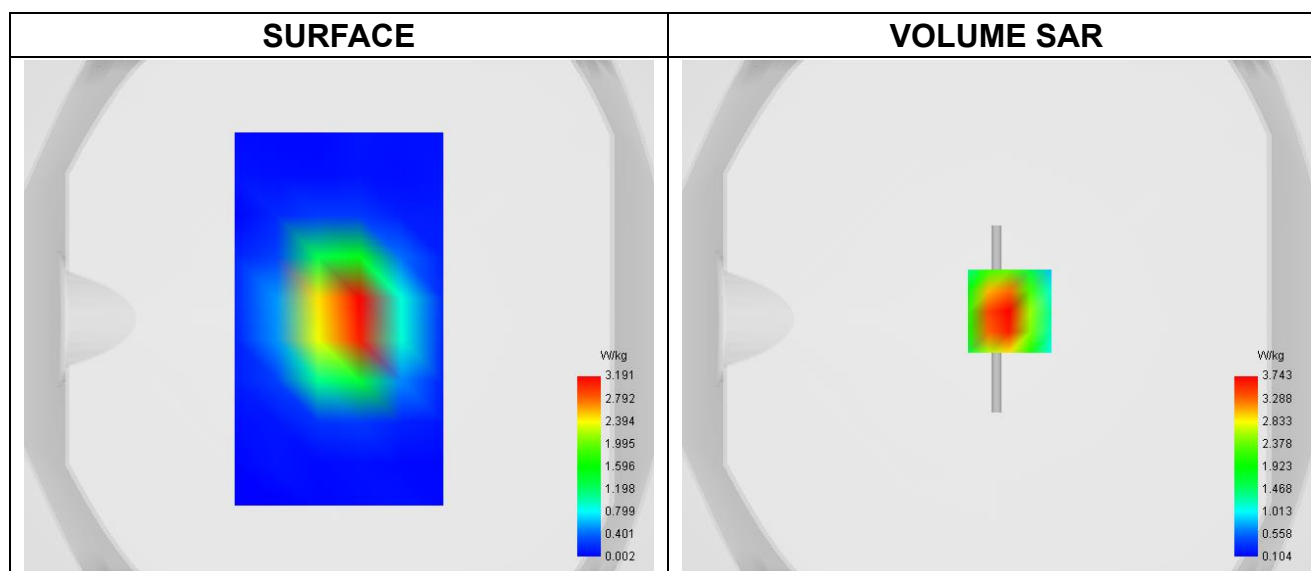
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-22

Experimental conditions.

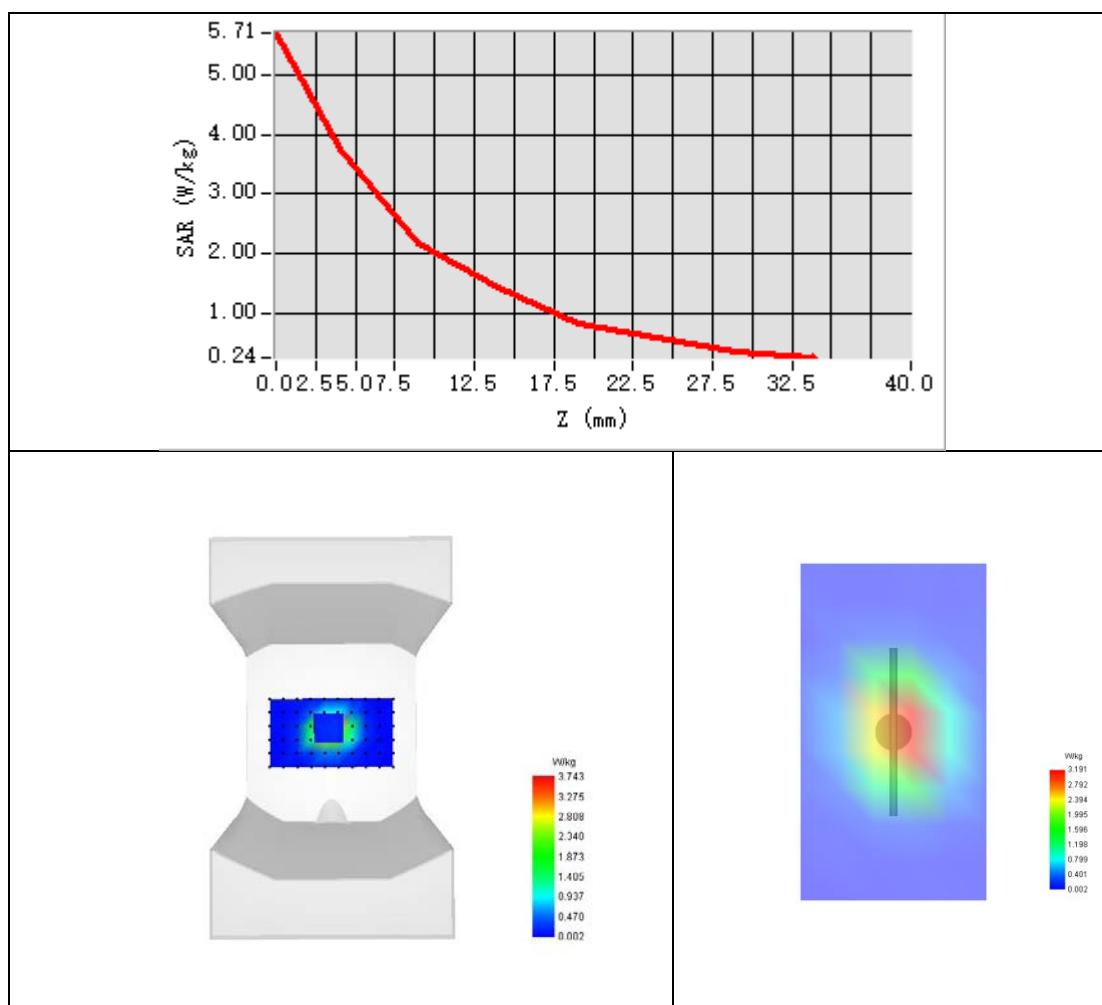
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	41.50
Conductivity (S/m)	1.39
Probe	SN 04/22 EPG0364
ConvF	1.95
Crest factor:	1:1



Maximum location: X=5.00, Y=3.00 ; SAR Peak: 5.81 W/kg

SAR 10g (W/Kg)	1.995
SAR 1g (W/Kg)	3.636

Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

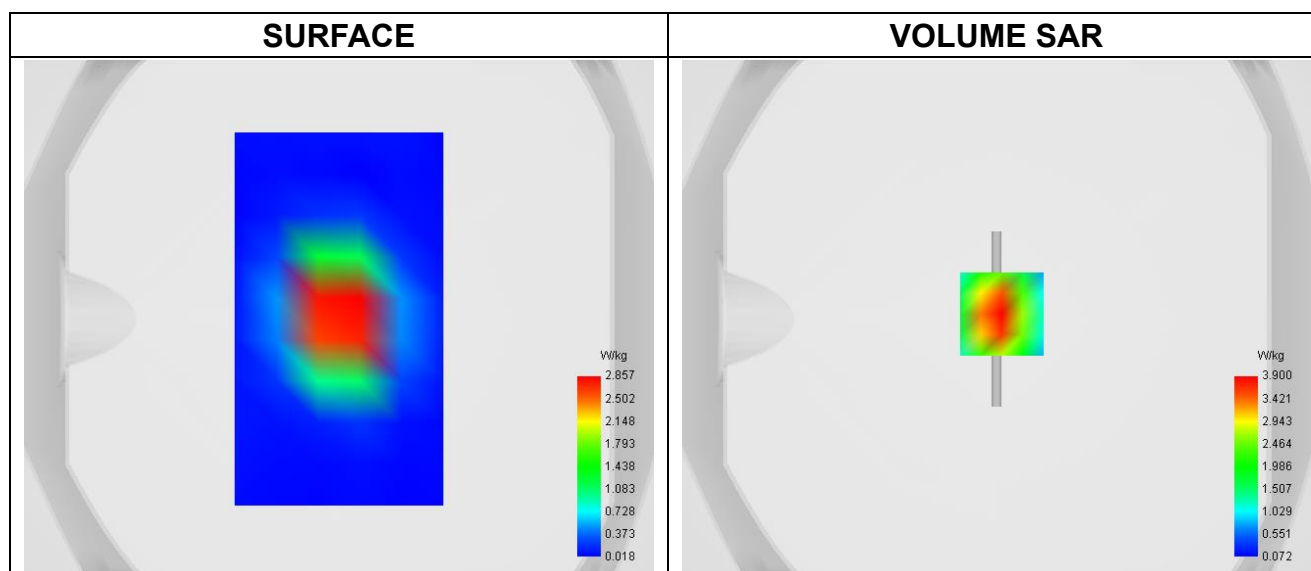
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-23

Experimental conditions.

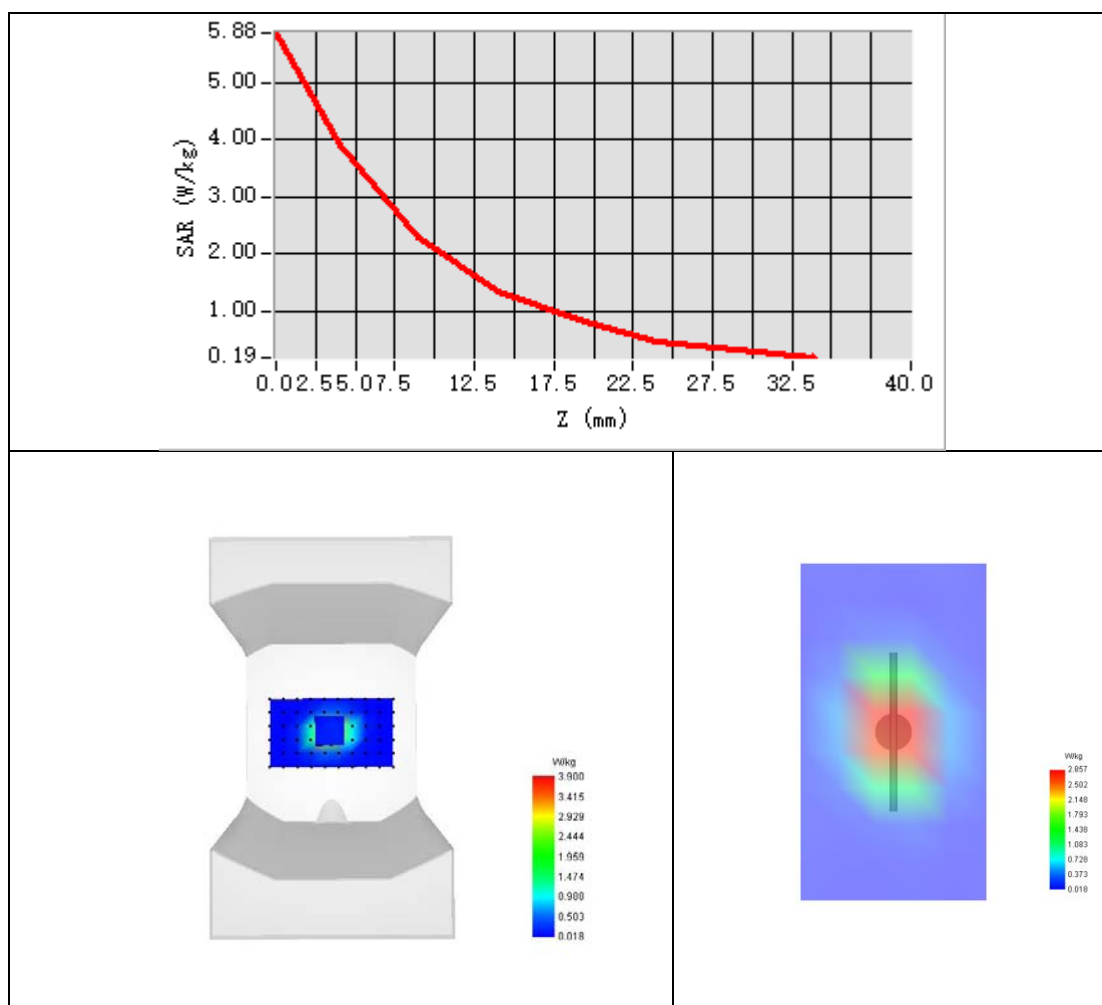
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	41.09
Conductivity (S/m)	1.44
Probe	SN 04/22 EPGO364
ConvF	2.25
Crest factor:	1:1



Maximum location: X=2.00, Y=2.00 ; SAR Peak: 6.01 W/kg

SAR 10g (W/Kg)	1.985
SAR 1g (W/Kg)	3.720

Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

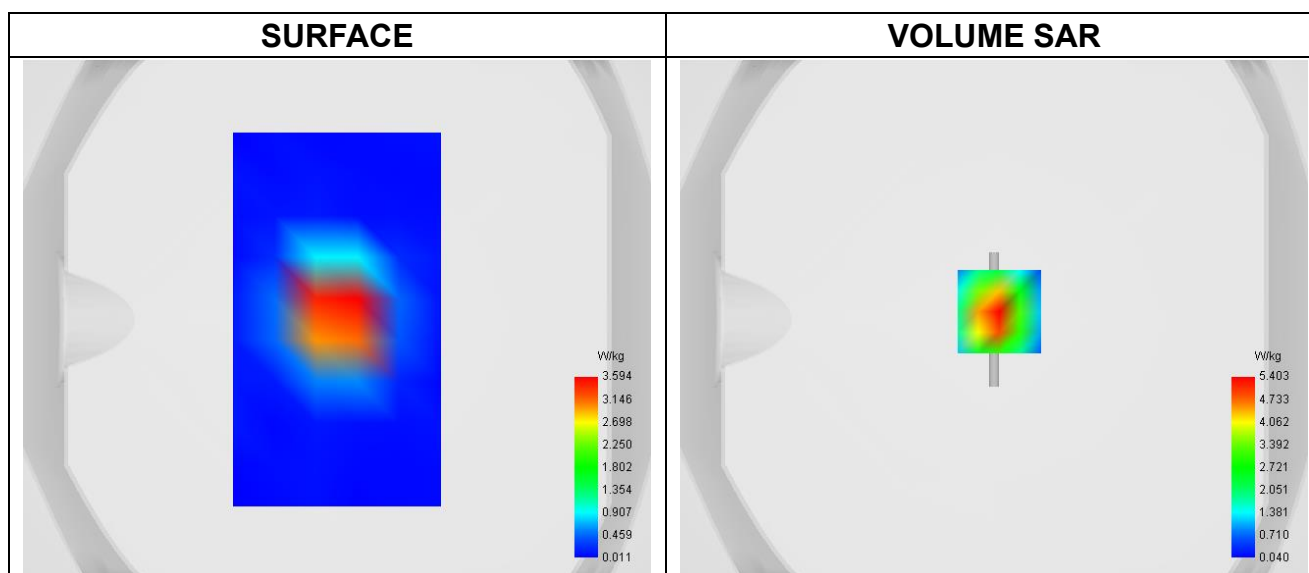
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-11

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	40.36
Conductivity (S/m)	1.77
Probe	SN 04/22 EPGO364
ConvF	2.33
Crest factor:	1:1

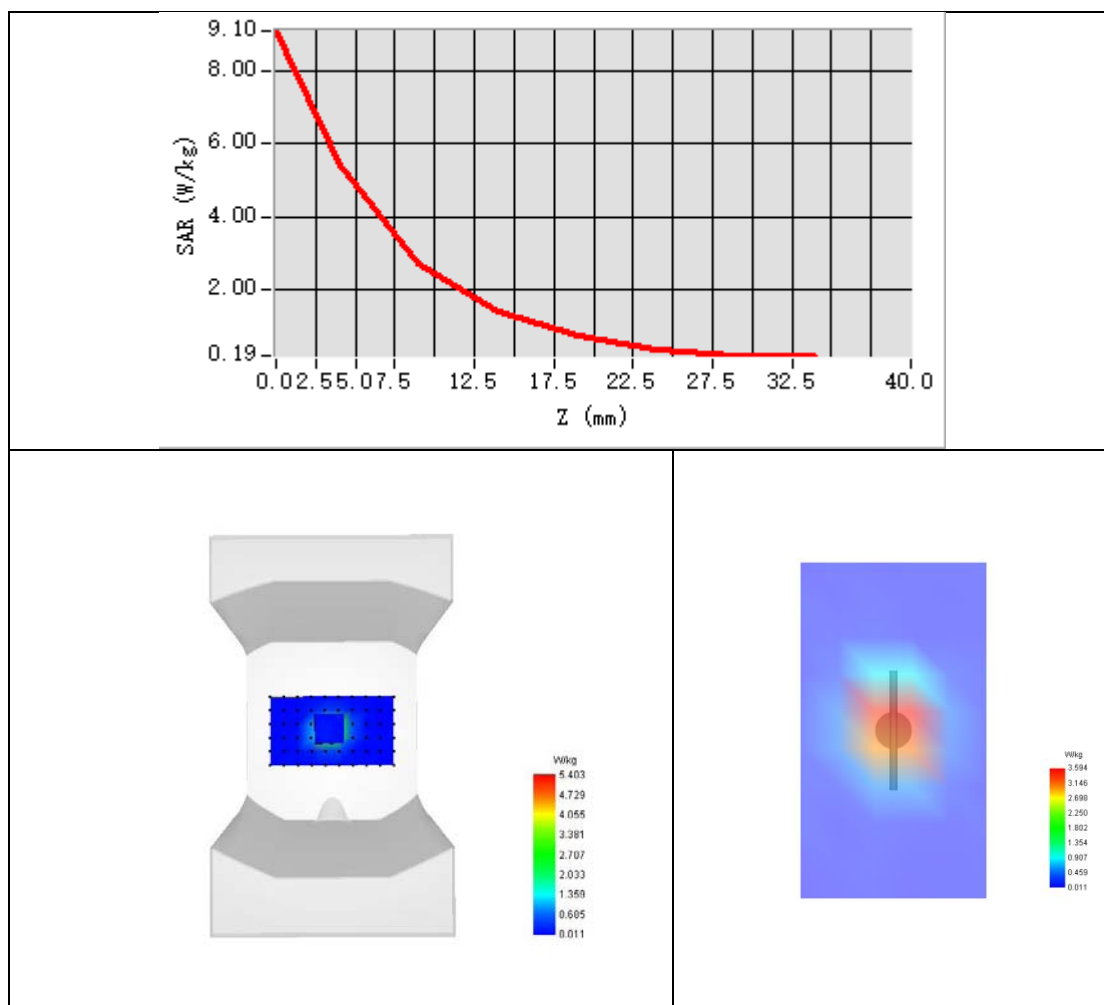


Maximum location: X=2.00, Y=3.00 ; SAR Peak: 9.25 W/kg

SAR 10g (W/Kg)	2.169
SAR 1g (W/Kg)	5.159



Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

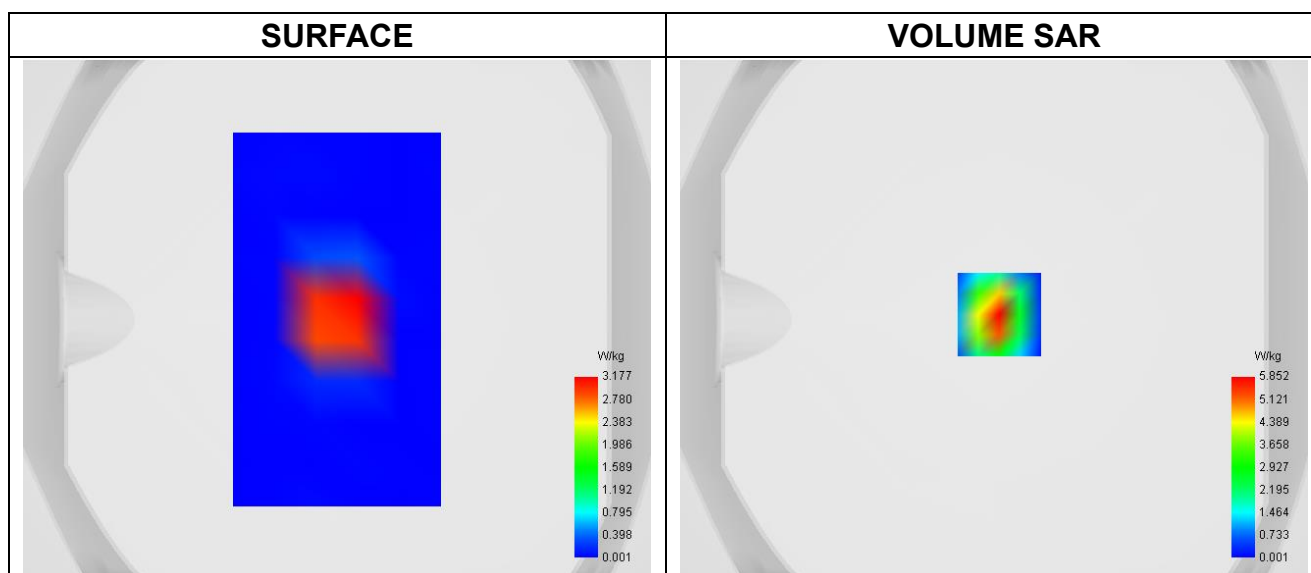
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-13

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.90
Conductivity (S/m)	1.95
Probe	SN 04/22 EPG0364
ConvF	2.36
Crest factor:	1:1

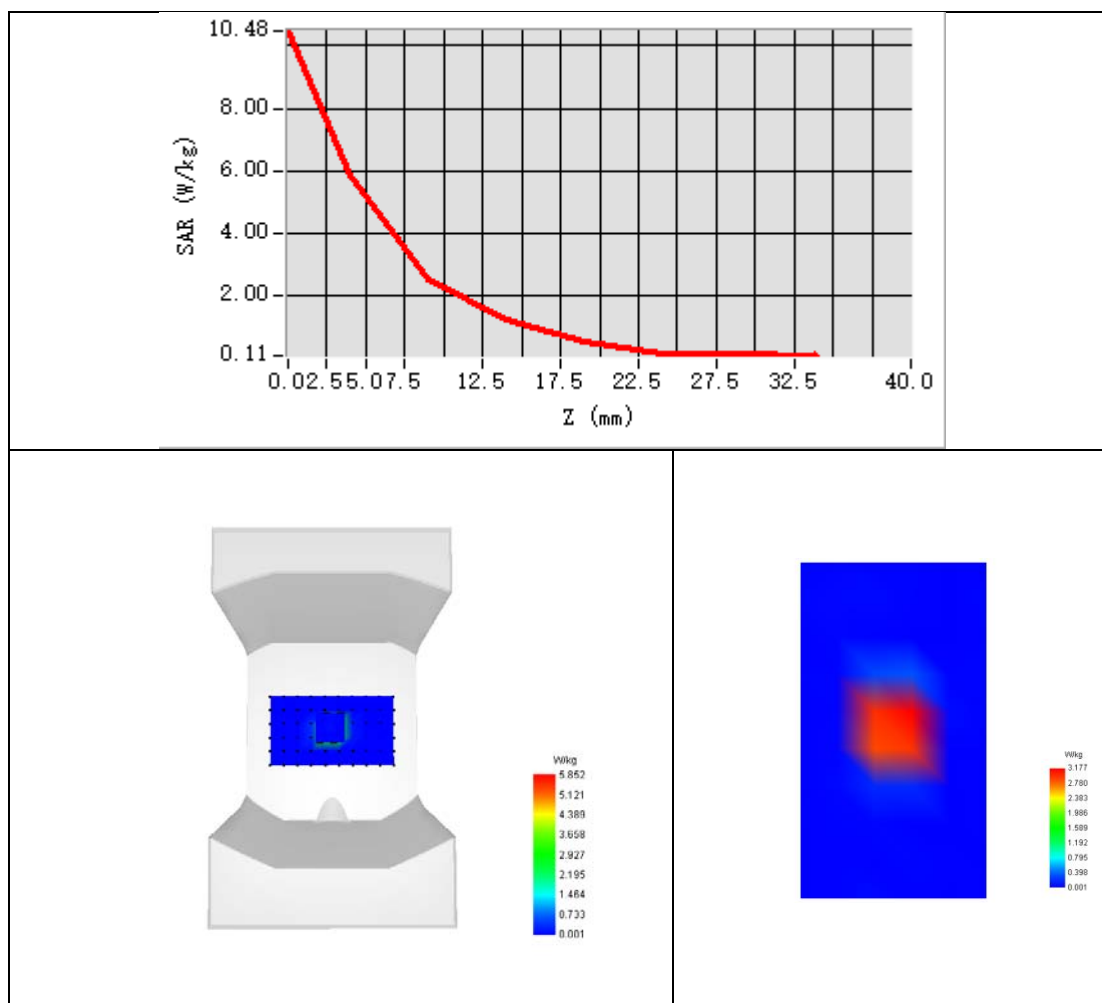


Maximum location: X=2.00, Y=2.00 ; SAR Peak: 10.71 W/kg

SAR 10g (W/Kg)	2.241
SAR 1g (W/Kg)	5.530



Z Axis Scan





System Performance Check Data (5200MHz)

Type: Phone measurement (Complete)

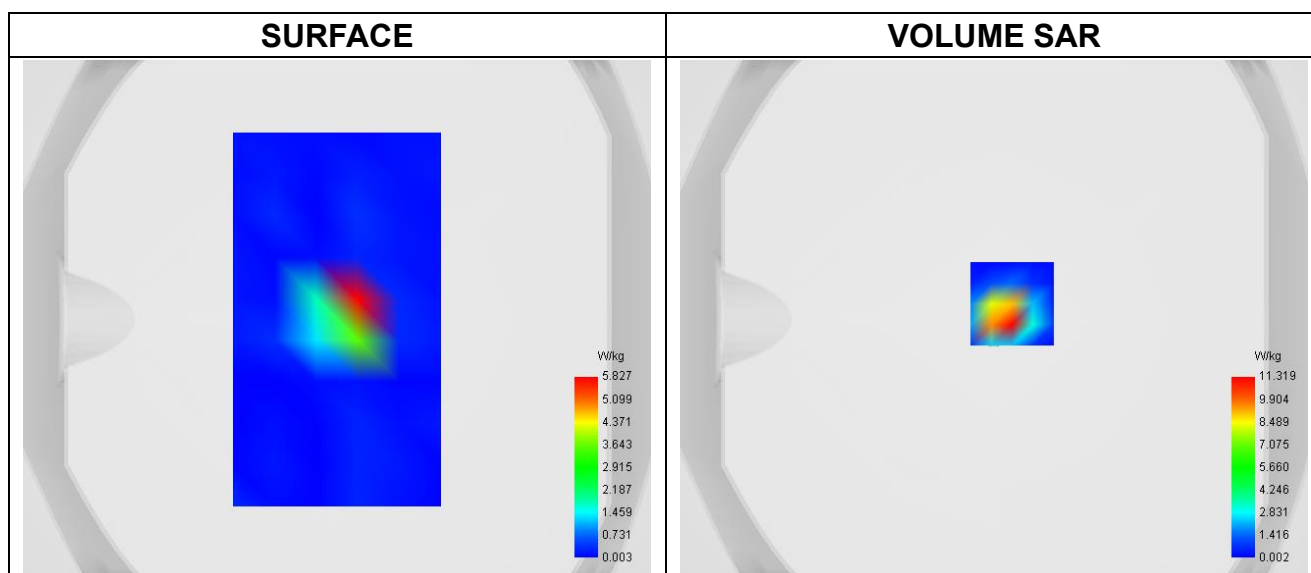
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-24

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW
Frequency (MHz)	5200.000
Relative permittivity	36.43
Conductivity (S/m)	4.64
Probe	SN 04/22 EPGO364
ConvF	1.95
Crest factor:	1:1

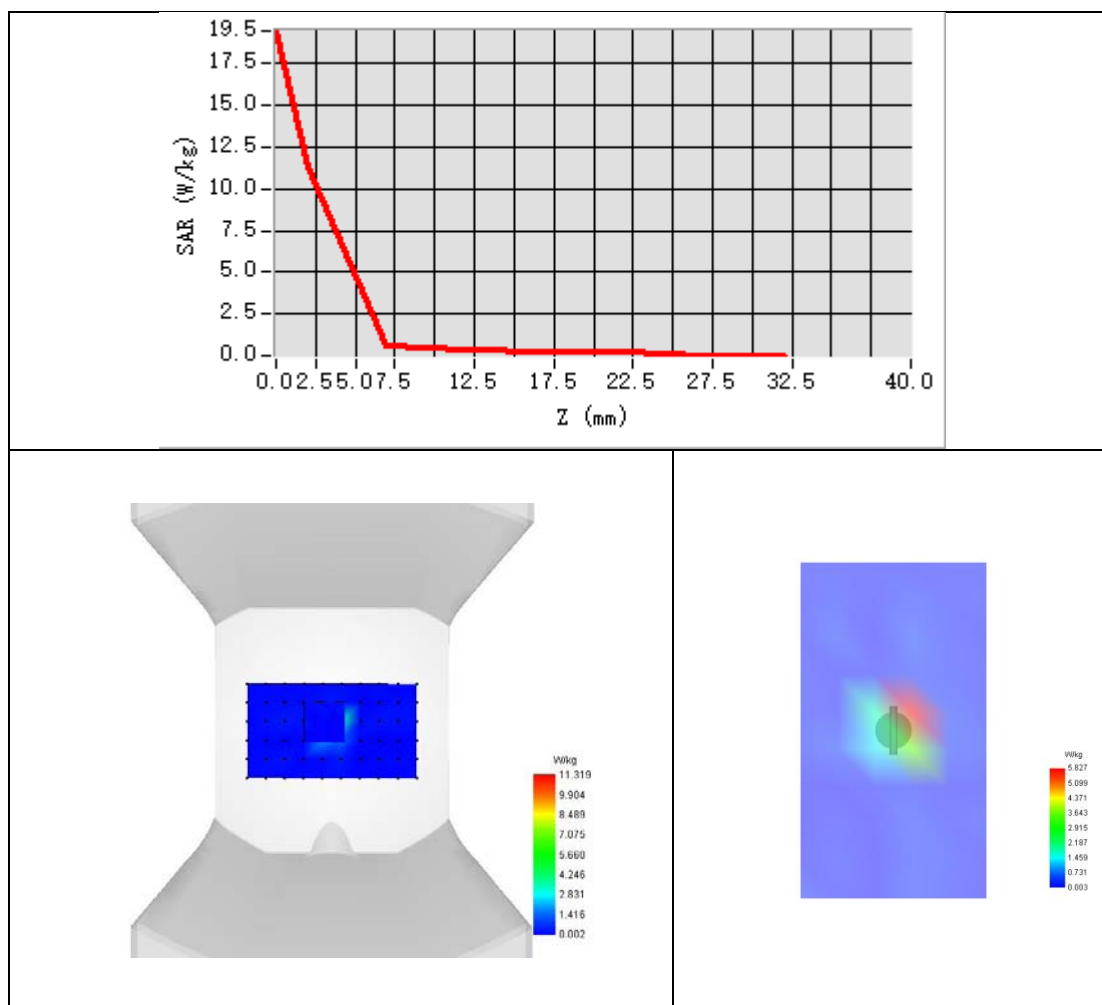


Maximum location: X=7.00, Y=6.00 ; SAR Peak: 21.79 W/kg

SAR 10g (W/Kg)	1.987
SAR 1g (W/Kg)	7.828



Z Axis Scan





System Performance Check Data (5800MHz)

Type: Phone measurement (Complete)

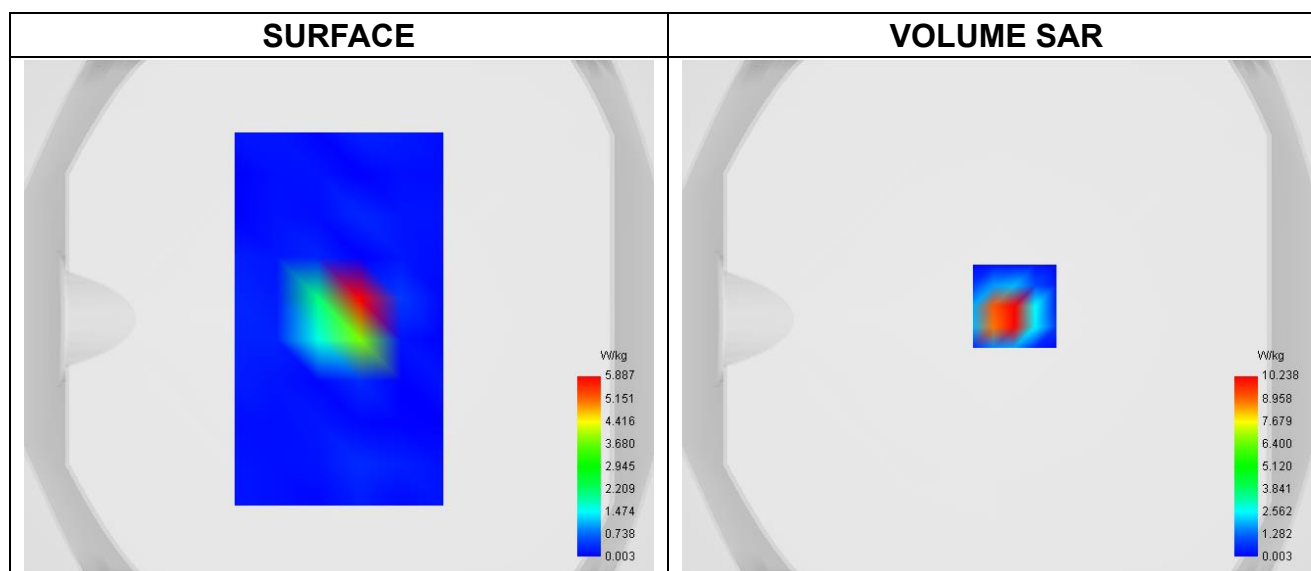
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2023-03-25

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW
Frequency (MHz)	5800.000
Relative permittivity	36.05
Conductivity (S/m)	5.22
Probe	SN 04/22 EPG0364
ConvF	1.73
Crest factor:	1:1

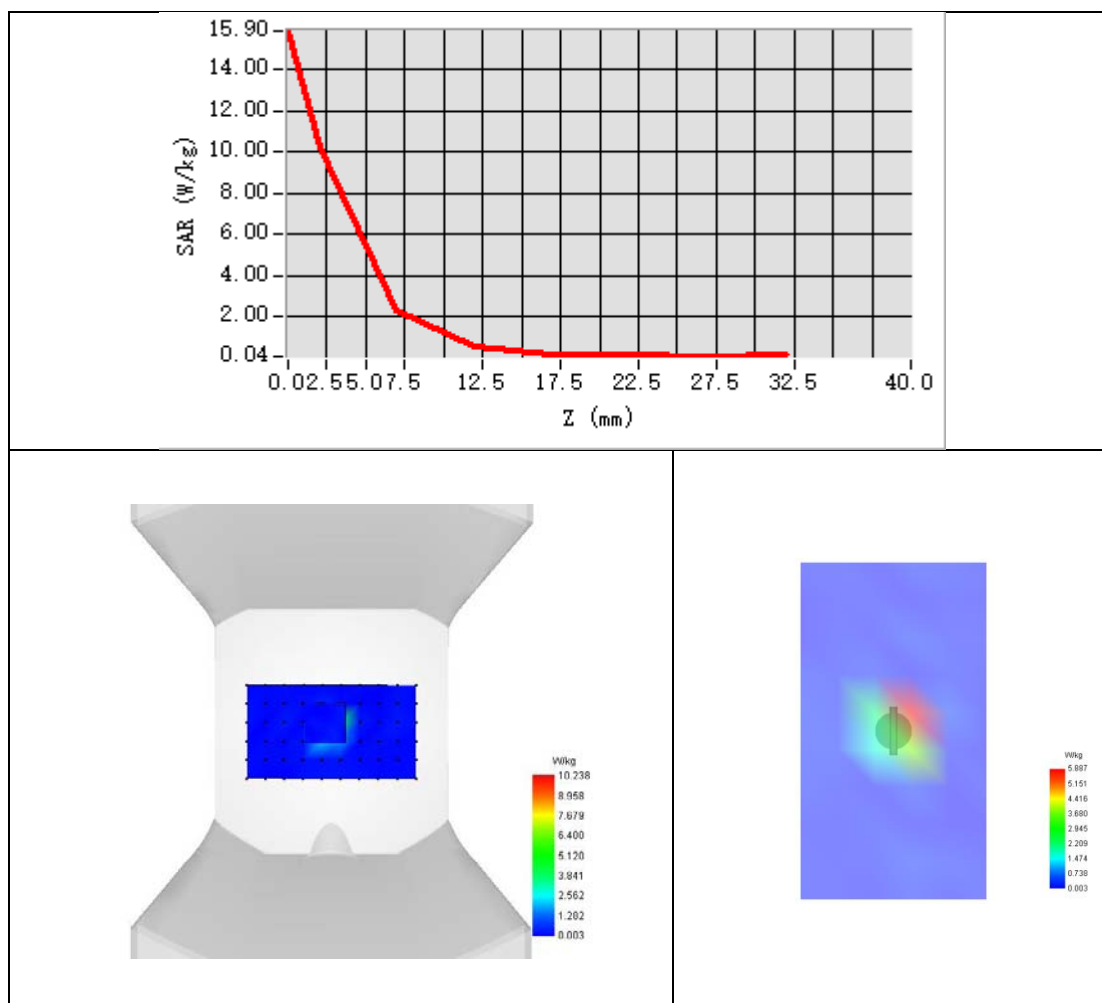


Maximum location: X=7.00, Y=5.00 ; SAR Peak: 21.50 W/kg

SAR 10g (W/Kg)	2.104
SAR 1g (W/Kg)	7.831



Z Axis Scan



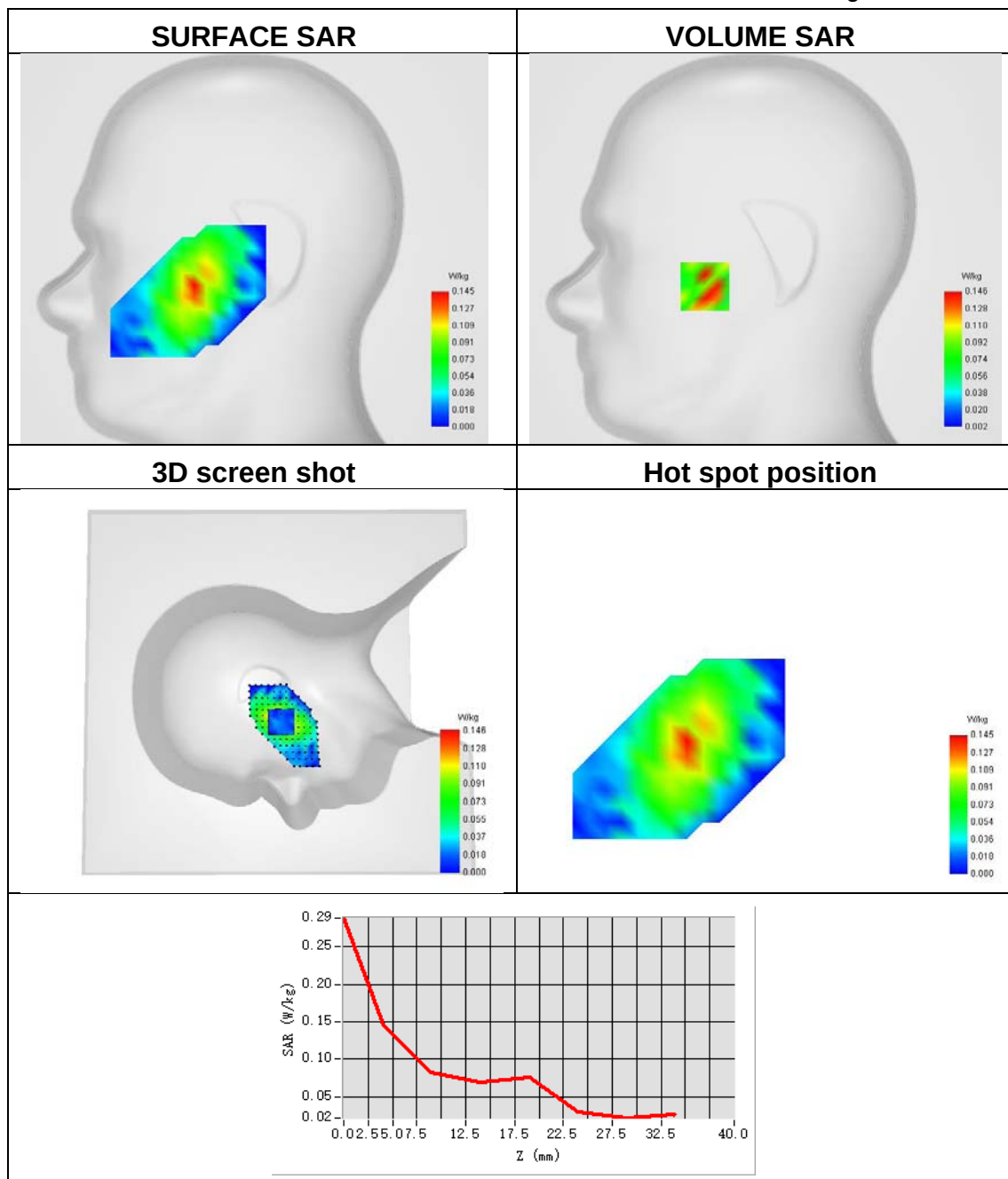


Appendix B. SAR Test Plots

Plot 1:

Test Date	2023-03-21
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	GSM850
Signal	TDMA (GSM)
Frequency	836.6
SAR 10g (W/Kg)	0.079
SAR 1g (W/Kg)	0.146

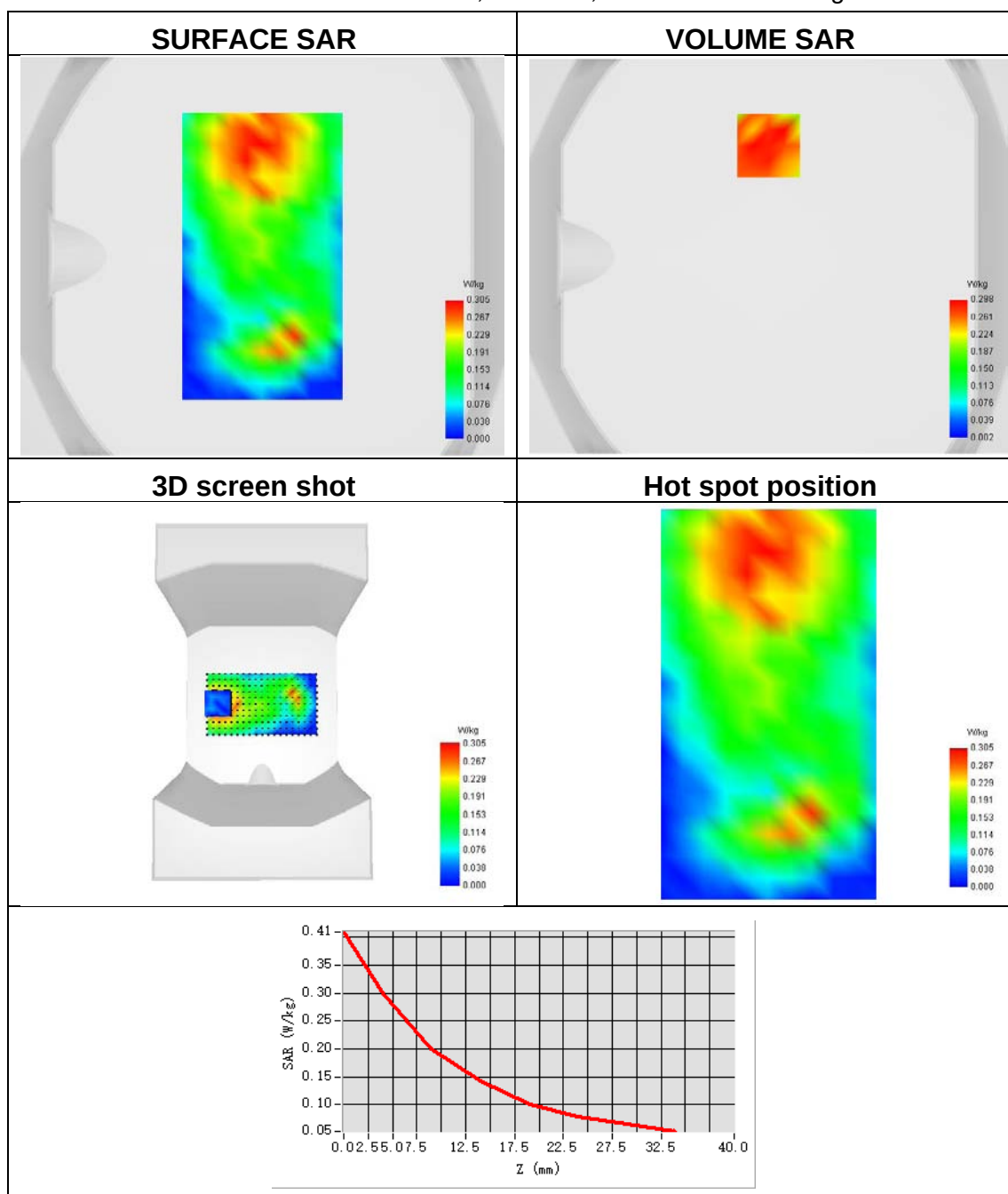
Maximum location: X=-40.00, Y=-25.00 ; SAR Peak: 0.30 W/kg



Plot 2:

Test Date	2023-03-21
Area Scan	surf_sam_plan.txt
ZoomScan	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)	0.193
SAR 1g (W/Kg)	0.289

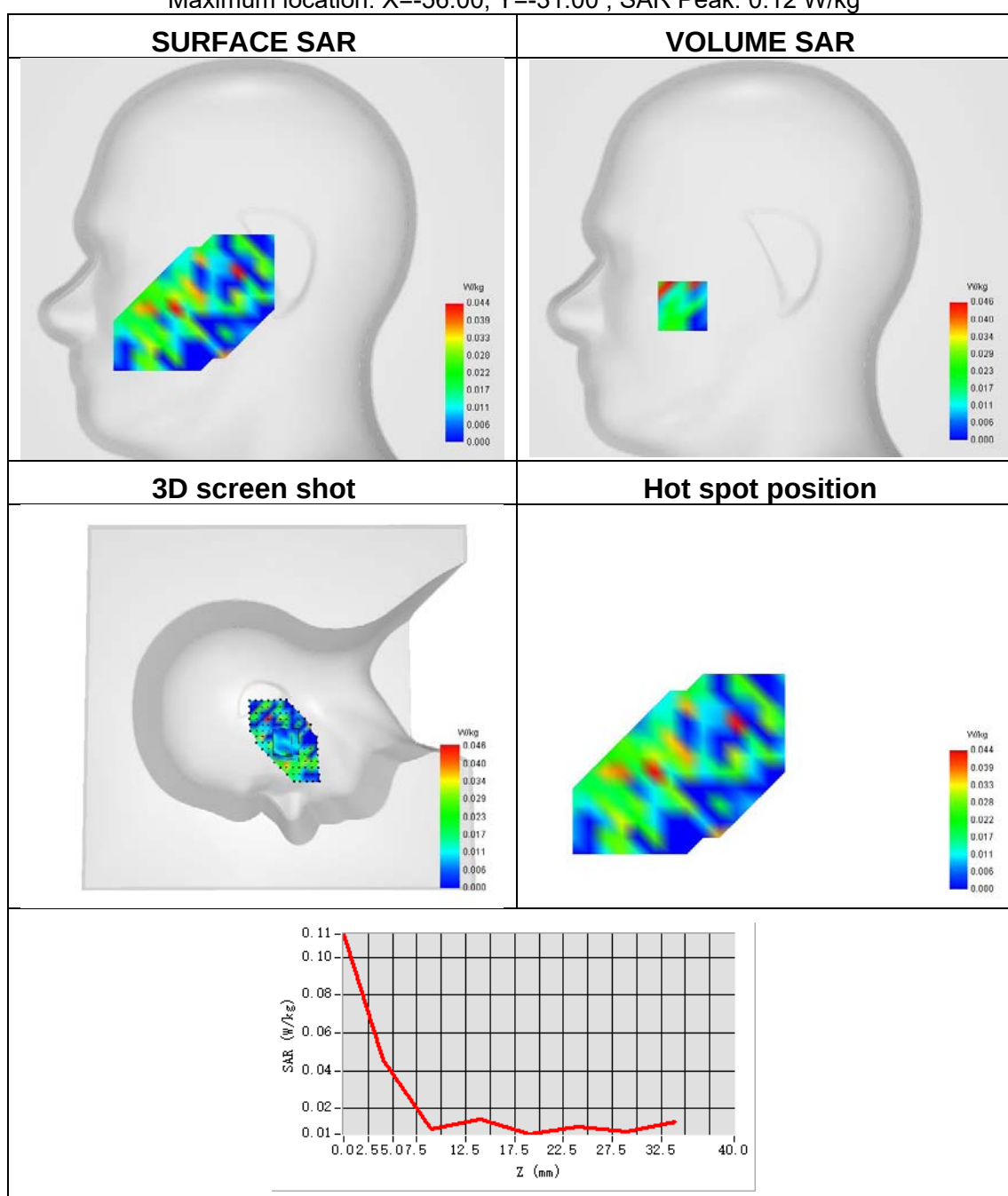
Maximum location: X=0.00, Y=56.00 ; SAR Peak: 0.47 W/kg



Plot 3:

Test Date	2023-03-23
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Signal	TDMA (GSM)
Frequency	1880
SAR 10g (W/Kg)	0.016
SAR 1g (W/Kg)	0.035

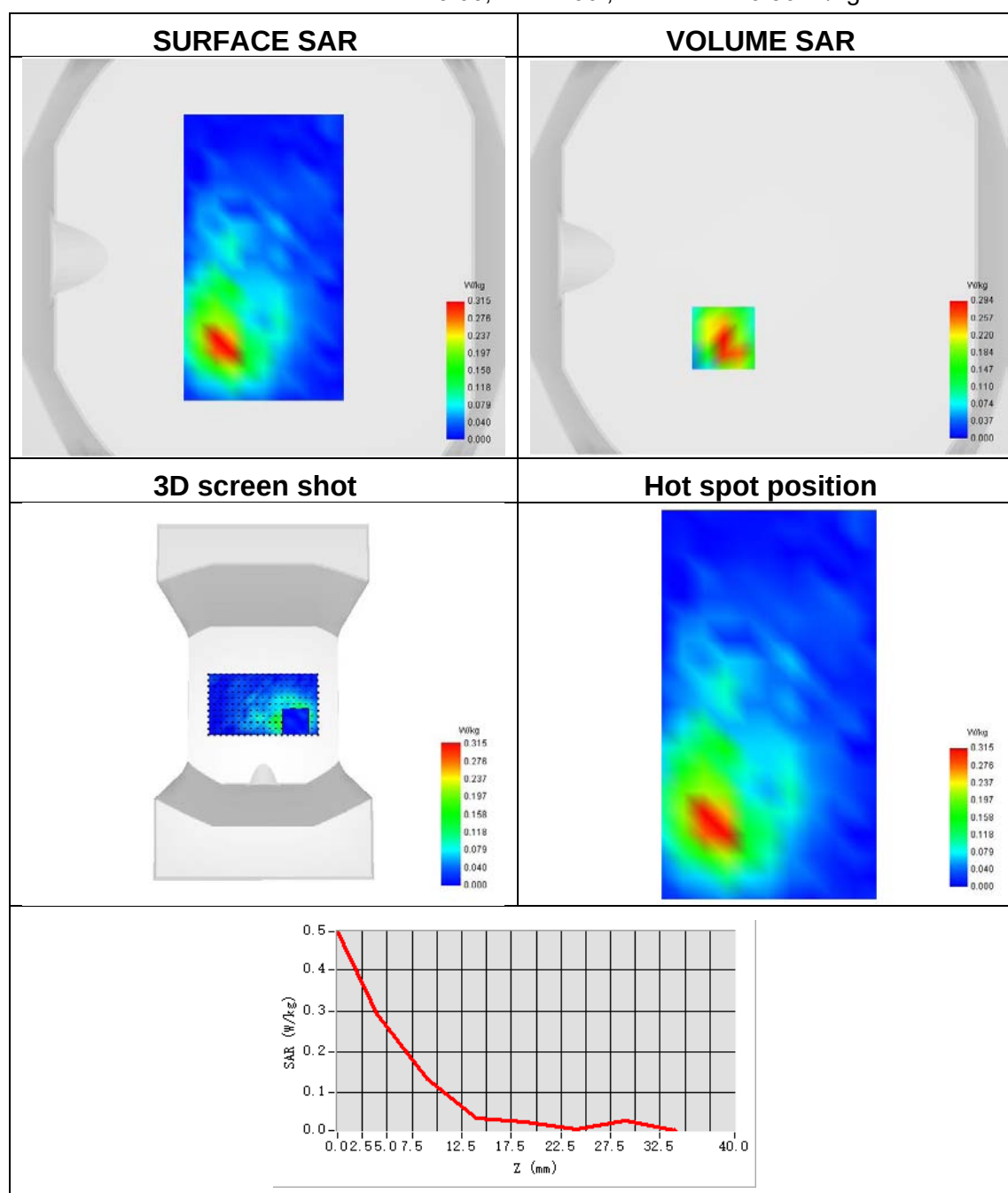
Maximum location: X=-56.00, Y=-31.00 ; SAR Peak: 0.12 W/kg



Plot 4:

Test Date	2023-03-23
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Front Side
Band	GPRS1900
Signal	TDMA (GPRS)
Frequency	1880
SAR 10g (W/Kg)	0.119
SAR 1g (W/Kg)	0.274

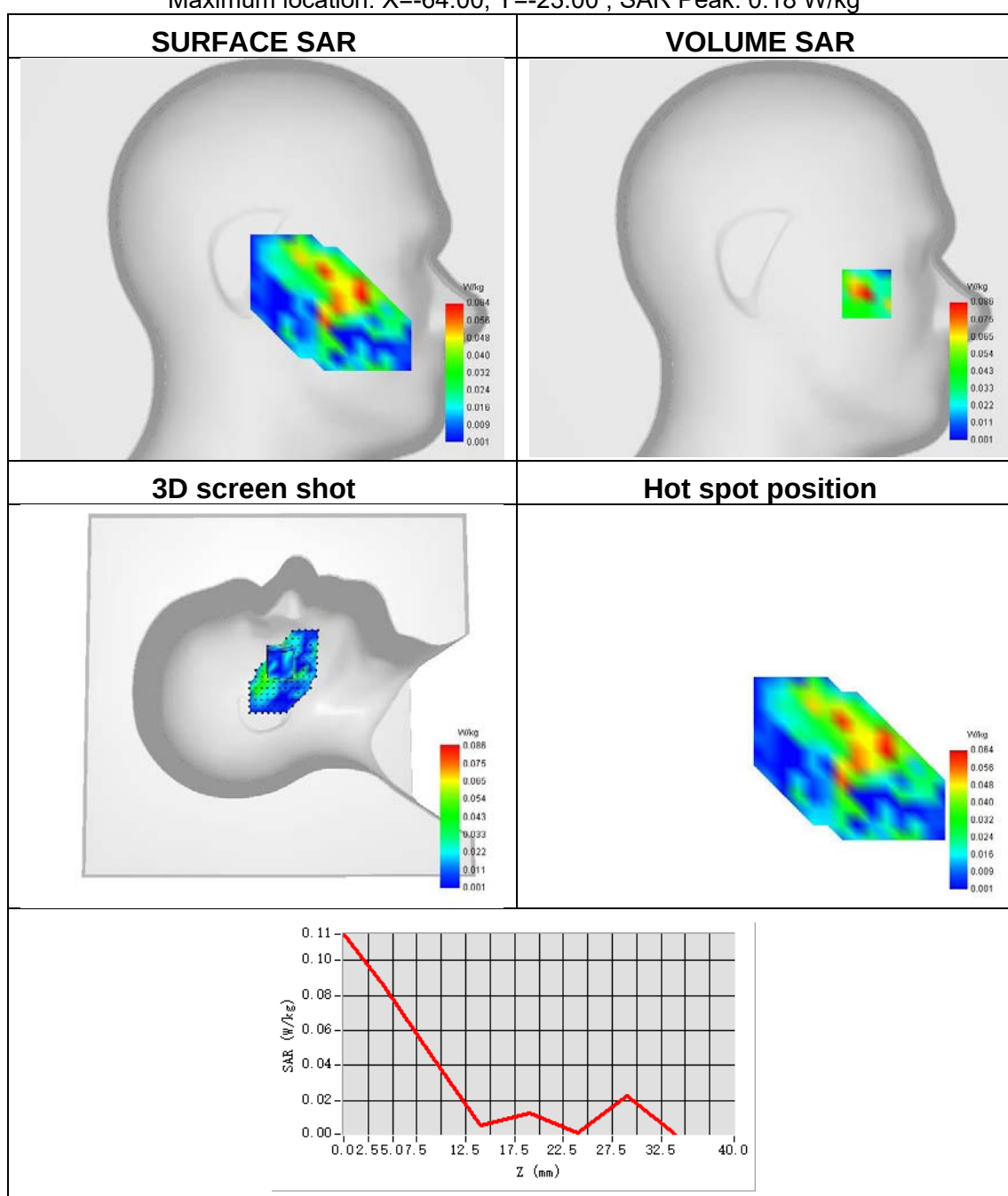
Maximum location: X=-23.00, Y=-41.00 ; SAR Peak: 0.56 W/kg



Plot 5:

Test Date	2023-03-23
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band 2 (1900)
Signal	WCDMA
Frequency	1907.6
SAR 10g (W/Kg)	0.035
SAR 1g (W/Kg)	0.082

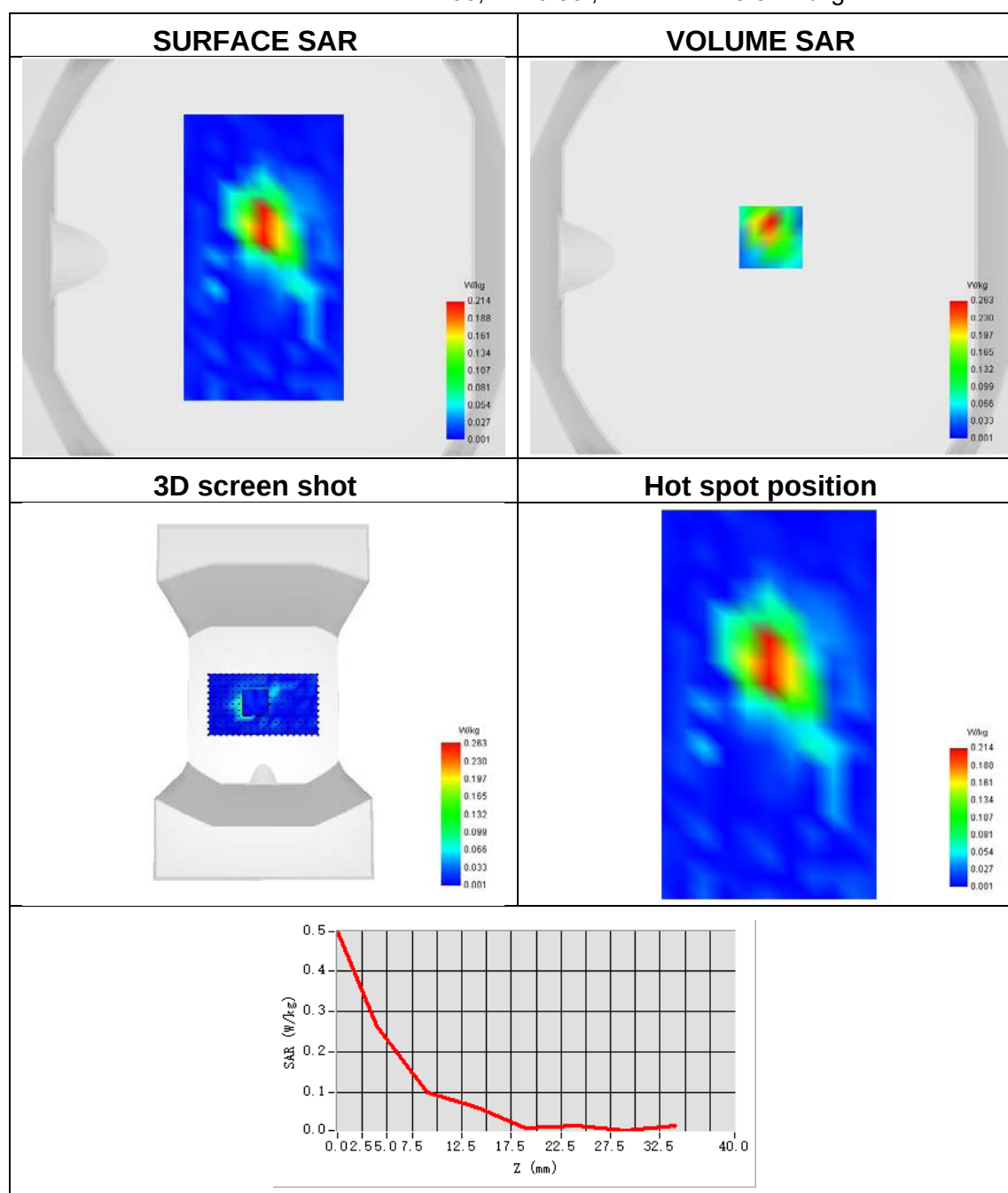
Maximum location: X=-64.00, Y=-23.00 ; SAR Peak: 0.18 W/kg



Plot 6:

Test Date	2023-03-23
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	Band 2 (1900)
Signal	WCDMA
Frequency	1907.6
SAR 10g (W/Kg)	0.101
SAR 1g (W/Kg)	0.253

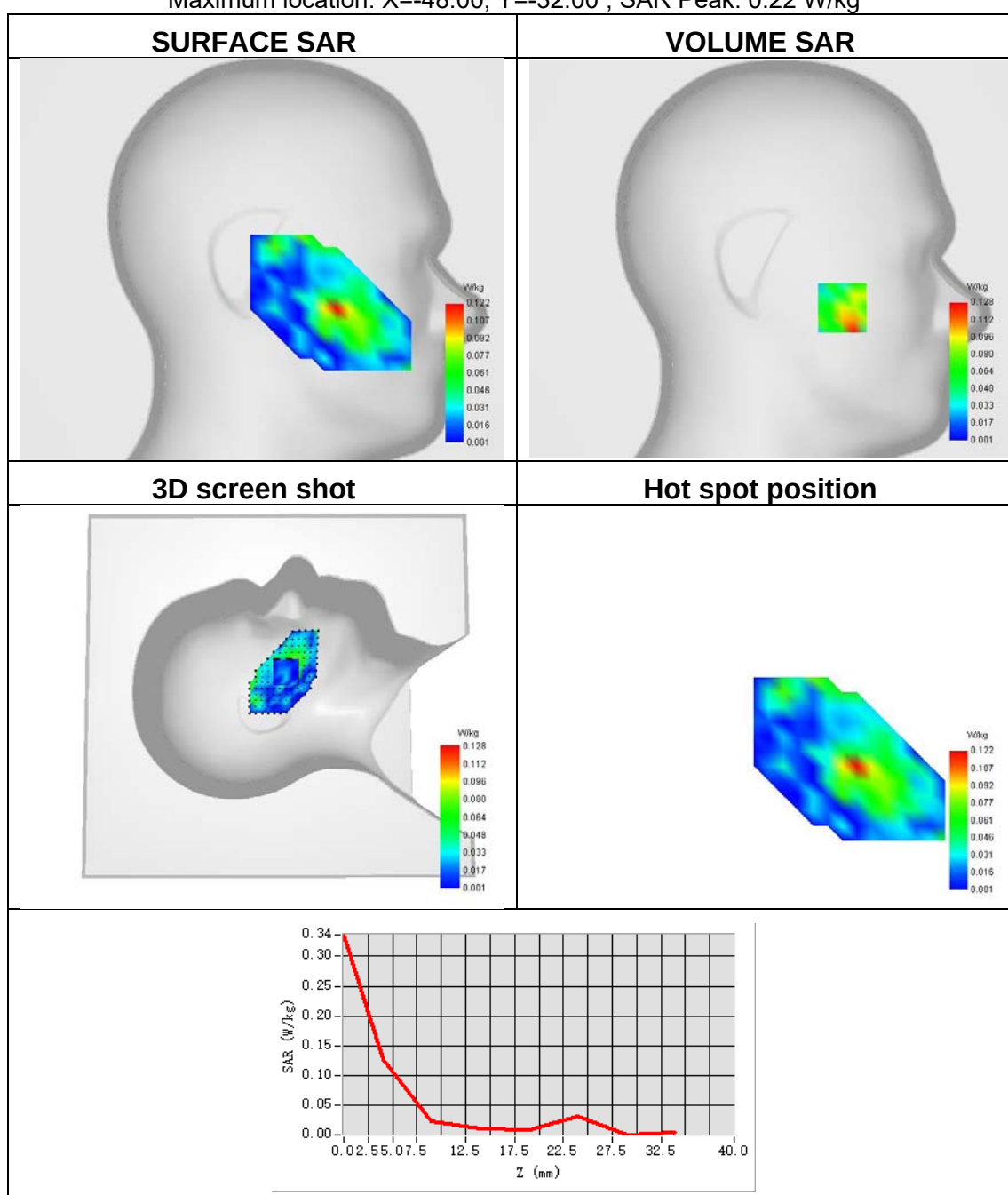
Maximum location: X=1.00, Y=10.00 ; SAR Peak: 0.52 W/kg



Plot 7:

Test Date	2023-03-22
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band 4 (1700)
Signal	WCDMA
Frequency	1712.6
SAR 10g (W/Kg)	0.055
SAR 1g (W/Kg)	0.104

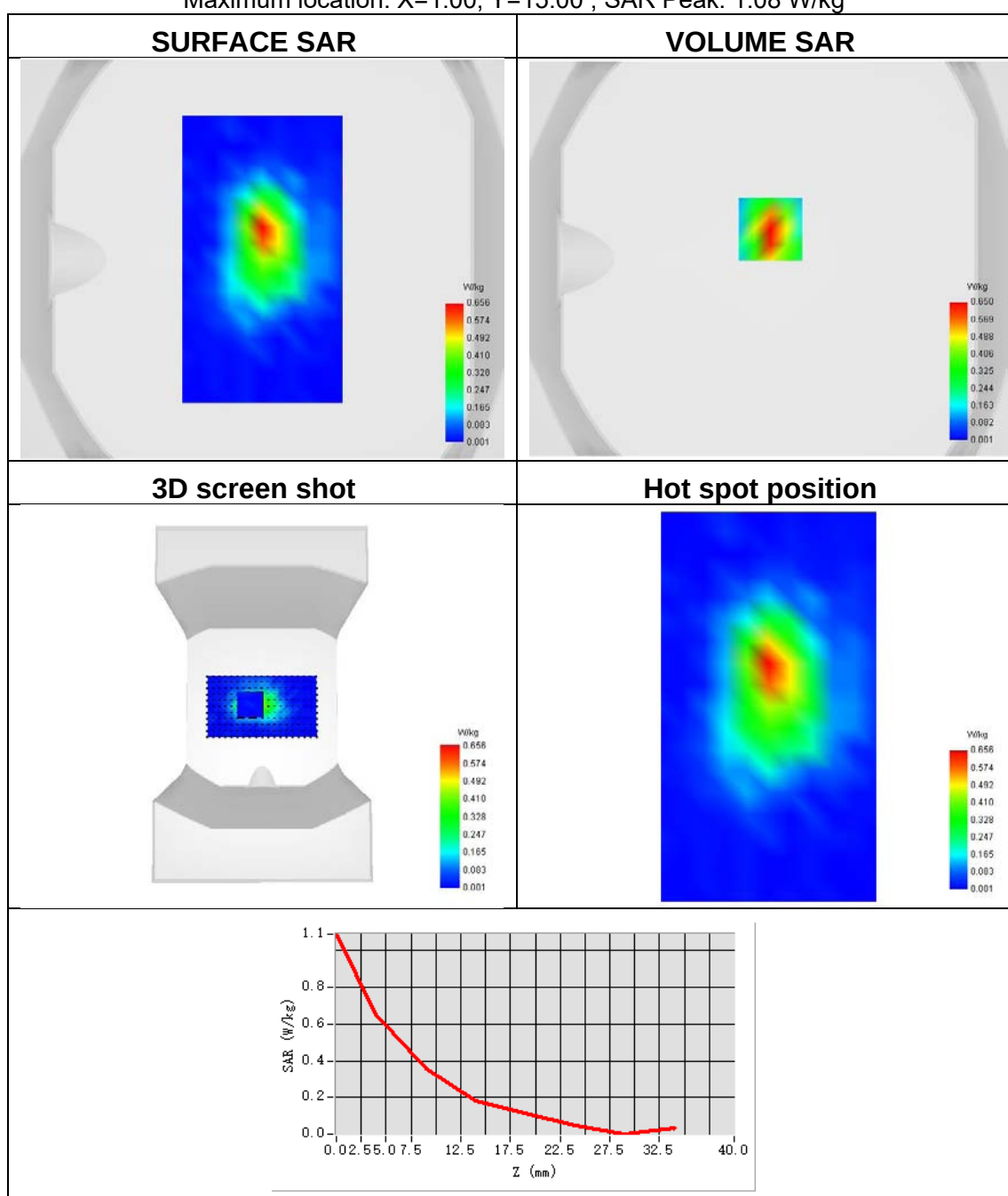
Maximum location: X=-48.00, Y=-32.00 ; SAR Peak: 0.22 W/kg



Plot 8:

Test Date	2023-03-22
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	Band 4 (1700)
Signal	WCDMA
Frequency	1712.6
SAR 10g (W/Kg)	0.297
SAR 1g (W/Kg)	0.615

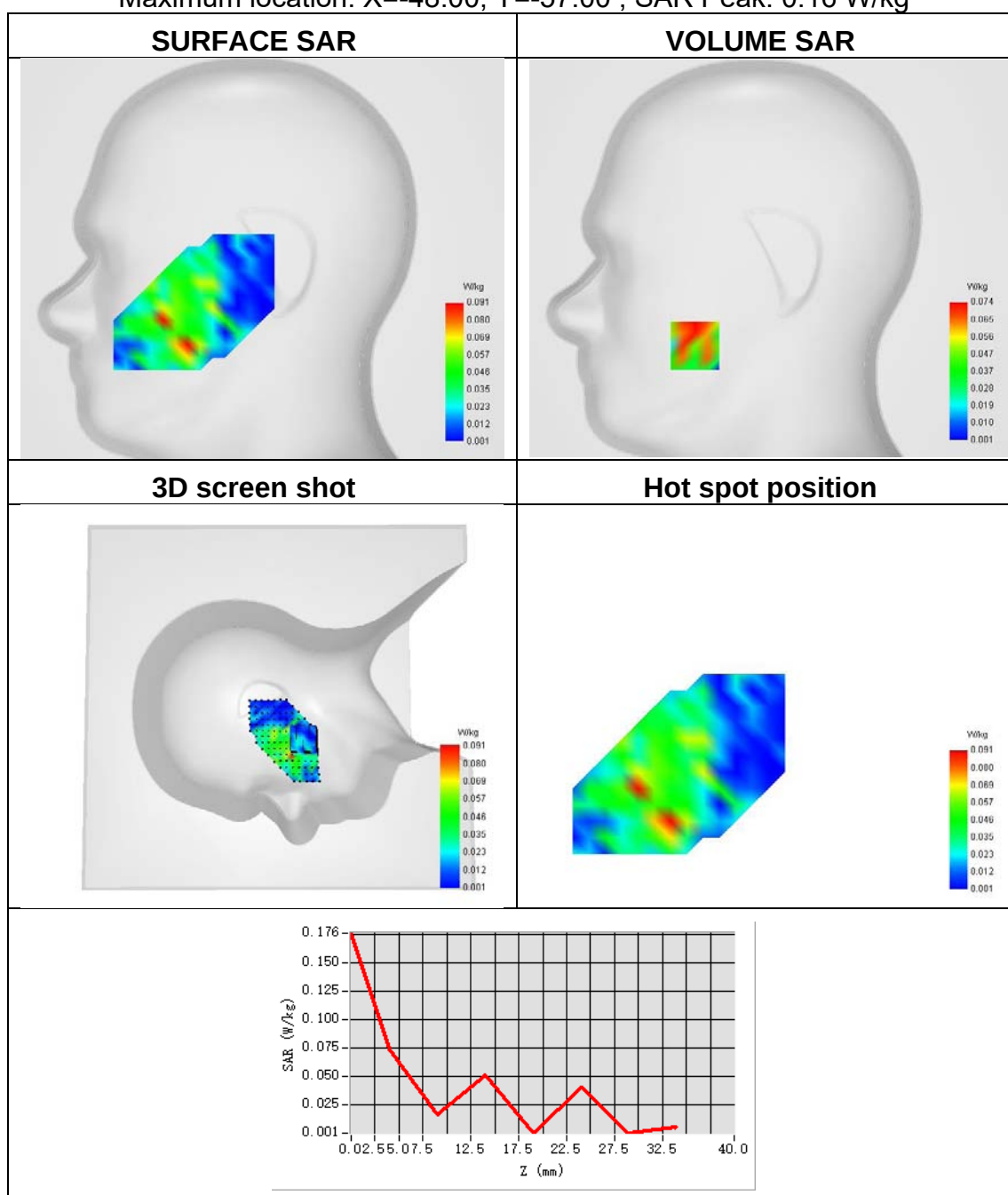
Maximum location: X=1.00, Y=15.00 ; SAR Peak: 1.08 W/kg



Plot 9:

Test Date	2023-03-21
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	Band 5 (850)
Signal	WCDMA
Frequency	826.4
SAR 10g (W/Kg)	0.036
SAR 1g (W/Kg)	0.068

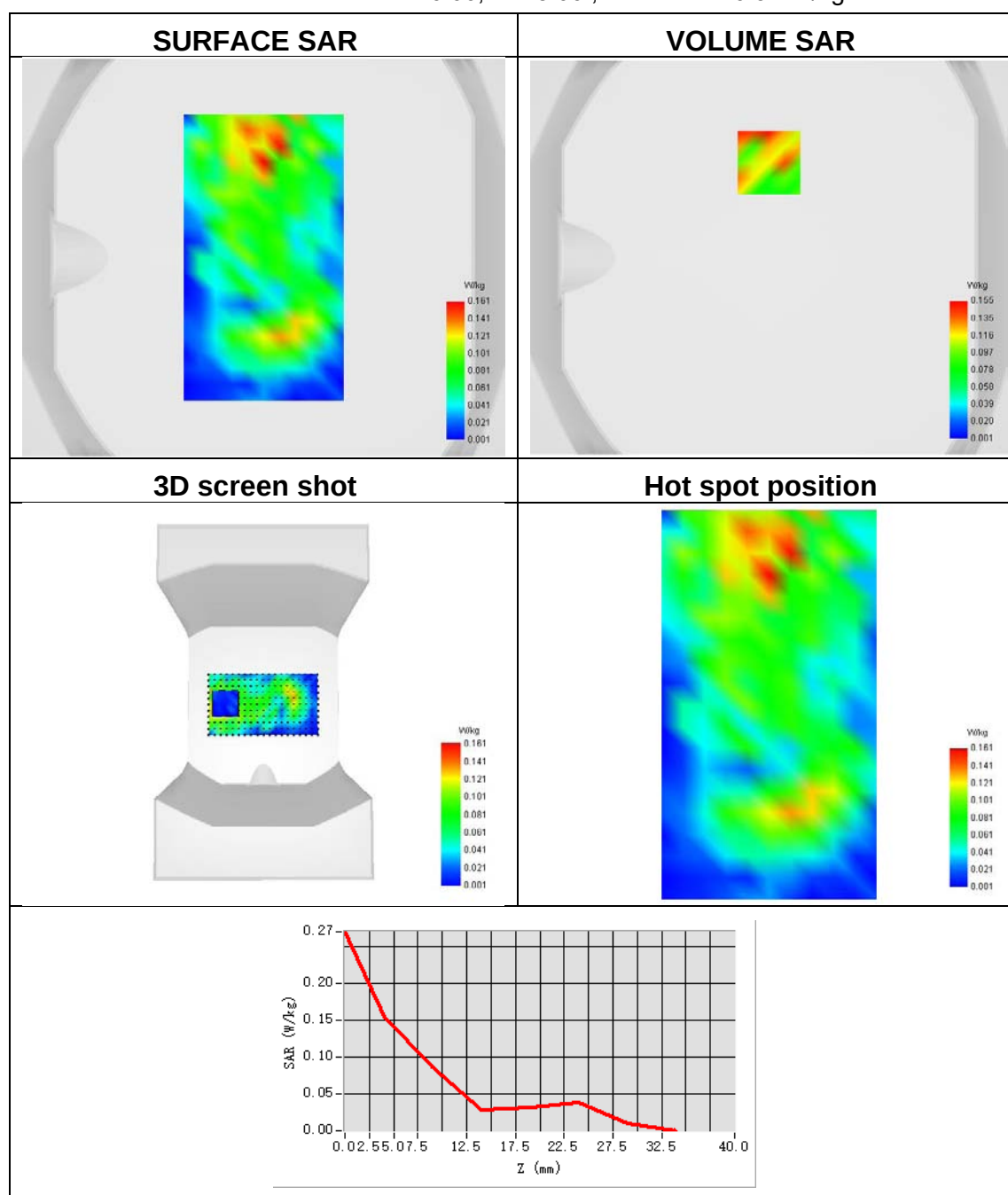
Maximum location: X=-48.00, Y=-57.00 ; SAR Peak: 0.16 W/kg



Plot 10:

Test Date	2023-03-21
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	Band 5 (850)
Signal	WCDMA
Frequency	826.4
SAR 10g (W/Kg)	0.076
SAR 1g (W/Kg)	0.124

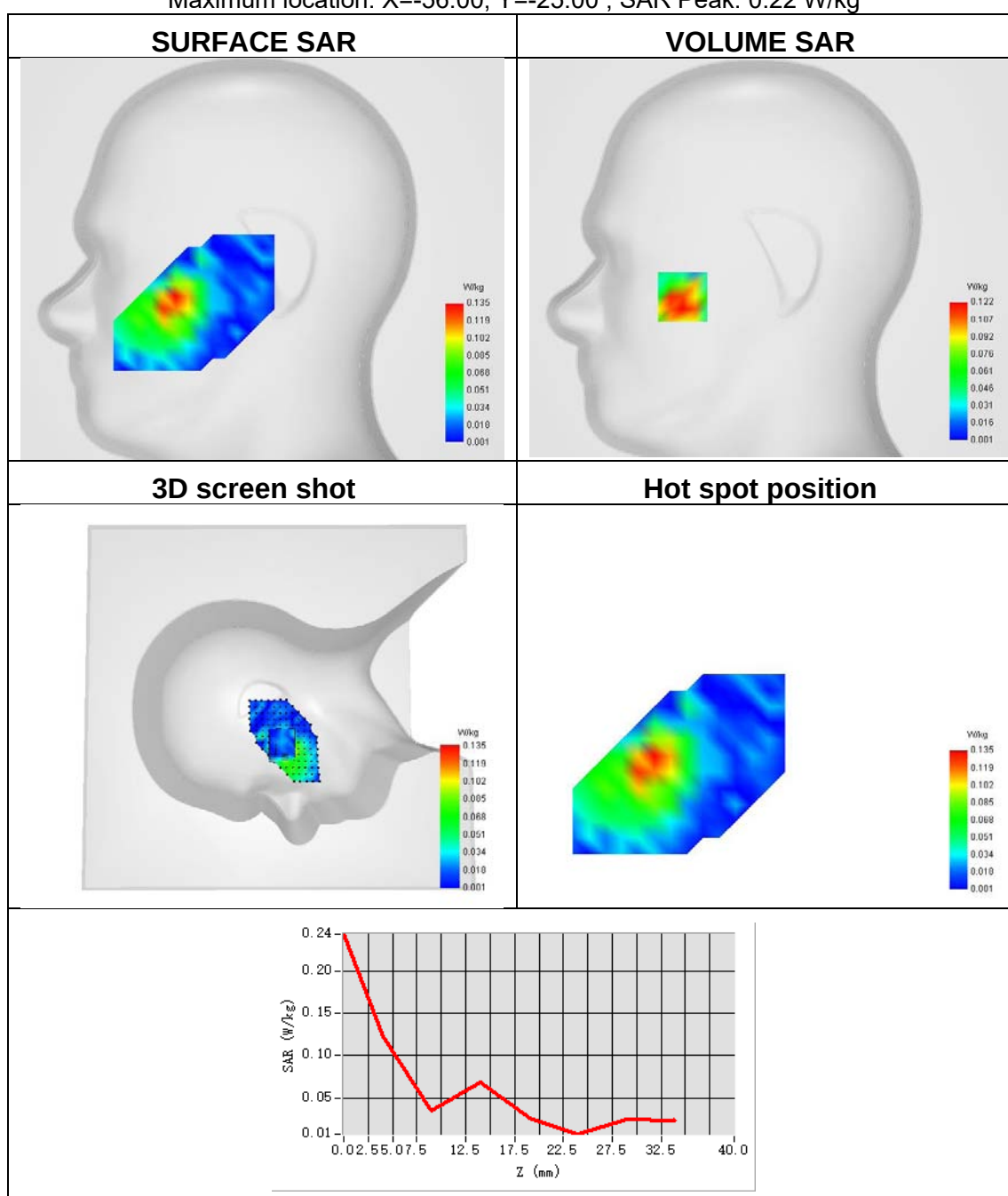
Maximum location: X=0.00, Y=48.00 ; SAR Peak: 0.31 W/kg



Plot 11:

Test Date	2023-03-23
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 2
Signal	LTE FDD
Frequency	1900
SAR 10g (W/Kg)	0.068
SAR 1g (W/Kg)	0.122

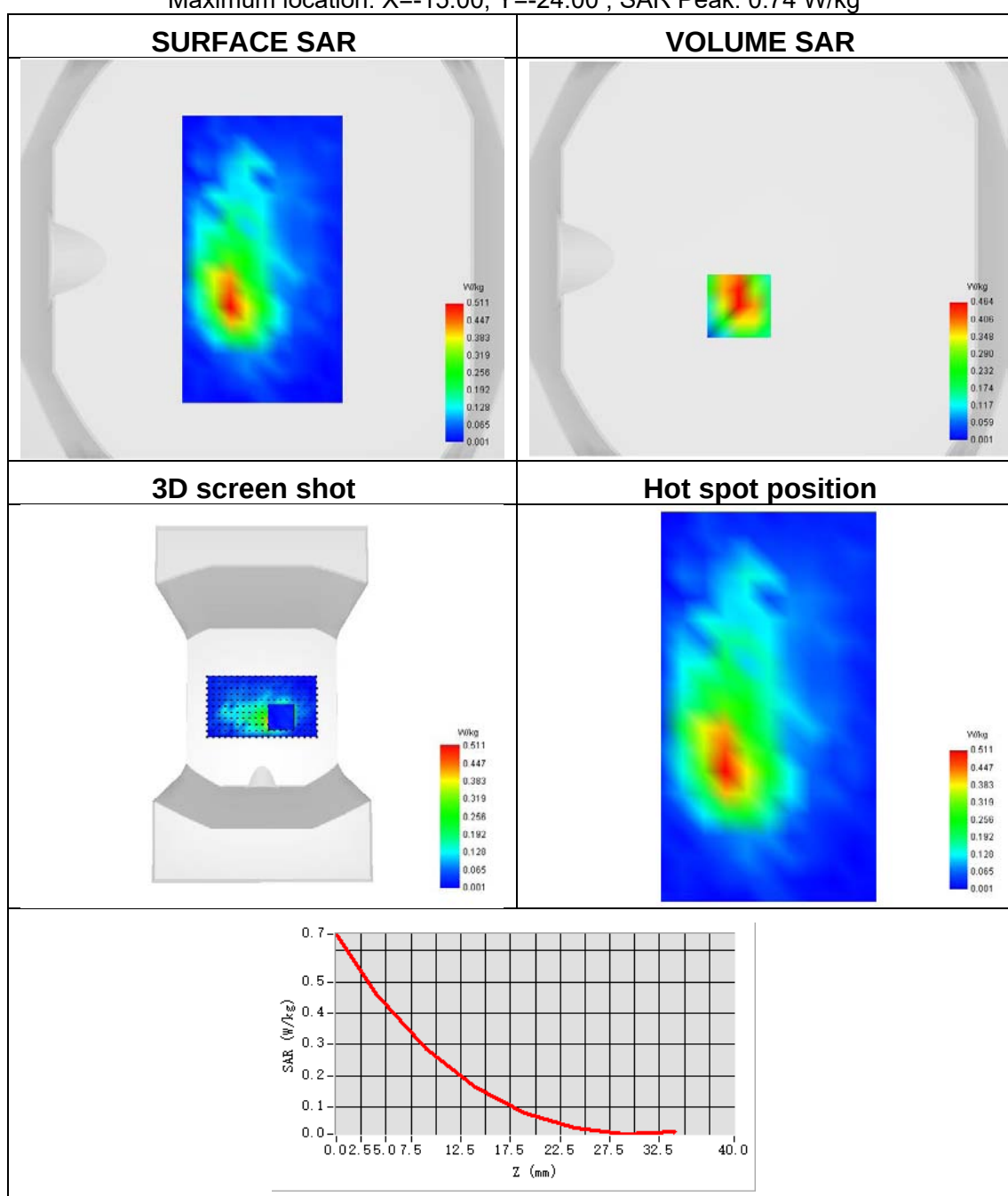
Maximum location: X=-56.00, Y=-25.00 ; SAR Peak: 0.22 W/kg



Plot 12:

Test Date	2023-03-23
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Front side
Band	LTE band 2
Signal	LTE FDD
Frequency	1900
SAR 10g (W/Kg)	0.222
SAR 1g (W/Kg)	0.437

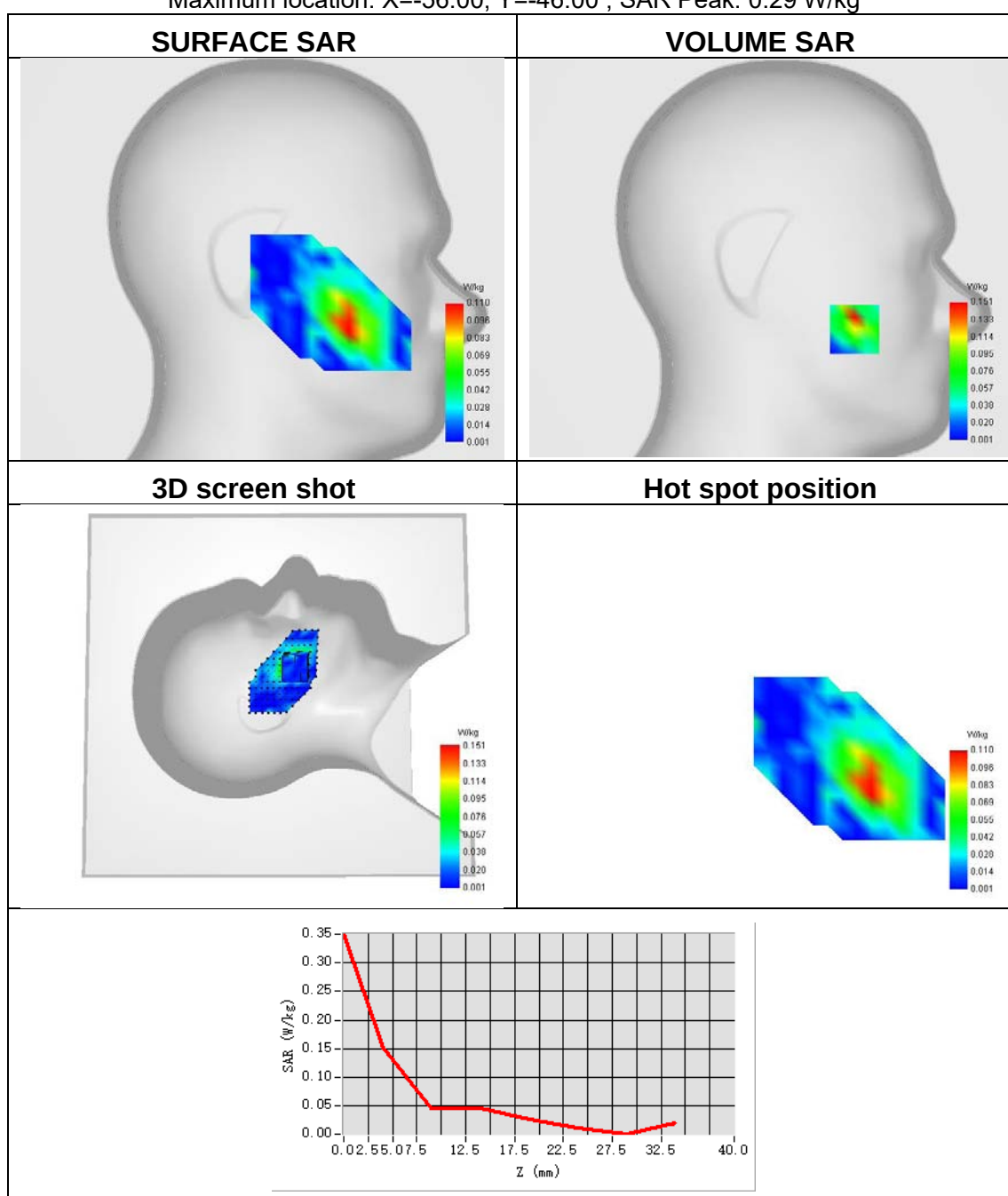
Maximum location: X=-15.00, Y=-24.00 ; SAR Peak: 0.74 W/kg



Plot 13:

Test Date	2023-03-22
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 4
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.058
SAR 1g (W/Kg)	0.128

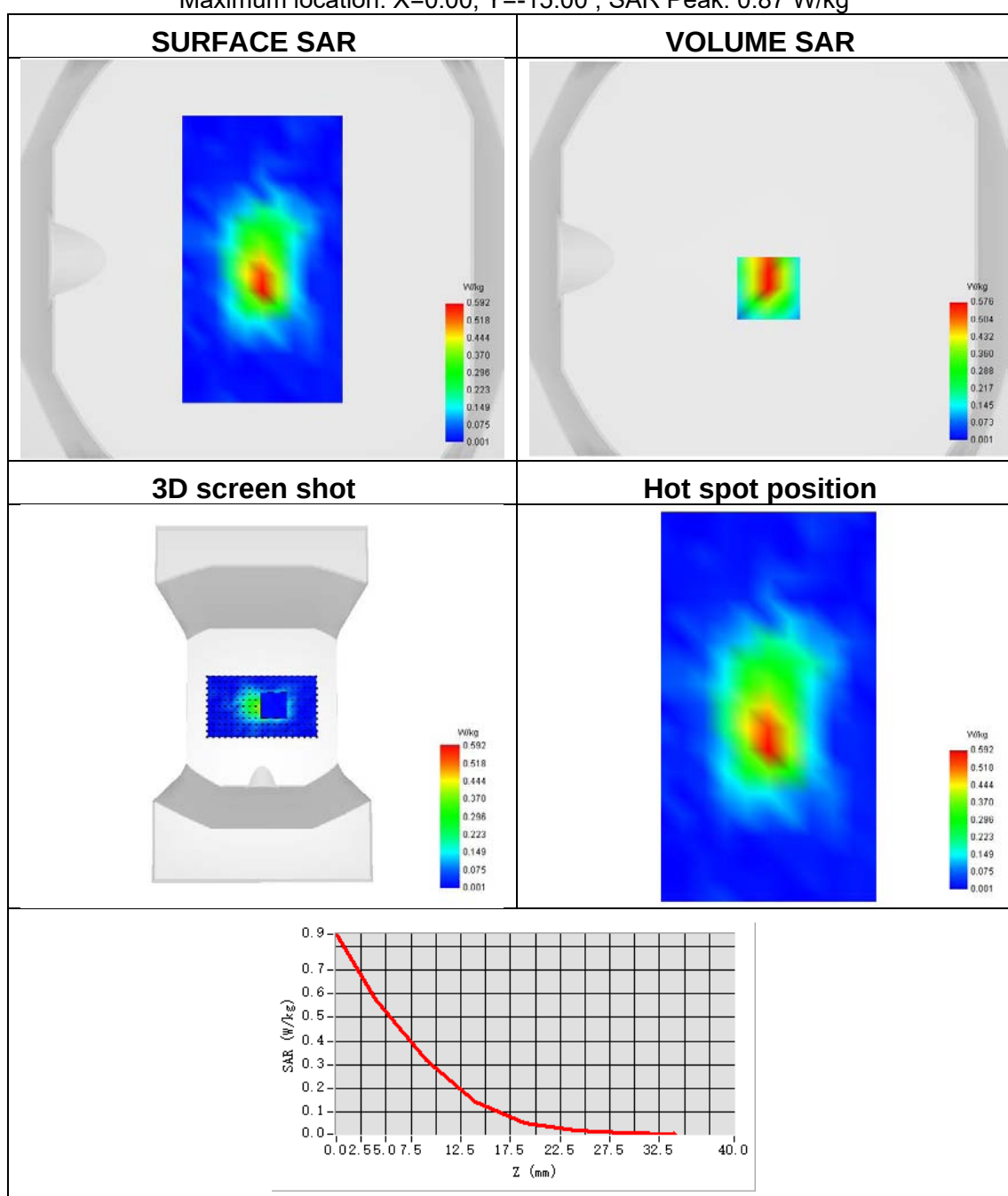
Maximum location: X=-56.00, Y=-46.00 ; SAR Peak: 0.29 W/kg



Plot 14:

Test Date	2023-03-22
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	LTE band 4
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.265
SAR 1g (W/Kg)	0.531

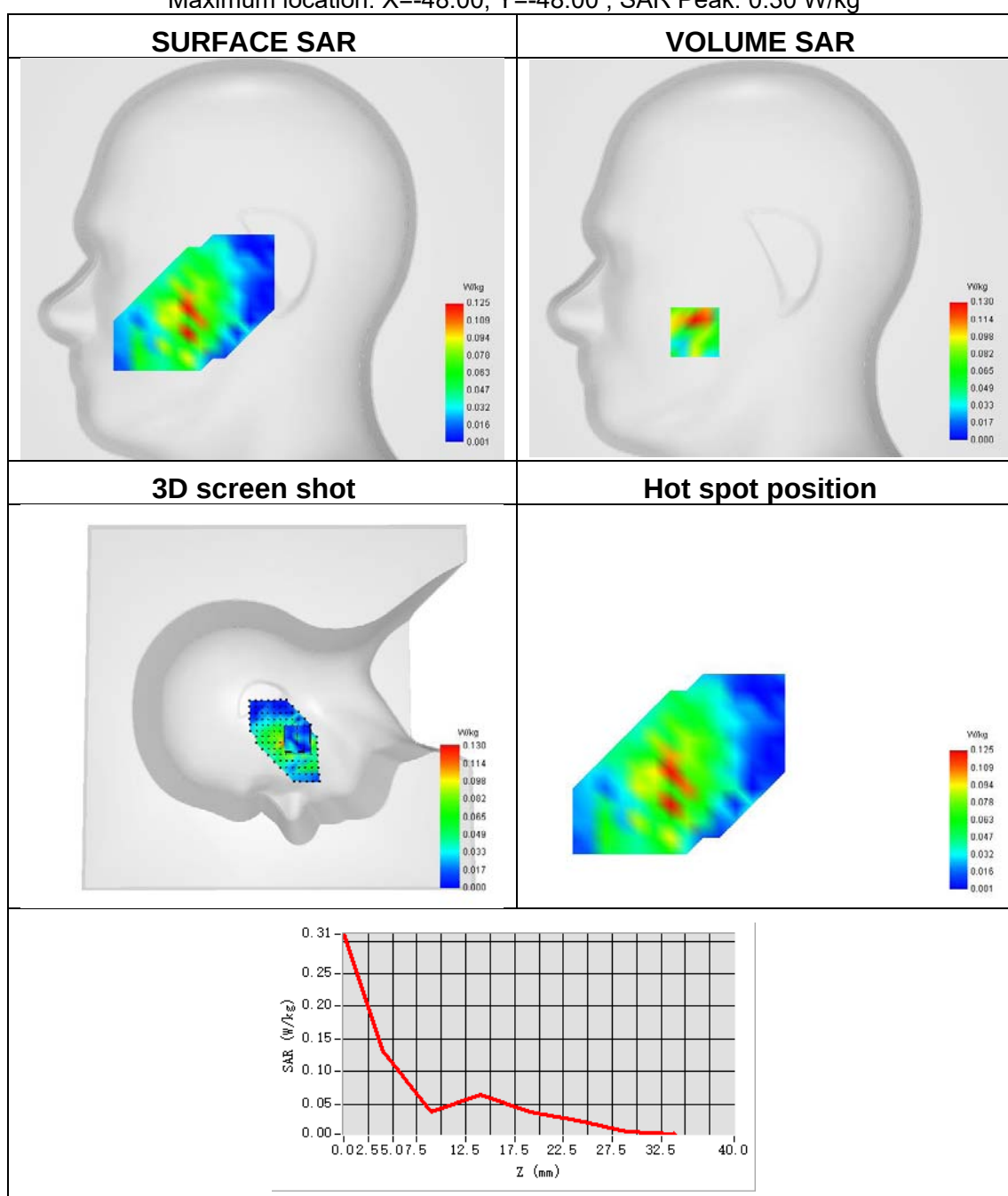
Maximum location: X=0.00, Y=-15.00 ; SAR Peak: 0.87 W/kg



Plot 15:

Test Date	2023-03-21
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	LTE band 5
Signal	LTE FDD
Frequency	829
SAR 10g (W/Kg)	0.066
SAR 1g (W/Kg)	0.135

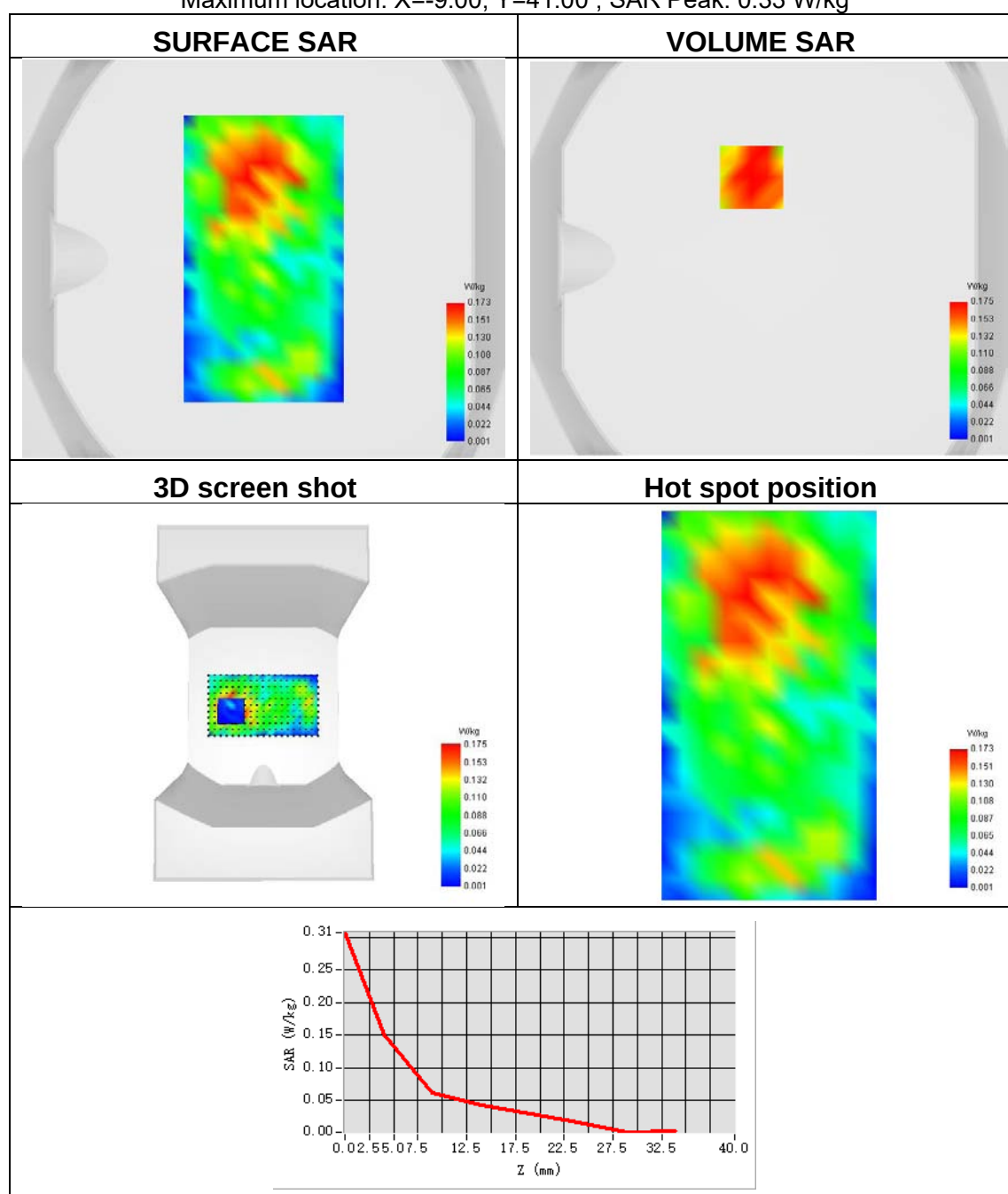
Maximum location: X=-48.00, Y=-48.00 ; SAR Peak: 0.30 W/kg



Plot 16:

Test Date	2023-03-21
Area Scan	surf_sam_plan.txt
ZoomScan	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)	0.111
SAR 1g (W/Kg)	0.184

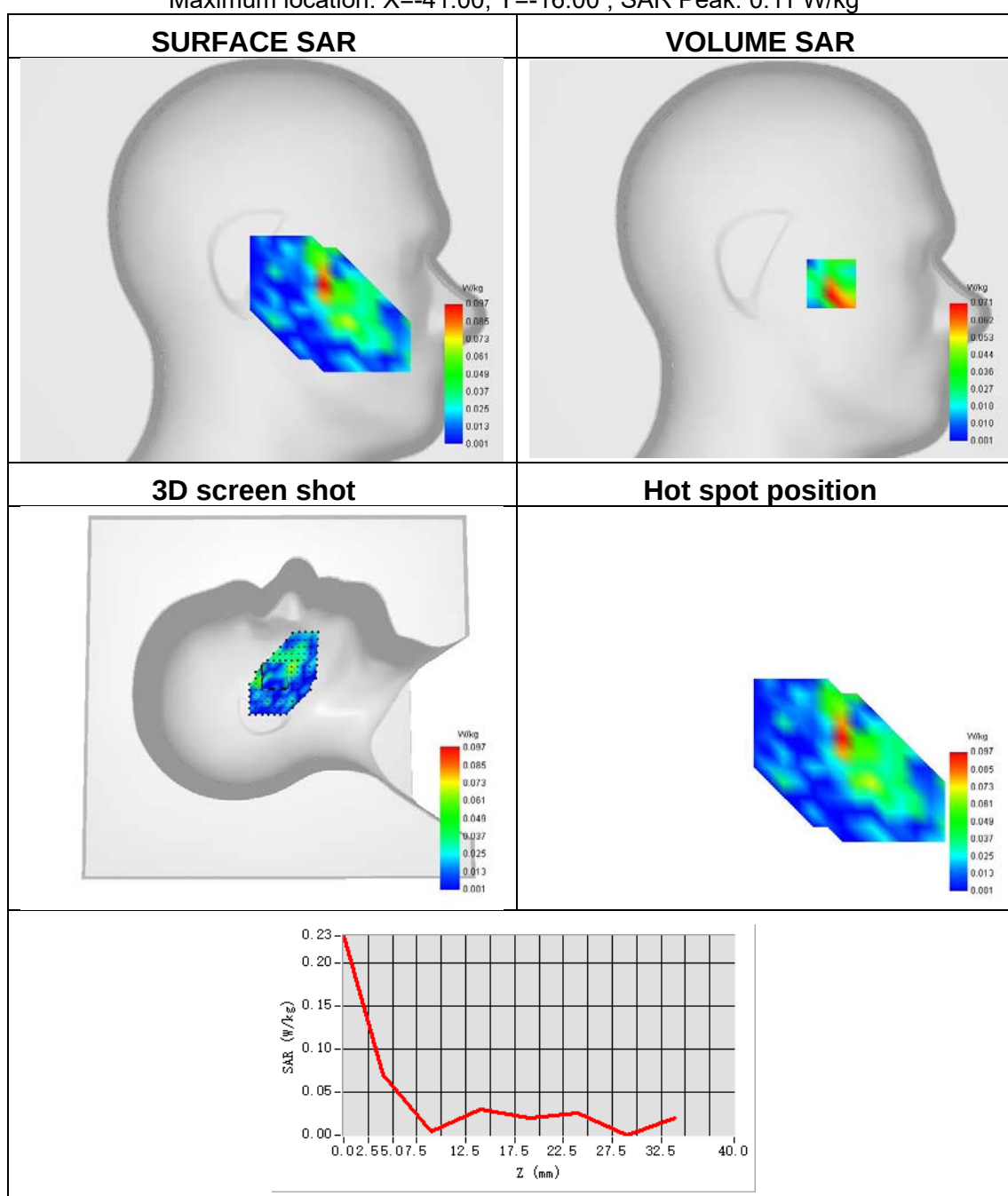
Maximum location: X=-9.00, Y=41.00 ; SAR Peak: 0.33 W/kg



Plot 17:

Test Date	2023-03-13
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 7
Signal	LTE FDD
Frequency	2560
SAR 10g (W/Kg)	0.032
SAR 1g (W/Kg)	0.059

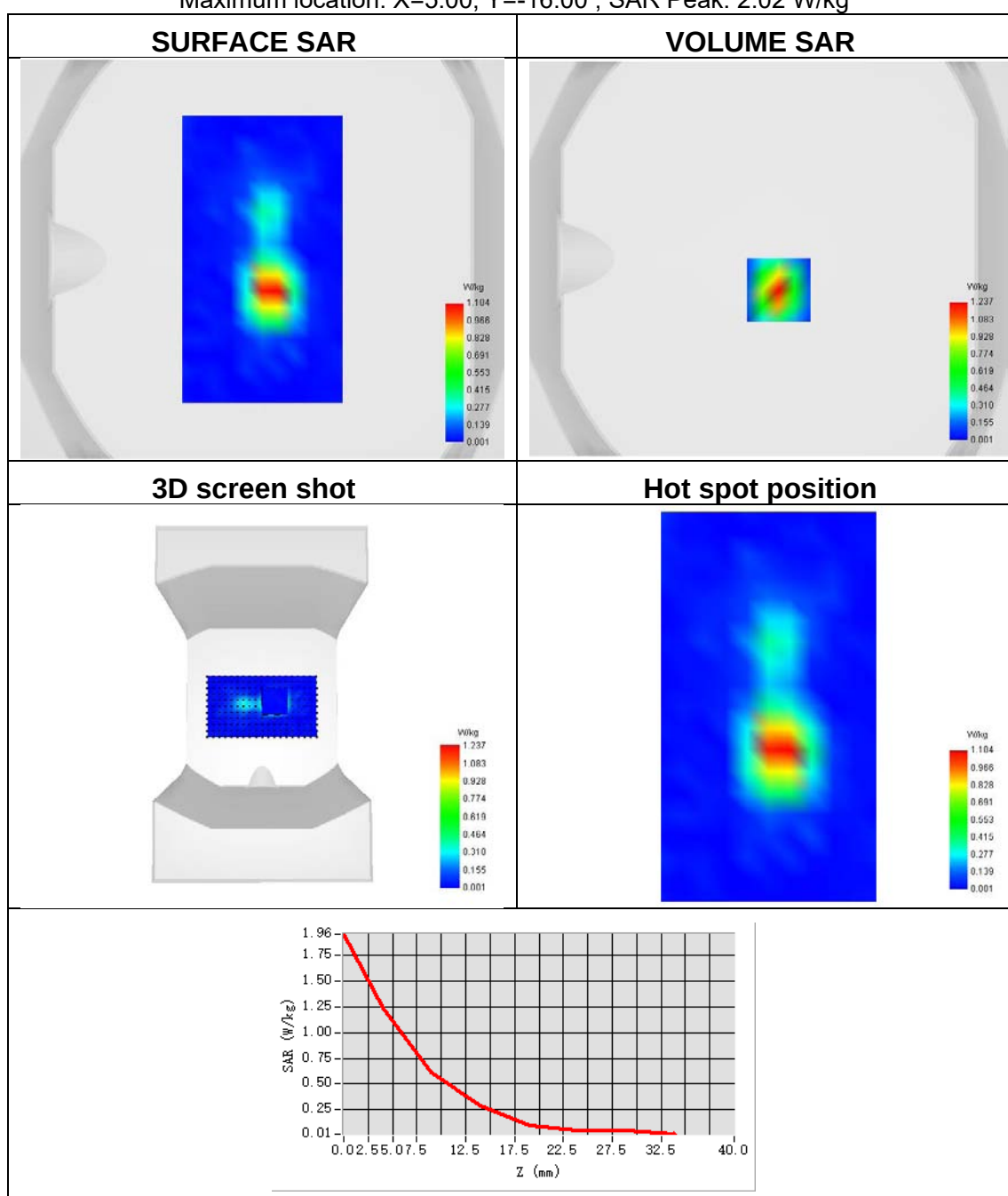
Maximum location: X=-41.00, Y=-16.00 ; SAR Peak: 0.11 W/kg



Plot 18:

Test Date	2023-03-13
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	LTE band 7
Signal	LTE FDD
Frequency	2560
SAR 10g (W/Kg)	0.441
SAR 1g (W/Kg)	1.094

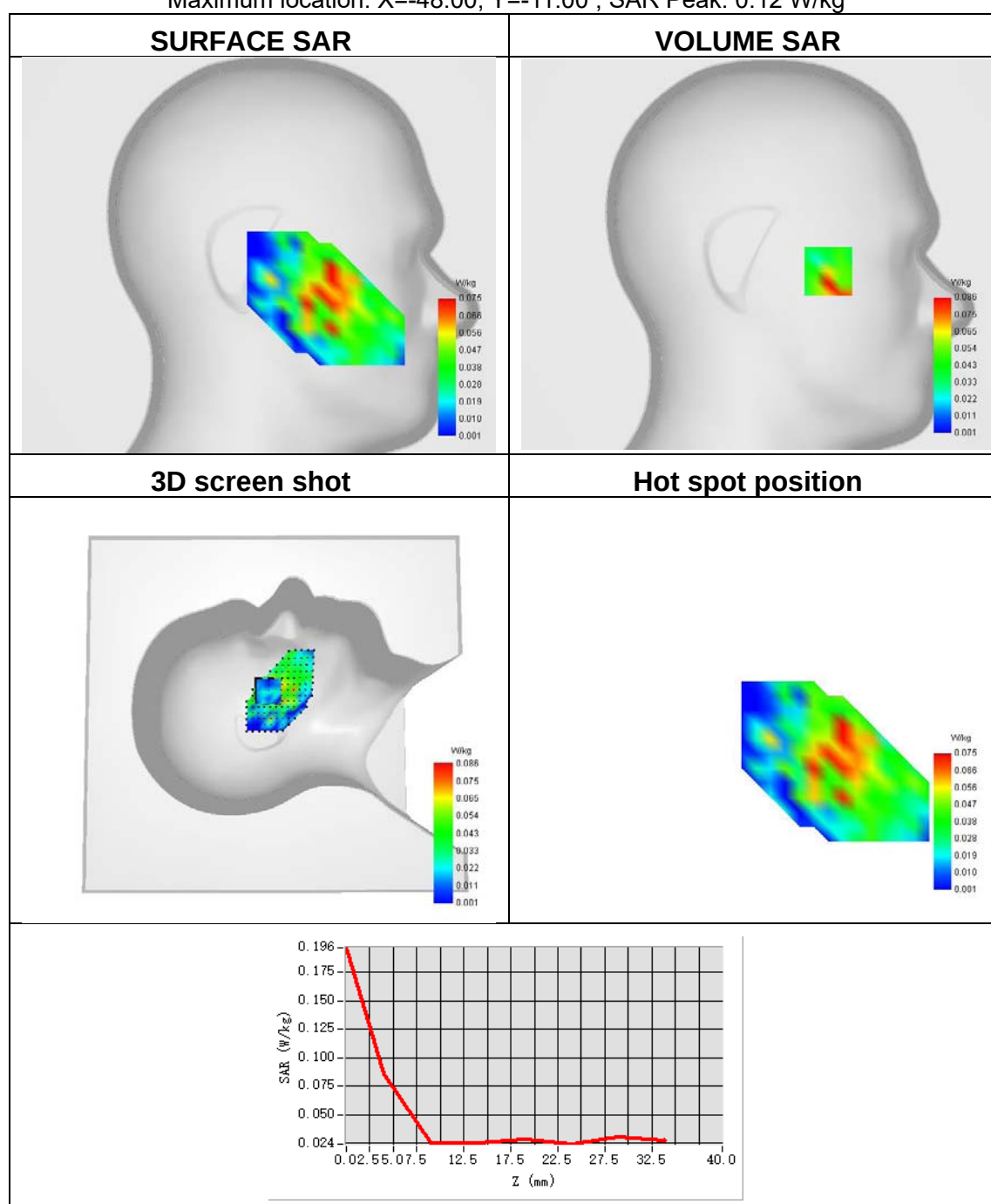
Maximum location: X=5.00, Y=-16.00 ; SAR Peak: 2.02 W/kg



Plot 19:

Test Date	2023-03-20
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	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)	0.045
SAR 1g (W/Kg)	0.073

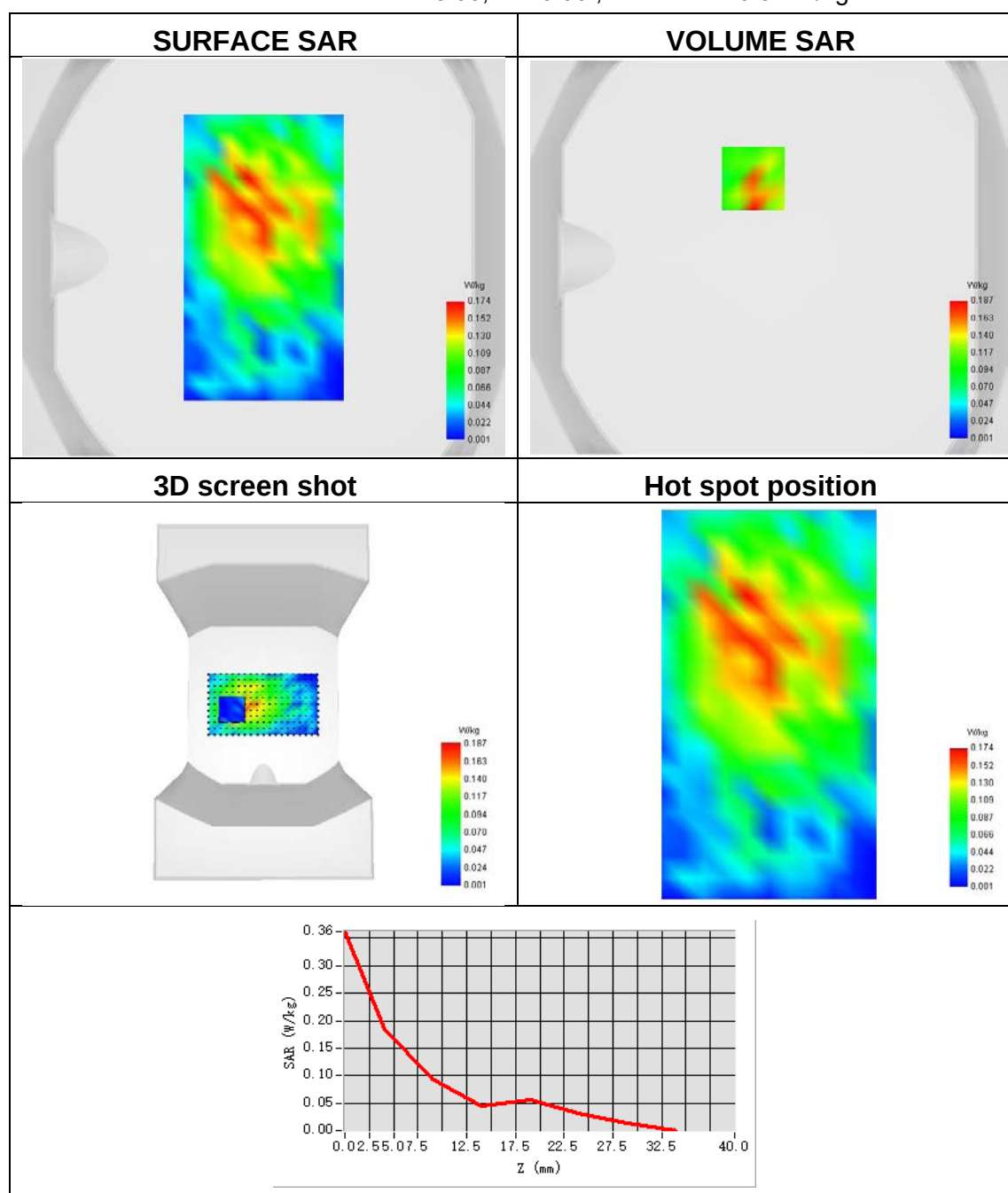
Maximum location: X=-48.00, Y=-11.00 ; SAR Peak: 0.12 W/kg



Plot 20:

Test Date	2023-03-20
Area Scan	surf_sam_plan.txt
ZoomScan	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)	0.098
SAR 1g (W/Kg)	0.180

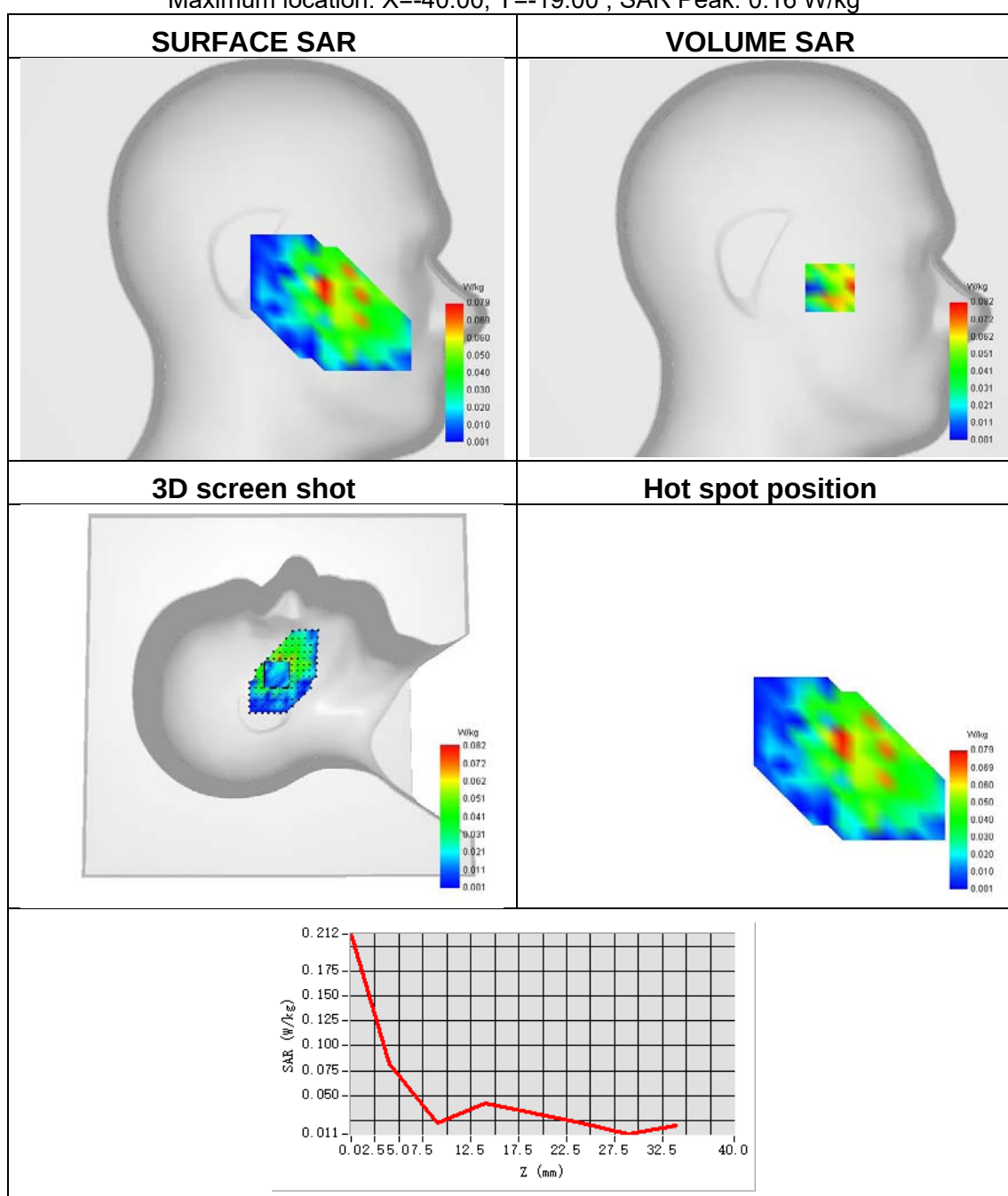
Maximum location: X=-8.00, Y=40.00 ; SAR Peak: 0.34 W/kg



Plot 21:

Test Date	2023-03-20
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 13
Signal	LTE FDD
Frequency	782
SAR 10g (W/Kg)	0.047
SAR 1g (W/Kg)	0.069

Maximum location: X=-40.00, Y=-19.00 ; SAR Peak: 0.16 W/kg

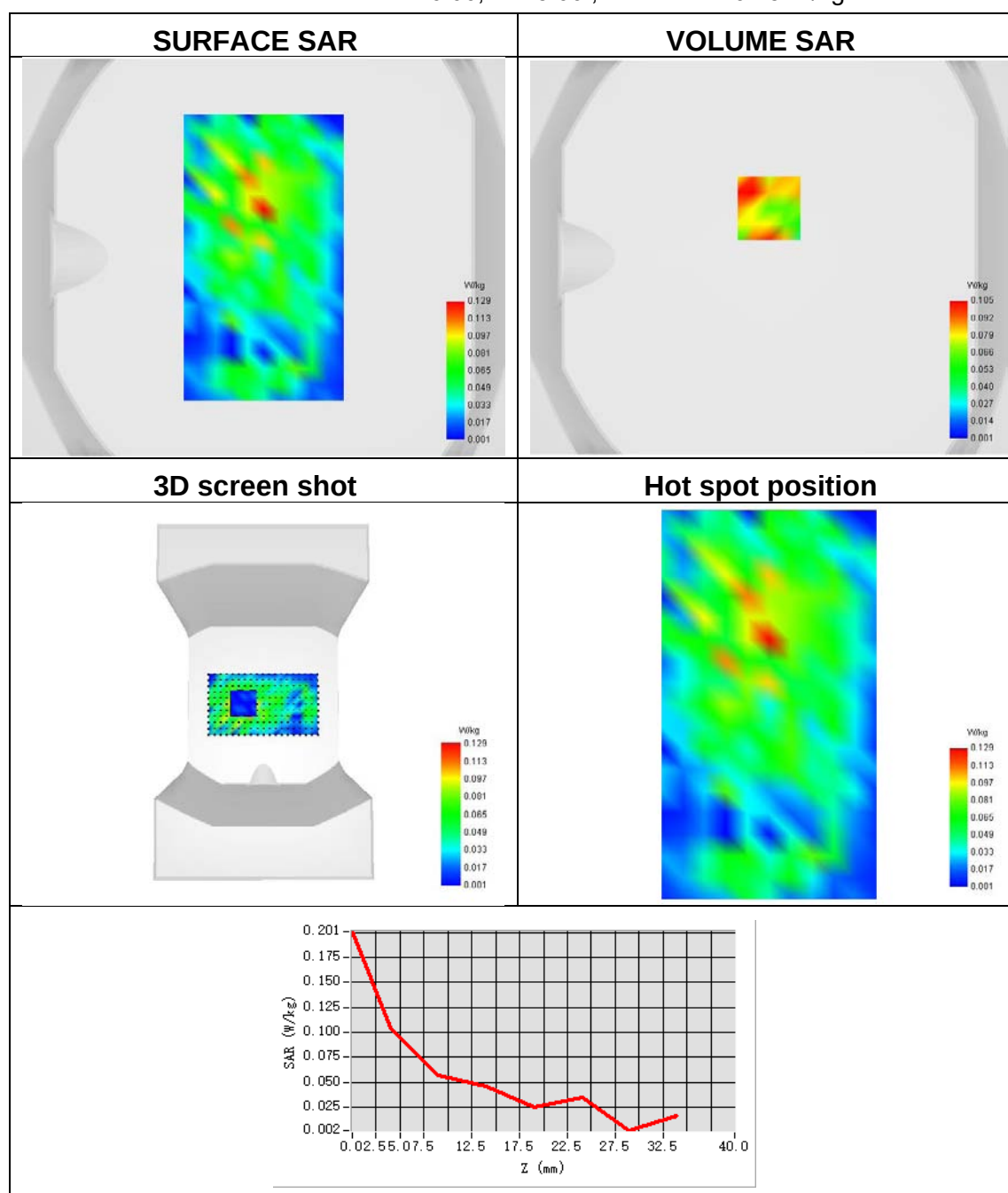




Plot 22:

Test Date	2023-03-20
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 13
Signal	LTE FDD
Frequency	782
SAR 10g (W/Kg)	0.058
SAR 1g (W/Kg)	0.110

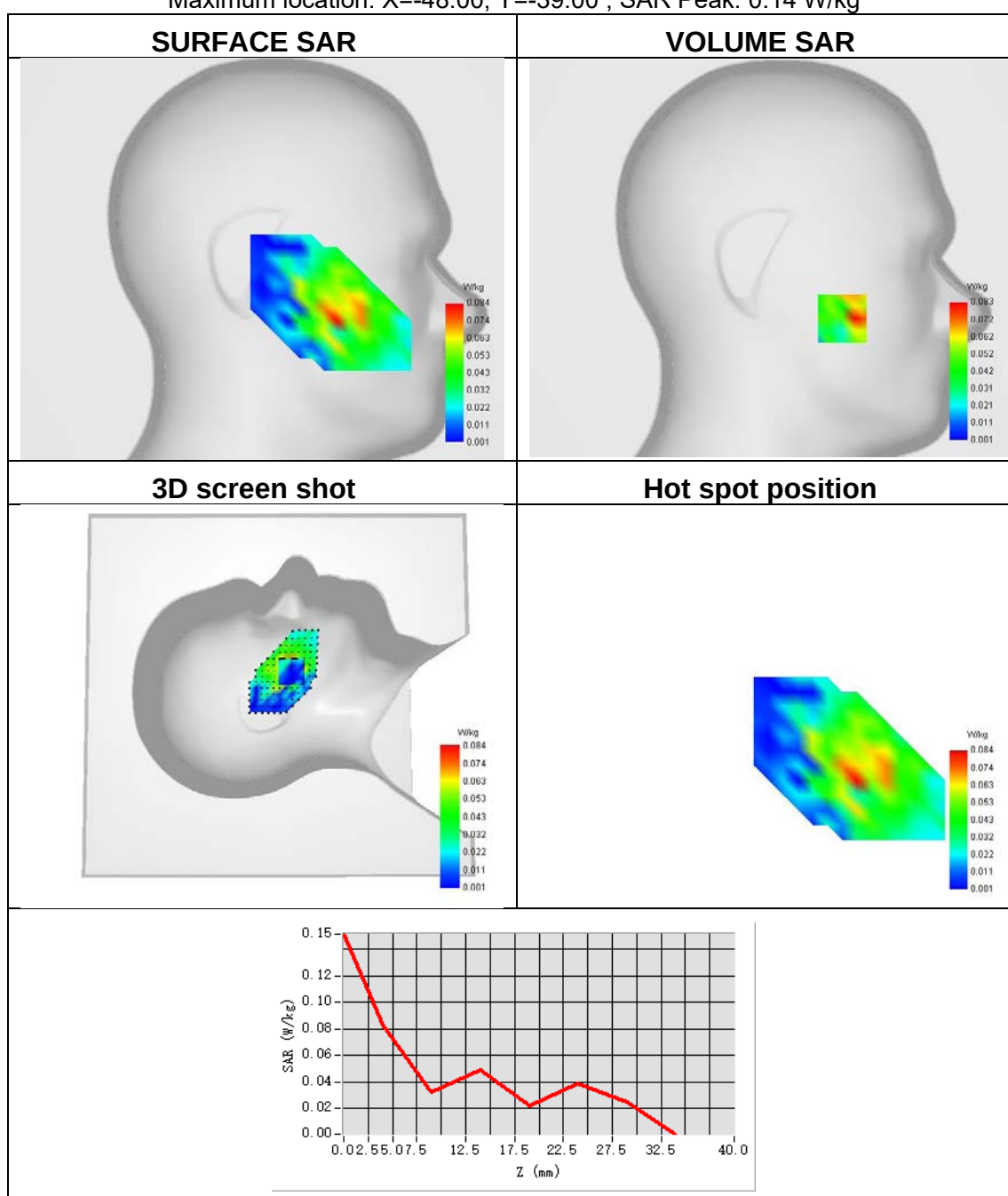
Maximum location: X=0.00, Y=25.00 ; SAR Peak: 0.25 W/kg



Plot 23:

Test Date	2023-03-20
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 17
Signal	LTE FDD
Frequency	709
SAR 10g (W/Kg)	0.043
SAR 1g (W/Kg)	0.076

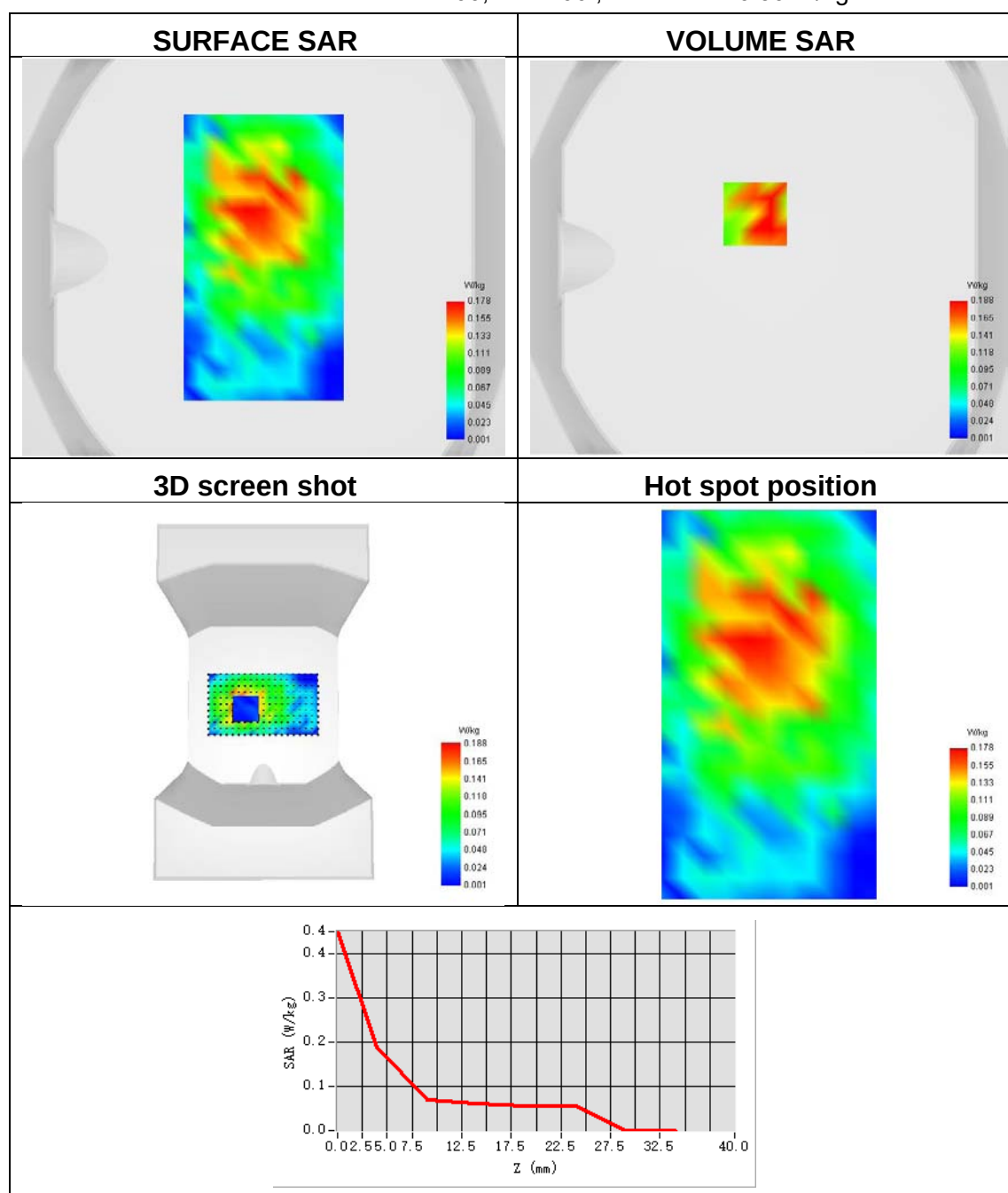
Maximum location: X=-48.00, Y=-39.00 ; SAR Peak: 0.14 W/kg



Plot 24:

Test Date	2023-03-20
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 17
Signal	LTE FDD
Frequency	709
SAR 10g (W/Kg)	0.113
SAR 1g (W/Kg)	0.197

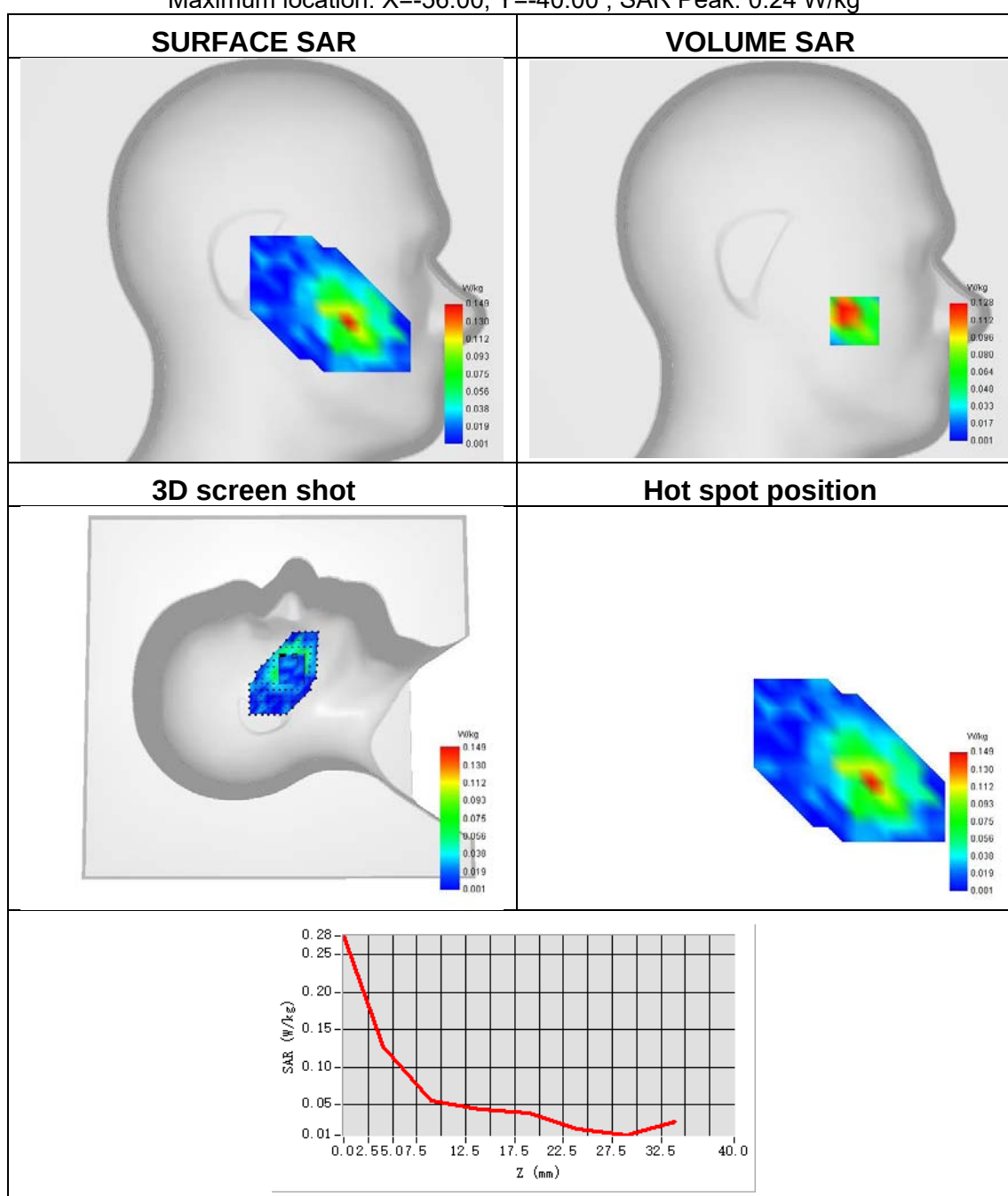
Maximum location: X=-7.00, Y=22.00 ; SAR Peak: 0.36 W/kg



Plot 25:

Test Date	2023-03-22
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 66
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.066
SAR 1g (W/Kg)	0.131

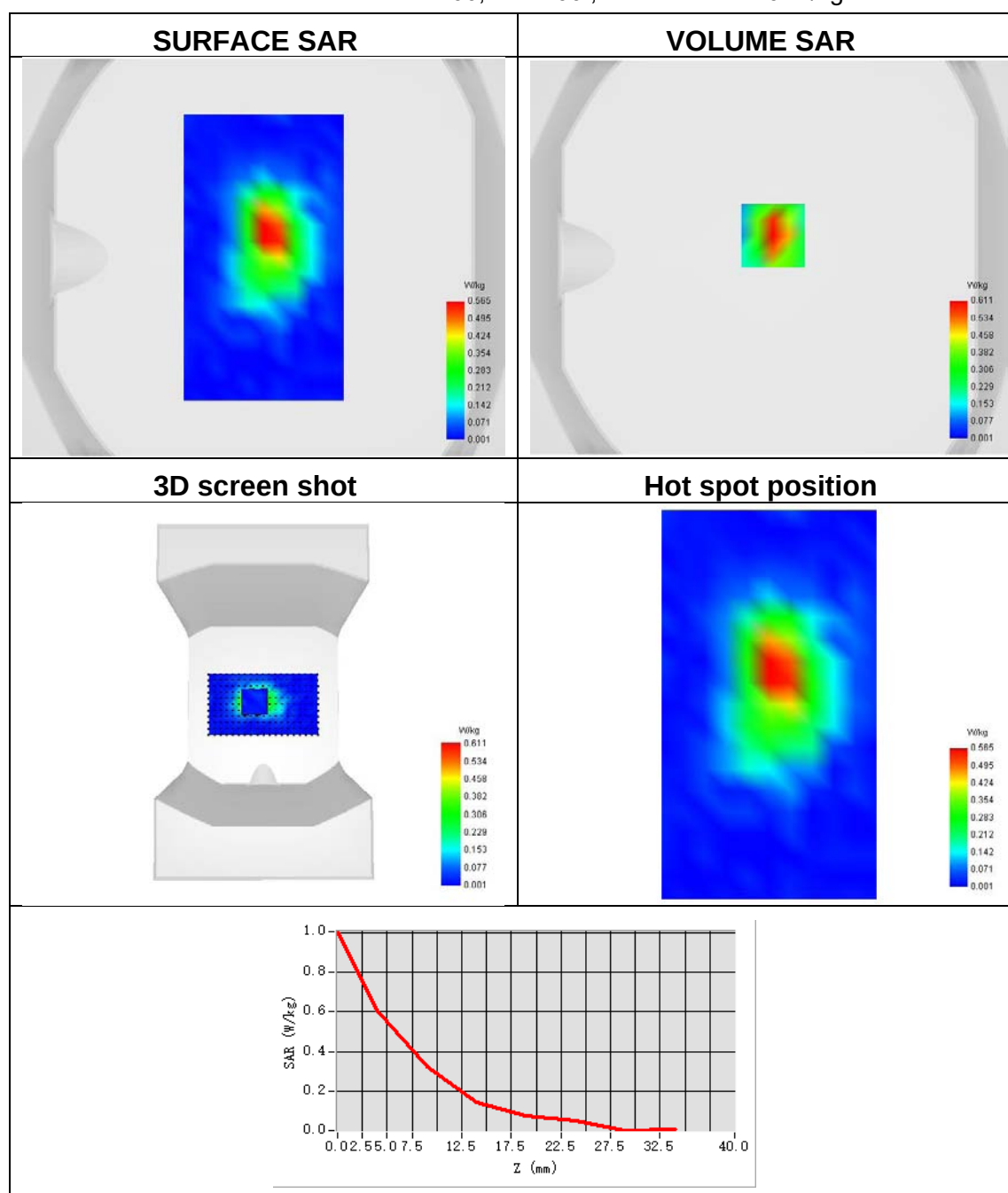
Maximum location: X=-56.00, Y=-40.00 ; SAR Peak: 0.24 W/kg



Plot 26:

Test Date	2023-03-22
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE band 66
Signal	LTE FDD
Frequency	1745
SAR 10g (W/Kg)	0.272
SAR 1g (W/Kg)	0.584

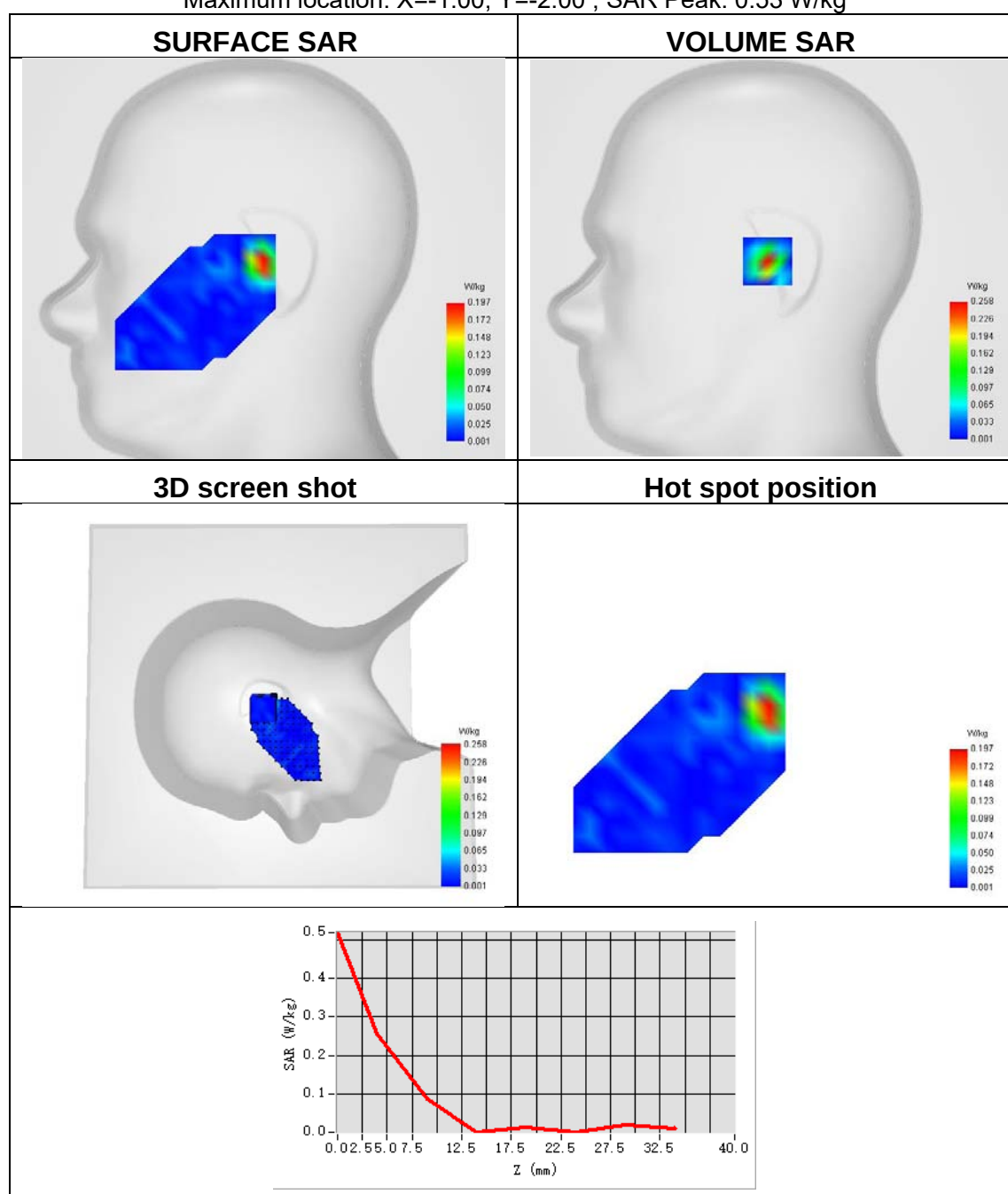
Maximum location: X=2.00, Y=11.00 ; SAR Peak: 1.10 W/kg



Plot 27:

Test Date	2023-03-11
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Tilt
Band	IEEE 802.11n ISM
Signal	IEEE 802.11n HT40
Frequency	2422
SAR 10g (W/Kg)	0.069
SAR 1g (W/Kg)	0.223

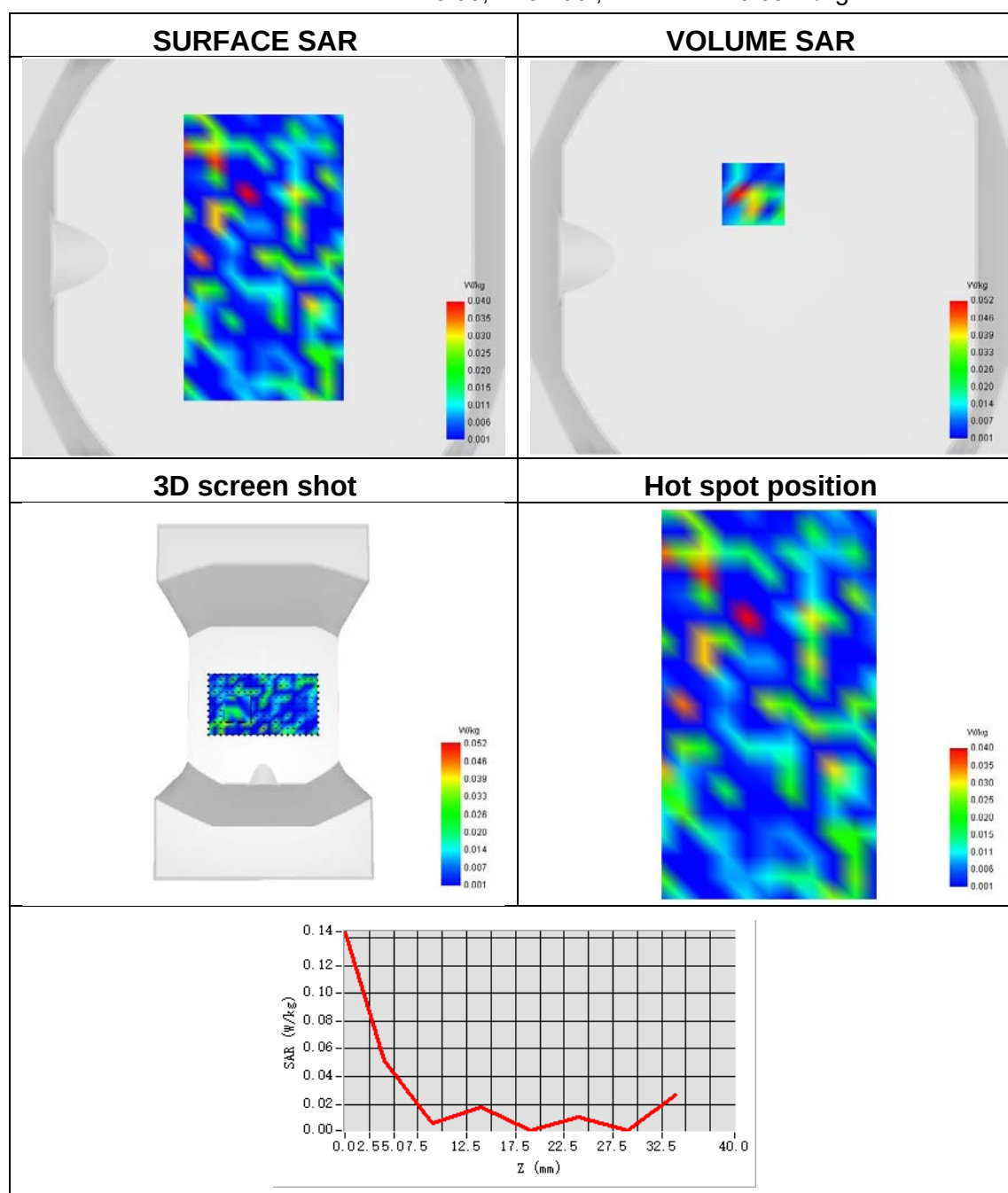
Maximum location: X=-1.00, Y=-2.00 ; SAR Peak: 0.53 W/kg



Plot 28:

Test Date	2023-03-11
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	IEEE 802.11n ISM
Signal	IEEE 802.11n HT40
Frequency	2422
SAR 10g (W/Kg)	0.016
SAR 1g (W/Kg)	0.036

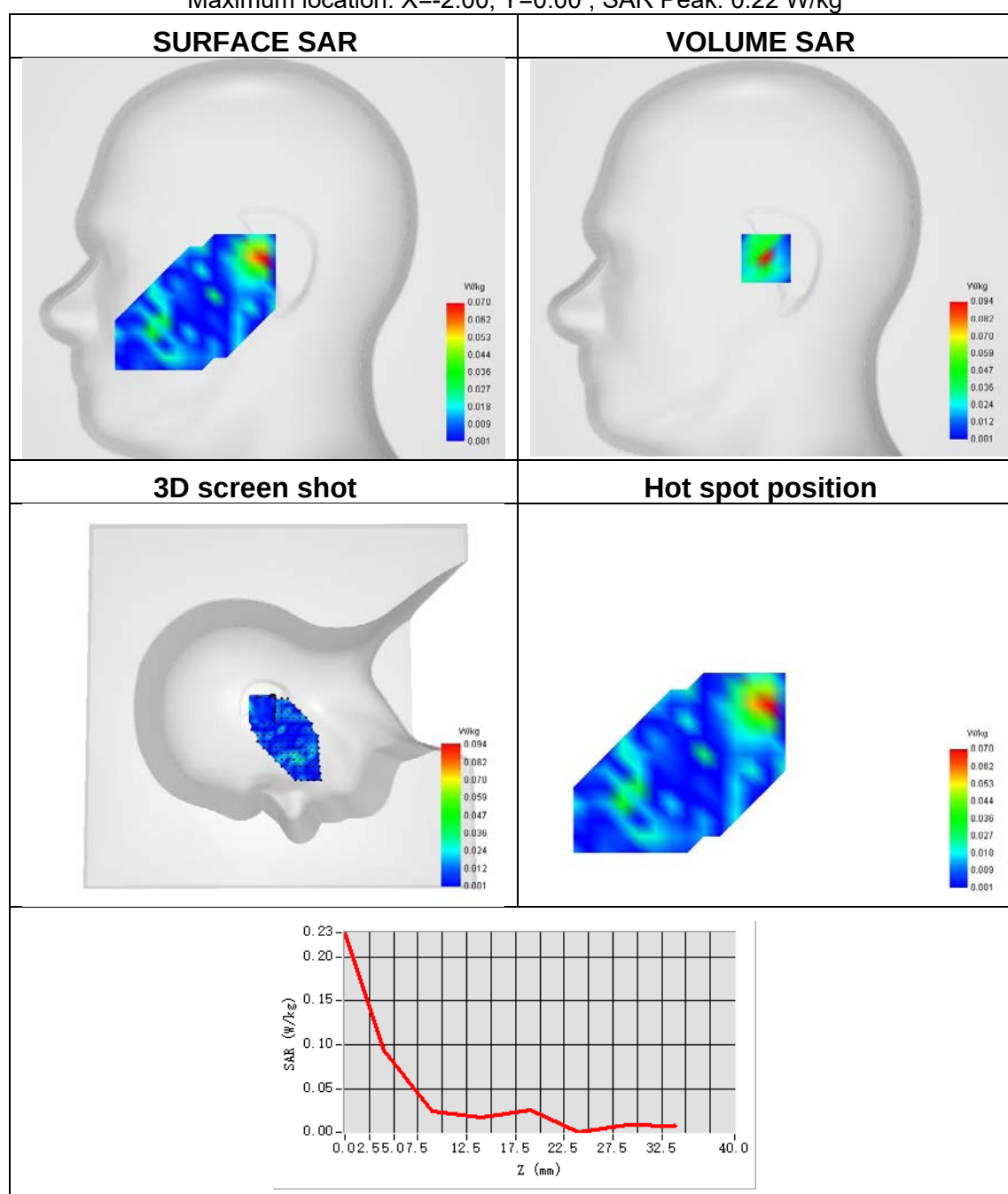
Maximum location: X=-8.00, Y=32.00 ; SAR Peak: 0.09 W/kg



Plot 29:

Test Date	2023-03-11
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Tilt
Band	Bluetooth
Signal	QPSK
Frequency	2402
SAR 10g (W/Kg)	0.027
SAR 1g (W/Kg)	0.079

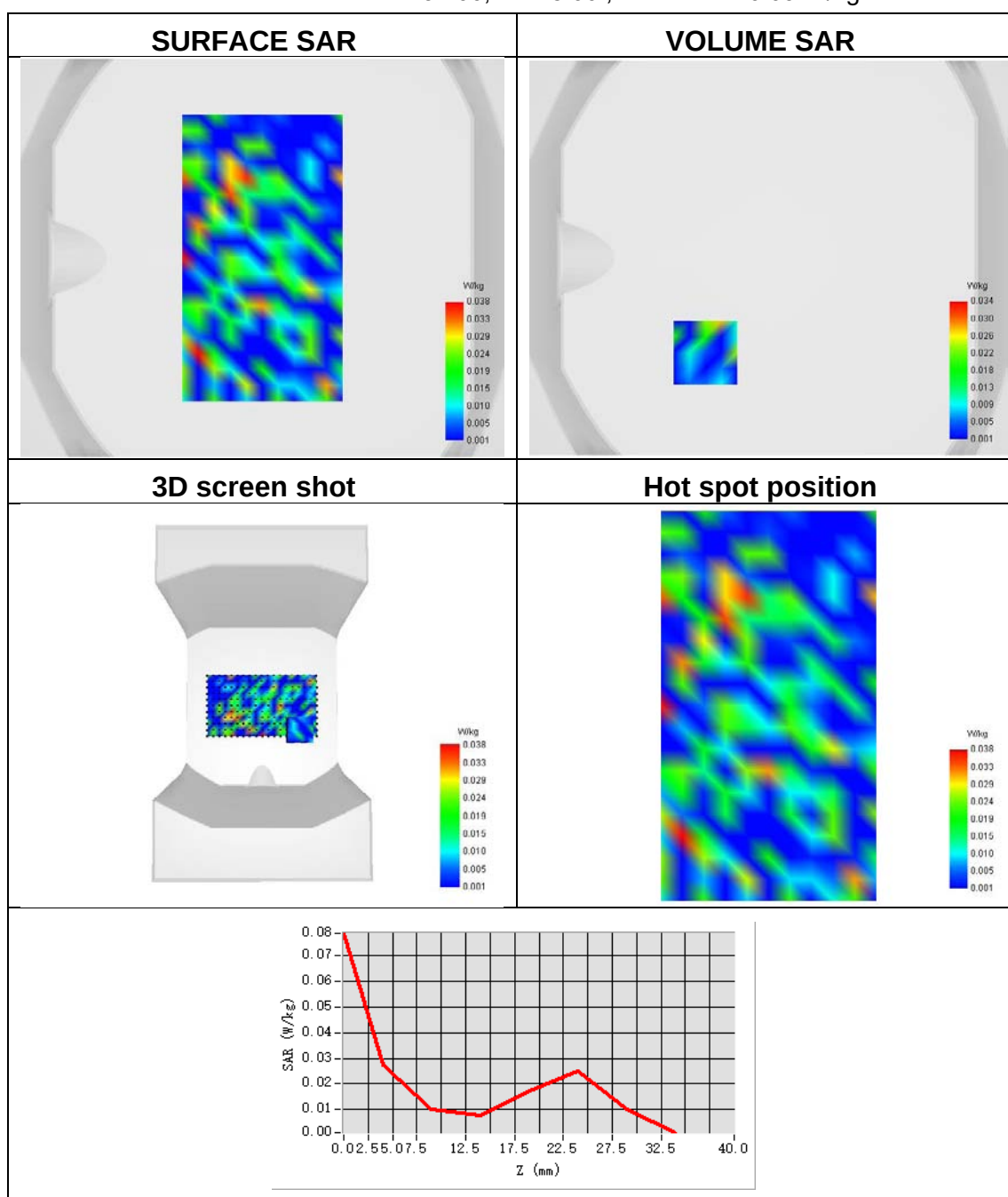
Maximum location: X=-2.00, Y=0.00 ; SAR Peak: 0.22 W/kg



Plot 30:

Test Date	2023-03-11
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	Bluetooth
Signal	QPSK
Frequency	2402
SAR 10g (W/Kg)	0.013
SAR 1g (W/Kg)	0.024

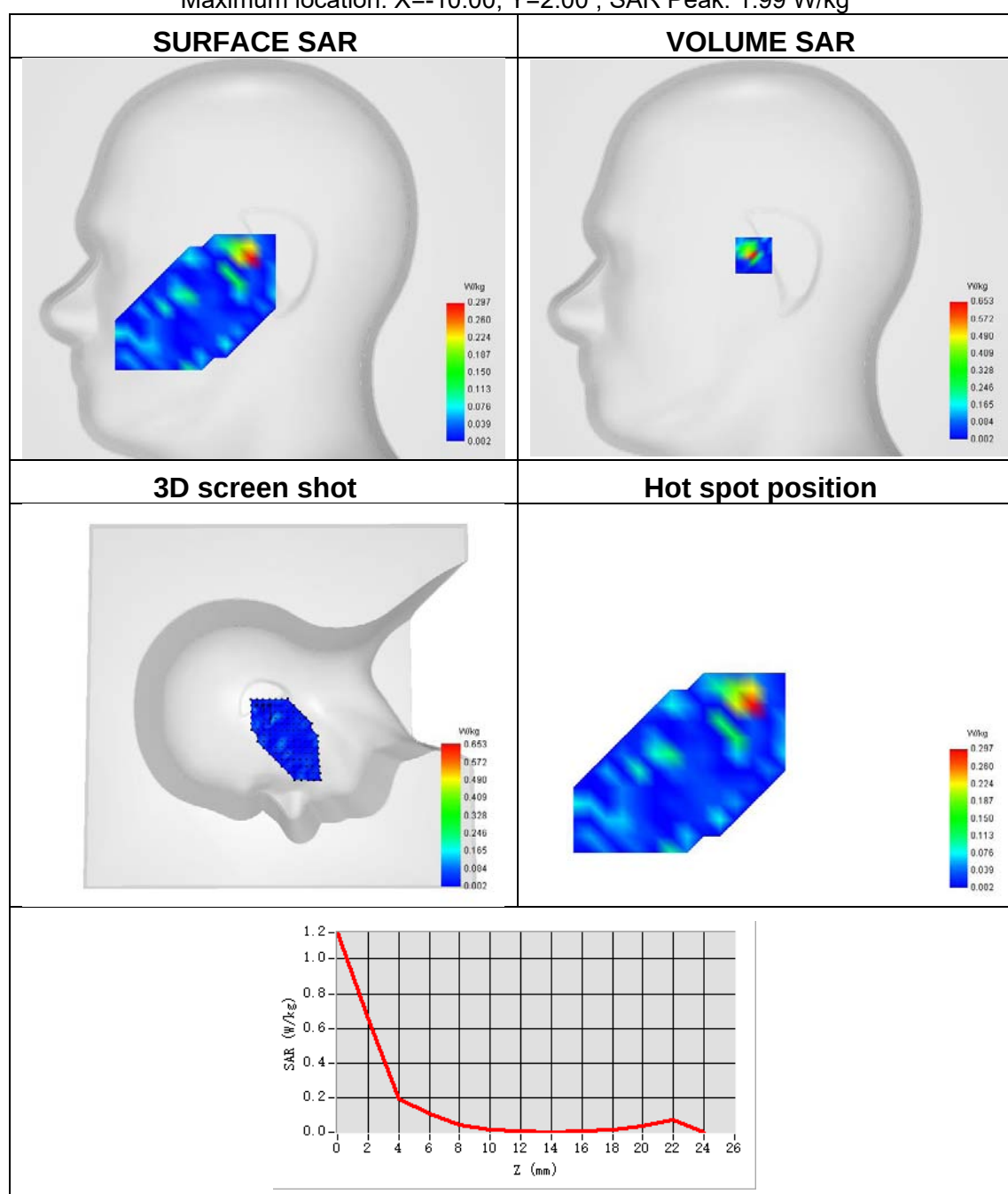
Maximum location: X=-32.00, Y=-48.00 ; SAR Peak: 0.09 W/kg



Plot 31:

Test Date	2023-03-24
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Right head
Device Position	Tilt
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11n-HT20
Frequency	5180
SAR 10g (W/Kg)	0.094
SAR 1g (W/Kg)	0.428

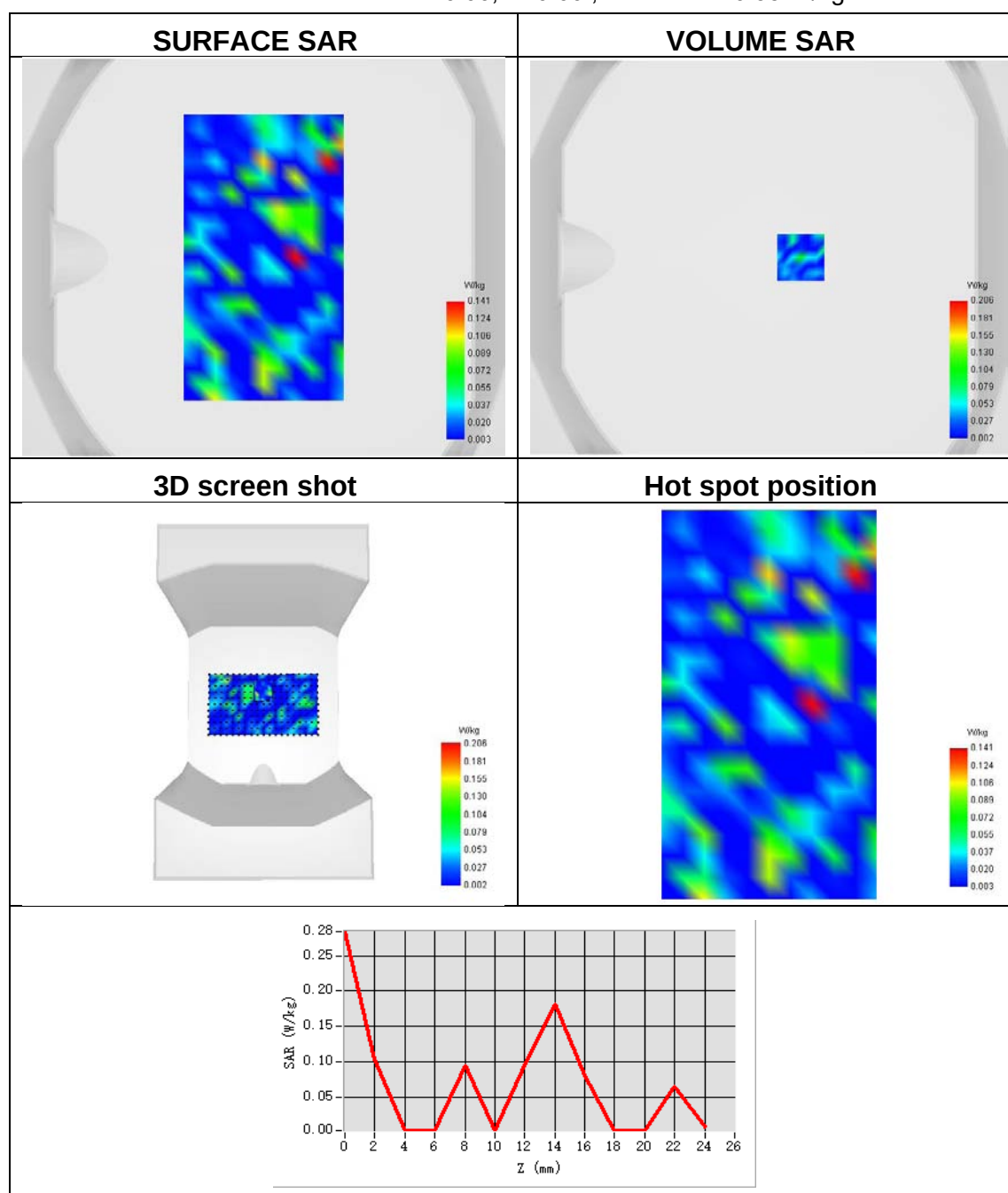
Maximum location: X=-10.00, Y=2.00 ; SAR Peak: 1.99 W/kg



Plot 32:

Test Date	2023-03-24
Area Scan	surf_sam_plan.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back Side
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11n-HT20
Frequency	5180
SAR 10g (W/Kg)	0.029
SAR 1g (W/Kg)	0.045

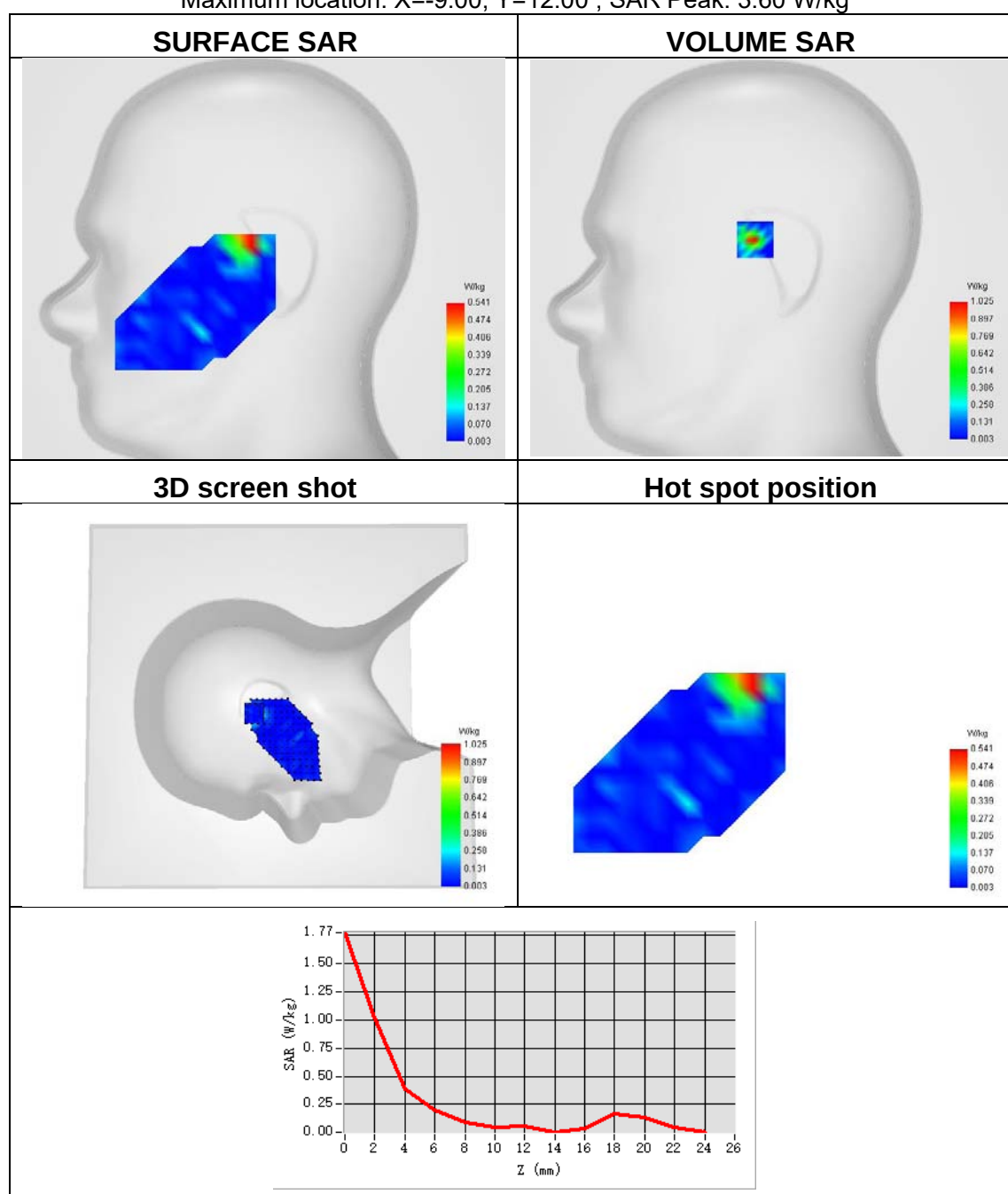
Maximum location: X=16.00, Y=0.00 ; SAR Peak: 0.35 W/kg



Plot 33:

Test Date	2023-03-25
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Right head
Device Position	Tilt
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11n-HT20
Frequency	5825
SAR 10g (W/Kg)	0.191
SAR 1g (W/Kg)	0.829

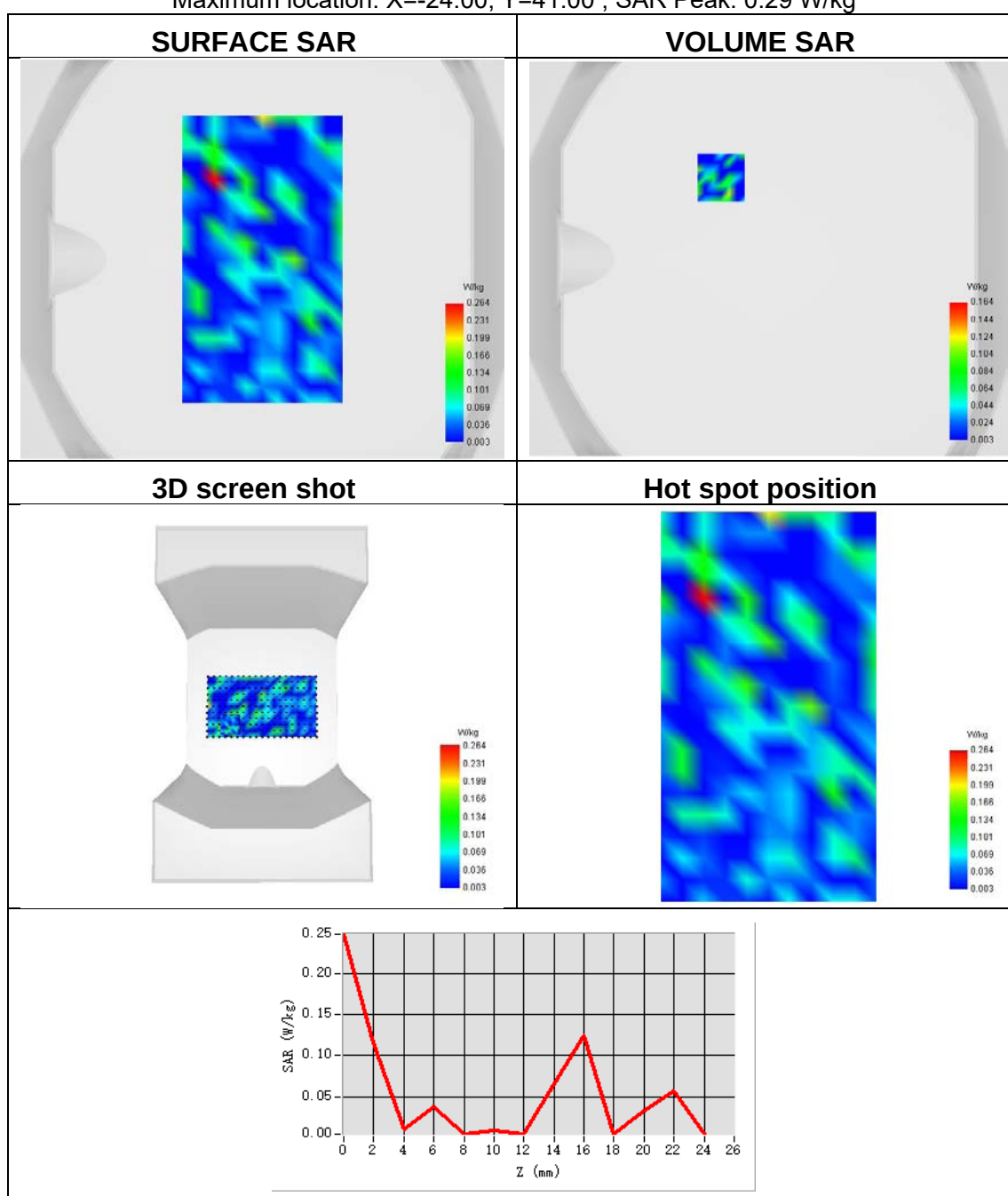
Maximum location: X=-9.00, Y=12.00 ; SAR Peak: 3.60 W/kg



Plot 34:

Test Date	2023-03-25
Area Scan	surf_sam_plan.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back Side
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11n-HT20
Frequency	5825
SAR 10g (W/Kg)	0.038
SAR 1g (W/Kg)	0.053

Maximum location: X=-24.00, Y=41.00 ; SAR Peak: 0.29 W/kg





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※