



SAR TEST REPORT

Product Name: Smartphone

Model Name: A181

FCC ID : 2A9SN-A181

Issued For : INOI Limited

Office 302, Dominion Centre 43-59, Queens Road, East Wanchai, Hong Kong, 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: LGT22L018HA02

Sample Received Date: Dec. 09, 2022

Date of Test: Jan. 03, 2022~Jan.06, 2022

Date of Issue: Feb. 04, 2023

Head: 0.912 W/kg

Max. SAR (10g):

Body: 1.102W/kg

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Revision History

Rev.	Issue Date	Contents
00	Feb. 04, 2023	Initial Issue



TEST REPORT CERTIFICATION

Applicant INOI Limited
Address Office 302, Dominion Centre 43-59, Queens Road, East Wanchai, Hong Kong, China
Manufacture INOI Limited
Address Office 302, Dominion Centre 43-59, Queens Road, East Wanchai, Hong Kong, China
Product Name Smartphone
Trademark INOI
Model Name A181
Sample number LGT22012030

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	Smartphone		
Trademark	INOI		
Model Name	A181		
Series Model	N/A		
Model Difference	N/A		
Hardware Version	N/A		
Software Version	N/A		
Frequency Range	GSM 850: 824 ~ 849 MHz PCS 1900: 1850 ~ 1910 MHz WCDMA Band II: 1850 ~ 1910 MHz WCDMA Band IV: 1710 ~ 1755 MHz WCDMA Band V: 824 ~ 849 MHz LTE Band 2: 1850 ~ 1910 MHz LTE Band 4: 1710 ~ 1755 MHz LTE Band 5: 824 ~ 849 MHz LTE Band 7: 2500 ~ 2570 MHz LTE Band 40: 2305 ~ 2315 MHz / 2350 ~ 2360 MHz LTE Band 41: 2555 ~ 2655 MHz WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 ~ 5250 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5250 ~ 5350 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 ~ 5850 MHz Bluetooth: 2402 ~ 2480 MHz		
Max. Reported SAR(1g): (Limit: 1.6W/kg)	Mode	Head (W/ kg)	Body Worn and Hotspot (W/ kg)
	GSM 850	0.105	0.336
	PCS 1900	0.106	0.816
	WCDMA Band II	0.230	1.076
	WCDMA Band IV	0.283	1.070
	WCDMA Band V	0.364	0.382
	LTE Band 2	0.364	1.102
	LTE Band 4	0.373	1.084
	LTE Band 5	0.220	0.402
	LTE Band 7	0.075	0.212
	LTE Band 40	0.267	0.717
	LTE Band 41	0.164	1.074
	2.4G WLAN	0.912	0.174
	5.2G WLAN	0.038	0.030
	5.3G WLAN	0.714	0.394
	5.8G WLAN	0.616	0.472
	Bluetooth	0.617	0.413
1-g Sum SAR		1.285	1.574
Battery	Rated Voltage: 3.85V Capacity: 4000mAh		



Description test modes	SIM 1 and SIM 2 is a chipset unit and tested as single chipset, SIM 1 is used to tested.
Modulation 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: PIFA Antenna Bluetooth: PIFA Antenna WLAN: PIFA Antenna
Operating Mode	Maximum continuous output



1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (□)	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

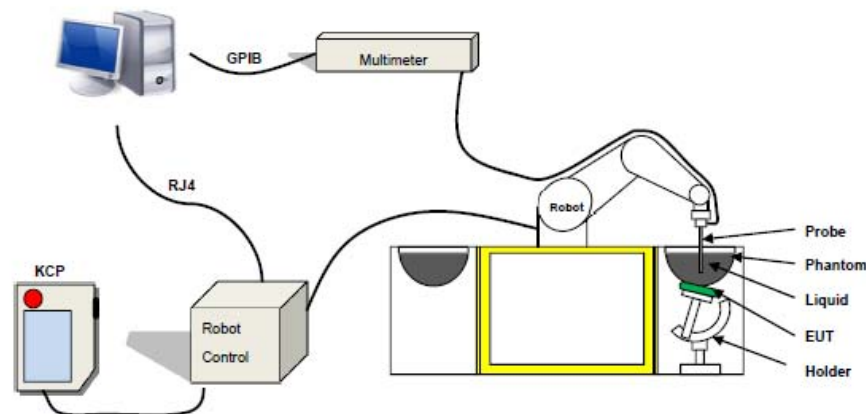
$$SAR = \frac{\sigma E^2}{\rho}$$

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.

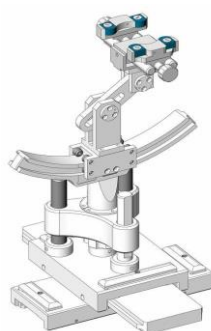


Figure-SN 06/22 SAM 148



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]					
2023-01-03	23.2	50	835	22.8	Permittivity	41.5	41.05	-1.08	±5
					Conductivity	0.9	0.88	-2.22	±5
2023-01-03	23.2	50	1800	22.9	Permittivity	40	40.34	0.85	±5
					Conductivity	1.4	1.38	-1.43	±5
2023-01-04	21.3	48	1900	21	Permittivity	40	40.45	1.13	±5
					Conductivity	1.4	1.43	2.14	±5
2023-01-04	21.4	48	2450	21.1	Permittivity	39.2	39.82	1.58	±5
					Conductivity	1.8	1.81	0.56	±5
2023-01-05	22.1	47	2600	21.8	Permittivity	39	39.36	0.92	±5
					Conductivity	1.96	2.01	2.55	±5
2023-01-05	22	47	5200	21.7	Permittivity	36	36.39	1.08	±5
					Conductivity	4.66	4.69	0.64	±5
2023-01-06	20.3	60	5300	20	Permittivity	35.8	36.87	2.99	±5
					Conductivity	4.86	4.86	0.21	±5
2023-01-06	20.3	60	5800	20	Permittivity	35.3	35.95	1.84	±5
					Conductivity	5.27	5.25	-0.38	±5

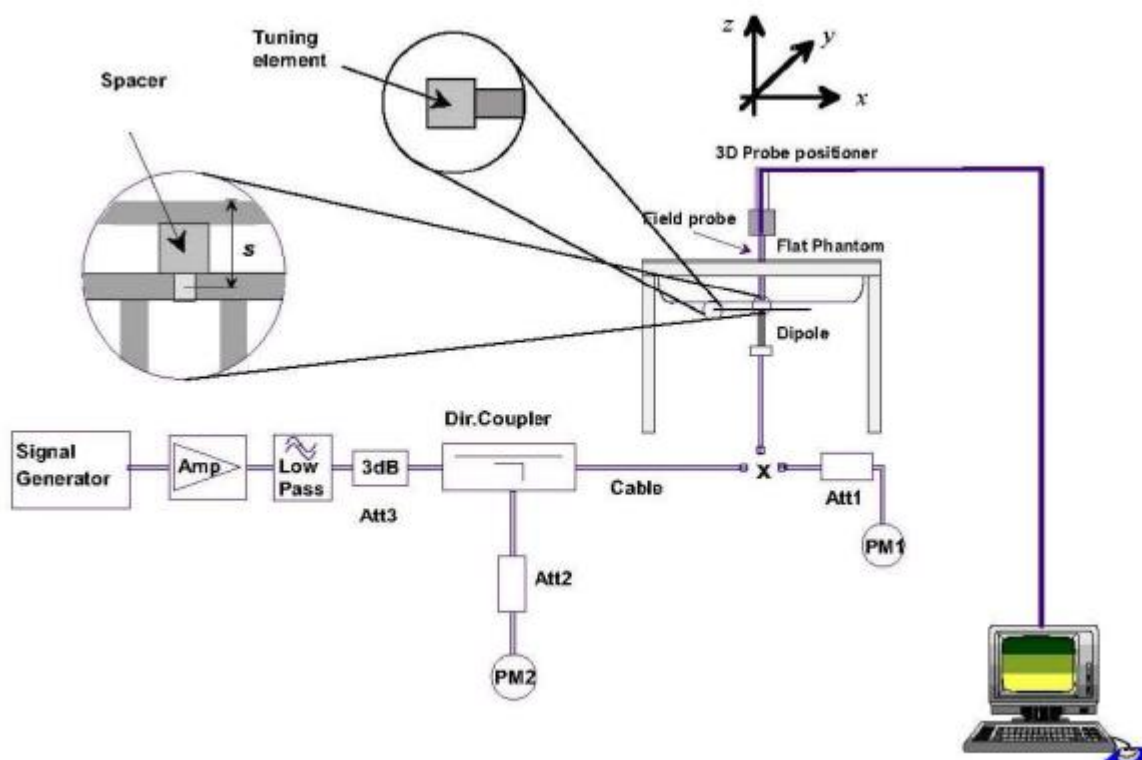


5. SAR System Validation

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)	(%)	(%)
2023-01-03	835	100	1.007	10.07	9.75	3.28	10
2023-01-03	1800	100	3.914	39.14	39.06	0.2	10
2023-01-04	1900	100	4.062	40.62	40.85	-0.56	10
2023-01-04	2450	100	5.409	54.09	54.28	-0.35	10
2023-01-05	2600	100	5.625	56.25	56.58	-0.58	10
2023-01-05	5200	100	7.798	77.98	77.64	0.44	10
2023-01-06	5300	100	8.026	80.26	80.27	-0.01	10
2023-01-06	5800	100	7.483	74.83	74.92	-0.12	10



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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.

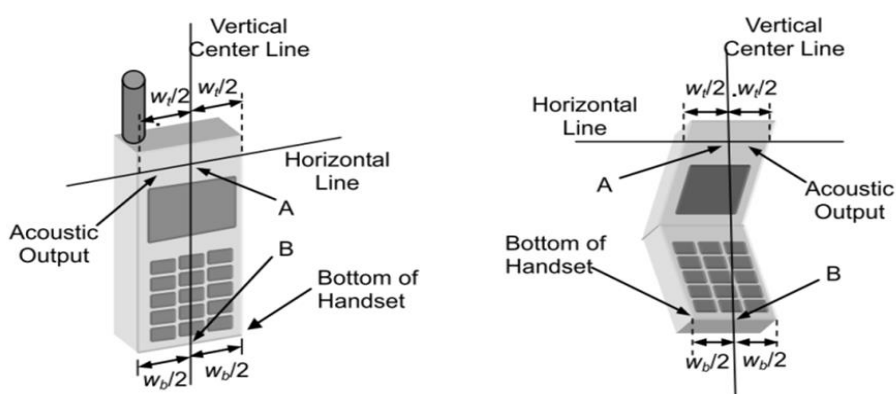


7. EUT Test Position

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

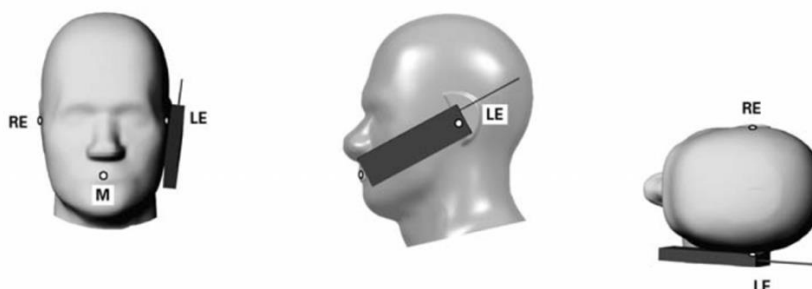
Define Two Imaginary Lines On The Handset:

- 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.



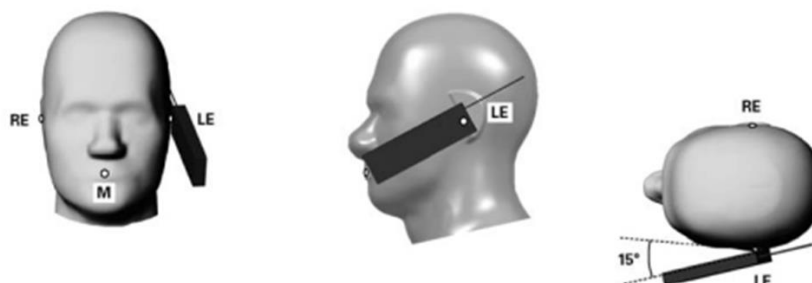
7.1 Cheek Position

- 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.



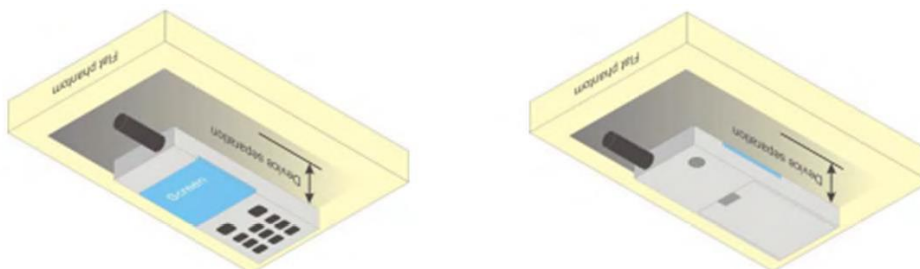
7.2 Tilt Position

- (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.



7.3 Body-worn Position Conditions

- 1) To position the EUT parallel to the phantom surface.
- 2) To adjust the EUT parallel to the flat phantom.
- 3) To adjust the distance between the EUT surface and the flat phantom to 10mm.





8. Uncertainty

8.1 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	



8.2 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	



9. Conducted Power Measurement

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)	34.08	33.97	33.90	30.96	31.04	30.75
GPRS (GMSK, 1-Slot)	34.07	33.99	33.95	30.99	31.04	30.78
GPRS (GMSK, 2-Slot)	31.69	31.84	31.50	29.20	29.30	29.29
GPRS (GMSK, 3-Slot)	29.85	30.05	29.67	27.82	27.91	27.88
GPRS (GMSK, 4-Slot)	27.80	28.02	27.61	25.73	25.77	25.71
EGPRS (8PSK, 1-Slot)	26.31	26.95	27.39	27.21	28.19	27.16
EGPRS (8PSK, 2-Slot)	26.07	26.12	25.83	25.52	26.58	24.79
EGPRS (8PSK, 3-Slot)	23.43	23.22	23.46	22.74	24.14	22.28
EGPRS (8PSK, 4-Slot)	21.66	21.51	21.26	20.03	21.37	19.90
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)	25.05	24.94	24.87	21.93	22.01	21.72
GPRS (GMSK, 1-Slot)	25.04	24.96	24.92	21.96	22.01	21.75
GPRS (GMSK, 2-Slot)	25.67	25.82	25.48	23.18	23.28	23.27
GPRS (GMSK, 3-Slot)	25.59	25.79	25.41	23.56	23.65	23.62
GPRS (GMSK, 4-Slot)	24.79	25.01	24.60	22.72	22.76	22.70
EGPRS (8PSK, 1-Slot)	17.28	17.92	18.36	18.18	19.16	18.13
EGPRS (8PSK, 2-Slot)	20.05	20.10	19.81	19.50	20.56	18.77
EGPRS (8PSK, 3-Slot)	19.17	18.96	19.20	18.48	19.88	18.02
EGPRS (8PSK, 4-Slot)	18.65	18.50	18.25	17.02	18.36	16.89
Remark: 1. SAR testing was performed on the maximum frame-averaged power mode. 2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum Burst - averaged power based on time slots. The calculated method is shown as below: Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB						



WCDMA

Band	WCDMA Band 2			WCDMA Band 4			WCDMA Band 5		
Channel	9262	9400	9538	1312	1450	1513	4132	4182	4233
Frequency (MHz)	1852.4	1880	1907.6	1712.4	1740	1752.6	826.4	836.4	846.6
RMC 12.2Kbps	23.23	23.3	22.98	22.92	22.89	22.97	23.46	23.45	23.52
HSDPA Subtest-1	21.23	20.94	20.73	22.77	21.78	21.15	23.29	22.88	22.73
HSDPA Subtest-2	20.87	20.73	20.29	22.26	21.73	20.8	22.89	22.53	22.62
HSDPA Subtest-3	20.52	20.47	19.86	21.92	21.4	20.58	22.6	22.41	22.15
HSDPA Subtest-4	20.07	20.32	20.1	21.56	21.25	20.36	22.25	22.11	22.23
HSUPA Subtest-1	21.34	20.85	20.67	22.61	21.34	20.91	23.27	22.66	22.6
HSUPA Subtest-2	21.15	20.95	20.77	22.4	21.69	21.1	23.18	22.91	22.7
HSUPA Subtest-3	21	20.53	20.01	21.95	21.43	20.71	23.07	22.41	22.37
HSUPA Subtest-4	21.08	20.95	20.76	22.26	21.7	20.99	23.03	22.81	22.71
HSUPA Subtest-5	20.96	20.49	20.29	21.89	21.4	20.81	23.01	22.21	22.35

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.



WLAN (2.4G band)

- The client supplied a special driver to program the EUT, allowing it to continually transmit the specified maximum power and change the channel frequency.
- Maximum conducted power was measured by replacing the antenna with an adapter for conductive measurement.
- The conducted power was measured at the high, middle and low channel frequency before and after the SAR measurement.
- During SAR test, the highest output channel per band measured first, and then if necessary, the other channels were measured according to the normal procedures.

2.4G WLAN

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
802.11b	1	2412	17.70	58.88
	7	2437	18.77	75.34
	11	2462	17.36	54.45
802.11g	1	2412	21.55	142.89
	7	2437	22.61	182.39
	11	2462	21.34	136.14
802.11n-HT20	1	2412	21.57	143.55
	7	2437	22.25	167.88
	11	2462	21.49	140.93
802.11n-HT40	3	2422	21.81	151.71
	6	2437	22.94	196.79
	9	2452	21.70	147.91



Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	7.62	5.78
	39	2441	6.15	4.12
	78	2480	4.22	2.64
$\pi/4$ -QPSK(2Mbps)	0	2402	7.75	5.96
	39	2441	6.13	4.10
	78	2480	4.59	2.88
8DPSK(3Mbps)	0	2402	7.93	6.21
	39	2441	6.34	4.31
	78	2480	4.83	3.04

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	0.52	1.13
	19	2440	-1.32	0.74
	39	2480	-3.58	0.44
GFSK(2Mbps)	0	2402	0.46	1.11
	19	2440	-1.17	0.76
	39	2480	-3.63	0.43

WLAN (5.2Gband)

5.2G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	36	5180	11.47	14.03
	40	5200	15.16	32.81
	48	5240	15.07	32.14
802.11n-HT20	36	5180	15.96	39.45
	40	5200	15.45	35.08
	48	5240	15.43	34.91
802.11n-HT40	38	5190	15.16	32.81
	46	5230	15.09	32.28
802.11ac-VHT80	42	5210	14.83	30.41



WLAN (5.3G band)

5.3G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	52	5260	15.18	32.96
	60	5300	14.61	28.91
	64	5320	6.76	4.74
802.11n-HT20	52	5260	15.72	37.33
	60	5300	15.26	33.57
	64	5320	15.34	34.20
802.11n-HT40	54	5270	15.14	32.66
	62	5310	14.76	29.92
802.11ac-VHT80	58	5290	15.10	32.36

WLAN (5.8G band)

5.8G WLAN				
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11a20	149	5745	13.61	22.96
	157	5785	13.25	21.13
	165	5825	12.39	17.34
802.11 n-HT20	149	5745	14.38	27.42
	157	5785	13.69	23.39
	165	5825	12.83	19.19
802.11 n-HT40	151	5755	13.34	21.58
	159	5795	12.76	18.88
802.11ac-VHT80	155	5775	13.31	21.43



Tune Up Power:

GSM

Mode	GSM850(AVG)	GSM1900(AVG)
GSM/PCS	33.5±1dBm	30.5±1dBm
GPRS (1 Slot)	33.5±1dBm	30.5±1dBm
GPRS (2 Slot)	31±1dBm	28.5±1dBm
GPRS (3 Slot)	29.5±1dBm	27±1dBm
GPRS (4 Slot)	27.5±1dBm	25±1dBm
EDGE (1 Slot)	26.5±1dBm	27.5±1dBm
EDGE (2 Slot)	25.5±1dBm	26±1dBm
EDGE (3 Slot)	22.5±1dBm	23.5±1dBm
EDGE (4 Slot)	21±1dBm	20.5±1dBm

WCDMA

Mode	WCDMA Band II(AVG)	WCDMA Band IV(AVG)	WCDMA Band V(AVG)
RMR	22.5±1dBm	22±1dBm	23±1dBm
HSDPA Subtest-1	20.5±1dBm	22±1dBm	22.5±1dBm
HSDPA Subtest-2	20±1dBm	21.5±1dBm	22±1dBm
HSDPA Subtest-3	20±1dBm	21±1dBm	22±1dBm
HSDPA Subtest-4	19.5±1dBm	21±1dBm	21.5±1dBm
HSUPA Subtest-1	20.5±1dBm	22±1dBm	22.5±1dBm
HSUPA Subtest-2	20.5±1dBm	21.5±1dBm	22.5±1dBm
HSUPA Subtest-3	20.5±1dBm	21±1dBm	22.5±1dBm
HSUPA Subtest-4	20.5±1dBm	21.5±1dBm	22.5±1dBm
HSUPA Subtest-5	20±1dBm	21±1dBm	22.5±1dBm



LTE

BW[MHz]	RB Size	Mode	Band 2	Band 4	Band 5
1.4	1	QPSK	23.1±1dBm	22.5±1dBm	22.5±1dBm
1.4	3		23±1dBm	22±1dBm	22.5±1dBm
1.4	6		22±1dBm	21.5±1dBm	22±1dBm
1.4	1	16- QAM	23.1±1dBm	22.5±1dBm	22.5±1dBm
1.4	3		22.5±1dBm	21.5±1dBm	22±1dBm
1.4	6		22±1dBm	21±1dBm	21±1dBm
3	1	QPSK	23±1dBm	22.1±1dBm	22.5±1dBm
3	8		22±1dBm	21±1dBm	22±1dBm
3	15		22±1dBm	21.5±1dBm	21.5±1dBm
3	1	16- QAM	23±1dBm	22.5±1dBm	22.5±1dBm
3	8		22±1dBm	21±1dBm	21±1dBm
3	15		22±1dBm	21±1dBm	21±1dBm
5	1	QPSK	23±1dBm	22±1dBm	22.5±1dBm
5	12		22±1dBm	22±1dBm	22±1dBm
5	25		22±1dBm	21±1dBm	22±1dBm
5	1	16- QAM	23±1dBm	22±1dBm	22±1dBm
5	12		21±1dBm	21±1dBm	21±1dBm
5	25		22.5±1dBm	21±1dBm	21±1dBm
10	1	QPSK	23±1dBm	22±1dBm	23±1dBm
10	25		22±1dBm	21±1dBm	21.5±1dBm
10	50		22±1dBm	21±1dBm	21.5±1dBm
10	1	16- QAM	23±1dBm	22.5±1dBm	22.5±1dBm
10	25		21±1dBm	21±1dBm	21±1dBm
10	50		21±1dBm	21±1dBm	21±1dBm
15	1	QPSK	23±1dBm	22.5±1dBm	N/A
15	36		22±1dBm	21±1dBm	N/A
15	75		22±1dBm	21±1dBm	N/A
15	1	16- QAM	23.1±1dBm	22.5±1dBm	N/A
15	36		21±1dBm	21±1dBm	N/A
15	75		21±1dBm	21±1dBm	N/A
20	1	QPSK	23.1±1dBm	22.5±1dBm	N/A
20	50		22±1dBm	21±1dBm	N/A
20	100		22±1dBm	21±1dBm	N/A
20	1	16- QAM	22±1dBm	22±1dBm	N/A
20	50		21±1dBm	21±1dBm	N/A
20	100		21±1dBm	21±1dBm	N/A



BW[MHz]	RB Size	Mode	Band40(2305-2315)	Band40(2350-2360)	Band 41
1.4	1	QPSK	N/A	N/A	N/A
1.4	3		N/A	N/A	N/A
1.4	6		N/A	N/A	N/A
1.4	1	16- QAM	N/A	N/A	N/A
1.4	3		N/A	N/A	N/A
1.4	6		N/A	N/A	N/A
3	1	QPSK	N/A	N/A	N/A
3	8		N/A	N/A	N/A
3	15		N/A	N/A	N/A
3	1	16- QAM	N/A	N/A	N/A
3	8		N/A	N/A	N/A
3	15		N/A	N/A	N/A
5	1	QPSK	21.7±1dBm	22.2±1dBm	23.5±1dBm
5	12		21±1dBm	21.5±1dBm	22.5±1dBm
5	25		21±1dBm	21.5±1dBm	22.5±1dBm
5	1	16- QAM	21±1dBm	22±1dBm	23±1dBm
5	12		20±1dBm	21±1dBm	22±1dBm
5	25		20±1dBm	21±1dBm	22±1dBm
10	1	QPSK	22±1dBm	22.5±1dBm	23.6±1dBm
10	25		21±1dBm	21.5±1dBm	23±1dBm
10	50		21±1dBm	21±1dBm	22.5±1dBm
10	1	16- QAM	21.5±1dBm	22±1dBm	23.5±1dBm
10	25		20±1dBm	21±1dBm	22±1dBm
10	50		20±1dBm	21±1dBm	22±1dBm
15	1	QPSK	N/A	N/A	23.8±1dBm
15	36		N/A	N/A	23±1dBm
15	75		N/A	N/A	22.5±1dBm
15	1	16- QAM	N/A	N/A	23.5±1dBm
15	36		N/A	N/A	22±1dBm
15	75		N/A	N/A	22±1dBm
20	1	QPSK	N/A	N/A	24±1dBm
20	50		N/A	N/A	23±1dBm
20	100		N/A	N/A	22.5±1dBm
20	1	16- QAM	N/A	N/A	22.5±1dBm
20	50		N/A	N/A	22±1dBm
20	100		N/A	N/A	22±1dBm



Mode	2.4G WLAN(AVG)
802.11b	18±1dBm
802.11g	21.8±1dBm
802.11n(HT 20)	21.5±1dBm
802.11n(HT 40)	22±1dBm

Mode	BT(AVG)
GFSK	6.8±1dBm
$\pi/4$ -DQPSK	6.8±1dBm
8DPSK	7±1dBm

Mode	BLE(AVG)
GFSK(1Mbps)	0±1dBm
GFSK(2Mbps)	0±1dBm

Mode	5.2G WLAN(AVG)
802.11a	14.5±1dBm
802.11n-HT20	15±1dBm
802.11n-HT40	14.5±1dBm
802.11 ac-VHT80	14±1dBm

Mode	5.3G WLAN(AVG)
802.11a	14.5±1dBm
802.11n-HT20	14.8±1dBm
802.11n-HT40	14.5±1dBm
802.11 ac-VHT80	14.5±1dBm

Mode	5.8G WLAN(AVG)
802.11a	13±1dBm
802.11n-HT20	13.5±1dBm
802.11n-HT40	12.5±1dBm
802.11 ac-VHT80	12.5±1dBm



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	23.53	23.72	24.07
1.4	1	2		23.56	23.65	24.01
1.4	1	5		23.45	23.69	23.99
1.4	3	0		23.65	23.75	23.88
1.4	3	1		23.52	23.68	23.82
1.4	3	2		23.61	23.71	23.80
1.4	6	0		22.53	22.72	22.91
1.4	1	0	16-QAM	23.51	22.56	24.08
1.4	1	2		23.45	22.49	24.05
1.4	1	5		23.53	22.64	23.97
1.4	3	0		22.75	22.80	23.14
1.4	3	1		22.72	22.79	23.18
1.4	3	2		22.77	22.91	23.13
1.4	6	0		21.69	21.81	22.10
3	1	0	QPSK	23.50	23.63	23.77
3	1	7		23.50	23.69	23.88
3	1	14		23.52	23.65	23.99
3	8	0		22.49	22.67	22.66
3	8	4		22.56	22.69	22.83
3	8	7		22.58	22.73	22.81
3	15	0		22.52	22.76	22.81
3	1	0	16-QAM	23.80	22.19	22.92
3	1	7		23.83	22.19	22.96
3	1	14		23.86	22.22	22.96
3	8	0		21.54	21.84	21.88
3	8	4		21.63	21.86	22.01
3	8	7		21.53	21.91	21.99
3	15	0		21.78	21.78	22.08



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.49	23.79	23.55
5	1	12		23.49	23.78	23.56
5	1	24		23.48	23.74	23.65
5	12	0		22.56	22.80	22.67
5	12	6		22.44	22.62	22.69
5	12	11		22.54	22.69	22.90
5	25	0		22.44	22.63	22.85
5	1	0	16-QAM	22.78	22.91	23.45
5	1	12		22.86	22.91	23.50
5	1	24		22.79	22.82	23.55
5	12	0		21.66	21.65	21.81
5	12	6		21.51	21.62	21.83
5	12	11		21.50	21.68	21.86
5	25	0		21.62	21.79	22.10
10	1	0	QPSK	23.49	23.69	23.58
10	1	24		23.43	23.61	23.66
10	1	49		23.54	23.62	23.83
10	25	0		22.60	22.62	22.66
10	25	12		22.46	22.61	22.70
10	25	24		22.60	22.70	22.83
10	50	0		22.54	22.65	22.66
10	1	0	16-QAM	23.88	23.60	23.05
10	1	24		23.83	23.46	23.14
10	1	49		23.85	23.55	23.33
10	25	0		21.70	21.90	21.80
10	25	12		21.65	21.89	21.87
10	25	24		21.65	21.87	21.94
10	50	0		21.61	21.86	21.83



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.46	23.67	23.30
15	1	37		23.47	23.66	23.42
15	1	74		23.61	23.68	23.70
15	36	0		22.49	22.76	22.55
15	36	18		22.60	22.63	22.72
15	36	39		22.56	22.66	22.78
15	75	0		22.44	22.69	22.67
15	1	0	16-QAM	23.90	23.49	23.47
15	1	38		23.87	23.43	23.56
15	1	75		24.02	23.48	23.90
15	36	0		21.59	21.93	21.53
15	36	18		21.58	21.92	21.73
15	36	39		21.70	21.92	21.88
15	75	0		21.74	21.72	21.75
20	1	0	QPSK	23.58	23.91	23.66
20	1	49		23.67	23.99	23.56
20	1	99		23.80	24.00	23.99
20	50	0		22.48	22.72	22.46
20	50	24		22.60	22.70	22.48
20	50	49		22.64	22.74	22.69
20	100	0		22.65	22.72	22.51
20	1	0	16-QAM	22.76	22.38	22.95
20	1	49		22.79	22.43	22.50
20	1	99		22.85	22.42	22.92
20	50	0		21.76	21.92	21.63
20	50	24		21.85	21.80	21.54
20	50	49		21.82	21.80	21.81
20	100	0		21.70	21.89	21.63



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.08	22.77	22.97
1.4	1	2		23.06	22.76	22.86
1.4	1	5		23.07	22.85	22.86
1.4	3	0		22.97	22.70	22.75
1.4	3	1		22.93	22.60	22.83
1.4	3	2		22.95	22.73	22.83
1.4	6	0		22.01	21.72	21.80
1.4	1	0	16-QAM	23.13	21.85	21.46
1.4	1	2		23.09	21.85	21.50
1.4	1	5		23.14	21.92	21.52
1.4	3	0		22.29	21.74	21.74
1.4	3	1		22.31	21.84	21.80
1.4	3	2		22.26	21.81	21.81
1.4	6	0		21.24	20.74	20.95
3	1	0	QPSK	23.01	22.75	22.91
3	1	7		22.95	22.78	23.00
3	1	14		22.84	22.87	22.94
3	8	0		21.95	21.59	21.83
3	8	4		21.98	21.65	21.76
3	8	7		21.82	21.68	21.80
3	15	0		22.00	21.71	21.75
3	1	0	16-QAM	23.26	21.79	21.53
3	1	7		23.20	21.80	21.50
3	1	14		23.07	21.87	21.51
3	8	0		20.97	20.93	20.98
3	8	4		21.00	20.93	21.03
3	8	7		20.82	20.96	21.04
3	15	0		21.12	20.84	20.89



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.94	22.69	22.62
5	1	12		22.78	22.73	22.56
5	1	24		22.76	22.81	22.58
5	12	0		22.01	21.67	21.86
5	12	6		21.77	21.80	21.68
5	12	11		21.79	21.68	21.75
5	25	0		21.73	21.69	21.75
5	1	0	16-QAM	22.12	21.89	22.52
5	1	12		22.00	21.82	22.35
5	1	24		21.99	21.92	22.40
5	12	0		21.02	20.67	20.91
5	12	6		20.90	20.68	20.89
5	12	11		20.86	20.70	20.85
5	25	0		21.09	20.91	21.04
10	1	0	QPSK	22.95	22.60	22.81
10	1	24		22.72	22.60	22.88
10	1	49		22.58	22.74	22.77
10	25	0		21.77	21.64	21.95
10	25	12		21.74	21.66	21.92
10	25	24		21.67	21.73	21.89
10	50	0		21.74	21.79	21.83
10	1	0	16-QAM	23.18	22.52	22.99
10	1	24		22.95	22.53	22.92
10	1	49		22.79	22.57	22.88
10	25	0		20.95	20.91	21.07
10	25	12		20.94	20.87	21.03
10	25	24		20.93	20.97	21.00
10	50	0		20.89	20.89	21.01



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.89	22.76	22.77
15	1	37		22.52	22.90	22.79
15	1	74		22.53	23.02	22.72
15	36	0		21.86	21.78	21.94
15	36	18		21.75	21.81	21.84
15	36	39		21.70	21.89	21.92
15	75	0		21.72	21.80	21.94
15	1	0	16-QAM	23.18	21.76	22.94
15	1	38		22.63	21.83	22.92
15	1	75		22.77	21.93	22.94
15	36	0		20.94	20.91	21.01
15	36	18		20.93	20.99	20.90
15	36	39		20.90	21.07	20.98
15	75	0		20.88	20.85	21.04
20	1	0	QPSK	23.05	22.59	22.92
20	1	49		22.39	22.92	22.84
20	1	99		22.77	23.16	22.88
20	50	0		21.81	21.63	21.91
20	50	24		21.63	21.73	21.88
20	50	49		21.73	21.79	21.89
20	100	0		21.68	21.80	21.94
20	1	0	16-QAM	21.68	21.84	22.33
20	1	49		21.40	21.94	22.51
20	1	99		21.50	22.22	22.43
20	50	0		20.96	20.82	21.08
20	50	24		20.82	20.90	21.19
20	50	49		20.91	20.97	21.13
20	100	0		20.85	20.95	21.07



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.24	23.14	23.34
1.4	1	2		23.24	23.26	23.31
1.4	1	5		23.17	23.25	23.32
1.4	3	0		23.12	23.15	23.23
1.4	3	1		23.08	23.06	23.29
1.4	3	2		23.11	23.17	23.28
1.4	6	0		22.07	22.16	22.28
1.4	1	0	16-QAM	23.18	22.17	22.44
1.4	1	2		23.06	22.16	22.36
1.4	1	5		23.13	22.17	22.22
1.4	3	0		22.34	22.10	22.22
1.4	3	1		22.34	22.19	22.12
1.4	3	2		22.36	22.24	22.13
1.4	6	0		21.30	21.31	21.24
3	1	0	QPSK	23.17	23.18	23.31
3	1	7		23.04	23.22	23.18
3	1	14		23.17	23.25	23.30
3	8	0		22.02	22.01	22.30
3	8	4		22.17	22.30	22.23
3	8	7		22.20	22.19	22.27
3	15	0		22.20	22.12	22.32
3	1	0	16-QAM	23.18	22.11	22.33
3	1	7		23.13	22.11	22.36
3	1	14		23.08	22.07	22.38
3	8	0		21.02	21.13	21.34
3	8	4		20.95	21.08	21.38
3	8	7		20.98	21.13	21.28
3	15	0		21.25	21.01	21.38



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.09	23.12	23.01
5	1	12		23.12	23.08	23.04
5	1	24		23.09	23.19	23.08
5	12	0		22.03	22.06	22.22
5	12	6		22.12	22.02	22.30
5	12	11		22.06	22.06	22.21
5	25	0		22.16	22.09	22.32
5	1	0	16-QAM	22.24	22.11	22.82
5	1	12		22.22	22.07	22.81
5	1	24		22.27	22.22	22.81
5	12	0		21.11	20.89	21.15
5	12	6		20.99	20.95	21.21
5	12	11		21.05	20.96	21.29
5	25	0		21.22	21.14	21.25
10	1	0	QPSK	23.00	23.01	23.07
10	1	24		23.01	23.06	23.11
10	1	49		23.08	23.14	23.20
10	25	0		22.07	22.22	22.22
10	25	12		21.97	21.99	22.17
10	25	24		22.02	22.05	22.25
10	50	0		22.03	22.11	22.09
10	1	0	16-QAM	23.16	22.78	22.44
10	1	24		23.10	22.80	22.62
10	1	49		23.10	22.89	22.65
10	25	0		21.04	21.19	21.17
10	25	12		21.13	21.14	21.24
10	25	24		21.10	21.12	21.38
10	50	0		21.08	21.12	21.10



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.17	22.90	23.23
5	1	12		23.21	22.97	23.11
5	1	24		23.26	23.08	23.11
5	12	0		22.29	22.01	22.31
5	12	6		22.25	22.04	22.18
5	12	11		22.32	22.16	22.07
5	25	0		22.32	22.05	22.13
5	1	0	16-QAM	22.02	22.22	22.45
5	1	12		22.01	22.23	22.34
5	1	24		22.16	22.27	22.29
5	12	0		21.26	21.16	21.25
5	12	6		21.33	21.23	21.20
5	12	11		21.38	21.36	21.13
5	25	0		21.48	21.20	21.56
10	1	0	QPSK	23.20	23.03	23.44
10	1	24		23.20	23.16	23.27
10	1	49		23.35	23.30	23.20
10	25	0		22.23	22.12	22.29
10	25	12		22.28	22.07	22.34
10	25	24		22.25	22.22	22.29
10	50	0		22.31	22.09	22.38
10	1	0	16-QAM	23.52	22.28	22.54
10	1	24		23.57	22.38	22.46
10	1	49		23.57	22.50	22.25
10	25	0		21.38	21.21	21.47
10	25	12		21.40	21.28	21.51
10	25	24		21.40	21.42	21.57
10	50	0		21.46	21.34	21.53



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.18	23.08	23.54
15	1	37		23.30	23.10	23.31
15	1	74		23.16	23.27	23.22
15	36	0		22.19	22.04	22.44
15	36	18		22.34	22.11	22.29
15	36	39		22.25	22.31	22.32
15	75	0		22.39	22.04	22.37
15	1	0	16-QAM	23.39	22.11	23.54
15	1	38		23.44	22.20	23.27
15	1	75		23.39	22.46	23.13
15	36	0		21.53	21.29	21.56
15	36	18		21.54	21.36	21.41
15	36	39		21.42	21.55	21.43
15	75	0		21.42	21.31	21.54
20	1	0	QPSK	23.27	23.08	23.57
20	1	49		23.26	23.12	23.51
20	1	99		23.02	23.46	23.26
20	50	0		22.26	22.14	22.49
20	50	24		22.17	22.14	22.52
20	50	49		22.12	22.33	22.36
20	100	0		22.34	22.23	22.36
20	1	0	16-QAM	22.52	22.32	23.04
20	1	49		22.53	22.50	22.99
20	1	99		22.47	22.93	22.69
20	50	0		21.54	21.22	21.75
20	50	24		21.48	21.32	21.73
20	50	49		21.31	21.46	21.56
20	100	0		21.37	21.27	21.59



Band40(2305-2315)

LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.46	22.15	22.48
5	1	12		22.40	22.23	22.53
5	1	24		22.55	22.61	22.66
5	12	0		21.35	21.49	21.46
5	12	6		21.42	21.40	21.55
5	12	11		21.41	21.52	21.45
5	25	0		21.50	21.41	21.53
5	1	0	16-QAM	21.20	21.69	21.13
5	1	12		21.31	21.90	21.13
5	1	24		21.35	21.94	21.27
5	12	0		20.45	20.58	20.55
5	12	6		20.45	20.59	20.62
5	12	11		20.46	20.61	20.59
5	25	0		20.68	20.82	20.81
10	1	0	QPSK	/	22.50	/
10	1	24		/	22.58	/
10	1	49		/	22.68	/
10	25	0		/	21.40	/
10	25	12		/	21.35	/
10	25	24		/	21.55	/
10	50	0		/	21.55	/
10	1	0	16-QAM	/	21.95	/
10	1	24		/	21.98	/
10	1	49		/	22.12	/
10	25	0		/	20.54	/
10	25	12		/	20.59	/
10	25	24		/	20.62	/
10	50	0		/	20.78	/



Band40(2350-2360)

LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.99	22.98	22.84
5	1	12		23.02	23.02	22.80
5	1	24		22.98	23.16	22.80
5	12	0		21.89	21.89	22.08
5	12	6		22.02	22.09	22.02
5	12	11		21.94	22.07	22.06
5	25	0		21.89	22.00	22.03
5	1	0	16-QAM	21.63	21.71	22.50
5	1	12		21.56	21.79	22.57
5	1	24		21.68	21.82	22.59
5	12	0		20.99	20.85	21.16
5	12	6		20.99	20.99	21.18
5	12	11		21.12	20.96	21.13
5	25	0		21.37	21.30	21.33
10	1	0	QPSK	/	22.93	/
10	1	24		/	22.98	/
10	1	49		/	23.10	/
10	25	0		/	21.92	/
10	25	12		/	21.98	/
10	25	24		/	22.06	/
10	50	0		/	21.94	/
10	1	0	16-QAM	/	22.44	/
10	1	24		/	22.35	/
10	1	49		/	22.79	/
10	25	0		/	21.11	/
10	25	12		/	21.12	/
10	25	24		/	21.16	/
10	50	0		/	21.17	/



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.07	23.90	24.48
5	1	12		24.22	23.97	24.36
5	1	24		24.13	23.98	24.42
5	12	0		23.27	22.96	23.43
5	12	6		23.34	22.82	23.37
5	12	11		23.34	23.00	23.39
5	25	0		23.35	22.92	23.25
5	1	0	16-QAM	23.61	22.50	23.08
5	1	12		23.85	22.56	23.06
5	1	24		23.92	22.60	23.20
5	12	0		22.47	22.07	22.35
5	12	6		22.45	22.02	22.41
5	12	11		22.45	22.06	22.46
5	25	0		22.68	22.33	22.59
10	1	0	QPSK	24.18	23.99	24.27
10	1	24		24.35	23.98	24.35
10	1	49		24.57	24.13	24.46
10	25	0		23.37	22.97	23.51
10	25	12		23.44	22.97	23.53
10	25	24		23.42	23.09	23.52
10	50	0		23.00	22.61	23.05
10	1	0	16-QAM	23.70	22.27	23.82
10	1	24		24.17	22.25	24.08
10	1	49		24.20	22.36	23.89
10	25	0		22.53	22.11	22.67
10	25	12		22.59	22.16	22.71
10	25	24		22.58	22.24	22.62
10	50	0		22.32	21.98	22.47



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.35	24.17	23.95
15	1	37		24.47	24.10	24.21
15	1	74		24.69	24.12	24.17
15	36	0		23.45	23.02	23.45
15	36	18		23.50	23.06	23.49
15	36	39		23.54	23.06	23.48
15	75	0		23.02	22.68	23.17
15	1	0	16-QAM	24.02	22.27	23.76
15	1	38		24.03	22.28	23.66
15	1	75		24.34	22.31	23.97
15	36	0		22.65	22.44	22.49
15	36	18		22.68	22.36	22.56
15	36	39		22.71	22.50	22.53
15	75	0		22.18	22.01	22.42
20	1	0	QPSK	24.16	23.83	24.08
20	1	49		24.56	23.94	24.28
20	1	99		24.42	23.97	24.61
20	50	0		23.34	22.99	23.28
20	50	24		23.50	23.01	23.26
20	50	49		23.60	23.04	23.48
20	100	0		23.09	22.55	22.87
20	1	0	16-QAM	23.10	22.80	23.36
20	1	49		23.30	22.54	22.68
20	1	99		23.15	22.32	22.78
20	50	0		22.80	22.33	22.41
20	50	24		22.86	22.34	22.54
20	50	49		22.93	22.35	22.59
20	100	0		22.41	21.82	22.10

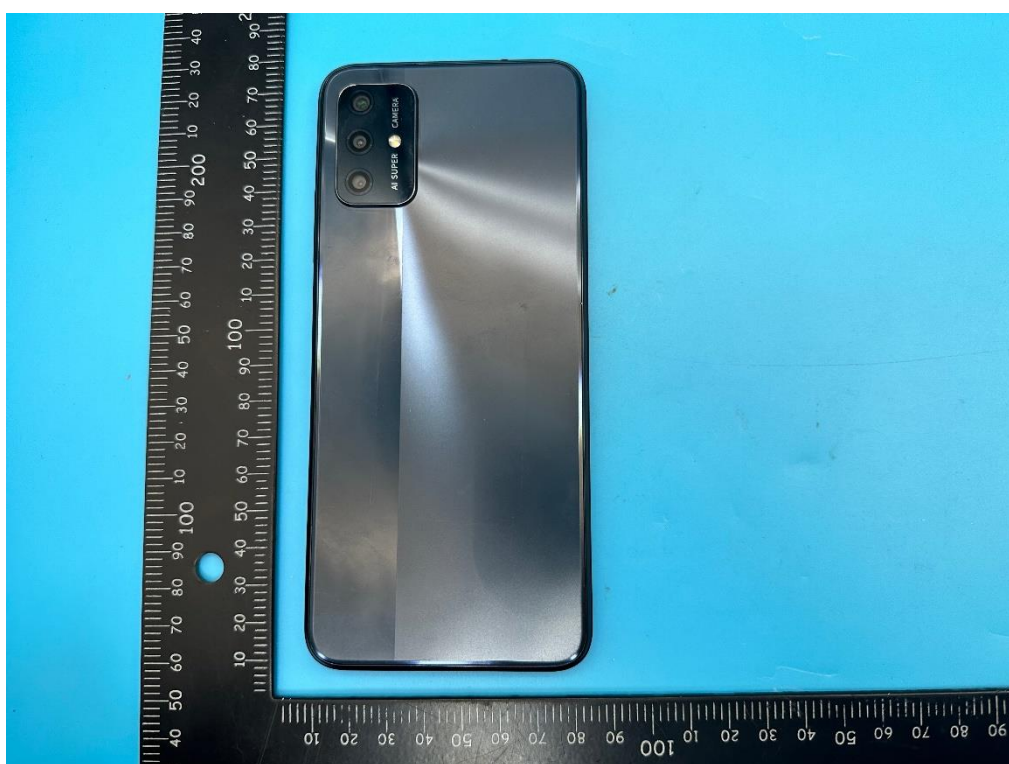
10. Test Photos and Results

10.1 EUT Photos

Front side



Back side



Right Edge



Left Edge

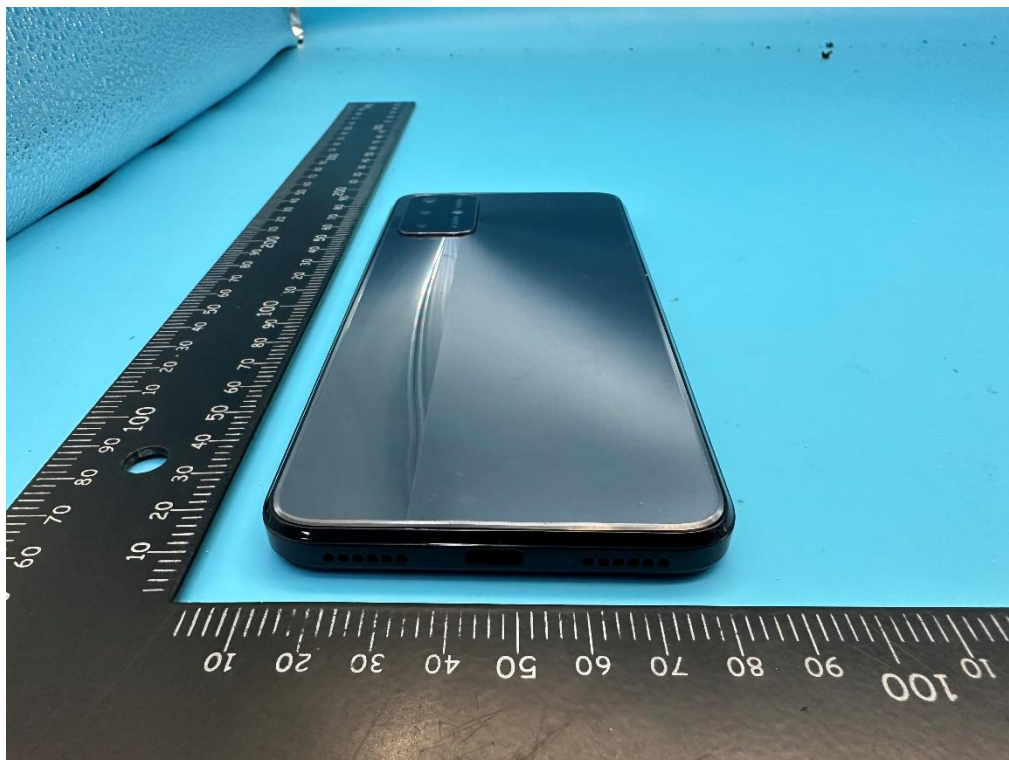




Top Edge

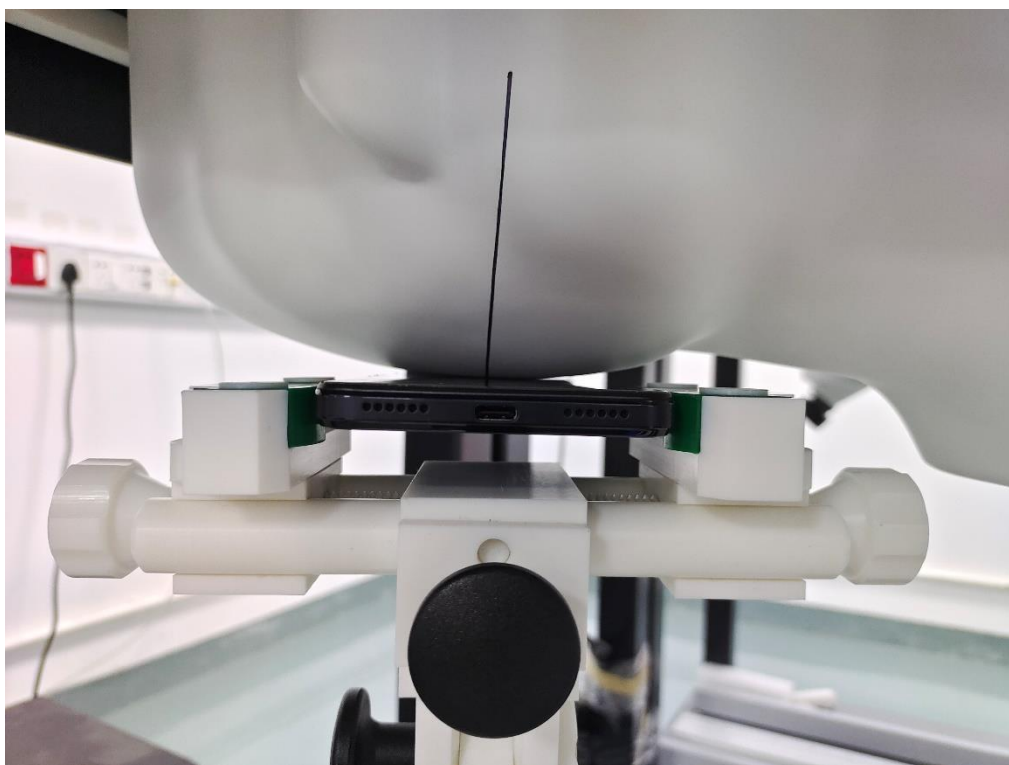


Bottom Edge

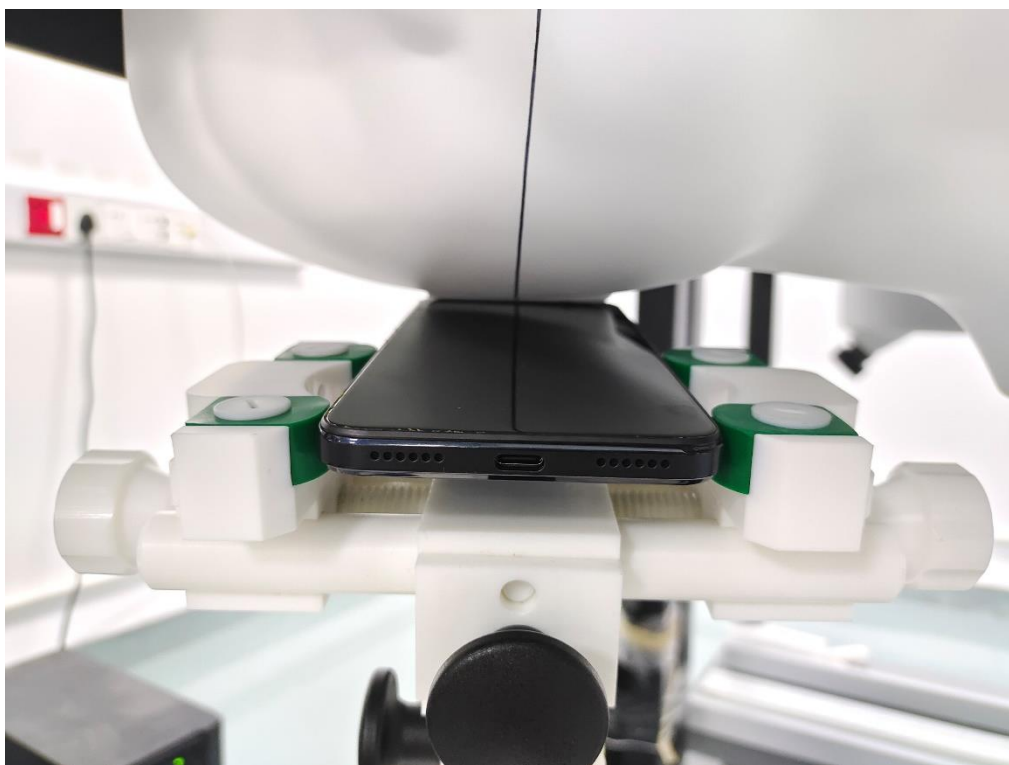


10.2 Setup Photos

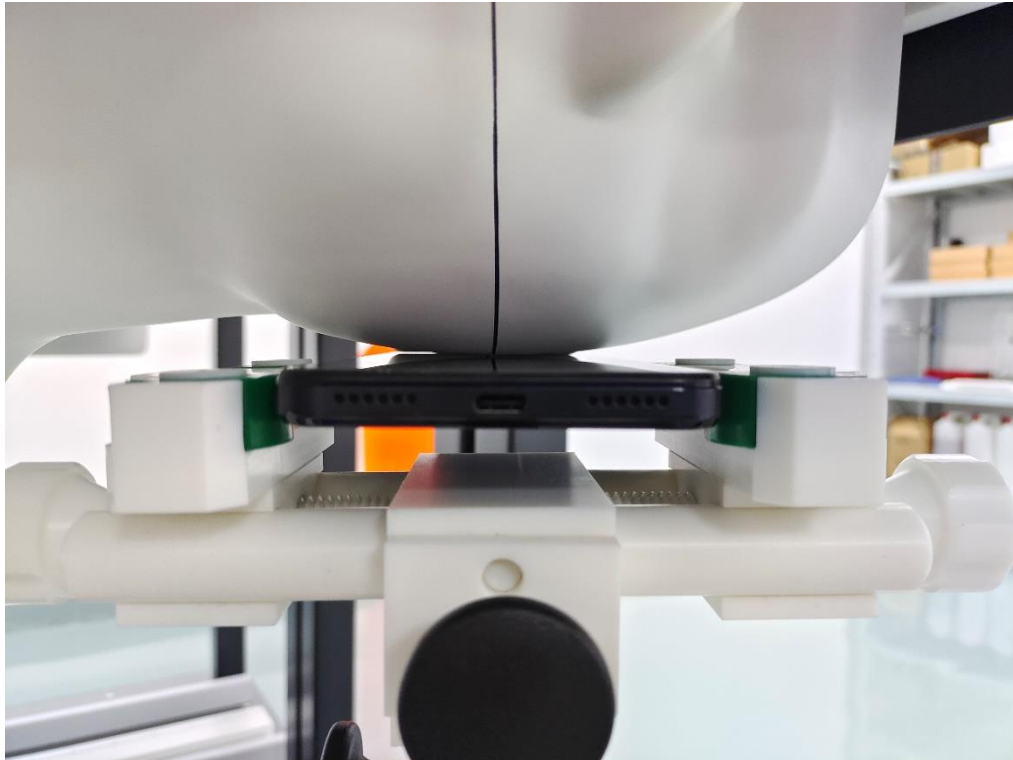
Right Touch



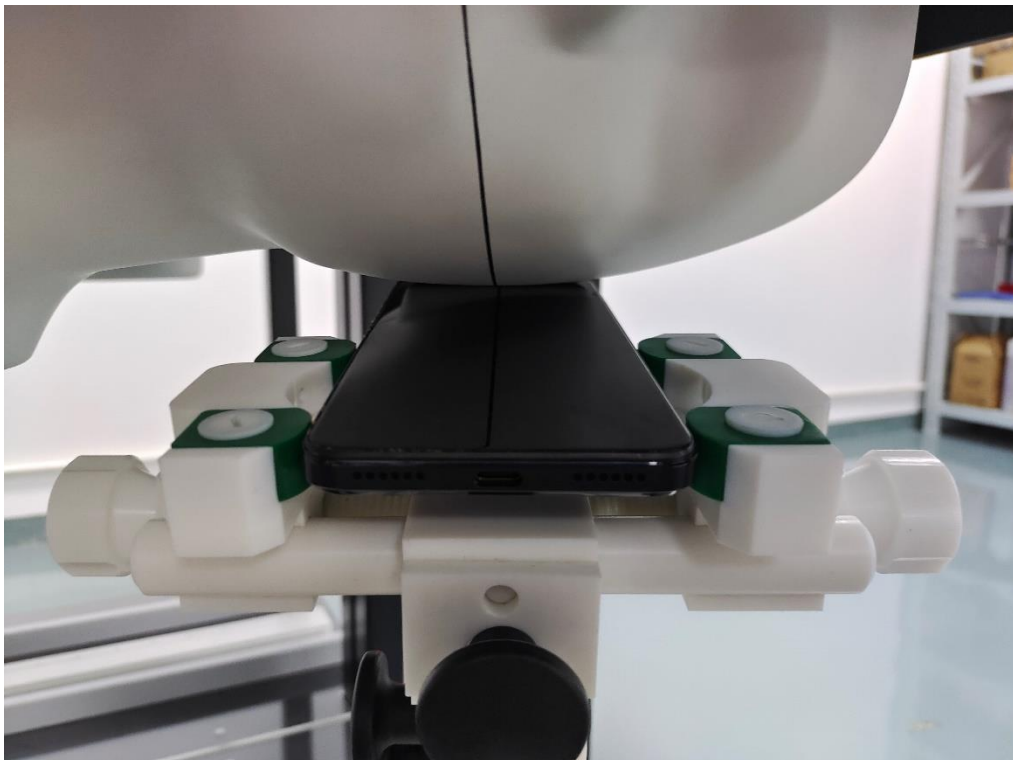
Right Tilt



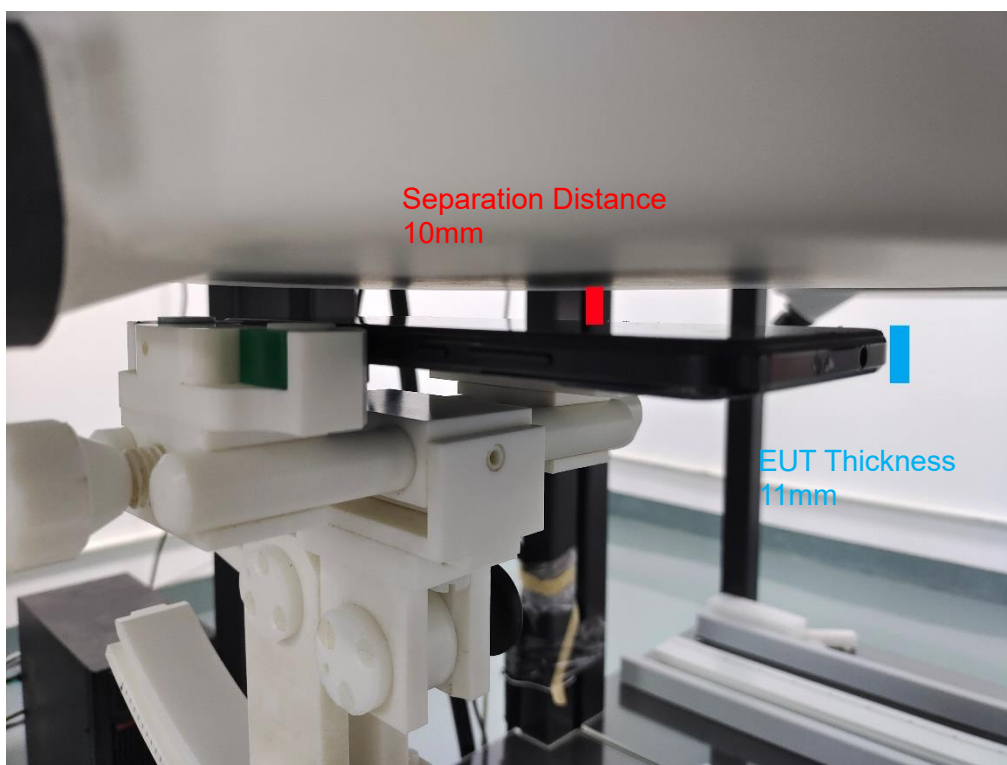
Left Touch



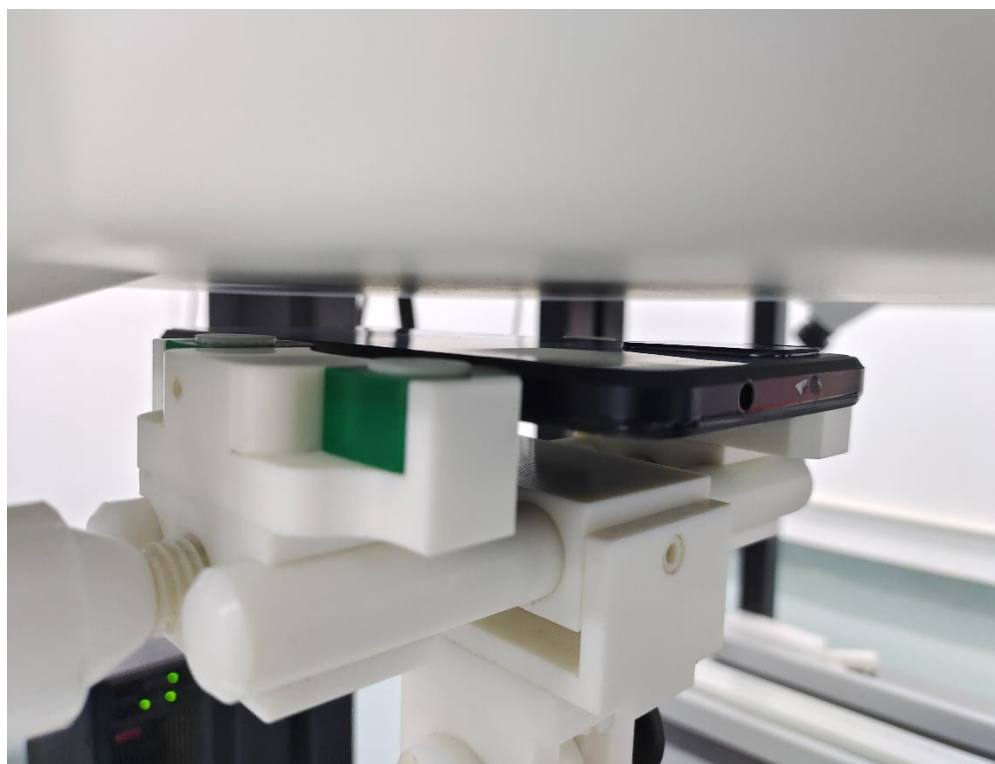
Left Tilt



Body Front side



Body Back side



Body Right side



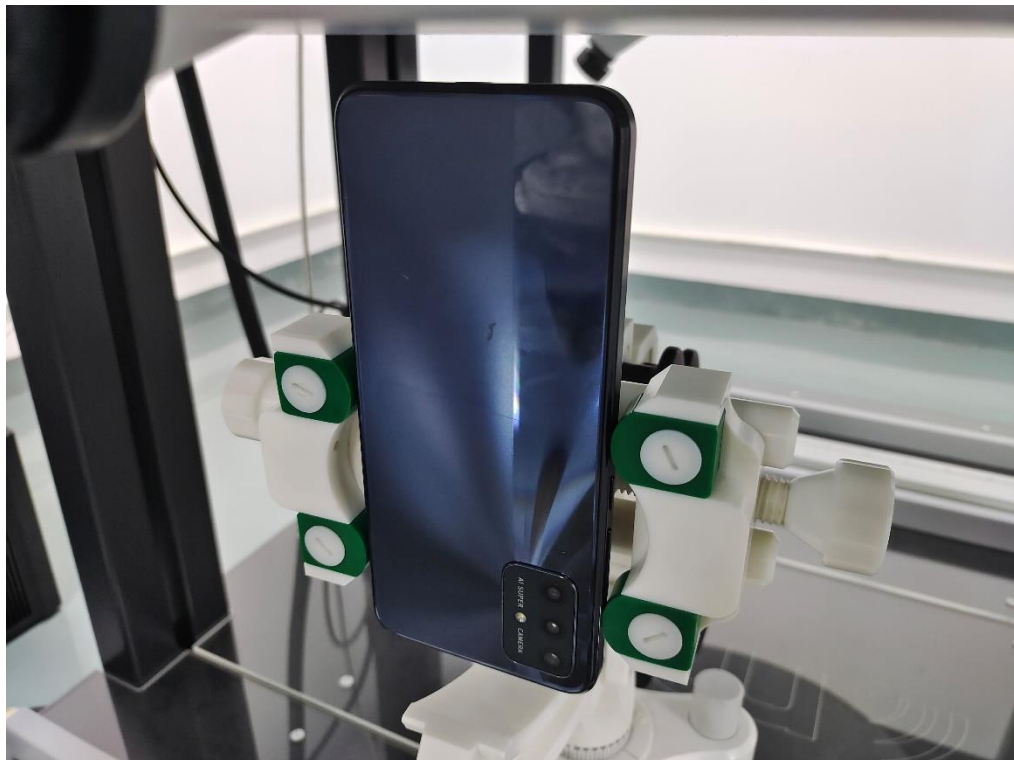
Body Left side



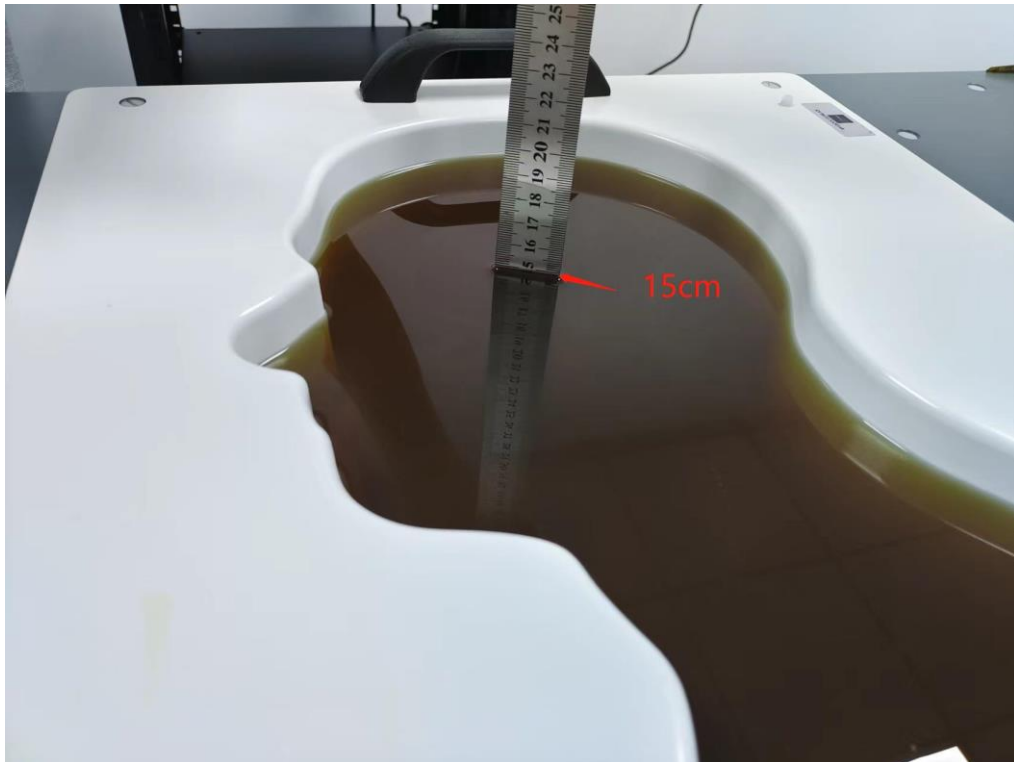
Top Edge



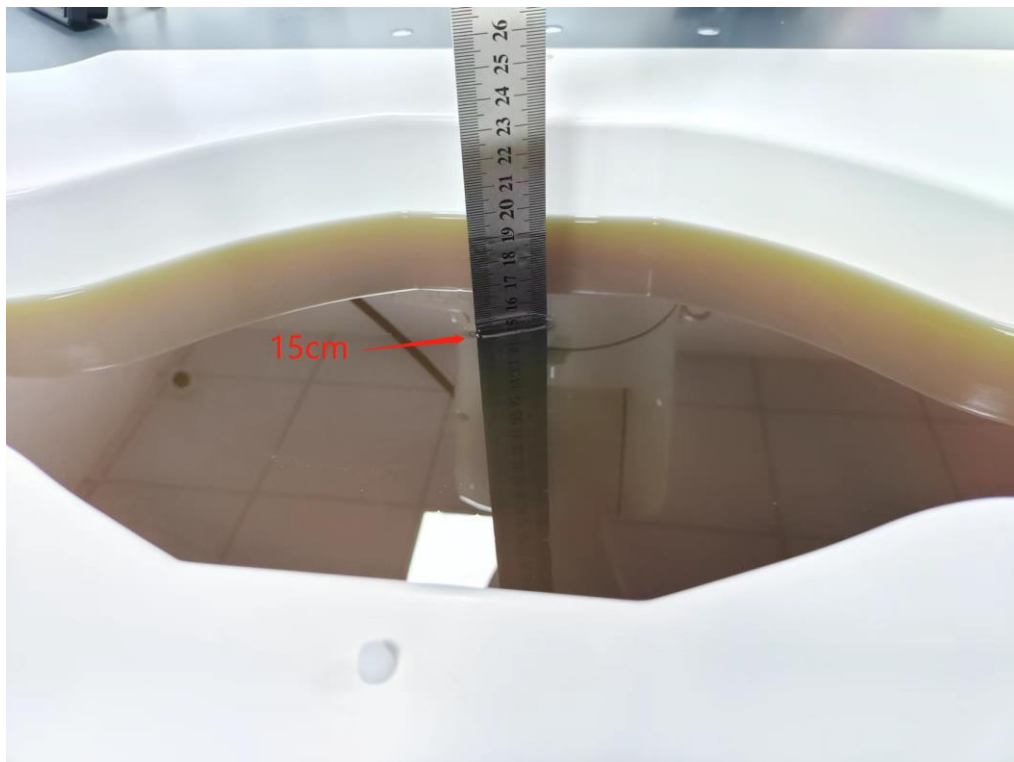
Bottom Edge



Liquid depth (15 cm)



Liquid depth (15 cm)





11. SAR Result Summary

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	824.2	0.095	1.78	34.50	34.08	0.105	1
		Right Tilt	824.2	0.073	-3.95	34.50	34.08	0.080	/
		Left Cheek	824.2	0.080	2.27	34.50	34.08	0.088	/
		Left Tilt	824.2	0.062	-1.31	34.50	34.08	0.068	/
GSM1900	GSM	Right Cheek	1880	0.078	-3.36	31.50	31.04	0.087	/
		Right Tilt	1880	0.064	3.61	31.50	31.04	0.071	/
		Left Cheek	1880	0.095	1.09	31.50	31.04	0.106	3
		Left Tilt	1880	0.084	3.22	31.50	31.04	0.093	/
WCDMA Band II	RMC	Right Cheek	1880	0.116	1.54	23.50	23.30	0.121	/
		Right Tilt	1880	0.103	2.56	23.50	23.30	0.108	/
		Left Cheek	1880	0.220	-1.23	23.50	23.30	0.230	5
		Left Tilt	1880	0.110	-0.70	23.50	23.30	0.115	/
WCDMA Band IV	RMC	Right Cheek	1752.6	0.172	3.67	23.00	22.97	0.173	/
		Right Tilt	1752.6	0.054	0.28	23.00	22.97	0.054	/
		Left Cheek	1752.6	0.281	-0.44	23.00	22.97	0.283	7
		Left Tilt	1752.6	0.066	1.66	23.00	22.97	0.066	/
WCDMA Band V	RMC	Right Cheek	846.6	0.326	3.45	24.00	23.52	0.364	9
		Right Tilt	846.6	0.226	1.25	24.00	23.52	0.252	/
		Left Cheek	846.6	0.243	-2.28	24.00	23.52	0.271	/
		Left Tilt	846.6	0.243	-0.25	24.00	23.52	0.271	/

Band	BW (MHz)	Mod.	R B Size	R B of set	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	1880	0.239	-2.91	24.50	24.00	0.268	/
			50	0	Right Cheek	1880	0.204	-1.20	23.00	22.74	0.217	/
			1	0	Right Tilt	1880	0.168	3.21	24.50	24.00	0.188	/
			50	0	Right Tilt	1880	0.139	3.88	23.00	22.74	0.148	/
			1	0	Left Cheek	1880	0.324	-1.68	24.50	24.00	0.364	11
			50	0	Left Cheek	1880	0.280	3.79	23.00	22.74	0.297	/
			1	0	Left Tilt	1880	0.228	0.25	24.50	24.00	0.256	/
			50	0	Left Tilt	1880	0.192	-0.79	23.00	22.74	0.204	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1732.5	0.194	3.69	24.00	23.16	0.235	/
			50	0	Right Cheek	1745	0.178	0.20	22.00	21.91	0.182	/
			1	0	Right Tilt	1732.5	0.156	-0.32	24.00	23.16	0.189	/
			50	0	Right Tilt	1745	0.138	-1.85	22.00	21.91	0.141	/
			1	0	Left Cheek	1732.5	0.307	3.81	24.00	23.16	0.373	13
			50	0	Left Cheek	1745	0.276	-0.14	22.00	21.91	0.282	/
			1	0	Left Tilt	1732.5	0.193	0.67	24.00	23.16	0.234	/
			50	0	Left Tilt	1745	0.174	3.09	22.00	21.91	0.178	/



LTE Band 5	10M	QPSK	1	0	Right Cheek	844	0.197	-3.72	23.50	23.20	0.211	/
			25	0	Right Cheek	844	0.175	0.61	22.00	22.25	0.165	/
			1	0	Right Tilt	844	0.169	2.06	23.50	23.20	0.181	/
			25	0	Right Tilt	844	0.163	2.56	22.00	22.25	0.154	/
			1	0	Left Cheek	844	0.205	1.69	23.50	23.20	0.220	15
			25	0	Left Cheek	844	0.187	-1.78	22.00	22.25	0.177	/
			1	0	Left Tilt	844	0.173	-2.23	23.50	23.20	0.185	/
			25	0	Left Tilt	844	0.157	0.47	22.00	22.25	0.148	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	2560	0.066	-0.84	24.00	23.57	0.073	/
			50	0	Right Cheek	2560	0.052	-1.82	23.00	22.52	0.058	/
			1	0	Right Tilt	2560	0.055	1.13	24.00	23.57	0.061	/
			50	0	Right Tilt	2560	0.048	3.63	23.00	22.52	0.054	/
			1	0	Left Cheek	2560	0.068	-0.52	24.00	23.57	0.075	17
			50	0	Left Cheek	2560	0.058	3.24	23.00	22.52	0.065	/
			1	0	Left Tilt	2560	0.046	-2.27	24.00	23.57	0.051	/
			50	0	Left Tilt	2560	0.042	2.56	23.00	22.52	0.047	/
LTE Band 40	20M	QPSK	1	0	Right Cheek	2350	0.175	2.90	24.00	23.10	0.215	/
			50	0	Right Cheek	2350	0.167	0.63	22.50	22.06	0.185	/
			1	0	Right Tilt	2350	0.117	2.70	24.00	23.10	0.144	/
			50	0	Right Tilt	2350	0.102	2.91	22.50	22.06	0.113	/
			1	0	Left Cheek	2350	0.217	2.30	24.00	23.10	0.267	19
			50	0	Left Cheek	2350	0.199	3.99	22.50	22.06	0.220	/
			1	0	Left Tilt	2350	0.141	2.45	24.00	23.10	0.173	/
			50	0	Left Tilt	2350	0.135	3.52	22.50	22.06	0.149	/
LTE Band 41	20M	QPSK	1	0	Right Cheek	2680	0.131	0.01	25.00	24.61	0.143	/
			50	0	Right Cheek	2506	0.122	-3.07	24.00	23.60	0.134	/
			1	0	Right Tilt	2680	0.146	3.69	25.00	24.61	0.160	/
			50	0	Right Tilt	2506	0.143	-0.01	24.00	23.60	0.157	/
			1	0	Left Cheek	2680	0.150	3.19	25.00	24.61	0.164	21
			50	0	Left Cheek	2506	0.136	3.35	24.00	23.60	0.149	/
			1	0	Left Tilt	2680	0.090	1.33	25.00	24.61	0.098	/
			50	0	Left Tilt	2506	0.087	-1.99	24.00	23.60	0.095	/



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	802.11 n-HT40	Right Cheek	2437	0.492	-1.11	23.00	22.94	0.499	/
		Right Tilt	2437	0.214	2.29	23.00	22.94	0.217	/
		Left Cheek	2422	0.614	1.35	23.00	21.81	0.808	/
		Left Cheek	2437	0.899	-1.61	23.00	22.94	0.912	23
		Left Cheek	2452	0.603	-0.29	23.00	21.70	0.813	/
		Left Tilt	2437	0.777	-3.57	23.00	22.94	0.788	/
BT	8DPSK	Right Cheek	2402	0.029	2.39	8.00	7.93	0.029	/
		Right Tilt	2402	0.030	-1.35	8.00	7.93	0.030	/
		Left Cheek	2402	0.026	0.19	8.00	7.93	0.026	/
		Left Tilt	2402	0.037	2.17	8.00	7.93	0.038	25
5.2G WLAN	802.11 n-HT20	Right Cheek	5180	0.305	2.91	16.00	15.96	0.308	/
		Right Tilt	5180	0.430	-2.96	16.00	15.96	0.434	/
		Left Cheek	5180	0.601	-0.09	16.00	15.96	0.607	/
		Left Tilt	5180	0.707	-3.01	16.00	15.96	0.714	27
5.3G WLAN	802.11 n-HT20	Right Cheek	5260	0.321	-0.23	16.00	15.72	0.342	/
		Right Tilt	5260	0.413	-1.10	16.00	15.72	0.441	/
		Left Cheek	5260	0.421	-2.33	16.00	15.72	0.449	/
		Left Tilt	5260	0.578	0.86	16.00	15.72	0.616	29
5.8G WLAN	802.11 n-HT20	Right Cheek	5745	0.369	3.15	14.50	14.38	0.379	/
		Right Tilt	5745	0.569	-3.55	14.50	14.38	0.585	/
		Left Cheek	5745	0.450	-2.33	14.50	14.38	0.463	/
		Left Tilt	5745	0.600	-0.26	14.50	14.38	0.617	31



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 Data-2 Slot	Front Side	836.6	0.228	1.24	32.00	31.84	0.237	/
		Back Side	836.6	0.324	-3.44	32.00	31.84	0.336	2
		Left Side	836.6	0.221	-2.88	32.00	31.84	0.229	/
		Right Side	836.6	0.138	-3.79	32.00	31.84	0.143	/
		Top Side	836.6	0.044	-2.81	32.00	31.84	0.046	/
		Bottom Side	836.6	0.228	-3.16	28.00	27.91	0.233	/
GSM1900	GPRS Data-3 Slot	Front Side	1880	0.328	-1.03	28.00	27.91	0.335	/
		Back Side	1880	0.354	2.17	28.00	27.91	0.361	/
		Left Side	1880	0.251	-3.18	28.00	27.91	0.256	/
		Right Side	1880	0.211	-1.04	28.00	27.91	0.215	/
		Top Side	1880	0.103	-0.44	28.00	27.91	0.105	/
		Bottom Side	1850.2	0.751	-2.61	28.00	27.82	0.783	/
		Bottom Side	1880	0.799	-2.99	28.00	27.91	0.816	4
		Bottom Side	1909.8	0.764	-0.60	28.00	27.88	0.785	/
WCDMA Band II	RMC	Front Side	1880	0.548	-2.23	23.50	23.30	0.574	/
		Back Side	1880	0.524	3.41	23.50	23.30	0.549	/
		Left Side	1880	0.162	0.33	23.50	23.30	0.170	/
		Right Side	1880	0.269	2.33	23.50	23.30	0.282	/
		Top Side	1880	0.102	-1.28	23.50	23.30	0.107	/
		Bottom Side	1852.4	0.897	2.24	23.50	23.23	0.955	/
		Bottom Side	1880	1.028	-1.56	23.50	23.30	1.076	6
		Bottom Side	1907.6	0.749	1.21	23.50	22.98	0.844	/
WCDMA Band IV	RMC	Front Side	1712.4	0.789	0.23	23.00	22.92	0.804	/
		Front Side	1740	0.786	0.03	23.00	22.89	0.806	/
		Front Side	1752.6	0.855	3.52	23.00	22.97	0.861	/
		Back Side	1712.4	0.821	3.58	23.00	22.92	0.836	/
		Back Side	1740	0.810	1.56	23.00	22.89	0.831	/
		Back Side	1752.6	0.843	2.81	23.00	22.97	0.849	/
		Left Side	1752.6	0.225	3.47	23.00	22.97	0.227	/
		Right Side	1752.6	0.285	3.19	23.00	22.97	0.287	/
		Top Side	1752.6	0.141	3.81	23.00	22.97	0.142	/
		Bottom Side	1712.4	0.980	1.91	23.00	22.92	0.998	/
		Bottom Side	1740	0.951	3.05	23.00	22.89	0.975	/
		Bottom Side	1752.6	1.063	-2.36	23.00	22.97	1.070	8
WCDMA Band V	RMC	Front Side	846.6	0.232	1.66	24.00	23.52	0.259	/
		Back Side	846.6	0.342	0.40	24.00	23.52	0.382	10
		Left Side	846.6	0.227	2.54	24.00	23.52	0.254	/
		Right Side	846.6	0.126	0.69	24.00	23.52	0.141	/
		Top Side	846.6	0.099	-3.38	24.00	23.52	0.111	/
		Bottom Side	846.6	0.285	1.62	24.00	23.52	0.318	/



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	QP SK	1	0	Front side	1880	0.625	-1.48	24.10	24.00	0.640	/
			50	0	Front side	1880	0.501	2.18	23.00	22.74	0.532	/
			1	0	Back Side	1880	0.604	-1.46	24.10	24.00	0.618	/
			50	0	Back Side	1880	0.475	1.38	23.00	22.74	0.504	/
			1	0	Left Side	1880	0.254	3.25	24.10	24.00	0.260	/
			50	0	Left Side	1880	0.216	2.23	23.00	22.74	0.229	/
			1	0	Right Side	1880	0.136	-2.20	24.10	24.00	0.139	/
			50	0	Right Side	1880	0.125	0.07	23.00	22.74	0.133	/
			1	0	Top Side	1880	0.107	1.18	24.10	24.00	0.109	/
			50	0	Top Side	1880	0.086	3.38	23.00	22.74	0.091	/
			1	0	Bottom Side	1860	0.896	-3.70	24.10	23.80	0.960	/
			1	0	Bottom Side	1880	1.077	-1.03	24.10	24.00	1.102	12
			1	0	Bottom Side	1900	0.955	-0.99	24.10	23.99	0.979	/
			50	0	Bottom Side	1880	0.731	-2.08	23.00	22.74	0.776	/
LTE Band 4	20M	QP SK	1	0	Front side	1720	0.624	1.70	23.50	22.77	0.738	/
			1	0	Front side	1732.5	0.843	-0.05	23.50	23.16	0.912	/
			1	0	Front side	1745	0.654	-2.84	23.50	22.88	0.754	/
			50	0	Front side	1745	0.673	0.72	22.00	21.91	0.687	/
			1	0	Back Side	1732.5	0.616	-2.62	23.50	23.16	0.666	/
			50	0	Back Side	1745	0.593	-0.69	22.00	21.91	0.605	/
			1	0	Left Side	1732.5	0.420	3.89	23.50	23.16	0.454	/
			50	0	Left Side	1745	0.403	-2.13	22.00	21.91	0.411	/
			1	0	Right Side	1732.5	0.330	-0.25	23.50	23.16	0.357	/
			50	0	Right Side	1745	0.299	-0.71	22.00	21.91	0.305	/
			1	0	Top Side	1732.5	0.082	1.27	23.50	23.16	0.089	/
			50	0	Top Side	1745	0.080	-3.08	22.00	21.91	0.082	/
			1	0	Bottom Side	1720	0.725	-0.41	23.50	22.77	0.858	/
			1	0	Bottom Side	1732.5	1.002	3.98	23.50	23.16	1.084	14
			1	0	Bottom Side	1745	0.821	0.00	23.50	22.88	0.947	/
			50	0	Bottom Side	1745	0.752	-2.74	22.00	21.91	0.768	/
LTE Band 5	10M	QP SK	1	0	Front side	844	0.211	0.09	23.50	23.20	0.226	/
			25	0	Front side	844	0.194	-2.41	22.00	22.25	0.183	/
			1	0	Back Side	844	0.375	-1.49	23.50	23.20	0.402	16
			25	0	Back Side	844	0.328	2.46	22.00	22.25	0.310	/
			1	0	Left Side	844	0.167	-0.25	23.50	23.20	0.179	/
			25	0	Left Side	844	0.141	-1.06	22.00	22.25	0.133	/
			1	0	Right Side	844	0.231	1.57	23.50	23.20	0.248	/
			25	0	Right Side	844	0.208	0.08	22.00	22.25	0.196	/
			1	0	Top Side	844	0.084	1.31	23.50	23.20	0.090	/
			25	0	Top Side	844	0.079	-2.03	22.00	22.25	0.075	/
			1	0	Bottom Side	844	0.271	-0.82	23.50	23.20	0.290	/
			25	0	Bottom Side	844	0.236	3.88	22.00	22.25	0.223	/
LTE Band 7	10M	QP SK	1	0	Front side	2560	0.192	-3.43	24.00	23.57	0.212	/
			50	0	Front side	2560	0.186	-1.71	23.00	22.52	0.208	/
			1	0	Back Side	2560	0.576	2.75	24.00	23.57	0.636	18
			50	0	Back Side	2560	0.501	-1.77	23.00	22.52	0.560	/
			1	0	Left Side	2560	0.162	0.50	24.00	23.57	0.179	/



			50	0	Left Side	2560	0.157	0.52	23.00	22.52	0.175	/
			1	0	Right Side	2560	0.127	-1.52	24.00	23.57	0.140	/
			50	0	Right Side	2560	0.118	-3.44	23.00	22.52	0.132	/
			1	0	Top Side	2560	0.063	-1.39	24.00	23.57	0.070	/
			50	0	Top Side	2560	0.057	0.94	23.00	22.52	0.064	/
			1	0	Bottom Side	2560	0.576	-3.58	24.00	23.57	0.636	/
			50	0	Bottom Side	2560	0.512	-3.62	23.00	22.52	0.572	/
LTE Band 40	20M	QP SK	1	0	Front side	2350	0.228	-2.45	23.50	23.10	0.250	/
			50	0	Front side	2350	0.206	3.66	22.50	22.06	0.228	/
			1	0	Back Side	2350	0.338	-1.49	23.50	23.10	0.371	/
			50	0	Back Side	2350	0.313	2.70	22.50	22.06	0.346	/
			1	0	Left Side	2350	0.253	-1.02	23.50	23.10	0.277	/
			50	0	Left Side	2350	0.227	3.14	22.50	22.06	0.251	/
			1	0	Right Side	2350	0.060	-3.88	23.50	23.10	0.066	/
			50	0	Right Side	2350	0.054	-3.89	22.50	22.06	0.060	/
			1	0	Top Side	2350	0.023	2.96	23.50	23.10	0.025	/
			50	0	Top Side	2350	0.020	2.66	22.50	22.06	0.022	/
			1	0	Bottom Side	2350	0.654	-3.98	23.50	23.10	0.717	20
			50	0	Bottom Side	2350	0.562	-0.12	22.50	22.06	0.622	/
LTE Band 41	20M	QP SK	1	0	Front side	2680	0.492	-3.39	25.00	24.61	0.538	/
			50	0	Front side	2506	0.481	-1.16	24.00	23.60	0.527	/
			1	0	Back Side	2680	0.718	-0.93	25.00	24.61	0.785	/
			50	0	Back Side	2506	0.699	3.80	24.00	23.60	0.766	/
			1	0	Left Side	2680	0.269	-1.25	25.00	24.61	0.294	/
			50	0	Left Side	2506	0.263	-1.79	24.00	23.60	0.288	/
			1	0	Right Side	2680	0.216	-3.13	25.00	24.61	0.236	/
			50	0	Right Side	2506	0.208	1.05	24.00	23.60	0.228	/
			1	0	Top Side	2680	0.037	0.02	25.00	24.61	0.040	/
			50	0	Top Side	2506	0.031	-0.17	24.00	23.60	0.034	/
			1	0	Bottom Side	2506	0.853	-2.44	25.00	24.42	0.975	/
			1	0	Bottom Side	2593	0.836	-0.73	25.00	23.97	1.060	/
			1	0	Bottom Side	2680	0.982	-1.30	25.00	24.61	1.074	22
			50	0	Bottom Side	2506	0.721	2.89	24.00	23.60	0.791	/



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	802.11 n-HT40	Front Side	2437	0.169	1.10	23.00	22.94	0.171	/
		Back Side	2437	0.172	3.22	23.00	22.94	0.174	24
		Left Side	2437	0.130	-2.98	23.00	22.94	0.132	/
		Right Side	2437	0.120	0.85	23.00	22.94	0.122	/
		Top Side	2437	0.125	-3.02	23.00	22.94	0.127	/
		Bottom Side	2437	0.098	2.45	23.00	22.94	0.099	/
BT	8DPSK	Front Side	2402	0.025	-2.31	8.00	7.93	0.025	/
		Back Side	2402	0.030	-1.79	8.00	7.93	0.030	26
		Left Side	2402	0.021	-1.43	8.00	7.93	0.021	/
		Right Side	2402	0.015	-0.58	8.00	7.93	0.015	/
		Top Side	2402	0.028	1.69	8.00	7.93	0.028	/
		Bottom Side	2402	0.013	-0.47	8.00	7.93	0.013	/
5.2GHz WLAN	802.11 n-HT20	Front Side	5180	0.072	2.72	16.00	15.96	0.073	/
		Back Side	5180	0.390	1.69	16.00	15.96	0.394	28
		Left Side	5180	0.241	3.48	16.00	15.96	0.243	/
		Right Side	5180	0.220	3.34	16.00	15.96	0.222	/
		Top Side	5180	0.300	3.58	16.00	15.96	0.303	/
		Bottom Side	5180	0.123	-2.56	16.00	15.96	0.124	/
5.3GHz WLAN	802.11 n-HT20	Front Side	5260	0.351	2.62	15.80	15.72	0.358	/
		Back Side	5260	0.463	0.02	15.80	15.72	0.472	30
		Left Side	5260	0.201	3.92	15.80	15.72	0.205	/
		Right Side	5260	0.169	-1.46	15.80	15.72	0.172	/
		Top Side	5260	0.401	3.60	15.80	15.72	0.408	/
		Bottom Side	5260	0.104	0.22	15.80	15.72	0.106	/
5.8GHz WLAN	802.11 n-HT20	Front Side	5745	0.325	-3.26	14.50	14.38	0.334	/
		Back Side	5745	0.402	1.09	14.50	14.38	0.413	32
		Left Side	5745	0.265	2.42	14.50	14.38	0.272	/
		Right Side	5745	0.214	-1.13	14.50	14.38	0.220	/
		Top Side	5745	0.390	1.76	14.50	14.38	0.401	/
		Bottom Side	5745	0.116	-2.34	14.50	14.38	0.119	/

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



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)
2.4G WLAN	802.11 n-HT40	Left Cheek	2422	0.599	-3.36	23.00	21.81	0.788
		Left Cheek	2437	0.867	-3.14	23.00	22.94	0.880
		Left Cheek	2452	0.602	-0.80	23.00	21.70	0.813
GSM1900	GPRS Data-3 Slot	Bottom Side	1880	0.770	1.96	28.00	27.91	0.786
WCDMA Band II	RMC	Bottom Side	1852.4	0.871	3.11	23.50	23.23	0.927
		Bottom Side	1880	0.987	2.86	23.50	23.30	1.033
		Bottom Side	1907.6	0.723	-1.25	23.50	22.98	0.814
WCDMA Band IV	RMC	Front Side	826.4	0.761	3.99	23.00	22.92	0.775
		Front Side	836.4	0.768	-2.90	23.00	22.89	0.787
		Front Side	846.6	0.850	2.63	23.00	22.97	0.855
		Back Side	826.4	0.820	-0.13	23.00	22.92	0.835
		Back Side	836.4	0.792	3.14	23.00	22.89	0.812
		Back Side	846.6	0.810	-1.52	23.00	22.97	0.816
		Bottom Side	826.4	0.955	1.16	23.00	22.92	0.973
		Bottom Side	836.4	0.948	3.36	23.00	22.89	0.973
		Bottom Side	846.6	1.013	3.93	23.00	22.97	1.020

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)
LTE Band 2	20M	QPSK	1	0	Bottom Side	1860	0.895	0.98	24.50	23.80	1.051
			1	0	Bottom Side	1880	1.053	3.84	24.50	24.00	1.182
			1	0	Bottom Side	1900	0.948	-1.75	24.50	23.99	1.066
LTE Band 4	20M	QPSK	1	0	Front side	1732.5	0.817	2.83	24.00	23.16	0.992
			1	0	Bottom Side	1720	0.697	2.06	24.00	22.77	0.926
			1	0	Bottom Side	1732.5	0.973	3.11	24.00	23.16	1.181
			1	0	Bottom Side	1745	0.794	0.81	24.00	22.88	1.028
LTE Band 41	20M	QPSK	1	0	Bottom Side	2506	0.821	-2.24	25.00	24.42	0.938
			1	0	Bottom Side	2593	0.803	0.07	25.00	23.97	1.018
			1	0	Bottom Side	2680	0.940	3.62	25.00	24.61	1.028



Repeated SAR measurement

Band	Mode	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio
2.4G WLAN	802.11 n-HT40	Left Cheek	2422	0.614	0.596	1.031
		Left Cheek	2437	0.899	0.860	1.045
		Left Cheek	2452	0.603	0.595	1.013
GSM1900	GPRS Data-3 Slot	Bottom Side	1880	0.799	0.789	1.013
WCDMA Band II	RMC	Bottom Side	1852.4	0.897	0.868	1.034
		Bottom Side	1880	1.028	0.990	1.038
		Bottom Side	1907.6	0.749	0.713	1.050
WCDMA Band IV	RMC	Front Side	826.4	0.789	0.754	1.046
		Front Side	836.4	0.786	0.749	1.050
		Front Side	846.6	0.855	0.829	1.031
		Back Side	826.4	0.821	0.799	1.028
		Back Side	836.4	0.810	0.785	1.032
		Back Side	846.6	0.843	0.838	1.006
		Bottom Side	826.4	0.980	0.934	1.049
		Bottom Side	836.4	0.951	0.939	1.013
		Bottom Side	846.6	1.063	1.028	1.034

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio
LTE Band 2	20M	QPSK	1	0	Bottom Side	1860	0.896	0.876	1.023
			1	0	Bottom Side	1880	1.077	1.066	1.011
			1	0	Bottom Side	1900	0.955	0.953	1.002
LTE Band 4	20M	QPSK	1	0	Front side	1732.5	0.843	0.815	1.034
			1	0	Bottom Side	1720	0.725	0.702	1.033
			1	0	Bottom Side	1732.5	1.002	0.953	1.052
			1	0	Bottom Side	1745	0.821	0.793	1.035
LTE Band 41	20M	QPSK	1	0	Bottom Side	2506	0.853	0.847	1.007
			1	0	Bottom Side	2593	0.836	0.804	1.040
			1	0	Bottom Side	2680	0.982	0.952	1.032



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).

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.



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.106	1.018
		2.4G WLAN	0.912	
	Body	GSM	0.816	0.990
		2.4G WLAN	0.174	
GSM + Bluetooth	Head	GSM	0.106	0.144
		Bluetooth	0.038	
	Body	GSM	0.816	0.846
		Bluetooth	0.030	
GSM + 5G WLAN	Head	GSM	0.106	0.820
		5G WLAN	0.714	
	Body	GSM	0.816	1.288
		5G WLAN	0.472	
WCDMA + 2.4G WLAN	Head	WCDMA	0.364	1.276
		2.4G WLAN	0.912	
	Body	WCDMA	1.076	1.250
		2.4G WLAN	0.174	
WCDMA + Bluetooth	Head	WCDMA	0.364	0.402
		Bluetooth	0.038	
	Body	WCDMA	1.076	1.106
		Bluetooth	0.030	
WCDMA + 5G WLAN	Head	WCDMA	0.364	1.078
		5G WLAN	0.714	
	Body	WCDMA	1.076	1.548
		5G WLAN	0.472	
LTE + 2.4G WLAN	Head	LTE	0.373	1.285
		2.4G WLAN	0.912	
	Body	LTE	1.102	1.276
		2.4G WLAN	0.174	
LTE + Bluetooth	Head	LTE	0.373	0.411
		Bluetooth	0.038	
	Body	LTE	1.102	1.132
		Bluetooth	0.030	
LTE + 5G WLAN	Head	LTE	0.373	1.087
		5G WLAN	0.714	
	Body	LTE	1.102	1.574
		5G WLAN	0.472	



12. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
835MHz Dipole	MVG	DIP0G835	SN 06/22 DIP0G835-639	2022.02.11	2023.02.10
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2022.02.11	2023.02.10
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2022.02.11	2023.02.10
2450MHz Dipole	MVG	GIP2G450	SN 06/22 DIP2G450-645	2022.02.11	2023.02.10
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2022.02.11	2023.02.10
5000MHz Dipole	MVG	GIP5G000	SN 06/22 DIP5G00-653	2022.02.11	2023.02.10
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2022.02.11	2023.02.10
Dielectric Probe Kit	MVG	OCPG 87	SN 06/22 OCPG87	2022.02.11	2023.02.10
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 (835MHz)

Type: Phone measurement (Complete)

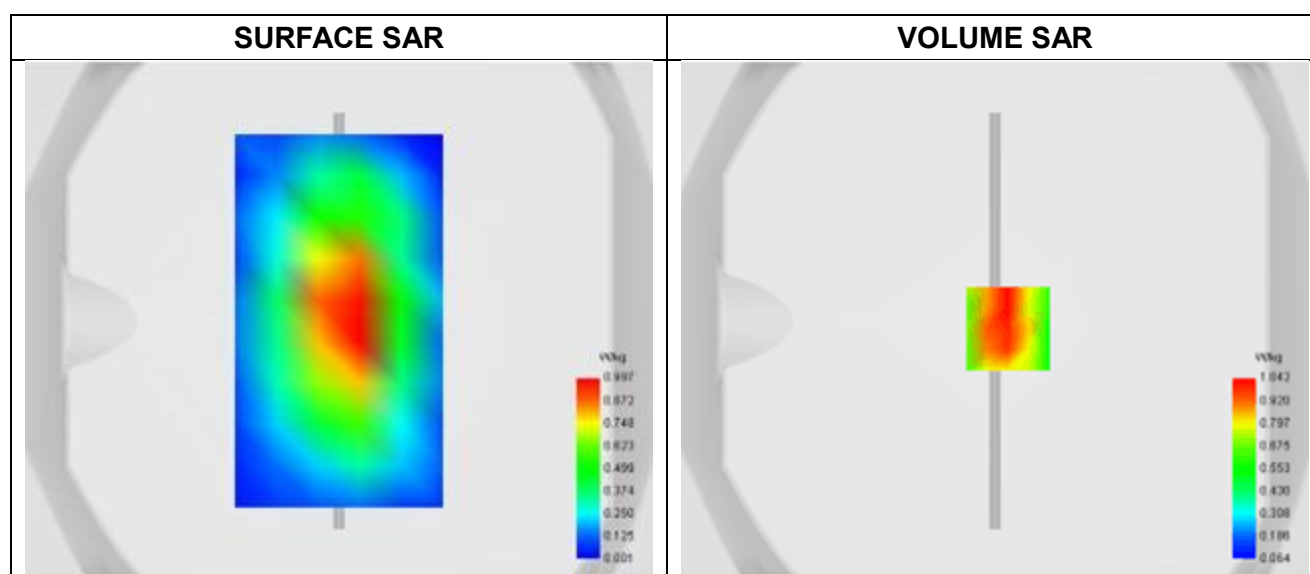
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2023-01-03

Experimental conditions.

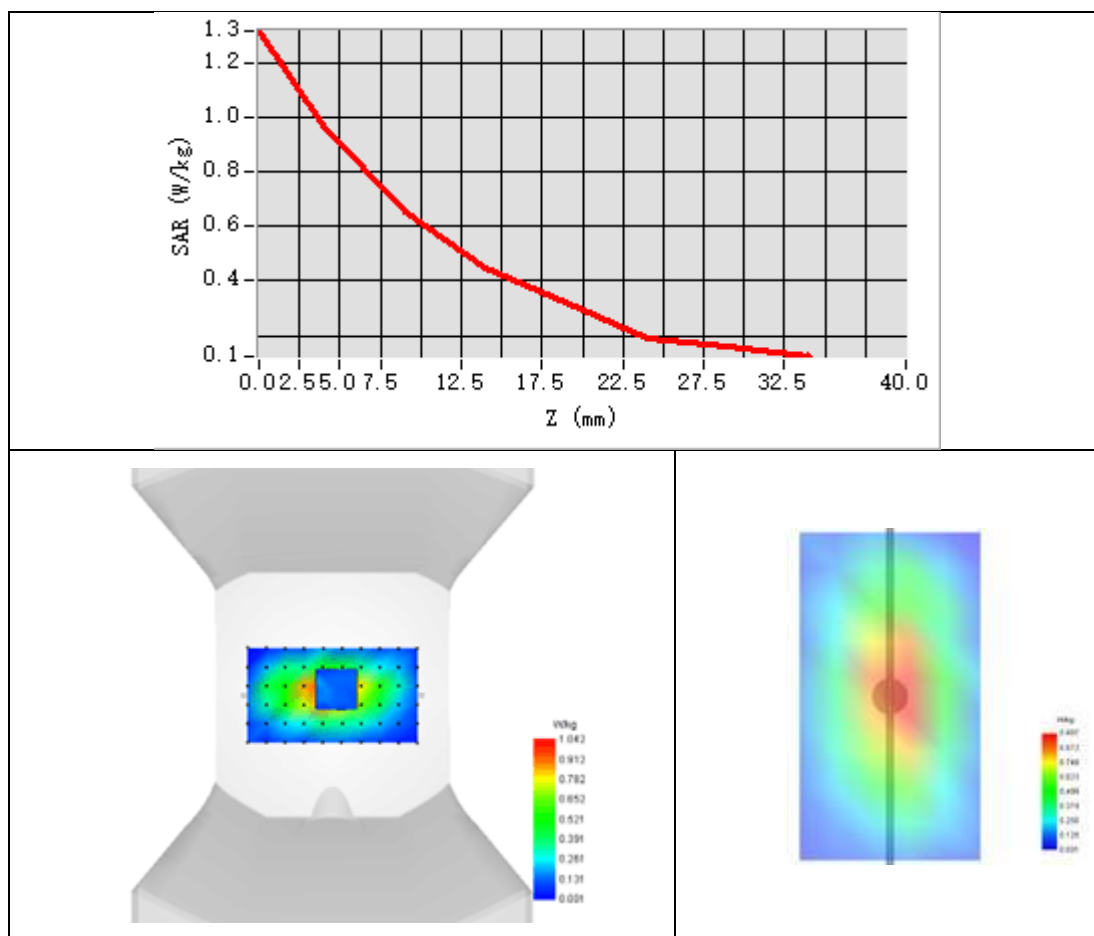
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	41.05
Conductivity (S/m)	0.88
Probe	SN 04/22 EPGO364
ConvF	1.72
Crest factor:	1:1



Maximum location: X=5.00, Y=5.00 ; SAR Peak: 1.45 W/kg

SAR 10g (W/Kg)	0.62676
SAR 1g (W/Kg)	1.007293

Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

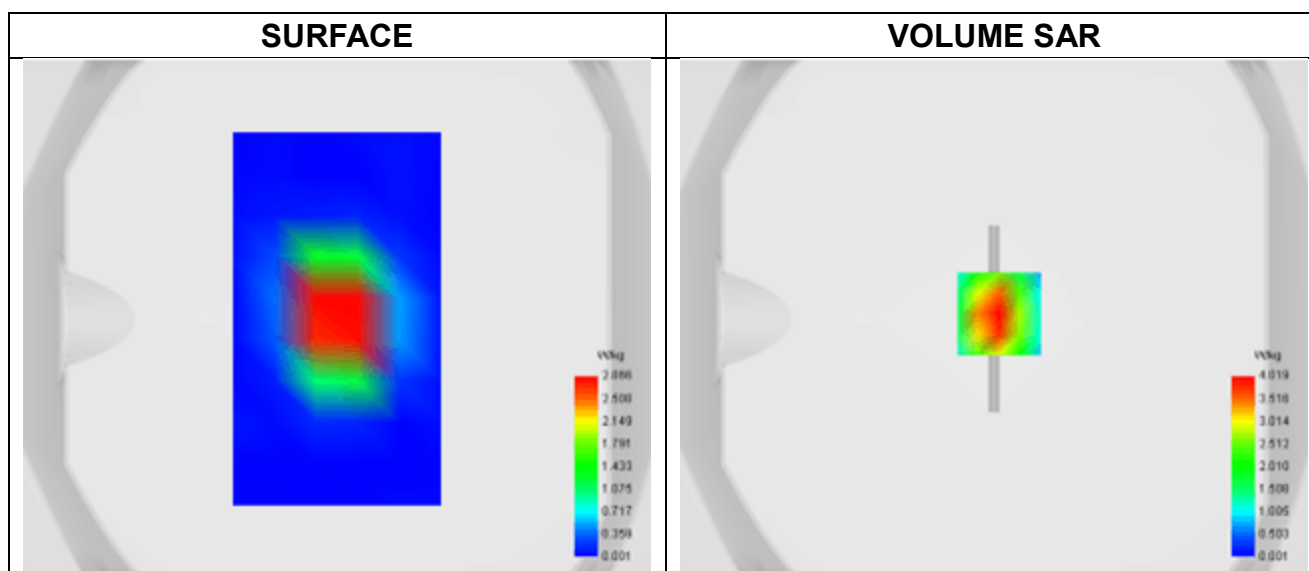
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-03

Experimental conditions.

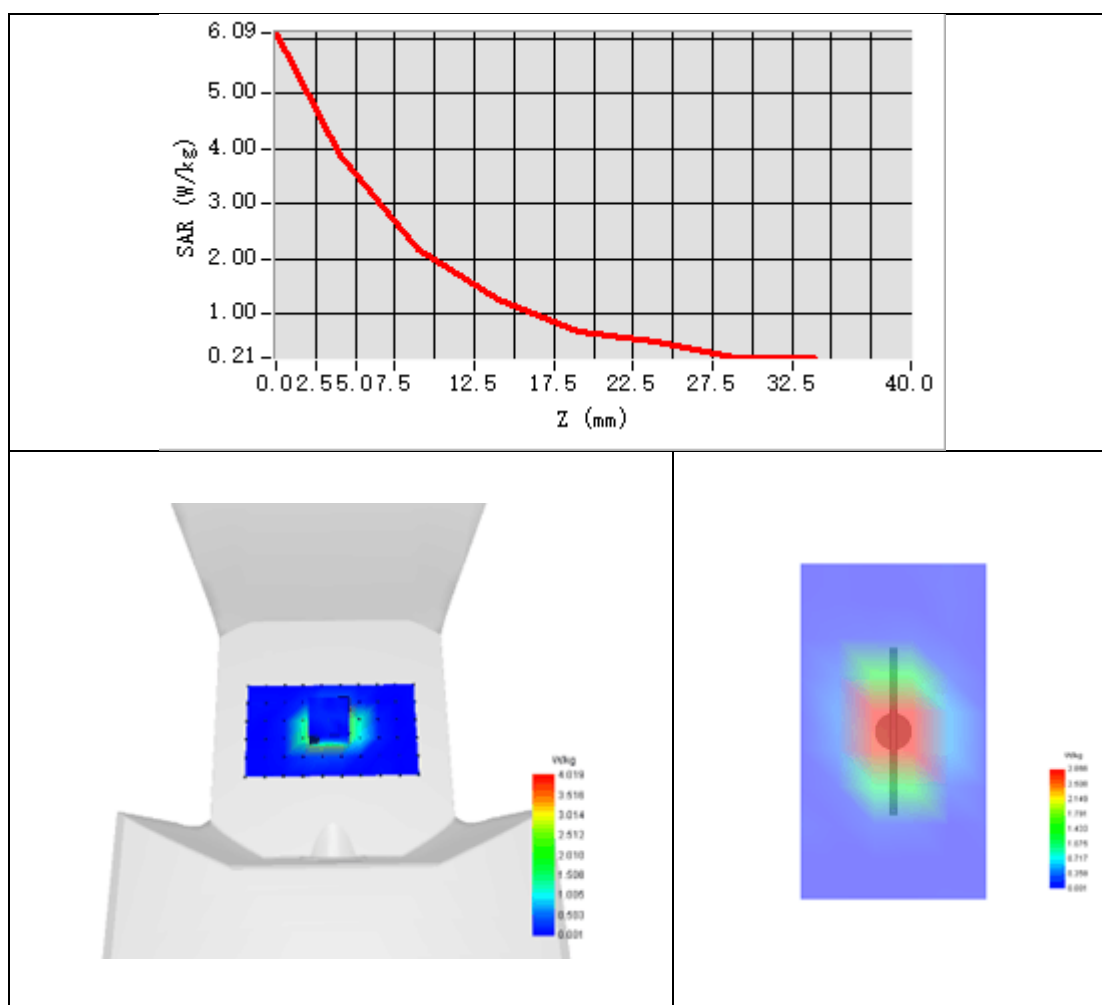
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	40.34
Conductivity (S/m)	1.38
Probe	SN 04/22 EPGO364
ConvF	1.95
Crest factor:	1:1



Maximum location: X=3.00, Y=3.00 ; SAR Peak: 6.84 W/kg

SAR 10g (W/Kg)	2.072841
SAR 1g (W/Kg)	3.914338

Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

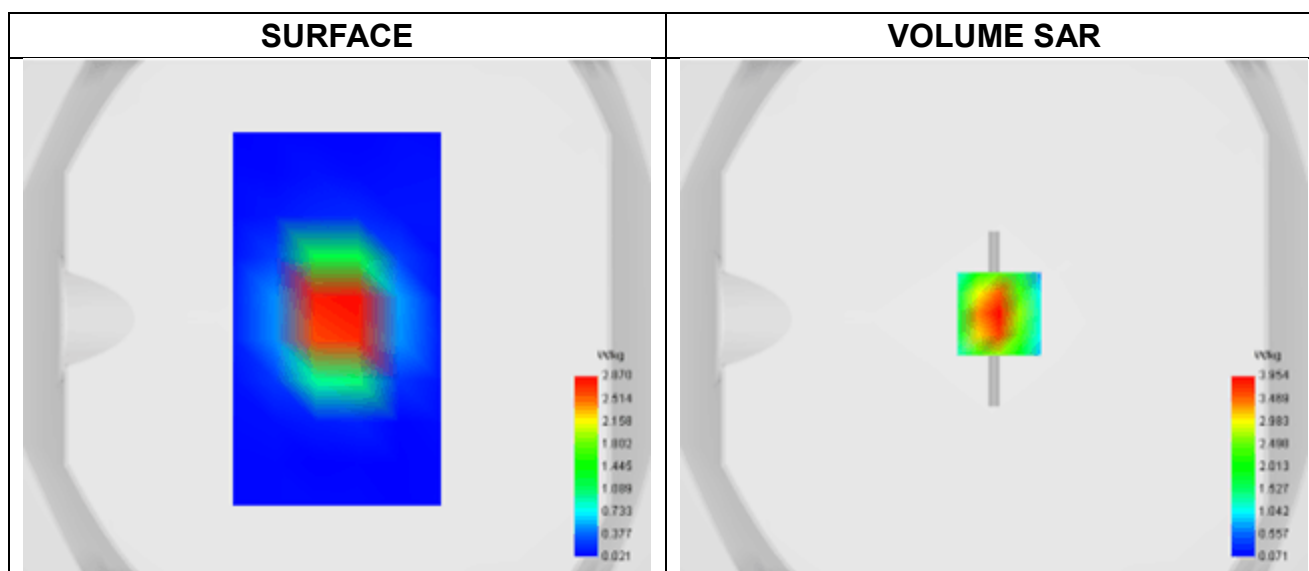
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-04

Experimental conditions.

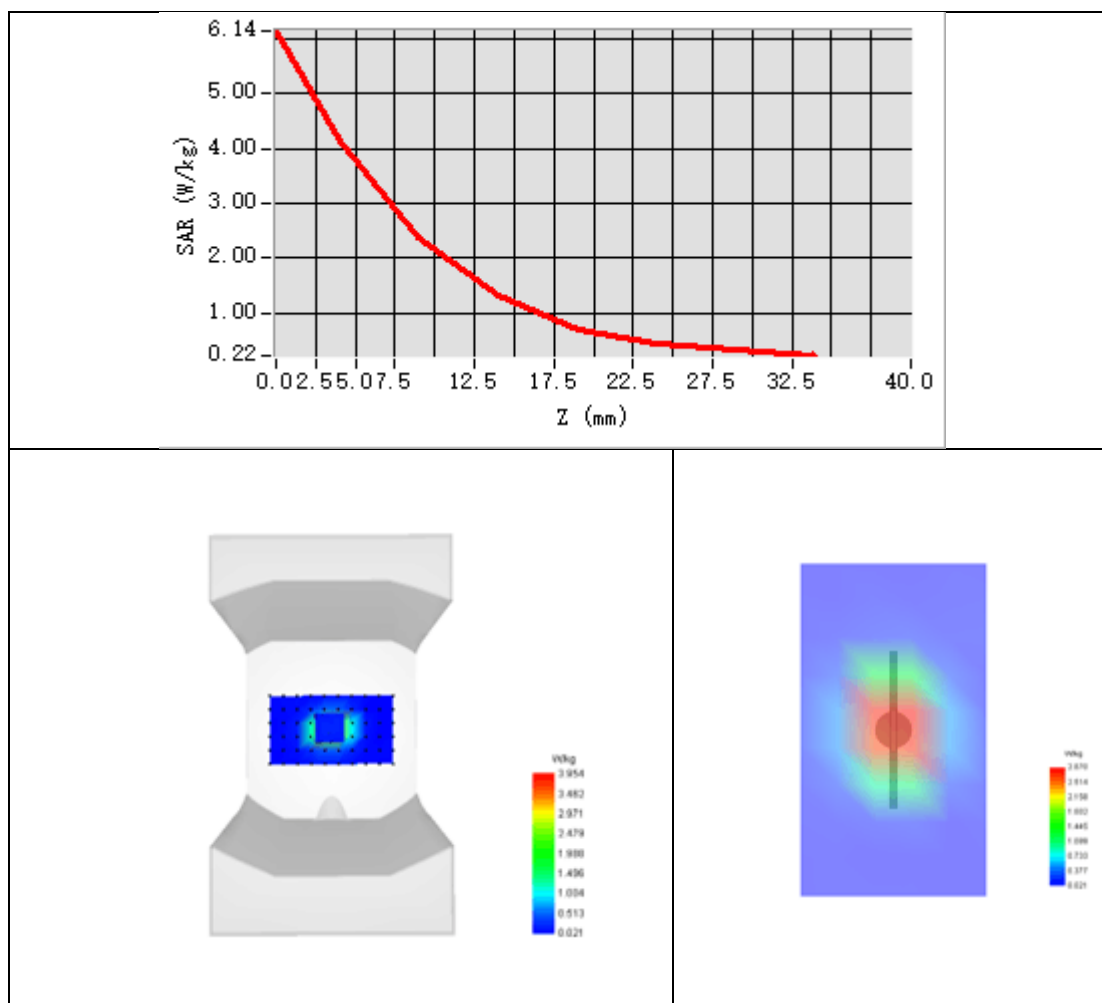
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	40.45
Conductivity (S/m)	1.43
Probe	SN 04/22 EPG0364
ConvF	2.25
Crest factor:	1:1



Maximum location: X=5.00, Y=1.00 ; SAR Peak: 6.89 W/kg

SAR 10g (W/Kg)	2.039066
SAR 1g (W/Kg)	4.062293

Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

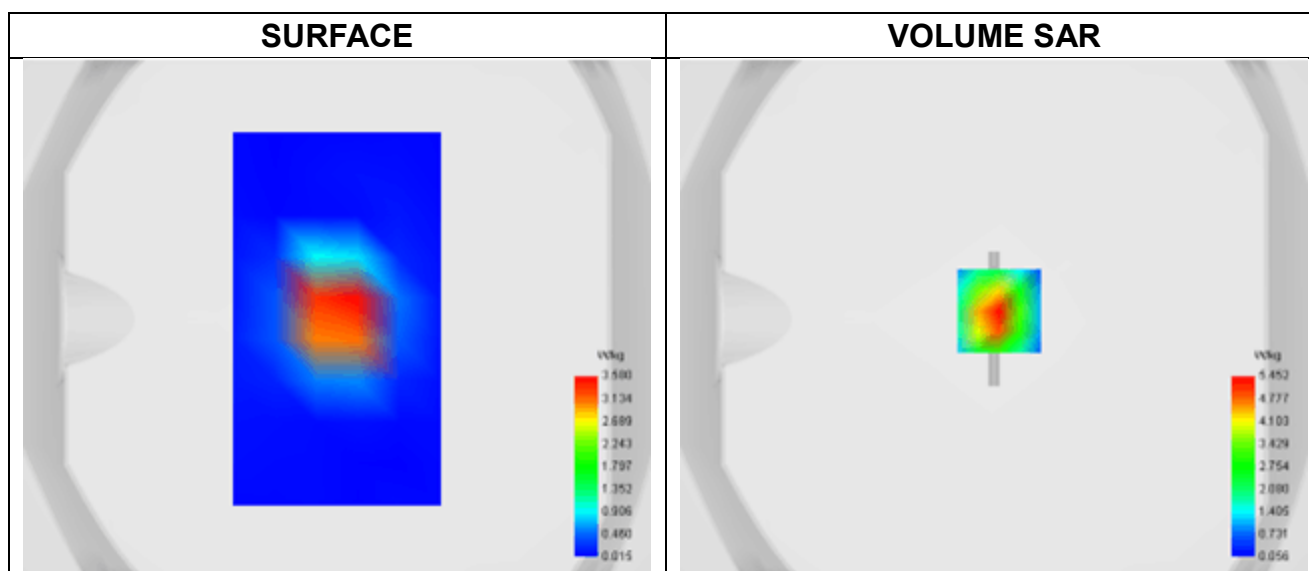
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-04

Experimental conditions.

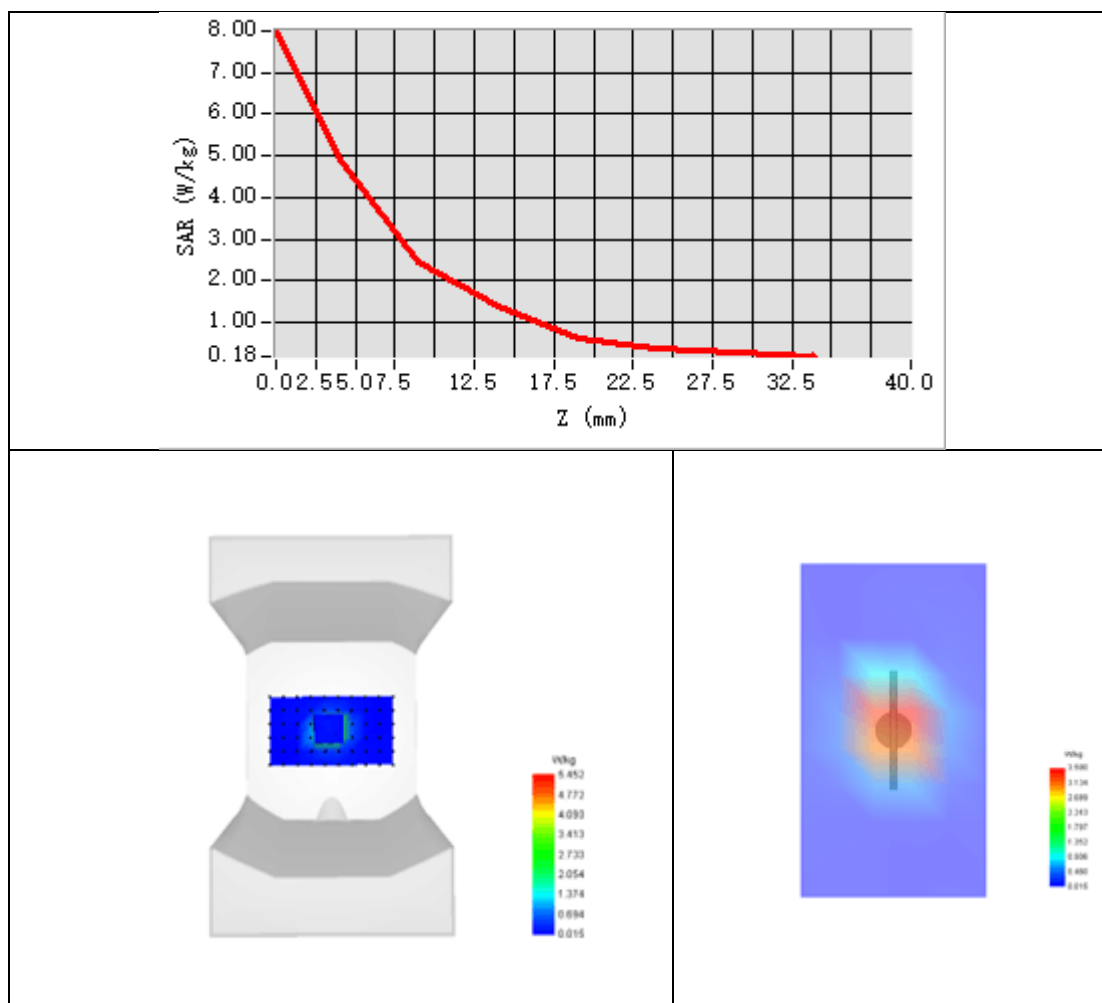
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.82
Conductivity (S/m)	1.81
Probe	SN 04/22 EPGO364
ConvF	2.33
Crest factor:	1:1



Maximum location: X=5.00, Y=3.00 ; SAR Peak: 8.39 W/kg

SAR 10g (W/Kg)	2.33747
SAR 1g (W/Kg)	5.409339

Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

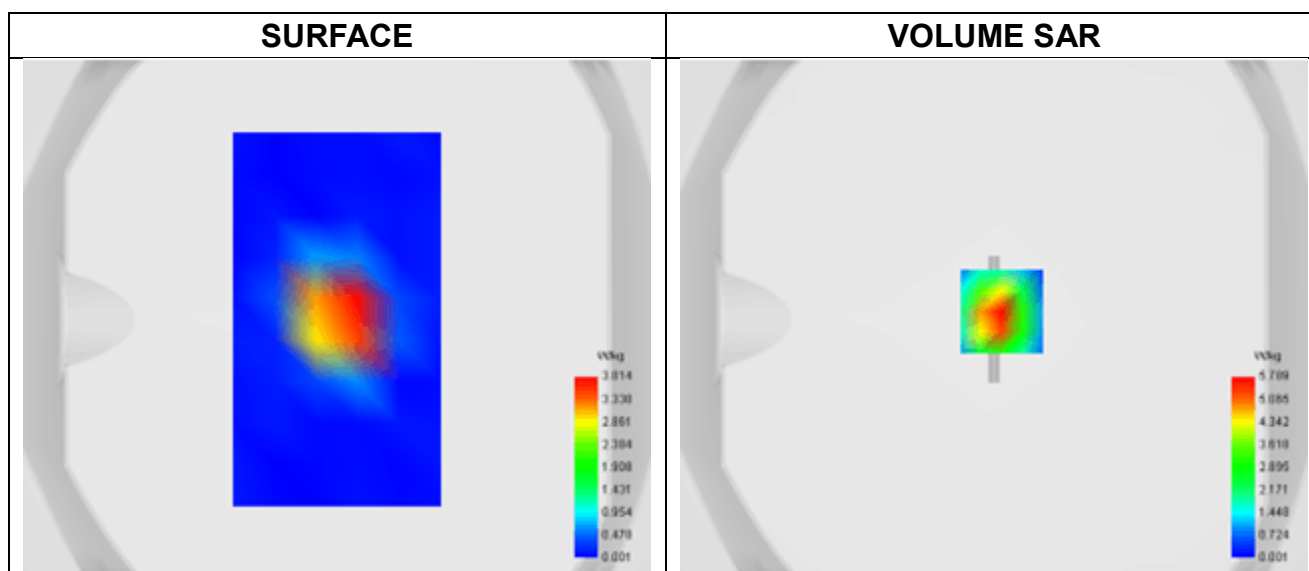
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-05

Experimental conditions.

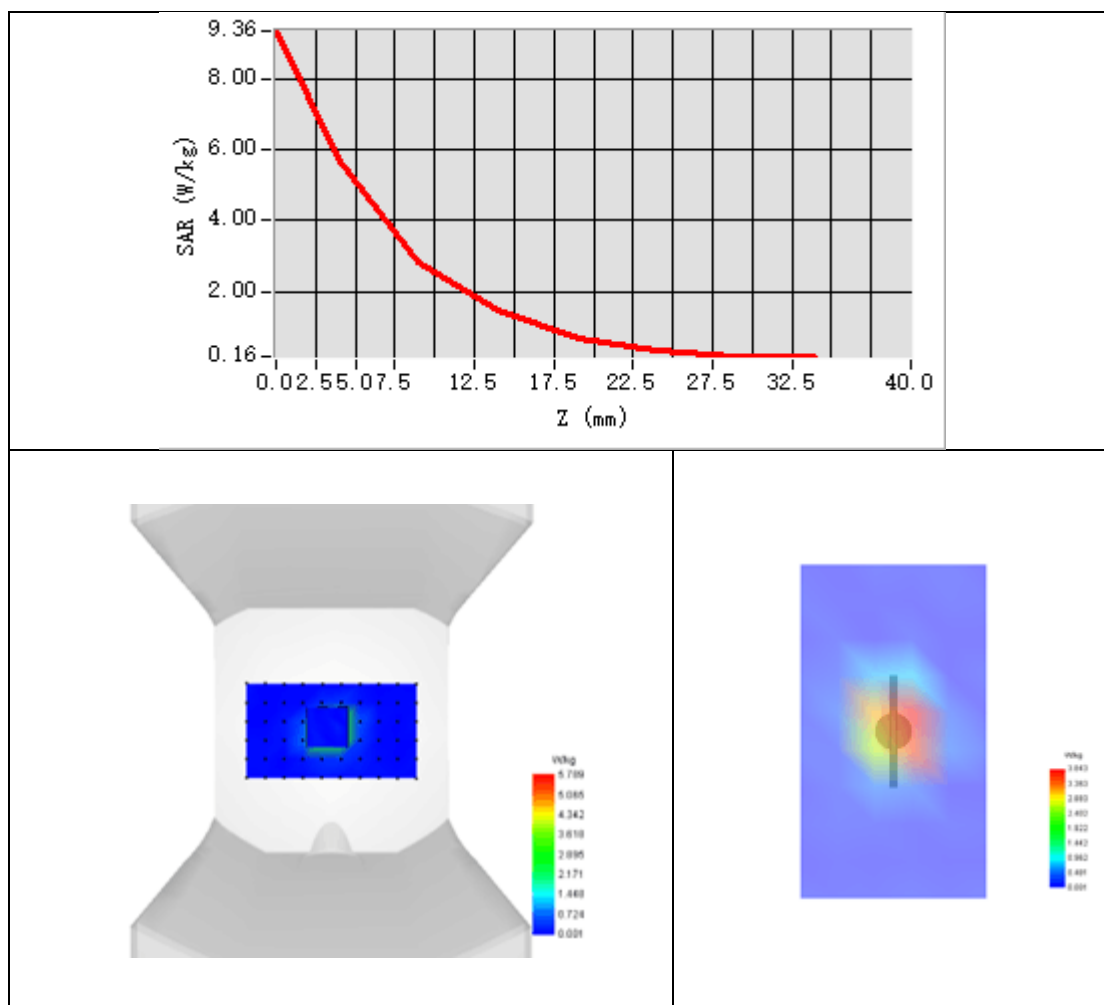
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.36
Conductivity (S/m)	2.01
Probe	SN 04/22 EPGO364
ConvF	2.36
Crest factor:	1:1



Maximum location: X=3.00, Y=3.00 ; SAR Peak: 9.58 W/kg

SAR 10g (W/Kg)	2.391235
SAR 1g (W/Kg)	5.624807

Z Axis Scan





System Performance Check Data (5200MHz)

Type: Phone measurement (Complete)

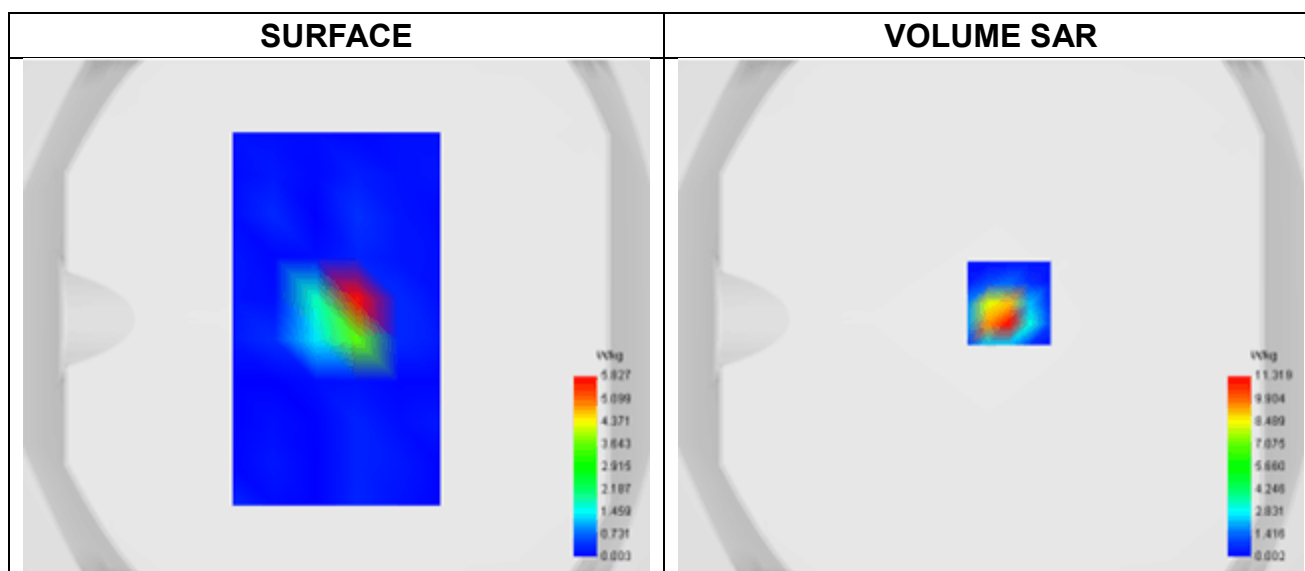
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-05

Experimental conditions.

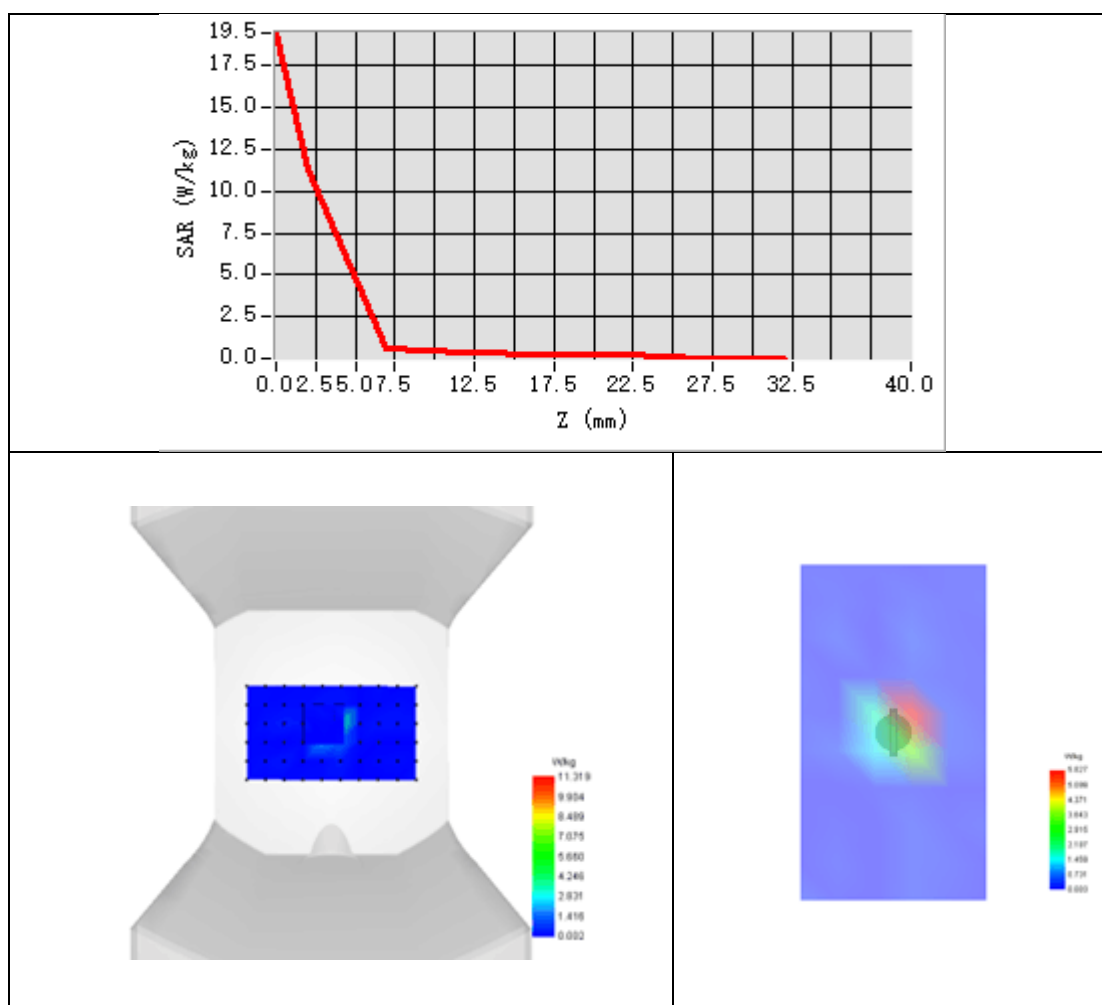
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW
Frequency (MHz)	5200.000
Relative permittivity	36.39
Conductivity (S/m)	4.69
Probe	SN 04/22 EPGO364
ConvF	1.95
Crest factor:	1:1



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

SAR 10g (W/Kg)	2.17408
SAR 1g (W/Kg)	7.798086

Z Axis Scan





System Performance Check Data (5400MHz)

Type: Phone measurement (Complete)

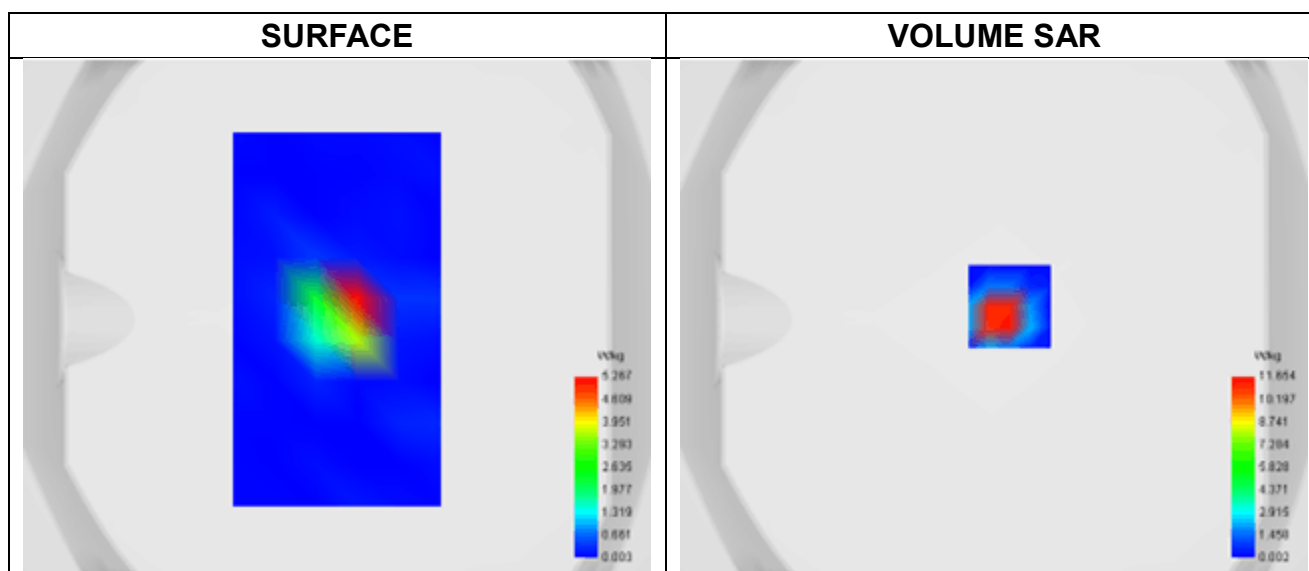
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-06

Experimental conditions.

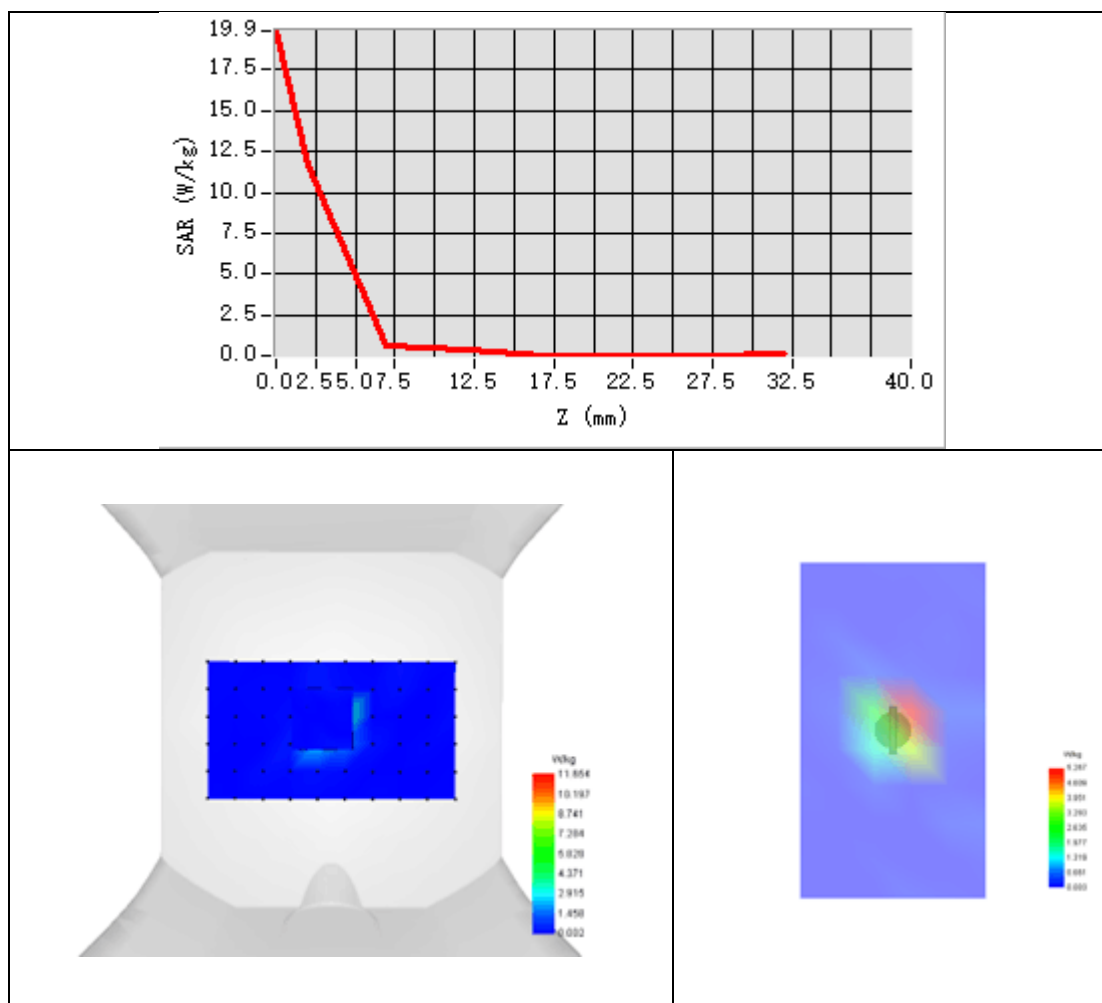
Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Channels	Middle
Signal	CW
Frequency (MHz)	5400.000
Relative permittivity	36.87
Conductivity (S/m)	4.86
Probe	SN 04/22 EPGO364
ConvF	1.85
Crest factor:	1:1



Maximum location: X=6.00, Y=5.00 ; SAR Peak: 25.72 W/kg

SAR 10g (W/Kg)	2.231557
SAR 1g (W/Kg)	8.026148

Z Axis Scan





System Performance Check Data (5800MHz)

Type: Phone measurement (Complete)

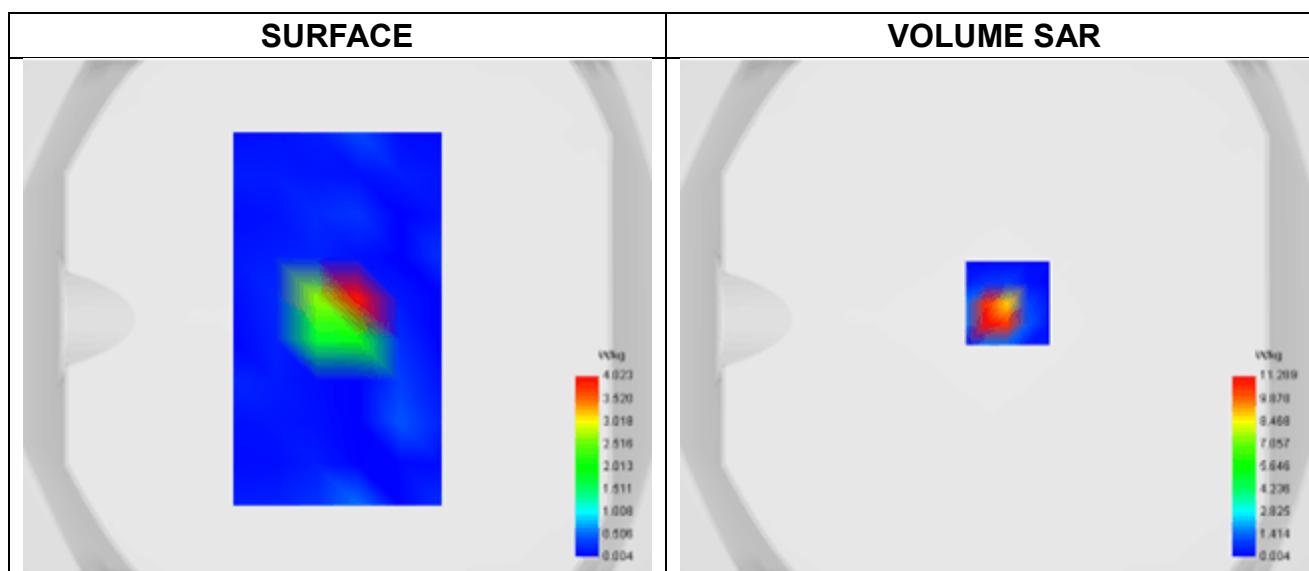
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-01-06

Experimental conditions.

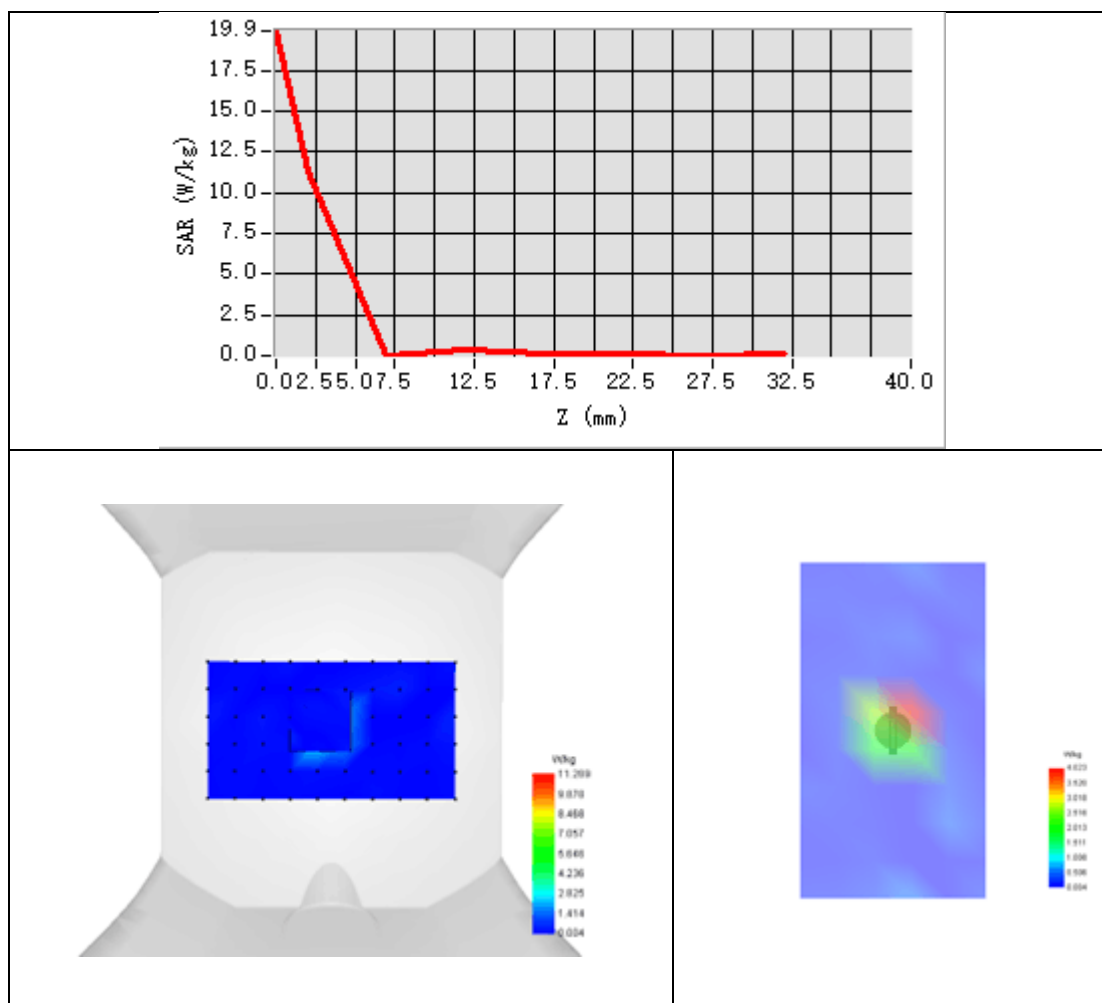
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW
Frequency (MHz)	5800.000
Relative permittivity	35.95
Conductivity (S/m)	5.25
Probe	SN 04/22 EPGO364
ConvF	1.73
Crest factor:	1:1



Maximum location: X=5.00, Y=6.00 ; SAR Peak: 25.18 W/kg

SAR 10g (W/Kg)	2.118794
SAR 1g (W/Kg)	7.483052

Z Axis Scan



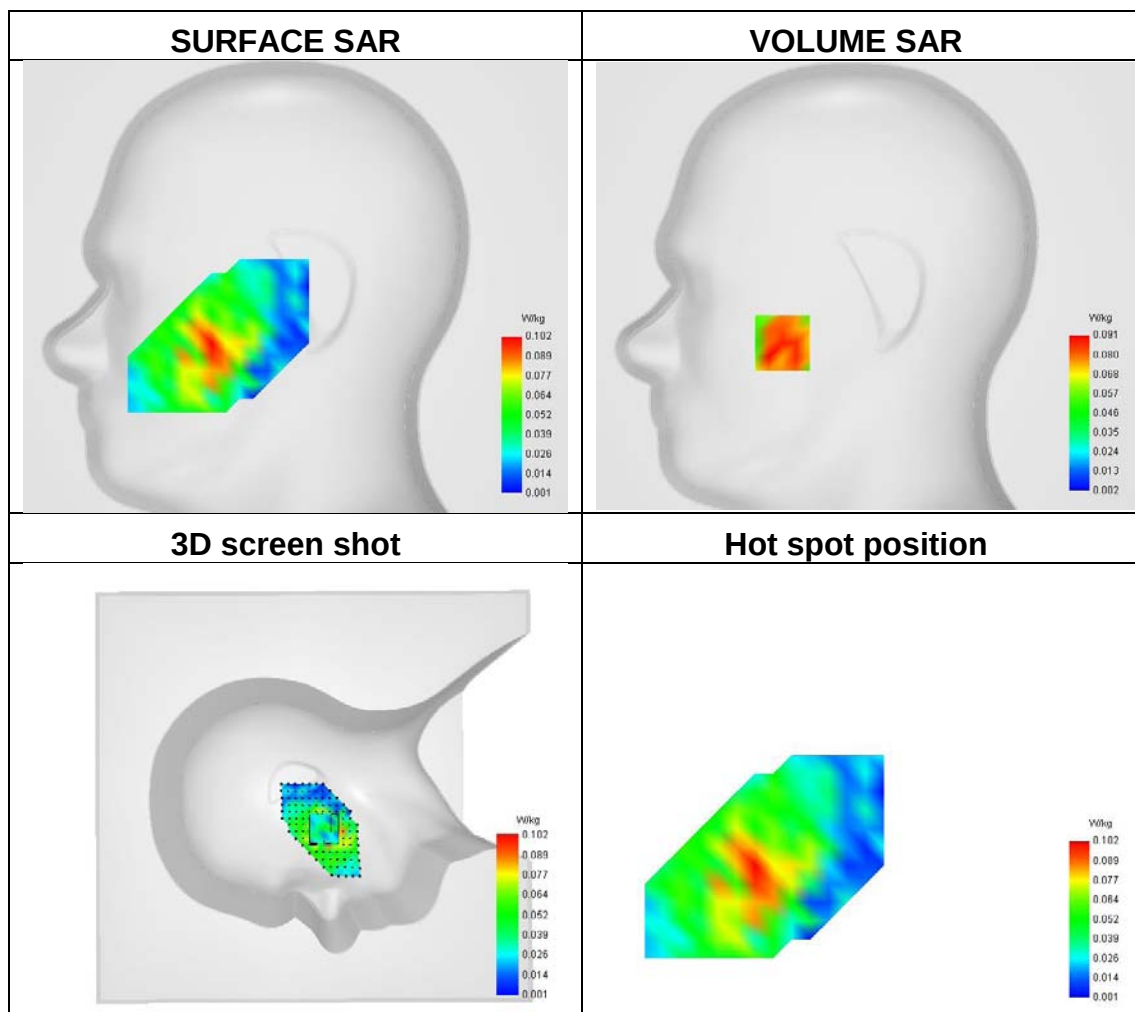


Appendix B. SAR Test Plots

Plot 1:

Test Date	2023-01-03
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM850
Signal	TDMA (GSM)
Frequency	824.200
SAR 10g (W/Kg)	0.068
SAR 1g (W/Kg)	0.095

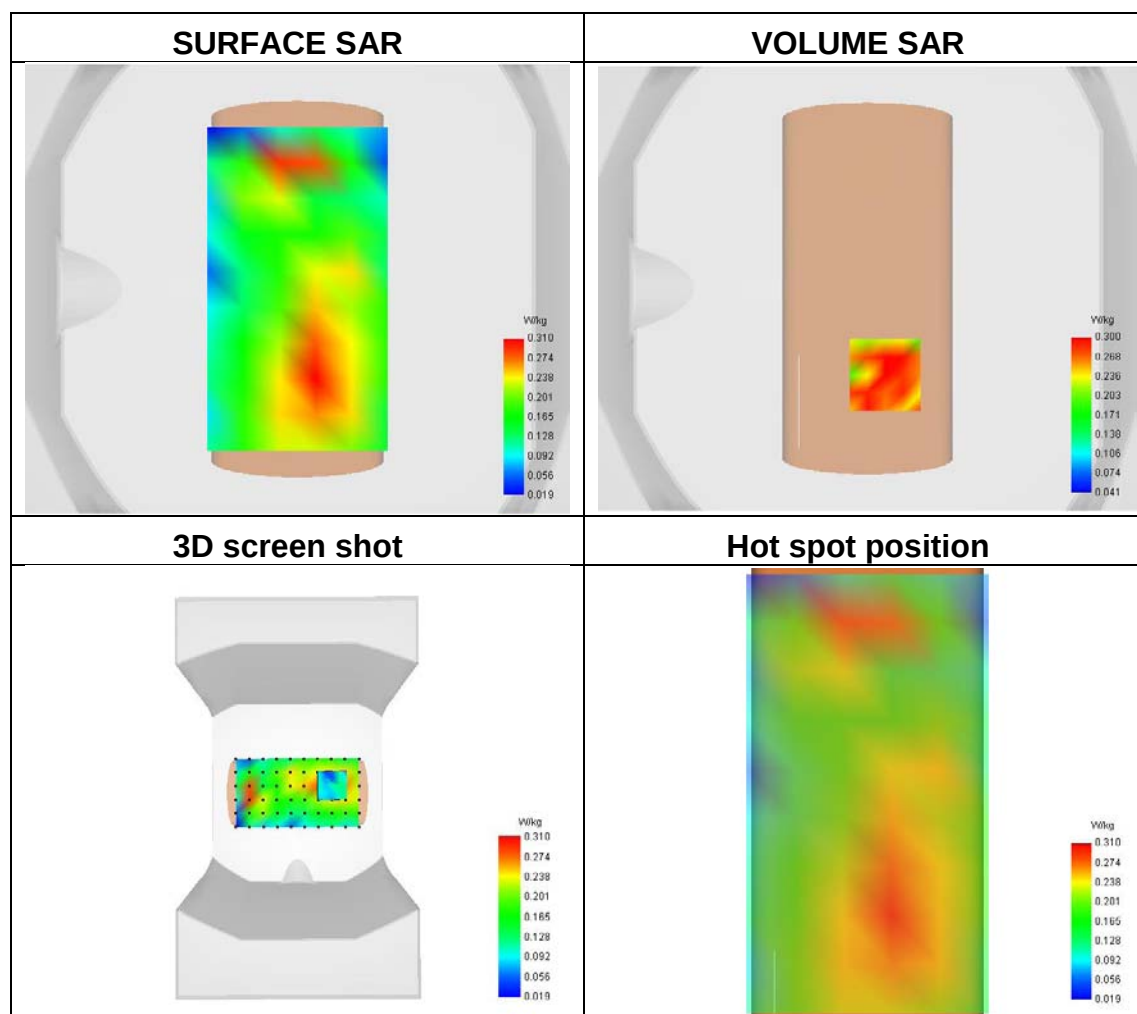
Maximum location: X=-48.00, Y=-33.00 ; SAR Peak: 0.16 W/kg



Plot 2:

Test Date	2023-01-03
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	GPRS850
Signal	TDMA (GPRS)
Frequency	836.600
SAR 10g (W/Kg)	0.221
SAR 1g (W/Kg)	0.324

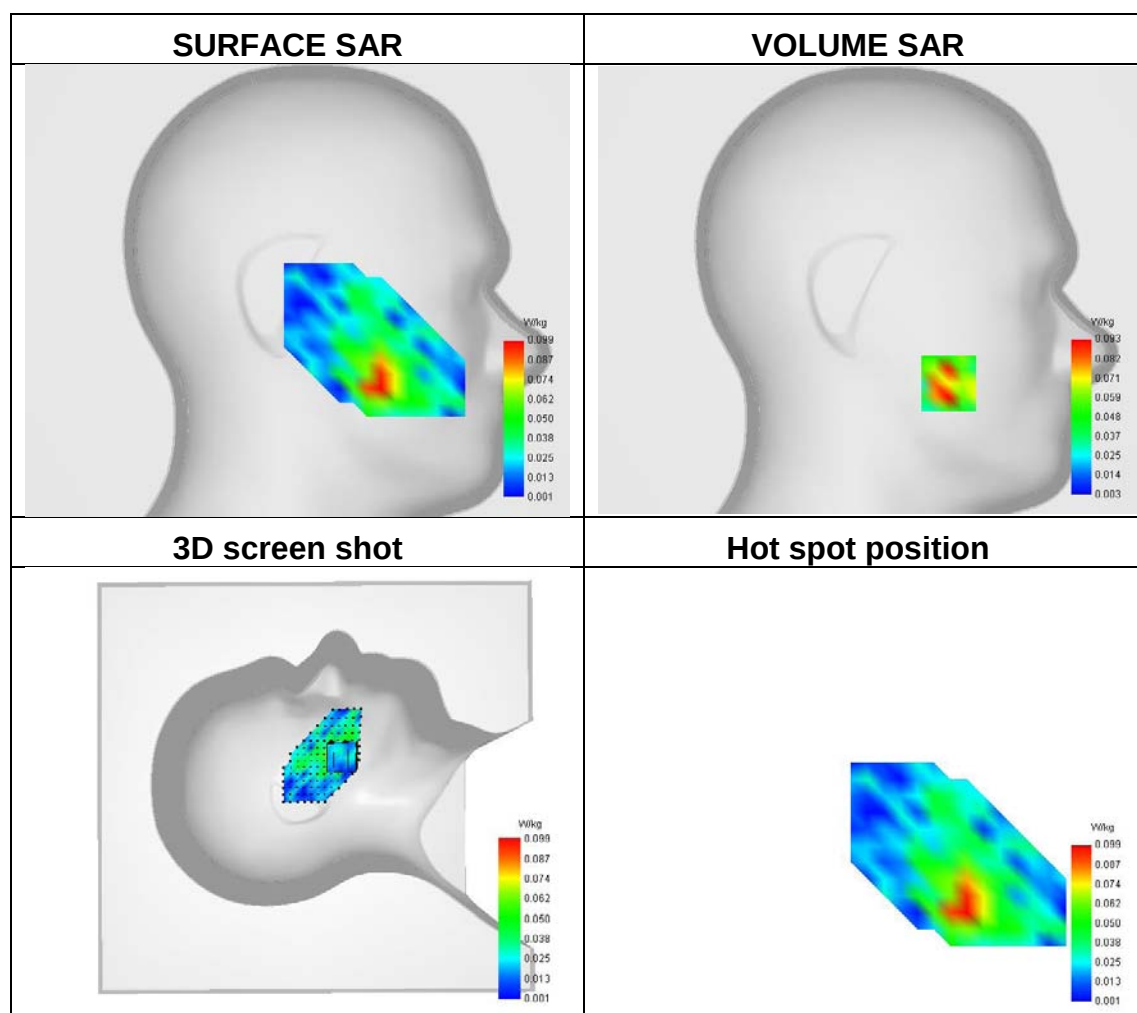
Maximum location: X=8.00, Y=-39.00 ; SAR Peak: 0.56 W/kg



Plot 3:

Test Date	2023-01-04
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Signal	TDMA (GSM)
Frequency	1880.000
SAR 10g (W/Kg)	0.051
SAR 1g (W/Kg)	0.095

Maximum location: X=-47.00, Y=-54.00 ; SAR Peak: 0.18 W/kg

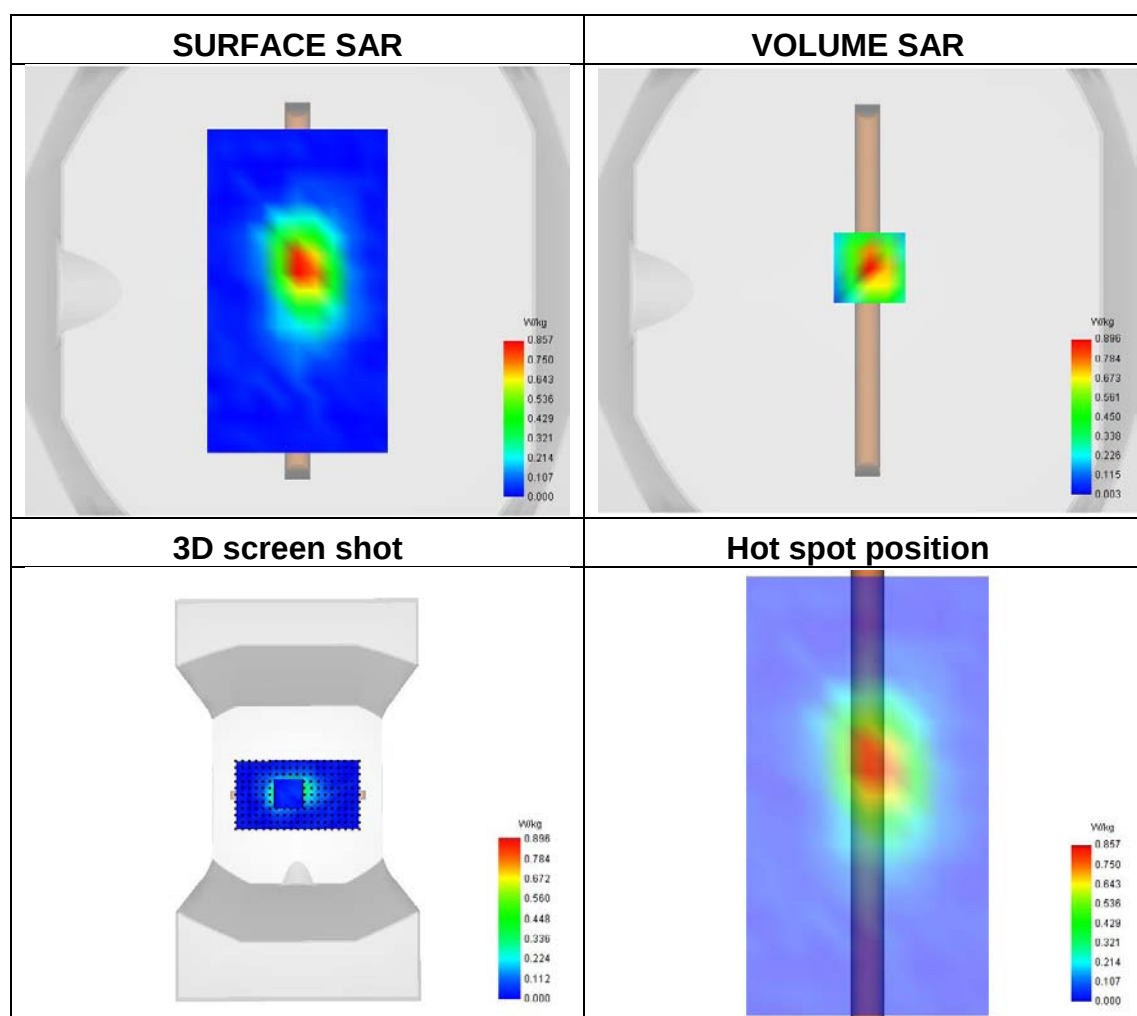




Plot 4:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	GPRS1900
Signal	TDMA (GPRS)
Frequency	1909.800
SAR 10g (W/Kg)	0.411
SAR 1g (W/Kg)	0.799

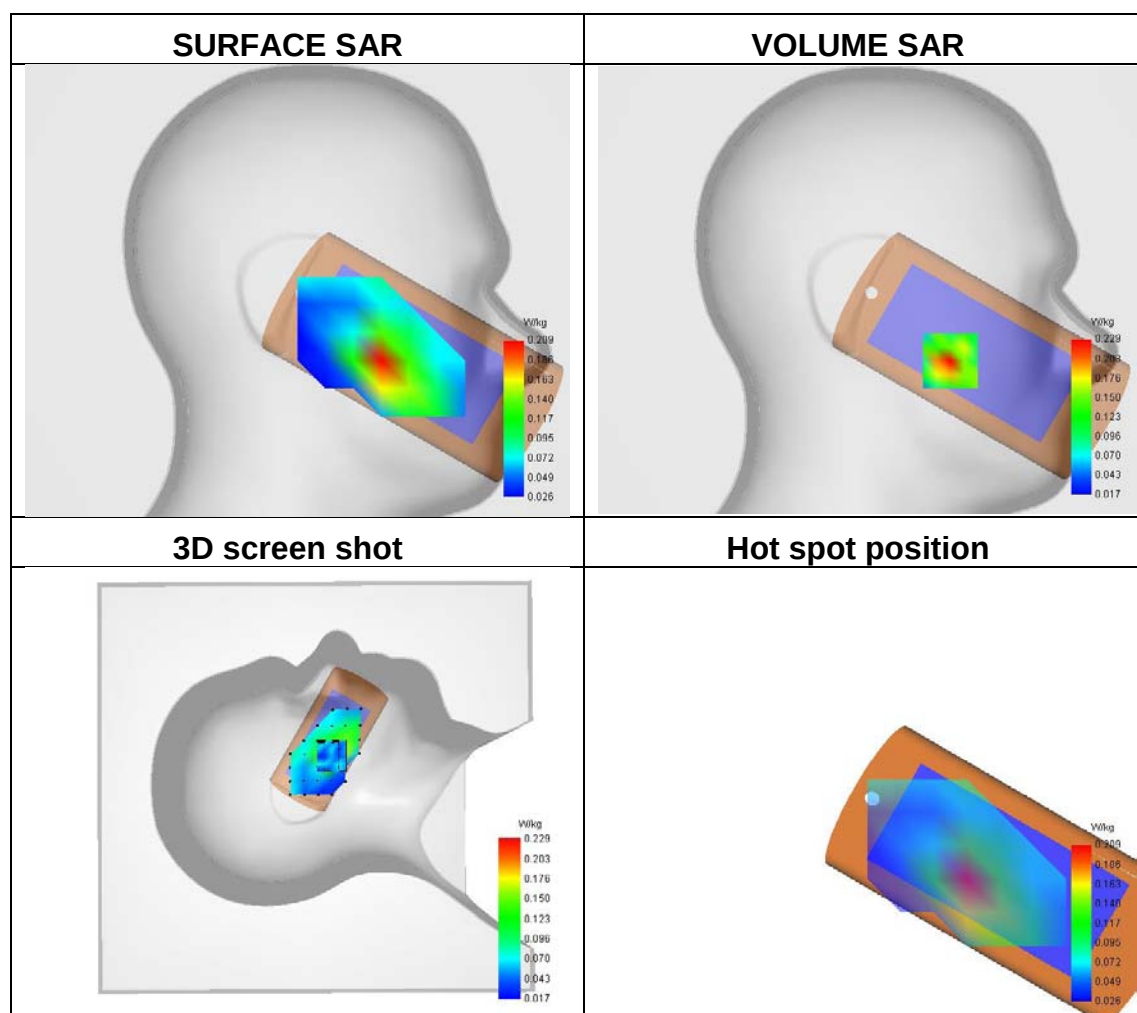
Maximum location: X=1.00, Y=10.00 ; SAR Peak: 1.27 W/kg



Plot 5:

Test Date	2023-01-04
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	1880.000
SAR 10g (W/Kg)	0.124
SAR 1g (W/Kg)	0.220

Maximum location: X=-48.00, Y=-41.00 ; SAR Peak: 0.39 W/kg

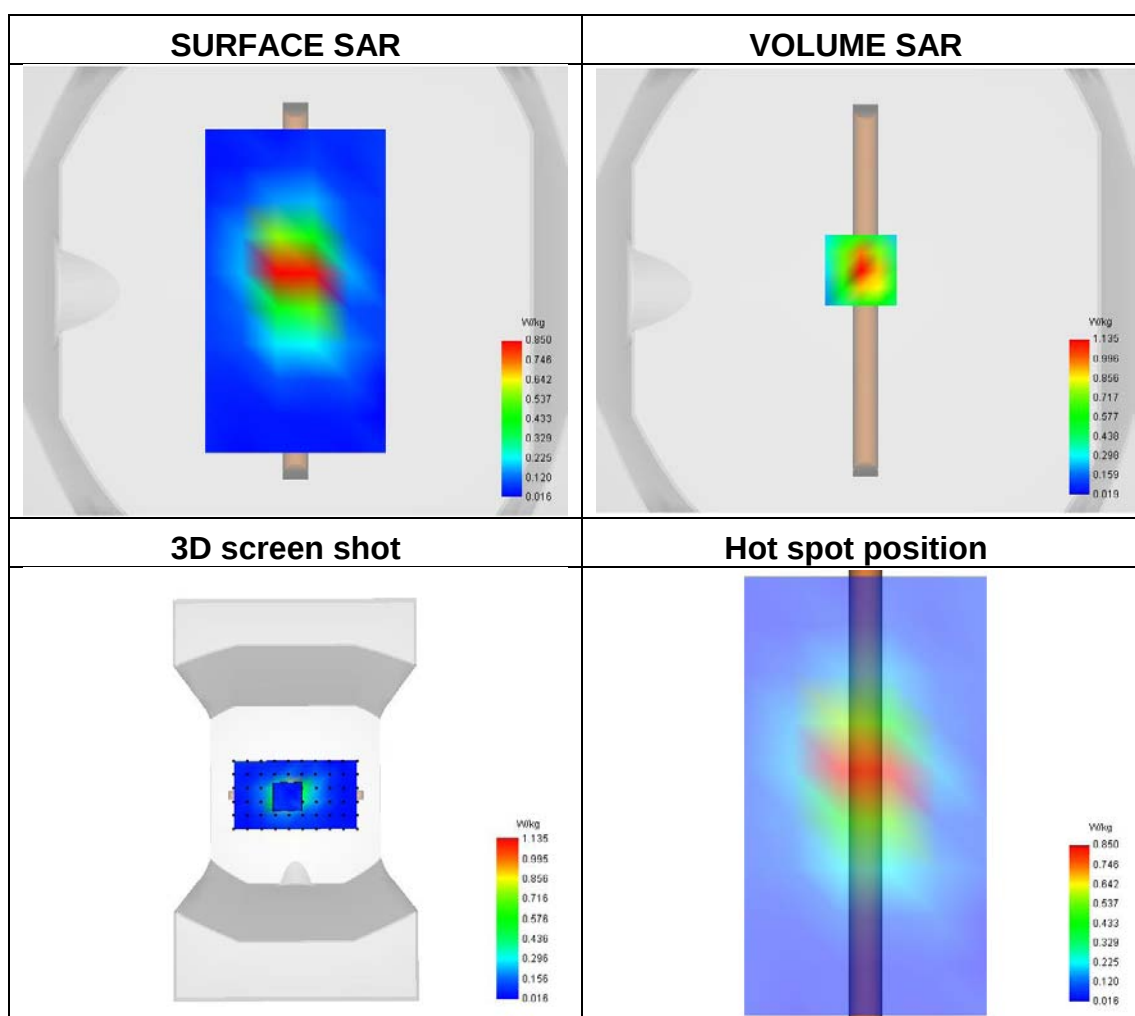




Plot 6:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	Band 2 (1900)
Signal	WCDMA
Frequency	1880.000
SAR 10g (W/Kg)	0.549
SAR 1g (W/Kg)	1.028

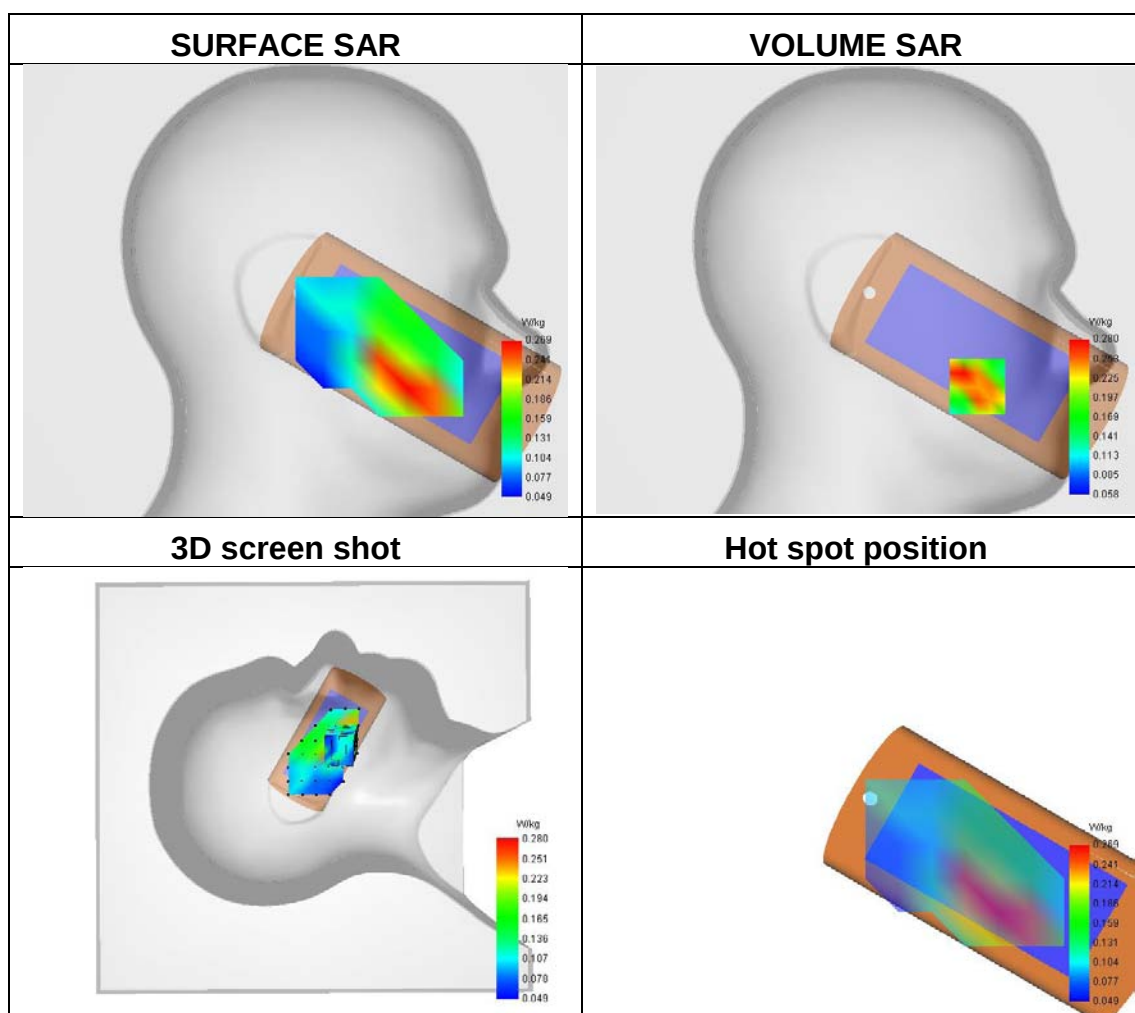
Maximum location: X=-2.00, Y=9.00 ; SAR Peak: 1.65 W/kg



Plot 7:

Test Date	2023-01-03
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	1752.600
SAR 10g (W/Kg)	0.187
SAR 1g (W/Kg)	0.281

Maximum location: X=-65.00, Y=-56.00 ; SAR Peak: 0.47 W/kg

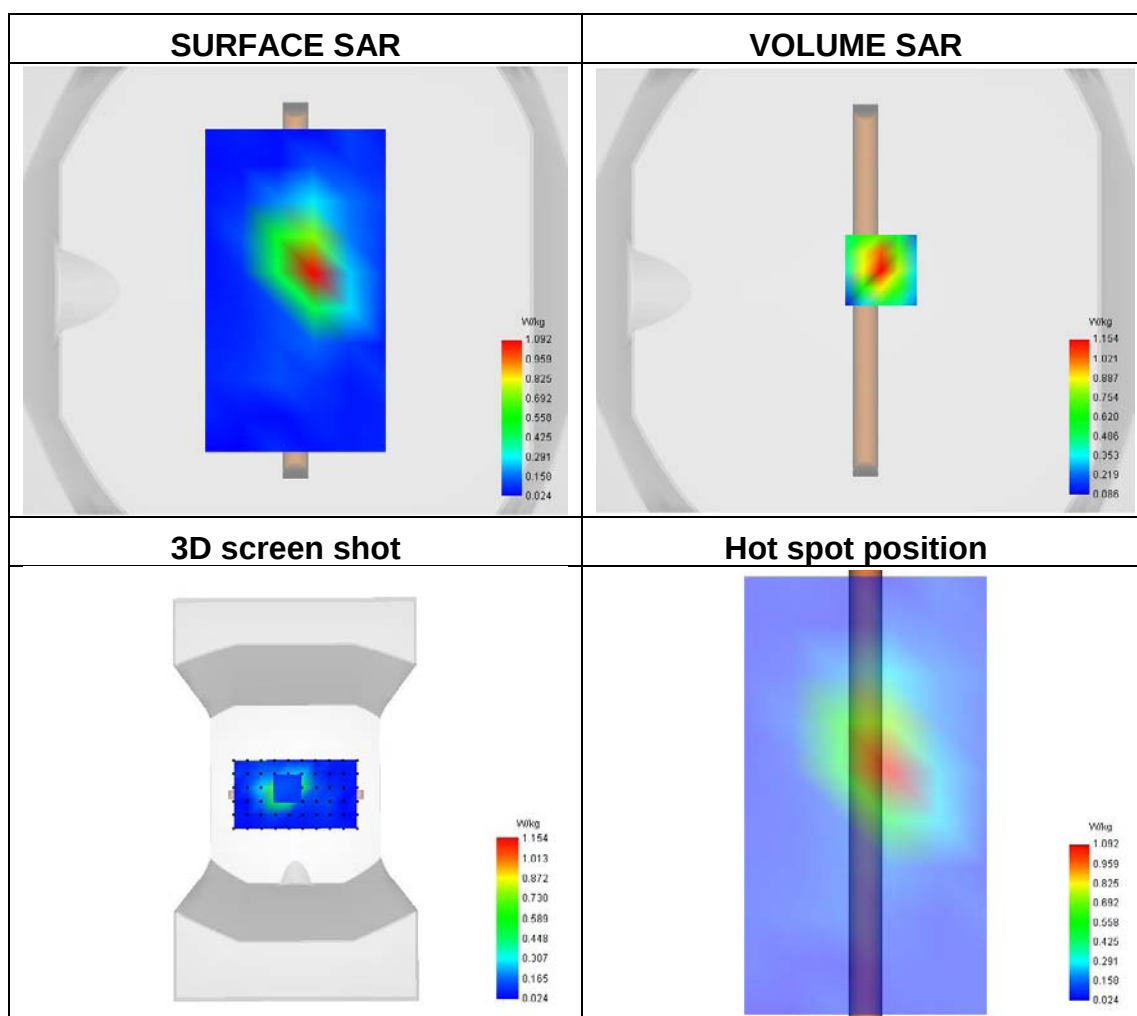




Plot 8:

Test Date	2023-01-03
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	Band 4 (1700)
Signal	WCDMA
Frequency	1752.600
SAR 10g (W/Kg)	0.566
SAR 1g (W/Kg)	1.063

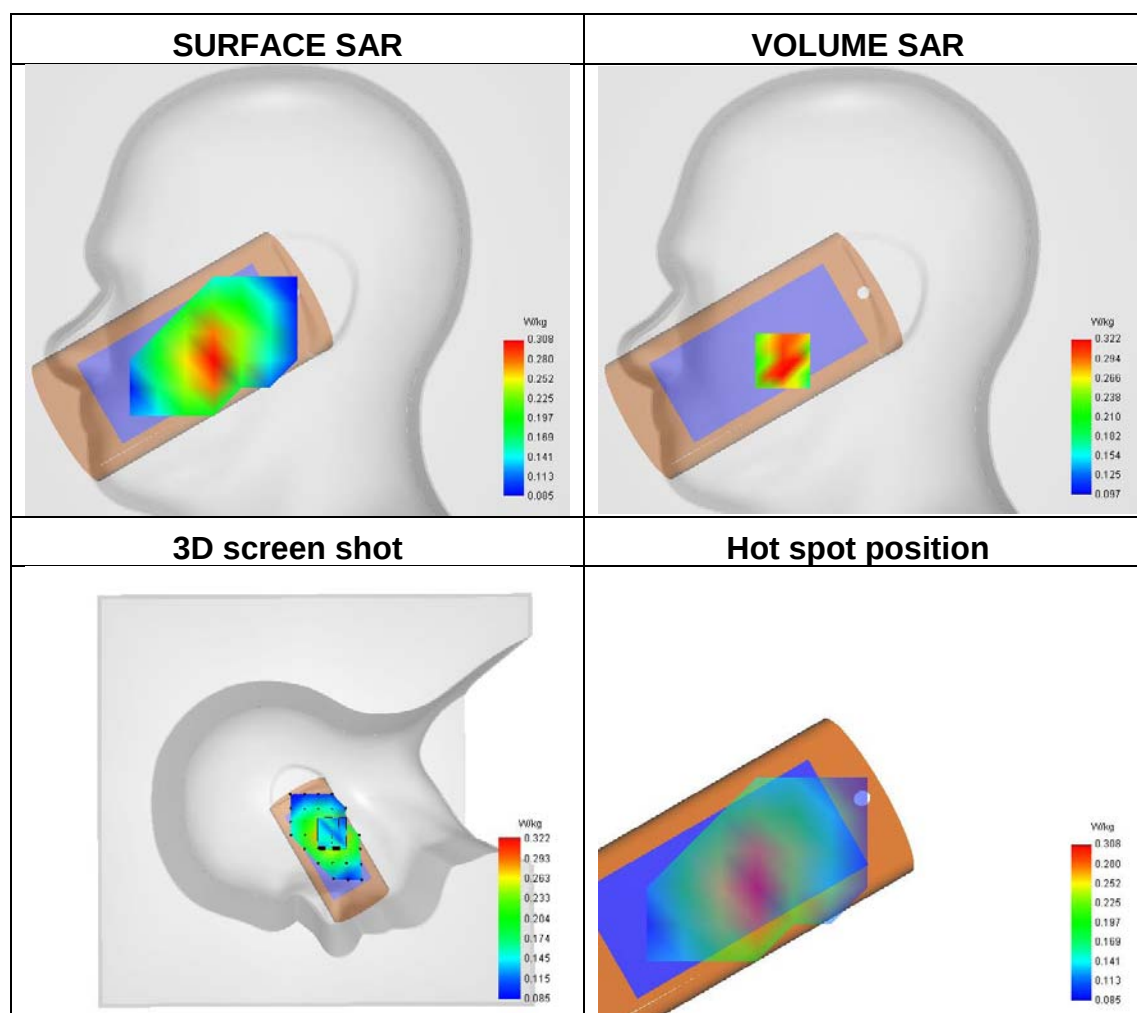
Maximum location: X=7.00, Y=9.00 ; SAR Peak: 1.74 W/kg



Plot 9:

Test Date	2023-01-03
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	846.600
SAR 10g (W/Kg)	0.241
SAR 1g (W/Kg)	0.326

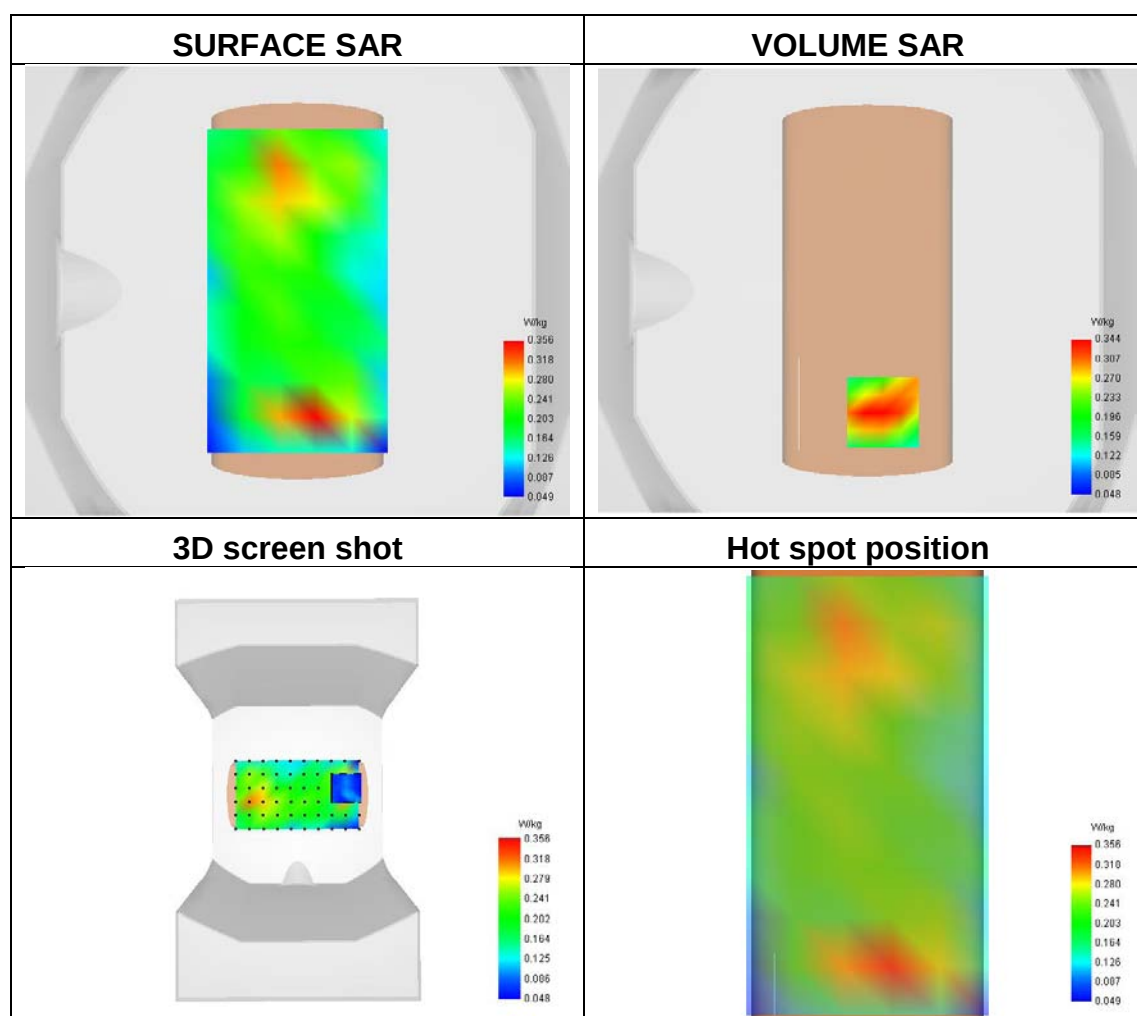
Maximum location: X=-49.00, Y=-41.00 ; SAR Peak: 0.50 W/kg



Plot 10:

Test Date	2023-01-03
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	Band 5 (850)
Signal	WCDMA
Frequency	846.600
SAR 10g (W/Kg)	0.214
SAR 1g (W/Kg)	0.342

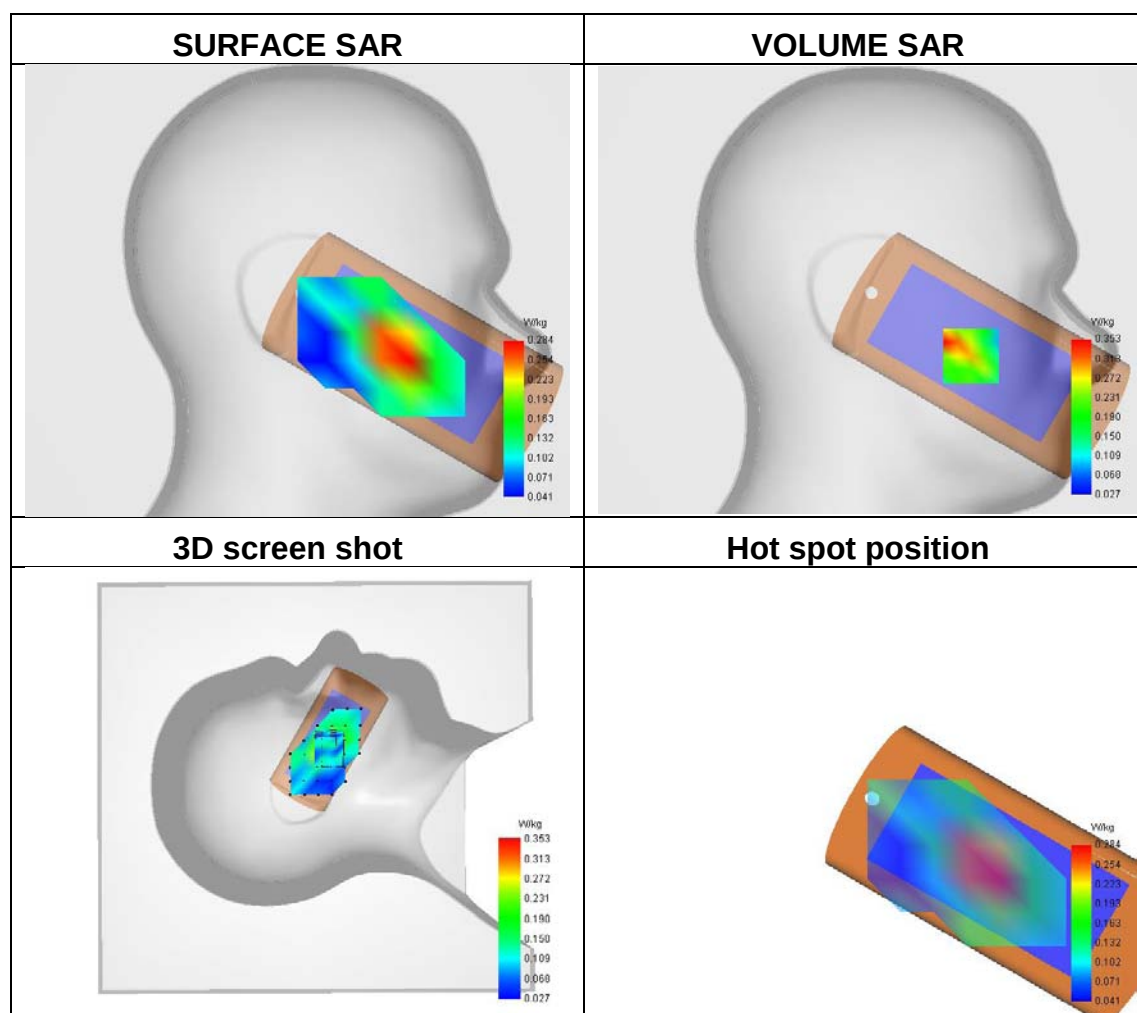
Maximum location: X=7.00, Y=-55.00 ; SAR Peak: 0.55 W/kg



Plot 11:

Test Date	2023-01-04
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 2
Signal	LTE FDD
Frequency	1880.000
SAR 10g (W/Kg)	0.195
SAR 1g (W/Kg)	0.324

Maximum location: X=-60.00, Y=-38.00 ; SAR Peak: 0.65 W/kg

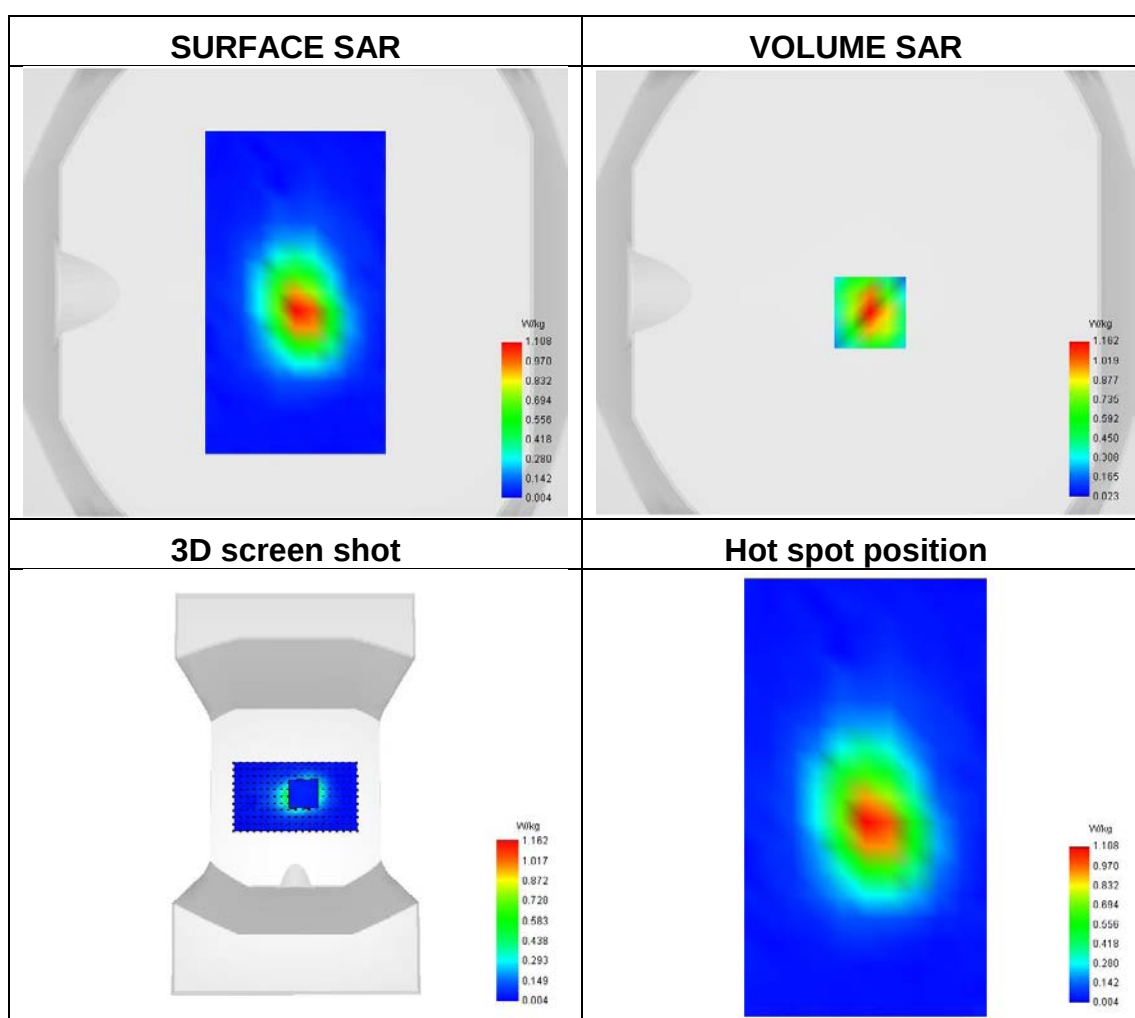




Plot 12:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	LTE band 2
Signal	LTE FDD
Frequency	1880.000
SAR 10g (W/Kg)	0.552
SAR 1g (W/Kg)	1.077

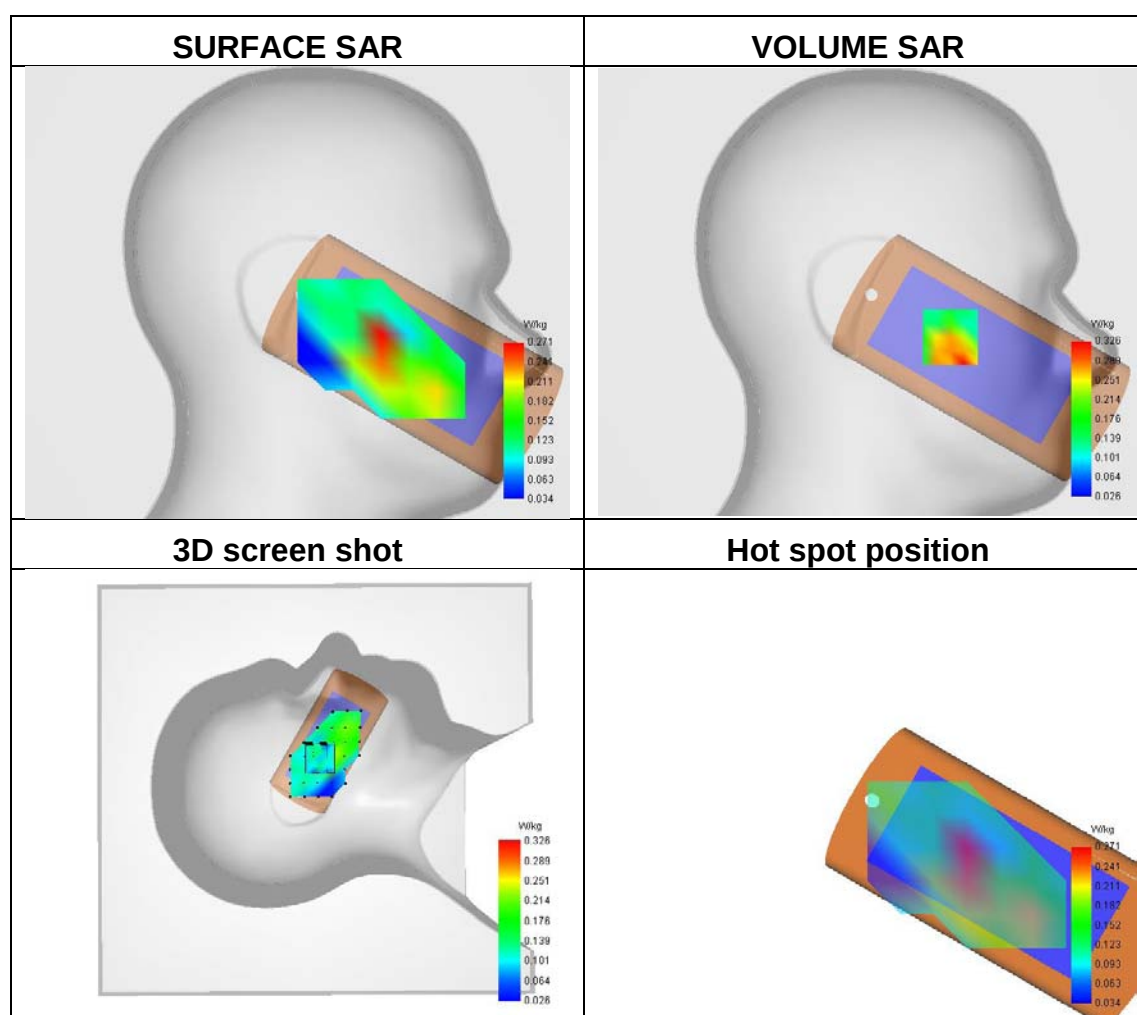
Maximum location: X=2.00, Y=-9.00 ; SAR Peak: 1.79 W/kg



Plot 13:

Test Date	2023-01-03
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	1732.500
SAR 10g (W/Kg)	0.195
SAR 1g (W/Kg)	0.307

Maximum location: X=-48.00, Y=-26.00 ; SAR Peak: 0.52 W/kg

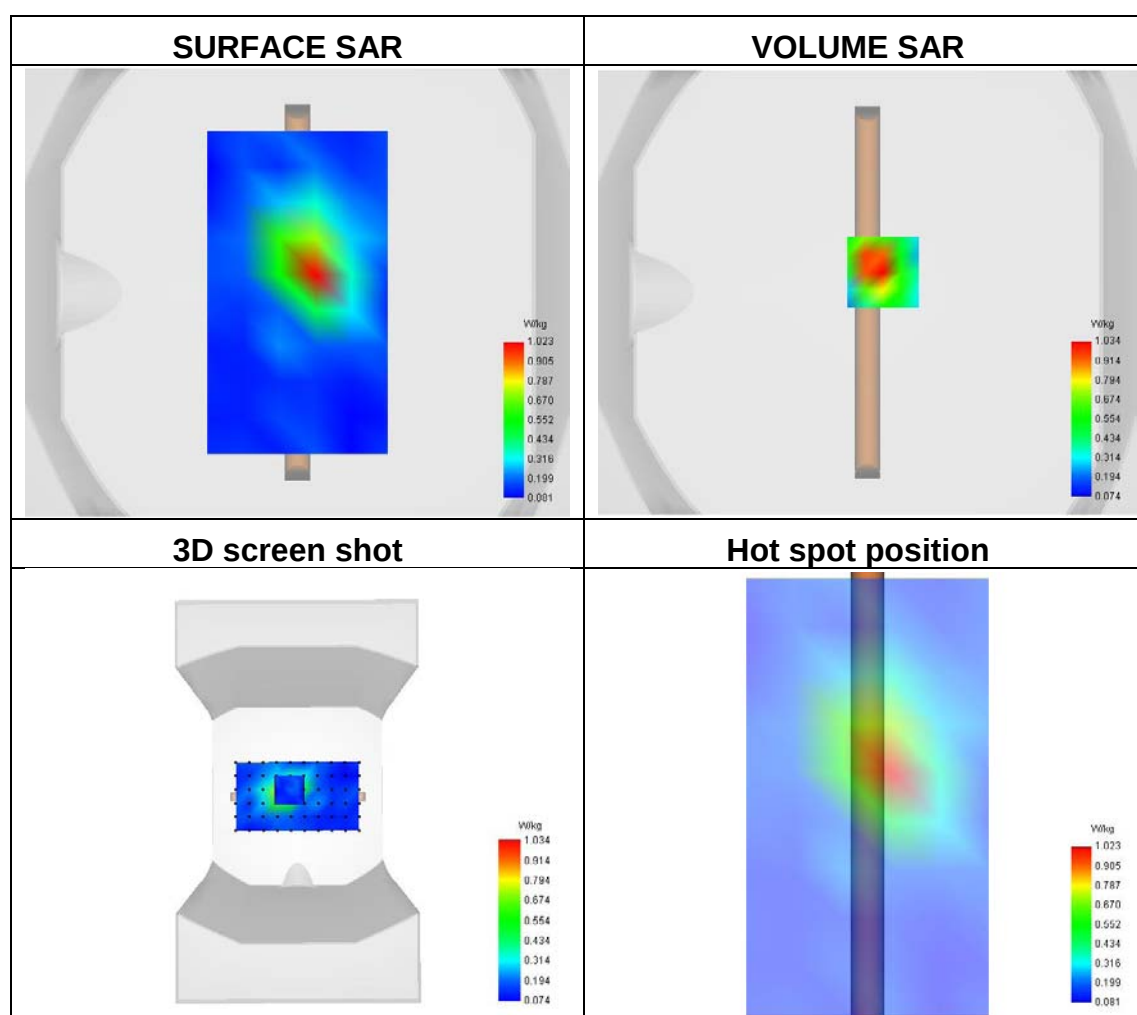




Plot 14:

Test Date	2023-01-03
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	LTE band 4
Signal	LTE FDD
Frequency	1732.500
SAR 10g (W/Kg)	0.572
SAR 1g (W/Kg)	1.002

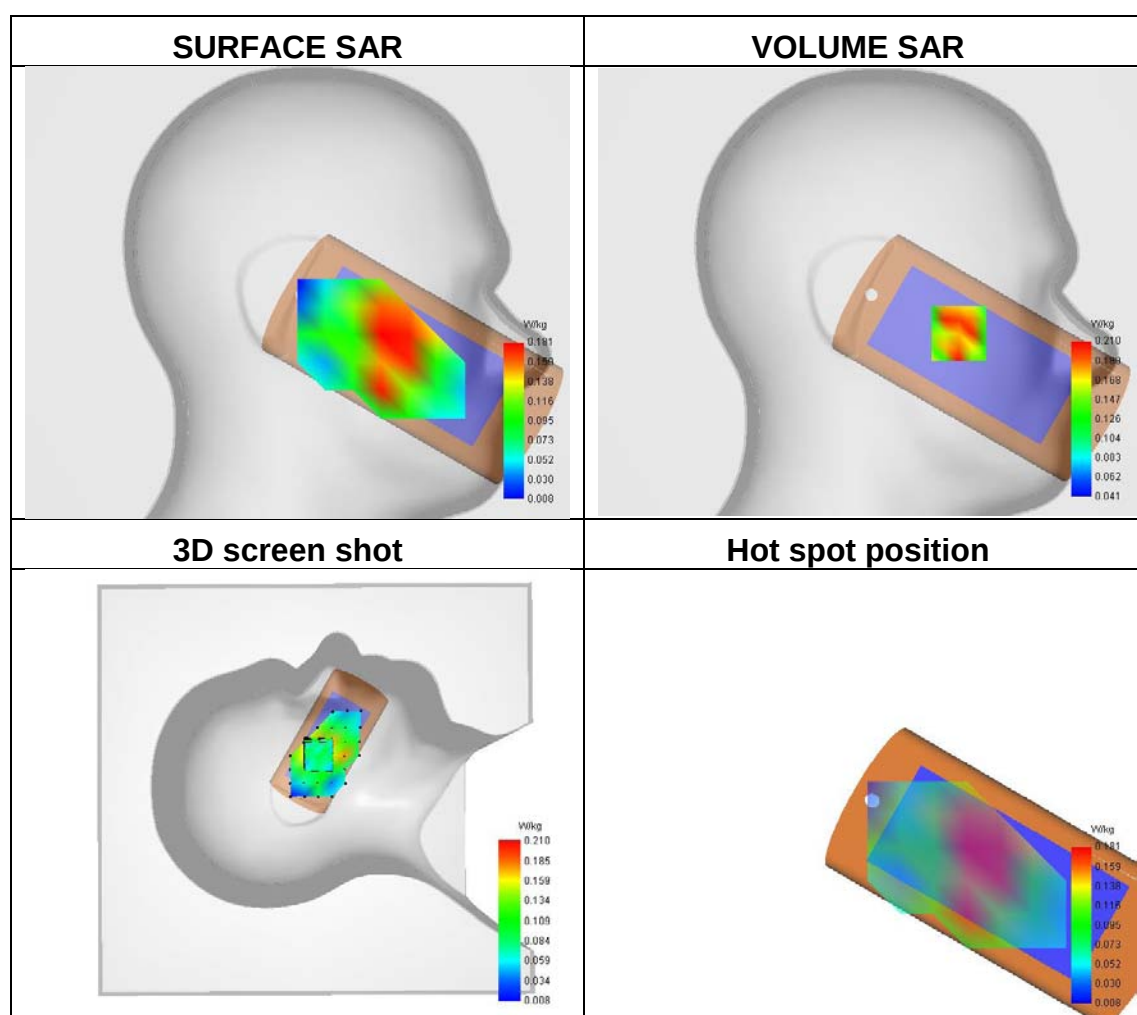
Maximum location: X=7.00, Y=9.00 ; SAR Peak: 1.55 W/kg



Plot 15:

Test Date	2023-01-03
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Signal	LTE FDD
Frequency	844.000
SAR 10g (W/Kg)	0.148
SAR 1g (W/Kg)	0.205

Maximum location: X=-53.00, Y=-24.00 ; SAR Peak: 0.32 W/kg

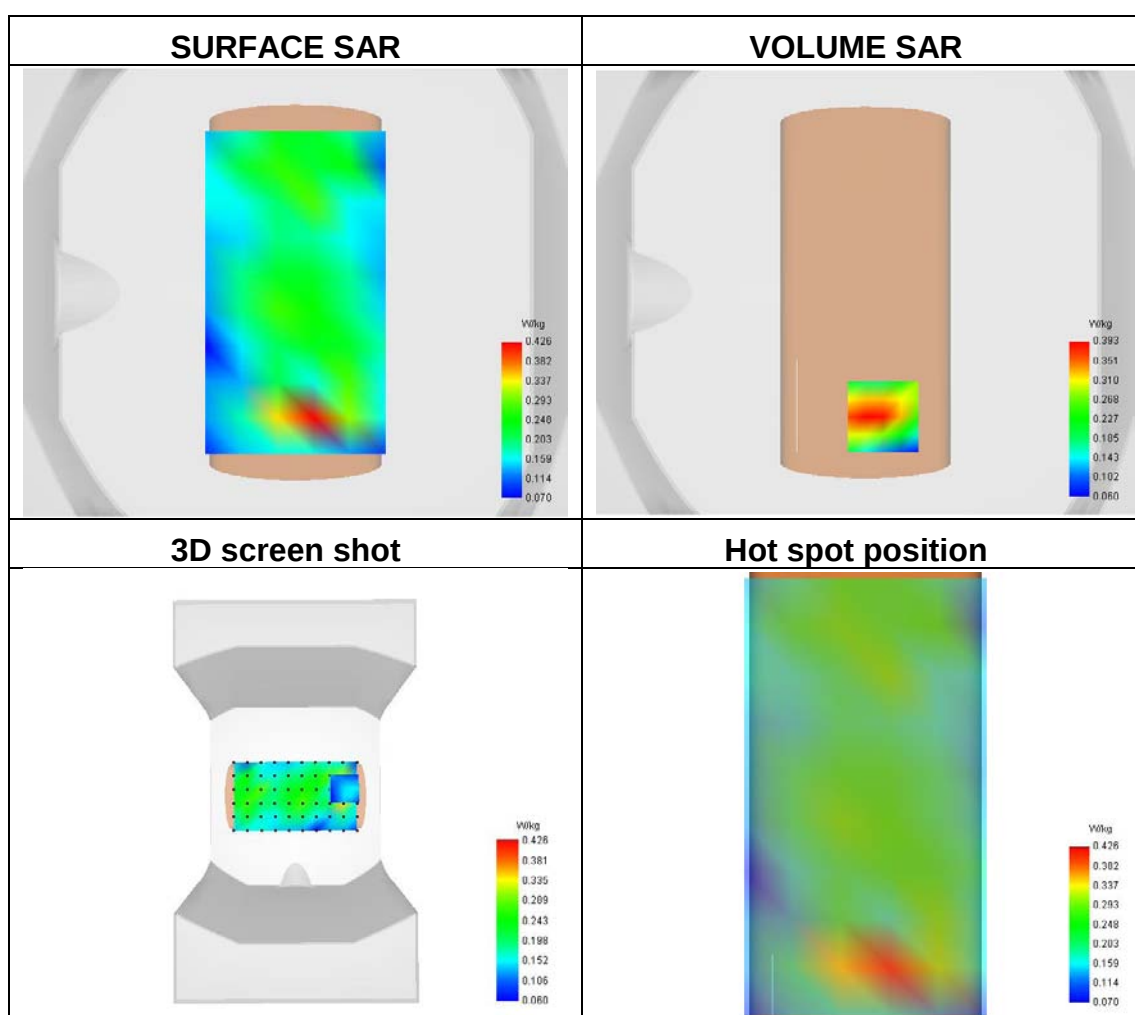




Plot 16:

Test Date	2023-01-03
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	LTE band 5
Signal	LTE FDD
Frequency	844.000
SAR 10g (W/Kg)	0.251
SAR 1g (W/Kg)	0.375

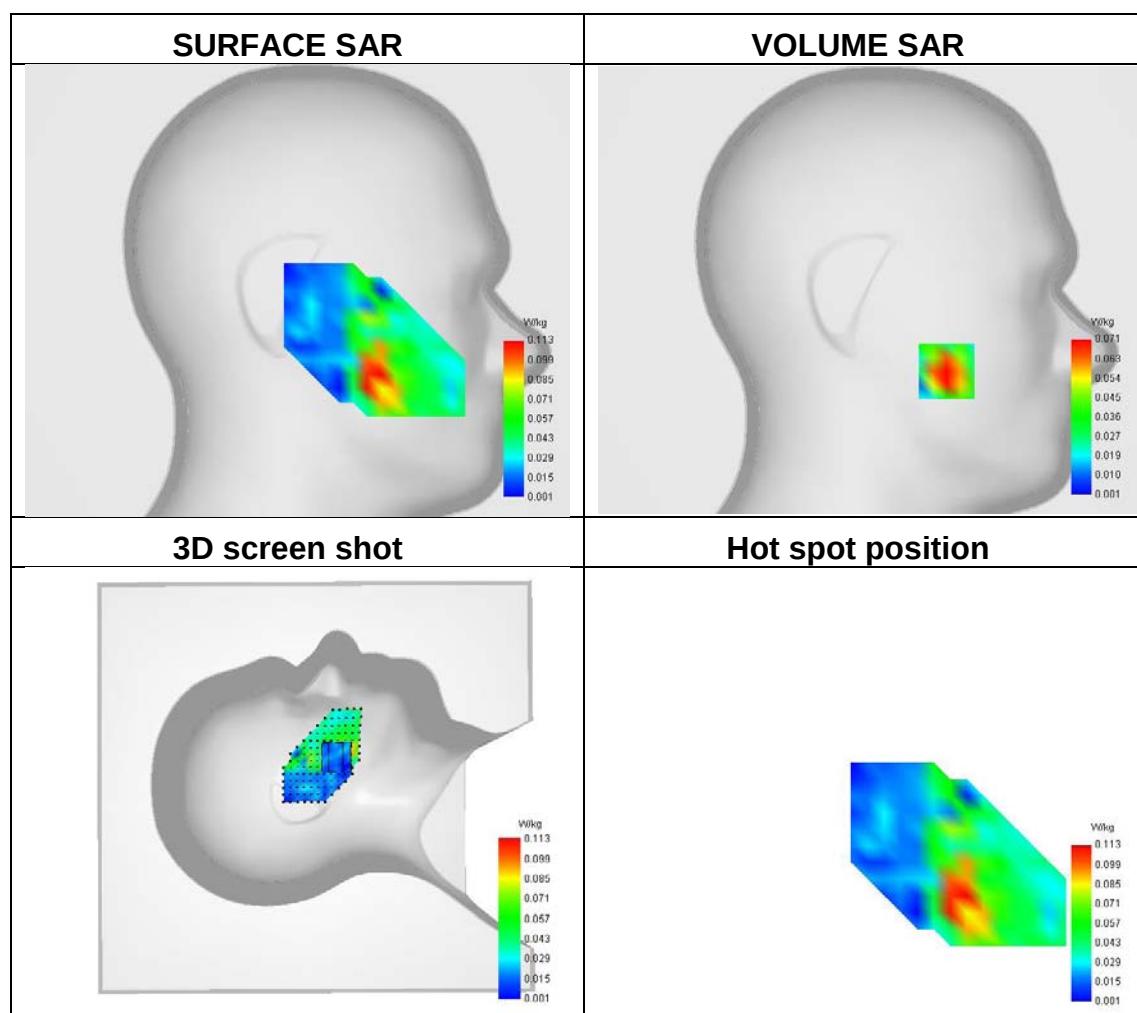
Maximum location: X=8.00, Y=-56.00 ; SAR Peak: 0.57 W/kg



Plot 17:

Test Date	2023-01-05
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	2560.000
SAR 10g (W/Kg)	0.039
SAR 1g (W/Kg)	0.068

Maximum location: X=-46.00, Y=-47.00 ; SAR Peak: 0.13 W/kg

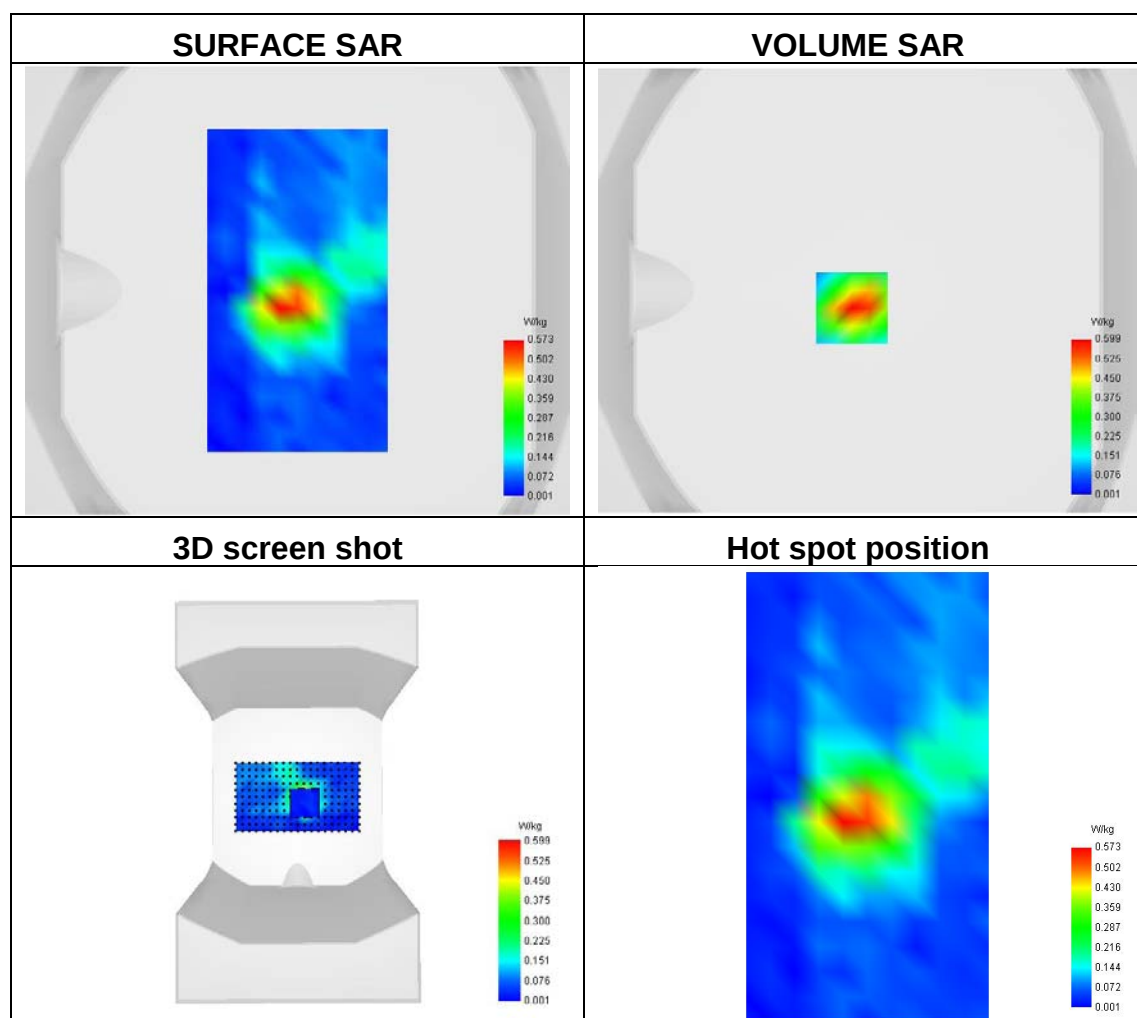




Plot 18:

Test Date	2023-01-05
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	LTE band 7
Signal	LTE FDD
Frequency	2560.000
SAR 10g (W/Kg)	0.284
SAR 1g (W/Kg)	0.576

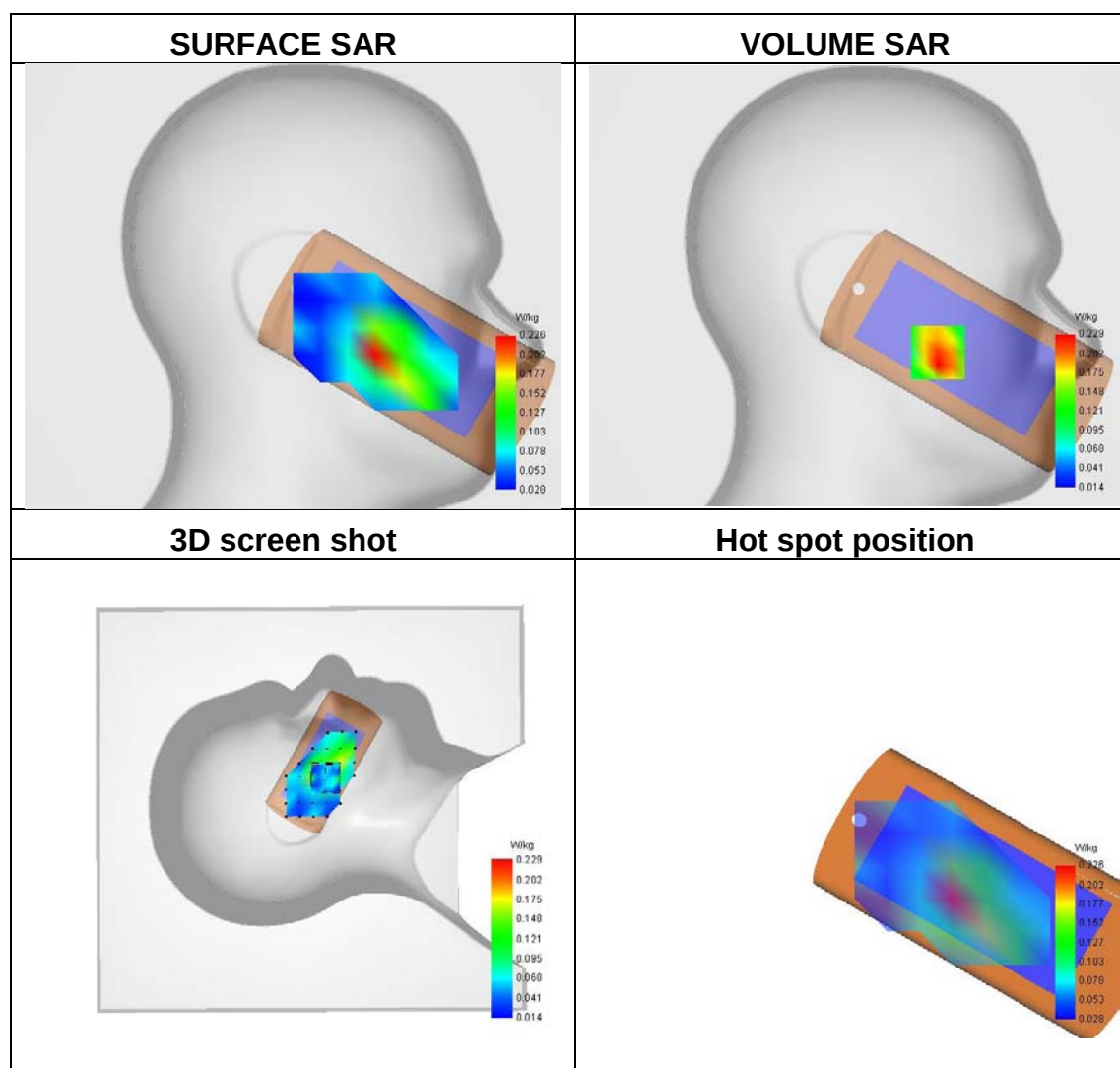
Maximum location: X=-7.00, Y=-8.00 ; SAR Peak: 1.03 W/kg



Plot 19:

Test Date	2023-01-04
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 40
Signal	LTE TDD
Frequency	2350.000
SAR 10g (W/Kg)	0.133
SAR 1g (W/Kg)	0.217

Maximum location: X=-49.00, Y=-39.00 ; SAR Peak: 0.40 W/kg

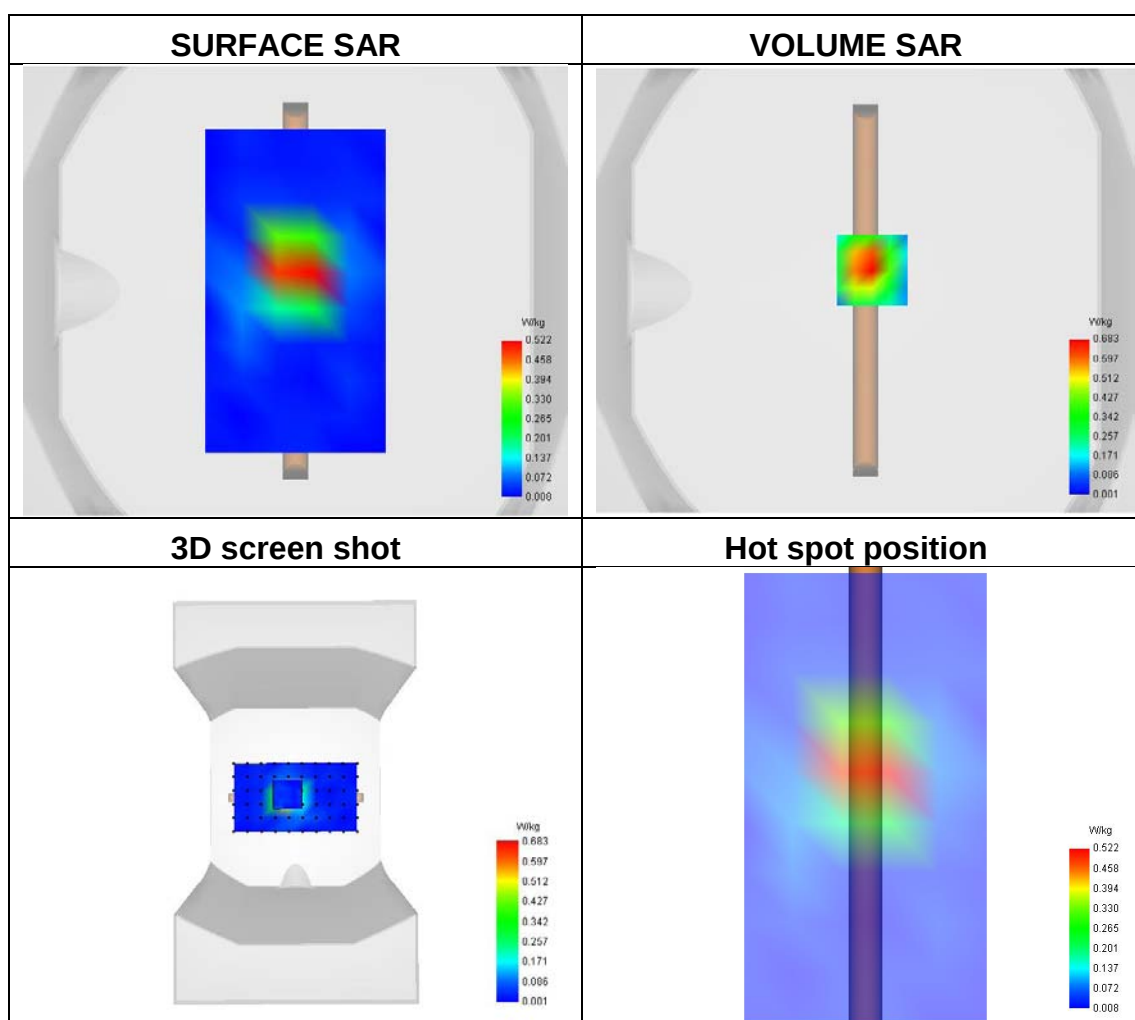




Plot 20:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	LTE band 40
Signal	LTE TDD
Frequency	2350.000
SAR 10g (W/Kg)	0.309
SAR 1g (W/Kg)	0.654

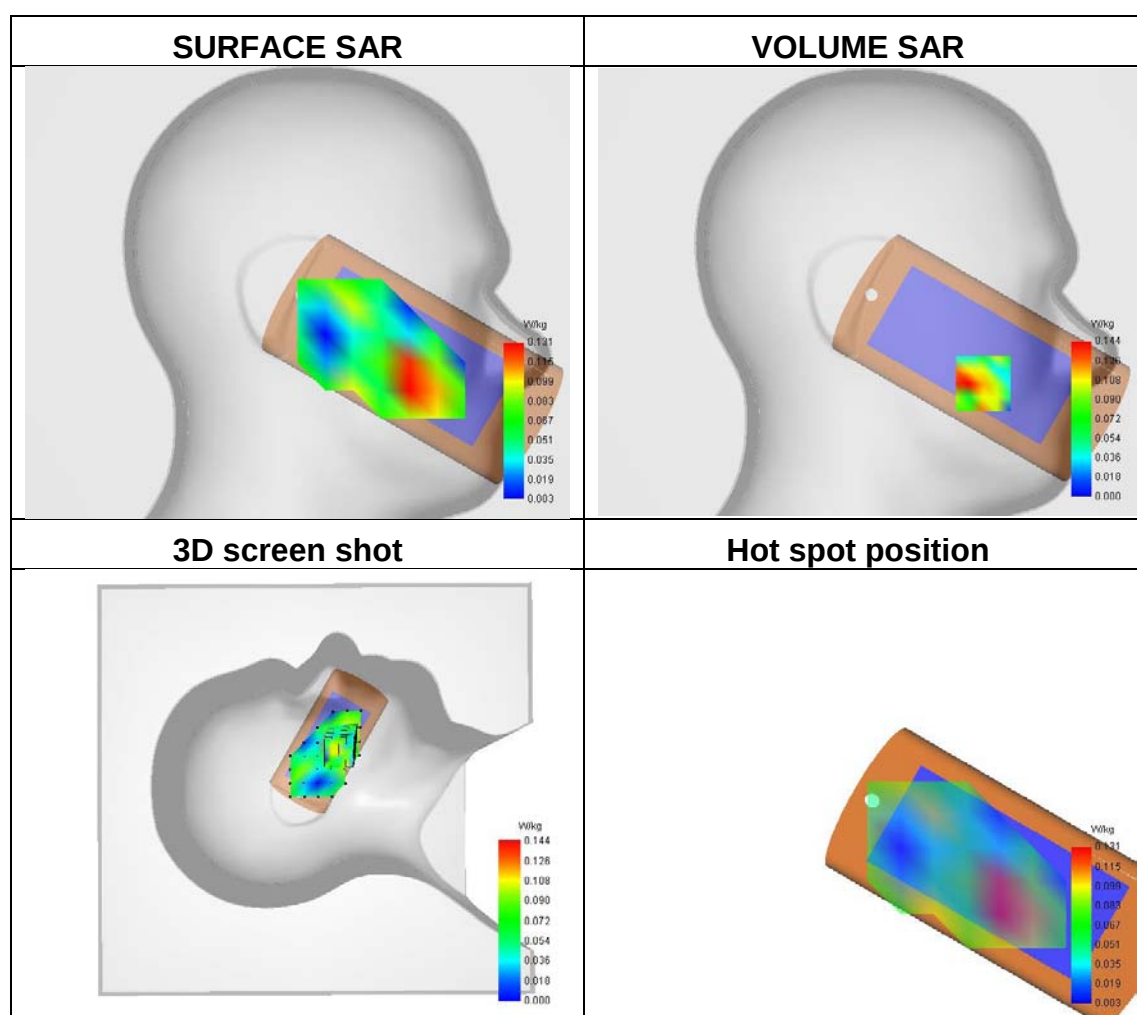
Maximum location: X=3.00, Y=9.00 ; SAR Peak: 1.13 W/kg



Plot 21:

Test Date	2023-01-05
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE band 41
Signal	LTE TDD
Frequency	2680.000
SAR 10g (W/Kg)	0.086
SAR 1g (W/Kg)	0.150

Maximum location: X=-67.00, Y=-53.00 ; SAR Peak: 0.31 W/kg

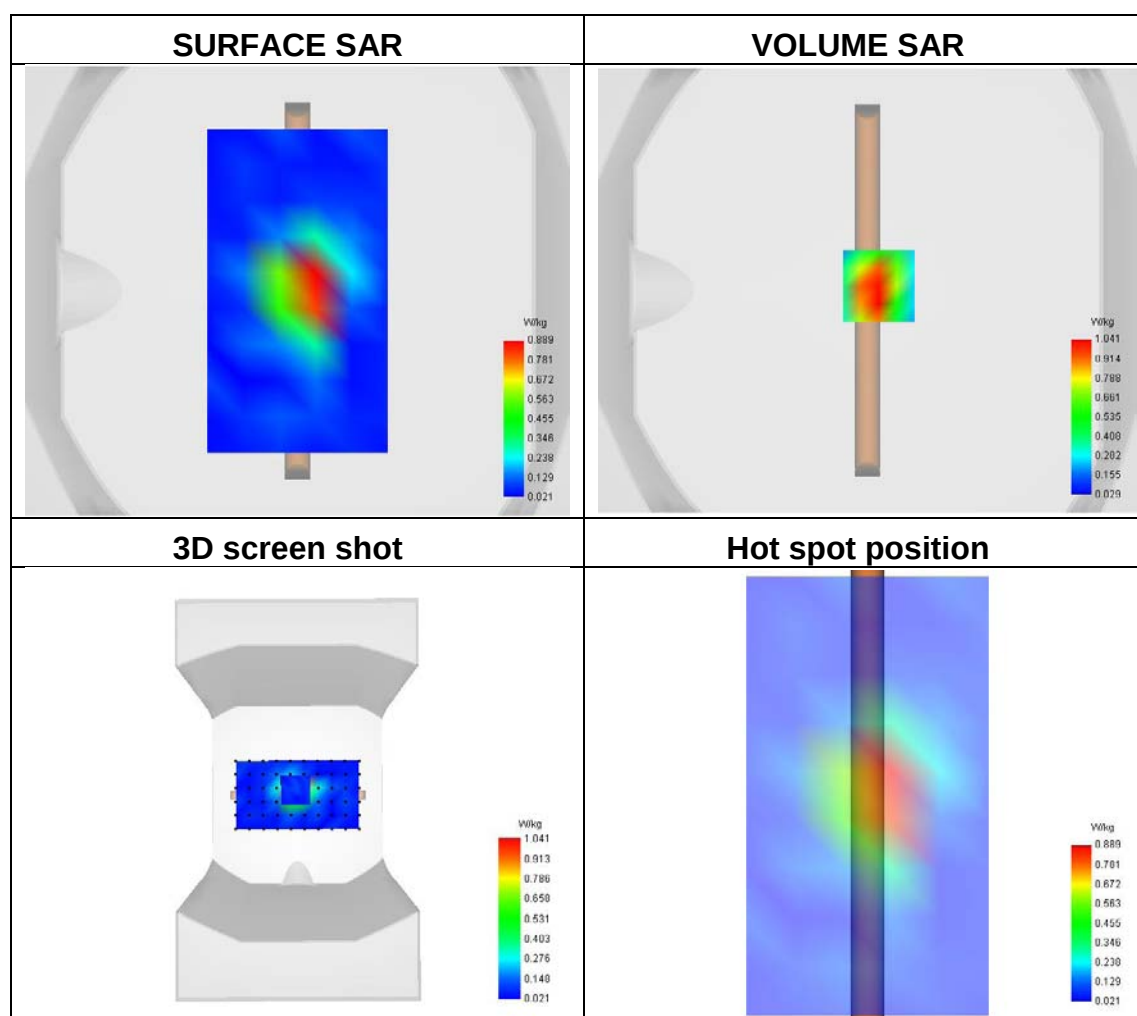




Plot 22:

Test Date	2023-01-05
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Bottom
Band	LTE band 41
Signal	LTE TDD
Frequency	2680.000
SAR 10g (W/Kg)	0.497
SAR 1g (W/Kg)	0.982

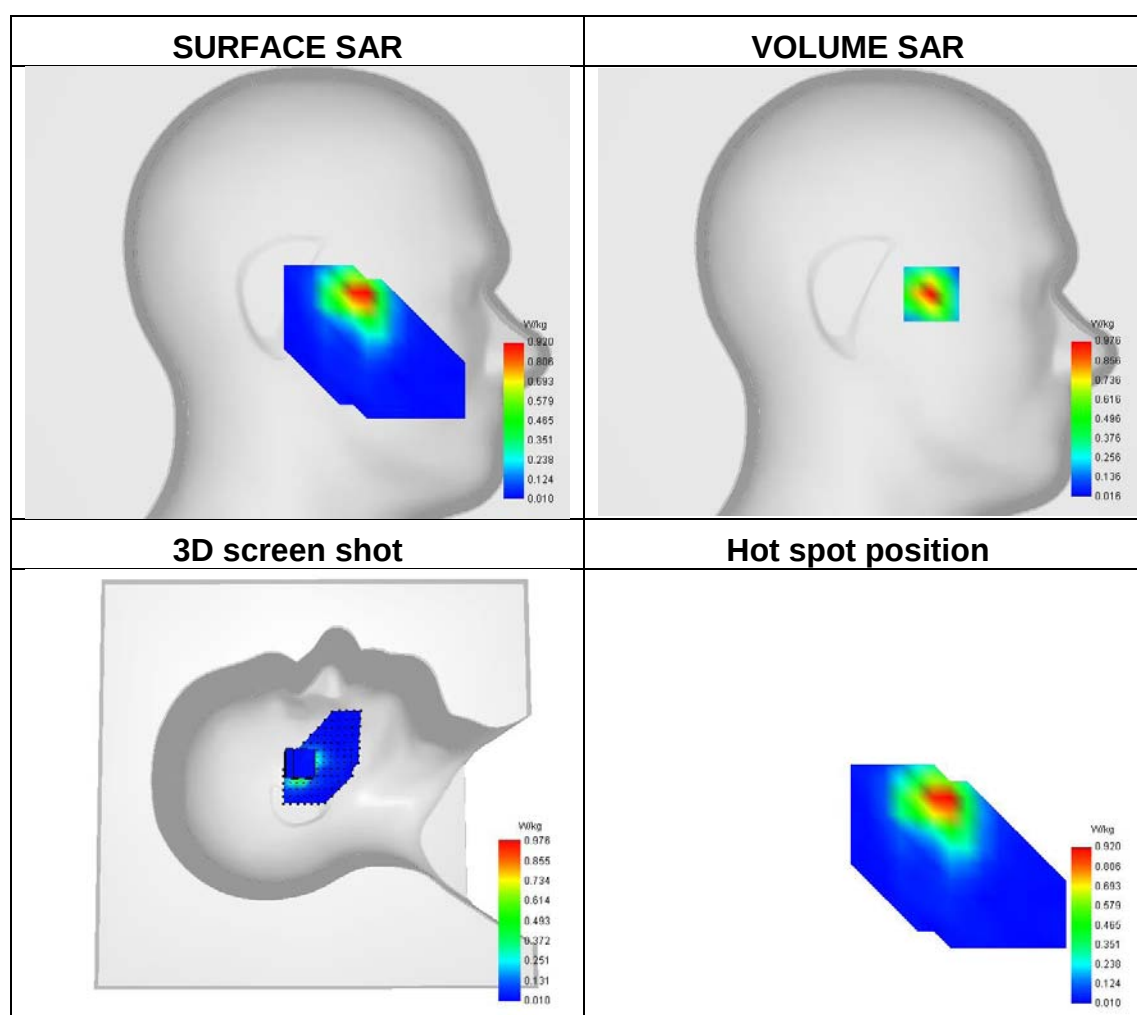
Maximum location: X=5.00, Y=2.00 ; SAR Peak: 1.70 W/kg



Plot 23:

Test Date	2023-01-04
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11n ISM
Signal	IEEE 802.11
Frequency	2437.000
SAR 10g (W/Kg)	0.409
SAR 1g (W/Kg)	0.899

Maximum location: X=-37.00, Y=-1.00 ; SAR Peak: 1.66 W/kg

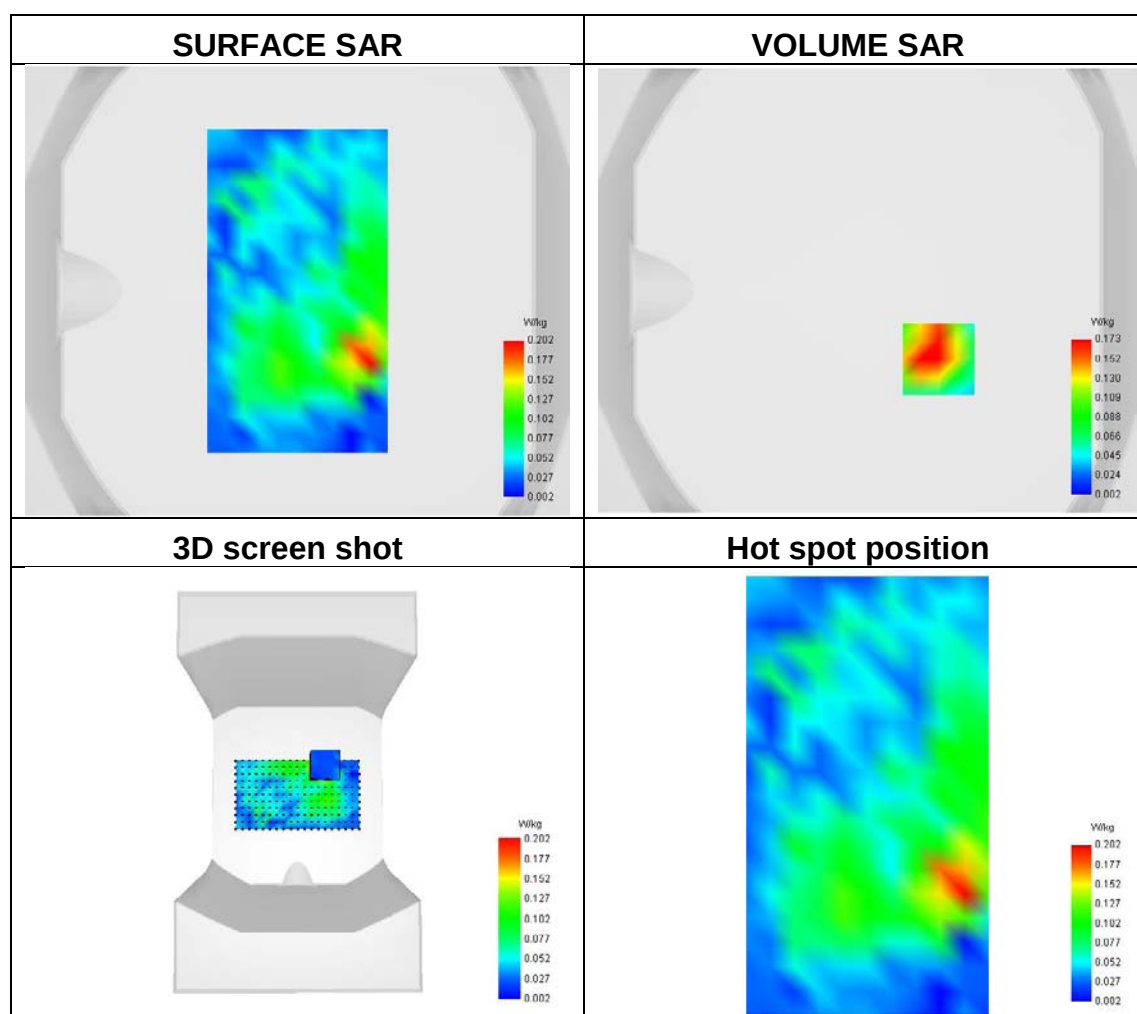




Plot 24:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	IEEE 802.11n ISM
Signal	IEEE 802.11
Frequency	2437.000
SAR 10g (W/Kg)	0.090
SAR 1g (W/Kg)	0.172

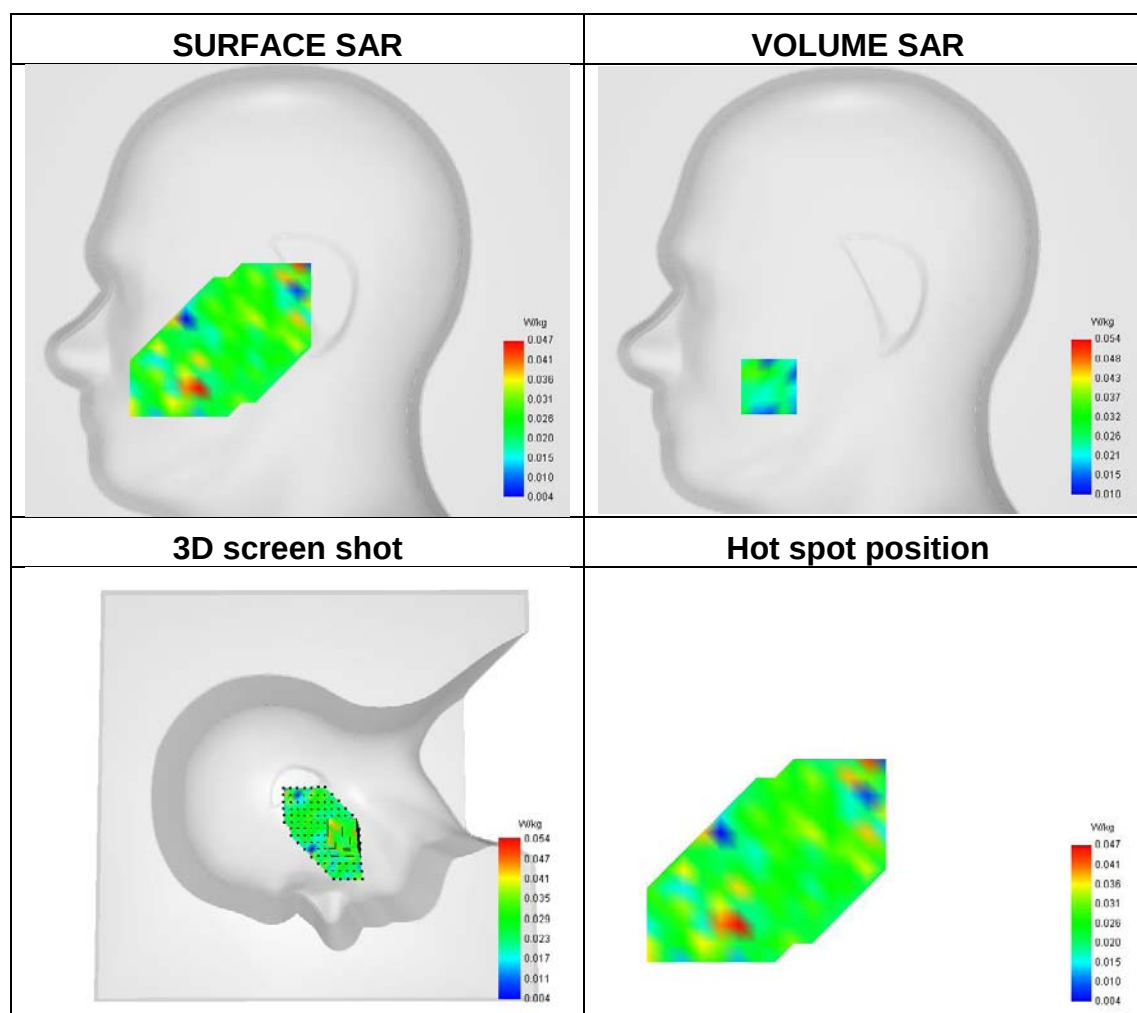
Maximum location: X=32.00, Y=-31.00 ; SAR Peak: 0.30 W/kg



Plot 25:

Test Date	2023-01-04
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Tilt
Band	Bluetooth
Signal	Bluetooth
Frequency	2402.000
SAR 10g (W/Kg)	0.029
SAR 1g (W/Kg)	0.037

Maximum location: X=-57.00, Y=-56.00 ; SAR Peak: 0.07 W/kg

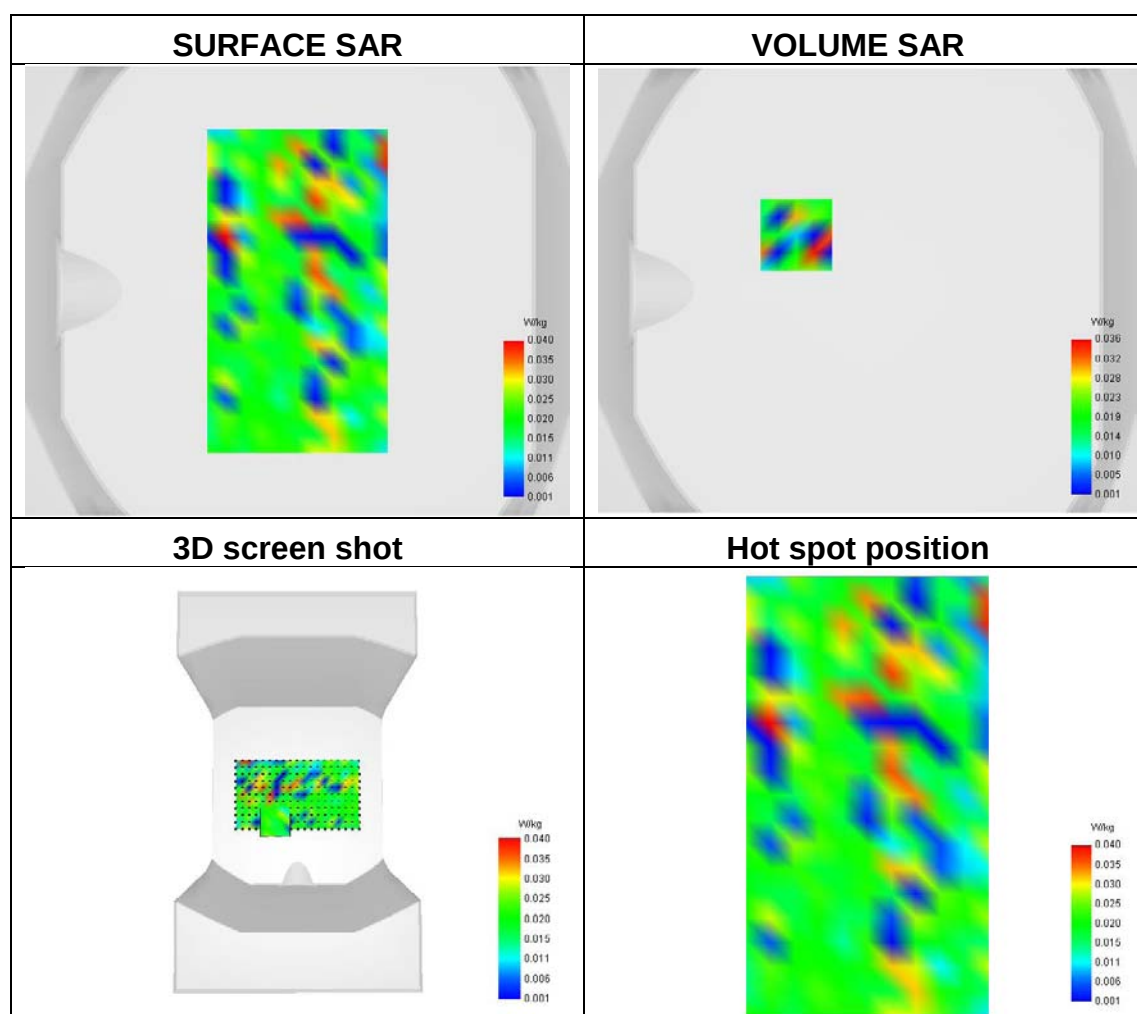




Plot 26:

Test Date	2023-01-04
Area Scan	surf_sam_plan.txt
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	Bluetooth
Signal	Bluetooth
Frequency	2402.000
SAR 10g (W/Kg)	0.019
SAR 1g (W/Kg)	0.030

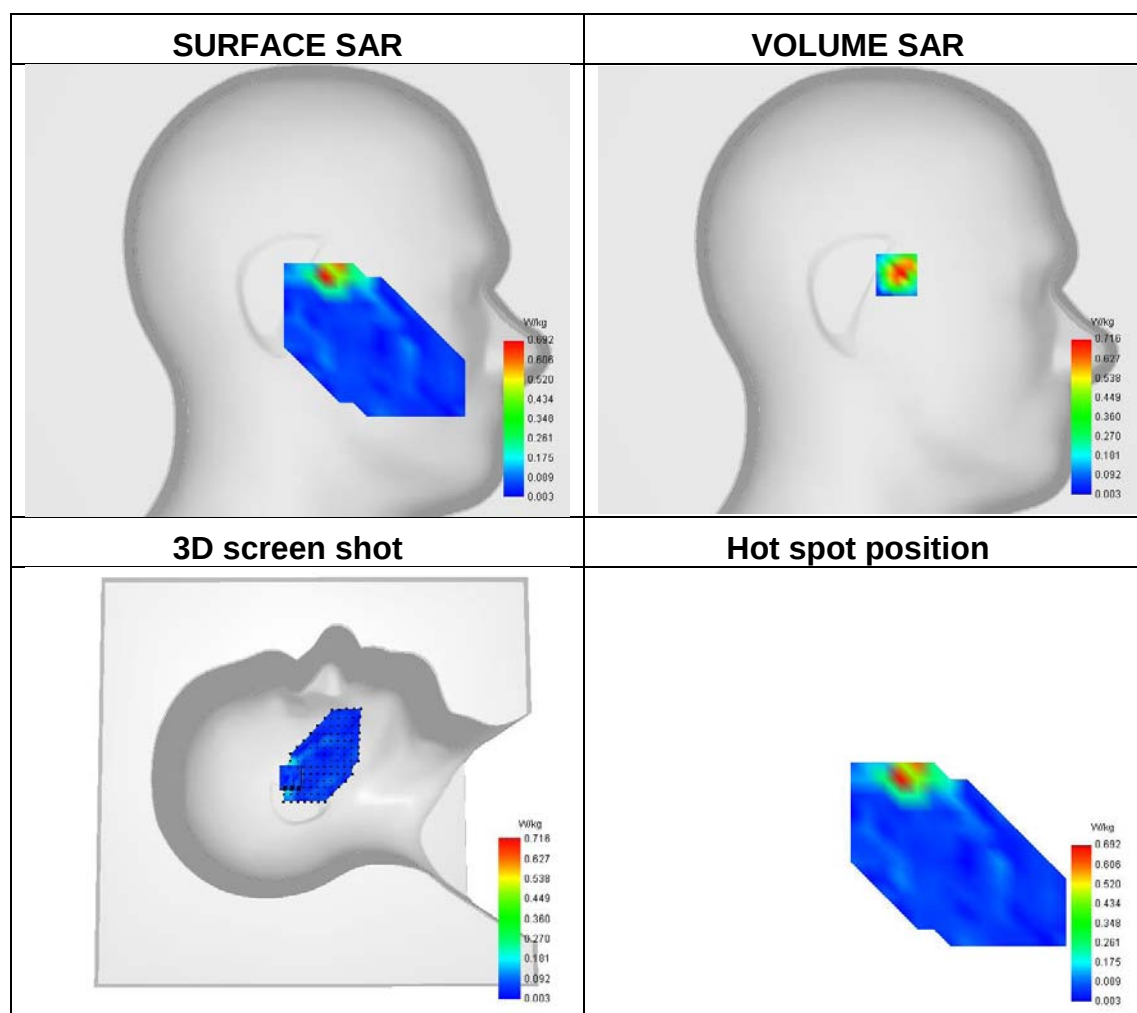
Maximum location: X=-32.00, Y=25.00 ; SAR Peak: 0.06 W/kg



Plot 27:

Test Date	2023-01-05
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5180.000
SAR 10g (W/Kg)	0.252
SAR 1g (W/Kg)	0.707

Maximum location: X=-17.00, Y=9.00 ; SAR Peak: 2.18 W/kg

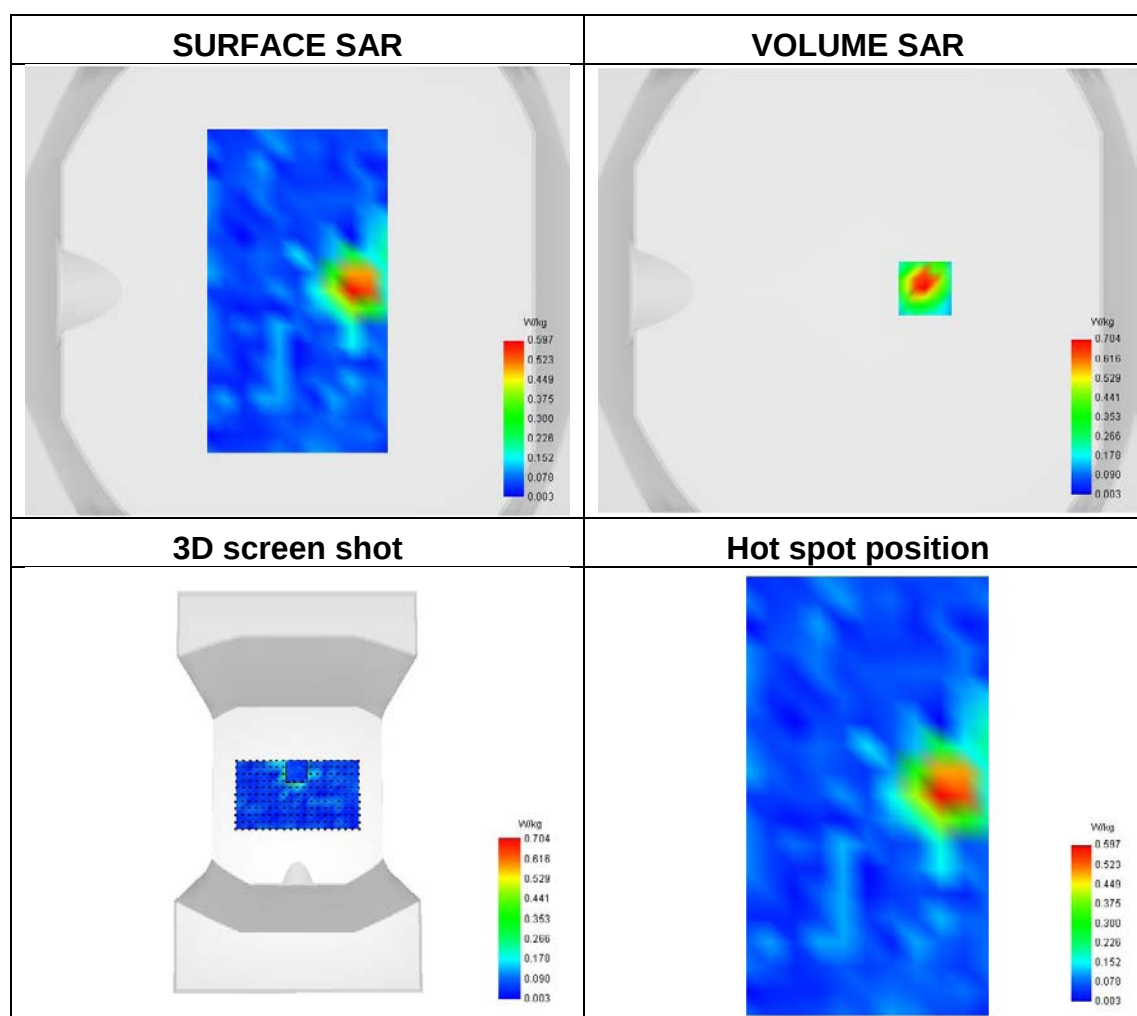




Plot 28:

Test Date	2023-01-05
Area Scan	surf_sam_plan.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5180.000
SAR 10g (W/Kg)	0.170
SAR 1g (W/Kg)	0.390

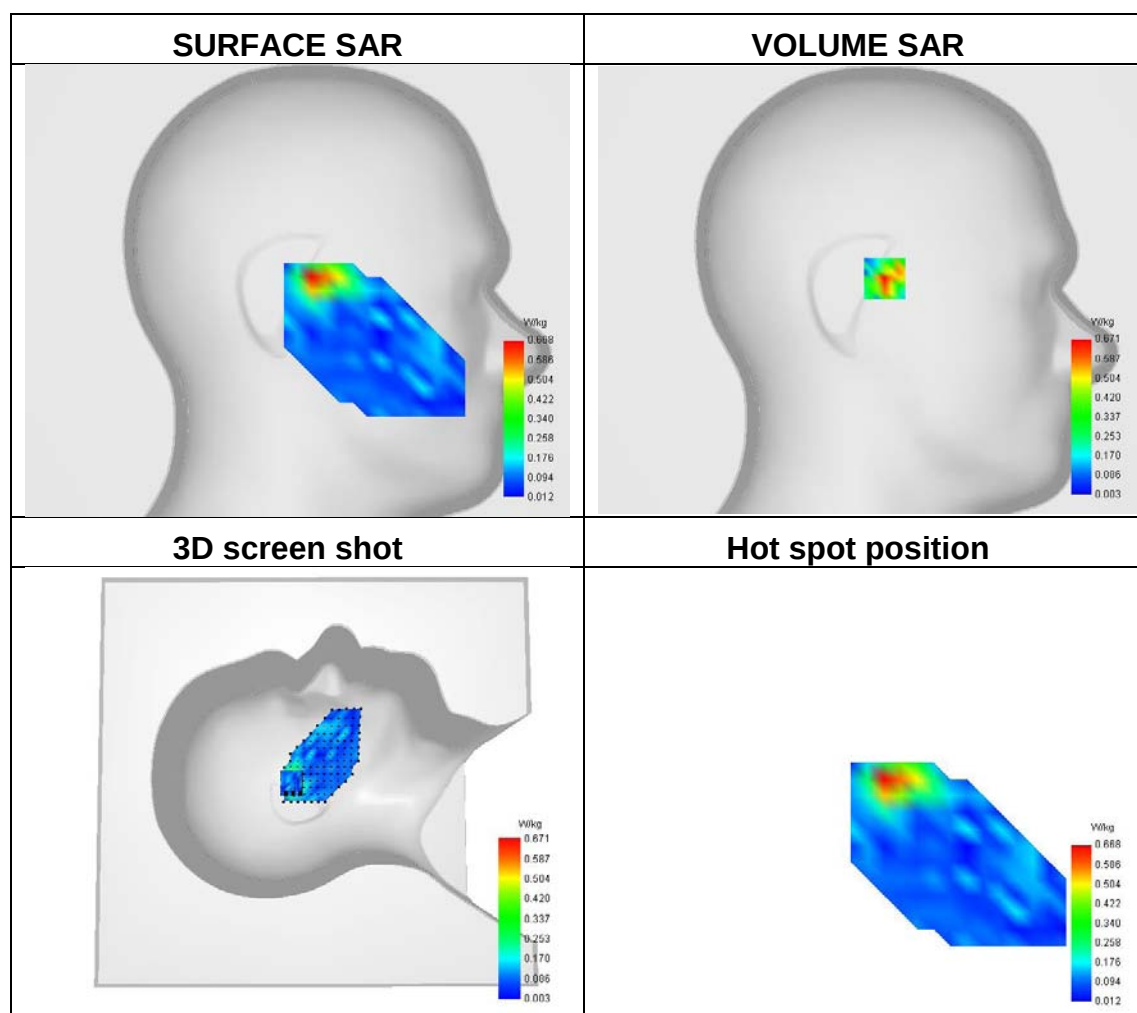
Maximum location: X=26.00, Y=1.00 ; SAR Peak: 1.36 W/kg



Plot 29:

Test Date	2023-01-06
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5260.000
SAR 10g (W/Kg)	0.240
SAR 1g (W/Kg)	0.578

Maximum location: X=-10.00, Y=7.00 ; SAR Peak: 2.08 W/kg

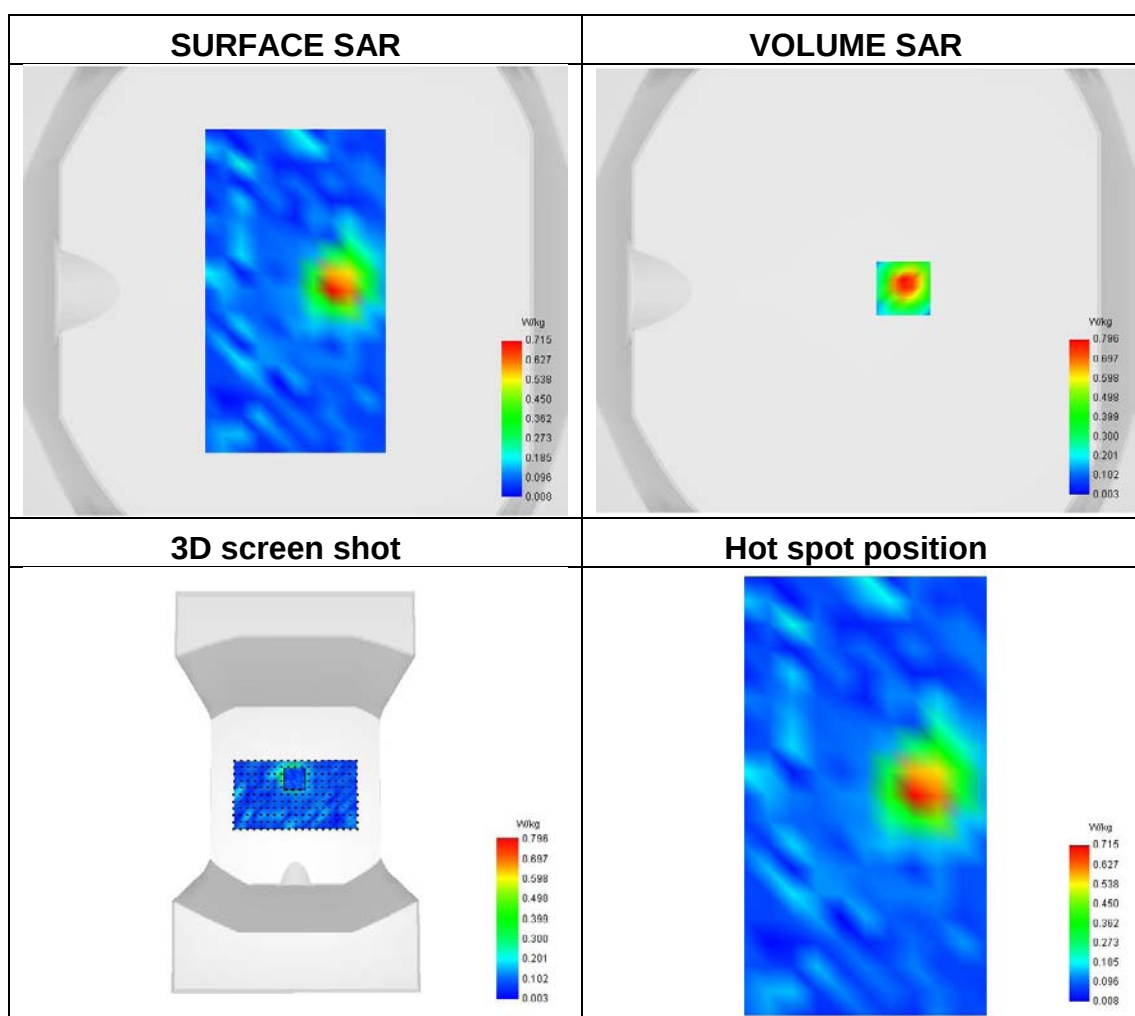




Plot 30:

Test Date	2023-01-06
Area Scan	surf_sam_plan.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5260.000
SAR 10g (W/Kg)	0.206
SAR 1g (W/Kg)	0.463

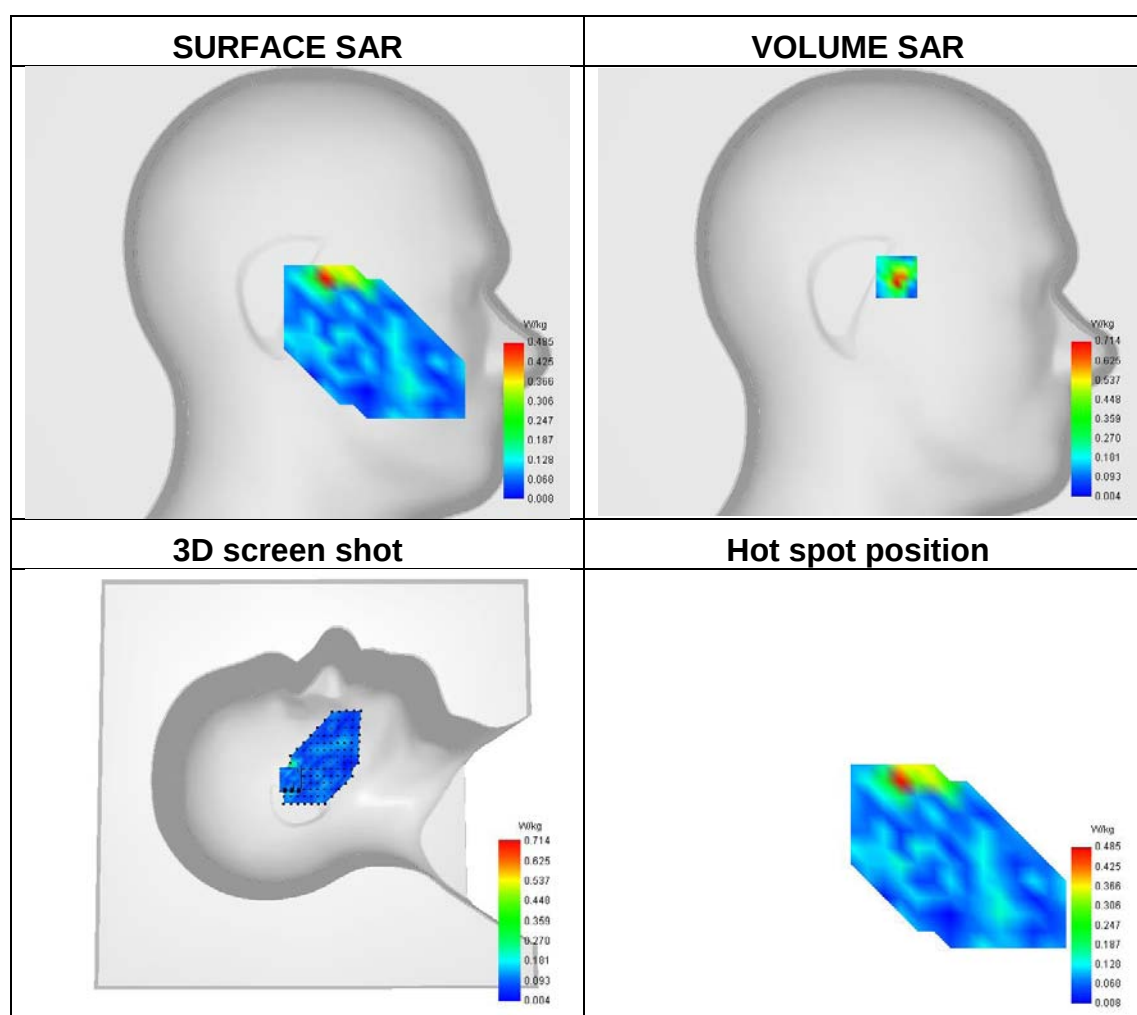
Maximum location: X=17.00, Y=1.00 ; SAR Peak: 1.41 W/kg



Plot 31:

Test Date	2023-01-06
Area Scan	sam_direct_droit2_surf8mm.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Left head
Device Position	Tilt
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5745.000
SAR 10g (W/Kg)	0.207
SAR 1g (W/Kg)	0.600

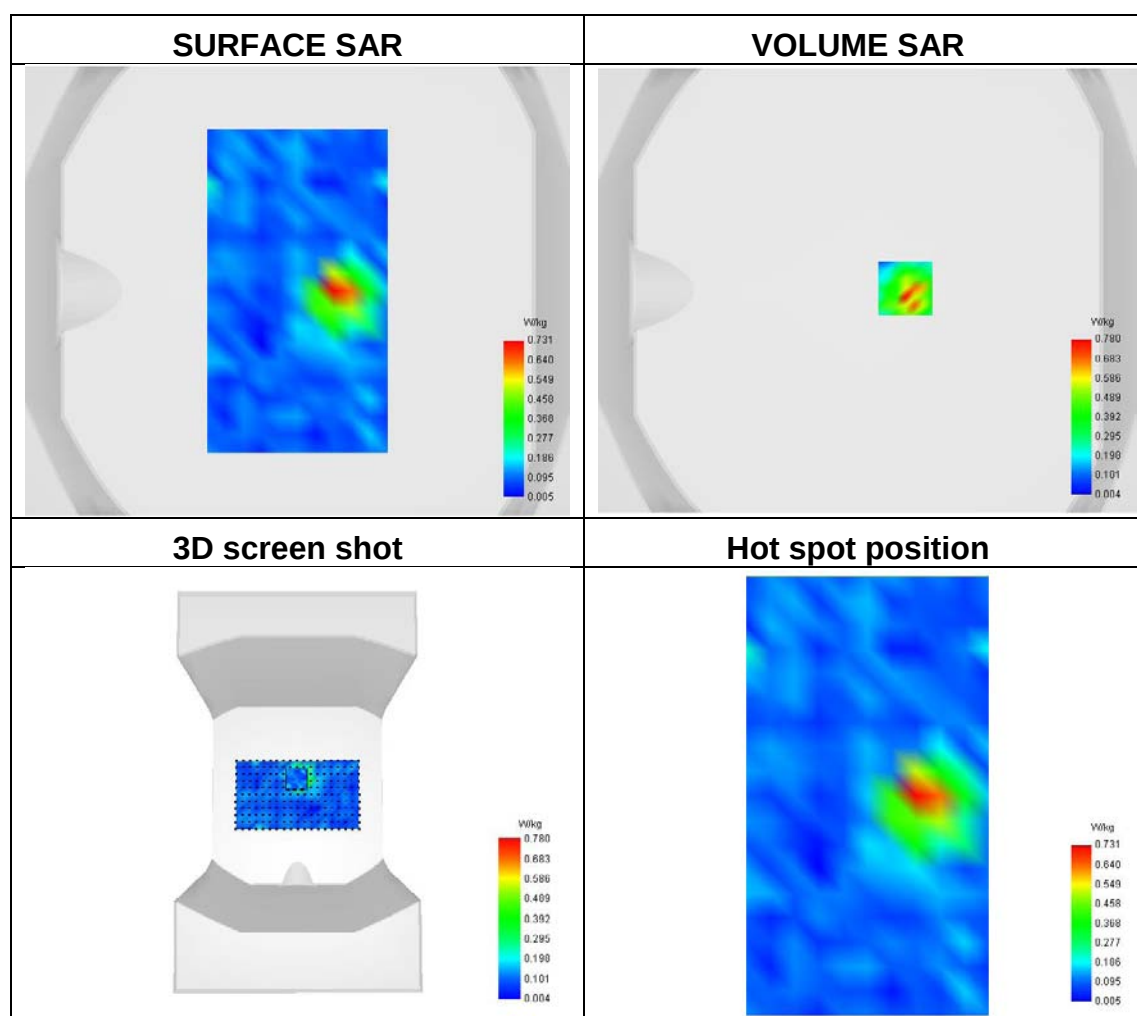
Maximum location: X=-17.00, Y=9.00 ; SAR Peak: 2.33 W/kg



Plot 32:

Test Date	2023-01-06
Area Scan	surf_sam_plan.txt
ZoomScan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Back
Band	IEEE 802.11n U-NII
Signal	IEEE 802.11
Frequency	5745.000
SAR 10g (W/Kg)	0.204
SAR 1g (W/Kg)	0.402

Maximum location: X=17.00, Y=1.00 ; SAR Peak: 1.49 W/kg





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

□□□□END OF THE REPORT□□□□