



SAR Test Report

Report No.: STS2411053H01

Issued for

Xwireless LLC

11565 Old Georgetown Road, Rockville, MD, USA

Product Name: Mobile Phone

Brand Name: Vortex

Model Name: CB68

Series Model(s): N/A

FCC ID: 2ADLJ-CB68

Test Standard: ANSI/IEEE Std. C95.1
FCC 47 CFR Part 2 (2.1093)
IEEE Std. 1528-2013

Max. Report Head: 0.361 W/kg

SAR (1g) Body: 1.386 W/kg

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

**TEST REPORT CERTIFICATION****Applicant's name** : Xwireless LLC

Address : 11565 Old Georgetown Road, Rockville, MD, USA

Manufacturer's Name : Xwireless LLC

Address : 11565 Old Georgetown Road, Rockville, MD, USA

Product description

Product name : Mobile Phone

Brand name : Vortex

Model name : CB68

Series Model..... : N/A

Standards : ANSI/IEEE Std. C95.1
FCC 47 CFR Part 2 (2.1093)
IEEE Std. 1528-2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test..... :

Date (s) of performance of tests..... : 22 Nov 2024 ~ 26 Nov 2024

Date of Issue..... : 28 Nov 2024

Test Result..... : **Pass**

Testing Engineer :

(Xin.Liu)

Technical Manager :

(Shifan. Long)

Authorized Signatory :

(Bovey Yang)





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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	28 Nov 2024	STS2411053H01	ALL	Initial Issue



1. General Information

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

1.1 EUT Description

Product Name	Mobile Phone
Brand Name	Vortex
Model Name	CB68
Series Model	N/A
Model Difference	N/A
Battery	Model: CXD1854-Z6707 Brand: Rated Voltage: Charge Limit Voltage:4.35V Capacity: 3000mAh
Device Category	Portable
Product stage	Production unit
RF Exposure Environment	General Population / Uncontrolled
Hardware Version	N/A
Software Version	N/A
Frequency Range	GSM 850: 824 MHz ~ 849 MHz PCS1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV:1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz Bluetooth: 2402 MHz to 2480 MHz



Max. Reported SAR(1g): (Limit:1.6W/kg) Test distance: Head:0mm Body:10mm	Band	Mode	Head (W/kg)	Body Worn and Hotspot (W/kg)
	PCE	GSM 850	0.328	0.360
	PCE	GSM 1900	0.148	0.338
	PCE	WCDMA Band II	0.124	0.487
	PCE	WCDMA Band V	0.226	0.659
	PCE	WCDMA Band IV	0.192	0.239
	PCE	LTE Band 2	0.361	1.386
	PCE	LTE Band 4	0.276	0.496
	PCE	LTE Band 5	0.135	0.225
	PCE	LTE Band 12	0.207	0.189
	PCE	LTE Band 13	0.176	0.204
	PCE	LTE Band 17	0.193	0.926
	PCE	LTE Band 25	0.285	0.870
	PCE	LTE Band 66	0.307	0.794
	PCE	LTE Band 71	0.255	0.282
	DTS	2.4G WLAN	0.053	0.115
	DSS	BT	0.046	0.047
1-g Sum SAR			0.414	1.501
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS)			
Operating Mode:	GSM: GSM Voice; GPRS/EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 LTE: QPSK, 16QAM 2.4G WLAN : 802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM Bluetooth: GFSK + π /4DQPSK+8DPSK BLE: GFSK			
Antenna Specification:	GSM/WCDMA/LTE: PIFA Antenna Bluetooth: PIFA Antenna WLAN: PIFA Antenna			
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time			
Hotspot Mode	Support			
DTM Mode	Not Support			
Note: 1. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active) 2. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests. 3. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power				



1.2 Test Environment

Ambient conditions in the SAR laboratory:

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

1.3 Test Factory

ShenZhen STS Test Services Co.,Ltd.

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01



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

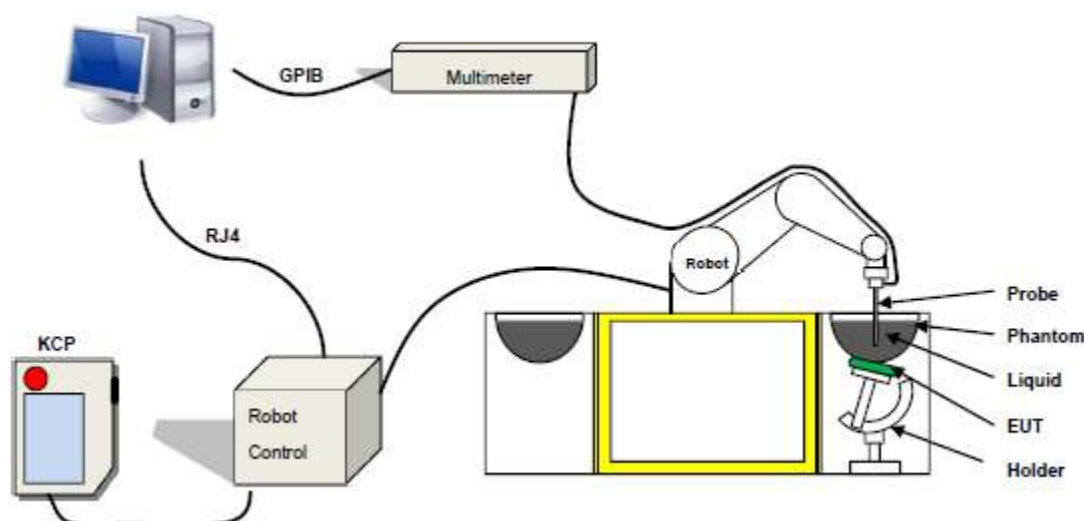
$$SAR = \frac{\sigma E^2}{\rho}$$

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 Open SAR software computes the results to give a SAR value in a 1g or 10g mass.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 08/21 EPGO352 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2 mm
- 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: 150 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 Dipole

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.

SN 32/14 SAM115

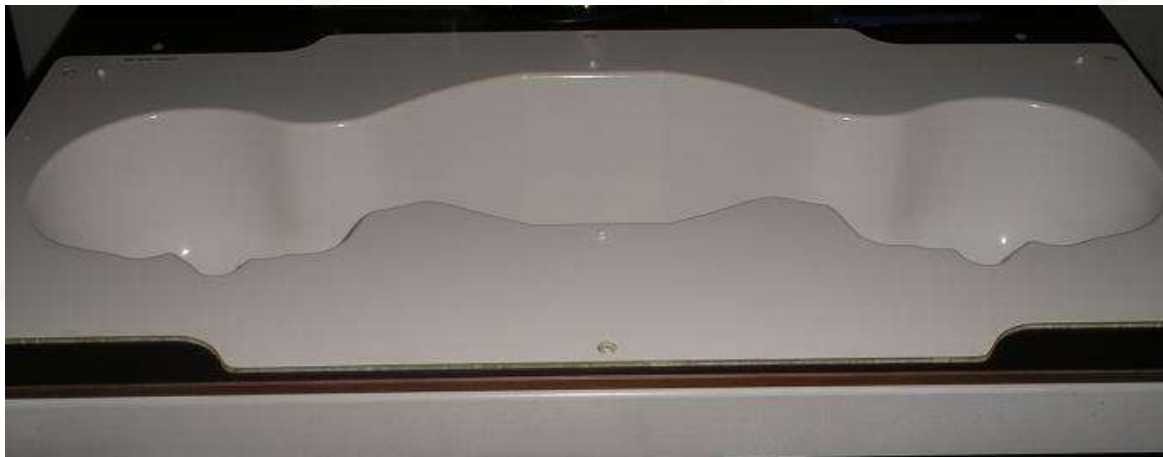


Figure-SN 21/21 ELLI48



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. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Head Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	1.4	0.2	57.0	/	41.1	0.89	41.9
835	0.2	/	/	1.4	0.2	57.9	/	40.3	0.90	41.5
900	0.2	/	/	1.4	0.2	57.9	/	40.3	0.97	41.5
1800	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
1900	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
2000	/	44.5	/	0.3	/	/	/	55.2	1.4	40.0
2450	/	44.9	/	0.1	/	/	/	55.0	1.80	39.2
2600	/	45.0	/	0.1	/	/	/	54.9	1.96	39.0

Body Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	0.9	0.1	47.2	/	51.7	0.96	55.5
835	0.2	/	/	0.9	0.1	48.2	/	50.8	0.97	55.2
900	0.2	/	/	0.9	0.1	48.2	/	50.8	1.05	55.0
1800	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
1900	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
2000	/	29.4	/	0.4	/	/	/	70.2	1.52	53.3
2450	/	31.3	/	0.1	/	/	/	68.6	1.95	52.7
2600	/	31.7	/	0.1	/	/	/	68.2	2.16	52.3

Tissue dielectric parameters for head and body phantoms				
Frequency	ϵ_r		σ S/m	
	Head	Body	Head	Body
300	45.3	58.2	0.87	0.92
450	43.5	56.7	0.87	0.94
900	41.5	55.0	0.97	1.05
1450	40.5	54.0	1.20	1.30
1800	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

**LIQUID MEASUREMENT RESULTS**

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]					
2024-11-22	24.0	42	673	23.8	Permittivity	42.31	42.88	1.35	±5
					Conductivity	0.88	0.85	-3.94	±5
2024-11-22	24.1	42	683	23.8	Permittivity	42.26	43.00	1.76	±5
					Conductivity	0.89	0.92	3.89	±5
2024-11-22	24.1	42	704	23.8	Permittivity	42.15	42.91	1.81	±5
					Conductivity	0.89	0.85	-4.16	±5
2024-11-22	24.2	43	709	23.9	Permittivity	42.12	42.57	1.07	±5
					Conductivity	0.89	0.91	2.56	±5
2024-11-22	24.2	43	750	23.9	Permittivity	41.90	42.22	0.76	±5
					Conductivity	0.89	0.88	-1.12	±5
2024-11-23	22.6	50	782	22.3	Permittivity	41.75	41.15	-1.44	±5
					Conductivity	0.89	0.88	-1.54	±5
2024-11-23	22.6	50	824.2	22.4	Permittivity	41.55	41.44	-0.27	±5
					Conductivity	0.90	0.94	4.59	±5
2024-11-23	22.7	51	829	22.4	Permittivity	41.53	41.31	-0.53	±5
					Conductivity	0.90	0.87	-3.26	±5
2024-11-23	22.7	51	836.5	22.4	Permittivity	41.49	40.66	-2.01	±5
					Conductivity	0.90	0.92	2.20	±5
2024-11-23	22.7	51	836.6	22.5	Permittivity	41.49	41.67	0.43	±5
					Conductivity	0.90	0.91	1.09	±5
2024-11-23	22.8	51	835	22.5	Permittivity	41.50	40.98	-1.25	±5
					Conductivity	0.90	0.89	-1.11	±5
2024-11-24	23.3	55	1745	23.0	Permittivity	40.08	40.77	1.73	±5
					Conductivity	1.37	1.38	0.84	±5
2024-11-24	23.4	55	1752.4	23.2	Permittivity	40.07	40.18	0.28	±5
					Conductivity	1.37	1.40	1.98	±5
2024-11-24	23.5	55	1770	23.2	Permittivity	40.04	41.45	3.51	±5
					Conductivity	1.38	1.34	-3.10	±5
2024-11-24	23.5	56	1800	23.2	Permittivity	40.00	40.76	1.90	±5
					Conductivity	1.40	1.39	-0.71	±5
2024-11-25	22.2	41	1852.4	21.9	Permittivity	40.00	40.78	1.95	±5
					Conductivity	1.40	1.36	-2.86	±5
2024-11-25	22.3	41	1860	22.0	Permittivity	40.00	40.44	1.10	±5
					Conductivity	1.40	1.35	-3.57	±5



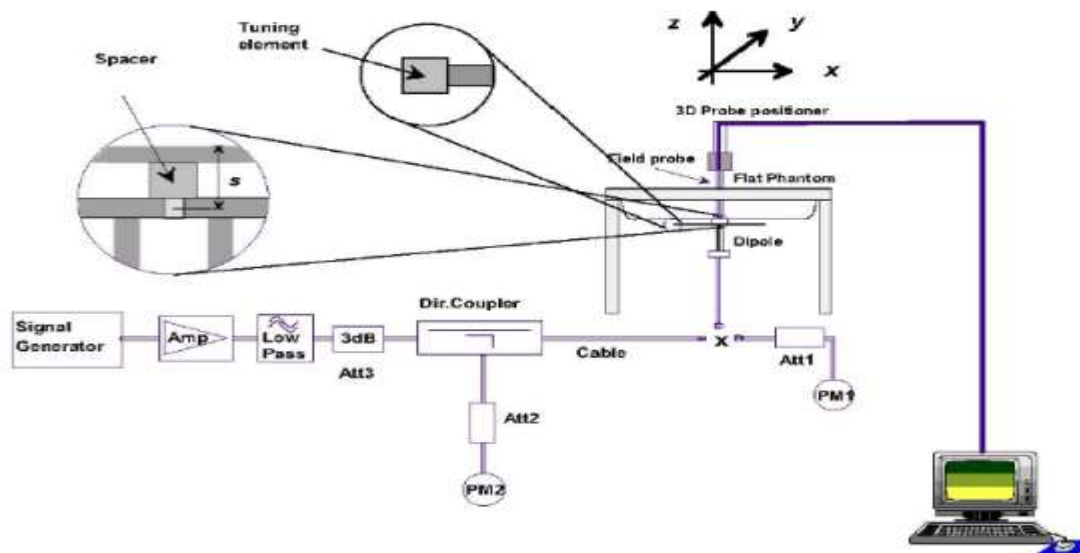
2024-11-25	22.3	41	1880	22.0	Permittivity	40.00	40.15	0.37	±5
					Conductivity	1.40	1.39	-0.71	±5
2024-11-25	22.3	41	1900	22.0	Permittivity	40.00	40.29	0.72	±5
					Conductivity	1.40	1.42	1.43	±5
2024-11-26	20.2	44	2412	19.9	Permittivity	39.27	39.77	1.28	±5
					Conductivity	1.77	1.73	-2.05	±5
2024-11-26	20.2	44	2441	19.9	Permittivity	39.22	39.53	0.80	±5
					Conductivity	1.79	1.83	2.12	±5
2024-11-26	20.2	45	2450	19.9	Permittivity	39.20	40.02	2.09	±5
					Conductivity	1.80	1.82	1.11	±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 10 %.

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance	Limit
	(MHz)	(mW)	(W/Kg)	(W/kg)	1g(W/kg)	(%)	(%)
2024-11-22	750	100	0.848	8.48	8.49	-0.12	10
2024-11-23	835	100	0.982	9.82	9.63	1.97	10
2024-11-24	1800	100	3.777	37.77	38.40	-1.64	10
2024-11-25	1900	100	3.910	39.10	39.84	-1.86	10
2024-11-26	2450	100	5.333	53.33	54.70	-2.50	10

Note:

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



6. SAR Evaluation Procedures

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

The following steps are used for each test position

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

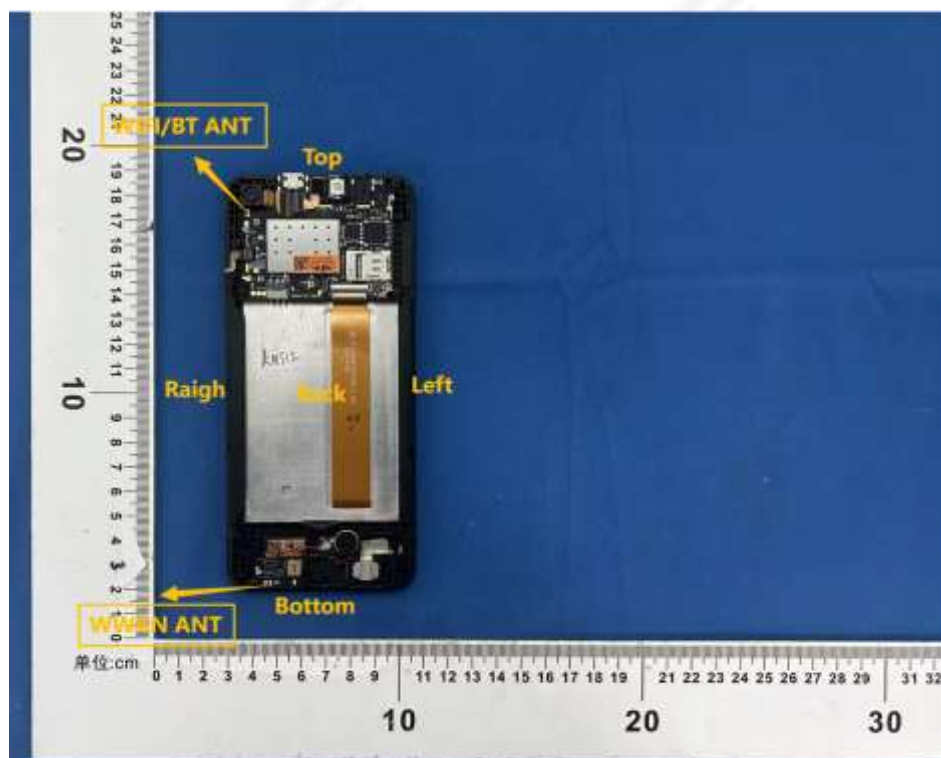
➤ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below. When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.



7. EUT Antenna Location Sketch

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



Antenna Separation Distance(cm)

ANT	Back Side	Front Side	Left Side	Right Side	Top Side	Bottom Side
WLAN/BT	0.5	0.5	7	0.5	1	14
WWAN	0.5	0.5	3.2	1	16	0.5

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

**7.1 SAR test exclusion consider table**

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

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA V	WCDMA IV
	Calculated Frequency(GHz)	0.8242	1.88	1.8524	1.7524	0.8366
	Maximum Turn-up power (dBm)	28.5	26.5	21.5	24	22.5
	Maximum rated power(mW)	707.95	446.68	141.25	251.19	177.83
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.42	3.39	3.43	3.27	6.49
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.42	3.39	3.43	3.27	6.49
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (cm)	3.2	3.2	3.2	3.2	3.2
	exclusion threshold(mW)	127.95	104.14	104.75	110.54	143.73
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (cm)	1	1	1	1	1
	exclusion threshold(mW)	24.95	12.18	12.30	12.17	20.63
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (cm)	16	16	16	16	16
	exclusion threshold(mW)	1228.72	2027.48	2028.93	2341.16	2108.60
	Testing required?	NO	NO	NO	NO	NO
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	9.42	3.39	3.43	3.27	6.49
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12	LTE Band 13
	Calculated Frequency(GHz)	1.86	1.745	0.829	0.704	0.782
	Maximum Turn-up power (dBm)	22	25	22.5	22.5	21.5
	Maximum rated power(mW)	158.49	316.23	177.83	177.83	141.25
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.42	3.60	9.34	11.75	10.14
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.42	3.60	9.34	11.75	10.14
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (cm)	3.2	3.2	3.2	3.2	3.2
	exclusion threshold(mW)	104.58	107.27	127.80	131.92	129.26
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (cm)	1	1	1	1	1
	exclusion threshold(mW)	12.27	12.79	24.81	28.98	26.23
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (cm)	16	16	16	16	16
	exclusion threshold(mW)	2028.53	2034.81	1234.83	1073.85	1174.75
	Testing required?	NO	NO	NO	NO	NO
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	3.42	3.60	9.34	11.75	10.14
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 17	LTE Band 25	LTE Band 66	LTE Band 71	BT	2.4G WLAN
	Calculated Frequency(GHz)	0.709	1.86	1.77	0.683	2.441	2.412
	Maximum Turn-up power (dBm)	22	22.5	23.5	22.5	7	14.5
	Maximum rated power(mW)	158.49	177.83	223.87	177.83	5.01	28.18
Back Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	11.63	3.42	3.56	7.63	2.75	2.78
	Testing required?	YES	YES	YES	YES	YES	YES
Front Side	Separation distance (cm)	0.5	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	11.63	3.42	3.56	7.63	2.75	2.78
	Testing required?	YES	YES	YES	YES	YES	YES
Left Edge	Separation distance (cm)	3.2	3.2	3.2	3.2	7	7
	exclusion threshold(mW)	131.74	104.58	106.67	155.81	415.75	416.89
	Testing required?	YES	YES	YES	YES	NO	NO
Right Edge	Separation distance (cm)	1	1	1	1	0.5	0.5
	exclusion threshold(mW)	28.79	12.27	12.67	23.54	2.75	2.78
	Testing required?	YES	YES	YES	YES	YES	YES
Top Edge	Separation distance (cm)	16	16	16	16	1	1
	exclusion threshold(mW)	1080.37	2028.53	2033.41	2129.43	10.28	10.36
	Testing required?	NO	NO	NO	NO	NO	YES
Bottom Edge	Separation distance (cm)	0.5	0.5	0.5	0.5	14	14
	exclusion threshold(mW)	11.63	3.42	3.56	7.63	1553.09	1554.53
	Testing required?	YES	YES	YES	YES	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D04, if the maximum time-averaged power available does not exceed 1 mW. This stand-alone SAR exemption test.



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

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

Where

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

and

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

d = the separation distance (cm);

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

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



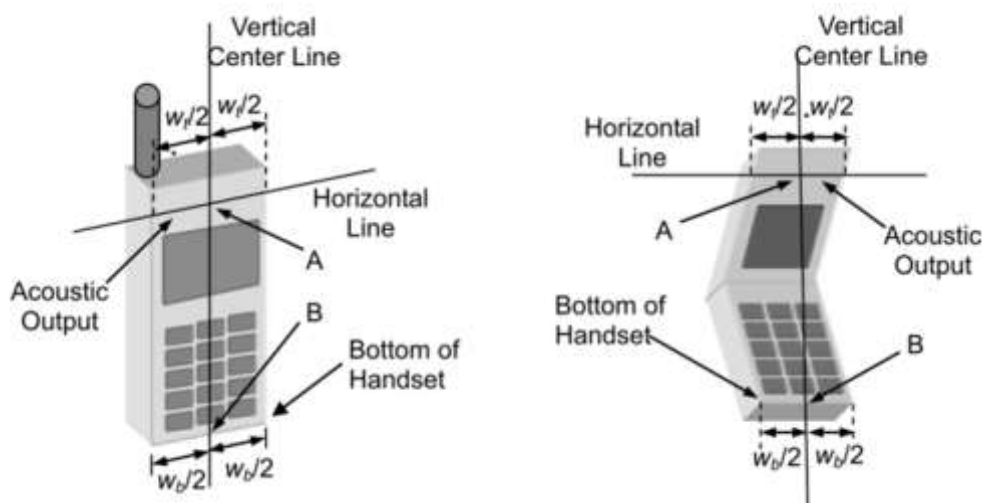
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8. for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than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

8. EUT Test Position

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

8.1 Define Two Imaginary Lines on the Handset

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



Cheek Position

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



Title Position

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



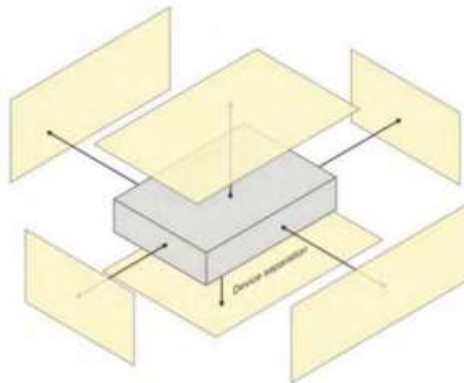
Body-worn Position Conditions:

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



8.2 Hotspot mode exposure position condition

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





9. Uncertainty

9.1 Measurement Uncertainty

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

SATIMO Uncertainty- SN 08/21 EPGO352									
Measurement uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+/- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+/- %)	10g Ui (+/- %)	vi
Measurement System									
Probe calibration	E.2.1	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	0.71	0.71	0.07	0.07	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.71	0.71	0.42	0.42	∞
Boundary effect	E.2.3	0.80	R	1.73	1.00	1.00	0.46	0.46	∞
Linearity	E.2.4	1.25	R	1.73	1.00	1.00	0.72	0.72	∞
System detection limits	E.2.4	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Modulation response	E.2.5	3.42	R	1.73	1.00	1.00	1.97	1.97	∞
Readout Electronics	E.2.6	0.26	N	1.00	1.00	1.00	0.26	0.26	∞
Response Time	E.2.7	0.17	R	1.73	1.00	1.00	0.10	0.10	∞
Integration Time	E.2.8	1.43	R	1.73	1.00	1.00	0.83	0.83	∞
RF ambient conditions-Noise	E.6.1	3.51	R	1.73	1.00	1.00	2.03	2.03	∞
RF ambient conditions-reflections	E.6.1	3.15	R	1.73	1.00	1.00	1.82	1.82	∞
Probe positioner mechanical tolerance	E.6.2	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.40	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.10	R	1.73	1.00	1.00	1.21	1.21	∞
Test sample Related									
Test sample positioning	E.4.2	3.10	N	1.00	1.00	1.00	3.10	3.10	∞
Device holder uncertainty	E.4.1	3.80	N	1.00	1.00	1.00	3.80	3.80	∞
Output power variation—SAR drift measurement	E.2.9	4.50	R	1.73	1.00	1.00	2.60	2.60	∞
SAR scaling	E.6.5	1.80	R	1.73	1.00	1.00	1.04	1.04	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	3.70	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.90	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	2.40	R	1.73	0.78	0.71	1.08	0.98	M
Liquid permittivity measurement	E.3.3	4.10	N	1.00	0.78	0.71	3.20	2.91	M
Liquid conductivity—temperature uncertainty	E.3.4	2.70	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity—temperature uncertainty	E.3.4	4.80	N	1.00	0.23	0.26	1.10	1.25	∞
Combined Standard Uncertainty			RSS				10.08	9.59	
Expanded Uncertainty (95% Confidence interval)			K=2				19.58	19.18	



SATIMO Uncertainty- SN 08/21 EPG0352									
System Validation uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+- %)	10g Ui (+-%)	vi
Measurement System									
Probe calibration	E.2.1	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	1.00	1.00	0.10	0.10	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.00	0.00	0.00	0.00	∞
Boundary effect	E.2.3	0.80	R	1.73	1.00	1.00	0.46	0.46	∞
Linearity	E.2.4	1.25	R	1.73	1.00	1.00	0.72	0.72	∞
System detection limits	E.2.4	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Modulation response	E.2.5	3.42	R	1.73	0.00	0.00	0.00	0.00	∞
Readout Electronics	E.2.6	0.26	N	1.00	1.00	1.00	0.26	0.26	∞
Response Time	E.2.7	0.17	R	1.73	0.00	0.00	0.00	0.00	∞
Integration Time	E.2.8	1.43	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions- Noise	E.6.1	3.51	R	1.73	1.00	1.00	2.03	2.03	∞
RF ambient conditions- reflections	E.6.1	3.15	R	1.73	1.00	1.00	1.82	1.82	∞
Probe positioner mechanical tolerance	E.6.2	1.20	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.40	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	2.10	R	1.73	1.00	1.00	1.21	1.21	∞
System validation source									
Deviation of experimental dipole from numerical dipole	E.6.4	4.80	N	1.00	1.00	1.00	4.80	4.80	∞
Input power and SAR drift measurement	8,6.6.4	5.10	R	1.73	1.00	1.00	2.94	2.94	∞
Dipole axis to liquid distance	8,E.6.6	2.40	R	1.73	1.00	1.00	1.39	1.39	∞
Phantom and set-up									
Phantom shell uncertainty— shape, thickness, and permittivity	E.3.1	3.70	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.90	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	E.3.3	2.40	R	1.73	0.78	0.71	1.08	0.98	∞
Liquid conductivity (measured)	E.3.3	4.10	N	1.00	0.78	0.71	3.20	2.91	M
Liquid permittivity (temperature uncertainty)	E.3.4	2.70	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity (measured)	E.3.4	4.80	N	1.00	0.23	0.26	1.10	1.25	M
Combined Standard Uncertainty			RSS				9.72	9.52	
Expanded Uncertainty (95% Confidence interval)			K=2				19.44	19.03	



SATIMO Uncertainty- SN 08/21 EPGO352									
° System Check uncertainty for DUT averaged over 1 gram / 10 gram.									
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System									
Probe calibration drift	E.2.1.3	5.72	N	1.00	1.00	1.00	5.72	5.72	∞
Axial Isotropy	E.2.2	0.18	R	1.73	0.00	0.00	0.00	0.00	∞
Hemispherical Isotropy	E.2.2	1.04	R	1.73	0.00	0.00	0.00	0.00	∞
Boundary effect	E.2.3	0.8	R	1.73	0.00	0.00	0.00	0.00	∞
Linearity	E.2.4	1.25	R	1.73	0.00	0.00	0.00	0.00	∞
System detection limits	E.2.4	1.20	R	1.73	0.00	0.00	0.00	0.00	∞
Modulation response	E.2.5	3.42	R	1.73	0.00	0.00	0.00	0.00	∞
Readout Electronics	E.2.6	0.26	N	1.00	0.00	0.00	0.00	0.00	∞
Response Time	E.2.7	0.17	R	1.73	0.00	0.00	0.00	0.00	∞
Integration Time	E.2.8	1.43	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3.51	R	1.73	0.00	0.00	0.00	0.00	∞
RF ambient conditions-reflections	E.6.1	3.15	R	1.73	0.00	0.00	0.00	0.00	∞
Probe positioner mechanical tolerance	E.6.2	1.2	R	1.73	1.00	1.00	0.69	0.69	∞
Probe positioning with respect to phantom shell	E.6.3	1.4	R	1.73	1.00	1.00	0.81	0.81	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	3.9	R	1.73	0.00	0.00	0.00	0.00	∞
System check source (dipole)									
Deviation of experimental dipoles	E.6.4	4.8	N	1.00	1.00	1.00	4.80	4.80	∞
Input power and SAR drift measurement	8,6.6.4	5.1	R	1.73	1.00	1.00	2.94	2.94	∞
Dipole axis to liquid distance	8,E.6.6	2.4	R	1.73	1.00	1.00	1.39	1.39	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	3.7	R	1.73	1.00	1.00	2.14	2.14	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1.00	1.00	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	2.4	R	1.73	0.78	0.71	1.08	0.98	∞
Liquid permittivity measurement	E.3.3	4.1	N	1.00	0.78	0.71	3.20	2.91	M
Liquid conductivity—temperature uncertainty	E.3.4	2.7	R	1.73	0.23	0.26	0.36	0.41	∞
Liquid permittivity—temperature uncertainty	E.3.4	4.8	N	1.00	0.23	0.26	1.10	1.25	M
Combined Standard Uncertainty			RSS				5.56	5.20	
Expanded Uncertainty (95% Confidence interval)			K=2				11.12	10.41	



10. Conducted Power Measurement

10.1 Test Result

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	31.18	31.09	30.98	28.53	28.16	27.79
GPRS (GMSK, 1-Slot)	31.20	31.06	30.94	28.47	28.12	27.80
GPRS (GMSK, 2-Slot)	29.15	29.02	28.93	25.71	25.21	24.70
GPRS (GMSK, 3-Slot)	27.27	27.17	27.09	24.09	23.60	23.07
GPRS (GMSK, 4-Slot)	25.09	25.04	24.96	22.09	21.56	21.08
EGPRS(8PSK, 1-Slot)	24.14	23.82	23.90	26.25	26.15	25.70
EGPRS(8PSK, 2-Slot)	23.76	23.57	23.54	25.89	26.27	25.49
EGPRS(8PSK, 3-Slot)	22.39	22.35	22.42	24.28	24.21	23.56
EGPRS(8PSK, 4-Slot)	19.83	19.70	19.85	21.27	21.83	21.03
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)	22.15	22.06	21.95	19.50	19.13	18.76
GPRS (GMSK, 1-Slot)	22.17	22.03	21.91	19.44	19.09	18.77
GPRS (GMSK, 2-Slot)	23.13	23.00	22.91	19.69	19.19	18.68
GPRS (GMSK, 3-Slot)	23.01	22.91	22.83	19.83	19.34	18.81
GPRS (GMSK, 4-Slot)	22.08	22.03	21.95	19.08	18.55	18.07
EGPRS(8PSK, 1-Slot)	15.11	14.79	14.87	17.22	17.12	16.67
EGPRS(8PSK, 2-Slot)	17.74	17.55	17.52	19.87	20.25	19.47
EGPRS(8PSK, 3-Slot)	18.13	18.09	18.16	20.02	19.95	19.30
EGPRS(8PSK, 4-Slot)	16.82	16.69	16.84	18.26	18.82	18.02
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 5			WCDMA Band 4		
Channel	9262	9400	9538	4132	4183	4233	1312	1413	1513
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.6	846.6	1712.6	1740	1752.4
RMC 12.2Kbps	21.22	21.00	20.91	22.95	23.23	23.53	22.06	22.08	22.04
HSDPA Subtest-1	19.90	19.64	19.84	21.93	22.56	22.33	21.43	21.06	21.07
HSDPA Subtest-2	19.92	19.65	19.85	21.98	22.57	22.25	21.42	21.07	21.07
HSDPA Subtest-3	19.90	19.66	19.85	21.98	22.54	22.32	21.44	21.08	21.08
HSDPA Subtest-4	19.85	19.60	19.79	21.92	22.49	22.21	21.40	21.03	21.03
HSUPA Subtest-1	17.88	17.05	17.43	19.57	20.31	20.01	19.30	19.02	18.81
HSUPA Subtest-2	17.50	17.05	17.31	19.73	20.27	19.99	19.24	18.91	18.49
HSUPA Subtest-3	17.47	17.04	17.74	19.72	20.50	20.00	18.93	18.94	18.53
HSUPA Subtest-4	17.51	17.07	17.74	19.71	20.50	20.00	18.93	18.57	18.35
HSUPA Subtest-5	17.49	17.06	17.31	19.69	20.32	19.98	18.75	19.09	18.52

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

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

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

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

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

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

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

**2.4G WLAN**

2.4GWIFI				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
802.11b	1	2412	14.38	27.42
	7	2437	13.17	20.75
	11	2462	13.35	21.63
802.11g	1	2412	11.26	13.37
	7	2437	13.68	23.33
	11	2462	13.78	23.88
802.11 n-HT20	1	2412	13.64	23.12
	7	2437	14.06	25.47
	11	2462	14.44	27.80

Bluetooth

BT				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	6.41	4.38
	39	2441	5.95	3.94
	78	2480	4.46	2.79
$\pi/4$ -QPSK(2Mbps)	0	2402	5.54	3.58
	39	2441	6.3	4.27
	78	2480	4.76	2.99
8DPSK(3Mbps)	0	2402	5.96	3.94
	39	2441	6.84	4.83
	78	2480	5.03	3.18

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
GFSK(1Mbps)	0	2402	-1.29	0.74
	19	2440	2.11	1.63
	39	2480	1.62	1.45

**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

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.36	22.16	22.06
1.4	1	2		22.47	22.14	22.07
1.4	1	5		22.51	22.23	22.14
1.4	3	0		22.57	22.08	22.08
1.4	3	1		22.59	22.12	22.04
1.4	3	2		22.51	22.17	22.04
1.4	6	0		21.49	21.05	21.01
1.4	1	0	16-QAM	22.21	21.55	21.18
1.4	1	2		22.19	21.52	21.11
1.4	1	5		22.20	21.66	21.16
1.4	3	0		21.71	21.05	20.95
1.4	3	1		21.75	20.99	20.94
1.4	3	2		21.74	21.09	20.90
1.4	6	0		20.80	20.06	20.28
3	1	0	QPSK	22.49	21.97	21.93
3	1	7		22.52	22.01	22.08
3	1	14		22.43	22.04	22.03
3	8	0		21.54	21.03	21.11
3	8	4		21.56	21.07	21.06
3	8	7		21.41	21.13	21.11
3	15	0		21.62	21.13	21.21
3	1	0	16-QAM	21.60	22.09	22.02
3	1	7		21.57	22.06	21.98
3	1	14		21.45	22.10	21.99
3	8	0		20.77	20.19	20.42
3	8	4		20.75	20.24	20.45
3	8	7		20.60	20.22	20.44
3	15	0		20.63	20.18	20.24



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.53	22.19	21.95
5	1	12		22.29	22.29	21.99
5	1	24		22.27	22.23	22.04
5	12	0		21.53	21.12	21.11
5	12	6		21.32	21.12	21.22
5	12	11		21.34	21.18	21.14
5	25	0		21.49	21.02	21.04
5	1	0	16-QAM	22.15	21.69	20.80
5	1	12		22.07	21.76	20.90
5	1	24		22.07	21.75	20.92
5	12	0		20.65	20.17	20.16
5	12	6		20.38	20.11	20.21
5	12	11		20.47	20.14	20.26
5	25	0		20.56	20.11	20.29
10	1	0	QPSK	22.55	22.07	22.01
10	1	24		22.48	22.07	22.07
10	1	49		22.37	22.11	22.13
10	25	0		21.39	21.12	21.05
10	25	12		21.41	21.19	21.03
10	25	24		21.33	21.07	21.07
10	50	0		21.46	21.08	21.04
10	1	0	16-QAM	21.60	22.37	21.77
10	1	24		21.91	21.84	21.78
10	1	49		21.82	21.80	21.98
10	25	0		20.55	20.18	20.16
10	25	12		20.61	20.24	20.19
10	25	24		20.55	20.14	20.16
10	50	0		20.47	20.20	20.19



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.37	22.05	21.98
15	1	37		22.26	22.05	22.02
15	1	74		22.12	22.12	22.09
15	36	0		21.42	20.97	21.11
15	36	18		21.31	21.18	21.04
15	36	39		21.27	21.13	21.04
15	75	0		21.33	21.00	21.06
15	1	0	16-QAM	22.25	21.77	21.95
15	1	38		22.16	22.44	21.74
15	1	75		22.12	22.32	21.85
15	36	0		20.40	20.16	20.22
15	36	18		20.30	20.24	20.21
15	36	39		20.43	20.16	20.28
15	75	0		20.34	20.17	20.24
20	1	0	QPSK	22.58	22.36	22.10
20	1	49		22.52	22.31	22.01
20	1	99		22.35	22.32	22.16
20	50	0		21.28	21.25	21.09
20	50	24		21.34	21.06	21.11
20	50	49		21.25	21.06	21.07
20	100	0		21.30	21.09	21.18
20	1	0	16-QAM	22.67	21.64	21.54
20	1	49		22.52	21.59	21.55
20	1	99		22.45	21.62	21.58
20	50	0		20.46	20.27	20.23
20	50	24		20.32	20.24	20.22
20	50	49		20.32	20.08	20.29
20	100	0		20.41	20.11	20.24



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.34	22.67	23.07
1.4	1	2		22.53	22.83	23.10
1.4	1	5		22.46	22.87	23.05
1.4	3	0		22.42	22.76	23.08
1.4	3	1		22.47	22.80	23.13
1.4	3	2		22.43	22.73	23.08
1.4	6	0		21.42	21.76	22.14
1.4	1	0	16-QAM	21.50	22.53	22.76
1.4	1	2		21.49	22.46	22.90
1.4	1	5		21.52	22.51	22.88
1.4	3	0		21.32	21.92	21.69
1.4	3	1		21.33	21.99	21.85
1.4	3	2		21.29	21.94	21.84
1.4	6	0		20.89	21.29	21.21
3	1	0	QPSK	22.41	22.57	22.89
3	1	7		22.40	22.62	22.94
3	1	14		22.44	22.68	22.92
3	8	0		21.43	21.71	22.00
3	8	4		21.43	21.76	21.93
3	8	7		21.45	21.70	22.12
3	15	0		21.35	21.74	21.91
3	1	0	16-QAM	21.73	22.99	22.53
3	1	7		21.67	22.41	22.59
3	1	14		21.71	22.44	22.65
3	8	0		20.96	20.73	21.60
3	8	4		21.02	21.21	21.62
3	8	7		20.69	21.29	21.19
3	15	0		20.86	21.21	21.40



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.29	22.64	22.98
5	1	12		22.30	22.65	23.01
5	1	24		22.35	22.67	23.03
5	12	0		21.39	21.72	22.09
5	12	6		21.40	21.65	22.02
5	12	11		21.47	21.64	22.04
5	25	0		21.36	21.68	21.95
5	1	0		24.02	22.27	23.44
5	1	12	16-QAM	21.97	22.32	23.60
5	1	24		22.06	22.36	21.89
5	12	0		20.83	20.67	21.04
5	12	6		20.53	21.08	21.42
5	12	11		20.52	21.10	21.40
5	25	0		20.57	21.07	21.44
10	1	0	QPSK	22.36	22.67	22.97
10	1	24		22.43	22.75	23.06
10	1	49		22.51	22.87	23.00
10	25	0		21.46	21.70	21.91
10	25	12		21.36	21.63	22.09
10	25	24		21.39	21.77	21.94
10	50	0		21.44	21.70	22.15
10	1	0		21.46	22.86	22.93
10	1	24	16-QAM	21.44	22.92	22.80
10	1	49		21.56	23.14	22.93
10	25	0		20.62	20.74	21.46
10	25	12		20.71	21.12	21.20
10	25	24		20.81	21.16	21.39
10	50	0		20.59	21.17	21.20



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.19	22.61	22.85
15	1	37		22.35	22.81	23.03
15	1	74		22.46	22.96	23.00
15	36	0		21.40	21.64	22.11
15	36	18		21.39	21.74	21.98
15	36	39		21.48	21.75	22.06
15	75	0		21.40	21.72	21.87
15	1	0	16-QAM	22.16	22.18	22.59
15	1	38		22.22	22.43	22.71
15	1	75		22.38	22.57	22.87
15	36	0		20.54	20.86	21.36
15	36	18		20.71	21.25	21.37
15	36	39		21.02	20.97	21.13
15	75	0		20.67	21.11	21.35
20	1	0	QPSK	22.45	22.52	22.95
20	1	49		22.54	22.87	23.16
20	1	99		22.66	23.07	23.25
20	50	0		21.42	21.71	21.75
20	50	24		21.64	21.71	22.16
20	50	49		21.67	21.94	22.05
20	100	0		21.60	21.79	22.29
20	1	0	16-QAM	22.65	22.27	21.82
20	1	49		22.71	22.60	24.64
20	1	99		22.82	22.68	22.48
20	50	0		20.51	20.96	21.04
20	50	24		20.51	21.05	23.31
20	50	49		20.99	20.85	23.45
20	100	0		20.55	21.00	23.29



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	21.96	21.98	21.92
1.4	1	2		21.93	21.99	21.97
1.4	1	5		21.95	22.06	21.99
1.4	3	0		22.00	21.91	21.86
1.4	3	1		21.91	21.92	21.95
1.4	3	2		22.18	21.93	21.92
1.4	6	0		20.99	20.94	20.90
1.4	1	0	16-QAM	21.01	21.55	21.44
1.4	1	2		20.94	21.64	21.55
1.4	1	5		20.96	21.73	21.54
1.4	3	0		20.66	21.02	20.77
1.4	3	1		20.68	21.07	20.86
1.4	3	2		20.64	20.99	20.86
1.4	6	0		20.00	20.20	20.07
3	1	0	QPSK	21.85	21.94	21.87
3	1	7		21.86	21.85	21.75
3	1	14		21.93	21.89	21.85
3	8	0		20.95	20.82	20.90
3	8	4		20.91	20.92	20.75
3	8	7		21.00	20.96	20.87
3	15	0		20.88	20.90	20.79
3	1	0	16-QAM	20.93	22.22	21.60
3	1	7		20.94	22.25	21.55
3	1	14		20.92	22.20	21.66
3	8	0		20.12	19.95	20.16
3	8	4		19.93	20.07	20.08
3	8	7		20.11	19.99	20.09
3	15	0		19.77	20.02	19.97



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.74	21.77	21.94
5	1	12		21.80	21.87	21.79
5	1	24		21.90	21.77	21.77
5	12	0		20.93	20.81	20.84
5	12	6		21.00	20.92	20.84
5	12	11		20.95	20.96	20.84
5	25	0		20.91	21.01	20.95
5	1	0	16-QAM	21.45	20.36	21.45
5	1	12		21.51	20.49	21.41
5	1	24		21.44	20.42	21.50
5	12	0		19.83	19.94	19.97
5	12	6		19.90	19.95	19.96
5	12	11		19.73	19.95	19.82
5	25	0		19.84	20.01	19.97
10	1	0	QPSK	21.79	21.83	21.85
10	1	24		21.96	21.95	21.92
10	1	49		21.86	21.80	21.90
10	25	0		21.01	20.89	20.79
10	25	12		20.96	20.98	20.95
10	25	24		20.94	20.88	20.86
10	50	0		20.88	20.97	20.86
10	1	0	16-QAM	21.14	22.12	21.57
10	1	24		21.14	22.16	21.60
10	1	49		21.21	21.61	21.60
10	25	0		20.02	20.07	19.86
10	25	12		20.13	20.08	19.97
10	25	24		20.09	20.12	19.99
10	50	0		19.94	20.04	19.87



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	21.90	21.73	21.75
1.4	1	2		21.86	21.67	21.71
1.4	1	5		21.82	21.74	21.65
1.4	3	0		21.75	21.67	21.71
1.4	3	1		21.82	21.68	21.73
1.4	3	2		21.79	21.63	21.73
1.4	6	0		20.65	21.08	20.65
1.4	1	0	16-QAM	20.83	21.17	21.30
1.4	1	2		20.78	21.69	21.20
1.4	1	5		20.79	21.70	21.22
1.4	3	0		20.45	21.02	20.73
1.4	3	1		20.50	21.07	20.57
1.4	3	2		20.46	21.02	20.53
1.4	6	0		19.82	20.29	19.62
3	1	0	QPSK	21.92	21.71	21.80
3	1	7		21.87	21.66	21.73
3	1	14		21.92	21.72	21.74
3	8	0		20.66	20.61	20.62
3	8	4		20.69	21.15	20.69
3	8	7		20.77	21.11	20.69
3	15	0		20.58	21.11	20.60
3	1	0	16-QAM	20.77	21.96	21.36
3	1	7		20.72	22.29	21.43
3	1	14		20.86	22.24	21.32
3	8	0		19.89	19.81	19.95
3	8	4		19.86	20.20	19.83
3	8	7		19.91	20.19	19.75
3	15	0		19.63	20.17	19.70



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.77	21.74	21.51
5	1	12		21.59	21.61	21.66
5	1	24		21.60	21.62	21.62
5	12	0		20.62	20.60	20.57
5	12	6		20.75	21.02	20.67
5	12	11		20.68	21.10	20.69
5	25	0		20.74	21.10	20.67
5	1	0		21.17	20.84	20.14
5	1	12	16-QAM	21.11	21.18	20.29
5	1	24		21.21	20.85	20.20
5	12	0		19.75	19.67	19.49
5	12	6		19.73	20.01	19.64
5	12	11		19.75	20.03	19.65
5	25	0		19.96	20.09	19.70
10	1	0	QPSK	21.70	21.64	21.57
10	1	24		21.63	21.59	21.47
10	1	49		21.70	21.53	21.57
10	25	0		20.66	20.72	20.96
10	25	12		20.62	21.02	20.58
10	25	24		20.68	20.61	20.66
10	50	0		20.70	21.03	20.60
10	1	0		20.73	21.79	21.13
10	1	24	16-QAM	20.59	22.24	21.07
10	1	49		21.12	21.80	21.14
10	25	0		19.87	19.87	20.09
10	25	12		19.92	20.20	19.49
10	25	24		20.07	19.68	19.72
10	50	0		19.82	20.14	19.55



LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.04	20.99	21.11
5	1	12		21.19	20.98	21.08
5	1	24		21.12	20.99	21.03
5	12	0		20.01	20.04	20.30
5	12	6		20.06	20.09	20.09
5	12	11		20.08	20.35	20.16
5	25	0		20.05	20.16	20.21
5	1	0	16-QAM	20.47	19.73	20.59
5	1	12		20.43	19.66	20.66
5	1	24		20.53	19.70	20.64
5	12	0		18.96	19.08	19.24
5	12	6		18.99	19.21	19.24
5	12	11		19.00	19.22	19.18
5	25	0		19.13	19.25	19.26
10	1	0	QPSK	/	20.99	/
10	1	24		/	20.99	/
10	1	49		/	21.09	/
10	25	0		/	20.00	/
10	25	12		/	20.02	/
10	25	24		/	20.22	/
10	50	0		/	20.00	/
10	1	0	16-QAM	/	20.15	/
10	1	24		/	20.11	/
10	1	49		/	20.21	/
10	25	0		/	19.20	/
10	25	12		/	19.28	/
10	25	24		/	19.37	/
10	50	0		/	19.20	/



LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.74	21.63	21.16
5	1	12		21.82	21.73	21.21
5	1	24		21.70	21.59	21.09
5	12	0		20.77	20.71	20.14
5	12	6		20.81	20.70	20.31
5	12	11		20.64	20.72	20.48
5	25	0		20.72	20.64	20.36
5	1	0	16-QAM	20.91	20.24	20.28
5	1	12		21.05	20.23	20.39
5	1	24		20.87	20.05	20.14
5	12	0		19.78	19.29	19.29
5	12	6		19.83	19.34	19.47
5	12	11		19.63	19.22	19.65
5	25	0		19.71	19.33	19.66
10	1	0	QPSK	21.75	21.18	21.14
10	1	24		21.95	21.35	21.32
10	1	49		21.69	21.09	21.11
10	25	0		20.95	20.41	20.39
10	25	12		20.60	20.26	20.30
10	25	24		20.38	20.40	20.43
10	50	0		20.40	20.38	20.41
10	1	0	16-QAM	20.21	20.33	20.73
10	1	24		20.42	20.50	20.91
10	1	49		20.11	20.28	20.58
10	25	0		19.51	19.45	19.44
10	25	12		19.38	19.30	19.34
10	25	24		19.44	19.46	19.47
10	50	0		19.40	19.44	19.43



LTE BAND 25

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.34	22.00	22.07
1.4	1	2		22.33	21.93	22.03
1.4	1	5		22.32	22.00	22.01
1.4	3	0		22.31	22.08	22.18
1.4	3	1		22.30	22.05	22.15
1.4	3	2		22.24	22.08	22.13
1.4	6	0		21.37	21.03	21.06
1.4	1	0	16-QAM	21.46	21.83	21.65
1.4	1	2		21.41	21.84	21.66
1.4	1	5		21.50	21.77	21.63
1.4	3	0		21.27	21.01	21.18
1.4	3	1		21.24	21.18	21.02
1.4	3	2		21.21	21.20	20.94
1.4	6	0		20.36	20.21	20.13
3	1	0	QPSK	22.41	22.01	22.09
3	1	7		22.41	21.99	22.04
3	1	14		22.47	21.94	22.05
3	8	0		21.44	21.04	21.02
3	8	4		21.37	21.10	20.96
3	8	7		21.34	21.05	21.04
3	15	0		21.49	21.09	21.16
3	1	0	16-QAM	21.51	21.87	21.86
3	1	7		21.50	21.87	21.84
3	1	14		21.51	21.77	21.88
3	8	0		20.58	20.05	20.48
3	8	4		20.61	20.21	20.53
3	8	7		20.68	20.16	20.44
3	15	0		20.42	20.15	20.28



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.44	22.11	22.07
5	1	12		22.27	22.06	22.02
5	1	24		22.28	22.09	22.00
5	12	0		21.47	21.15	21.18
5	12	6		21.52	21.20	21.17
5	12	11		21.38	21.16	21.13
5	25	0		21.50	21.21	21.04
5	1	0	16-QAM	22.12	21.66	20.82
5	1	12		22.09	21.57	20.84
5	1	24		22.08	21.68	20.86
5	12	0		20.42	20.04	20.22
5	12	6		20.49	20.14	20.25
5	12	11		20.45	20.22	20.23
5	25	0		20.60	20.30	20.35
10	1	0	QPSK	22.45	22.02	22.01
10	1	24		22.42	22.12	22.03
10	1	49		22.47	22.17	22.09
10	25	0		21.52	21.22	21.02
10	25	12		21.43	21.19	21.06
10	25	24		21.33	21.08	21.19
10	50	0		21.51	21.25	21.16
10	1	0	16-QAM	21.53	21.82	22.02
10	1	24		21.51	21.81	22.08
10	1	49		21.44	21.89	22.16
10	25	0		20.61	20.27	20.20
10	25	12		20.55	20.32	20.24
10	25	24		20.53	20.20	20.28
10	50	0		20.39	20.34	20.26



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.27	22.04	21.91
15	1	37		22.28	22.09	22.09
15	1	74		22.20	22.00	22.09
15	36	0		21.39	21.03	20.99
15	36	18		21.30	21.14	21.01
15	36	39		21.29	21.09	21.03
15	75	0		21.35	21.14	21.15
15	1	0	16-QAM	22.17	22.42	21.95
15	1	38		22.17	22.33	22.01
15	1	75		22.01	22.38	22.12
15	36	0		20.36	20.18	20.38
15	36	18		20.39	20.27	20.19
15	36	39		20.38	20.14	20.16
15	75	0		20.33	20.21	20.15
20	1	0	QPSK	22.44	22.16	21.94
20	1	49		22.44	22.10	22.03
20	1	99		22.31	22.08	22.17
20	50	0		21.40	21.17	21.04
20	50	24		21.31	21.07	21.07
20	50	49		21.18	21.14	21.10
20	100	0		21.26	21.09	21.07
20	1	0	16-QAM	22.55	21.60	21.59
20	1	49		22.41	21.53	21.56
20	1	99		22.34	21.60	21.66
20	50	0		20.32	20.06	20.13
20	50	24		20.29	20.23	20.46
20	50	49		20.25	20.24	20.22
20	100	0		20.37	20.18	20.46



LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.59	23.38	23.54
1.4	1	12		22.64	23.26	23.73
1.4	1	24		22.69	23.35	23.70
1.4	12	0		22.70	23.13	23.61
1.4	12	6		22.72	23.17	23.53
1.4	12	11		22.74	23.14	23.64
1.4	25	0		21.60	22.16	22.64
1.4	1	0	16-QAM	22.15	22.47	23.25
1.4	1	12		22.18	22.42	23.22
1.4	1	24		22.19	22.46	23.23
1.4	12	0		21.51	21.94	22.72
1.4	12	6		21.43	21.93	22.79
1.4	12	11		21.45	21.90	22.79
1.4	25	0		20.64	21.62	21.78
3	1	0	QPSK	22.55	22.95	23.44
3	1	24		22.57	22.91	23.44
3	1	49		22.49	22.95	23.48
3	25	0		21.49	22.11	22.34
3	25	12		21.56	22.06	22.54
3	25	24		21.49	22.04	22.44
3	50	0		21.50	22.02	22.44
3	1	0	16-QAM	21.52	23.29	23.35
3	1	24		21.48	23.21	23.36
3	1	49		21.50	23.39	23.48
3	25	0		20.76	21.49	22.04
3	25	12		20.76	21.50	21.83
3	25	24		20.79	21.50	21.87
3	50	0		20.60	21.46	21.62



LTE Band 66Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.43	23.02	23.31
5	1	37		22.36	22.91	23.36
5	1	74		22.38	22.94	23.43
5	36	0		21.49	22.12	22.36
5	36	18		21.41	21.97	22.40
5	36	39		21.56	22.20	22.48
5	75	0		21.44	21.98	22.41
5	1	0	16-QAM	22.03	22.62	21.96
5	1	38		22.06	22.62	22.02
5	1	75		22.34	22.85	22.05
5	36	0		20.43	21.42	21.79
5	36	18		20.56	21.61	21.78
5	36	39		20.56	21.40	21.54
5	75	0		20.61	21.34	21.83
10	1	0	QPSK	22.43	22.97	23.17
10	1	49		22.41	23.01	23.21
10	1	99		22.50	23.04	23.37
10	50	0		21.45	22.06	22.34
10	50	24		21.78	22.09	22.31
10	50	49		21.55	22.22	22.39
10	100	0		21.85	22.09	22.34
10	1	0	16-QAM	21.68	22.89	22.94
10	1	49		22.12	23.47	23.10
10	1	99		21.54	23.49	23.13
10	50	0		20.64	21.44	21.48
10	50	24		21.04	21.41	21.38
10	50	49		21.04	21.36	21.76
10	100	0		20.92	21.40	21.34



LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.24	22.76	23.05
15	1	12		22.35	22.91	23.20
15	1	24		22.46	23.04	23.29
15	12	0		21.81	21.95	22.30
15	12	6		21.58	21.94	22.30
15	12	11		21.61	21.87	22.34
15	25	0		21.59	22.05	22.35
15	1	0	16-QAM	22.15	23.16	23.11
15	1	12		22.12	23.49	23.19
15	1	24		22.32	23.68	23.32
15	12	0		20.86	20.81	21.46
15	12	6		20.90	21.35	21.43
15	12	11		20.96	21.41	21.78
15	25	0		20.85	21.40	21.43
20	1	0	QPSK	22.35	22.83	23.02
20	1	24		22.47	22.97	23.23
20	1	49		22.64	23.10	23.32
20	25	0		21.76	21.82	22.18
20	25	12		21.56	21.95	22.29
20	25	24		21.62	21.94	22.42
20	50	0		21.57	21.91	22.24
20	1	0	16-QAM	21.95	22.92	22.86
20	1	24		22.07	23.16	23.02
20	1	49		22.26	23.18	23.15
20	25	0		20.96	20.84	21.38
20	25	12		20.97	21.28	21.55
20	25	24		21.09	21.33	21.47
20	50	0		21.01	21.38	21.43



LTE BAND 71

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.02	21.79	21.73
5	1	12		21.89	21.66	21.59
5	1	24		21.98	21.73	21.56
5	12	0		21.00	20.84	20.77
5	12	6		20.94	20.79	20.60
5	12	11		20.88	20.86	20.73
5	25	0		20.96	20.83	20.77
5	1	0	16-QAM	21.49	20.48	21.25
5	1	12		21.52	20.36	21.24
5	1	24		21.48	20.35	21.22
5	12	0		19.91	19.78	19.90
5	12	6		20.00	19.75	19.70
5	12	11		19.80	19.82	19.74
5	25	0		19.68	19.79	19.81
10	1	0	QPSK	22.03	21.93	21.84
10	1	24		22.05	21.73	21.69
10	1	49		21.85	21.92	21.55
10	25	0		20.95	20.88	20.91
10	25	12		20.81	20.73	20.82
10	25	24		20.94	20.79	20.68
10	50	0		20.84	20.84	20.89
10	1	0	16-QAM	20.95	22.13	21.40
10	1	24		20.82	22.04	21.47
10	1	49		20.93	22.05	21.53
10	25	0		19.99	19.94	20.38
10	25	12		20.21	19.85	20.27
10	25	24		20.02	19.86	19.84
10	50	0		20.02	19.89	20.31



LTE BAND 71

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.04	21.90	21.85
15	1	12		21.90	21.75	21.78
15	1	24		21.80	21.84	21.72
15	12	0		20.84	20.92	20.92
15	12	6		20.84	20.83	20.68
15	12	11		20.97	20.99	20.90
15	25	0		20.80	20.75	20.87
15	1	0	16-QAM	21.63	21.55	21.48
15	1	12		21.72	22.19	21.39
15	1	24		21.73	22.25	21.35
15	12	0		20.04	19.96	19.90
15	12	6		19.92	19.88	20.40
15	12	11		20.02	19.87	19.90
15	25	0		19.85	19.81	20.38
20	1	0	QPSK	22.03	22.04	21.65
20	1	24		21.81	21.95	21.66
20	1	49		21.79	21.86	21.68
20	25	0		20.88	20.90	20.74
20	25	12		20.96	20.83	20.88
20	25	24		20.87	20.90	20.92
20	50	0		21.01	20.82	21.00
20	1	0	16-QAM	22.09	21.89	21.23
20	1	24		22.07	21.86	20.98
20	1	49		21.97	21.93	20.84
20	25	0		19.97	19.93	19.80
20	25	12		19.83	19.90	19.94
20	25	24		20.00	20.05	20.35
20	50	0		19.91	19.86	19.91

11. EUT and Test Setup Photo

11.1 EUT Photo

Front side

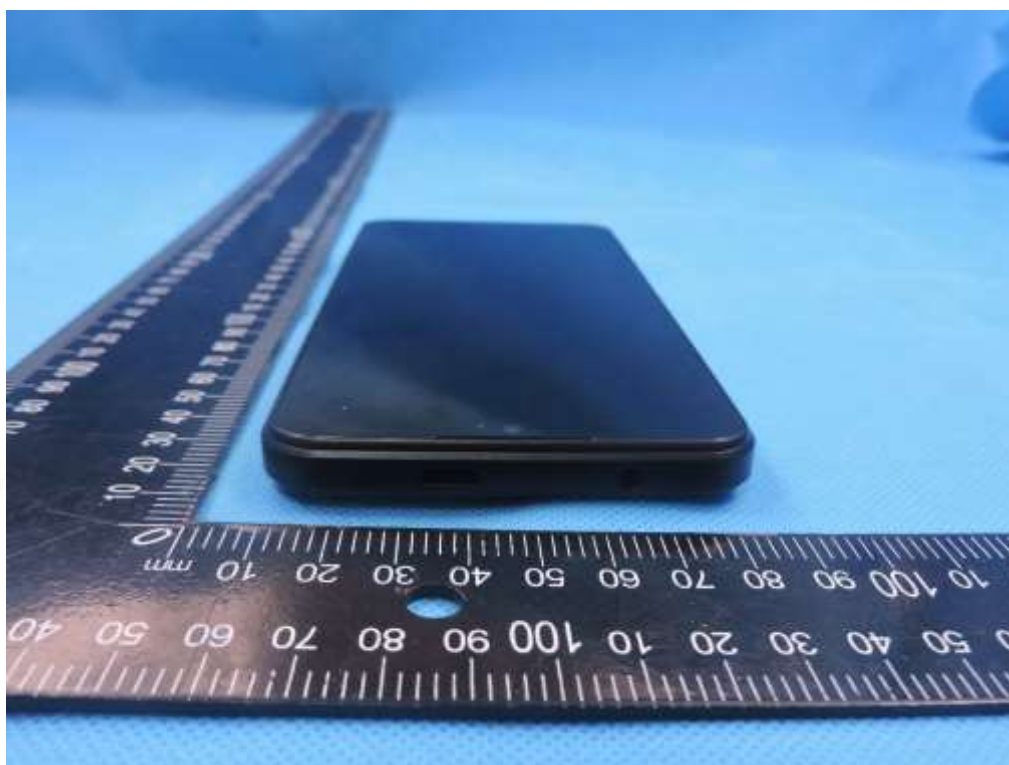


Back side

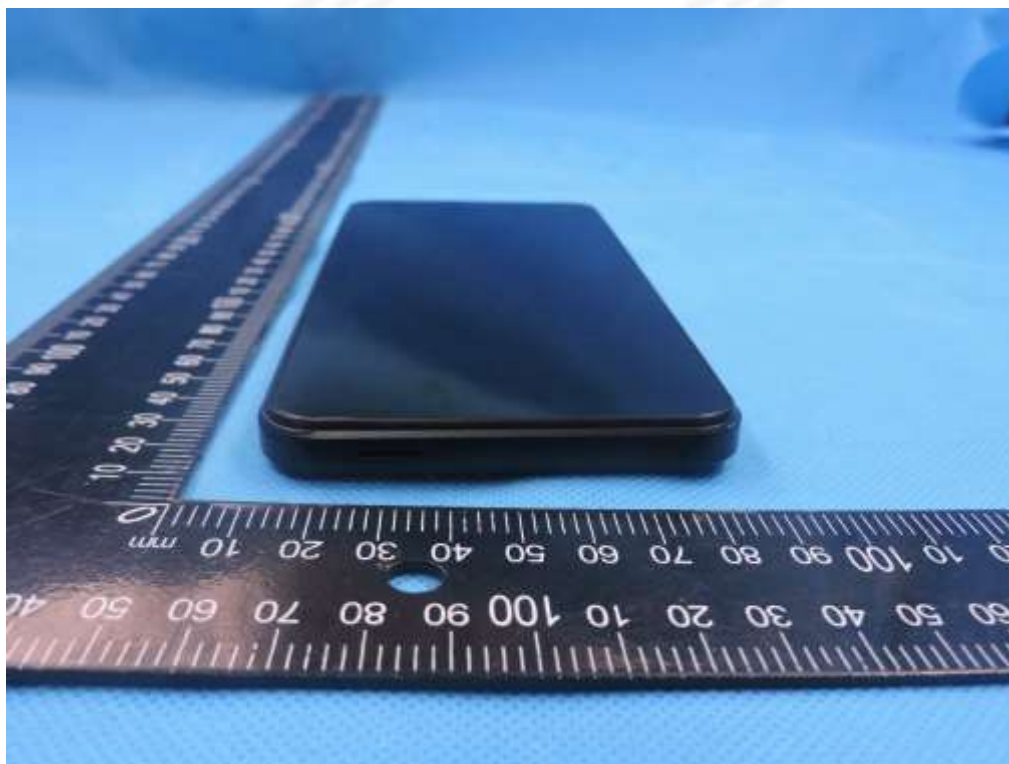




Top side

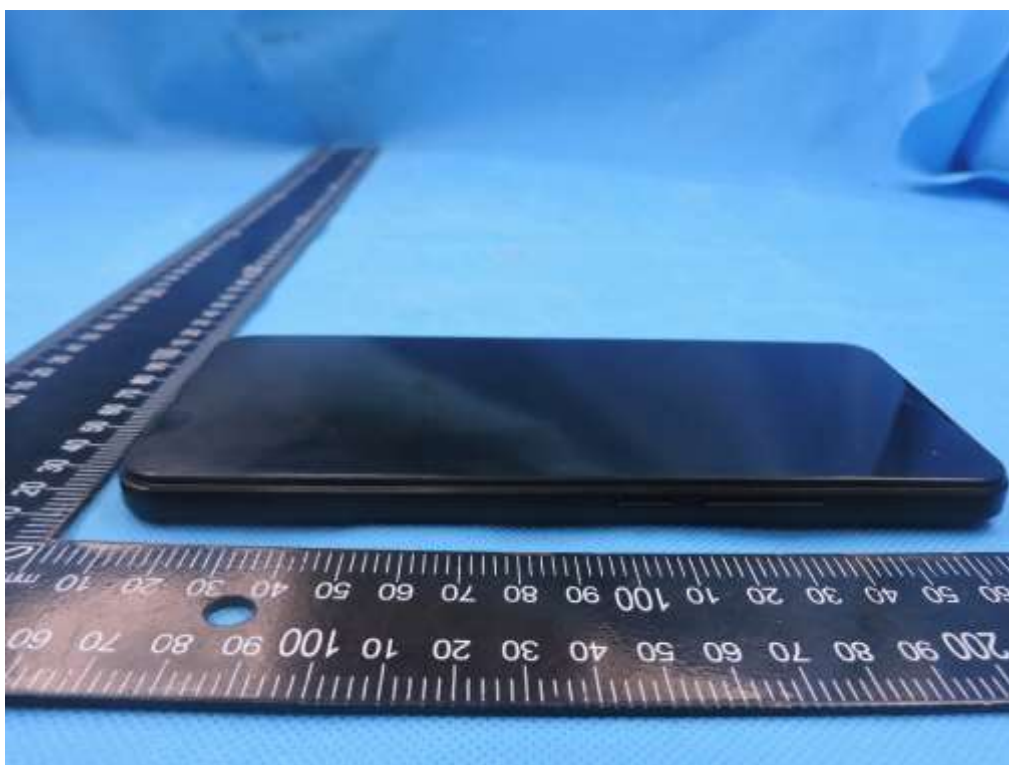


Bottom side

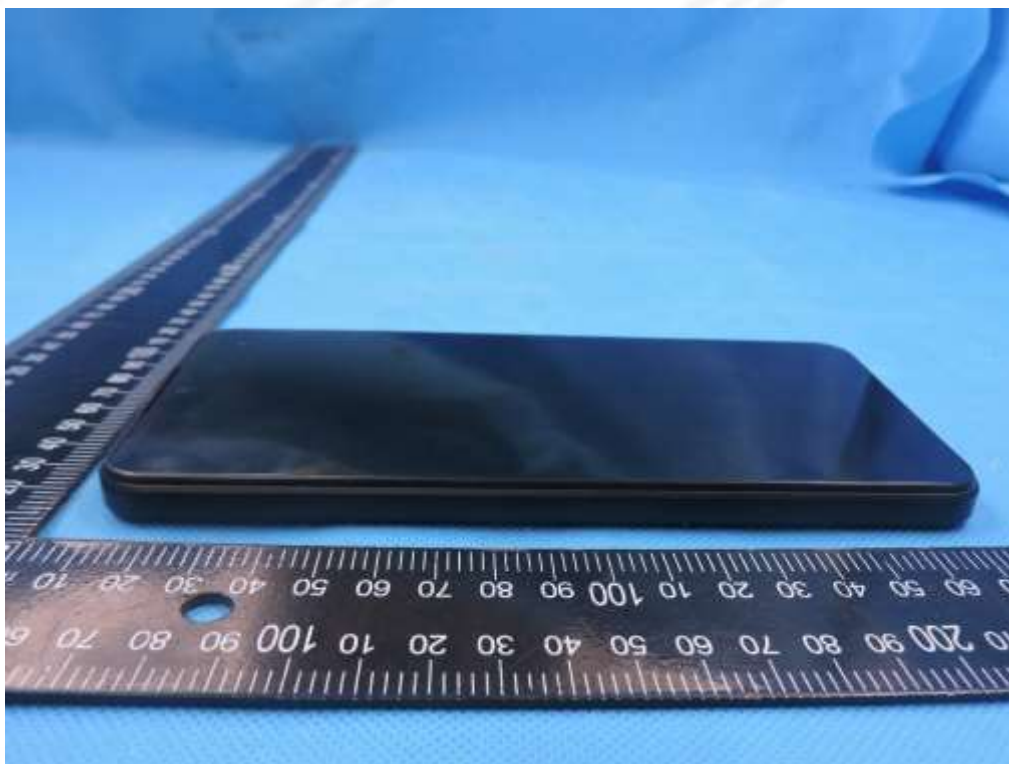




Left side



Right side





11.2 Setup Photo

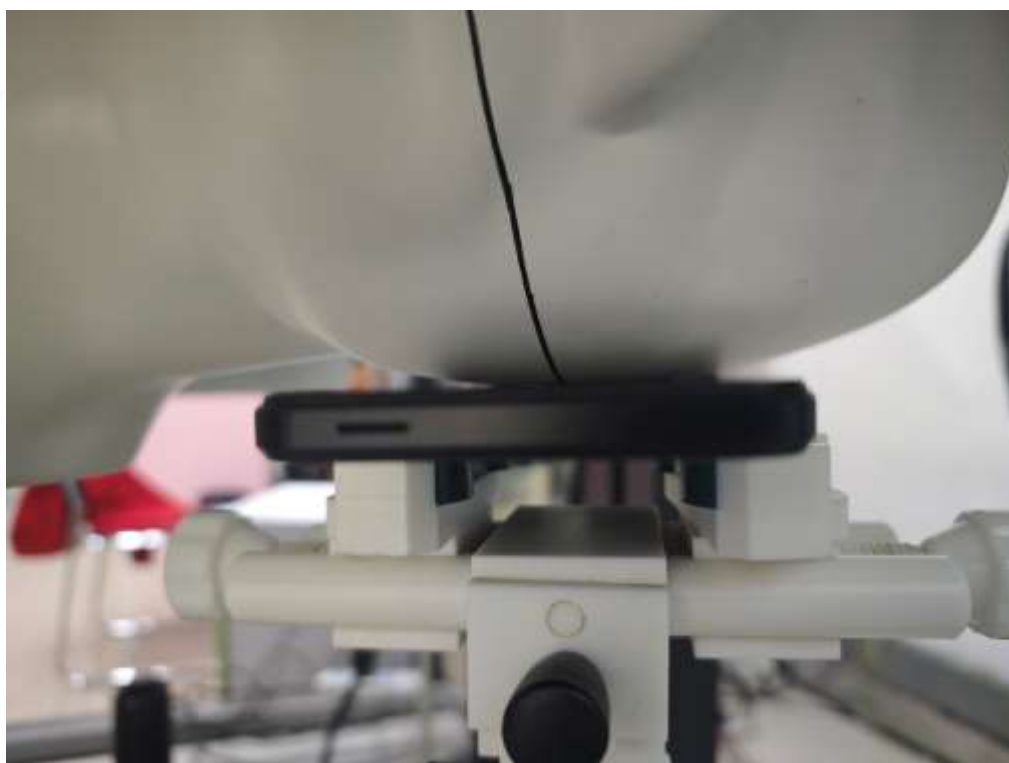
Right Touch



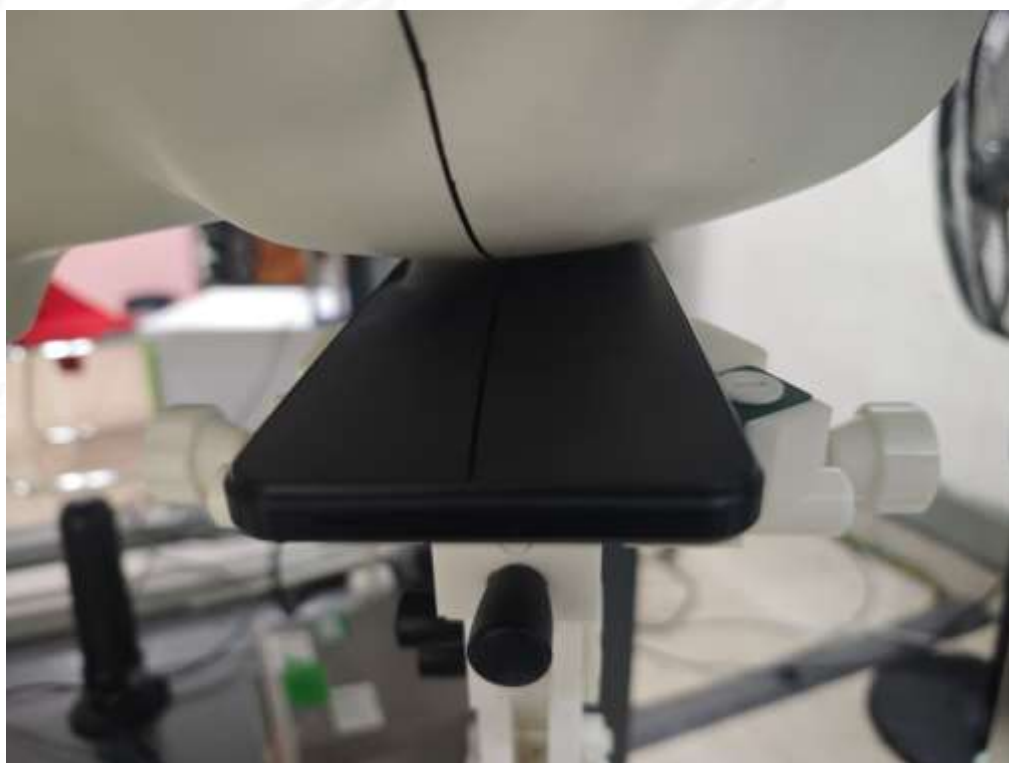
Right Tilt



Left Touch



Left Tilt

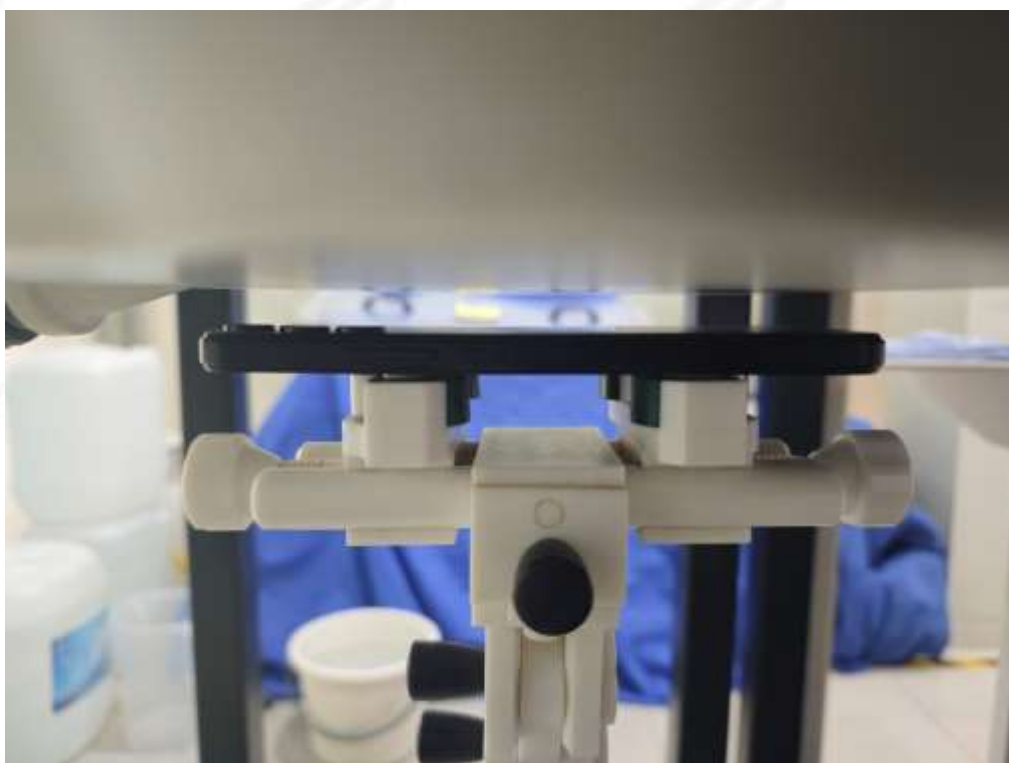




Body Front side(separation distance is 10mm)



Body Back side(separation distance is 10mm)





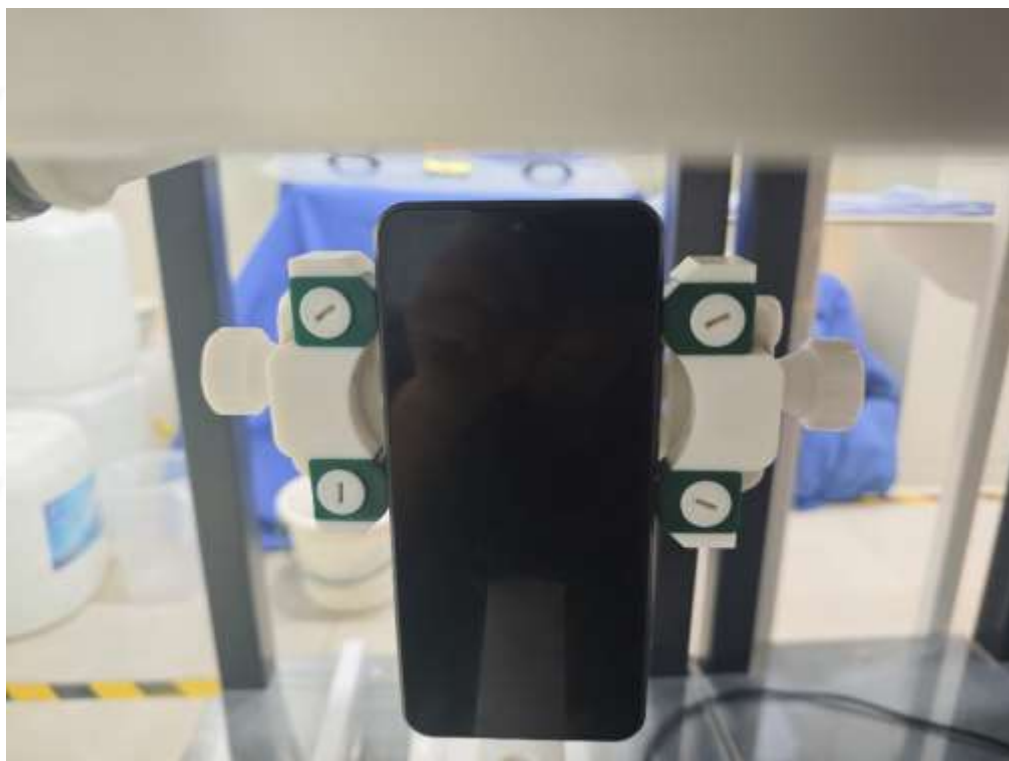
Body Left side(separation distance is 10mm)



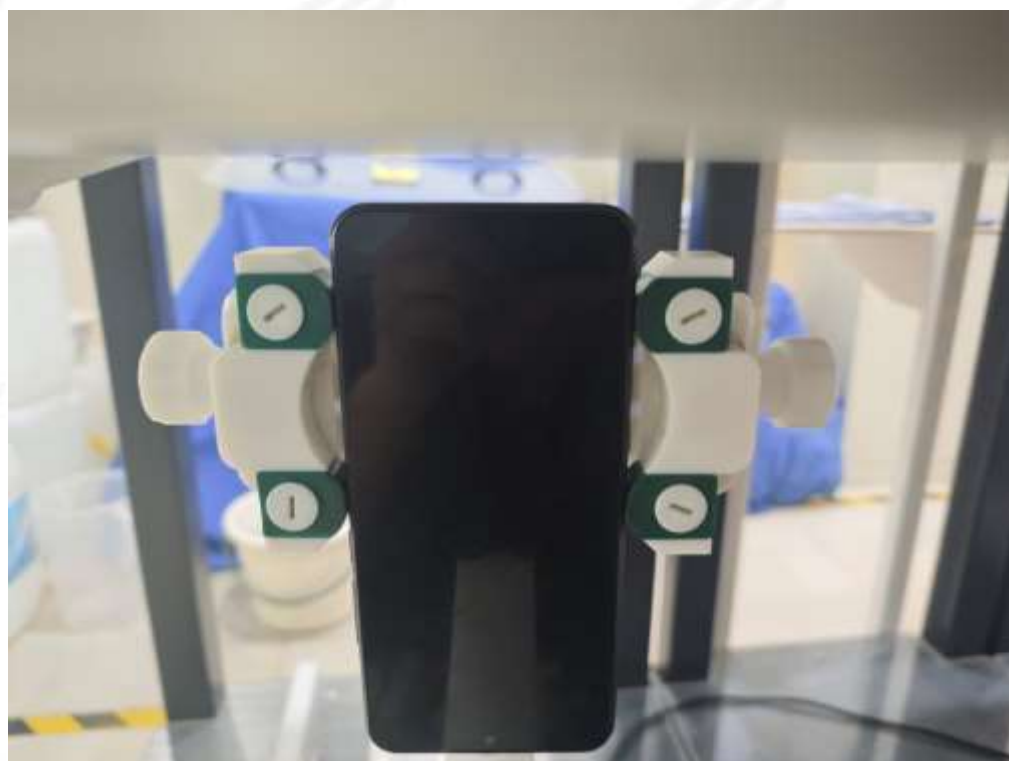
Body Right side(separation distance is 10mm)



Body Bottom side(separation distance is 10mm)

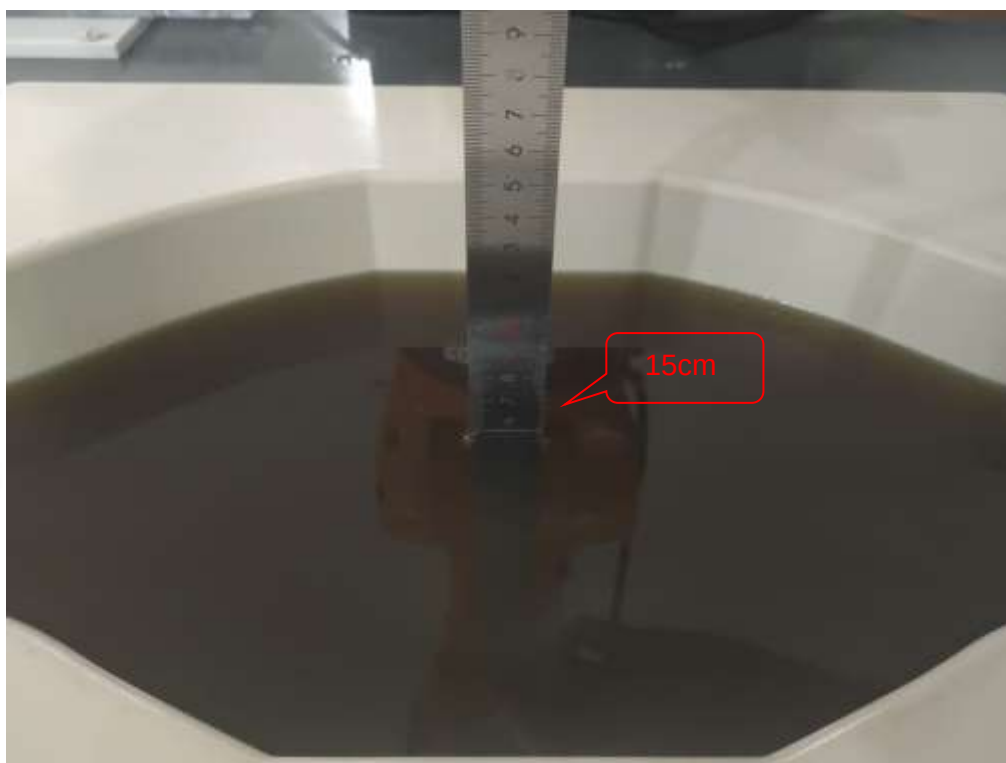


Body Top side(separation distance is 10mm)





Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS Data-2 Slot	Right Cheek	824.2	0.303	-3.52	29.50	29.15	0.328	1
		Right Tilt	824.2	0.135	0.17	29.50	29.15	0.146	/
		Left Cheek	824.2	0.274	-1.07	29.50	29.15	0.297	/
		Left Tilt	824.2	0.122	-1.25	29.50	29.15	0.132	/
GSM1900	EGPRS Data-2 Slot	Right Cheek	1880	0.140	0.39	26.50	26.27	0.148	3
		Right Tilt	1880	0.084	2.29	26.50	26.27	0.089	/
		Left Cheek	1880	0.137	-1.44	26.50	26.27	0.144	/
		Left Tilt	1880	0.071	0.75	26.50	26.27	0.075	/
WCDMA Band II	RMC	Right Cheek	1852.4	0.116	1.45	21.50	21.22	0.124	5
		Right Tilt	1852.4	0.062	-1.30	21.50	21.22	0.066	/
		Left Cheek	1852.4	0.101	0.75	21.50	21.22	0.108	/
		Left Tilt	1852.4	0.057	2.01	21.50	21.22	0.061	/
WCDMA Band V	RMC	Right Cheek	1752.4	0.203	-2.65	24.00	23.53	0.226	7
		Right Tilt	1752.4	0.096	1.83	24.00	23.53	0.107	/
		Left Cheek	1752.4	0.183	0.85	24.00	23.53	0.204	/
		Left Tilt	1752.4	0.088	-2.98	24.00	23.53	0.098	/
WCDMA Band IV	RMC	Right Cheek	836.6	0.174	-3.39	22.50	22.08	0.192	9
		Right Tilt	836.6	0.079	3.28	22.50	22.08	0.087	/
		Left Cheek	836.6	0.153	3.78	22.50	22.08	0.169	/
		Left Tilt	836.6	0.064	2.05	22.50	22.08	0.070	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Right Cheek	1860	0.328	-1.57	23	22.58	0.361	11
			1	0	Right Cheek	1880	0.224	1.63	23	22.36	0.260	/
			1	0	Right Cheek	1900	0.241	0.57	23	22.16	0.292	/
			50	0	Right Cheek	1860	0.288	2.38	21.5	21.34	0.299	/
			1	0	Right Tilt	1860	0.212	-2.65	23	22.58	0.234	/
			50	0	Right Tilt	1860	0.167	2.90	21.5	21.34	0.173	/
			1	0	Left Cheek	1860	0.308	-2.22	23	22.58	0.339	/
			50	0	Left Cheek	1860	0.272	-1.99	21.5	21.34	0.282	/
			1	0	Left Tilt	1860	0.177	-1.40	23	22.58	0.195	/
			50	0	Left Tilt	1860	0.145	1.30	21.5	21.34	0.150	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1745	0.261	-3.85	23.5	23.25	0.276	13
			50	0	Right Cheek	1745	0.220	1.79	22.5	22.16	0.238	/
			1	0	Right Tilt	1745	0.122	0.64	23.5	23.25	0.129	/
			50	0	Right Tilt	1745	0.103	3.85	22.5	22.16	0.111	/
			1	0	Left Cheek	1745	0.235	3.75	23.5	23.25	0.249	/
			50	0	Left Cheek	1745	0.201	-3.35	22.5	22.16	0.217	/
			1	0	Left Tilt	1745	0.098	-2.31	23.5	23.25	0.104	/
			50	0	Left Tilt	1745	0.078	-0.04	22.5	22.16	0.084	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	836.5	0.133	-1.94	22	21.95	0.135	15
			25	0	Right Cheek	829	0.110	-0.27	21.5	21.01	0.123	/
			1	0	Right Tilt	836.5	0.085	1.65	22	21.95	0.086	/
			25	0	Right Tilt	829	0.071	2.31	21.5	21.01	0.079	/
			1	0	Left Cheek	836.5	0.114	3.77	22	21.95	0.115	/
			25	0	Left Cheek	829	0.096	0.09	21.5	21.01	0.107	/
			1	0	Left Tilt	836.5	0.077	2.81	22	21.95	0.078	/
			25	0	Left Tilt	829	0.062	-3.15	21.5	21.01	0.069	/
LTE Band 12	10M	QPSK	1	0	Right Cheek	704	0.193	-2.82	22	21.7	0.207	17
			25	0	Right Cheek	704	0.176	1.71	21.5	21.02	0.197	/
			1	0	Right Tilt	704	0.101	-3.38	22	21.7	0.108	/
			25	0	Right Tilt	704	0.091	3.42	21.5	21.02	0.102	/
			1	0	Left Cheek	704	0.178	-3.74	22	21.7	0.191	/
			25	0	Left Cheek	704	0.152	1.79	21.5	21.02	0.170	/
			1	0	Left Tilt	704	0.088	-1.48	22	21.7	0.094	/
			25	0	Left Tilt	704	0.080	-3.62	21.5	21.02	0.089	/



LTE Band 13	10M	QPSK	1	0	Right Cheek	782	0.160	-0.47	21.5	21.09	0.176	0.160
			25	0	Right Cheek	782	0.145	0.31	20.5	20.22	0.155	0.145
			1	0	Right Tilt	782	0.066	1.76	21.5	21.09	0.073	0.066
			25	0	Right Tilt	782	0.057	-1.35	20.5	20.22	0.061	0.057
			1	0	Left Cheek	782	0.144	-2.74	21.5	21.09	0.158	0.144
			25	0	Left Cheek	782	0.121	-3.00	20.5	20.22	0.129	0.121
			1	0	Left Tilt	782	0.070	-2.21	21.5	21.09	0.077	0.070
			25	0	Left Tilt	782	0.051	0.18	20.5	20.22	0.054	0.051
LTE Band 17	10M	QPSK	1	0	Right Cheek	709	0.191	-3.29	22	21.95	0.193	0.191
			25	0	Right Cheek	709	0.176	-2.62	22	21.35	0.204	0.176
			1	0	Right Tilt	709	0.124	-3.60	22	21.95	0.125	0.124
			25	0	Right Tilt	709	0.112	-3.55	22	21.35	0.130	0.112
			1	0	Left Cheek	709	0.184	-0.35	22	21.95	0.186	0.184
			25	0	Left Cheek	709	0.163	-1.54	22	21.35	0.189	0.163
			1	0	Left Tilt	709	0.105	3.77	22	21.95	0.106	0.105
			25	0	Left Tilt	709	0.094	3.41	22	21.35	0.109	0.094
LTE Band 25	20M	QPSK	1	0	Right Cheek	1860	0.281	0.50	22.5	22.44	0.285	0.281
			50	0	Right Cheek	1860	0.257	3.49	21.5	21.4	0.263	0.257
			1	0	Right Tilt	1860	0.144	0.18	22.5	22.44	0.146	0.144
			50	0	Right Tilt	1860	0.132	-1.85	21.5	21.4	0.135	0.132
			1	0	Left Cheek	1860	0.245	-0.12	22.5	22.44	0.248	0.245
			50	0	Left Cheek	1860	0.222	3.80	21.5	21.4	0.227	0.222
			1	0	Left Tilt	1860	0.131	-1.05	22.5	22.44	0.133	0.131
			50	0	Left Tilt	1860	0.128	2.25	21.5	21.4	0.131	0.128
LTE Band 66	20M	QPSK	1	0	Right Cheek	1770	0.295	-0.20	23.5	23.32	0.307	0.295
			50	0	Right Cheek	1770	0.241	-2.59	22.5	22.42	0.245	0.241
			1	0	Right Tilt	1770	0.172	1.46	23.5	23.32	0.179	0.172
			50	0	Right Tilt	1770	0.162	2.86	22.5	22.42	0.165	0.162
			1	0	Left Cheek	1770	0.270	-2.57	23.5	23.32	0.281	0.270
			50	0	Left Cheek	1770	0.229	-0.91	22.5	22.42	0.233	0.229
			1	0	Left Tilt	1770	0.144	2.75	23.5	23.32	0.150	0.144
			50	0	Left Tilt	1770	0.130	1.44	22.5	22.42	0.132	0.130



LTE Band 71	20M	QPSK	1	0	Right Cheek	683	0.229	2.42	22.5	22.04	0.255	27
			50	0	Right Cheek	673	0.206	-0.78	21	20.96	0.208	/
			1	0	Right Tilt	683	0.108	-1.90	22.5	22.04	0.120	/
			50	0	Right Tilt	673	0.096	3.91	21	20.96	0.097	/
			1	0	Left Cheek	683	0.208	2.99	22.5	22.04	0.231	/
			50	0	Left Cheek	673	0.194	-3.56	21	20.96	0.196	/
			1	0	Left Tilt	683	0.087	3.15	22.5	22.04	0.097	/
			50	0	Left Tilt	673	0.080	1.73	21	20.96	0.081	/

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
2.4G WLAN	802.11b	Right Cheek	2412	0.052	2.31	14.50	14.38	0.053	29
		Right Tilt	2412	0.047	1.08	14.50	14.38	0.048	/
		Left Cheek	2412	0.049	-3.30	14.50	14.38	0.050	/
		Left Tilt	2412	0.045	-0.27	14.50	14.38	0.046	/
BT	GFSK	Right Cheek	2441	0.044	2.08	7.00	6.84	0.046	31
		Right Tilt	2441	0.032	0.74	7.00	6.84	0.033	/
		Left Cheek	2441	0.040	-1.66	7.00	6.84	0.042	/
		Left Tilt	2441	0.031	-0.80	7.00	6.84	0.032	/

Note:

- Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - 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.
 - Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.046** W/Kg for Head)
- Per KDB 865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg

**12.2 Body-worn and Hotspot SAR**

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS Data-2 Slot	Front Side	824.2	0.192	-3.60	29.50	29.15	0.208	/
		Back Side	824.2	0.332	-3.05	29.50	29.15	0.360	2
		Left Side	824.2	0.101	-3.67	29.50	29.15	0.109	/
		Right Side	824.2	0.125	-1.05	29.50	29.15	0.135	/
		Bottom Side	824.2	0.135	-2.50	29.50	29.15	0.146	/
GSM1900	EGPRS Data-2 Slot	Front Side	1880	0.152	-0.97	26.50	26.27	0.160	/
		Back Side	1880	0.321	1.27	26.50	26.27	0.338	4
		Left Side	1880	0.152	-2.67	26.50	26.27	0.160	/
		Right Side	1880	0.177	0.63	26.50	26.27	0.187	/
		Bottom Side	1880	0.140	-0.21	26.50	26.27	0.148	/
WCDMA Band II	RMC	Front Side	1852.4	0.431	2.51	21.50	21.22	0.460	/
		Back Side	1852.4	0.457	2.99	21.50	21.22	0.487	6
		Left Side	1852.4	0.106	1.81	21.50	21.22	0.113	/
		Right Side	1852.4	0.135	-1.13	21.50	21.22	0.144	/
		Bottom Side	1852.4	0.321	-1.78	21.50	21.22	0.342	/
WCDMA Band IV	RMC	Front Side	1752.4	0.287	-2.37	24.00	23.53	0.320	/
		Back Side	1752.4	0.591	-3.40	24.00	23.53	0.659	8
		Left Side	1752.4	0.109	2.23	24.00	23.53	0.121	/
		Right Side	1752.4	0.224	-3.25	24.00	23.53	0.250	/
		Bottom Side	1752.4	0.285	-0.05	24.00	23.53	0.318	/
WCDMA Band V	RMC	Front Side	836.6	0.131	2.29	22.50	22.08	0.144	/
		Back Side	836.6	0.217	2.87	22.50	22.08	0.239	10
		Right Side	836.6	0.090	-1.30	22.50	22.08	0.099	/
		Bottom Side	836.6	0.082	0.11	22.50	22.08	0.090	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Front side	1860	0.726	0.82	23	22.58	0.793	/
			50	0	Front side	1860	0.621	2.94	21.5	21.34	0.644	/
			1	0	Back Side	1860	0.816	-3.97	23	22.58	0.899	/
			1	0	Back Side	1880	0.612	-3.63	23	22.36	0.709	/
			1	0	Back Side	1900	0.614	3.10	23	22.16	0.745	/
			50	0	Back Side	1860	0.744	-3.77	21.5	21.34	0.772	/
			1	0	Left Side	1860	0.224	-2.57	23	22.58	0.247	/
			50	0	Left Side	1860	0.210	0.53	21.5	21.34	0.218	/
			1	0	Right Side	1860	0.295	-2.85	23	22.58	0.325	/
			50	0	Right Side	1860	0.281	1.33	21.5	21.34	0.292	/
			1	0	Bottom Side	1860	1.258	-1.89	23	22.58	1.386	12
			1	0	Bottom Side	1880	0.922	-3.25	23	22.36	1.068	/
			1	0	Bottom Side	1900	0.885	-0.32	23	22.16	1.074	/
			50	0	Bottom Side	1860	1.103	3.94	21.5	21.34	1.144	/
			50	0	Bottom Side	1880	0.847	-3.85	21.5	21.25	0.897	/
			50	0	Bottom Side	1900	0.821	-0.08	21.5	21.11	0.898	/
LTE Band 4	20M	QPSK	1	0	Front side	1745	0.243	-0.43	23.5	23.25	0.257	/
			50	0	Front side	1745	0.202	-3.26	22.5	22.16	0.218	/
			1	0	Back Side	1745	0.381	-0.91	23.5	23.25	0.404	/
			50	0	Back Side	1745	0.354	-3.58	22.5	22.16	0.383	/
			1	0	Left Side	1745	0.122	-2.30	23.5	23.25	0.129	/
			50	0	Left Side	1745	0.104	2.33	22.5	22.16	0.112	/
			1	0	Right Side	1745	0.139	3.68	23.5	23.25	0.147	/
			50	0	Right Side	1745	0.123	3.35	22.5	22.16	0.133	/
			1	0	Bottom Side	1745	0.468	2.38	23.5	23.25	0.496	14
			50	0	Bottom Side	1745	0.441	3.40	22.5	22.16	0.477	/
LTE Band 5	10M	QPSK	1	0	Front side	836.5	0.182	-1.83	22	21.95	0.184	/
			25	0	Front side	829	0.155	1.93	21.5	21.01	0.174	/
			1	0	Back Side	836.5	0.222	0.24	22	21.95	0.225	16
			25	0	Back Side	829	0.206	-2.94	21.5	21.01	0.231	/
			1	0	Right Side	836.5	0.066	1.92	22	21.95	0.049	/
			25	0	Right Side	829	0.058	2.39	21.5	21.01	0.047	/
			1	0	Bottom Side	836.5	0.087	1.89	22	21.95	0.067	/
			25	0	Bottom Side	829	0.078	-2.45	21.5	21.01	0.065	/



LTE Band 12	10M	QPSK	1	0	Front side	704	0.108	-2.18	22	21.7	0.116	/
			25	0	Front side	704	0.094	-3.70	21.5	21.02	0.105	/
			1	0	Back Side	704	0.176	-1.61	22	21.7	0.189	18
			25	0	Back Side	704	0.152	0.66	21.5	21.02	0.170	/
			1	0	Right Side	704	0.084	-1.34	22	21.7	0.074	/
			25	0	Right Side	704	0.075	-3.60	21.5	21.02	0.065	/
			1	0	Bottom Side	704	0.057	-0.62	22	21.7	0.090	/
			25	0	Bottom Side	704	0.052	0.87	21.5	21.02	0.084	/
LTE Band 13	10M	QPSK	1	0	Front side	782	0.160	-1.16	22	21.7	0.061	/
			25	0	Front side	782	0.152	2.12	21.5	21.02	0.058	/
			1	0	Back Side	782	0.186	-0.52	21.5	21.09	0.176	20
			25	0	Back Side	782	0.170	0.40	20.5	20.22	0.162	/
			1	0	Right Side	782	0.069	2.93	21.5	21.09	0.204	/
			25	0	Right Side	782	0.060	-0.53	20.5	20.22	0.181	/
			1	0	Bottom Side	782	0.088	2.10	21.5	21.09	0.057	/
			25	0	Bottom Side	782	0.075	-3.54	20.5	20.22	0.050	/
LTE Band 17	10M	QPSK	1	0	Front side	709	0.899	2.41	21.5	21.09	0.076	/
			25	0	Front side	709	0.807	3.31	20.5	20.22	0.064	/
			1	0	Back Side	709	0.915	-0.32	21.5	21.09	0.097	22
			1	0	Back Side	710	0.743	0.43	20.5	20.22	0.080	/
			1	0	Back Side	711	0.788	-3.20	22	21.95	0.909	/
			25	0	Back Side	709	0.884	2.56	21	20.95	0.816	/
			1	0	Left Side	709	0.321	-0.65	22	21.95	0.926	/
			25	0	Left Side	709	0.298	0.58	22	21.35	0.863	/
			1	0	Right Side	709	0.331	-1.93	22	21.32	0.922	/
			25	0	Right Side	709	0.200	0.81	21	20.95	0.894	/
			1	0	Bottom Side	709	0.658	1.28	22	21.95	0.325	/
			25	0	Bottom Side	709	0.621	0.48	21	20.95	0.301	/



LTE Band 25	20M	QPSK	1	0	Front side	1860	0.704	-1.73	22.5	22.44	0.714	/
			50	0	Front side	1860	0.625	1.33	21.5	21.4	0.640	/
			1	0	Back Side	1860	0.656	3.83	22.5	22.44	0.665	/
			50	0	Back Side	1860	0.598	-2.77	21.5	21.4	0.612	/
			1	0	Left Side	1860	0.251	3.61	22.5	22.44	0.254	/
			50	0	Left Side	1860	0.277	-2.81	21.5	21.4	0.283	/
			1	0	Right Side	1860	0.387	-3.98	22.5	22.44	0.392	/
			50	0	Right Side	1860	0.364	0.62	21.5	21.4	0.372	/
			1	0	Bottom Side	1860	0.858	-1.22	22.5	22.44	0.870	24
			1	0	Bottom Side	1882.5	0.721	-1.98	22.5	22.16	0.780	/
			1	0	Bottom Side	1905	0.707	-2.47	22.5	22.17	0.763	/
			50	0	Bottom Side	1860	0.774	-0.64	20.5	20.46	0.781	/
LTE Band 66	20M	QPSK	1	0	Front side	1770	0.334	2.32	23.5	23.32	0.348	/
			50	0	Front side	1770	0.321	-2.22	22.5	22.42	0.327	/
			1	0	Back Side	1770	0.762	-1.12	23.5	23.32	0.794	26
			50	0	Back Side	1770	0.755	2.97	22.5	22.42	0.769	/
			1	0	Left Side	1770	0.217	-2.58	23.5	23.32	0.226	/
			50	0	Left Side	1770	0.198	1.89	22.5	22.42	0.202	/
			1	0	Right Side	1770	0.397	-2.71	23.5	23.32	0.414	/
			50	0	Right Side	1770	0.385	-1.08	22.5	22.42	0.392	/
			1	0	Bottom Side	1770	0.546	1.54	23.5	23.32	0.569	/
			50	0	Bottom Side	1770	0.529	2.59	22.5	22.42	0.539	/
LTE Band 71	20M	QPSK	1	0	Front side	683	0.251	-0.93	22.5	22.04	0.279	/
			50	0	Front side	673	0.230	-0.36	21	20.96	0.232	/
			1	0	Back Side	683	0.254	1.52	22.5	22.04	0.282	28
			50	0	Back Side	673	0.241	-3.06	21	20.96	0.243	/
			1	0	Right Side	683	0.120	-2.63	22.5	22.04	0.106	/
			50	0	Right Side	673	0.106	-0.76	21	20.96	0.083	/
			1	0	Bottom Side	683	0.088	3.58	22.5	22.04	0.133	/
			50	0	Bottom Side	673	0.076	-1.04	21	20.96	0.107	/



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	802.11b	Front Side	2412	0.056	3.61	14.50	14.38	0.058	/
		Back Side	2412	0.112	2.48	14.50	14.38	0.115	30
		Right Side	2412	0.050	1.57	14.50	14.38	0.051	/
		Top Side	2412	0.043	-1.26	14.50	14.38	0.044	/
BT	GFSK	Front Side	2440	0.025	3.17	2.50	2.11	0.027	/
		Back Side	2440	0.043	-3.05	2.50	2.11	0.047	32
		Right Side	2440	0.022	-1.61	2.50	2.11	0.024	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.100** W/Kg for Body)
4. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

**12.3 Repeated SAR**

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn- up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR(W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Back Side	1860	0.816	-3.83	23	22.58	0.899	-
			1	0	Back Side	1880	0.612	2.10	23	22.36	0.709	-
			1	0	Back Side	1900	0.614	2.79	23	22.16	0.745	-
			1	0	Bottom Side	1860	1.258	3.17	23	22.58	1.386	-
			1	0	Bottom Side	1880	0.922	3.47	23	22.36	1.068	-
			1	0	Bottom Side	1900	0.885	1.45	23	22.16	1.074	-
			50	0	Bottom Side	1860	1.103	0.38	23	22.58	1.215	-
			50	0	Bottom Side	1880	0.847	0.29	23	22.36	0.981	-
			50	0	Bottom Side	1900	0.821	-2.84	23	22.16	0.996	-
LTE Band 17	20M	QPSK	1	0	Back Side	709	0.915	-2.41	22	21.95	0.926	-
			1	0	Back Side	710	0.743	0.78	22	21.35	0.863	-
			1	0	Back Side	711	0.788	3.23	22	21.32	0.922	-
LTE Band 25	10M	QPSK	1	0	Bottom Side	1860	0.858	3.00	22.5	22.16	0.928	-
			1	0	Bottom Side	1882.5	0.721	0.29	22.5	22.17	0.778	-
			1	0	Bottom Side	1905	0.707	-0.84	20.5	20.46	0.714	-

**12.4 Repeated SAR measurement**

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg) 1g (W/Kg)	1 st Repeated SAR 1g	Ratio	Original Measured	2nd Repeated SAR 1g	Ratio
LTE Band 2	20M	QPSK	1	0	Back Side	1860	0.816	0.806	1.012			
			1	0	Back Side	1880	0.612	0.599	1.021			
			1	0	Back Side	1900	0.614	0.611	1.004			
			1	0	Bottom Side	1860	1.258	1.235	1.018			
			1	0	Bottom Side	1880	0.922	0.883	1.044			
			1	0	Bottom Side	1900	0.885	0.864	1.025			
			50	0	Bottom Side	1860	1.103	1.049	1.052			
			50	0	Bottom Side	1880	0.847	0.826	1.025			
			50	0	Bottom Side	1900	0.821	0.788	1.042			
LTE Band 17	20M	QPSK	1	0	Back Side	709	0.915	0.894	1.023			
			1	0	Back Side	710	0.743	0.726	1.024			
			1	0	Back Side	711	0.788	0.773	1.019			
LTE Band 25	10M	QPSK	1	0	Bottom Side	1860	0.858	0.857	1.001			
			1	0	Bottom Side	1882.5	0.721	0.713	1.011			
			1	0	Bottom Side	1905	0.707	0.675	1.047			

Note:

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



12.5 Simultaneous Multi-band Transmission Evaluation

Application Simultaneous Transmission information:

Position	Simultaneous State
Head	1. GSM + 2.4GHz WLAN/
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN
	4. WCDMA + Bluetooth
	5. LTE + 2.4GHz WLAN/
	6. LTE + Bluetooth
Body	1. GSM + 2.4GHz WLAN
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN
	4. WCDMA + Bluetooth
	5. LTE + 2.4GHz WLAN
	6. LTE + Bluetooth

NOTE:

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



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.328	0.381
		2.4G WLAN	0.053	
	Body	GSM	0.360	0.475
		2.4G WLAN	0.115	
GSM + Bluetooth	Head	GSM	0.328	0.374
		Bluetooth	0.046	
	Body	GSM	0.360	0.407
		Bluetooth	0.047	
WCDMA + 2.4G WLAN	Head	WCDMA	0.226	0.279
		2.4G WLAN	0.053	
	Body	WCDMA	0.659	0.774
		2.4G WLAN	0.115	
WCDMA + Bluetooth	Head	WCDMA	0.226	0.272
		Bluetooth	0.046	
	Body	WCDMA	0.659	0.706
		Bluetooth	0.047	
LTE + 2.4G WLAN	Head	LTE	0.361	0.414
		2.4G WLAN	0.053	
	Body	LTE	1.386	1.501
		2.4G WLAN	0.115	
LTE + Bluetooth	Head	LTE	0.361	0.407
		Bluetooth	0.046	
	Body	LTE	1.386	1.433
		Bluetooth	0.047	

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

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



13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
750MHz Dipole	MVG	SID750	SN 30/14 DIP0G750-331	2023.07.04	2026.07.03
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2023.07.04	2026.07.03
1800MHz Dipole	MVG	SID1800	5023-DIP1G800-747	2023.12.20	2026.12.19
1900MHz Dipole	MVG	SID1900	SN 06/23 DIP1G900-226	2023.09.14	2026.09.13
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	2023.07.04	2026.07.03
E-Field Probe	MVG	SSE2	SN 08/21 EPOG352	2024.09.18	2025.09.17
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2024.09.18	2025.09.17
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom3	MVG	SAM	SN 21/21 ELLI48	N/A	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	N/A	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	N/A	N/A
Attenuator	Agilent	HXT-10-8-SMA	240327017	2024-04-08	2025-04-07
Directional coupler	Xi'an Xingbo	XBOH-OA08-20dB	211123-4-3	2024-04-15	2025-04-14
Network Analyzer	Agilent	E5071C	MY46520378	2024-09-25	2025-09-26
Multi Meter	Keithley	Multi Meter 2000	4050073	2024-09-25	2025-09-26
Signal Generator	Agilent	N5182A	MY50140530	2024-09-25	2025-09-26
Wireless Communication Test Set	R&S	CMW500	156324	2024-09-25	2025-09-26
Power Amplifier	DESAY	ZHL-42W	9638	2024-09-25	2025-09-26
Power Meter	R&S	NRP	100510	2024-09-25	2025-09-26
Power Sensor	R&S	NRP-Z11	101919	2024-09-25	2025-09-26
Power Sensor	Keysight	U2021XA	MY56280002	2024-09-25	2025-09-26
Temperature hygrometer	SuWei	SW-108	N/A	2024.10.15	2025.10.14
Thermograph	Elitech	RC-4	S/N EF7176501537	2024.10.15	2025.10.14



Appendix A. System Validation Plots

System Performance Check Data (750MHz)

Type: Phone measurement (Complete)

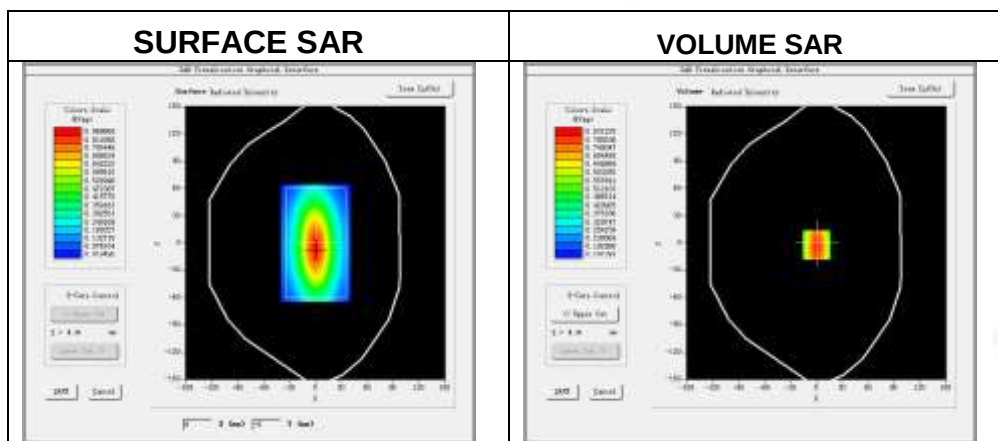
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-11-22

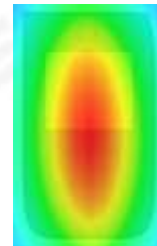
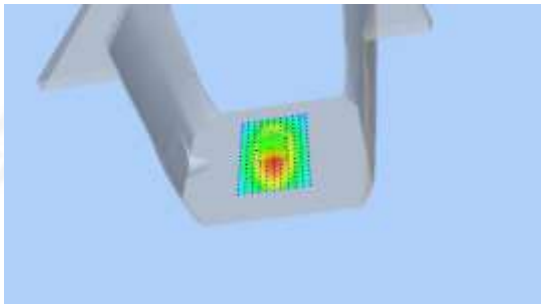
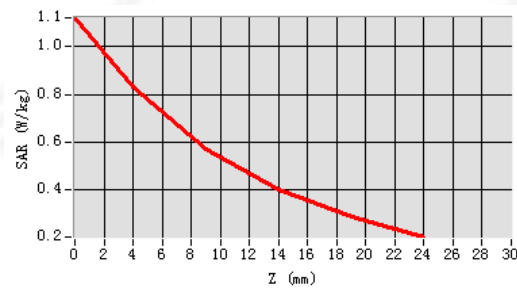
Experimental conditions

Phantom	Validation plane
Device Position	Dipole
Band	750MHz
Channels	Middle
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	42.22
Conductivity (S/m)	0.88
Probe	SN 08/21 EPGO352
ConvF	1.56
Crest factor	1:1



Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.590139
SAR 1g (W/Kg)	0.848409



**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)

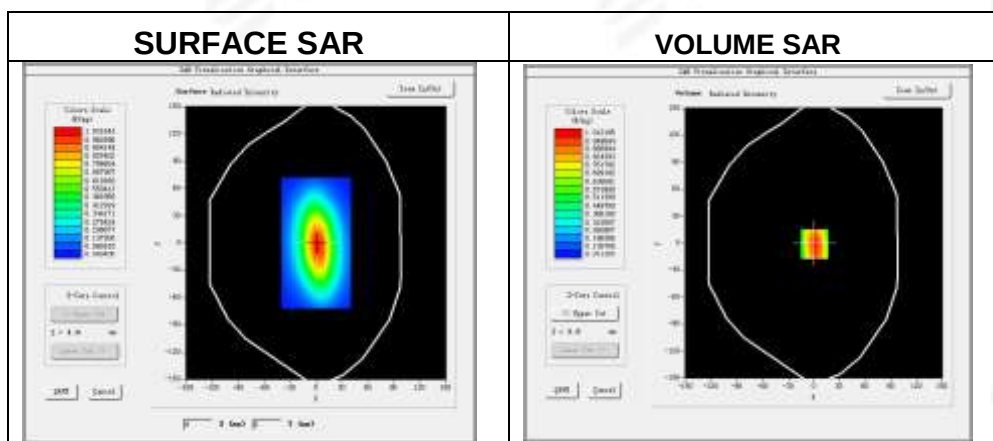
Area scan resolution: dx=8mm, dy=8mm

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

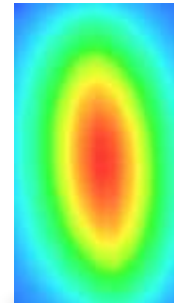
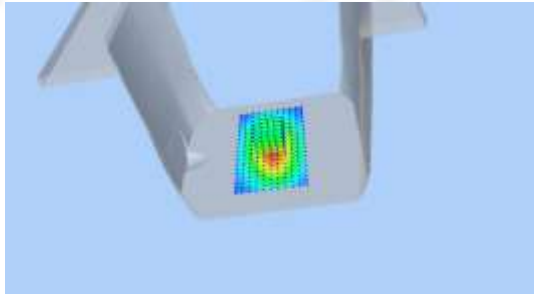
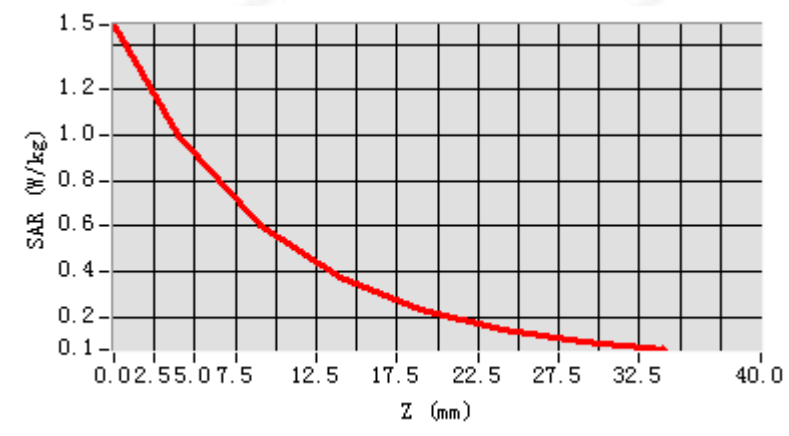
Date of measurement: 2024-11-23

Experimental conditions

Phantom	Validation plane
Device Position	Dipole
Band	835MHz
Channels	Middle
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	40.98
Conductivity (S/m)	0.89
Probe	SN 08/21 EPGO352
ConvF	1.44
Crest factor:	1:1

**Maximum location: X=-7.00, Y=-1.00**

SAR 10g (W/Kg)	0.606557
SAR 1g (W/Kg)	0.981509



**System Performance Check Data(1800MHz)**

Type: Phone measurement (Complete)

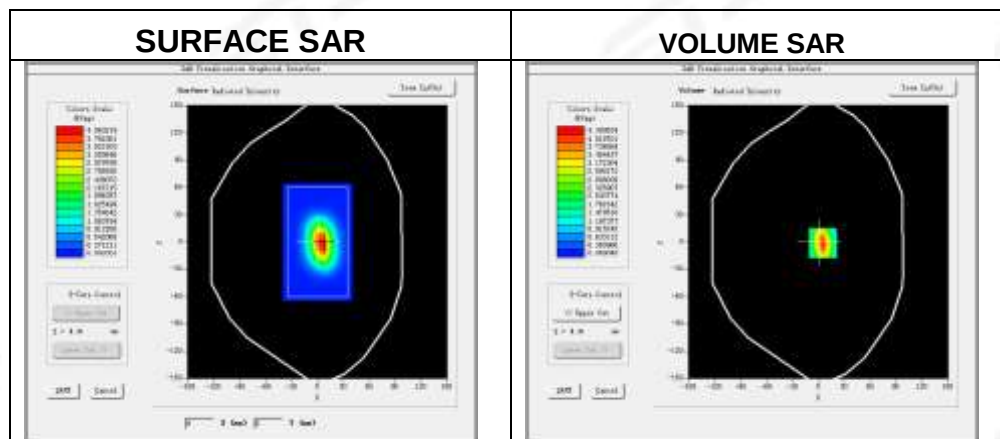
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-11-24

Experimental conditions.

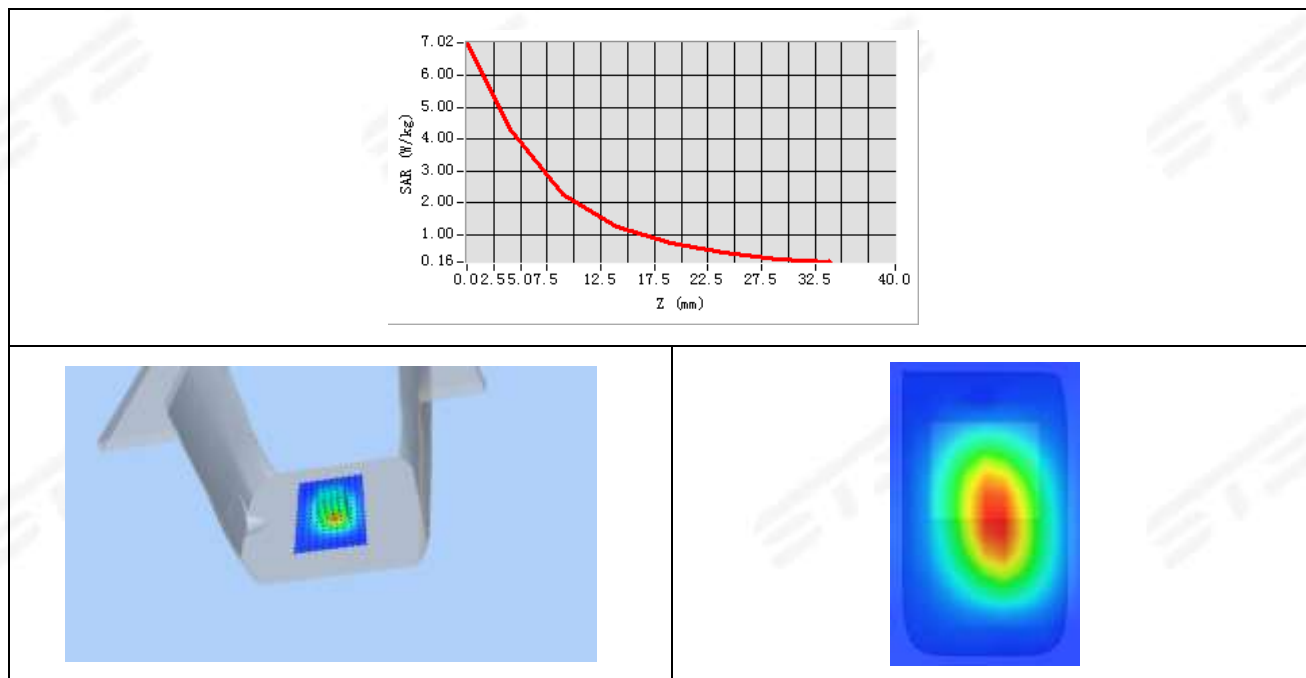
Phantom	Validation plane
Device Position	Dipole
Band	1800MHz
Channels	Middle
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	40.76
Conductivity (S/m)	1.39
Probe	SN 08/21 EPGO352
ConvF	1.58
Crest factor:	1:1

**Maximum location: X=5.00, Y=1.00**

SAR 10g (W/Kg)	2.008410
SAR 1g (W/Kg)	3.776752



Z Axis Scan



**System Performance Check Data (1900MHz)**

Type: Phone measurement (Complete)

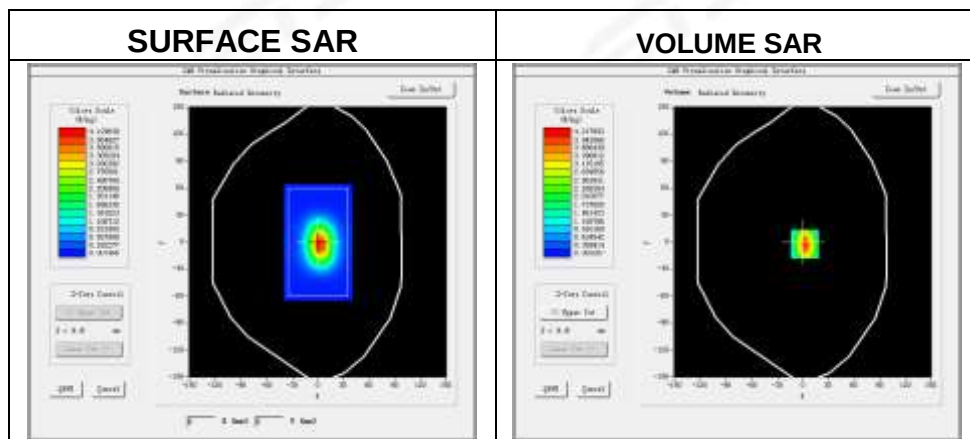
Area scan resolution: dx=8mm, dy=8mm

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

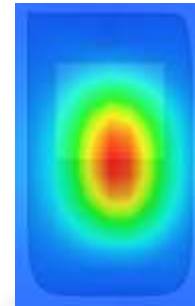
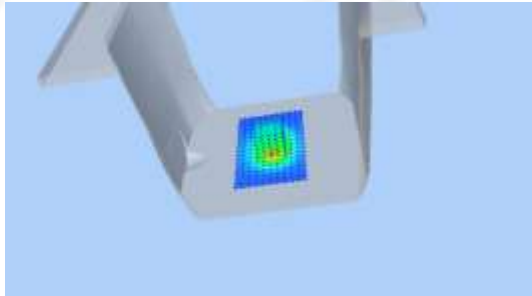
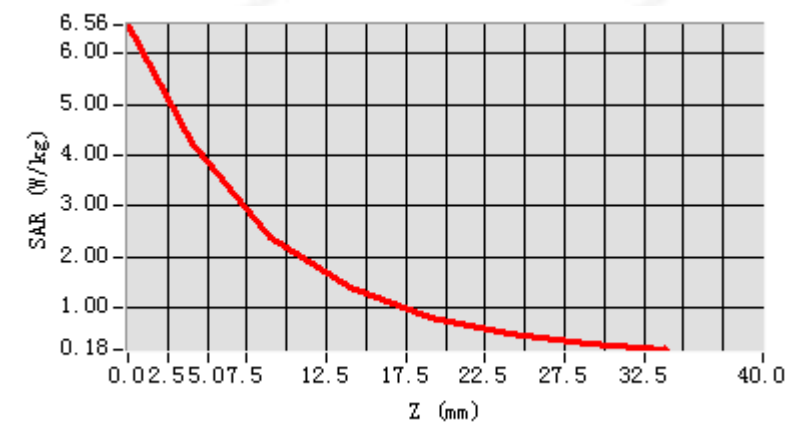
Date of measurement: 2024-11-25

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	1900MHz
Channels	Middle
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.29
Conductivity (S/m)	1.42
Probe	SN 08/21 EPGO352
ConvF	1.72
Crest factor:	1:1

**Maximum location: X=3.00, Y=-2.00**

SAR 10g (W/Kg)	1.937499
SAR 1g (W/Kg)	3.910003



**System Performance Check Data (2450MHz)**

Type: Phone measurement (Complete)

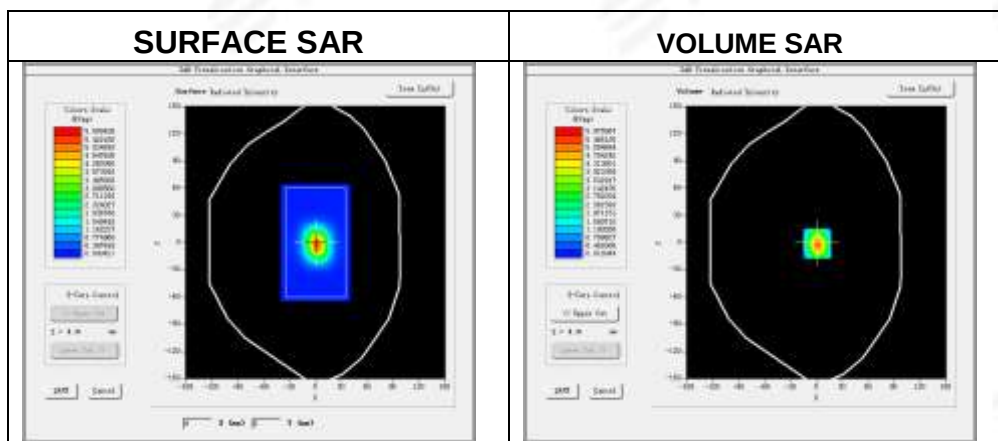
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2024-11-26

Experimental conditions.

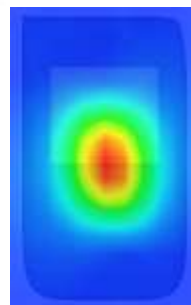
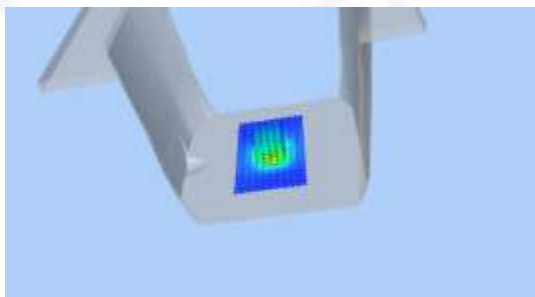
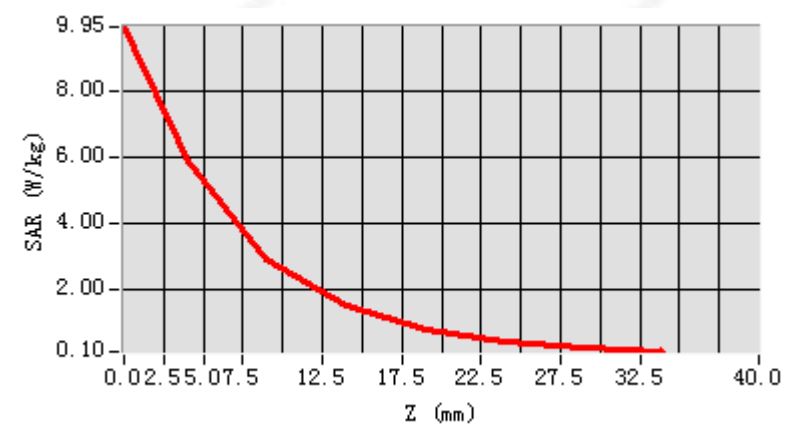
Phantom	Validation plane
Device Position	Dipole
Band	2450MHz
Channels	Middle
Signal	CW
Frequency (MHz)	2450
Relative permittivity	40.02
Conductivity (S/m)	1.82
Probe	SN 08/21 EPG0352
ConvF	1.80
Crest factor:	1:1

**Maximum location: X=1.00, Y=0.00**

SAR 10g (W/Kg)	2.473926
SAR 1g (W/Kg)	5.333013



Z Axis Scan



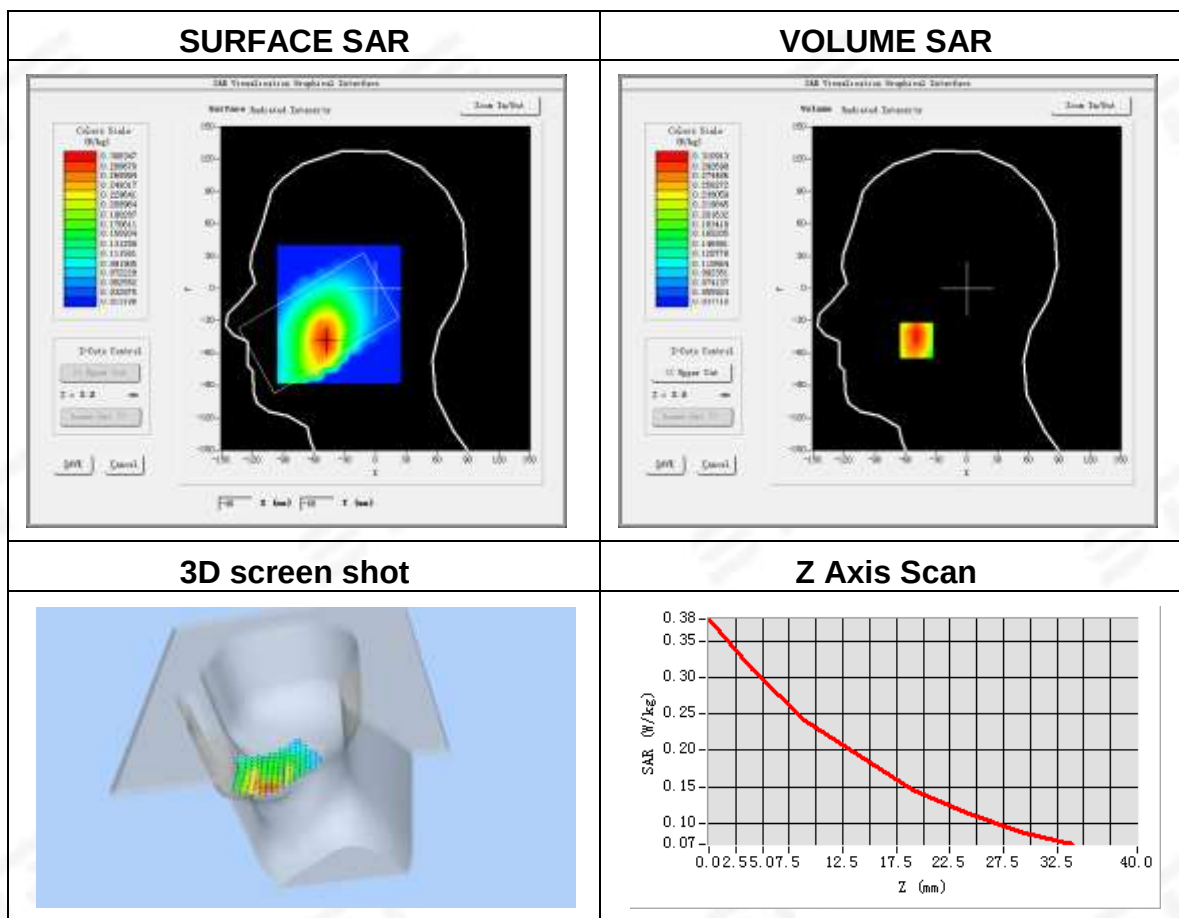
**Appendix B. SAR Test Plots****Plot 1: DUT: Mobile Phone; EUT Model: CB68**

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	GPRS 850
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.44
Conductivity (S/m)	0.94

Maximum location: X=-49.00, Y=-48.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.215190
SAR 1g (W/Kg)	0.303292





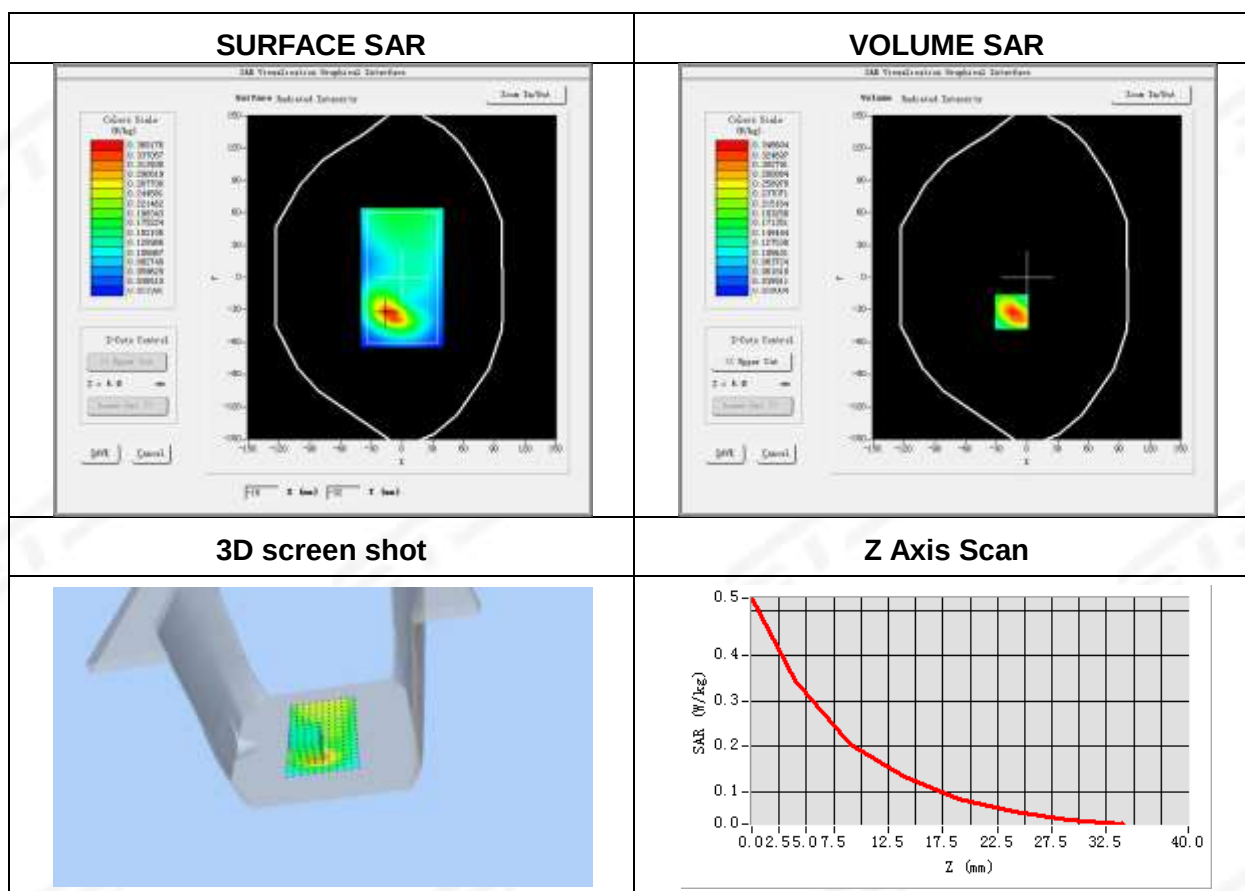
Plot 2: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 850
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.44
Conductivity (S/m)	0.94

Maximum location: X=-15.00, Y=-32.00

SAR Peak: 0.52 W/kg

SAR 10g (W/Kg)	0.184706
SAR 1g (W/Kg)	0.331999





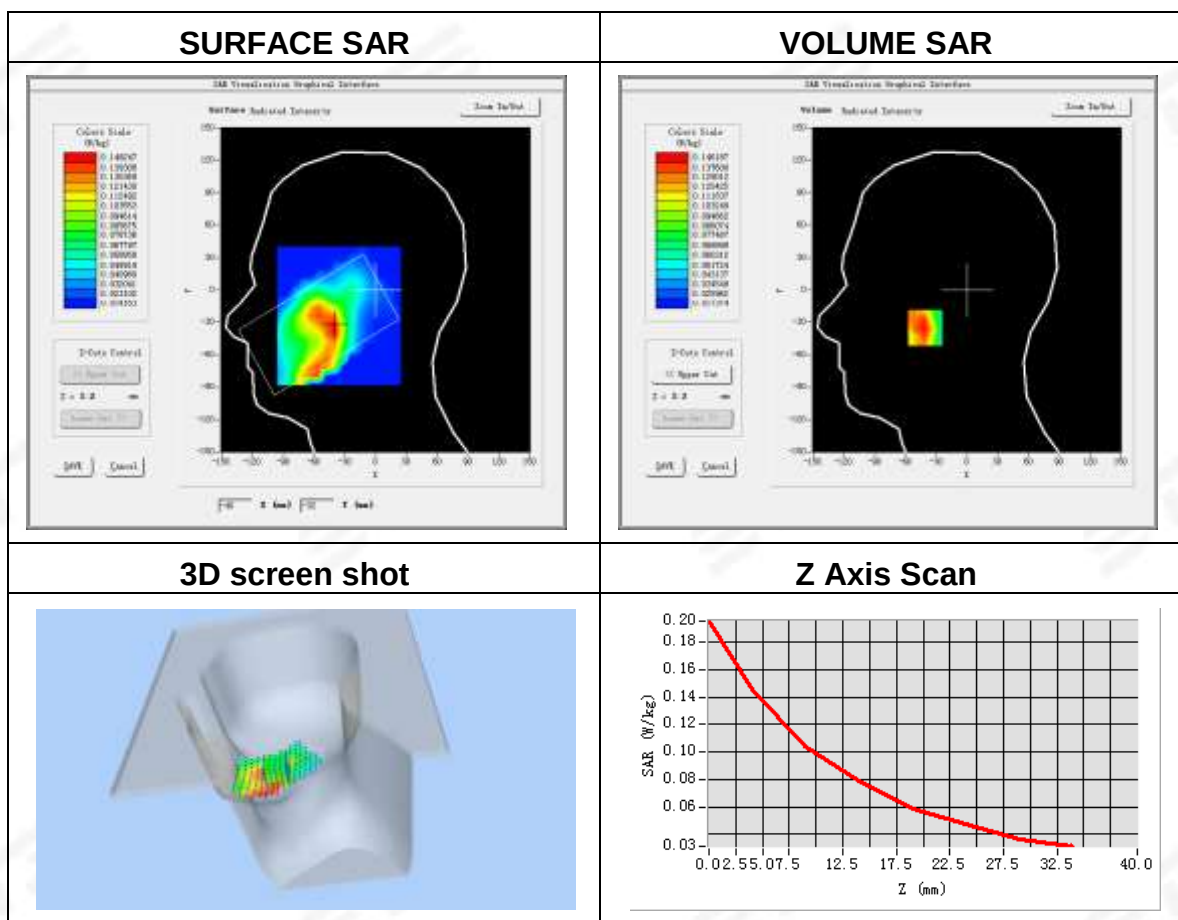
Plot 3: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.72
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	GPRS 1900
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.15
Conductivity (S/m)	1.39

Maximum location: X=-41.00, Y=-35.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.094358
SAR 1g (W/Kg)	0.139556





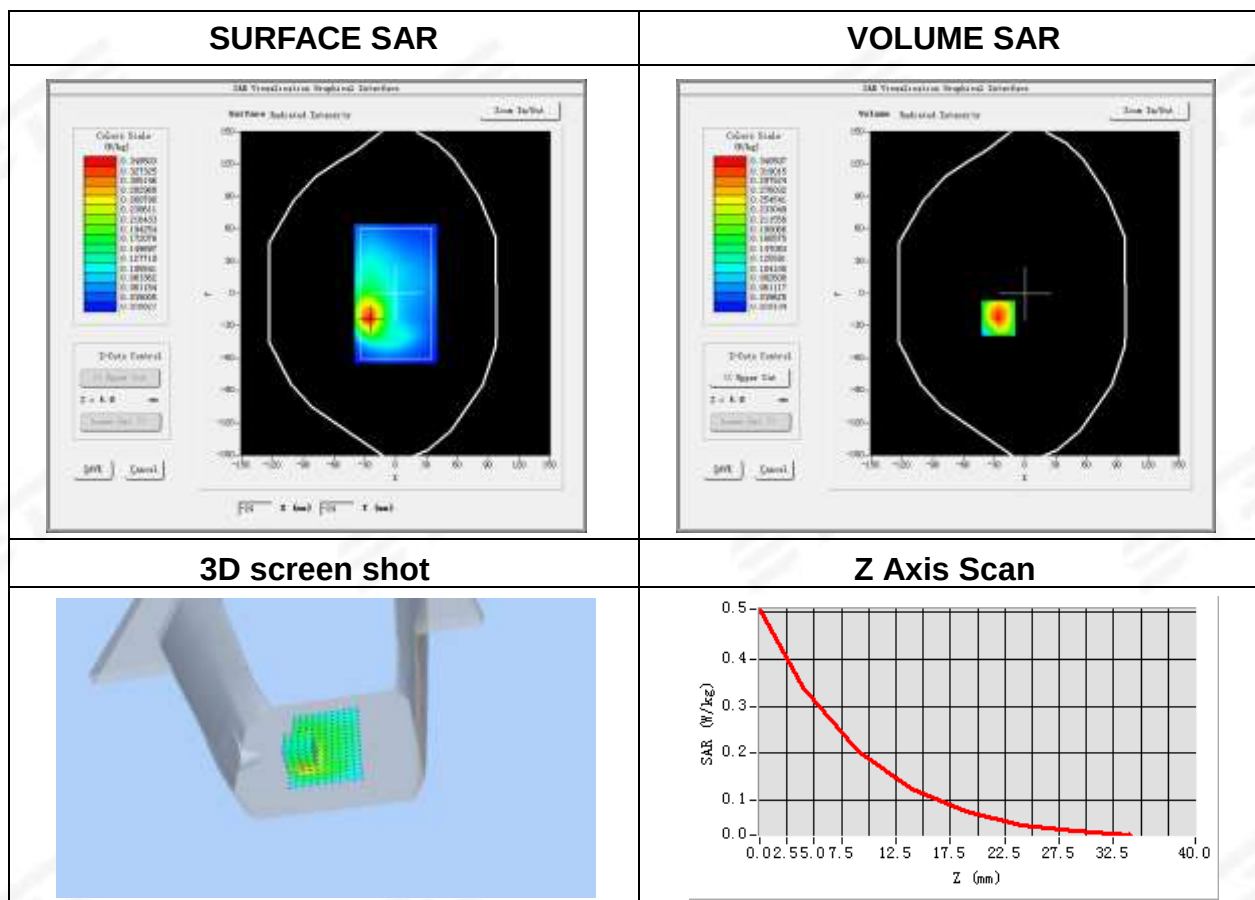
Plot 4: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.72
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 1900
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.15
Conductivity (S/m)	1.39

Maximum location: X=-26.00, Y=-23.00

SAR Peak: 0.51 W/kg

SAR 10g (W/Kg)	0.180238
SAR 1g (W/Kg)	0.320804





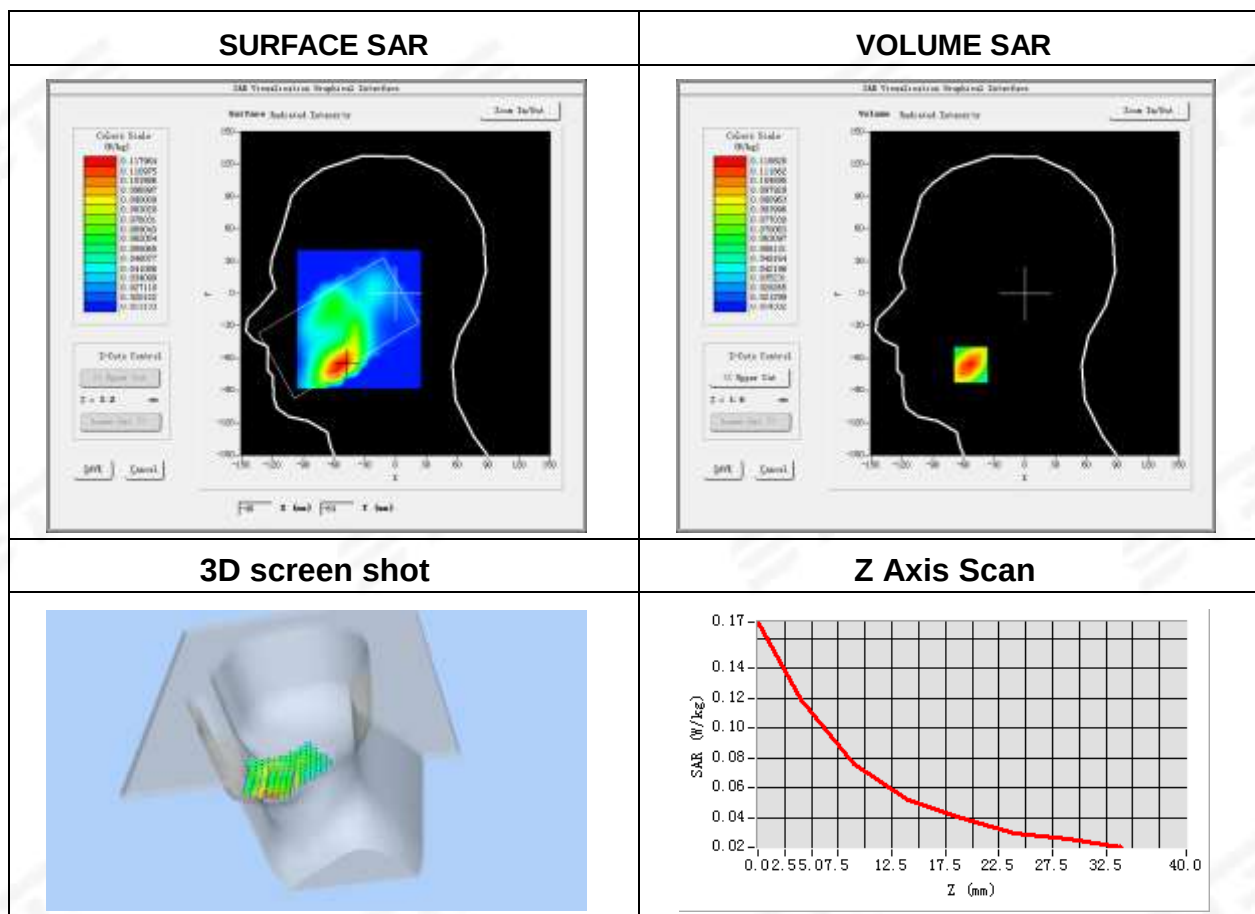
Plot 5: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.72
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	WCDMA II
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	40.78
Conductivity (S/m)	1.36

Maximum location: X=-53.00, Y=-66.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.071912
SAR 1g (W/Kg)	0.116243





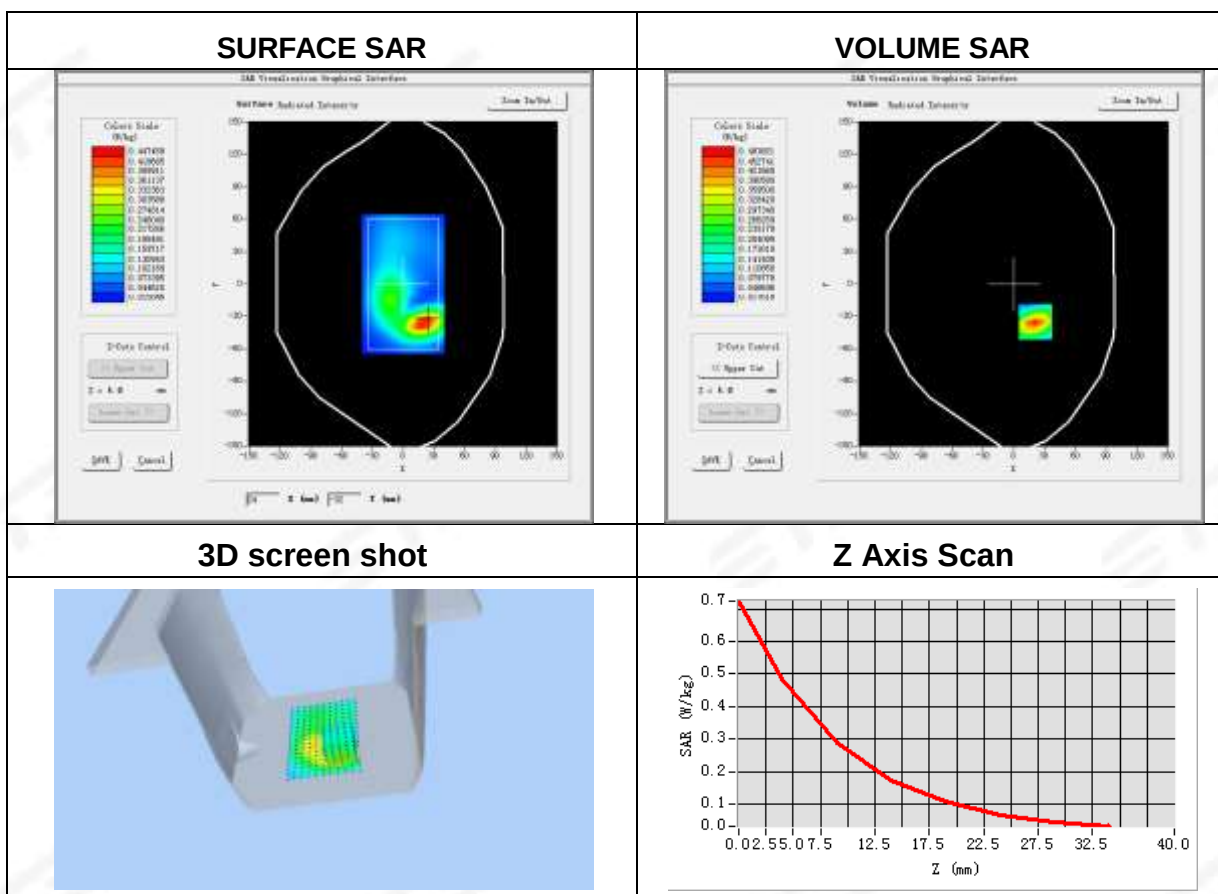
Plot 6: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.72
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA II
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	40.78
Conductivity (S/m)	1.36

Maximum location: X=21.00, Y=-35.00

SAR Peak: 0.73 W/kg

SAR 10g (W/Kg)	0.235724
SAR 1g (W/Kg)	0.456549





Plot 7: DUT: Mobile Phone; EUT Model: CB68

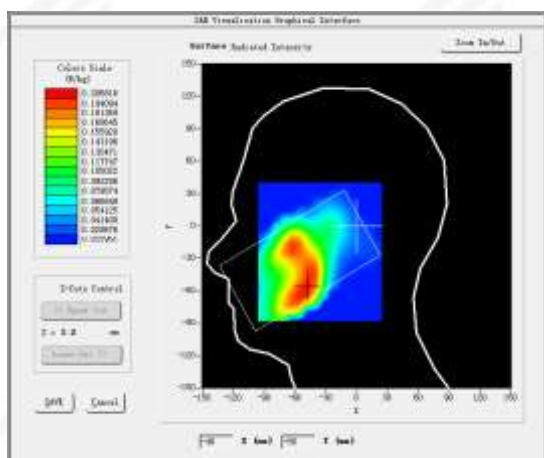
Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	WCDMA IV
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1752.4
Relative permittivity (real part)	40.18
Conductivity (S/m)	1.40

Maximum location: X=-51.00, Y=-62.00

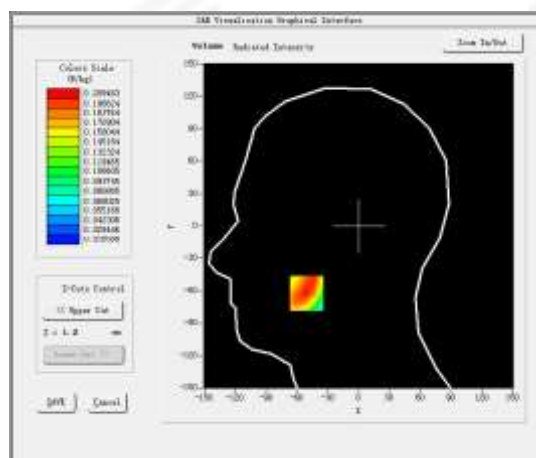
SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.130837
SAR 1g (W/Kg)	0.203337

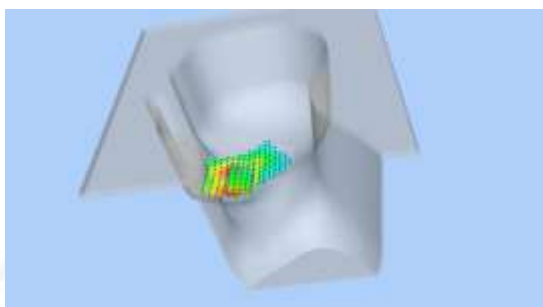
SURFACE SAR



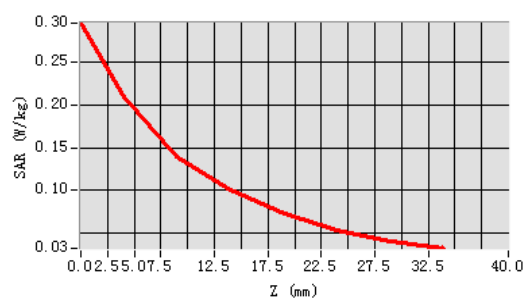
VOLUME SAR



3D screen shot



Z Axis Scan



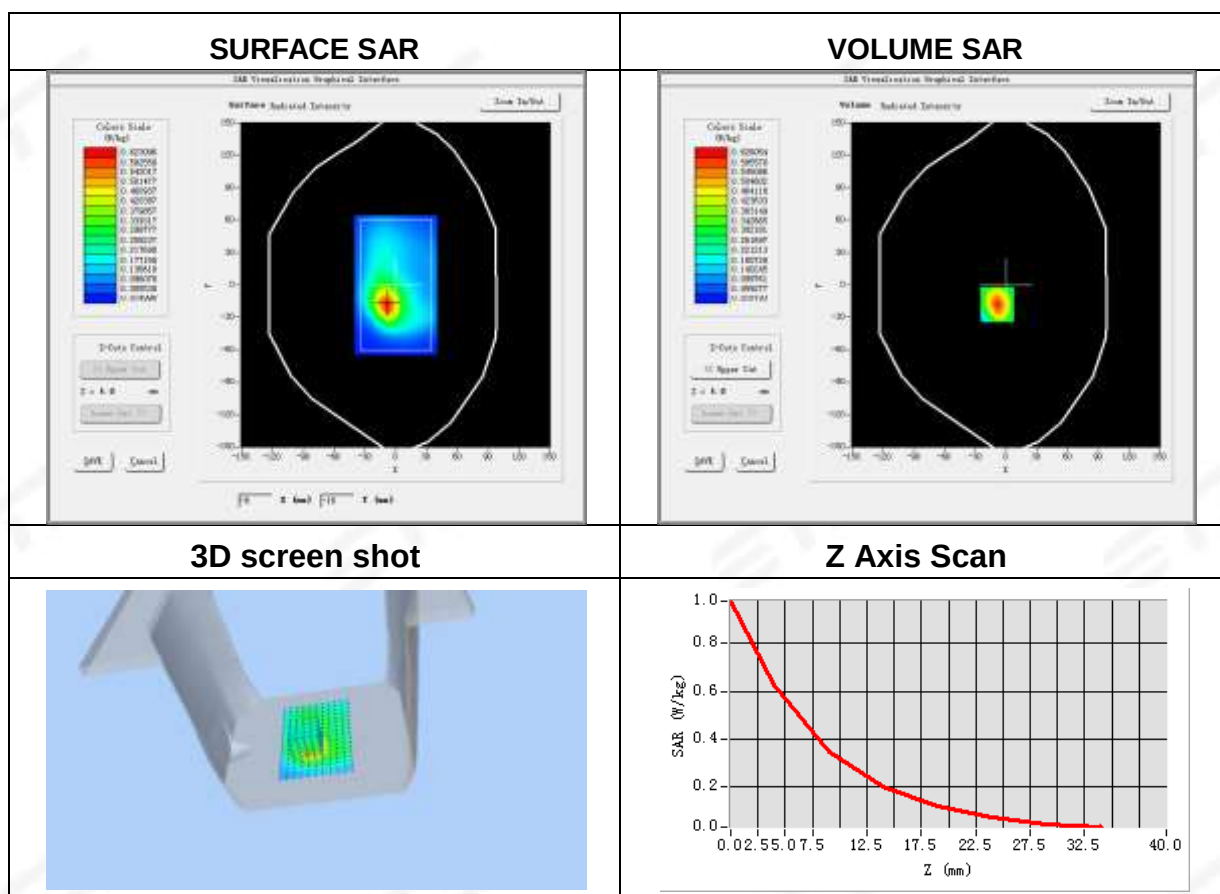

Plot 8: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA IV
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1752.4
Relative permittivity (real part)	40.18
Conductivity (S/m)	1.40

Maximum location: X=-9.00, Y=-18.00

SAR Peak: 0.99 W/kg

SAR 10g (W/Kg)	0.312068
SAR 1g (W/Kg)	0.590569





Plot 9: DUT: Mobile Phone; EUT Model: CB68

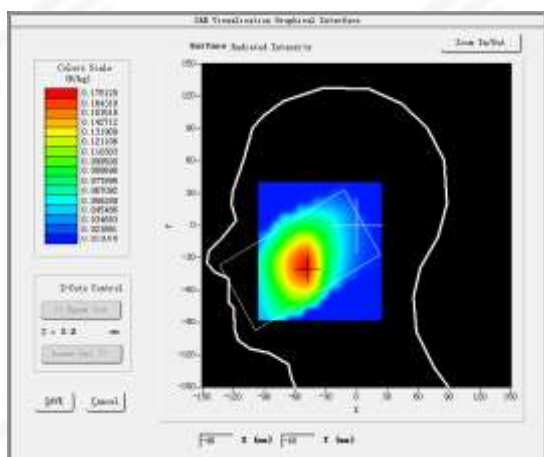
Test Date	2024-11-24
ConvF	1.58
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	WCDMA V
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.67
Conductivity (S/m)	0.91

Maximum location: X=-50.00, Y=-39.00

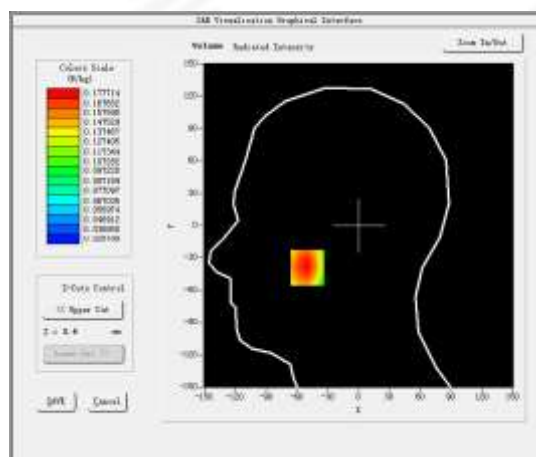
SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.128656
SAR 1g (W/Kg)	0.173645

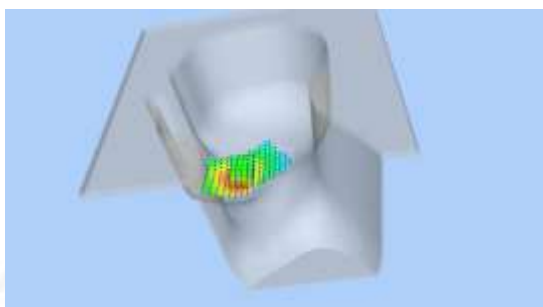
SURFACE SAR



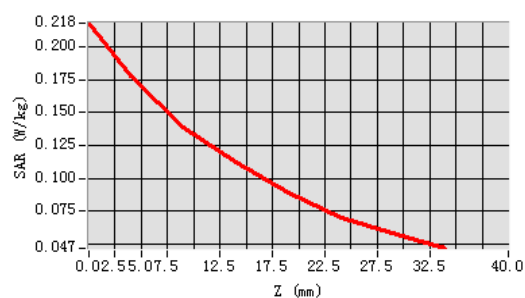
VOLUME SAR



3D screen shot



Z Axis Scan





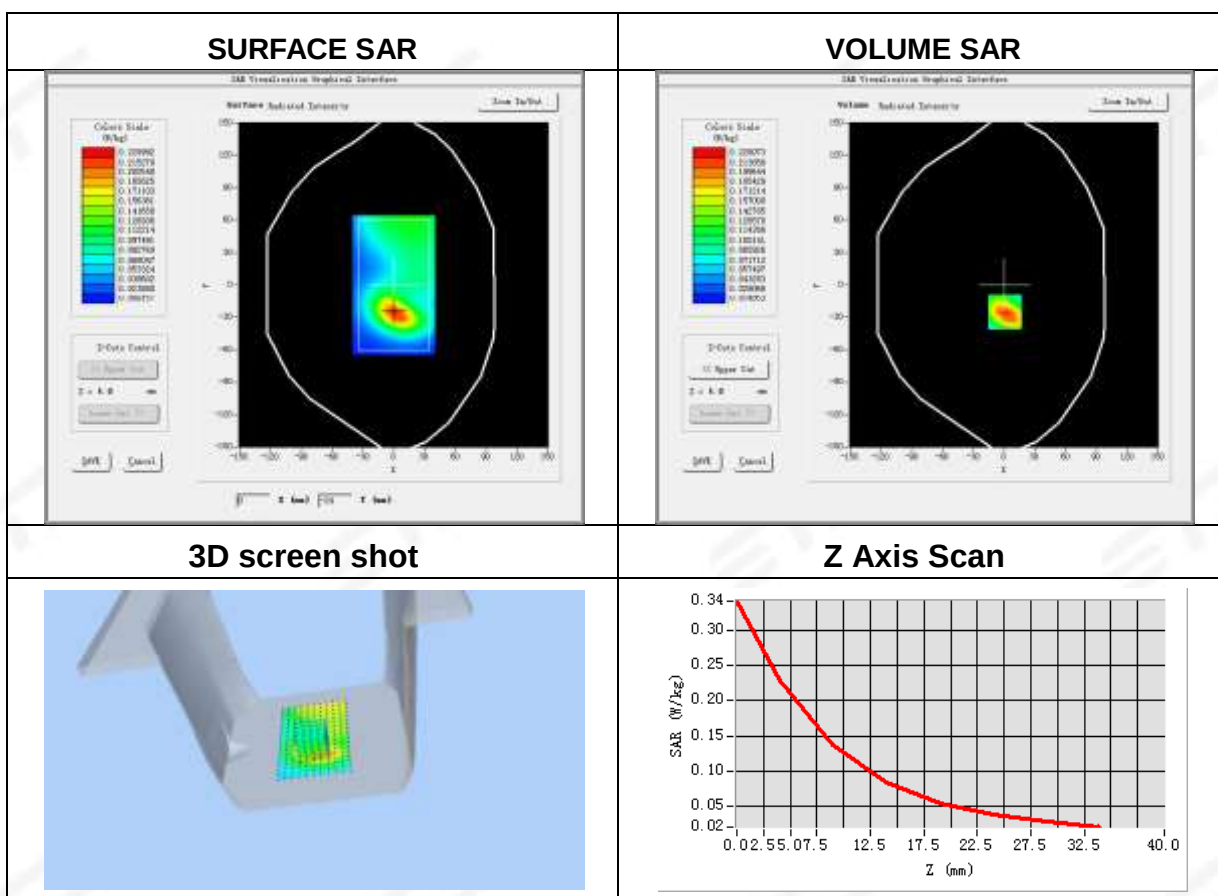
Plot 10: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-24
ConvF	1.58
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA V
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.67
Conductivity (S/m)	0.91

Maximum location: X=1.00, Y=-25.00

SAR Peak: 0.35 W/kg

SAR 10g (W/Kg)	0.120298
SAR 1g (W/Kg)	0.217141





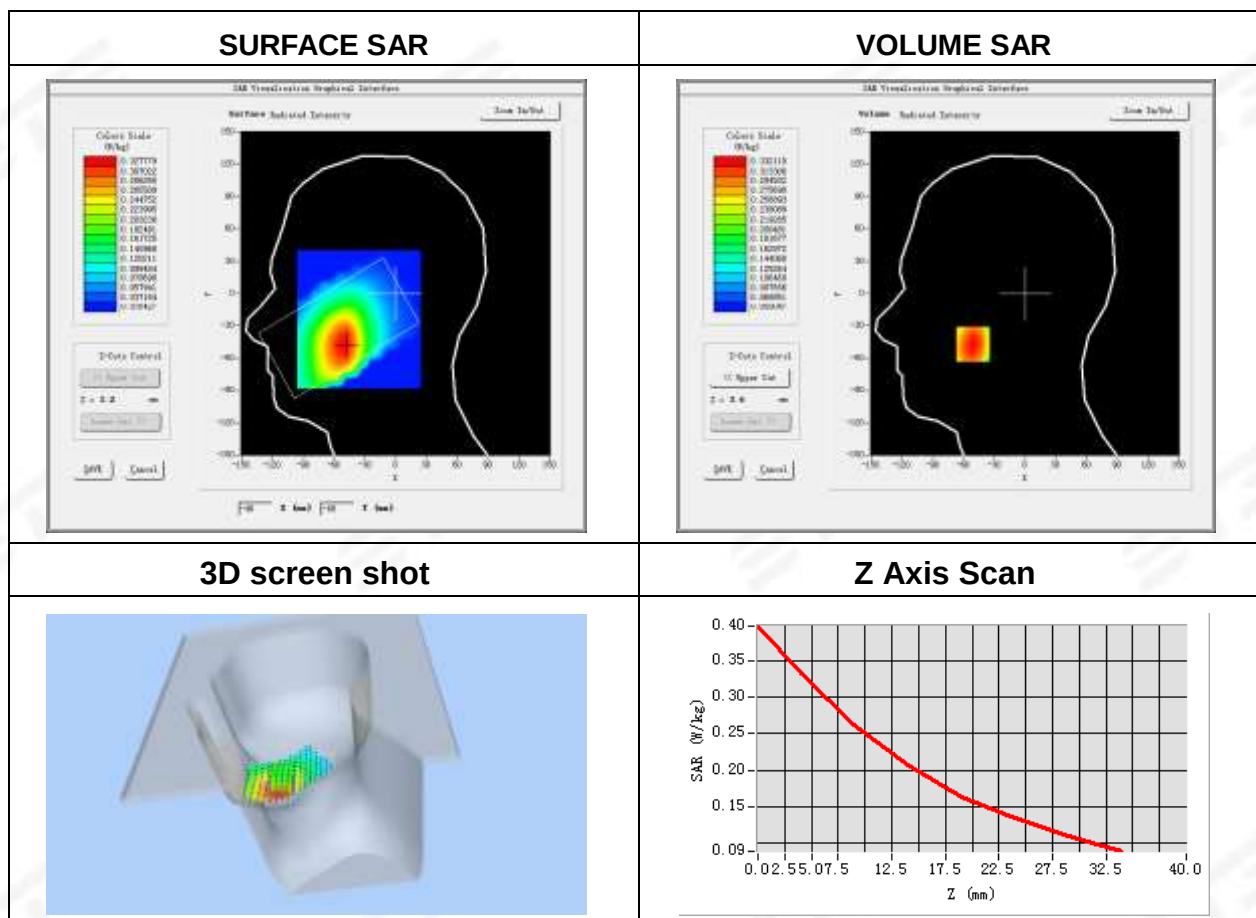
Plot 11: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.58
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.44
Conductivity (S/m)	1.35

Maximum location: X=-51.00, Y=-47.00

SAR Peak: 0.41 W/kg

SAR 10g (W/Kg)	0.242516
SAR 1g (W/Kg)	0.328218





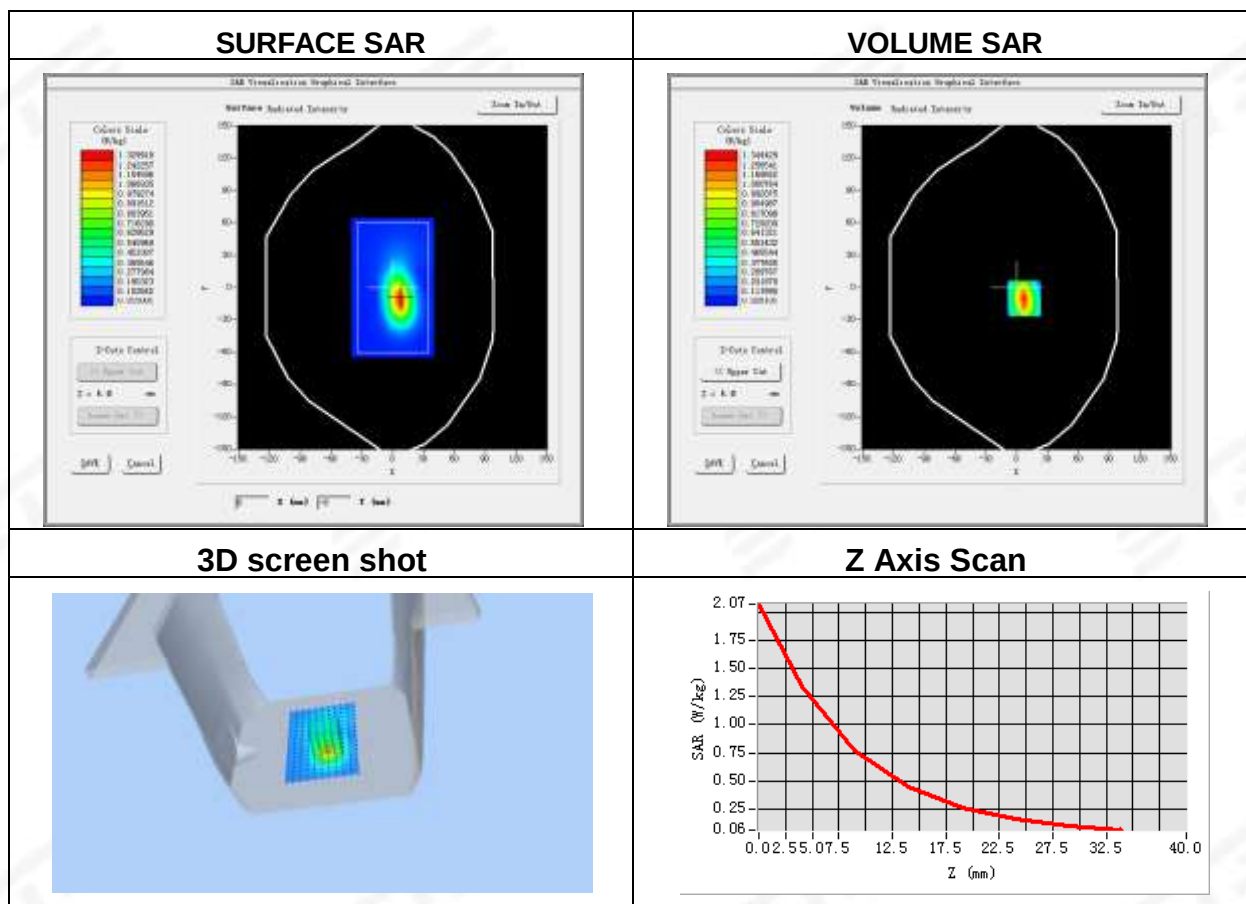
Plot 12: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.58
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	LTE Band 2(RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.44
Conductivity (S/m)	1.35

Maximum location: X=7.00, Y=-10.00

SAR Peak: 2.06 W/kg

SAR 10g (W/Kg)	0.624784
SAR 1g (W/Kg)	1.257650



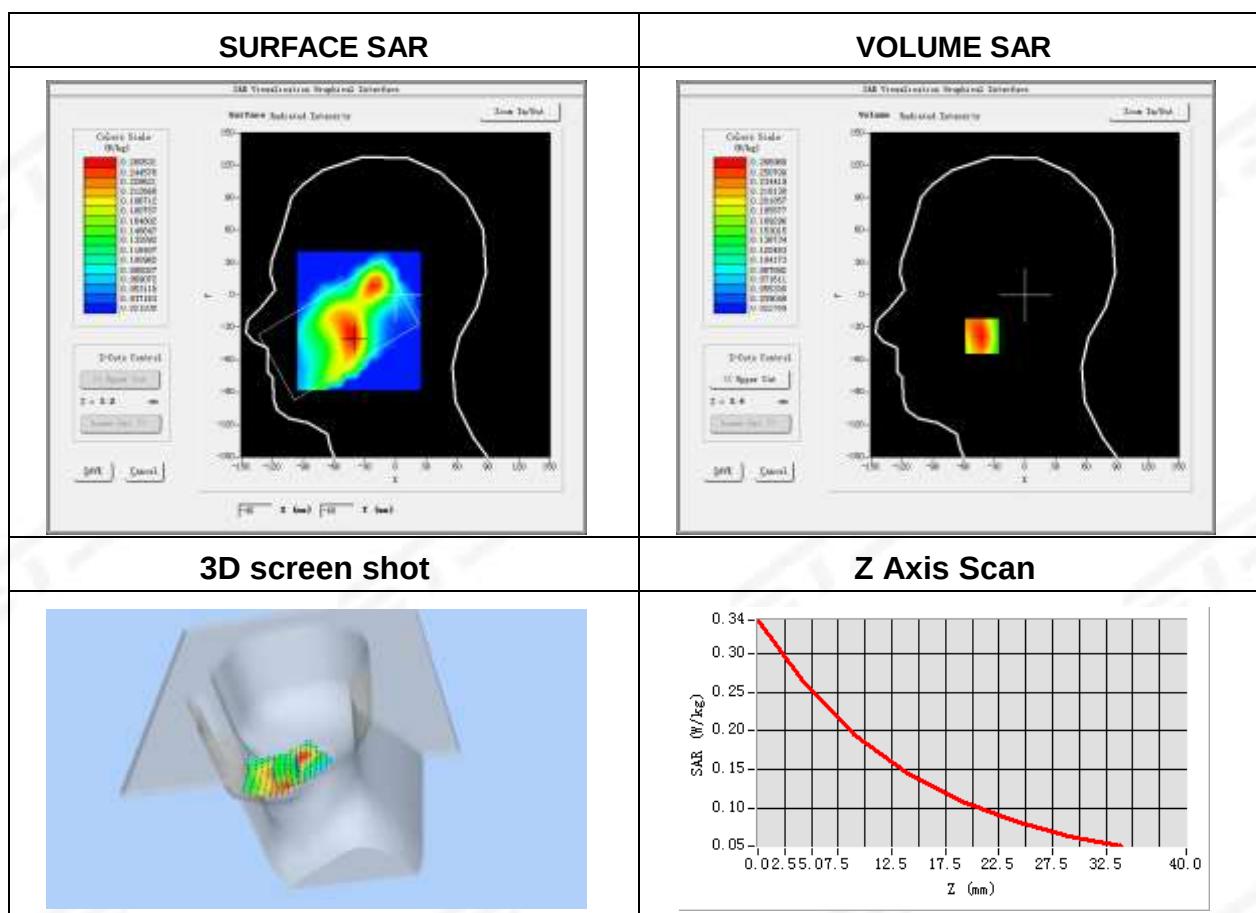
**Plot 13: DUT: Mobile Phone; EUT Model: CB68**

Test Date	2024-11-24
ConvF	1.58
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Band	LTE Band 4 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.77
Conductivity (S/m)	1.38

Maximum location: X=-42.00, Y=-38.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.177405
SAR 1g (W/Kg)	0.260674





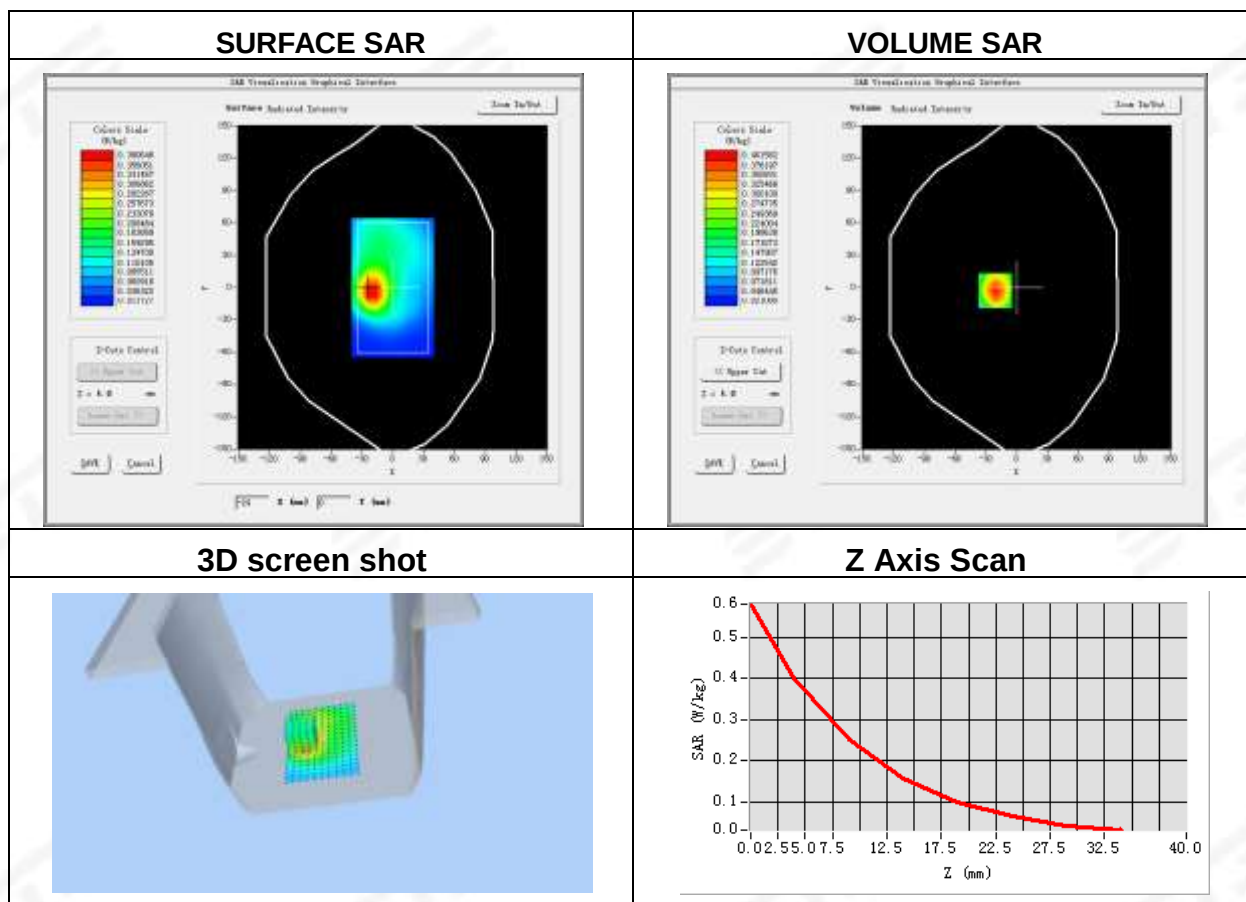
Plot 14: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-24
ConvF	1.58
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Bottom Side
Band	LTE Band 4 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.77
Conductivity (S/m)	1.38

Maximum location: X=5.00, Y=2.00

SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.221335
SAR 1g (W/Kg)	0.467843





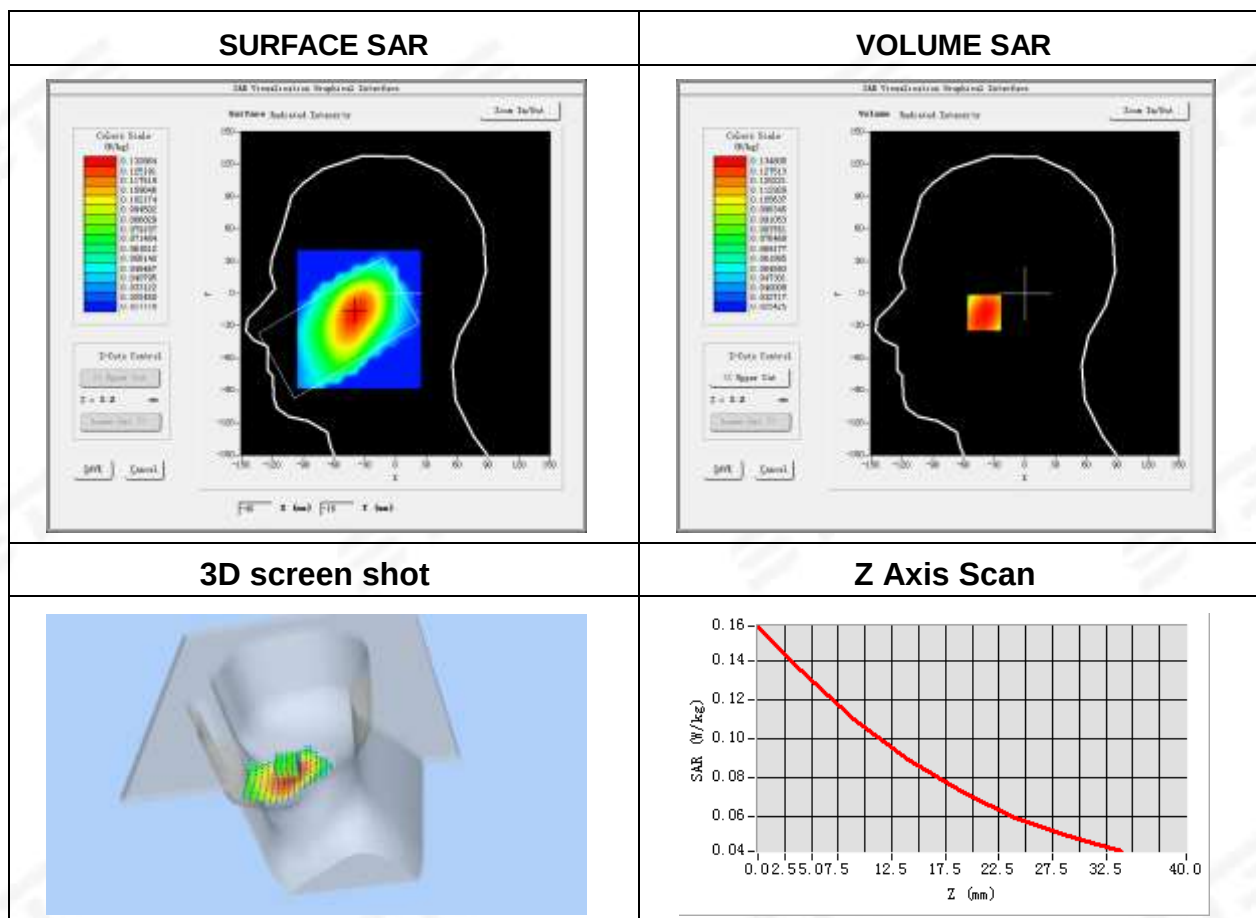
Plot 15: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 5 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	40.66
Conductivity (S/m)	0.92

Maximum location: X=-40.00, Y=-17.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.101652
SAR 1g (W/Kg)	0.133035





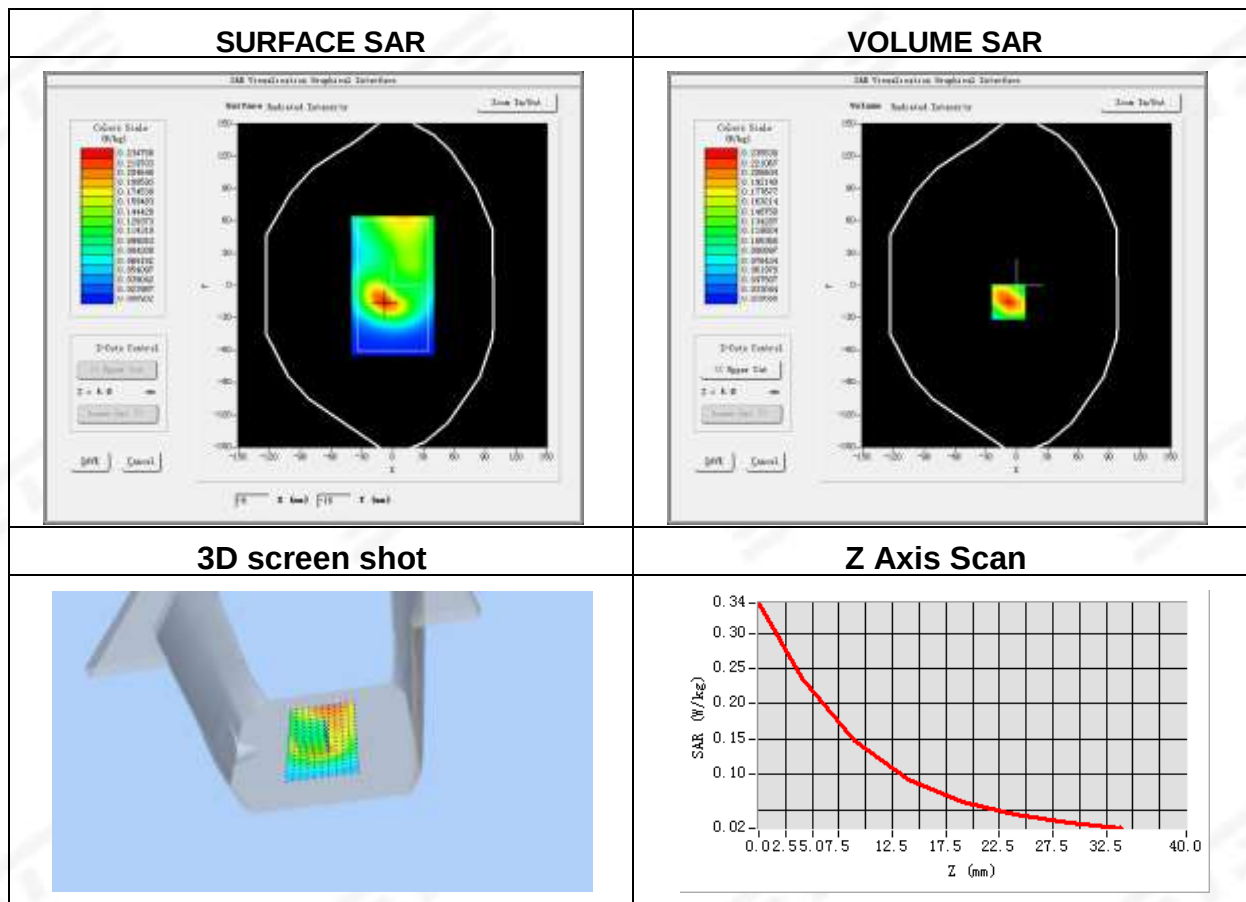
Plot 16: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 5 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	40.66
Conductivity (S/m)	0.92

Maximum location: X=-8.00, Y=-15.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.130111
SAR 1g (W/Kg)	0.222125





Plot 17: DUT: Mobile Phone; EUT Model: CB68

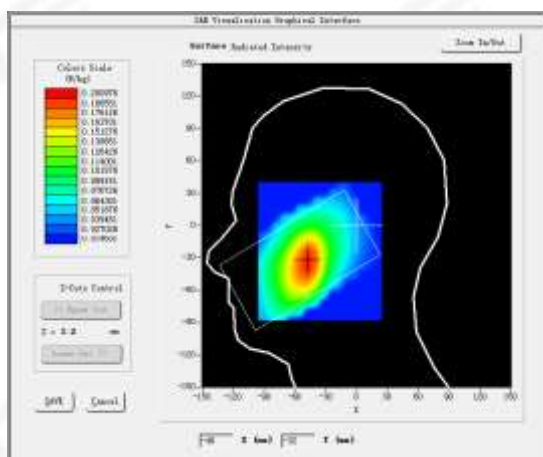
Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 12 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	704
Relative permittivity (real part)	42.91
Conductivity (S/m)	0.85

Maximum location: X=-48.00, Y=-32.00

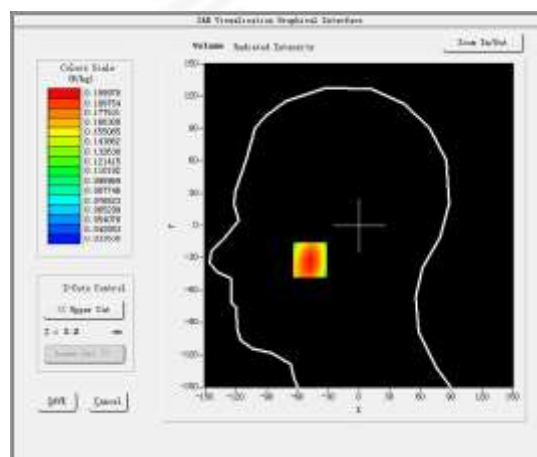
SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.140874
SAR 1g (W/Kg)	0.192988

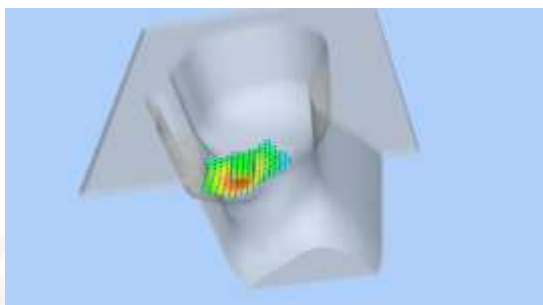
SURFACE SAR



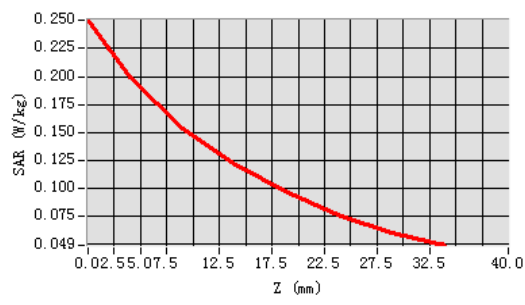
VOLUME SAR



3D screen shot



Z Axis Scan





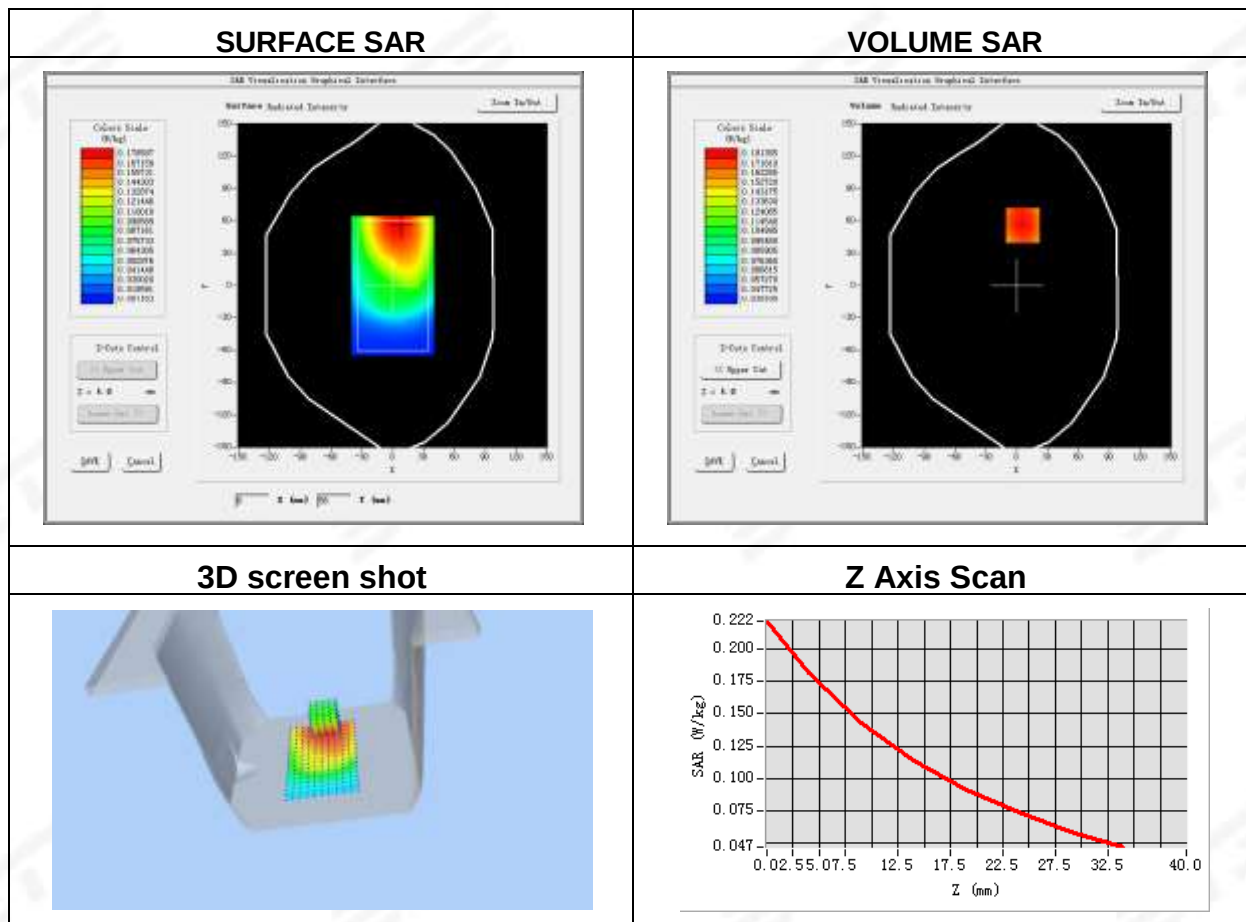
Plot 18: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 12 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	704
Relative permittivity (real part)	42.91
Conductivity (S/m)	0.85

Maximum location: X=6.00, Y=56.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.134940
SAR 1g (W/Kg)	0.176390



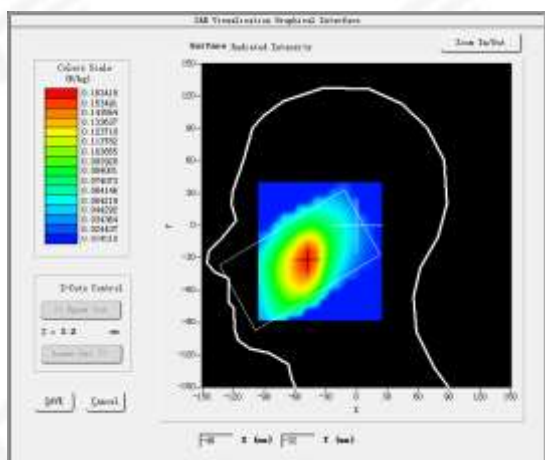
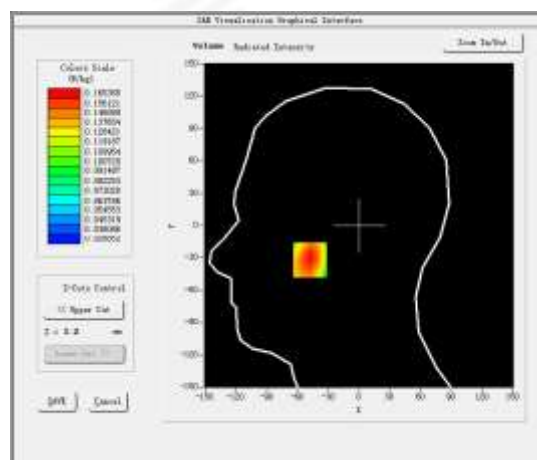
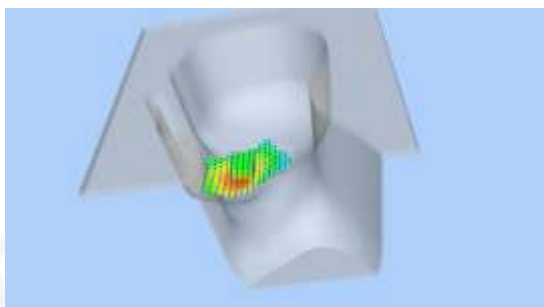
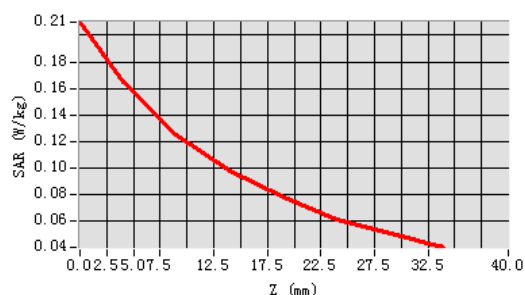
**Plot 19: DUT: Mobile Phone; EUT Model: CB68**

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 13 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.15
Conductivity (S/m)	0.88

Maximum location: X=-48.00, Y=-32.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.114890
SAR 1g (W/Kg)	0.160148

SURFACE SAR**VOLUME SAR****3D screen shot****Z Axis Scan**



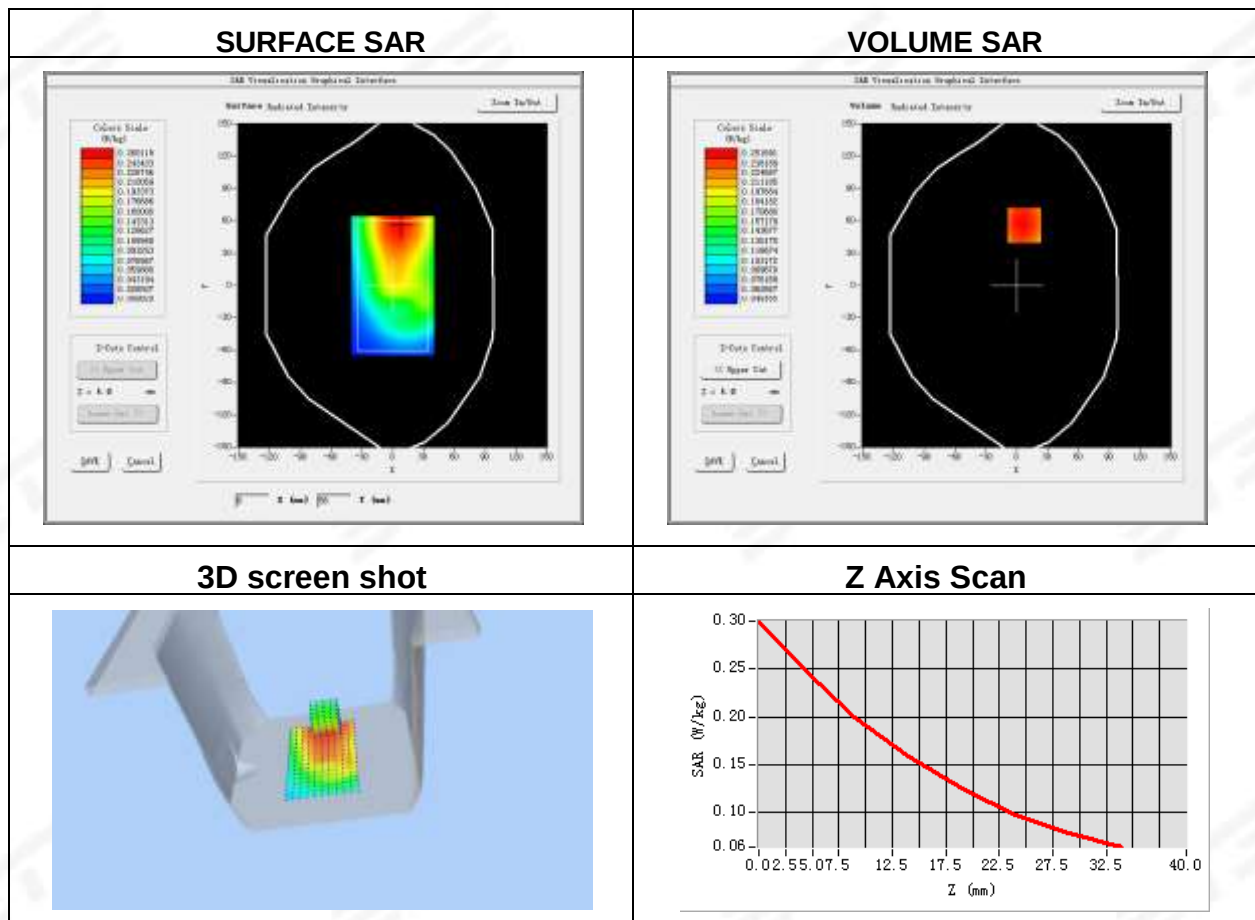
Plot 20: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.44
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 13 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.15
Conductivity (S/m)	0.88

Maximum location: X=7.00, Y=56.00

SAR Peak: 0.31 W/kg

SAR 10g (W/Kg)	0.112202
SAR 1g (W/Kg)	0.186425





Plot 21: DUT: Mobile Phone; EUT Model: CB68

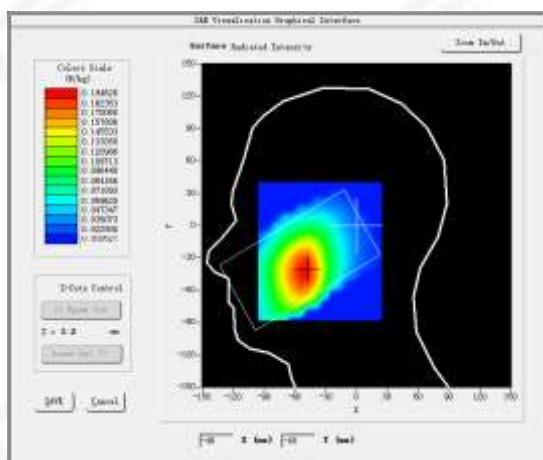
Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 17 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	42.57
Conductivity (S/m)	0.91

Maximum location: X=-50.00, Y=-42.00

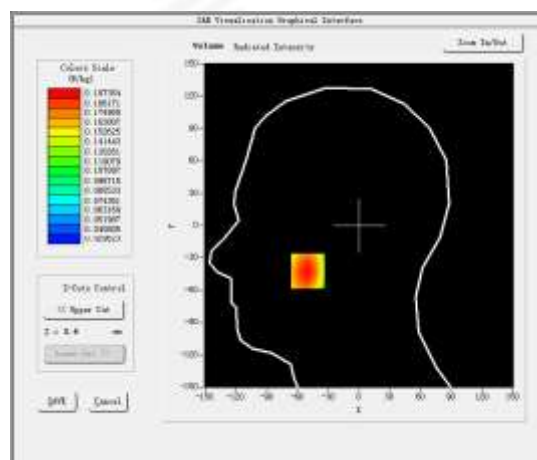
SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.143437
SAR 1g (W/Kg)	0.190868

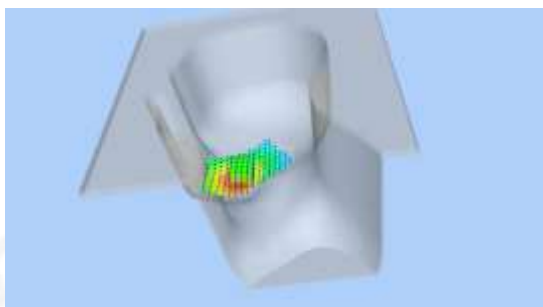
SURFACE SAR



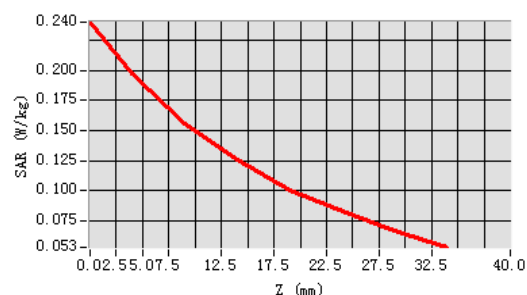
VOLUME SAR



3D screen shot



Z Axis Scan





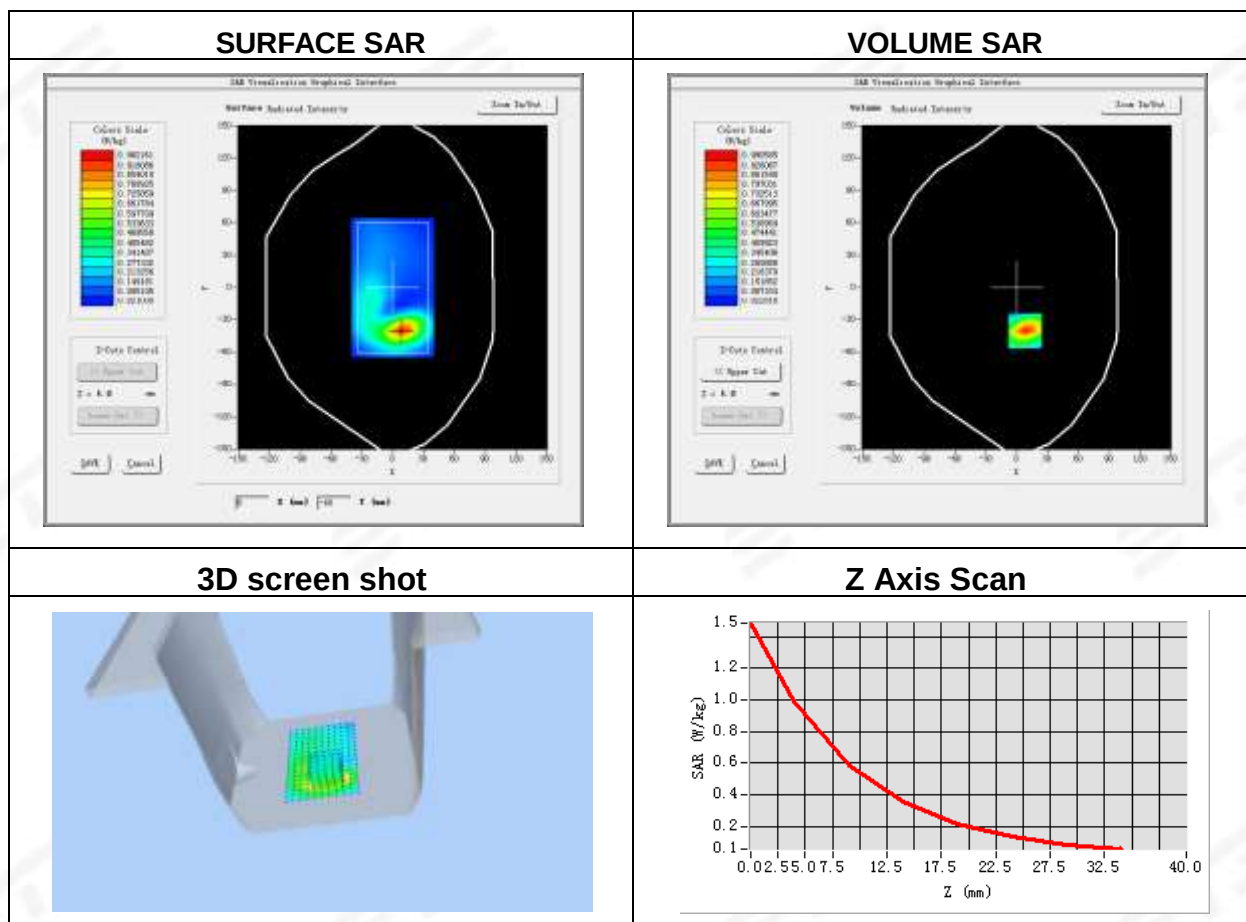
Plot 22: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 17 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	42.57
Conductivity (S/m)	0.91

Maximum location: X=8.00, Y=-40.00

SAR Peak: 1.51 W/kg

SAR 10g (W/Kg)	0.473903
SAR 1g (W/Kg)	0.914679



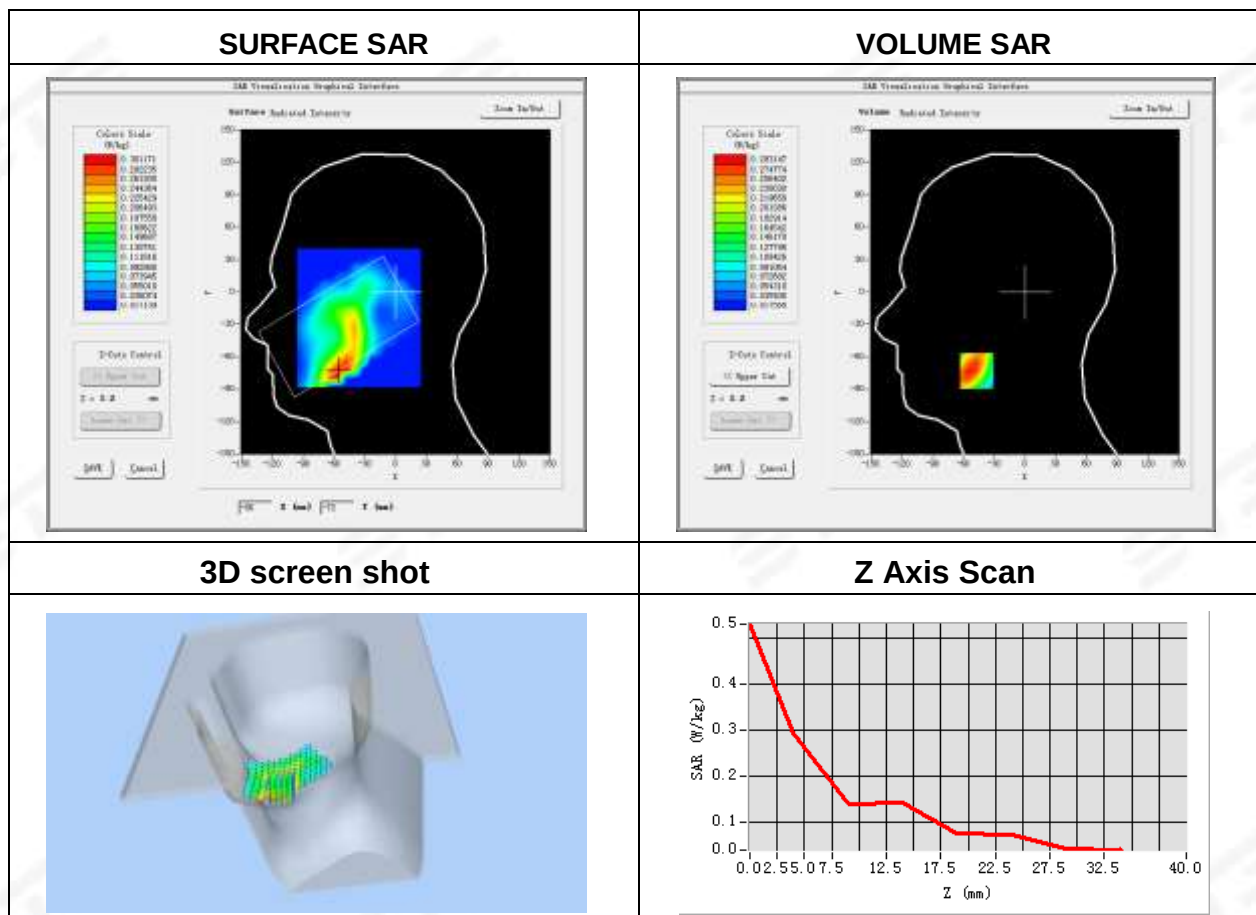
**Plot 23: DUT: Mobile Phone; EUT Model: CB68**

Test Date	2024-11-23
ConvF	1.58
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 25 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.44
Conductivity (S/m)	1.35

Maximum location: X=-47.00, Y=-73.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.180429
SAR 1g (W/Kg)	0.281245





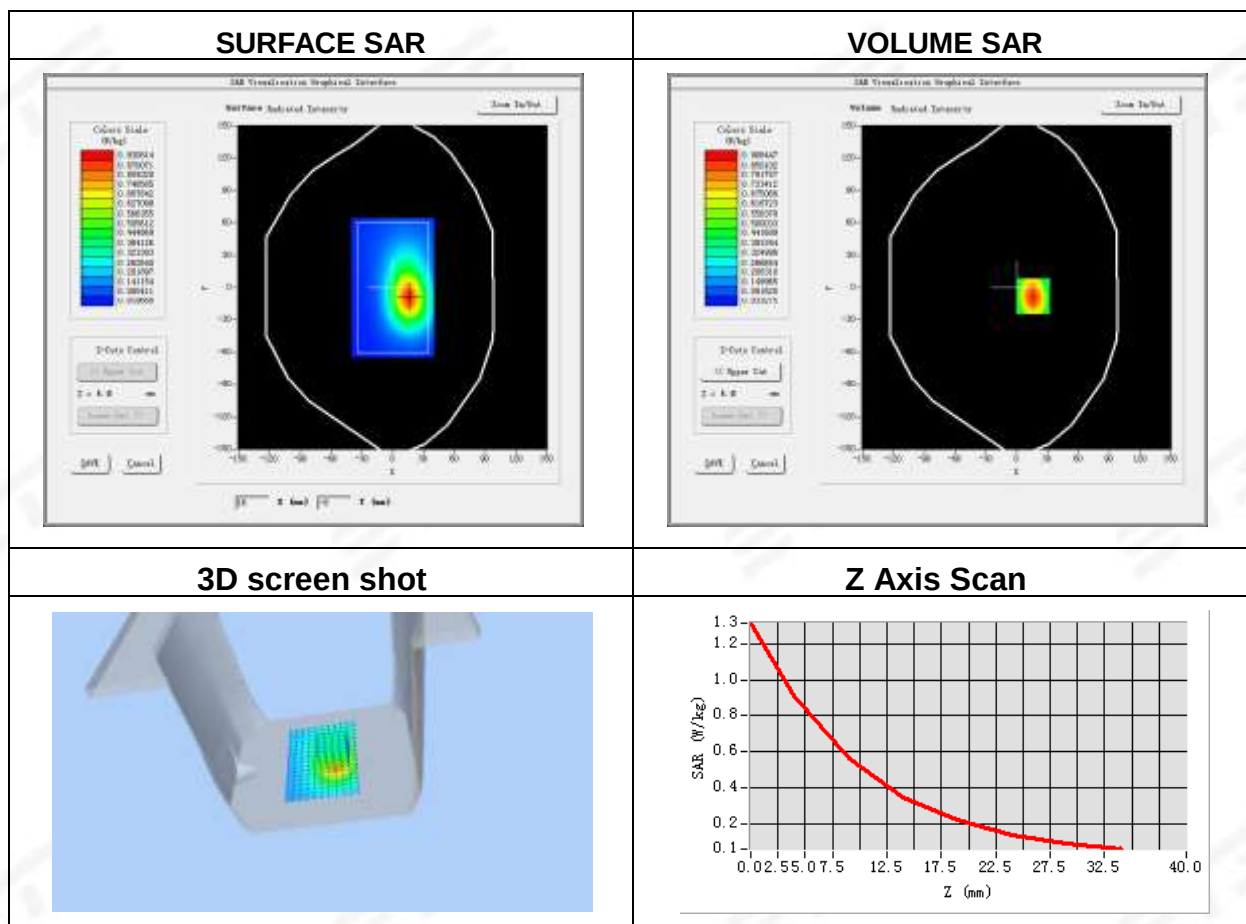
Plot 24: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-23
ConvF	1.58
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 25 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	40.44
Conductivity (S/m)	1.35

Maximum location: X=16.00, Y=-8.00

SAR Peak: 1.31 W/kg

SAR 10g (W/Kg)	0.492054
SAR 1g (W/Kg)	0.858368





Plot 25: DUT: Mobile Phone; EUT Model: CB68

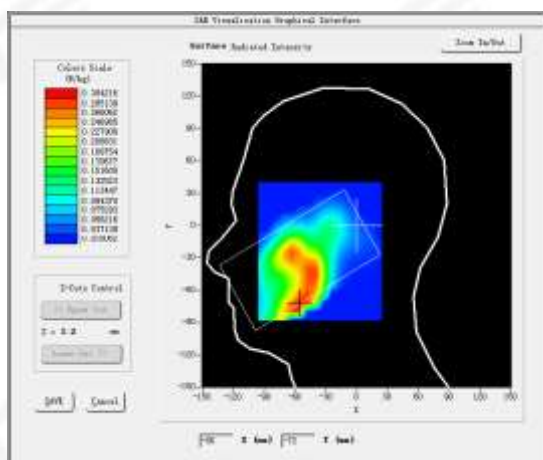
Test Date	2024-11-24
ConvF	1.44
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 66 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1770
Relative permittivity (real part)	41.45
Conductivity (S/m)	1.34

Maximum location: X=-48.00, Y=-73.00

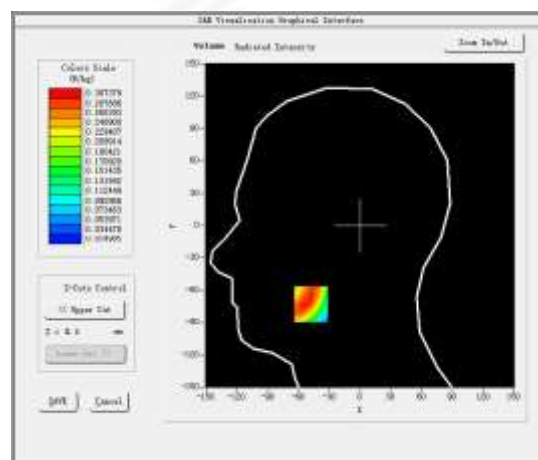
SAR Peak: 0.41 W/kg

SAR 10g (W/Kg)	0.190446
SAR 1g (W/Kg)	0.294542

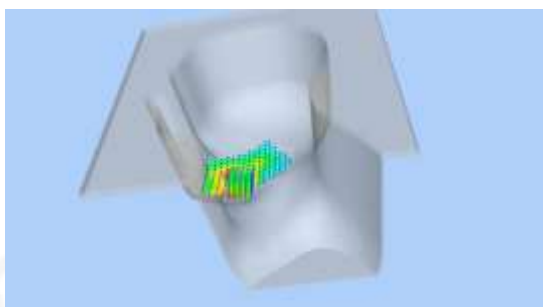
SURFACE SAR



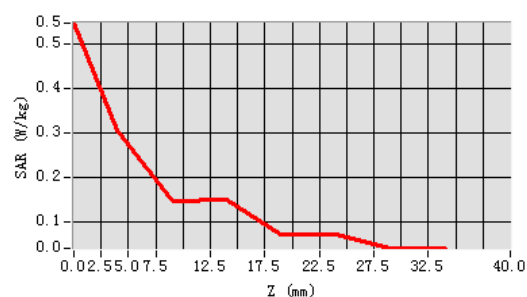
VOLUME SAR



3D screen shot



Z Axis Scan





Plot 26: DUT: Mobile Phone; EUT Model: CB68

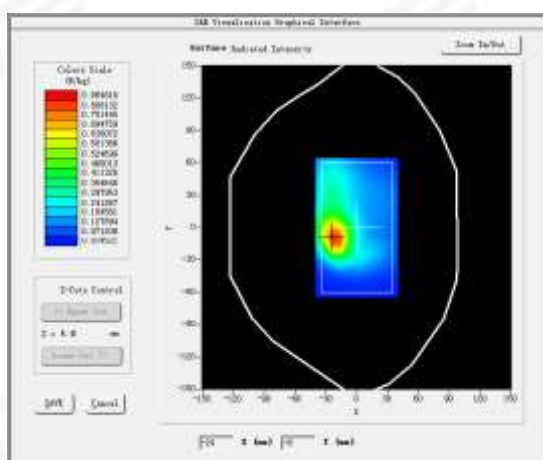
Test Date	2024-11-24
ConvF	1.44
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 26 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1770
Relative permittivity (real part)	41.45
Conductivity (S/m)	1.34

Maximum location: X=-22.00, Y=-9.00

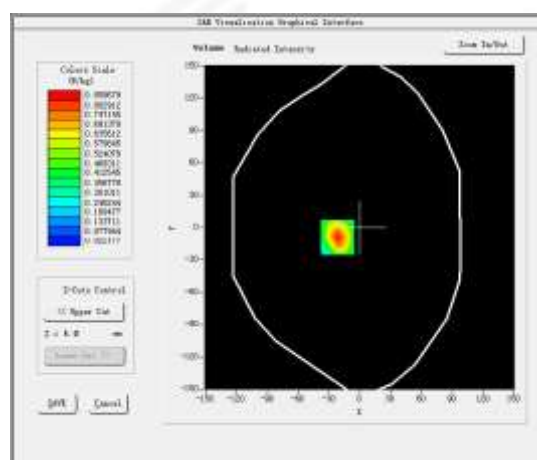
SAR Peak: 1.35 W/kg

SAR 10g (W/Kg)	0.427571
SAR 1g (W/Kg)	0.761784

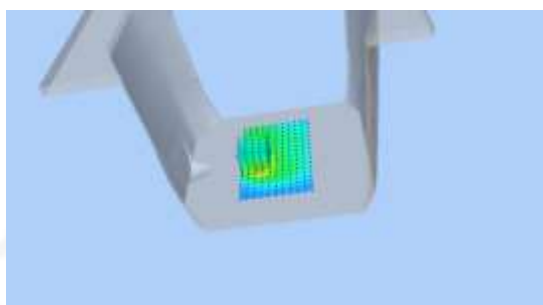
SURFACE SAR



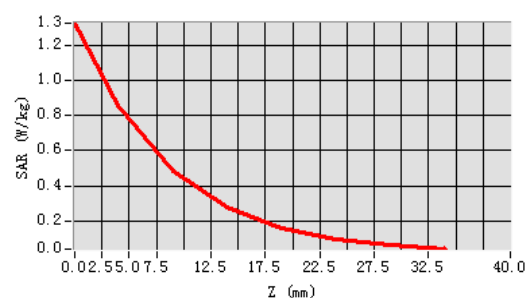
VOLUME SAR



3D screen shot



Z Axis Scan





Plot 27: DUT: Mobile Phone; EUT Model: CB68

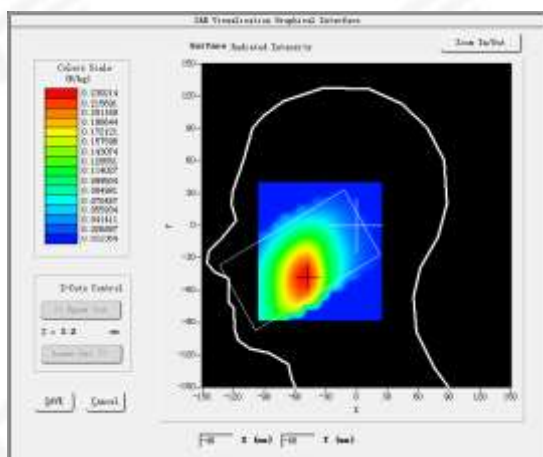
Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	LTE Band 71 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	683
Relative permittivity (real part)	43.00
Conductivity (S/m)	0.92

Maximum location: X=-50.00, Y=-47.00

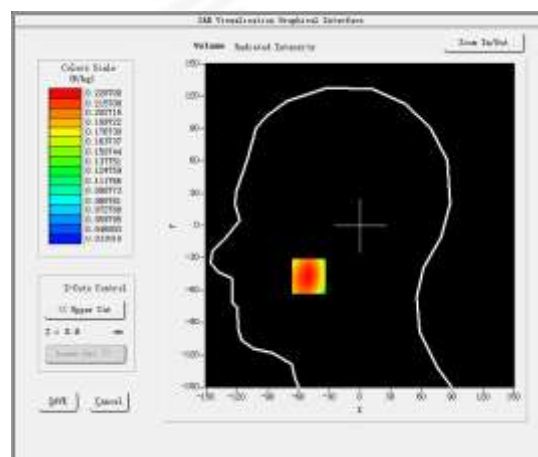
SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.169720
SAR 1g (W/Kg)	0.228694

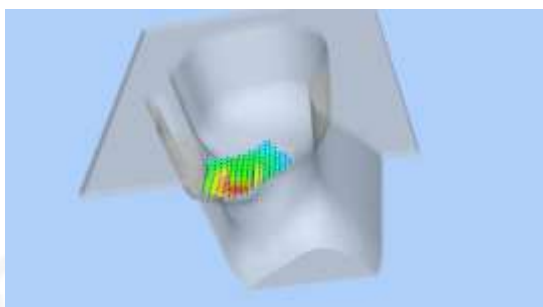
SURFACE SAR



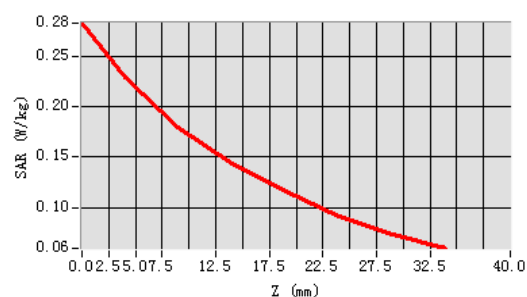
VOLUME SAR



3D screen shot



Z Axis Scan





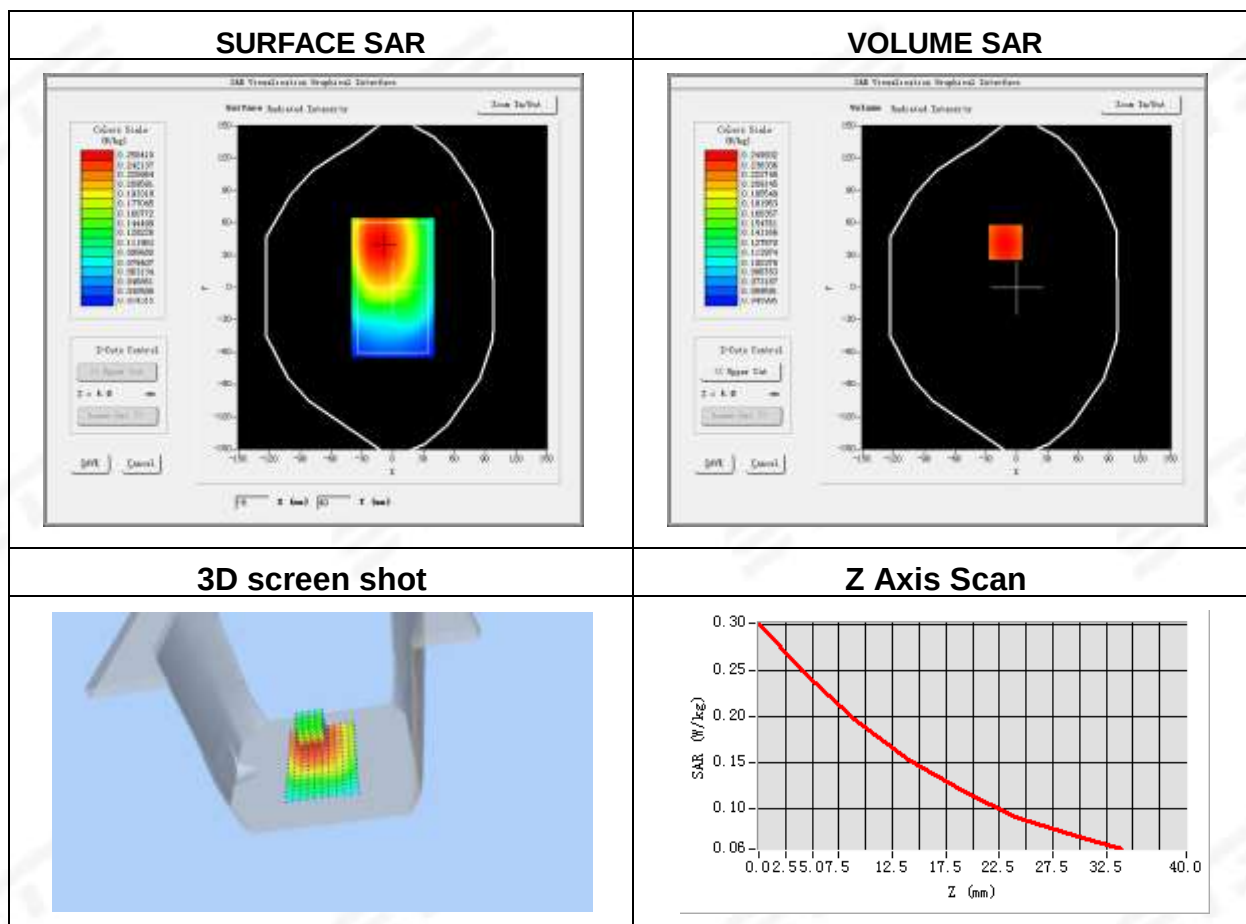
Plot 28: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-22
ConvF	1.56
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 71 (RB 1)
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	683
Relative permittivity (real part)	43.00
Conductivity (S/m)	0.92

Maximum location: X=-11.00, Y=42.00

SAR Peak: 0.31 W/kg

SAR 10g (W/Kg)	0.188982
SAR 1g (W/Kg)	0.254052





Plot 29: DUT: Mobile Phone; EUT Model: CB68

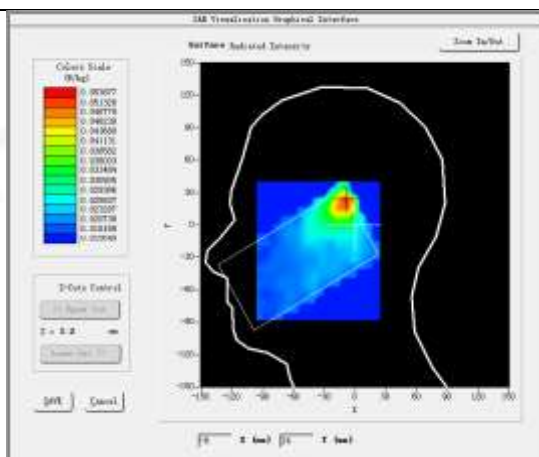
Test Date	2024-11-26
ConvF	1.80
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	2.4G WIFI
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	39.77
Conductivity (S/m)	1.73

Maximum location: X=-8.00, Y=23.00

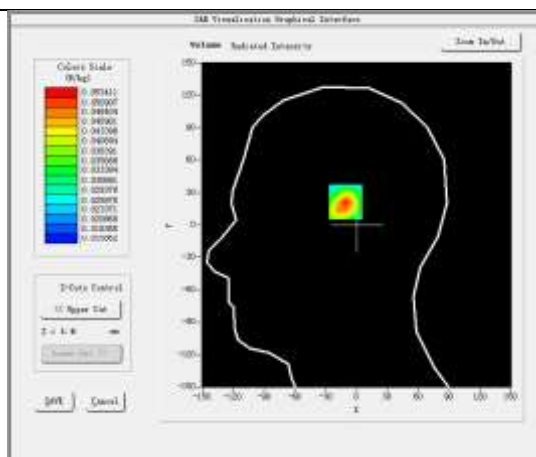
SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.034690
SAR 1g (W/Kg)	0.052032

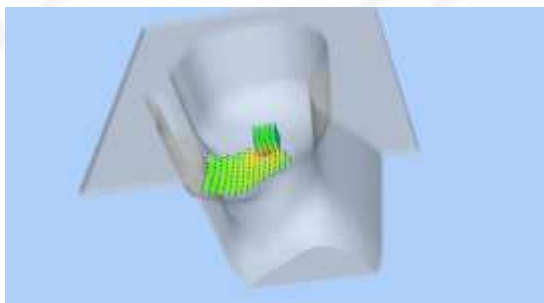
SURFACE SAR



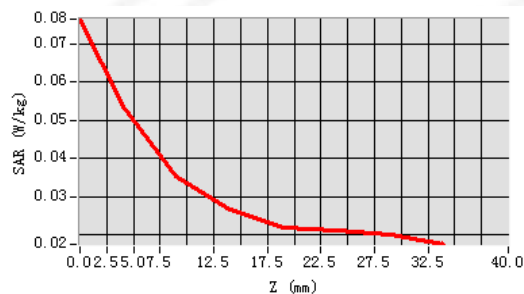
VOLUME SAR



3D



Z Axis Scan





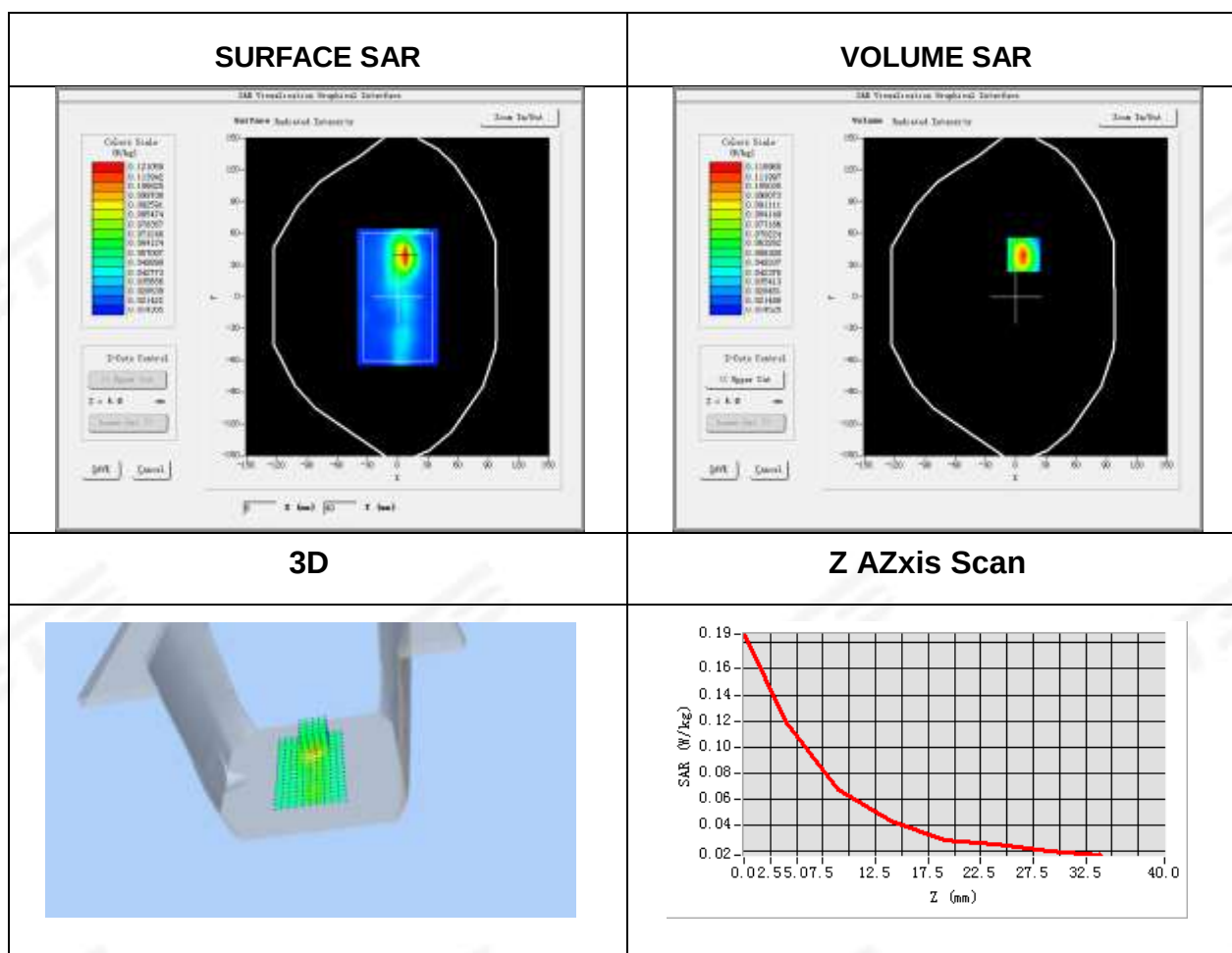
Plot 30: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-26
ConvF	1.80
Probe	SN 08/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	2.4G WIFI
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	39.77
Conductivity (S/m)	1.73

Maximum location: X=8.00, Y=40.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.059242
SAR 1g (W/Kg)	0.112335





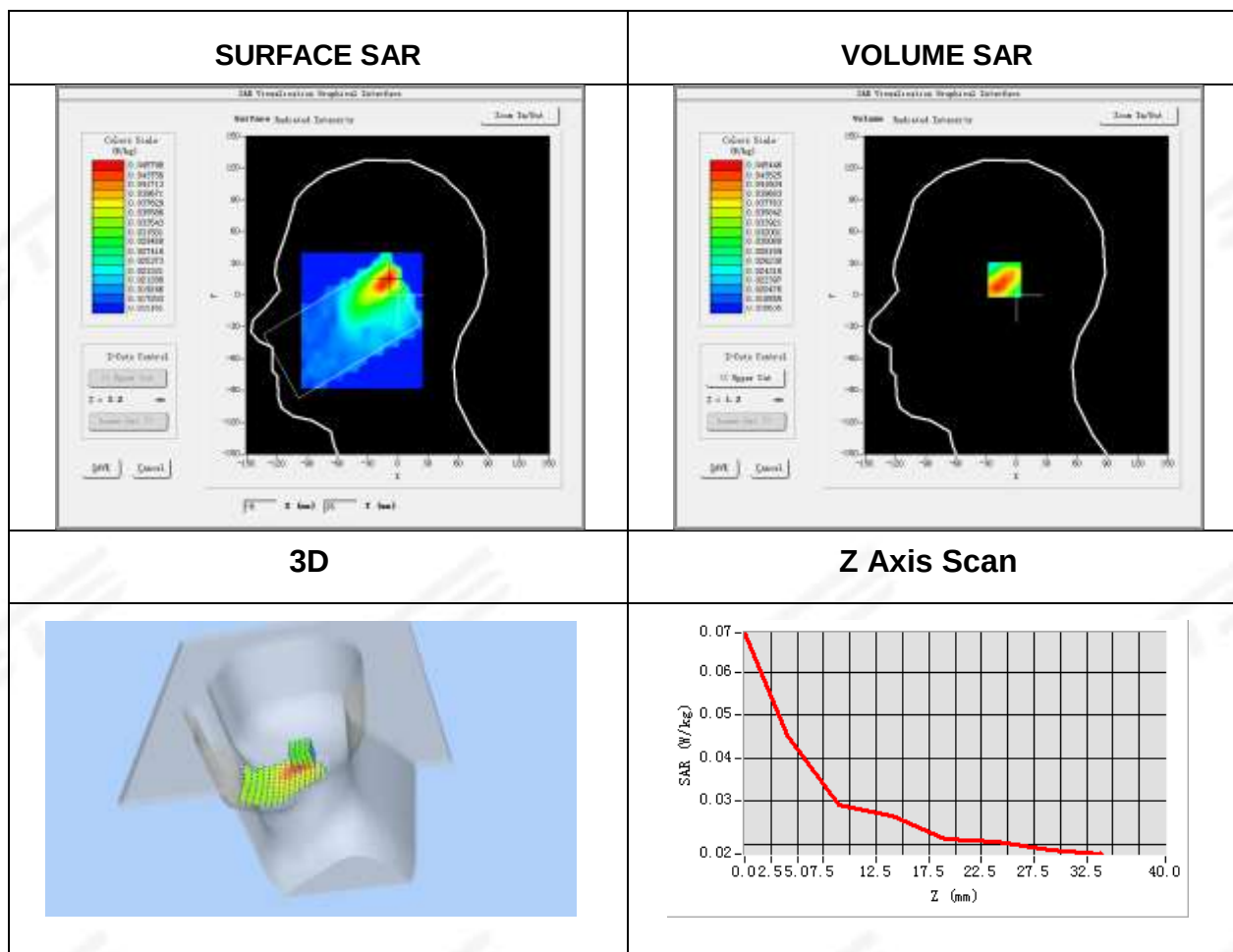
Plot 31: DUT: Mobile Phone; EUT Model: CB68

Test Date	2024-11-26
ConvF	1.80
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Right Cheek
Device Position	Cheek
Band	BT
Signal	GFSK (Crest factor: 1.0)
Frequency (MHz)	2441
Relative permittivity (real part)	39.53
Conductivity (S/m)	1.83

Maximum location: X=-9.00, Y=16.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.032001
SAR 1g (W/Kg)	0.044402





Plot 32: DUT: Mobile Phone; EUT Model: CB68

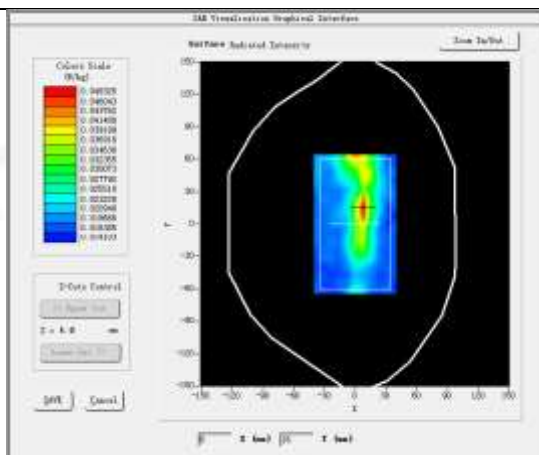
Test Date	2024-11-26
ConvF	1.80
Probe	SN 08/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm
Phantom	Validation plane
Device Position	Back Side
Band	BT
Signal	GFSK (Crest factor: 1.0)
Frequency (MHz)	2441
Relative permittivity (real part)	39.53
Conductivity (S/m)	1.83

Maximum location: X=8.00, Y=15.00

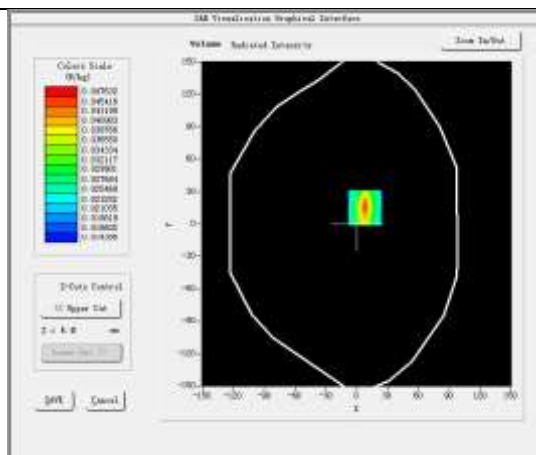
SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.028303
SAR 1g (W/Kg)	0.043448

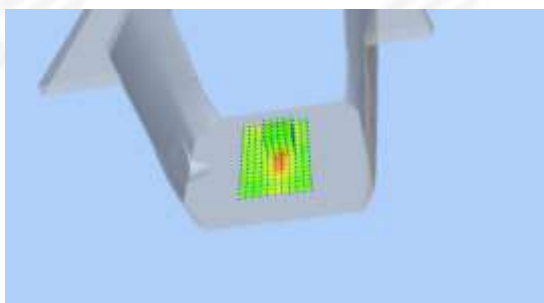
SURFACE SAR



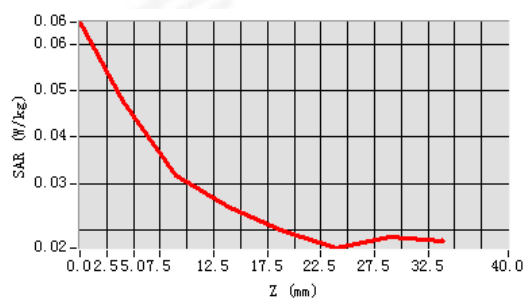
VOLUME SAR



3D



Z AZxis Scan





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※