



FCC SAR TEST REPORT

Report No.: STS2204331H02

Issued for

Bullitt Group

One Valpy, Valpy Street, Reading, RG1 1AR United Kingdom

Product Name:	5G Smart phone
Brand Name:	CAT
Model Name:	BM1S4L
Series Model:	N/A
FCC ID:	ZL5BM1S4LE
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR(Head and Body): 1g	Head: 0.513 W/kg
	Body:1.166 W/kg

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Test Report Certification

Applicant's name : Bullitt Group

Address : One Valpy, Valpy Street, Reading, RG1 1AR United Kingdom

Manufacturer's Name : Bullitt Group

Address : One Valpy, Valpy Street, Reading, RG1 1AR United Kingdom

Product description

Product name : 5G Smart phone

Brand name : CAT

Model name : BM1S4L

Series Model..... : N/A

Standards..... : ANSI/IEEE Std. C95.1-1992
FCC 47 CFR Part 2 (2.1093)
IEEE 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..... : 04 Jan. 2022 ~ 15 July 2022

Date of Issue..... : 15 July 2022

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

Testing Engineer :

(Shifan. Long)

Technical Manager :

(Sean she)

Authorized Signatory :

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	17 Jan. 2022	STS2204331H02	ALL	Initial Issue
01	26 May 2022	STS2204331H02	ALL	Update appearance and test data, added LTE Band12, Band13, Band 17.
02	28 June 2022	STS2204331H02	ALL	Update test data and applicant, manufacturer, trademark and model, add CDMA BC0/BC1, LTE Band25, Band26, Band 66.
03	15 July 2022	STS2204331H02	ALL	Added CDMA BC10 test data.





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	5G Smart phone
Brand Name	CAT
Model Name	BM1S4L
Series Model	N/A
Model Difference	N/A
Battery	Rated Voltage: 3.85V Charge Limit Voltage: 4.4V Capacity: 5500mAh
Device Category	Portable
Product stage	Production unit
RF Exposure Environment	General Population / Uncontrolled
IMEI	353388830000016 353388830000024
Hardware Version	V1.00
Software Version	BM1S4L.DEG
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 CDMA BC0: 824.70 MHz ~ 848.31 MHz CDMA BC1: 1851.25MHz ~ 1908.75 MHz CDMA BC10: 817.90MHz ~ 823.10 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz~2570 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 26: 814 MHz~849 MHz LTE Band 38: 2570 MHz~2620 MHz LTE Band 40: 2305 MHz~2315MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G n2: 1850-1910 MHz 5G n5: 824-849 MHz 5G n7: 2500-2570 MHz 5G n41: 2496-2690 MHz 5G n66: 1710-1780 MHz WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 ~ 5250 MHz



	WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5250 ~ 5350 MHz			
	WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5470 ~ 5725 MHz			
	WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 ~ 5850 MHz			
	Bluetooth: 2402 MHz to 2480 MHz			
Max. Reported SAR (Head and Body: 1g) Limit:1.6W/kg	Band	Mode	Head (W/kg)	Body Worn and Hotspot(W/kg)
	PCE	GSM 850	0.250	0.210
	PCE	GSM 1900	0.069	0.317
	PCE	WCDMA Band II	0.067	1.005
	PCE	WCDMA Band IV	0.072	1.166
	PCE	WCDMA Band V	0.130	0.126
	PCE	LTE Band 2	0.139	1.007
	PCE	LTE Band 4	0.262	1.144
	PCE	LTE Band 5	0.250	0.147
	PCE	LTE Band 7	0.191	0.947
	PCE	LTE Band 12	0.257	0.253
	PCE	LTE Band 13	0.260	0.186
	PCE	LTE Band 17	0.253	0.242
	PCE	LTE Band 38	0.123	0.303
	PCE	LTE Band 40	0.069	0.381
	PCE	LTE Band 41	0.122	0.382
	PCE	SA N2	0.089	0.550
	PCE	SA N5	0.150	0.058
	PCE	SA N7	0.109	0.377
	PCE	SA N41	0.132	0.091
	PCE	SA N66	0.110	0.443
	DTS	2.4G WLAN ANT 1	0.513	0.199
	DTS	2.4G WLAN ANT 2	0.043	0.021
	DTS	2.4G WLAN MIMO	0.289	0.169
	NII	5.2G WLAN ANT 1	0.133	0.234
	NII	5.2G WLAN ANT 2	0.044	0.286
	NII	5.2G WLAN MIMO	0.283	0.330
	NII	5.3G WLAN ANT 1	0.069	0.217
	NII	5.3G WLAN ANT 2	0.023	0.355
	NII	5.3G WLAN MIMO	0.308	0.431
	NII	5.6G WLAN ANT 1	0.083	0.109
	NII	5.6G WLAN ANT 2	0.041	0.249
	NII	5.6G WLAN MIMO	0.281	0.286
	NII	5.8G WLAN ANT 1	0.135	0.137
	NII	5.8G WLAN ANT 2	0.063	0.231
	NII	5.8G WLAN MIMO	0.268	0.263
	DSS	Bluetooth ^{Note}	0.328	0.328
	PCE	CDMA BC0	0.050	0.231
	PCE	CDMA BC1	0.094	0.076
	PCE	CDMA BC10	0.046	0.135
	PCE	LTE Band 25	0.086	0.778
	PCE	LTE Band 26	0.059	0.077
	PCE	LTE Band 66	0.108	0.696
1-g Sum SAR			0.775	1.597
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS) Unlicensed National Information Infrastructure TX (NII)			



Operating Mode:	GSM: GSM Voice; GPRS/EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 CDMA: QPSK/8PSK LTE: QPSK, 16QAM 5G NR: DFT-s-OFDM, CP-OFDM ($\pi/2$ shift BPSK, QPSK, 16QAM, 64QAM, 256QAM) WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK 802.11g/a/n(OFDM): BPSK, QPSK, 16-QAM, 64-QAM 802.11ac(OFDM): BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM Bluetooth: GFSK + $\pi/4$ DQPSK + 8DPSK BLE: GFSK
Antenna Specification:	GSM/WCDMA/CDMA/LTE/NR: 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. Bluetooth SAR was estimated 2. 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) 3. 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. 4. 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 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

Are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

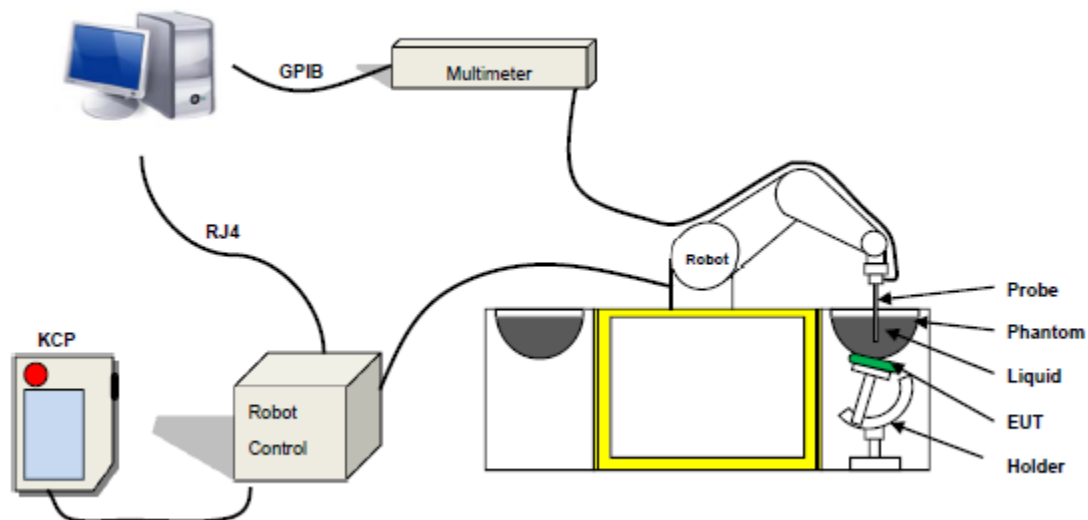
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue,
ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The 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 07/21 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.

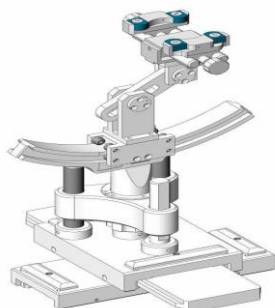
SN 32/14 SAM115



SN 32/14 SAM116



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	Temp. [°C]					
2022-01-04	23.6	51	826.4MHz	23.3	Permittivity	41.50	40.64	-2.07	±5
					Conductivity	0.89	0.91	2.16	±5
2022-01-04	23.6	51	835 MHz	23.3	Permittivity	41.50	41.99	1.18	±5
					Conductivity	0.90	0.88	-2.22	±5
2022-01-04	23.6	51	836.5 MHz	23.3	Permittivity	41.50	40.61	-2.14	±5
					Conductivity	0.90	0.91	0.92	±5
2022-01-04	23.6	51	844 MHz	23.3	Permittivity	41.50	42.85	3.25	±5
					Conductivity	0.91	0.91	0.00	±5
2022-01-04	23.6	51	848.8 MHz	23.3	Permittivity	41.50	41.54	0.10	±5
					Conductivity	0.91	0.95	3.84	±5
2022-01-05	22.9	48	1712.4 MHz	22.5	Permittivity	40.11	39.00	-2.78	±5
					Conductivity	1.35	1.35	0.00	±5
2022-01-05	22.9	48	1720 MHz	23.5	Permittivity	40.11	39.39	-1.81	±5
					Conductivity	1.35	1.36	0.42	±5
2022-01-05	22.9	48	1800 MHz	24.5	Permittivity	40.00	39.06	-2.35	±5
					Conductivity	1.40	1.39	-0.71	±5
2022-01-05	22.9	48	1850.2 MHz	25.5	Permittivity	40.00	41.41	3.52	±5
					Conductivity	1.40	1.40	0.00	±5
2022-01-05	22.9	48	1852.4 MHz	26.5	Permittivity	40.00	39.48	-1.30	±5
					Conductivity	1.40	1.40	0.00	±5
2022-01-07	24.3	50	1860 MHz	23.9	Permittivity	40.00	39.72	-0.70	±5
					Conductivity	1.40	1.38	-1.43	±5
2022-01-07	24.3	50	1880 MHz	23.9	Permittivity	40.00	39.67	-0.82	±5
					Conductivity	1.40	1.43	2.14	±5
2022-01-07	24.3	50	1907.6 MHz	23.9	Permittivity	40.00	40.44	1.10	±5
					Conductivity	1.40	1.39	-0.71	±5
2022-01-07	24.3	50	1900 MHz	23.9	Permittivity	40.00	40.90	2.25	±5
					Conductivity	1.40	1.41	0.71	±5
2022-01-10	24.3	51	2350 MHz	24.1	Permittivity	39.35	37.71	-4.16	±5
					Conductivity	1.73	1.71	-1.00	±5
2022-01-10	24.3	51	2412 MHz	24.1	Permittivity	39.26	37.98	-3.25	±5
					Conductivity	1.77	1.75	-1.26	±5



2022-01-10	24.3	51	2450 MHz	24.1	Permittivity	39.20	38.84	-0.92	±5
					Conductivity	1.80	1.88	4.44	±5
2022-01-10	24.3	51	2506 MHz	24.1	Permittivity	39.12	39.44	0.82	±5
					Conductivity	1.86	1.85	-0.75	±5
2022-01-10	24.3	51	2510 MHz	24.1	Permittivity	39.12	40.21	2.78	±5
					Conductivity	1.87	1.89	1.32	±5
2022-01-11	23.5	55	2535 MHz	23.4	Permittivity	39.09	37.92	-3.00	±5
					Conductivity	1.89	1.87	-1.20	±5
2022-01-11	23.5	55	2580MHz	23.4	Permittivity	39.03	39.63	1.53	±5
					Conductivity	1.94	1.90	-2.15	±5
2022-01-11	23.5	55	2593 MHz	23.4	Permittivity	39.02	39.21	0.49	±5
					Conductivity	1.96	1.93	-1.33	±5
2022-01-11	23.5	55	2600 MHz	23.4	Permittivity	39.00	39.04	0.10	±5
					Conductivity	1.96	1.92	-2.04	±5
2022-01-13	22.9	48	5180MHz	22.7	Permittivity	36.02	35.25	-2.15	±5
					Conductivity	4.64	4.66	0.44	±5
2022-01-13	22.9	48	5190 MHz	22.7	Permittivity	36.01	35.14	-2.42	±5
					Conductivity	4.65	4.56	-1.93	±5
2022-01-13	22.9	48	5200 MHz	22.7	Permittivity	36.00	35.73	-0.75	±5
					Conductivity	4.66	4.84	3.86	±5
2022-01-13	22.9	48	5300 MHz	22.7	Permittivity	35.90	35.54	-1.00	±5
					Conductivity	4.76	4.86	2.10	±5
2022-01-14	23.2	42	5300 MHz	23	Permittivity	35.90	36.11	0.58	±5
					Conductivity	4.76	4.76	0.00	±5
2022-01-14	23.2	42	5320 MHz	24	Permittivity	35.88	36.91	2.87	±5
					Conductivity	4.78	4.81	0.63	±5
2022-01-14	23.2	42	5600 MHz	24	Permittivity	35.55	35.64	0.25	±5
					Conductivity	5.07	5.21	2.86	±5
2022-01-14	23.2	42	5700 MHz	24	Permittivity	35.43	36.42	2.81	±5
					Conductivity	5.17	5.21	0.82	±5
2022-01-17	23.8	50	5745 MHz	23.5	Permittivity	35.37	36.69	3.74	±5
					Conductivity	5.21	5.26	0.89	±5
2022-01-17	23.8	50	5800 MHz	23.5	Permittivity	35.30	36.36	3.00	±5
					Conductivity	5.27	5.40	2.47	±5
2022-01-17	23.8	50	5825 MHz	23.5	Permittivity	35.28	36.15	2.48	±5
					Conductivity	5.30	5.31	0.26	±5



2022-05-09	23.5	55	707.5 MHz	23.2	Permittivity	42.11	40.98	-2.68	±5
					Conductivity	0.89	0.91	2.25	±5
2022-05-09	22	47	710 MHz	21.7	Permittivity	42.11	40.78	-3.16	±5
					Conductivity	0.89	0.90	1.12	±5
2022-05-09	20.7	48	750 MHz	20.4	Permittivity	41.90	43.53	3.89	±5
					Conductivity	0.89	0.92	3.37	±5
2022-05-09	23.1	59	782 MHz	22.7	Permittivity	41.75	42.57	1.96	±5
					Conductivity	0.89	0.90	1.12	±5
2022-05-10	22.1	44	826.4 MHz	21.8	Permittivity	41.54	42.08	1.30	±5
					Conductivity	0.90	0.90	0.00	±5
2022-05-10	23.3	43	835 MHz	23.0	Permittivity	41.50	41.36	-0.34	±5
					Conductivity	0.90	0.92	2.22	±5
2022-05-10	21.4	50	836.5 MHz	21.1	Permittivity	41.50	41.14	-0.87	±5
					Conductivity	0.90	0.89	-1.11	±5
2022-05-10	20.7	40	844 MHz	20.4	Permittivity	41.50	41.71	0.51	±5
					Conductivity	0.91	0.88	-3.30	±5
2022-05-10	21.2	45	848.8 MHz	20.9	Permittivity	41.50	40.58	-2.22	±5
					Conductivity	0.91	0.89	-2.20	±5
2022-05-11	23.1	52	1712.4 MHz	22.8	Permittivity	40.12	40.10	-0.05	±5
					Conductivity	1.35	1.35	0.00	±5
2022-05-11	21.2	51	1720 MHz	21.0	Permittivity	40.11	41.06	2.37	±5
					Conductivity	1.35	1.32	-2.22	±5
2022-05-11	20.8	41	1732.5 MHz	20.6	Permittivity	40.10	39.45	-1.62	±5
					Conductivity	1.36	1.35	-0.74	±5
2022-05-11	22.8	56	1747.4 MHz	22.5	Permittivity	40.08	39.14	-2.35	±5
					Conductivity	1.37	1.38	0.73	±5
2022-05-11	22.4	48	1782.4 MHz	22.1	Permittivity	40.04	39.63	-1.02	±5
					Conductivity	1.38	1.35	-2.17	±5
2022-05-11	20.9	58	1800 MHz	20.6	Permittivity	40.00	39.92	-0.20	±5
					Conductivity	1.40	1.38	-1.43	±5
2022-05-16	23.7	54	1850.2 MHz	23.4	Permittivity	40.00	40.36	0.90	±5
					Conductivity	1.40	1.40	0.00	±5
2022-05-16	22.2	49	1852.4 MHz	21.8	Permittivity	40.00	39.89	-0.27	±5
					Conductivity	1.40	1.39	-0.71	±5



2022-05-16	24	41	1860 MHz	23.7	Permittivity	40.00	41.17	2.93	±5
					Conductivity	1.40	1.39	-0.71	±5
2022-05-16	21	40	1880 MHz	20.7	Permittivity	40.00	38.87	-2.83	±5
					Conductivity	1.40	1.38	-1.43	±5
2022-05-16	23.2	51	1900 MHz	22.9	Permittivity	40.00	40.01	0.02	±5
					Conductivity	1.40	1.40	0.00	±5
2022-05-16	20.4	47	1907.6 MHz	20.0	Permittivity	40.00	39.20	-2.00	±5
					Conductivity	1.40	1.40	0.00	±5
2022-05-17	23.5	49	2350 MHz	23.2	Permittivity	39.29	38.95	-0.87	±5
					Conductivity	1.76	1.78	1.14	±5
2022-05-17	20.2	42	2402 MHz	19.9	Permittivity	39.27	39.23	-0.10	±5
					Conductivity	1.77	1.81	2.26	±5
2022-05-17	22.3	45	2412 MHz	21.9	Permittivity	39.26	38.89	-0.94	±5
					Conductivity	1.77	1.80	1.69	±5
2022-05-17	20.4	57	2422 MHz	20.1	Permittivity	39.26	39.32	0.15	±5
					Conductivity	1.77	1.73	-2.26	±5
2022-05-17	23.9	45	2450 MHz	23.7	Permittivity	39.20	39.26	0.15	±5
					Conductivity	1.80	1.73	-3.89	±5
2022-05-17	21.9	50	2462 MHz	21.6	Permittivity	39.20	39.31	0.28	±5
					Conductivity	1.80	1.79	-0.56	±5
2022-05-18	20.6	46	2506 MHz	20.3	Permittivity	39.09	39.36	0.69	±5
					Conductivity	1.89	1.85	-2.12	±5
2022-05-18	22.3	43	2510 MHz	22.0	Permittivity	39.09	39.70	1.56	±5
					Conductivity	1.89	1.87	-1.06	±5
2022-05-18	23.2	57	2535 MHz	23.0	Permittivity	39.05	38.64	-1.05	±5
					Conductivity	1.92	1.94	1.04	±5
2022-05-18	21.2	53	2580 MHz	21.0	Permittivity	39.05	38.30	-1.92	±5
					Conductivity	1.92	1.93	0.52	±5
2022-05-18	21.6	50	2593 MHz	21.3	Permittivity	39.05	38.87	-0.46	±5
					Conductivity	1.92	1.95	1.56	±5
2022-05-18	20.6	40	2600 MHz	20.3	Permittivity	39.00	39.16	0.41	±5
					Conductivity	1.96	1.99	1.53	±5
2022-05-19	22.1	52	5180 MHz	21.8	Permittivity	36.00	35.73	-0.75	±5
					Conductivity	4.66	4.65	-0.21	±5
2022-05-19	21.6	41	5190 MHz	21.3	Permittivity	36.00	36.20	0.56	±5
					Conductivity	4.66	4.72	1.29	±5



2022-05-19	21	48	5200 MHz	20.7	Permittivity	36	35.18	-2.28	±5
					Conductivity	4.66	4.67	0.21	±5
2022-05-20	20.6	43	5300 MHz	20.4	Permittivity	35.9	35.85	-0.14	±5
					Conductivity	4.76	4.71	-1.05	±5
2022-05-20	20.4	45	5320 MHz	20	Permittivity	35.88	35.08	-2.23	±5
					Conductivity	4.78	4.77	-0.21	±5
2022-05-23	23.9	41	5600 MHz	23.6	Permittivity	35.55	34.76	-2.22	±5
					Conductivity	5.07	5.01	-1.18	±5
2022-05-23	21.1	47	5700 MHz	20.8	Permittivity	35.55	36.14	1.66	±5
					Conductivity	5.07	5.11	0.79	±5
2022-05-24	23.7	51	5745MHz	23.4	Permittivity	35.32	36.24	2.6	±5
					Conductivity	5.25	5.26	0.19	±5
2022-05-24	22.3	60	5800MHz	22	Permittivity	35.3	34.44	-2.44	±5
					Conductivity	5.27	5.32	0.95	±5
2022-05-24	21.1	42	5825MHz	20.8	Permittivity	35.3	35.82	1.47	±5
					Conductivity	5.27	5.31	0.76	±5
2022-06-20	20.8	52	825.5	20.5	Permittivity	41.54	41.12	-1.01	±10
					Conductivity	0.90	0.93	3.33	±10
2022-06-20	20.6	54	831.5	20.3	Permittivity	41.52	42.12	1.45	±10
					Conductivity	0.90	0.93	3.33	±10
2022-06-20	20.9	53	835	20.5	Permittivity	41.50	41.34	-0.39	±10
					Conductivity	0.90	0.96	6.67	±10
2022-06-20	20.3	56	836.52	20.0	Permittivity	41.49	42.19	1.69	±10
					Conductivity	0.90	0.88	-2.22	±10
2022-06-21	23.2	50	1711.5	22.8	Permittivity	40.13	40.98	2.12	±10
					Conductivity	1.35	1.40	3.70	±10
2022-06-21	23.6	45	1717.5	23.3	Permittivity	40.12	40.76	1.60	±10
					Conductivity	1.35	1.38	2.22	±10
2022-06-21	23.4	40	1720	23.1	Permittivity	40.11	41.07	2.39	±10
					Conductivity	1.35	1.36	0.74	±10
2022-06-21	24.0	48	1745	23.7	Permittivity	40.08	39.96	-0.30	±10
					Conductivity	1.37	1.38	0.73	±10
2022-06-21	23.8	43	1800	23.5	Permittivity	40.00	40.60	1.50	±10
					Conductivity	1.40	1.42	1.43	±10
2022-06-23	22.1	40	1855	21.8	Permittivity	40.00	40.47	1.18	±10
					Conductivity	1.40	1.43	2.14	±10
2022-06-23	22.0	49	1882.5	21.8	Permittivity	40.00	41.00	2.50	±10
					Conductivity	1.40	1.43	2.14	±10



2022-06-23	22.6	40	1900	22.3	Permittivity	40.00	40.95	2.38	±10
					Conductivity	1.40	1.41	0.71	±10
2022-06-23	22.1	48	1908.75	21.8	Permittivity	40.00	40.76	1.90	±10
					Conductivity	1.40	1.37	-2.14	±10
2022-06-23	22.3	45	1913.5	22.0	Permittivity	40.00	40.69	1.72	±10
					Conductivity	1.40	1.37	-2.14	±10
2022-07-15	23.0	50	822.35	22.7	Permittivity	41.63	41.47	-0.38	±10
					Conductivity	0.90	0.89	-1.11	±10
2022-07-15	23.1	51	835	22.8	Permittivity	41.50	40.86	-1.54	±10
					Conductivity	0.90	0.92	2.22	±10

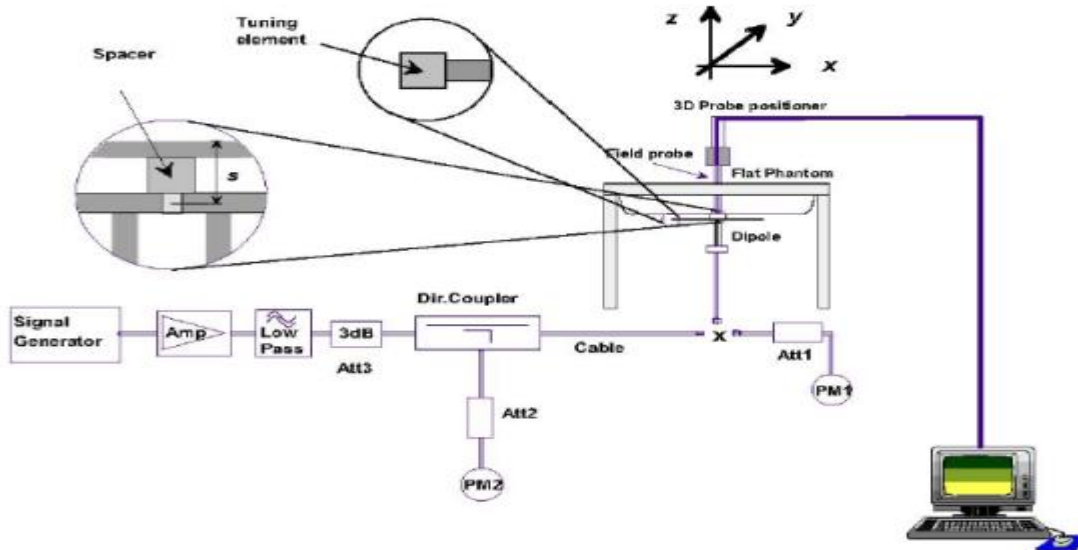


5. SAR System Validation

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)	(%)	(%)
2022-01-04	835	100	0.978	9.78	9.56	2.3	10
2022-01-05	1800	100	3.854	38.54	38.4	0.36	10
2022-01-07	1900	100	3.83	38.3	39.7	-3.53	10
2022-01-10	2450	100	5.099	50.99	52.4	-2.69	10
2022-01-11	2600	100	5.729	57.29	55.3	3.6	10
2022-01-13	5200	100	15.877	158.77	159	-0.14	10
2022-01-14	5300	100	16.153	161.53	166.4	-2.93	10
2022-01-14	5600	100	17.606	176.06	173.8	1.3	10
2022-01-17	5800	100	17.966	179.66	181.2	-0.85	10
2022-05-09	750	100	0.926	9.26	8.49	9.07	10
2022-05-10	835	100	0.938	9.38	9.63	-2.6	10
2022-05-11	1800	100	3.774	37.74	38.31	-1.49	10
2022-05-16	1900	100	4.2	42	39.84	5.42	10
2022-05-17	2450	100	5.449	54.49	54.7	-0.38	10
2022-05-18	2600	100	5.346	53.46	56.19	-4.86	10
2022-05-19	5200	100	16.709	167.09	159.49	4.77	10
2022-05-20	5300	100	16.892	168.92	167.2	1.03	10
2022-05-23	5600	100	17.651	176.51	175.65	0.49	10
2022-05-24	5800	100	17.715	177.15	183.06	-3.23	10
2022-06-20	835	100	0.989	9.89	9.63	2.70	10
2022-06-21	1800	100	3.824	38.24	38.31	-0.18	10
2022-06-23	1900	100	3.979	39.79	39.84	-0.13	10
2022-07-15	835	100	0.95	9.5	9.56	-0.63	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

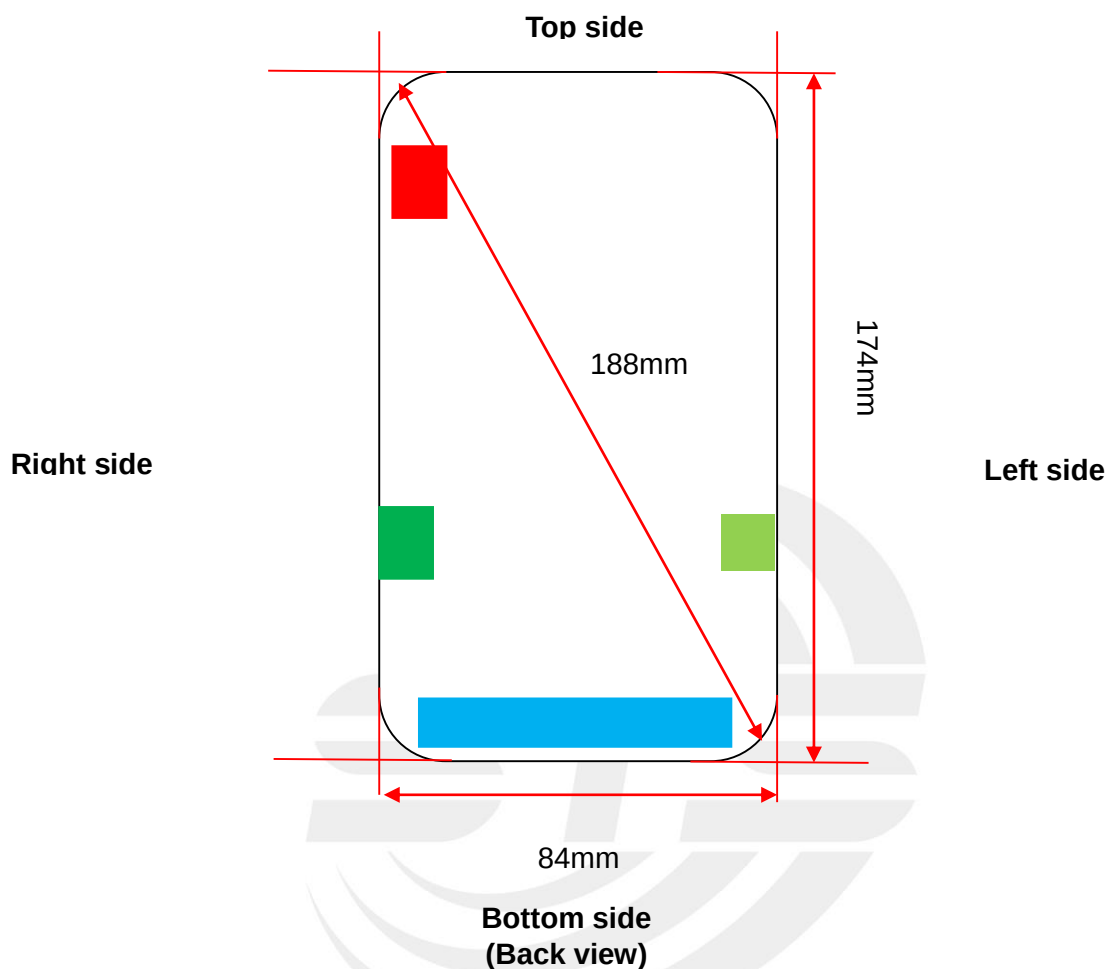
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible 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 5G Smart phone, support GSM/WCDMA/CDMA/LTE/WLAN/NR/BT mode.



	GSM/WCDMA/CDMA/LTE/5G N2/5/7/66 Antenna
	5G N41 Antenna
	BT/WLAN Antenna 1
	WLAN Antenna 2

ANT	Transmitting antenna located(mm)			
	Top	Left	Bottom	Right
GSM/WCDMA/LTE/5G N2/5/7/66 Antenna	160	11	6.5	11
5G N41 Antenna	136	4.5	25	71
BT/WLAN Antenna 1	6.3	70	147	6
WLAN Antenna 2	131	71	24	4.5

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



7.1 SAR test exclusion consider table

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

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA IV	WCDMA V
	Calculated Frequency	848.8	1850.2	1880	1712.4	826.4
	Maximum Turn-up power (dBm)	29	25	19.5	21	23
	Maximum rated power(mW)	794.33	316.23	89.13	125.89	199.53
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	10.94	11.46	16.50
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.28	11.03	10.94	11.46	16.50
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	11	11	11	11	11
	exclusion threshold(mW)	35.82	24.26	24.07	25.22	36.30
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	11	11	11	11	11
	exclusion threshold(mW)	35.82	24.26	24.07	25.22	36.30
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	160	160	160	160	160
	exclusion threshold(mW)	785.27	1210.28	1209.40	1214.63	771.03
	Testing required?	YES	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	6.5	6.5	6.5	6.5	6.5
	exclusion threshold(mW)	21.17	14.34	14.22	14.90	21.45
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7
	Calculated Frequency	1860	1720	836.5	2510
	Maximum Turn-up power (dBm)	20.5	23.5	23	23
	Maximum rated power(mW)	112.20	223.87	199.53	199.53
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	11.00	11.44	16.40	9.47
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	11.00	11.44	16.40	9.47
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	11	11	11	11
	exclusion threshold(mW)	24.20	25.16	36.08	20.83
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	11	11	11	11
	exclusion threshold(mW)	24.20	25.16	36.08	20.83
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	160	160	160	160
	exclusion threshold(mW)	1209.99	1214.37	777.44	1194.68
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	6.5	6.5	6.5	6.5
	exclusion threshold(mW)	14.30	14.87	21.32	12.31
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 12	LTE Band 13	LTE Band 17
	Calculated Frequency	707.5	782	710
	Maximum Turn-up power (dBm)	24	21	21
	Maximum rated power(mW)	251.19	125.89	125.89
Back Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	17.83	16.96	17.80
	Testing required?	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	17.83	16.96	17.80
	Testing required?	YES	YES	YES
Left Edge	Separation distance (mm)	10	10	10
	exclusion threshold(mW)	35.67	33.92	35.60
	Testing required?	YES	YES	YES
Right Edge	Separation distance (mm)	20	20	20
	exclusion threshold(mW)	71.33	67.85	71.21
	Testing required?	YES	YES	YES
Top Edge	Separation distance (mm)	142	142	142
	exclusion threshold(mW)	612.26	649.25	613.48
	Testing required?	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5
	exclusion threshold(mW)	17.83	16.96	17.80
	Testing required?	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 38	LTE Band 40	LTE Band 41	SA N2
	Calculated Frequency(MHz)	2580	2350	2506	1860
	Maximum Turn-up power (dBm)	23	23.5	23.5	22
	Maximum rated power(mW)	199.53	223.87	223.87	158.49
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.34	9.78	9.48	11.00
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.34	9.78	9.48	11.00
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	11	11	11	11
	exclusion threshold(mW)	20.54	21.53	20.85	24.20
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	11	11	11	11
	exclusion threshold(mW)	20.54	21.53	20.85	24.20
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	160	160	160	160
	exclusion threshold(mW)	1193.39	1197.85	1194.75	1209.99
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	6.5	6.5	6.5	6.5
	exclusion threshold(mW)	12.14	12.72	12.32	14.30
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	SA N5	SA N7	SA N41	SA N66
	Calculated Frequency(MHz)	836.5	2535	2592.99	1720
	Maximum Turn-up power (dBm)	23.5	24	24.5	23.5
	Maximum rated power(mW)	223.87	251.19	281.84	223.87
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.42	9.32	11.44
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.42	9.32	11.44
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	11	11	4.5	11
	exclusion threshold(mW)	36.08	20.73	8.38	25.16
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	11	11	71	11
	exclusion threshold(mW)	36.08	20.73	132.28	25.16
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	160	160	136	160
	exclusion threshold(mW)	777.44	1194.21	953.15	1214.37
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	6.5	6.5	25	6.5
	exclusion threshold(mW)	21.32	12.25	46.58	14.87
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	BT	2.4G WLAN ANT1	2.4G WLAN ANT2	2.4G WLAN 802.11n20 ANT1
	Calculated Frequency(MHz)	2402	2412	2412	2412
	Maximum Turn-up power (dBm)	6	15.5	13.5	16
	Maximum rated power(mW)	3.98	35.48	22.39	39.81
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.68	9.66	9.66	9.66
	Testing required?	NO	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.68	9.66	9.66	9.66
	Testing required?	NO	YES	YES	YES
Left Edge	Separation distance (mm)	70	70	71	70
	exclusion threshold(mW)	296.78	296.58	306.58	296.58
	Testing required?	NO	NO	NO	NO
Right Edge	Separation distance (mm)	6	6	4.5	6
	exclusion threshold(mW)	11.61	11.59	8.69	11.59
	Testing required?	NO	YES	YES	YES
Top Edge	Separation distance (mm)	6.3	6.3	131	6.3
	exclusion threshold(mW)	12.19	12.17	906.58	12.17
	Testing required?	NO	YES	NO	YES
Bottom Edge	Separation distance (mm)	147	147	24	147
	exclusion threshold(mW)	1066.78	1066.58	46.36	1066.58
	Testing required?	NO	NO	NO	NO



Exposure Position	Wireless Interface	2.4G WLAN 802.11n20 ANT2	5.2G WLAN ANT1	5.2G WLAN ANT2	5.2G WLAN 802.11n40 ANT1
	Calculated Frequency(MHz)	2412	5180	5180	5190
	Maximum Turn-up power (dBm)	16	15	14.2	17.5
	Maximum rated power(mW)	39.81	31.62	26.30	56.23
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.59	6.59	6.58
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.66	6.59	6.59	6.58
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	71	70	71	70
	exclusion threshold(mW)	306.58	265.91	275.91	265.84
	Testing required?	NO	NO	NO	NO
Right Edge	Separation distance (mm)	4.5	6	4.5	6
	exclusion threshold(mW)	8.69	7.91	5.93	7.90
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	131	6.3	131	6.3
	exclusion threshold(mW)	906.58	8.30	875.91	8.30
	Testing required?	NO	YES	NO	YES
Bottom Edge	Separation distance (mm)	24	147	24	147
	exclusion threshold(mW)	46.36	1035.91	31.63	1035.84
	Testing required?	NO	NO	NO	NO



Exposure Position	Wireless Interface	5.2G WLAN 802.11n40 ANT2	5.3G WLAN ANT1	5.3G WLAN ANT2	5.3G WLAN 802.11n20 ANT1
	Calculated Frequency(MHz)	5190	5320	5320	5300
	Maximum Turn-up power (dBm)	17.5	16.5	16	18
	Maximum rated power(mW)	56.23	44.67	39.81	63.10
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.58	6.50	6.50	6.52
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.58	6.50	6.50	6.52
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	71	70	71	70
	exclusion threshold(mW)	275.84	265.03	275.03	265.16
	Testing required?	NO	NO	NO	NO
Right Edge	Separation distance (mm)	4.5	6	4.5	6
	exclusion threshold(mW)	5.93	7.80	5.85	7.82
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	131	6.3	131	6.3
	exclusion threshold(mW)	875.84	8.19	875.03	8.21
	Testing required?	NO	YES	NO	YES
Bottom Edge	Separation distance (mm)	24	147	24	147
	exclusion threshold(mW)	31.60	1035.03	31.22	1035.16
	Testing required?	YES	NO	YES	NO



Exposure Position	Wireless Interface	5.3G WLAN 802.11n20 ANT2	5.6G WLAN ANT1	5.6G WLAN ANT2	5.6G WLAN 802.11n20 ANT1
	Calculated Frequency(MHz)	5300	5700	5700	5700
	Maximum Turn-up power (dBm)	18	16	15	17.5
	Maximum rated power(mW)	63.10	39.81	31.62	56.23
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.52	6.28	6.28	6.28
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	6.52	6.28	6.28	6.28
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	71	70	71	70
	exclusion threshold(mW)	275.16	262.83	272.83	262.83
	Testing required?	NO	NO	NO	NO
Right Edge	Separation distance (mm)	4.5	6	4.5	6
	exclusion threshold(mW)	5.86	7.54	5.65	7.54
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	131	6.3	131	6.3
	exclusion threshold(mW)	875.16	7.92	872.83	7.92
	Testing required?	NO	YES	NO	YES
Bottom Edge	Separation distance (mm)	24	147	24	147
	exclusion threshold(mW)	31.27	1032.83	30.16	1032.83
	Testing required?	YES	NO	YES	NO



Exposure Position	Wireless Interface	5.6G WLAN 802.11n20 ANT2	5.8G WLAN ANT1	5.8G WLAN ANT2	5.8G WLAN 802.11ac20 ANT1	5.8G WLAN 802.11ac20 ANT2
	Calculated Frequency(MHz)	5700	5825	5825	5745	5745
	Maximum Turn-up power (dBm)	17.5	13.5	13	16	16
	Maximum rated power(mW)	56.23	22.39	19.95	39.81	39.81
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	6.28	6.22	6.22	6.26	6.26
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	6.28	6.22	6.22	6.26	6.26
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	71	70	71	70	71
	exclusion threshold(mW)	272.83	262.15	272.15	262.58	272.58
	Testing required?	NO	NO	NO	NO	NO
Right Edge	Separation distance (mm)	4.5	6	4.5	6	4.5
	exclusion threshold(mW)	5.65	7.46	5.59	7.51	5.63
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	131	6.3	131	6.3	131
	exclusion threshold(mW)	872.83	7.83	872.15	7.89	872.58
	Testing required?	NO	YES	NO	YES	NO
Bottom Edge	Separation distance (mm)	24	147	24	147	24
	exclusion threshold(mW)	30.16	1032.15	29.83	1032.58	30.04
	Testing required?	YES	NO	NO	NO	YES



Exposure Position	Wireless Interface	CDMA BC0	CDMA BC1	CDMA BC10	LTE Band 25	LTE Band 26	LTE Band 66
	Calculated Frequency	836.52	1908.8	822.35	1882.5	831.5	1720
	Maximum Turn-up power (dBm)	23.5	24	25	14	15	14
	Maximum rated power(mW)	223.87	251.19	316.23	25.12	31.62	25.12
Back Side	Separation distance (mm)	0.5	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	1.64	1.09	1.65	1.09	1.64	1.14
	Testing required?	YES	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	0.5	0.5	0.5	0.5	0.5	0.5
	exclusion threshold(mW)	1.64	1.09	1.65	1.09	1.64	1.14
	Testing required?	YES	YES	YES	YES	YES	YES
Left Side	Separation distance (mm)	11	11	11	11	11	11
	exclusion threshold(mW)	36.08	23.89	36.39	24.05	36.19	25.16
	Testing required?	YES	YES	YES	YES	NO	NO
Right Side	Separation distance (mm)	11	11	11	11	11	11
	exclusion threshold(mW)	36.08	23.89	36.39	24.05	36.19	25.16
	Testing required?	YES	YES	YES	YES	NO	NO
Top Side	Separation distance (mm)	160	160	160	160	160	160
	exclusion threshold(mW)	777.45	1208.57	1265.41	1209.33	774.26	1214.37
	Testing required?	NO	NO	NO	NO	NO	NO



Bottom Side	Separation distance (mm)	6.5	6.5	6.5	6.5	6.5	6.5
	exclusion threshold(mW)	21.32	14.11	21.50	14.21	21.38	14.87
	Testing required?	YES	YES	YES	YES	YES	YES

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm, 25mm is user to determine SAR exclusion threshold
4. per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance $\leq 50\text{mm}$ are determined by:
$$[(\text{max.power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation.}$$

The result is rounded to one decimal place for comparison

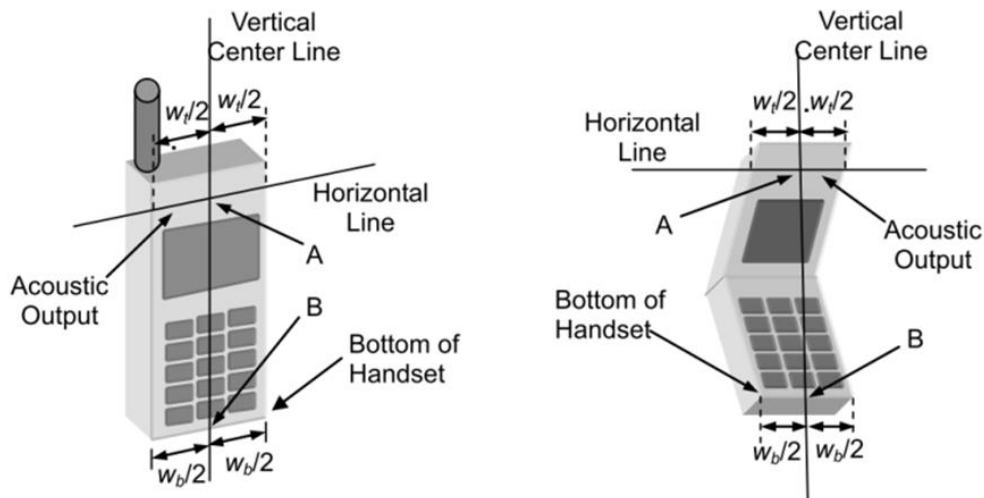
For <50mm distance, we just calculate mW of the exclusion threshold value(3.0) to do compare
5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
 - a) [threshold at 50mm in step 1] + (test separation distance - 50mm) * (f (MHz)/150)]mW, at 100 MHz to 1500 MHz
 - b) [threshold at 50mm in step1] + (test separation distance - 50mm) * 10]mW at > 1500MHz and $\leq 6\text{GHz}$
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8. for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.

8. EUT Test Position

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

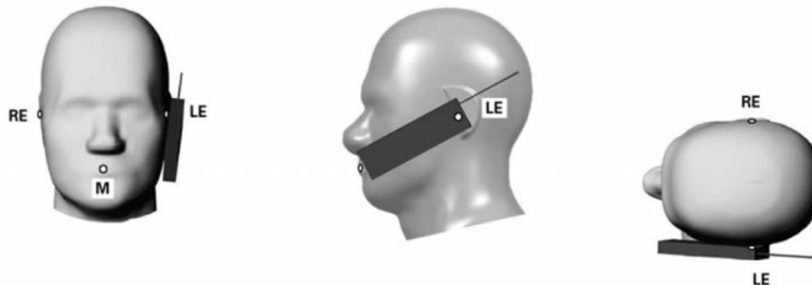
8.1 Define Two Imaginary Lines on the Handset

- (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.



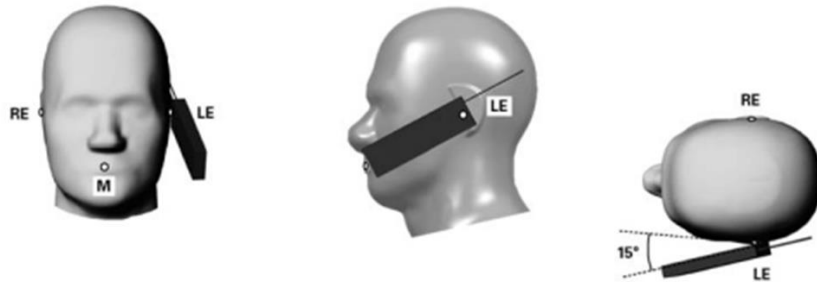
Cheek Position

- 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



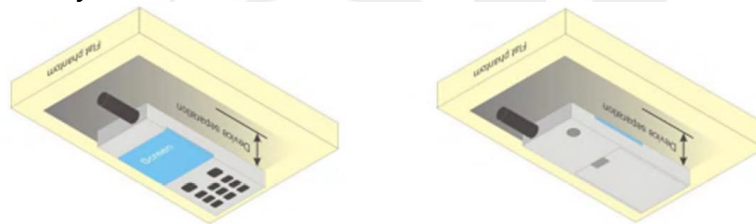
Title Position

- (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.



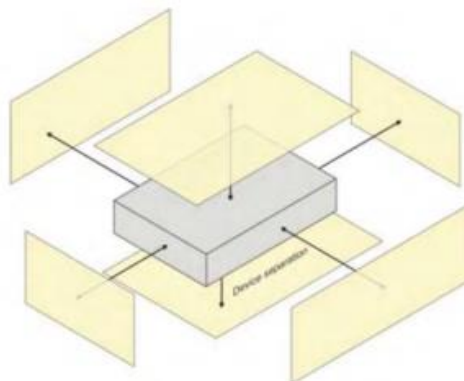
Body-worn Position Conditions:

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

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty Component	Tol (+/- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+/-%)	10g Ui (+/-%)	v_i
Measurement System								
Probe calibration	5.86	N	1	1	1	5.86	5.86	∞
Axial Isotropy	0.16	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.07	0.07	∞
Hemispherical Isotropy	1.06	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.43	0.43	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	1.27	R	$\sqrt{3}$	1	1	0.73	0.73	∞
System detection limits	1.23	R	$\sqrt{3}$	1	1	0.71	0.71	∞
Modulation response	3.6	R	$\sqrt{3}$	1	1	3.60	3.60	∞
Readout Electronics	0.28	N	1	1	1	0.28	0.28	∞
Response Time	0.19	R	$\sqrt{3}$	1	1	0.11	0.11	∞
Integration Time	1.47	R	$\sqrt{3}$	1	1	0.85	0.85	∞
RF ambient conditions- Noise	3.5	R	$\sqrt{3}$	1	1	2.02	2.02	∞
RF ambient conditions- reflections	3.2	R	$\sqrt{3}$	1	1	1.85	1.85	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	3.1	N	1	1	1	3.10	3.10	∞
Device holder uncertainty	3.8	N	1	1	1	3.80	3.80	∞
SAR drift measurement	4.8	R	$\sqrt{3}$	1	1	2.77	2.77	∞
SAR scaling	2	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and tissue parameters								
Phantom uncertainty (shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	2	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.95	1.78	∞
Liquid conductivity (measured)	4	N	1	0.78	0.71	0.92	1.04	M
Liquid permittivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	1.95	1.78	∞
Liquid permittivity (measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				10.60	10.51	
Expanded Uncertainty (95% Confidence interval)		K=2				21.21	21.03	



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	1909.8
GSM(GMSK, 1-Slot)	30.9	29.11	30.23	28.15	26.91	28
GPRS (GMSK, 1-Slot)	30.87	29.07	29.42	27.99	28.03	27.86
GPRS (GMSK, 2-Slot)	29.6	28.89	28.99	26.45	26.52	26.36
GPRS (GMSK, 3-Slot)	28.45	28.68	28.71	25.53	25.71	25.62
GPRS (GMSK, 4-Slot)	27.25	27.19	27.2	24.58	24.57	24.56
EGPRS(8PSK, 1-Slot)	24.6	23.06	23.99	24.84	25.21	25.27
EGPRS(8PSK, 2-Slot)	23.01	23.12	23.06	23.35	23.22	23.32
EGPRS(8PSK, 3-Slot)	22.1	22.25	22.05	22.92	22.76	22.08
EGPRS(8PSK, 4-Slot)	21.63	21.42	21.38	20.46	20.36	20.59
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	1909.8
GSM(GMSK, 1-Slot)	21.87	20.08	21.20	19.12	17.88	18.97
GPRS (GMSK, 1-Slot)	21.84	20.04	20.39	18.96	19.00	18.83
GPRS (GMSK, 2-Slot)	23.58	22.87	22.97	20.43	20.50	20.34
GPRS (GMSK, 3-Slot)	24.19	24.42	24.45	21.27	21.45	21.36
GPRS (GMSK, 4-Slot)	24.24	24.18	24.19	21.57	21.56	21.55
EGPRS(8PSK, 1-Slot)	15.57	14.03	14.96	15.81	16.18	16.24
EGPRS(8PSK, 2-Slot)	16.99	17.10	17.04	17.33	17.20	17.30
EGPRS(8PSK, 3-Slot)	17.84	17.99	17.70	18.66	18.50	17.82
EGPRS(8PSK, 4-Slot)	18.62	18.41	18.37	17.45	17.35	17.58
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 II			WCDMA Band IV			WCDMA Band V		
Channel	9262	9400	9538	1312	1413	1513	4132	4183	4233
Frequency (MHz)	1852.4	1880	1907.6	1712.4	1732.4	1752.6	826.4	836.4	846.6
RMC 12.2Kbps	17.39	17.47	17.25	19.67	18.37	18.17	22.97	22.41	22.65
HSDPA Subtest-1	15.91	15.64	15.75	18.56	17.28	17.1	22.01	21.42	21.73
HSDPA Subtest-2	15	14.94	14.99	18.16	16.51	16.63	21.31	20.67	21.05
HSDPA Subtest-3	14.68	14.87	14.89	17.7	16.44	16.26	21.24	20.61	20.94
HSDPA Subtest-4	14.6	15.16	14.97	17.68	15.81	16.26	21.26	20.51	20.9
HSUPA Subtest-1	14.55	15.24	15.47	17	16.07	16.31	18.4	17.99	18.53
HSUPA Subtest-2	12.55	13.29	13.5	17.14	16.15	16.49	18.38	18.02	18.58
HSUPA Subtest-3	13.48	14.25	14.48	17.96	17.13	17.37	19.46	19.05	19.6
HSUPA Subtest-4	12.48	13.26	13.47	16.5	15.6	15.94	17.89	17.47	18.04
HSUPA Subtest-5	11.98	12.64	13.01	17.99	17.22	17.53	19.36	18.96	19.48

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.



CDMA

CDMA BC0			
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Conclusion
CDMA BC0	824.70	23.28	PASS
	836.52	23.26	PASS
	848.31	23.26	PASS
EVDO BC0	824.70	23.32	PASS
	836.52	23.35	PASS
	848.31	23.22	PASS

CDMA BC1			
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Conclusion
CDMA BC1	1851.25	23.52	PASS
	1880.00	23.40	PASS
	1908.75	23.56	PASS
EVDO BC1	1851.25	23.48	PASS
	1880.00	23.46	PASS
	1908.75	23.60	PASS

CDMA BC10			
Mode	Frequency (MHz)	Conduction AVG Power(dBm)	Conclusion
CDMA BC1	818.65	24.82	PASS
	820.50	24.86	PASS
	822.35	24.93	PASS
EVDO BC1	818.65	24.80	PASS
	820.50	24.81	PASS
	822.35	24.79	PASS

**2.4G WLAN**

Mode	Channel Number	Frequency (MHz)	ANT 1 Output Power (dBm)	ANT 2 Output Power (dBm)	MIMO Output Power (dBm)
802.11b	1	2412	15.13	13.04	17.22
	6	2437	12.95	11.77	15.41
	11	2462	13.91	12.73	16.37
802.11g	1	2412	13.12	12.51	15.84
	6	2437	12.2	11.6	14.92
	11	2462	12.72	12.15	15.45
802.11 n-HT20	1	2412	12.92	12.31	15.64
	6	2437	11.96	11.46	14.73
	11	2462	12.51	11.98	15.26
802.11 n-HT40	3	2422	13.67	13.24	16.47
	6	2437	13.61	13.02	16.34
	9	2452	13.31	12.75	16.05

Bluetooth

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	6.891
	39	2441	6.963
	78	2480	5.53
$\pi/4$ -DQPSK(2Mbps)	0	2402	8.192
	39	2441	8.016
	78	2480	6.608
8DPSK(3Mbps)	0	2402	8.504
	39	2441	8.432
	78	2480	6.944

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	4.087
	19	2440	4.088
	39	2480	2.391
GFSK(2Mbps)	0	2402	4.117
	19	2440	3.843
	39	2480	2.171

**WLAN (5.2Gband)**

Mode	Channel Number	Frequency (MHz)	ANT 1 Output Power (dBm)	ANT 2 Output Power (dBm)	MIMO Output Power (dBm)
802.11a	36	5180	14.65	14.18	17.43
	40	5200	13.58	13.08	16.35
	48	5240	12.83	12.27	15.57
802.11n20	36	5180	14.58	14.01	17.31
	40	5200	13.47	12.91	16.21
	48	5240	12.66	12.11	15.4
802.11n40	38	5190	14.63	14.1	17.38
	46	5230	13.46	12.95	16.22
802.11ac20	36	5180	14.57	14.05	17.33
	40	5200	12.63	12.91	15.78
	48	5240	11.79	12.07	14.94
802.11ac40	38	5190	13.73	14.09	16.92
	46	5230	12.70	12.91	15.82
802.11ac80	42	5210	12.42	14.06	16.33

WLAN (5.3Gband)

Mode	Channel Number	Frequency (MHz)	ANT 1 Output Power (dBm)	ANT 2 Output Power (dBm)	MIMO Output Power (dBm)
802.11a	52	5260	15.31	14.28	17.84
	60	5300	15.51	15.02	18.28
	64	5320	16.42	15.89	19.17
802.11n20	52	5260	13.05	12.58	15.83
	60	5300	14.32	14.9	17.63
	64	5320	14.39	13.32	16.9
802.11n40	54	5270	14.36	13.89	17.14
	62	5310	14.55	13.47	17.05
802.11ac20	52	5260	13.06	12.59	15.84
	60	5300	12.45	14.83	16.81
	64	5320	13.59	13.25	16.43
802.11ac40	54	5270	14.38	13.88	17.15
	62	5310	13.89	13.44	16.68
802.11ac80	58	5290	11.98	11.28	14.65

**WLAN (5.6Gband)**

Mode	Channel Number	Frequency (MHz)	ANT 1 Output Power (dBm)	ANT 2 Output Power (dBm)	MIMO Output Power (dBm)
802.11a	100	5500	13.77	13.65	16.72
	120	5600	14.59	14.45	17.53
	140	5700	15.99	14.71	18.41
802.11n20	100	5500	13.78	12.46	16.18
	120	5600	14.53	13.32	16.98
	140	5700	13.75	14.57	17.19
802.11n40	102	5510	12.55	13.25	15.92
	118	5590	13.16	13.42	16.3
802.11ac20	134	5670	13.76	13.93	16.86
	100	5500	13.77	11.12	15.65
	120	5600	12.55	12.81	15.69
802.11ac40	140	5700	13.80	13.92	16.87
	102	5510	12.54	12.1	15.34
802.11ac80	122	5610	12.04	12.74	15.41

WLAN (5.8Gband)

Mode	Channel Number	Frequency (MHz)	ANT 1 Output Power (dBm)	ANT 2 Output Power (dBm)	MIMO Output Power (dBm)
802.11a	149	5745	12.99	12.69	15.85
	157	5785	12.49	11.21	14.91
	165	5825	13.11	12.83	15.98
802.11n20	149	5745	12.82	11.54	15.24
	157	5785	11.39	12.05	14.74
	165	5825	11.05	11.66	14.38
802.11n40	151	5755	11.96	11.69	14.84
	159	5795	11.44	12.06	14.77
802.11ac20	149	5745	12.89	12.57	15.74
	157	5785	11.43	11.01	14.24
	165	5825	11.07	11.61	14.36
802.11ac40	151	5755	12.00	11.66	14.84
	159	5795	10.35	10.07	13.22
802.11ac80	155	5775	11.94	10.37	14.24



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	17.61	16.92	17.81
1.4	1	2		17.78	17.94	17.89
1.4	1	5		17.57	17.83	17.8
1.4	3	0		17.68	17.98	17.89
1.4	3	1		17.66	17.97	17.85
1.4	3	3		17.58	17.85	17.78
1.4	6	0		16.78	17.06	16.94
1.4	1	0	16-QAM	16.55	16.92	16.73
1.4	1	2		16.87	16.95	16.84
1.4	1	5		16.65	16.83	16.82
1.4	3	0		16.66	16.89	16.85
1.4	3	1		16.72	16.92	16.74
1.4	3	3		16.24	16.78	16.74
1.4	6	0		15.71	15.98	15.9
3	1	0	QPSK	17.7	18.14	17.88
3	1	7		17.69	18.06	17.86
3	1	14		17.56	17.9	17.86
3	8	0		16.83	17.11	16.96
3	8	3		16.79	17.12	16.93
3	8	7		16.67	17.02	16.93
3	15	0		16.75	17.06	16.93
3	1	0	16-QAM	16.98	17.06	16.73
3	1	7		16.78	16.89	16.67
3	1	14		16.62	16.7	16.71
3	8	0		15.85	16.12	15.96
3	8	3		15.75	16.15	16.06
3	8	7		15.66	15.95	15.94
3	15	0		15.73	15.94	15.86



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	17.77	18.07	17.75
5	1	12		17.65	17.97	17.89
5	1	24		17.66	17.89	17.87
5	12	0		16.78	17.08	16.88
5	12	6		16.78	17.07	16.9
5	12	13		16.65	16.91	16.84
5	25	0		16.72	16.96	16.88
5	1	0	16-QAM	16.65	17.22	16.61
5	1	12		16.59	17.01	16.8
5	1	24		16.52	16.95	16.89
5	12	0		15.75	16.12	15.9
5	12	6		15.75	16.08	15.92
5	12	13		15.65	16.00	15.91
5	25	0		15.76	15.99	15.93
10	1	0	QPSK	17.65	18.12	17.63
10	1	24		17.62	18.03	17.7
10	1	49		17.76	17.82	17.87
10	25	0		16.73	17.03	16.81
10	25	12		16.73	17.09	16.83
10	25	25		16.81	16.93	16.89
10	50	0		16.76	16.99	16.82
10	1	0	16-QAM	16.8	17.00	16.3
10	1	24		16.73	16.86	16.41
10	1	49		16.92	16.72	16.62
10	25	0		15.71	16.13	15.91
10	25	12		15.79	16.10	15.84
10	25	25		15.79	15.97	15.91
10	50	0		15.8	16.00	15.88



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	17.58	17.97	17.51
15	1	37		17.59	17.77	17.52
15	1	74		18.05	17.59	17.75
15	36	0		16.64	17.21	16.38
15	36	18		16.75	17.02	16.29
15	36	39		17.16	16.85	16.57
15	75	0		16.84	16.94	16.71
15	1	0	16-QAM	16.69	17.23	16.36
15	1	38		16.72	17.04	16.42
15	1	74		17.05	16.78	16.6
15	36	0		16.69	17.18	16.4
15	36	18		16.72	16.95	16.4
15	36	39		17.29	16.8	16.61
15	75	0		15.85	15.93	15.72
20	1	0	QPSK	17.56	18.12	17.55
20	1	50		17.78	17.88	17.51
20	1	99		18.2	17.68	17.71
20	50	0		16.7	17.08	16.73
20	50	25		16.65	17.07	16.73
20	50	50		17.19	16.84	16.8
20	100	0		17.03	16.95	16.76
20	1	0	16-QAM	16.54	17.31	16.55
20	1	50		16.75	17.02	16.39
20	1	99		17.18	16.8	16.68
20	50	0		15.65	16.15	15.74
20	50	25		15.63	16.08	15.81
20	50	50		16.18	15.89	15.82
20	100	0		15.98	15.99	15.81



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	22.14	21.04	21.28
1.4	1	2		22.08	21.28	21.38
1.4	1	5		22.07	21.08	21.26
1.4	3	0		22.19	21.13	21.16
1.4	3	1		22.18	21.12	21.19
1.4	3	3		22.13	21.05	21.22
1.4	6	0		21.21	20.2	20.28
1.4	1	0	16-QAM	21.14	20.02	20.21
1.4	1	2		21.21	20.19	20.21
1.4	1	5		21.07	20.02	20.23
1.4	3	0		21.09	20.01	20.21
1.4	3	1		21.05	19.98	20.11
1.4	3	3		20.95	20.03	20.13
1.4	6	0		20.21	19.14	19.07
3	1	0	QPSK	22.27	21.02	21.34
3	1	7		22.32	21.21	21.37
3	1	14		22.31	21.21	21.37
3	8	0		21.28	20.21	20.34
3	8	3		21.28	20.2	20.3
3	8	7		21.26	20.24	20.33
3	15	0		21.3	20.25	20.32
3	1	0	16-QAM	21.2	20.26	20.13
3	1	7		21.2	20.29	20.23
3	1	14		21.15	20.3	20.25
3	8	0		20.29	19.23	19.26
3	8	4		20.29	19.2	19.35
3	8	7		20.24	19.21	19.27
3	15	0		20.18	19.27	19.28



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.3	21.18	21.3
5	1	12		22.22	21.29	21.25
5	1	24		22.18	21.32	21.31
5	12	0		21.32	20.21	20.37
5	12	6		21.34	20.23	20.39
5	12	13		21.3	20.26	20.39
5	25	0		21.28	20.24	20.39
5	1	0	16-QAM	21.18	20.1	20.32
5	1	12		21.43	20.16	20.53
5	1	24		21.18	20.19	20.46
5	12	0		20.33	19.15	19.4
5	12	6		20.36	19.17	19.37
5	12	13		20.34	19.22	19.45
5	25	0		20.28	19.25	19.4
10	1	0	QPSK	22.19	20.98	21.33
10	1	24		22.19	21.18	21.32
10	1	49		21.96	21.32	21.32
10	25	0		21.31	20.07	20.44
10	25	12		21.31	20.14	20.41
10	25	25		21.21	20.41	20.42
10	50	0		21.26	20.22	20.36
10	1	0	16-QAM	21.1	20.05	20.24
10	1	24		21.15	20.3	20.17
10	1	49		21.12	20.39	20.17
10	25	0		20.35	19.07	19.44
10	25	12		20.34	19.14	19.46
10	25	25		20.24	19.36	19.39
10	50	0		20.25	19.26	19.41



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.06	20.83	21.19
15	1	37		21.88	21.02	21.17
15	1	74		21.44	21.21	21.13
15	36	0		21.31	19.98	20.45
15	36	19		21.07	20.18	20.38
15	36	39		20.77	20.44	20.42
15	75	0		21.02	20.05	20.29
15	1	0	16-QAM	21.26	20.06	20.39
15	1	38		21.17	20.17	20.43
15	1	75		20.72	20.38	20.36
15	36	0		21.25	19.97	20.47
15	36	19		21.03	20.21	20.28
15	36	39		20.73	20.32	20.3
15	75	0		20.02	19.04	19.31
20	1	0	QPSK	22.08	21.01	21.26
20	1	50		21.81	21.11	21.26
20	1	99		21.62	21.4	21.24
20	50	0		21.13	20	20.35
20	50	25		21.1	20.01	20.36
20	50	50		20.68	20.26	20.32
20	100	0		20.94	20.14	20.32
20	1	0	16-QAM	21.09	20.04	20.43
20	1	50		20.75	18.94	20.37
20	1	99		20.57	20.29	20.4
20	50	0		20.12	18.99	19.35
20	50	25		20.11	18.97	19.36
20	50	50		19.65	19.26	19.35
20	100	0		19.95	19.11	19.33



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	23.01	22.3	22.78
1.4	1	2		23.12	22.47	22.83
1.4	1	5		23.03	22.36	22.79
1.4	3	0		23.14	22.4	22.69
1.4	3	1		23.17	22.41	22.67
1.4	3	2		23.01	22.45	22.77
1.4	6	0		22.2	21.46	21.69
1.4	1	0	16-QAM	22.04	21.27	21.72
1.4	1	2		22.04	21.36	21.76
1.4	1	5		22.01	21.32	21.75
1.4	3	0		21.74	21.22	21.64
1.4	3	1		21.84	21.13	21.63
1.4	3	2		21.88	21.26	21.7
1.4	6	0		21.12	20.4	20.64
3	1	0	QPSK	23.22	22.38	22.82
3	1	7		23.16	22.49	22.86
3	1	14		23.09	22.45	22.85
3	8	0		22.26	21.49	21.89
3	8	4		22.25	21.52	21.88
3	8	7		22.19	21.64	21.85
3	15	0		22.25	21.5	21.83
3	1	0	16-QAM	22.25	21.5	21.69
3	1	7		22.22	21.59	21.75
3	1	14		22.29	21.59	21.77
3	8	0		21.27	20.52	20.88
3	8	4		21.22	20.55	20.85
3	8	7		21.17	20.57	20.93
3	15	0		21.27	20.52	20.8



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.28	22.51	22.85
5	1	12		23.12	22.61	22.87
5	1	24		23.15	22.71	22.81
5	12	0		22.3	21.49	21.87
5	12	6		22.29	21.47	21.8
5	12	11		22.19	21.61	21.96
5	25	0		22.24	21.53	21.86
5	1	0	16-QAM	22.31	21.47	21.94
5	1	12		22.12	21.74	21.97
5	1	24		22.1	21.63	21.85
5	12	0		21.25	20.45	20.92
5	12	6		21.17	20.44	20.87
5	12	11		21.17	20.64	20.94
5	25	0		21.21	20.55	20.88
10	1	0	QPSK	22.45	22.32	22.53
10	1	24		22.28	22.54	22.74
10	1	49		22.37	22.77	22.7
10	25	0		21.47	21.52	21.78
10	25	12		21.49	21.54	21.77
10	25	24		21.43	21.74	21.91
10	50	0		21.51	21.6	21.84
10	1	0	16-QAM	21.65	21.33	21.31
10	1	24		21.39	21.42	21.55
10	1	49		21.52	21.7	21.54
10	25	0		20.44	20.55	20.87
10	25	12		20.43	20.53	20.9
10	25	24		20.46	20.78	21.01
10	50	0		20.53	20.63	20.86



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.26	22.49	22.13
5	1	12		22.32	22.53	22.08
5	1	24		22.38	22.59	21.85
5	12	0		21.27	21.46	21.11
5	12	6		21.26	21.46	21.1
5	12	11		21.4	21.57	21.08
5	25	0		21.33	21.48	21.07
5	1	0	16-QAM	21.23	21.53	21.05
5	1	12		21.3	21.75	21.07
5	1	24		21.45	21.59	20.91
5	12	0		20.24	20.5	20.09
5	12	6		20.18	20.47	20.05
5	12	11		20.39	20.69	20.03
5	25	0		20.36	20.5	20.07
10	1	0	QPSK	22.21	22.59	22.22
10	1	24		22.31	22.64	22.15
10	1	49		22.59	22.6	21.88
10	25	0		21.4	21.58	21.3
10	25	12		21.39	21.53	21.27
10	25	24		21.59	21.66	21.14
10	50	0		21.5	21.56	21.18
10	1	0	16-QAM	21.3	21.42	21.36
10	1	24		21.4	21.63	21.36
10	1	49		21.79	21.5	21.08
10	25	0		20.31	20.59	20.23
10	25	12		20.33	20.59	20.21
10	25	24		20.53	20.67	20.09
10	50	0		20.52	20.59	20.22



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.97	22.25	21.72
15	1	37		22.31	22.38	22.05
15	1	74		22.52	22.26	21.74
15	36	0		21.14	21.49	20.84
15	36	18		21.38	21.55	21.22
15	36	39		21.65	21.52	20.95
15	75	0		21.53	21.42	21.04
15	1	0	16-QAM	21.12	21.36	20.91
15	1	38		21.46	21.59	21.18
15	1	75		21.63	21.52	20.96
15	36	0		21.14	21.5	20.89
15	36	18		21.42	21.52	21.22
15	36	39		21.71	21.52	20.87
15	75	0		20.48	20.43	19.99
20	1	0	QPSK	22.03	21.5	21.02
20	1	49		22.5	22.1	21.35
20	1	99		22.56	21.88	21.43
20	50	0		21.31	20.88	20.25
20	50	24		21.32	20.84	20.3
20	50	49		21.63	21.15	21.21
20	100	0		21.58	21.05	20.57
20	1	0	16-QAM	21.02	21.58	20.46
20	1	49		21.35	21.56	21.01
20	1	99		21.43	21.68	20.85
20	50	0		20.25	20.47	19.84
20	50	24		20.3	20.5	19.86
20	50	49		21.21	20.49	20.18
20	100	0		20.57	20.47	20.02



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	24.28	24.39	24.31
1.4	1	2		23.99	24.10	24.01
1.4	1	5		23.73	23.89	23.77
1.4	3	0		23.50	23.69	23.53
1.4	3	1		23.28	23.40	23.24
1.4	3	2		23.06	23.17	22.99
1.4	6	0		22.77	22.94	22.76
1.4	1	0	16-QAM	24.05	24.18	24.10
1.4	1	2		23.79	23.94	23.89
1.4	1	5		23.52	23.72	23.63
1.4	3	0		23.25	23.46	23.40
1.4	3	1		22.98	23.21	23.18
1.4	3	2		22.69	22.98	22.89
1.4	6	0		22.42	22.71	22.68
3	1	0	QPSK	24.59	24.65	24.43
3	1	7		24.35	24.43	24.18
3	1	14		24.08	24.16	23.94
3	8	0		23.86	23.87	23.71
3	8	4		23.57	23.66	23.46
3	8	7		23.30	23.38	23.17
3	15	0		23.07	23.11	22.93
3	1	0	16-QAM	24.36	24.38	24.19
3	1	7		24.15	24.10	23.98
3	1	14		23.89	23.85	23.70
3	8	0		23.65	23.56	23.47
3	8	4		23.41	23.31	23.17
3	8	7		23.13	23.07	22.95
3	15	0		22.89	22.83	22.75



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.15	24.56	24.22
5	1	12		23.86	24.35	23.98
5	1	24		23.62	24.13	23.69
5	12	0		23.40	23.88	23.46
5	12	6		23.12	23.67	23.20
5	12	11		22.84	23.40	22.94
5	25	0		22.60	23.20	22.69
5	1	0	16-QAM	23.86	24.28	23.98
5	1	12		23.66	24.03	23.73
5	1	24		23.41	23.82	23.48
5	12	0		23.18	23.58	23.26
5	12	6		22.96	23.28	23.02
5	12	11		22.68	23.04	22.74
5	25	0		22.41	22.76	22.45
10	1	0	QPSK	24.64	24.70	24.35
10	1	24		24.37	24.41	24.13
10	1	49		24.09	24.16	23.91
10	25	0		23.88	23.88	23.67
10	25	12		23.60	23.66	23.45
10	25	24		23.37	23.38	23.24
10	50	0		23.08	23.10	22.96
10	1	0	16-QAM	24.35	24.42	24.09
10	1	24		24.06	24.19	23.83
10	1	49		23.80	23.93	23.56
10	25	0		23.50	23.65	23.27
10	25	12		23.26	23.43	23.07
10	25	24		23.01	23.16	22.78
10	50	0		22.74	22.95	22.50



LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.55	20.38	20.35
5	1	12		20.91	20.8	20.78
5	1	24		20.38	20.33	20.38
5	12	0		19.39	19.59	19.68
5	12	6		19.6	19.59	19.52
5	12	11		19.45	19.38	19.46
5	25	0		19.42	19.52	19.58
5	1	0	16-QAM	19.91	19.8	20.01
5	1	12		20.28	20.09	20.46
5	1	24		19.83	19.77	20.07
5	12	0		18.42	18.64	18.67
5	12	6		18.56	18.63	18.55
5	12	11		18.41	18.44	18.5
5	25	0		18.47	18.54	18.59
10	1	0	QPSK	/	20.58	/
10	1	24		/	20.57	/
10	1	49		/	20.47	/
10	25	0		/	19.51	/
10	25	12		/	19.57	/
10	25	24		/	19.42	/
10	50	0		/	19.53	/
10	1	0	16-QAM	/	20.1	/
10	1	24		/	20.1	/
10	1	49		/	20.01	/
10	25	0		/	18.61	/
10	25	12		/	18.61	/
10	25	24		/	18.45	/
10	50	0		/	18.5	/



LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.4	20.44	20.35
5	1	12		20.88	20.75	20.87
5	1	24		20.46	20.35	20.26
5	12	0		19.57	19.57	19.41
5	12	6		19.59	19.54	19.5
5	12	11		19.46	19.51	19.48
5	25	0		19.58	19.55	19.49
5	1	0	16-QAM	20.01	19.84	19.72
5	1	12		20.31	20.22	20.14
5	1	24		20.05	19.72	19.65
5	12	0		18.66	18.52	18.49
5	12	6		18.64	18.55	18.62
5	12	11		18.54	18.5	18.6
5	25	0		18.59	18.61	18.49
10	1	0	QPSK	20.46	20.49	20.52
10	1	24		20.59	20.63	20.57
10	1	49		20.41	20.49	20.47
10	25	0		19.64	19.61	19.54
10	25	12		19.48	19.5	19.45
10	25	24		19.59	19.64	19.64
10	50	0		19.64	19.6	19.63
10	1	0	16-QAM	19.92	19.68	19.41
10	1	24		20.07	19.78	19.48
10	1	49		19.89	19.62	19.25
10	25	0		18.76	18.71	18.63
10	25	12		18.6	18.58	18.54
10	25	24		18.71	18.73	18.73
10	50	0		18.71	18.74	18.72



LTE BAND 38

LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.88	22.2	22.5
5	1	12		22.78	22.15	22.37
5	1	24		22.58	22.17	22.38
5	12	0		21.81	21.37	21.55
5	12	6		21.81	21.37	21.54
5	12	11		21.71	21.3	21.48
5	25	0		21.72	21.31	21.5
5	1	0	16-QAM	21.86	21.14	21.49
5	1	12		21.7	21.32	21.41
5	1	24		21.59	21.28	21.32
5	12	0		20.75	20.44	20.59
5	12	6		20.74	20.43	20.53
5	12	11		20.63	20.39	20.46
5	25	0		20.73	20.3	20.57
10	1	0	QPSK	22.7	22.26	22.31
10	1	24		22.46	22.34	22.28
10	1	49		22.34	22.2	22.25
10	25	0		21.72	21.3	21.57
10	25	12		21.69	21.3	21.56
10	25	24		21.5	21.37	21.51
10	50	0		21.65	21.29	21.58
10	1	0	16-QAM	21.84	21.22	21.17
10	1	24		21.65	21.22	21.11
10	1	49		21.47	21.23	21.19
10	25	0		20.69	20.32	20.61
10	25	12		20.73	20.32	20.67
10	25	24		20.55	20.3	20.59
10	50	0		20.66	20.34	20.55



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.58	22.18	22.24
15	1	37		22.33	22.22	22.38
15	1	74		22.26	22.3	22.19
15	36	0		21.9	21.26	21.58
15	36	18		21.56	21.46	21.41
15	36	39		21.54	21.32	21.61
15	75	0		21.4	21.2	21.42
15	1	0	16-QAM	21.91	21.2	21.64
15	1	38		22.26	21.3	21.59
15	1	75		21.56	21.37	21.62
15	36	0		21.88	21.27	21.64
15	36	18		21.52	21.31	21.58
15	36	39		21.49	21.33	21.43
15	75	0		20.47	20.18	20.47
20	1	0	QPSK	22.66	22.16	22.21
20	1	49		22.3	22.32	22.35
20	1	99		22.34	22.35	22.24
20	50	0		21.54	21.18	21.36
20	50	24		21.55	21.19	21.4
20	50	49		21.4	21.25	21.42
20	100	0		21.46	21.24	21.42
20	1	0	16-QAM	21.79	21.24	21.19
20	1	49		21.43	21.21	21.39
20	1	99		21.39	21.35	21.36
20	50	0		20.57	20.23	20.39
20	50	24		20.5	20.25	20.4
20	50	49		20.43	20.32	20.43
20	100	0		20.46	20.27	20.39



LTE BAND 40

LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.34	23.11	22.91
5	1	12		23.25	22.99	22.74
5	1	24		23.05	22.77	22.6
5	12	0		22.27	22.11	21.89
5	12	6		22.29	22.11	21.92
5	12	11		22.13	21.95	21.74
5	25	0		22.17	21.99	21.75
5	1	0	16-QAM	22.32	22.12	21.84
5	1	12		22.42	22.15	21.76
5	1	24		22.02	22.05	21.54
5	12	0		21.24	21.16	20.95
5	12	6		21.18	21.18	20.95
5	12	11		21.08	21.01	20.81
5	25	0		21.21	20.97	20.77
10	1	0	QPSK	23.11	23.22	23.22
10	1	24		22.9	23.32	23.32
10	1	49		22.53	23.25	23.25
10	25	0		22.05	22.35	22.35
10	25	12		22.04	22.33	22.33
10	25	24		21.73	22.44	22.44
10	50	0		21.96	22.35	22.35
10	1	0	16-QAM	21.97	22.07	22.07
10	1	24		21.77	22.18	22.18
10	1	49		21.39	22.2	22.2
10	25	0		21.06	21.31	21.31
10	25	12		21.06	21.35	21.35
10	25	24		20.69	21.36	21.36
10	50	0		20.97	21.39	21.39



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.28	22.2	22.13
5	1	12		23.26	22.32	22.23
5	1	24		23.27	22.28	22.19
5	12	0		22.28	21.23	21.19
5	12	6		22.25	21.24	21.17
5	12	11		22.27	21.25	21.19
5	25	0		22.23	21.2	21.19
5	1	0	16-QAM	22.29	21.06	20.98
5	1	12		22.23	21.27	21.26
5	1	24		22.26	21.15	21.05
5	12	0		21.23	20.21	20.15
5	12	6		21.2	20.2	20.14
5	12	11		21.23	20.21	20.19
5	25	0		21.22	20.26	20.19
10	1	0	QPSK	23.16	22.07	21.92
10	1	24		23.14	22.11	22.02
10	1	49		23.34	22.05	21.89
10	25	0		22.2	21.24	21.06
10	25	12		22.3	21.24	21.01
10	25	24		22.4	21.21	21.17
10	50	0		22.28	21.28	21.1
10	1	0	16-QAM	22.31	21.32	20.98
10	1	24		22.38	21.17	21.13
10	1	49		22.52	21.26	21.18
10	25	0		21.28	20.28	20.03
10	25	12		21.26	20.28	20.06
10	25	24		21.36	20.34	20.25
10	50	0		21.33	20.3	20.15



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.99	22.15	21.91
15	1	37		23.07	22.03	21.89
15	1	74		23.4	22.01	21.98
15	36	0		22.23	21.21	21.13
15	36	18		22.33	21.13	21.04
15	36	39		22.64	21.15	21.06
15	75	0		22.28	21.18	20.98
15	1	0	16-QAM	22.09	21.21	21.02
15	1	38		22.3	21.1	21.02
15	1	75		22.69	21.2	21.04
15	36	0		22.28	21.18	21.02
15	36	18		22.31	21.13	21.03
15	36	39		22.72	21.22	21.04
15	75	0		21.31	20.1	19.96
20	1	0	QPSK	22.99	22.2	22.2
20	1	49		23.24	22.07	21.97
20	1	99		23.48	22.18	22.03
20	50	0		22.11	21.19	21.1
20	50	24		22.13	21.18	21.1
20	50	49		22.56	21.18	21.1
20	100	0		22.44	21.19	21.14
20	1	0	16-QAM	22.05	21.16	21.18
20	1	49		22.2	21.01	20.93
20	1	99		22.51	21.16	21.02
20	50	0		21.13	20.21	20.08
20	50	24		21.15	20.19	20.09
20	50	49		21.58	20.2	20.06
20	100	0		21.43	20.19	20.16



LTE BAND 25

Frequency	Channel	Mode.	RB	Substituted level	Antenna	Antenna	Cable Loss	Absolute	Limit
	Bandwidth				Polarization	Gain correction		Level	(dBm)
1850.7	1.4	QPSK	1/0	12.8	V	6.6	0.47	18.93	34.77
1882.5	1.4	QPSK	1/0	12.76	V	6.6	0.47	18.89	34.77
1914.3	1.4	QPSK	1/0	12.98	V	6.6	0.47	19.11	34.77
1850.7	1.4	QPSK	1/0	14.36	H	6.6	0.47	20.49	34.77
1882.5	1.4	QPSK	1/0	14.38	H	6.6	0.47	20.51	34.77
1914.3	1.4	QPSK	1/0	14.31	H	6.6	0.47	20.44	34.77
1850.7	1.4	16-QAM	1/5	12.07	V	6.6	0.47	18.20	34.77
1882.5	1.4	16-QAM	1/0	12.33	V	6.6	0.47	18.46	34.77
1914.3	1.4	16-QAM	1/0	12.13	V	6.6	0.47	18.26	34.77
1850.7	1.4	16-QAM	1/5	13.41	H	6.6	0.47	19.54	34.77
1882.5	1.4	16-QAM	1/0	13.52	H	6.6	0.47	19.65	34.77
1914.3	1.4	16-QAM	1/0	13.42	H	6.6	0.47	19.55	34.77
1851.5	3	QPSK	1/0	11.99	V	6.6	0.47	18.12	34.77
1882.5	3	QPSK	1/0	12.91	V	6.6	0.47	19.04	34.77
1913.5	3	QPSK	1/0	13.01	V	6.6	0.47	19.14	34.77
1851.5	3	QPSK	1/0	13.41	H	6.6	0.47	19.54	34.77
1882.5	3	QPSK	1/0	14.43	H	6.6	0.47	20.56	34.77
1913.5	3	QPSK	1/0	14.54	H	6.6	0.47	20.67	34.77
1851.5	3	16-QAM	1/0	13.02	V	6.6	0.47	19.15	34.77
1882.5	3	16-QAM	1/0	12.98	V	6.6	0.47	19.11	34.77
1913.5	3	16-QAM	1/0	11.96	V	6.6	0.47	18.09	34.77
1851.5	3	16-QAM	1/0	14.51	H	6.6	0.47	20.64	34.77
1882.5	3	16-QAM	1/0	14.55	H	6.6	0.47	20.68	34.77
1913.5	3	16-QAM	1/0	13.49	H	6.6	0.47	19.62	34.77
1852.5	5	QPSK	1/0	10.97	V	6.6	0.47	17.10	34.77
1882.5	5	QPSK	1/0	11.15	V	6.6	0.47	17.28	34.77
1912.5	5	QPSK	1/24	10.83	V	6.6	0.47	16.96	34.77
1852.5	5	QPSK	1/0	12.32	H	6.6	0.47	18.45	34.77
1882.5	5	QPSK	1/0	12.52	H	6.6	0.47	18.65	34.77
1912.5	5	QPSK	1/24	12.36	H	6.6	0.47	18.49	34.77
1852.5	5	16-QAM	1/0	10.73	V	6.6	0.47	16.86	34.77
1882.5	5	16-QAM	1/0	10.86	V	6.6	0.47	16.99	34.77
1912.5	5	16-QAM	1/24	10.91	V	6.6	0.47	17.04	34.77
1852.5	5	16-QAM	1/0	12.36	H	6.6	0.47	18.49	34.77



1882.5	5	16-QAM	1/0	12.31	H	6.6	0.47	18.44	34.77
1912.5	5	16-QAM	1/24	12.3	H	6.6	0.47	18.43	34.77
1855	10	QPSK	1/0	11.98	V	6.6	0.47	18.11	34.77
1882.5	10	QPSK	1/49	12.33	V	6.6	0.47	18.46	34.77
1910	10	QPSK	1/0	12.07	V	6.6	0.47	18.20	34.77
1855	10	QPSK	1/0	13.5	H	6.6	0.47	19.63	34.77
1882.5	10	QPSK	1/49	13.48	H	6.6	0.47	19.61	34.77
1910	10	QPSK	1/0	13.45	H	6.6	0.47	19.58	34.77
1855	10	16-QAM	1/0	12.5	V	6.6	0.47	18.63	34.77
1882.5	10	16-QAM	1/49	12.65	V	6.6	0.47	18.78	34.77
1910	10	16-QAM	1/0	12.78	V	6.6	0.47	18.91	34.77
1855	10	16-QAM	1/0	14.27	H	6.6	0.47	20.40	34.77
1882.5	10	16-QAM	1/49	14.19	H	6.6	0.47	20.32	34.77
1910	10	16-QAM	1/0	14.15	H	6.6	0.47	20.28	34.77
1857.5	15	QPSK	1/0	12.16	V	6.6	0.47	18.29	34.77
1882.5	15	QPSK	1/74	12.38	V	6.6	0.47	18.51	34.77
1907.5	15	QPSK	1/0	12.51	V	6.6	0.47	18.64	34.77
1857.5	15	QPSK	1/0	12.5	H	6.6	0.47	18.63	34.77
1882.5	15	QPSK	1/74	11.37	H	6.6	0.47	17.50	34.77
1907.5	15	QPSK	1/0	11.38	H	6.6	0.47	17.51	34.77
1857.5	15	16-QAM	1/0	11.48	V	6.6	0.47	17.61	34.77
1882.5	15	16-QAM	1/74	11.49	V	6.6	0.47	17.62	34.77
1907.5	15	16-QAM	1/0	13.32	V	6.6	0.47	19.45	34.77
1857.5	15	16-QAM	1/0	13.4	H	6.6	0.47	19.53	34.77
1882.5	15	16-QAM	1/74	13.47	H	6.6	0.47	19.60	34.77
1907.5	15	16-QAM	1/0	12.44	H	6.6	0.47	18.57	34.77
1860	20	QPSK	1/99	12.35	V	6.6	0.47	18.48	34.77
1882.5	20	QPSK	1/99	12.5	V	6.6	0.47	18.63	34.77
1905	20	QPSK	1/0	12.33	V	6.6	0.47	18.46	34.77
1860	20	QPSK	1/99	12.28	H	6.6	0.47	18.41	34.77
1882.5	20	QPSK	1/99	12.16	H	6.6	0.47	18.29	34.77
1905	20	QPSK	1/0	12.06	H	6.6	0.47	18.19	34.77
1860	20	16-QAM	1/99	11.29	V	6.6	0.47	17.42	34.77
1882.5	20	16-QAM	1/99	11.28	V	6.6	0.47	17.41	34.77
1905	20	16-QAM	1/0	11.15	V	6.6	0.47	17.28	34.77
1860	20	16-QAM	1/99	11.18	H	6.6	0.47	17.31	34.77
1882.5	20	16-QAM	1/99	11.26	H	6.6	0.47	17.39	34.77
1905	20	16-QAM	1/0	11.36	H	6.6	0.47	17.49	34.77



LTE BAND 26A

Frequency	Channel	Mode.	RB	Substituted level	Antenna	Antenna	Cable	Absolute	Limit
	Bandwidth				Polarization	Gain correction	Loss	Level	(dBm)
824.7	1.4	QPSK	1/0	13.65	V	6.6	0.48	19.77	38.45
836.5	1.4	QPSK	1/0	13.45	V	6.6	0.48	19.57	38.45
848.3	1.4	QPSK	1/0	13.42	V	6.6	0.48	19.54	38.45
824.7	1.4	QPSK	1/0	14.66	H	6.6	0.48	20.78	38.45
836.5	1.4	QPSK	1/0	14.68	H	6.6	0.48	20.80	38.45
848.3	1.4	QPSK	1/0	14.75	H	6.6	0.48	20.87	38.45
824.7	1.4	16-QAM	1/0	12.61	V	6.6	0.48	18.73	38.45
836.5	1.4	16-QAM	1/0	14.09	V	6.6	0.48	20.21	38.45
848.3	1.4	16-QAM	1/0	13.02	V	6.6	0.48	19.14	38.45
824.7	1.4	16-QAM	1/0	13.65	H	6.6	0.48	19.77	38.45
836.5	1.4	16-QAM	1/0	15.45	H	6.6	0.48	21.57	38.45
848.3	1.4	16-QAM	1/0	14.27	H	6.6	0.48	20.39	38.45
825.5	3	QPSK	1/0	14.33	V	6.6	0.48	20.45	38.45
836.5	3	QPSK	1/0	14.33	V	6.6	0.48	20.45	38.45
847.5	3	QPSK	1/0	14.42	V	6.6	0.48	20.54	38.45
825.5	3	QPSK	1/0	15.47	H	6.6	0.48	21.59	38.45
836.5	3	QPSK	1/0	15.38	H	6.6	0.48	21.50	38.45
847.5	3	QPSK	1/0	15.44	H	6.6	0.48	21.56	38.45
825.5	3	16-QAM	1/0	12.06	V	6.6	0.48	18.18	38.45
836.5	3	16-QAM	1/0	12.45	V	6.6	0.48	18.57	38.45
847.5	3	16-QAM	1/0	11.87	V	6.6	0.48	17.99	38.45
825.5	3	16-QAM	1/0	13.58	H	6.6	0.48	19.70	38.45
836.5	3	16-QAM	1/0	13.59	H	6.6	0.48	19.71	38.45
847.5	3	16-QAM	1/0	13.43	H	6.6	0.48	19.55	38.45
826.5	5	QPSK	1/0	11.23	V	6.6	0.48	17.35	38.45
836.5	5	QPSK	1/0	12.49	V	6.6	0.48	18.61	38.45
846.5	5	QPSK	1/0	11.99	V	6.6	0.48	18.11	38.45
826.5	5	QPSK	1/0	12.59	H	6.6	0.48	18.71	38.45
836.5	5	QPSK	1/0	13.51	H	6.6	0.48	19.63	38.45
846.5	5	QPSK	1/0	13.57	H	6.6	0.48	19.69	38.45
826.5	5	16-QAM	1/0	12.33	V	6.6	0.48	18.45	38.45
836.5	5	16-QAM	1/0	11.3	V	6.6	0.48	17.42	38.45
846.5	5	16-QAM	1/0	12.21	V	6.6	0.48	18.33	38.45
826.5	5	16-QAM	1/0	13.44	H	6.6	0.48	19.56	38.45



836.5	5	16-QAM	1/0	12.6	H	6.6	0.48	18.72	38.45
846.5	5	16-QAM	1/0	13.57	H	6.6	0.48	19.69	38.45
829	10	QPSK	1/0	12.4	V	6.6	0.48	18.52	38.45
836.5	10	QPSK	1/0	12.17	V	6.6	0.48	18.29	38.45
844	10	QPSK	1/0	11.95	V	6.6	0.48	18.07	38.45
829	10	QPSK	1/0	13.64	H	6.6	0.48	19.76	38.45
836.5	10	QPSK	1/0	13.47	H	6.6	0.48	19.59	38.45
844	10	QPSK	1/0	13.45	H	6.6	0.48	19.57	38.45
829	10	16-QAM	1/0	12.25	V	6.6	0.48	18.37	38.45
836.5	10	16-QAM	1/0	12.32	V	6.6	0.48	18.44	38.45
844	10	16-QAM	1/0	12.33	V	6.6	0.48	18.45	38.45
829	10	16-QAM	1/0	13.47	H	6.6	0.48	19.59	38.45
836.5	10	16-QAM	1/0	13.57	H	6.6	0.48	19.69	38.45
844	10	16-QAM	1/0	13.57	H	6.6	0.48	19.69	38.45
831.5	15	QPSK	1/0	13.46	V	6.6	0.48	19.58	38.45
836.5	15	QPSK	1/0	13.27	V	6.6	0.48	19.39	38.45
841.5	15	QPSK	1/0	13.27	V	6.6	0.48	19.39	38.45
831.5	15	QPSK	1/0	14.48	H	6.6	0.48	20.60	38.45
836.5	15	QPSK	1/0	14.41	H	6.6	0.48	20.53	38.45
841.5	15	QPSK	1/0	14.3	H	6.6	0.48	20.42	38.45
831.5	15	16-QAM	1/0	13.38	V	6.6	0.48	19.50	38.45
836.5	15	16-QAM	1/0	12.84	V	6.6	0.48	18.96	38.45
841.5	15	16-QAM	1/0	13.25	V	6.6	0.48	19.37	38.45
831.5	15	16-QAM	1/0	14.4	H	6.6	0.48	20.52	38.45
836.5	15	16-QAM	1/0	14.25	H	6.6	0.48	20.37	38.45
841.5	15	16-QAM	1/0	14.39	H	6.6	0.48	20.51	38.45



LTE BAND 26B

Frequency	Channel	Mode.	RB	Substituted level	Antenna	Antenna	Cable	Absolute	Limit
	Bandwidth				Polarization	Gain correction	Loss	Level	(dBm)
814.7	1.4	QPSK	1/0	13.79	V	6.5	0.49	19.80	50
819	1.4	QPSK	1/0	13.57	V	6.5	0.49	19.58	50
823.3	1.4	QPSK	1/0	13.28	V	6.5	0.49	19.29	50
814.7	1.4	QPSK	1/0	14.8	H	6.5	0.49	20.81	50
819	1.4	QPSK	1/0	14.8	H	6.5	0.49	20.81	50
823.3	1.4	QPSK	1/0	14.61	H	6.5	0.49	20.62	50
814.7	1.4	16-QAM	1/0	12.78	V	6.5	0.49	18.79	50
819	1.4	16-QAM	1/0	13.36	V	6.5	0.49	19.37	50
823.3	1.4	16-QAM	1/0	12.39	V	6.5	0.49	18.40	50
814.7	1.4	16-QAM	1/0	13.82	H	6.5	0.49	19.83	50
819	1.4	16-QAM	1/0	14.72	H	6.5	0.49	20.73	50
823.3	1.4	16-QAM	1/0	13.64	H	6.5	0.49	19.65	50
815.5	3	QPSK	1/0	13.66	V	6.5	0.49	19.67	50
819	3	QPSK	1/0	13.66	V	6.5	0.49	19.67	50
822.5	3	QPSK	1/0	13.73	V	6.5	0.49	19.74	50
815.5	3	QPSK	1/0	14.84	H	6.5	0.49	20.85	50
819	3	QPSK	1/0	14.71	H	6.5	0.49	20.72	50
822.5	3	QPSK	1/0	14.75	H	6.5	0.49	20.76	50
815.5	3	16-QAM	1/0	13.35	V	6.5	0.49	19.36	50
819	3	16-QAM	1/0	13.65	V	6.5	0.49	19.66	50
822.5	3	16-QAM	1/0	13.27	V	6.5	0.49	19.28	50
815.5	3	16-QAM	1/0	14.87	H	6.5	0.49	20.88	50
819	3	16-QAM	1/0	14.79	H	6.5	0.49	20.80	50
822.5	3	16-QAM	1/0	14.83	H	6.5	0.49	20.84	50
816.5	5	QPSK	1/0	12.42	V	6.5	0.49	18.43	50
819	5	QPSK	1/0	13.89	V	6.5	0.49	19.90	50
821.5	5	QPSK	1/0	13.49	V	6.5	0.49	19.50	50
816.5	5	QPSK	1/0	13.78	H	6.5	0.49	19.79	50
819	5	QPSK	1/0	14.91	H	6.5	0.49	20.92	50
821.5	5	QPSK	1/0	15.07	H	6.5	0.49	21.08	50
816.5	5	16-QAM	1/0	12.69	V	6.5	0.49	18.70	50
819	5	16-QAM	1/0	12.49	V	6.5	0.49	18.50	50
821.5	5	16-QAM	1/0	13.63	V	6.5	0.49	19.64	50
816.5	5	16-QAM	1/0	13.8	H	6.5	0.49	19.81	50



819	5	16-QAM	1/0	13.79	H	6.5	0.49	19.80	50
821.5	5	16-QAM	1/0	14.99	H	6.5	0.49	21.00	50
819	10	QPSK	1/0	13.76	V	6.5	0.49	19.77	50
819	10	QPSK	1/0	13.65	H	6.5	0.49	19.66	50
819	10	16-QAM	1/0	12.24	V	6.5	0.49	18.25	50
819	10	16-QAM	1/0	15	H	6.5	0.49	21.01	50





LTE BAND 66

Frequency	Channel	Mode.	RB	Substituted level	Antenna	Antenna	Cable Loss	Absolute	Limit
	Bandwidth				Polarization	Gain correction		Level	(dBm)
1710.7	1.4	QPSK	1/0	13.3	V	7.95	0.79	20.46	30
1745	1.4	QPSK	1/0	13.62	V	7.95	0.79	20.78	30
1779.3	1.4	QPSK	1/0	13.27	V	7.95	0.79	20.43	30
1710.7	1.4	QPSK	1/0	14.76	H	7.95	0.79	21.92	30
1745	1.4	QPSK	1/0	14.84	H	7.95	0.79	22.00	30
1779.3	1.4	QPSK	1/0	14.74	H	7.95	0.79	21.90	30
1710.7	1.4	16-QAM	1/5	13.36	V	7.95	0.79	20.52	30
1745	1.4	16-QAM	1/0	13.31	V	7.95	0.79	20.47	30
1779.3	1.4	16-QAM	1/0	13.32	V	7.95	0.79	20.48	30
1710.7	1.4	16-QAM	1/5	14.58	H	7.95	0.79	21.74	30
1745	1.4	16-QAM	1/0	14.73	H	7.95	0.79	21.89	30
1779.3	1.4	16-QAM	1/0	14.56	H	7.95	0.79	21.72	30
1711.5	3	QPSK	1/0	13.54	V	7.95	0.79	20.70	30
1745	3	QPSK	1/0	13.8	V	7.95	0.79	20.96	30
1778.5	3	QPSK	1/0	13.41	V	7.95	0.79	20.57	30
1711.5	3	QPSK	1/0	14.86	H	7.95	0.79	22.02	30
1745	3	QPSK	1/0	15.01	H	7.95	0.79	22.17	30
1778.5	3	QPSK	1/0	14.88	H	7.95	0.79	22.04	30
1711.5	3	16-QAM	1/0	13.53	V	7.95	0.79	20.69	30
1745	3	16-QAM	1/0	13.59	V	7.95	0.79	20.75	30
1778.5	3	16-QAM	1/0	12.49	V	7.95	0.79	19.65	30
1711.5	3	16-QAM	1/0	14.89	H	7.95	0.79	22.05	30
1745	3	16-QAM	1/0	14.83	H	7.95	0.79	21.99	30
1778.5	3	16-QAM	1/0	13.9	H	7.95	0.79	21.06	30
1712.5	5	QPSK	1/0	12.31	V	7.95	0.79	19.47	30
1745	5	QPSK	1/0	12.59	V	7.95	0.79	19.75	30
1777.5	5	QPSK	1/24	12.31	V	7.95	0.79	19.47	30
1712.5	5	QPSK	1/0	13.53	H	7.95	0.79	20.69	30
1745	5	QPSK	1/0	13.69	H	7.95	0.79	20.85	30
1777.5	5	QPSK	1/24	13.55	H	7.95	0.79	20.71	30
1712.5	5	16-QAM	1/0	12.26	V	7.95	0.79	19.42	30
1745	5	16-QAM	1/0	12.16	V	7.95	0.79	19.32	30
1777.5	5	16-QAM	1/24	12.24	V	7.95	0.79	19.40	30
1712.5	5	16-QAM	1/0	13.5	H	7.95	0.79	20.66	30



1745	5	16-QAM	1/0	13.52	H	7.95	0.79	20.68	30
1777.5	5	16-QAM	1/24	13.49	H	7.95	0.79	20.65	30
1715	10	QPSK	1/0	12.34	V	7.95	0.79	19.50	30
1745	10	QPSK	1/49	12.57	V	7.95	0.79	19.73	30
1775	10	QPSK	1/0	12.34	V	7.95	0.79	19.50	30
1715	10	QPSK	1/0	13.63	H	7.95	0.79	20.79	30
1745	10	QPSK	1/49	13.81	H	7.95	0.79	20.97	30
1775	10	QPSK	1/0	13.68	H	7.95	0.79	20.84	30
1715	10	16-QAM	1/0	12.49	V	7.95	0.79	19.65	30
1745	10	16-QAM	1/49	12.36	V	7.95	0.79	19.52	30
1775	10	16-QAM	1/0	12.42	V	7.95	0.79	19.58	30
1715	10	16-QAM	1/0	13.73	H	7.95	0.79	20.89	30
1745	10	16-QAM	1/49	13.72	H	7.95	0.79	20.88	30
1775	10	16-QAM	1/0	13.66	H	7.95	0.79	20.82	30
1717.5	15	QPSK	1/0	13.53	V	7.95	0.79	20.69	30
1745	15	QPSK	1/74	12.33	V	7.95	0.79	19.49	30
1772.5	15	QPSK	1/0	12.46	V	7.95	0.79	19.62	30
1717.5	15	QPSK	1/0	14.66	H	7.95	0.79	21.82	30
1745	15	QPSK	1/74	13.69	H	7.95	0.79	20.85	30
1772.5	15	QPSK	1/0	13.67	H	7.95	0.79	20.83	30
1717.5	15	16-QAM	1/0	11.43	V	7.95	0.79	18.59	30
1745	15	16-QAM	1/74	11.38	V	7.95	0.79	18.54	30
1772.5	15	16-QAM	1/0	11.42	V	7.95	0.79	18.58	30
1717.5	15	16-QAM	1/0	12.76	H	7.95	0.79	19.92	30
1745	15	16-QAM	1/74	12.62	H	7.95	0.79	19.78	30
1772.5	15	16-QAM	1/0	12.97	H	7.95	0.79	20.13	30
1720	20	QPSK	1/99	12.62	V	7.95	0.79	19.78	30
1745	20	QPSK	1/99	12.49	V	7.95	0.79	19.65	30
1770	20	QPSK	1/0	12.4	V	7.95	0.79	19.56	30
1720	20	QPSK	1/99	13.86	H	7.95	0.79	21.02	30
1745	20	QPSK	1/99	13.82	H	7.95	0.79	20.98	30
1770	20	QPSK	1/0	13.65	H	7.95	0.79	20.81	30
1720	20	16-QAM	1/99	11.52	V	7.95	0.79	18.68	30
1745	20	16-QAM	1/99	12.44	V	7.95	0.79	19.60	30
1770	20	16-QAM	1/0	12.32	V	7.95	0.79	19.48	30
1720	20	16-QAM	1/99	12.72	H	7.95	0.79	19.88	30
1745	20	16-QAM	1/99	13.69	H	7.95	0.79	20.85	30
1770	20	16-QAM	1/0	13.66	H	7.95	0.79	20.82	30



NR Power

Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Power (dBm)
n2	15	5	370500	1@1	DFT_BPSK	21.96
n2	15	5	370500	25@0	DFT_QPSK	21.95
n2	15	5	370500	12@6	DFT_QPSK	22.05
n2	15	5	370500	1@1	DFT_QPSK	21.96
n2	15	5	370500	1@23	DFT_QPSK	21.97
n2	15	5	370500	1@1	DFT_QAM16	21.66
n2	15	5	370500	1@1	DFT_QAM64	20.52
n2	15	5	370500	1@1	DFT_QAM256	18.64
n2	15	5	370500	1@1	CP_QPSK	21.97
n2	15	5	376000	1@1	DFT_BPSK	20.55
n2	15	5	376000	25@0	DFT_QPSK	20.39
n2	15	5	376000	12@6	DFT_QPSK	20.43
n2	15	5	376000	1@1	DFT_QPSK	20.56
n2	15	5	376000	1@23	DFT_QPSK	20.08
n2	15	5	376000	1@1	DFT_QAM16	20.43
n2	15	5	376000	1@1	DFT_QAM64	19
n2	15	5	376000	1@1	DFT_QAM256	17.24
n2	15	5	376000	1@1	CP_QPSK	20.56
n2	15	5	381500	1@1	DFT_BPSK	19.7
n2	15	5	381500	25@0	DFT_QPSK	19.7
n2	15	5	381500	12@6	DFT_QPSK	19.71
n2	15	5	381500	1@1	DFT_QPSK	19.72
n2	15	5	381500	1@23	DFT_QPSK	19.42
n2	15	5	381500	1@1	DFT_QAM16	19.82
n2	15	5	381500	1@1	DFT_QAM64	18.19
n2	15	5	381500	1@1	DFT_QAM256	16.47
n2	15	5	381500	1@1	CP_QPSK	19.72
n2	15	15	371500	1@1	DFT_BPSK	21.8
n2	15	15	371500	75@0	DFT_QPSK	21.93
n2	15	15	371500	36@18	DFT_QPSK	21.92
n2	15	15	371500	1@1	DFT_QPSK	21.69
n2	15	15	371500	1@77	DFT_QPSK	21.75
n2	15	15	371500	1@1	DFT_QAM16	21.74
n2	15	15	371500	1@1	DFT_QAM64	20.13
n2	15	15	371500	1@1	DFT_QAM256	18.1
n2	15	15	371500	1@1	CP_QPSK	21.8



n2	15	15	376000	1@1	DFT_BPSK	20.86
n2	15	15	376000	75@0	DFT_QPSK	20.54
n2	15	15	376000	36@18	DFT_QPSK	20.41
n2	15	15	376000	1@1	DFT_QPSK	20.86
n2	15	15	376000	1@77	DFT_QPSK	19.56
n2	15	15	376000	1@1	DFT_QAM16	20.65
n2	15	15	376000	1@1	DFT_QAM64	19.33
n2	15	15	376000	1@1	DFT_QAM256	17.78
n2	15	15	376000	1@1	CP_QPSK	20.91
n2	15	15	380500	1@1	DFT_BPSK	19.42
n2	15	15	380500	75@0	DFT_QPSK	19.63
n2	15	15	380500	36@18	DFT_QPSK	19.64
n2	15	15	380500	1@1	DFT_QPSK	19.4
n2	15	15	380500	1@77	DFT_QPSK	19.33
n2	15	15	380500	1@1	DFT_QAM16	19.47
n2	15	15	380500	1@1	DFT_QAM64	17.33
n2	15	15	380500	1@1	DFT_QAM256	16.26
n2	15	15	380500	1@1	CP_QPSK	19.42
n2	15	20	372000	1@1	DFT_BPSK	21.73
n2	15	20	372000	100@0	DFT_QPSK	21.9
n2	15	20	372000	50@25	DFT_QPSK	21.86
n2	15	20	372000	1@1	DFT_QPSK	21.73
n2	15	20	372000	1@104	DFT_QPSK	21.5
n2	15	20	372000	1@1	DFT_QAM16	21.47
n2	15	20	372000	1@1	DFT_QAM64	20.16
n2	15	20	372000	1@1	DFT_QAM256	18.09
n2	15	20	372000	1@1	CP_QPSK	21.73
n2	15	20	376000	1@1	DFT_BPSK	21.09
n2	15	20	376000	100@0	DFT_QPSK	20.52
n2	15	20	376000	50@25	DFT_QPSK	20.44
n2	15	20	376000	1@1	DFT_QPSK	21.18
n2	15	20	376000	1@104	DFT_QPSK	19.45
n2	15	20	376000	1@1	DFT_QAM16	20.88
n2	15	20	376000	1@1	DFT_QAM64	19.54
n2	15	20	376000	1@1	DFT_QAM256	18.03
n2	15	20	376000	1@1	CP_QPSK	21.18
n2	15	20	380000	1@1	DFT_BPSK	19.53
n2	15	20	380000	100@0	DFT_QPSK	19.62



n2	15	20	380000	50@25	DFT_QPSK	19.61
n2	15	20	380000	1@1	DFT_QPSK	19.51
n2	15	20	380000	1@104	DFT_QPSK	19.38
n2	15	20	380000	1@1	DFT_QAM16	18.86
n2	15	20	380000	1@1	DFT_QAM64	17.95
n2	15	20	380000	1@1	DFT_QAM256	15.87
n2	15	20	380000	1@1	CP_QPSK	19.51





Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Power (dBm)
n5	15	5	165300	1@1	DFT_BPSK	23.46
n5	15	5	165300	25@0	DFT_QPSK	23.47
n5	15	5	165300	12@6	DFT_QPSK	23.41
n5	15	5	165300	1@1	DFT_QPSK	23.55
n5	15	5	165300	1@23	DFT_QPSK	23.54
n5	15	5	165300	1@1	DFT_QAM16	23.68
n5	15	5	165300	1@1	DFT_QAM64	22.07
n5	15	5	165300	1@1	DFT_QAM256	19.9
n5	15	5	165300	1@1	CP_QPSK	23
n5	15	5	167300	1@1	DFT_BPSK	23.36
n5	15	5	167300	25@0	DFT_QPSK	23.52
n5	15	5	167300	12@6	DFT_QPSK	23.4
n5	15	5	167300	1@1	DFT_QPSK	23.43
n5	15	5	167300	1@23	DFT_QPSK	23.55
n5	15	5	167300	1@1	DFT_QAM16	23.51
n5	15	5	167300	1@1	DFT_QAM64	21.65
n5	15	5	167300	1@1	DFT_QAM256	19.93
n5	15	5	167300	1@1	CP_QPSK	22.9
n5	15	5	169300	1@1	DFT_BPSK	23.31
n5	15	5	169300	25@0	DFT_QPSK	23.3
n5	15	5	169300	12@6	DFT_QPSK	23.26
n5	15	5	169300	1@1	DFT_QPSK	23.33
n5	15	5	169300	1@23	DFT_QPSK	23.31
n5	15	5	169300	1@1	DFT_QAM16	23.32
n5	15	5	169300	1@1	DFT_QAM64	21.78
n5	15	5	169300	1@1	DFT_QAM256	19.88
n5	15	5	169300	1@1	CP_QPSK	22.95
n5	15	15	166300	1@1	DFT_BPSK	23.23
n5	15	15	166300	75@0	DFT_QPSK	23.38
n5	15	15	166300	36@18	DFT_QPSK	23.32
n5	15	15	166300	1@1	DFT_QPSK	23.24
n5	15	15	166300	1@77	DFT_QPSK	23.25
n5	15	15	166300	1@1	DFT_QAM16	23.38
n5	15	15	166300	1@1	DFT_QAM64	21.76
n5	15	15	166300	1@1	DFT_QAM256	19.85
n5	15	15	166300	1@1	CP_QPSK	22.77



n5	15	15	167300	1@1	DFT_BPSK	23.29
n5	15	15	167300	75@0	DFT_QPSK	23.27
n5	15	15	167300	36@18	DFT_QPSK	23.32
n5	15	15	167300	1@1	DFT_QPSK	23.3
n5	15	15	167300	1@77	DFT_QPSK	23.26
n5	15	15	167300	1@1	DFT_QAM16	23.19
n5	15	15	167300	1@1	DFT_QAM64	22.03
n5	15	15	167300	1@1	DFT_QAM256	20.07
n5	15	15	167300	1@1	CP_QPSK	23.15
n5	15	15	168300	1@1	DFT_BPSK	23.23
n5	15	15	168300	75@0	DFT_QPSK	23.38
n5	15	15	168300	36@18	DFT_QPSK	23.31
n5	15	15	168300	1@1	DFT_QPSK	23.3
n5	15	15	168300	1@77	DFT_QPSK	23.11
n5	15	15	168300	1@1	DFT_QAM16	23.72
n5	15	15	168300	1@1	DFT_QAM64	21.62
n5	15	15	168300	1@1	DFT_QAM256	19.45
n5	15	15	168300	1@1	CP_QPSK	22.97
n5	15	20	166800	1@1	DFT_BPSK	23.24
n5	15	20	166800	100@0	DFT_QPSK	23.33
n5	15	20	166800	50@25	DFT_QPSK	23.33
n5	15	20	166800	1@1	DFT_QPSK	23.36
n5	15	20	166800	1@104	DFT_QPSK	23.09
n5	15	20	166800	1@1	DFT_QAM16	23.31
n5	15	20	166800	1@1	DFT_QAM64	21.85
n5	15	20	166800	1@1	DFT_QAM256	19.76
n5	15	20	166800	1@1	CP_QPSK	22.8
n5	15	20	167300	1@1	DFT_BPSK	23.34
n5	15	20	167300	100@0	DFT_QPSK	23.34
n5	15	20	167300	50@25	DFT_QPSK	23.36
n5	15	20	167300	1@1	DFT_QPSK	23.35
n5	15	20	167300	1@104	DFT_QPSK	23.16
n5	15	20	167300	1@1	DFT_QAM16	23.4
n5	15	20	167300	1@1	DFT_QAM64	21.86
n5	15	20	167300	1@1	DFT_QAM256	19.97
n5	15	20	167300	1@1	CP_QPSK	22.83
n5	15	20	167800	1@1	DFT_BPSK	23.29
n5	15	20	167800	100@0	DFT_QPSK	23.31



n5	15	20	167800	50@25	DFT_QPSK	23.39
n5	15	20	167800	1@1	DFT_QPSK	23.3
n5	15	20	167800	1@104	DFT_QPSK	23.09
n5	15	20	167800	1@1	DFT_QAM16	23.38
n5	15	20	167800	1@1	DFT_QAM64	21.8
n5	15	20	167800	1@1	DFT_QAM256	19.94
n5	15	20	167800	1@1	CP_QPSK	22.82





Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Power (dBm)
n7	15	5	500500	1@1	DFT_BPSK	23.71
n7	15	5	500500	25@0	DFT_QPSK	23.66
n7	15	5	500500	12@6	DFT_QPSK	23.71
n7	15	5	500500	1@1	DFT_QPSK	23.62
n7	15	5	500500	1@23	DFT_QPSK	23.74
n7	15	5	500500	1@1	DFT_QAM16	23.5
n7	15	5	500500	1@1	DFT_QAM64	22.08
n7	15	5	500500	1@1	DFT_QAM256	20.32
n7	15	5	500500	1@1	CP_QPSK	23.61
n7	15	5	507000	1@1	DFT_BPSK	23.74
n7	15	5	507000	25@0	DFT_QPSK	23.86
n7	15	5	507000	12@6	DFT_QPSK	23.81
n7	15	5	507000	1@1	DFT_QPSK	23.73
n7	15	5	507000	1@23	DFT_QPSK	23.71
n7	15	5	507000	1@1	DFT_QAM16	23.64
n7	15	5	507000	1@1	DFT_QAM64	22.37
n7	15	5	507000	1@1	DFT_QAM256	20.46
n7	15	5	507000	1@1	CP_QPSK	23.74
n7	15	5	513500	1@1	DFT_BPSK	23.03
n7	15	5	513500	25@0	DFT_QPSK	23.18
n7	15	5	513500	12@6	DFT_QPSK	23.14
n7	15	5	513500	1@1	DFT_QPSK	23.02
n7	15	5	513500	1@23	DFT_QPSK	23
n7	15	5	513500	1@1	DFT_QAM16	23.09
n7	15	5	513500	1@1	DFT_QAM64	21.33
n7	15	5	513500	1@1	DFT_QAM256	19.68
n7	15	5	513500	1@1	CP_QPSK	23.05
n7	15	15	501500	1@1	DFT_BPSK	23.28
n7	15	15	501500	75@0	DFT_QPSK	23.57
n7	15	15	501500	36@18	DFT_QPSK	23.42
n7	15	15	501500	1@1	DFT_QPSK	23.16
n7	15	15	501500	1@77	DFT_QPSK	23.24
n7	15	15	501500	1@1	DFT_QAM16	23.31
n7	15	15	501500	1@1	DFT_QAM64	21.61
n7	15	15	501500	1@1	DFT_QAM256	19.57
n7	15	15	501500	1@1	CP_QPSK	23.26



n7	15	15	507000	1@1	DFT_BPSK	23.4
n7	15	15	507000	75@0	DFT_QPSK	23.58
n7	15	15	507000	36@18	DFT_QPSK	23.54
n7	15	15	507000	1@1	DFT_QPSK	23.4
n7	15	15	507000	1@77	DFT_QPSK	23.46
n7	15	15	507000	1@1	DFT_QAM16	23.44
n7	15	15	507000	1@1	DFT_QAM64	21.87
n7	15	15	507000	1@1	DFT_QAM256	19.81
n7	15	15	507000	1@1	CP_QPSK	23.4
n7	15	15	512500	1@1	DFT_BPSK	22.9
n7	15	15	512500	75@0	DFT_QPSK	23.11
n7	15	15	512500	36@18	DFT_QPSK	23.11
n7	15	15	512500	1@1	DFT_QPSK	22.89
n7	15	15	512500	1@77	DFT_QPSK	22.88
n7	15	15	512500	1@1	DFT_QAM16	22.92
n7	15	15	512500	1@1	DFT_QAM64	21.29
n7	15	15	512500	1@1	DFT_QAM256	19.17
n7	15	15	512500	1@1	CP_QPSK	22.9
n7	15	20	502000	1@1	DFT_BPSK	23.2
n7	15	20	502000	100@0	DFT_QPSK	23.43
n7	15	20	502000	50@25	DFT_QPSK	23.53
n7	15	20	502000	1@1	DFT_QPSK	23.21
n7	15	20	502000	1@104	DFT_QPSK	23.22
n7	15	20	502000	1@1	DFT_QAM16	23.12
n7	15	20	502000	1@1	DFT_QAM64	21.65
n7	15	20	502000	1@1	DFT_QAM256	19.66
n7	15	20	502000	1@1	CP_QPSK	23.21
n7	15	20	507000	1@1	DFT_BPSK	23.4
n7	15	20	507000	100@0	DFT_QPSK	23.53
n7	15	20	507000	50@25	DFT_QPSK	23.54
n7	15	20	507000	1@1	DFT_QPSK	23.39
n7	15	20	507000	1@104	DFT_QPSK	23.48
n7	15	20	507000	1@1	DFT_QAM16	23.51
n7	15	20	507000	1@1	DFT_QAM64	21.76
n7	15	20	507000	1@1	DFT_QAM256	19.7
n7	15	20	507000	1@1	CP_QPSK	23.4
n7	15	20	512000	1@1	DFT_BPSK	22.85
n7	15	20	512000	100@0	DFT_QPSK	23.11



n7	15	20	512000	50@25	DFT_QPSK	23.11
n7	15	20	512000	1@1	DFT_QPSK	22.8
n7	15	20	512000	1@104	DFT_QPSK	22.91
n7	15	20	512000	1@1	DFT_QAM16	22.58
n7	15	20	512000	1@1	DFT_QAM64	20.86
n7	15	20	512000	1@1	DFT_QAM256	19.25
n7	15	20	512000	1@1	CP_QPSK	22.76





Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Power (dBm)
n41	30	20	501204	1@1	DFT_BPSK	22.85
n41	30	20	501204	50@0	DFT_QPSK	22.89
n41	30	20	501204	25@12	DFT_QPSK	22.85
n41	30	20	501204	1@1	DFT_QPSK	22.85
n41	30	20	501204	1@49	DFT_QPSK	22.85
n41	30	20	501204	1@1	DFT_QAM16	22.83
n41	30	20	501204	1@1	DFT_QAM64	22.54
n41	30	20	501204	1@1	DFT_QAM256	22.06
n41	30	20	501204	1@1	CP_QPSK	22.84
n41	30	20	518598	1@1	DFT_BPSK	24.52
n41	30	20	518598	50@0	DFT_QPSK	24.68
n41	30	20	518598	25@12	DFT_QPSK	24.61
n41	30	20	518598	1@1	DFT_QPSK	24.53
n41	30	20	518598	1@49	DFT_QPSK	24.57
n41	30	20	518598	1@1	DFT_QAM16	24.41
n41	30	20	518598	1@1	DFT_QAM64	24.38
n41	30	20	518598	1@1	DFT_QAM256	23.82
n41	30	20	518598	1@1	CP_QPSK	24.53
n41	30	20	535998	1@1	DFT_BPSK	24.46
n41	30	20	535998	50@0	DFT_QPSK	24.53
n41	30	20	535998	25@12	DFT_QPSK	24.62
n41	30	20	535998	1@1	DFT_QPSK	24.46
n41	30	20	535998	1@49	DFT_QPSK	24.47
n41	30	20	535998	1@1	DFT_QAM16	24.26
n41	30	20	535998	1@1	DFT_QAM64	24.42
n41	30	20	535998	1@1	DFT_QAM256	23.77
n41	30	20	535998	1@1	CP_QPSK	24.47
n41	30	50	504204	1@1	DFT_BPSK	23.84
n41	30	50	504204	128@0	DFT_QPSK	23.99
n41	30	50	504204	64@32	DFT_QPSK	24.02
n41	30	50	504204	1@1	DFT_QPSK	23.87
n41	30	50	504204	1@131	DFT_QPSK	23.85
n41	30	50	504204	1@1	DFT_QAM16	23.64
n41	30	50	504204	1@1	DFT_QAM64	23.78
n41	30	50	504204	1@1	DFT_QAM256	23.12
n41	30	50	504204	1@1	CP_QPSK	23.86



n41	30	50	518598	1@1	DFT_BPSK	24.41
n41	30	50	518598	128@0	DFT_QPSK	24.57
n41	30	50	518598	64@32	DFT_QPSK	24.61
n41	30	50	518598	1@1	DFT_QPSK	24.42
n41	30	50	518598	1@131	DFT_QPSK	24.51
n41	30	50	518598	1@1	DFT_QAM16	24.2
n41	30	50	518598	1@1	DFT_QAM64	24.33
n41	30	50	518598	1@1	DFT_QAM256	23.68
n41	30	50	518598	1@1	CP_QPSK	24.41
n41	30	50	532998	1@1	DFT_BPSK	24.34
n41	30	50	532998	128@0	DFT_QPSK	24.46
n41	30	50	532998	64@32	DFT_QPSK	24.45
n41	30	50	532998	1@1	DFT_QPSK	24.35
n41	30	50	532998	1@131	DFT_QPSK	24.47
n41	30	50	532998	1@1	DFT_QAM16	24.15
n41	30	50	532998	1@1	DFT_QAM64	24.04
n41	30	50	532998	1@1	DFT_QAM256	23.7
n41	30	50	532998	1@1	CP_QPSK	24.33
n41	30	100	509202	1@1	DFT_BPSK	23.47
n41	30	100	509202	270@0	DFT_QPSK	23.47
n41	30	100	509202	135@67	DFT_QPSK	23.6
n41	30	100	509202	1@1	DFT_QPSK	23.46
n41	30	100	509202	1@271	DFT_QPSK	23.3
n41	30	100	509202	1@1	DFT_QAM16	23.28
n41	30	100	509202	1@1	DFT_QAM64	23.41
n41	30	100	509202	1@1	DFT_QAM256	22.87
n41	30	100	509202	1@1	CP_QPSK	23.46
n41	30	100	518598	1@1	DFT_BPSK	24.35
n41	30	100	518598	270@0	DFT_QPSK	24.44
n41	30	100	518598	135@67	DFT_QPSK	24.39
n41	30	100	518598	1@1	DFT_QPSK	24.35
n41	30	100	518598	1@271	DFT_QPSK	24.17
n41	30	100	518598	1@1	DFT_QAM16	24.25
n41	30	100	518598	1@1	DFT_QAM64	24.15
n41	30	100	518598	1@1	DFT_QAM256	23.61
n41	30	100	518598	1@1	CP_QPSK	24.34
n41	30	100	528000	1@1	DFT_BPSK	24.19
n41	30	100	528000	270@0	DFT_QPSK	24.2



n41	30	100	528000	135@67	DFT_QPSK	24.15
n41	30	100	528000	1@1	DFT_QPSK	24.2
n41	30	100	528000	1@271	DFT_QPSK	24.25
n41	30	100	528000	1@1	DFT_QAM16	24.01
n41	30	100	528000	1@1	DFT_QAM64	24.1
n41	30	100	528000	1@1	DFT_QAM256	23.46
n41	30	100	528000	1@1	CP_QPSK	24.21





Band	SCS (kHz)	Bandwidth (MHz)	UL Channel	RB Allocation	Modulation	Power (dBm)
n66	15	5	342500	1@1	DFT_BPSK	23.22
n66	15	5	342500	25@0	DFT_QPSK	23.22
n66	15	5	342500	12@6	DFT_QPSK	23.22
n66	15	5	342500	1@1	DFT_QPSK	23.19
n66	15	5	342500	1@23	DFT_QPSK	23.22
n66	15	5	342500	1@1	DFT_QAM16	23.12
n66	15	5	342500	1@1	DFT_QAM64	21.51
n66	15	5	342500	1@1	DFT_QAM256	19.3
n66	15	5	342500	1@1	CP_QPSK	23.21
n66	15	5	349000	1@1	DFT_BPSK	23.06
n66	15	5	349000	25@0	DFT_QPSK	23.24
n66	15	5	349000	12@6	DFT_QPSK	23.24
n66	15	5	349000	1@1	DFT_QPSK	23.15
n66	15	5	349000	1@23	DFT_QPSK	23.21
n66	15	5	349000	1@1	DFT_QAM16	23.03
n66	15	5	349000	1@1	DFT_QAM64	21.51
n66	15	5	349000	1@1	DFT_QAM256	19.38
n66	15	5	349000	1@1	CP_QPSK	23.16
n66	15	5	355500	1@1	DFT_BPSK	23.07
n66	15	5	355500	25@0	DFT_QPSK	23.17
n66	15	5	355500	12@6	DFT_QPSK	23.18
n66	15	5	355500	1@1	DFT_QPSK	23.07
n66	15	5	355500	1@23	DFT_QPSK	23.07
n66	15	5	355500	1@1	DFT_QAM16	23.12
n66	15	5	355500	1@1	DFT_QAM64	21.55
n66	15	5	355500	1@1	DFT_QAM256	19.39
n66	15	5	355500	1@1	CP_QPSK	23.06
n66	15	15	343500	1@1	DFT_BPSK	22.95
n66	15	15	343500	75@0	DFT_QPSK	23.21
n66	15	15	343500	36@18	DFT_QPSK	23.15
n66	15	15	343500	1@1	DFT_QPSK	22.95
n66	15	15	343500	1@77	DFT_QPSK	23.04
n66	15	15	343500	1@1	DFT_QAM16	23.18
n66	15	15	343500	1@1	DFT_QAM64	21.39
n66	15	15	343500	1@1	DFT_QAM256	19.24
n66	15	15	343500	1@1	CP_QPSK	22.95



n66	15	15	349000	1@1	DFT_BPSK	22.98
n66	15	15	349000	75@0	DFT_QPSK	23.13
n66	15	15	349000	36@18	DFT_QPSK	23.05
n66	15	15	349000	1@1	DFT_QPSK	22.98
n66	15	15	349000	1@77	DFT_QPSK	23.01
n66	15	15	349000	1@1	DFT_QAM16	22.8
n66	15	15	349000	1@1	DFT_QAM64	21.39
n66	15	15	349000	1@1	DFT_QAM256	19.3
n66	15	15	349000	1@1	CP_QPSK	22.96
n66	15	15	354500	1@1	DFT_BPSK	22.87
n66	15	15	354500	75@0	DFT_QPSK	23.02
n66	15	15	354500	36@18	DFT_QPSK	23.02
n66	15	15	354500	1@1	DFT_QPSK	22.86
n66	15	15	354500	1@77	DFT_QPSK	22.97
n66	15	15	354500	1@1	DFT_QAM16	22.71
n66	15	15	354500	1@1	DFT_QAM64	21.2
n66	15	15	354500	1@1	DFT_QAM256	19.23
n66	15	15	354500	1@1	CP_QPSK	22.96
n66	15	20	344000	1@1	DFT_BPSK	22.99
n66	15	20	344000	100@0	DFT_QPSK	23.2
n66	15	20	344000	50@25	DFT_QPSK	23.08
n66	15	20	344000	1@1	DFT_QPSK	22.99
n66	15	20	344000	1@104	DFT_QPSK	23.15
n66	15	20	344000	1@1	DFT_QAM16	22.93
n66	15	20	344000	1@1	DFT_QAM64	21.43
n66	15	20	344000	1@1	DFT_QAM256	19.38
n66	15	20	344000	1@1	CP_QPSK	22.99
n66	15	20	349000	1@1	DFT_BPSK	22.99
n66	15	20	349000	100@0	DFT_QPSK	23.08
n66	15	20	349000	50@25	DFT_QPSK	23.07
n66	15	20	349000	1@1	DFT_QPSK	23
n66	15	20	349000	1@104	DFT_QPSK	23.08
n66	15	20	349000	1@1	DFT_QAM16	22.81
n66	15	20	349000	1@1	DFT_QAM64	21.4
n66	15	20	349000	1@1	DFT_QAM256	19.23
n66	15	20	349000	1@1	CP_QPSK	22.99
n66	15	20	354000	1@1	DFT_BPSK	22.94
n66	15	20	354000	100@0	DFT_QPSK	23.03



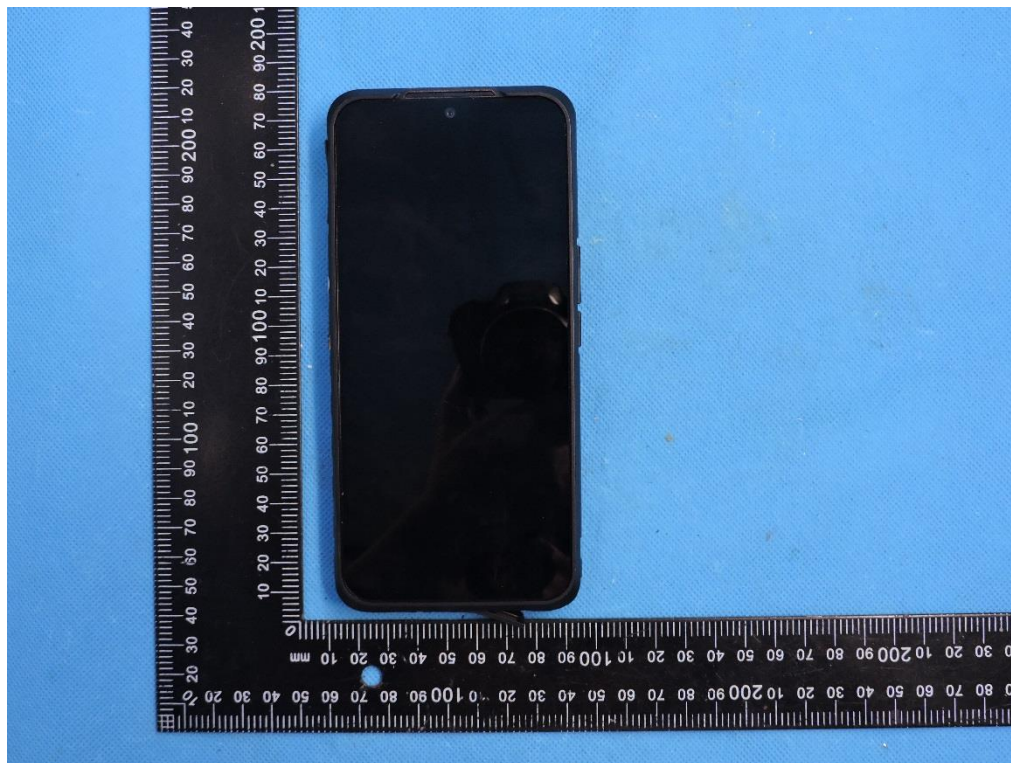
n66	15	20	354000	50@25	DFT_QPSK	23.07
n66	15	20	354000	1@1	DFT_QPSK	22.94
n66	15	20	354000	1@104	DFT_QPSK	22.98
n66	15	20	354000	1@1	DFT_QAM16	22.89
n66	15	20	354000	1@1	DFT_QAM64	21.35
n66	15	20	354000	1@1	DFT_QAM256	19.22
n66	15	20	354000	1@1	CP_QPSK	22.94



11. EUT and Test Setup Photo

11.1 EUT Photo

Front side



Back side





Left Edge

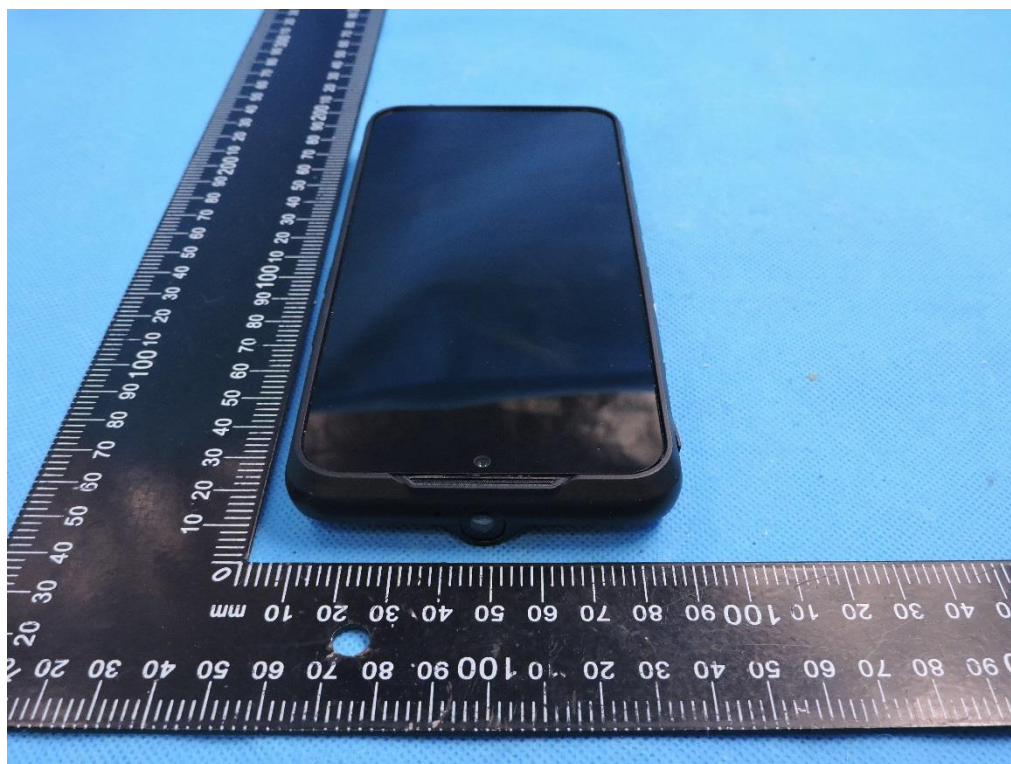


Right Edge





Top Edge

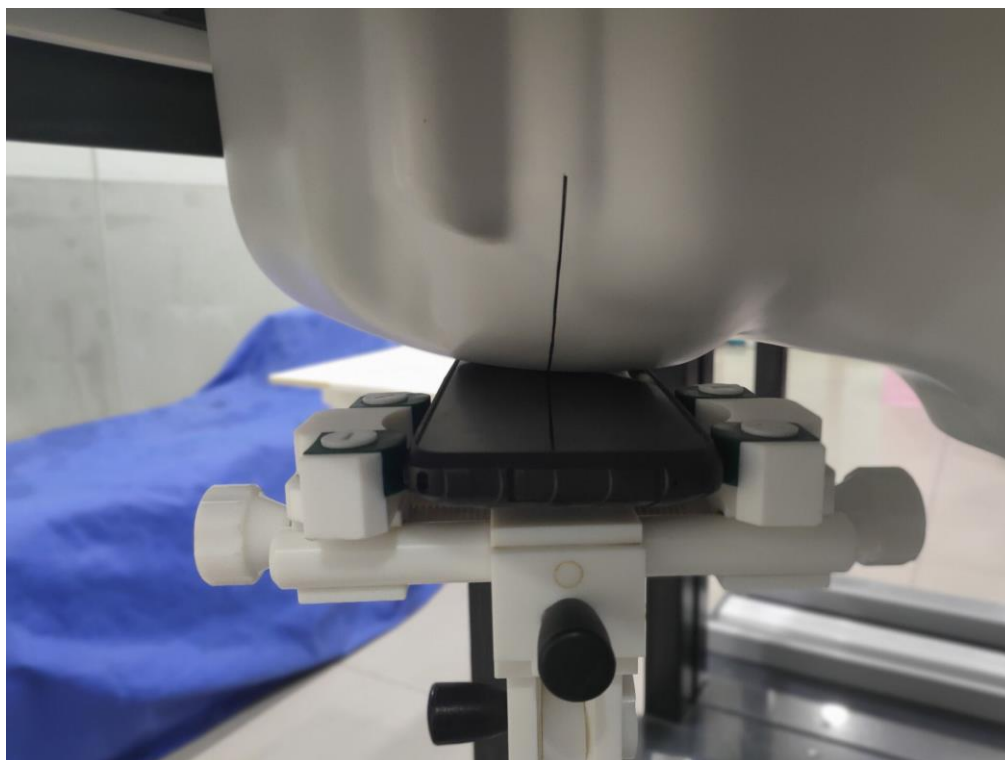


Bottom Edge

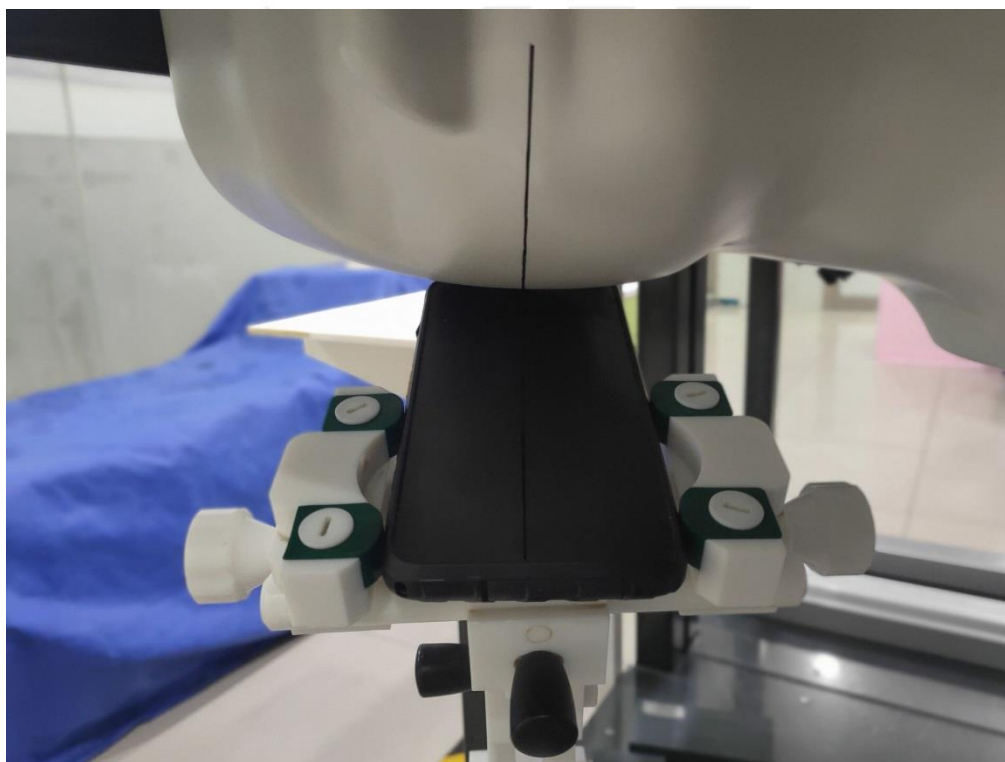


11.2 Setup Photo

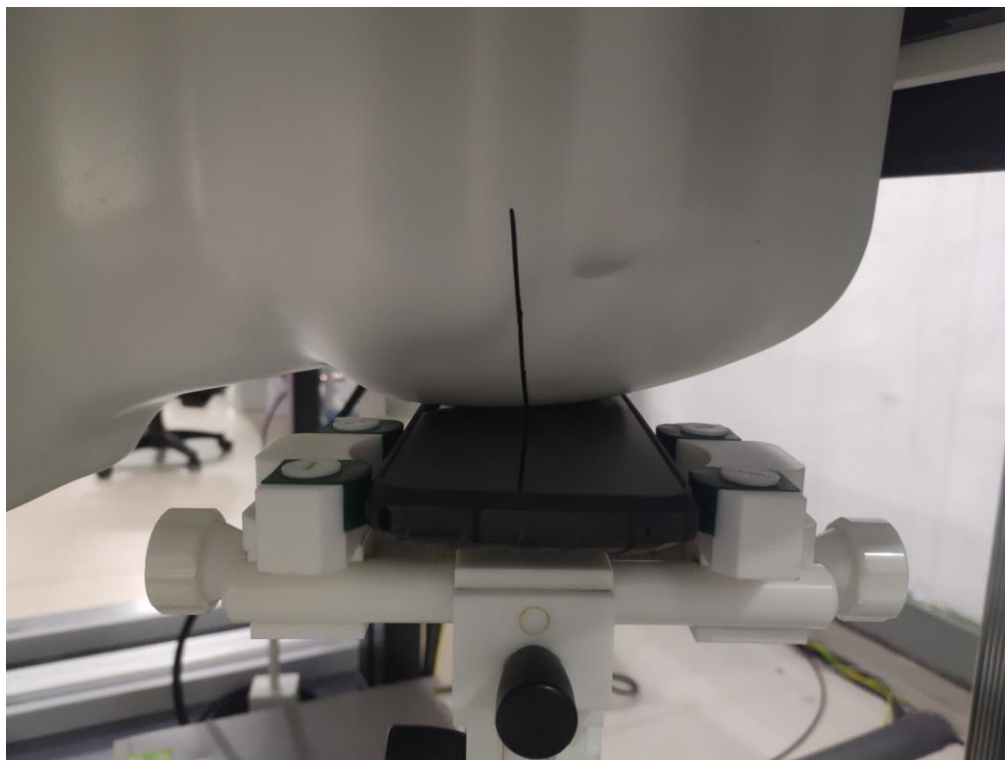
Right Cheek



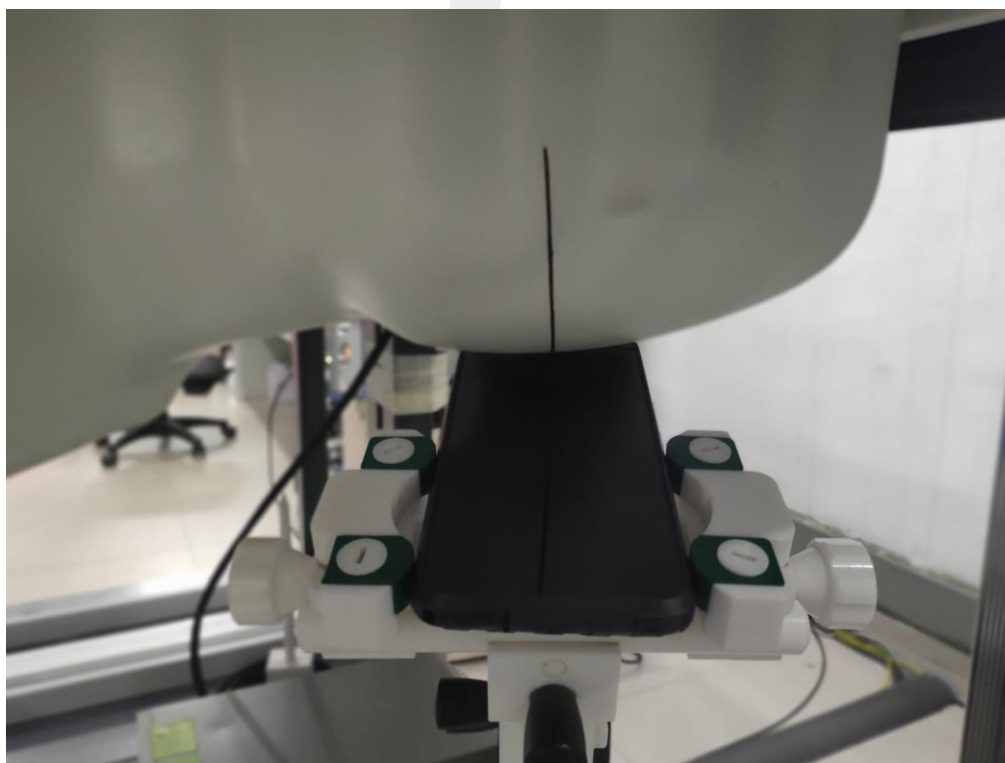
Right Tilt



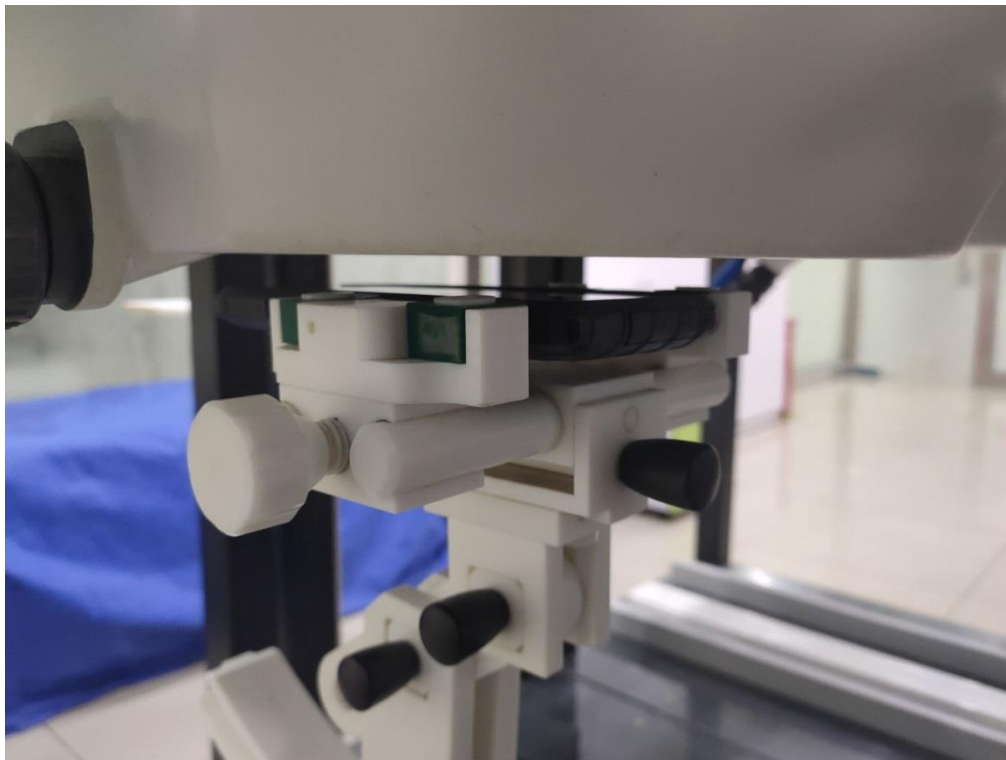
Left Cheek



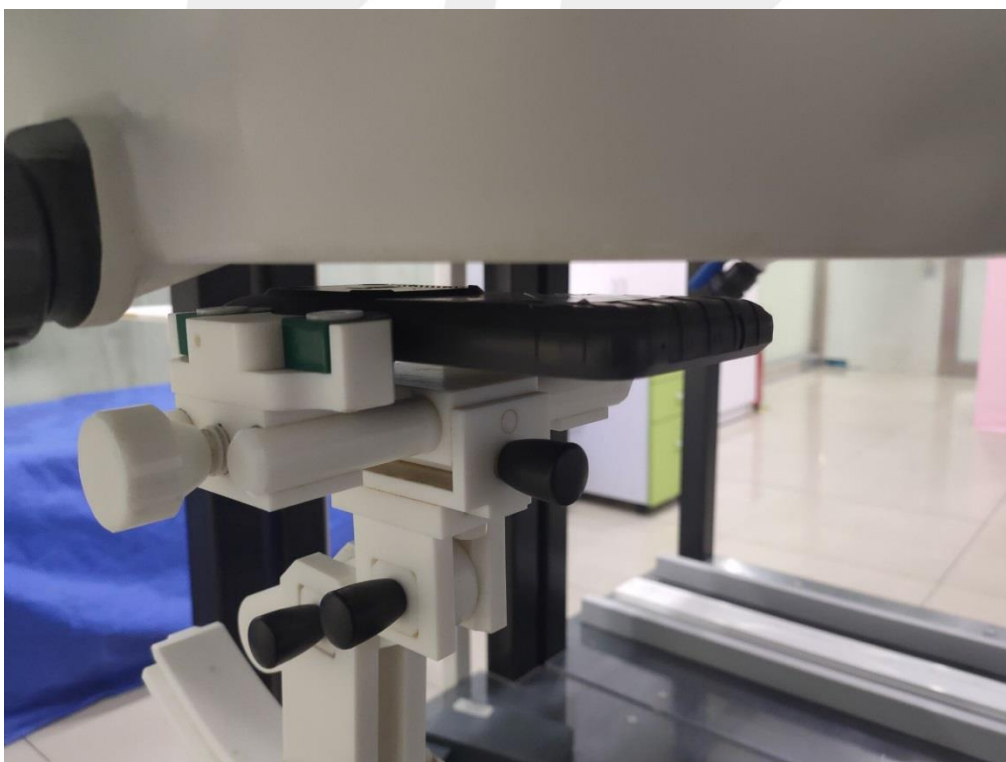
Left Tilt



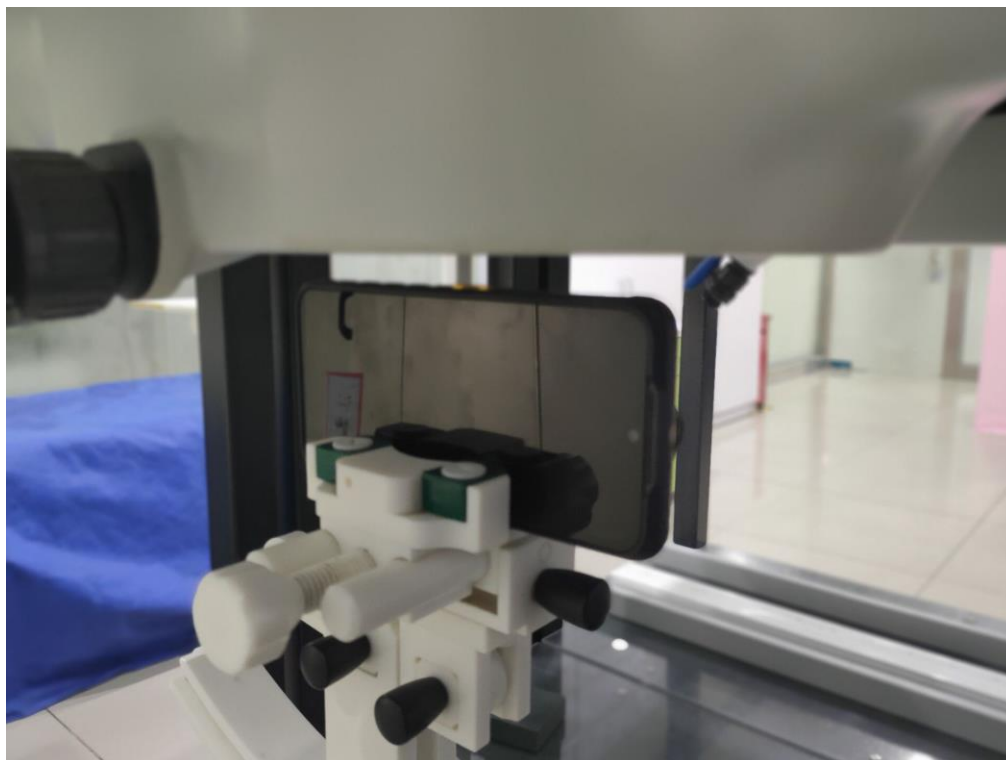
Body Front side(separation distance is 10mm)



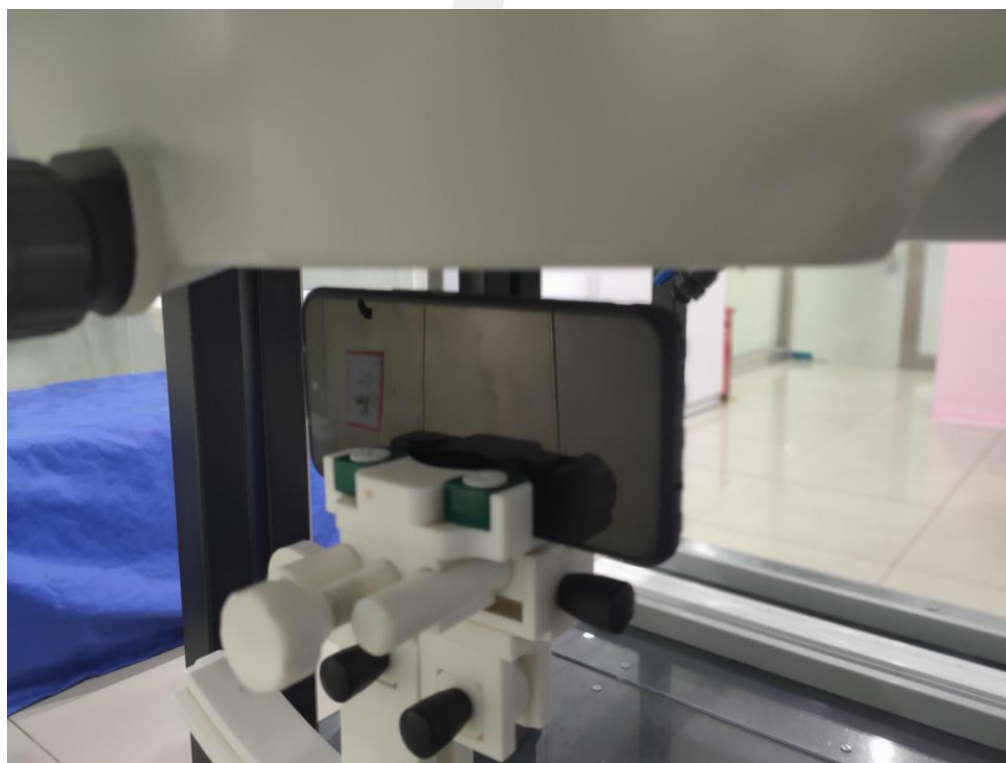
Body Back side(separation distance is 10mm)



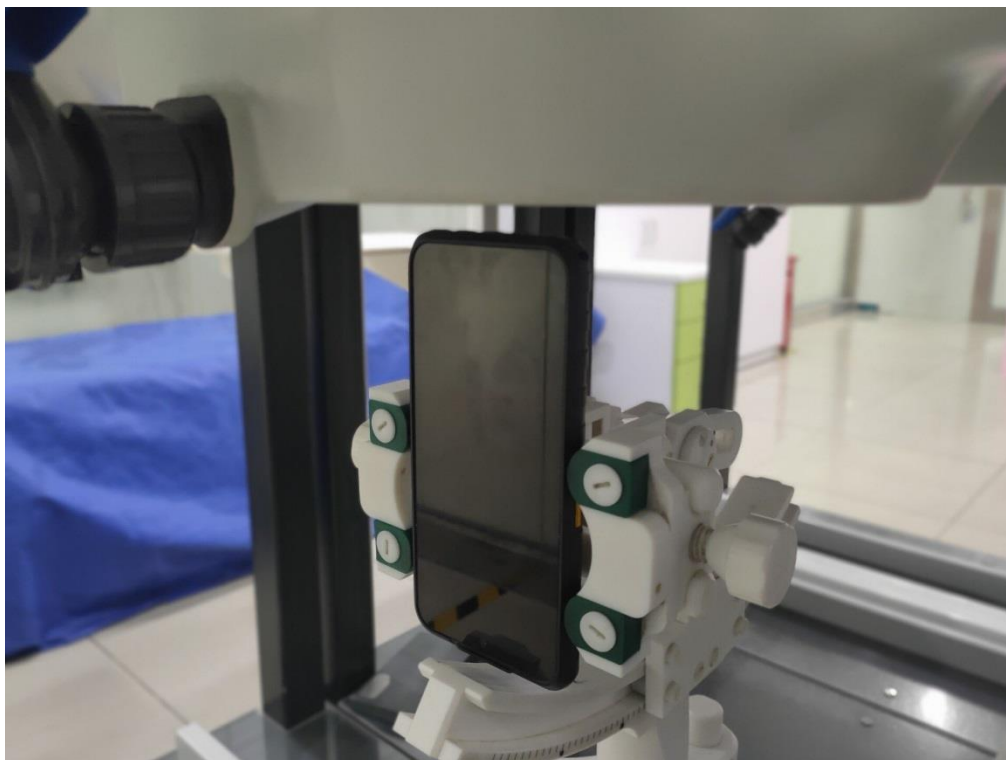
Body Left side(separation distance is 10mm)



Body Right side(separation distance is 10mm)



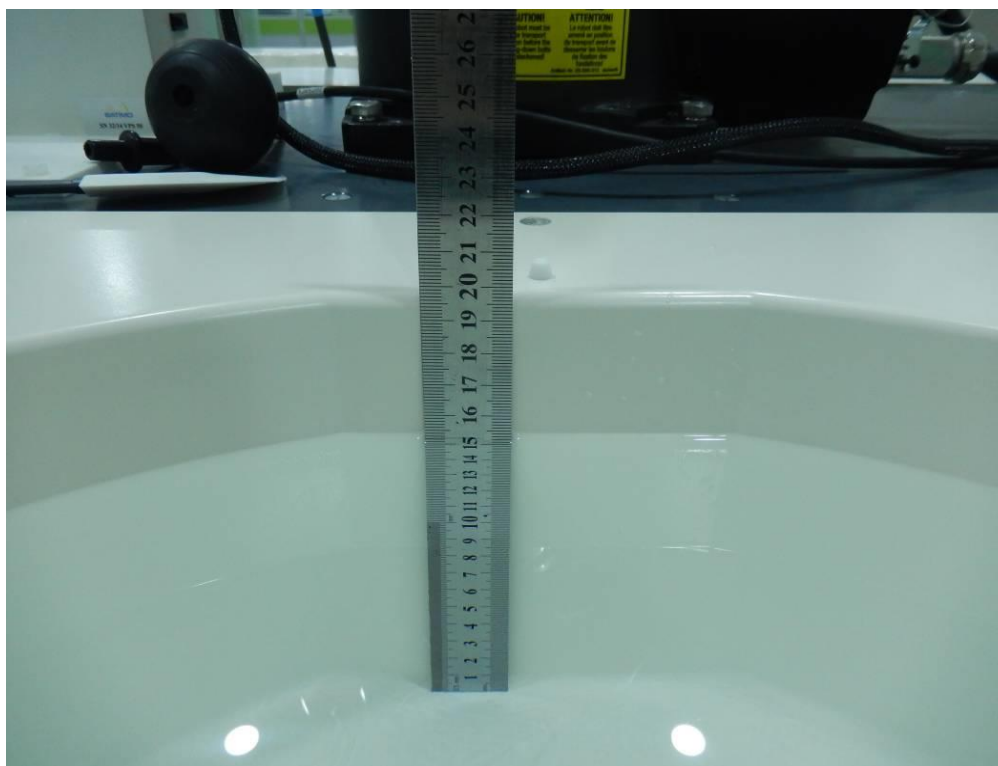
Body Bottom side(separation distance is 10mm)



Body Top side(separation distance is 10mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Model	Test Position	Frequency (MHz)	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS (GMSK, 3-Slot)	Right Cheek	848.8	0.234	0.66	29	28.71	0.250	1
		Right Tilt	848.8	0.112	-3.87	29	28.71	0.120	/
		Left Cheek	848.8	0.217	2.06	29	28.71	0.232	/
		Left Tilt	848.8	0.132	1.17	29	28.71	0.141	/
GSM1900	GPRS (GMSK, 4-Slot)	Right Cheek	1850.2	0.063	2.68	25	24.58	0.069	3
		Right Tilt	1850.2	0.034	0.97	25	24.58	0.037	/
		Left Cheek	1850.2	0.04	-1.22	25	24.58	0.044	/
		Left Tilt	1850.2	0.012	-0.54	25	24.58	0.013	/
WCDMA Band II	RMC	Right Cheek	1880	0.067	0.78	17.5	17.47	0.067	5
		Right Tilt	1880	0.012	2.95	17.5	17.47	0.012	/
		Left Cheek	1880	0.043	3.27	17.5	17.47	0.043	/
		Left Tilt	1880	0.021	-3.56	17.5	17.47	0.021	/
WCDMA Band IV	RMC	Right Cheek	1712.4	0.067	-3.88	20	19.67	0.072	7
		Right Tilt	1712.4	0.032	3.90	20	19.67	0.035	/
		Left Cheek	1712.4	0.052	-2.23	20	19.67	0.056	/
		Left Tilt	1712.4	0.023	-2.74	20	19.67	0.025	/
WCDMA Band V	RMC	Right Cheek	826.4	0.129	1.16	23	22.97	0.130	9
		Right Tilt	826.4	0.054	1.30	23	22.97	0.054	/
		Left Cheek	826.4	0.102	-2.95	23	22.97	0.103	/
		Left Tilt	826.4	0.042	3.98	23	22.97	0.042	/
SA N2	20MHz 100RB Offset 0	Right Cheek	1860	0.087	-0.78	22	21.9	0.089	11
		Right Tilt	1860	0.041	-0.91	22	21.9	0.042	/
		Left Cheek	1860	0.074	2.27	22	21.9	0.076	/
		Left Tilt	1860	0.035	-3.63	22	21.9	0.036	/
SA N5	20MHz 1RB Offset 0	Right Cheek	836.5	0.147	2.34	23.5	23.4	0.150	13
		Right Tilt	836.5	0.085	0.22	23.5	23.4	0.087	/
		Left Cheek	836.5	0.124	-1.68	23.5	23.4	0.127	/
		Left Tilt	836.5	0.074	-3.62	23.5	23.4	0.076	/
SA N7	20MHz 50RB Offset 0	Right Cheek	2535	0.098	2.88	24	23.54	0.109	15
		Right Tilt	2535	0.047	3.26	24	23.54	0.052	/
		Left Cheek	2535	0.089	-1.03	24	23.54	0.099	/
		Left Tilt	2535	0.041	-1.06	24	23.54	0.046	/



SA N41	100MHz 100RB Offset 0	Right Cheek	2593	0.13	-2.01	24.5	24.44	0.132	17
		Right Tilt	2593	0.055	2.59	24.5	24.44	0.056	/
		Left Cheek	2593	0.114	0.19	24.5	24.44	0.116	/
		Left Tilt	2593	0.035	0.03	24.5	24.44	0.035	/
SA N66	20MHz 100RB Offset 0	Right Cheek	1720	0.103	2.86	23.5	23.2	0.110	19
		Right Tilt	1720	0.041	-3.38	23.5	23.2	0.044	/
		Left Cheek	1720	0.095	-0.75	23.5	23.2	0.102	/
		Left Tilt	1720	0.051	-0.44	23.5	23.2	0.055	/
2.4GHz WLAN ANT1	802.11b	Right Cheek	2412	0.208	-1.79	15.5	15.13	0.226	/
		Right Tilt	2412	0.102	0.15	15.5	15.13	0.111	/
		Left Cheek	2412	0.471	1.85	15.5	15.13	0.513	21
		Left Cheek	2437	0.214	-0.42	15.5	12.95	0.385	/
		Left Cheek	2462	0.325	2.75	15.5	13.91	0.469	/
		Left Tilt	2412	0.221	-1.39	15.5	15.13	0.241	/
2.4GHz WLAN ANT2	802.11b	Right Cheek	2412	0.031	-0.42	13.5	13.04	0.034	/
		Right Tilt	2412	0.014	-1.08	13.5	13.04	0.016	/
		Left Cheek	2412	0.039	3.42	13.5	13.04	0.043	23
		Left Tilt	2412	0.012	-2.47	13.5	13.04	0.013	/
2.4GHz WLAN N40 ANT1	802.11 n- HT40	Right Cheek	2422	0.212	-0.91	16.5	16.47	0.213	25
		Right Tilt	2422	0.112	-0.37	16.5	16.47	0.113	/
		Left Cheek	2422	0.201	-0.54	16.5	16.47	0.202	/
		Left Tilt	2422	0.098	1.07	16.5	16.47	0.099	/
2.4GHz WLAN N40 ANT2	802.11 n- HT40	Right Cheek	2422	0.084	-3.51	16.5	16.47	0.085	27
		Right Tilt	2422	0.045	-2.24	16.5	16.47	0.045	/
		Left Cheek	2422	0.082	0.51	16.5	16.47	0.083	/
		Left Tilt	2422	0.014	3.48	16.5	16.47	0.014	/
5.2GHz WLAN ANT1	802.11a	Right Cheek	5180	0.123	-1.72	15	14.65	0.133	29
		Right Tilt	5180	0.041	0.92	15	14.65	0.044	/
		Left Cheek	5180	0.103	2.72	15	14.65	0.112	/
		Left Tilt	5180	0.052	-3.46	15	14.65	0.056	/
5.2GHz WLAN ANT2	802.11a	Right Cheek	5180	0.137	0.55	14.2	14.18	0.138	31
		Right Tilt	5180	0.085	2.84	14.2	14.18	0.085	/
		Left Cheek	5180	0.121	-2.02	14.2	14.18	0.122	/
		Left Tilt	5180	0.074	-2.58	14.2	14.18	0.074	/
5.2GHz WLAN N40 ANT1	802.11 n- HT40	Right Cheek	5190	0.095	-1.07	17.5	17.38	0.098	33
		Right Tilt	5190	0.045	-0.18	17.5	17.38	0.046	/
		Left Cheek	5190	0.088	-3.60	17.5	17.38	0.090	/
		Left Tilt	5190	0.052	0.74	17.5	17.38	0.053	/



5.2GHz WLAN N40 ANT2	802.11 n- HT40	Right Cheek	5190	0.18	1.94	17.5	17.38	0.185	35
		Right Tilt	5190	0.075	-2.10	17.5	17.38	0.077	/
		Left Cheek	5190	0.157	1.22	17.5	17.38	0.161	/
		Left Tilt	5190	0.057	0.40	17.5	17.38	0.059	/
5.3GHz WLAN ANT1	802.11a	Right Cheek	5320	0.068	1.79	16.5	16.42	0.069	37
		Right Tilt	5320	0.023	1.60	16.5	16.42	0.023	/
		Left Cheek	5320	0.059	2.93	16.5	16.42	0.060	/
		Left Tilt	5320	0.016	-2.20	16.5	16.42	0.016	/
5.3GHz WLAN ANT2	802.11a	Right Cheek	5320	0.146	-0.77	16	15.89	0.150	39
		Right Tilt	5320	0.098	-0.28	16	15.89	0.101	/
		Left Cheek	5320	0.125	1.08	16	15.89	0.128	/
		Left Tilt	5320	0.088	2.34	16	15.89	0.090	/
5.3GHz WLAN N20 ANT1	802.11 n- HT20	Right Cheek	5300	0.136	1.80	18	17.63	0.148	41
		Right Tilt	5300	0.074	0.30	18	17.63	0.081	/
		Left Cheek	5300	0.125	-0.70	18	17.63	0.136	/
		Left Tilt	5300	0.058	-2.12	18	17.63	0.063	/
5.3GHz WLAN N20 ANT2	802.11 n- HT20	Right Cheek	5300	0.206	-3.75	18	17.63	0.224	43
		Right Tilt	5300	0.12	2.27	18	17.63	0.131	/
		Left Cheek	5300	0.199	1.94	18	17.63	0.217	/
		Left Tilt	5300	0.099	-3.85	18	17.63	0.108	/
5.6GHz WLAN ANT1	802.11a	Right Cheek	5700	0.083	-0.01	16	15.99	0.083	45
		Right Tilt	5700	0.041	1.34	16	15.99	0.041	/
		Left Cheek	5700	0.078	-1.31	16	15.99	0.078	/
		Left Tilt	5700	0.025	3.35	16	15.99	0.025	/
5.6GHz WLAN ANT2	802.11a	Right Cheek	5700	0.332	-3.96	15	14.71	0.355	47
		Right Tilt	5700	0.156	1.43	15	14.71	0.167	/
		Left Cheek	5700	0.321	-0.39	15	14.71	0.343	/
		Left Tilt	5700	0.133	-1.18	15	14.71	0.142	/
5.6GHz WLAN N20 ANT1	802.11 n- HT20	Right Cheek	5700	0.112	-0.78	17.5	17.19	0.120	49
		Right Tilt	5700	0.059	-3.34	17.5	17.19	0.063	/
		Left Cheek	5700	0.103	-0.87	17.5	17.19	0.111	/
		Left Tilt	5700	0.065	-1.02	17.5	17.19	0.070	/
5.6GHz WLAN N20 ANT2	802.11 n- HT20	Right Cheek	5700	0.15	3.73	17.5	17.19	0.161	51
		Right Tilt	5700	0.074	-3.94	17.5	17.19	0.079	/
		Left Cheek	5700	0.135	-2.81	17.5	17.19	0.145	/
		Left Tilt	5700	0.069	-3.26	17.5	17.19	0.074	/



5.8GHz WLAN ANT1	802.11a	Right Cheek	5825	0.123	-0.01	13.5	13.11	0.135	53
		Right Tilt	5825	0.058	2.44	13.5	13.11	0.063	/
		Left Cheek	5825	0.113	3.85	13.5	13.11	0.124	/
		Left Tilt	5825	0.085	0.40	13.5	13.11	0.093	/
5.8GHz WLAN ANT2	802.11a	Right Cheek	5825	0.171	2.64	13	12.83	0.178	55
		Right Tilt	5825	0.084	3.32	13	12.83	0.087	/
		Left Cheek	5825	0.158	3.69	13	12.83	0.164	/
		Left Tilt	5825	0.065	-2.27	13	12.83	0.068	/
5.8GHz WLAN ac20 ANT1	802.11ac20	Right Cheek	5745	0.124	0.58	16	15.74	0.132	57
		Right Tilt	5745	0.058	-3.09	16	15.74	0.062	/
		Left Cheek	5745	0.113	3.49	16	15.74	0.120	/
		Left Tilt	5745	0.056	-1.95	16	15.74	0.059	/
5.8GHz WLAN ac20 ANT2	802.11ac20	Right Cheek	5745	0.128	3.66	16	15.74	0.136	59
		Right Tilt	5745	0.054	-3.17	16	15.74	0.057	/
		Left Cheek	5745	0.124	3.94	16	15.74	0.132	/
		Left Tilt	5745	0.062	2.10	16	15.74	0.066	/
CDMA	EVDO BC0	Right Cheek	836.52	0.048	-0.04	23.50	23.35	0.050	81
		Right Tilt	836.52	0.021	0.07	23.50	23.35	0.022	/
		Left Cheek	836.52	0.036	-2.21	23.50	23.35	0.037	/
		Left Tilt	836.52	0.016	-1.56	23.50	23.35	0.017	/
CDMA	EVDO BC1	Right Cheek	1908.8	0.086	-2.94	24.00	23.60	0.094	83
		Right Tilt	1908.8	0.048	1.33	24.00	23.60	0.053	/
		Left Cheek	1908.8	0.072	-2.87	24.00	23.60	0.079	/
		Left Tilt	1908.8	0.023	-2.13	24.00	23.60	0.025	/
CDMA	CDMA BC10	Right Cheek	822.35	0.045	-0.85	25.00	24.93	0.046	85
		Right Tilt	822.35	0.035	0.52	25.00	24.93	0.036	/
		Left Cheek	822.35	0.040	2.82	25.00	24.93	0.041	/
		Left Tilt	822.35	0.023	-2.81	25.00	24.93	0.023	/



Band	Mode	Max SAR	ANT 1+2
		(W/Kg)	
2.4G WLAN	802.11 n-HT40 ANT 1	0.213	0.298
	802.11 n-HT40 ANT 2	0.085	
5.2G WLAN	802.11 n-HT40 ANT 1	0.098	0.283
	802.11 n-HT40 ANT 2	0.185	
5.3G WLAN	802.11 n-HT20 ANT 1	0.224	0.308
	802.11 n-HT20 ANT 2	0.083	
5.6G WLAN	802.11 n-HT20 ANT 1	0.120	0.281
	802.11 n-HT20 ANT 2	0.161	
5.8G WLAN	802.11 ac-VHT20 ANT 1	0.132	0.268
	802.11 ac-VHT20 ANT 2	0.136	





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	99	Right Cheek	1860	0.127	1.81	18.5	18.12	0.139	61
			50	49	Right Cheek	1860	0.112	2.36	17.5	17.19	0.120	/
			1	99	Right Tilt	1860	0.065	2.87	18.5	18.12	0.071	/
			50	49	Right Tilt	1860	0.048	-3.82	17.5	17.19	0.052	/
			1	99	Left Cheek	1860	0.079	-0.31	18.5	18.12	0.086	/
			50	49	Left Cheek	1860	0.071	1.03	17.5	17.19	0.076	/
			1	99	Left Tilt	1860	0.035	-3.57	18.5	18.12	0.038	/
			50	49	Left Tilt	1860	0.036	-2.25	17.5	17.19	0.039	/
LTE Band 4	20M	QPSK	1	49	Right Cheek	1720	0.238	2.58	22.5	22.08	0.262	63
			25	24	Right Cheek	1720	0.214	-2.74	21.5	21.13	0.233	/
			1	0	Right Tilt	1720	0.144	-1.14	22.5	22.08	0.159	/
			50	0	Right Tilt	1720	0.125	3.91	21.5	21.13	0.136	/
			1	0	Left Cheek	1720	0.21	1.54	22.5	22.08	0.231	/
			50	0	Left Cheek	1720	0.206	1.73	21.5	21.13	0.224	/
			1	0	Left Tilt	1720	0.123	3.96	22.5	22.08	0.135	/
			50	0	Left Tilt	1720	0.132	1.77	21.5	21.13	0.144	/
LTE Band 5	10M	QPSK	1	49	Right Cheek	836.5	0.237	-3.28	23	22.77	0.250	65
			25	24	Right Cheek	844	0.212	2.60	22	21.91	0.216	/
			1	49	Right Tilt	836.5	0.123	3.80	23	22.77	0.130	/
			25	24	Right Tilt	844	0.142	3.67	22	21.91	0.145	/
			1	49	Left Cheek	836.5	0.213	0.96	23	22.77	0.225	/
			25	24	Left Cheek	844	0.224	-0.56	22	21.91	0.229	/
			1	49	Left Tilt	836.5	0.135	-2.32	23	22.77	0.142	/
			25	24	Left Tilt	844	0.142	-1.63	22	21.91	0.145	/
LTE Band 7	20M	QPSK	1	99	Right Cheek	2510	0.173	-1.42	23	22.56	0.191	67
			50	49	Right Cheek	2510	0.158	-2.41	22	21.63	0.172	/
			1	99	Right Tilt	2510	0.085	-2.15	23	22.56	0.094	/
			50	49	Right Tilt	2510	0.089	2.13	22	21.63	0.097	/
			1	99	Left Cheek	2510	0.154	2.26	23	22.56	0.170	/
			50	49	Left Cheek	2510	0.165	1.74	22	21.63	0.180	/
			100	0	Left Cheek	2510	0.147	-1.08	22	21.05	0.183	/
			1	99	Left Tilt	2510	0.088	0.67	23	22.56	0.097	/
			50	49	Left Tilt	2510	0.087	2.09	22	21.63	0.095	/



LTE Band 12	10M	QPSK	1	0	Right Cheek	707.5	0.218	-1.32	25	24.70	0.234	/
			25	0	Right Cheek	707.5	0.178	-1.78	24	23.88	0.183	/
			1	0	Right Tilt	707.5	0.123	1.40	25	24.70	0.132	/
			25	0	Right Tilt	707.5	0.098	2.13	24	23.88	0.101	/
			1	0	Left Cheek	707.5	0.240	-1.19	25	24.70	0.257	69
			25	0	Left Cheek	707.5	0.188	-0.23	24	23.88	0.193	/
			1	0	Left Tilt	707.5	0.145	0.79	25	24.70	0.155	/
			25	0	Left Tilt	707.5	0.102	3.48	24	23.88	0.105	/
LTE Band 13	10M	QPSK	1	0	Right Cheek	782	0.211	-3.54	21	20.58	0.232	/
			25	12	Right Cheek	782	0.165	1.79	20	19.57	0.182	/
			1	0	Right Tilt	782	0.111	-3.36	21	20.58	0.122	/
			25	12	Right Tilt	782	0.094	1.47	20	19.57	0.104	/
			1	0	Left Cheek	782	0.236	-2.94	21	20.58	0.260	71
			25	12	Left Cheek	782	0.181	2.46	20	19.57	0.200	/
			1	0	Left Tilt	782	0.146	2.33	21	20.58	0.161	/
			25	12	Left Tilt	782	0.108	-0.39	20	19.57	0.119	/
LTE Band 17	10M	QPSK	1	24	Right Cheek	710	0.216	1.99	21	20.63	0.235	/
			25	24	Right Cheek	710	0.184	-2.50	20	19.64	0.200	/
			1	24	Right Tilt	710	0.169	1.00	21	20.63	0.184	/
			25	24	Right Tilt	710	0.108	3.01	20	19.64	0.117	/
			1	24	Left Cheek	710	0.232	-1.61	21	20.63	0.253	73
			25	24	Left Cheek	710	0.145	-1.12	20	19.64	0.158	/
			1	24	Left Tilt	710	0.123	0.33	21	20.63	0.134	/
			25	24	Left Tilt	710	0.099	2.75	20	19.64	0.108	/
LTE Band 38	20M	QPSK	1	0	Right Cheek	2580	0.114	-0.18	23	22.66	0.123	75
			50	24	Right Cheek	2580	0.106	-1.78	22	21.55	0.118	/
			1	0	Right Tilt	2580	0.056	2.83	23	22.66	0.061	/
			50	24	Right Tilt	2580	0.054	0.99	22	21.55	0.060	/
			1	0	Left Cheek	2580	0.098	0.52	23	22.66	0.106	/
			50	24	Left Cheek	2580	0.095	-0.09	22	21.55	0.105	/
			1	0	Left Tilt	2580	0.041	2.98	23	22.66	0.044	/
			50	24	Left Tilt	2580	0.043	-1.95	22	21.55	0.048	/



LTE Band40	20M	QPSK	1	24	Right Cheek	2350	0.048	-3.45	23.5	23.32	0.050	/
			25	24	Right Cheek	2350	0.041	2.65	22.5	22.44	0.042	/
			1	24	Right Tilt	2350	0.024	1.51	23.5	23.32	0.025	/
			25	24	Right Tilt	2350	0.016	2.92	22.5	22.44	0.016	/
			1	24	Left Cheek	2350	0.066	-2.40	23.5	23.32	0.069	77
			25	24	Left Cheek	2350	0.065	2.10	22.5	22.44	0.066	/
			1	24	Left Tilt	2350	0.035	-3.72	23.5	23.32	0.036	/
			25	24	Left Tilt	2350	0.031	0.42	22.5	22.44	0.031	/
LTE Band 41	20M	QPSK	1	99	Right Cheek	2506	0.121	-1.85	23.5	23.48	0.122	79
			50	49	Right Cheek	2506	0.109	2.87	23	22.56	0.121	/
			1	99	Right Tilt	2506	0.051	1.17	23.5	23.48	0.051	/
			50	49	Right Tilt	2506	0.048	0.84	23	22.56	0.053	/
			1	99	Left Cheek	2506	0.11	-1.63	23.5	23.48	0.111	/
			50	49	Left Cheek	2506	0.109	-1.07	23	22.56	0.121	/
			1	99	Left Tilt	2506	0.045	-2.92	23.5	23.48	0.045	/
			50	49	Left Tilt	2506	0.052	-0.63	23	22.56	0.058	/
LTE Band 25	20M	QPSK	1	99	Right Cheek	1882.5	0.061	-0.04	14	12.5	0.086	87
			1	99	Right Tilt	1882.5	0.026	0.01	14	12.5	0.037	/
			1	99	Left Cheek	1882.5	0.052	-2.69	14	12.5	0.073	/
			1	99	Left Tilt	1882.5	0.032	-1.87	14	12.5	0.045	/
	10M	16-QAM	1	0	Right Cheek	1855	0.042	3.64	14.5	14.27	0.044	/
			1	0	Right Tilt	1855	0.022	-3.52	14.5	14.27	0.023	/
			1	0	Left Cheek	1855	0.036	3.06	14.5	14.27	0.038	/
			1	0	Left Tilt	1855	0.021	1.93	14.5	14.27	0.022	/
	3M	QPSK	1	0	Right Cheek	1913.5	0.041	1.59	15	14.54	0.046	/
			1	0	Right Tilt	1913.5	0.026	3.47	15	14.54	0.029	/
			1	0	Left Cheek	1913.5	0.039	-3.02	15	14.54	0.043	/
			1	0	Left Tilt	1913.5	0.023	-3.54	15	14.54	0.026	/
	3M	16-QAM	1	0	Right Cheek	1882.5	0.049	-3.59	15	14.55	0.054	/
			1	0	Right Tilt	1882.5	0.025	2.21	15	14.55	0.028	/
			1	0	Left Cheek	1882.5	0.042	-3.00	15	14.55	0.047	/
			1	0	Left Tilt	1882.5	0.021	-0.96	15	14.55	0.023	/
	1.4M	QPSK	1	0	Right Cheek	1882.5	0.047	2.09	14.5	14.38	0.048	/
			1	0	Right Tilt	1882.5	0.021	-0.06	14.5	14.38	0.022	/
			1	0	Left Cheek	1882.5	0.042	1.01	14.5	14.38	0.043	/
			1	0	Left Tilt	1882.5	0.019	0.16	14.5	14.38	0.020	/
LTE Band 26	20M	QPSK	1	0	Right Cheek	831.5	0.052	3.74	15	14.48	0.059	89
			1	0	Right Tilt	831.5	0.021	-1.60	15	14.48	0.024	/



	3M	QPSK	1	0	Left Cheek	831.5	0.048	-0.93	15	14.48	0.054	/
			1	0	Left Tilt	831.5	0.021	0.14	15	14.48	0.024	/
			1	0	Right Cheek	825.5	0.041	3.75	15.5	15.47	0.041	/
			1	0	Right Tilt	825.5	0.023	-2.26	15.5	15.47	0.023	/
			1	0	Left Cheek	825.5	0.039	-3.03	15.5	15.47	0.039	/
			1	0	Left Tilt	825.5	0.015	-1.59	15.5	15.47	0.015	/
LTE Band 66	20M	QPSK	1	99	Right Cheek	1720	0.105	-3.44	14	13.86	0.108	91
			1	99	Right Tilt	1720	0.041	3.39	14	13.86	0.042	/
			1	99	Left Cheek	1720	0.088	-3.50	14	13.86	0.091	/
			1	99	Left Tilt	1720	0.041	2.53	14	13.86	0.042	/
	15M	QPSK	1	0	Right Cheek	1717.5	0.069	-2.21	15	14.66	0.075	/
			1	0	Right Tilt	1717.5	0.021	-3.12	15	14.66	0.023	/
			1	0	Left Cheek	1717.5	0.071	-2.20	15	14.66	0.077	/
			1	0	Left Tilt	1717.5	0.036	-3.17	15	14.66	0.039	/
	3M	QPSK	1	0	Right Cheek	1745	0.065	1.60	15.1	15.01	0.066	/
			1	0	Right Tilt	1745	0.031	0.14	15.1	15.01	0.032	/
			1	0	Left Cheek	1745	0.048	-2.70	15.1	15.01	0.049	/
			1	0	Left Tilt	1745	0.021	-1.54	15.1	15.01	0.021	/
	3M	16-QAM	1	0	Right Cheek	1711.5	0.059	-1.49	15	14.89	0.061	/
			1	0	Right Tilt	1711.5	0.036	2.35	15	14.89	0.037	/
			1	0	Left Cheek	1711.5	0.074	-1.16	15	14.89	0.076	/
			1	0	Left Tilt	1711.5	0.025	1.86	15	14.89	0.026	/
	1.4M	QPSK	1	0	Right Cheek	1745	0.069	3.38	15	14.84	0.072	/
			1	0	Right Tilt	1745	0.032	-3.83	15	14.84	0.033	/
			1	0	Left Cheek	1745	0.031	-3.20	15	14.84	0.032	/
			1	0	Left Tilt	1745	0.025	0.62	15	14.84	0.026	/
	1.4M	16-QAM	1	0	Right Cheek	1745	0.048	2.28	15	14.73	0.051	/
			1	0	Right Tilt	1745	0.036	2.98	15	14.73	0.038	/
			1	0	Left Cheek	1745	0.059	-2.99	15	14.73	0.063	/
			1	0	Left Tilt	1745	0.026	-0.03	15	14.73	0.028	/

Note:

1. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB865664 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	Frequency (MHz)	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power (dBm)	Meas.Output Power (dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS (GMSK, 3-Slot)	Front Side	848.8	0.192	-3.39	29	28.71	0.205	/
		Back Side	848.8	0.196	-1.92	29	28.71	0.210	2
		Left Edge	848.8	0.124	-1.12	29	28.71	0.133	/
		Right Edge	848.8	0.122	0.52	29	28.71	0.130	/
		Top Edge	848.8	0.012	-1.48	29	28.71	0.013	/
		Bottom Edge	848.8	0.142	-1.68	29	28.71	0.152	/
GSM1900	GPRS (GMSK, 4-Slot)	Front Side	1850.2	0.136	3.06	25	24.58	0.150	/
		Back Side	1850.2	0.288	2.53	25	24.58	0.317	4
		Left Edge	1850.2	0.256	0.29	25	24.58	0.282	/
		Right Edge	1850.2	0.244	3.93	25	24.58	0.269	/
		Bottom Edge	1850.2	0.133	0.10	25	24.58	0.147	/
WCDMA Band II	RMC	Front Side	1880	0.825	-2.77	17.5	17.47	0.831	/
		Back Side	1852.4	0.823	0.99	17.5	17.39	0.844	/
		Back Side	1880	0.998	0.38	17.5	17.47	1.005	6
		Back Side	1907.6	0.832	-0.33	17.5	17.25	0.881	/
		Left Edge	1880	0.412	-2.94	17.5	17.47	0.415	/
		Right Edge	1880	0.425	2.72	17.5	17.47	0.428	/
		Bottom Edge	1880	0.236	0.95	17.5	17.47	0.238	/
WCDMA Band IV	RMC	Front Side	1712.4	0.273	1.90	20	19.67	0.295	/
		Back Side	1712.4	1.081	-3.50	20	19.67	1.166	8
		Back Side	1747.4	0.555	0.11	20	18.37	0.808	/
		Back Side	1782.4	0.546	3.78	20	18.17	0.832	/
		Left Edge	1712.4	0.425	-2.82	20	19.67	0.459	/
		Right Edge	1712.4	0.411	-3.40	20	19.67	0.443	/
		Bottom Edge	1712.4	0.506	2.95	20	19.67	0.546	/
WCDMA Band V	RMC	Front Side	826.4	0.119	-3.71	23	22.97	0.120	/
		Back Side	826.4	0.125	-1.72	23	22.97	0.126	10
		Left Edge	826.4	0.103	0.92	23	22.97	0.104	/
		Right Edge	826.4	0.098	-1.79	23	22.97	0.099	/
		Bottom Edge	826.4	0.107	1.65	23	22.97	0.108	/



SA N2	20MHz 100RB Offset 0	Front Side	1860	0.455	3.34	22	21.9	0.466	/
		Back Side	1860	0.537	1.99	22	21.9	0.550	12
		Back Side	1880	0.421	2.60	22	21.18	0.508	/
		Back Side	1900	0.433	-3.20	22	21.9	0.443	/
		Left Edge	1860	0.269	-2.11	22	21.9	0.275	/
		Right Edge	1860	0.213	1.10	22	21.9	0.218	/
		Bottom Edge	1860	0.357	1.71	22	21.9	0.365	/
SA N5	20MHz 1RB Offset 0	Front Side	836.5	0.053	-1.69	23.5	23.4	0.054	/
		Back Side	836.5	0.057	-1.58	23.5	23.4	0.058	14
		Left Edge	836.5	0.041	-0.17	23.5	23.4	0.042	/
		Right Edge	836.5	0.036	-1.10	23.5	23.4	0.037	/
		Bottom Edge	836.5	0.04	-3.92	23.5	23.4	0.041	/
SA N7	20MHz 50RB Offset 0	Front Side	2535	0.300	-1.01	24	23.54	0.334	/
		Back Side	2535	0.339	2.68	24	23.54	0.377	16
		Left Edge	2535	0.256	0.32	24	23.54	0.285	/
		Right Edge	2535	0.241	3.45	24	23.54	0.268	/
		Bottom Edge	2535	0.236	1.85	24	23.54	0.262	/
SA N41	270MHz 106RB Offset 0	Front Side	2593	0.088	-0.17	24.5	24.44	0.089	/
		Back Side	2593	0.090	-0.27	24.5	24.44	0.091	18
		Left Edge	2593	0.056	1.27	24.5	24.44	0.057	/
		Right Edge	2593	0.051	-2.68	24.5	24.44	0.052	/
		Bottom Edge	2593	0.045	-2.86	24.5	24.44	0.046	/
SA N66	20MHz 100RB Offset 0	Front Side	1720	0.369	0.30	23.5	23.2	0.395	/
		Back Side	1720	0.413	-1.80	23.5	23.2	0.443	20
		Left Edge	1720	0.254	-0.95	23.5	23.2	0.272	/
		Right Edge	1720	0.262	-0.99	23.5	23.2	0.281	/
		Bottom Edge	1720	0.147	2.69	23.5	23.2	0.158	/
2.4GHz WLAN ANT1	802.11b	Front Side	2412	0.120	1.80	15.5	15.13	0.131	/
		Back Side	2412	0.183	-3.03	15.5	15.13	0.199	22
		Right Edge	2412	0.086	1.28	15.5	15.13	0.094	/
		Top Edge	2412	0.092	-3.09	15.5	15.13	0.100	/
2.4GHz WLAN ANT2	802.11b	Front Side	2412	0.014	-3.04	13.5	13.04	0.016	/
		Back Side	2412	0.019	-0.84	13.5	13.04	0.021	24
		Right Edge	2412	0.025	1.47	13.5	13.04	0.028	/
2.4GHz WLAN N40 ANT1	802.11 n- HT40	Front Side	2422	0.074	-0.79	16.5	16.47	0.075	/
		Back Side	2422	0.125	3.73	16.5	16.47	0.126	26
		Right Edge	2422	0.045	2.63	16.5	16.47	0.045	/
		Top Edge	2422	0.021	-0.10	16.5	16.47	0.021	/



2.4GHz WLAN N40 ANT2	802.11 n- HT40	Front Side	2422	0.030	-1.32	16.5	16.47	0.030	/
		Back Side	2422	0.043	3.80	16.5	16.47	0.043	28
		Right Edge	2422	0.023	0.50	16.5	16.47	0.023	/
5.2GHz WLAN ANT1	802.11a	Front Side	5180	0.165	-0.75	15	14.65	0.179	/
		Back Side	5180	0.216	0.92	15	14.65	0.234	30
		Right Edge	5180	0.154	3.61	15	14.65	0.167	/
		Top Edge	5180	0.188	-0.14	15	14.65	0.204	/
5.2GHz WLAN ANT2	802.11a	Front Side	5180	0.124	-1.10	14.2	14.18	0.125	/
		Back Side	5180	0.285	-3.70	14.2	14.18	0.286	32
		Right Edge	5180	0.133	2.04	14.2	14.18	0.134	/
5.2GHz WLAN N40 ANT1	802.11 n- HT40	Front Side	5190	0.120	1.21	17.5	17.38	0.123	/
		Back Side	5190	0.139	1.54	17.5	17.38	0.143	34
		Right Edge	5190	0.111	-0.44	17.5	17.38	0.114	/
		Top Edge	5190	0.125	-2.77	17.5	17.38	0.129	/
5.2GHz WLAN N40 ANT2	802.11 n- HT40	Front Side	5190	0.141	1.84	17.5	17.38	0.145	/
		Back Side	5190	0.182	-0.72	17.5	17.38	0.187	36
		Right Edge	5190	0.136	-0.27	17.5	17.38	0.140	/
		Bottom Edge	5190	0.125	1.84	17.5	17.38	0.129	/
5.3GHz WLAN ANT1	802.11a	Front Side	5320	0.121	3.12	16.5	16.42	0.123	/
		Back Side	5320	0.213	3.60	16.5	16.42	0.217	38
		Right Edge	5320	0.098	0.56	16.5	16.42	0.100	/
		Top Edge	5320	0.135	2.24	16.5	16.42	0.138	/
		Bottom Edge	5320	0.074	-2.04	16.5	16.42	0.075	/
5.3GHz WLAN ANT2	802.11a	Front Side	5320	0.341	0.21	16	15.89	0.350	/
		Back Side	5320	0.346	-0.56	16	15.89	0.355	40
		Right Edge	5320	0.258	3.71	16	15.89	0.265	/
5.3GHz WLAN N20 ANT1	802.11 n- HT20	Front Side	5300	0.136	2.42	17.7	17.63	0.138	/
		Back Side	5300	0.150	-1.84	17.7	17.63	0.152	42
		Right Edge	5300	0.069	-1.24	17.7	17.63	0.070	/
		Top Edge	5300	0.034	3.19	17.7	17.63	0.035	/
		Bottom Edge	5300	0.050	-0.70	17.7	17.63	0.051	/
5.3GHz WLAN N20 ANT2	802.11 n- HT20	Front Side	5300	0.168	-1.32	17.7	17.63	0.171	/
		Back Side	5300	0.274	0.05	17.7	17.63	0.278	44
		Right Edge	5300	0.148	-1.17	17.7	17.63	0.150	/



5.6GHz WLAN ANT1	802.11a	Front Side	5700	0.102	-1.42	16	15.99	0.102	/
		Back Side	5700	0.109	-1.58	16	15.99	0.109	46
		Right Edge	5700	0.085	0.94	16	15.99	0.085	/
		Top Edge	5700	0.074	-0.40	16	15.99	0.074	/
		Bottom Edge	5700	0.002	0.21	16	15.99	0.002	/
5.6GHz WLAN ANT2	802.11a	Front Side	5700	0.125	-2.80	15	14.71	0.134	/
		Back Side	5700	0.233	0.17	15	14.71	0.249	48
		Right Edge	5700	0.118	-2.42	15	14.71	0.126	/
5.6GHz WLAN N20 ANT1	802.11 n- HT20	Front Side	5700	0.085	3.42	17.5	17.19	0.091	/
		Back Side	5700	0.101	1.51	17.5	17.19	0.108	50
		Right Edge	5700	0.041	-3.53	17.5	17.19	0.044	/
		Top Edge	5700	0.025	-0.77	17.5	17.19	0.027	/
		Bottom Edge	5700	0.014	2.67	17.5	17.19	0.015	/
5.6GHz WLAN N20 ANT2	802.11 n- HT20	Front Side	5700	0.142	3.00	17.5	17.19	0.153	/
		Back Side	5700	0.165	1.07	17.5	17.19	0.177	52
		Right Edge	5700	0.052	-1.91	17.5	17.19	0.056	/
		Bottom Edge	5700	0.049	-3.28	17.5	17.19	0.053	/
5.8GHz WLAN ANT1	802.11a	Front Side	5825	0.120	0.02	13.5	13.11	0.131	/
		Back Side	5825	0.125	-2.45	13.5	13.11	0.137	54
		Right Edge	5825	0.111	-0.79	13.5	13.11	0.121	/
		Top Edge	5825	0.041	-1.30	13.5	13.11	0.045	/
5.8GHz WLAN ANT2	802.11a	Front Side	5825	0.152	1.35	12.5	12.83	0.141	/
		Back Side	5825	0.249	1.63	12.5	12.83	0.231	56
		Right Edge	5825	0.133	0.39	12.5	12.83	0.123	/
5.8GHz WLAN ac20 ANT1	802.11ac20	Front Side	5745	0.052	0.64	16	15.74	0.055	/
		Back Side	5745	0.102	-3.66	16	15.74	0.108	58
		Right Edge	5745	0.041	0.08	16	15.74	0.044	/
		Top Edge	5745	0.036	2.58	16	15.74	0.038	/
5.8GHz WLAN ac20 ANT2	802.11ac20	Front Side	5745	0.132	0.60	16	15.74	0.140	/
		Back Side	5745	0.146	-3.63	16	15.74	0.155	60
		Right Edge	5745	0.125	3.21	16	15.74	0.133	/
		Bottom Edge	5745	0.002	-3.14	16	15.74	0.002	/
CDMA	EVDO BC0	Front Side	836.52	0.155	3.14	23.50	23.35	0.160	/
		Back Side	836.52	0.223	-3.02	23.50	23.35	0.231	82
		Left Side	836.52	0.136	1.17	23.50	23.35	0.141	/
		Right Side	836.52	0.125	-0.71	23.50	23.35	0.129	/
		Top Side	836.52	0.021	3.68	23.50	23.35	0.022	/
		Bottom Side	836.52	0.011	3.64	23.50	23.35	0.011	/



CDMA	EVDO BC1	Front Side	1908.8	0.045	-2.47	24.00	23.60	0.049	/
		Back Side	1908.8	0.069	1.45	24.00	23.60	0.076	84
		Left Side	1908.8	0.036	-3.69	24.00	23.60	0.039	/
		Right Side	1908.8	0.039	-1.75	24.00	23.60	0.043	/
		Bottom Side	1908.8	0.041	3.80	24.00	23.60	0.045	/
CDMA	CDMA BC10	Front Side	822.35	0.099	0.16	25.00	24.93	0.101	/
		Back Side	822.35	0.133	1.09	25.00	24.93	0.135	86
		Left Side	822.35	0.062	-3.21	25.00	24.93	0.063	/
		Right Side	822.35	0.055	-2.73	25.00	24.93	0.056	/
		Bottom Side	822.35	0.060	1.79	25.00	24.93	0.061	/

Band	Mode	Max SAR	ANT 1+2
		(W/Kg)	
2.4G WLAN	802.11 n-HT40 ANT 1	0.126	0.169
	802.11 n-HT40 ANT 2	0.043	
5.2G WLAN	802.11 n-HT40 ANT 1	0.143	0.330
	802.11 n-HT40 ANT 2	0.187	
5.3G WLAN	802.11 n-HT20 ANT 1	0.152	0.431
	802.11 n-HT20 ANT 2	0.278	
5.6G WLAN	802.11 n-HT20 ANT 1	0.108	0.286
	802.11 n-HT20 ANT 2	0.177	
5.8G WLAN	802.11 ac-VHT20 ANT 1	0.108	0.263
	802.11 ac-VHT20 ANT 2	0.155	



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	99	Front side	1860	0.392	0.22	18.5	18.2	0.420	/
			50	49	Front side	1860	0.358	3.72	17.5	17.19	0.384	/
			1	99	Back Side	1860	0.940	3.08	18.5	18.2	1.007	62
			1	99	Back Side	1880	0.812	2.25	18.5	17.68	0.981	/
			1	99	Back Side	1900	0.742	0.33	18.5	17.71	0.890	/
			50	49	Back Side	1860	0.745	0.30	17.5	17.19	0.800	/
			100	0	Back Side	1860	0.758	1.69	17.5	17.03	0.845	/
			1	99	Left Side	1860	0.459	3.72	18.5	18.2	0.492	/
			50	49	Left Side	1860	0.425	1.69	17.5	17.19	0.456	/
			1	99	Right Side	1860	0.265	0.71	18.5	18.2	0.284	/
			50	49	Right Side	1860	0.244	-3.16	17.5	17.19	0.262	/
			1	99	Bottom Side	1860	0.56	2.15	18.5	18.2	0.600	/
			50	49	Bottom Side	1860	0.524	-0.95	17.5	17.19	0.563	/
			50	49	Bottom Side	1860	0.524	-0.95	17.5	17.19	0.563	/
LTE Band 4	20M	QPSK	1	0	Front side	1720	0.722	2.97	22.5	22.08	0.795	/
			50	0	Front side	1720	0.712	2.97	21.5	21.13	0.775	/
			1	0	Back Side	1720	1.039	-0.31	22.5	22.08	1.144	64
			1	0	Back Side	1732.5	0.741	3.83	22.5	21.01	1.044	/
			1	0	Back Side	1745	0.721	-3.26	22.5	21.26	0.959	/
			50	0	Back Side	1720	0.754	-2.15	21.5	21.13	0.821	/
			100	0	Back Side	1720	0.82	0.25	21	20.94	0.831	/
			1	0	Left Side	1720	0.458	3.39	22.5	22.08	0.505	/
			50	0	Left Side	1720	0.469	2.69	21.5	21.13	0.511	/
			1	0	Right Side	1720	0.352	-0.50	22.5	22.08	0.388	/
			50	0	Right Side	1720	0.335	-3.79	21.5	21.13	0.365	/
			1	0	Bottom Side	1720	0.258	0.37	22.5	22.08	0.284	/
			50	0	Bottom Side	1720	0.269	3.15	21.5	21.13	0.293	/
			50	0	Bottom Side	1720	0.269	3.15	21.5	21.13	0.293	/



LTE Band 5	10M	QPSK	1	49	Front side	836.5	0.124	-2.59	23	22.77	0.131	/
			25	24	Front side	844	0.109	-0.91	22	21.91	0.111	/
			1	49	Back Side	836.5	0.139	-3.19	23	22.77	0.147	66
			25	24	Back Side	844	0.114	-2.74	22	21.91	0.116	/
			1	49	Left Side	836.5	0.106	2.74	23	22.77	0.112	/
			25	24	Left Side	844	0.098	-0.33	22	21.91	0.100	/
			1	49	Right Side	836.5	0.101	3.39	23	22.77	0.106	/
			25	24	Right Side	844	0.088	2.34	22	21.91	0.090	/
			1	49	Bottom Side	836.5	0.123	-2.90	23	22.77	0.130	/
			25	24	Bottom Side	844	0.111	-1.26	22	21.91	0.113	/
LTE Band 7	20M	QPSK	1	99	Front side	2510	0.715	0.54	23	22.56	0.791	/
			50	49	Front side	2510	0.714	-2.40	22	21.63	0.777	/
			1	99	Back Side	2510	0.856	1.68	23	22.56	0.947	68
			1	99	Back Side	25.5	0.658	1.29	23	21.88	0.852	/
			1	99	Back Side	2560	0.621	2.99	23	21.43	0.891	/
			50	49	Back Side	2510	0.722	-1.38	22	21.63	0.786	/
			1	99	Left Side	2510	0.425	-0.88	23	22.56	0.470	/
			50	49	Left Side	2510	0.433	2.08	22	21.63	0.472	/
			1	99	Right Side	2510	0.412	1.44	23	22.56	0.456	/
			50	49	Right Side	2510	0.439	-3.40	22	21.63	0.478	/
			1	99	Bottom Side	2510	0.442	3.21	23	22.56	0.489	/
			50	49	Bottom Side	2510	0.436	-0.40	22	21.63	0.475	/
LTE Band 12	10M	QPSK	1	0	Front side	707.5	0.223	2.29	25	24.70	0.239	/
			25	0	Front side	707.5	0.211	2.10	24	23.88	0.217	/
			1	0	Back Side	707.5	0.236	1.34	25	24.70	0.253	70
			25	0	Back Side	707.5	0.21	-3.70	24	23.88	0.216	/
			1	0	Left Side	707.5	0.121	3.38	25	24.70	0.130	/
			25	0	Left Side	707.5	0.111	-2.82	24	23.88	0.114	/
			1	0	Right Side	707.5	0.065	0.11	25	24.70	0.070	/
			25	0	Right Side	707.5	0.045	0.16	24	23.88	0.046	/
			1	0	Bottom Side	707.5	0.099	0.99	25	24.70	0.106	/
			25	0	Bottom Side	707.5	0.085	-3.58	24	23.88	0.087	/



LTE Band 13	10M	QPSK	1	0	Front side	782	0.12	1.08	21	20.58	0.132	/
			25	12	Front side	782	0.116	-3.36	20	19.57	0.128	/
			1	0	Back Side	782	0.169	3.59	21	20.58	0.186	72
			25	12	Back Side	782	0.151	-1.98	20	19.57	0.167	/
			1	0	Left Side	782	0.085	0.29	21	20.58	0.094	/
			25	12	Left Side	782	0.084	-1.25	20	19.57	0.093	/
			1	0	Right Side	782	0.072	-2.81	21	20.58	0.079	/
			25	12	Right Side	782	0.073	0.36	20	19.57	0.081	/
			1	0	Bottom Side	782	0.099	0.95	21	20.58	0.109	/
			25	12	Bottom Side	782	0.085	0.19	20	19.57	0.094	/
LTE Band 17	10M	QPSK	1	24	Front side	710	0.125	3.50	21	20.63	0.136	/
			25	24	Front side	710	0.122	2.69	20	19.64	0.133	/
			1	24	Back Side	710	0.222	1.43	21	20.63	0.242	74
			25	24	Back Side	710	0.199	-2.23	20	19.64	0.216	/
			1	24	Left Side	710	0.136	-3.56	21	20.63	0.148	/
			25	24	Left Side	710	0.141	2.01	20	19.64	0.153	/
			1	24	Right Side	710	0.121	-0.90	21	20.63	0.132	/
			25	24	Right Side	710	0.127	-3.62	20	19.64	0.138	/
			1	24	Bottom Side	710	0.122	-1.24	21	20.63	0.133	/
			25	24	Bottom Side	710	0.123	-2.85	20	19.64	0.134	/
LTE Band 38	20M	QPSK	1	0	Front side	2580	0.210	-1.80	23	22.66	0.227	/
			50	24	Front side	2580	0.169	-2.35	22	21.55	0.187	/
			1	0	Back Side	2580	0.280	3.85	23	22.66	0.303	76
			50	24	Back Side	2580	0.266	0.39	22	21.55	0.295	/
			1	0	Left Side	2580	0.169	3.58	23	22.66	0.183	/
			50	24	Left Side	2580	0.132	0.62	22	21.55	0.146	/
			1	0	Right Side	2580	0.158	3.88	23	22.66	0.171	/
			50	24	Right Side	2580	0.135	0.09	22	21.55	0.150	/
			1	0	Bottom Side	2580	0.119	-0.09	23	22.66	0.129	/
			50	24	Bottom Side	2580	0.103	-2.91	22	21.55	0.114	/
LTE Band 40	20M	QPSK	1	24	Front side	2350	0.325	1.55	23.5	23.32	0.339	/
			25	24	Front side	2350	0.213	-1.62	22.5	22.44	0.216	/
			1	24	Back Side	2350	0.366	0.78	23.5	23.32	0.381	78
			25	24	Back Side	2350	0.333	-1.78	22.5	22.44	0.338	/
			1	24	Left Side	2350	0.236	0.22	23.5	23.32	0.246	/
			25	24	Left Side	2350	0.241	0.08	22.5	22.44	0.244	/
			1	24	Right Side	2350	0.226	-0.75	23.5	23.32	0.236	/
			25	24	Right Side	2350	0.284	0.54	22.5	22.44	0.288	/



			1	24	Bottom Side	2350	0.214	-2.06	23.5	23.32	0.223	/
			25	24	Bottom Side	2350	0.236	-2.28	22.5	22.44	0.239	/
LTE Band 41	20M	QPSK	1	99	Front side	2506	0.323	1.12	23.5	23.48	0.324	/
			50	49	Front side	2506	0.314	-3.76	23	22.56	0.347	/
			1	99	Back Side	2506	0.380	2.64	23.5	23.48	0.382	80
			50	49	Back Side	2506	0.332	-3.71	23	22.56	0.367	/
			1	99	Left Side	2506	0.263	0.50	23.5	23.48	0.264	/
			50	49	Left Side	2506	0.230	-3.29	23	22.56	0.255	/
			1	99	Right Side	2506	0.251	0.19	23.5	23.48	0.252	/
			50	49	Right Side	2506	0.242	2.90	23	22.56	0.268	/
			1	99	Bottom Side	2506	0.233	-2.55	23.5	23.48	0.234	/
			50	49	Bottom Side	2506	0.211	-1.26	23	22.56	0.233	/
LTE Band 25	20M	QPSK	1	99	Front side	1882.5	0.326	3.45	14	12.5	0.460	/
			1	99	Back Side	1882.5	0.551	-0.56	14	12.5	0.778	88
			1	99	Left Side	1882.5	0.324	0.41	14	12.5	0.458	/
			1	99	Right Side	1882.5	0.265	3.52	14	12.5	0.374	/
			1	99	Bottom Side	1882.5	0.221	-0.03	14	12.5	0.312	/
	10M	16-QAM	1	0	Front side	1855	0.442	-1.72	14.5	14.27	0.466	/
			1	0	Back Side	1855	0.485	1.09	14.5	14.27	0.511	/
			1	0	Left Side	1855	0.336	-0.69	14.5	14.27	0.354	/
			1	0	Right Side	1855	0.411	-0.07	14.5	14.27	0.433	/
			1	0	Bottom Side	1855	0.253	-2.64	14.5	14.27	0.267	/
	3M	QPSK	1	0	Front side	1913.5	0.444	3.31	15	14.54	0.494	/
			1	0	Back Side	1913.5	0.451	-0.19	15	14.54	0.501	/
			1	0	Left Side	1913.5	0.326	-0.88	15	14.54	0.362	/
			1	0	Right Side	1913.5	0.331	3.73	15	14.54	0.368	/
			1	0	Bottom Side	1913.5	0.215	3.93	15	14.54	0.239	/
	3M	16-QAM	1	0	Front side	1882.5	0.412	3.82	15	14.55	0.457	/
			1	0	Back Side	1882.5	0.454	2.63	15	14.55	0.504	/
			1	0	Left Side	1882.5	0.321	3.43	15	14.55	0.356	/
			1	0	Right Side	1882.5	0.251	-0.96	15	14.55	0.278	/
			1	0	Bottom Side	1882.5	0.225	0.17	15	14.55	0.250	/
	1.4M	QPSK	1	0	Front side	1882.5	0.412	-0.22	14.5	14.38	0.424	/
			1	0	Back Side	1882.5	0.421	-2.30	14.5	14.38	0.433	/
			1	0	Left Side	1882.5	0.221	-3.88	14.5	14.38	0.227	/
			1	0	Right Side	1882.5	0.236	-2.96	14.5	14.38	0.243	/
			1	0	Bottom Side	1882.5	0.214	-0.18	14.5	14.38	0.220	/



LTE Band 26	20M	QPSK	1	0	Front side	831.5	0.041	3.11	15	14.48	0.046	/
			1	0	Front side	831.5	0.039	-1.45	15	13.46	0.056	/
			1	0	Back Side	831.5	0.068	-3.97	15	14.48	0.077	90
			1	0	Back Side	831.5	0.052	2.28	15	13.46	0.074	/
			1	0	Left Side	831.5	0.042	2.81	15	14.48	0.047	/
			1	0	Left Side	831.5	0.041	3.81	15	13.46	0.058	/
			1	0	Right Side	831.5	0.032	0.60	15	14.48	0.036	/
			1	0	Right Side	831.5	0.033	-2.60	15	13.46	0.047	/
			1	0	Bottom Side	831.5	0.024	1.21	15	14.48	0.027	/
			1	0	Bottom Side	831.5	0.021	-0.91	15	13.46	0.030	/
LTE Band 66	3M	QPSK	1	0	Front side	825.5	0.036	1.08	15.5	15.47	0.036	/
			1	0	Back Side	825.5	0.042	0.49	15.5	15.47	0.042	/
			1	0	Left Side	825.5	0.021	2.09	15.5	15.47	0.021	/
			1	0	Right Side	825.5	0.021	-0.75	15.5	15.47	0.021	/
			1	0	Bottom Side	825.5	0.036	0.39	15.5	15.47	0.036	/
	20M	QPSK	1	99	Front side	1720	0.552	-3.80	14	13.86	0.570	/
			1	99	Back Side	1720	0.674	-0.15	14	13.86	0.696	92
			1	99	Left Side	1720	0.412	1.06	14	13.86	0.425	/
			1	99	Right Side	1720	0.325	-3.55	14	13.86	0.336	/
			1	99	Bottom Side	1720	0.214	-2.33	14	13.86	0.221	/
	15M	QPSK	1	0	Front side	1717.5	0.547	-2.80	15	14.66	0.592	/
			1	0	Back Side	1717.5	0.565	-1.50	15	14.66	0.611	/
			1	0	Left Side	1717.5	0.336	2.06	15	14.66	0.363	/
			1	0	Right Side	1717.5	0.365	2.96	15	14.66	0.395	/
			1	0	Bottom Side	1717.5	0.251	1.05	15	14.66	0.271	/
	3M	QPSK	1	0	Front side	1745	0.415	1.78	15.1	15.01	0.424	/
			1	0	Back Side	1745	0.525	2.03	15.1	15.01	0.536	/
			1	0	Left Side	1745	0.365	-0.64	15.1	15.01	0.373	/
			1	0	Right Side	1745	0.321	-0.74	15.1	15.01	0.328	/
			1	0	Bottom Side	1745	0.226	-1.60	15.1	15.01	0.231	/
	3M	16-QAM	1	0	Front side	1711.5	0.485	-1.26	15	14.89	0.497	/
			1	0	Back Side	1711.5	0.521	1.79	15	14.89	0.534	/
			1	0	Left Side	1711.5	0.365	-3.92	15	14.89	0.374	/
			1	0	Right Side	1711.5	0.314	2.15	15	14.89	0.322	/
			1	0	Bottom Side	1711.5	0.251	-2.43	15	14.89	0.257	/
	1.4M	QPSK	1	0	Front side	1745	0.442	-1.79	15	14.84	0.459	/
			1	0	Back Side	1745	0.521	3.62	15	14.84	0.541	/
			1	0	Left Side	1745	0.362	-0.97	15	14.84	0.376	/



			1	0	Right Side	1745	0.314	-2.48	15	14.84	0.326	/
			1	0	Bottom Side	1745	0.265	-3.09	15	14.84	0.275	/
	1.4M	16-QAM	1	0	Front side	1745	0.458	1.36	15	14.73	0.487	/
			1	0	Back Side	1745	0.523	0.81	15	14.73	0.557	/
			1	0	Left Side	1745	0.336	-1.46	15	14.73	0.358	/
			1	0	Right Side	1745	0.374	-3.81	15	14.73	0.398	/
			1	0	Bottom Side	1745	0.215	-1.57	15	14.73	0.229	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



Repeated SAR

Band	Mode	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR(W/Kg)	Meas. No.
WCDMA Band IV	RMC	Back Side	1712.4	1.072	-1.29	20	19.67	1.157	-
		Back Side	1747.4	0.548	-2.00	20	18.37	0.798	-
		Back Side	1782.4	0.538	0.11	20	18.17	0.820	-

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn -up Power (dBm)	Meas.O utput Power (dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	99	Back Side	1860	0.901	1.90	18.5	18.2	0.965	-
			1	99	Back Side	1880	0.808	-3.84	18.5	17.68	0.976	-
			1	99	Back Side	1900	0.709	-1.35	18.5	17.71	0.850	-
			50	49	Back Side	1860	0.743	-0.61	17.5	17.19	0.798	-
			100	0	Back Side	1860	0.723	2.43	17.5	17.03	0.806	-
LTE Band 4	20M	QPSK	1	0	Back Side	1720	1.030	0.68	22.5	22.08	1.135	-
			1	0	Back Side	1732.5	0.741	-3.56	22.5	21.01	1.044	-
			1	0	Back Side	1745	0.706	-1.93	22.5	21.26	0.939	-
			50	0	Back Side	1720	0.722	-2.77	21.5	21.13	0.786	-
			100	0	Back Side	1720	0.786	0.54	21	20.94	0.797	-
LTE Band 7	10M	QPSK	1	99	Back Side	2510	0.819	3.56	23	22.56	0.906	-
			1	99	Back Side	25.5	0.655	0.82	23	21.88	0.848	-
			1	99	Back Side	2560	0.615	-3.74	23	21.43	0.883	-



12.3 repeated SAR measurement

Band	Mode	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(W/kg)	2nd Repeated SAR 1g	Ratio
WCDMA Band IV	RMC	Back Side	1712.4	1.081	1.072	1.008	-	-	-
		Back Side	1747.4	0.555	0.548	1.013	-	-	-
		Back Side	1782.4	0.546	0.538	1.015	-	-	-

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg))	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g	2nd Repeated SAR 1g	Ratio
LTE Band 2	20M	QPSK	1	99	Back Side	1860	0.940	0.901	1.043	-	-	-
			1	99	Back Side	1880	0.812	0.808	1.005	-	-	-
			1	99	Back Side	1900	0.742	0.709	1.047	-	-	-
			50	49	Back Side	1860	0.745	0.743	1.003	-	-	-
			100	0	Back Side	1860	0.758	0.723	1.048	-	-	-
LTE Band 4	20M	QPSK	1	0	Back Side	1720	1.039	1.030	1.009	-	-	-
			1	0	Back Side	1732.5	0.741	0.741	1.000	-	-	-
			1	0	Back Side	1745	0.721	0.706	1.021	-	-	-
			50	0	Back Side	1720	0.754	0.722	1.044	-	-	-
			100	0	Back Side	1720	0.82	0.786	1.043	-	-	-
LTE Band 7	10M	QPSK	1	99	Back Side	2510	0.856	0.819	1.045	-	-	-
			1	99	Back Side	25.5	0.658	0.655	1.005	-	-	-
			1	99	Back Side	2560	0.621	0.615	1.010	-	-	-

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/Kg$.
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 $< 1.45W/Kg$, 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 $\geq 1.45W/Kg$
4. The ratio is the difference in percentage between original and repeated measured SAR.

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

Position	Simultaneous State
Head	1. GSM + 2.4GHz WLAN/5G WLAN /Bluetooth
	2. WCDMA+2.4GHzWLAN/5GWLAN/Bluetooth
	3. LTE + 2.4GHz WLAN/5G WLAN/Bluetooth
	4. NR + 2.4GHz WLAN/5G WLAN/Bluetooth
	5. CDMA+2.4GHzWLAN/5GWLAN/Bluetooth
Body	1. GSM + 2.4GHz WLAN/5G WLAN /Bluetooth
	2. WCDMA+2.4GHzWLAN/5GWLAN/Bluetooth
	3. LTE + 2.4GHz WLAN/5G WLAN/Bluetooth
	4. NR + 2.4GHz WLAN/5G WLAN/Bluetooth
	5. CDMA+2.4GHzWLAN/5GWLAN/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. Based upon KDB 447498 D01, BT SAR is excluded as below table.
4. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
5. For minimum test separation distance $\leq 50\text{mm}$, Bluetooth standalone SAR is excluded according to $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz}) / x] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
6. The reported SAR summation is calculated based on the same configuration and test position.
7. KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
 - a) $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} (\text{GHz}) / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$;
Where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
 - b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is $>50\text{mm}$.

Estimated SAR		Maximum Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	9	7.943	≤ 5	2.402	0.328
	Body			≤ 5	2.402	0.328



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.250	0.763
		2.4G WLAN	0.513	
	Body	GSM	0.317	0.516
		2.4G WLAN	0.199	
GSM + 5G WLAN	Head	GSM	0.250	0.558
		5G WLAN	0.308	
	Body	GSM	0.317	0.748
		5G WLAN	0.431	
GSM + Bluetooth	Head	GSM	0.250	0.578
		Bluetooth	0.328	
	Body	GSM	0.317	0.645
		Bluetooth	0.328	
WCDMA + 2.4G WLAN	Head	WCDMA	0.130	0.643
		2.4G WLAN	0.513	
	Body	WCDMA	1.166	1.365
		2.4G WLAN	0.199	
WCDMA + 5G WLAN	Head	WCDMA	0.130	0.438
		5G WLAN	0.308	
	Body	WCDMA	1.166	1.597
		5G WLAN	0.431	
WCDMA + Bluetooth	Head	WCDMA	0.130	0.458
		Bluetooth	0.328	
	Body	WCDMA	1.166	1.494
		Bluetooth	0.328	
LTE + 2.4G WLAN	Head	LTE	0.262	0.775
		2.4G WLAN	0.513	
	Body	LTE	1.144	1.343
		2.4G WLAN	0.199	
LTE + 5G WLAN	Head	LTE	0.262	0.570
		5G WLAN	0.308	
	Body	LTE	1.144	1.575
		5G WLAN	0.431	



LTE + Bluetooth	Head	LTE	0.262	0.59
		Bluetooth	0.328	
	Body	LTE	1.144	1.472
		Bluetooth	0.328	
NR + 2.4G WLAN	Head	NR	0.15	0.663
		2.4G WLAN	0.513	
	Body	NR	0.55	0.749
		2.4G WLAN	0.199	
NR + 5G WLAN	Head	NR	0.15	0.458
		5G WLAN	0.308	
	Body	NR	0.55	0.981
		5G WLAN	0.431	
NR + Bluetooth	Head	NR	0.15	0.478
		Bluetooth	0.328	
	Body	NR	0.55	0.878
		Bluetooth	0.328	
CDMA + 2.4G WLAN	Head	CDMA	0.094	0.607
		2.4G WLAN	0.513	
	Body	CDMA	0.231	0.430
		2.4G WLAN	0.199	
CDMA + 5G WLAN	Head	CDMA	0.094	0.402
		5G WLAN	0.308	
	Body	CDMA	0.231	0.662
		5G WLAN	0.431	
CDMA + Bluetooth	Head	CDMA	0.094	0.422
		Bluetooth	0.328	
	Body	CDMA	0.231	0.559
		Bluetooth	0.328	

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	2020.07.14	2023.07.13
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2020.07.14	2023.07.13
1800MHz Dipole	MVG	SID1800	SN 30/14 DIP1G800-329	2020.07.14	2023.07.13
1900MHz Dipole	MVG	SID1900	SN 30/14 DIP1G900-333	2020.07.14	2023.07.13
2450MHz Dipole	MVG	SID2450	SN 30/14 DIP2G450-335	2020.07.14	2023.07.13
2600MHz Dipole	MVG	SID2600	SN 30/14 DIP2G600-336	2020.07.14	2023.07.13
Waveguide	MVG	SWG5500	SN 13/14 WGA32	2020.07.14	2023.07.13
E-Field Probe	MVG	SSE2	SN 07/21 EPOG352	2022.02.28	2023.03.01
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2021.11.23	2022.11.22
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	MVG	SAM	SN 32/14 SAM116	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	99899	DC-18GHz	N/A	N/A
Directional coupler	Narda	4226-20	3305	N/A	N/A
Network Analyzer	Agilent	8753ES	US38432810	2021.09.29	2022.09.28
Multi Meter	Keithley	Multi Meter 2000	4050073	2021.10.08	2022.10.07
Signal Generator	Agilent	N5182A	MY50140530	2021.09.30	2022.09.29
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2021.09.30	2022.09.29
Wireless Communication Test Set	R&S	CMW500	117239	2021.09.30	2022.09.29
Power Amplifier	DESAY	ZHL-42W	9638	2021.10.09	2022.10.08
Power Meter	R&S	NRP	100510	2021.09.29	2022.09.28
Power Sensor	R&S	NRP-Z11	101919	2021.09.29	2022.09.28
Temperature hygrometer	SuWei	SW-108	N/A	2021.10.09	2022.10.08
Thermograph	Elitech	RC-4	S/N EF7176501537	2021.10.09	2022.10.08

Note:

Per KDB 865664 D01, Dipole SAR Validation Verification, STS LAB has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole
2. System validation with specific dipole is within 10% of calibrated value Return-loss in within 20% of calibrated measurement



Appendix A. System Validation Plots

System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

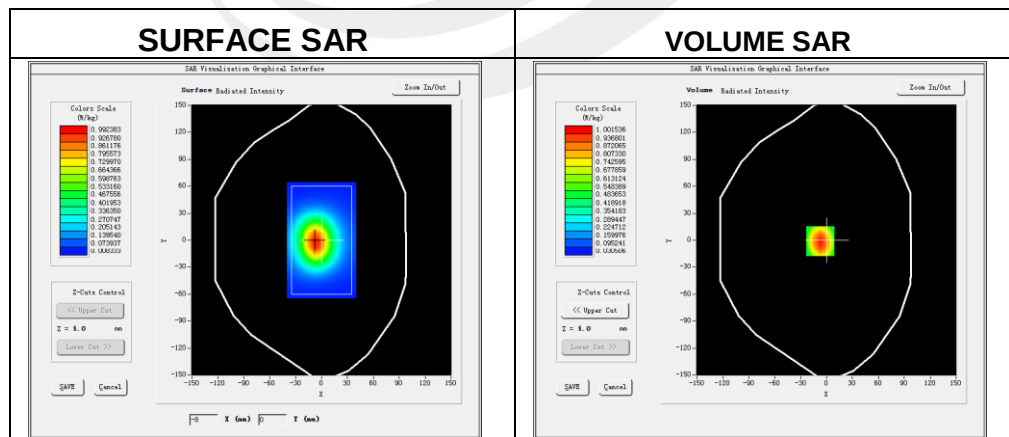
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-01-04

Experimental conditions

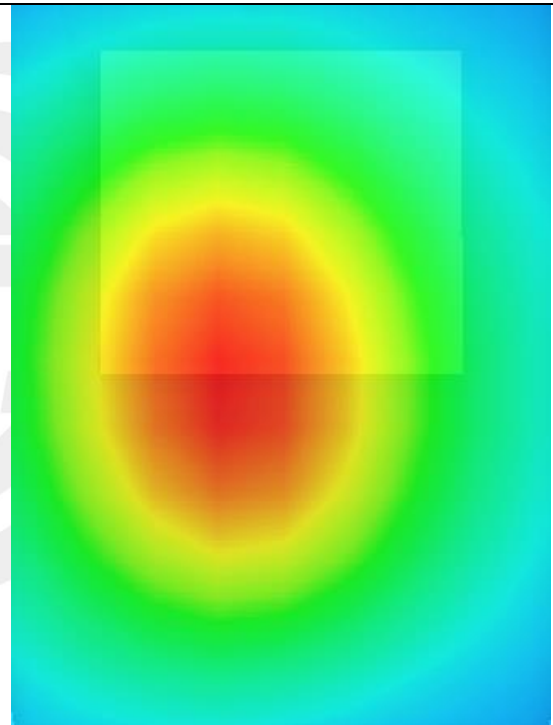
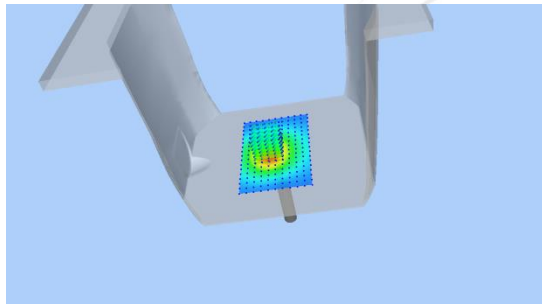
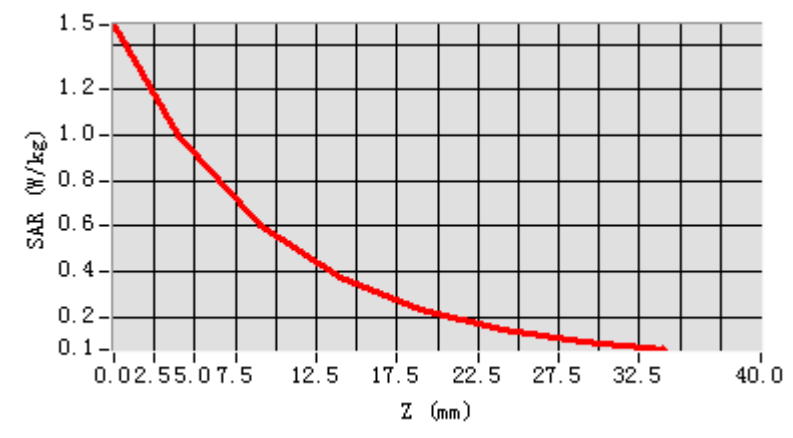
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.99
Conductivity (S/m)	0.88
Probe	SN 07/21 EPGO352
ConvF:	1.57
Crest factor:	1:1



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

SAR 10g (W/Kg)	0.634701
SAR 1g (W/Kg)	0.978220

Z Axis Scan



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

Type: Phone measurement (Complete)

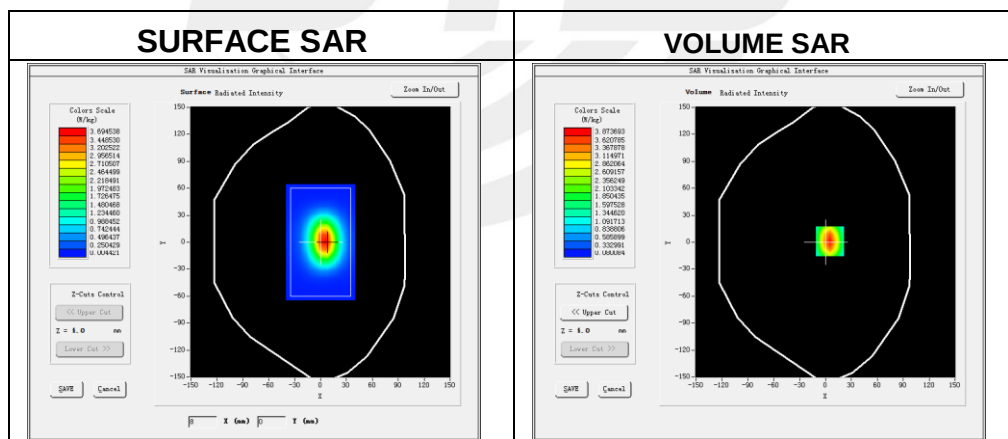
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-01-05

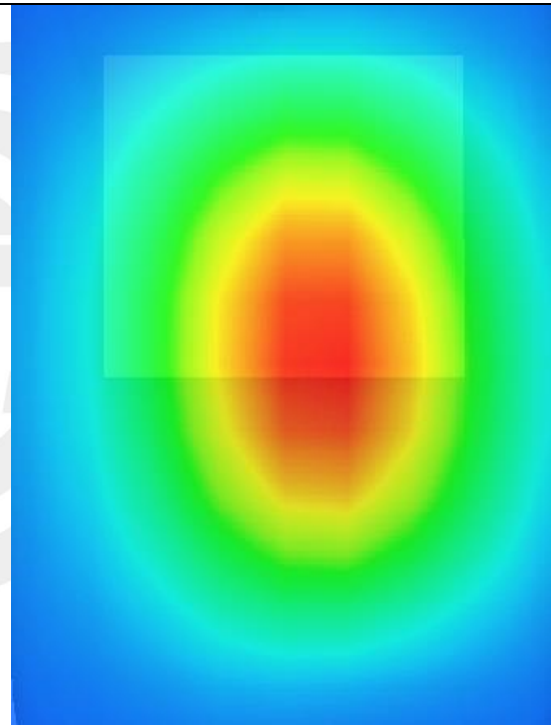
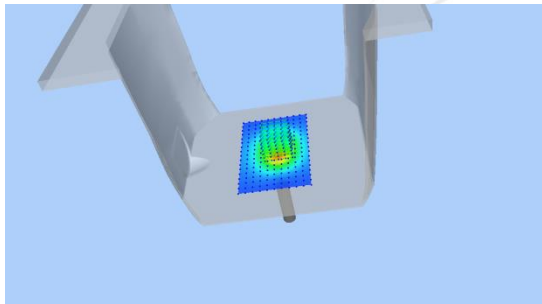
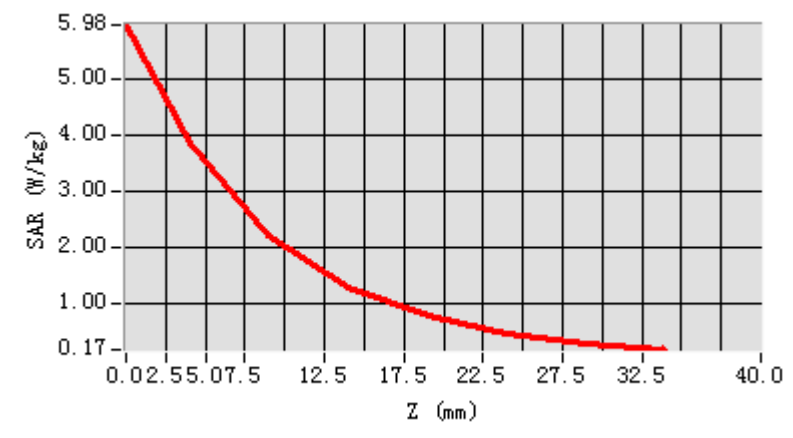
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	39.06
Conductivity (S/m)	1.39
Probe	SN 07/21 EPGO352
ConvF	1.60
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.077510
SAR 1g (W/Kg)	3.854321

Z Axis Scan



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

Type: Phone measurement (Complete)

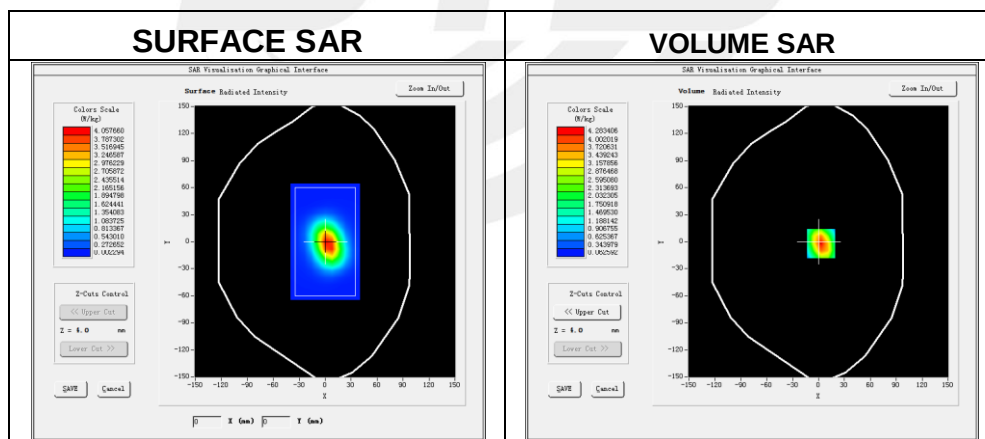
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-01-07

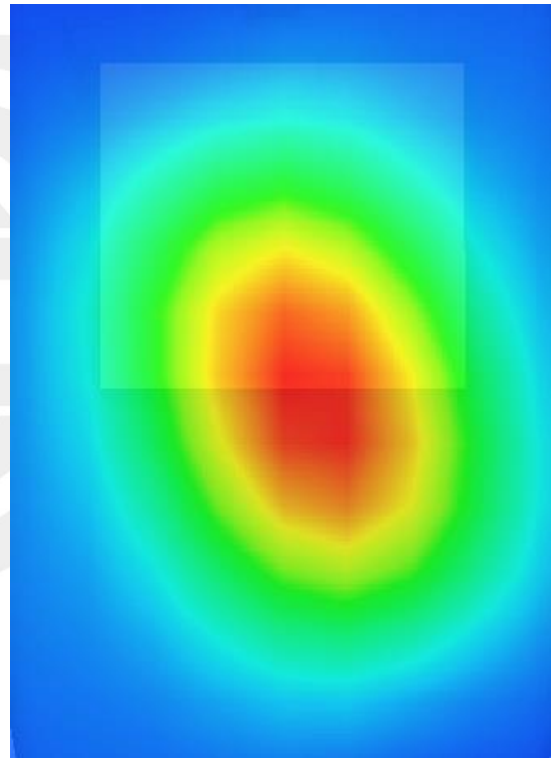
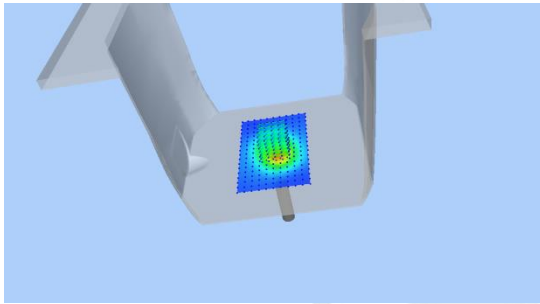
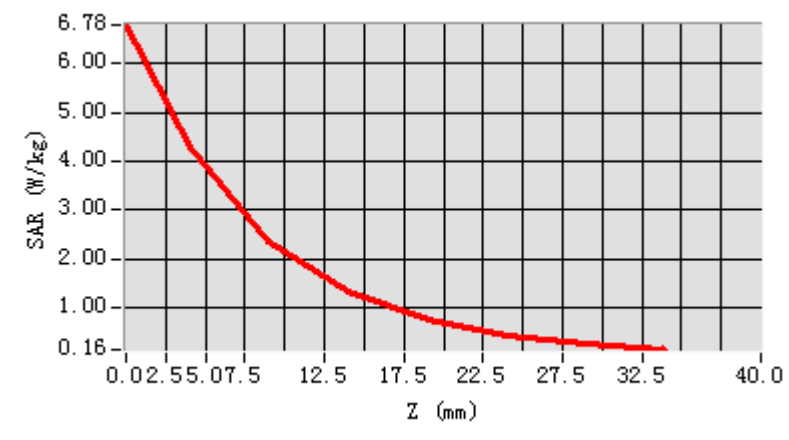
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.90
Conductivity (S/m)	1.41
Probe	SN 07/21 EPGO352
ConvF:	1.78
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.037511
SAR 1g (W/Kg)	3.830241

Z Axis Scan



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

Type: Phone measurement (Complete)

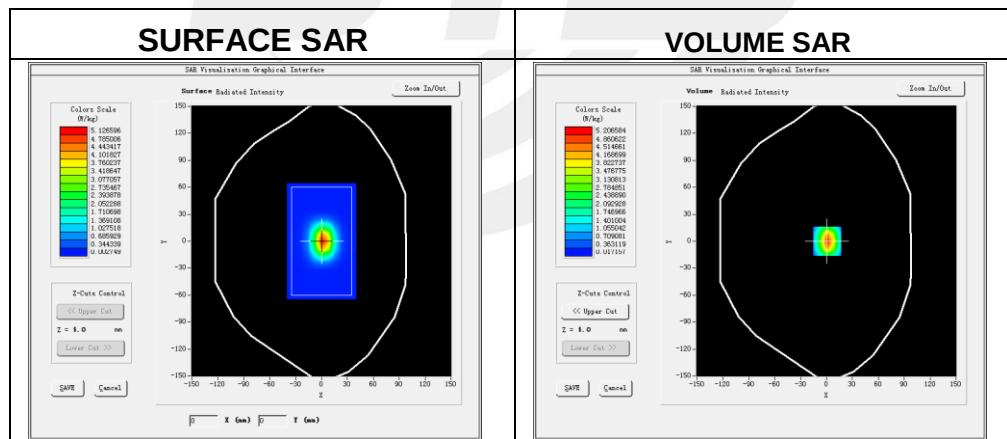
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-01-10

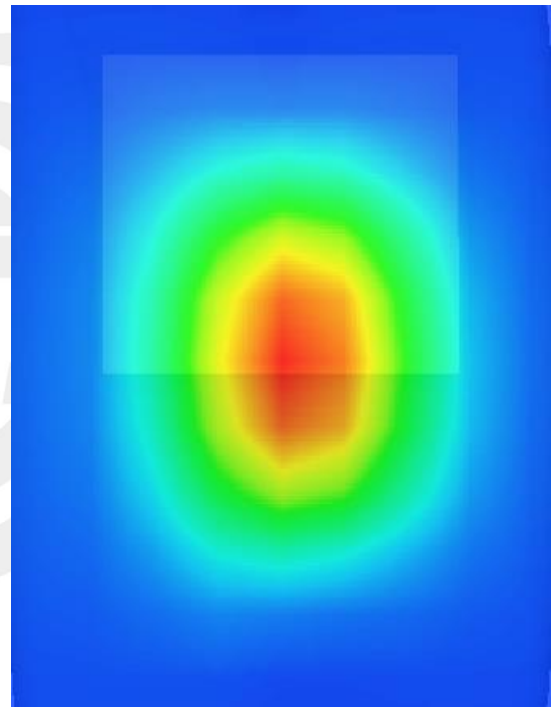
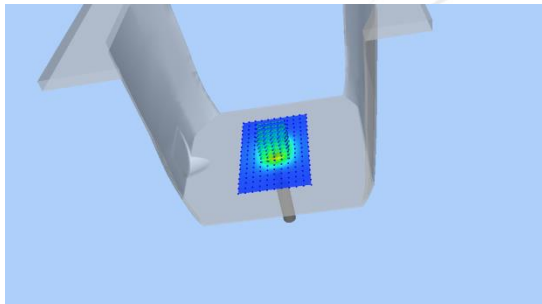
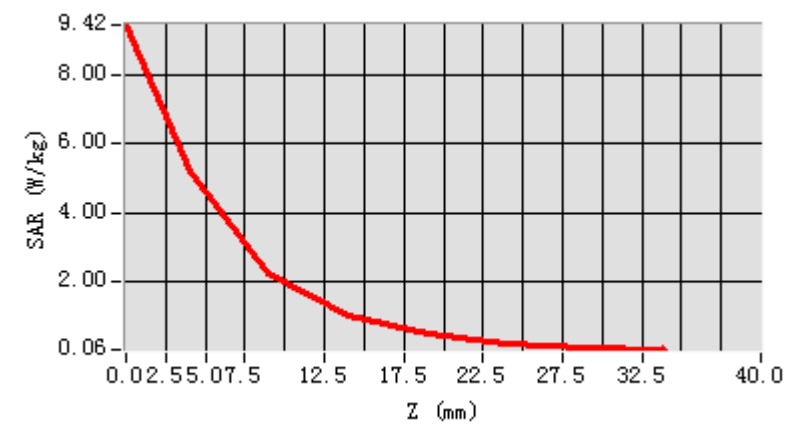
Experimental conditions.

Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	38.84
Conductivity (S/m)	1.88
Probe	SN 07/21 EPGO352
ConvF	1.75
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.367102
SAR 1g (W/Kg)	5.099327

Z Axis Scan



**System Performance Check Data(2600MHz)**

Type: Phone measurement (Complete)

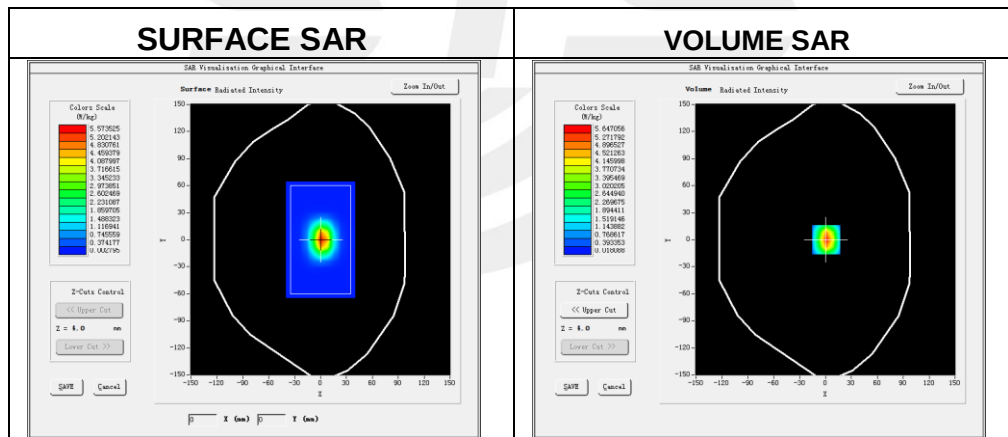
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-01-11

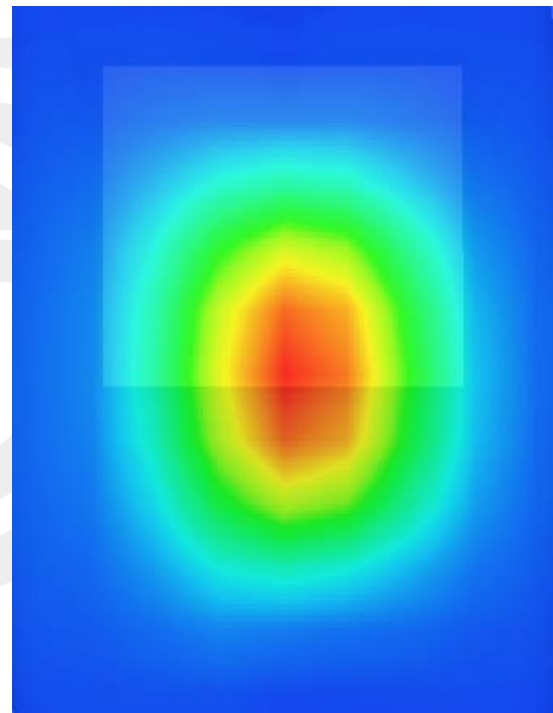
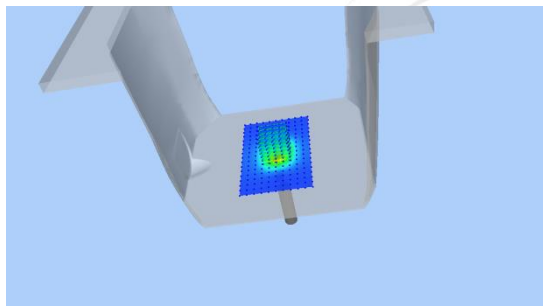
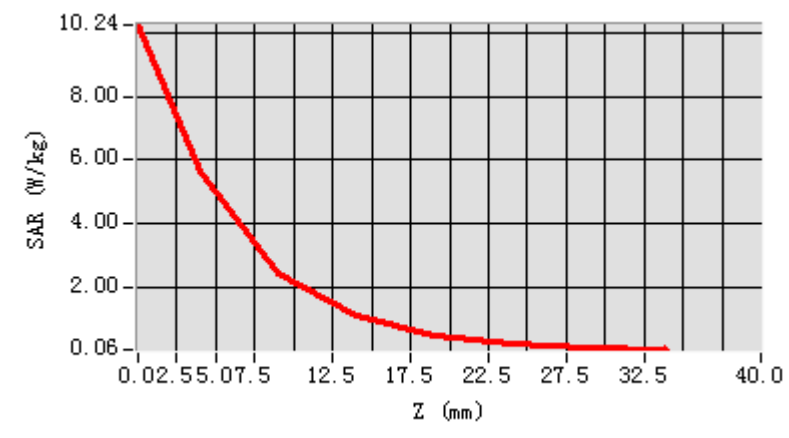
Experimental conditions.

Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	39.04
Conductivity (S/m)	1.92
Probe	SN 07/21 EPGO352
ConvF	1.63
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.463710
SAR 1g (W/Kg)	5.729310

Z Axis Scan





System Performance Check Data(5200MHz)

Type: Dipole measurement (Complete)

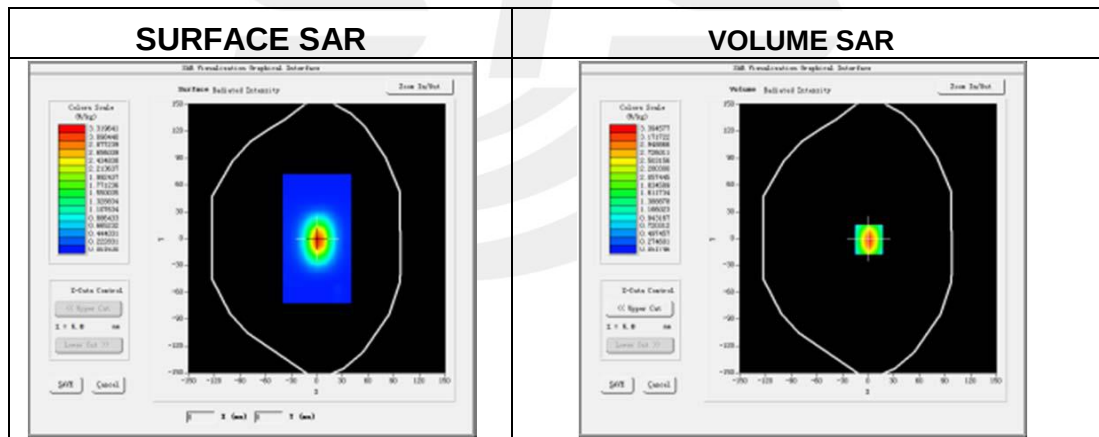
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-01-13

Experimental conditions.

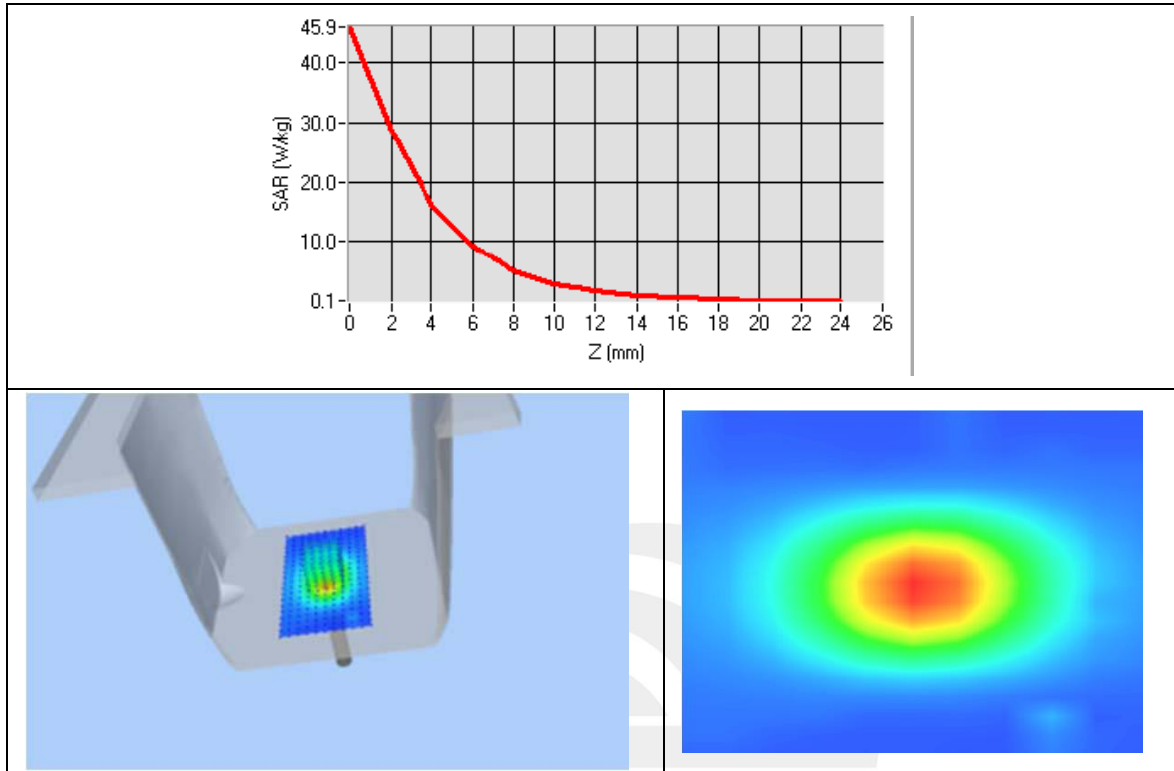
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	35.73
Conductivity (S/m)	4.84
Probe	SN 07/21 EPGO352
ConvF	1.47
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.711572
SAR 1g (W/Kg)	15.877251

Z Axis Scan





System Performance Check Data(5300MHz)

Type: Dipole measurement (Complete)

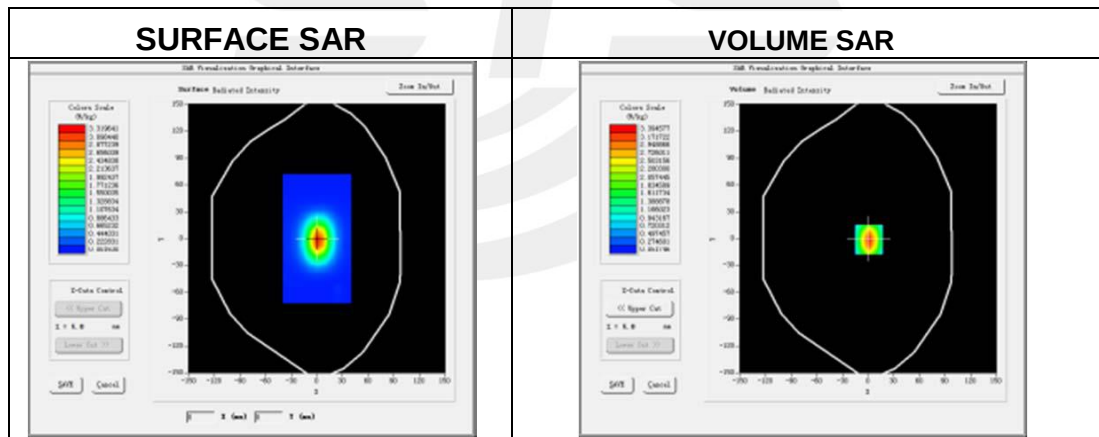
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-01-14

Experimental conditions.

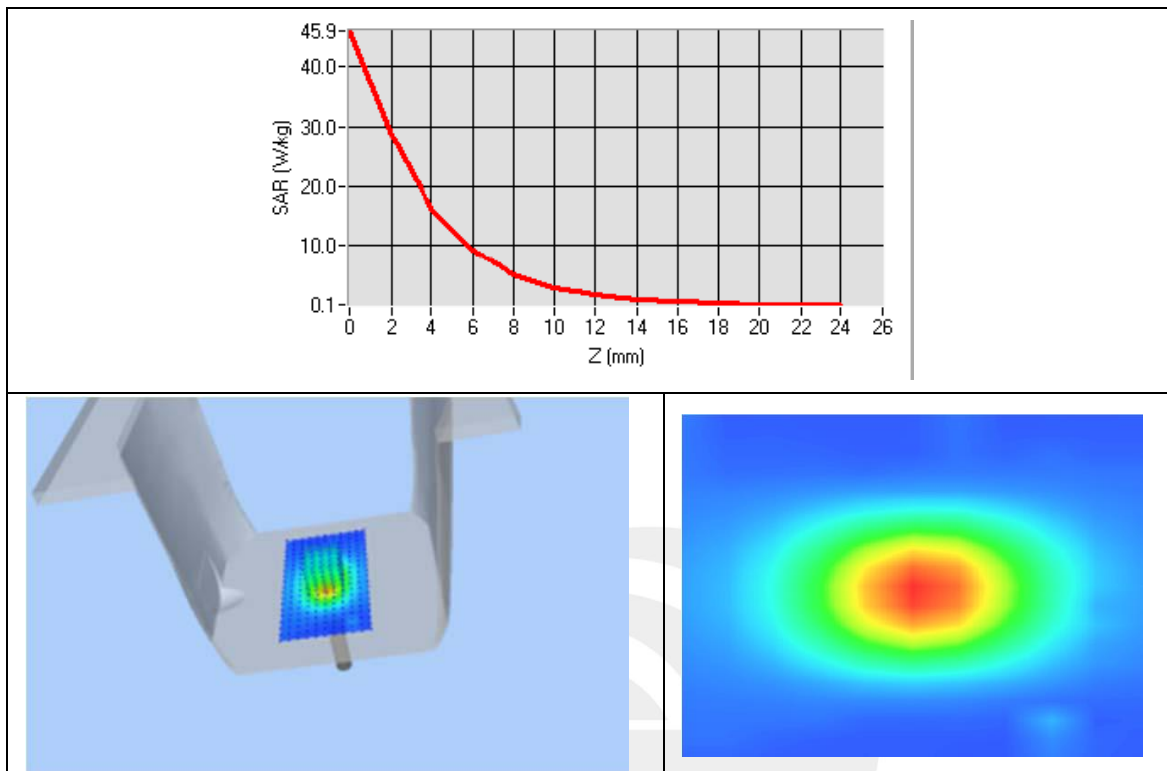
Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity	35.73
Conductivity (S/m)	4.84
Probe	SN 07/21 EPGO352
ConvF	1.65
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.837410
SAR 1g (W/Kg)	16.931207

Z Axis Scan





System Performance Check Data(5600MHz)

Type: Dipole measurement (Complete)

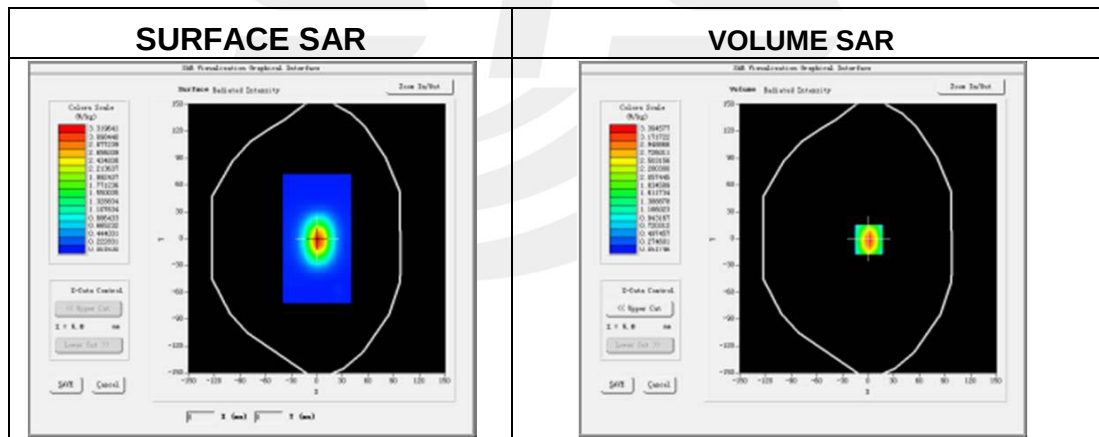
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-01-14

Experimental conditions.

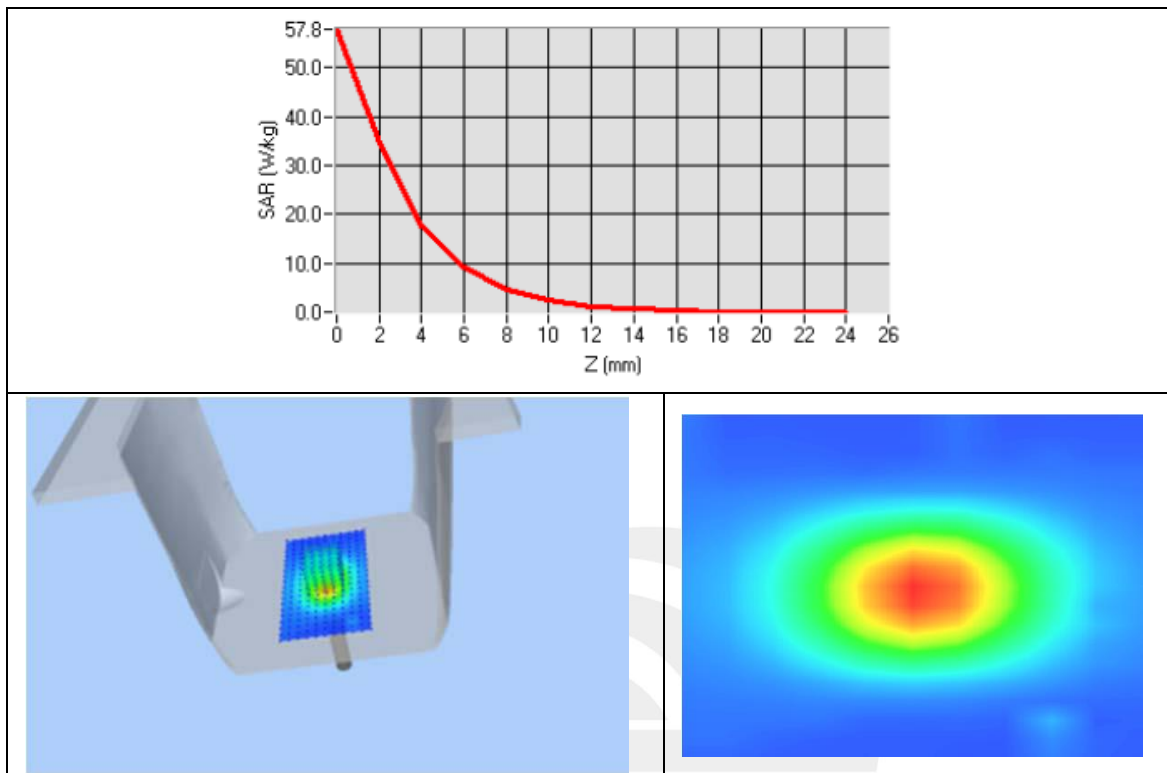
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity	35.64
Conductivity (S/m)	5.21
Probe	SN 07/21 EPGO352
ConvF	1.64
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.995720
SAR 1g (W/Kg)	17.6062715

Z Axis Scan





System Performance Check Data(5800MHz)

Type: Dipole measurement (Complete)

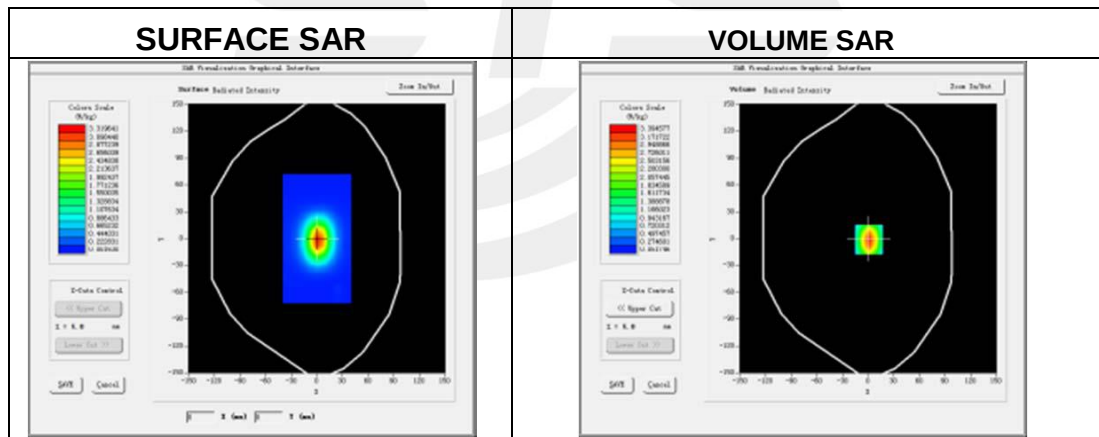
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-01-20

Experimental conditions.

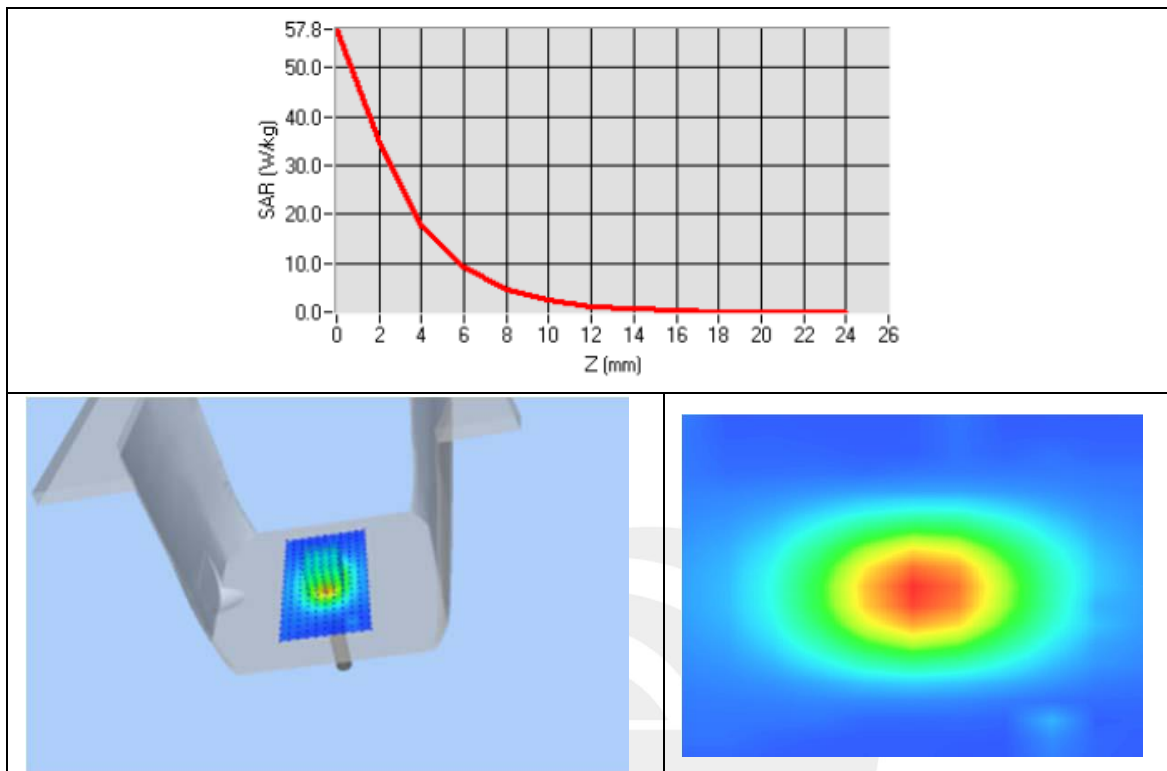
Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	36.36
Conductivity (S/m)	5.40
Probe	SN 07/21 EPGO352
ConvF	1.64
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.985531
SAR 1g (W/Kg)	17.966327

Z Axis Scan



**System Performance Check Data (750MHz)**

Type: Phone measurement (Complete)

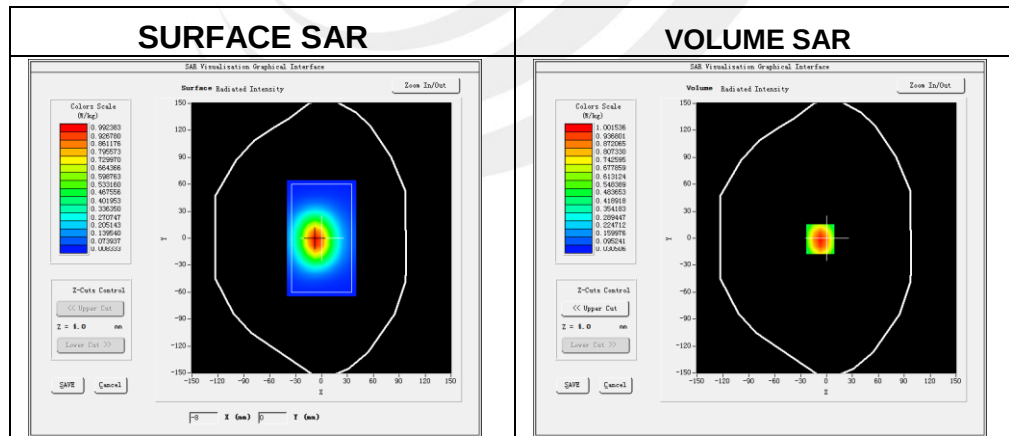
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-05-09

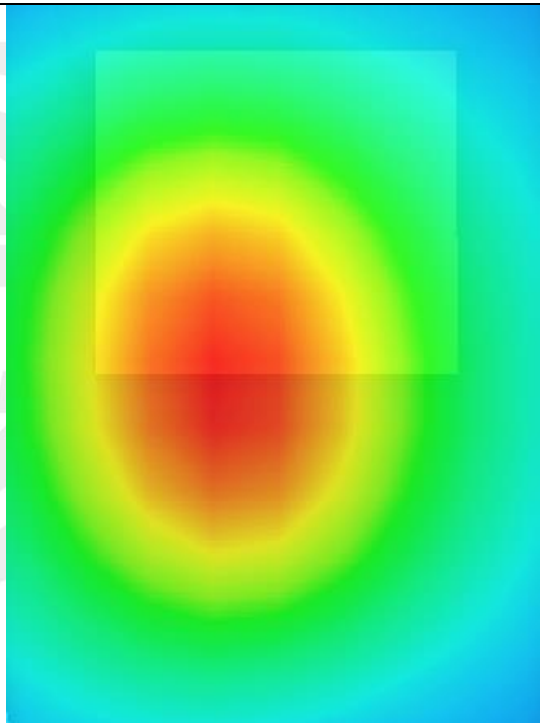
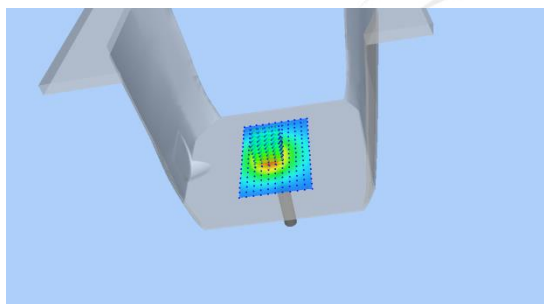
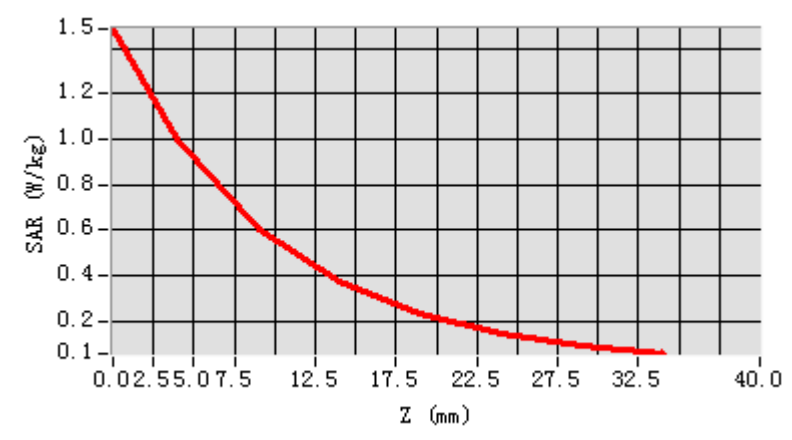
Experimental conditions

Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	43.53
Conductivity (S/m)	0.92
Probe	SN 07/21 EPG0352
ConvF:	1.57
Crest factor:	1:1

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

SAR 10g (W/Kg)	0.544881
SAR 1g (W/Kg)	0.926206

Z Axis Scan



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

Type: Phone measurement (Complete)

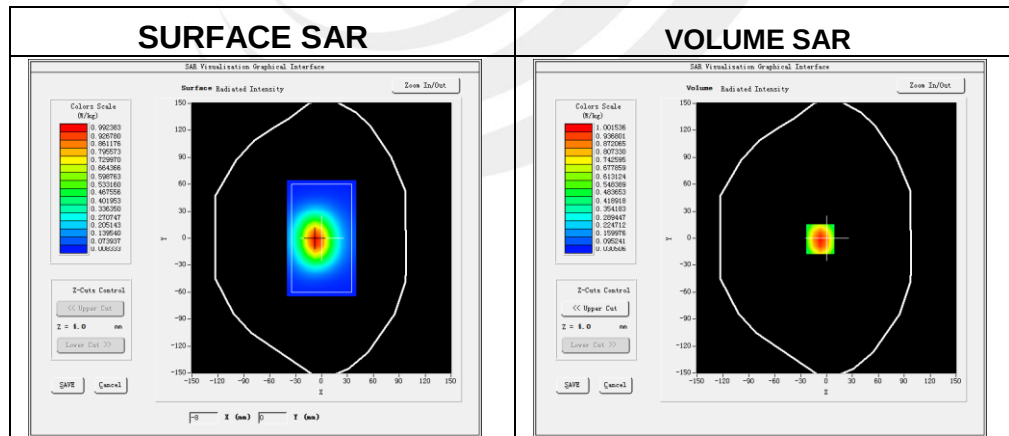
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-05-10

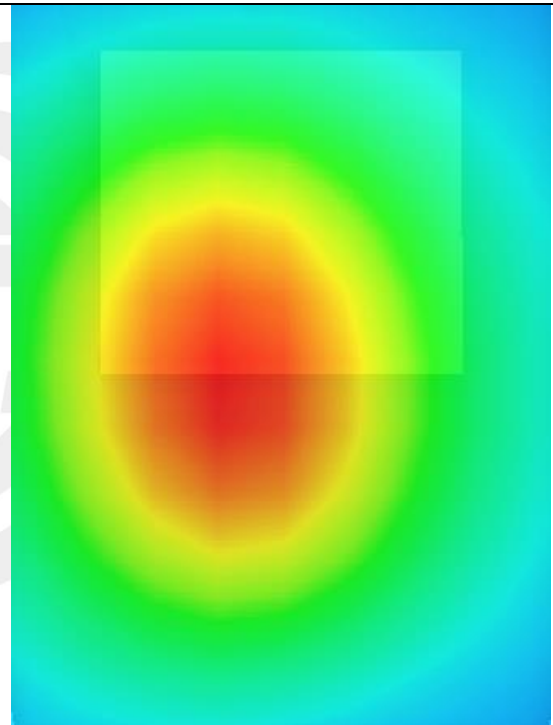
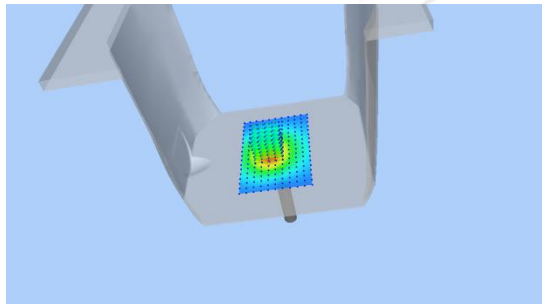
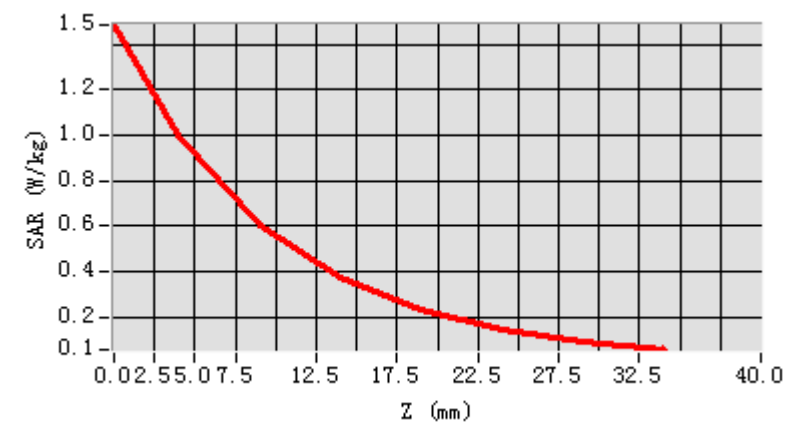
Experimental conditions

Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.36
Conductivity (S/m)	0.92
Probe	SN 07/21 EPG0352
ConvF:	1.57
Crest factor:	1:1

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

SAR 10g (W/Kg)	0.617922
SAR 1g (W/Kg)	0.937657

Z Axis Scan



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

Type: Phone measurement (Complete)

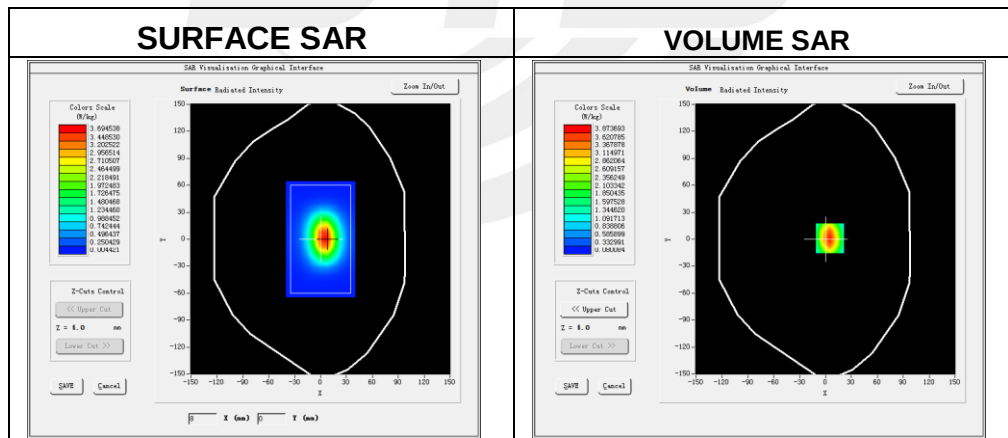
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-05-011

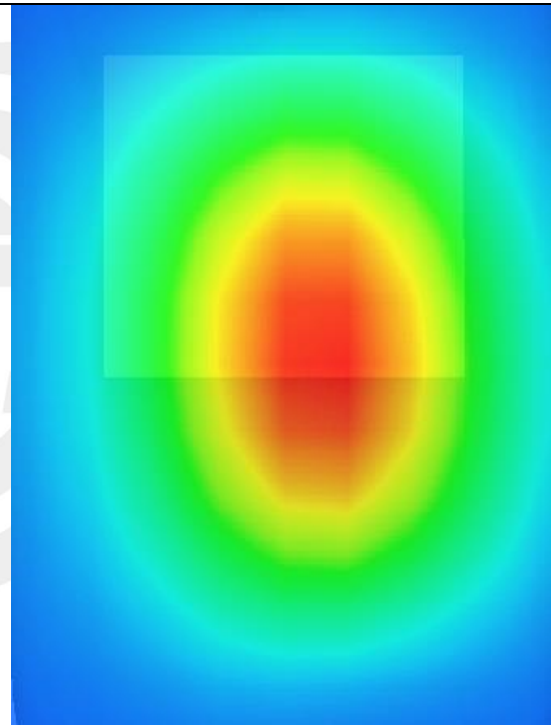
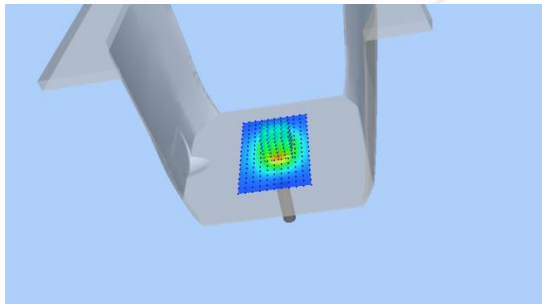
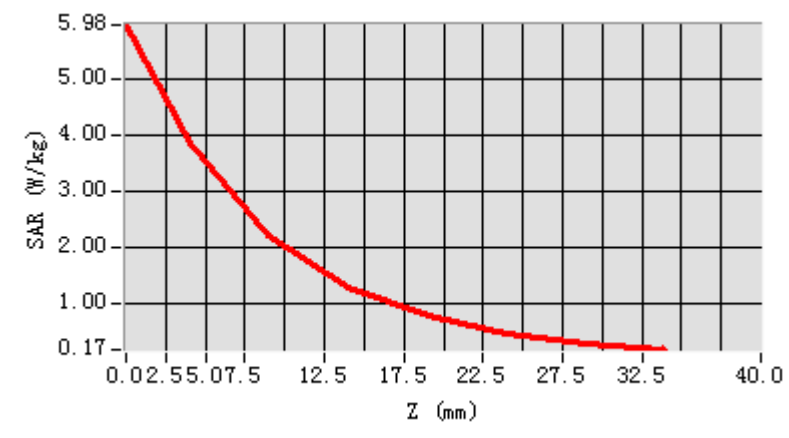
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	39.92
Conductivity (S/m)	1.38
Probe	SN 07/21 EPGO352
ConvF	1.60
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.020769
SAR 1g (W/Kg)	3.774459

Z Axis Scan



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

Type: Phone measurement (Complete)

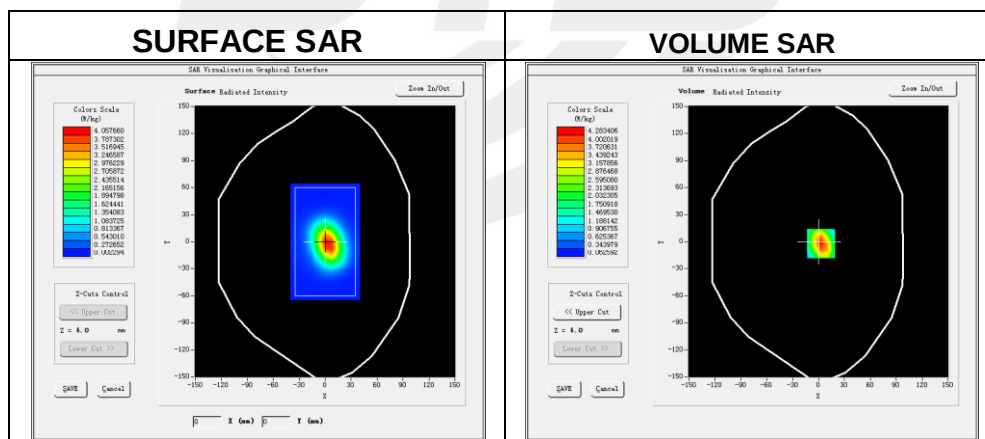
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-05-16

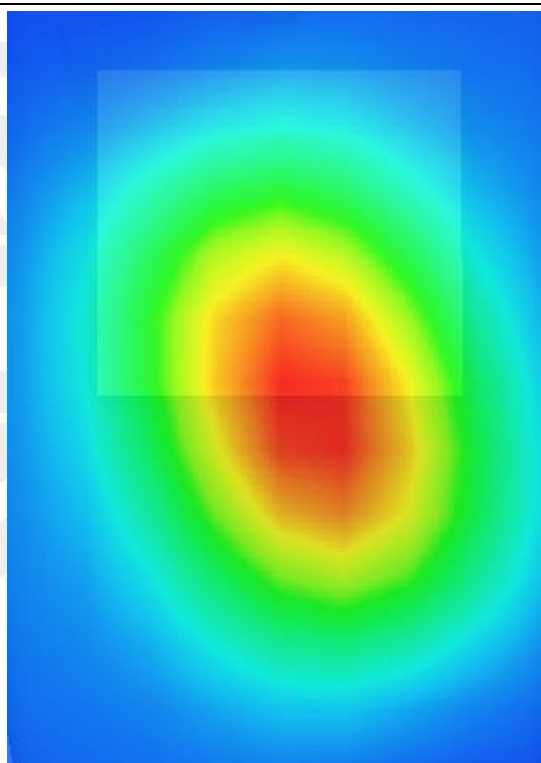
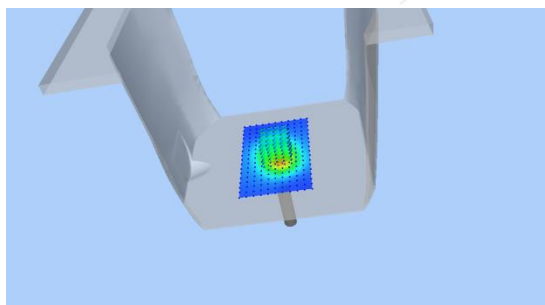
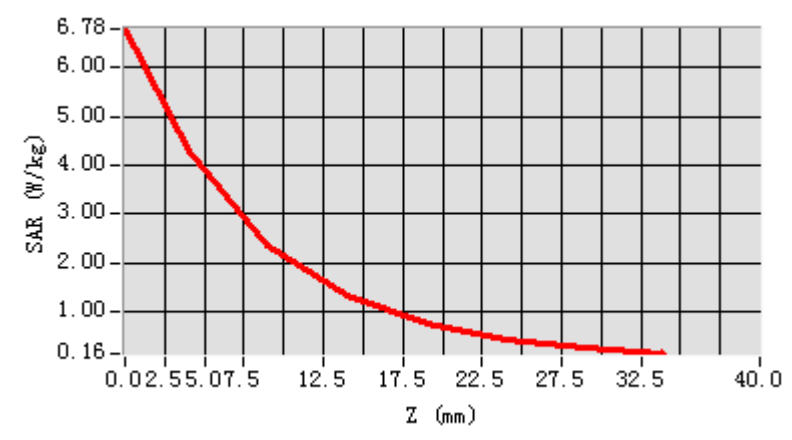
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.01
Conductivity (S/m)	1.40
Probe	SN 07/21 EPGO352
ConvF:	1.78
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.028840
SAR 1g (W/Kg)	4.199822

Z Axis Scan



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

Type: Phone measurement (Complete)

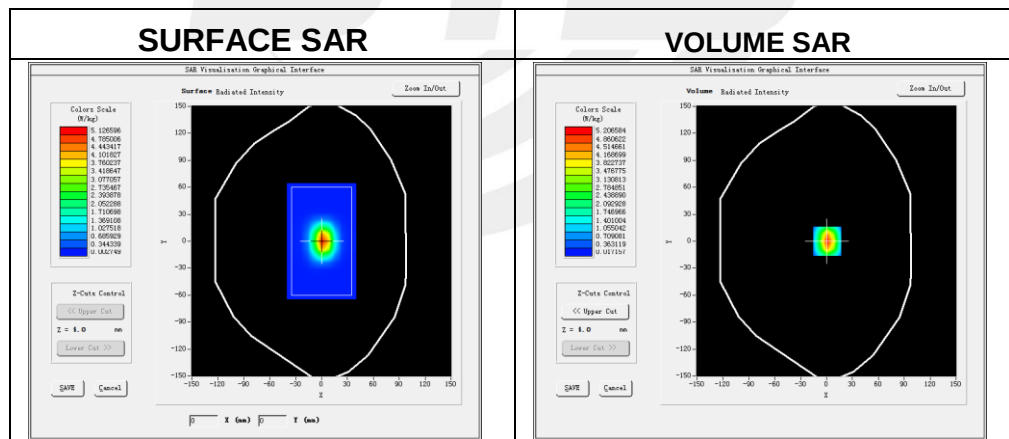
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-05-17

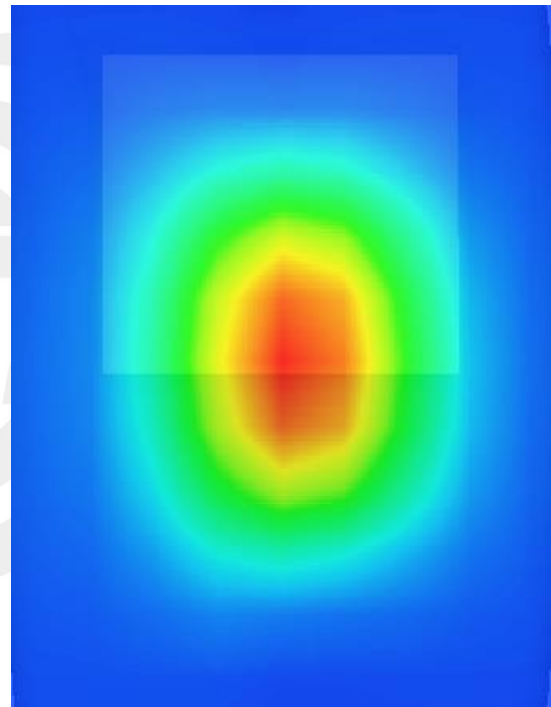
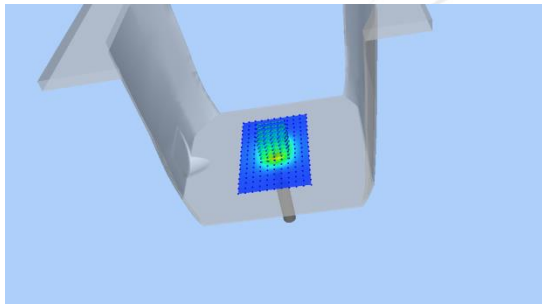
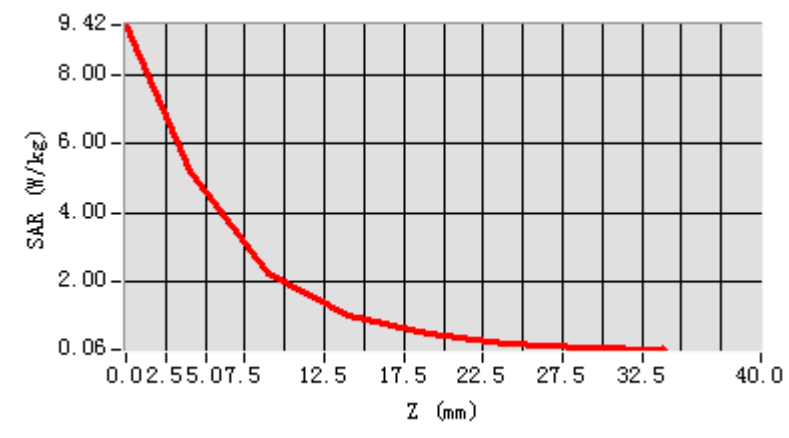
Experimental conditions.

Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.26
Conductivity (S/m)	1.73
Probe	SN 07/21 EPGO352
ConvF	1.75
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.402752
SAR 1g (W/Kg)	5.448605

Z Axis Scan



**System Performance Check Data (2600MHz)**

Type: Phone measurement (Complete)

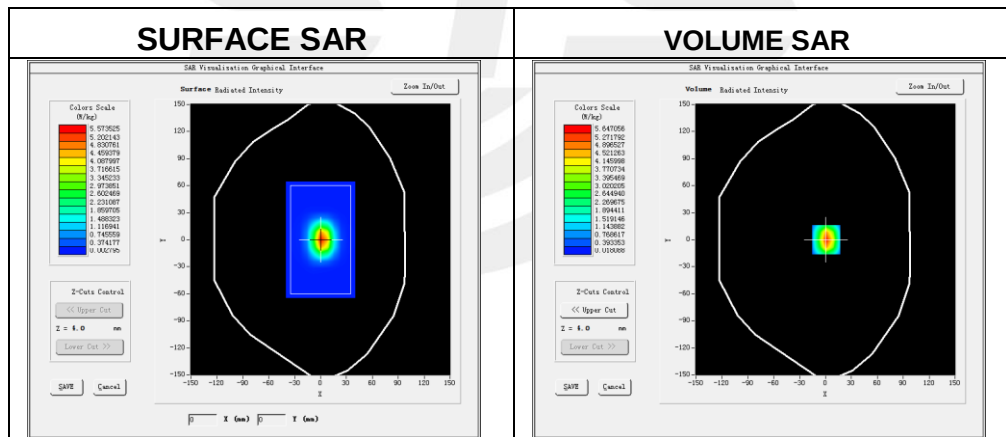
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-05-18

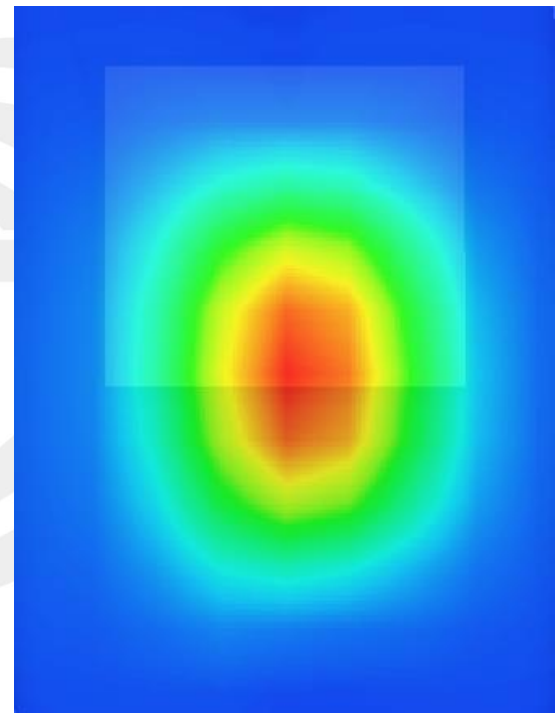
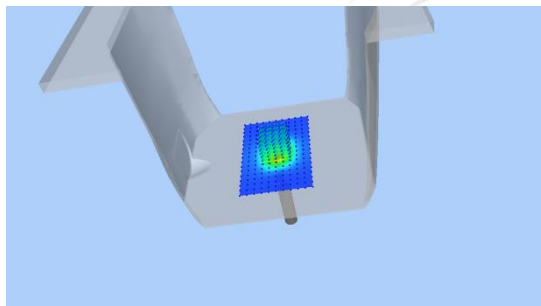
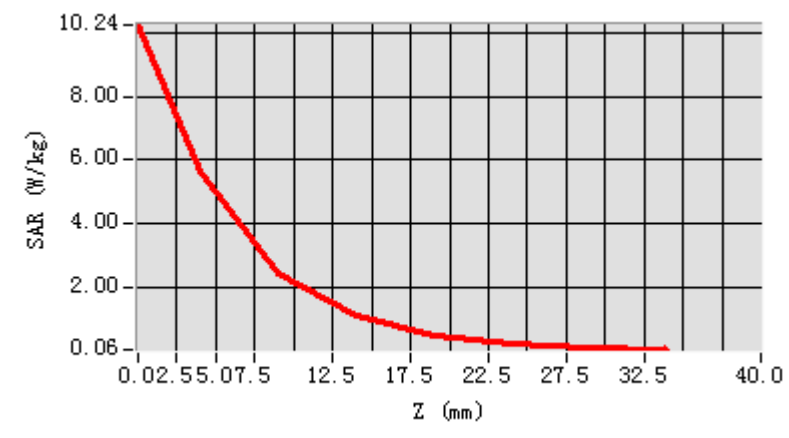
Experimental conditions.

Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	39.16
Conductivity (S/m)	1.99
Probe	SN 07/21 EPGO352
ConvF	1.63
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.433869
SAR 1g (W/Kg)	5.346218

Z Axis Scan





System Performance Check Data (5200MHz)

Type: Dipole measurement (Complete)

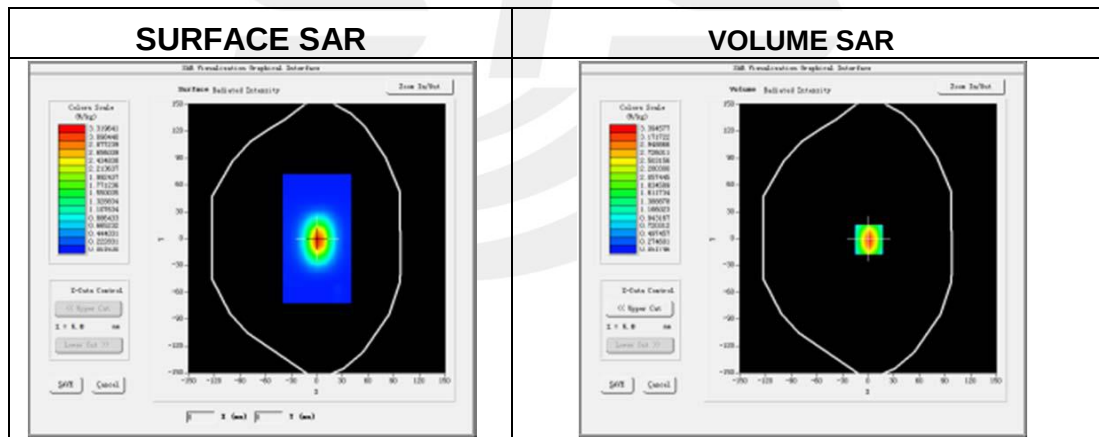
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-05-19

Experimental conditions.

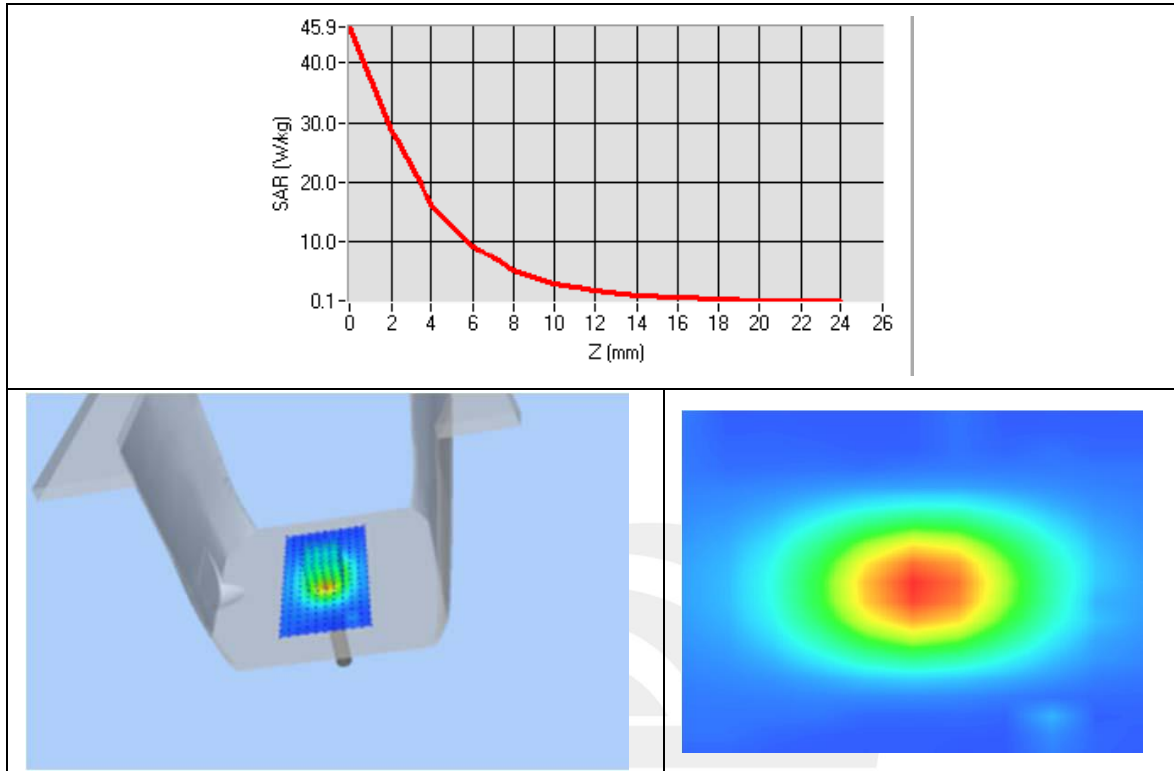
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	35.18
Conductivity (S/m)	4.67
Probe	SN 07/21 EPGO352
ConvF	1.47
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.683591
SAR 1g (W/Kg)	16.708689

Z Axis Scan



**System Performance Check Data (5300MHz)**

Type: Dipole measurement (Complete)

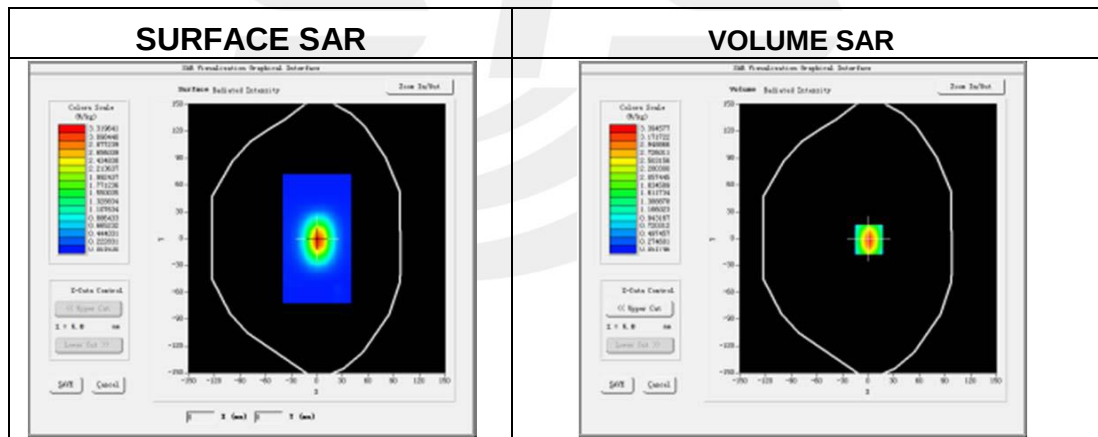
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-05-20

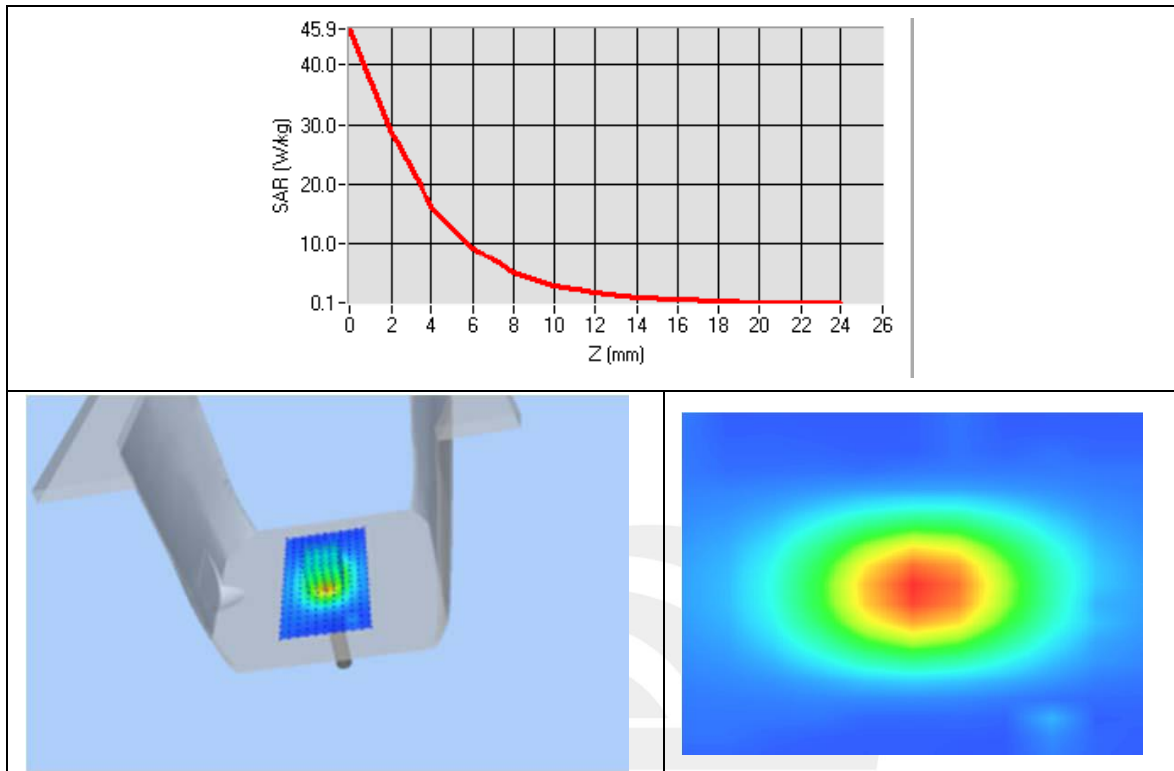
Experimental conditions.

Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity	35.85
Conductivity (S/m)	4.71
Probe	SN 07/21 EPGO352
ConvF	1.65
Crest factor:	1:1

**Maximum location: X=7.00, Y=2.00**

SAR 10g (W/Kg)	6.151705
SAR 1g (W/Kg)	16.891546

Z Axis Scan





System Performance Check Data (5600MHz)

Type: Dipole measurement (Complete)

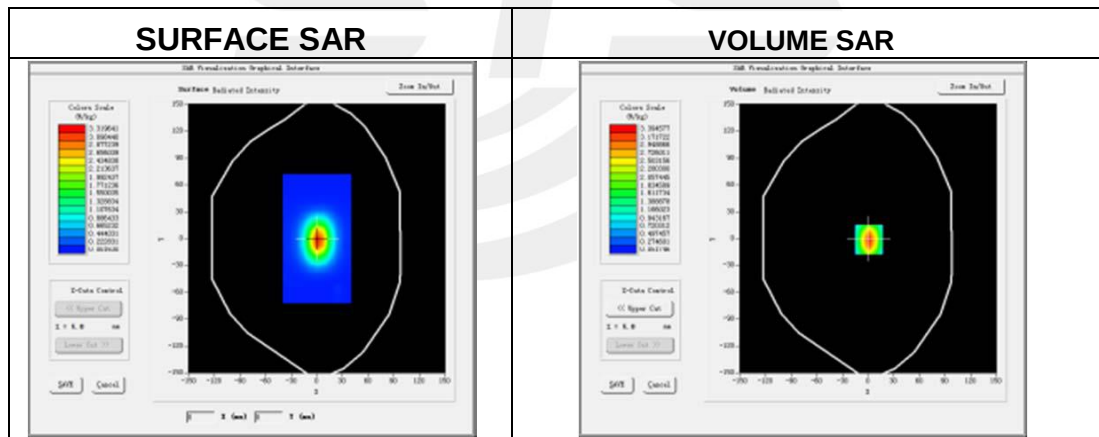
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-05-23

Experimental conditions.

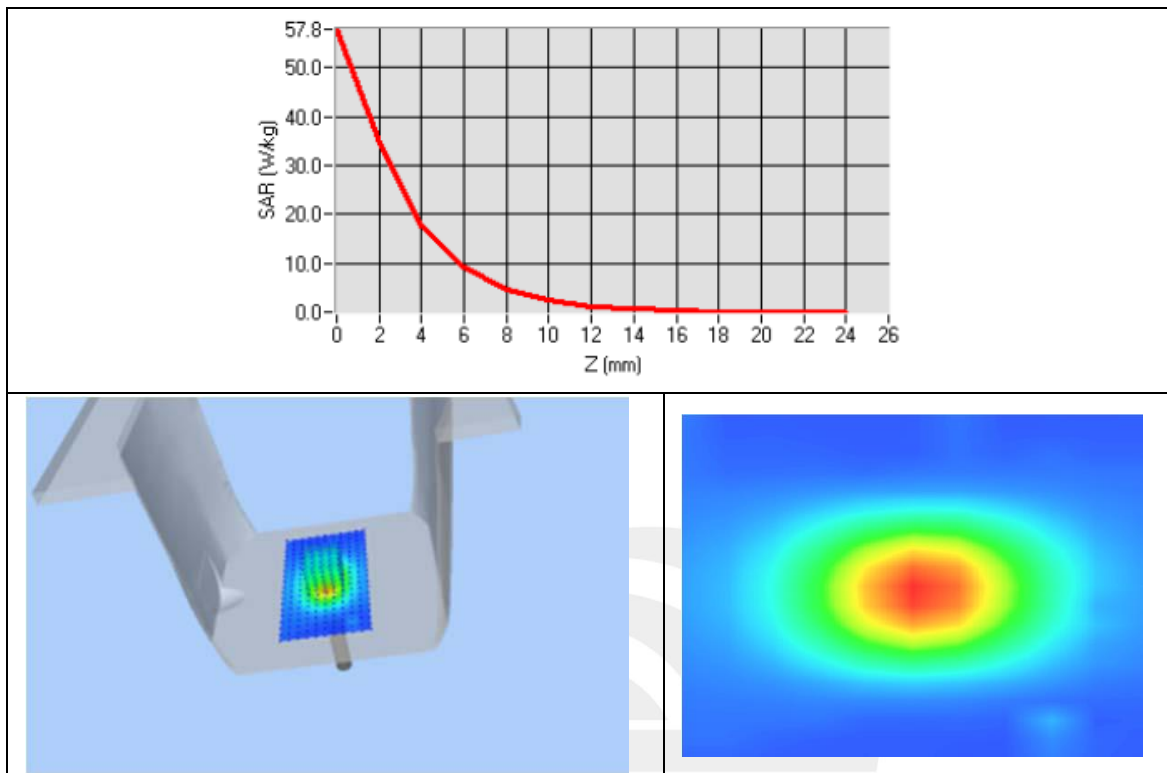
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity	34.76
Conductivity (S/m)	5.01
Probe	SN 07/21 EPGO352
ConvF	1.64
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.699843
SAR 1g (W/Kg)	17.651153

Z Axis Scan



**System Performance Check Data (5800MHz)**

Type: Dipole measurement (Complete)

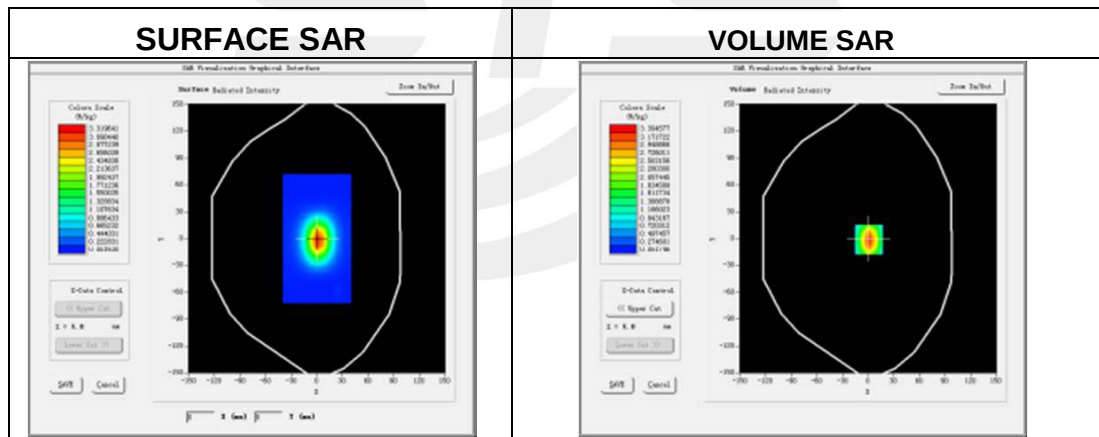
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2022-05-24

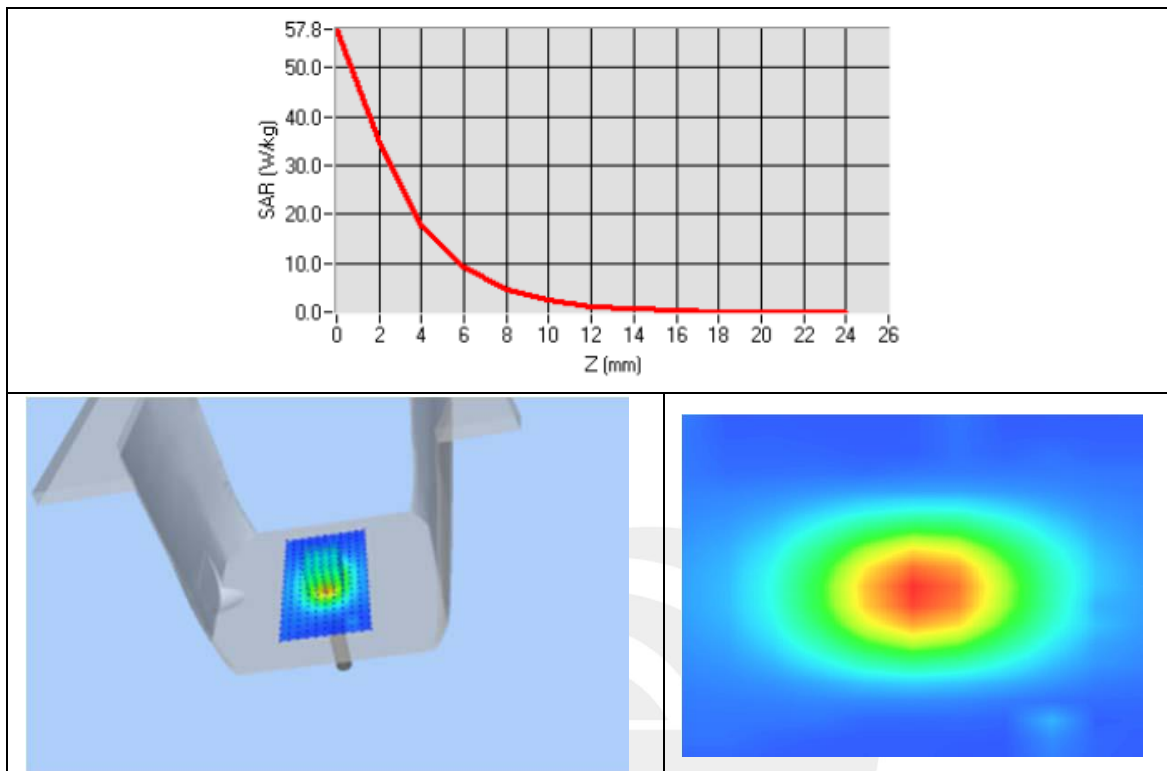
Experimental conditions.

Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	34.44
Conductivity (S/m)	5.32
Probe	SN 07/21 EPGO352
ConvF	1.64
Crest factor:	1:1

**Maximum location: X=7.00, Y=2.00**

SAR 10g (W/Kg)	6.135460
SAR 1g (W/Kg)	17.715147

Z Axis Scan





System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

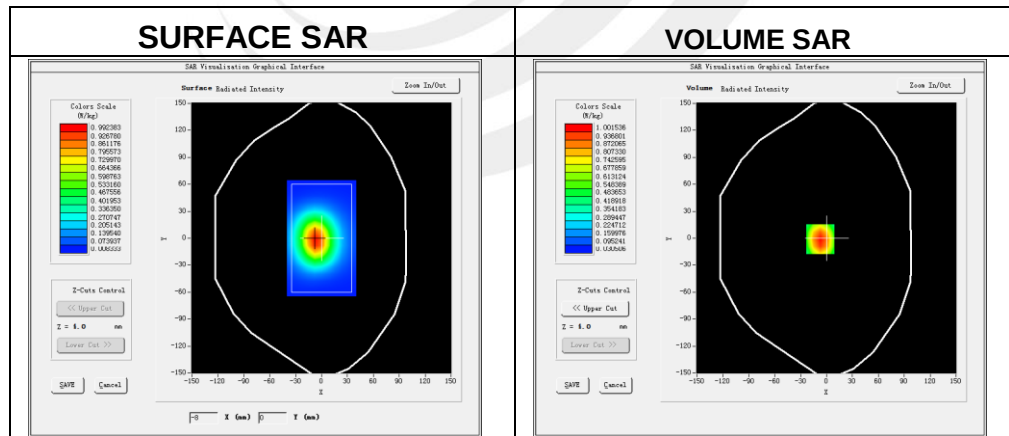
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-06-20

Experimental conditions

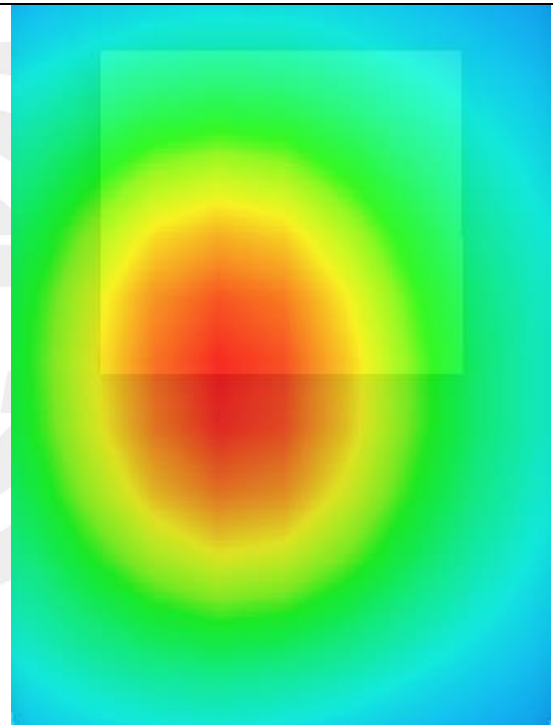
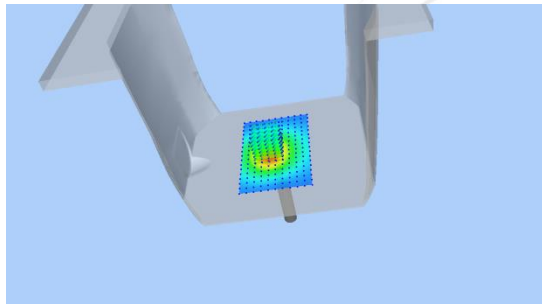
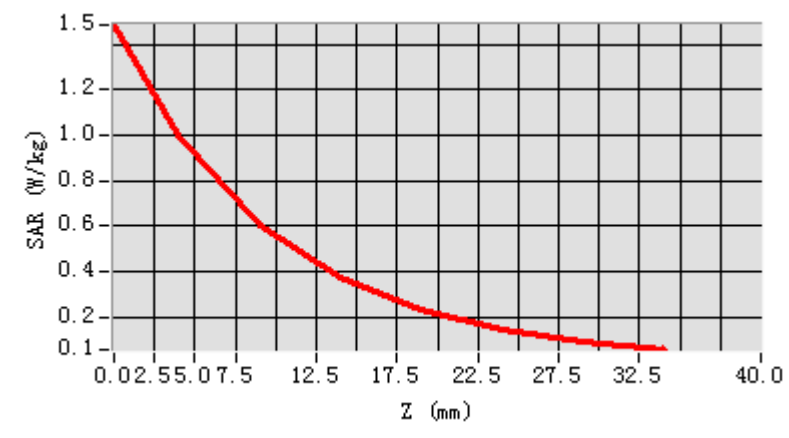
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.34
Conductivity (S/m)	0.96
Probe	SN 07/21 EPG0352
ConvF:	1.57
Crest factor:	1:1



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

SAR 10g (W/Kg)	0.635689
SAR 1g (W/Kg)	0.978595

Z Axis Scan



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

Type: Phone measurement (Complete)

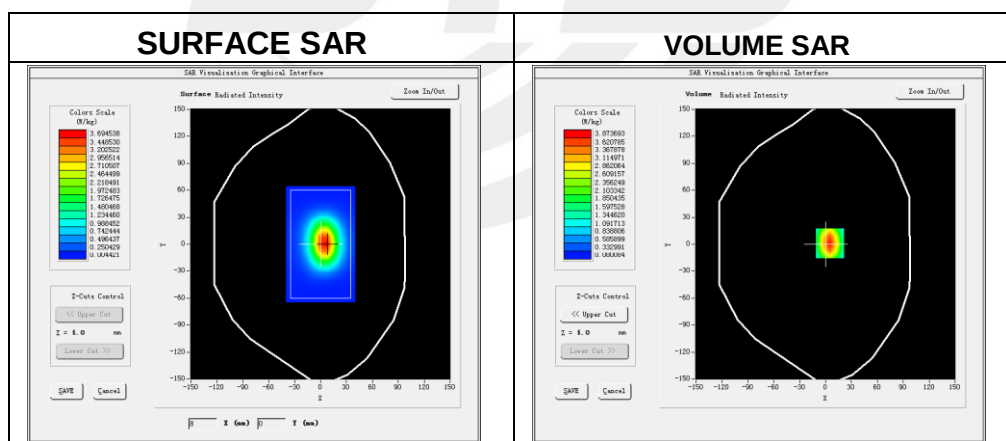
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-06-21

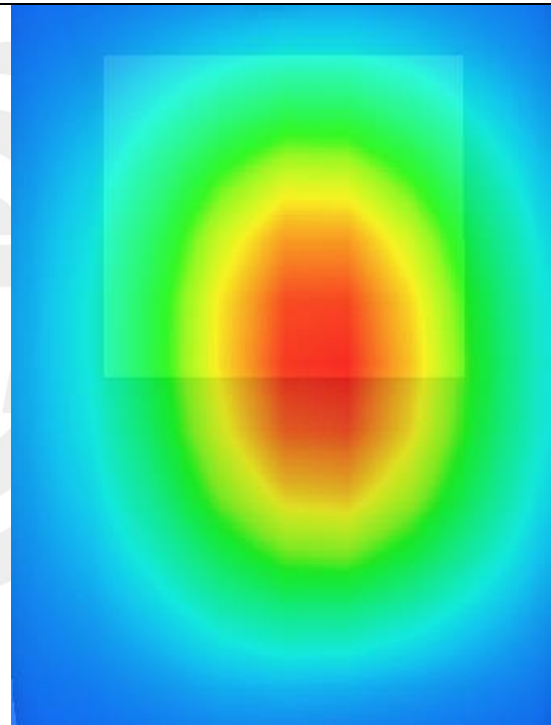
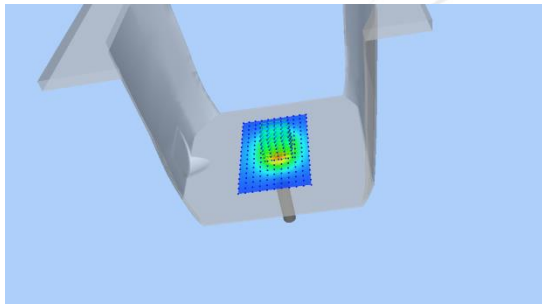
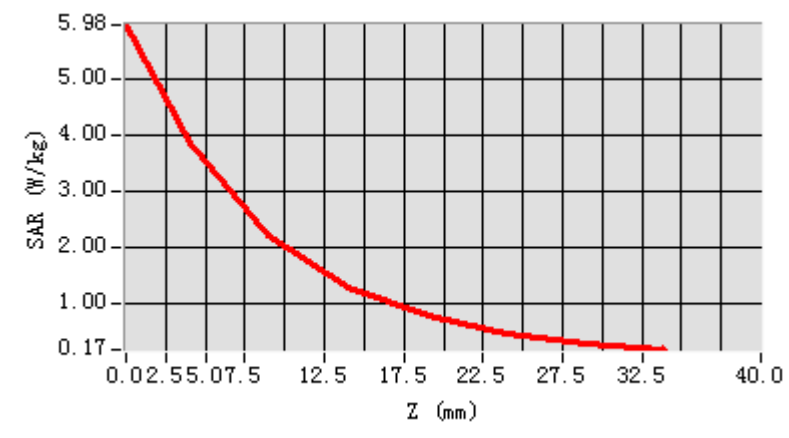
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	40.60
Conductivity (S/m)	1.42
Probe	SN 07/21 EPGO352
ConvF	1.60
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.000246
SAR 1g (W/Kg)	3.797619

Z Axis Scan



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

Type: Phone measurement (Complete)

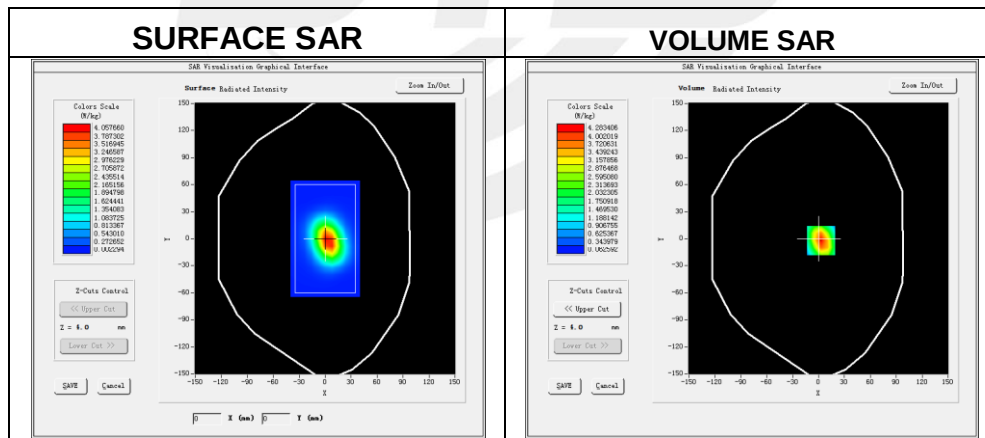
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-06-23

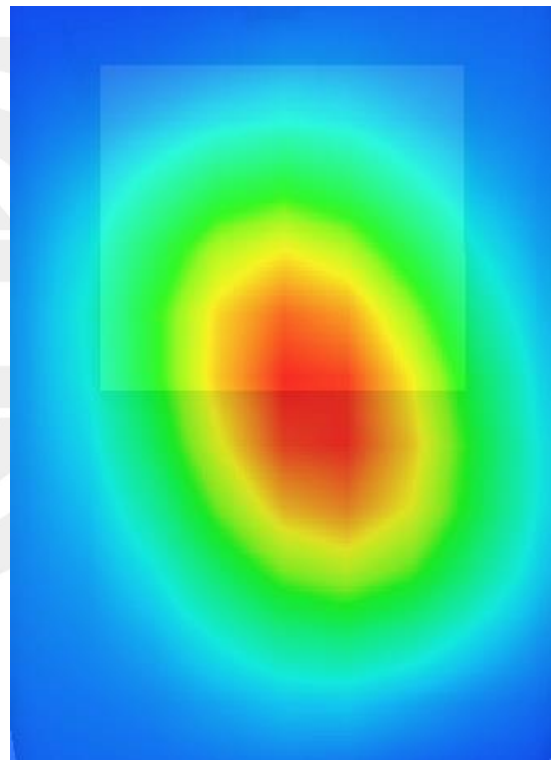
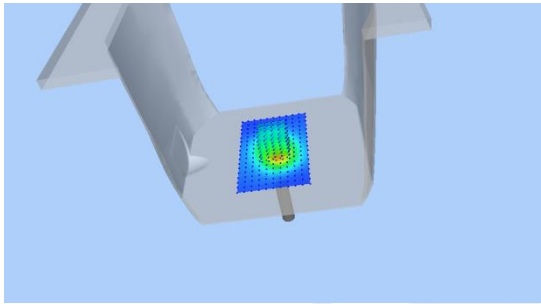
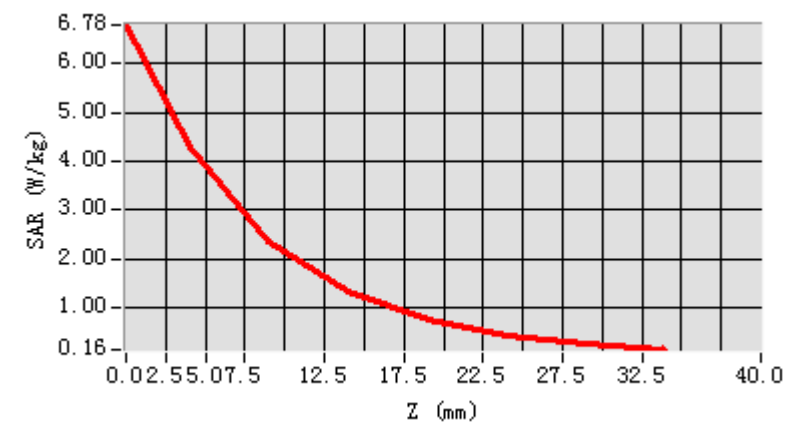
Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.95
Conductivity (S/m)	1.41
Probe	SN 07/21 EPGO352
ConvF:	1.78
Crest factor:	1:1

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

SAR 10g (W/Kg)	2.016678
SAR 1g (W/Kg)	3.997232

Z Axis Scan



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

Type: Phone measurement (Complete)

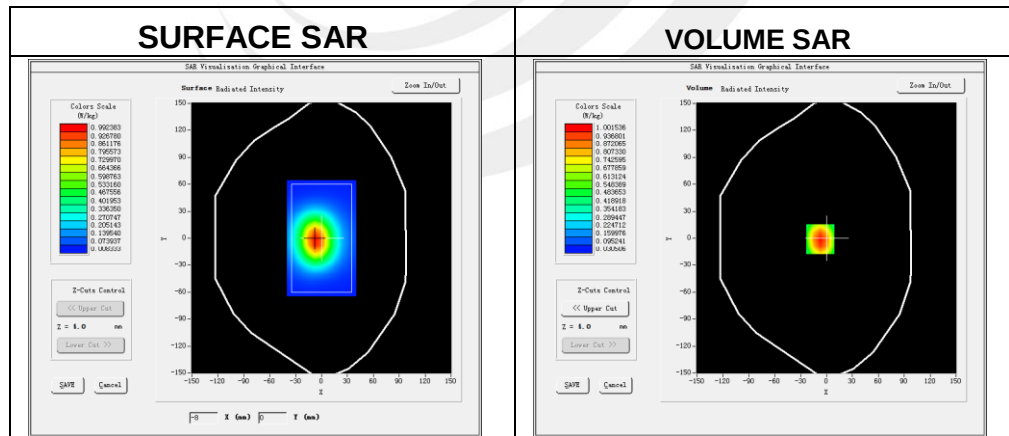
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2022-07-15

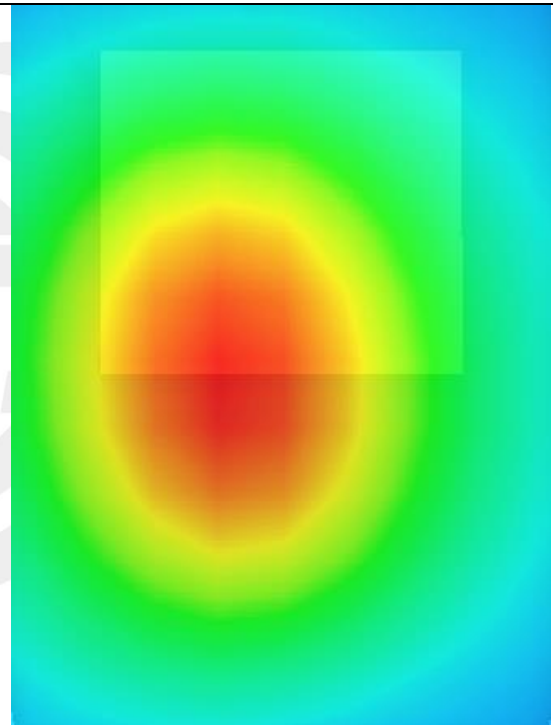
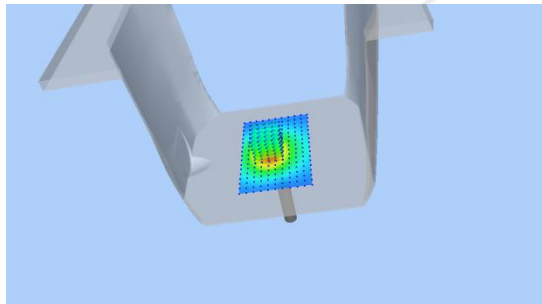
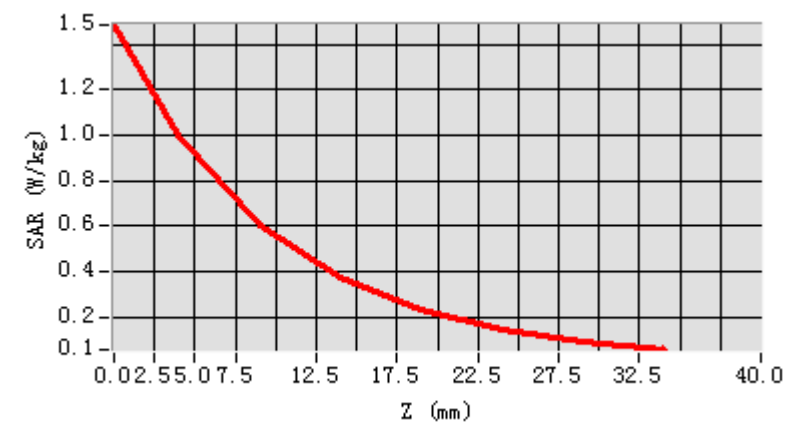
Experimental conditions

Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	40.86
Conductivity (S/m)	0.92
Probe	SN 07/21 EPG0352
ConvF:	1.57
Crest factor:	1:1

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

SAR 10g (W/Kg)	0.622601
SAR 1g (W/Kg)	0.949744

Z Axis Scan



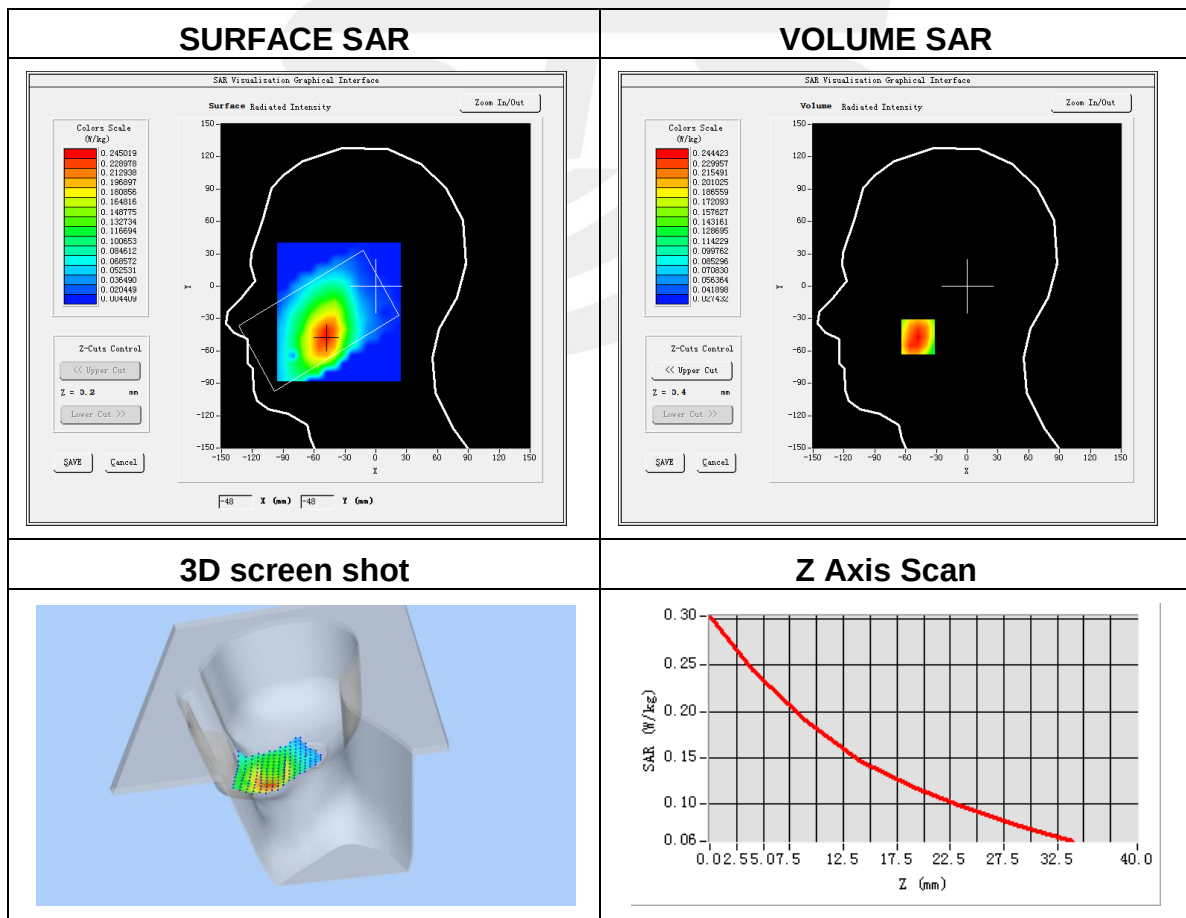
**Appendix B. SAR Test Plots****Plot 1: DUT: 5G Smart phone; EUT Model: BM1S4L**

Test Date	2022-01-04
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	GPRS 850
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90

Maximum location: X=-48.00, Y=-47.00

SAR Peak: 0.31 W/kg

SAR 10g (W/Kg)	0.170897
SAR 1g (W/Kg)	0.234216





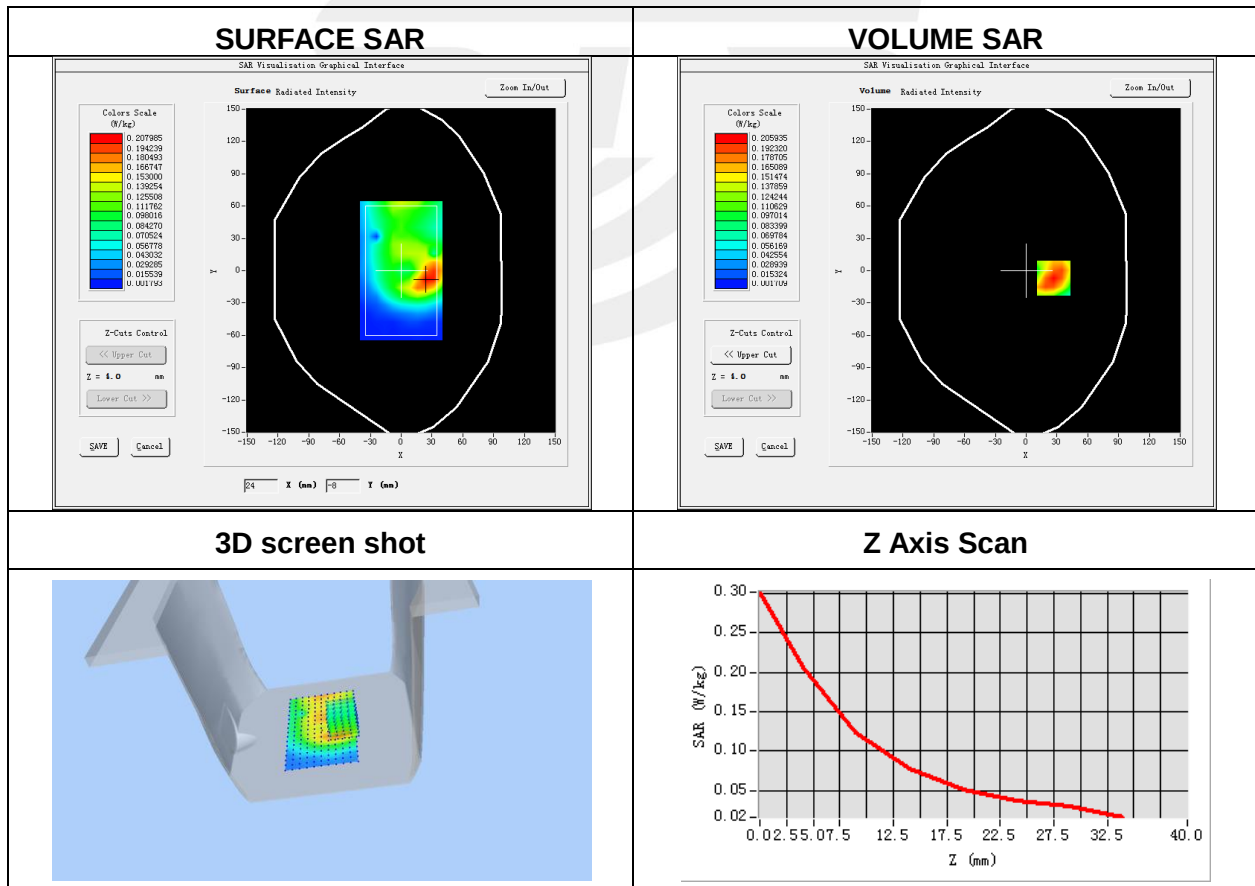
Plot 2: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-10
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 850
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	42.08
Conductivity (S/m)	0.90

Maximum location: X=27.00, Y=-7.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.112675
SAR 1g (W/Kg)	0.196289



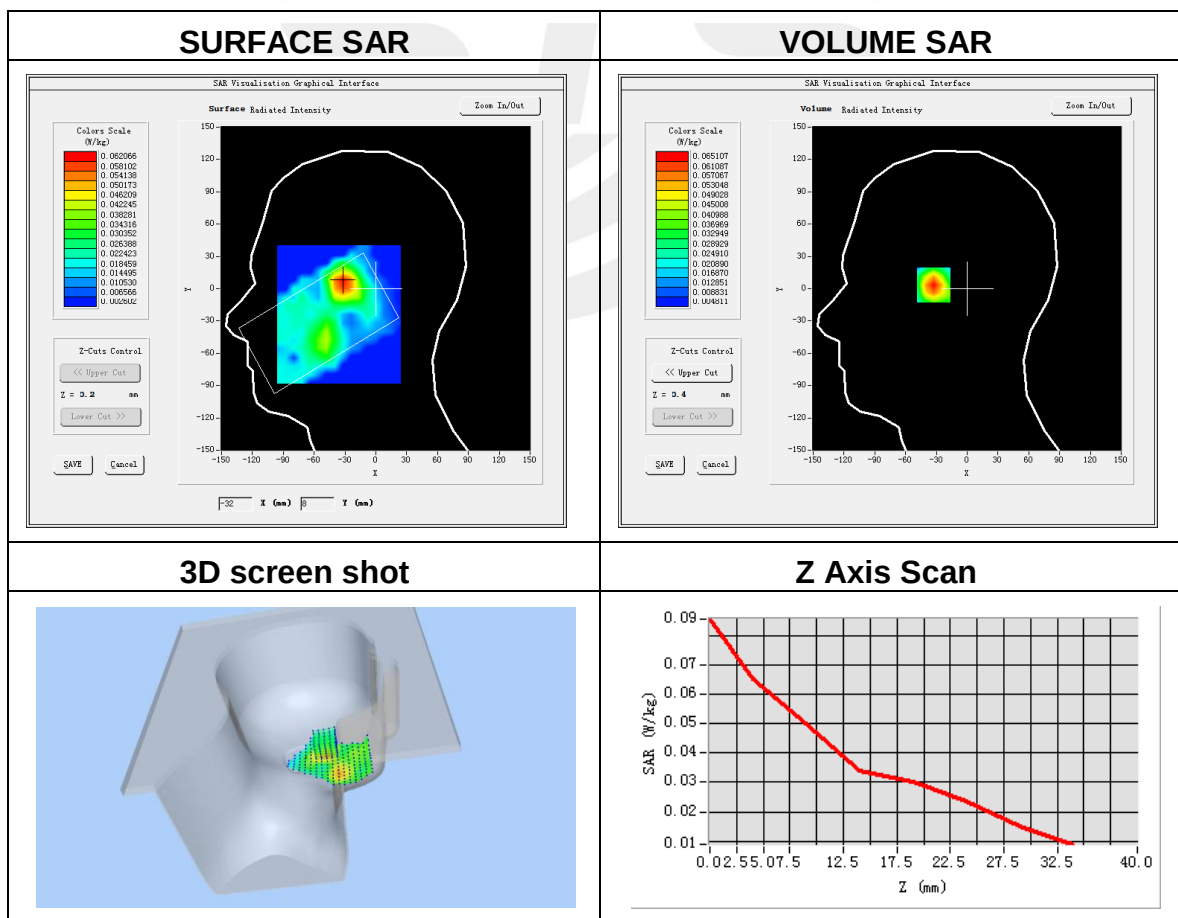

Plot 3: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-05
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GPRS 1900
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-32.00, Y=6.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.038682
SAR 1g (W/Kg)	0.062881



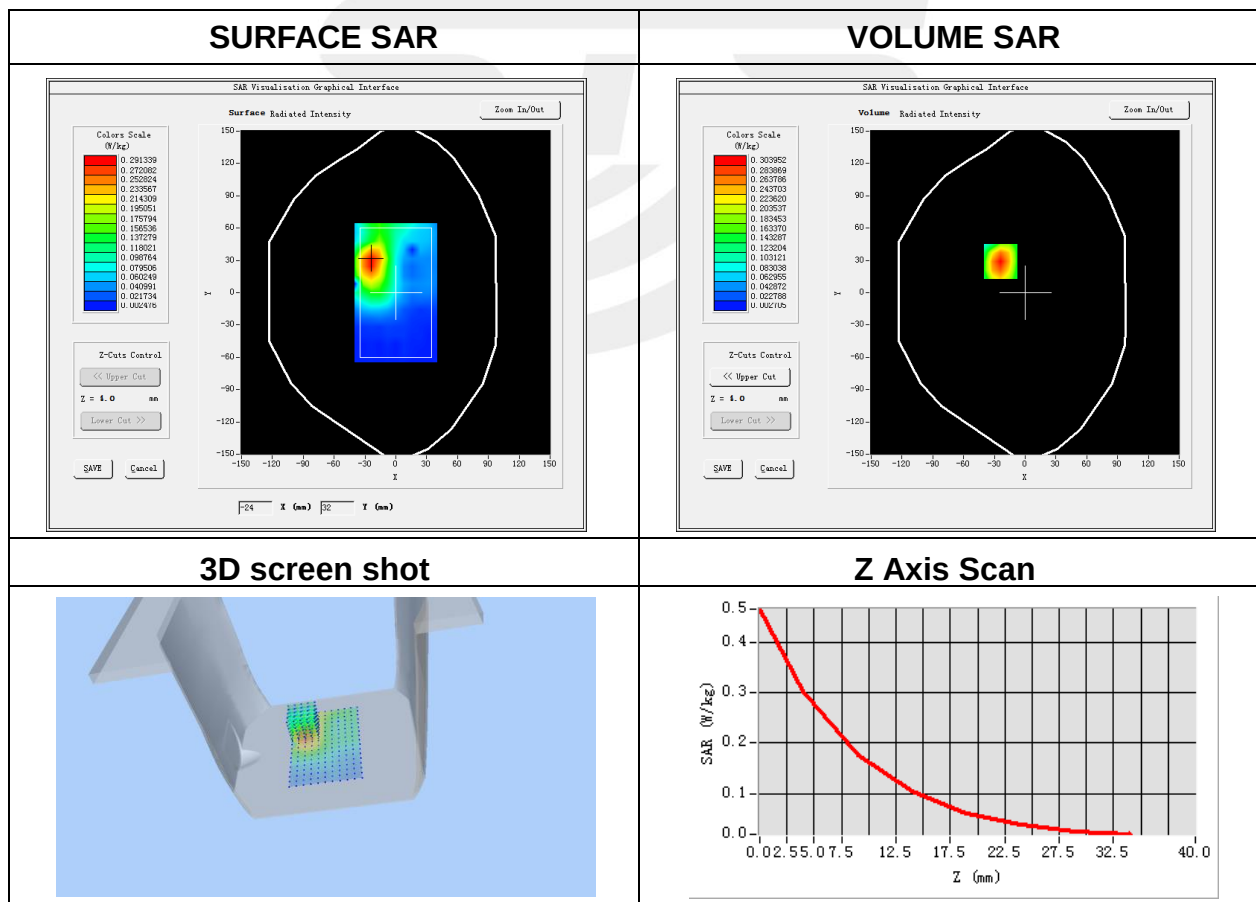

Plot 4: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-16
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back side
Band	GPRS 1900
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.36
Conductivity (S/m)	1.40

Maximum location: X=-24.00, Y=29.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.155169
SAR 1g (W/Kg)	0.288400





Plot 5: DUT: 5G Smart phone; EUT Model: BM1S4L

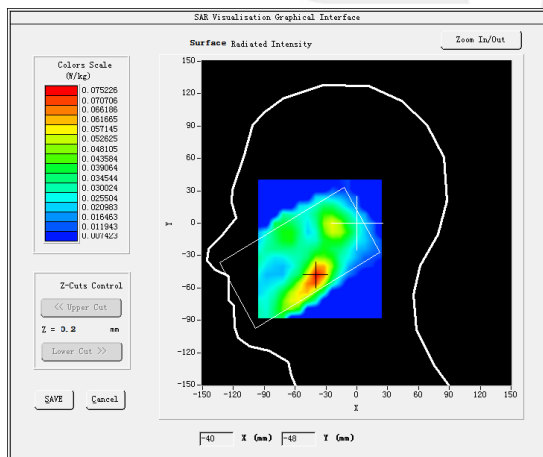
Test Date	2022-01-07
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	WCDMA II
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-39.00, Y=-48.00

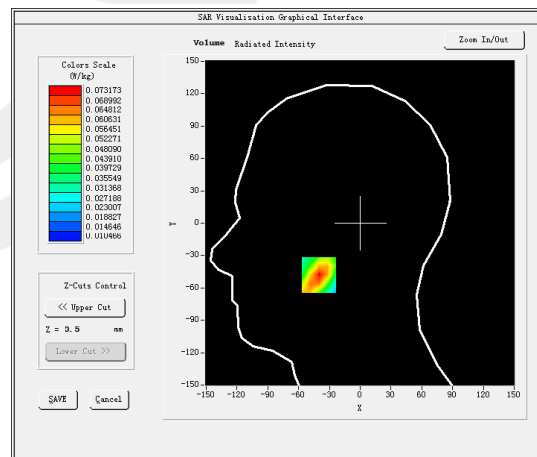
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.044850
SAR 1g (W/Kg)	0.067029

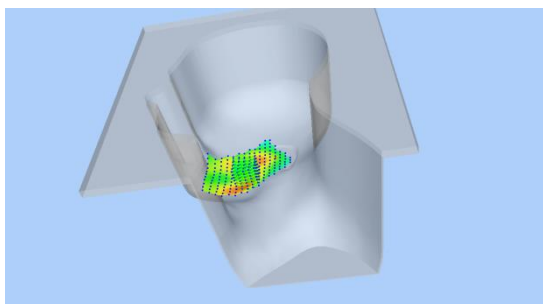
SURFACE SAR



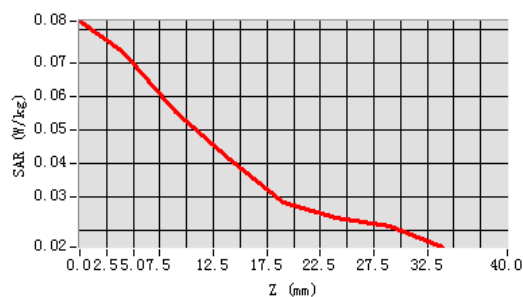
VOLUME SAR



3D screen shot



Z Axis Scan



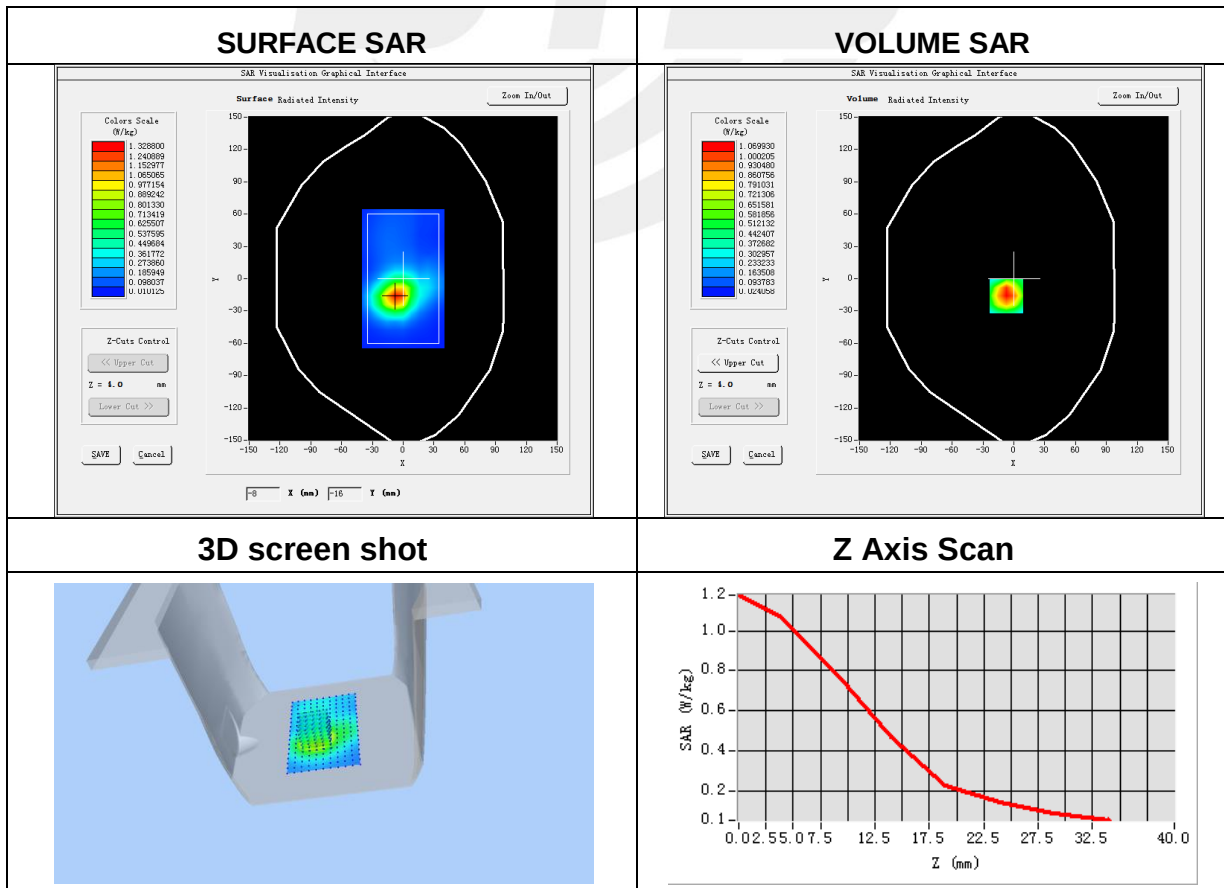

Plot 6: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-16
Probe	SN 07/21 EPGO352
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA II
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-7.00, Y=-16.00

SAR Peak: 1.52 W/kg

SAR 10g (W/Kg)	0.565852
SAR 1g (W/Kg)	0.998020





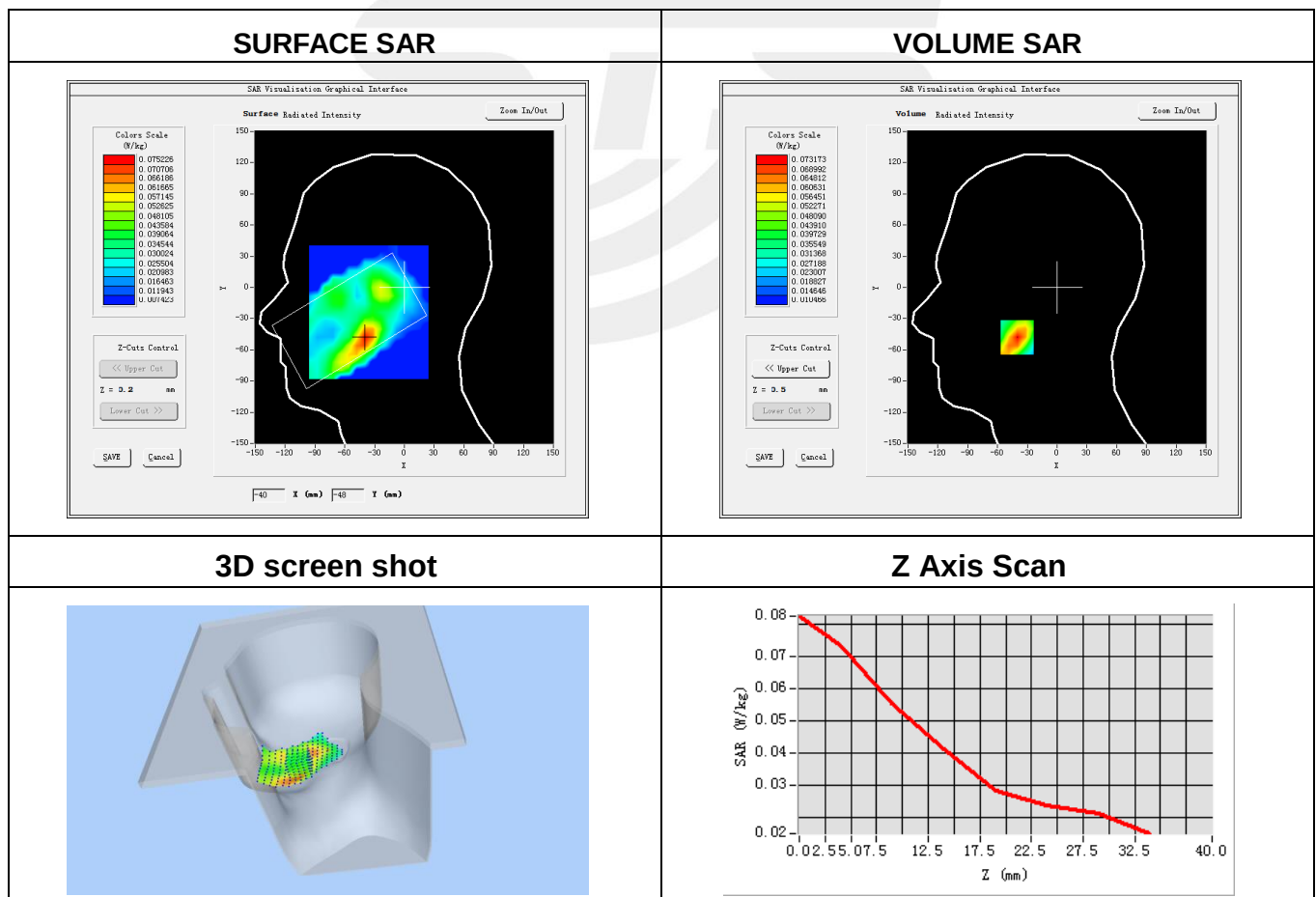
Plot 7: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-05
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	WCDMA IV
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1712.4
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=-39.00, Y=-48.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.044850
SAR 1g (W/Kg)	0.067029





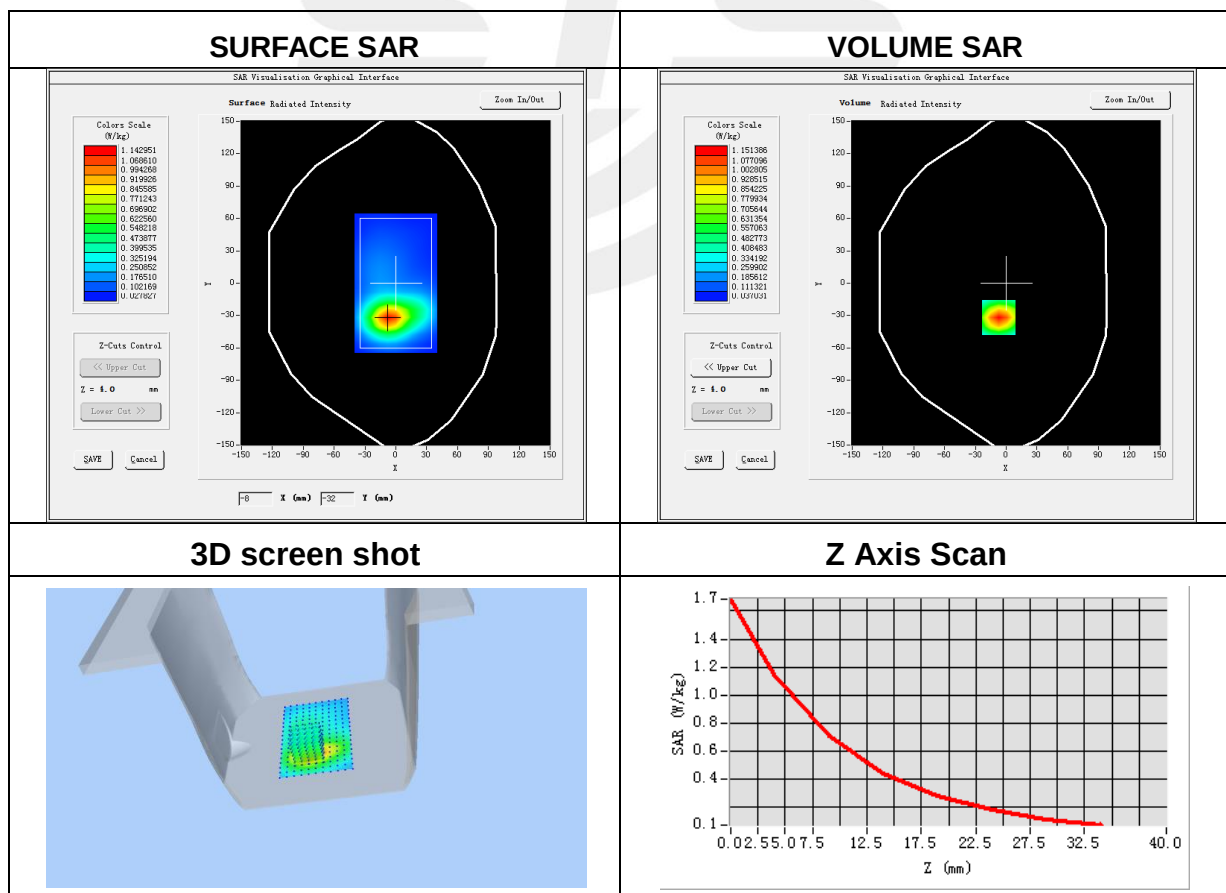
Plot 8: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-11
Probe	SN 07/21 EPGO352
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA IV
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1712.4
Relative permittivity (real part)	40.10
Conductivity (S/m)	1.35

Maximum location: X=-7.00, Y=-32.00

SAR Peak: 1.67 W/kg

SAR 10g (W/Kg)	0.602982
SAR 1g (W/Kg)	1.080999



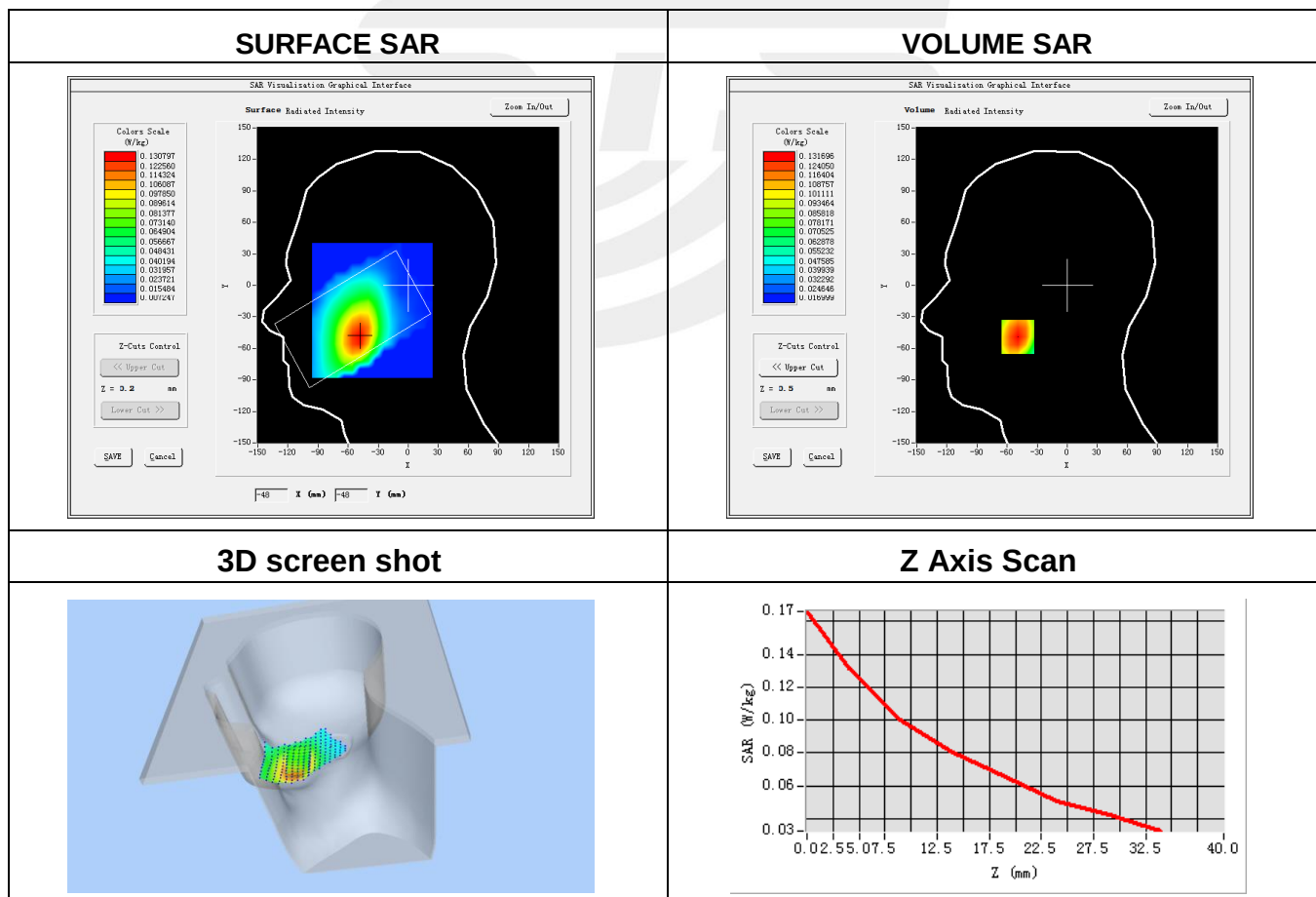
**Plot 9: DUT: 5G Smart phone; EUT Model: BM1S4L**

Test Date	2022-01-04
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA V
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

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

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.094164
SAR 1g (W/Kg)	0.128657



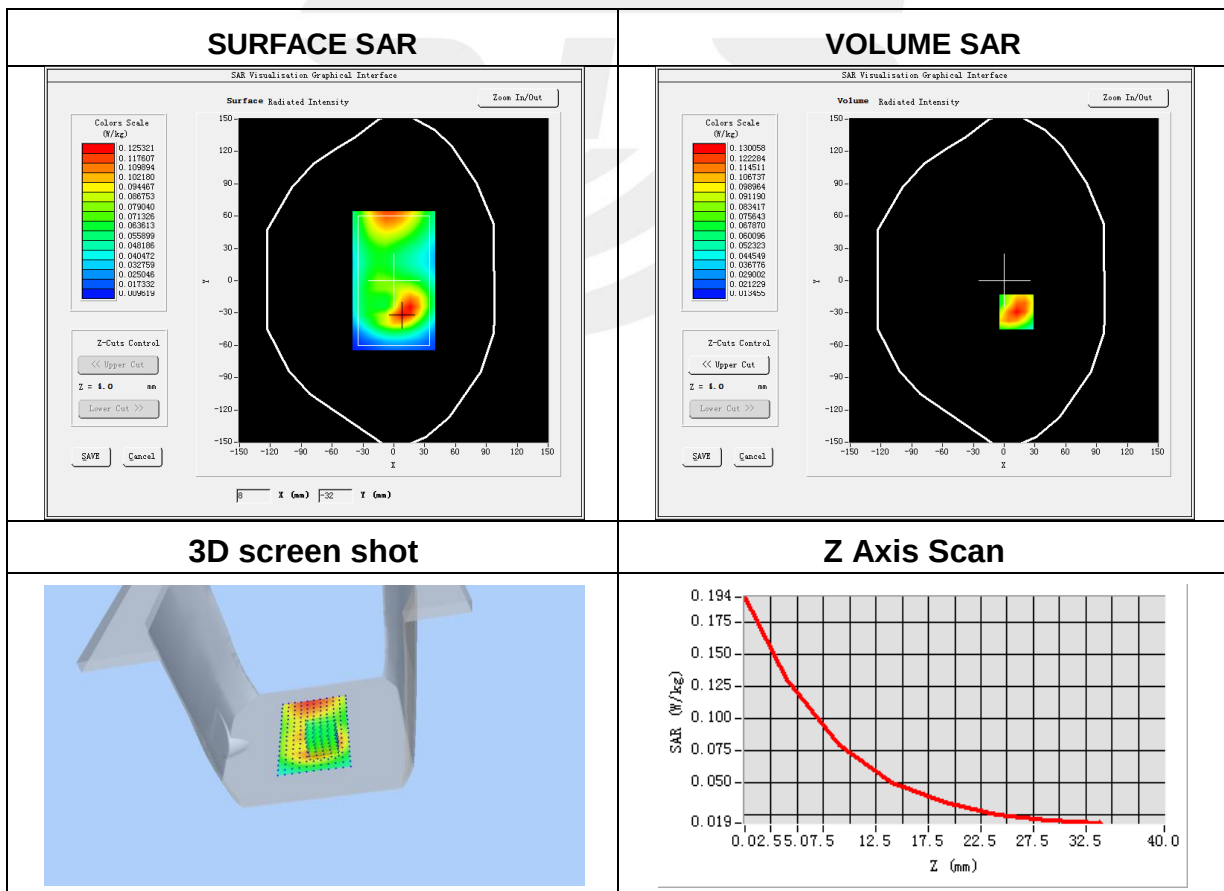

Plot 10: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-10
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA V
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.08
Conductivity (S/m)	0.90

Maximum location: X=12.00, Y=-29.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.074742
SAR 1g (W/Kg)	0.124537





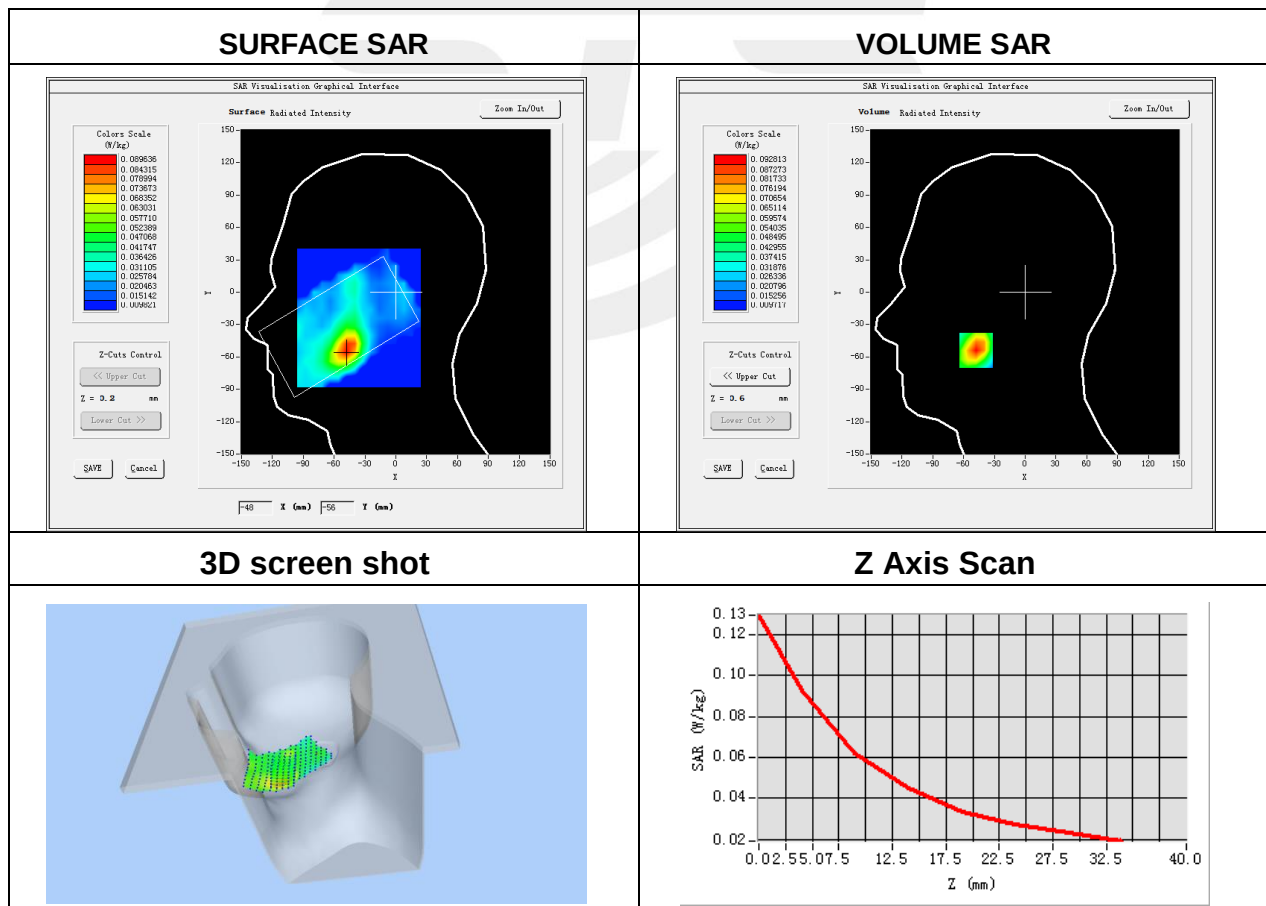
Plot 11: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-07
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	SA N2
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-48.00, Y=-54.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.053608
SAR 1g (W/Kg)	0.086814





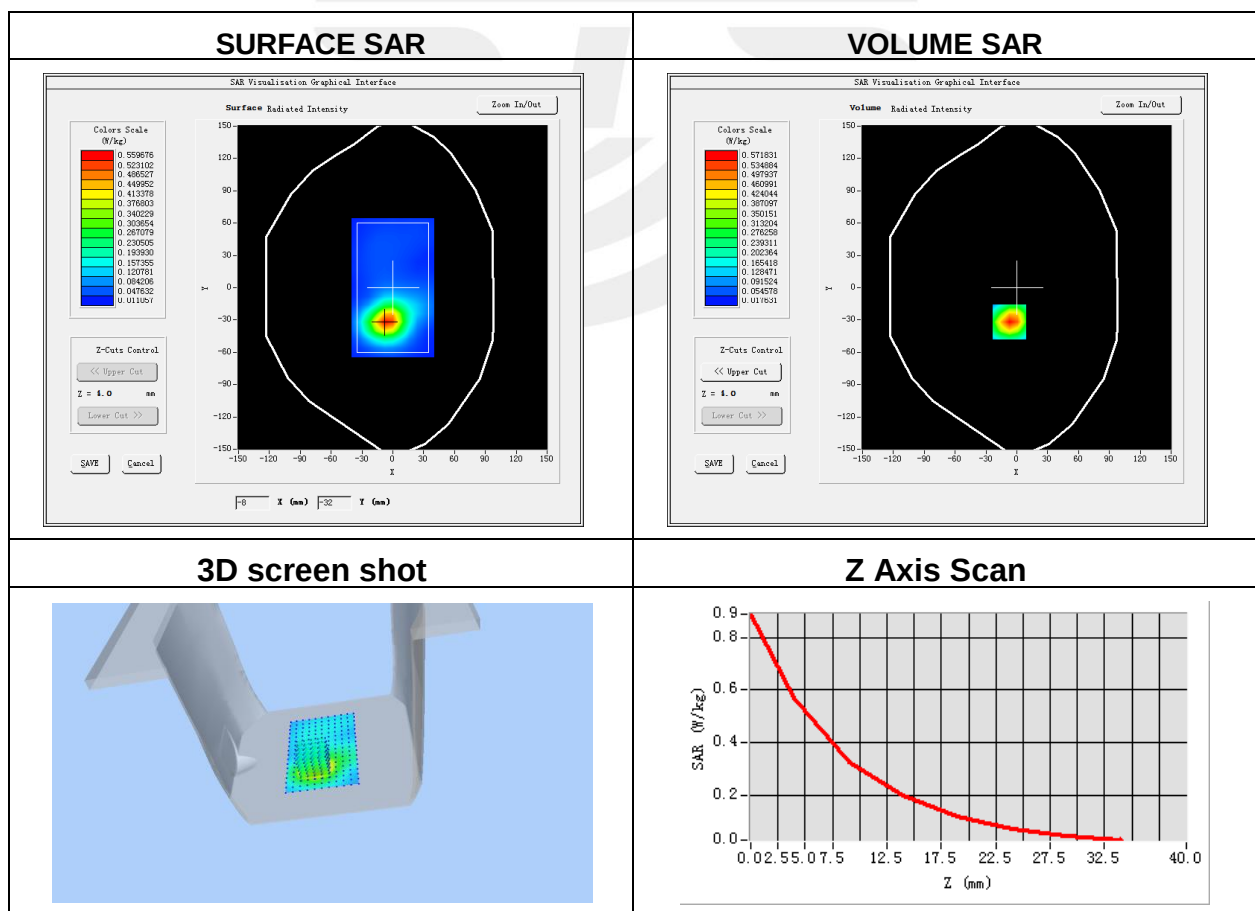
Plot 12: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-16
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	SA N2
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	1860
Relative permittivity (real part)	41.17
Conductivity (S/m)	1.39

Maximum location: X=-7.00, Y=-32.00

SAR Peak: 0.88 W/kg

SAR 10g (W/Kg)	0.281632
SAR 1g (W/Kg)	0.536584





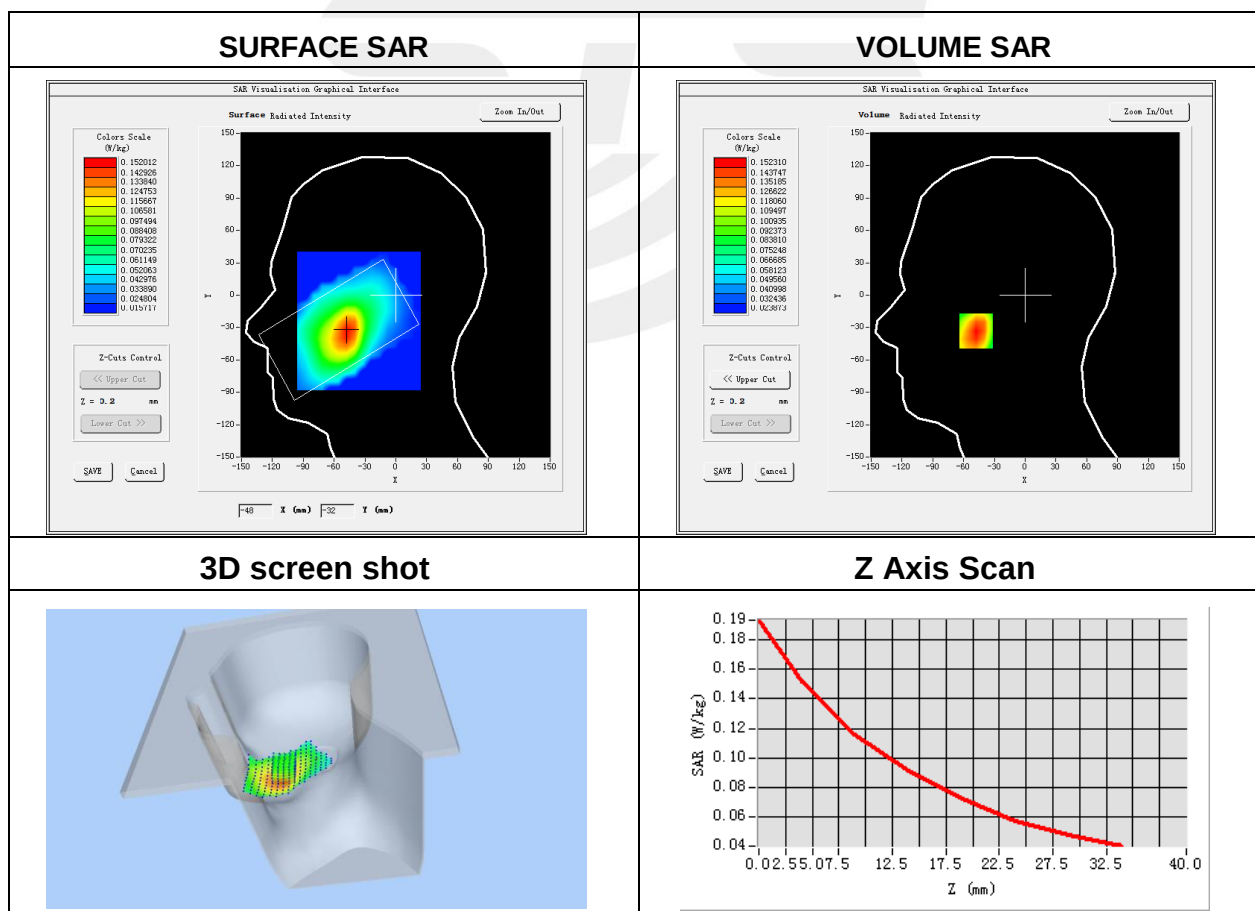
Plot 13: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-04
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	SA N5
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-48.00, Y=-33.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.104956
SAR 1g (W/Kg)	0.147229





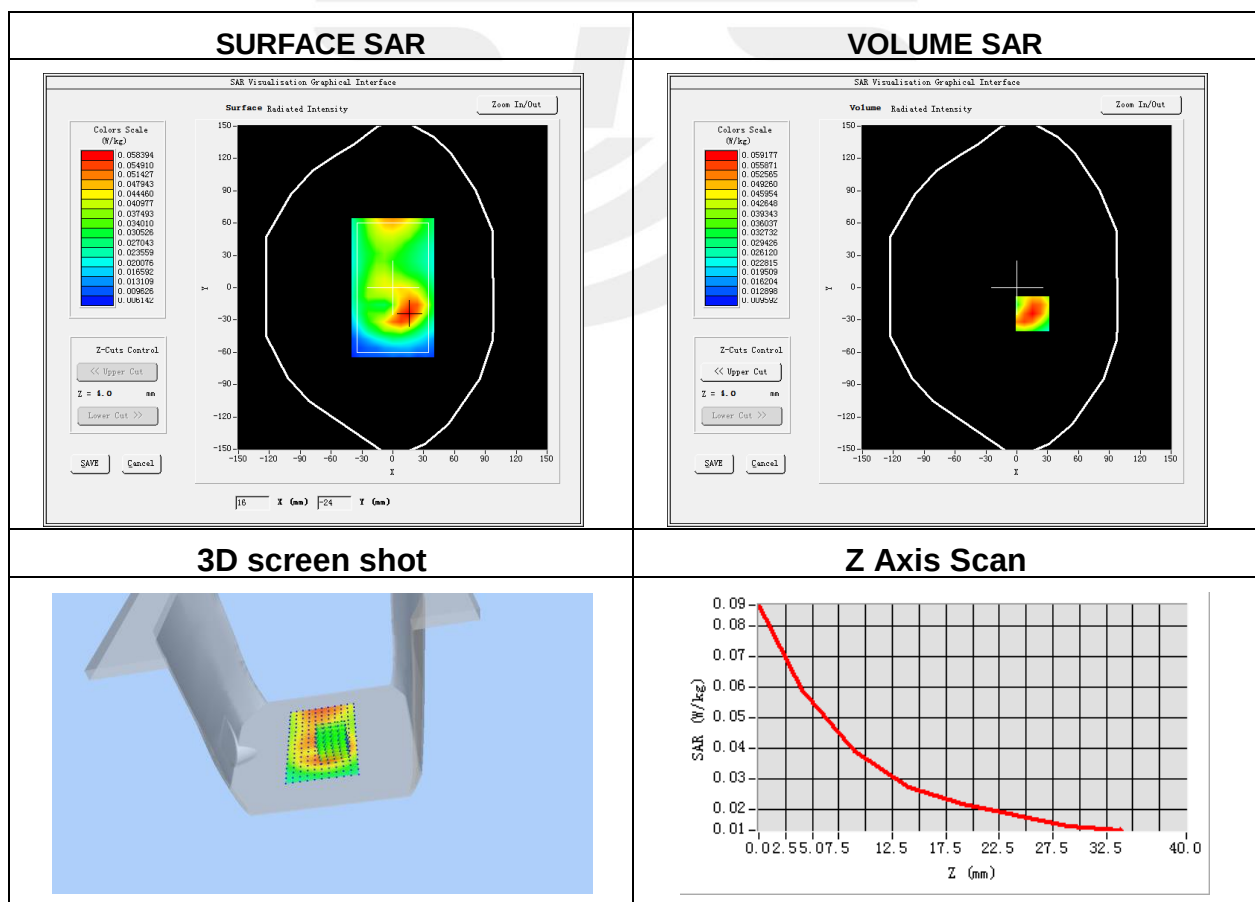
Plot 14: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-10
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	SA N5
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.14
Conductivity (S/m)	0.89

Maximum location: X=15.00, Y=-24.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.036626
SAR 1g (W/Kg)	0.057436





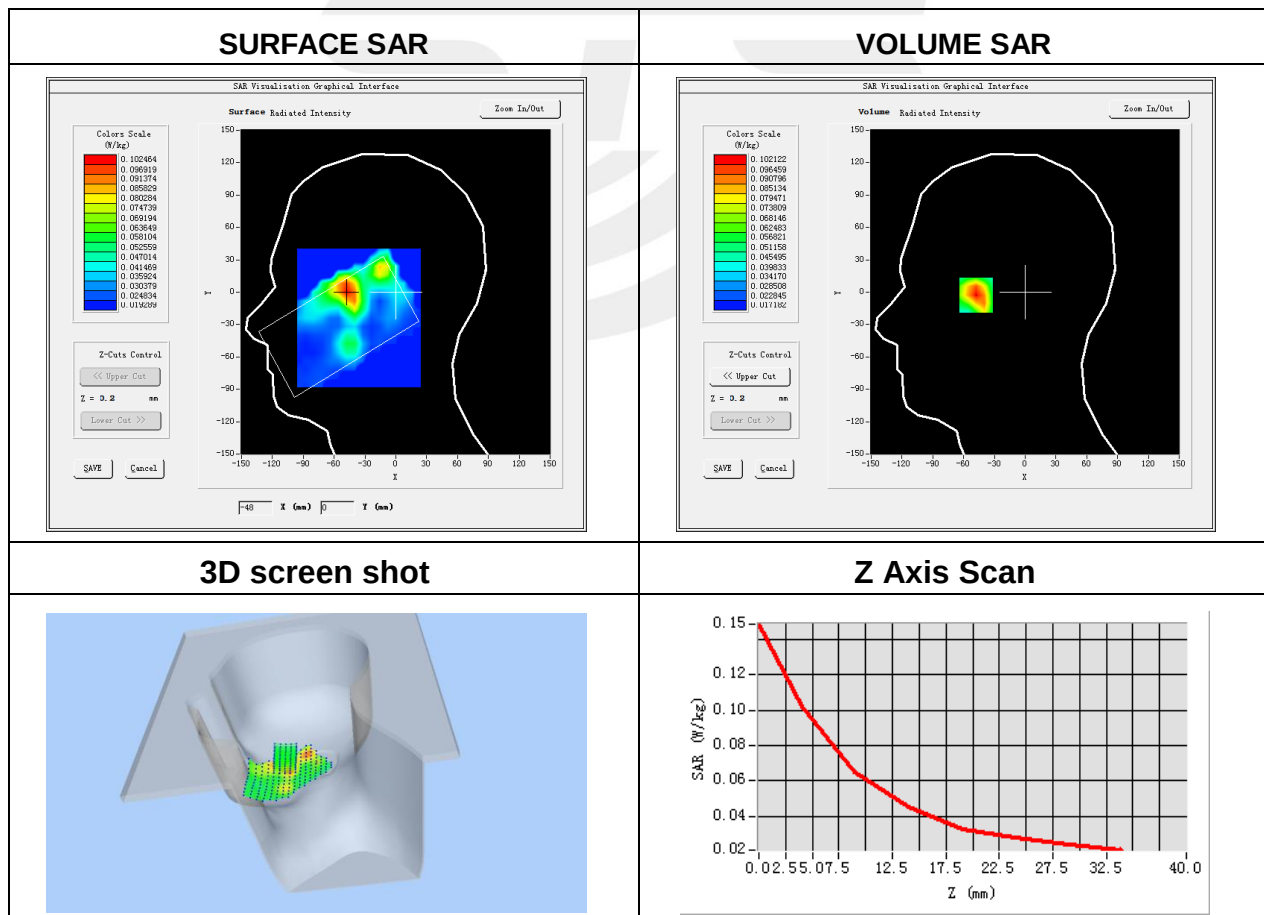
Plot 15: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-11
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	SA N7
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=-48.00, Y=1.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.059103
SAR 1g (W/Kg)	0.097626





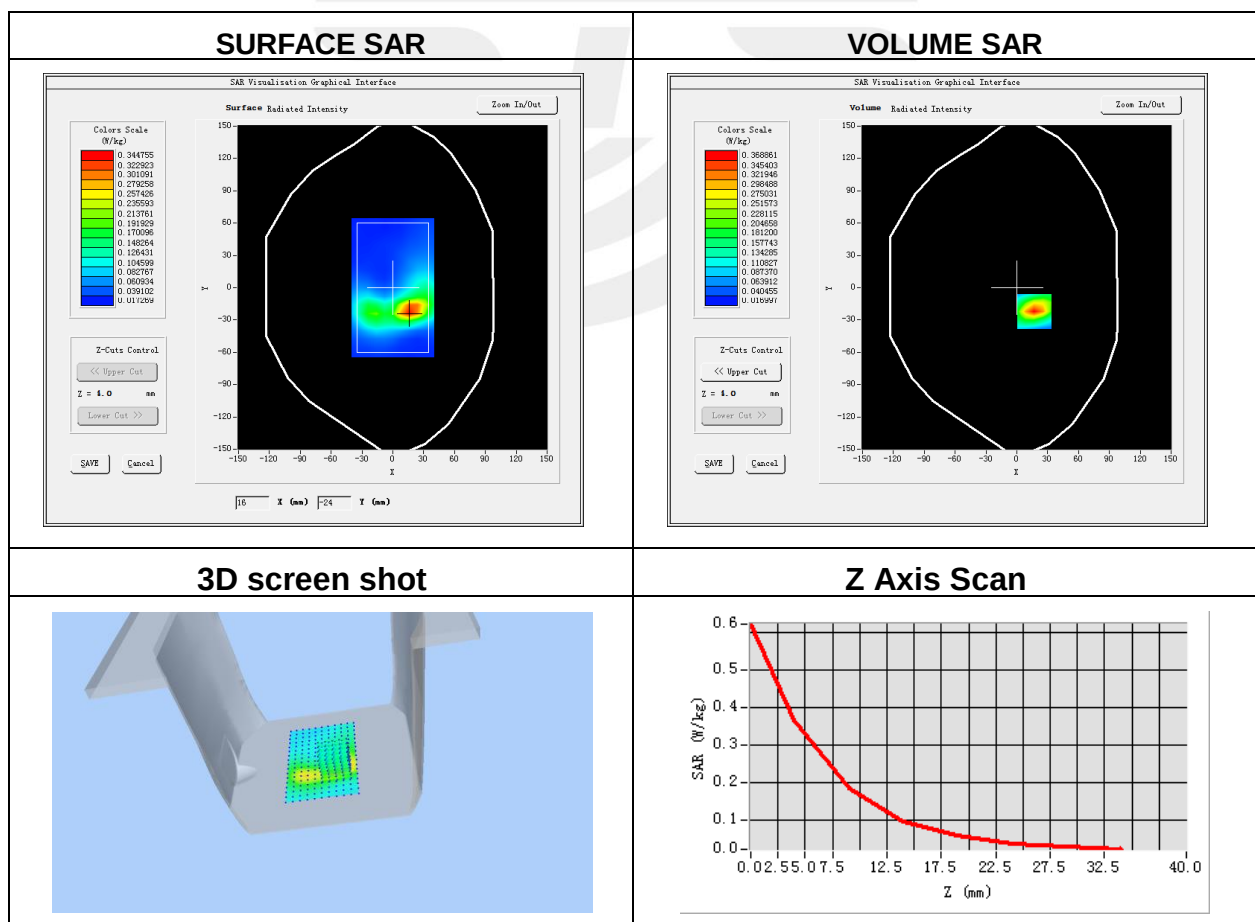
Plot 16: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-18
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	SA N7
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	38.64
Conductivity (S/m)	1.94

Maximum location: X=17.00, Y=-22.00

SAR Peak: 0.62 W/kg

SAR 10g (W/Kg)	0.160048
SAR 1g (W/Kg)	0.339332





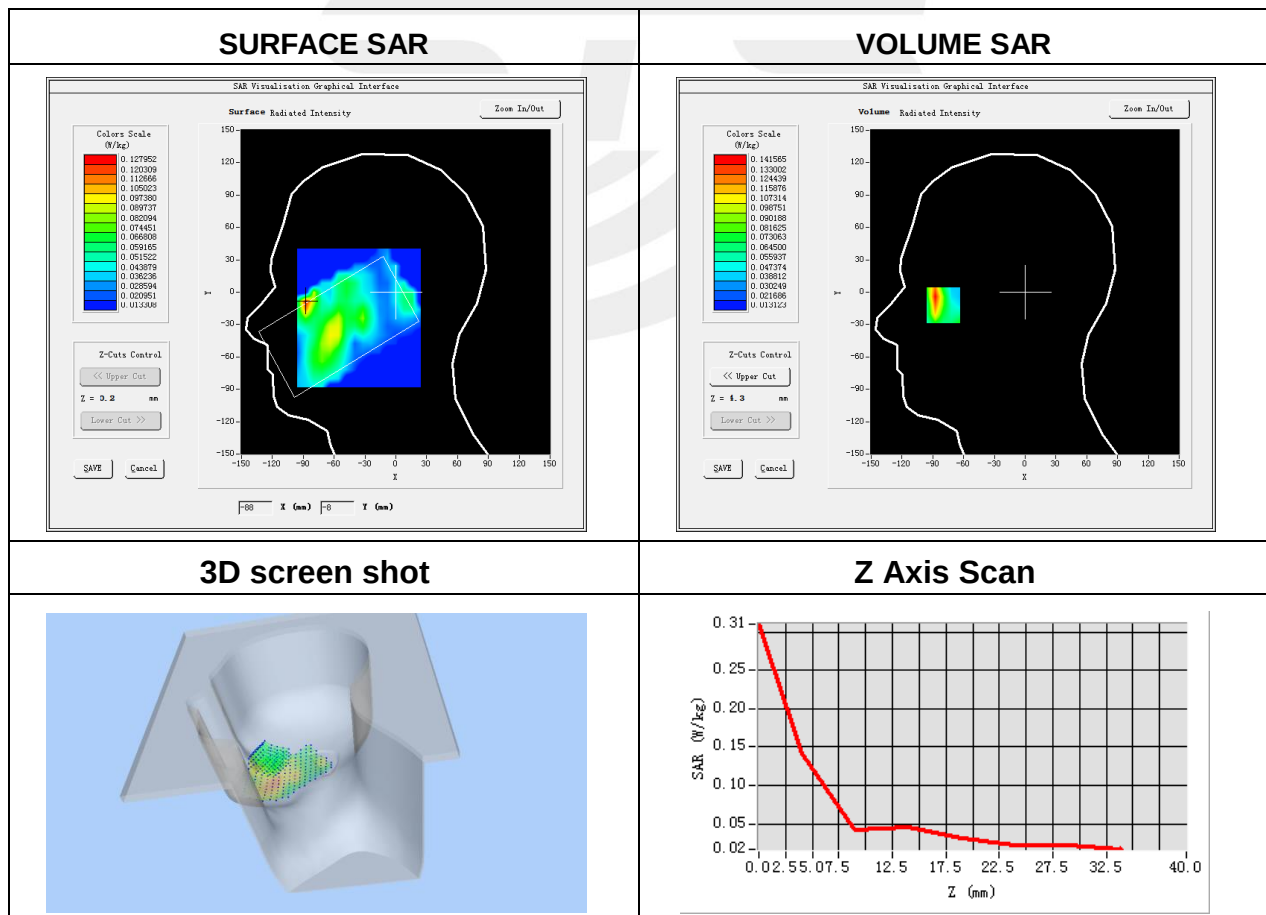
Plot 17: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-01-11
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right Cheek
Device Position	Cheek
Band	SA N41
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	2592.99
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=-80.00, Y=-9.00

SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.068011
SAR 1g (W/Kg)	0.129846





Plot 18: DUT: 5G Smart phone; EUT Model: BM1S4L

Test Date	2022-05-18
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	SA N41
Signal	Duty Cycle: 1.00 (Crest factor: 1.0)
Frequency (MHz)	2592.99
Relative permittivity (real part)	38.87
Conductivity (S/m)	1.95

Maximum location: X=6.00, Y=8.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.052968
SAR 1g (W/Kg)	0.090340

