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FCC SAR TEST REPORT

Report No.: STS2108077H01

Issued for

JACS Solutions, Inc.

809 Pinnacle Drive, Suite R, Linthicum Heights, MD 21090

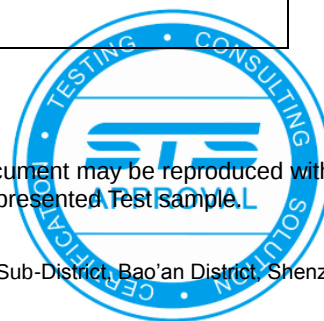
Product Name:	TG0813 8 inch Tablet
Brand Name:	N/A
Model Name:	TG0813
Series Model:	N/A
FCC ID:	2AGCDJACSTG0813
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Body: 0.755 W/kg

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Test Report Certification

Applicant's name : JACS Solutions, Inc.

Address..... : 809 Pinnacle Drive, Suite R, Linthicum Heights, MD 21090

Manufacture's Name : JACS Solutions, Inc.

Address..... : 809 Pinnacle Drive, Suite R, Linthicum Heights, MD 21090

Product description

Product name..... : TG0813 8 inch Tablet

Brand name : N/A

Model name : TG0813

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..... : 27 Aug. 2021 ~ 26 Aug. 2021

Date of Issue : 30 Aug. 2021

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

Testing Engineer :

(Shifan. Long)

Technical Manager :

(Sean she)

Authorized Signatory :

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	30 Aug. 2021	STS2108077H01	ALL	Initial Issue





1. General Information

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

1.1 EUT Description

Product Name	TG0813 8 inch Tablet		
Brand Name	N/A		
Model Name	TG0813		
Series Model	N/A		
Model Difference	N/A		
Battery	Rated Voltage: 3.7V Charge Limit: 4.2V Capacity: 8000mAh		
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population / Uncontrolled		
Hardware Version	V5.0		
Software Version	TG0813 8 inch Tablet		
Frequency Range	LTE Band 48: 3550-3700MHz WLAN802.11b/g/n(HT20)/n(HT40): 2412~2462MHz 2.4G WLAN 802.11b/g/n20/n40: 2412 to 2462 MHz 5.2G WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 to 5250 MHz 5.3G WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5250 to 5350 MHz 5.6G WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5470 to 5725 MHz 5.8G WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 to 5875 MHz Bluetooth: 2402 to 2480 MHz		
Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Body worn and hotspot (W/kg)
	PCB	LTE Band 48	0.588
	DTS	2.4GHz WLAN ANT 1	0.755
	DTS	2.4GHz WLAN ANT 2	0.585
	DTS	2.4GHz WLAN ANT 1+2	0.566
	NII	5.2GHz WLAN ANT 1	0.605
	NII	5.2GHz WLAN ANT 2	0.393
	NII	5.2GHz WLAN ANT 1+2	0.721
	NII	5.3GHz WLAN ANT 1	0.485
	NII	5.3GHz WLAN ANT 2	0.351
	NII	5.3GHz WLAN ANT 1+2	0.681
	NII	5.6GHz WLAN ANT 1	0.484
	NII	5.6GHz WLAN ANT 2	0.348
	NII	5.6GHz WLAN ANT 1+2	0.659
	NII	5.8GHz WLAN ANT 1	0.473



	NII	5.8GHz WLAN ANT 2	0.401
	NII	5.8GHz WLAN ANT 1+2	0.737
	DSS	Bluetooth ^{Note}	0.263
FCC Equipment Class	PCS Licensed Transmitter(PCB) Part 15 Spread Spectrum Transmitter (DSS) Unlicensed National Information Infrastructure TX (NII) Digital Transmission System (DTS)		
Operating Mode	WCDMA: RMC LTE: QPSK, 16QAM WLAN: 802.11 a/b/g/n20/n40/ac20/ac40/ac80 Bluetooth: 4.0EDR (GFSK + π /4DQPSK+8DPSK) BLE: GFSK		
Antenna Specification	PIFA Antenna		
Hotspot Mode	Support		
DTM Mode	Not Support		
Note: 1. Bluetooth SAR was estimated 2. 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 D06 v02r01	Hotspot Mode SAR
9	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
10	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:

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

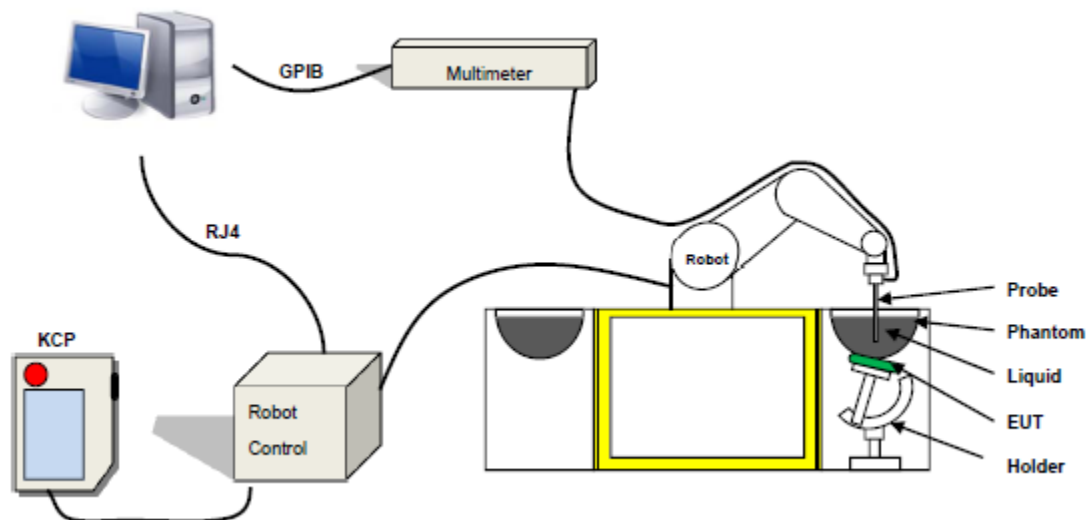
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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 EPG0352 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: 450 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.

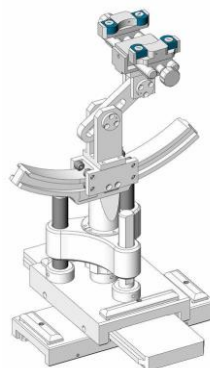


Figure-SN 32/14 SAM115



Figure-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

4.1 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]					
2021-08-17	23.7	59	2412 MHz	23.5	Permittivity	39.26	39.62	0.92	±5
					Conductivity	1.77	1.76	-0.56	±5
2021-08-17	23.7	59	2437 MHz	23.5	Permittivity	39.22	39.82	1.53	±5
					Conductivity	1.79	1.76	-1.68	±5
2021-08-17	23.7	59	2450 MHz	23.5	Permittivity	39.2	39.33	0.33	±5
					Conductivity	1.8	1.78	-1.11	±5
2021-08-17	23.7	59	2462 MHz	23.5	Permittivity	39.18	39.17	-0.03	±5
					Conductivity	1.81	1.84	1.66	±5
2021-08-26	22.9	53	3500 MHz	22.6	Permittivity	37.93	38.18	0.66	±5
					Conductivity	2.91	2.87	-1.37	±5
2021-08-26	22.9	53	3560 MHz	22.6	Permittivity	37.93	38.40	1.24	±5
					Conductivity	2.91	2.92	0.34	±5
2021-08-18	24.1	55	5200 MHz	23.9	Permittivity	36	37.08	3.00	±5
					Conductivity	4.66	4.58	-1.72	±5
2021-08-18	24.1	55	5230 MHz	23.9	Permittivity	37.86	39.30	3.80	±5
					Conductivity	2.98	2.92	-2.01	±5
2021-08-18	24.1	55	5240 MHz	23.9	Permittivity	35.96	37.11	3.20	±5
					Conductivity	4.70	4.69	-0.21	±5
2021-08-18	24.1	55	5300 MHz	23.9	Permittivity	35.8	35.74	-0.17	±5
					Conductivity	4.86	4.92	1.23	±5
2021-08-18	24.1	55	5310 MHz	23.9	Permittivity	35.89	35.91	0.06	±5
					Conductivity	4.77	4.74	-0.63	±5
2021-08-18	24.1	55	5320 MHz	23.9	Permittivity	35.88	35.14	-2.06	±5
					Conductivity	4.78	4.72	-1.26	±5
2021-08-19	22.3	54	5500MHz	22.0	Permittivity	35.68	35.92	0.67	±5
					Conductivity	4.96	4.95	-0.20	±5
2021-08-19	22.3	54	5510MHz	22.0	Permittivity	35.66	35.79	0.36	±5
					Conductivity	4.97	4.84	-2.62	±5
2021-08-19	22.3	54	5600 MHz	22.0	Permittivity	35.5	35.82	0.90	±5
					Conductivity	5.07	5.17	1.97	±5
2021-08-19	22.3	54	5745MHz	22.0	Permittivity	35.37	35.00	-1.05	±5
					Conductivity	5.21	5.21	0.00	±5



2021-08-19	22.3	54	5755MHz	22.0	Permittivity	35.36	35.75	1.10	±5
					Conductivity	5.22	5.23	0.19	±5
2021-08-19	22.3	54	5800MHz	22.0	Permittivity	35.3	35.03	-0.76	±5
					Conductivity	5.27	5.31	0.76	±5

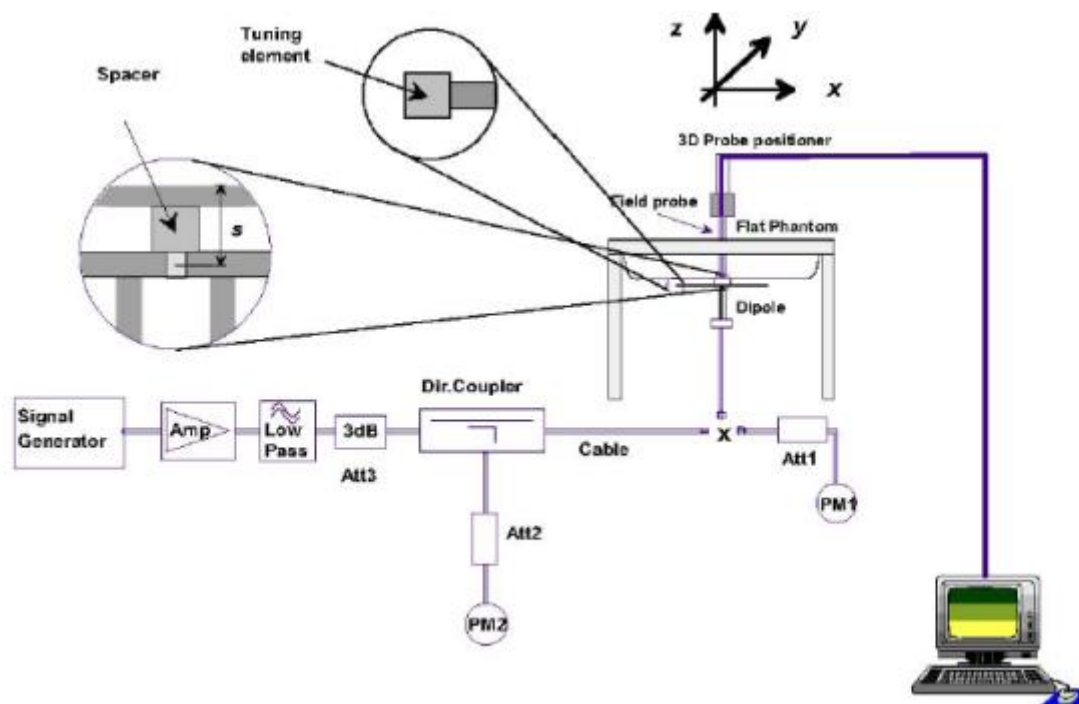


5. SAR System Validation

5.1 Validation System

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

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



5.2 Validation Result

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

Date	Freq. (MHz)	Power (mW)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target SAR (W/kg)	Tolerance (%)	Limit (%)
2021-08-17	2450	100	5.357	53.57	52.40	2.23	10
2021-08-26	3500	100	6.380	63.80	67.10	-4.92	10
2021-08-18	5200	100	15.745	157.45	159.00	-0.97	10
2021-08-18	5300	100	16.619	166.19	166.40	-0.13	10
2021-08-19	5600	100	17.296	172.96	173.80	-0.48	10
2021-08-19	5800	100	17.992	179.92	181.20	-0.71	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.

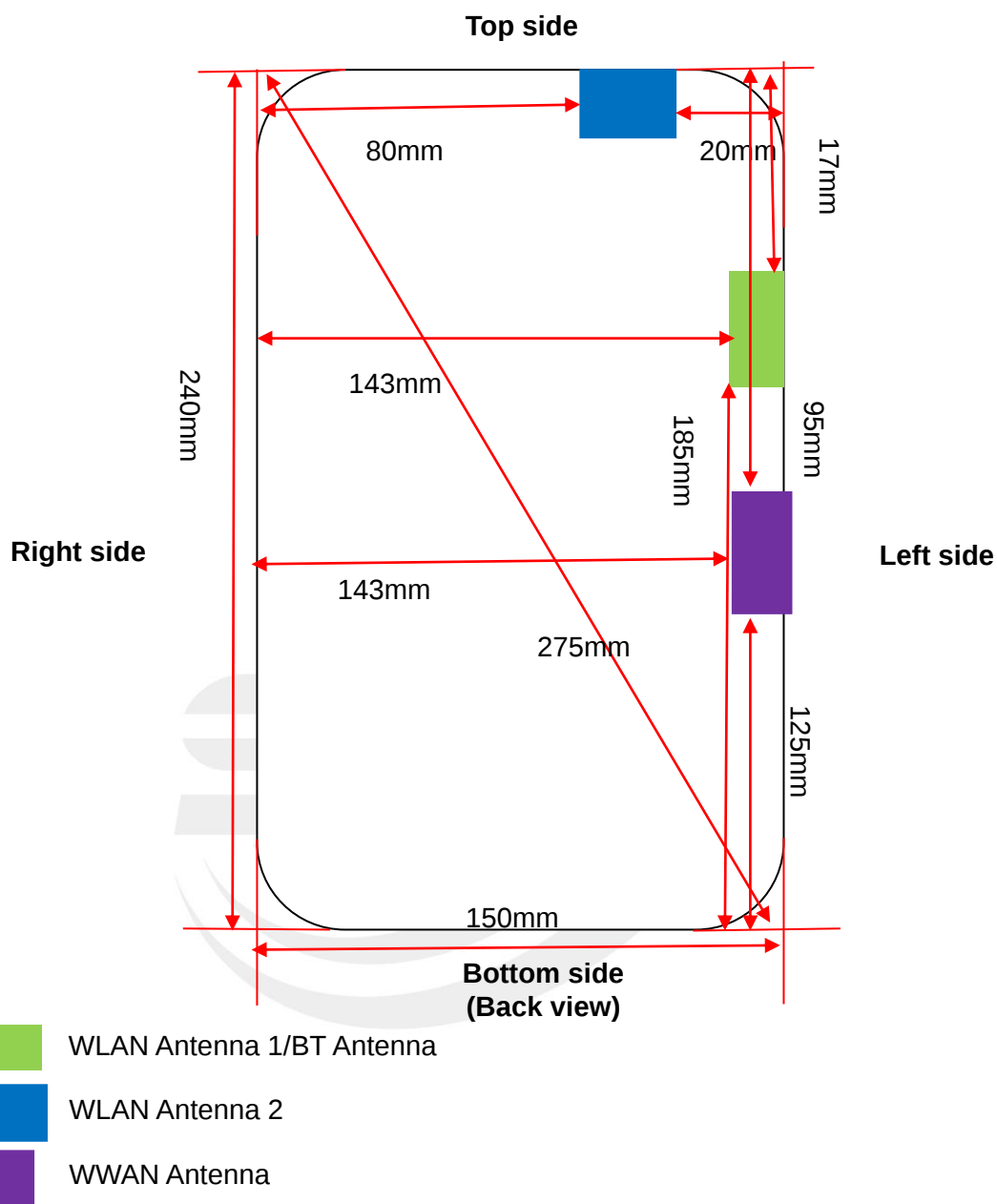
Area Scan& Zoom Scan:

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 D01v01r01 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 TG0813 8 inch Tablet, support LTE/BT/WLAN mode.



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	LTE Band 48	BLE	2.4G WLAN 802.11b ANT1	2.4G WLAN 802.11b ANT2	2.4G WLAN 802.11n20 ANT 1
	Calculated Frequency(MHz)	3560	2440	2412	2437	2437
	Maximum power (dBm)	21	8	23	21.5	26.2
	Maximum rated power(mW)	125.89	6.31	199.53	141.25	416.87
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	7.95	9.60	9.66	9.61	9.61
	Testing required?	YES	NO	YES	YES	YES
Left Edge	Separation distance (mm)	5	5	5	20	5
	exclusion threshold(mW)	7.95	9.60	9.66	38.43	9.61
	Testing required?	YES	NO	YES	YES	YES
Right Edge	Separation distance (mm)	143	145	145	80	145
	exclusion threshold(mW)	1009.50	1046.03	1046.58	396.09	1046.09
	Testing required?	NO	NO	NO	NO	NO
Top Edge	Separation distance (mm)	95	17	17	5	17
	exclusion threshold(mW)	529.50	32.65	32.84	9.61	32.67
	Testing required?	NO	NO	YES	YES	YES
Bottom Edge	Separation distance (mm)	125	185	185	240	185
	exclusion threshold(mW)	829.50	1446.03	1446.58	1996.09	1446.09
	Testing required?	NO	NO	NO	NO	NO



Exposure Position	Wireless Interface	2.4G WLAN 802.11n20 ANT 2	5.2G WLAN 802.11a ANT 1	5.2G WLAN 802.11a ANT 2	5.2G WLAN 802.11ac (VHT40) ANT 1	5.2G WLAN 802.11ac (VHT40) ANT 2
	Calculated Frequency(MHz)	2437	5240	5200	5230	5230
	Maximum power (dBm)	26.2	13.5	13	16.2	16.2
	Maximum rated power(mW)	416.87	22.39	19.95	41.69	41.69
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.61	6.55	6.58	6.56	6.56
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	20	5	20	5	20
	exclusion threshold(mW)	38.43	6.55	26.31	6.56	26.24
	Testing required?	YES	YES	NO	YES	YES
Right Edge	Separation distance (mm)	80	145	80	145	80
	exclusion threshold(mW)	396.09	1015.53	365.78	1015.59	365.59
	Testing required?	YES	NO	NO	NO	NO
Top Edge	Separation distance (mm)	5	17	5	17	5
	exclusion threshold(mW)	9.61	22.28	6.58	22.30	6.56
	Testing required?	YES	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	240	185	240	185	240
	exclusion threshold(mW)	1996.09	1415.53	1965.78	1415.59	1965.59
	Testing required?	NO	NO	NO	NO	NO



Exposure Position	Wireless Interface	5.3G WLAN 802.11a ANT 1	5.3G WLAN 802.11a ANT 2	5.3G WLAN 802.11n (HT40) ANT 1	5.3G WLAN 802.11n (HT40) ANT 2	5.6G WLAN 802.11a ANT 1
	Calculated Frequency(MHz)	5300	5320	5310	5310	5500
	Maximum power (dBm)	13.6	13.2	16.5	16.5	14.6
	Maximum rated power(mW)	22.91	20.89	44.67	44.67	28.84
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	6.52	6.50	6.51	6.51	6.40
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	5	20	5	20	5
	exclusion threshold(mW)	6.52	26.01	6.51	26.04	6.40
	Testing required?	YES	NO	YES	YES	YES
Right Edge	Separation distance (mm)	145	80	145	80	145
	exclusion threshold(mW)	1015.16	365.03	1015.09	365.09	1013.96
	Testing required?	NO	NO	NO	NO	NO
Top Edge	Separation distance (mm)	17	5	17	5	17
	exclusion threshold(mW)	22.15	6.50	22.13	6.51	21.75
	Testing required?	YES	YES	YES	YES	YES
Bottom Edge	Separation distance (mm)	185	240	185	240	185
	exclusion threshold(mW)	1415.16	1965.03	1415.09	1965.09	1413.96
	Testing required?	NO	NO	NO	NO	NO



Exposure Position	Wireless Interface	5.6G WLAN 802.11a ANT 2	5.6G WLAN 802.11ac (VHT40) ANT 1	5.6G WLAN 802.11ac (VHT40) ANT 2	5.8G WLAN 802.11a ANT 1	5.8G WLAN 802.11a ANT 2
	Calculated Frequency(MHz)	5500	5510	5510	5745	5745
	Maximum power (dBm)	14.5	17.5	17.5	11	11.8
	Maximum rated power(mW)	28.18	56.23	56.23	12.59	15.14
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	6.40	6.39	6.39	6.26	6.26
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	20	5	20	5	20
	exclusion threshold(mW)	25.58	6.39	25.56	6.26	25.03
	Testing required?	YES	YES	YES	YES	NO
Right Edge	Separation distance (mm)	80	145	80	145	80
	exclusion threshold(mW)	363.96	1013.90	363.90	1012.58	362.58
	Testing required?	NO	NO	NO	NO	NO
Top Edge	Separation distance (mm)	5	17	5	17	5
	exclusion threshold(mW)	6.40	21.73	6.39	21.28	6.26
	Testing required?	YES	YES	YES	NO	YES
Bottom Edge	Separation distance (mm)	240	185	240	185	240
	exclusion threshold(mW)	1963.96	1413.90	1963.90	1412.58	1962.58
	Testing required?	NO	NO	NO	NO	NO



Exposure Position	Wireless Interface	5.8G WLAN 802.11ac (VHT40) ANT 1	5.8G WLAN 802.11ac(VHT40) ANT 2
	Calculated Frequency(MHz)	5755	5755
	Maximum power (dBm)	14.5	14.5
	Maximum rated power(mW)	28.18	28.18
Back Side	Separation distance (mm)	5	5
	exclusion threshold(mW)	6.25	6.25
	Testing required?	YES	YES
Left Edge	Separation distance (mm)	5	20
	exclusion threshold(mW)	6.25	25.01
	Testing required?	YES	YES
Right Edge	Separation distance (mm)	145	80
	exclusion threshold(mW)	1012.53	362.53
	Testing required?	NO	NO
Top Edge	Separation distance (mm)	17	5
	exclusion threshold(mW)	21.26	6.25
	Testing required?	YES	YES
Bottom Edge	Separation distance (mm)	185	240
	exclusion threshold(mW)	1412.53	1962.53
	Testing required?	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.



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

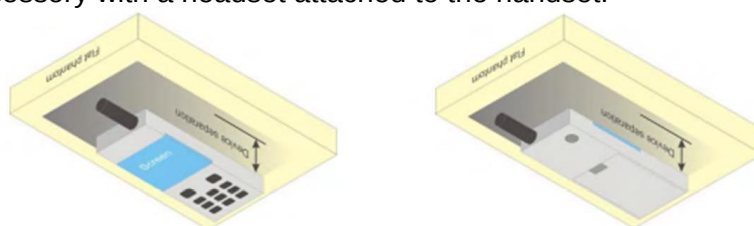
For <50mm distance, we just calculate mW of the exclusion threshold value(3.0) to do compare
5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
 - a) [threshold at 50mm in step 1] + (test separation distance - 50mm) * (f (MHz)/150) mW, at 100 MHz to 1500 MHz
 - b) [threshold at 50mm in step 1] + (test separation distance - 50mm) * 10 mW at > 1500MHz and $\leq 6\text{GHz}$
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8. for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of 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 Front Face and Rear Face.

8.1 Body-worn Position Conditions

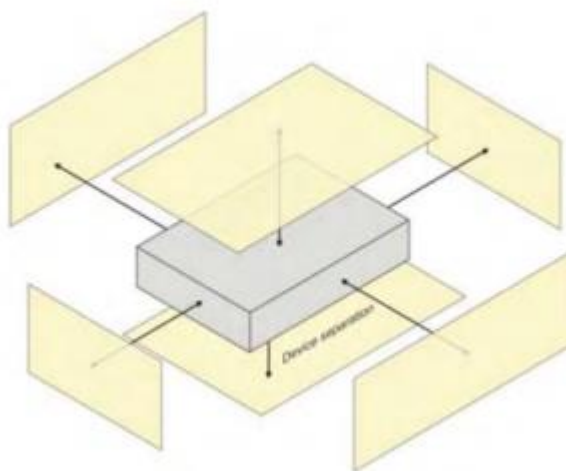
Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same 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 $9\text{cm} \times 5\text{cm}$, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration(surface).





9. Uncertainty

9.1 Measurement Uncertainty

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

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	v_i
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.28	0.28	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.43	0.43	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0	R	$\sqrt{3}$	1	1	0	0	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.6	2.6	∞
Device holder uncertainty	3	N	1	1	1	3	3	∞
SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
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	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity(temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity(measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity(temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity(measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.79	9.59	
Expanded Uncertainty (95% Confidence interval)		K=2				19.58	19.18	



9.2 System validation Uncertainty

Uncertainty Component	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	1	1	0.40	0.40	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-Processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
System validation source								
Deviation of experimental dipole from numerical dipole	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Other source contribution Uncertainty	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and set-up								
Phantom uncertainty(shape and thickness uncertainty)	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity(temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity(measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity(temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity(measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.718	9.517	
Expanded Uncertainty (95% Confidence interval)		K=2				19.44	19.04	



10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

Test Mode	Frequency (MHz)	Tx Type	Measured Average Output Power (dBm)			Verdict
			Ant 1	Ant 2	Total	
802.11b	2412	SISO	22.57	20.18	/	PASS
	2437	SISO	22.41	21.35	/	PASS
	2462	SISO	22.27	19.96	/	PASS
802.11g	2412	SISO	22.23	22.51	/	PASS
	2437	SISO	22.39	23.58	/	PASS
	2462	SISO	21.61	22.64	/	PASS
802.11n(HT20)	2412	MIMO	21.90	22.65	25.30	PASS
	2437	MIMO	23.11	23.21	26.17	PASS
	2462	MIMO	22.43	22.53	25.49	PASS

BT

Test Mode	Frequency (MHz)	Tx Type	Measured Average Output Power (dBm)	Verdict
			Ant 1	
GFSK	2402	SISO	7.16	PASS
	2441	SISO	7.88	PASS
	2480	SISO	7.53	PASS
Pi/4DQPSK	2402	SISO	5.12	PASS
	2441	SISO	5.8	PASS
	2480	SISO	5.37	PASS
8DPSK	2402	SISO	5.11	PASS
	2441	SISO	5.89	PASS
	2480	SISO	5.56	PASS

**BLE**

Test Mode	Frequency (MHz)	Tx Type	Measured Average Output Power (dBm)	Verdict
			Ant 1	
1M	2402	SISO	7.27	PASS
	2440	SISO	7.99	PASS
	2480	SISO	7.54	PASS
2M	2402	SISO	7.19	PASS
	2440	SISO	7.85	PASS
	2480	SISO	7.55	PASS

5G WLAN

Test Mode	Frequency (MHz)	Tx Type	Measured Output Power (dBm)			Verdict
			Ant 1	Ant 2	Total	
802.11a	5180	SISO	12.49	12.44	/	PASS
	5200	SISO	12.99	12.77	/	PASS
	5240	SISO	13.18	12.53	/	PASS
	5260	SISO	13.2	12.94	/	PASS
	5300	SISO	13.57	12.97	/	PASS
	5320	SISO	13.49	13.13	/	PASS
	5500	SISO	14.51	14.24	/	PASS
	5580	SISO	13	13.01	/	PASS
	5600	SISO	12.14	12.21	/	PASS
	5700	SISO	10.51	11.23	/	PASS
	5745	SISO	10.57	11.72	/	PASS
	5785	SISO	9.72	11.29	/	PASS
	5825	SISO	9.44	10.97	/	PASS
802.11n(HT20)	5180	MIMO	12.42	12.34	15.39	PASS
	5200	MIMO	12.83	12.43	15.64	PASS
	5240	MIMO	13.21	12.53	15.89	PASS
	5260	MIMO	13.02	12.84	15.94	PASS
	5300	MIMO	13.17	13.17	16.18	PASS
	5320	MIMO	13.25	13.09	16.18	PASS
	5500	MIMO	14.27	13.99	17.14	PASS
	5580	MIMO	12.83	12.9	15.88	PASS
	5600	MIMO	12	12.27	15.15	PASS
	5700	MIMO	10.51	11.29	13.93	PASS



	5745	MIMO	10.33	11.53	13.98	PASS
	5785	MIMO	9.68	11.19	13.51	PASS
	5825	MIMO	9.28	10.81	13.12	PASS
802.11n(HT40)	5190	MIMO	12.72	12.74	15.74	PASS
	5230	MIMO	13.26	12.67	15.99	PASS
	5270	MIMO	13.33	13.07	16.21	PASS
	5310	MIMO	13.55	13.23	16.4	PASS
	5510	MIMO	14.41	14.1	17.27	PASS
	5550	MIMO	13.54	13.57	16.57	PASS
	5590	MIMO	12.57	12.91	15.75	PASS
	5670	MIMO	11.05	11.69	14.39	PASS
	5755	MIMO	10.41	11.7	14.11	PASS
	5795	MIMO	9.65	11.2	13.5	PASS
802.11ac(VHT20)	5180	MIMO	8.91	9.31	12.12	PASS
	5200	MIMO	9.6	9.55	12.59	PASS
	5240	MIMO	9.95	9.59	12.78	PASS
	5260	MIMO	9.82	9.74	12.79	PASS
	5300	MIMO	10.04	10.3	13.18	PASS
	5320	MIMO	10.11	10.12	13.13	PASS
	5500	MIMO	11.05	11.08	14.08	PASS
	5580	MIMO	9.71	9.88	12.81	PASS
	5600	MIMO	9.01	9.11	12.07	PASS
	5700	MIMO	7.34	8.09	10.74	PASS
	5745	MIMO	6.89	8.25	10.63	PASS
	5785	MIMO	6.25	8	10.22	PASS
	5825	MIMO	5.43	7.44	9.56	PASS
802.11ac(VHT40)	5190	MIMO	12.78	12.82	15.81	PASS
	5230	MIMO	13.32	12.87	16.11	PASS
	5270	MIMO	13.5	13.17	16.35	PASS
	5310	MIMO	13.39	13.24	16.33	PASS
	5510	MIMO	14.38	14.35	17.38	PASS
	5550	MIMO	13.8	13.75	16.79	PASS
	5590	MIMO	12.64	12.84	15.75	PASS
	5670	MIMO	11.14	11.85	14.52	PASS
	5755	MIMO	10.47	11.96	14.29	PASS
	5795	MIMO	9.36	11.24	13.41	PASS



802.11ac(VHT80)	5210	MIMO	11.52	11.36	14.45	PASS
	5290	MIMO	11.92	11.7	14.82	PASS
	5530	MIMO	12.18	12.18	15.19	PASS
	5610	MIMO	10.42	10.88	13.67	PASS
	5775	MIMO	7.88	9.51	11.78	PASS

LTE Power

LTE Band 48 Maximum Average Power [dBm]							
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle1	Middle 2	Highest
5	1	0	QPSK	20.48	20.04	20.32	19.85
5	1	12		20.73	20.19	20.25	19.96
5	1	24		20.54	20.08	20.17	19.87
5	12	0		20.35	19.92	20.01	19.75
5	12	6		20.38	19.88	19.94	19.77
5	12	13		20.26	19.95	20.04	19.72
5	25	0		20.43	19.96	20.31	19.76
5	1	0	16-QAM	20.15	20.03	20.06	19.55
5	1	12		20.55	20.37	20.08	19.90
5	1	24		20.24	19.98	20.18	19.58
5	12	0		20.36	20.21	20.30	19.72
5	12	6		20.47	20.30	20.41	19.85
5	12	13		20.33	20.16	20.28	19.71
5	25	0		20.38	20.14	20.23	19.73
10	1	0	QPSK	20.29	19.81	19.75	19.66
10	1	24		20.40	19.95	19.83	19.78
10	1	49		20.33	19.87	19.92	19.72
10	25	0		20.36	19.98	20.16	19.85
10	25	12		20.33	19.96	19.85	19.84
10	25	25		20.38	19.98	19.97	19.90
10	50	0		20.36	19.94	20.15	19.84
10	1	0	16-QAM	19.63	19.15	19.44	18.97
10	1	24		20.32	19.99	19.24	19.78
10	1	49		19.59	19.20	19.26	19.00
10	25	0		20.08	19.63	19.48	19.45
10	25	12		20.30	19.85	19.96	19.65
10	25	25		20.05	19.67	19.71	19.49
10	50	0		19.99	19.61	19.85	19.43



LTE Band 48 Maximum Average Power [dBm]							
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle1	Middle 2	Highest
15	1	0	QPSK	19.68	18.93	19.07	18.72
15	1	37		19.82	19.11	19.14	18.99
15	1	74		19.77	19.02	19.51	18.83
15	36	0		19.52	19.43	19.39	19.02
15	36	19		19.44	19.77	19.02	19.01
15	36	39		19.60	19.41	19.36	18.89
15	75	0		19.52	19.46	19.28	19.05
15	1	0	16-QAM	18.96	18.63	18.59	18.39
15	1	37		19.25	19.79	19.43	19.51
15	1	74		18.92	18.66	18.25	18.44
15	36	0		19.60	19.32	19.27	19.05
15	36	19		19.96	19.67	19.64	19.39
15	36	39		19.57	19.30	19.25	19.06
15	75	0		19.56	19.32	19.26	19.04
20	1	0	QPSK	20.93	20.50	20.34	20.32
20	1	49		20.82	20.33	20.48	20.16
20	1	99		20.88	20.35	20.27	20.25
20	50	0		20.35	19.94	19.98	19.67
20	50	25		20.26	19.87	19.75	19.66
20	50	50		20.22	19.85	19.49	19.74
20	100	0		20.26	19.92	19.87	19.71
20	1	0	16-QAM	20.60	20.15	20.03	19.98
20	1	49		20.01	19.68	19.95	19.50
20	1	99		20.59	20.06	19.77	20.07
20	50	0		20.23	19.85	20.01	19.60
20	50	25		20.09	19.69	19.65	19.60
20	50	50		20.30	19.81	19.72	19.72
20	100	0		20.24	19.87	20.18	19.70

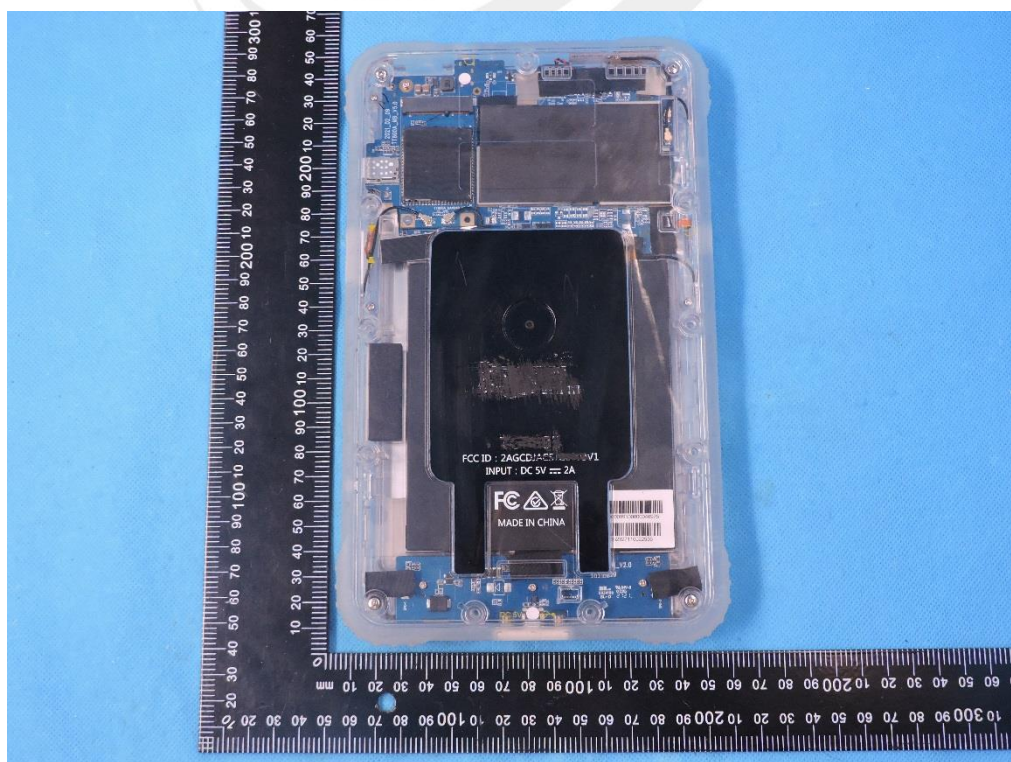
11. EUT And Test Setup Photo

11.1 EUT Photo

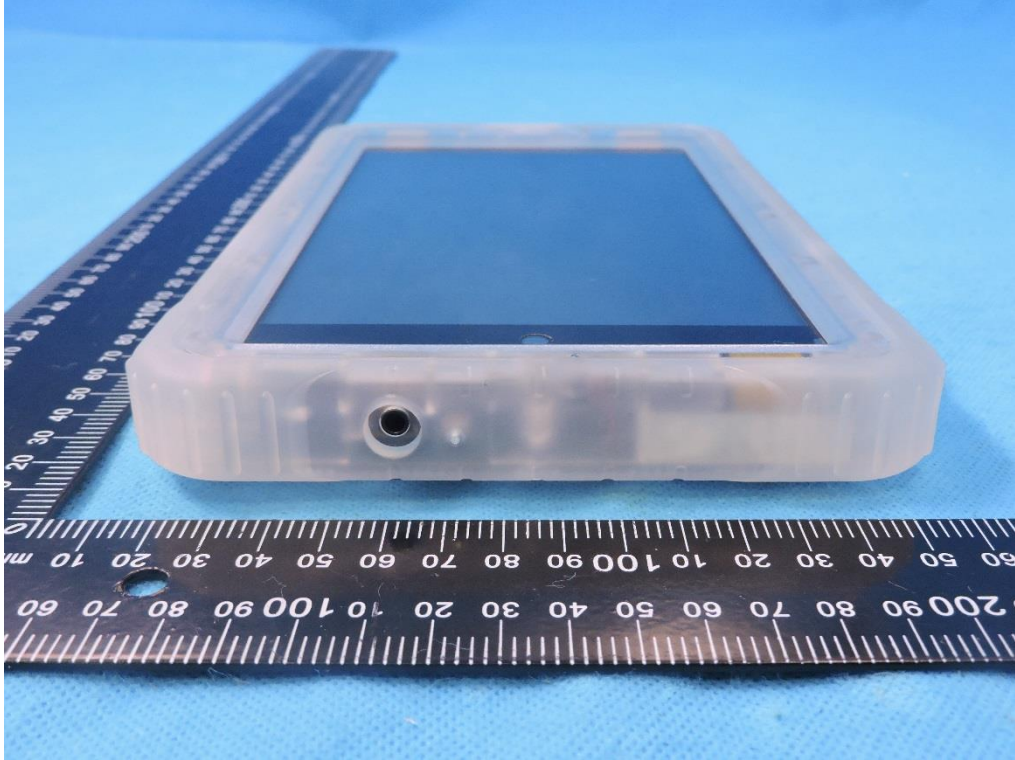
Front side



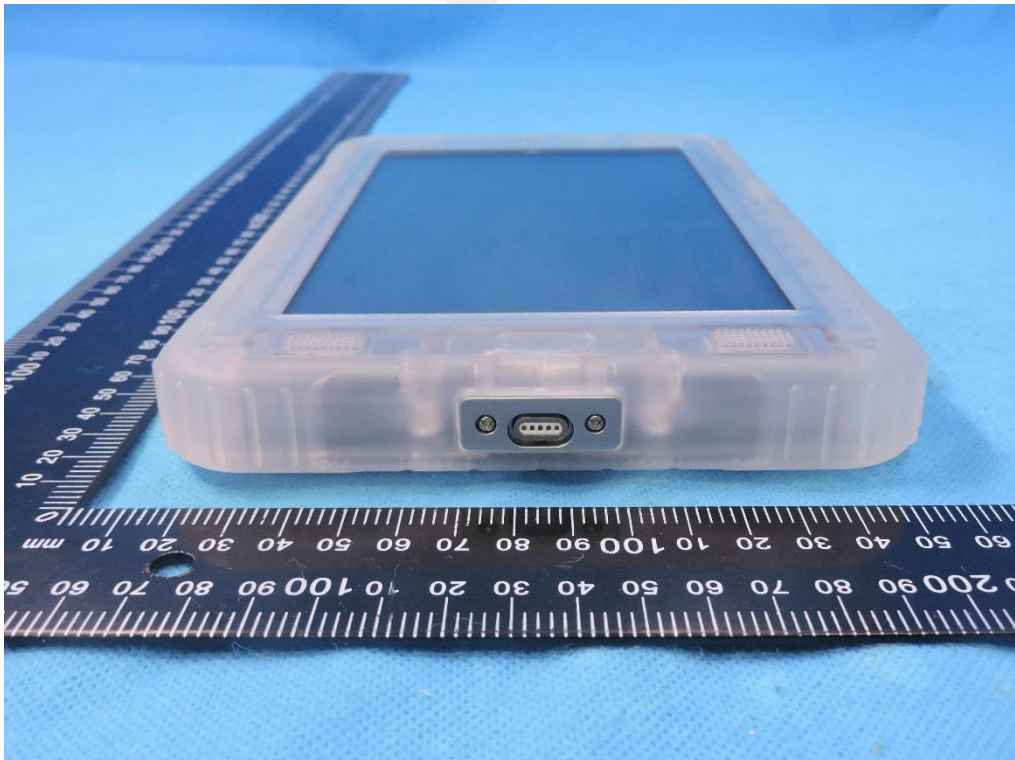
Back side



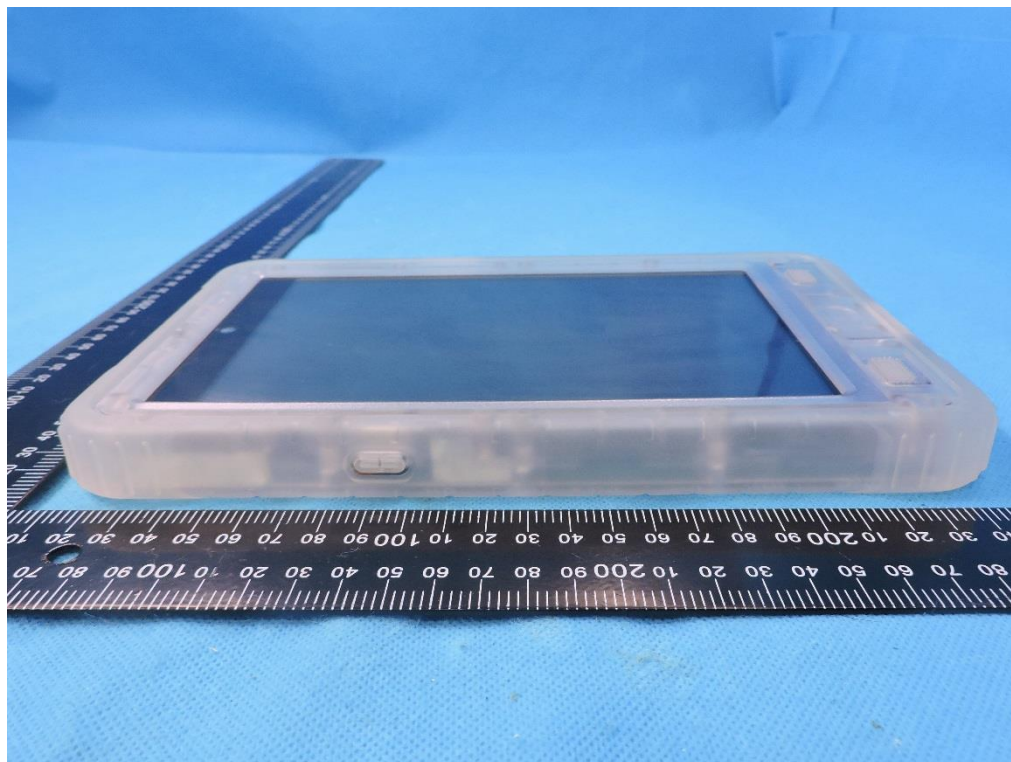
Top side



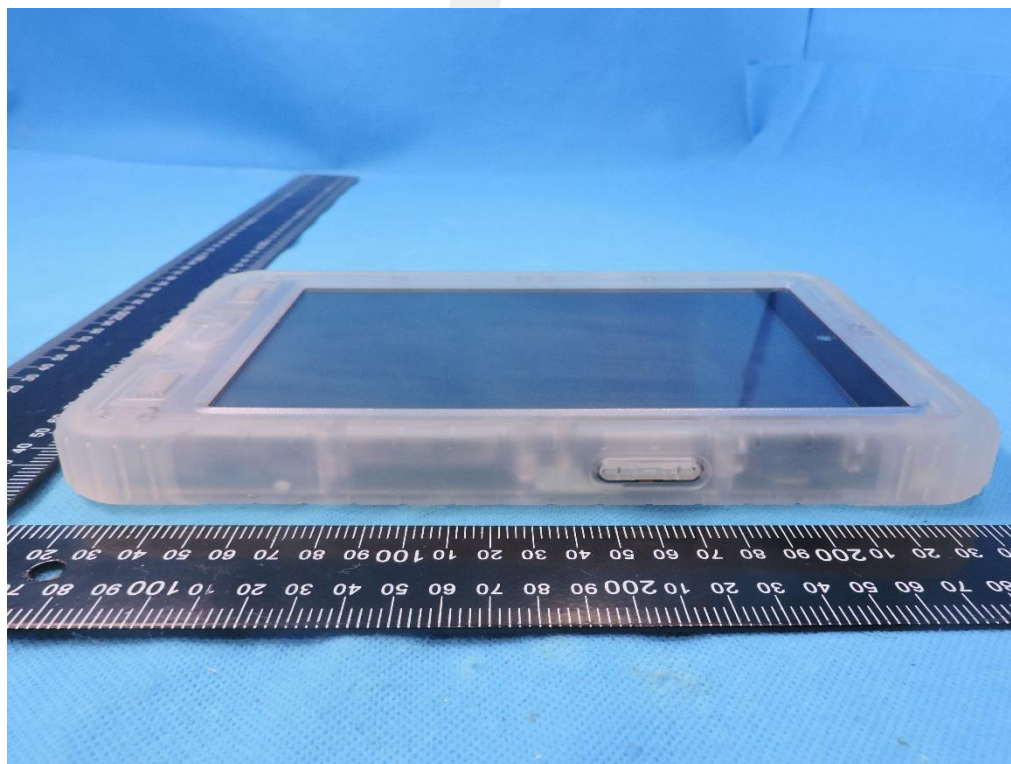
Bottom side



Left side



Right side



11.2 Setup Photo

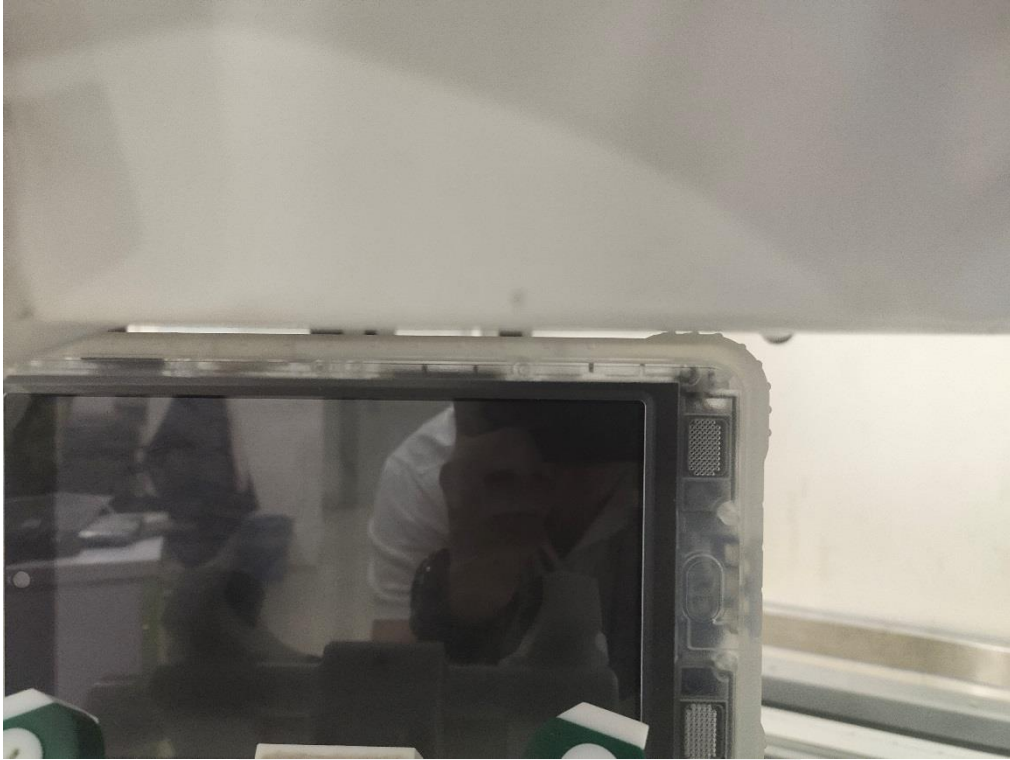
Body Back side(separation distance is 0mm)



Body Left side(separation distance is 0mm)



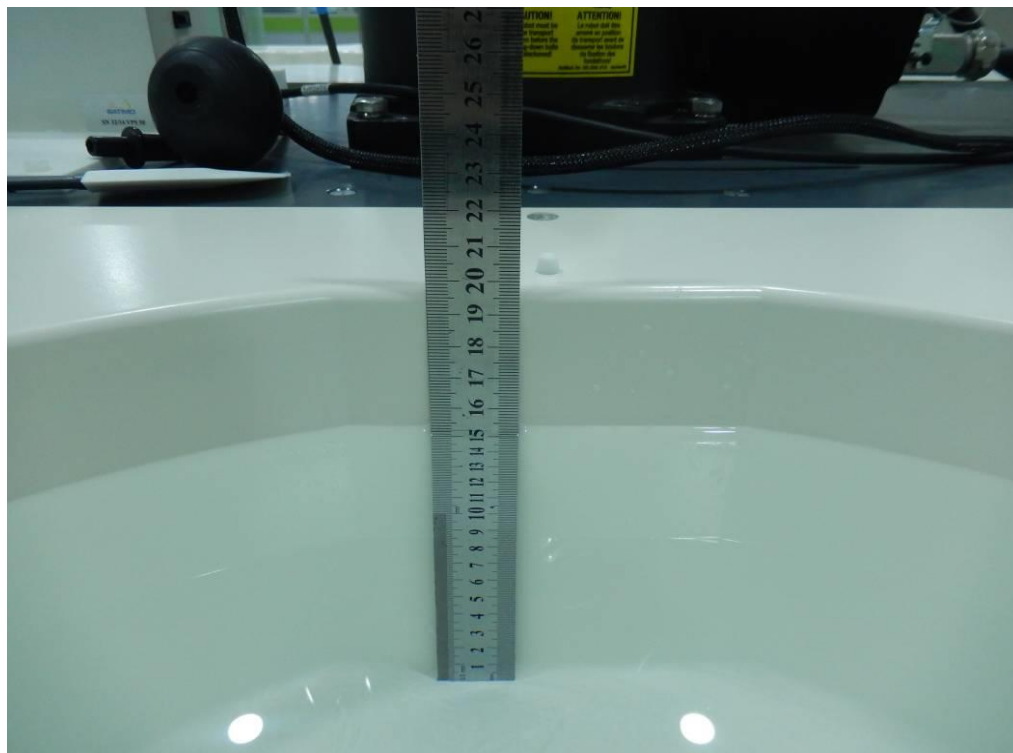
Body Right side(separation distance is 0mm)



Body Top side(separation distance is 0mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Body-worn SAR

Band	Model	Test Position	Fre. (MHz)	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4GHz WLAN	802.11b ANT 1	Back Side	2412	0.684	-1.98	23.00	22.57	0.755	1
		Back Side	2437	0.633	-1.39	23.00	22.41	0.725	/
		Back Side	2462	0.625	0.54	23.00	22.27	0.739	/
		Left Edge	2412	0.421	0.22	23.00	22.57	0.465	/
		Top Edge	2412	0.534	-0.13	23.00	22.57	0.590	/
2.4GHz WLAN	802.11b ANT 2	Back Side	2437	0.546	3.58	21.50	21.35	0.565	/
		Left Edge	2437	0.427	-0.60	21.50	21.35	0.442	/
		Top Edge	2437	0.565	0.95	21.50	21.35	0.585	2
2.4GHz WLAN	802.11n20 ANT 1	Back Side	2437	0.324	0.56	26.20	26.17	0.326	3
		Left Edge	2437	0.294	-0.30	26.20	26.17	0.296	/
		Right Edge	2437	0.012	-3.33	26.20	26.17	0.317	/
		Top Edge	2437	0.315	0.37	26.20	26.17	0.240	/
2.4GHz WLAN	802.11n20 ANT 2	Back Side	2437	0.238	-1.25	26.20	26.17	0.212	4
		Left Edge	2437	0.211	1.15	26.20	26.17	0.012	/
		Top Edge	2437	0.226	-3.67	26.20	26.17	0.228	/
5.2GHz WLAN	802.11a ANT 1	Back Side	5240	0.562	-3.95	13.50	13.18	0.605	5
		Left Edge	5240	0.511	0.13	13.50	13.18	0.550	/
		Top Edge	5240	0.521	-1.35	13.50	13.18	0.561	/
5.2GHz WLAN	802.11a ANT 2	Back Side	5200	0.373	-2.69	13.00	12.77	0.393	6
		Top Edge	5200	0.319	-3.03	13.00	12.77	0.336	/
5.2GHz WLAN	802.11ac(VHT40) ANT 1	Back Side	5230	0.445	0.41	16.20	16.11	0.454	7
		Left Edge	5230	0.382	2.14	16.20	16.11	0.390	/
		Top Edge	5230	0.424	1.08	16.20	16.11	0.433	/
5.2GHz WLAN	802.11ac(VHT40) ANT 2	Back Side	5230	0.262	-0.16	16.20	16.11	0.267	8
		Left Edge	5230	0.228	3.40	16.20	16.11	0.233	/
		Top Edge	5230	0.241	-1.81	16.20	16.11	0.246	/
5.3GHz WLAN	802.11a ANT 1	Back Side	5300	0.482	2.23	13.60	13.57	0.485	9
		Left Edge	5300	0.451	-2.78	13.60	13.57	0.454	/
		Top Edge	5300	0.467	-0.67	13.60	13.57	0.470	/
5.3GHz WLAN	802.11a ANT 2	Back Side	5320	0.345	0.53	13.20	13.13	0.351	10
		Top Edge	5320	0.311	0.73	13.20	13.13	0.316	/
5.3GHz WLAN	802.11n(HT40) ANT 1	Back Side	5310	0.462	-1.50	16.50	16.40	0.473	11
		Left Edge	5310	0.436	1.84	16.50	16.40	0.446	/
		Top Edge	5310	0.444	-3.56	16.50	16.40	0.454	/
5.3GHz WLAN	802.11n(HT40) ANT 2	Back Side	5310	0.203	-3.60	16.50	16.40	0.208	12
		Left Edge	5310	0.192	2.17	16.50	16.40	0.196	/
		Top Edge	5310	0.197	-3.51	16.50	16.40	0.202	/
5.6GHz WLAN	802.11a ANT 1	Back Side	5500	0.474	-3.21	14.60	14.51	0.484	13
		Left Edge	5500	0.411	-0.47	14.60	14.51	0.420	/
		Top Edge	5500	0.425	3.02	14.60	14.51	0.434	/
5.6GHz WLAN	802.11a ANT 2	Back Side	5500	0.328	-2.87	14.50	14.24	0.348	14
		Left Edge	5500	0.291	-3.11	14.50	14.24	0.309	/
		Top Edge	5500	0.314	0.53	14.50	14.24	0.333	/



5.6GHz WLAN	802.11ac(VHT40) ANT 1	Back Side	5510	0.392	-1.42	17.50	17.38	0.403	15
		Left Edge	5510	0.323	2.20	17.50	17.38	0.332	/
		Top Edge	5510	0.348	3.71	17.50	17.38	0.358	/
5.6GHz WLAN	802.11ac(VHT40)A NT 2	Back Side	5510	0.249	-0.95	17.50	17.38	0.256	16
		Left Edge	5510	0.168	2.45	17.50	17.38	0.173	/
		Top Edge	5510	0.214	-3.62	17.50	17.38	0.220	/
5.8GHz WLAN	802.11a ANT 1	Back Side	5745	0.428	-2.31	11.00	10.57	0.473	17
		Left Edge	5745	0.382	-1.61	11.00	10.57	0.422	/
5.8GHz WLAN	802.11a ANT 2	Back Side	5745	0.394	-1.83	11.80	11.72	0.401	18
		Top Edge	5745	0.356	-2.86	11.80	11.72	0.363	/
5.8GHz WLAN	802.11ac(VHT40) ANT 1	Back Side	5755	0.391	3.98	14.50	14.29	0.410	19
		Left Edge	5755	0.323	3.31	14.50	14.29	0.339	/
		Top Edge	5755	0.307	3.42	14.50	14.29	0.322	/
5.8GHz WLAN	802.11ac(VHT40) ANT 2	Back Side	5755	0.312	1.04	14.50	14.29	0.327	20
		Left Edge	5755	0.284	-3.92	14.50	14.29	0.298	/
		Top Edge	5755	0.266	-3.47	14.50	14.29	0.279	/

Band	Model	Scaled SAR	ANT 1+2
		(W/Kg)	
2.4GHz WLAN	802.11n20 ANT 1	0.326	0.566
2.4GHz WLAN	802.11n20 ANT 2	0.240	
5.2GHz WLAN	802.11ac(VHT40)ANT 1	0.454	0.721
5.2GHz WLAN	802.11ac(VHT40)ANT 2	0.267	
5.3GHz WLAN	802.11n(HT40)ANT 1	0.473	0.681
5.3GHz WLAN	802.11n(HT40)ANT 2	0.208	
5.6GHz WLAN	802.11ac(VHT40)ANT 1	0.403	0.659
5.6GHz WLAN	802.11ac(VHT40) ANT 2	0.256	
5.8GHz WLAN	802.11ac(VHT40)ANT 1	0.41	0.737
5.8GHz WLAN	802.11ac(VHT40) ANT 2	0.327	



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Fre. (MHz)	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 48	20M	QPSK	1	0	Back Side	3560	0.437	0.64	21.00	20.93	0.444	/
			50	0	Back Side	3560	0.317	2.11	20.50	20.35	0.328	/
			1	0	Left Edge	3560	0.579	-0.82	21.00	20.93	0.588	21
			50	0	Left Edge	3560	0.526	-0.30	20.50	20.35	0.544	/

Note:

- The test separation of all above table is 0mm.
- The Bluetooth and WLAN can't simultaneous transmission at the same time.
- Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.724** W/kg for Body)
- 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.

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

Position	Simultaneous State
Body	1. LTE + 2.4GHz WLAN/5G WLAN
	2. LTE + Bluetooth

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. 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 Turn-up Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Body	8	6.310	≤ 5	2.440	0.263



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
LTE + 2.4G WLAN	Body	LTE	0.588	1.343
		2.4G WLAN	0.755	
LTE + Bluetooth	Body	LTE	0.588	0.851
		Bluetooth	0.263	
LTE + 5.2G WLAN	Body	LTE	0.588	1.309
		5.2G WLAN	0.721	
LTE + 5.3G WLAN	Body	LTE	0.588	1.289
		5.3G WLAN	0.701	
LTE + 5.6G WLAN	Body	LTE	0.588	1.247
		5.6G WLAN	0.659	
LTE + 5.8G WLAN	Body	LTE	0.588	1.325
		5.8G WLAN	0.737	

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
2450MHzDipole	MVG	SID2450	SN 30/14 DIP2G450-335	2020.07.14	2023.07.13
3500MHzDipole	MVG	SID3500	SN 30/14 DIP3G500-343	2021.03.01	2024.02.28
Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2020.07.14	2023.07.13
E-Field Probe	MVG	SSE2	SN 07/21 EPGO352	2021.03.01	2022.02.28
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2020.11.24	2021.11.23
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	2020.10.12	2021.10.11
Multi Meter	Keithley	Multi Meter 2000	4050073	2020.10.10	2021.10.09
Signal Generator	Agilent	N5182A	MY50140530	2020.10.10	2021.10.09
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2020.10.10	2021.10.09
Wireless Communication Test Set	R&S	CMW500	117239	2020.10.10	2021.10.09
Power Amplifier	DESAY	ZHL-42W	9638	2020.10.12	2021.10.11
Power Meter	R&S	NRP	100510	2020.10.10	2021.10.09
Power Meter	Agilent	E4418B	GB43312526	2020.10.10	2021.10.09
Power Sensor	R&S	NRP-Z11	101919	2020.10.10	2021.10.09
Power Sensor	Agilent	E9301A	MY41497725	2020.10.10	2021.10.09
Temperature hygrometer	SuWei	SW-108	N/A	2020.10.12	2021.10.11
Thermograph	Elitech	RC-4	S/N EF7176501537	2020.10.12	2021.10.11

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 (2450MHz)

Type: Phone measurement (Complete)

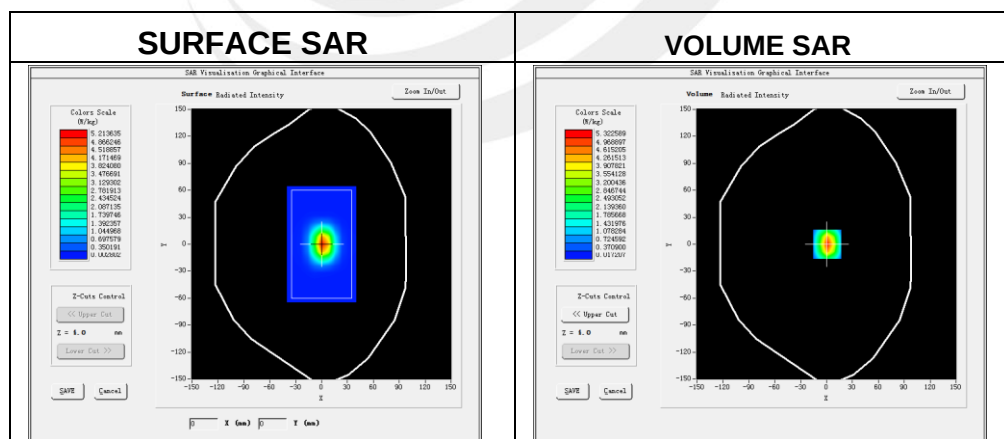
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-08-17

Experimental conditions.

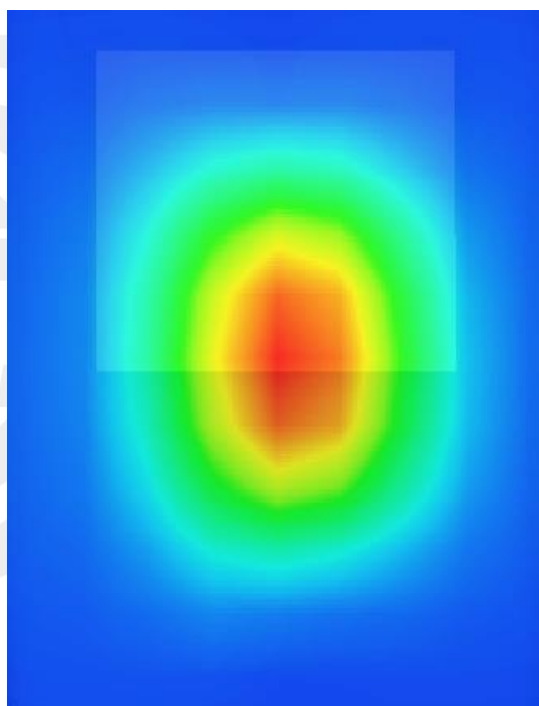
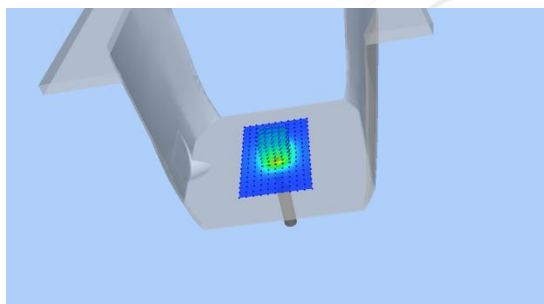
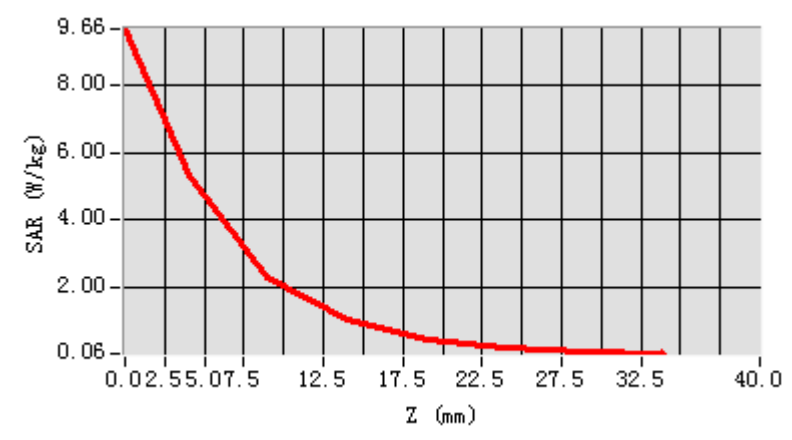
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	39.33
Conductivity (S/m)	1.78
Probe	SN 07/21 EPGO352
ConvF	1.75
Crest factor	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.372717
SAR 1g (W/Kg)	5.356872

Z Axis Scan





System Performance Check Data (3500MHz)

Type: Phone measurement (Complete)

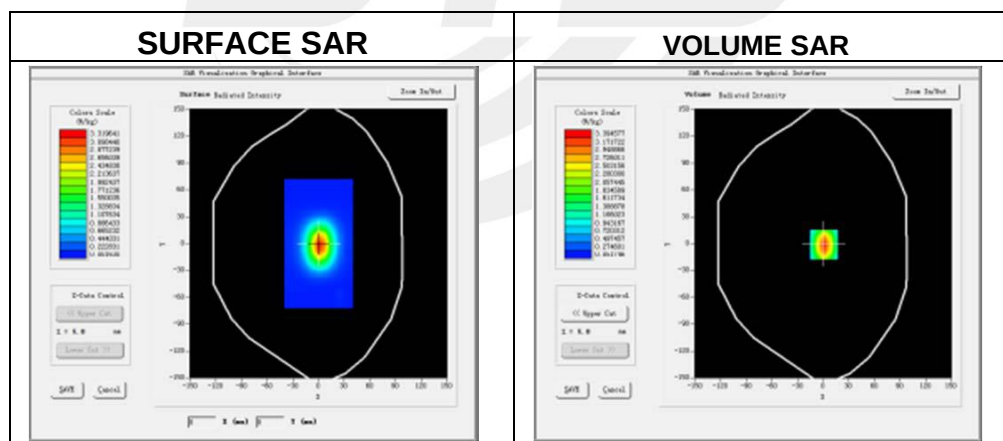
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-08-26

Experimental conditions.

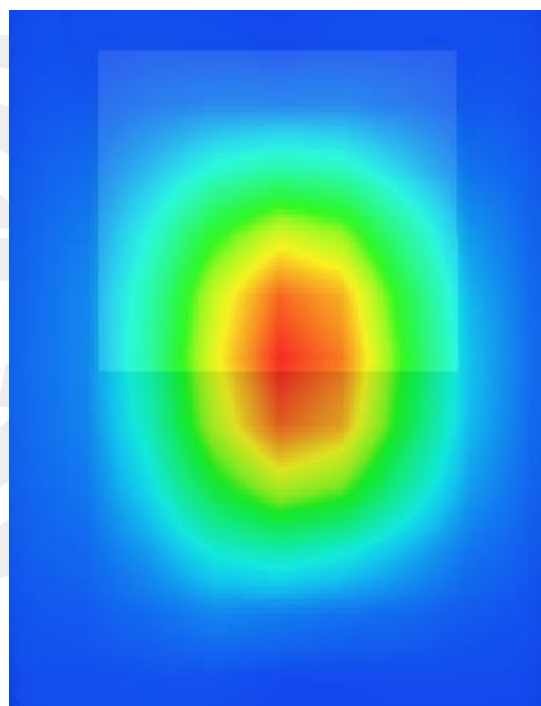
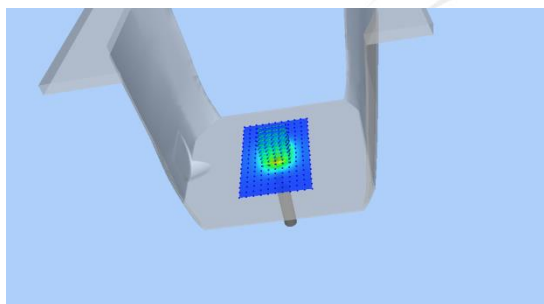
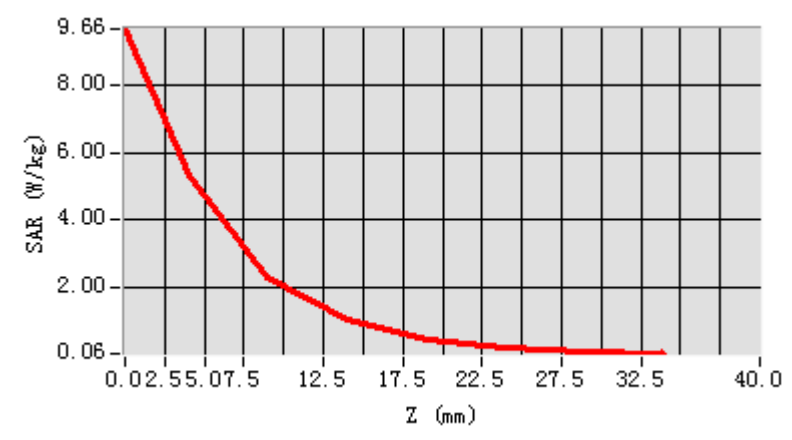
Device Position	Validation plane
Band	3500 MHz
Channels	-
Signal	CW
Frequency (MHz)	3500
Relative permittivity	38.18
Conductivity (S/m)	2.87
Probe	SN 07/21 EPGO352
ConvF	1.59
Crest factor	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.517211
SAR 1g (W/Kg)	6.378210

Z Axis Scan



**System Performance Check Data(5200MHz)**

Type: Dipole measurement (Complete)

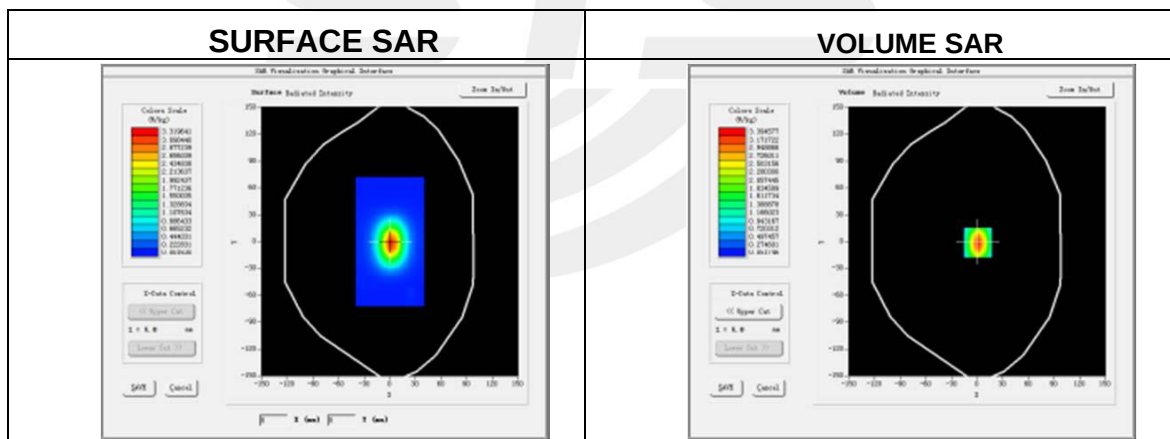
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-08-18

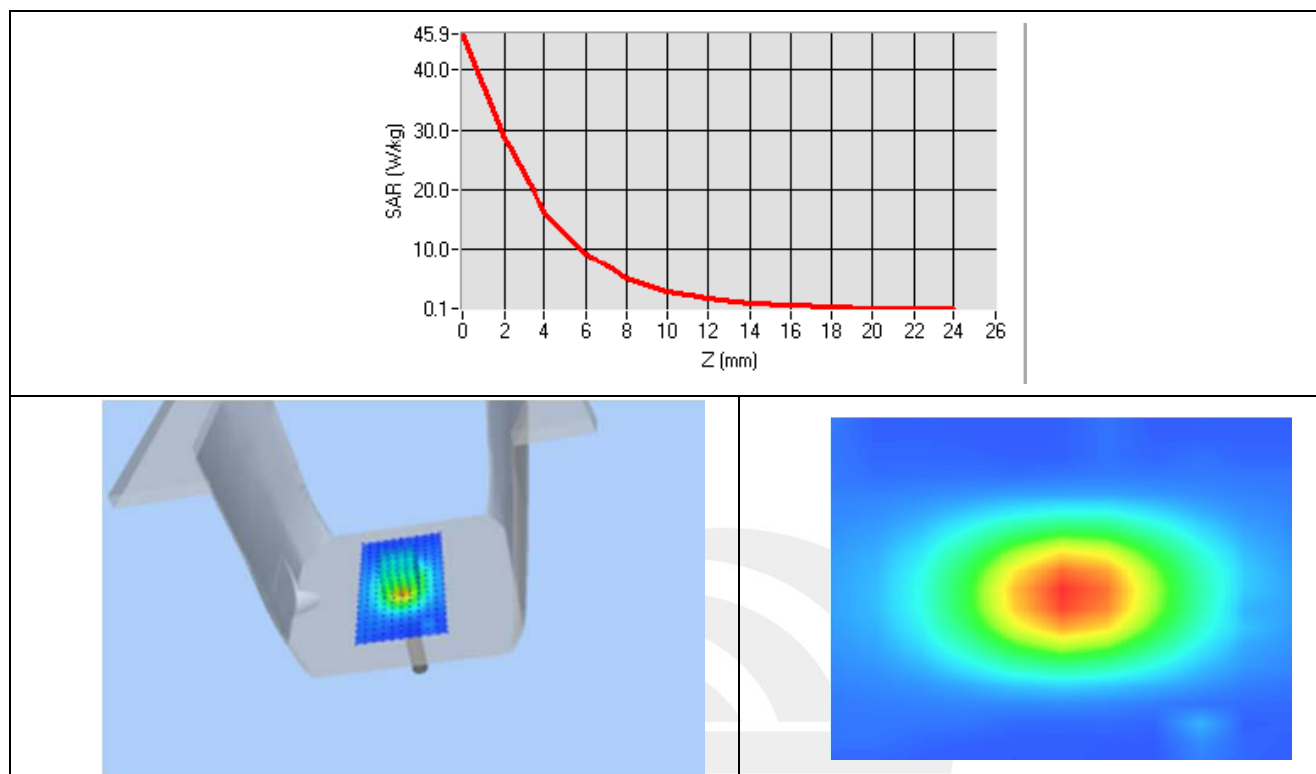
Experimental conditions.

Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	34.60
Conductivity (S/m)	4.49
Probe	SN 07/21 EPGO352
ConvF	1.47
Crest factor:	1:1

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

SAR 10g (W/Kg)	5.588217
SAR 1g (W/Kg)	15.745217

Z Axis Scan



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

Type: Dipole measurement (Complete)

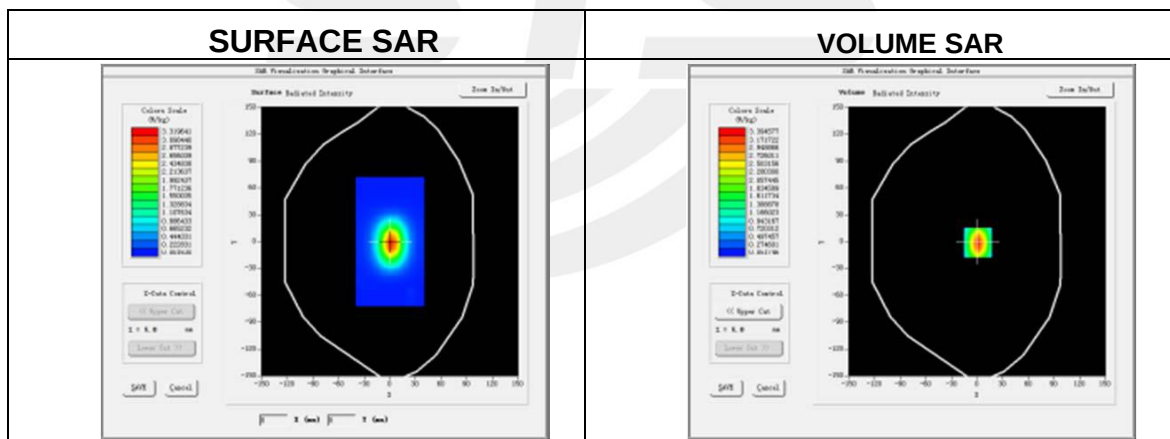
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-08-18

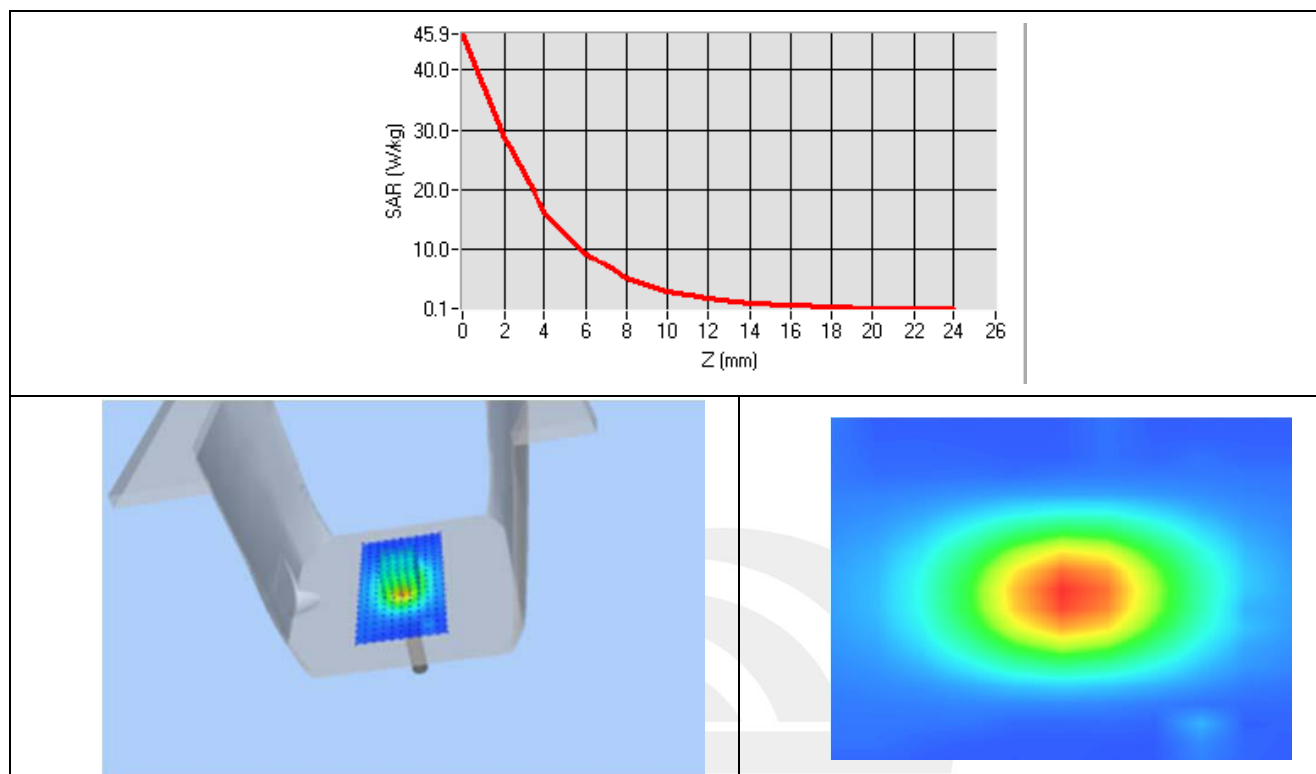
Experimental conditions.

Device Position	Validation plane
Band	5300 MHz
Channels	-
Signal	CW
Frequency (MHz)	5300
Relative permittivity	35.74
Conductivity (S/m)	4.92
Probe	SN 07/21 EPGO352
ConvF	1.47
Crest factor:	1:1

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

SAR 10g (W/Kg)	5.588711
SAR 1g (W/Kg)	16.619017

Z Axis Scan





System Performance Check Data(5600MHz)

Type: Dipole measurement (Complete)

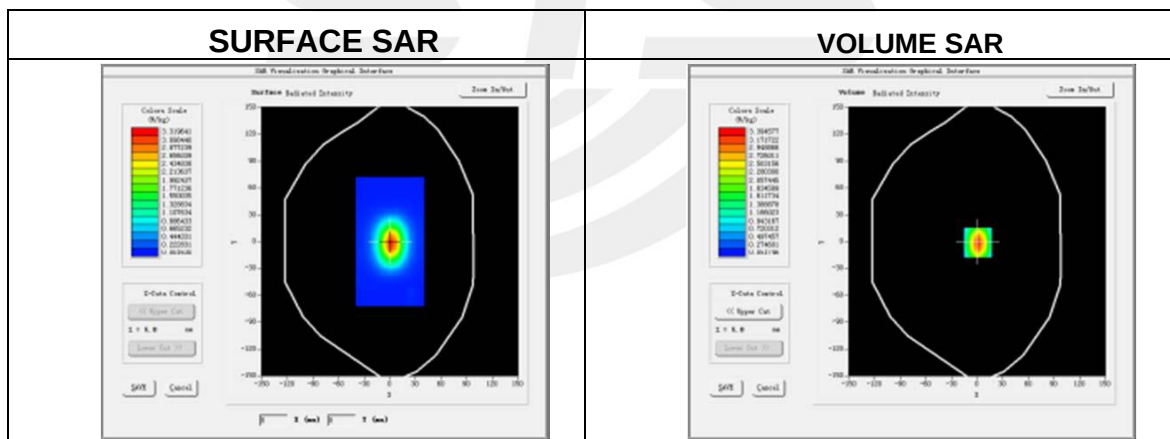
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-08-19

Experimental conditions.

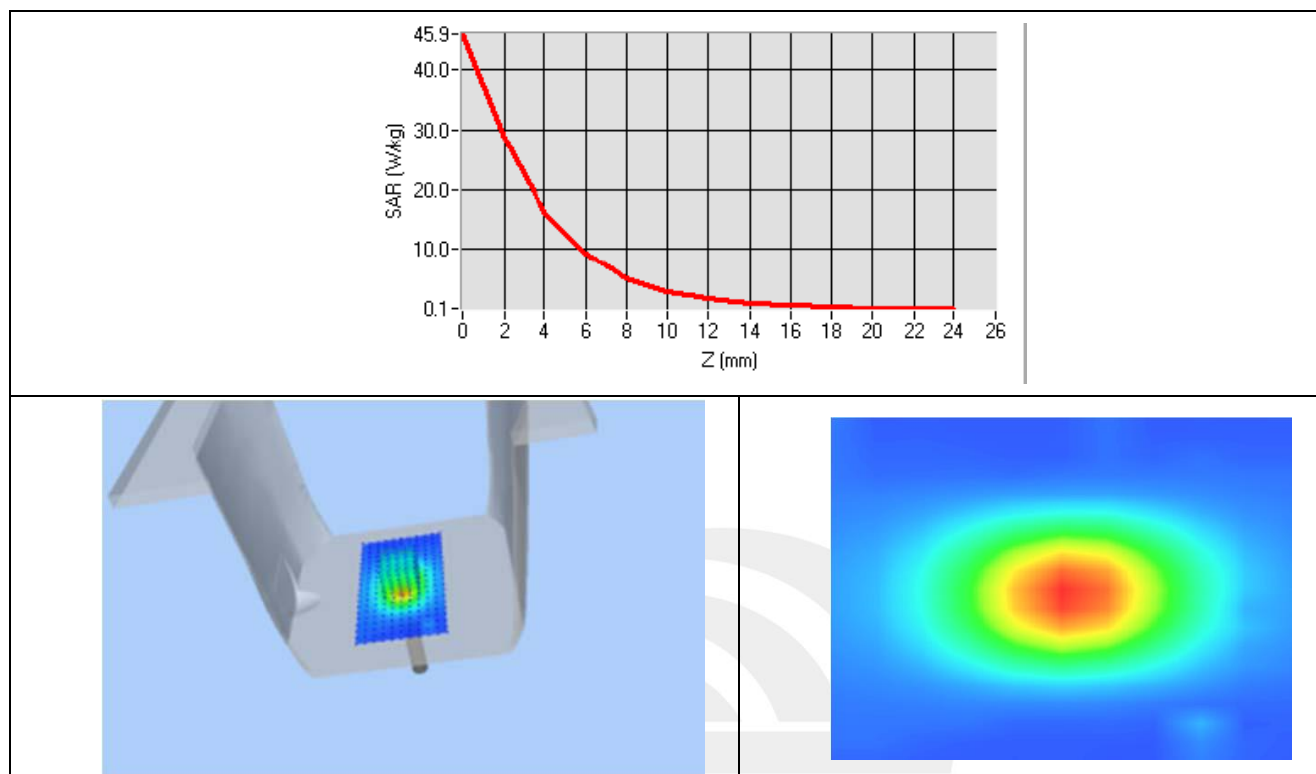
Device Position	Validation plane
Band	5600 MHz
Channels	-
Signal	CW
Frequency (MHz)	5600
Relative permittivity	35.82
Conductivity (S/m)	5.17
Probe	SN 07/21 EPGO352
ConvF	1.47
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.587831
SAR 1g (W/Kg)	17.296437

Z Axis Scan



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

Type: Dipole measurement (Complete)

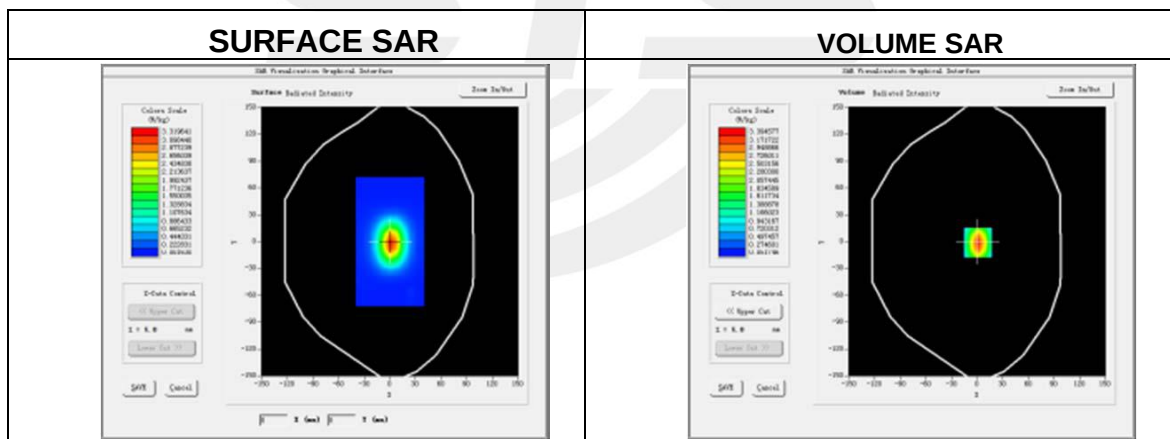
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-08-19

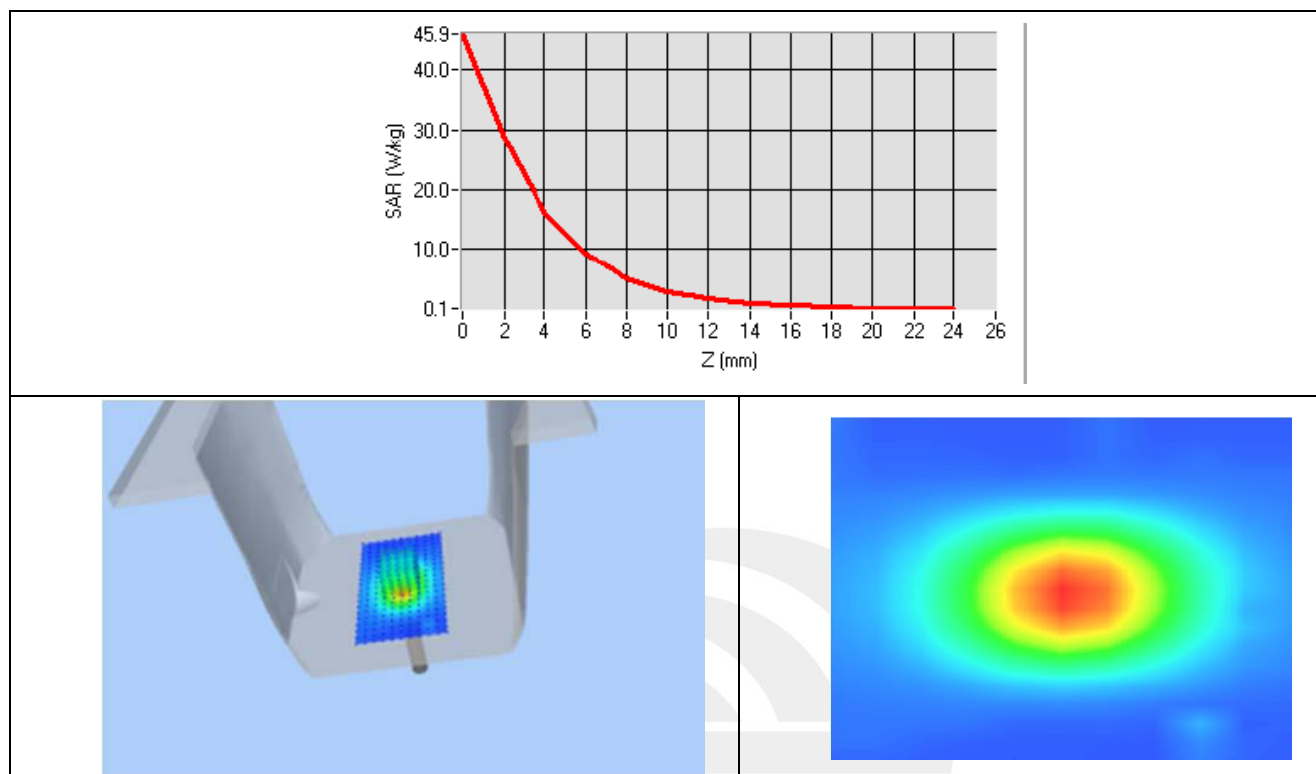
Experimental conditions.

Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	35.03
Conductivity (S/m)	5.31
Probe	SN 07/21 EPGO352
ConvF	1.64
Crest factor:	1:1

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

SAR 10g (W/Kg)	6.183710
SAR 1g (W/Kg)	17.992431

Z Axis Scan



Appendix B. SAR Test Plots

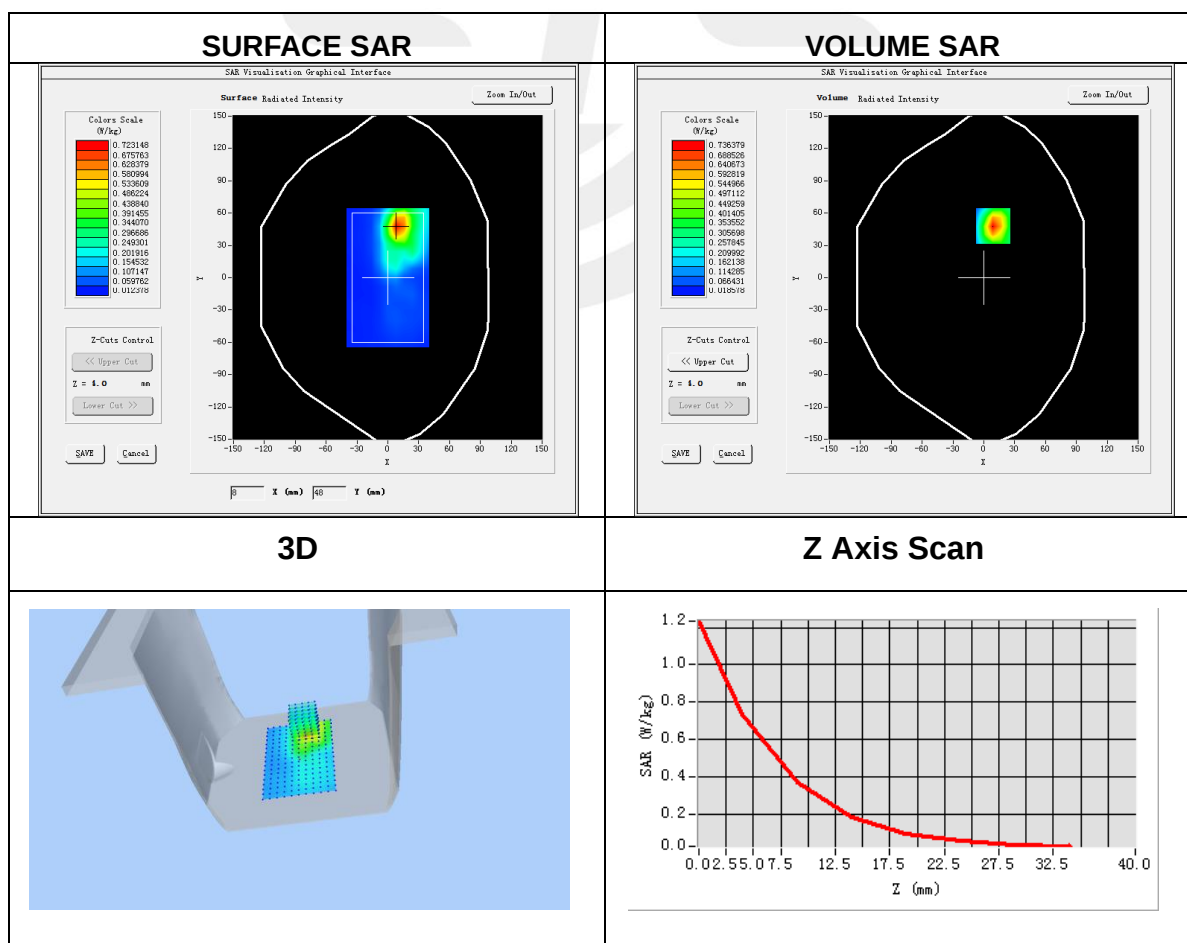
Plot 1: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-17
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	IEEE 802.11b ANT 1
Channels	1
Signal	IEEE802.11b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79

Maximum location: X=9.00 Y=48.00

SAR Peak: 1.23W/kg

SAR 10g (W/Kg)	0.325332
SAR 1g (W/Kg)	0.684026





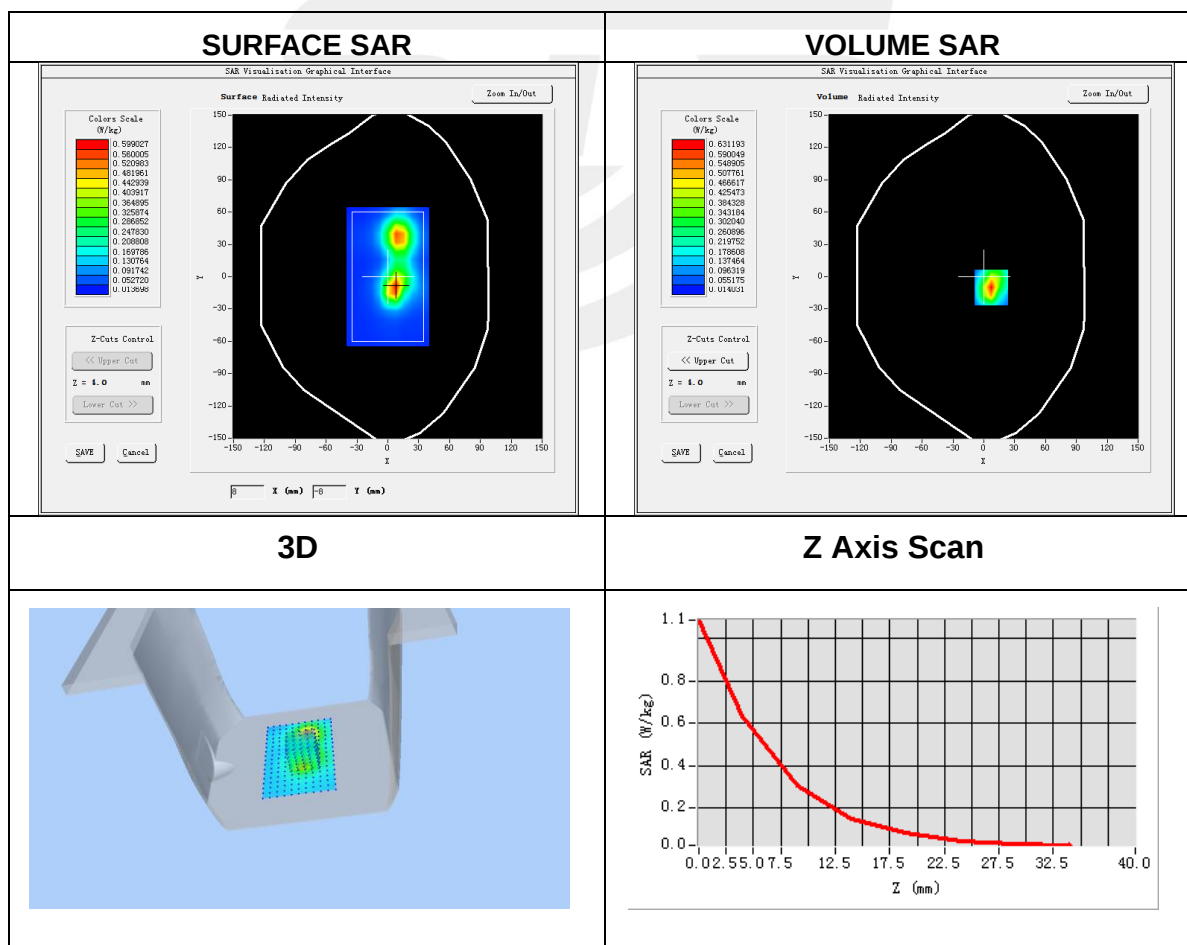
Plot 2 DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-17
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	Top Side
Band	IEEE 802.11b ANT 2
Channels	6
Signal	IEEE802.11b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79

Maximum location: X=7.00 Y=-10.00

SAR Peak: 1.09 W/kg

SAR 10g (W/Kg)	0.238156
SAR 1g (W/Kg)	0.564668



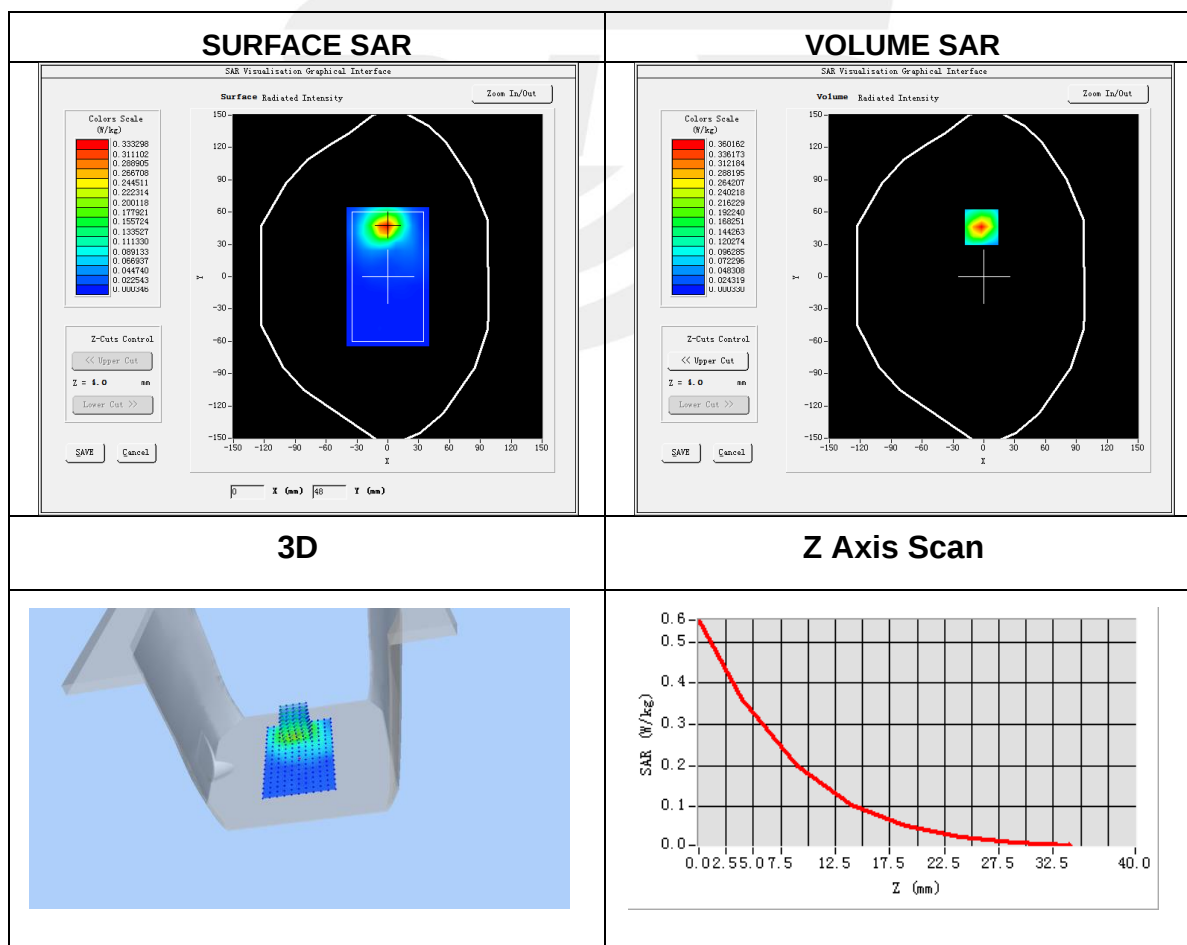

Plot 3 DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-05-11
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	IEEE 802.11n20 ANT 1
Channels	6
Signal	IEEE802.11n20 (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79

Maximum location: X=-2.00 Y=46.00

SAR Peak: 0.55 W/kg

SAR 10g (W/Kg)	0.149731
SAR 1g (W/Kg)	0.324301



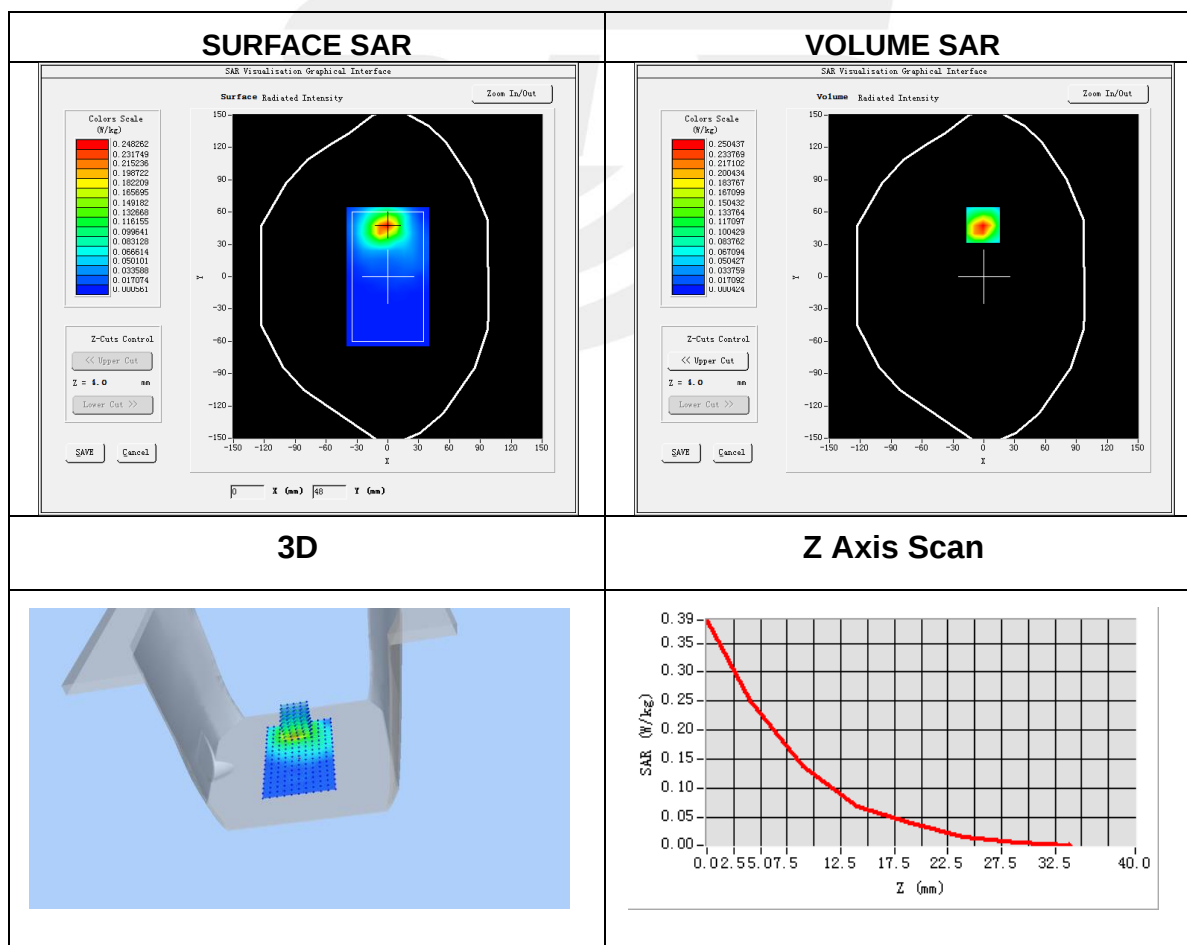

Plot 4: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-05-11
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	Validation plane
Device Position	Back Side
Band	IEEE 802.11n20 ANT 2
Channels	6
Signal	IEEE802.11n20 (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79

Maximum location: X=-1.00 Y=48.00

SAR Peak: 0.41W/kg

SAR 10g (W/Kg)	0.111387
SAR 1g (W/Kg)	0.238267



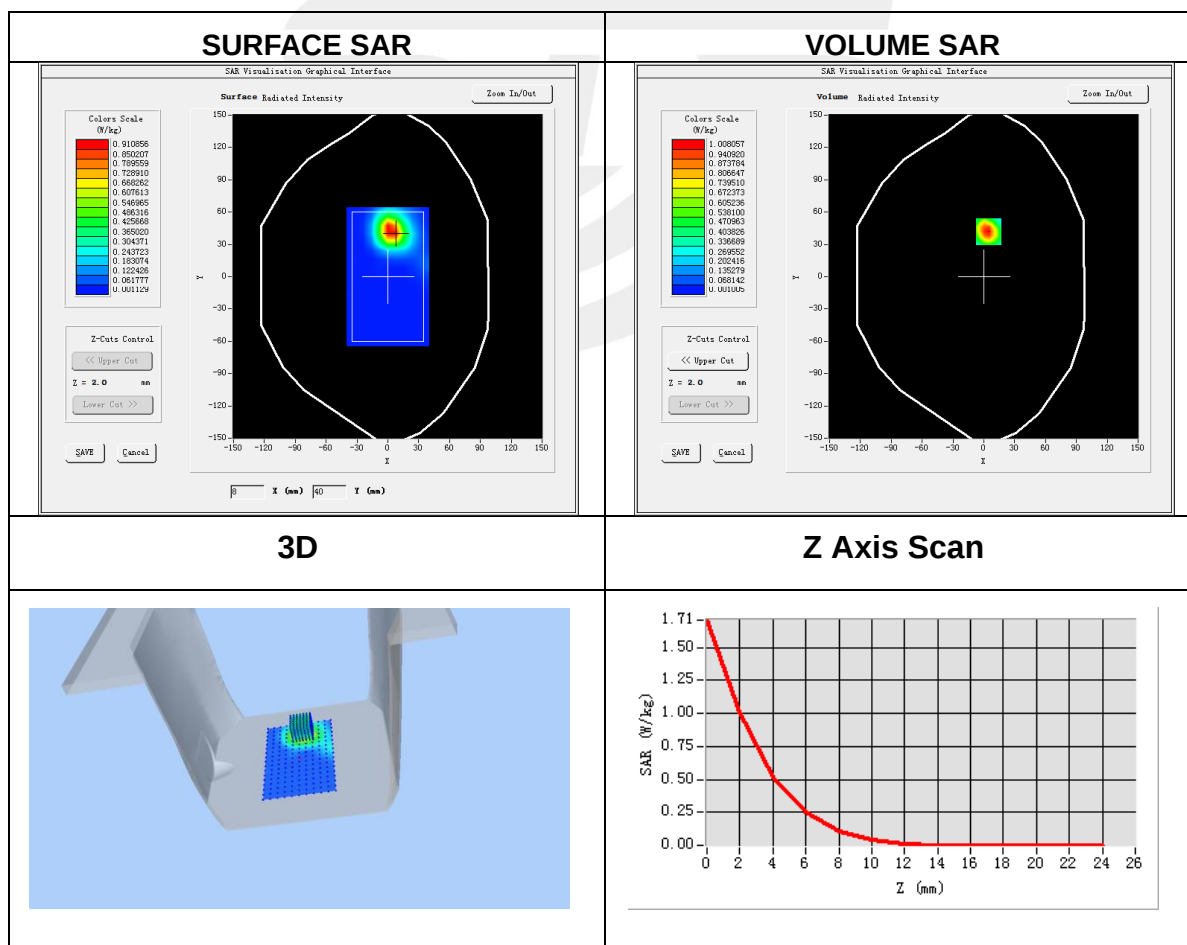

Plot 5: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11a ANT 1
Channels	48
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5240
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=5.00 Y=42.00

SAR Peak: 1.79W/kg

SAR 10g (W/Kg)	0.203964
SAR 1g (W/Kg)	0.562205



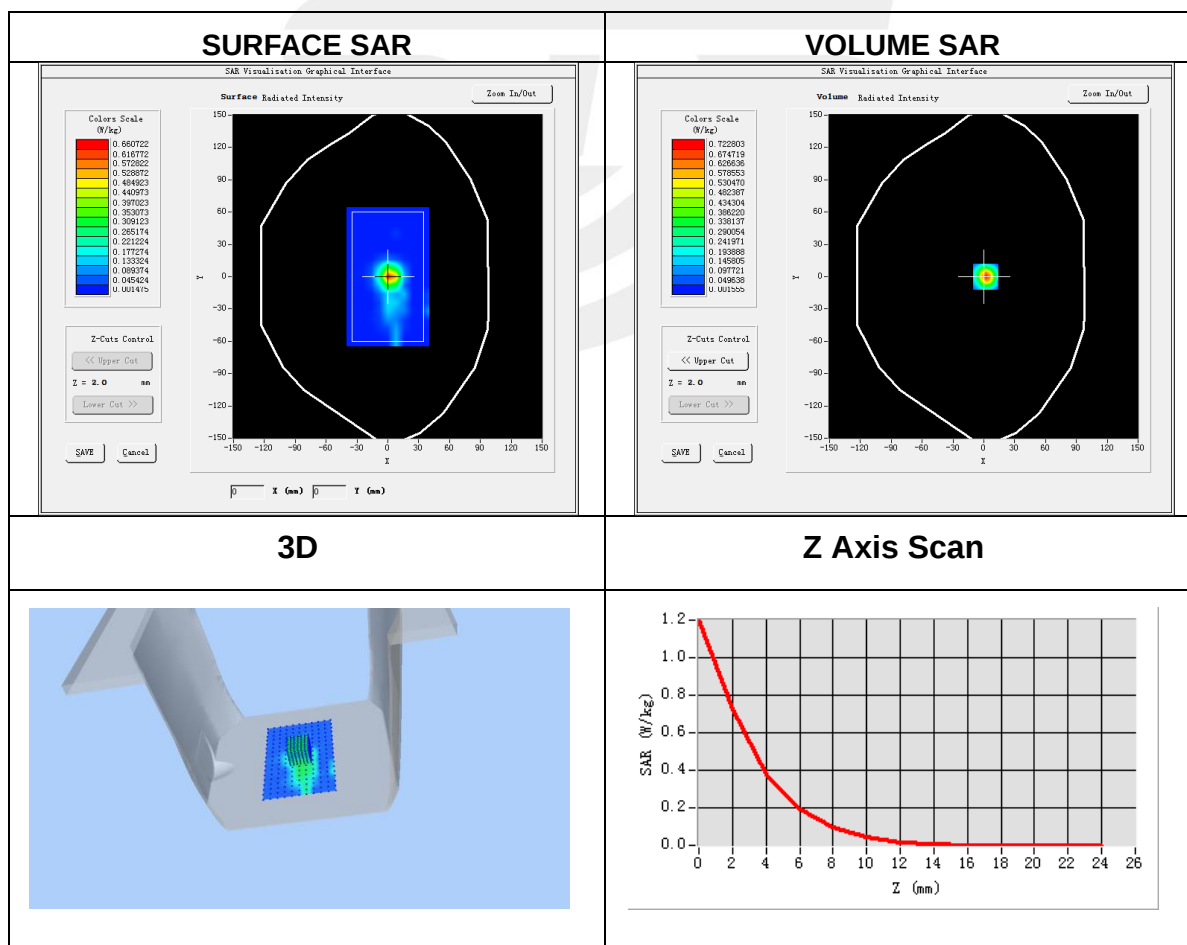

Plot 6: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11a ANT 1
Channels	40
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5200
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=2.00 Y=0.00

SAR Peak: 1.24W/kg

SAR 10g (W/Kg)	0.108209
SAR 1g (W/Kg)	0.372631





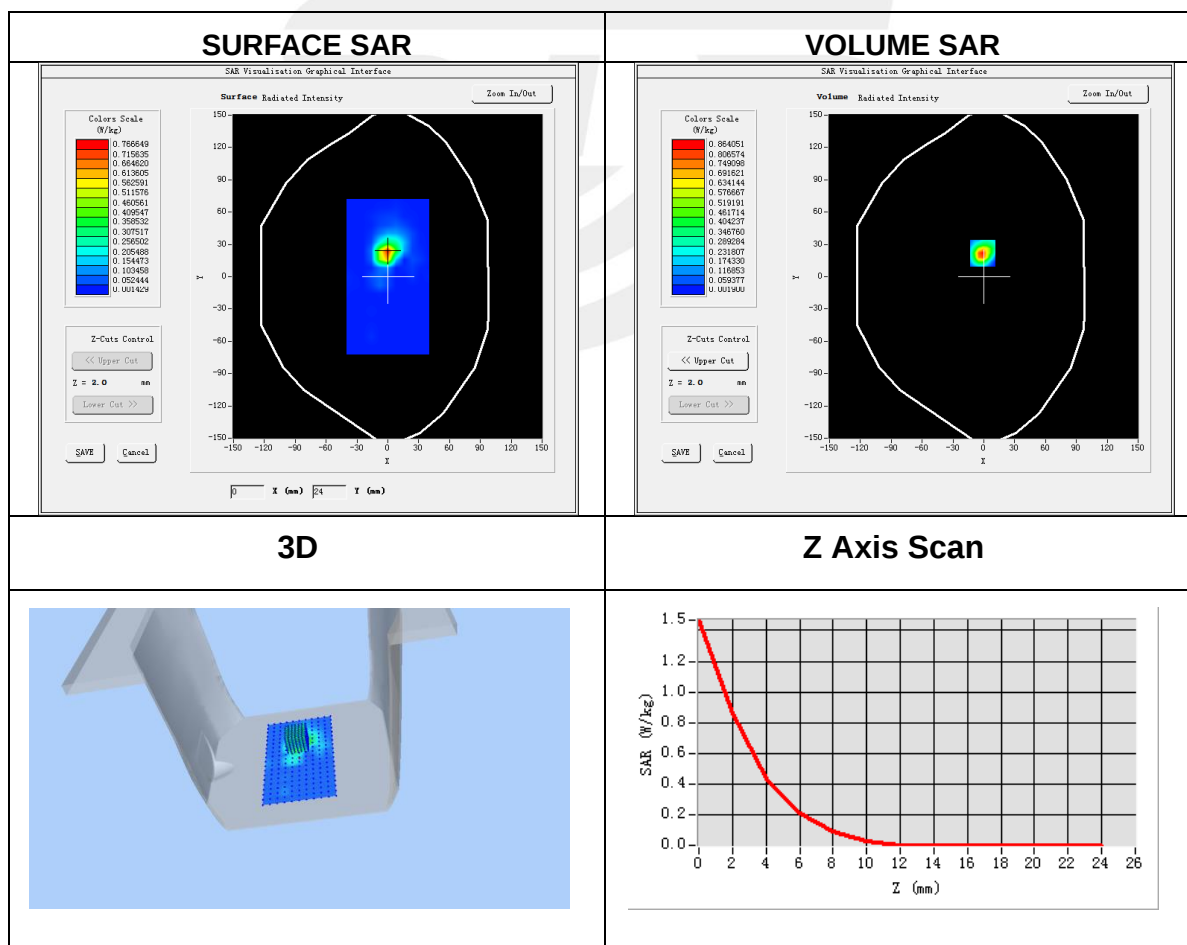
Plot 7: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11ac40 ANT 1
Channels	46
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5230
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-1.00 Y=22.00

SAR Peak: 1.57 W/Kg

SAR 10g (W/Kg)	0.126982
SAR 1g (W/Kg)	0.444883



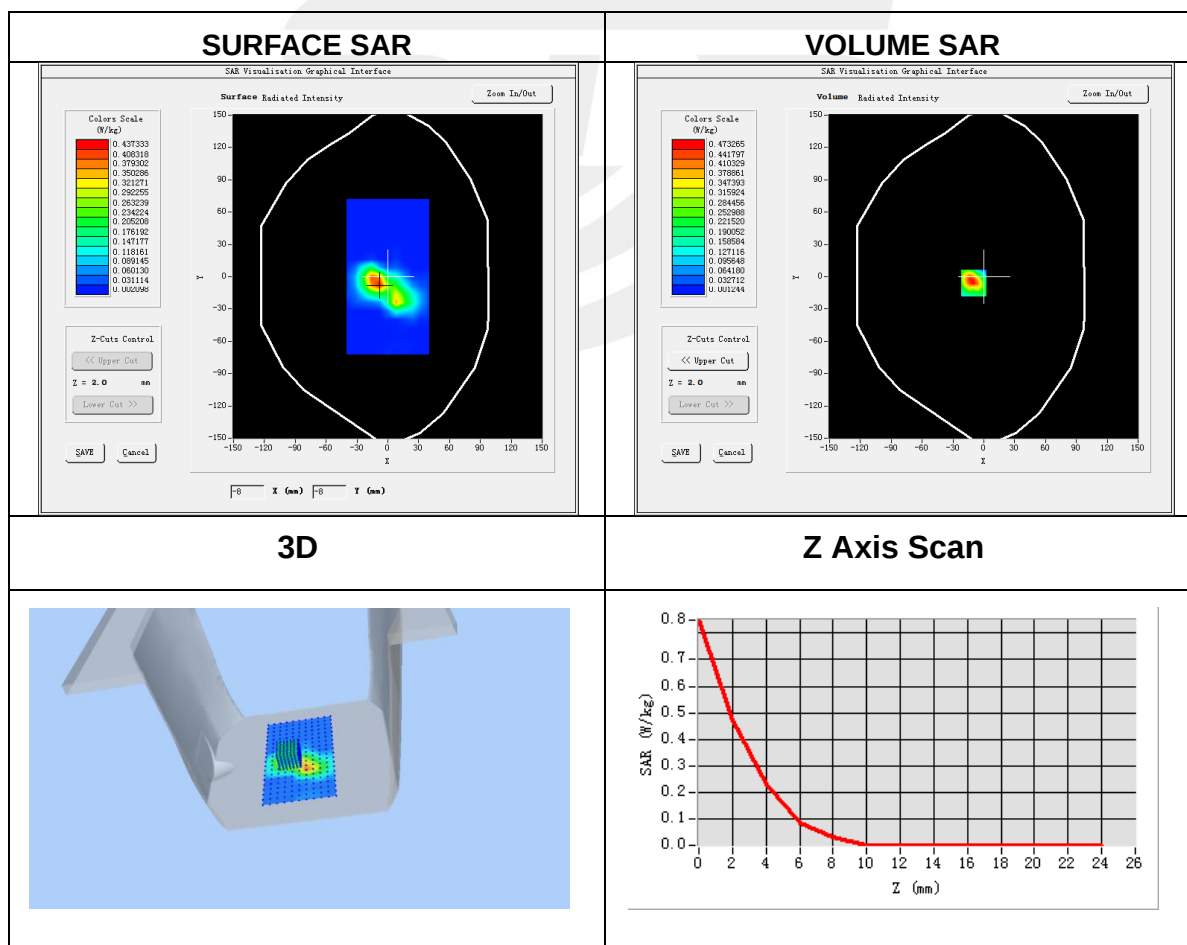

Plot 8: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11ac40 ANT 2
Channels	46
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5230
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-10.00 Y=-6.00

SAR Peak: 0.91W/kg

SAR 10g (W/Kg)	0.089955
SAR 1g (W/Kg)	0.262022





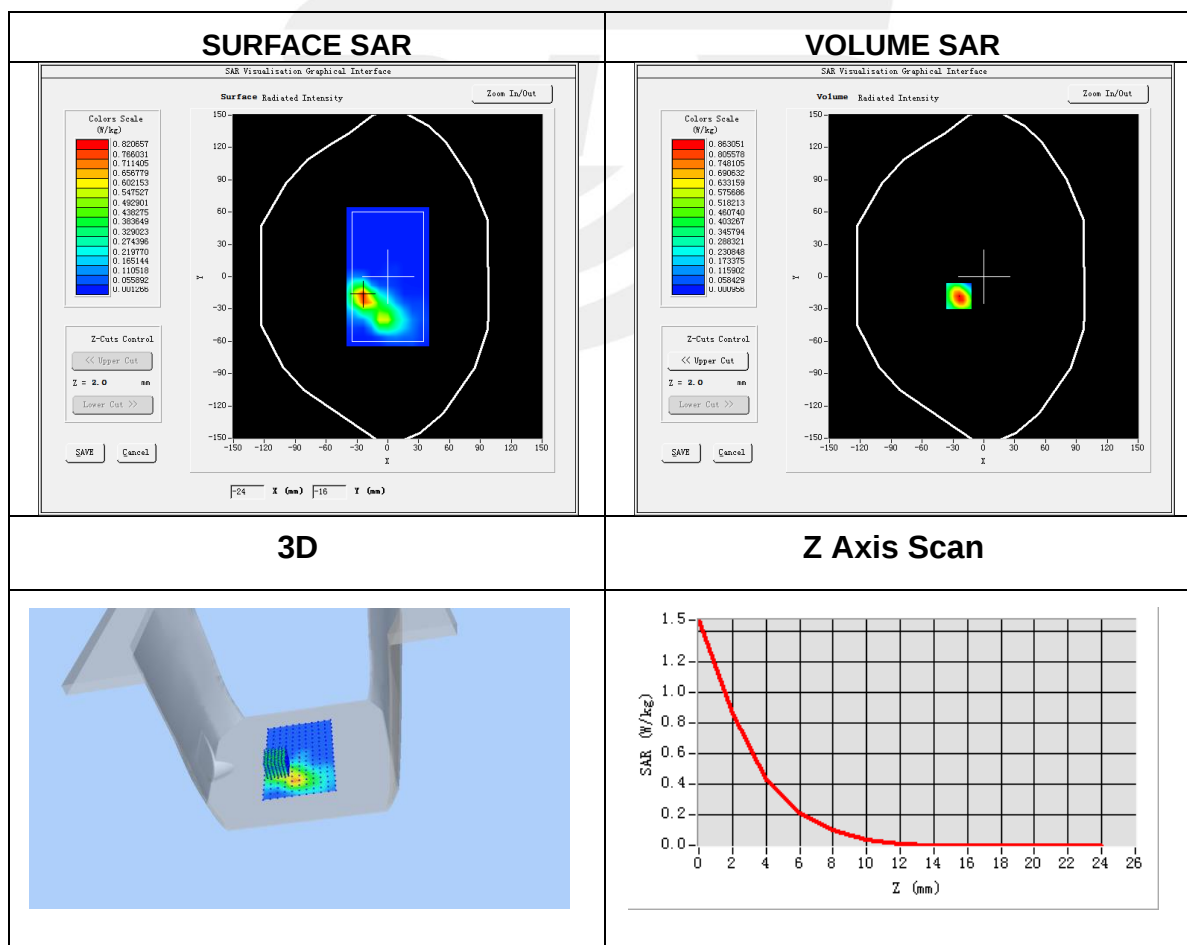
Plot 9: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11a ANT 1
Channels	60
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5300
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-24.00 Y=-18.00

SAR Peak: 1.57W/kg

SAR 10g (W/Kg)	0.165102
SAR 1g (W/Kg)	0.482201



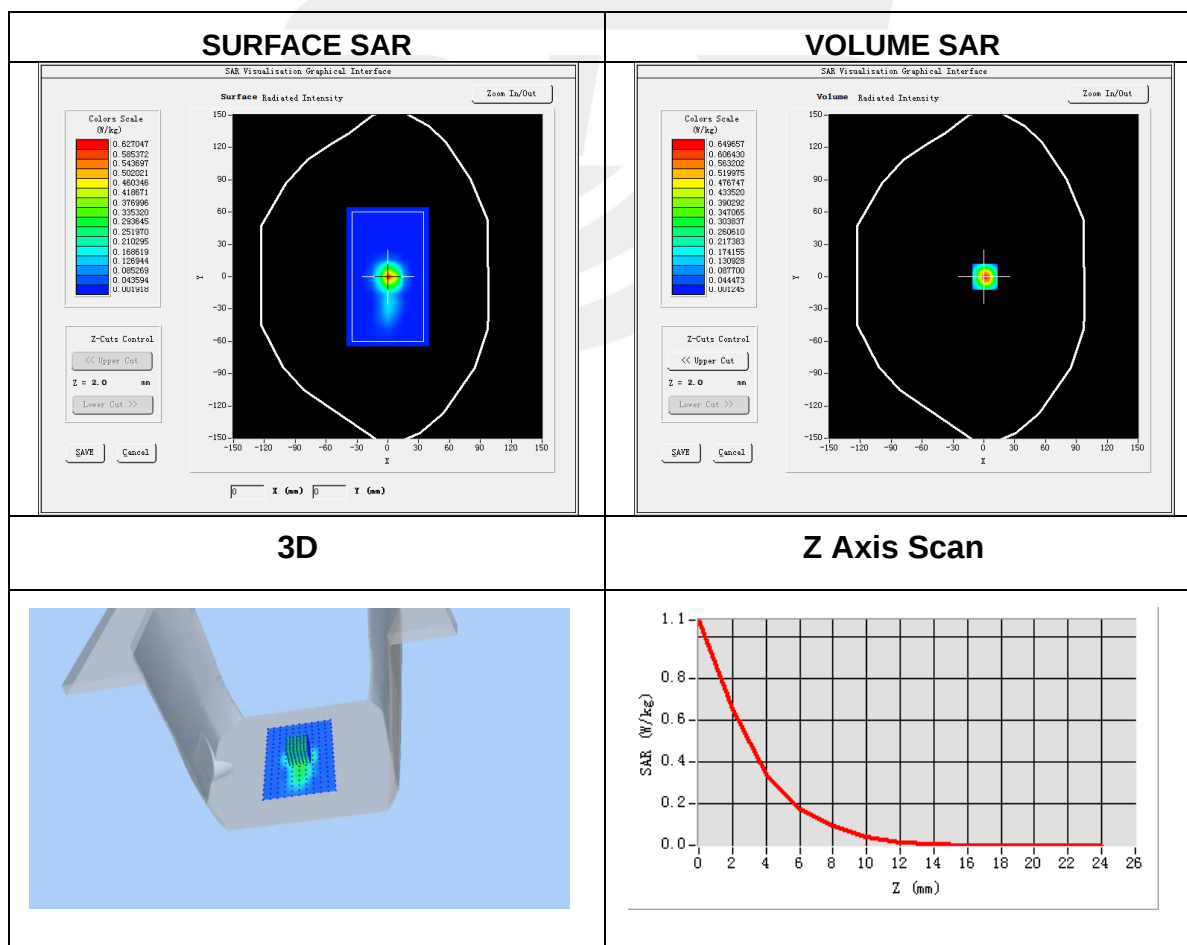

Plot 10: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11a ANT 1
Channels	64
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5320
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=1.00 Y=0.00

SAR Peak: 1.13W/kg

SAR 10g (W/Kg)	0.102501
SAR 1g (W/Kg)	0.344902



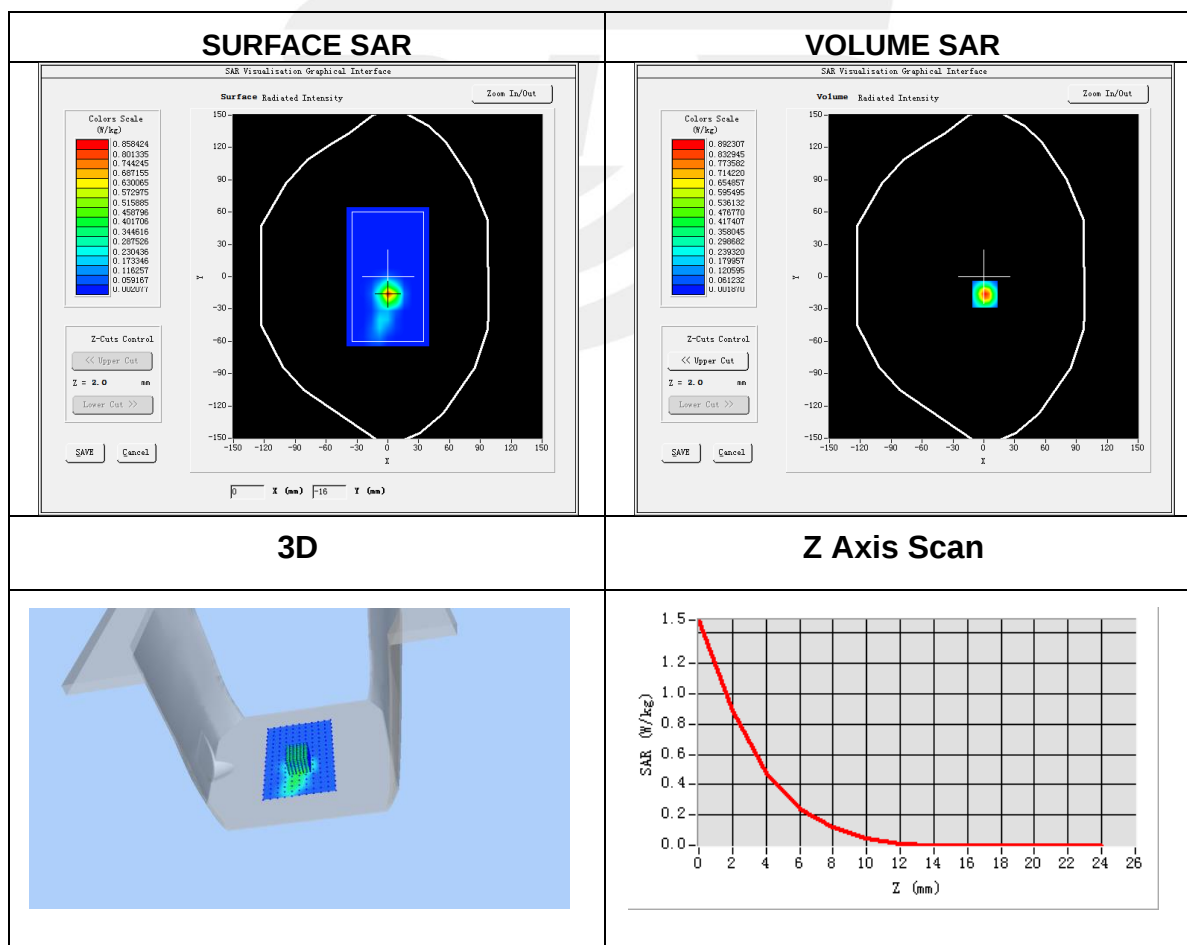

Plot 11: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11n40 ANT 1
Channels	62
Signal	IEEE802.11n40 (Crest factor: 1.0)
Frequency (MHz)	5310
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=1.00 Y=-16.00

SAR Peak: 1.55 W/kg

SAR 10g (W/Kg)	0.131474
SAR 1g (W/Kg)	0.461968



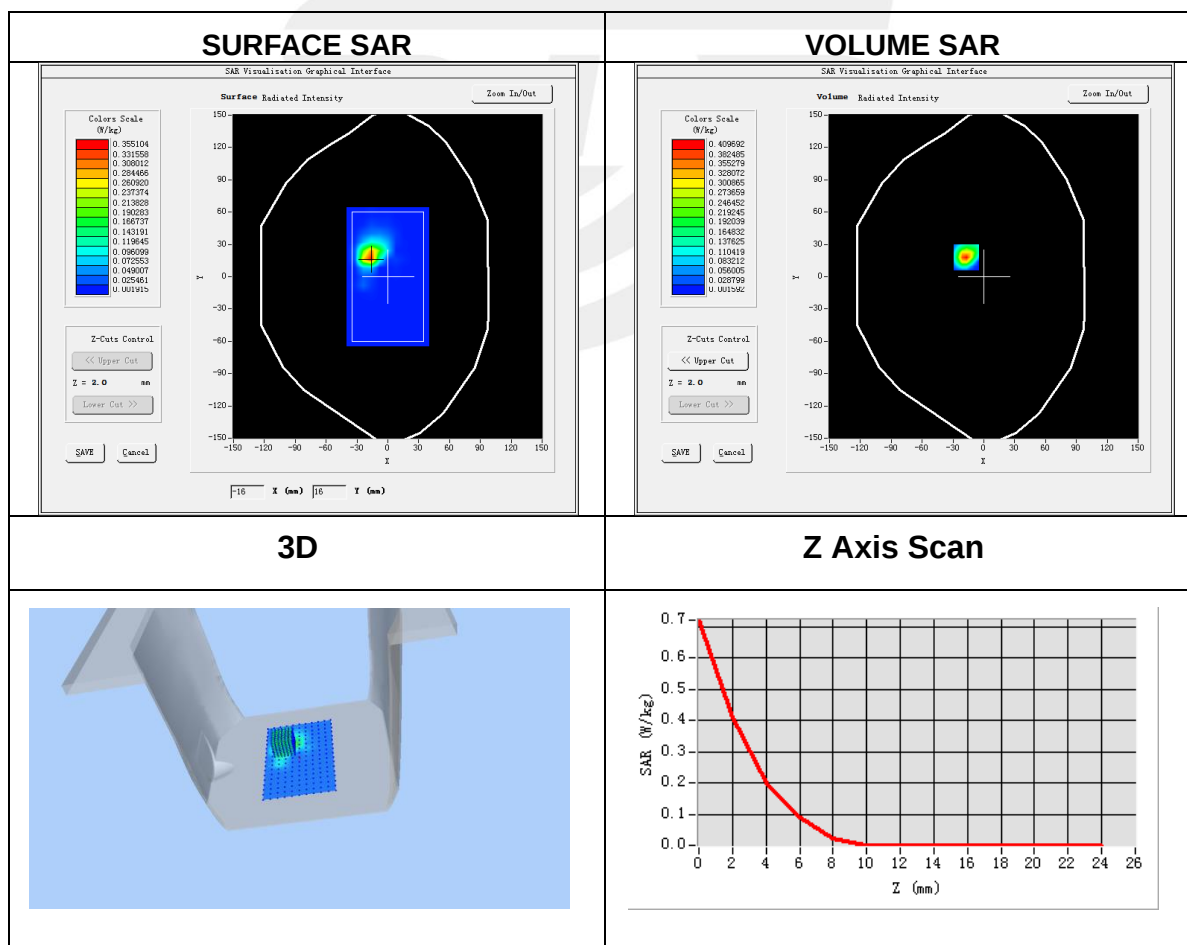

Plot 12: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-18
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	IEEE 802.11n40 ANT 2
Channels	62
Signal	IEEE802.11n40 (Crest factor: 1.0)
Frequency (MHz)	5310
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-17.00 Y=18.00

SAR Peak: 0.76W/kg

SAR 10g (W/Kg)	0.056900
SAR 1g (W/Kg)	0.203311



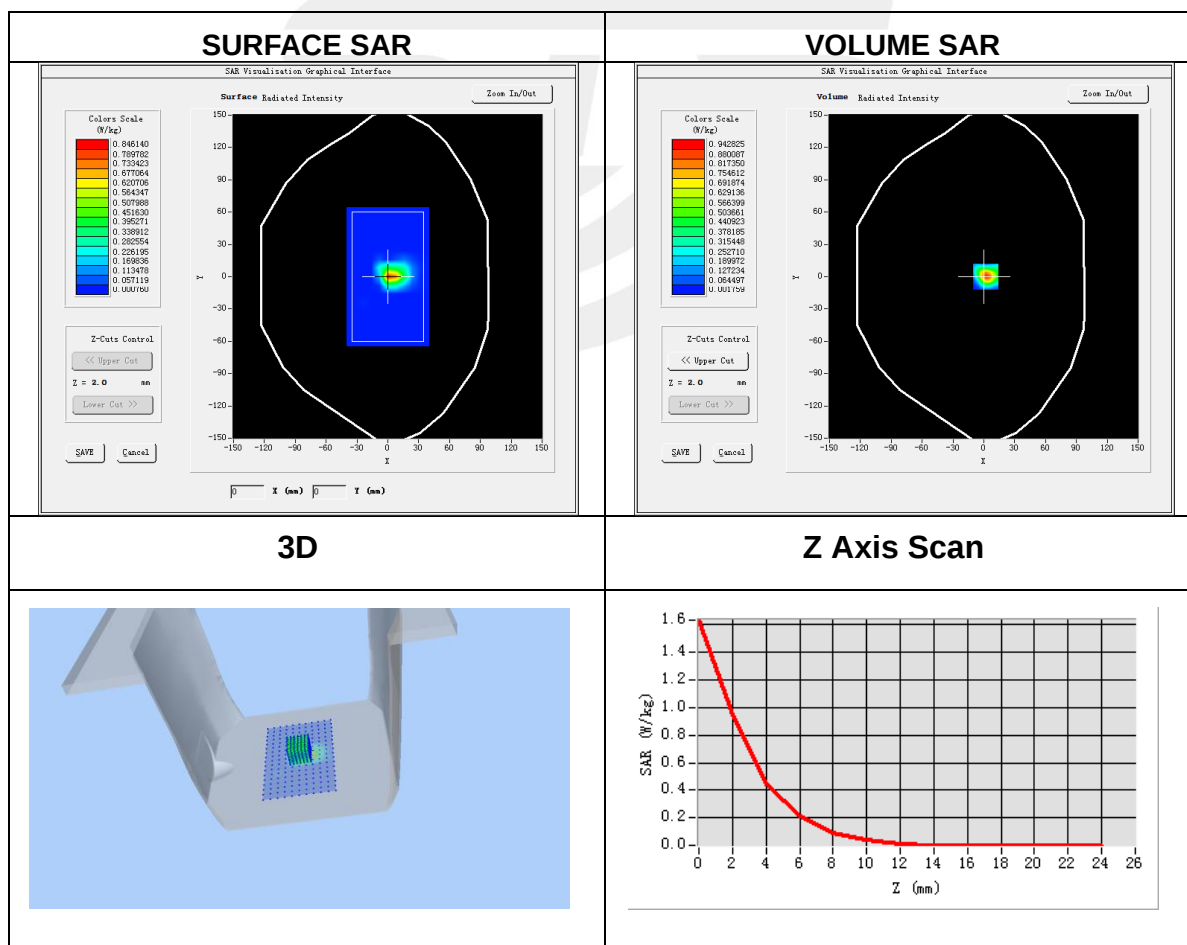

Plot 13: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11a ANT 1
Channels	100
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5500
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=2.00 Y=0.00

SAR Peak: 1.75W/kg

SAR 10g (W/Kg)	0.134648
SAR 1g (W/Kg)	0.474298



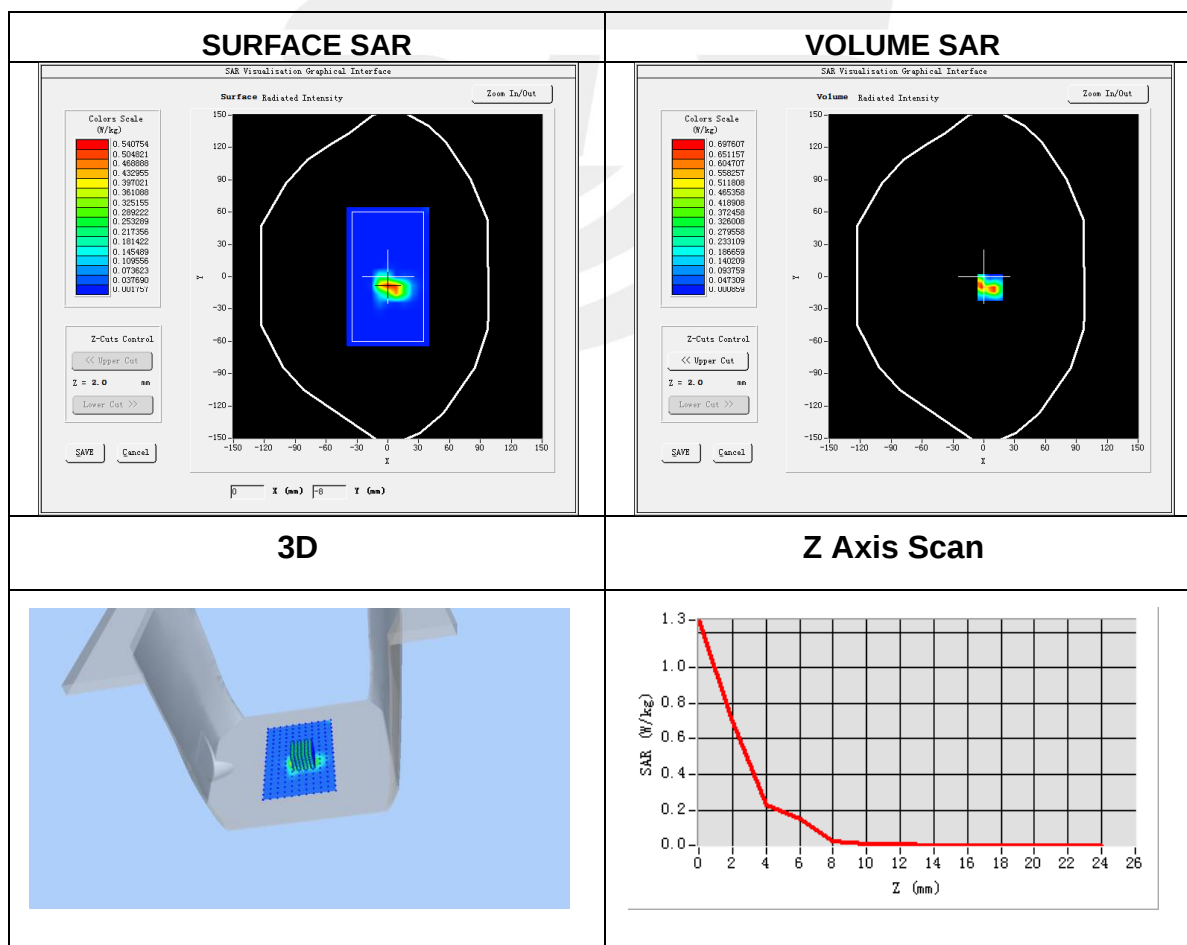
Plot 14: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11a ANT 1
Channels	100
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5500
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=6.00 Y=-10.00

SAR Peak: 1.34W/kg

SAR 10g (W/Kg)	0.089042
SAR 1g (W/Kg)	0.328344



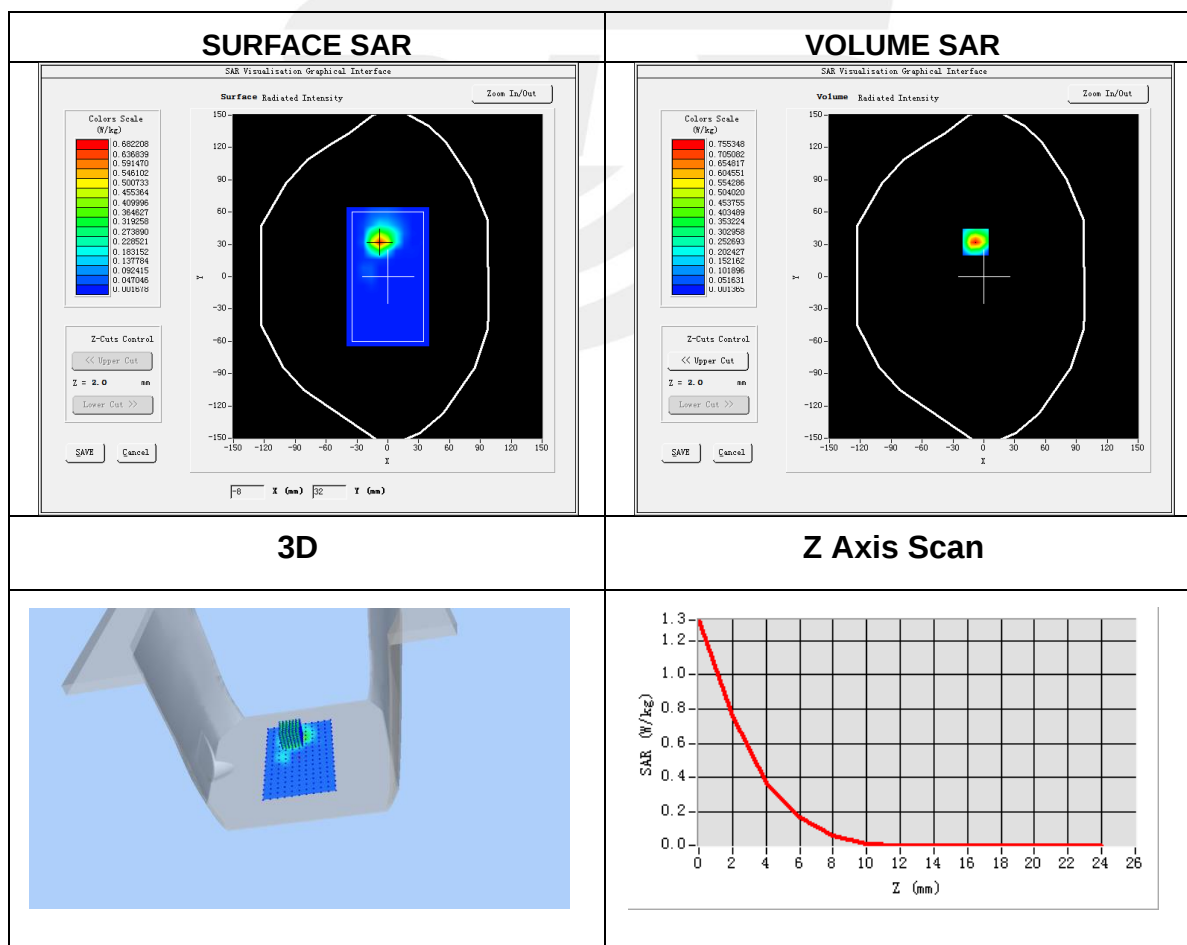
Plot 15: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11ac40 ANT 1
Channels	102
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5510
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-8.00 Y=32.00

SAR Peak: 1.38 W/kg

SAR 10g (W/Kg)	0.120673
SAR 1g (W/Kg)	0.392338



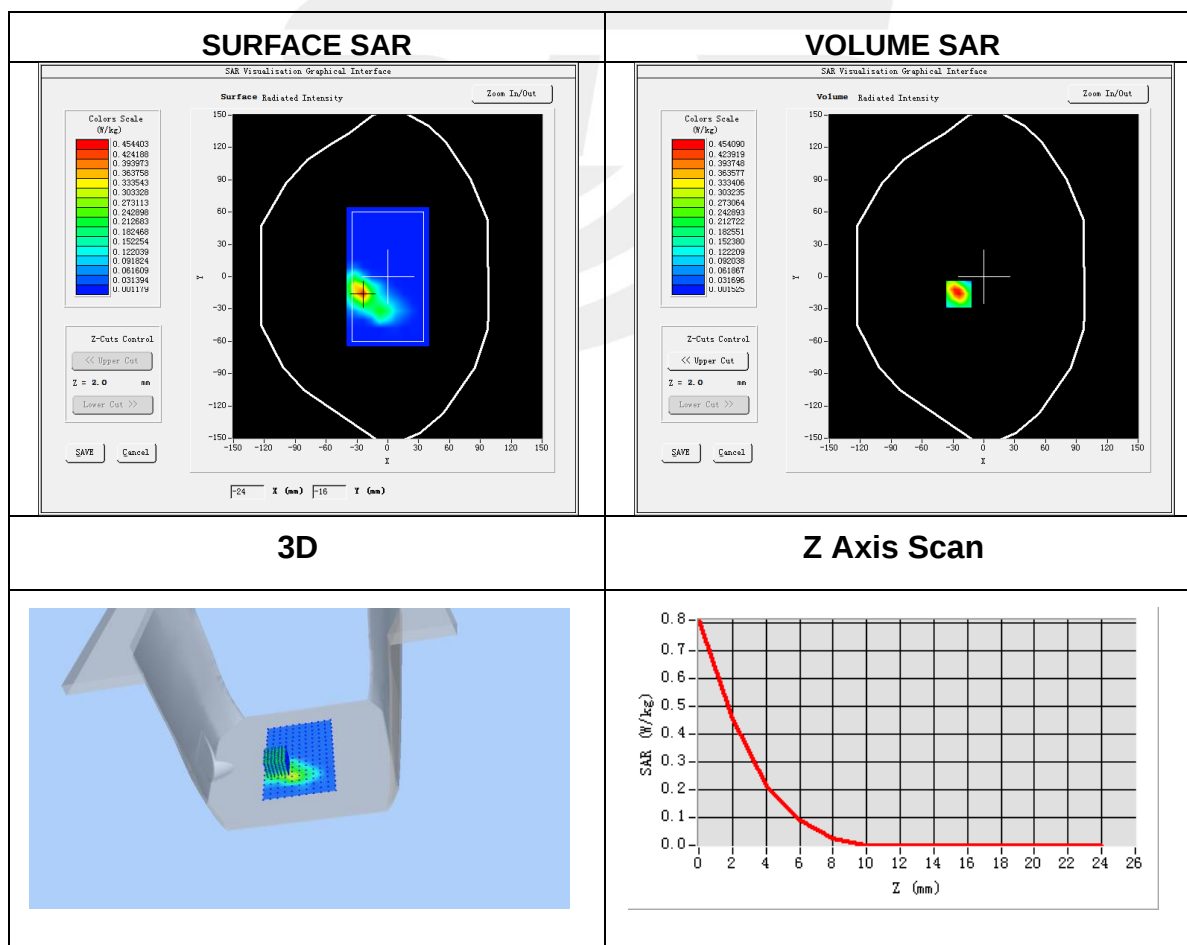

Plot 16: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11ac40 ANT 2
Channels	102
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5510
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-24.00 Y=-16.00

SAR Peak: 0.86W/kg

SAR 10g (W/Kg)	0.085610
SAR 1g (W/Kg)	0.249218



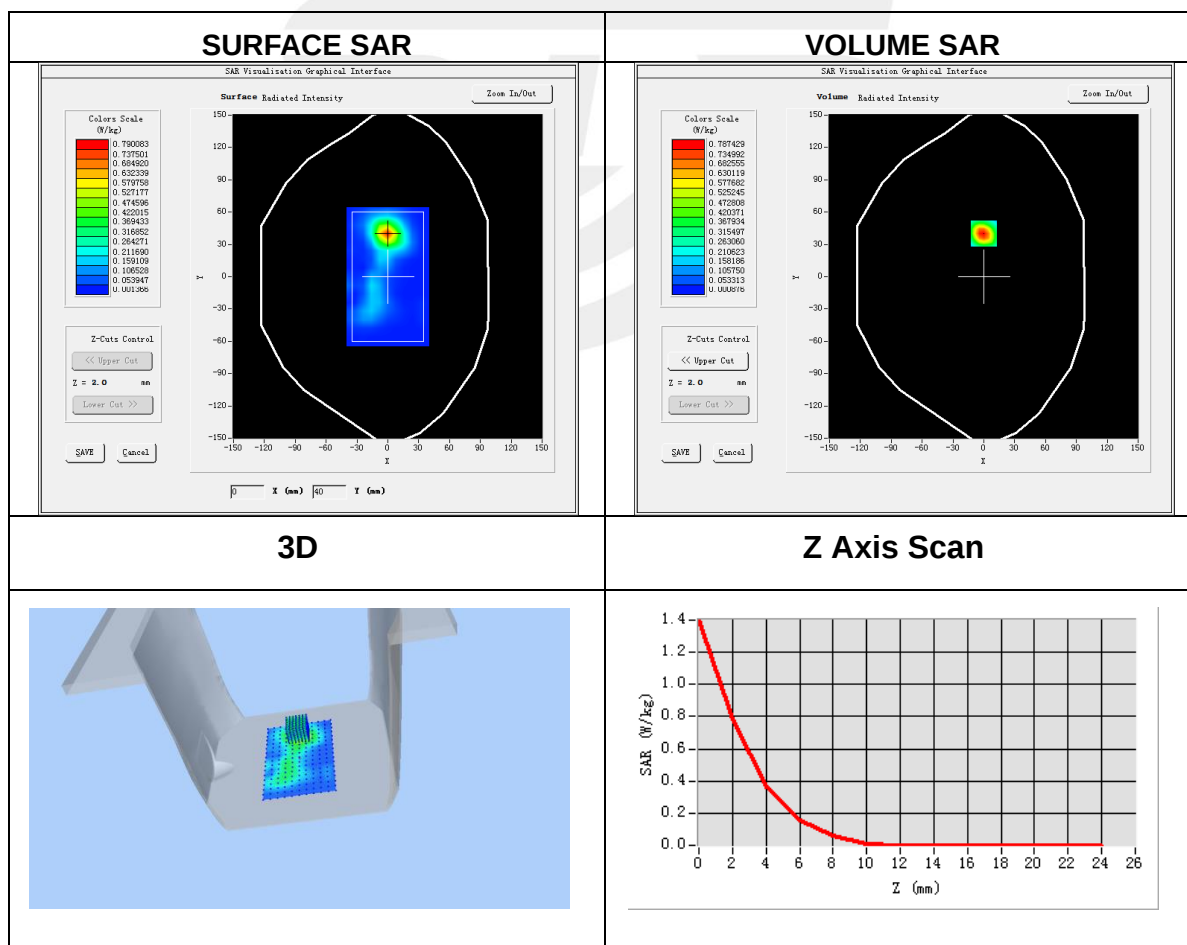

Plot 17: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11a ANT 1
Channels	149
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5745
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=0.00 Y=40.00

SAR Peak: 1.48 W/kg

SAR 10g (W/Kg)	0.147775
SAR 1g (W/Kg)	0.427948



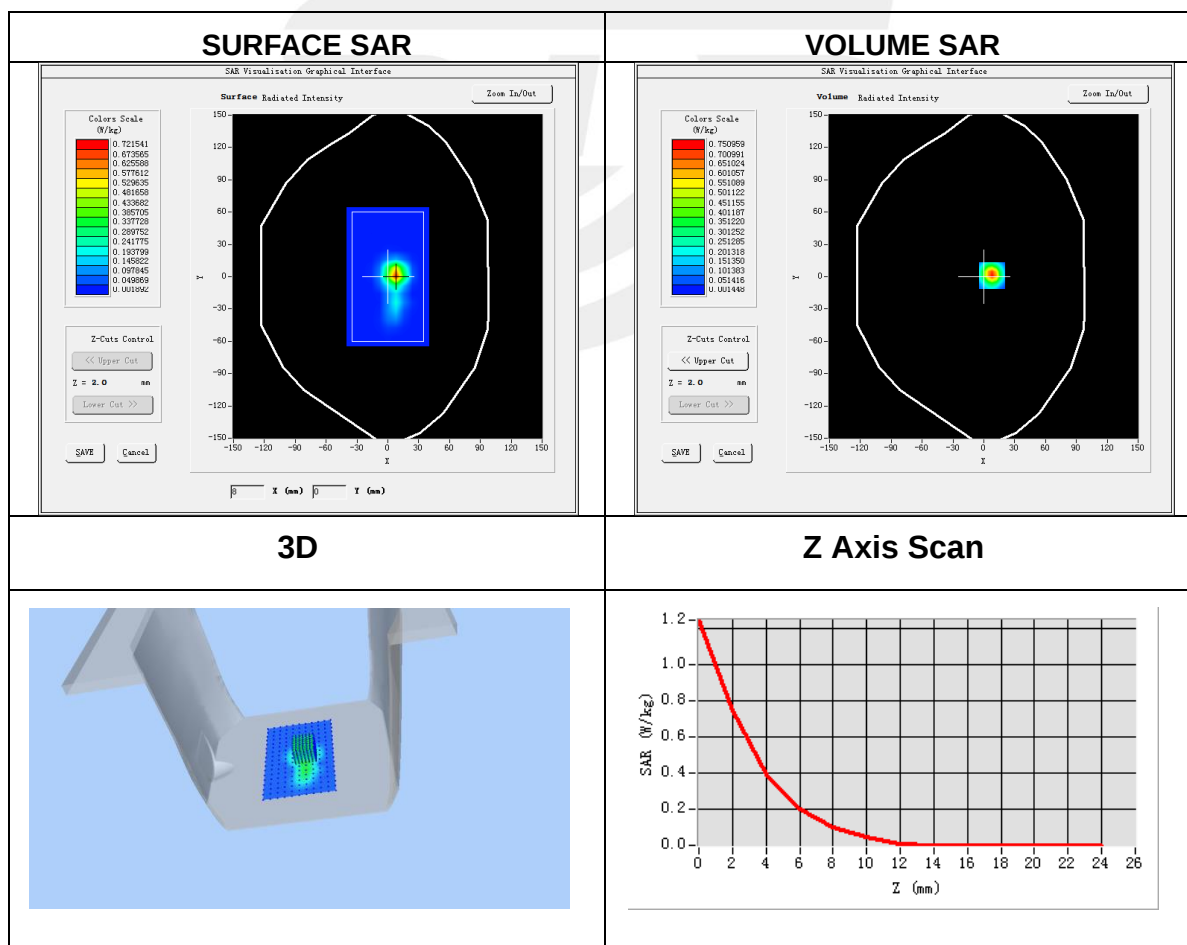
Plot 18: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11a ANT 2
Channels	149
Signal	IEEE802.11a (Crest factor: 1.0)
Frequency (MHz)	5745
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=8.00 Y=1.00

SAR Peak: 1.31 W/kg

SAR 10g (W/Kg)	0.114598
SAR 1g (W/Kg)	0.393766



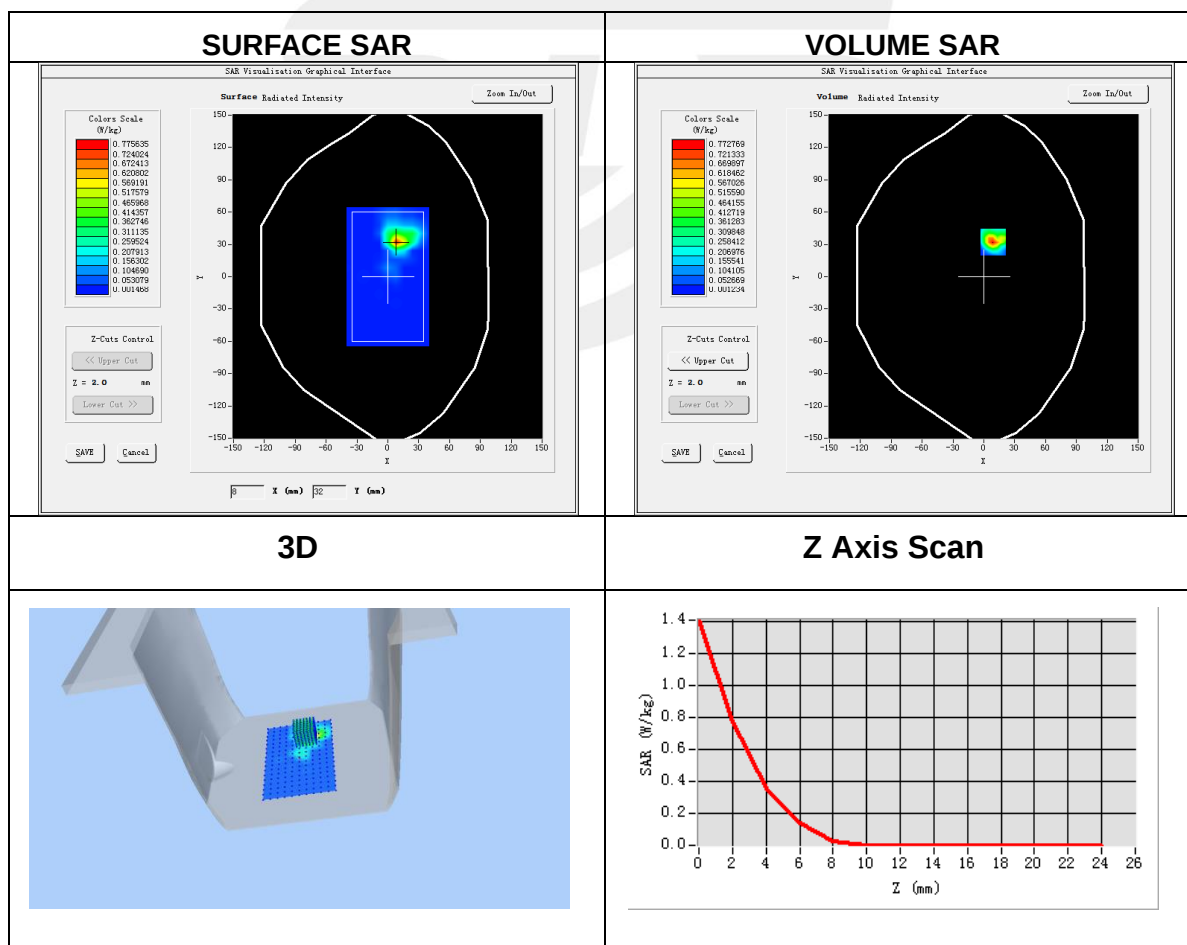

Plot 19: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11ac40 ANT 1
Channels	151
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5755
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=9.00 Y=32.00

SAR Peak: 1.49 W/kg

SAR 10g (W/Kg)	0.114684
SAR 1g (W/Kg)	0.391277



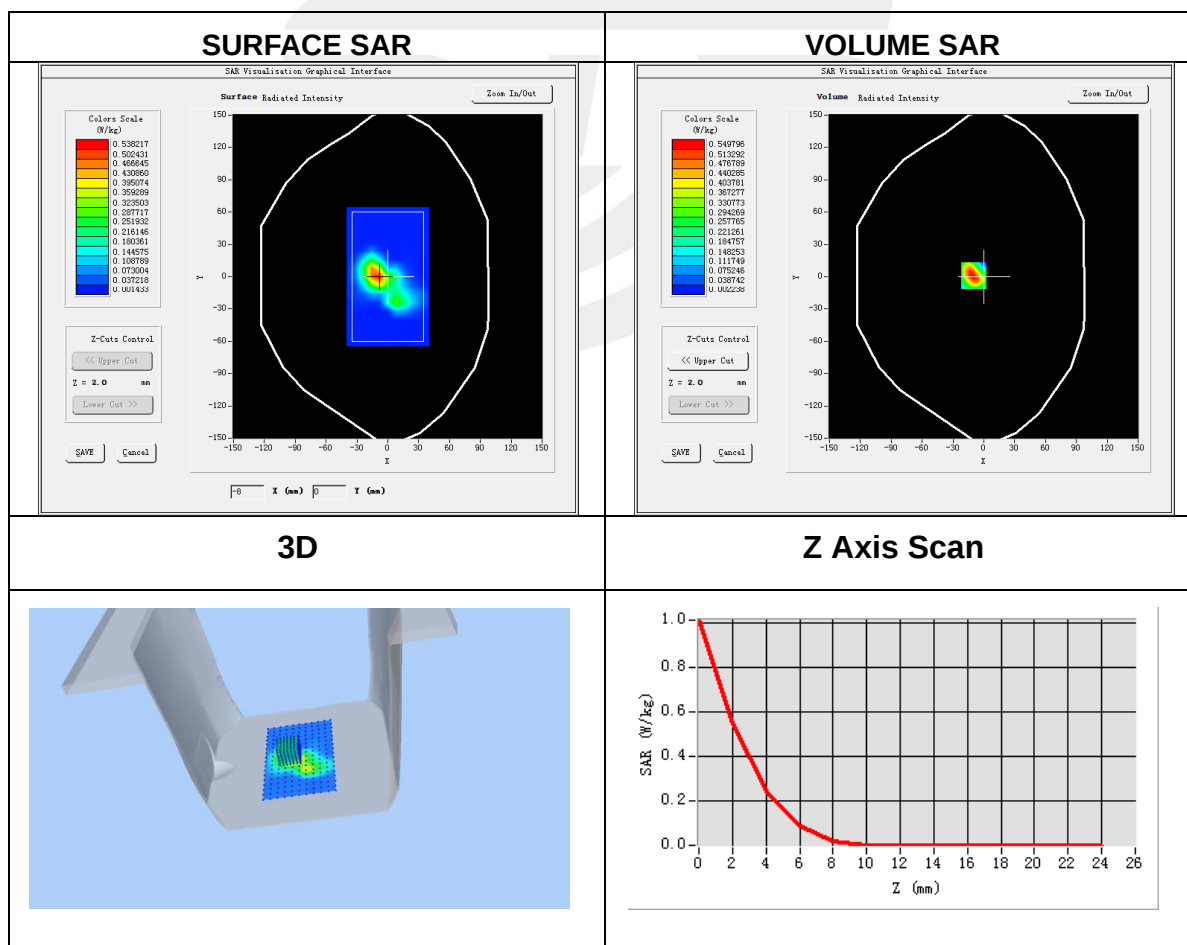

Plot 20: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-19
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	IEEE 802.11ac40 ANT 2
Channels	151
Signal	IEEE802.11ac40 (Crest factor: 1.0)
Frequency (MHz)	5755
Relative permittivity (real part)	35.36
Conductivity (S/m)	5.22

Maximum location: X=-10.00 Y=1.00

SAR Peak: 1.07W/kg

SAR 10g (W/Kg)	0.109506
SAR 1g (W/Kg)	0.311701



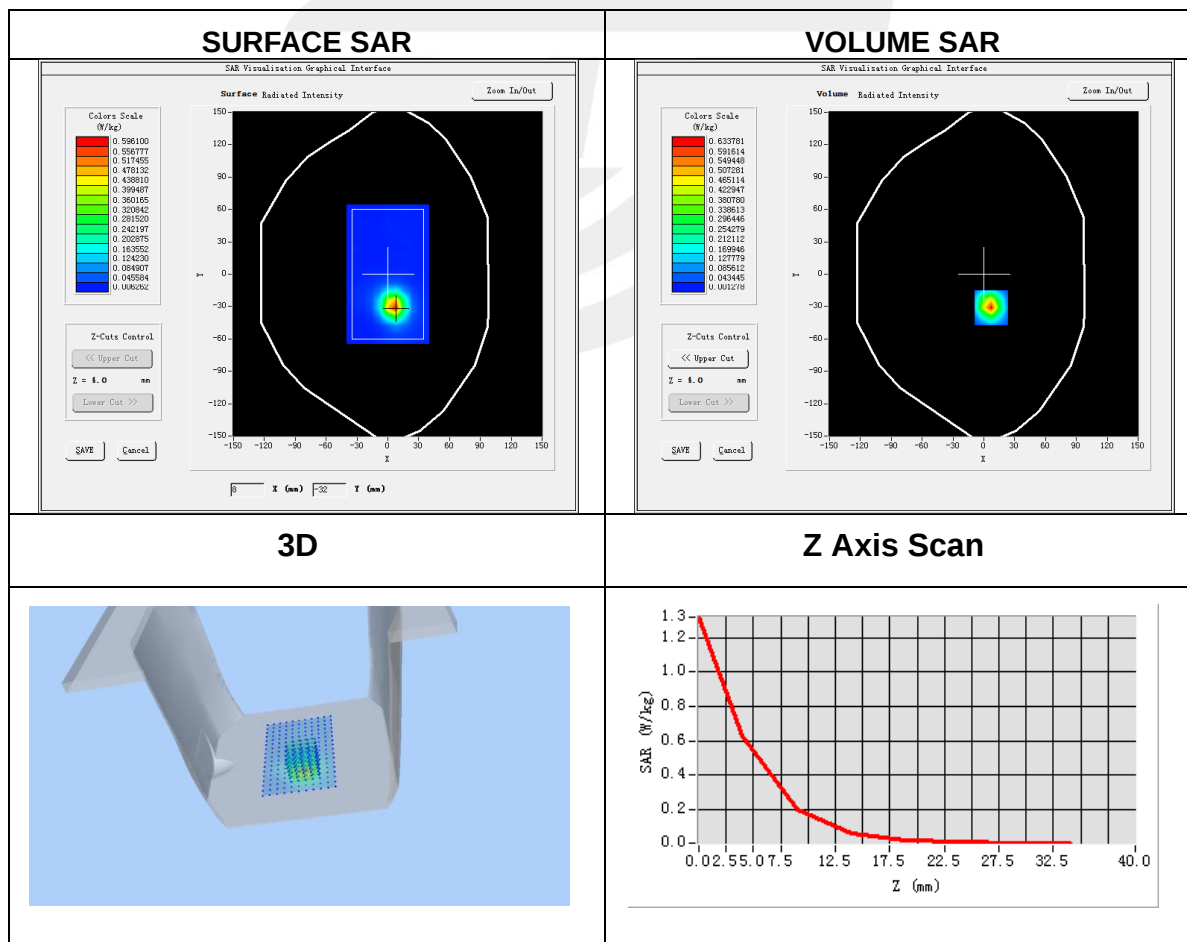
Plot 21: DUT: TG0813 8 inch Tablet; EUT Model: TG0813

Test Date	2021-08-26
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	Left Side
Band	LTE Band 48
Channels	55340
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	3560
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.93

Maximum location: X=7.00 Y=-31.00

SAR Peak: 1.31 W/kg

SAR 10g (W/Kg)	0.192016
SAR 1g (W/Kg)	0.579411





Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※※

