



### 12.2 Body-worn and Hotspot SAR

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	GPRS Data-4 Slot	Front side	190	0.610	-3.51	31.80	31.50	0.654	/
		Back side	128	0.988	0.91	31.80	31.40	1.083	/
		Back side	190	1.024	2.02	31.80	31.50	<b>1.097</b>	2
		Back side	251	0.909	1.33	31.80	31.23	1.036	/
		Left side	190	0.425	3.47	31.80	31.50	0.455	/
		Bottom side	190	0.557	-3.09	31.80	31.50	0.597	/
GSM1900	GPRS Data-4 Slot	Front side	512	0.581	3.99	28.50	28.09	0.639	/
		Back side	512	0.948	1.90	28.50	28.09	<b>1.042</b>	4
		Back side	661	0.866	0.65	28.50	27.84	1.008	/
		Back side	810	0.772	0.11	28.50	27.35	1.006	/
		Left side	512	0.277	-1.39	28.50	28.09	0.304	/
		Bottom side	512	0.326	-2.83	28.50	28.09	0.358	/
WCDMA II	RMC	Front side	9400	0.522	3.79	23.00	22.97	0.526	/
		Back side	9400	0.773	-3.01	23.00	22.97	<b>0.778</b>	6
		Left side	9400	0.209	-2.37	23.00	22.97	0.210	/
		Bottom side	9400	0.283	-1.22	23.00	22.97	0.285	/
WCDMA IV	RMC	Front side	1413	0.425	-0.81	24.00	23.54	0.472	/
		Back side	1413	0.635	0.77	24.00	23.54	<b>0.706</b>	8
		Left side	1413	0.169	2.07	24.00	23.54	0.188	/
		Bottom side	1413	0.205	-0.43	24.00	23.54	0.228	/
WCDMA V	RMC	Front side	4233	0.670	-0.59	23.00	22.99	0.672	/
		Back side	4132	0.947	-2.69	23.00	22.64	1.029	/
		Back side	4183	0.982	-2.09	23.00	22.85	1.017	/
		Back side	4233	1.072	3.21	23.00	22.99	<b>1.074</b>	10
		Left side	4233	0.269	-0.42	23.00	22.99	0.270	/
		Bottom side	4233	0.374	1.85	23.00	22.99	0.375	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	0	Front side	19100	0.471	-1.50	23.00	22.82	0.491	/
			50	0	Front side	19100	0.428	2.10	22.20	22.07	0.441	/
			1	0	Back Side	19100	0.709	-2.15	23.00	22.82	<b>0.739</b>	12
			50	0	Back Side	19100	0.665	1.77	22.20	22.07	0.685	/
			1	0	Left Side	19100	0.166	2.75	23.00	22.82	0.173	/
			50	0	Left Side	19100	0.162	-1.83	22.20	22.07	0.167	/
			1	0	Bottom Side	19100	0.217	1.35	23.00	22.82	0.226	/
			50	0	Bottom Side	19100	0.202	-3.53	22.20	22.07	0.208	/
LTE Band 4	20M	QPSK	1	0	Front side	20050	0.408	-0.85	22.50	22.41	0.417	/
			50	0	Front side	20050	0.386	2.67	22.00	21.72	0.412	/
			1	0	Back Side	20050	0.551	-0.33	22.50	22.41	<b>0.563</b>	14
			50	0	Back Side	20050	0.522	0.98	22.00	21.72	0.557	/
			1	0	Left Side	20050	0.126	-2.10	22.50	22.41	0.129	/
			50	0	Left Side	20050	0.108	-2.34	22.00	21.72	0.115	/
			1	0	Bottom Side	20050	0.192	-2.60	22.50	22.41	0.196	/
			50	0	Bottom Side	20050	0.177	1.74	22.00	21.72	0.189	/
LTE Band 5	10M	QPSK	1	0	Front side	20525	0.192	-0.21	23.50	23.09	0.211	/
			25	0	Front side	20525	0.182	-2.52	23.00	22.34	0.212	/
			1	0	Back Side	20525	0.340	2.37	23.50	23.09	<b>0.374</b>	16
			25	0	Back Side	20525	0.319	0.14	23.00	22.34	0.371	/
			1	0	Left Side	20525	0.069	1.40	23.50	23.09	0.076	/
			25	0	Left Side	20525	0.052	-1.94	23.00	22.34	0.061	/
			1	0	Bottom Side	20525	0.083	-3.91	23.50	23.09	0.091	/
			25	0	Bottom Side	20525	0.072	1.73	23.00	22.34	0.084	/



LTE Band 7	70M	QPSK	1	0	Front side	21100	0.311	0.06	22.50	22.35	0.322	/
			50	0	Front side	21100	0.285	-1.09	21.80	21.58	0.300	/
			1	0	Back Side	21100	0.500	-2.25	22.50	22.35	<b>0.518</b>	18
			50	0	Back Side	21100	0.472	-3.73	21.80	21.58	0.497	/
			1	0	Left Side	21100	0.126	2.25	22.50	22.35	0.130	/
			50	0	Left Side	21100	0.115	-0.47	21.80	21.58	0.121	/
			1	0	Bottom Side	21100	0.185	3.15	22.50	22.35	0.192	/
			50	0	Bottom Side	21100	0.146	3.32	21.80	21.58	0.154	/
LTE Band 12	10M	QPSK	1	0	Front side	23130	0.245	2.95	23.50	23.13	0.267	/
			25	0	Front side	23095	0.230	0.30	22.50	22.42	0.234	/
			1	0	Back Side	23130	0.464	-2.34	23.50	23.13	<b>0.505</b>	20
			25	0	Back Side	23095	0.416	-0.89	22.50	22.42	0.424	/
			1	0	Left Side	23130	0.082	-1.72	23.50	23.13	0.089	/
			25	0	Left Side	23095	0.076	-1.93	22.50	22.42	0.077	/
			1	0	Bottom Side	23130	0.126	-3.48	23.50	23.13	0.137	/
			25	0	Bottom Side	23095	0.113	3.98	22.50	22.42	0.115	/
LTE Band 13	10M	QPSK	1	0	Front side	23230	0.275	0.22	23.00	22.79	0.289	/
			50	0	Front side	23230	0.213	3.55	22.20	22.03	0.222	/
			1	0	Back Side	23230	0.447	-2.71	23.00	22.79	<b>0.469</b>	22
			50	0	Back Side	23230	0.431	-0.85	22.20	22.03	0.448	/
			1	0	Left Side	23230	0.105	-1.23	23.00	22.79	0.110	/
			50	0	Left Side	23230	0.082	-1.85	22.20	22.03	0.085	/
			1	0	Bottom Side	23230	0.115	2.32	23.00	22.79	0.121	/
			50	0	Bottom Side	23230	0.103	-2.03	22.20	22.03	0.107	/
LTE Band 17	10M	QPSK	1	0	Front side	23780	0.341	2.76	22.20	22.04	0.354	/
			25	0	Front side	23780	0.320	3.30	21.50	21.29	0.336	/
			1	0	Back Side	23780	0.533	3.10	22.20	22.04	<b>0.553</b>	24
			25	0	Back Side	23780	0.501	-3.21	21.50	21.29	0.526	/
			1	0	Left Side	23780	0.160	-3.14	22.20	22.04	0.166	/
			25	0	Left Side	23780	0.152	-0.82	21.50	21.29	0.160	/
			1	0	Bottom Side	23780	0.174	0.08	22.20	22.04	0.181	/
			25	0	Bottom Side	23780	0.155	1.06	21.50	21.29	0.163	/



LTE Band 26	10M	QPSK	1	0	Front side	26865	0.162	-3.02	23.50	23.12	0.177	/
			25	0	Front side	26865	0.147	0.17	22.50	22.43	0.149	/
			1	0	Back Side	26865	0.317	1.54	23.50	23.12	<b>0.346</b>	26
			25	0	Back Side	26865	0.294	-1.62	22.50	22.43	0.299	/
			1	0	Left Side	26865	0.065	-3.89	23.50	23.12	0.071	/
			25	0	Left Side	26865	0.062	-0.65	22.50	22.43	0.063	/
			1	0	Bottom Side	26865	0.088	-3.80	23.50	23.12	0.096	/
			25	0	Bottom Side	26865	0.075	0.53	22.50	22.43	0.076	/
LTE Band 41	20M	QPSK	1	0	Front side	41490	0.105	-2.82	24.00	23.60	0.115	/
			50	0	Front side	41490	0.094	2.85	23.00	22.83	0.098	/
			1	0	Back Side	41490	0.179	0.88	24.00	23.60	<b>0.196</b>	28
			50	0	Back Side	41490	0.162	-3.84	23.00	22.83	0.168	/
			1	0	Left Side	41490	0.026	3.37	24.00	23.60	0.029	/
			50	0	Left Side	41490	0.020	1.19	23.00	22.83	0.021	/
			1	0	Bottom Side	41490	0.037	0.74	24.00	23.60	0.041	/
			50	0	Bottom Side	41490	0.031	-3.65	23.00	22.83	0.032	/

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
2.4G WLAN	802.11b	Front side	1	0.074	-0.16	13.50	13.29	0.078	/
		Back side	1	0.095	-2.05	13.50	13.29	<b>0.100</b>	30
		Left side	1	0.016	2.82	13.50	13.29	0.017	/
		Top side	1	0.024	-0.93	13.50	13.29	0.025	/
5.2G WLAN	802.11a	Front side	35	0.094	-3.91	8.50	8.47	0.095	/
		Back side	35	0.145	-1.40	8.50	8.47	<b>0.146</b>	32
		Left side	35	0.034	0.69	8.50	8.47	0.034	/
		Top side	35	0.026	1.05	8.50	8.47	0.026	/
5.8G WLAN	802.11a	Front side	157	0.085	1.97	9.50	9.22	0.091	/
		Back side	157	0.102	0.30	9.50	9.22	<b>0.109</b>	34
		Left side	157	0.026	-3.32	9.50	9.22	0.028	/
		Top side	157	0.018	-1.81	9.50	9.22	0.019	/

Note:

- The test separation of all above table is 10mm.
- 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  $\leq 1.2$  W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.079** 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.

**Repeated SAR**

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM850	GPRS Date-4 Slot	Back side	190	0.982	-0.67	31.80	31.50	1.052	/
GSM1900	GPRS Date-4 Slot	Back side	512	0.901	-1.04	28.50	28.09	0.990	/
WCDMA V	RMC	Back Side	4233	1.015	1.17	23.00	22.99	1.017	/

**12.3 repeated SAR measurement**

Band	Mode	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
GSM850	GPRS Date-4 Slot	Back side	190	1.024	0.982	1.043	-	-	-
GSM1900	GPRS Date-4 Slot	Back side	512	0.948	0.901	1.052	-	-	-
WCDMA V	RMC	Back Side	4233	1.072	1.015	1.056	-	-	-

**Note:**

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



**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

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

**NOTE:**

- Bluetooth and WLAN can't simultaneous transmission at the same time.
- For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
- Based upon KDB 447498 D01, BT SAR is excluded as below table.
- If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
- 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  $\leq 7.5$  for 10-g extremity SAR
- The reported SAR summation is calculated based on the same configuration and test position.
- 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:
  - (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)  $\cdot [\sqrt{f} (\text{GHz}) / x]$  W/kg for test separation distances  $\leq 50$  mm; Where  $x = 7.5$  for 1-g SAR, and  $x = 18.75$  for 10-g SAR.
  - 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

Estimated SAR		Maximum Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	5	2.512	5	2.441	0.132
	Body			10	2.441	0.066



Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + 2.4G WLAN	Head	GSM	0.403	0.631
		2.4G WLAN	0.228	
	Body	GSM	1.097	1.197
		2.4G WLAN	0.100	
GSM + Bluetooth	Head	GSM	0.403	0.535
		Bluetooth	0.132	
	Body	GSM	1.097	1.163
		Bluetooth	0.066	
GSM + 5G WLAN	Head	GSM	0.403	0.781
		5G WLAN	0.378	
	Body	GSM	1.097	1.243
		5G WLAN	0.146	
WCDMA + 2.4G WLAN	Head	WCDMA	0.387	0.615
		2.4G WLAN	0.228	
	Body	WCDMA	1.074	1.174
		2.4G WLAN	0.100	
WCDMA + Bluetooth	Head	WCDMA	0.387	0.519
		Bluetooth	0.132	
	Body	WCDMA	1.074	1.140
		Bluetooth	0.066	
WCDMA + 5G WLAN	Head	WCDMA	0.387	0.615
		5G WLAN	0.228	
	Body	WCDMA	1.074	1.174
		5G WLAN	0.100	



LTE + 2.4G WLAN	Head	LTE	0.187	0.415
		2.4G WLAN	0.228	
	Body	LTE	0.739	0.839
		2.4G WLAN	0.100	
LTE + Bluetooth	Head	LTE	0.187	0.319
		Bluetooth	0.132	
	Body	LTE	0.739	0.805
		Bluetooth	0.066	
LTE + 5G WLAN	Head	LTE	0.187	0.565
		5G WLAN	0.378	
	Body	LTE	0.739	0.885
		5G WLAN	0.146	

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 41/18 EPGO334	2020.07.14	2021.07.13
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	E4419B	QB43312265	2020.10.10	2021.10.09
Power Sensor	R&S	NRP-Z11	101919	2020.10.10	2021.10.09
Power Sensor	HP	E9300A	US39210170	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 (750MHz)

Type: Phone measurement (Complete)

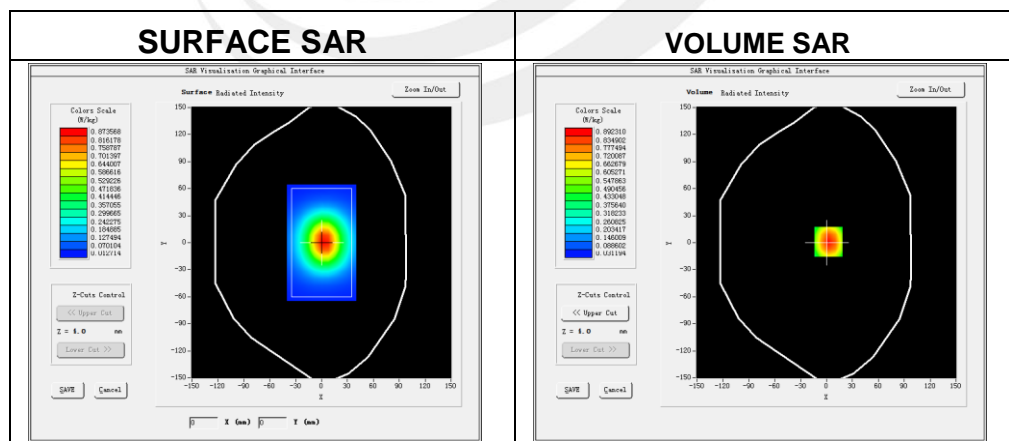
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-02-03

### Experimental conditions

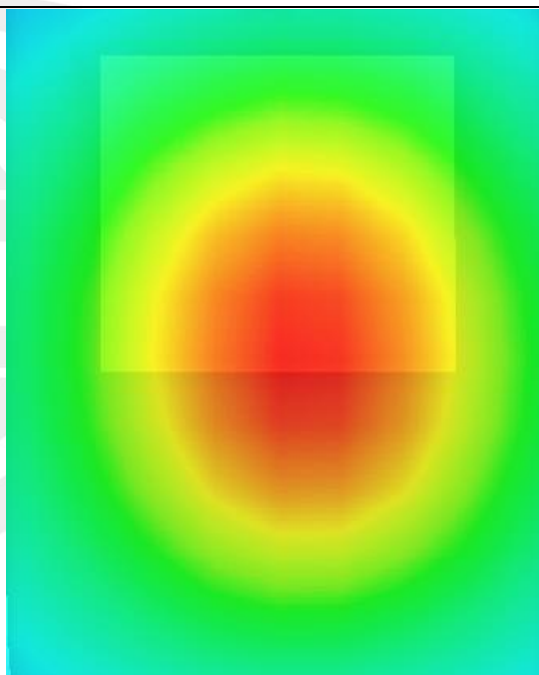
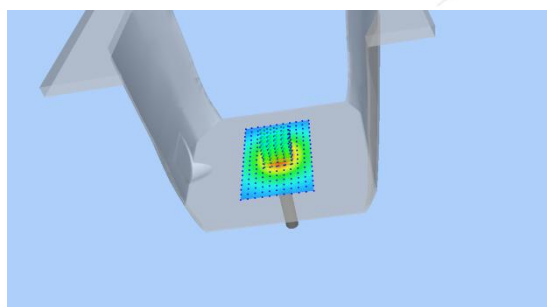
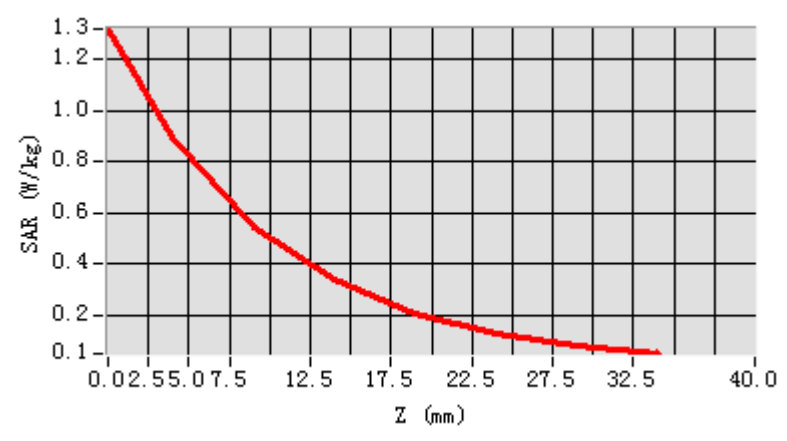
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	41.99
Conductivity (S/m)	0.88
Probe	SN 41/18 EPGO334
ConvF	1.43
Crest factor	1:1



Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.556142
SAR 1g (W/Kg)	0.894942

### Z Axis Scan



### System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

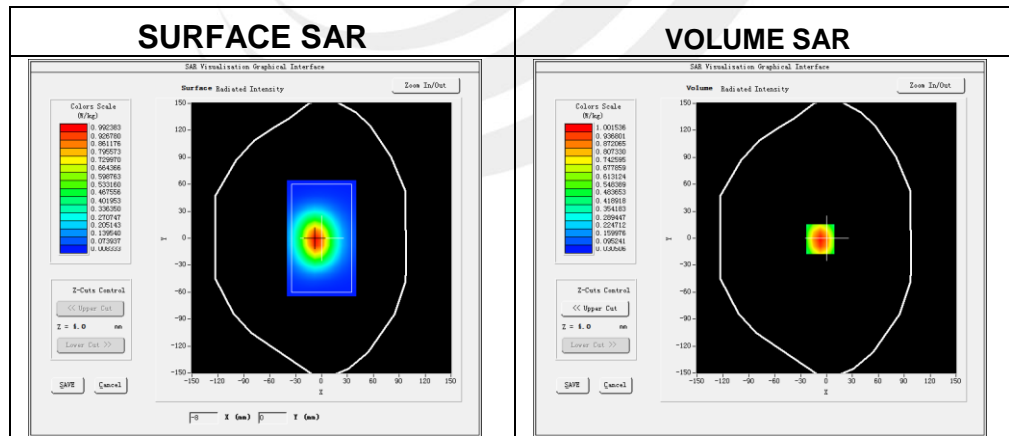
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2020-02-04

### Experimental conditions

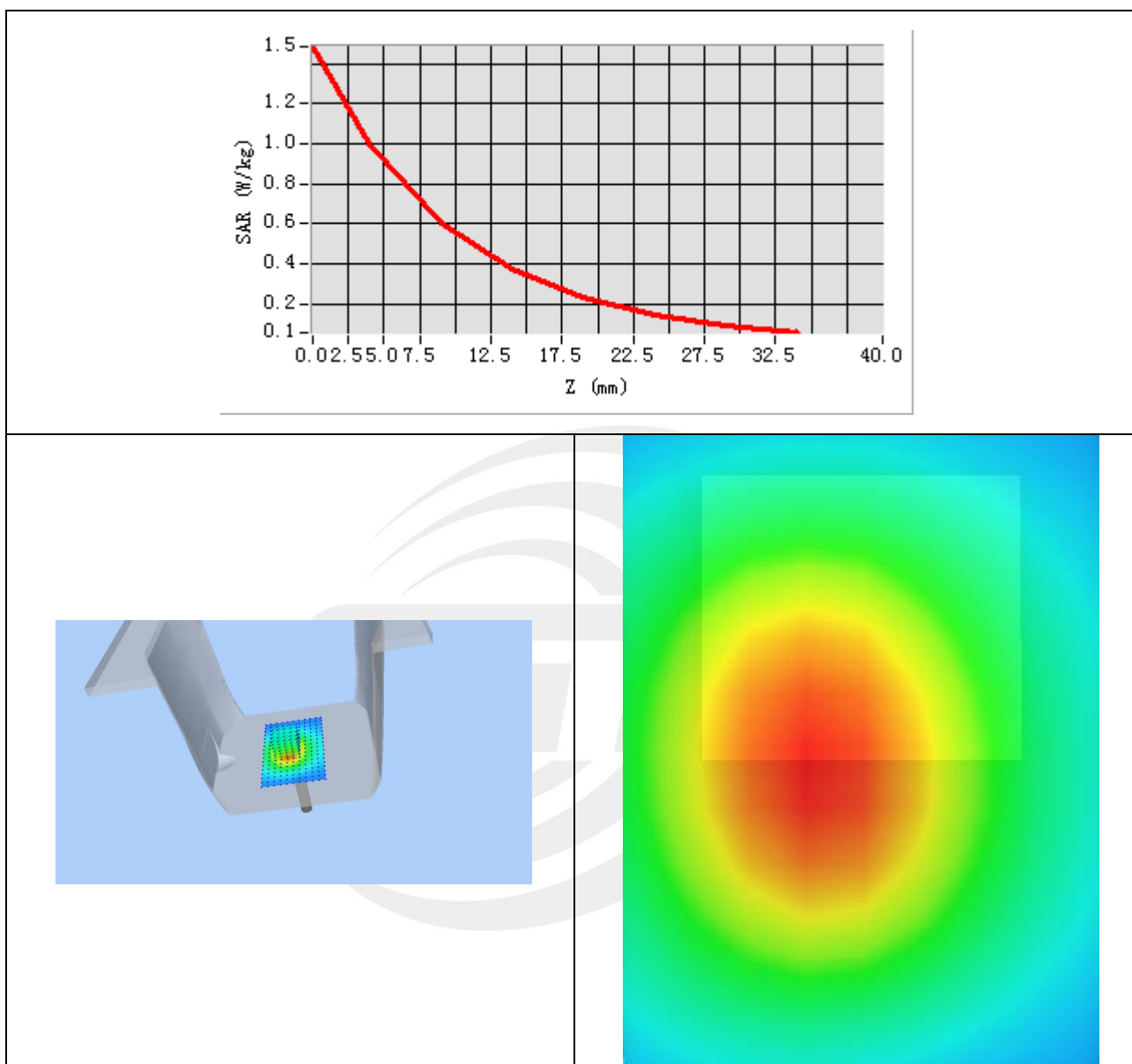
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	42.40
Conductivity (S/m)	0.89
Probe	SN 41/18 EPGO334
ConvF:	1.48
Crest factor:	1:1



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

SAR 10g (W/Kg)	0.627475
SAR 1g (W/Kg)	0.920010

### Z Axis Scan



### System Performance Check Data(1800MHz)

Type: Phone measurement (Complete)

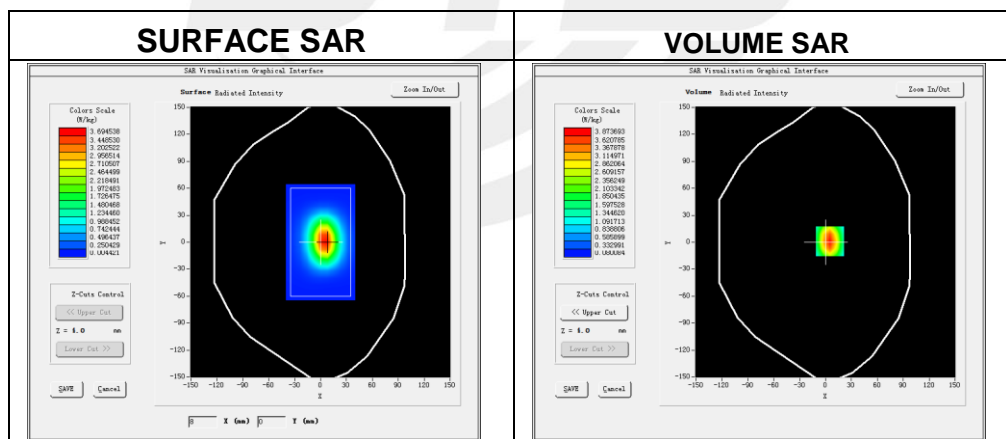
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-02-07

### Experimental conditions.

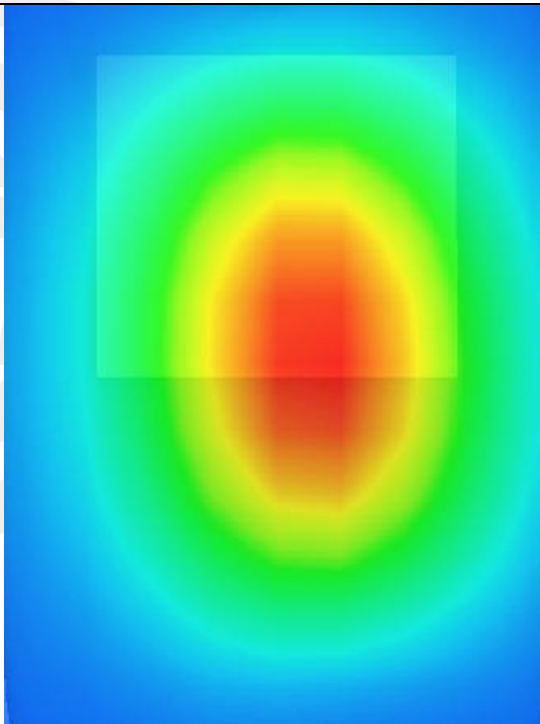
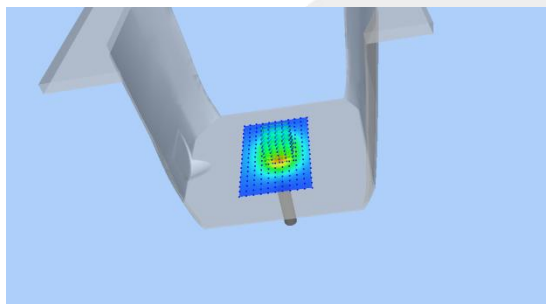
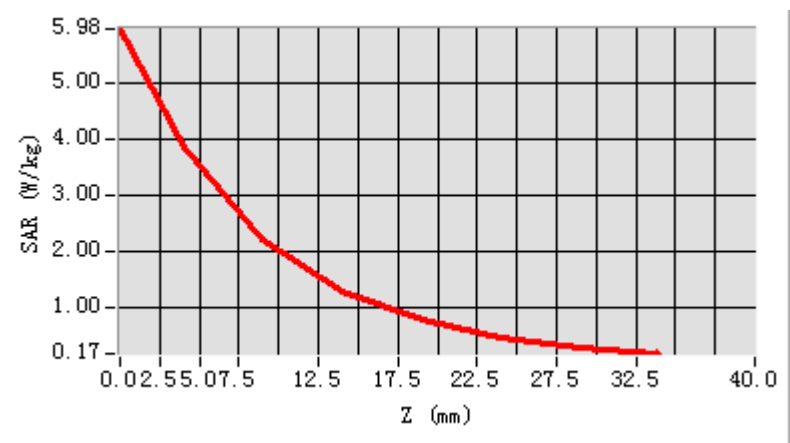
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	39.86
Conductivity (S/m)	1.33
Probe	SN 41/18 EPGO334
ConvF	1.60
Crest factor:	1:1



Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	2.070787
SAR 1g (W/Kg)	3.779515

### Z Axis Scan



### System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

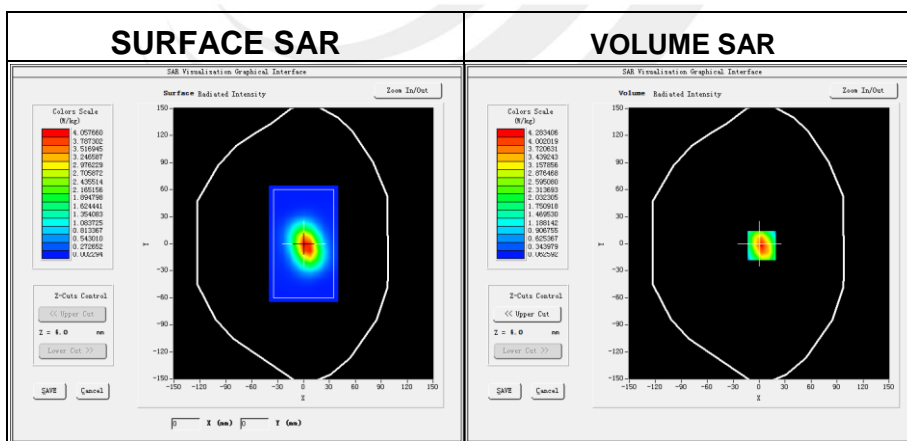
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-02-08

#### Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity	40.05
Conductivity (S/m)	1.37
Probe	SN 41/18 EPGO334
ConvF:	1.84
Crest factor:	1:1

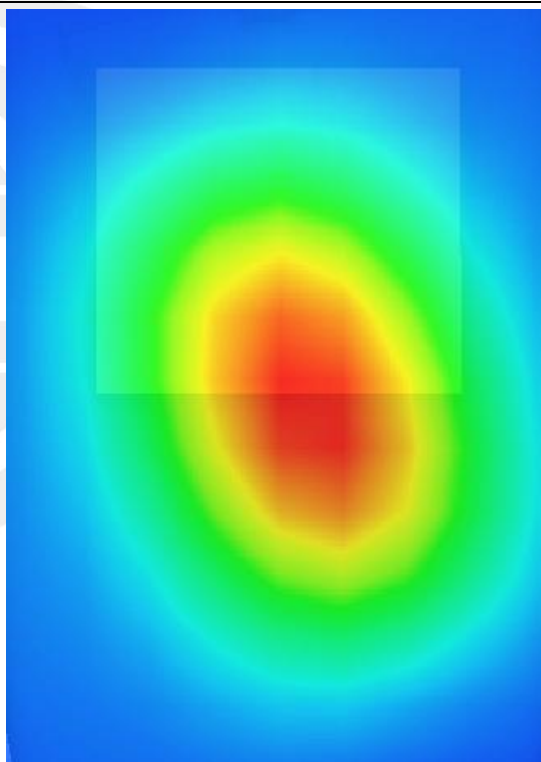
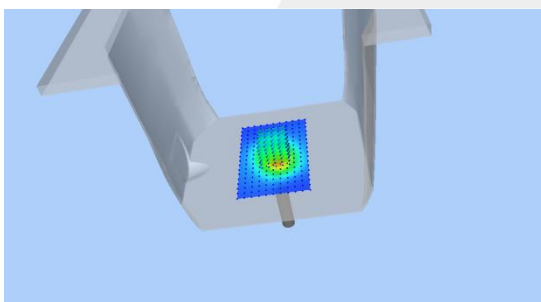
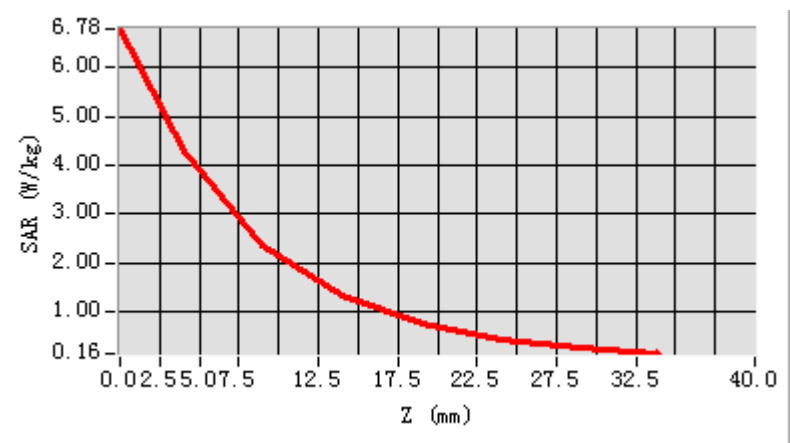


Maximum location: X=3.00, Y=-2.00

SAR 10g (W/Kg)	2.036361
SAR 1g (W/Kg)	3.732089



### Z Axis Scan



### System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

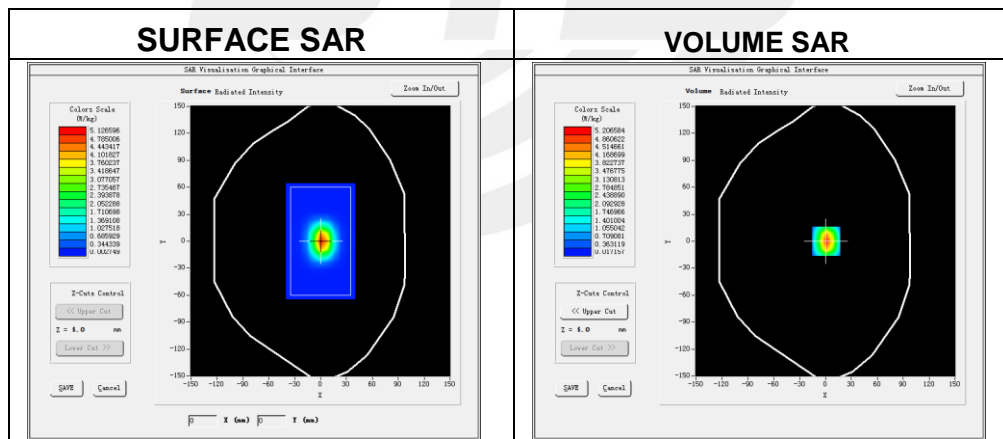
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement: 2021-02-09

#### Experimental conditions.

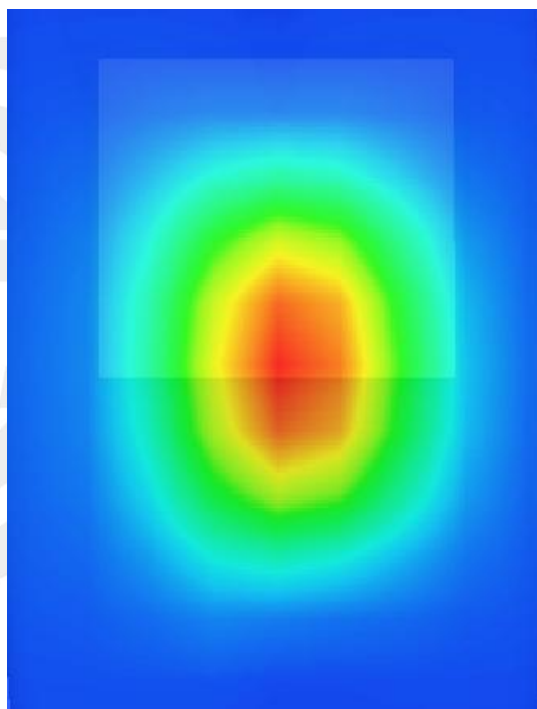
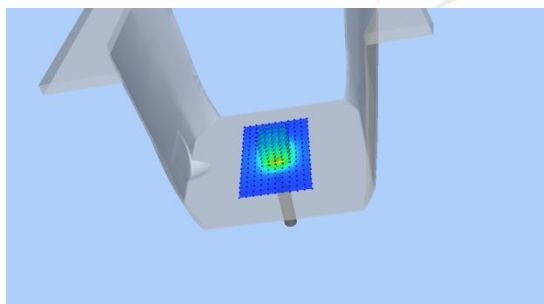
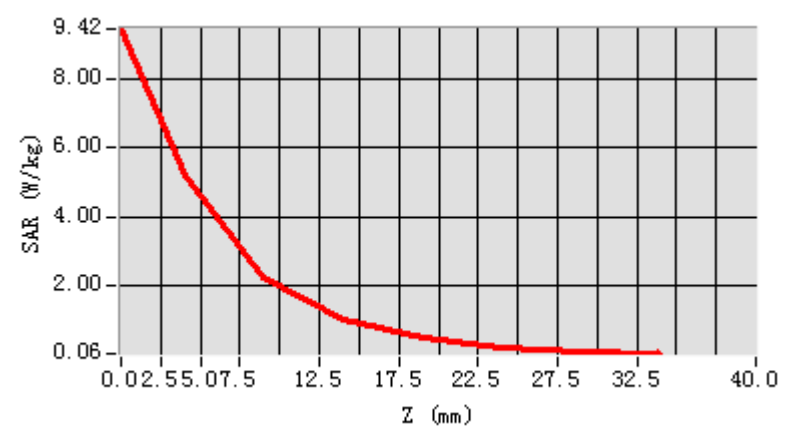
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	37.87
Conductivity (S/m)	1.75
Probe	SN 41/18 EPGO334
ConvF	1.97
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.361414
SAR 1g (W/Kg)	4.768462

### Z Axis Scan



### System Performance Check Data(2600MHz)

Type: Phone measurement (Complete)

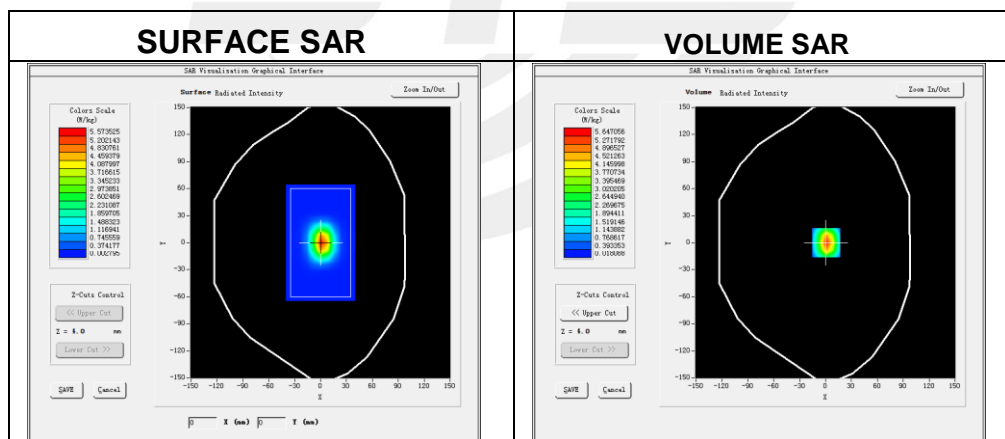
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-02-22

#### Experimental conditions.

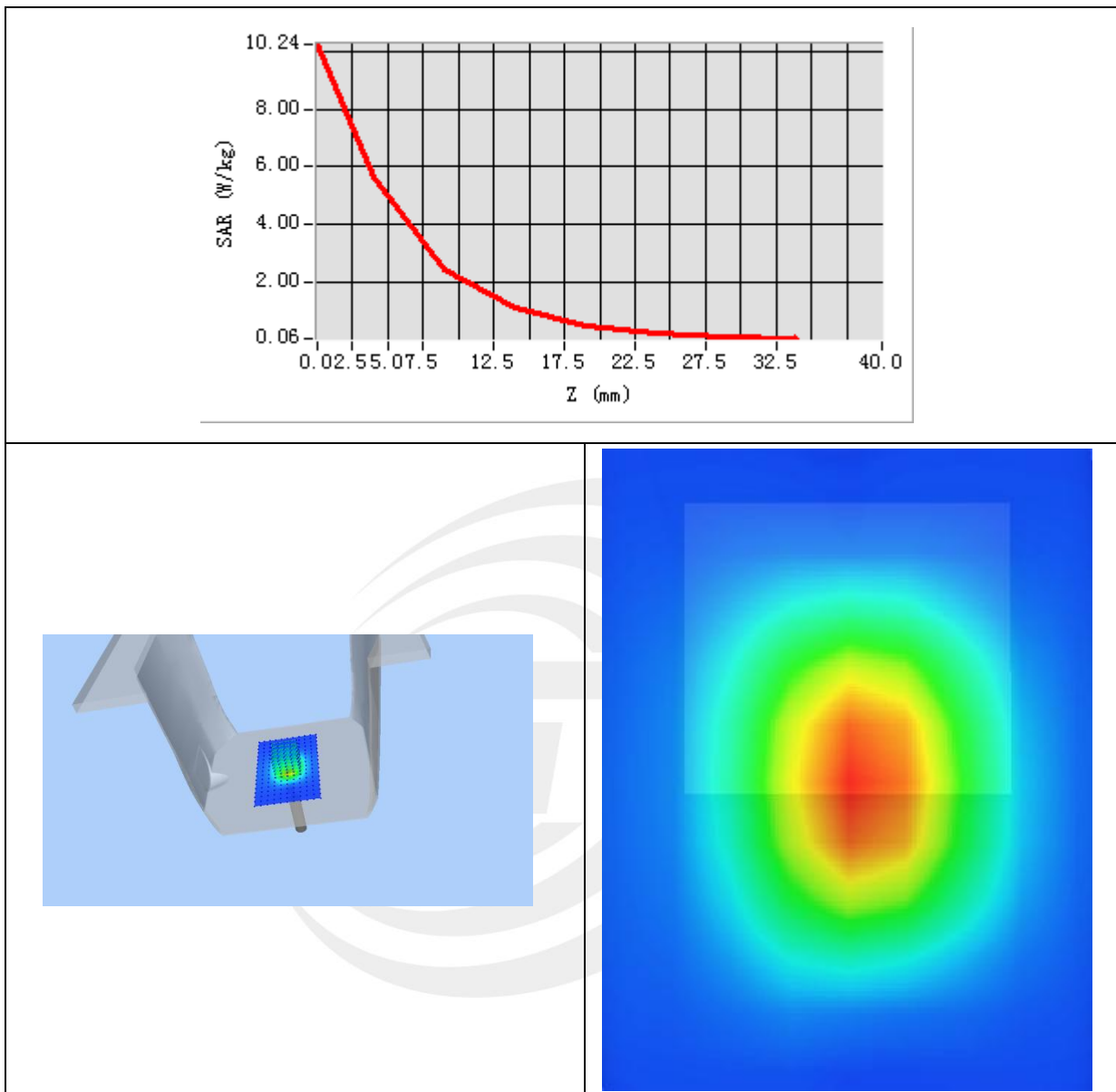
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	38.00
Conductivity (S/m)	2.01
Probe	SN 41/18 EPGO334
ConvF	1.85
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	2.460398
SAR 1g (W/Kg)	5.470229

### Z Axis Scan



### System Performance Check Data(5200MHz)

Type: Dipole measurement (Complete)

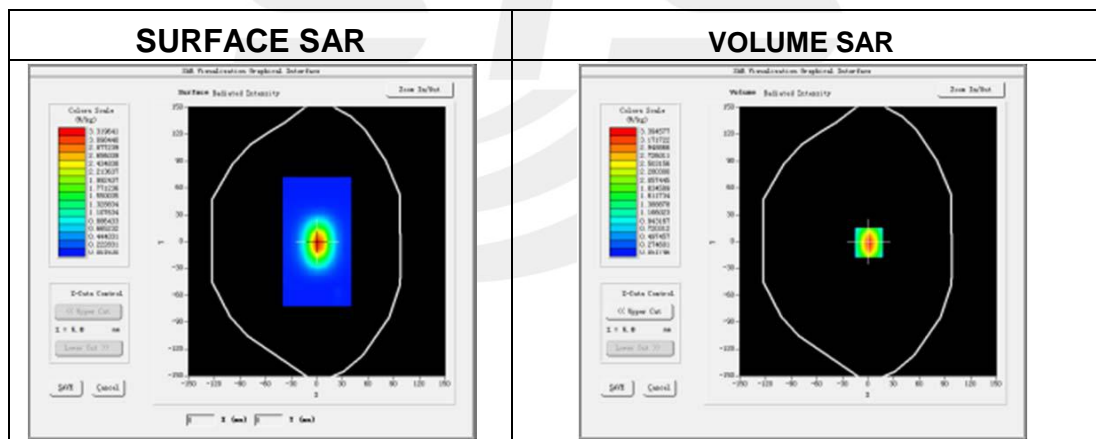
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-02-23

### Experimental conditions.

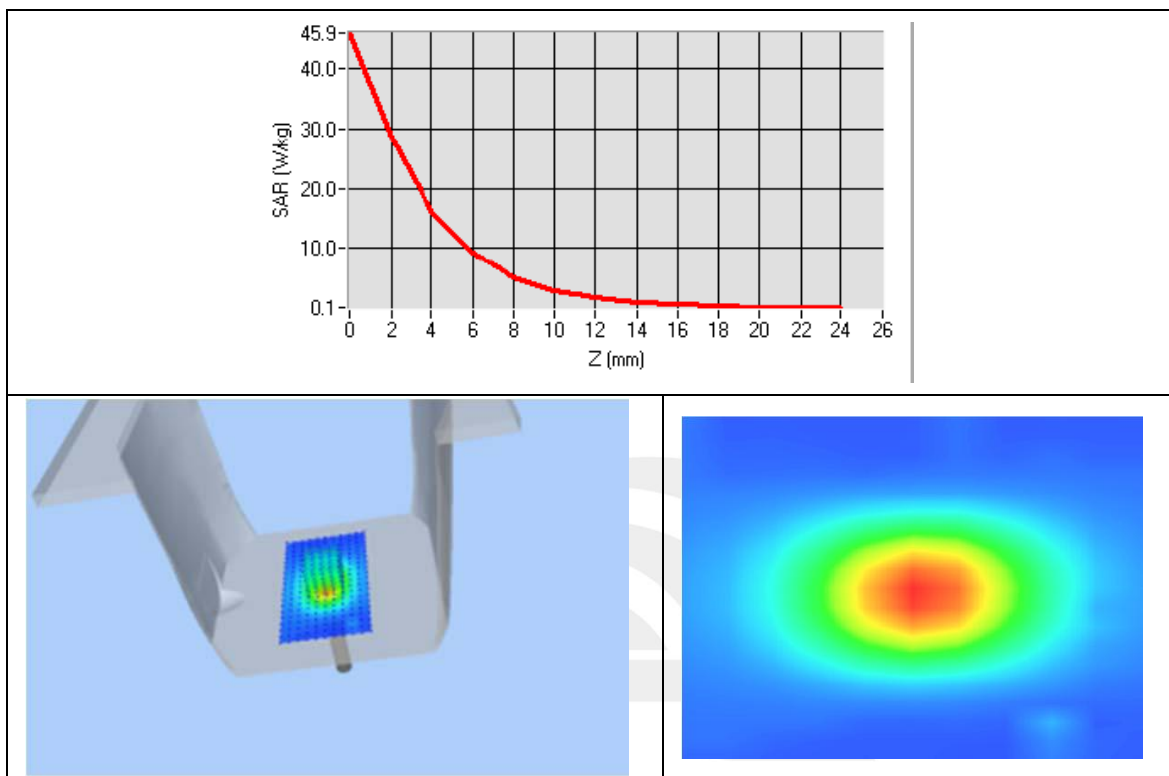
Device Position	Validation plane
Band	5200 MHz
Channels	-
Signal	CW
Frequency (MHz)	5200
Relative permittivity	35.82
Conductivity (S/m)	4.61
Probe	SN 41/18 EPGO334
ConvF	1.86
Crest factor:	1:1



Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.710009
SAR 1g (W/Kg)	16.563274

### Z Axis Scan



### System Performance Check Data(5800MHz)

Type: Dipole measurement (Complete)

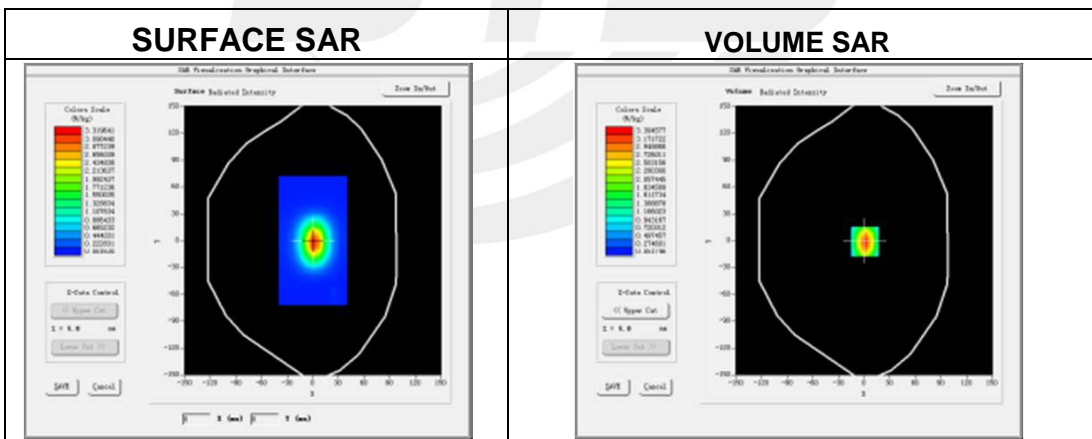
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2021-02-24

### Experimental conditions.

Device Position	Validation plane
Band	5800 MHz
Channels	-
Signal	CW
Frequency (MHz)	5800
Relative permittivity	36.06
Conductivity (S/m)	5.30
Probe	SN 41/18 EPGO334
ConvF	2.09
Crest factor:	1:1

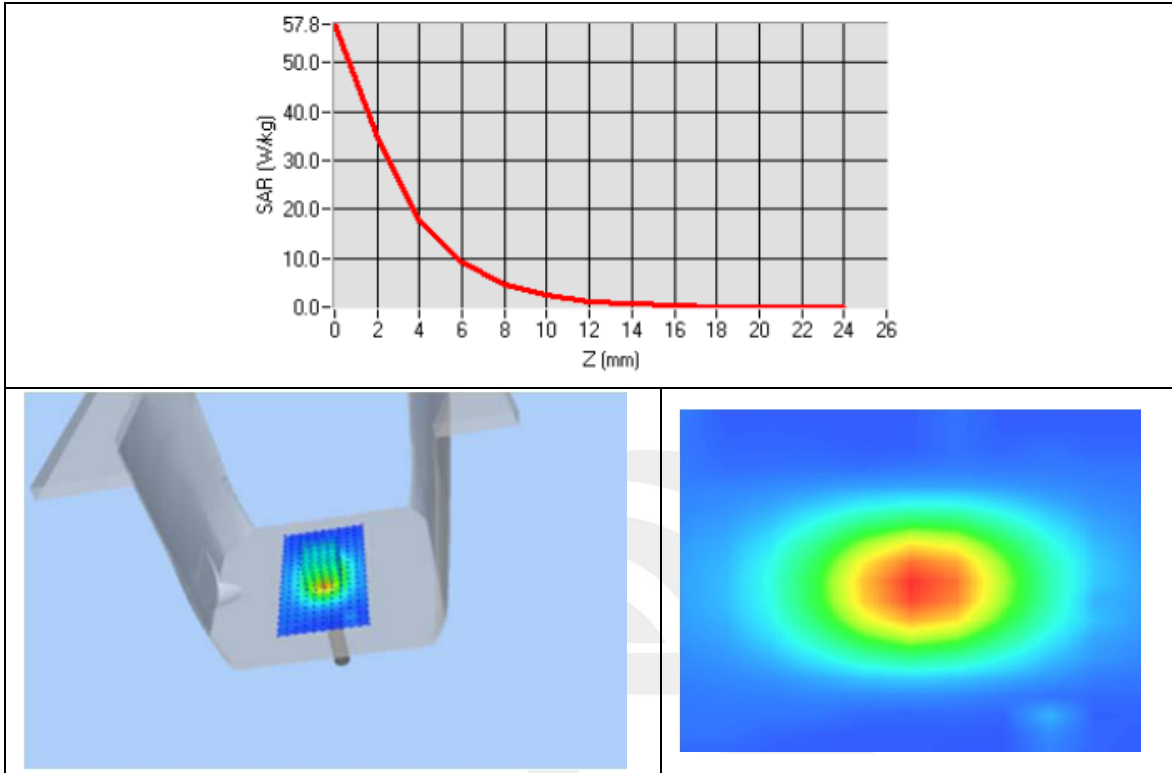


Maximum location: X=7.00, Y=2.00

SAR 10g (W/Kg)	5.992870
SAR 1g (W/Kg)	17.485440



### Z Axis Scan



## Appendix B. SAR Test Plots

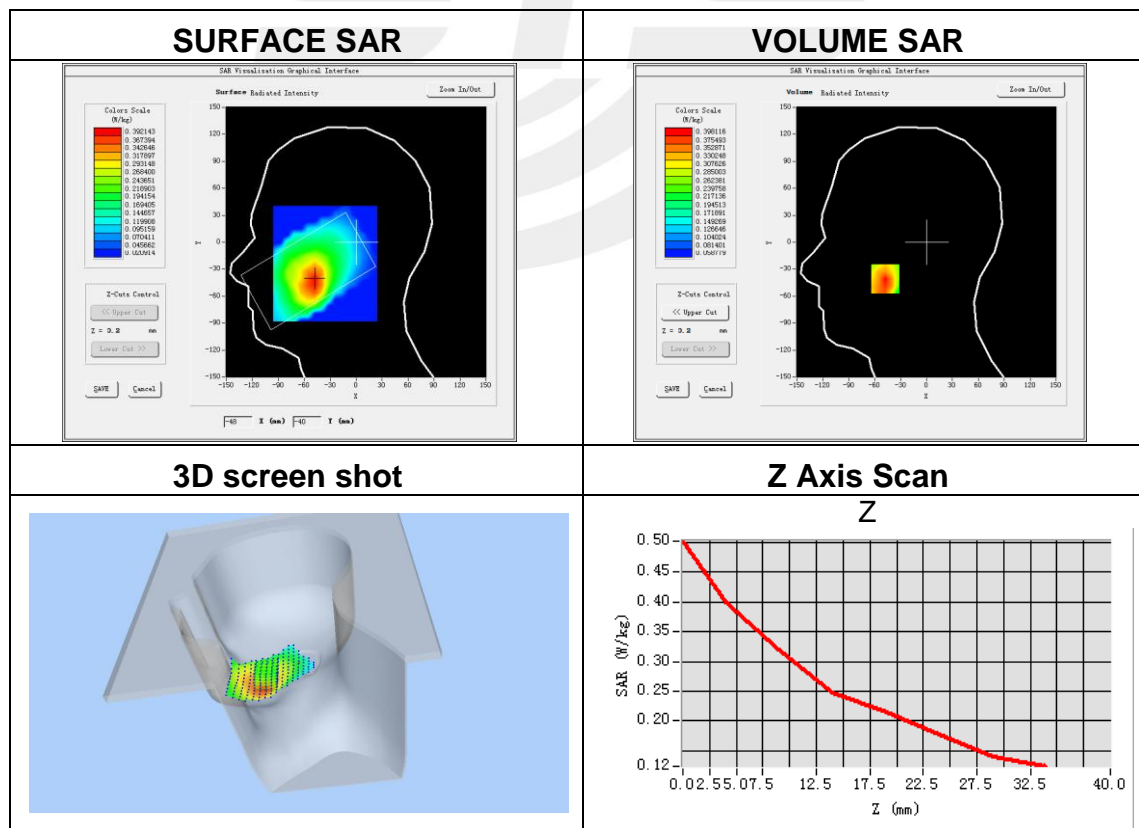
Plot 1: DUT: Rugged Smart Phone; EUT Model: UT12P

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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	GPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=-48.00, Y=-41.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.280645
SAR 1g (W/Kg)	0.376345

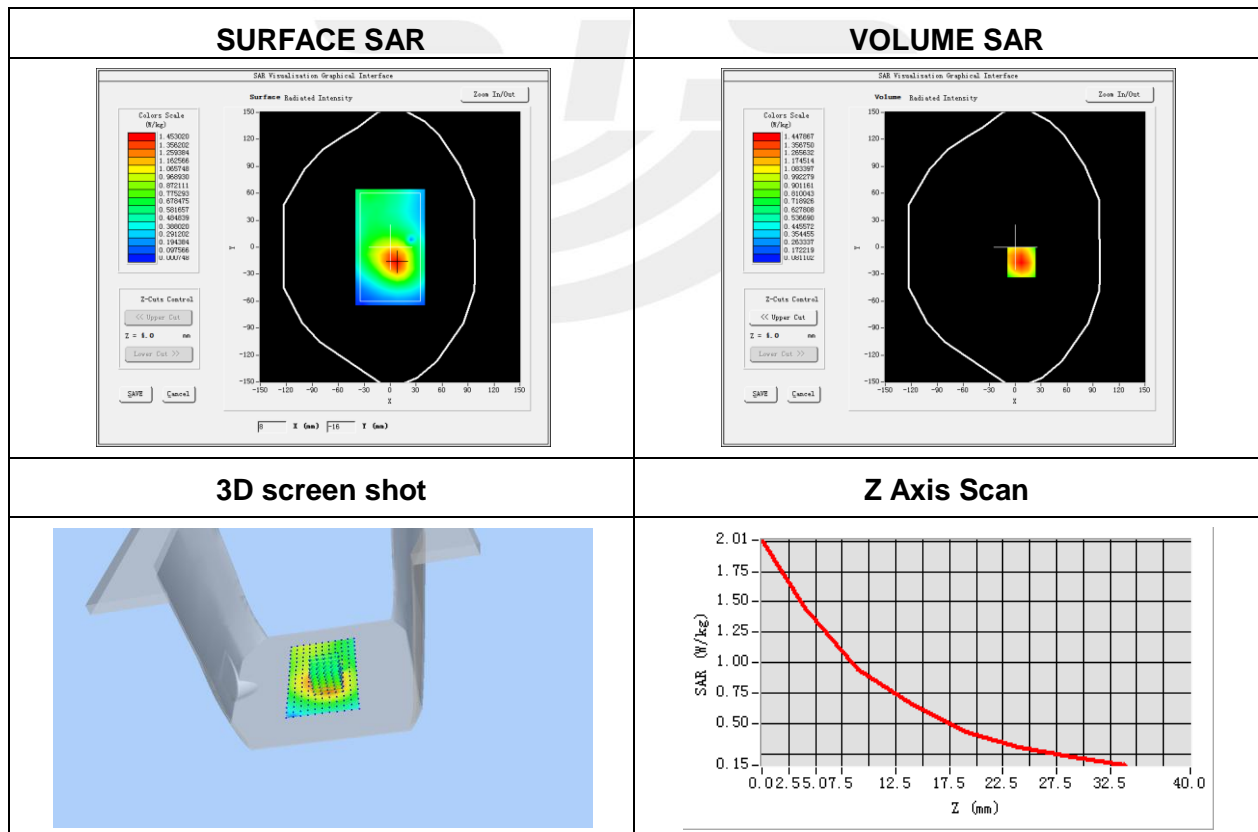


**Plot 2: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=7.00, Y=-17.00  
SAR Peak: 2.01 W/kg

SAR 10g (W/Kg)	0.680460
SAR 1g (W/Kg)	1.024443



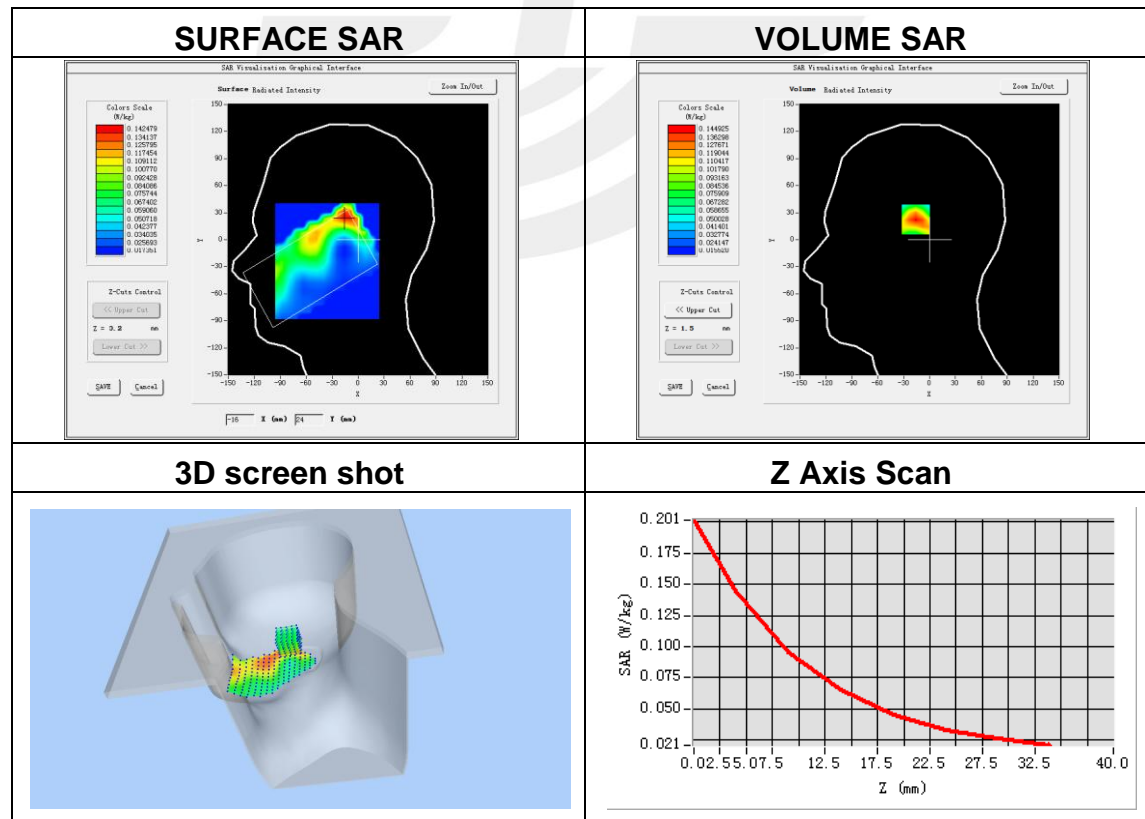
**Plot 3: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-08
Probe	SN 41/18 EPGO334
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	Right head
Device Position	Cheek
Band	GPRS 1900
Channels	Low
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=-14.00, Y=26.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.084822
SAR 1g (W/Kg)	0.138490



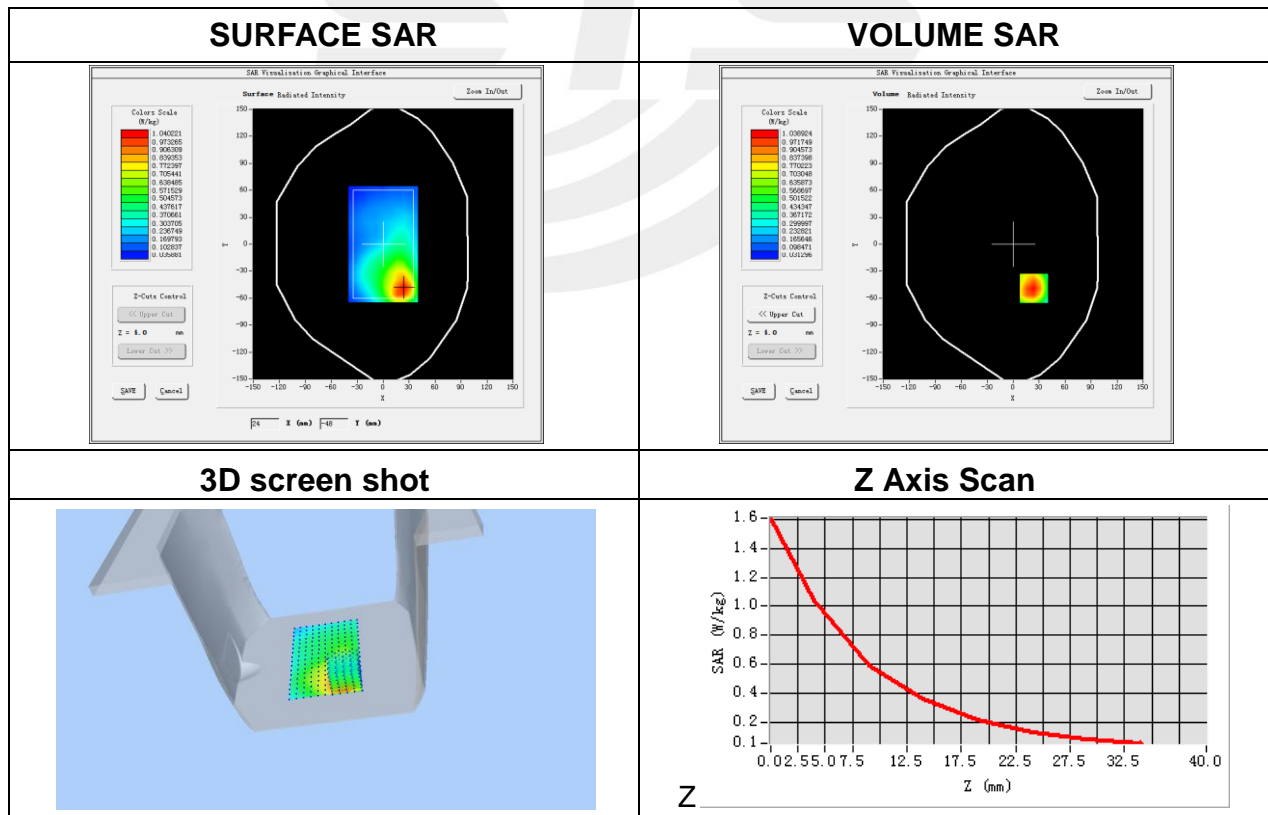
**Plot 4: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-08
Probe	SN 41/18 EPGO334
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	GPRS 1900
Channels	Low
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=24.00, Y=-49.00

SAR Peak: 2.28 W/kg

SAR 10g (W/Kg)	0.541655
SAR 1g (W/Kg)	0.948047



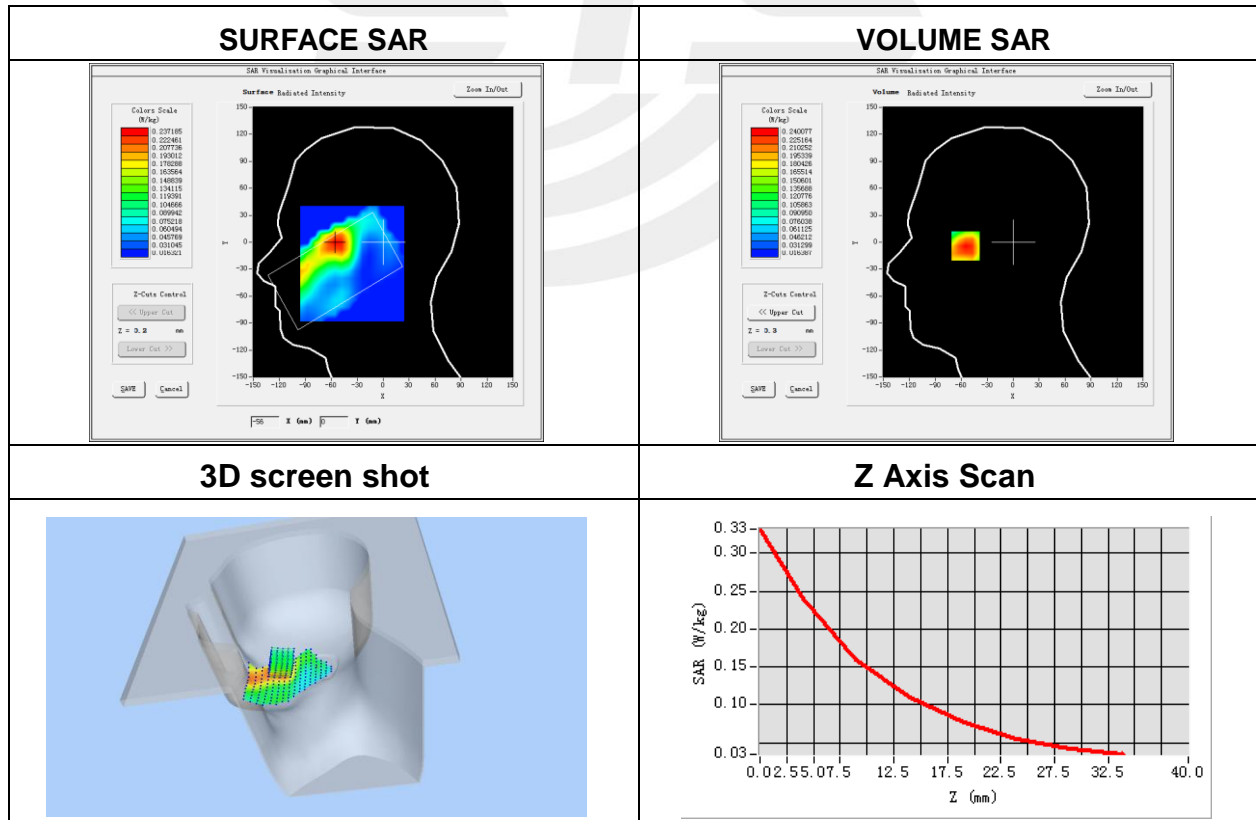
**Plot 5: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-08
Probe	SN 41/18 EPGO334
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	Right head
Device Position	Cheek
Band	WCDMA II
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-55.00, Y=0.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.147097
SAR 1g (W/Kg)	0.234326



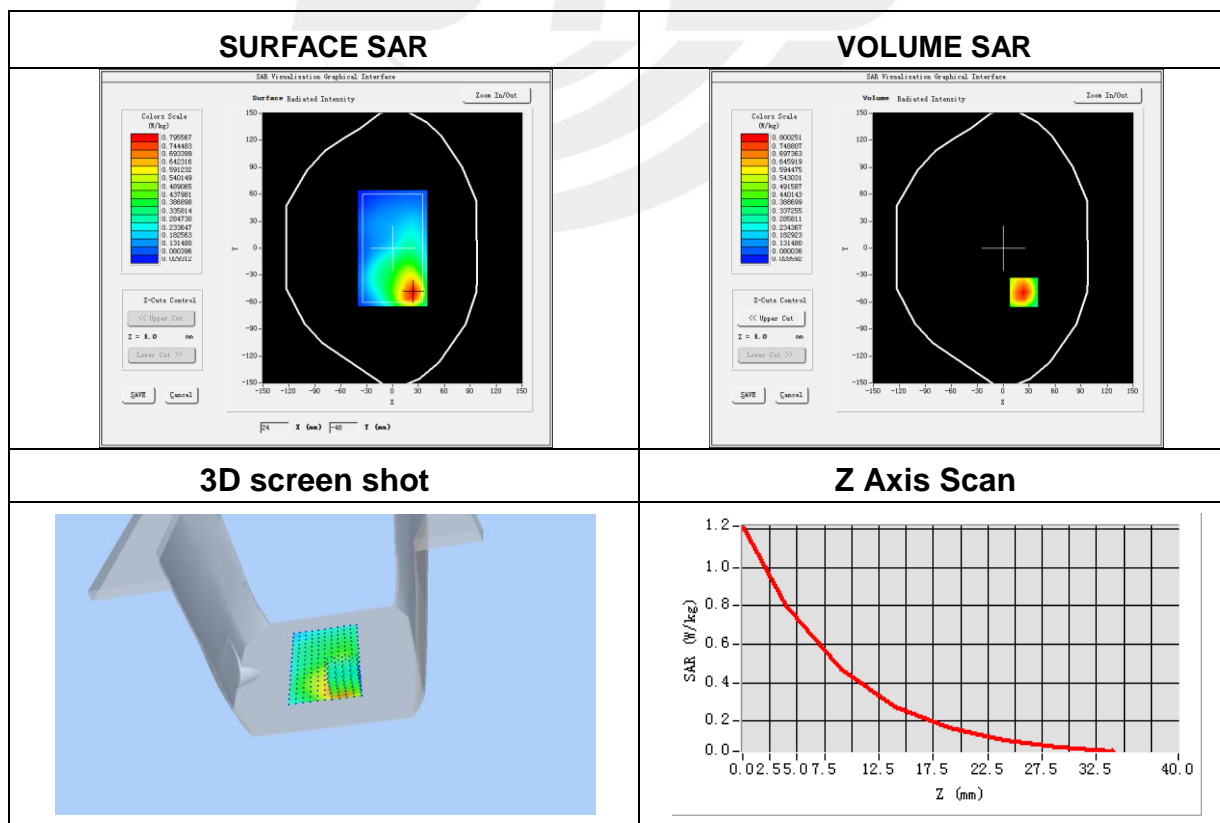
**Plot 6: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2020-09-24
Probe	SN 41/18 EPGO334
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
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=24.00, Y=-49.00

SAR Peak: 1.22 W/kg

SAR 10g (W/Kg)	0.428228
SAR 1g (W/Kg)	0.772800



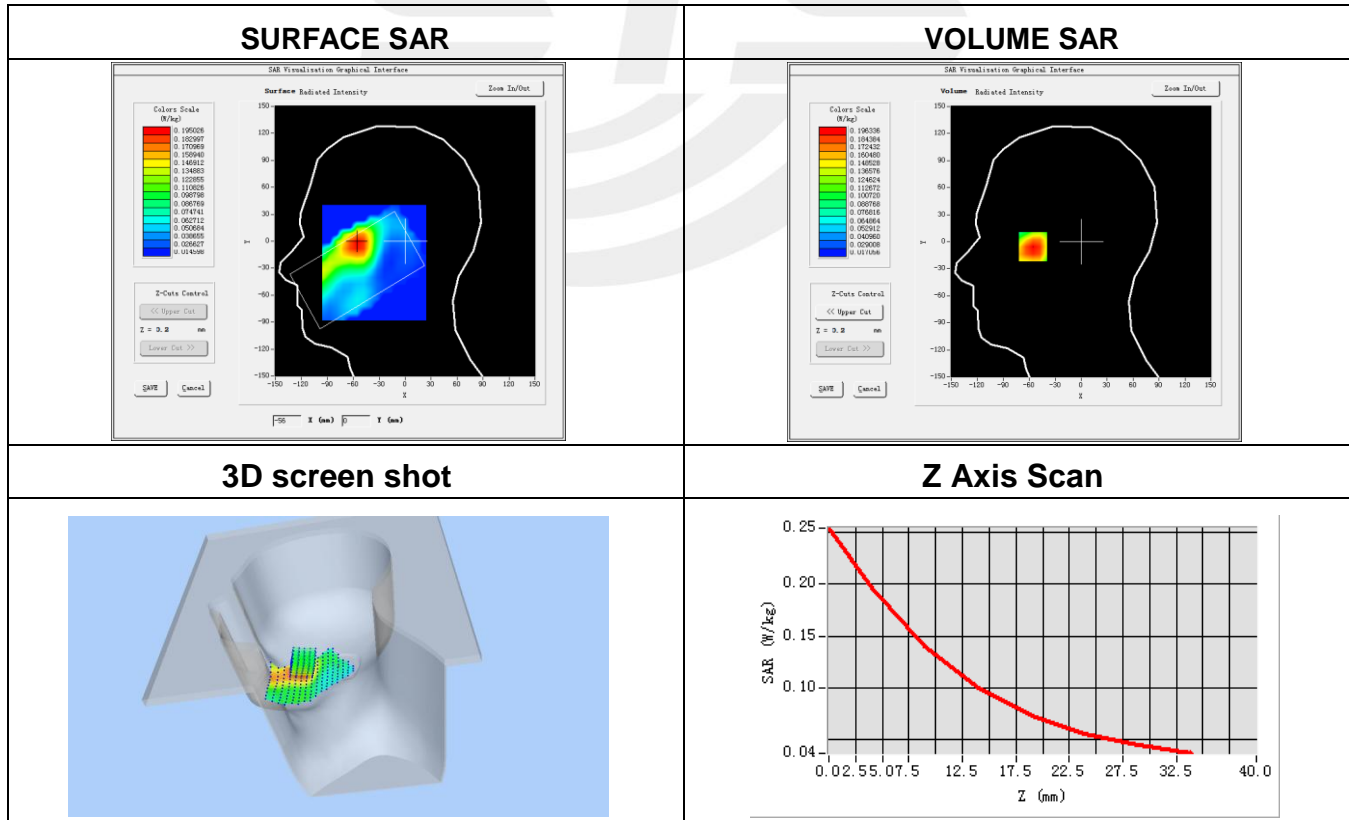
**Plot 7: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-07
Probe	SN 41/18 EPGO334
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	Right head
Device Position	Cheek
Band	WCDMA IV
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=-56.00, Y=-2.00

SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.125803
SAR 1g (W/Kg)	0.189668





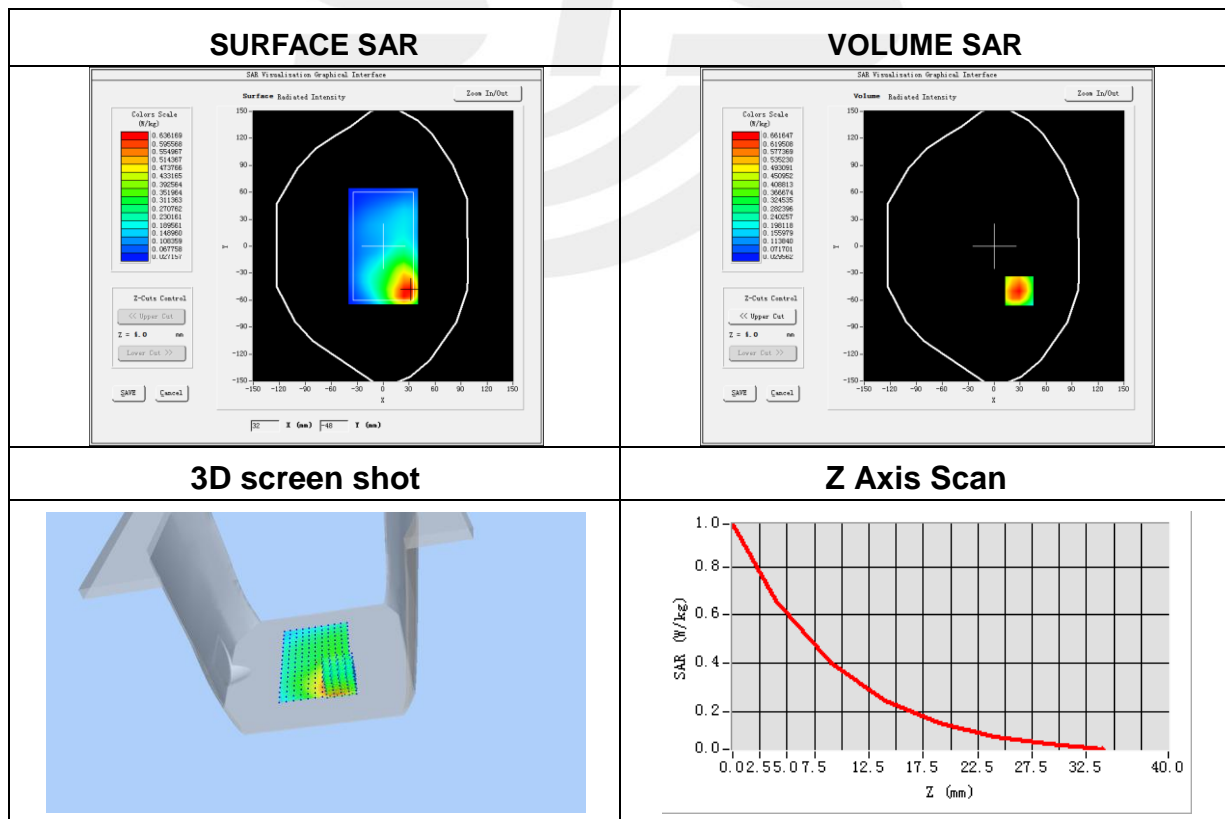
**Plot 8: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-07
Probe	SN 41/18 EPGO334
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
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=29.00, Y=-50.00

SAR Peak: 0.98 W/kg

SAR 10g (W/Kg)	0.367043
SAR 1g (W/Kg)	0.634930



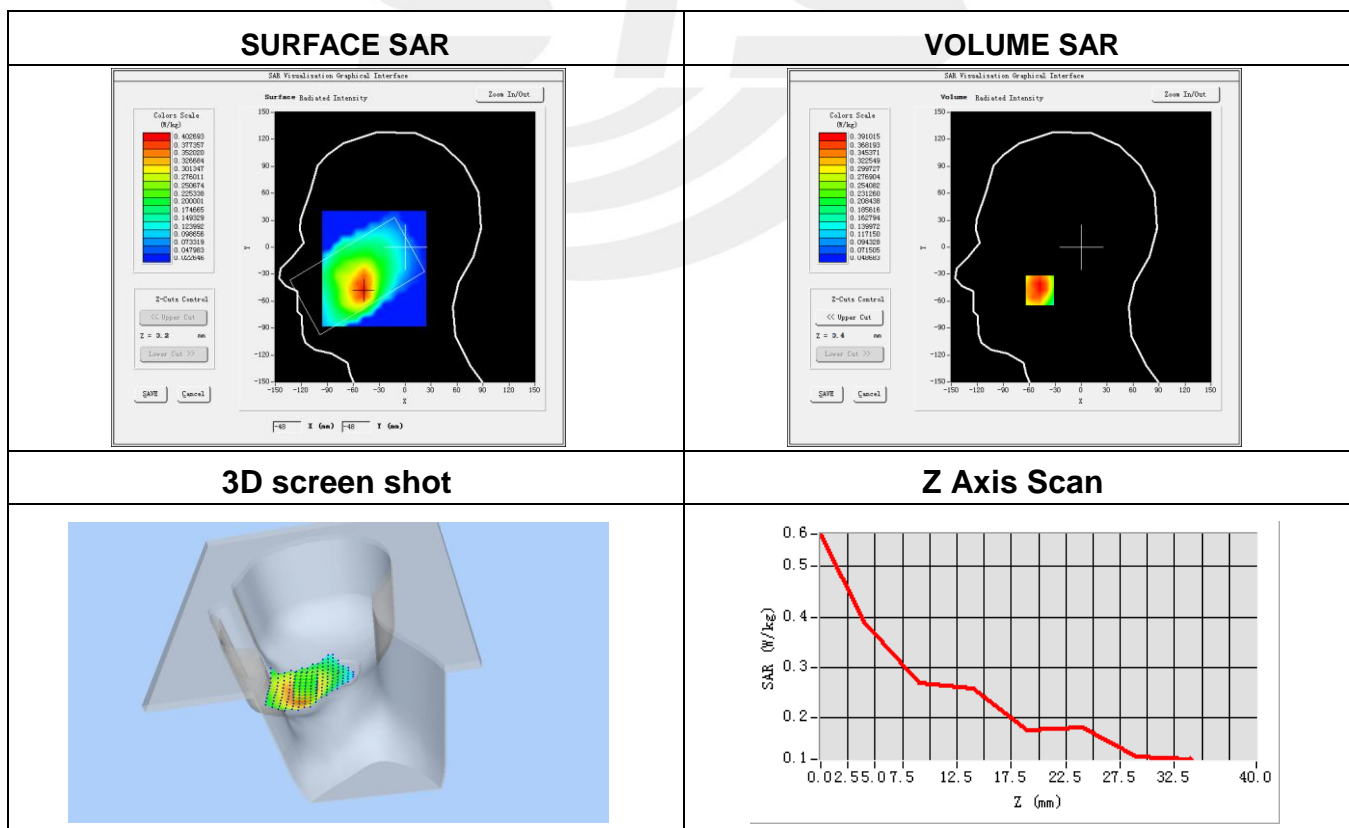
**Plot 9: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	846.6
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

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

SAR Peak: 0.51 W/kg

SAR 10g (W/Kg)	0.286661
SAR 1g (W/Kg)	0.385989



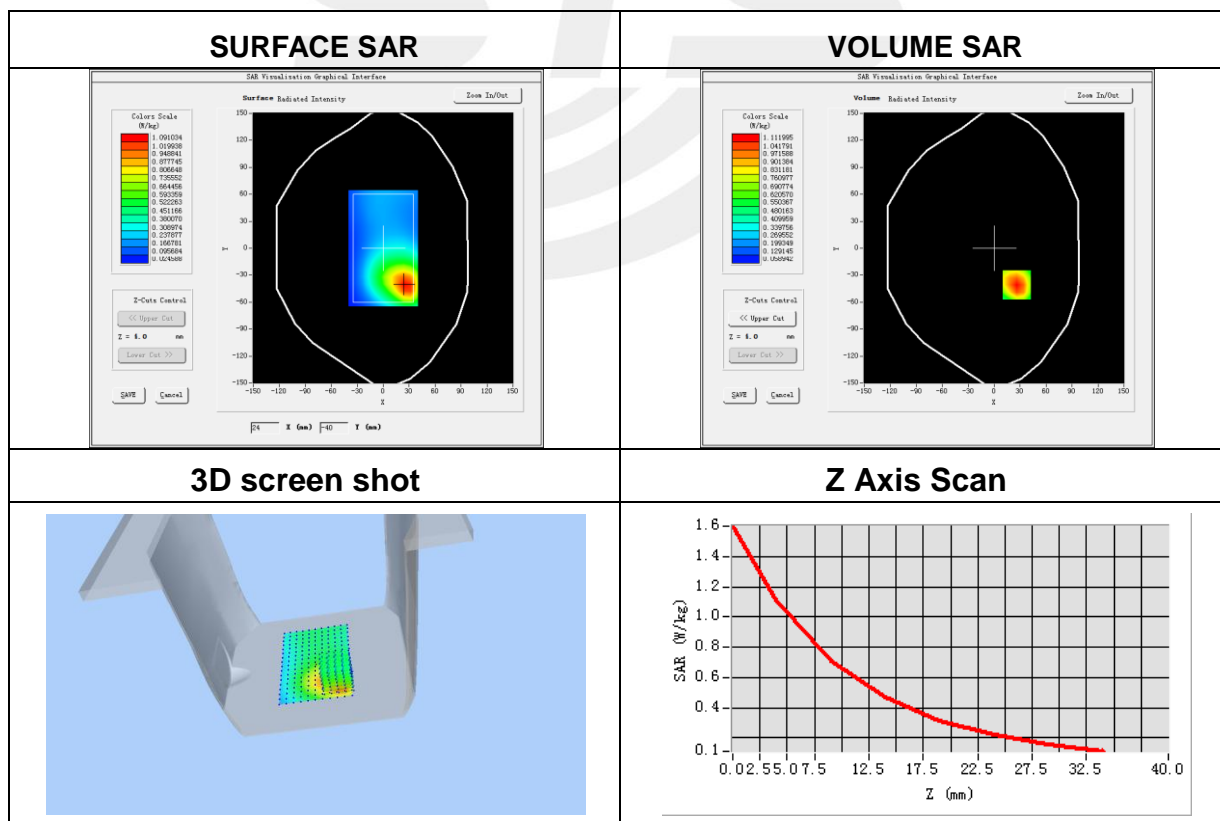
**Plot 10: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	846.6
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=26.00, Y=-41.00

SAR Peak: 1.64 W/kg

SAR 10g (W/Kg)	0.656047
SAR 1g (W/Kg)	1.071807



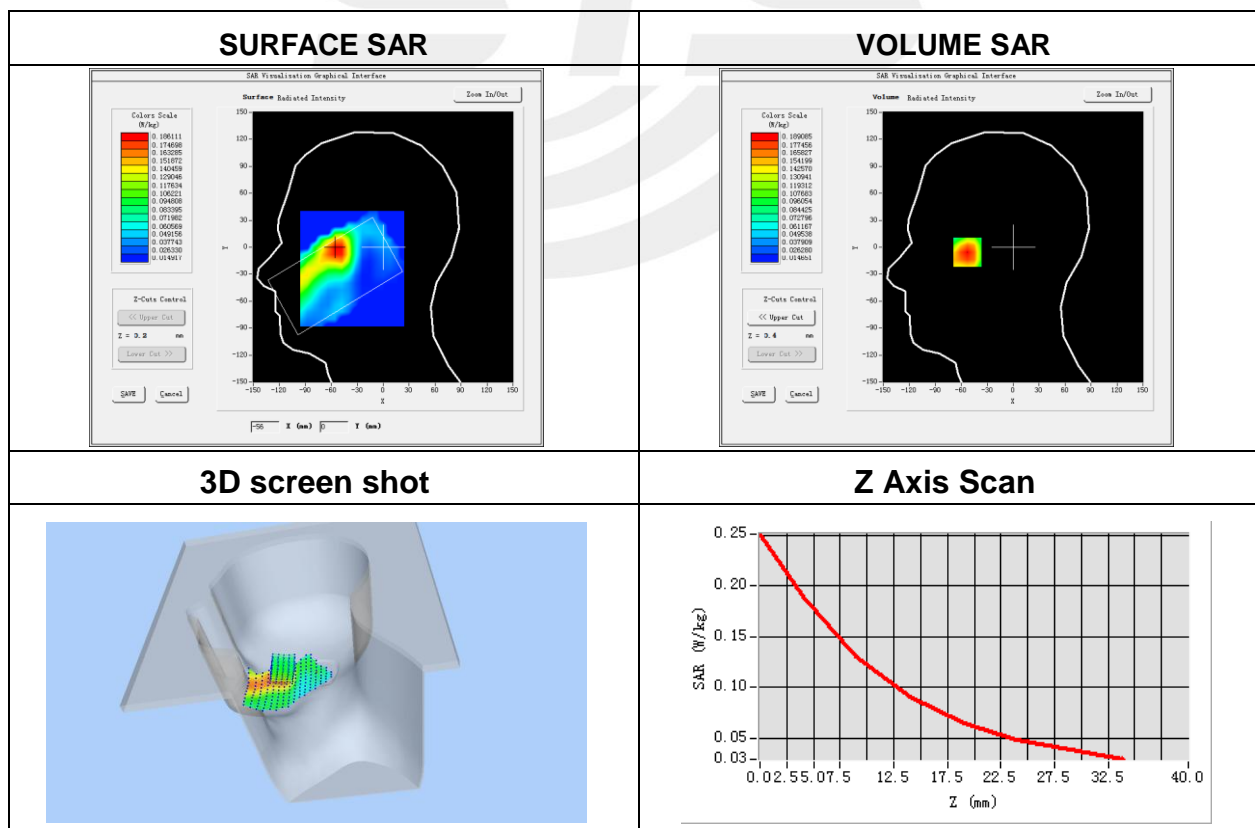
**Plot 11: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-08
Probe	SN 41/18 EPGO334
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	Right head
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-53.00, Y=-2.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.115094
SAR 1g (W/Kg)	0.179425



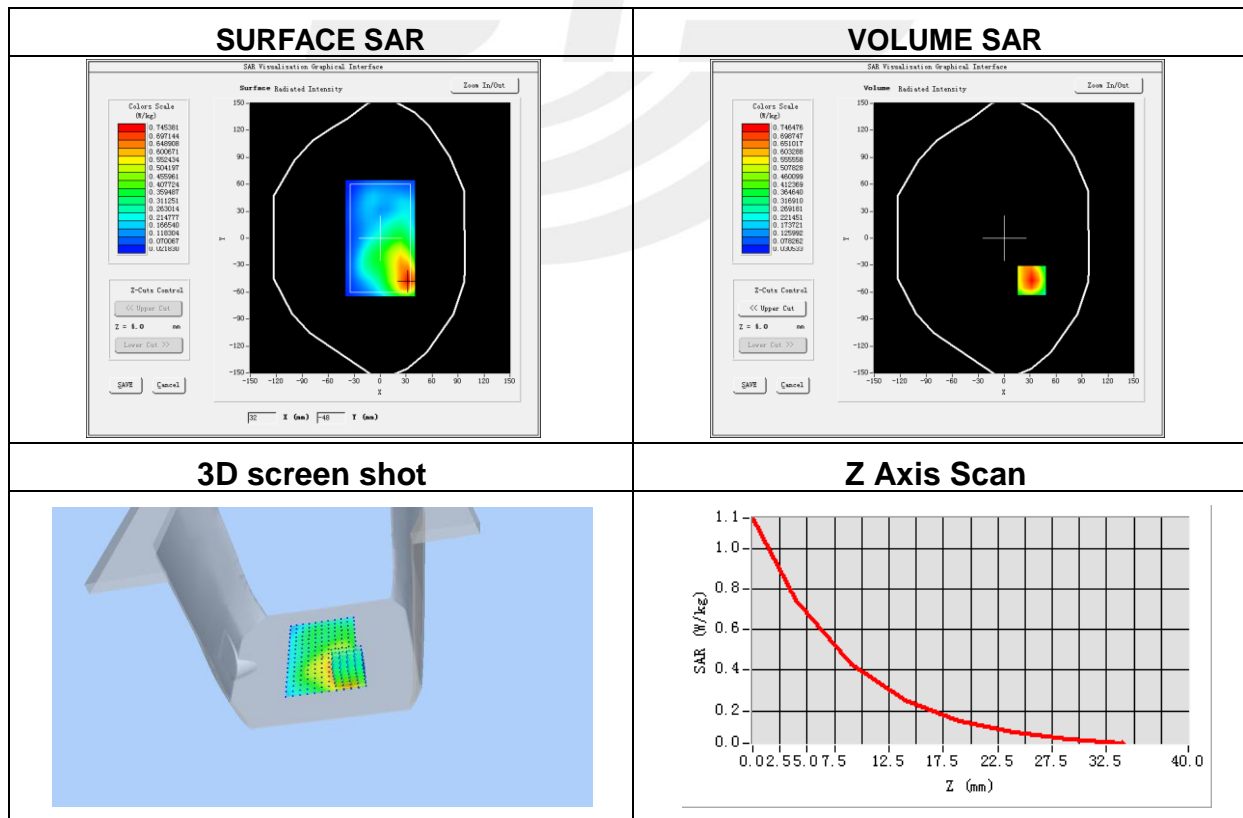
**Plot 12: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-08
Probe	SN 41/18 EPGO334
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	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=32.00, Y=-47.00

SAR Peak: 1.14 W/kg

SAR 10g (W/Kg)	0.396946
SAR 1g (W/Kg)	0.709479



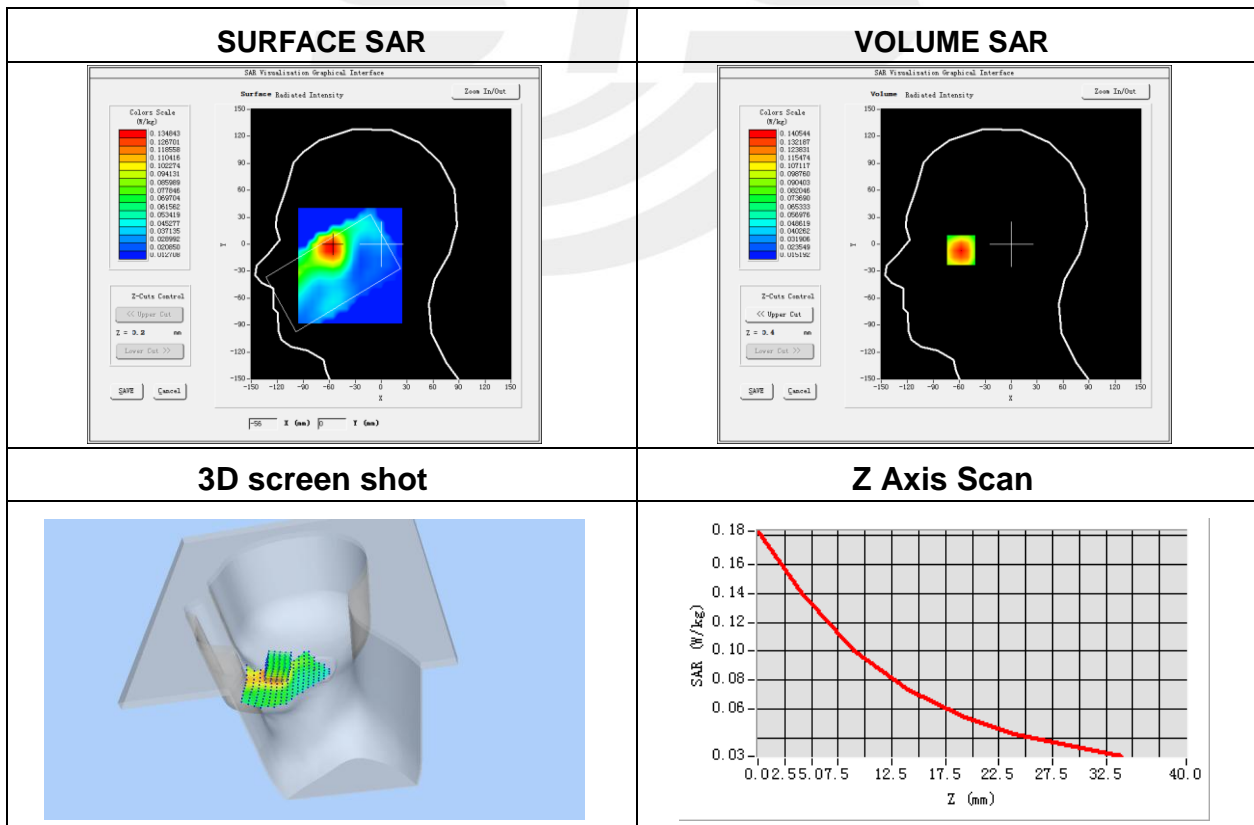
**Plot 13: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-07
Probe	SN 41/18 EPGO334
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	Right head
Device Position	Cheek
Band	LTE Band 4 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=-58.00, Y=-3.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.090087
SAR 1g (W/Kg)	0.133544



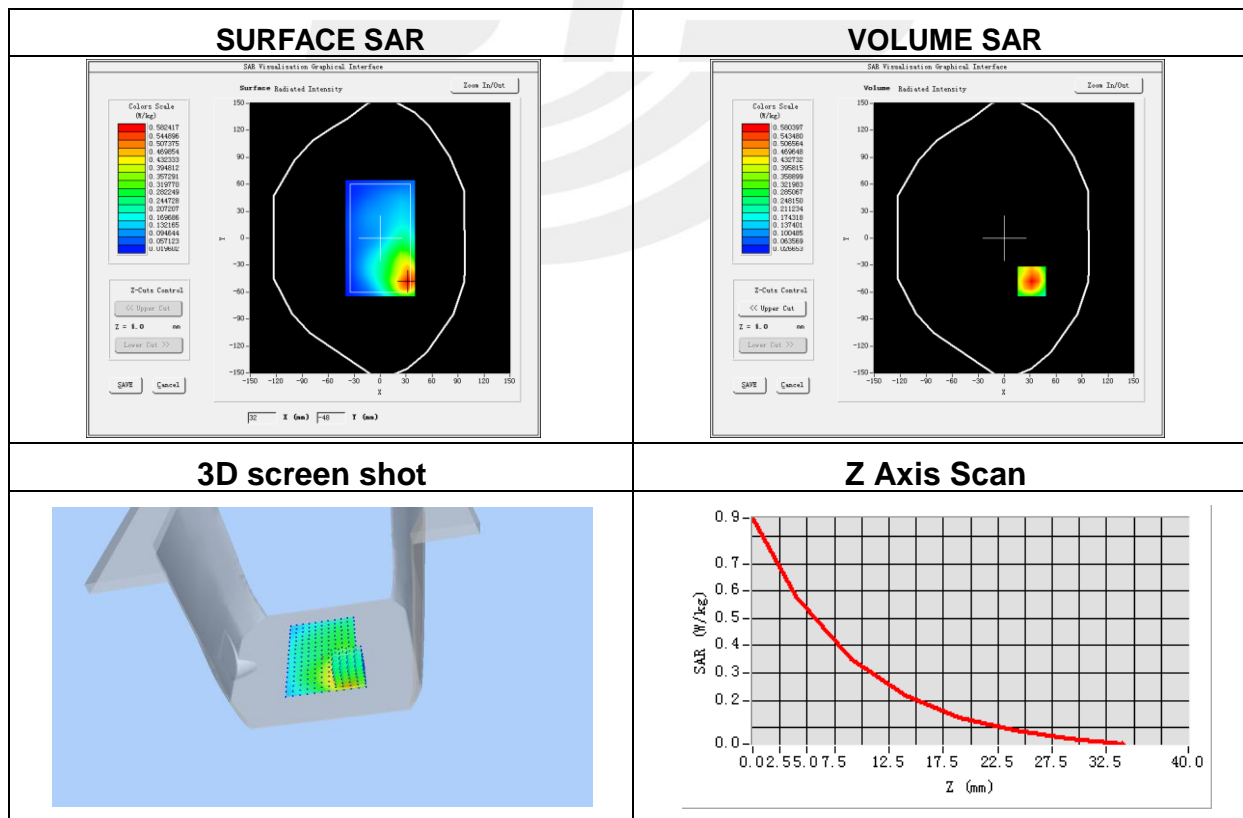
**Plot 14: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-07
Probe	SN 41/18 EPGO334
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	LTE Band 4 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1720
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=32.00, Y=-48.00

SAR Peak: 0.87 W/kg

SAR 10g (W/Kg)	0.314200
SAR 1g (W/Kg)	0.551393



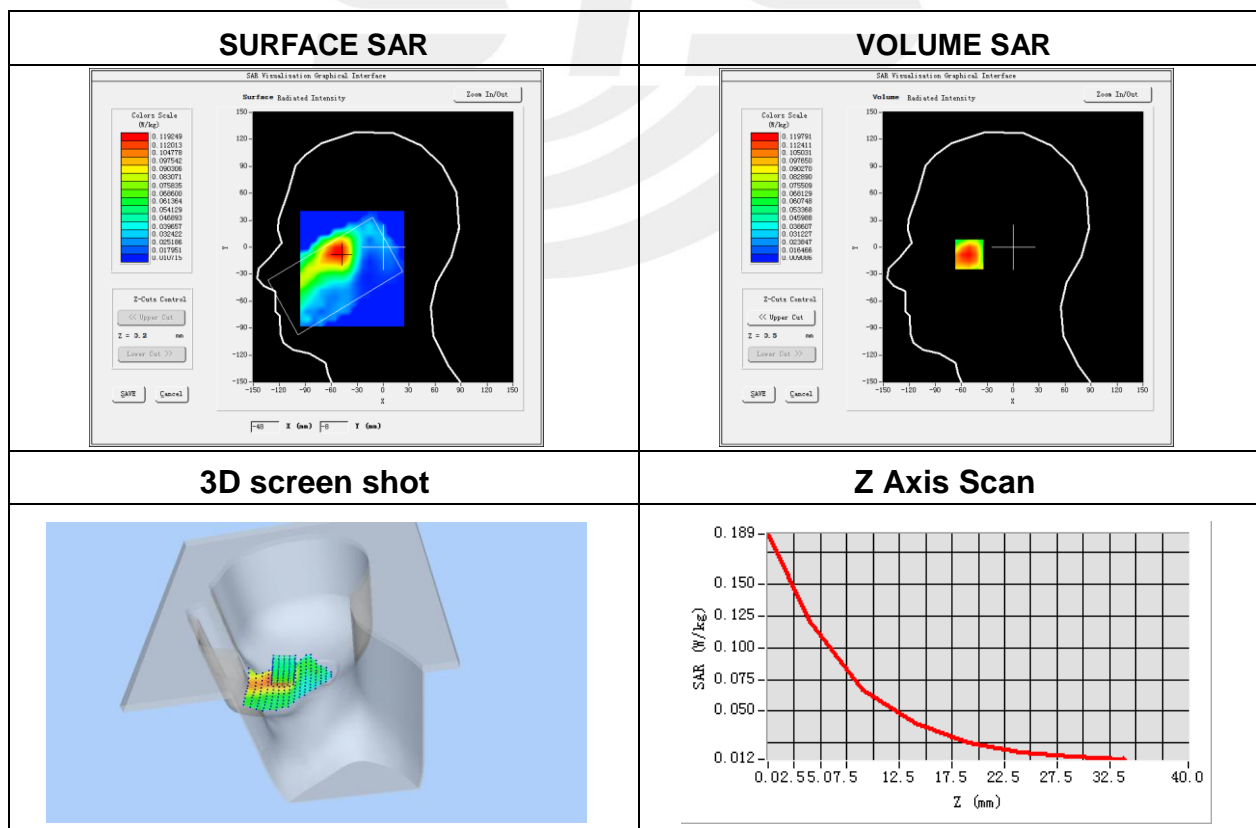
**Plot 15: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-23
Probe	SN 41/18 EPGO334
ConvF	1.48
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	LTE Band 5 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-51.00, Y=-5.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.065778
SAR 1g (W/Kg)	0.116918





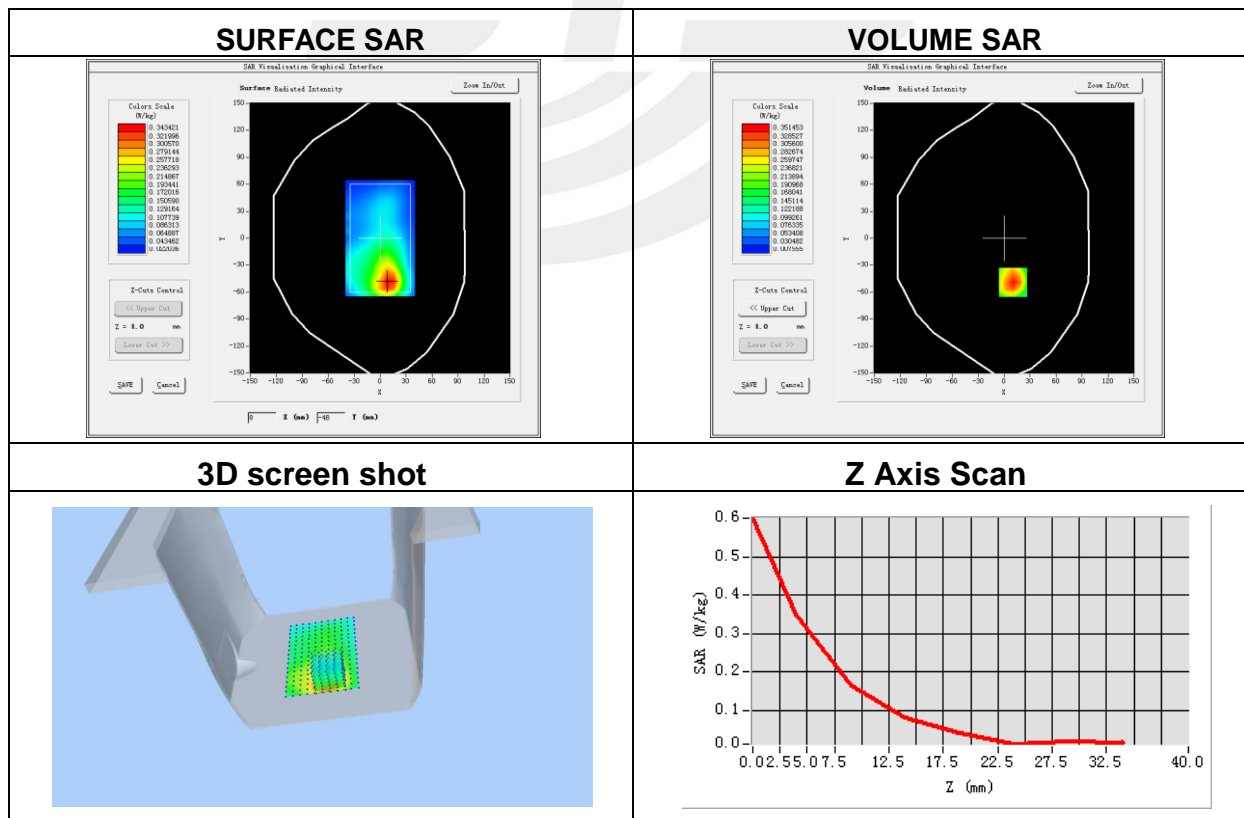
**Plot 16: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-23
Probe	SN 41/18 EPGO334
ConvF	1.48
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	LTE Band 5 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=10.00, Y=-49.00

SAR Peak: 0.60 W/kg

SAR 10g (W/Kg)	0.168693
SAR 1g (W/Kg)	0.340028



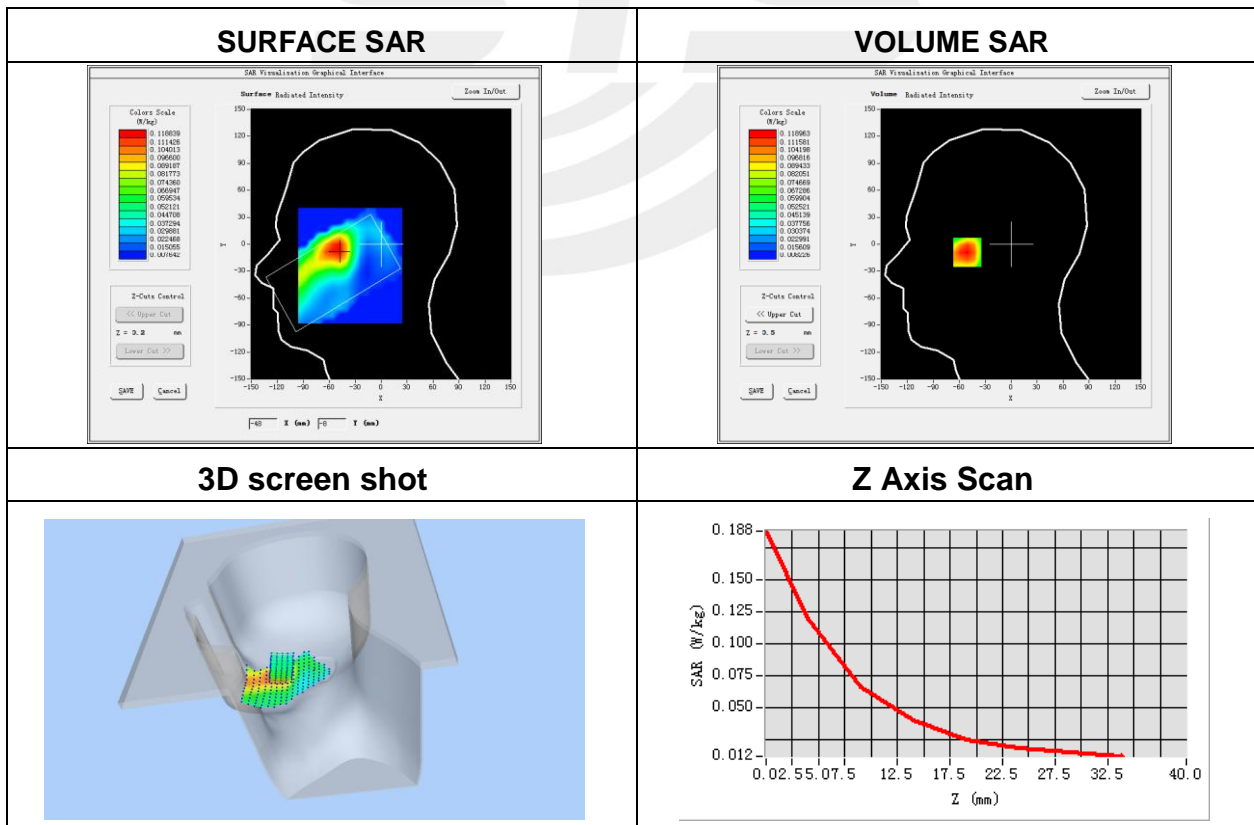
**Plot 17: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-22
Probe	SN 41/18 EPGO334
ConvF	1.85
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	LTE Band 7 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=-51.00, Y=-6.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.065020
SAR 1g (W/Kg)	0.116314



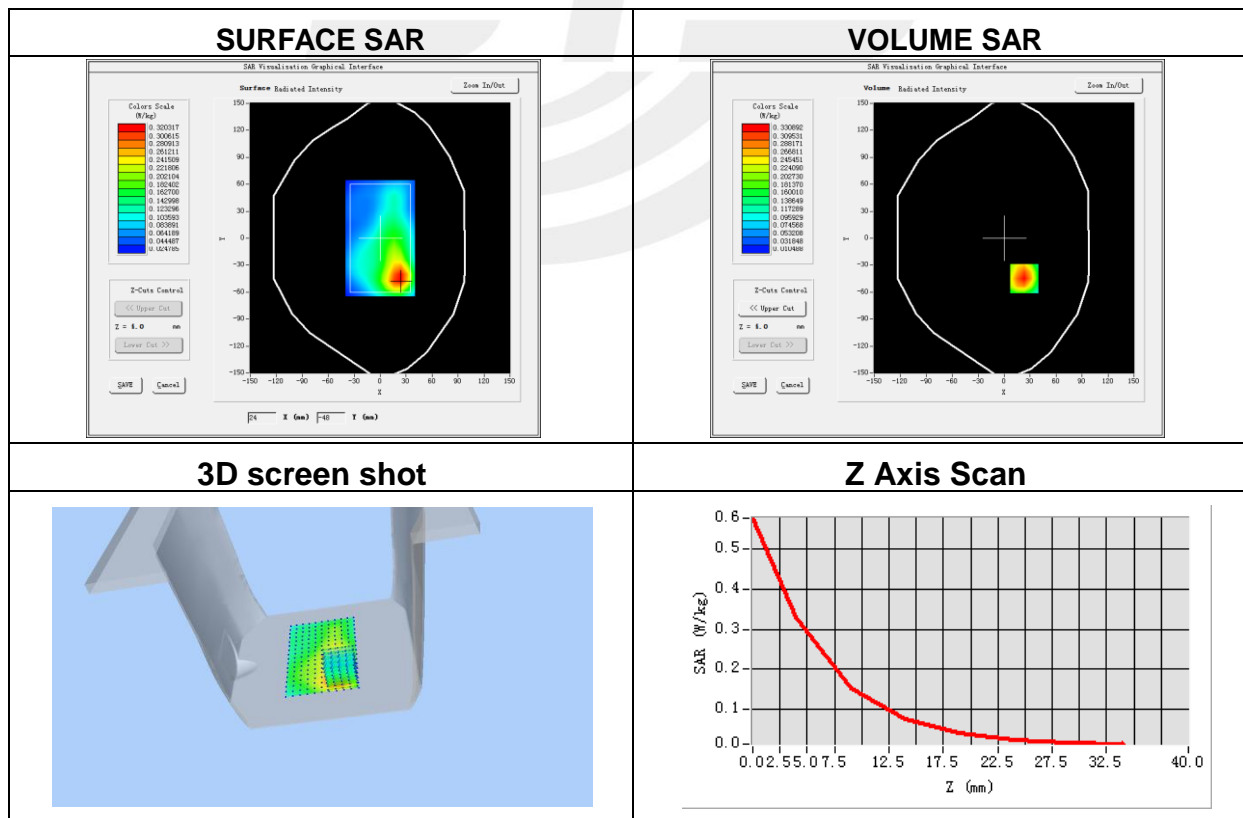
**Plot 18: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-22
Probe	SN 41/18 EPGO334
ConvF	1.85
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	LTE Band 7 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=23.00, Y=-45.00

SAR Peak: 0.57 W/kg

SAR 10g (W/Kg)	0.158793
SAR 1g (W/Kg)	0.317241



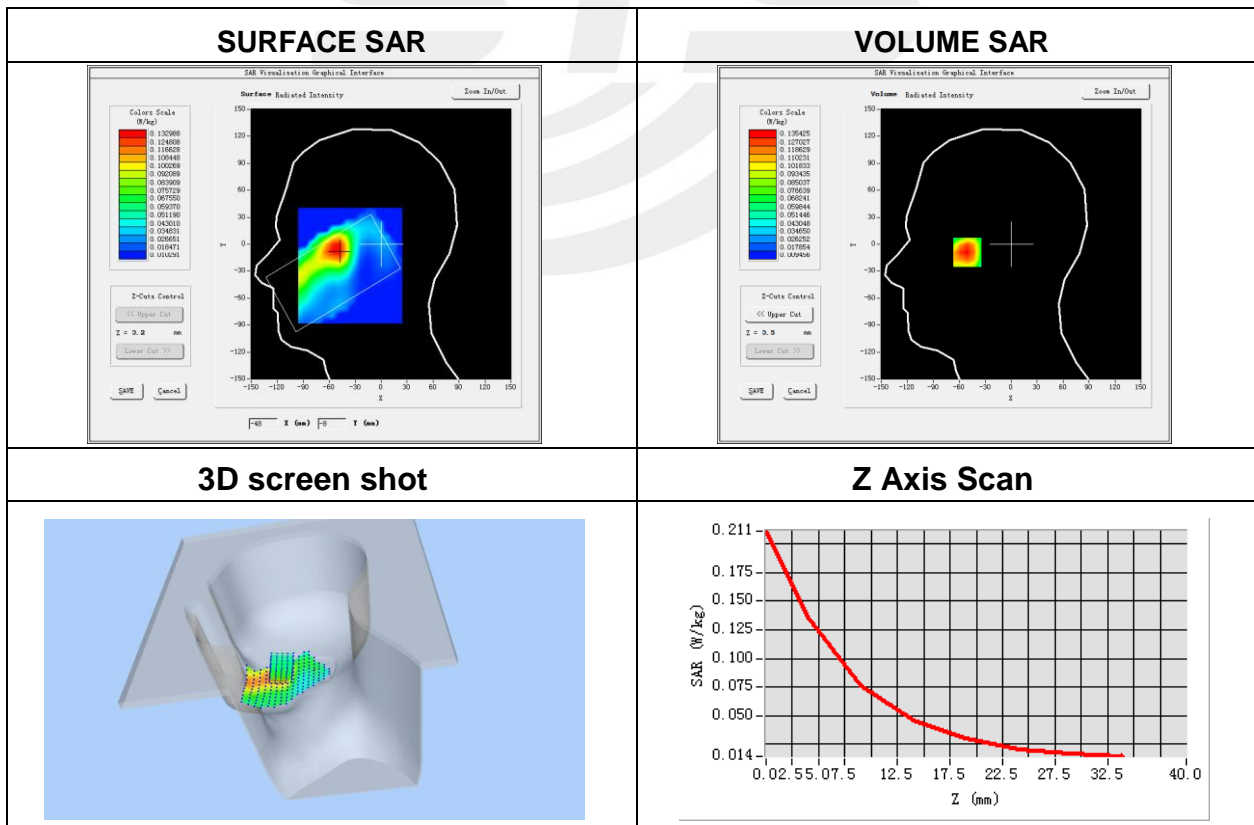
**Plot 19: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2020-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 12 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-51.00, Y=-6.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.075190
SAR 1g (W/Kg)	0.133449



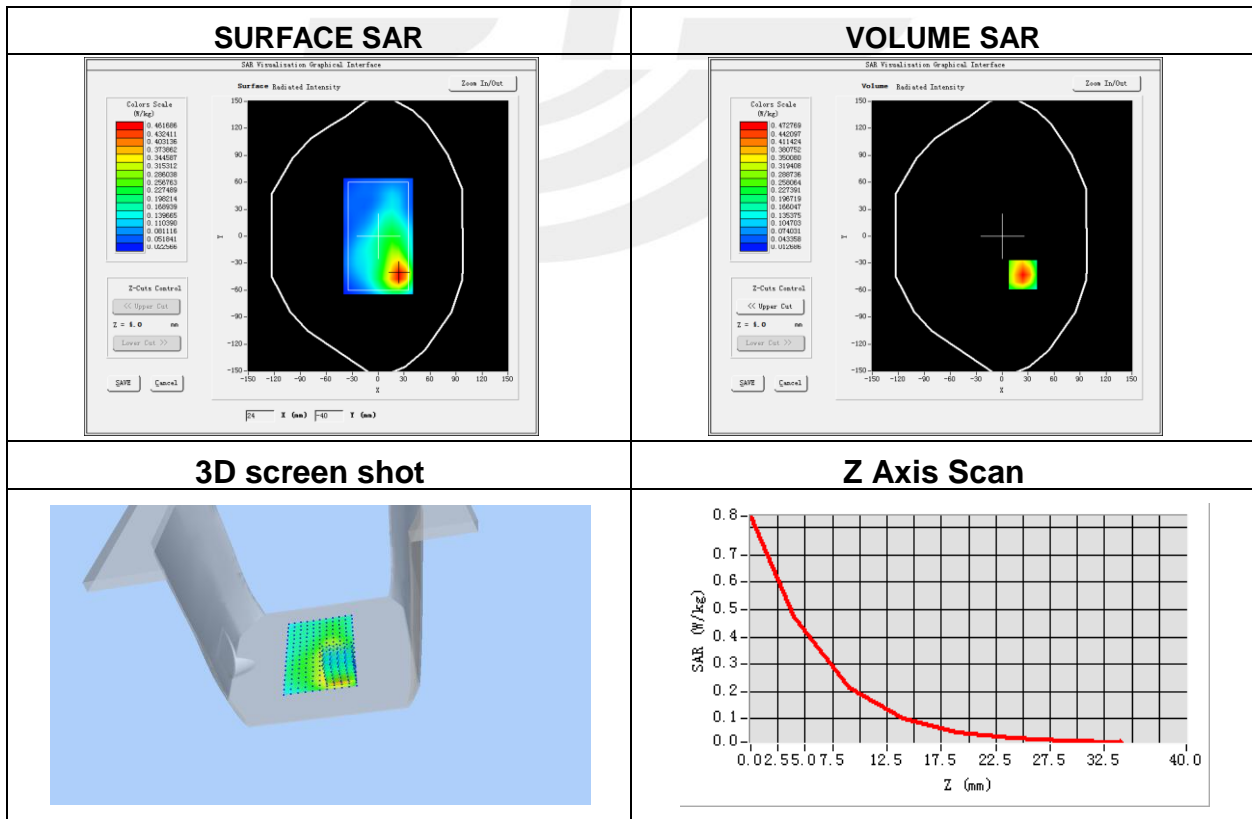
**Plot 20: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2020-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 12 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	711
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=24.00, Y=-43.00

SAR Peak: 0.84 W/kg

SAR 10g (W/Kg)	0.221481
SAR 1g (W/Kg)	0.464258



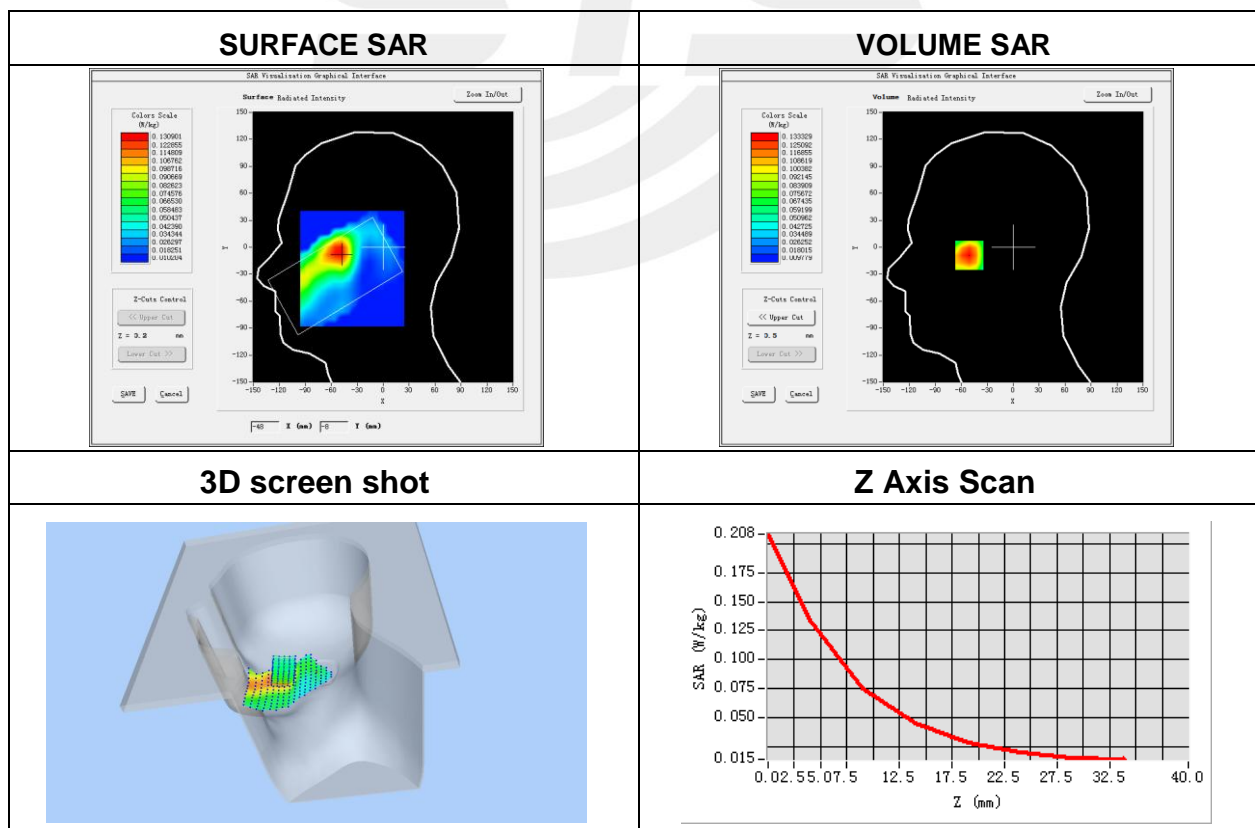
**Plot 21: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 13 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-51.00, Y=-6.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.072808
SAR 1g (W/Kg)	0.138952



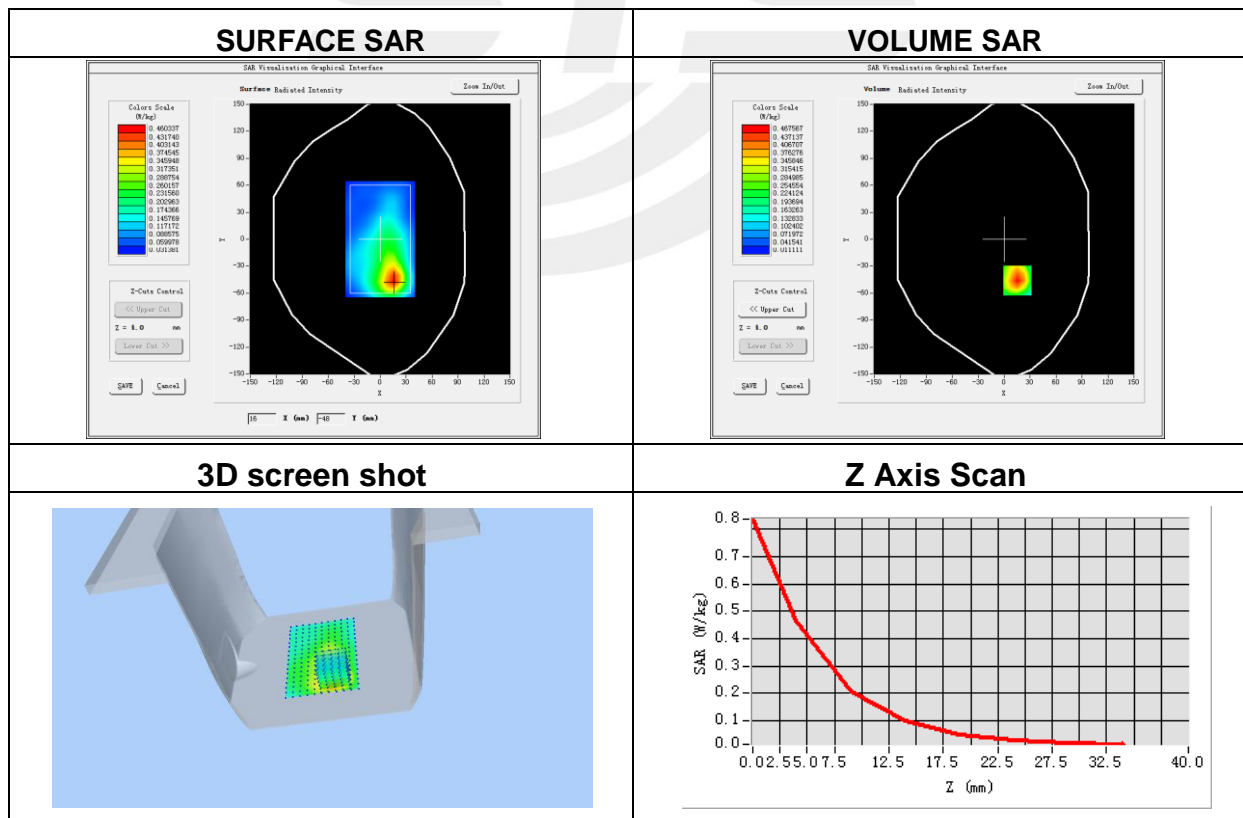
**Plot 22: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 13 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=15.00, Y=-46.00

SAR Peak: 0.83 W/kg

SAR 10g (W/Kg)	0.215263
SAR 1g (W/Kg)	0.447449



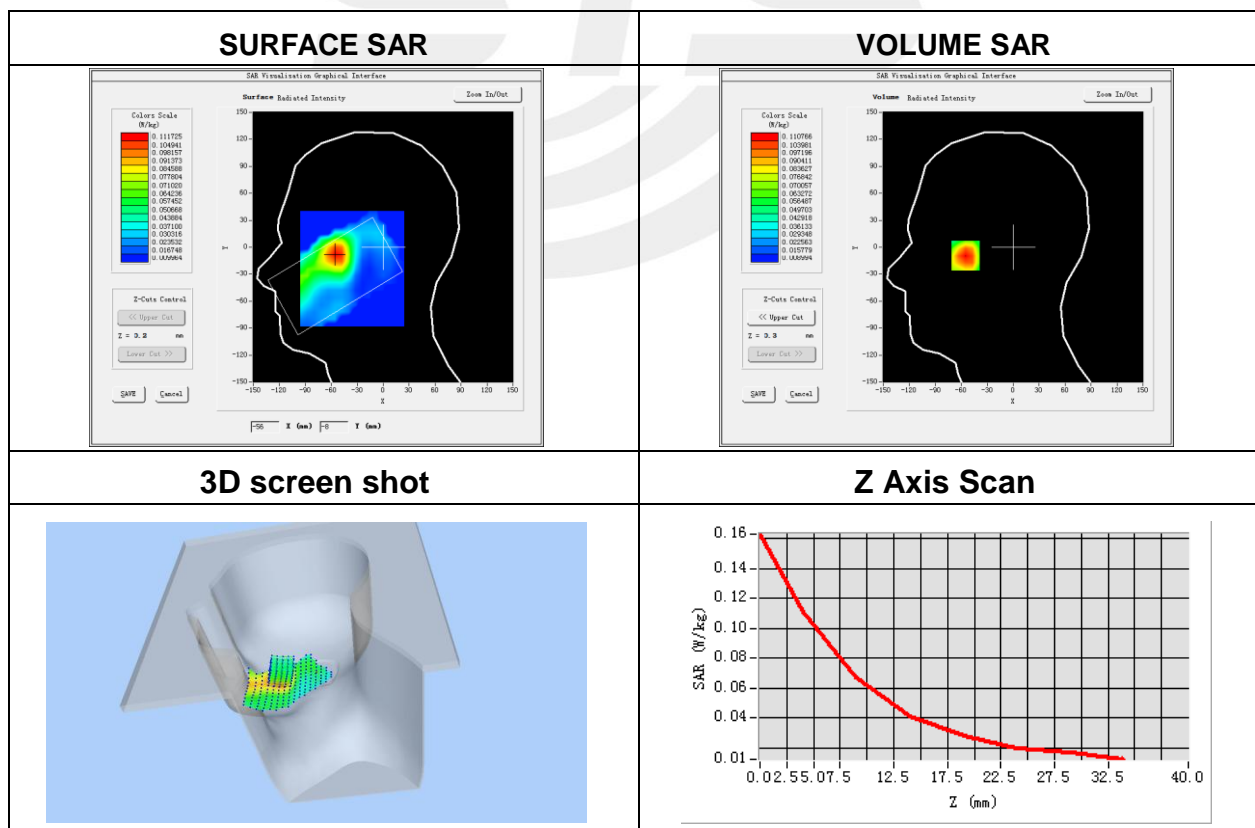
**Plot 23: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 17 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-55.00, Y=-7.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.062839
SAR 1g (W/Kg)	0.107348





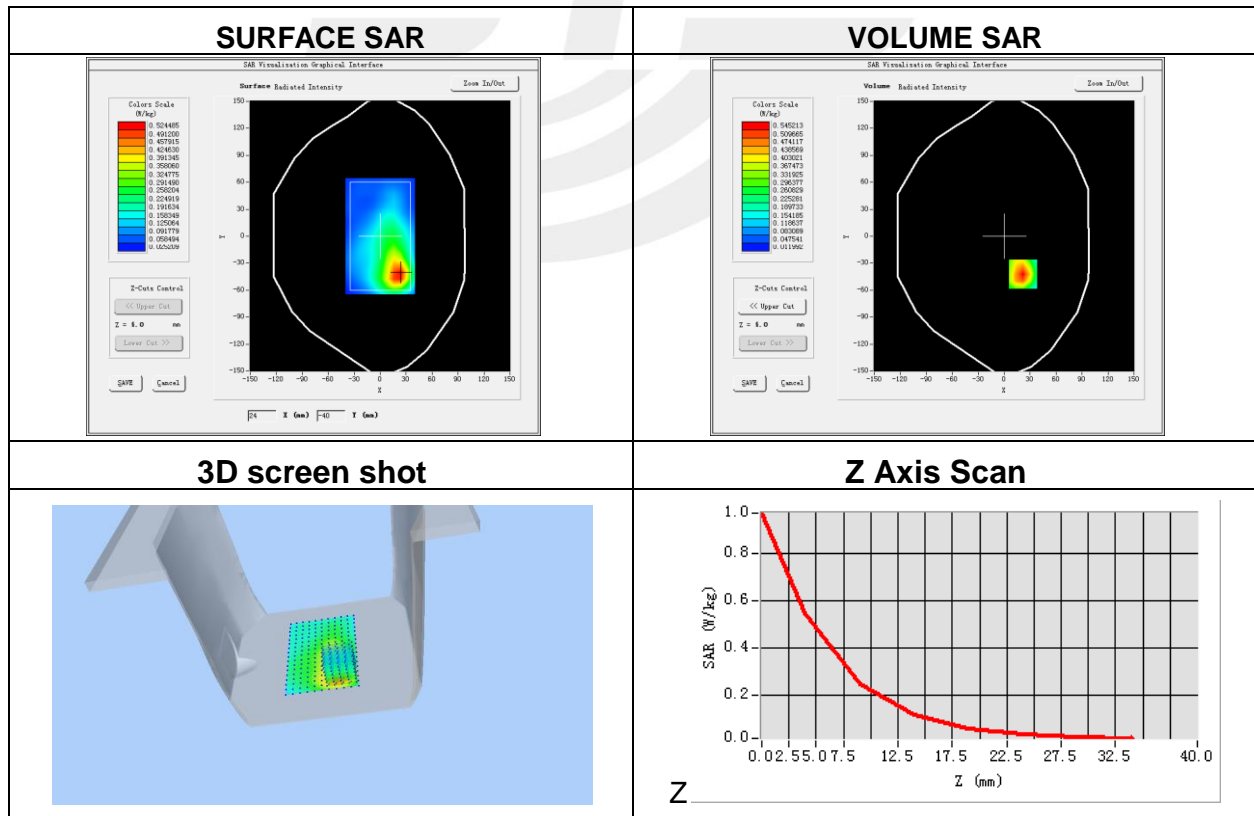
**Plot 24: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-03
Probe	SN 41/18 EPGO334
ConvF	1.43
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	LTE Band 17 (RB 1)
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	709
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=22.00, Y=-42.00

SAR Peak: 0.97 W/kg

SAR 10g (W/Kg)	0.251142
SAR 1g (W/Kg)	0.533291



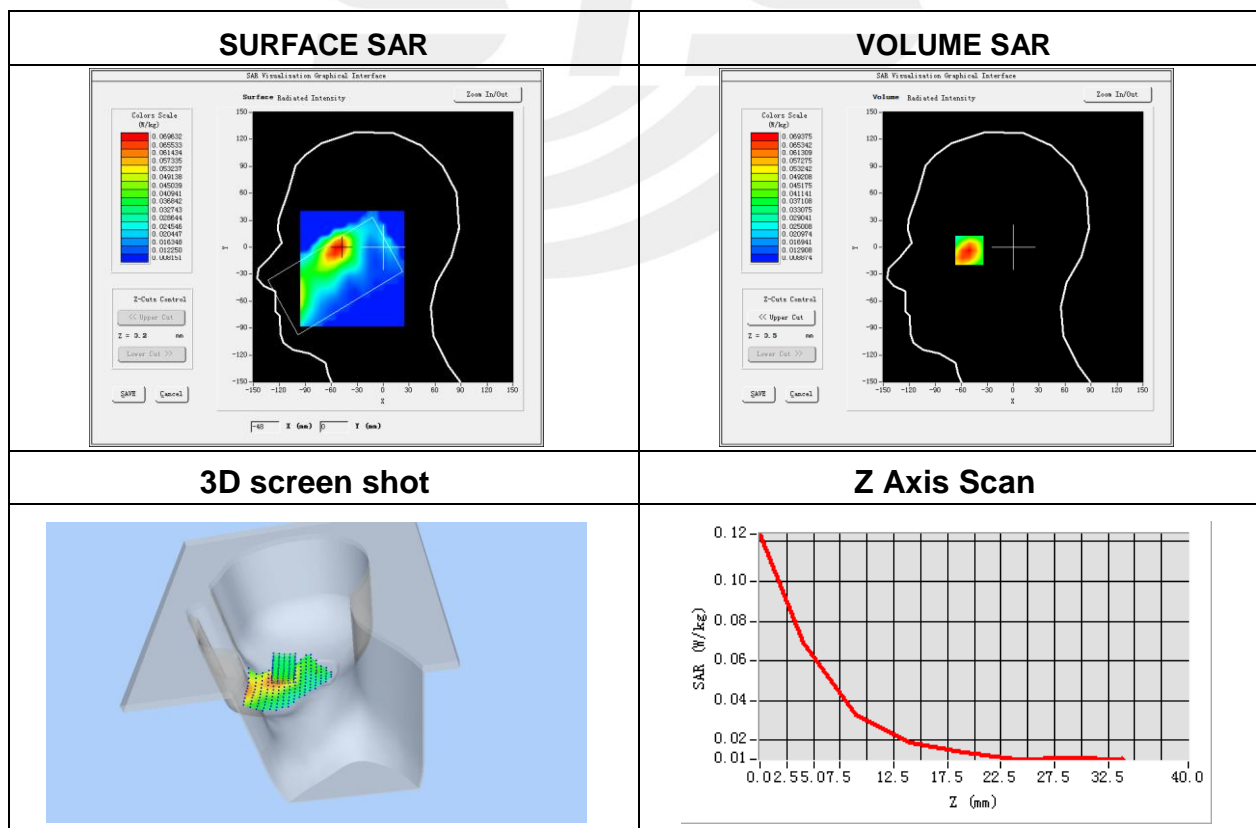
**Plot 25: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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	LTE Band 26 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=-51.00, Y=0.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.036397
SAR 1g (W/Kg)	0.068577



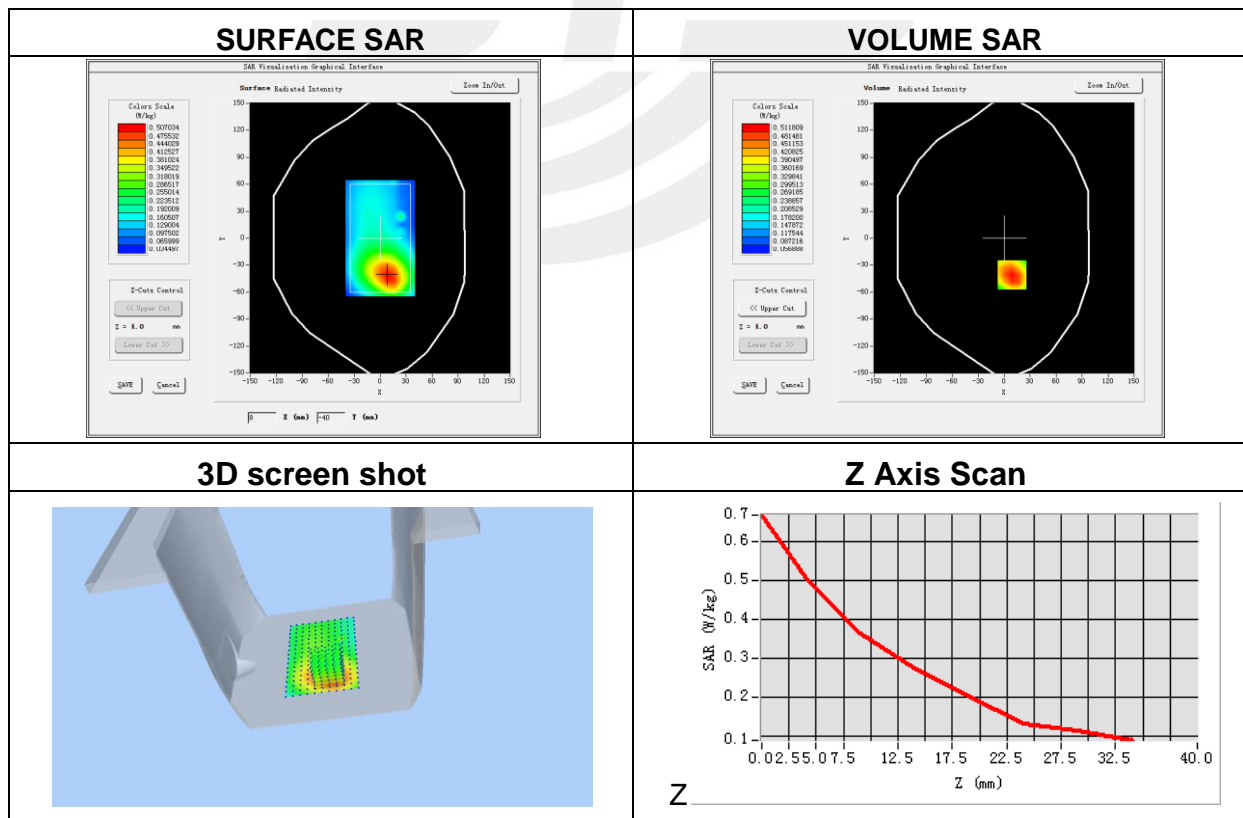
**Plot 26: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-04
Probe	SN 41/18 EPGO334
ConvF	1.48
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	LTE Band 26 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=9.00, Y=-41.00

SAR Peak: 0.70 W/kg

SAR 10g (W/Kg)	0.339147
SAR 1g (W/Kg)	0.499705



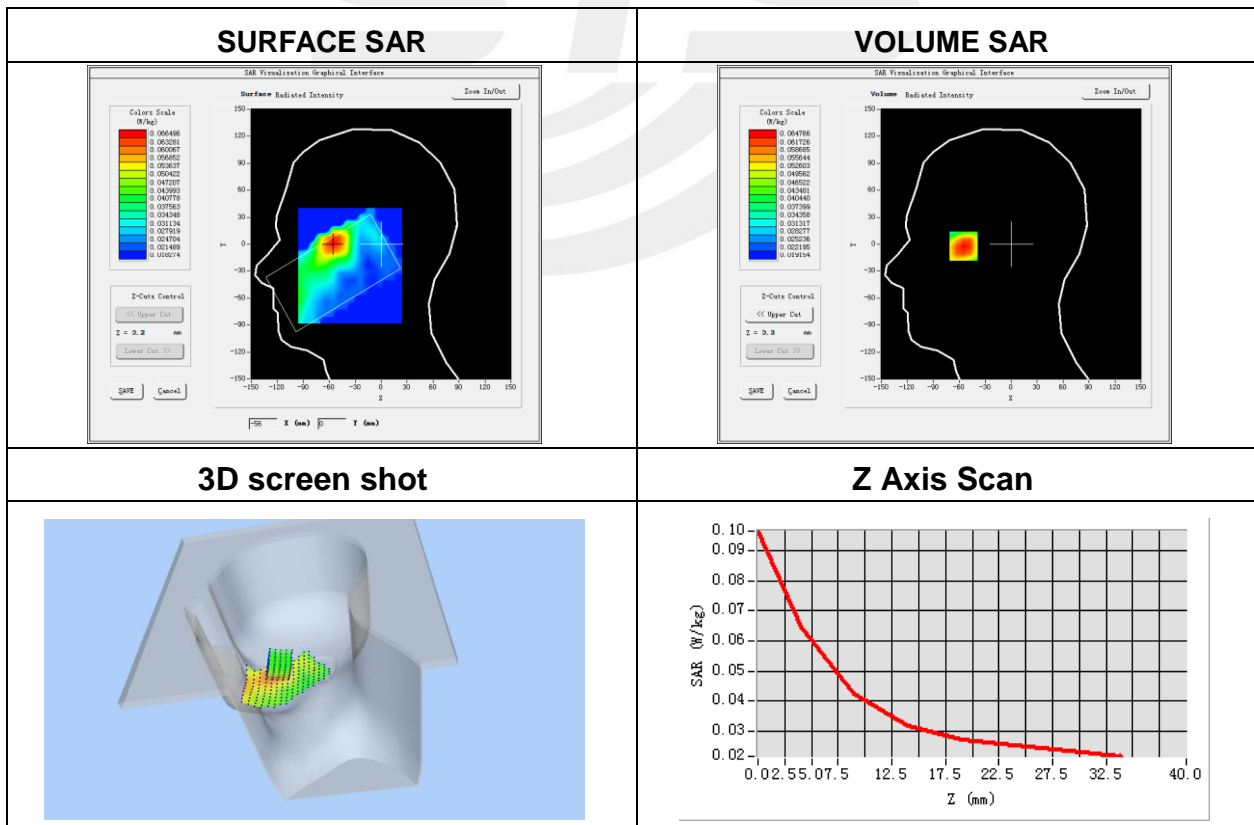
**Plot 27: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-22
Probe	SN 41/18 EPGO334
ConvF	1.85
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	LTE Band 41 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2680
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=-55.00, Y=2.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.041379
SAR 1g (W/Kg)	0.063096



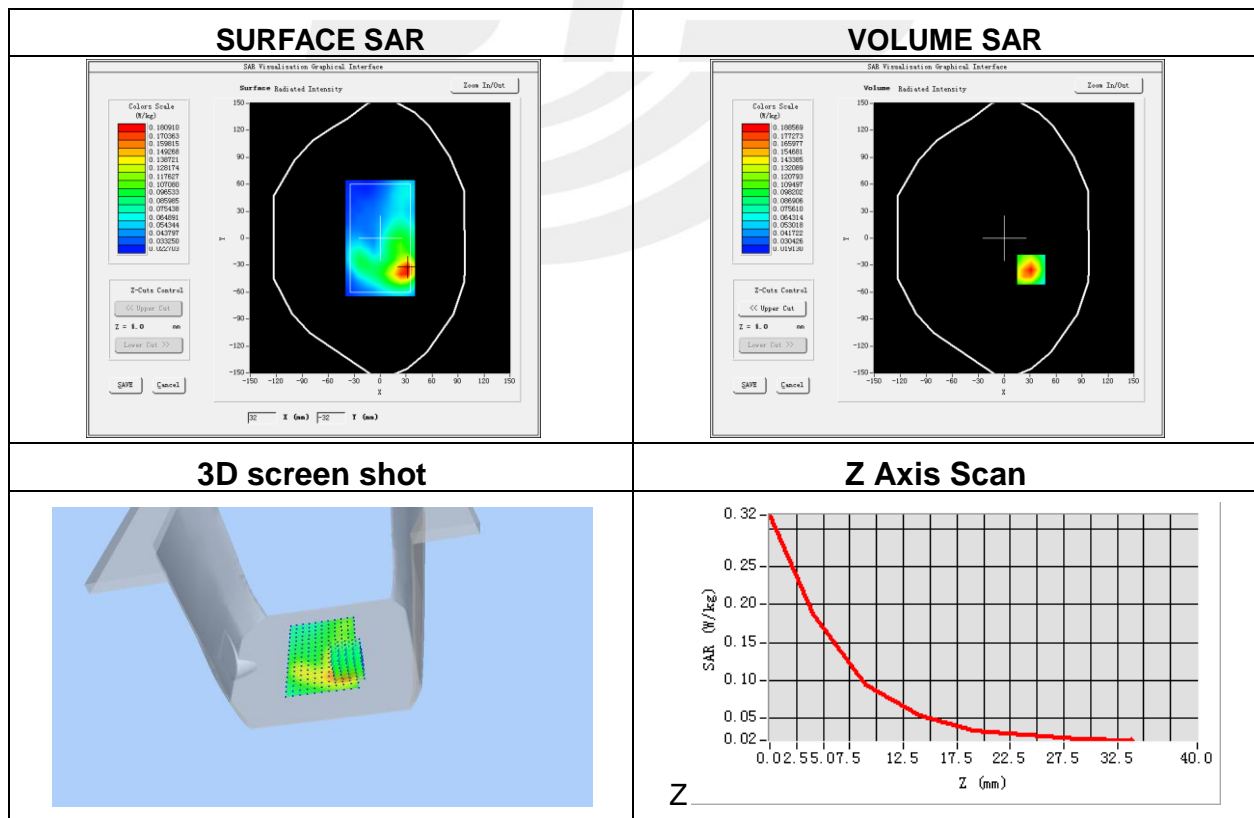
**Plot 28: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-22
Probe	SN 41/18 EPGO334
ConvF	1.85
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	LTE Band 41 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2680
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=31.00, Y=-35.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.093749
SAR 1g (W/Kg)	0.178901

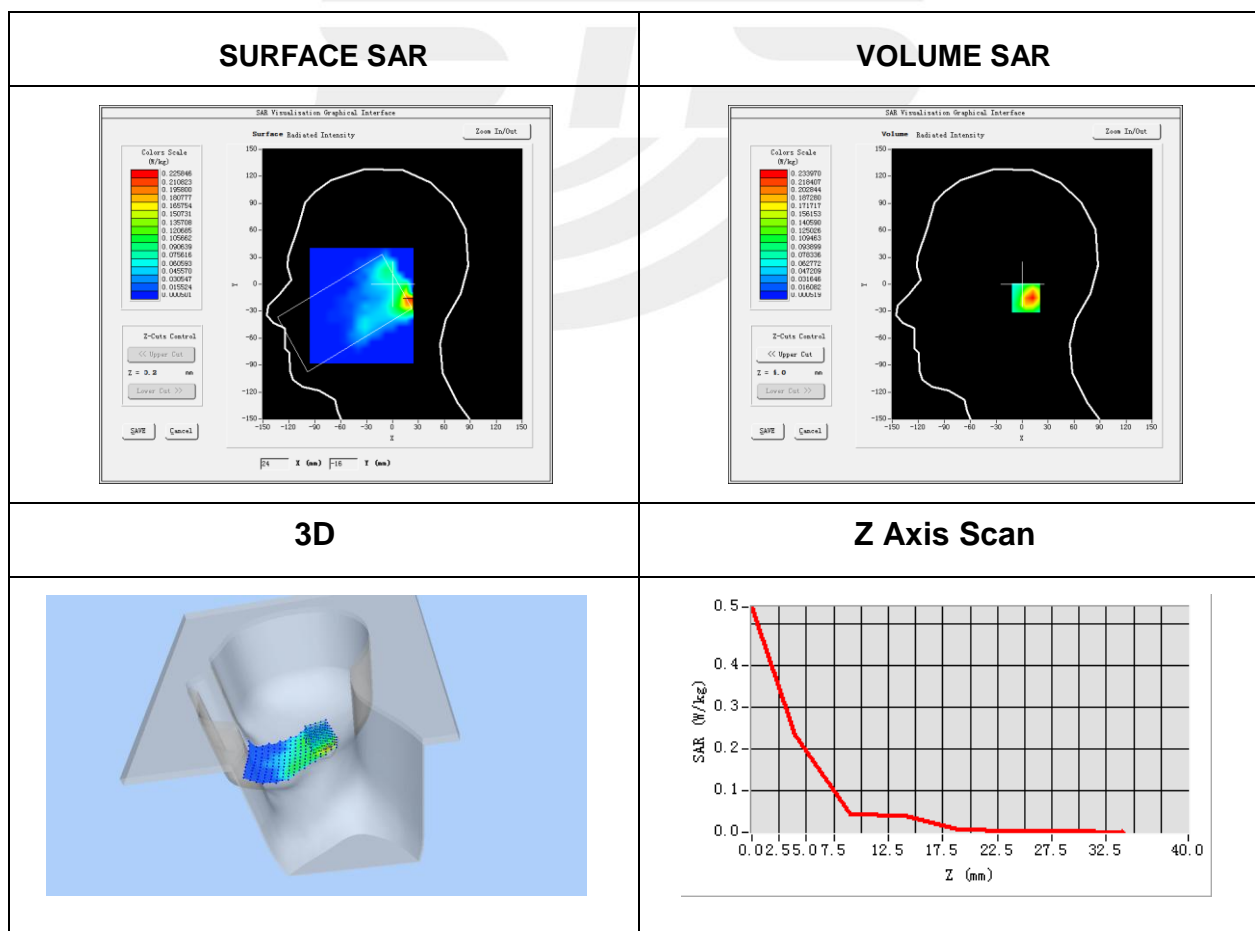


**Plot 29: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-09
Probe	SN 41/18 EPGO334
ConvF	1.97
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	IEEE 802.11b ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	37.87
Conductivity (S/m)	1.75

Maximum location: X=-3.00, Y=9.00  
SAR Peak: 0.75 W/kg

SAR 10g (W/Kg)	0.095598
SAR 1g (W/Kg)	0.216884



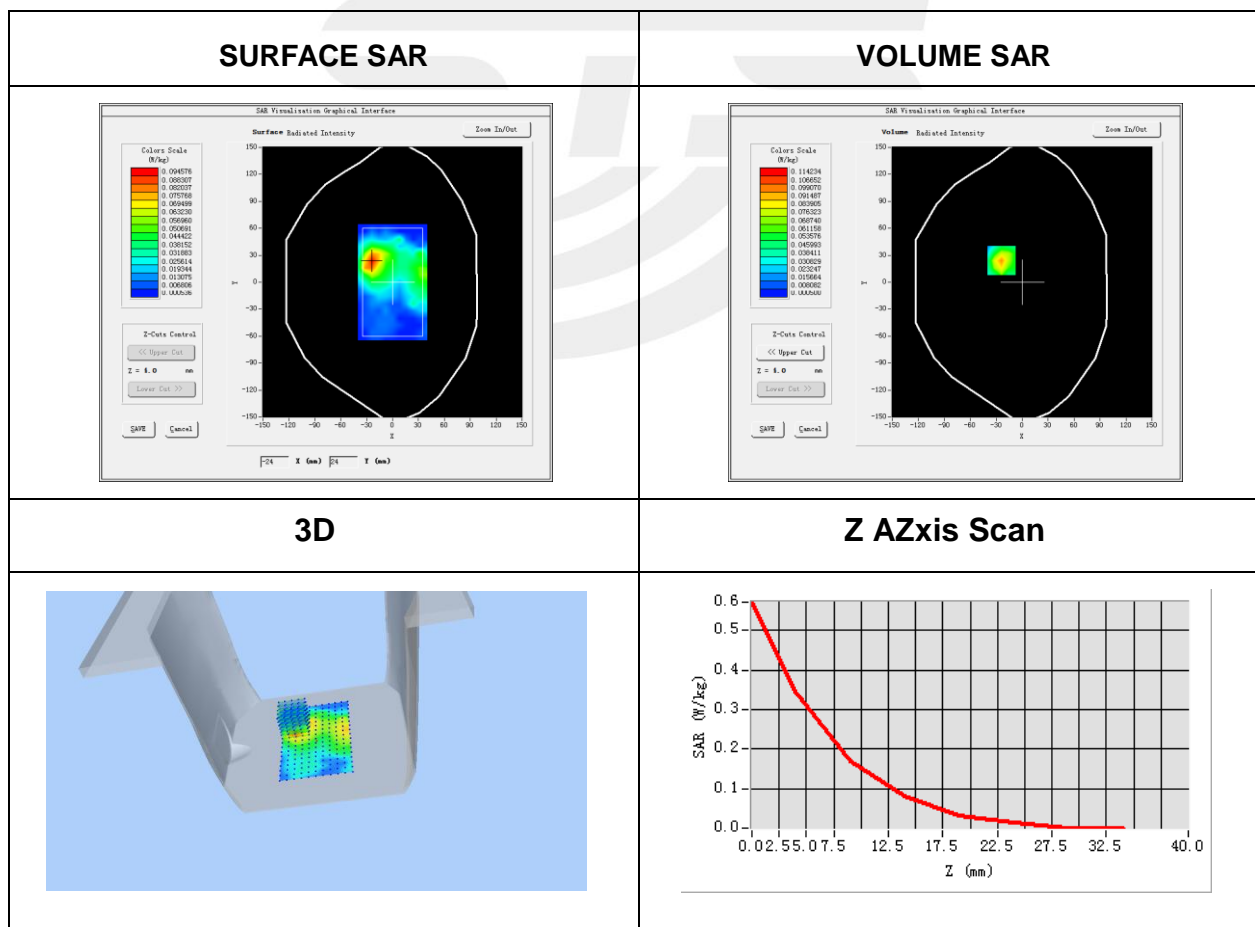
**Plot 30: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-09
Probe	SN 41/18 EPGO334
ConvF	1.97
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 ISM
Channels	Low
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2412
Relative permittivity (real part)	37.87
Conductivity (S/m)	1.75

Maximum location: X=-24.00, Y=24.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.043161
SAR 1g (W/Kg)	0.095400

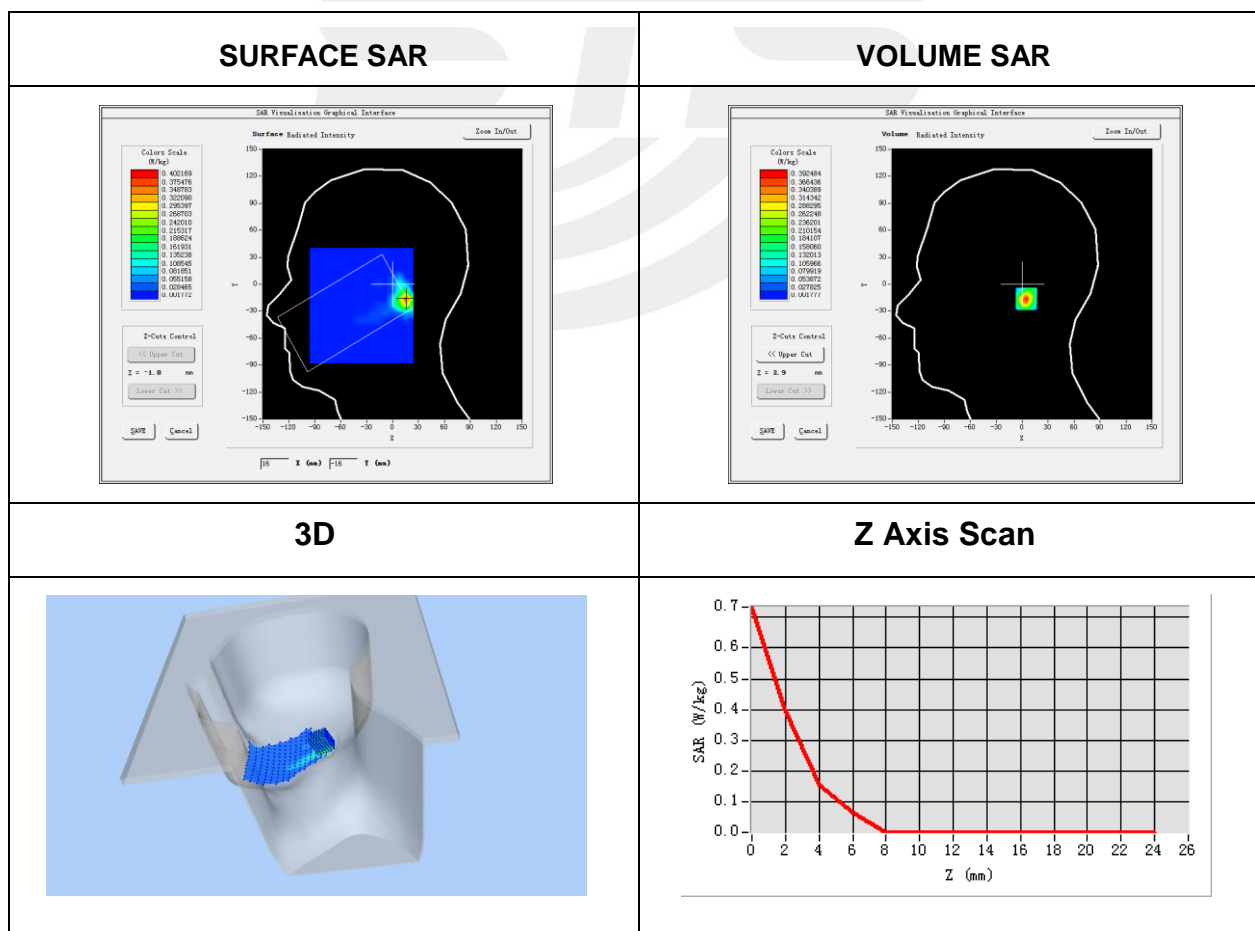


**Plot 31: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-23
Probe	SN 41/18 EPGO334
ConvF	1.86
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	IEEE 802.11a ISM
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5180
Relative permittivity (real part)	35.82
Conductivity (S/m)	4.61

Maximum location: X=16.00, Y=16.00  
SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.122635
SAR 1g (W/Kg)	0.374809





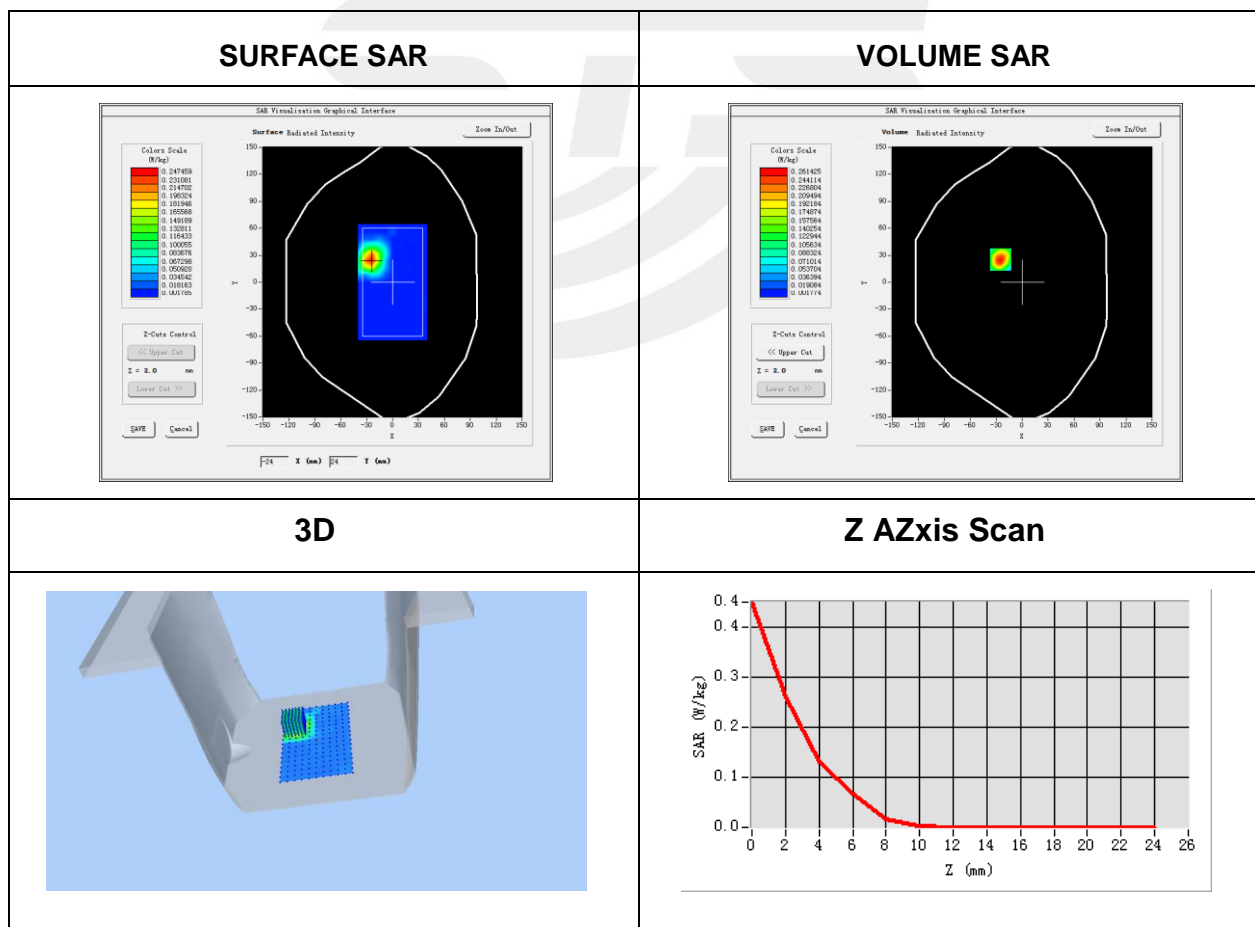
**Plot 32: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-23
Probe	SN 41/18 EPGO334
ConvF	1.86
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 ISM
Channels	Low
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5180
Relative permittivity (real part)	35.82
Conductivity (S/m)	4.61

Maximum location: X=-25.00, Y=25.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.052044
SAR 1g (W/Kg)	0.145091

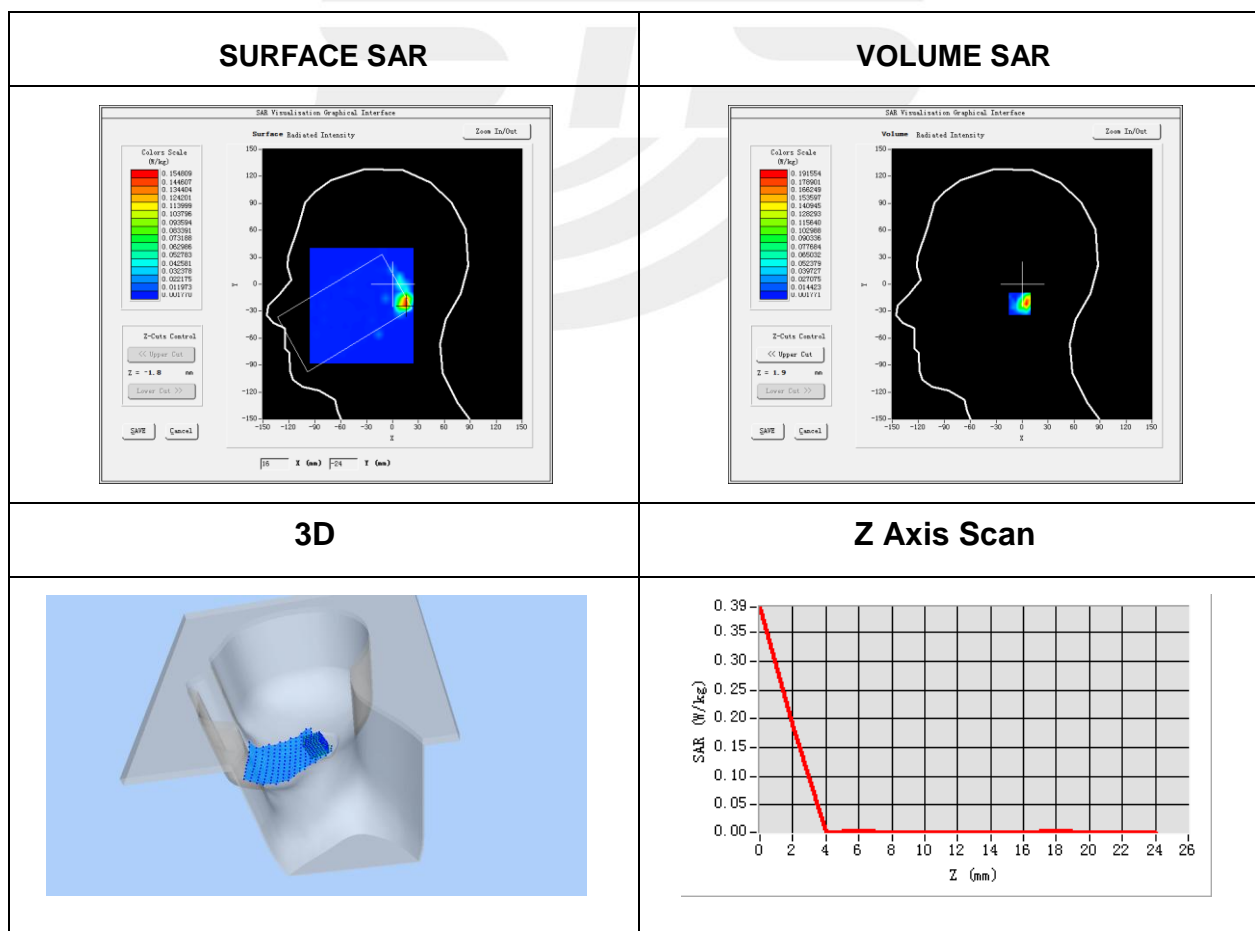


**Plot 33: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-24
Probe	SN 41/18 EPGO334
ConvF	2.09
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	IEEE 802.11a ISM
Channels	Middle
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5785
Relative permittivity (real part)	36.06
Conductivity (S/m)	5.30

Maximum location: X=7.00, Y=-22.00  
SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.044124
SAR 1g (W/Kg)	0.176717



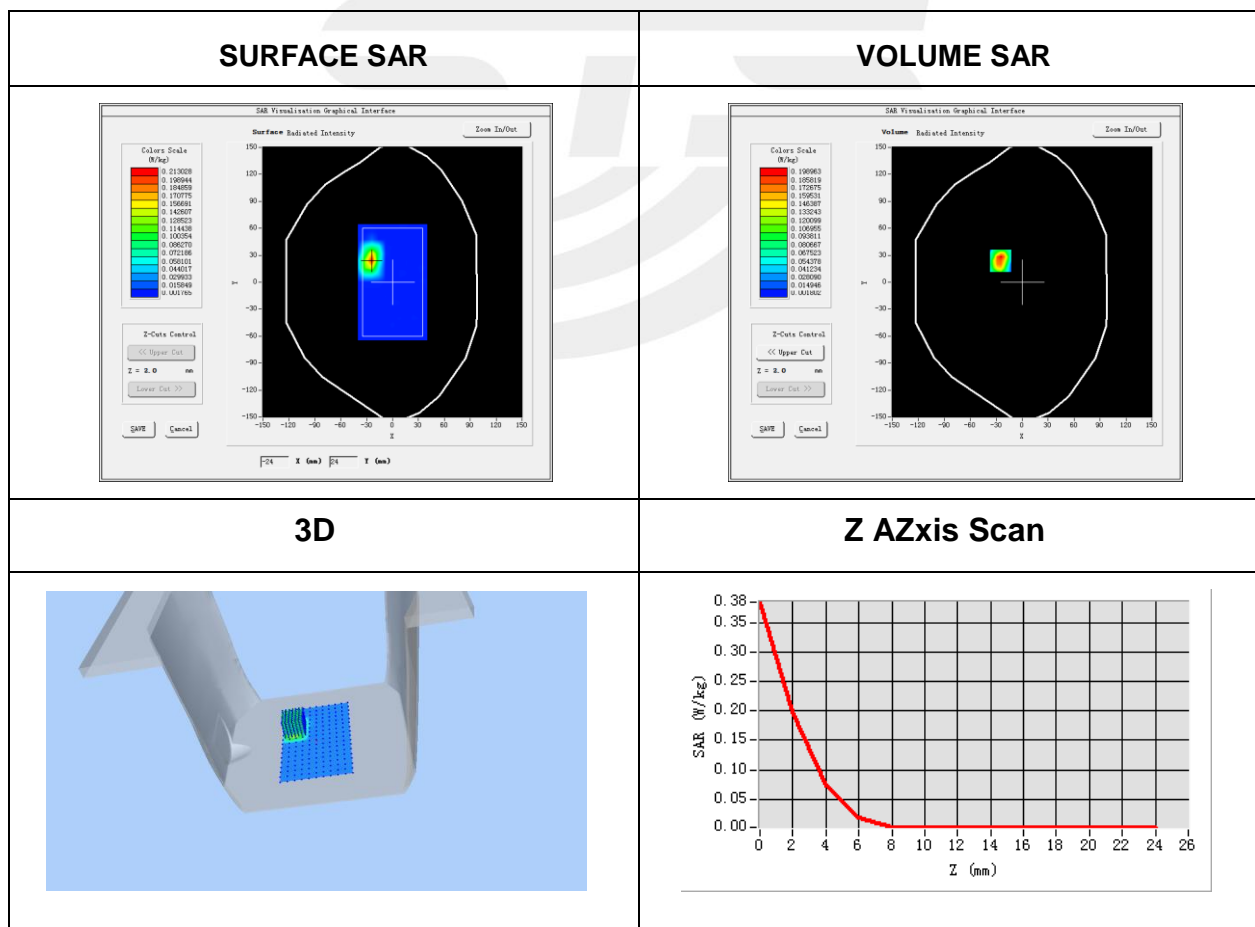
**Plot 34: DUT: Rugged Smart Phone; EUT Model: UT12P**

Test Date	2021-02-24
Probe	SN 41/18 EPGO334
ConvF	2.09
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 ISM
Channels	Middle
Signal	IEEE802.a (Crest factor: 1.0)
Frequency (MHz)	5785
Relative permittivity (real part)	36.06
Conductivity (S/m)	5.30

Maximum location: X=-25.00, Y=24.00

SAR Peak: 0.42 W/kg

SAR 10g (W/Kg)	0.035801
SAR 1g (W/Kg)	0.101967





## Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※

