



LTE Band 5 Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.02	24.05	23.78
5	1	12		24.04	24.02	23.78
5	1	24		24.10	23.99	23.85
5	12	0		23.01	22.92	22.96
5	12	6		23.05	23.08	22.91
5	12	11		23.08	23.01	22.99
5	25	0		23.05	23.06	23.00
5	1	0	16-QAM	23.30	23.11	22.92
5	1	12		23.22	22.98	22.83
5	1	24		23.31	23.04	23.01
5	12	0		22.11	21.84	22.01
5	12	6		21.99	21.86	21.76
5	12	11		22.07	21.84	21.80
5	25	0		22.31	22.09	21.85
10	1	0	QPSK	24.05	24.04	23.99
10	1	24		24.11	23.99	23.85
10	1	49		24.02	24.03	24.03
10	25	0		22.93	22.91	22.89
10	25	12		23.13	23.09	22.97
10	25	24		23.15	23.16	22.92
10	50	0		23.13	23.17	22.89
10	1	0	16-QAM	24.08	23.74	23.30
10	1	24		24.01	23.71	23.22
10	1	49		24.00	23.69	23.36
10	25	0		22.09	22.11	22.03
10	25	12		22.10	22.04	22.05
10	25	24		22.19	22.13	21.95
10	50	0		22.08	22.10	21.99



LTE Band 7 Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.71	23.19	23.22
5	1	12		22.66	23.33	23.11
5	1	24		22.65	23.35	23.19
5	12	0		21.69	22.27	22.27
5	12	6		21.78	22.37	22.17
5	12	11		21.67	22.45	22.31
5	25	0		21.67	22.26	22.19
5	1	0	16-QAM	21.47	22.44	22.39
5	1	12		21.46	22.46	22.28
5	1	24		21.45	22.48	22.36
5	12	0		20.71	21.49	21.20
5	12	6		20.60	21.46	21.10
5	12	11		20.70	21.45	21.13
5	25	0		20.84	21.34	21.38
10	1	0	QPSK	22.60	23.35	23.27
10	1	24		22.75	23.43	23.22
10	1	49		22.79	23.50	23.24
10	25	0		21.76	22.36	22.22
10	25	12		21.68	22.36	22.37
10	25	24		21.87	22.29	22.14
10	50	0		21.67	22.44	22.35
10	1	0	16-QAM	22.88	22.37	22.32
10	1	24		22.93	22.44	22.32
10	1	49		22.90	22.48	22.23
10	25	0		20.70	21.47	21.36
10	25	12		20.69	21.47	21.45
10	25	24		20.82	21.49	21.34
10	50	0		20.74	21.44	21.33



LTE Band 7 Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.64	23.23	23.25
15	1	37		22.65	23.43	23.24
15	1	74		22.71	23.39	23.28
15	36	0		21.82	22.23	22.19
15	36	18		21.70	22.30	22.26
15	36	39		21.86	22.34	22.32
15	75	0		21.76	22.39	22.30
15	1	0	16-QAM	22.85	23.00	23.13
15	1	38		22.85	23.11	23.07
15	1	75		22.97	23.13	23.14
15	36	0		20.85	21.49	21.36
15	36	18		20.90	21.57	21.37
15	36	39		21.00	21.63	21.36
15	75	0		20.80	21.33	21.37
20	1	0	QPSK	22.70	23.51	23.37
20	1	49		22.66	23.76	23.38
20	1	99		22.91	23.84	23.34
20	50	0		21.74	22.38	22.32
20	50	24		21.79	22.45	22.27
20	50	49		21.82	22.41	22.35
20	100	0		21.71	22.37	22.23
20	1	0	16-QAM	21.96	22.39	22.79
20	1	49		22.00	22.55	22.64
20	1	99		22.25	22.65	22.60
20	50	0		20.83	21.45	21.39
20	50	24		20.94	21.35	21.38
20	50	49		20.99	21.44	21.41
20	100	0		20.91	21.34	21.36



LTE Band 40(2305-2315) Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	6.00	5.87	5.98
5	1	12		6.60	6.52	6.64
5	1	24		6.10	6.02	6.21
5	12	0		5.33	5.24	5.31
5	12	6		5.51	5.44	5.52
5	12	11		5.38	5.31	5.43
5	25	0		5.37	5.29	5.39
5	1	0	16-QAM	5.28	5.21	5.61
5	1	12		5.90	5.87	6.23
5	1	24		5.39	5.36	5.83
5	12	0		4.22	4.19	4.25
5	12	6		4.40	4.39	4.46
5	12	11		4.26	4.26	4.38
5	25	0		4.29	4.16	4.27
10	1	0	QPSK	/	5.91	/
10	1	24		/	6.49	/
10	1	49		/	6.75	/
10	25	0		/	5.26	/
10	25	12		/	5.46	/
10	25	24		/	5.67	/
10	50	0		/	5.47	/
10	1	0	16-QAM	/	5.39	/
10	1	24		/	5.99	/
10	1	49		/	6.24	/
10	25	0		/	4.20	/
10	25	12		/	4.41	/
10	25	24		/	4.61	/
10	50	0		/	4.38	/



LTE Band 40(2350-2360) Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	6.75	6.77	6.64
5	1	12		7.28	7.25	7.10
5	1	24		6.63	6.58	6.44
5	12	0		6.10	5.99	5.85
5	12	6		6.24	6.10	5.97
5	12	11		6.03	5.87	5.77
5	25	0		6.06	5.93	5.81
5	1	0	16-QAM	6.42	6.00	5.92
5	1	12		6.95	6.48	6.38
5	1	24		6.29	5.80	5.72
5	12	0		5.07	4.91	4.84
5	12	6		5.21	5.01	4.96
5	12	11		5.01	4.78	4.74
5	25	0		4.98	4.88	4.71
10	1	0	QPSK	/	6.88	/
10	1	24		/	7.22	/
10	1	49		/	7.05	/
10	25	0		/	6.06	/
10	25	12		/	6.11	/
10	25	24		/	6.11	/
10	50	0		/	6.07	/
10	1	0	16-QAM	/	6.30	/
10	1	24		/	6.62	/
10	1	49		/	6.46	/
10	25	0		/	5.03	/
10	25	12		/	5.09	/
10	25	24		/	5.08	/
10	50	0		/	5.02	/



LTE Band 41 Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.32	22.13	22.06
5	1	12		23.42	22.04	22.15
5	1	24		23.39	22.06	22.24
5	12	0		22.36	21.05	21.21
5	12	6		22.35	21.01	21.32
5	12	11		22.30	21.01	21.34
5	25	0		22.34	21.04	21.18
5	1	0	16-QAM	21.94	20.86	21.58
5	1	12		21.93	20.87	21.64
5	1	24		21.98	20.80	21.62
5	12	0		21.33	20.09	20.33
5	12	6		21.32	20.08	20.33
5	12	11		21.28	20.21	20.39
5	25	0		21.60	20.11	20.45
10	1	0	QPSK	23.39	22.24	22.08
10	1	24		23.33	22.09	22.17
10	1	49		23.34	22.08	22.19
10	25	0		22.28	21.18	21.15
10	25	12		22.30	21.04	21.21
10	25	24		22.31	21.02	21.29
10	50	0		22.37	21.08	21.27
10	1	0	16-QAM	22.84	20.39	21.64
10	1	24		22.94	20.23	21.71
10	1	49		22.73	20.24	21.99
10	25	0		21.35	20.09	20.34
10	25	12		21.41	20.15	20.35
10	25	24		21.27	20.06	20.45
10	50	0		21.59	20.19	20.38



LTE Band 41 Maximum Output Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.41	22.24	21.85
15	1	37		23.35	22.18	22.06
15	1	74		23.31	22.07	22.12
15	36	0		22.32	21.15	21.12
15	36	18		22.21	21.00	21.17
15	36	39		22.26	21.03	21.27
15	75	0		22.29	21.06	21.22
15	1	0	16-QAM	22.83	20.37	21.11
15	1	38		22.87	20.33	21.29
15	1	75		22.79	20.25	21.56
15	36	0		21.48	20.34	20.08
15	36	18		21.33	20.29	20.14
15	36	39		21.38	20.30	20.24
15	75	0		21.38	20.26	20.39
20	1	0	QPSK	23.30	22.34	22.09
20	1	49		23.24	22.08	22.21
20	1	99		23.30	22.14	22.46
20	50	0		22.37	21.26	20.98
20	50	24		22.27	21.06	21.13
20	50	49		22.27	21.02	21.27
20	100	0		22.19	21.10	21.11
20	1	0	16-QAM	21.99	21.09	21.11
20	1	49		21.96	20.58	20.15
20	1	99		21.95	20.66	20.47
20	50	0		21.49	20.30	20.19
20	50	24		21.42	20.08	20.32
20	50	49		21.45	20.07	20.41
20	100	0		21.38	20.19	20.17

11. EUT and Test Setup Photo

11.1 EUT Photos

Front side



Back side





Right Edge



Left Edge



Top Edge



Bottom Edge



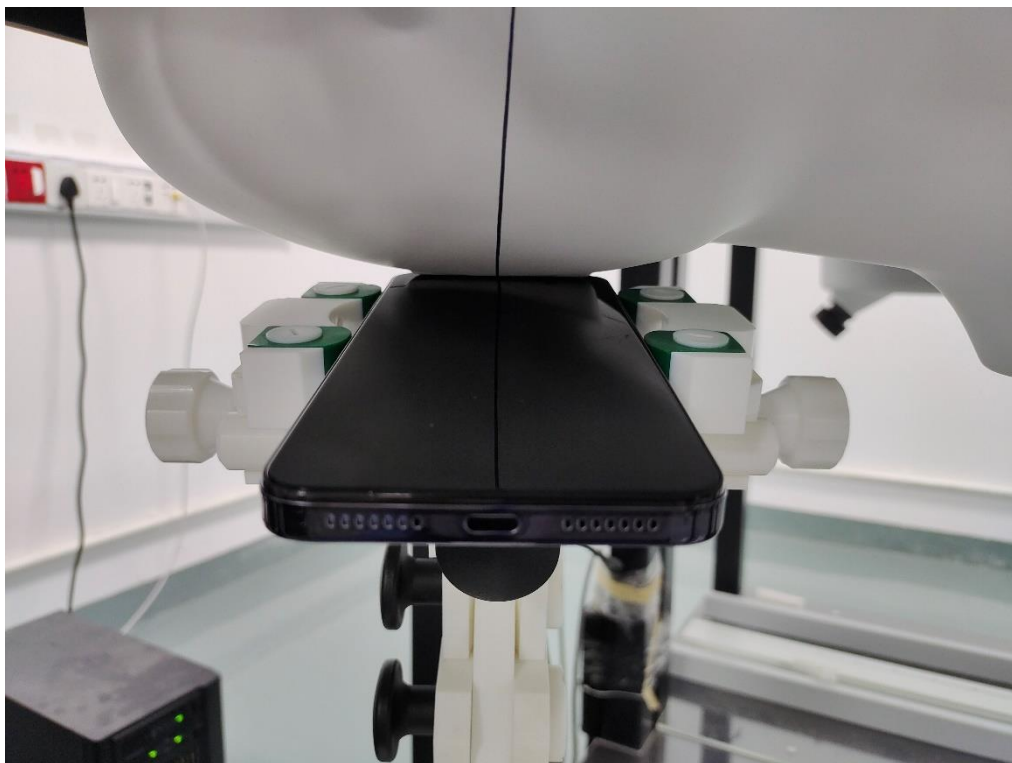


11.2 Setup Photos

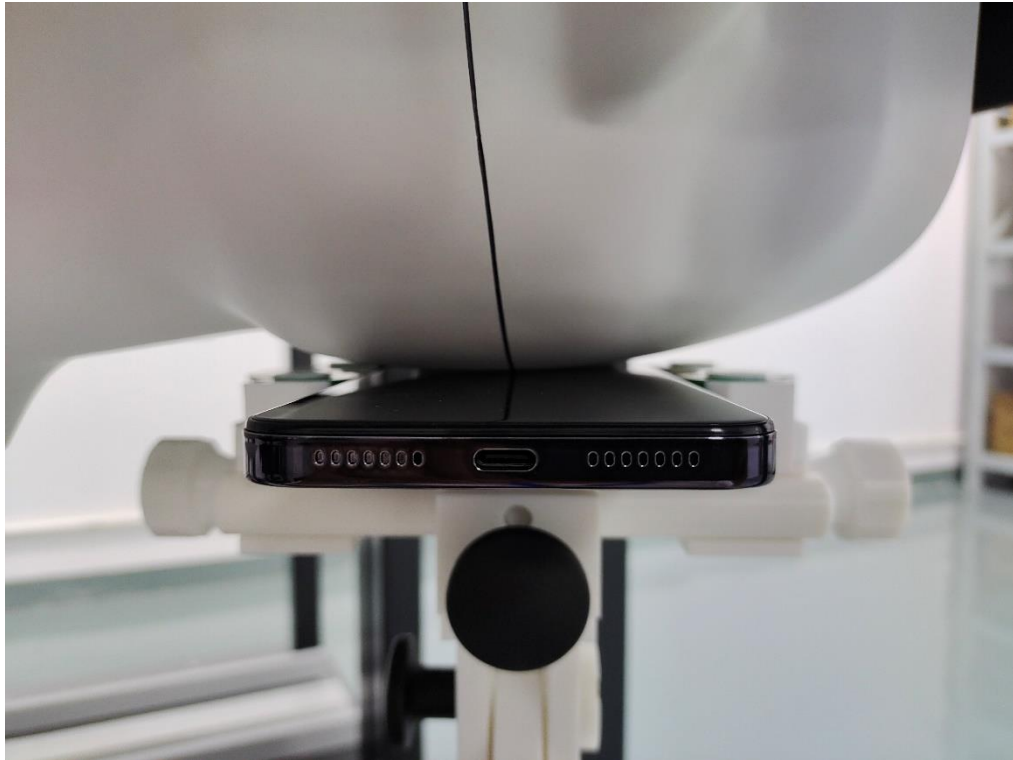
Right Touch



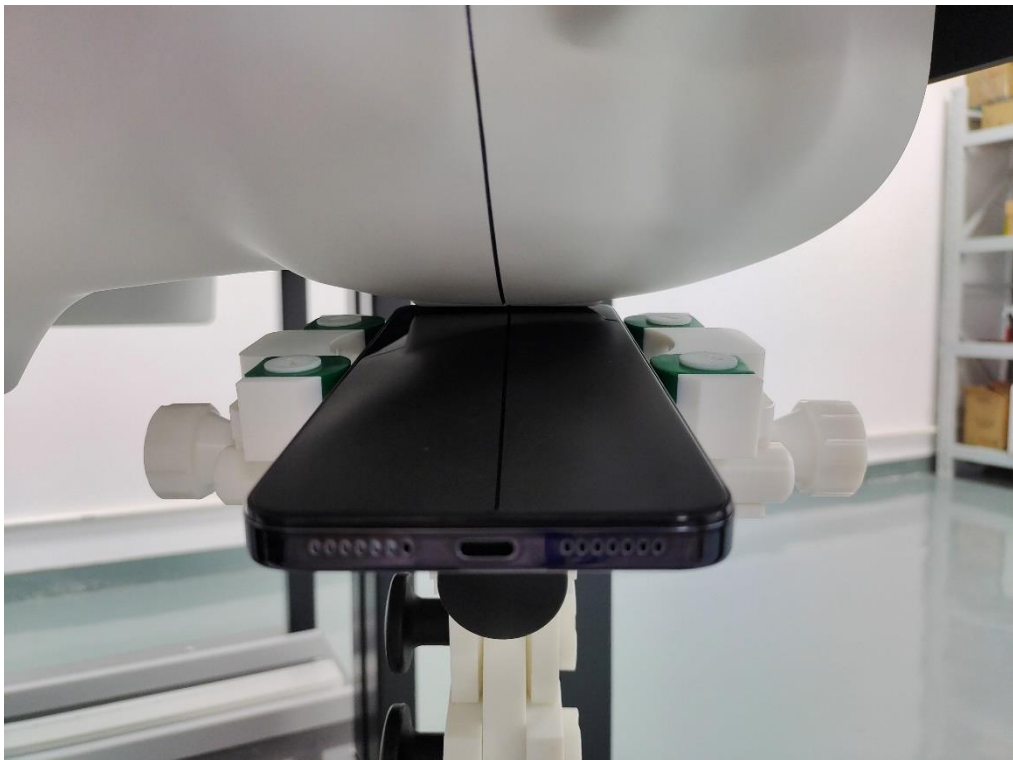
Right Tilt



Left Touch

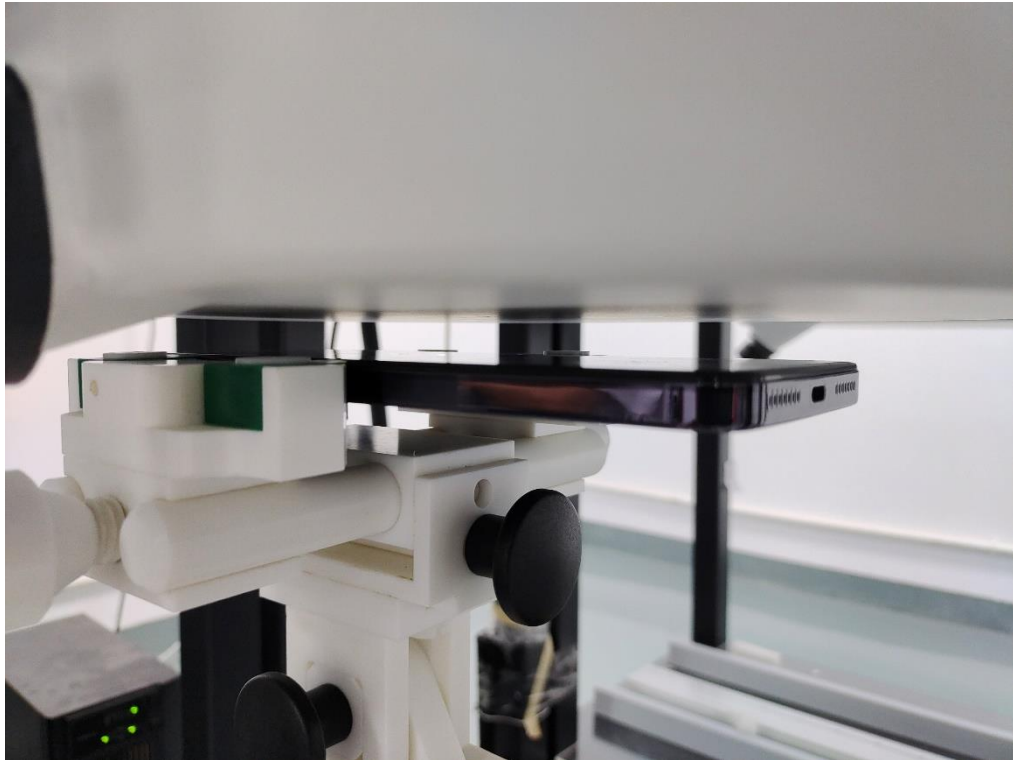


Left Tilt

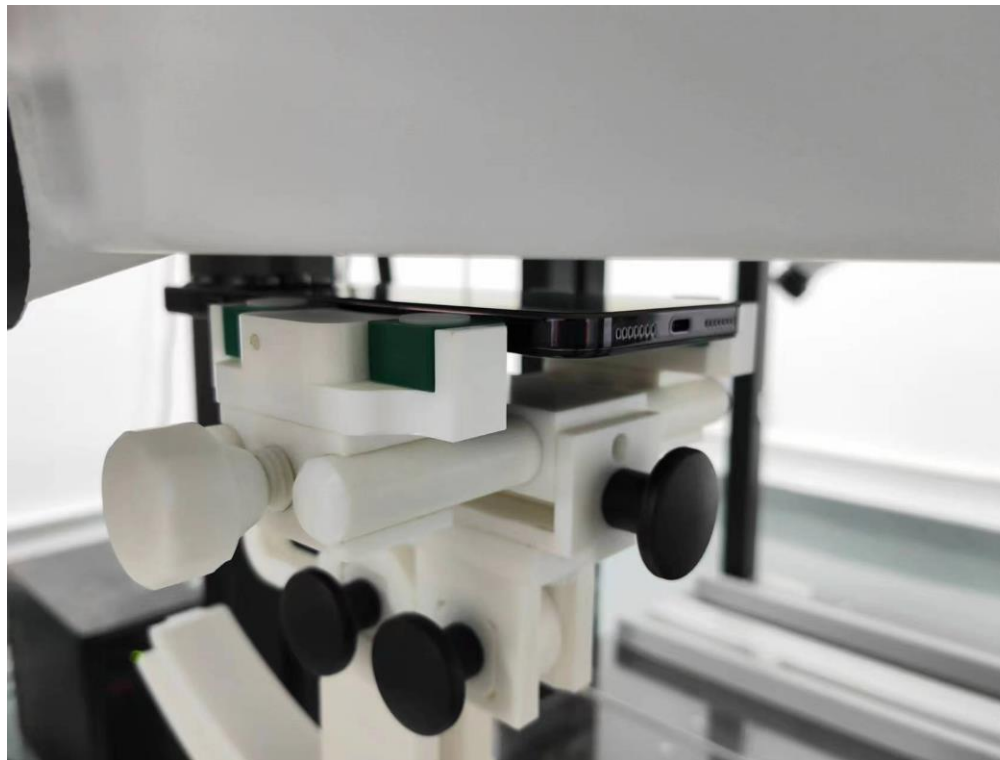




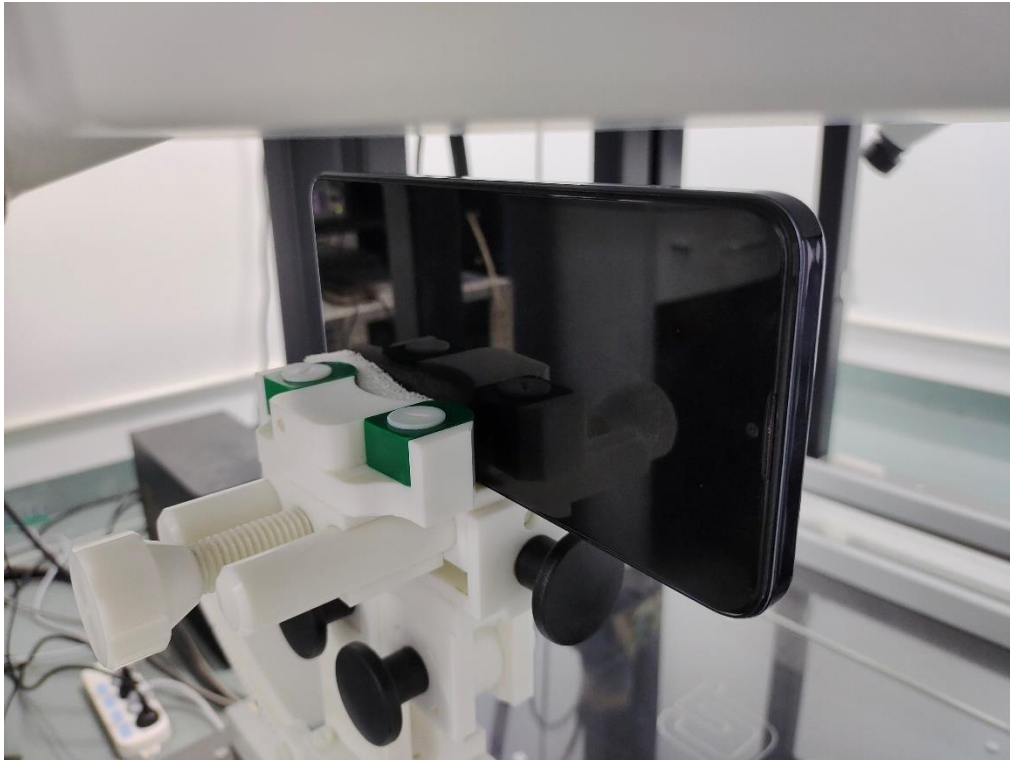
Body Front side (separation distance is 10mm)



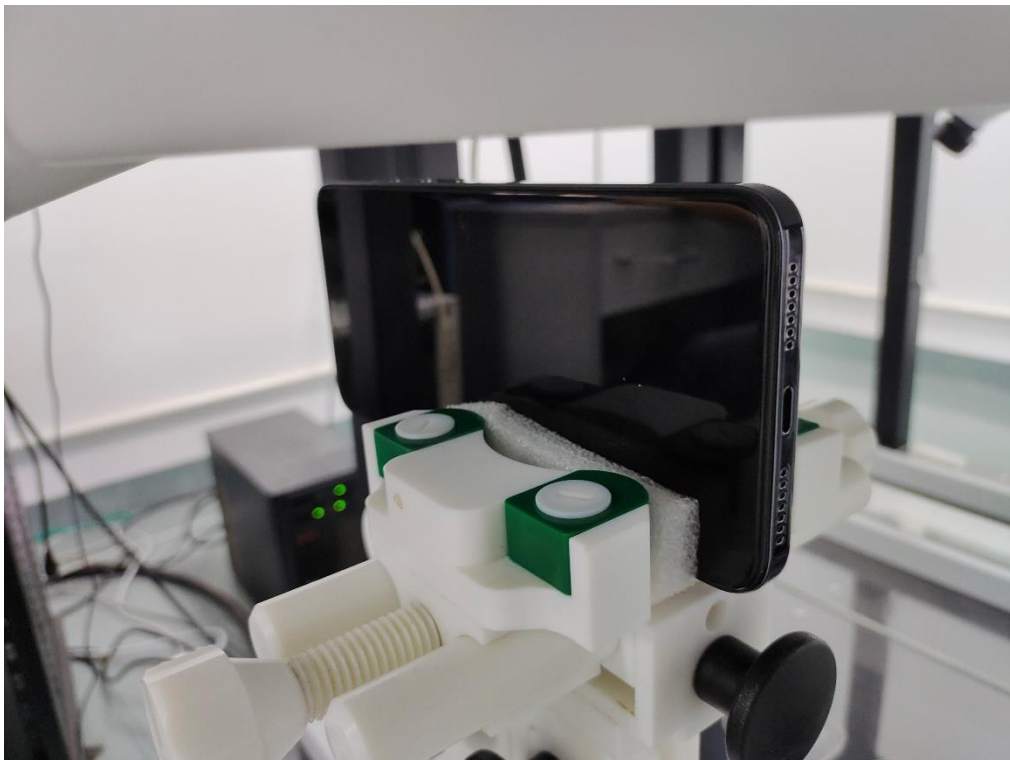
Body Back side (separation distance 10mm)



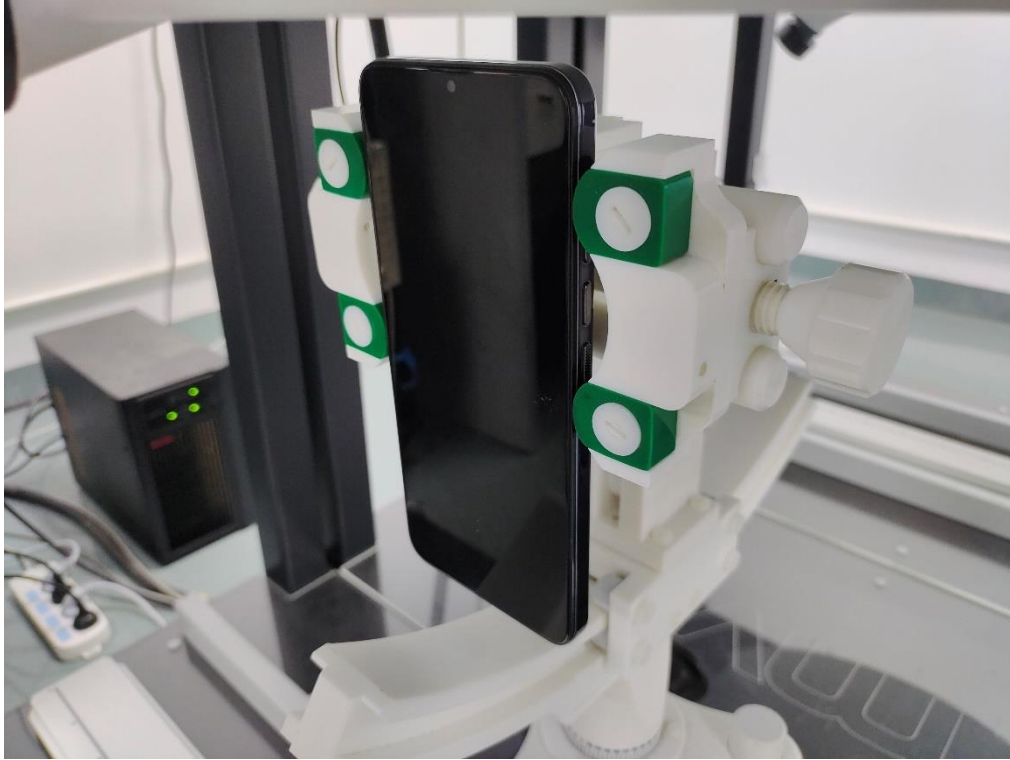
Body Left side (separation distance is 10mm)



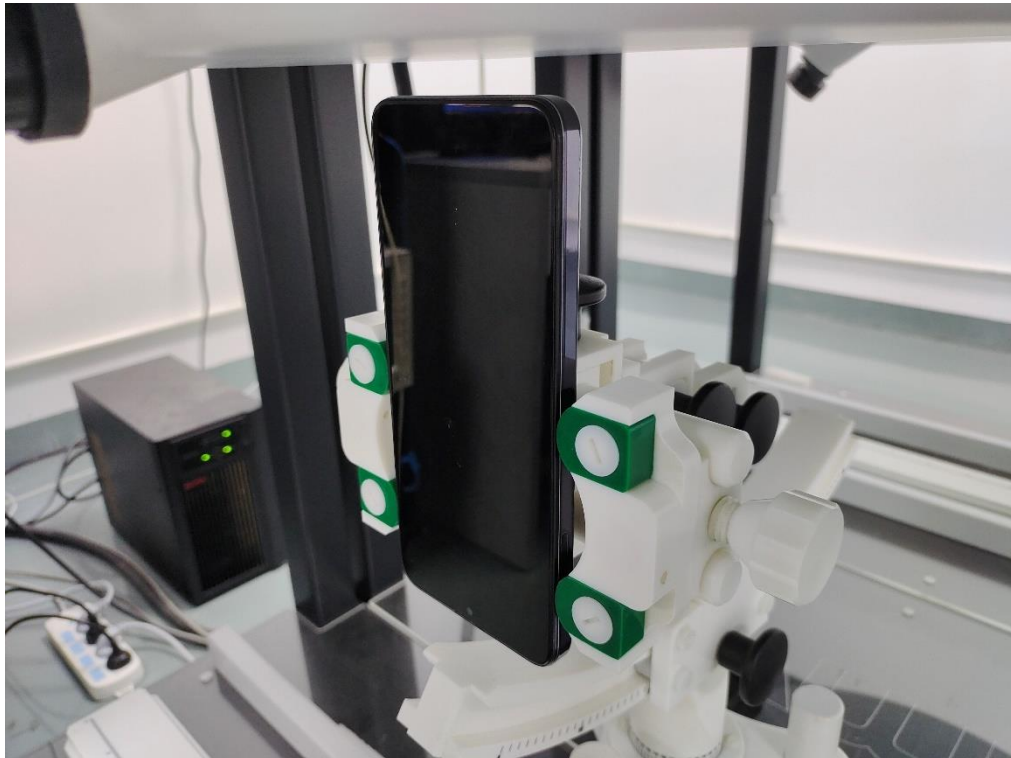
Body Right side (separation distance is 10mm)



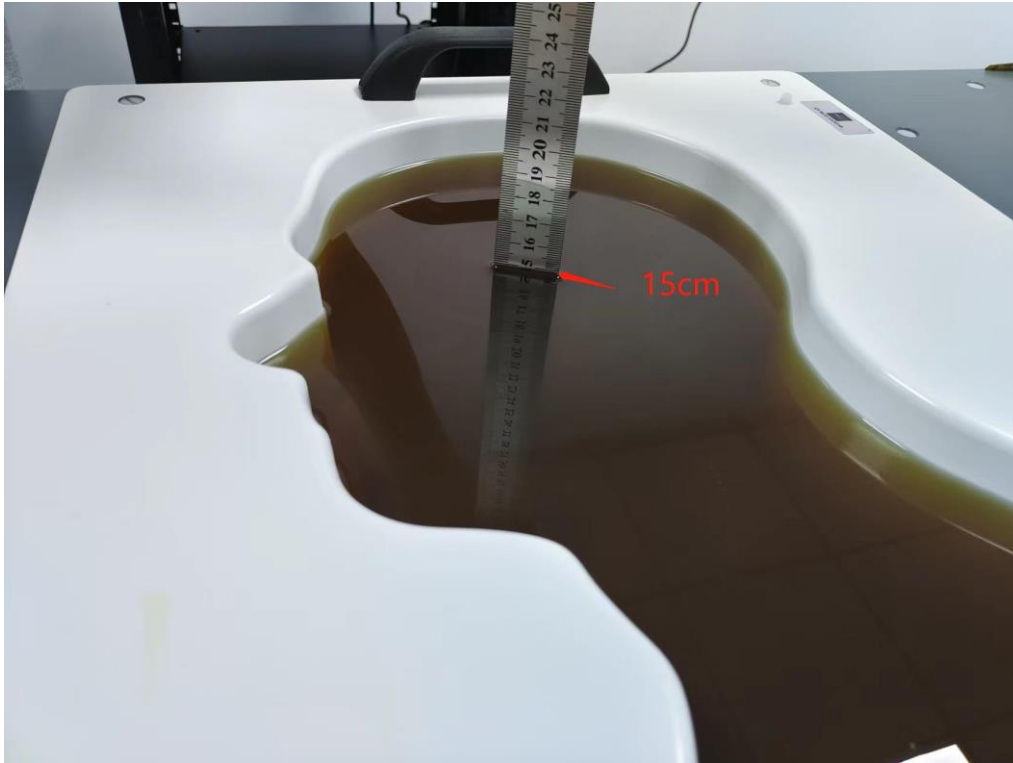
Body Top side (separation distance is 10mm)



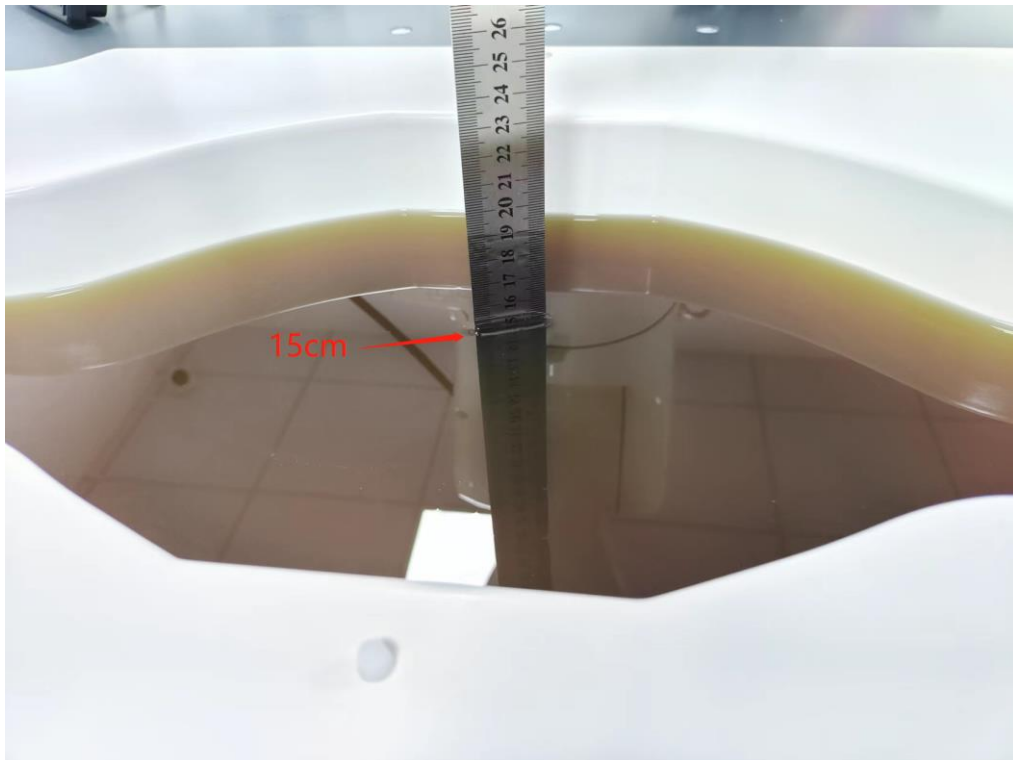
Body Bottom side (separation distance is 10mm)



Liquid depth (15 cm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Meas.Output Power(dBm)	Max.Turn-up Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	Voice	Right Cheek	848.8	0.010	-3.67	33.50	33.23	0.011	/
		Right Tilt	848.8	0.009	1.58	33.50	33.23	0.010	/
		Left Cheek	848.8	0.014	1.80	33.50	33.23	0.015	1
		Left Tilt	848.8	0.012	-2.34	33.50	33.23	0.013	/
GSM1900	Voice	Right Cheek	1850.2	0.076	-0.14	29.50	29.09	0.084	/
		Right Tilt	1850.2	0.074	-3.32	29.50	29.09	0.081	/
		Left Cheek	1850.2	0.080	-1.46	29.50	29.09	0.088	3
		Left Tilt	1850.2	0.075	1.53	29.50	29.09	0.082	/
WCDMA Band 2	RMC	Right Cheek	1907.6	0.169	-1.59	23.00	22.48	0.190	/
		Right Tilt	1907.6	0.160	3.90	23.00	22.48	0.180	/
		Left Cheek	1907.6	0.172	2.44	23.00	22.48	0.194	5
		Left Tilt	1907.6	0.167	1.87	23.00	22.48	0.188	/
WCDMA Band 4	RMC	Right Cheek	1752.4	0.105	0.63	22.50	22.32	0.109	/
		Right Tilt	1752.4	0.102	2.71	22.50	22.32	0.106	/
		Left Cheek	1752.4	0.133	-3.95	22.50	22.32	0.139	7
		Left Tilt	1752.4	0.128	-2.02	22.50	22.32	0.133	/
WCDMA Band 5	RMC	Right Cheek	826.4	0.164	-0.30	24.00	23.58	0.181	/
		Right Tilt	826.4	0.159	-3.65	24.00	23.58	0.175	/
		Left Cheek	826.4	0.171	2.62	24.00	23.58	0.188	9
		Left Tilt	826.4	0.163	-1.16	24.00	23.58	0.180	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Right Cheek	1900	0.069	-3.73	24.5	24.06	0.076	/
			50	0	Right Cheek	1900	0.054	-1.40	23	22.86	0.056	/
			1	0	Right Tilt	1900	0.063	0.85	24.5	24.06	0.070	/
			50	0	Right Tilt	1900	0.050	-0.81	23	22.86	0.052	/
			1	0	Left Cheek	1900	0.101	-2.81	24.5	24.06	0.112	11
			50	0	Left Cheek	1900	0.077	-0.60	23	22.86	0.080	/
			1	0	Left Tilt	1900	0.085	0.80	24.5	24.06	0.094	/
			50	0	Left Tilt	1900	0.072	-3.54	23	22.86	0.074	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	1720	0.152	-3.44	23.6	23.24	0.165	/
			50	0	Right Cheek	1745	0.138	-0.93	22.5	22.21	0.148	/
			1	0	Right Tilt	1720	0.145	-1.81	23.6	23.24	0.158	/
			50	0	Right Tilt	1745	0.126	0.57	22.5	22.21	0.135	/
			1	0	Left Cheek	1720	0.190	-0.83	23.6	23.24	0.206	13
			50	0	Left Cheek	1745	0.174	2.60	22.5	22.21	0.186	/
			1	0	Left Tilt	1720	0.182	0.57	23.6	23.24	0.198	/
			50	0	Left Tilt	1745	0.168	-0.21	22.5	22.21	0.180	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	829	0.184	2.29	24.5	24.11	0.201	/
			25	0	Right Cheek	836.5	0.165	3.55	23.5	23.16	0.178	/
			1	0	Right Tilt	829	0.171	1.25	24.5	24.11	0.187	/
			25	0	Right Tilt	836.5	0.152	-0.08	23.5	23.16	0.164	/
			1	0	Left Cheek	829	0.190	-0.35	24.5	24.11	0.208	15
			25	0	Left Cheek	836.5	0.177	0.34	23.5	23.16	0.191	/
			1	0	Left Tilt	829	0.180	3.10	24.5	24.11	0.197	/
			25	0	Left Tilt	836.5	0.163	-3.95	23.5	23.16	0.176	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	2535	0.137	-2.49	24	23.84	0.142	17
			50	0	Right Cheek	2535	0.117	-2.31	22.5	22.45	0.118	/
			1	0	Right Tilt	2535	0.130	-3.56	24	23.84	0.135	/
			50	0	Right Tilt	2535	0.109	3.81	22.5	22.45	0.110	/
			1	0	Left Cheek	2535	0.122	-0.53	24	23.84	0.127	/
			50	0	Left Cheek	2535	0.103	2.12	22.5	22.45	0.104	/
			1	0	Left Tilt	2535	0.112	3.58	24	23.84	0.116	/
			50	0	Left Tilt	2535	0.097	-0.35	22.5	22.45	0.098	/



LTE Band 40	20M	QPSK	1	0	Right Cheek	2350	0.123	0.50	7.5	7.22	0.131	/
			50	0	Right Cheek	2350	0.106	-3.87	6.5	6.11	0.116	/
			1	0	Right Tilt	2350	0.110	3.46	7.5	7.22	0.117	/
			50	0	Right Tilt	2350	0.092	1.84	6.5	6.11	0.101	/
			1	0	Left Cheek	2350	0.169	-2.75	7.5	7.22	0.180	19
			50	0	Left Cheek	2350	0.135	-0.63	6.5	6.11	0.148	/
			1	0	Left Tilt	2350	0.156	1.21	7.5	7.22	0.166	/
			50	0	Left Tilt	2350	0.127	3.03	6.5	6.11	0.139	/
LTE Band 41	20M	QPSK	1	0	Right Cheek	2506	0.127	1.61	23.6	23.3	0.136	/
			50	0	Right Cheek	2506	0.113	1.68	22.5	22.37	0.116	/
			1	0	Right Tilt	2506	0.121	-0.35	23.6	23.3	0.130	/
			50	0	Right Tilt	2506	0.105	2.17	22.5	22.37	0.108	/
			1	0	Left Cheek	2506	0.194	-2.12	23.6	23.3	0.208	21
			50	0	Left Cheek	2506	0.176	3.68	22.5	22.37	0.181	/
			1	0	Left Tilt	2506	0.187	1.33	23.6	23.3	0.200	/
			50	0	Left Tilt	2506	0.168	-1.69	22.5	22.37	0.173	/



Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
2.4G WLAN	802.11g	Right Cheek	2437	0.087	1.79	14.00	13.94	0.088	/
		Right Tilt	2437	0.109	-2.92	14.00	13.94	0.111	/
		Left Cheek	2437	0.183	-0.21	14.00	13.94	0.186	/
		Left Tilt	2437	0.195	-1.25	14.00	13.94	0.198	23
BT	8DPSK	Right Cheek	2441	0.082	-3.95	5.50	4.98	0.092	/
		Right Tilt	2441	0.096	-2.87	5.50	4.98	0.108	25
		Left Cheek	2441	0.071	-1.43	5.50	4.98	0.080	/
		Left Tilt	2441	0.079	3.80	5.50	4.98	0.089	/
5.2G WLAN	802.11n-HT20	Right Cheek	5180	0.493	-1.90	9.70	9.59	0.506	/
		Right Tilt	5180	0.557	2.80	9.70	9.59	0.571	/
		Left Cheek	5180	0.621	-1.13	9.70	9.59	0.637	/
		Left Tilt	5180	0.694	0.76	9.70	9.59	0.712	27
		Left Tilt	5200	0.514	1.14	9.70	9.59	0.527	/
		Left Tilt	5240	0.422	1.13	9.70	9.59	0.433	/
5.3G WLAN	802.11ac-VHT80	Right Cheek	5290	0.376	-1.96	9.50	9.13	0.409	/
		Right Tilt	5290	0.454	3.10	9.50	9.13	0.494	29
		Left Cheek	5290	0.324	-1.46	9.50	9.13	0.353	/
		Left Tilt	5290	0.414	-1.89	9.50	9.13	0.451	/
5.6G WLAN	802.11ac-VHT80	Right Cheek	5530	0.298	3.94	8.00	7.98	0.299	/
		Right Tilt	5530	0.349	-1.35	8.00	7.98	0.351	/
		Left Cheek	5530	0.325	-3.13	8.00	7.98	0.327	/
		Left Tilt	5530	0.363	2.52	8.00	7.98	0.365	31
5.8G WLAN	802.11ac-VHT40	Right Cheek	5755	0.24	2.70	7.50	7.29	0.252	/
		Right Tilt	5755	0.311	-0.19	7.50	7.29	0.326	/
		Left Cheek	5755	0.357	-0.80	7.50	7.29	0.375	/
		Left Tilt	5755	0.369	-0.92	7.50	7.29	0.387	33

Note:

1. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB 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 0.587 W/Kg for Head)
3. Per KDB 865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg



12.2 Body-worn and Hotspot SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS (GMSK, 2-Slot)	Front Side	848.8	0.153	1.84	31.50	31.07	0.169	2
		Back Side	848.8	0.127	2.56	31.50	31.07	0.140	/
		Left Side	848.8	0.095	1.07	31.50	31.07	0.105	/
		Right Side	848.8	0.134	3.94	31.50	31.07	0.148	/
		Top Side	848.8	0.057	2.95	31.50	31.07	0.063	/
		Bottom Side	848.8	0.114	-1.73	31.50	31.07	0.126	/
PCS 1900	GPRS (GMSK, 3-Slot)	Front Side	1850.2	0.381	-3.55	25.50	25.40	0.390	/
		Back Side	1850.2	0.219	-2.20	25.50	25.40	0.224	/
		Left Side	1850.2	0.176	0.36	25.50	25.40	0.180	/
		Right Side	1850.2	0.128	1.72	25.50	25.40	0.131	/
		Bottom Side	1850.2	0.482	2.41	25.50	25.40	0.493	4
WCDMA Band II	HSDPA Subtest-1	Front Side	1880	0.679	-0.45	23.50	23.38	0.698	/
		Back Side	1880	0.271	2.30	23.50	23.38	0.279	/
		Left Side	1880	0.339	-2.15	23.50	23.38	0.348	/
		Right Side	1880	0.182	2.36	23.50	23.38	0.187	/
		Bottom Side	1852.4	0.810	-0.09	23.50	22.78	0.956	/
		Bottom Side	1880	0.970	-1.63	23.50	23.38	0.997	6
		Bottom Side	1907.6	0.702	-3.63	23.50	22.31	0.923	/
WCDMA Band IV	HSDPA Subtest-1	Front Side	1752.4	0.594	-0.68	24.00	23.60	0.651	/
		Back Side	1752.4	0.223	0.83	24.00	23.60	0.245	/
		Left Side	1752.4	0.197	-0.18	24.00	23.60	0.216	/
		Right Side	1752.4	0.135	3.64	24.00	23.60	0.148	/
		Bottom Side	1752.4	0.707	0.05	24.00	23.60	0.775	8
WCDMA Band V	RMC	Front Side	826.4	0.154	0.78	24.00	23.58	0.170	/
		Back Side	826.4	0.198	2.51	24.00	23.58	0.218	/
		Left Side	826.4	0.117	-1.15	24.00	23.58	0.129	/
		Right Side	826.4	0.205	1.06	24.00	23.58	0.226	10
		Bottom Side	826.4	0.176	-0.70	24.00	23.58	0.194	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Front side	1900	0.193	2.59	24.5	24.06	0.214	/
			50	0	Front side	1900	0.137	1.44	23	22.86	0.141	/
			1	0	Back Side	1900	0.151	-0.38	24.5	24.06	0.167	/
			50	0	Back Side	1900	0.100	0.83	23	22.86	0.103	/
			1	0	Left Side	1900	0.133	1.06	24.5	24.06	0.147	/
			50	0	Left Side	1900	0.095	-1.64	23	22.86	0.098	/
			1	0	Right Side	1900	0.067	0.37	24.5	24.06	0.074	/
			50	0	Right Side	1900	0.052	3.08	23	22.86	0.054	/
			1	0	Bottom Side	1900	0.258	-3.57	24.5	24.06	0.286	12
			50	0	Bottom Side	1900	0.196	3.26	23	22.86	0.202	/
LTE Band 4	20M	QPSK	1	0	Front side	1720	0.773	-1.85	23.6	23.24	0.840	/
			1	0	Front side	1732.5	0.741	2.85	23.6	23.2	0.812	/
			1	0	Front side	1745	0.726	-2.29	23.6	23.19	0.798	/
			50	0	Front side	1745	0.628	-2.88	22.5	22.21	0.671	/
			1	0	Back Side	1720	0.635	-3.20	23.6	23.24	0.690	/
			50	0	Back Side	1745	0.511	-3.58	22.5	22.21	0.546	/
			1	0	Left Side	1720	0.324	2.96	23.6	23.24	0.352	/
			50	0	Left Side	1745	0.251	1.87	22.5	22.21	0.268	/
			1	0	Right Side	1720	0.195	1.97	23.6	23.24	0.212	/
			50	0	Right Side	1745	0.143	-3.85	22.5	22.21	0.153	/
			1	0	Bottom Side	1720	0.820	1.53	23.6	23.24	0.891	14
			1	0	Bottom Side	1732.5	0.801	2.48	23.6	23.2	0.878	/
			1	0	Bottom Side	1745	0.781	-3.41	23.6	23.19	0.858	/
			50	0	Bottom Side	1745	0.718	-0.08	22.5	22.21	0.768	/
LTE Band 5	10M	QPSK	1	0	Front side	829	0.205	2.51	24.5	24.11	0.224	16
			25	0	Front side	836.5	0.173	3.99	23.5	23.16	0.187	/
			1	0	Back Side	829	0.190	-1.40	24.5	24.11	0.208	/
			25	0	Back Side	836.5	0.166	-1.32	23.5	23.16	0.180	/
			1	0	Left Side	829	0.084	-1.46	24.5	24.11	0.092	/
			25	0	Left Side	836.5	0.067	-0.61	23.5	23.16	0.072	/
			1	0	Right Side	829	0.120	-3.96	24.5	24.11	0.131	/



			25	0	Right Side	836.5	0.107	-2.94	23.5	23.16	0.116	/
			1	0	Bottom Side	829	0.194	-0.76	24.5	24.11	0.212	/
			25	0	Bottom Side	836.5	0.176	0.16	23.5	23.16	0.190	/
LTE Band 7	20M	QPSK	1	0	Front side	2535	0.236	-1.66	24	23.84	0.245	/
			50	0	Front side	2535	0.153	3.29	22.5	22.45	0.155	/
			1	0	Back Side	2535	0.327	-2.36	24	23.84	0.339	/
			50	0	Back Side	2535	0.207	0.04	22.5	22.45	0.209	/
			1	0	Left Side	2535	0.183	-0.61	24	23.84	0.190	/
			50	0	Left Side	2535	0.120	0.69	22.5	22.45	0.121	/
			1	0	Right Side	2535	0.124	-2.30	24	23.84	0.129	/
			50	0	Right Side	2535	0.071	2.94	22.5	22.45	0.072	/
			1	0	Bottom Side	2535	0.490	0.56	24	23.84	0.508	18
			50	0	Bottom Side	2535	0.345	-3.10	22.5	22.45	0.349	/
LTE Band 40	20M	QPSK	1	0	Front side	2350	0.360	3.81	7.5	7.22	0.384	/
			50	0	Front side	2350	0.228	-2.68	6.5	6.11	0.249	/
			1	0	Back Side	2350	0.453	-0.14	7.5	7.22	0.483	/
			50	0	Back Side	2350	0.315	0.93	6.5	6.11	0.345	/
			1	0	Right Side	2350	0.197	-3.44	7.5	7.22	0.210	/
			50	0	Right Side	2350	0.132	2.70	6.5	6.11	0.144	/
			1	0	Bottom Side	2350	0.589	-2.92	7.5	7.22	0.628	20
			50	0	Bottom Side	2350	0.463	-2.53	6.5	6.11	0.507	/
LTE Band 41	20M	QPSK	1	0	Front side	2506	0.293	3.83	23.6	23.3	0.314	/
			50	0	Front side	2506	0.194	-3.15	22.5	22.37	0.200	/
			1	0	Back Side	2506	0.589	-2.56	23.6	23.3	0.631	/
			50	0	Back Side	2506	0.491	-3.57	22.5	22.37	0.506	/
			1	0	Left Side	2506	0.243	2.36	23.6	23.3	0.260	/
			50	0	Left Side	2506	0.168	1.60	22.5	22.37	0.173	/
			1	0	Right Side	2506	0.185	-2.86	23.6	23.3	0.198	/
			50	0	Right Side	2506	0.101	2.48	22.5	22.37	0.104	/
			1	0	Bottom Side	2506	0.771	1.55	23.6	23.3	0.826	22
			1	0	Bottom Side	2506	0.521	0.12	22.5	22.34	0.541	/
			1	0	Bottom Side	2506	0.410	-1.28	23.6	22.09	0.580	/
			50	0	Bottom Side	2506	0.683	0.62	22.5	22.37	0.704	/



Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
2.4GHz WLAN	802.11b	Front Side	2437	0.084	2.65	14.00	13.94	0.085	/
		Back Side	2437	0.106	-2.30	14.00	13.94	0.107	24
		Right Side	2437	0.047	-0.79	14.00	13.94	0.048	/
		Top Side	2437	0.066	-0.05	14.00	13.94	0.067	/
BT	8DPSK	Front Side	2441	0.123	-1.00	5.50	4.98	0.139	26
		Back Side	2441	0.097	1.83	5.50	4.98	0.109	/
		Right Side	2441	0.032	-1.02	5.50	4.98	0.036	/
		Top Side	2441	0.1	2.77	5.50	4.98	0.113	/
5.2GHz WLAN	802.11n-HT20	Front Side	5180	0.243	3.88	9.70	9.59	0.249	28
		Back Side	5180	0.224	-2.71	9.70	9.59	0.230	/
		Right Side	5180	0.158	-3.43	9.70	9.59	0.162	/
		Top Side	5180	0.242	3.21	9.70	9.59	0.248	/
5.3GHz WLAN	802.11ac-VHT80	Front Side	5290	0.192	-1.46	9.50	9.13	0.209	/
		Back Side	5290	0.222	2.49	9.50	9.13	0.242	30
		Right Side	5290	0.143	-2.32	9.50	9.13	0.156	/
		Top Side	5290	0.192	3.65	9.50	9.13	0.209	/
5.6GHz WLAN	802.11ac-VHT80	Front Side	5530	0.232	3.89	8.00	7.98	0.233	/
		Back Side	5530	0.249	-0.33	8.00	7.98	0.250	/
		Right Side	5530	0.186	-3.11	8.00	7.98	0.187	/
		Top Side	5530	0.333	2.68	8.00	7.98	0.335	32
5.8GHz WLAN	802.11ac-VHT40	Front Side	5755	0.200	3.35	7.50	7.29	0.210	/
		Back Side	5755	0.317	-1.08	7.50	7.29	0.333	/
		Right Side	5755	0.179	-3.27	7.50	7.29	0.188	/
		Top Side	5755	0.334	0.04	7.50	7.29	0.351	34

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was 0.017 W/Kg for Body)
4. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.



12.3 Repeated SAR

Band	Mode	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR(W/Kg)
WCDMA Band II	HSDPA Subtest-1	Bottom Side	1852.4	0.808	-3.20	23.50	22.78	0.954
		Bottom Side	1880	0.958	-2.07	23.50	23.38	0.985
		Bottom Side	1907.6	0.672	-0.18	23.50	22.31	0.884

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR(W/Kg)
LTE Band 4	20M	QPSK	1	0	Front side	1720	0.759	1.46	23.6	23.24	0.825
			1	0	Front side	1732.5	0.725	-0.57	23.6	23.2	0.795
			1	0	Front side	1745	0.709	0.68	23.6	23.19	0.779
			1	0	Bottom Side	1720	0.787	-2.88	23.6	23.24	0.855
			1	0	Bottom Side	1732.5	0.767	2.81	23.6	23.2	0.841
			1	0	Bottom Side	1745	0.746	0.53	23.6	23.19	0.820
LTE Band 41	20M	QPSK	1	0	Bottom Side	2506	0.735	-2.52	23.6	23.3	0.788



12.4 Repeated SAR measurement

Band	Mode	Test Position	Freq.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(W/kg)	2nd Repeated SAR 1g	Ratio
WCDMA Band II	HSDPA Subtest-1	Bottom Side	1852.4	0.810	0.808	1.002	-	-	-
		Bottom Side	1880	0.970	0.958	1.013	-	-	-
		Bottom Side	1907.6	0.702	0.672	1.045	-	-	-

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Freq.	Original Measured SAR 1g(W/kg) 1g (W/Kg)	1 st Repeated SAR 1g	Ratio	Original Measured	2nd Repeated SAR 1g	Ratio
LTE Band 4	20M	QPSK	1	0	Front side	1720	0.773	0.759	1.018	-	-	-
			1	0	Front side	1732.5	0.741	0.725	1.022	-	-	-
			1	0	Front side	1745	0.730	0.709	1.030	-	-	-
			1	0	Bottom Side	1720	0.820	0.787	1.042	-	-	-
			1	0	Bottom Side	1732.5	0.801	0.767	1.044	-	-	-
			1	0	Bottom Side	1745	0.781	0.746	1.047	-	-	-
LTE Band 41	20M	QPSK	1	0	Bottom Side	2506	0.771	0.735	1.049	-	-	-

Note:

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



12.5 Simultaneous Multi-band Transmission Evaluation

Application Simultaneous Transmission information:

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

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
4. KDB 447498 Appendix E, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
 $SAR_{est} = 1.6 \cdot P_{ant} / P_{th} [W/kg]$
 P_{ant} is maximum time-averaged power or effective radiated power (ERP), whichever is greater, and P_{th} is defined in Formula KDB 447498 (B.2). When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.088	0.286
		2.4G WLAN	0.198	
	Body	GSM	0.493	0.600
		2.4G WLAN	0.107	
GSM + Bluetooth	Head	GSM	0.088	0.196
		Bluetooth	0.108	
	Body	GSM	0.493	0.632
		Bluetooth	0.139	
GSM + 5G WLAN	Head	GSM	0.088	0.800
		5G WLAN	0.712	
	Body	GSM	0.493	0.844
		5G WLAN	0.351	
WCDMA + 2.4G WLAN	Head	WCDMA	0.194	0.392
		2.4G WLAN	0.198	
	Body	WCDMA	0.997	1.104
		2.4G WLAN	0.107	
WCDMA + Bluetooth	Head	WCDMA	0.194	0.302
		Bluetooth	0.108	
	Body	WCDMA	0.997	1.136
		Bluetooth	0.139	
WCDMA + 5G WLAN	Head	WCDMA	0.194	0.906
		5G WLAN	0.712	
	Body	WCDMA	0.997	1.348
		5G WLAN	0.351	
LTE + 2.4G WLAN	Head	LTE	0.208	0.406
		2.4G WLAN	0.198	
	Body	LTE	0.891	0.998
		2.4G WLAN	0.107	
LTE + Bluetooth	Head	LTE	0.208	0.316
		Bluetooth	0.108	
	Body	LTE	0.891	1.030
		Bluetooth	0.139	
LTE + 5G WLAN	Head	LTE	0.208	0.920
		5G WLAN	0.712	
	Body	LTE	0.891	1.242
		5G WLAN	0.351	

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
835MHz Dipole	MVG	DIP0G835	SN 06/22 DIP0G835-639	2022.02.11	2025.02.10
1800MHz Dipole	MVG	DIP1G800	SN 06/22 DIP1G800-640	2022.02.11	2025.02.10
1900MHz Dipole	MVG	DIP1G900	SN 06/22 DIP1G900-641	2022.02.11	2025.02.10
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2022.02.11	2025.02.10
2600MHz Dipole	MVG	DIP2G600	SN 06/22 DIP2G600-646	2022.02.11	2025.02.10
5000MHz Dipole	MVG	DIP5G000	SN 06/22 DIP5G000-653	2022.02.11	2025.02.10
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2023.02.10	2024.02.09
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2023.02.10	2024.02.09
Antenna	MVG	ANTA 73	SN 06/22 ANTA 73	N/A	N/A
Ellipsoid Phantom	MVG	ELLI 51	SN 06/22 ELLI 51	N/A	N/A
Phantom	MVG	SAM 148	SN 06/22 SAM148	N/A	N/A
Phone holder	MVG	MSH 117	SN 06/22 MSH 117	N/A	N/A
Laptop holder	MVG	LSH 36	SN 06/22 LSH 38	N/A	N/A
Directional coupler	SHW	SHWDCP	202203280013	N/A	N/A
Network Analyzer	Agilent	E5071C	MY46418070	2023.03.27	2024.03.26
Multi Meter	Keithley	DMM6500	DMM6500	2022.05.05	2023.05.04
Signal Generator	Keithley	N5182B	MY59100717	2022.04.29	2023.04.28
Wireless Communication Test Set	R&S	CMW500	137737	2022.04.29	2023.04.28
Power Sensor	R&S	Z11	116184	2023.03.27	2024.03.26
Temperature hygrometer	N/A	ST-W2318	N/A	2022.05.05	2023.05.04
Thermograph	N/A	TP101	N/A	2022.05.05	2023.05.04



Appendix A. System Validation Plots

System Performance Check Data (835MHz)

Type: Phone measurement (Complete)

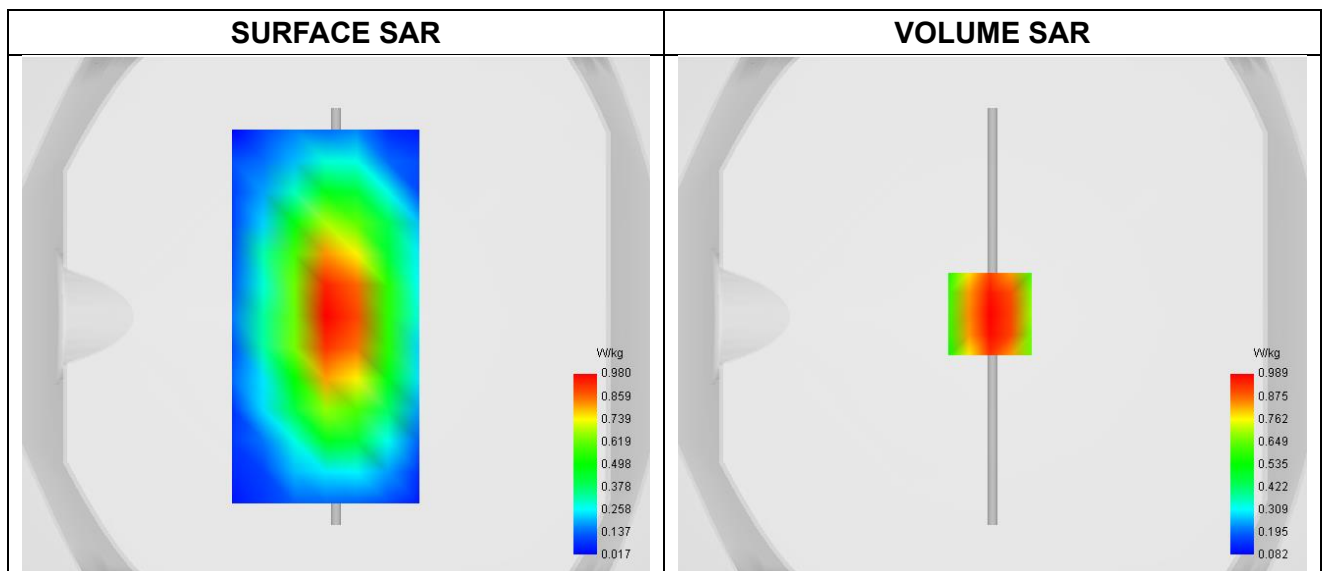
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2023-04-02

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW
Frequency (MHz)	835.000
Relative permittivity	41.07
Conductivity (S/m)	0.92
Probe	SN 04/22 EPGO364
ConvF	1.72
Crest factor:	1:1

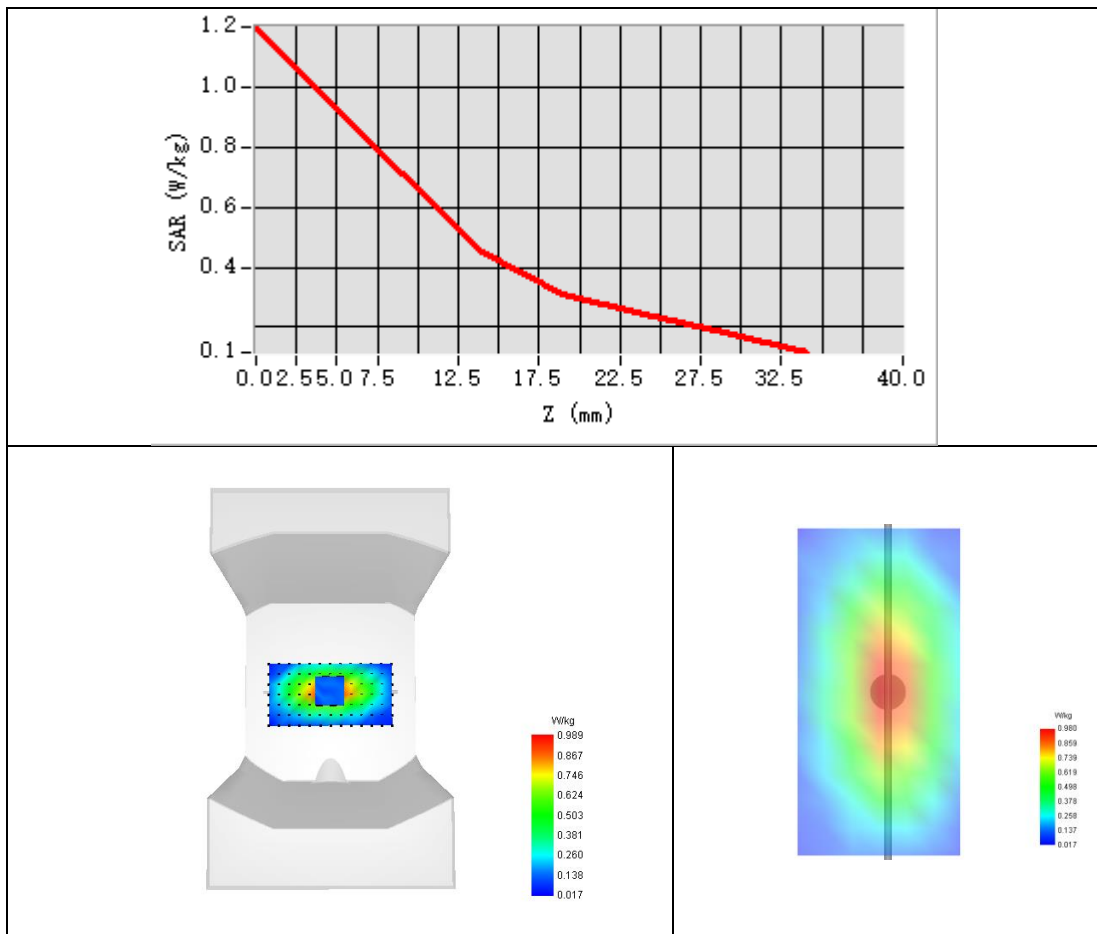


Maximum location: X=1.00, Y=1.00 ; SAR Peak: 1.38 W/kg

SAR 10g (W/Kg)	0.598
SAR 1g (W/Kg)	0.951



Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

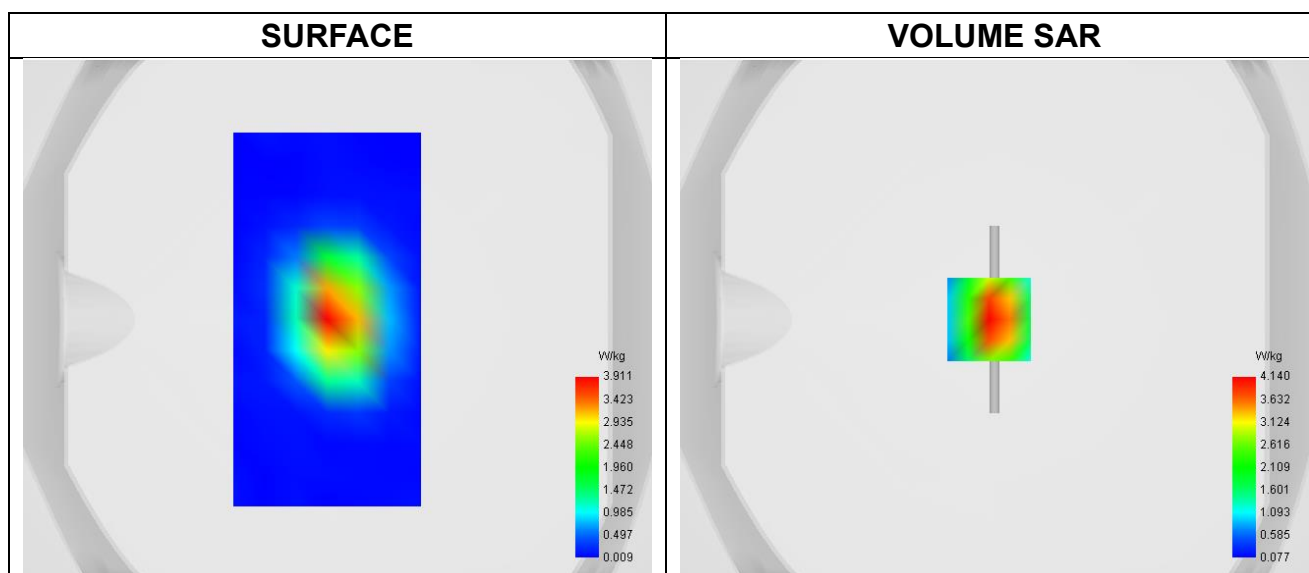
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-04-04

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW
Frequency (MHz)	1800.000
Relative permittivity	40.27
Conductivity (S/m)	1.44
Probe	SN 04/22 EPGO364
ConvF	2.00
Crest factor:	1:1

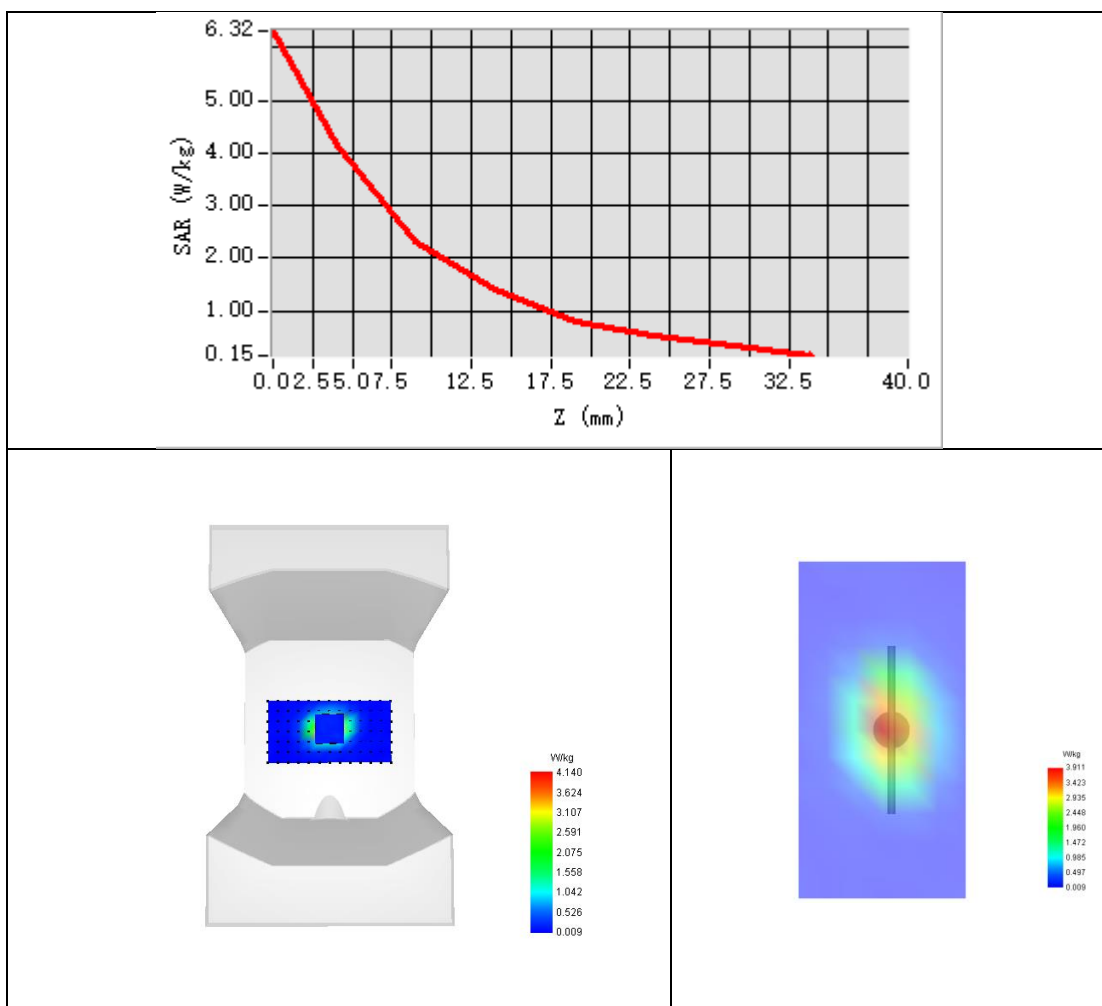


Maximum location: X=2.00, Y=0.00 ; SAR Peak: 6.54 W/kg

SAR 10g (W/Kg)	2.054
SAR 1g (W/Kg)	3.923



Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

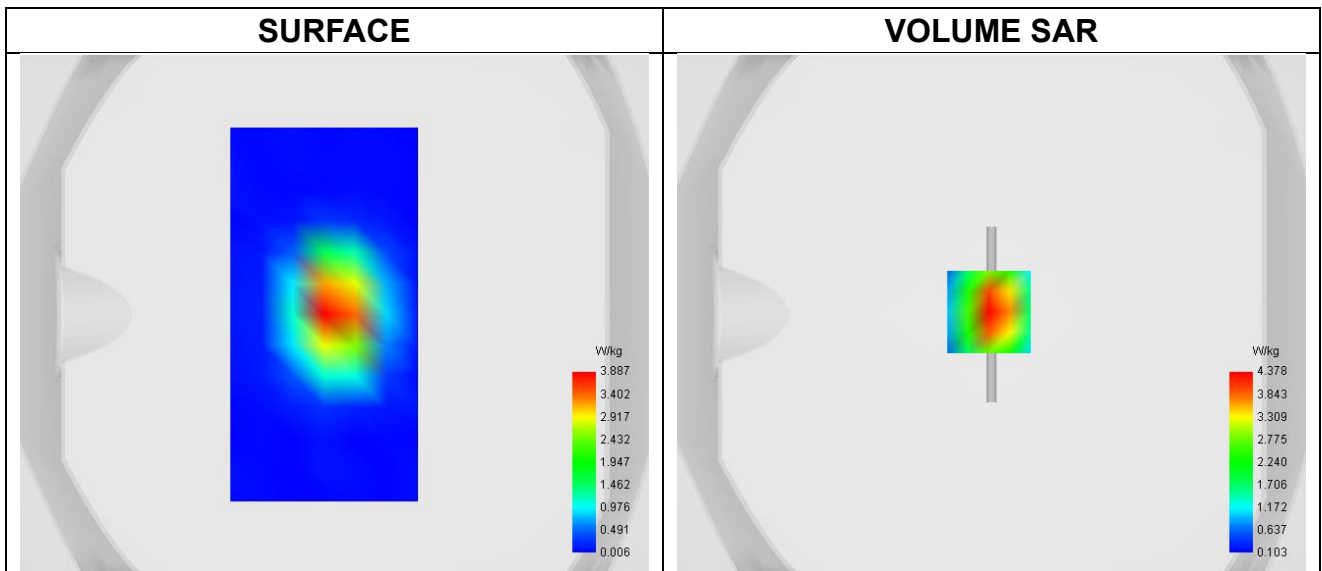
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-04-09

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW
Frequency (MHz)	1900.000
Relative permittivity	40.47
Conductivity (S/m)	1.41
Probe	SN 04/22 EPGO364
ConvF	2.25
Crest factor:	1:1

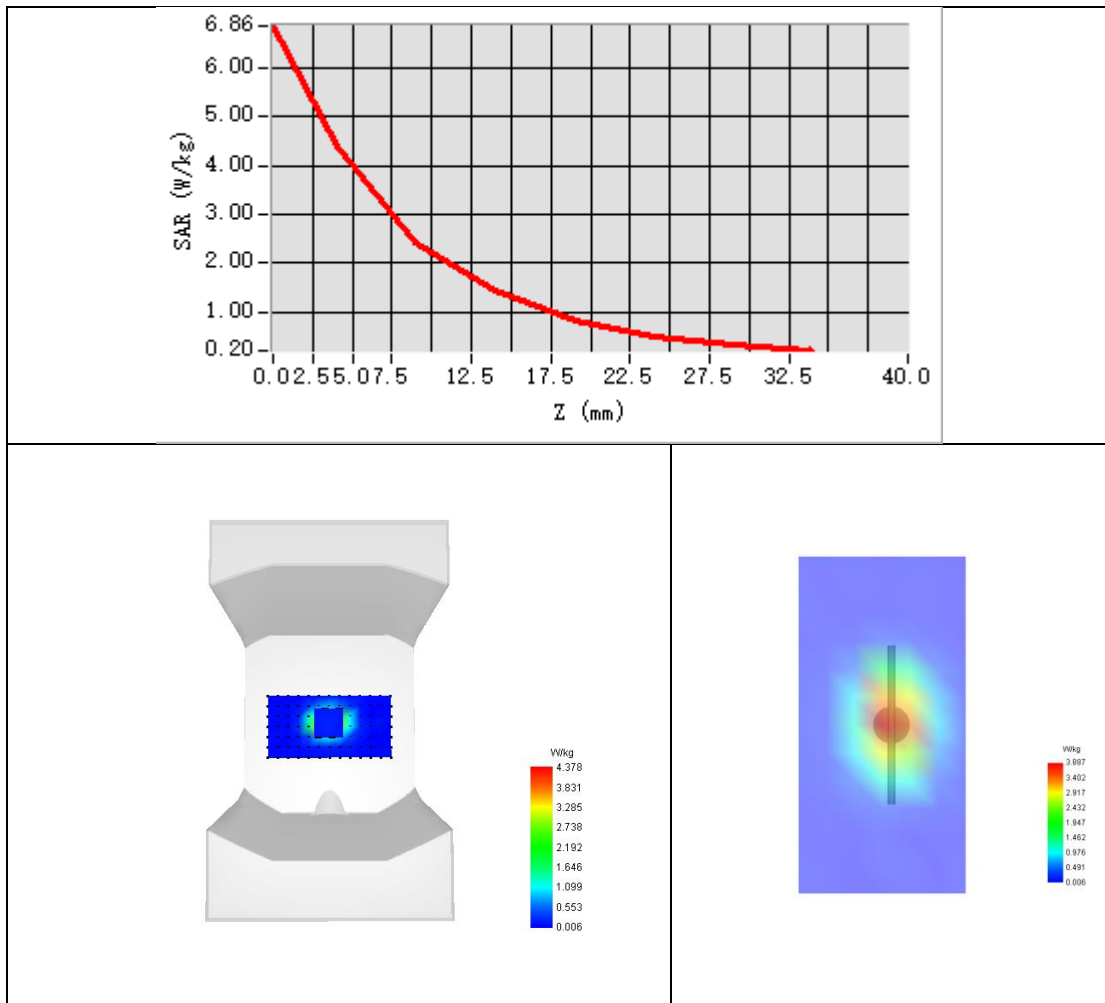


Maximum location: X=1.00, Y=1.00 ; SAR Peak: 7.00 W/kg

SAR 10g (W/Kg)	2.096
SAR 1g (W/Kg)	4.079



Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

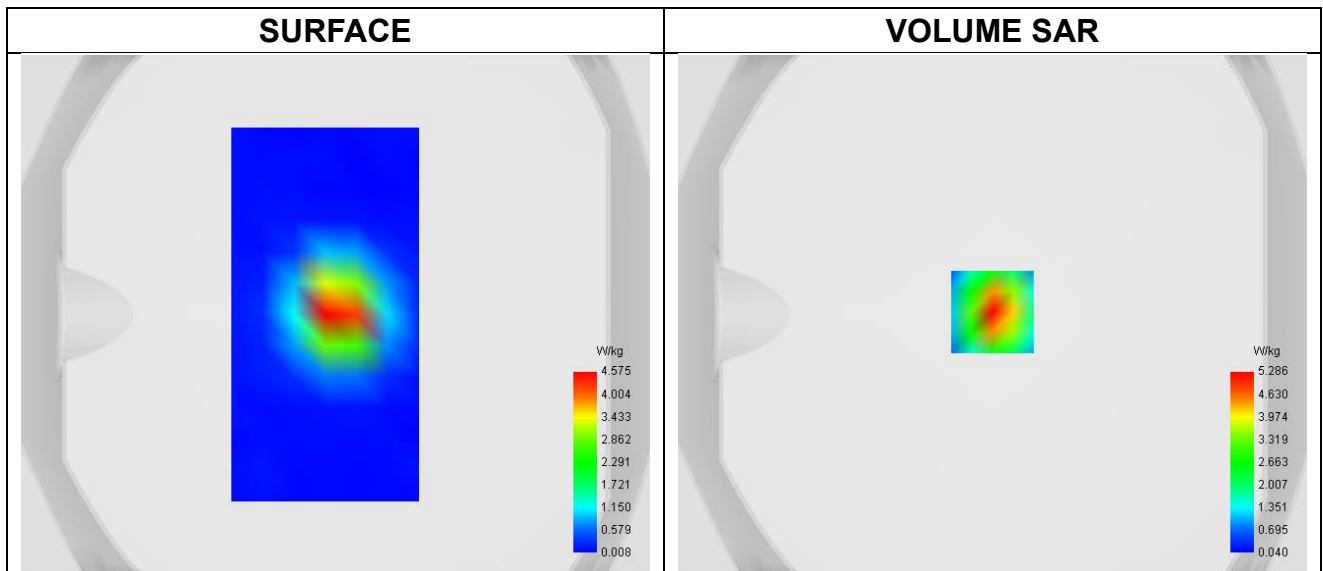
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-04-10

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.57
Conductivity (S/m)	1.86
Probe	SN 04/22 EPGO364
ConvF	2.33
Crest factor:	1:1

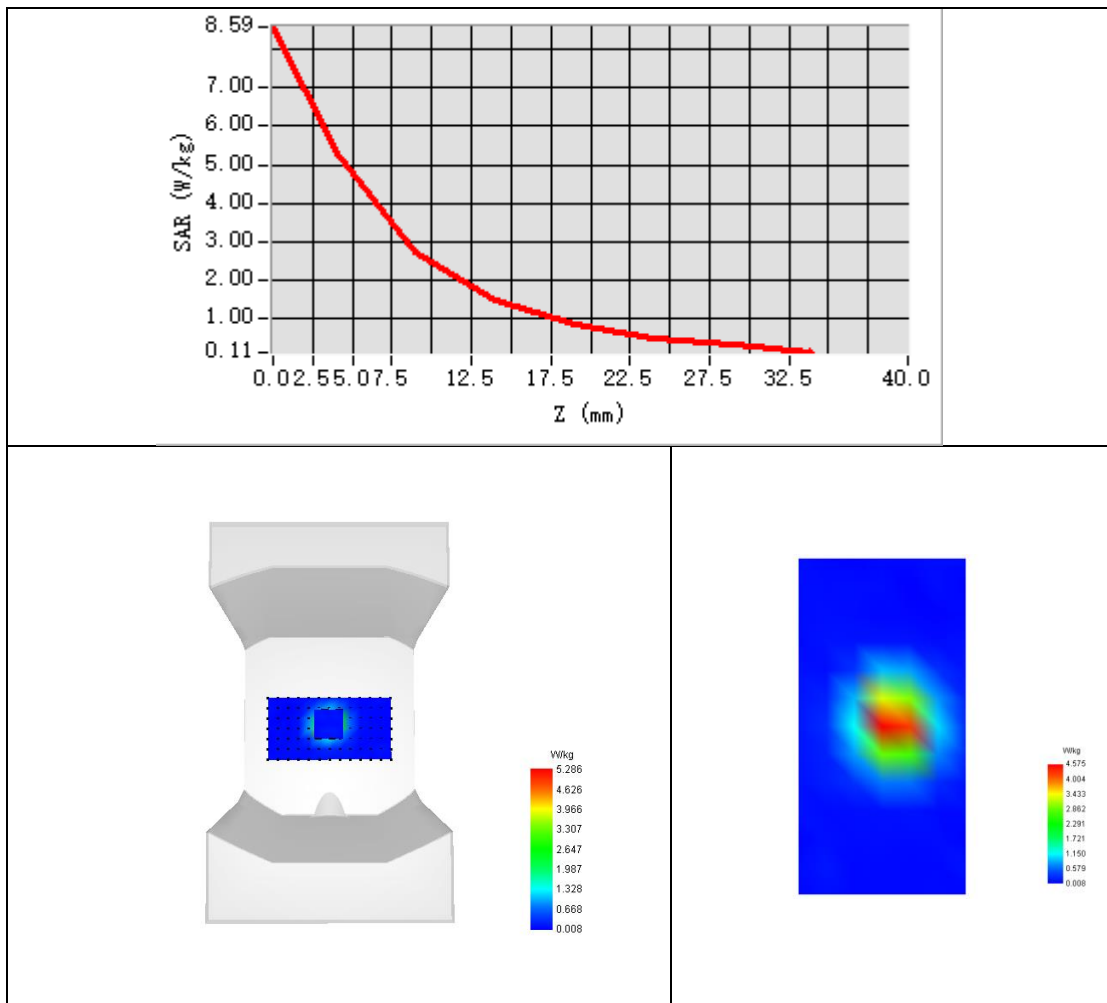


Maximum location: X=0.00, Y=1.00 ; SAR Peak: 8.59 W/kg

SAR 10g (W/Kg)	2.378
SAR 1g (W/Kg)	5.160



Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

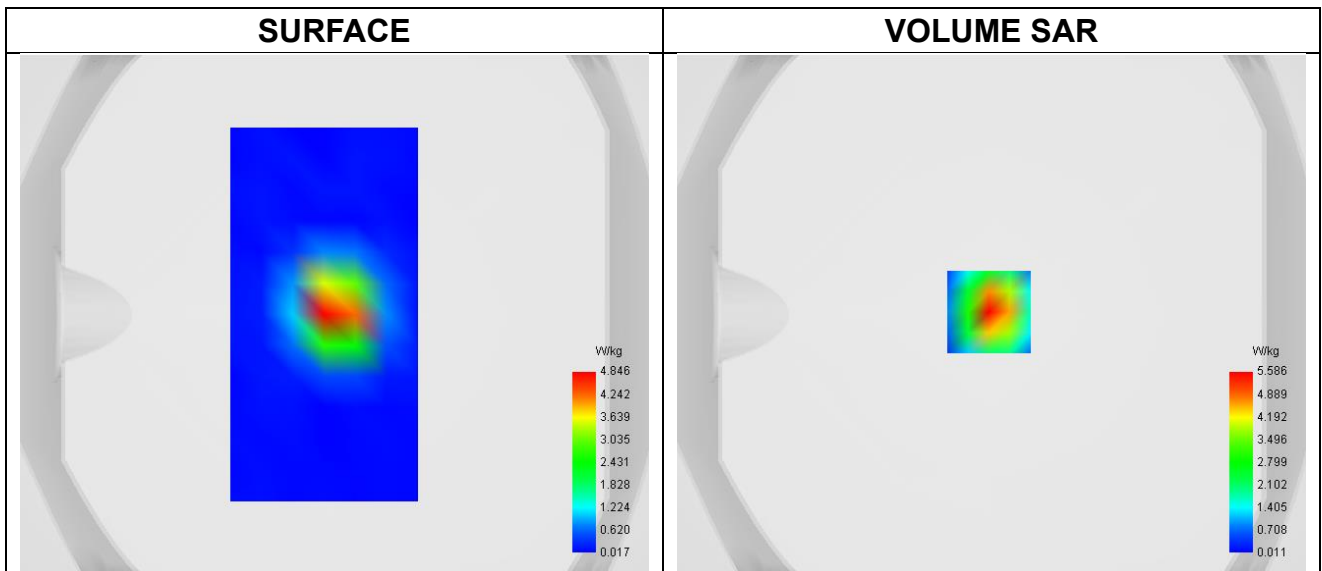
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-04-11

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW
Frequency (MHz)	2600.000
Relative permittivity	39.12
Conductivity (S/m)	1.99
Probe	SN 04/22 EPGO364
ConvF	2.36
Crest factor:	1:1

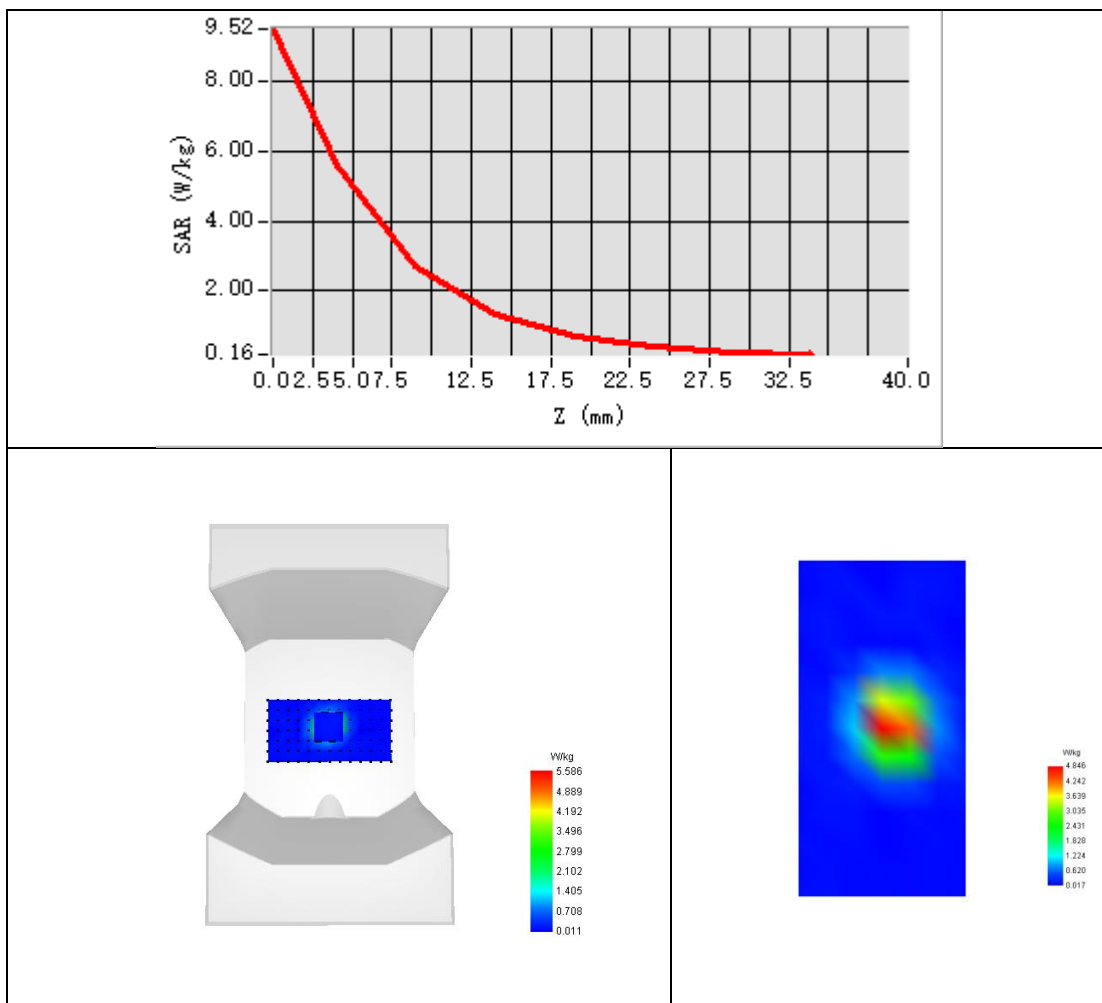


Maximum location: X=1.00, Y=1.00 ; SAR Peak: 9.69 W/kg

SAR 10g (W/Kg)	2.438
SAR 1g (W/Kg)	5.351



Z Axis Scan





System Performance Check Data (5200MHz)

Type: Phone measurement (Complete)

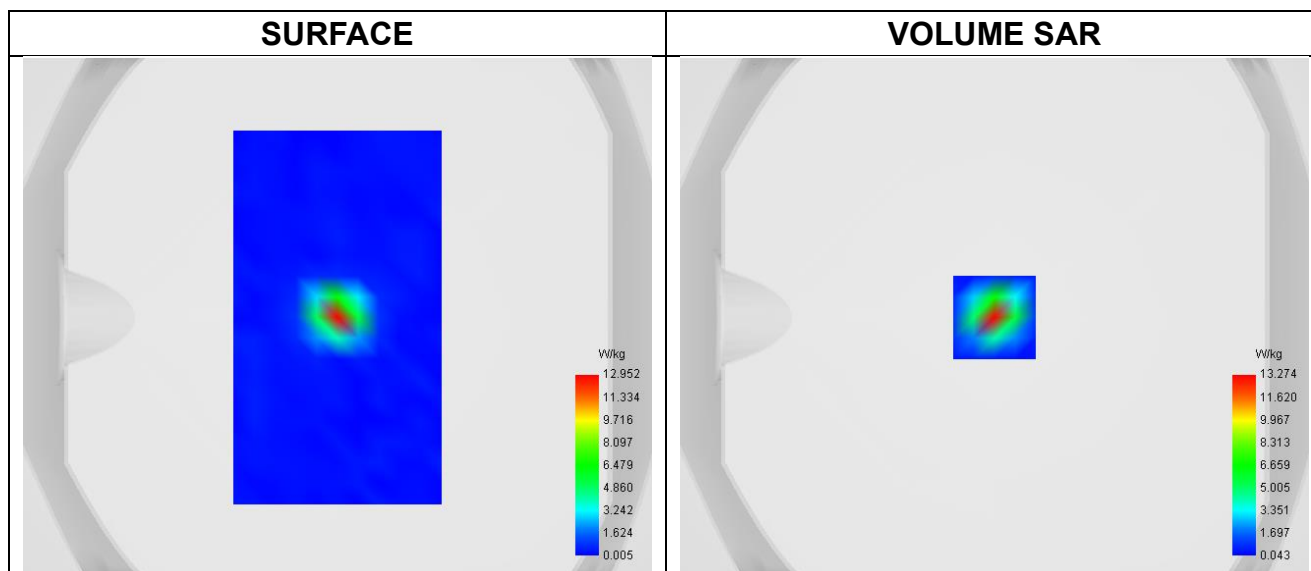
Area scan resolution: dx=8mm, dy=8mm

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

Date of measurement:2023-04-13

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW
Frequency (MHz)	5200.000
Relative permittivity	36.79
Conductivity (S/m)	4.59
Probe	SN 04/22 EPGO364
ConvF	1.91
Crest factor:	1:1



Maximum location: X=0.00, Y=0.00 ; SAR Peak: 21.30 W/kg

SAR 10g (W/Kg)	2.215
SAR 1g (W/Kg)	7.570