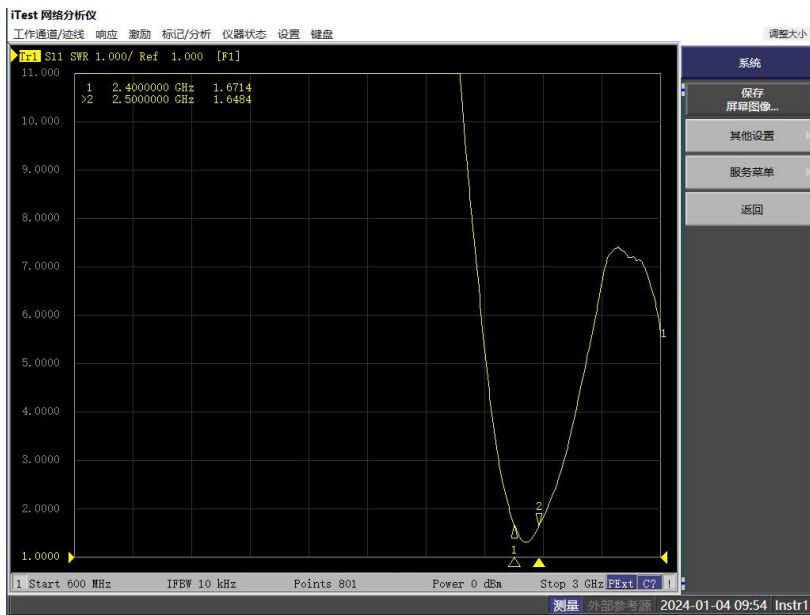
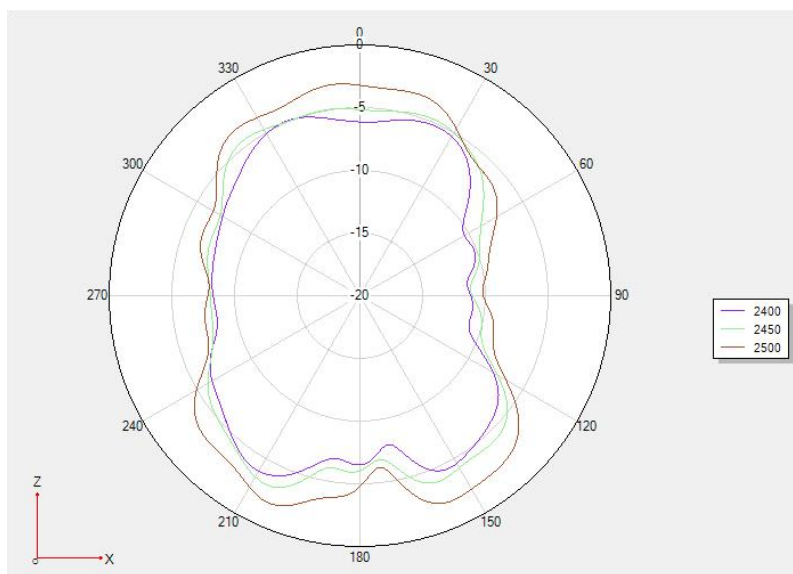


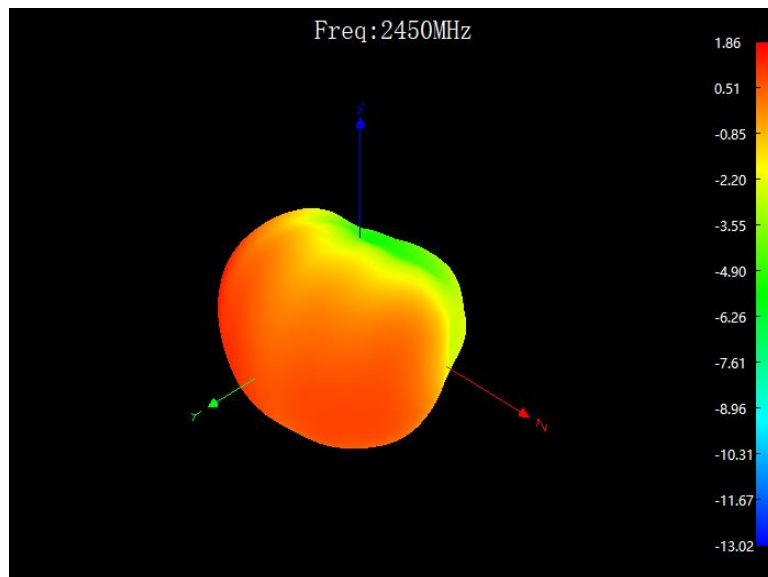
BLE antenna	
standing-wave ratio	<2
Polarization mode	circular polarized
Antenna gain	AVG1.5/MAX 1.99
Ports Impedance	50 Ω
Antenna efficiency	55%-65%



BLE antenna standing wave



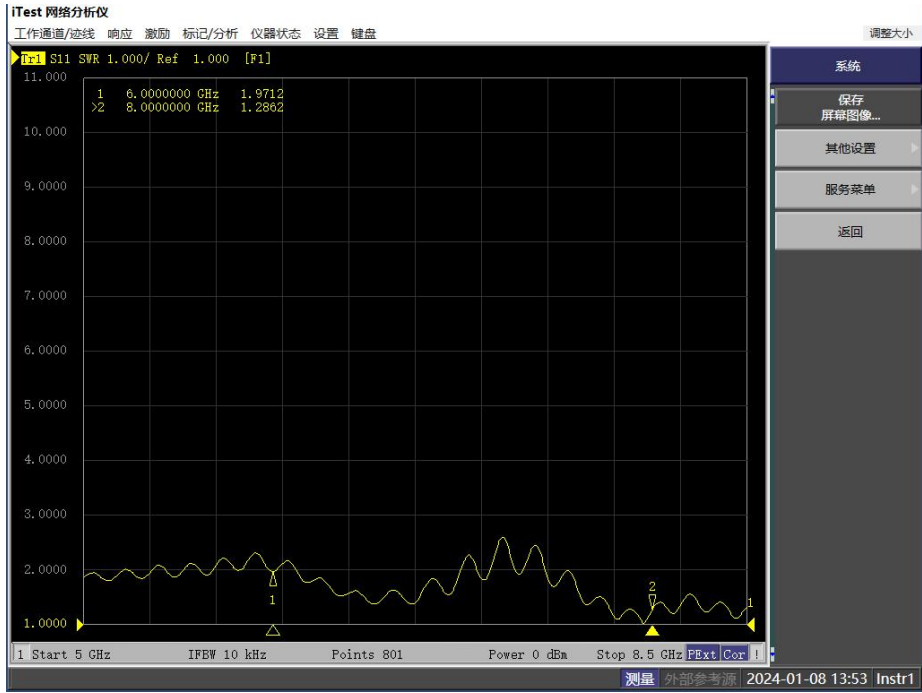
BLE 2D



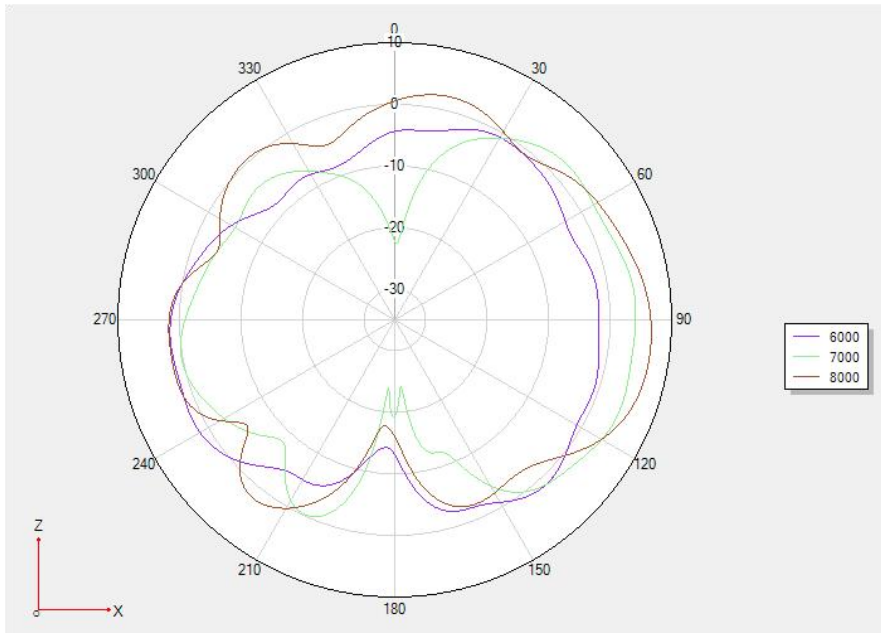
BLE 3D

Frequency/Mhz	Efficiency / dB	Efficiency / %	MaxGain/dBi
2400	-2.6	54.95	0.99
2405	-2.52	55.98	0.78
2410	-2.41	57.41	0.82
2415	-2.42	57.28	1.45
2420	-2.54	55.72	0.83
2425	-2.44	57.02	1.22
2430	-2.29	59.02	1.72
2435	-2.5	56.23	0.93
2440	-2.5	56.23	1.71
2445	-2.31	58.75	1.81
2450	-2.44	57.02	1.32
2455	-2.42	57.28	1.99
2460	-2.55	55.59	1.38
2465	-2.72	53.46	1.46
2470	-2.48	56.49	1.97
2475	-2.74	53.21	1.27
2480	-2.92	51.05	1.55
2485	-2.7	53.7	2
2490	-2.92	51.05	1.19
2495	-2.98	50.35	1.52
2500	-3.06	49.43	1.6

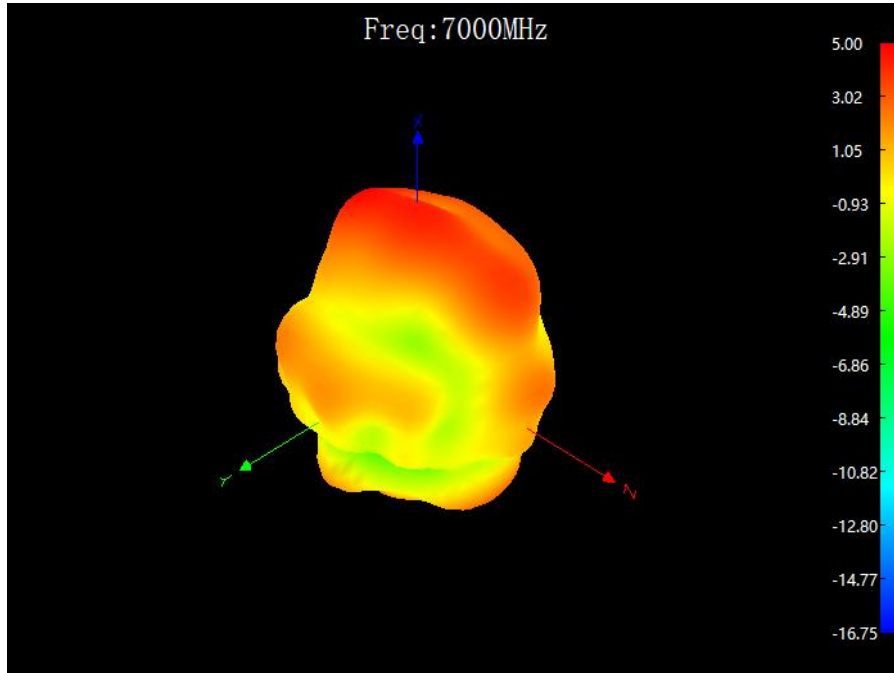
UWB Antenna	
standing-wave ratio	<2
Polarization mode	circular polarized
Gain	Max 6.33
Ports Impedance	50 Ω
Antenna efficiency	60%-65%



UWB antenna standing wave



UWB 2D



UWB 3D

Frequency/Mhz	Efficiency / dB	Efficiency / %	MaxGain/dBi
6000	-3.48	44.87	4.29
6020	-3.45	45.19	4.34
6040	-3.47	44.98	4.5
6060	-3.5	44.67	4.35
6080	-3.51	44.57	4.44
6100	-3.46	45.08	4.19
6120	-2.91	51.17	4.35
6140	-2.81	52.36	4.47
6160	-2.96	50.58	4.43
6180	-2.92	51.05	4.41
6200	-2.48	56.49	4.2
6220	-2.53	55.85	4.17
6240	-2.37	57.94	4.33
6260	-2.27	59.29	4.55
6280	-1.97	63.53	5.09
6300	-1.79	66.22	5.17
6320	-1.64	68.55	5.54
6340	-1.75	66.83	5.14
6360	-2	63.1	5.29
6380	-2.08	61.94	5.18
6400	-2.29	59.02	5.38
6420	-2.38	57.81	5.01
6440	-2.33	58.48	5.26

6460	-2.17	60.67	5.47
6480	-1.84	65.46	5.81
6500	-1.83	65.61	5.87
6520	-1.66	68.23	6.16
6540	-1.82	65.77	6.04
6560	-1.9	64.57	6.33
6580	-2.39	57.68	5.69
6600	-2.63	54.58	6.1
6620	-2.89	51.4	5.41
6640	-3.05	49.55	5.68
6660	-3.05	49.55	5.18
6680	-3.15	48.42	5.34
6700	-3.28	46.99	4.71
6720	-3.17	48.19	4.71
6740	-3.21	47.75	4.51
6760	-3.36	46.13	4.17
6780	-3.51	44.57	3.84
6800	-3.67	42.95	3.57
6820	-3.81	41.59	3.48
6840	-4.03	39.54	3.44
6860	-3.85	41.21	3.58
6880	-3.91	40.64	3.5
6900	-3.51	44.57	3.66
6920	-3.23	47.53	3.97
6940	-2.83	52.12	4.25
6960	-2.49	56.36	4.37
6980	-2.26	59.43	4.24
7000	-2.17	60.67	3.94
7020	-2.16	60.81	3.74
7040	-2.32	58.61	3.27
7060	-2.32	58.61	3.11
7080	-2.27	59.29	3.02
7100	-1.79	66.22	3.4
7120	-1.76	66.68	3.43
7140	-1.55	69.98	3.54
7160	-1.38	72.78	3.69
7180	-1.53	70.31	3.52
7200	-1.54	70.15	3.57
7220	-1.78	66.37	3.25
7240	-1.78	66.37	3.22
7260	-1.96	63.68	3.16

7280	-1.9	64.57	3.18
7300	-1.95	63.83	3.31
7320	-2.08	61.94	3.11
7340	-2.07	62.09	2.93
7360	-2.45	56.89	2.33
7380	-2.82	52.24	1.84
7400	-3.13	48.64	1.35
7420	-3.52	44.46	0.85
7440	-3.63	43.35	0.55
7460	-3.73	42.36	0.29
7480	-3.76	42.07	-0.06
7500	-3.78	41.88	0.15
7520	-3.78	41.88	0.08
7540	-4.01	39.72	0.39
7560	-4.63	34.43	-0.06
7580	-4.89	32.43	0.2
7600	-5.59	27.61	-0.24
7620	-5.91	25.64	-0.08
7640	-6.02	25	0.11
7660	-6.03	24.95	0.39
7680	-5.75	26.61	0.73
7700	-5.54	27.93	1.04
7720	-5.11	30.83	1.48
7740	-5.05	31.26	1.66
7760	-4.92	32.21	1.67
7780	-5.11	30.83	1.56
7800	-5.24	29.92	1.37
7820	-5.22	30.06	1.53
7840	-5.12	30.76	1.67
7860	-4.63	34.43	2.14
7880	-4.02	39.63	2.82
7900	-3.34	46.34	3.45
7920	-2.61	54.83	4.19
7940	-2.08	61.94	4.7
7960	-1.71	67.45	5.15
7980	-1.71	67.45	5.14
8000	-1.72	67.3	5