



深圳市云顶通讯电子有限公司

Shenzhen Yunding Communication Electronics Co.,Ltd.
2/F, No. 7 Getian Road, Zengtian Industrial Zone, Chang'an
Town, Dongguan City, Guangdong, China

Outdoor Camera Antenna Calibration Report

CAI

2025-09-25

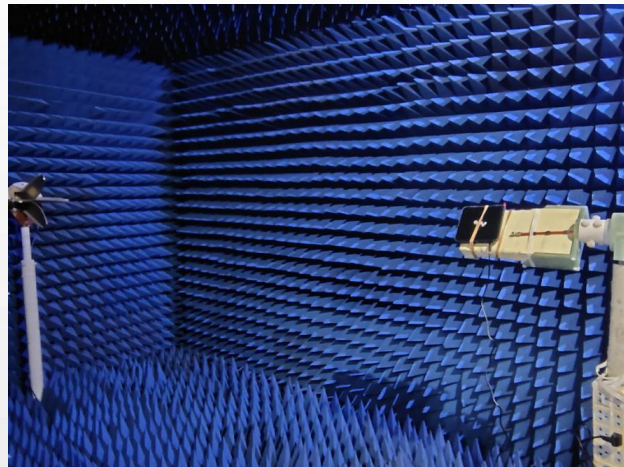




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1、testing environment





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2、 product chart

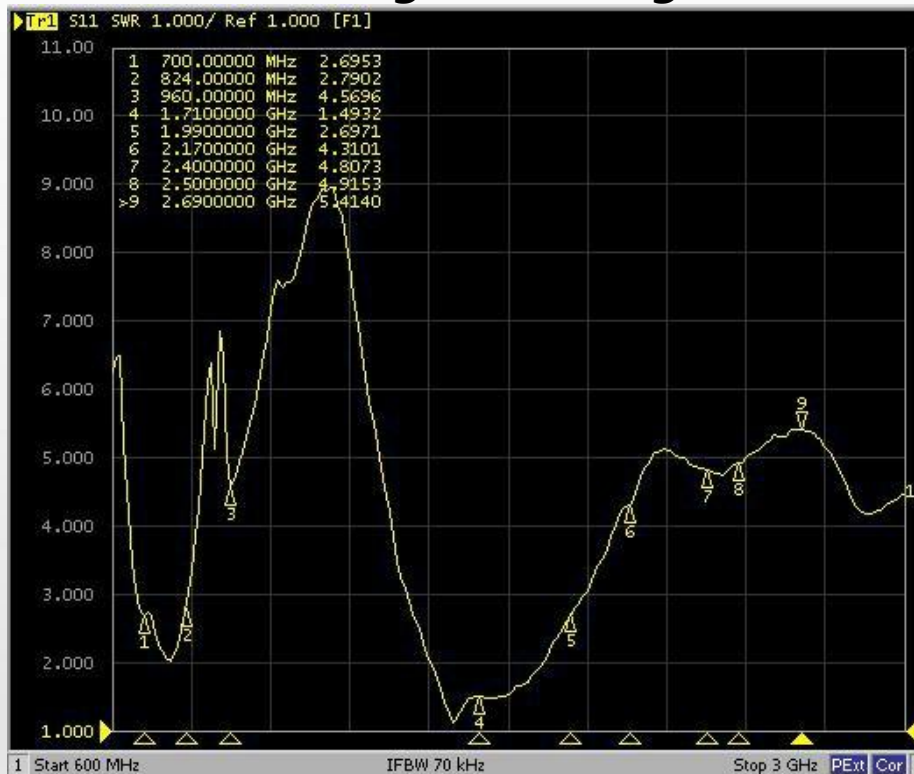




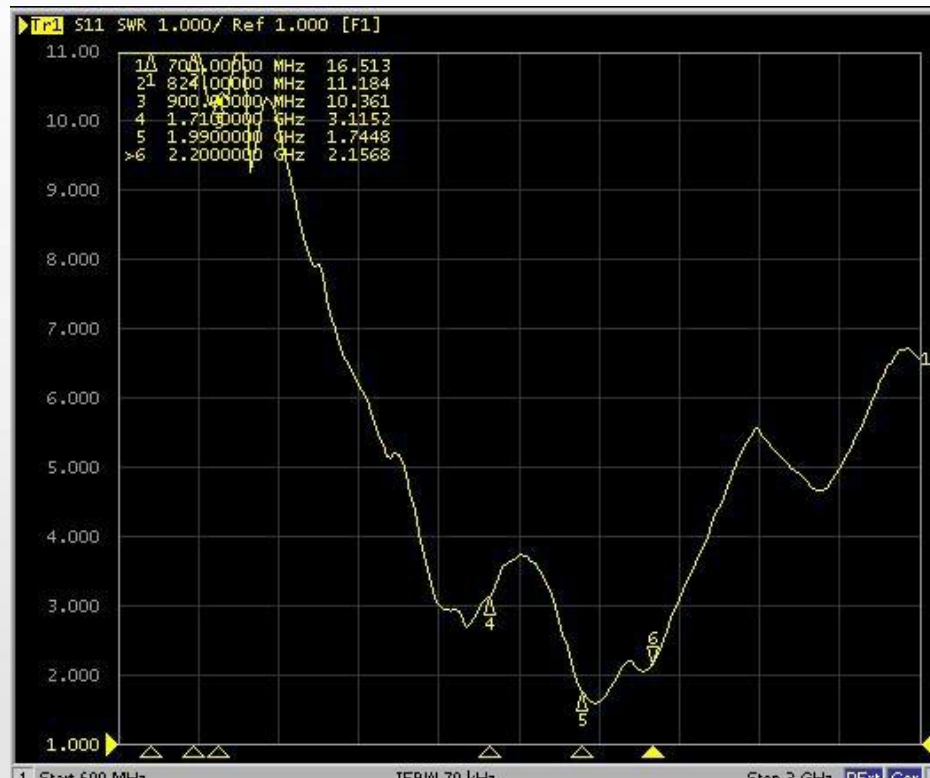
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3、Standing wave diagram



main antenna



diversity antenna

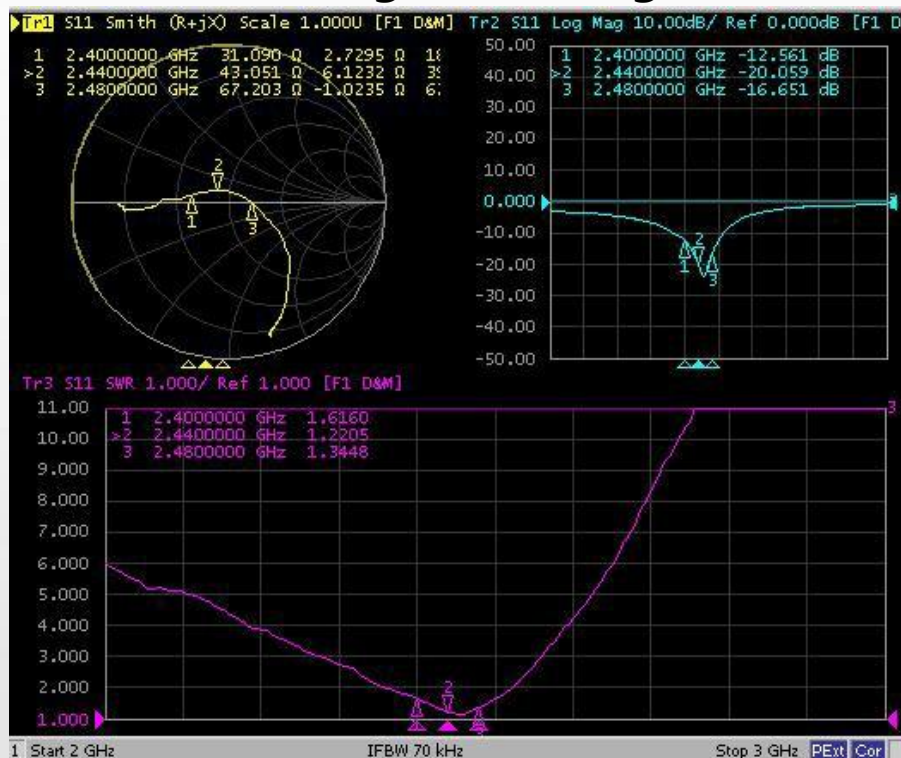




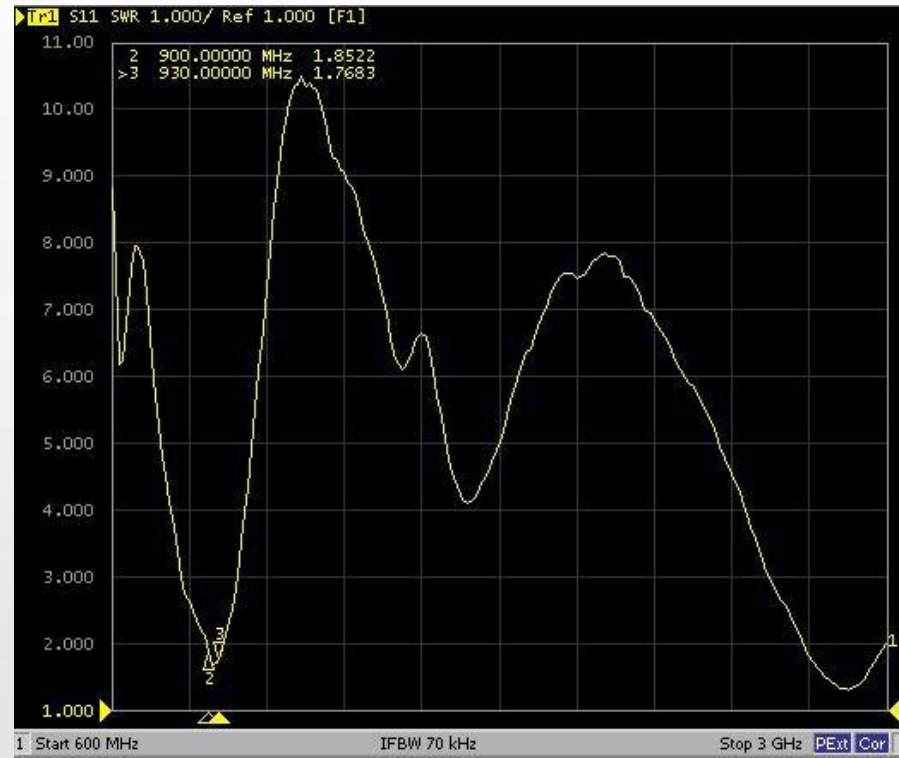
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4、Standing wave diagram



BT



Halow

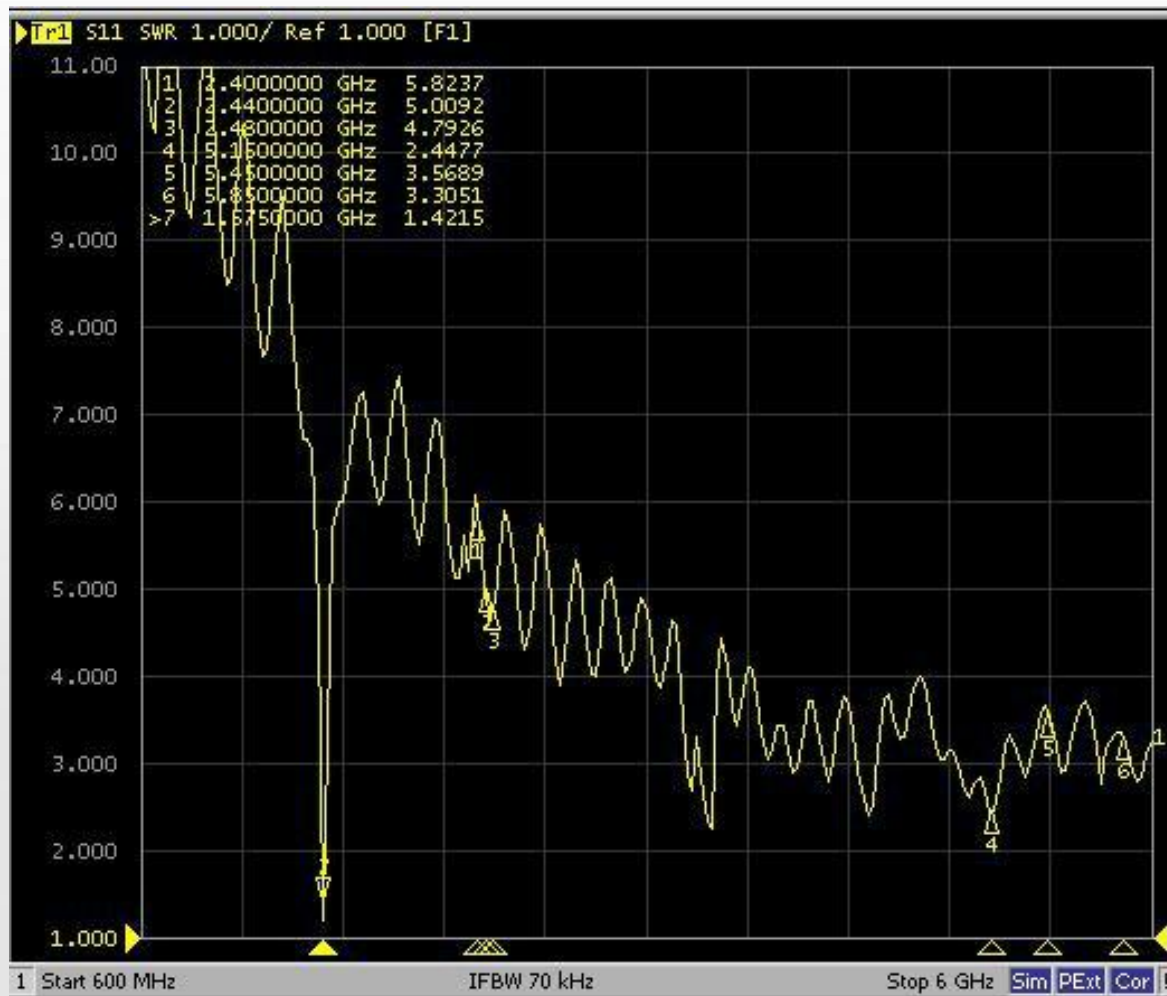




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5、GPS parameters VSWR





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6、4G Antenna Efficiency and Gain

Frequency/MHz	MaxGain/dBi	Efficiency / %
700	-0.33	34.58
720	-0.59	35.27
740	0.04	39.51
760	0.64	39.59
780	1.91	40.48
800	3.09	43.28
820	2.54	38.65
840	1.32	36.27
860	0.27	33.36
880	0.1	34.82
900	-0.59	31.01

Frequency/MHz	MaxGain/dBi	Efficiency / %
1700	-1.44	34.11
1720	-1.03	36.33
1740	-1.56	36.92
1760	-1.62	37.36
1780	-1.11	40.73
1800	-0.92	42.93
1820	-0.86	44.36
1840	-0.35	46.59
1860	-0.06	44.26
1880	0.29	44.36
1900	0.31	46.13





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7、4G Antenna Efficiency and Gain

Frequency/MHz	MaxGain/dBi	Efficiency / %
1920	0.32	46.45
1940	0.53	46.77
1960	0.84	46.77
1980	0.64	43.55
2000	-0.04	40.55
2020	-0.11	39.9
2040	-0.1	36.48
2060	-0.32	37.81
2080	-0.54	35.64
2100	-1.15	30.38
2120	-1.06	29.07

Frequency/MHz	MaxGain/dBi	Efficiency / %
2140	-1.07	28.8
2160	-1.22	30.91
2180	-1.57	28.99
2200	-2.31	28.04





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8、Diversity antenna efficiency and gain

Frequency/MHz	MaxGain/dBi	Efficiency / %
1700	1.96	31.7
1720	2.11	32.66
1740	1.98	30.06
1760	1.06	28.51
1780	0.01	28.31
1800	-0.04	29.17
1820	-0.18	30.69
1840	0.17	30.83
1860	0.78	33.27
1880	0.38	33.73
1900	0.36	35.4

Frequency/MHz	MaxGain/dBi	Efficiency / %
1920	1.41	38.9
1940	1.44	41.11
1960	1.84	43.65
1980	2.74	46.34
2000	2.97	48.98
2120	2.24	49.89
2140	2.78	50.23
2160	3.44	49.77
2180	3.56	48.75
2200	3.77	47.75

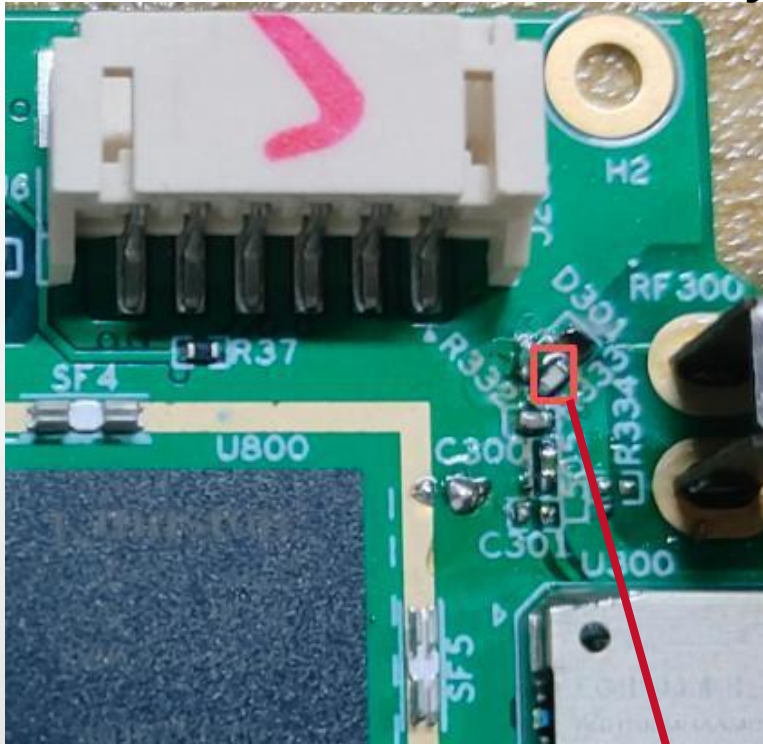




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9、Halow antenna efficiency and gain



Frequency/MHz	MaxGain/dBi	Efficiency / %
900	-1.16	21.41
905	-1.77	20.93
910	-2.89	21.37
915	-4.08	19.53
920	-4.23	18.89
925	-4.4	19.89
930	-4.55	18.26

Change this material to 22nH, while keeping the other materials unchanged.





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10、BT antenna efficiency and gain

Frequency/MHz	MaxGain/dBi	Efficiency / %
2400	2.83	42.58
2410	2.51	43.73
2420	2.83	44.17
2430	2.64	43.02
2440	2.85	42.67
2450	2.75	39.07
2460	3.02	39.31
2470	2.99	40.73
2480	3.08	39.73
2490	2.95	38.75
2500	2.92	37.5





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11, GPS ceramic antenna efficiency and gain

Frequency/MHz	MaxGain/dBi	Efficiency / %
1560	1.12	41.21
1565	1.97	51.88
1570	2.18	57.28
1575	1.62	52.84
1580	1.47	54.2
1585	1.75	58.21
1590	2.16	59.98
1595	1.99	57.02
1600	1.46	50.82
1605	0.6	41.78
1610	-0.19	34.43

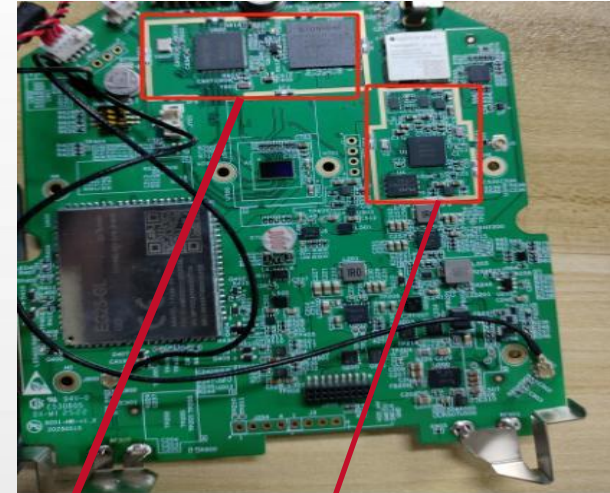
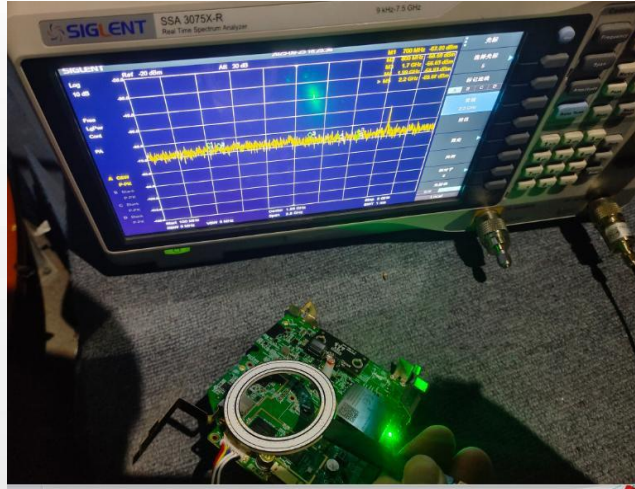




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12、Environmental treatment



By scanning with a spectrum analyzer, it was found that there is interference at these two locations. It is recommended to add shielding covers to the red areas to reduce the impact on the main antenna.

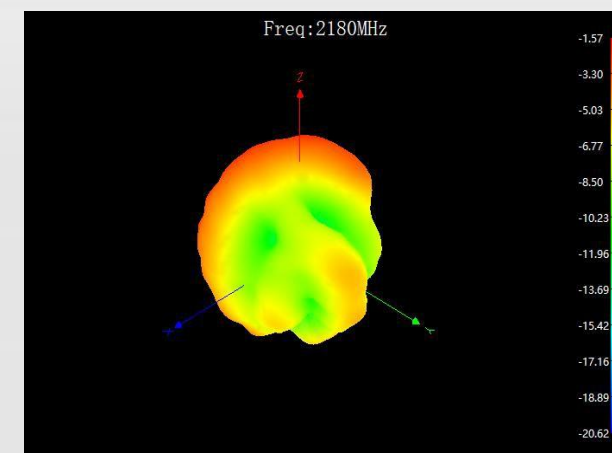
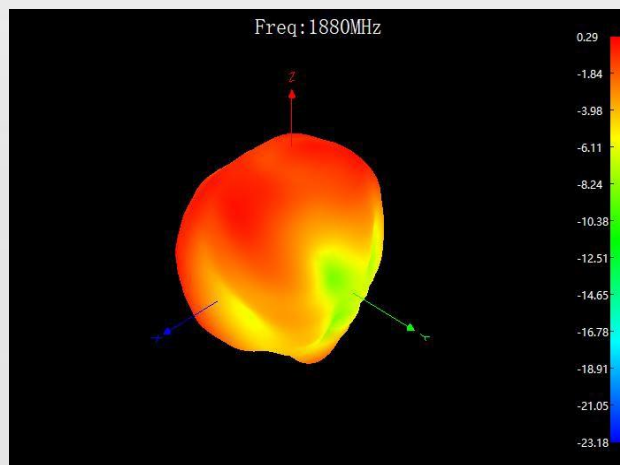
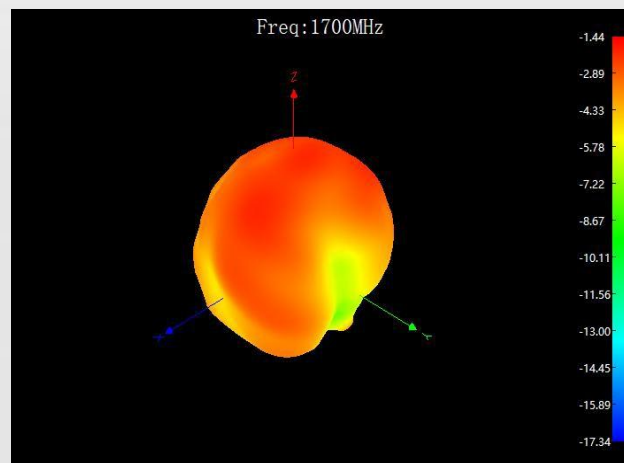
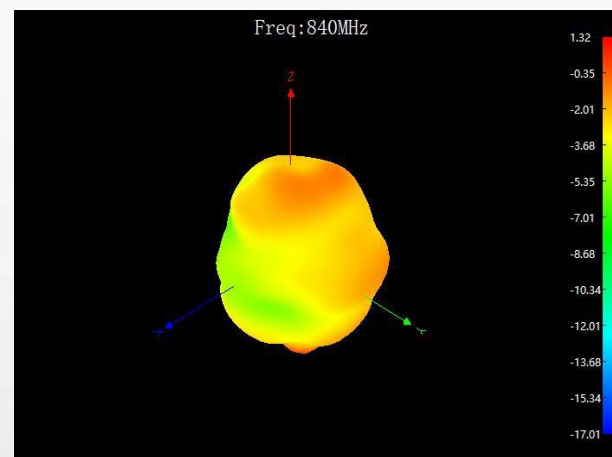
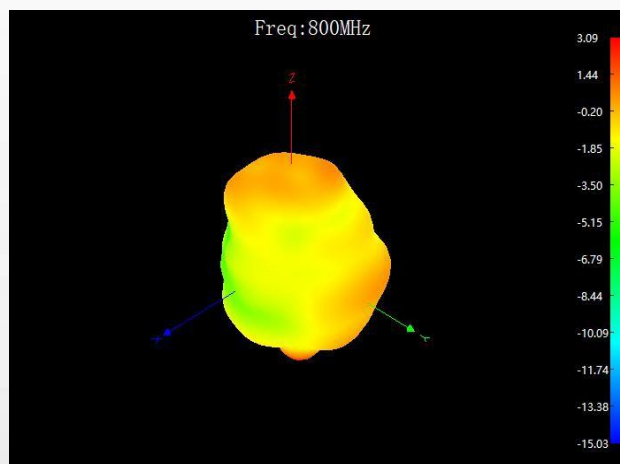
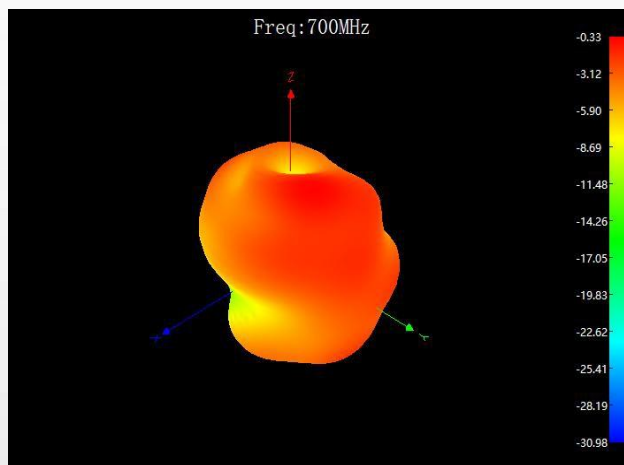




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13、3D diagram - 4G main antenna

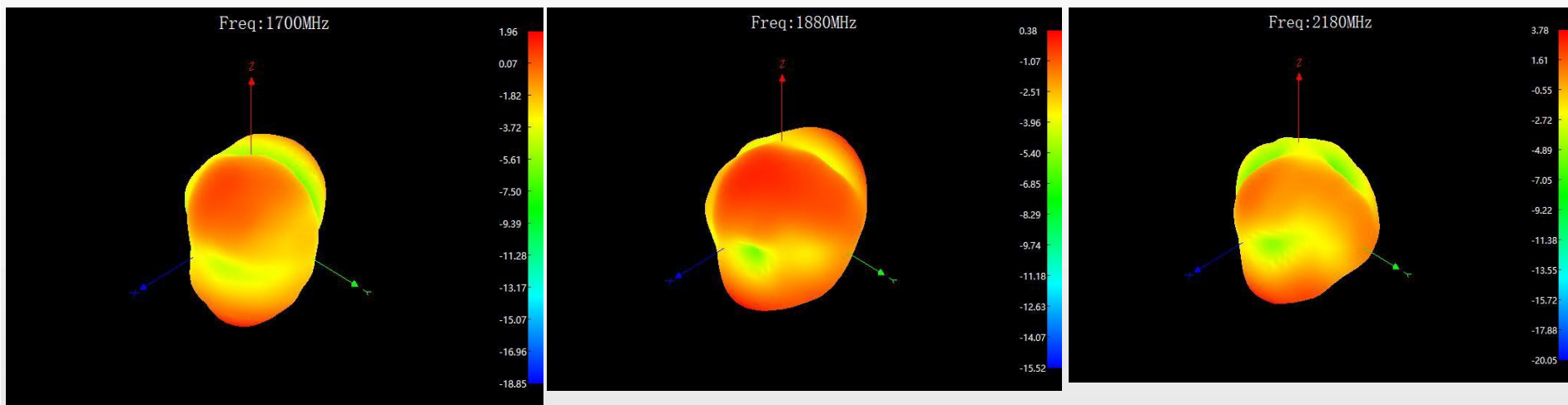




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14、3D diagram - 4G diversity antenna

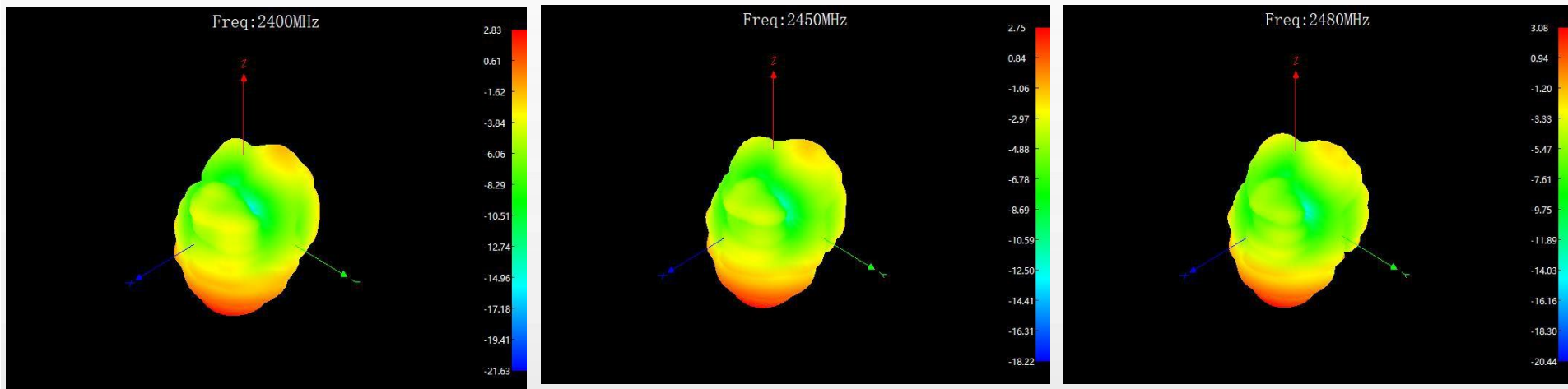




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15、3D diagram - BT

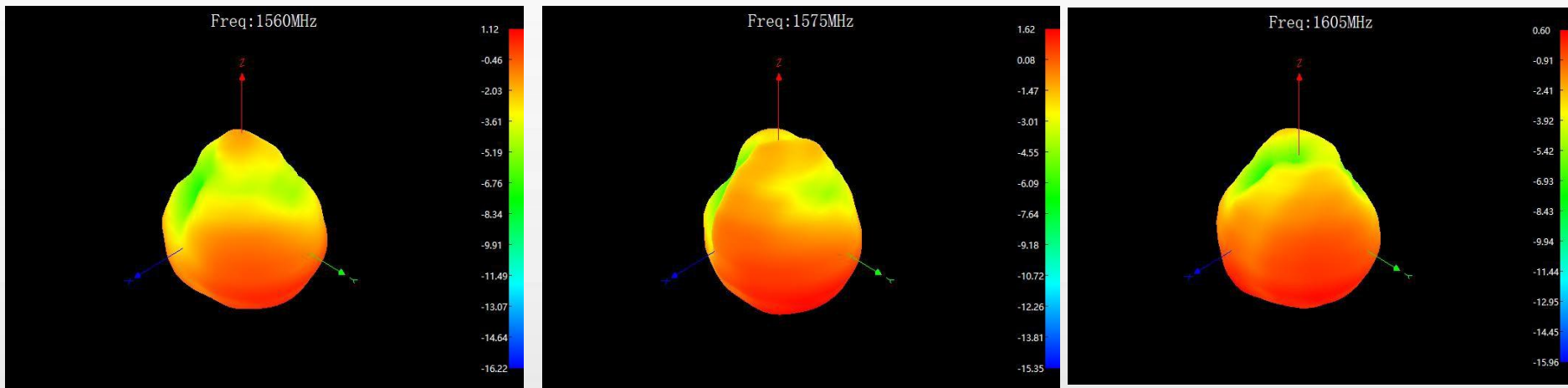




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16、3D image - GPS ceramic

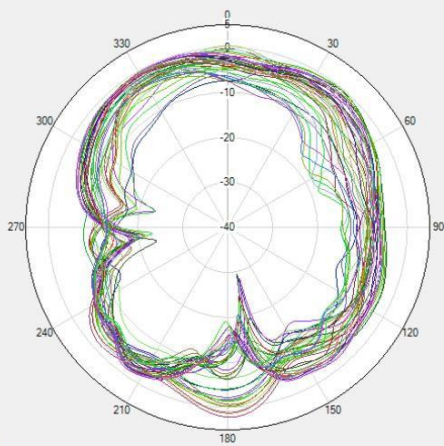




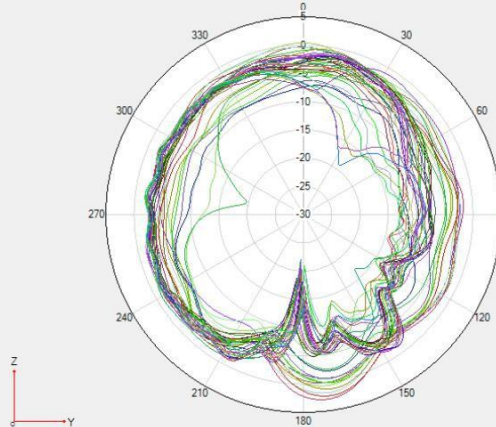
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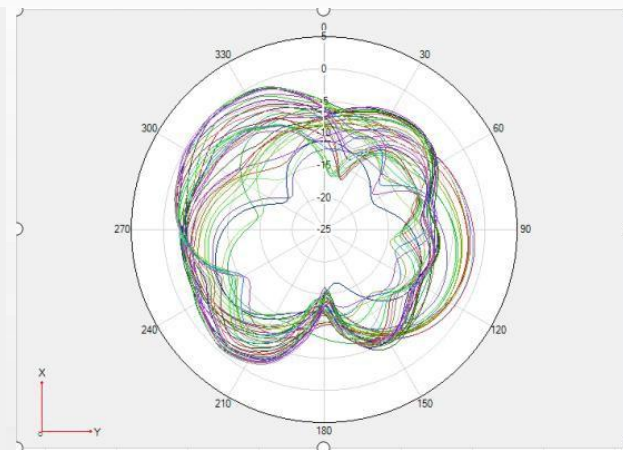
17、2D diagram - 4G main set



Phi 0° XZ



Phi 90° YZ



Theta 90° XY

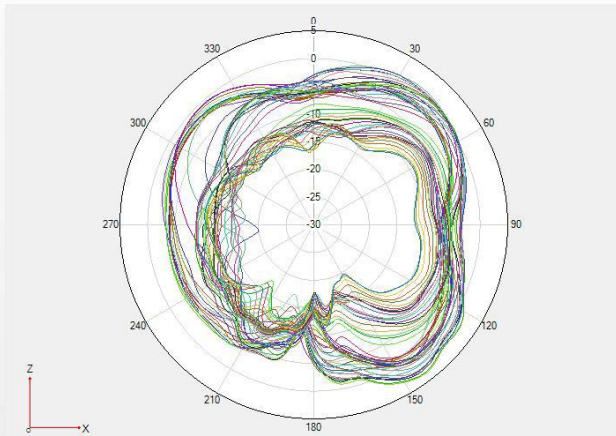




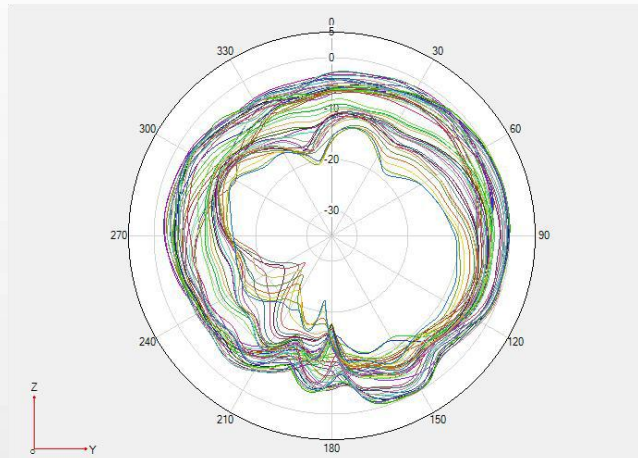
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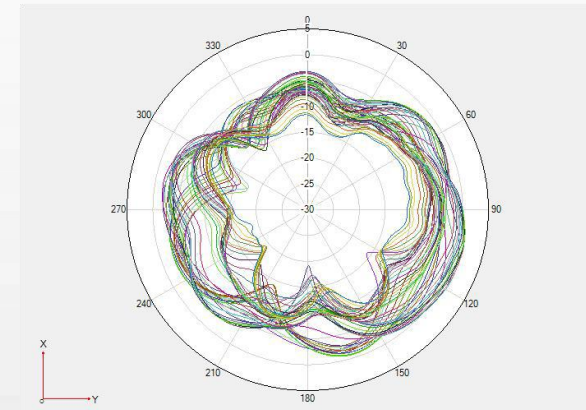
18、2D image - 4G diversity



Phi 0° XZ



Phi 90° YZ



Theta 90° XY

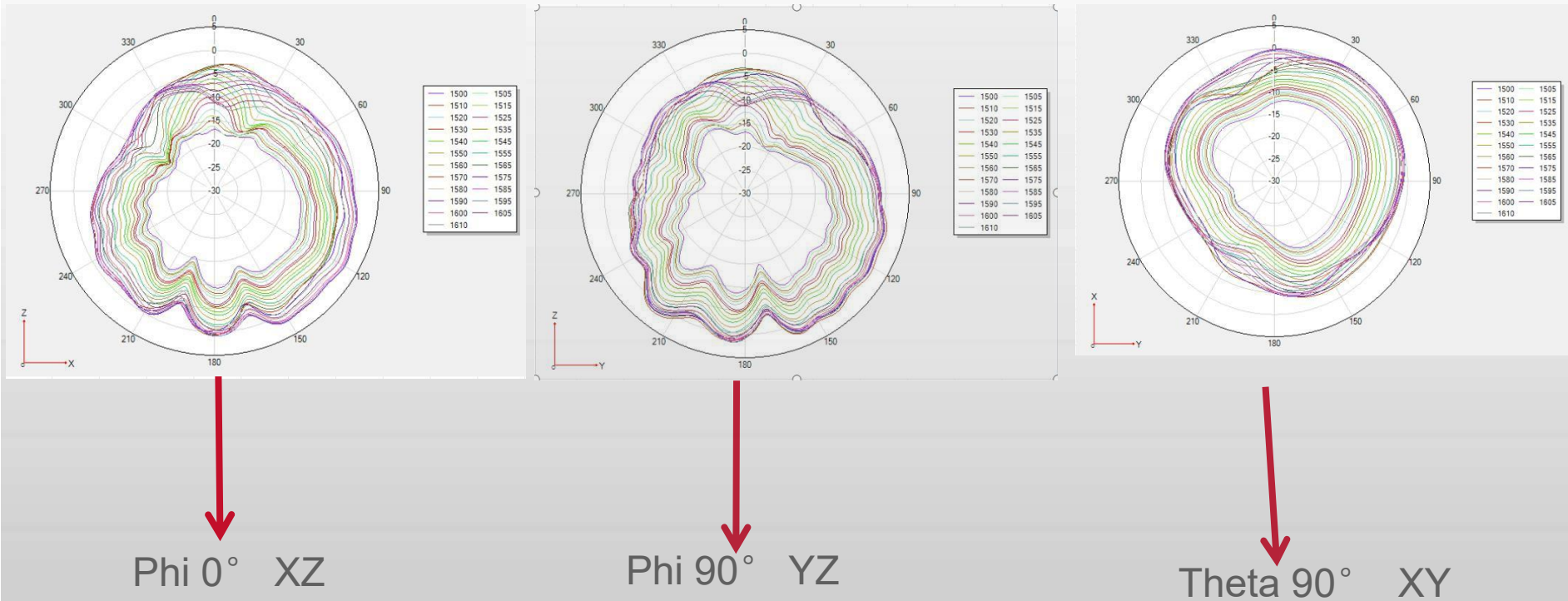




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19、2D image - GPS ceramic

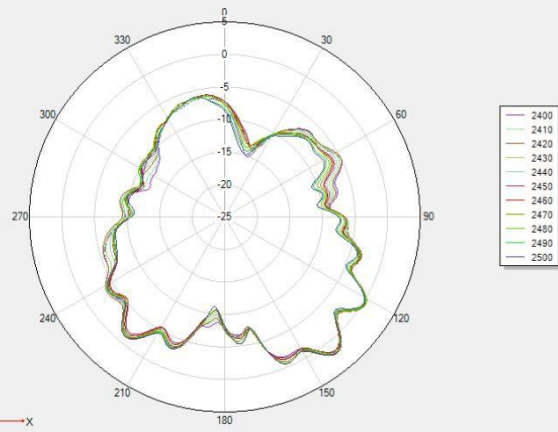




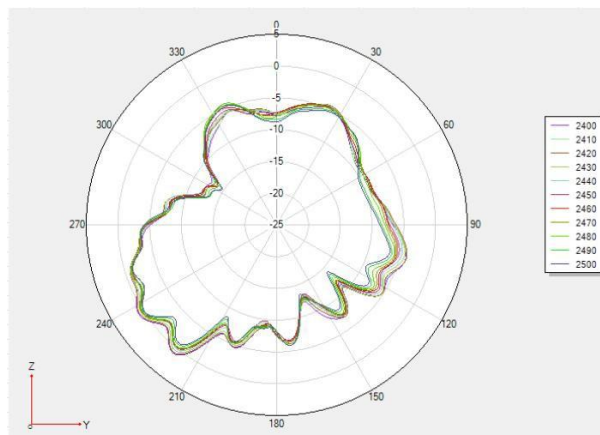
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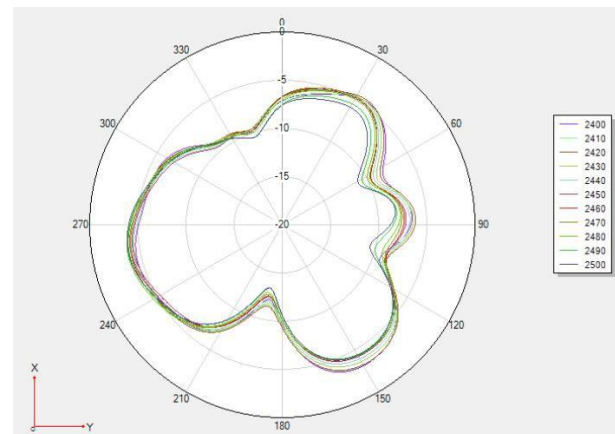
20、2D image - BT



Phi 0° XZ



Phi 90° YZ



Theta 90° XY

