

一、 Overview

This report contains the basic parameters and performance of the Kai cheng 3500 project antenna (version v0.1)

二、 low frequency antenna Test Data (ANT0)



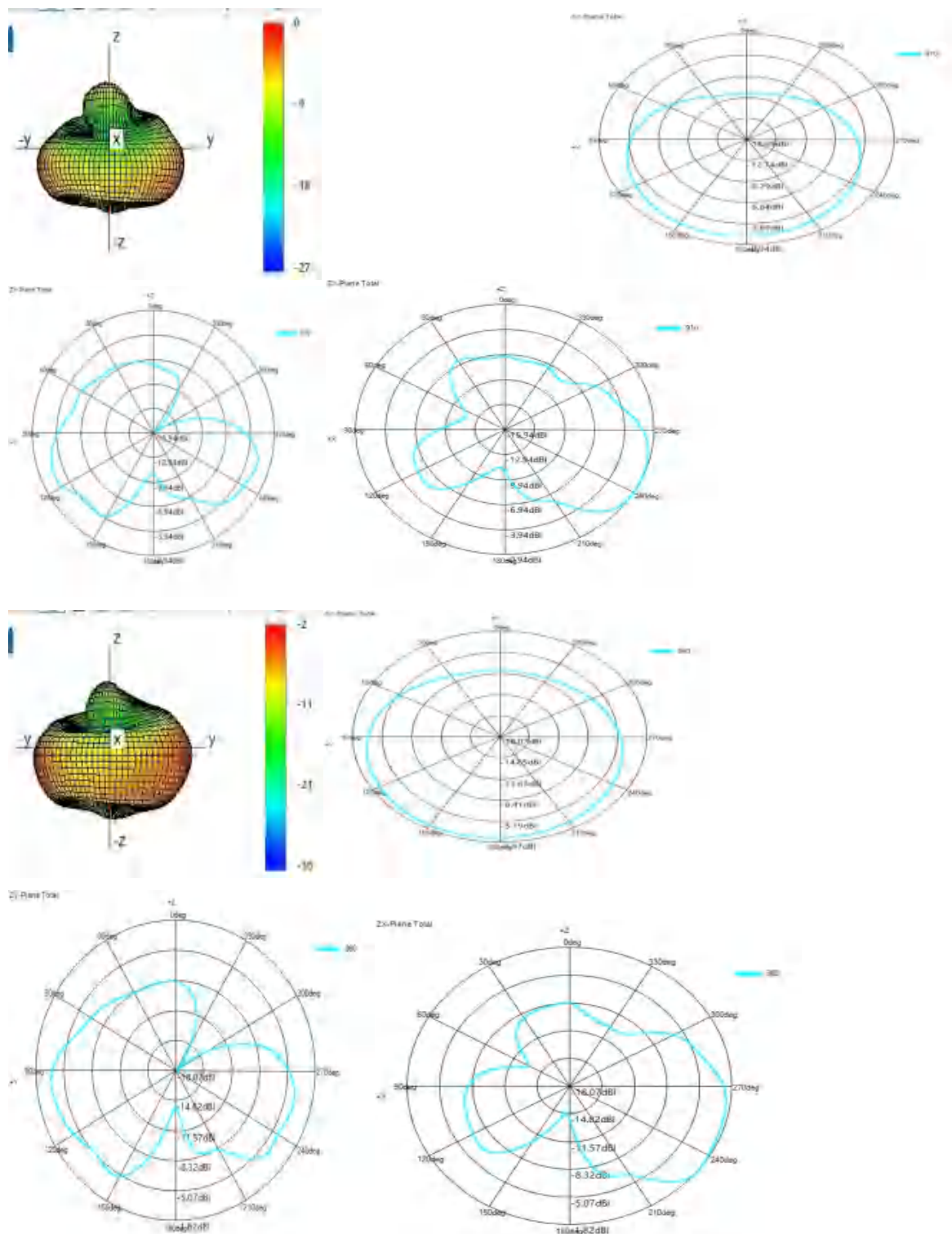
2.1 low frequency Passive Efficiency Data & Gain (ANT0)

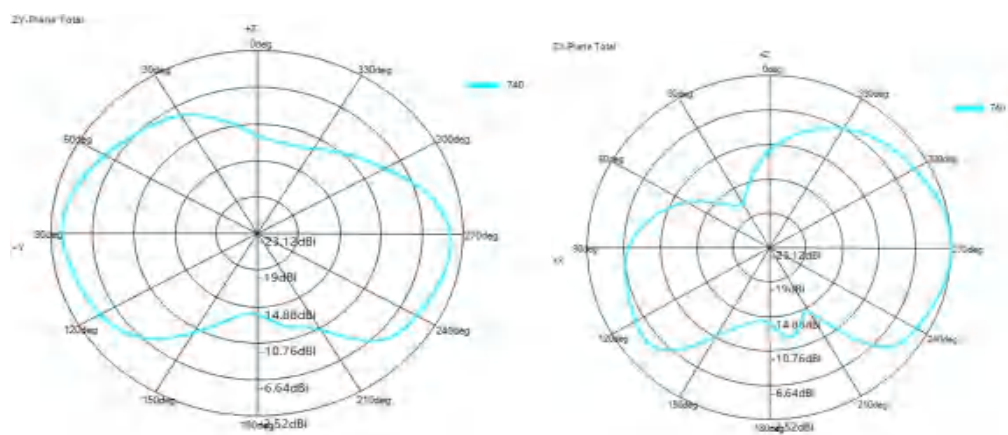
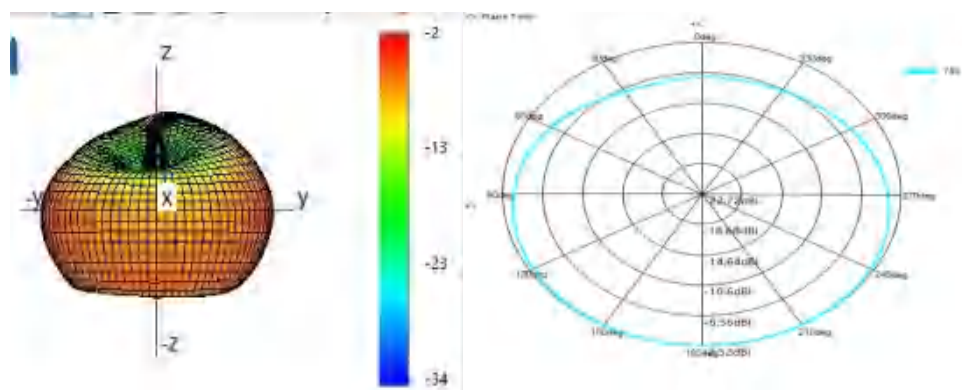
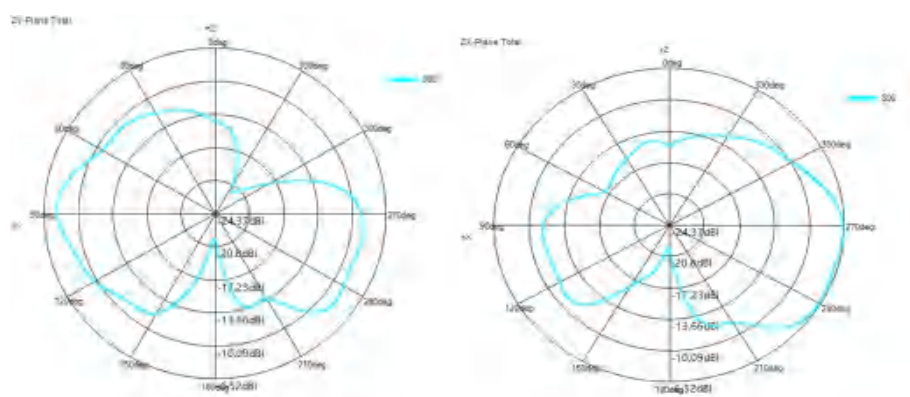
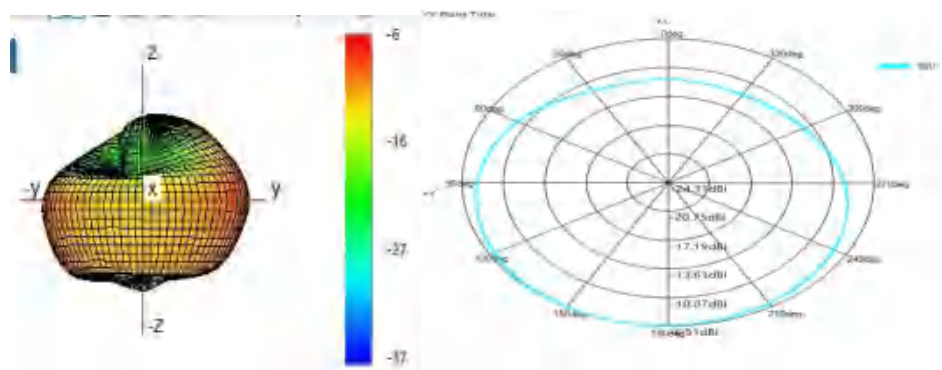
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
700	-3.62	21.1	-6.8
710	-3.36	22.9	-6.4
720	-3.15	23.8	-6.2
730	-3.25	22.8	-6.4
740	-3.53	21.2	-6.7
750	-3.94	19.2	-7.2
760	-2.94	23.5	-6.3
770	-2.96	23.7	-6.3
780	-2.96	23.8	-6.2
790	-3.24	22.5	-6.5
800	-3.8	20.1	-7.0

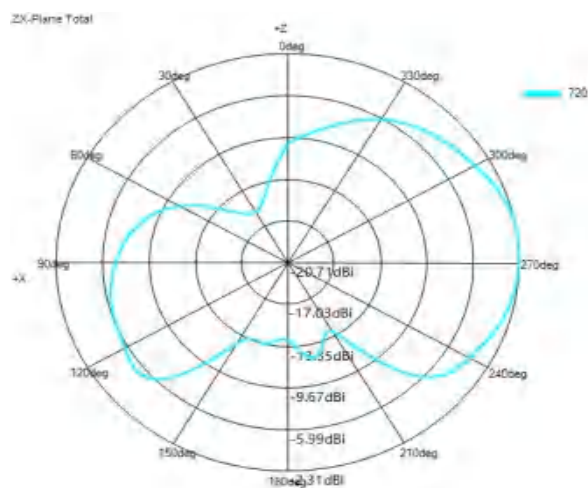
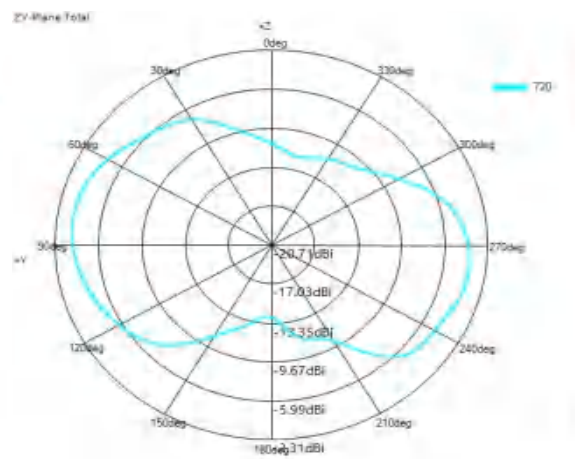
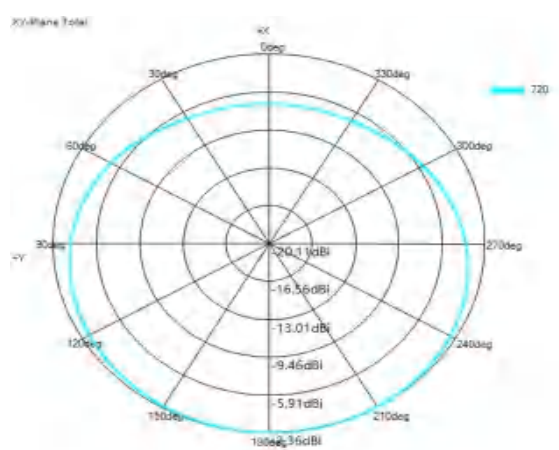
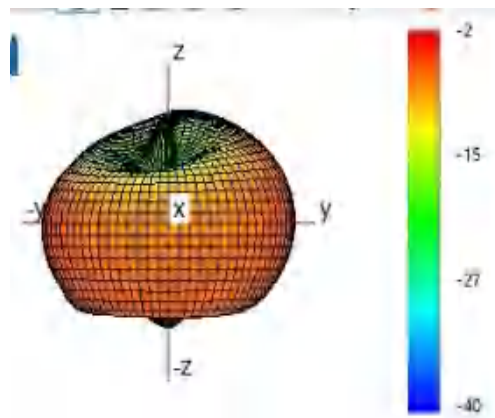
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
770	-5.2	13.7	-8.6
780	-4.6	15.7	-8.1
790	-4.0	17.8	-7.5
800	-3.5	20.4	-6.9
810	-3.4	21.5	-6.7
820	-2.9	24.6	-6.1
830	-2.5	26.2	-5.8
840	-2.4	27.0	-5.7
850	-2.5	26.2	-5.8
860	-2.8	24.1	-6.2

Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
820	-2.9	24.6	-6.1
830	-2.5	26.2	-5.8
840	-2.4	27.0	-5.7
850	-2.5	26.2	-5.8
860	-2.8	24.1	-6.2
870	-3.3	20.9	-6.8
880	-4.1	17.6	-7.6
890	-4.8	14.4	-8.4
900	-5.6	11.6	-9.3

Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
870	-6	14.3	-8.4
880	-5.2	17.1	-7.7
890	-4.3	20.6	-6.9
900	-3.2	24.0	-6.2
910	-2.2	30.3	-5.2
920	-1.4	29.2	-5.3
930	-0.9	31.0	-5.1
940	-1.1	29.4	-5.3
950	-1.8	29.0	-5.4
960	-2.6	25.0	-6.0







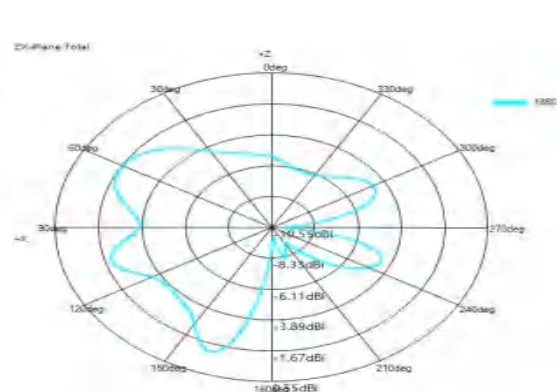
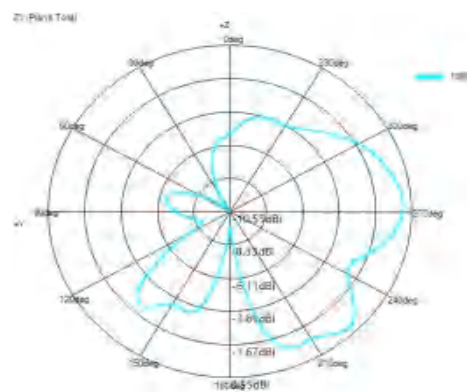
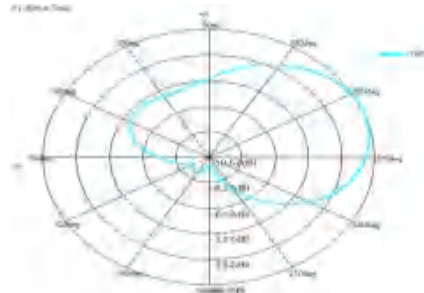
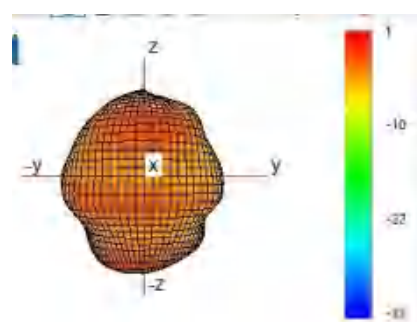
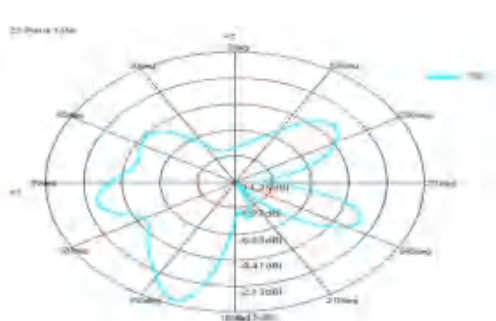
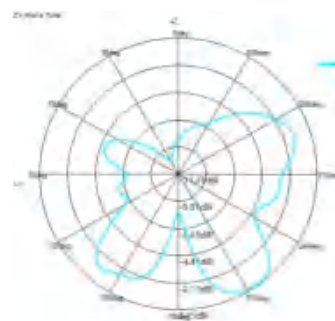
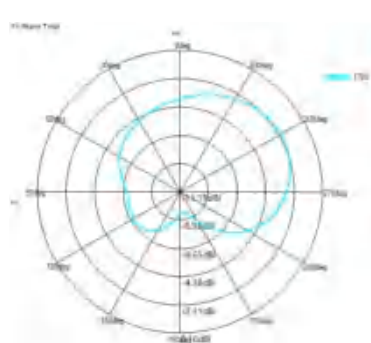
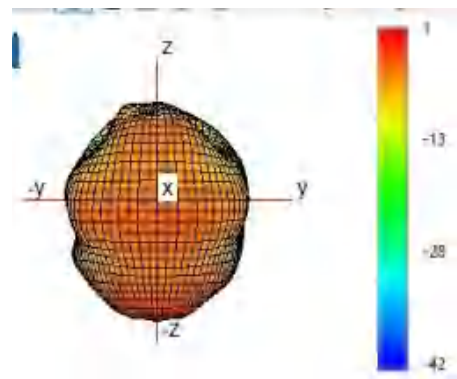
三、 Medium and high frequency antenna Test Data (ANT1)

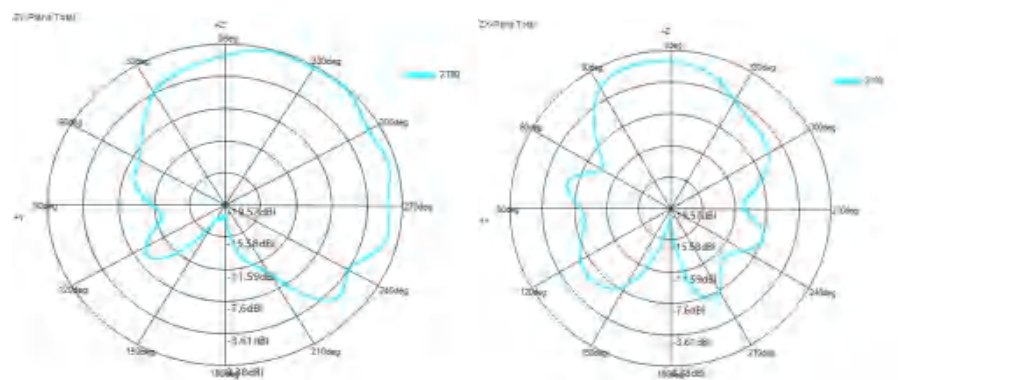
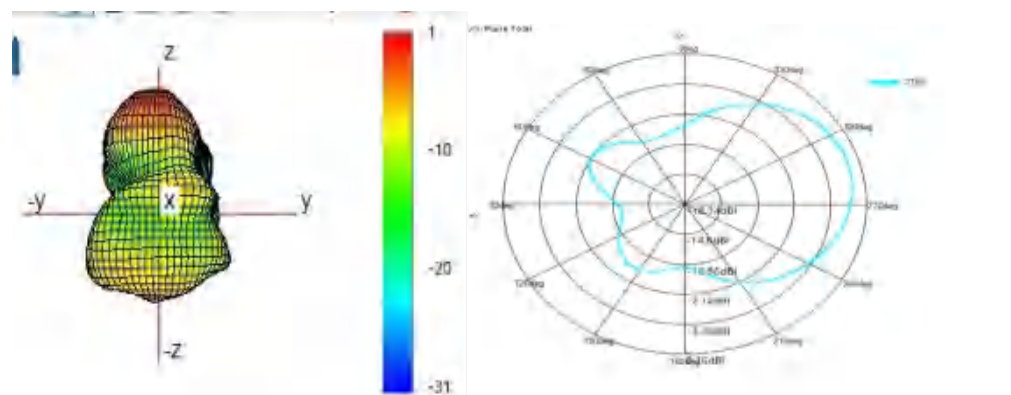
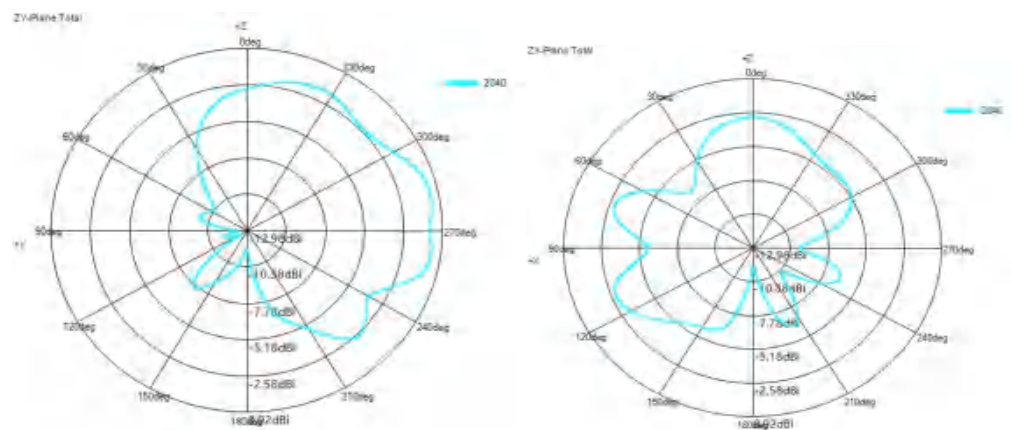
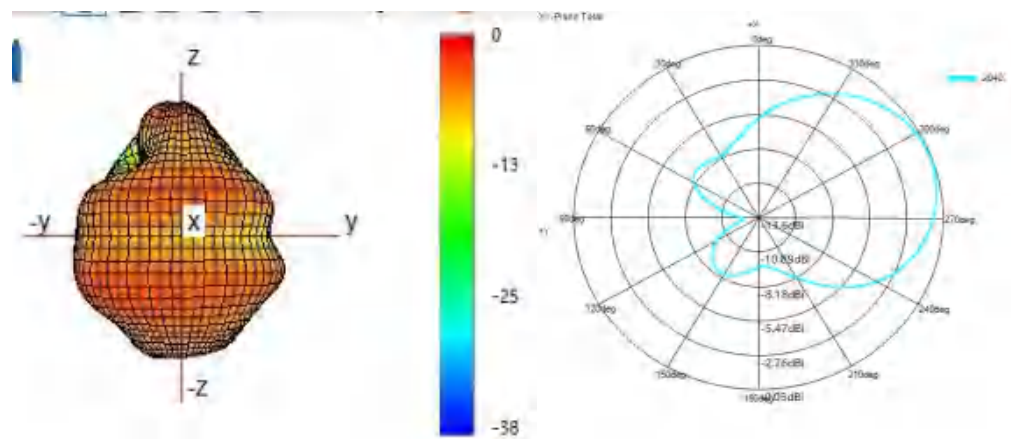


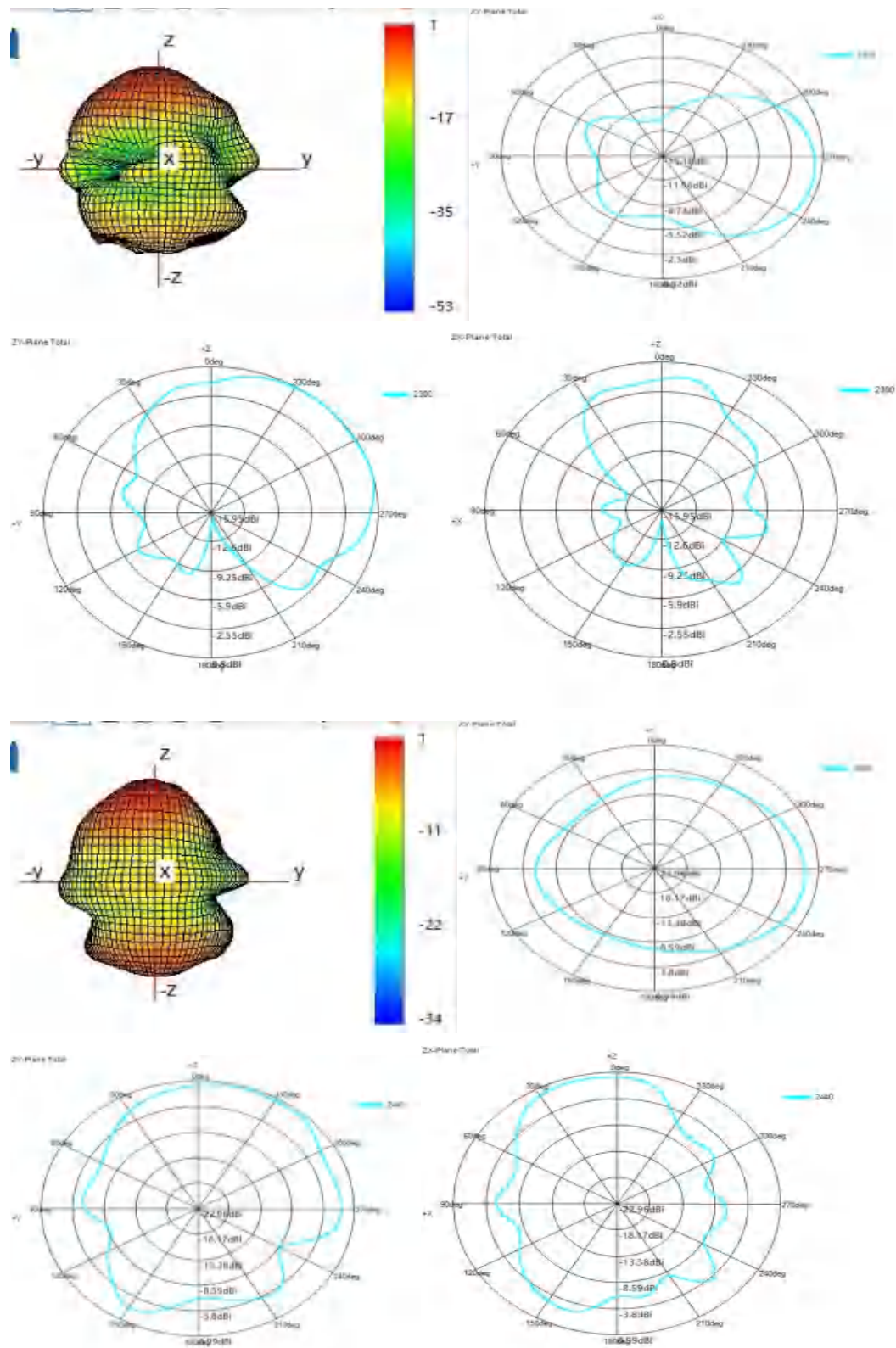
3.1 'Medium and high frequency Passive Efficiency Data & Gain (ANT1)

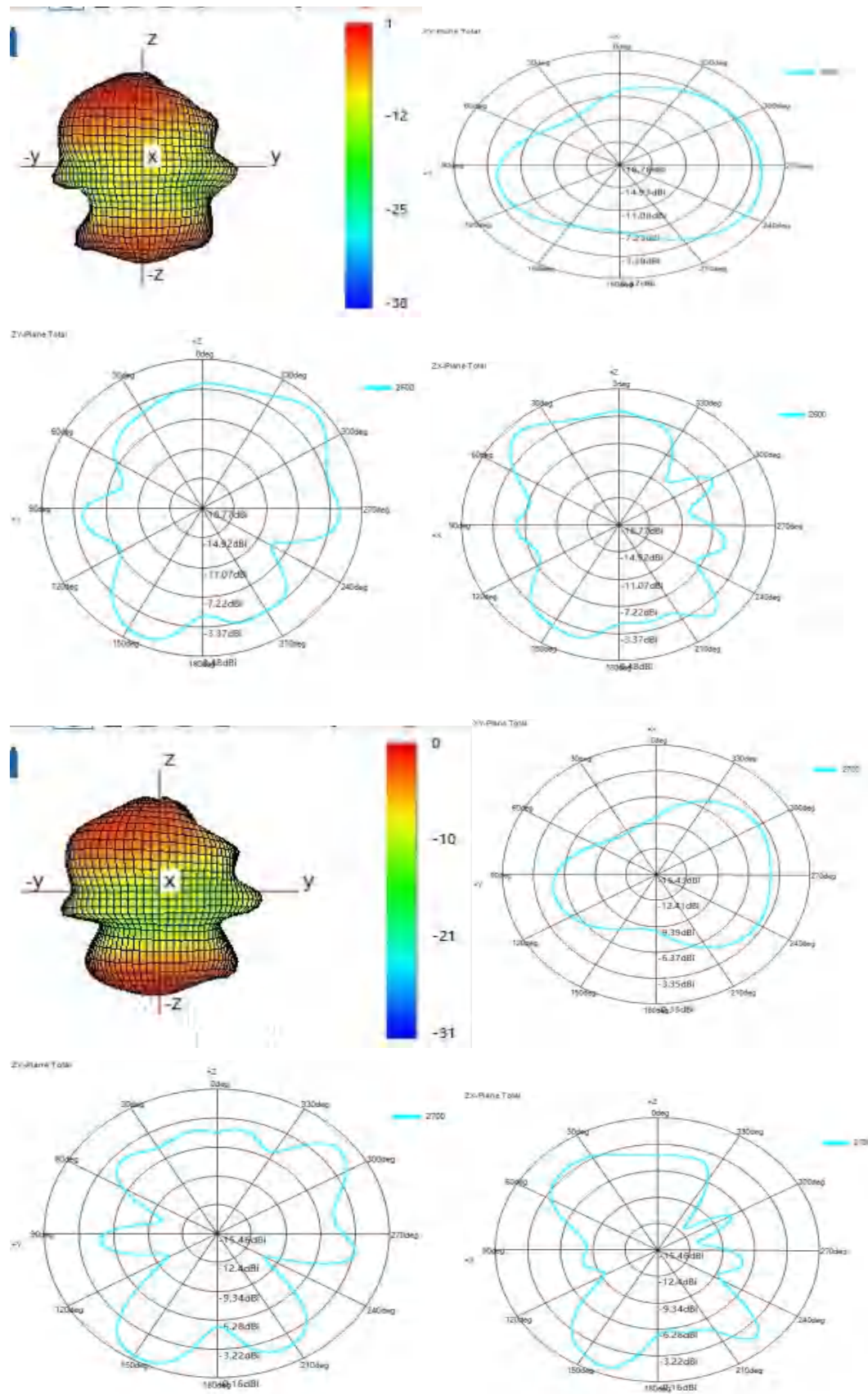
Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
1700	0.1	36.6	-4.4
1720	0.5	39.0	-4.1
1740	0.9	42.6	-3.7
1760	1.0	44.1	-3.6
1780	0.9	44.9	-3.5
1800	1.2	45.2	-3.5
1820	1.5	45.1	-3.5
1840	1.6	44.2	-3.5
1860	1.7	43.5	-3.6
1880	1.7	40.9	-3.9
1900	1.8	40.1	-4.0
1920	1.6	37.5	-4.3
1940	1.2	34.2	-4.7
1960	1.0	30.8	-5.1
1980	0.6	26.3	-5.2
2000	0.1	28.7	-5.4
2020	-0.5	26.4	-5.8
2040	-1.1	25.4	-6.0
2060	-2.1	25.1	-6.0
2080	-2.2	25.0	-6.0
2100	-1.7	26.1	-5.8
2120	-0.9	29.4	-5.3
2140	-0.3	27.1	-5.7
2160	-0.2	27.7	-5.6
2180	0.2	28.7	-5.4
2200	0.8	32.7	-4.9

Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
2220	1.0	35.2	-4.5
2240	1.0	36.9	-4.3
2260	0.7	35.8	-4.5
2280	0.5	35.2	-4.5
2300	0.3	33.7	-4.7
2320	-0.1	31.6	-5.0
2340	-0.5	30.5	-5.2
2360	-0.5	30.3	-5.2
2380	-0.5	29.4	-5.3
2400	-0.4	30.5	-5.2
2420	-0.6	30.1	-5.2
2440	-0.8	31.3	-5.0
2460	-1.1	32.1	-4.9
2480	-1.6	28.9	-5.4
2500	-2.0	27.7	-5.6
2520	-2.1	27.0	-5.7
2540	-2.2	26.5	-5.8
2560	-2.2	26.5	-5.8
2580	-2.1	27.2	-5.7
2600	-2.0	28.1	-5.5
2620	-2.0	28.1	-5.5
2640	-2.0	27.4	-5.6
2660	-2.2	26.7	-5.7
2680	-2.2	26.3	-5.8
2700	-2.1	26.7	-5.7









四、ANT2 antenna Test Data

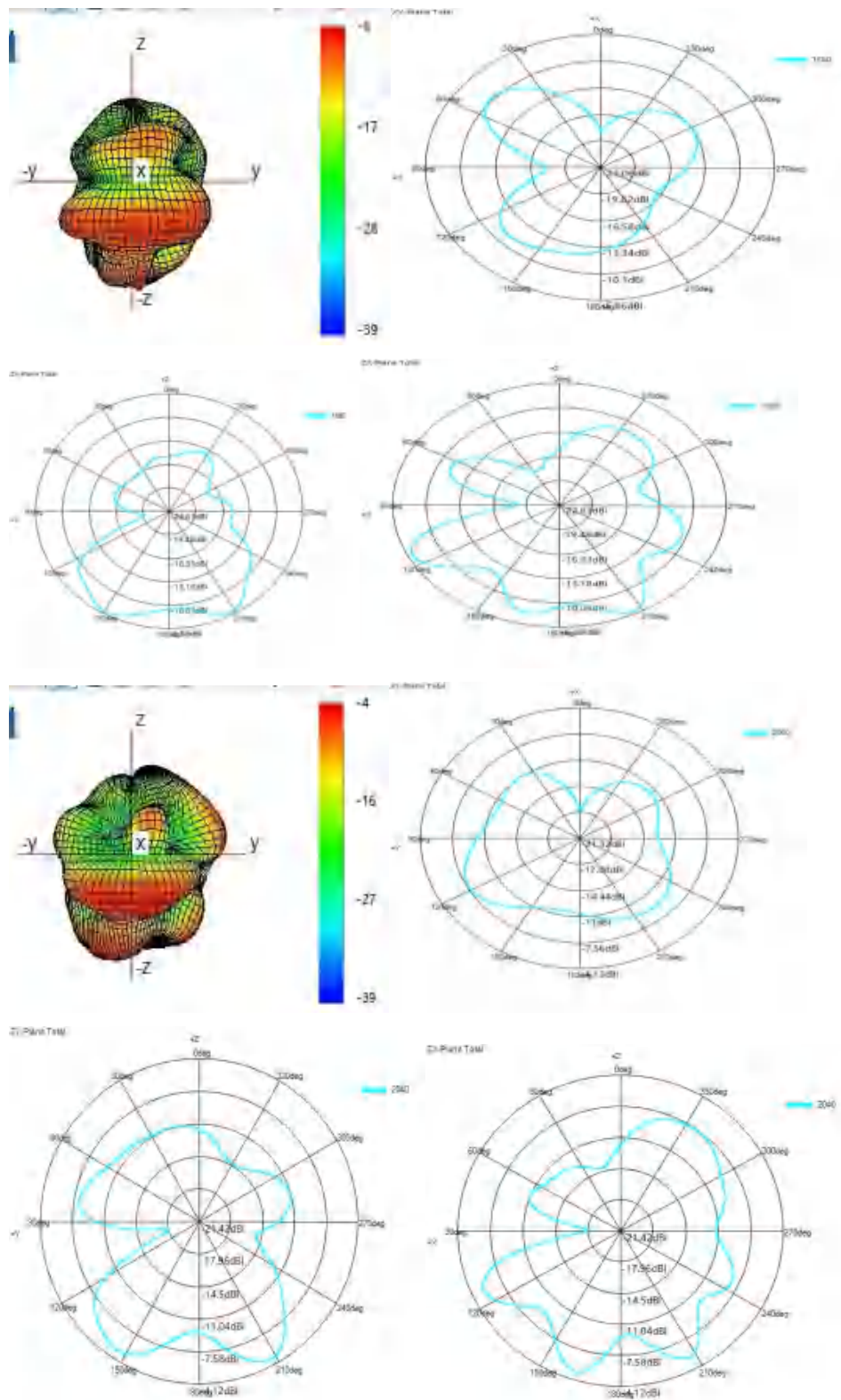


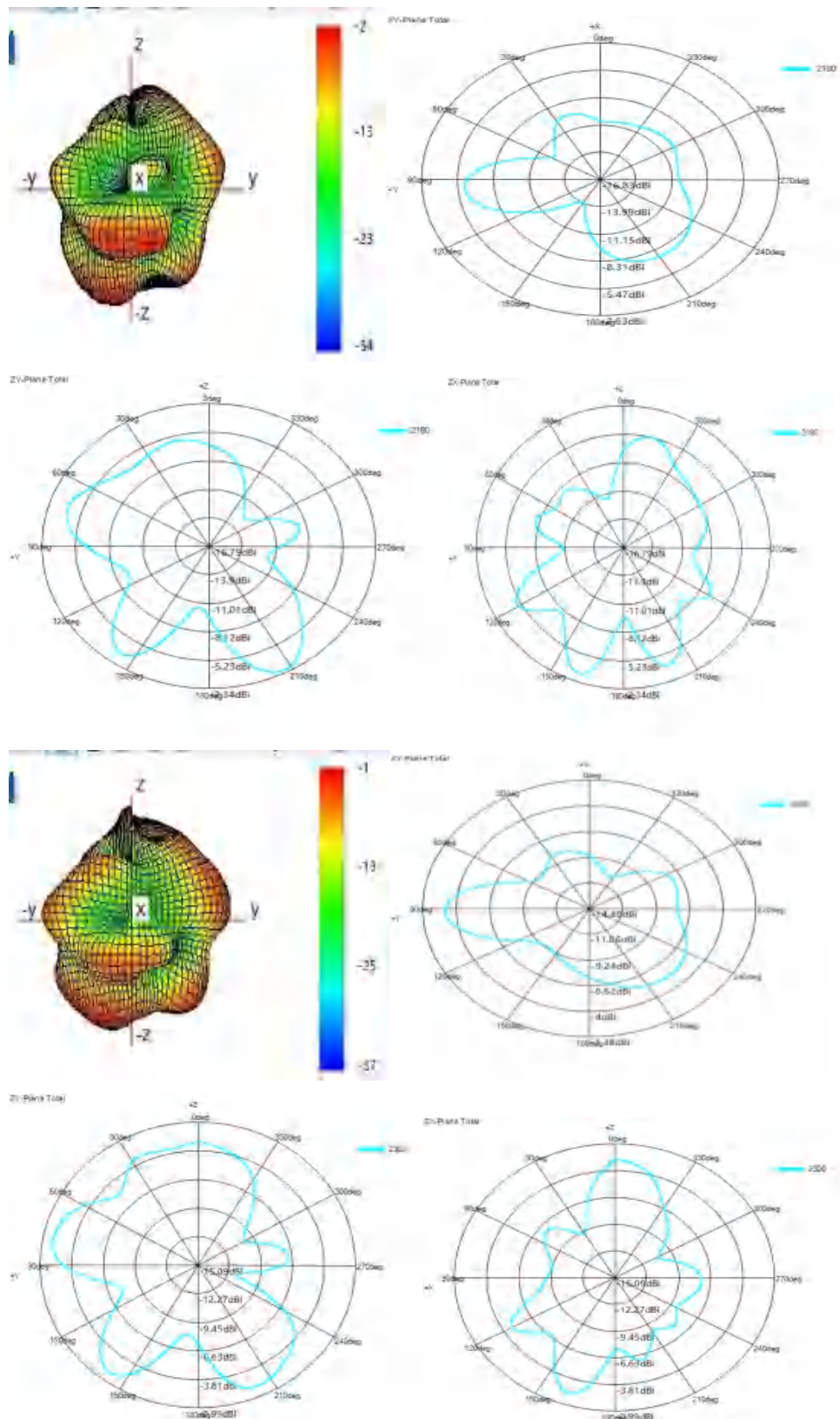
4.1 ANT2Passive Efficiency Data & Gain

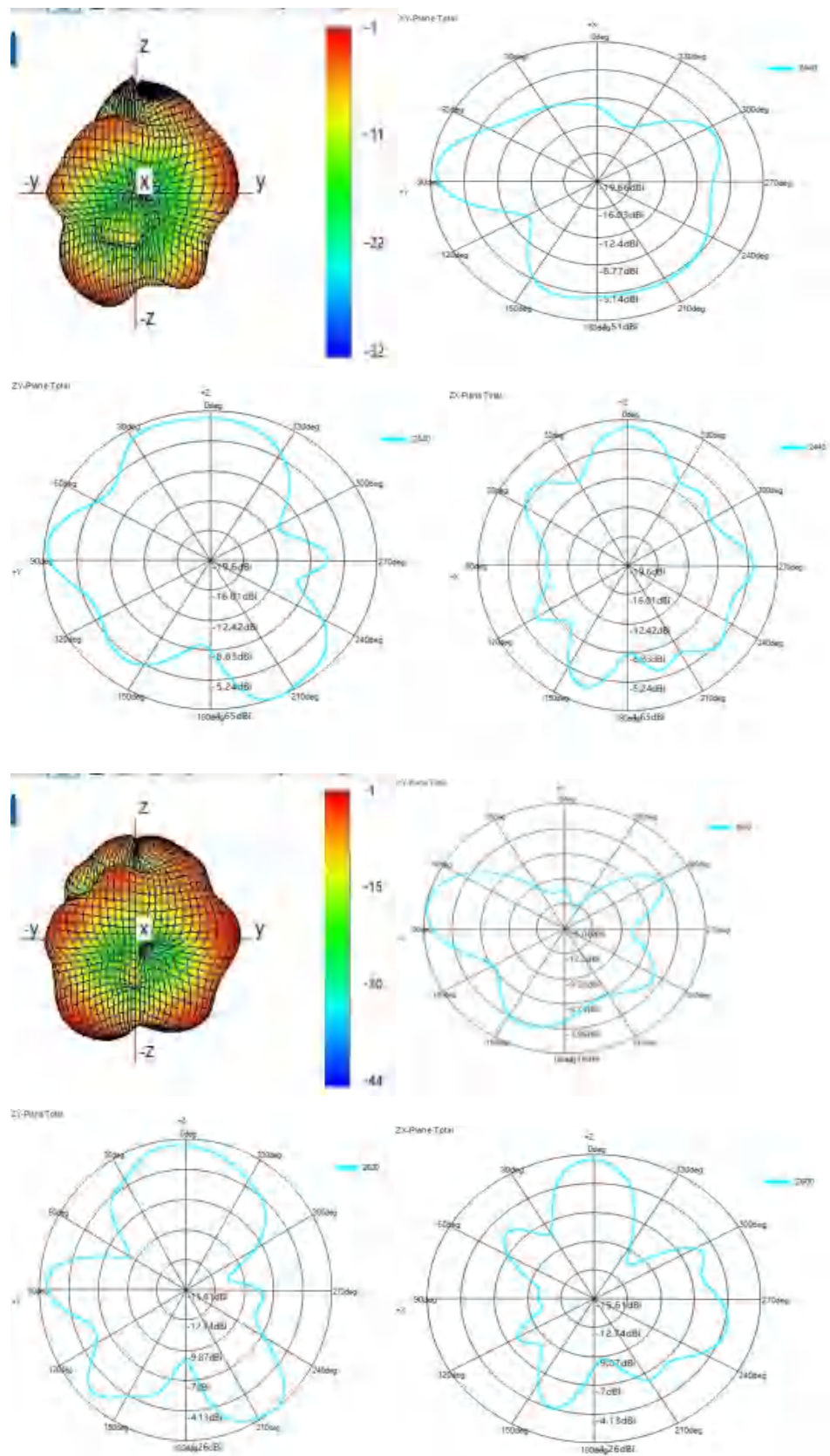
Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
1800	-10.7	3.6	-14.5
1820	-10.4	3.9	-14.1
1840	-10.1	4.1	-13.9
1860	-9.9	4.3	-13.7
1880	-9.4	4.7	-13.3
1900	-8.8	5.3	-12.8
1920	-8.3	5.7	-12.5
1940	-7.8	6.0	-12.2
1960	-7.0	6.8	-11.7
1980	-6.3	7.7	-11.1
2000	-5.2	8.5	-10.7
2020	-4.1	9.6	-10.2
2040	-3.2	10.7	-9.7
2060	-2.7	11.4	-9.4
2080	-2.5	11.4	-9.4
2100	-2.4	11.6	-9.4
2120	-1.9	13.0	-8.9
2140	-1.6	14.0	-8.6
2160	-1.4	14.1	-8.5
2180	-1.2	14.9	-8.3
2200	-0.7	16.7	-7.8
2220	-0.6	17.7	-7.5
2240	-0.7	18.1	-7.4
2260	-1.1	17.4	-7.6
2280	-1.3	17.5	-7.6
2300	-1.5	17.5	-7.6

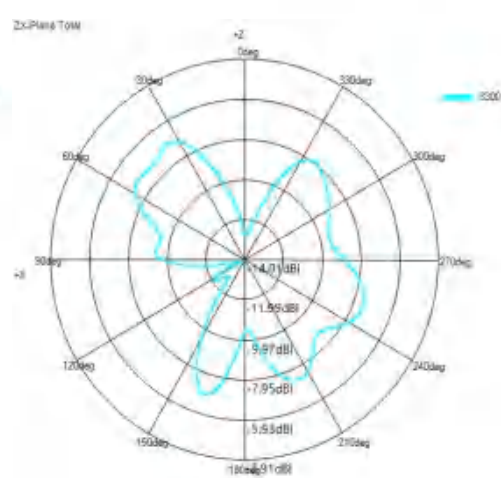
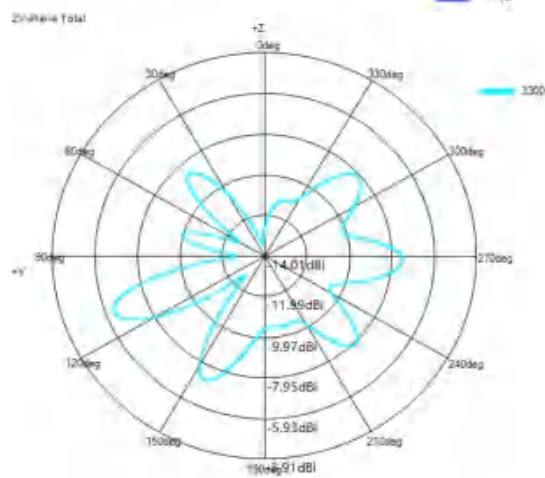
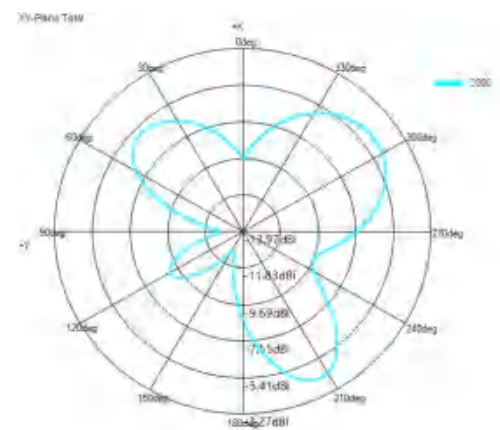
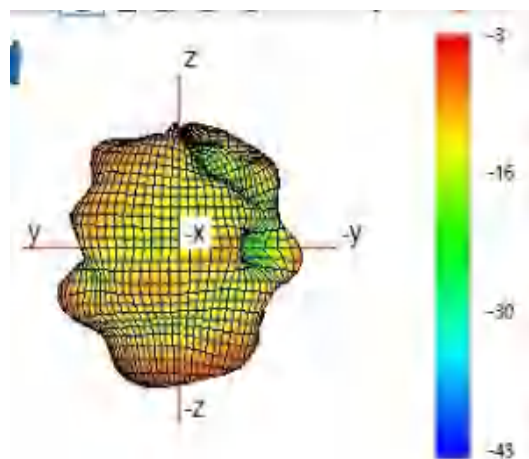
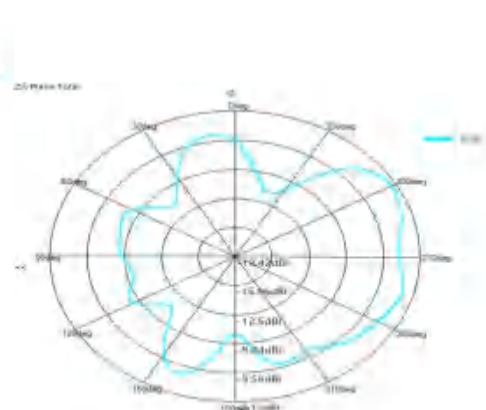
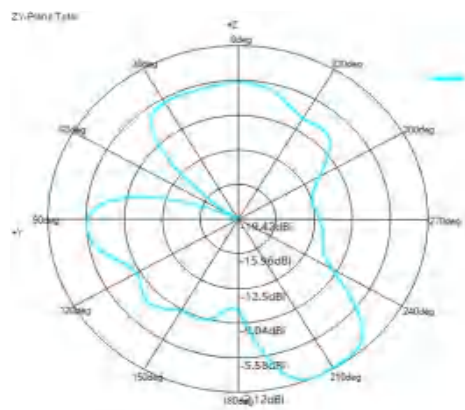
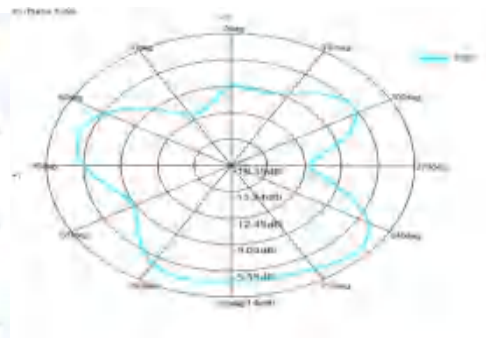
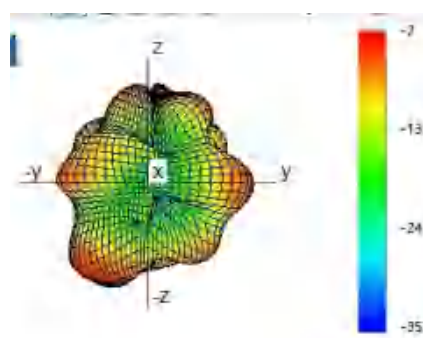
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
2320	-1.7	17.5	-7.6
2340	-1.6	18.1	-7.4
2360	-1.4	19.7	-7.1
2380	-0.9	21.3	-6.7
2400	-0.3	23.7	-6.3
2420	-0.5	22.7	-6.4
2440	-1.7	20.4	-6.9
2460	-2.1	20.3	-6.9
2480	-2.1	20.7	-6.8
2500	-1.3	22.1	-6.6
2520	-1.6	23.3	-6.3
2540	-1.6	24.1	-6.2
2560	-1.3	24.8	-6.1
2580	-0.3	26.7	-5.7
2600	-0.5	28.2	-5.5
2620	-0.3	38.1	-5.5
2640	-0.2	25.4	-6.0
2660	-1.0	21.2	-6.7
2680	-1.5	20.0	-7.0
2700	-1.4	21.2	-6.7

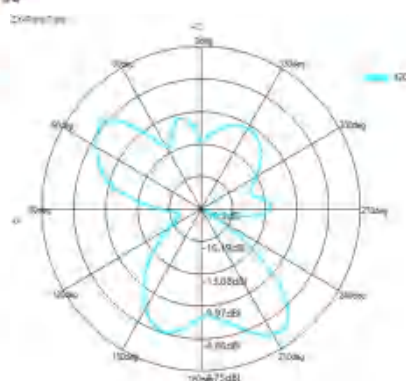
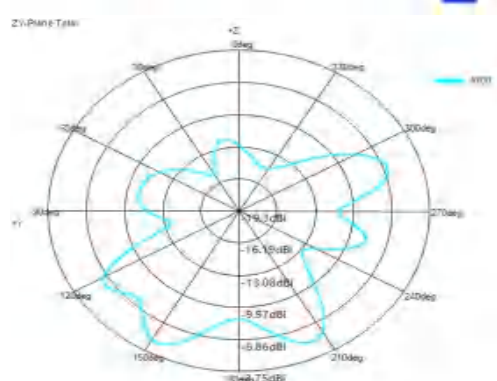
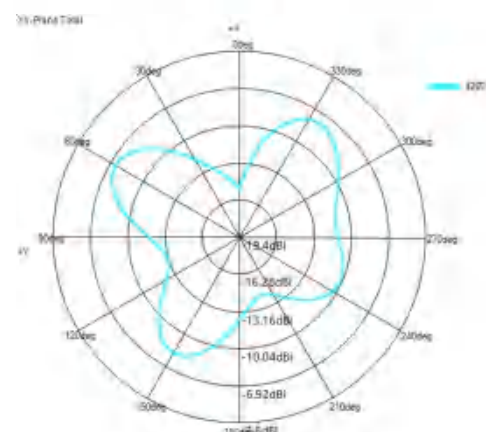
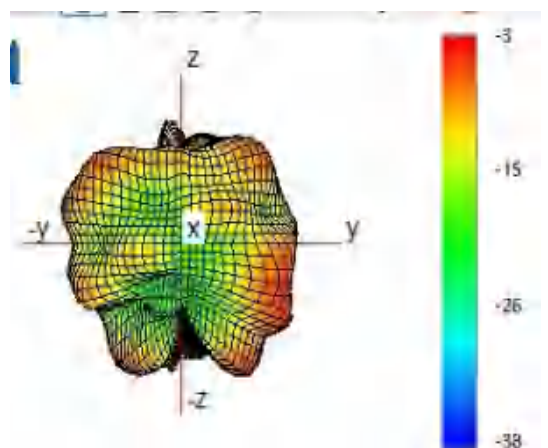
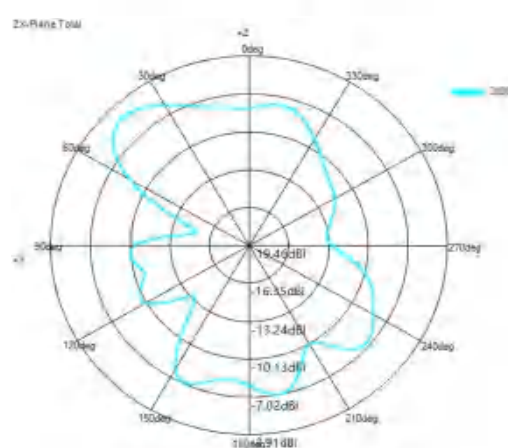
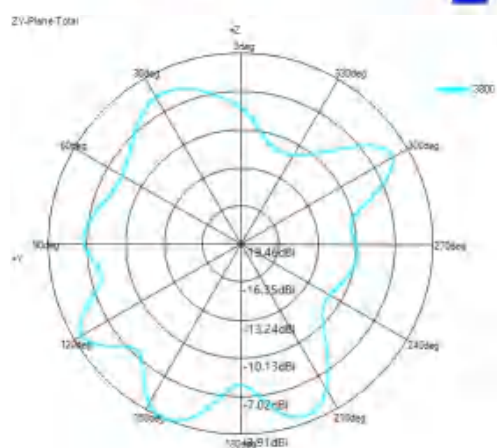
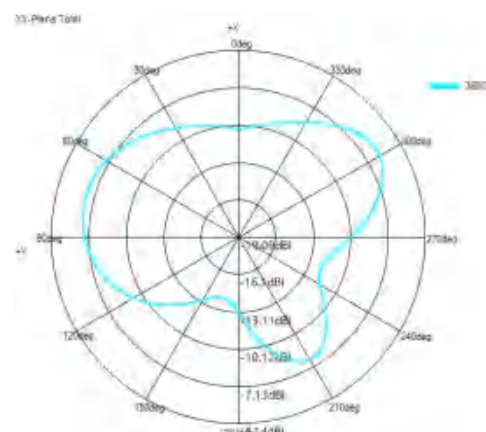
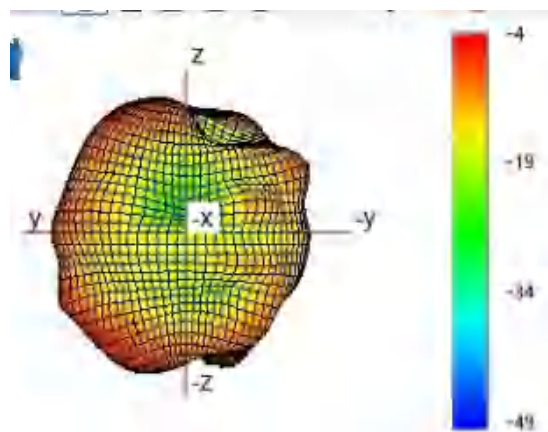
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3300	0.6	32.5	-4.9
3350	0.3	30.7	-5.1
3400	-1.7	21.3	-6.7
3450	-2.8	17.5	-7.6
3500	-2.6	17.9	-7.5
3550	-3.1	19.4	-7.1
3600	-4.7	21.0	-6.8
3650	-5.4	18.6	-7.3
3700	-5.1	19.6	-7.1
3750	-5.5	18.6	-7.3
3800	-7.1	13.2	-8.8
3850	-8.6	11.3	-9.5
3900	-9.1	10.9	-9.6
3950	-9.5	10.0	-10.0
4000	-9.7	8.2	-10.9
4050	-9.8	8.2	-10.8
4100	-8.7	9.4	-10.3
4150	-8.8	9.1	-10.4
4200	-8.4	8.5	-10.7











五、ANT3 antenna Test Data



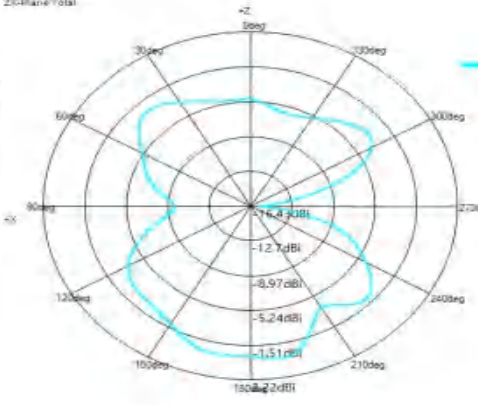
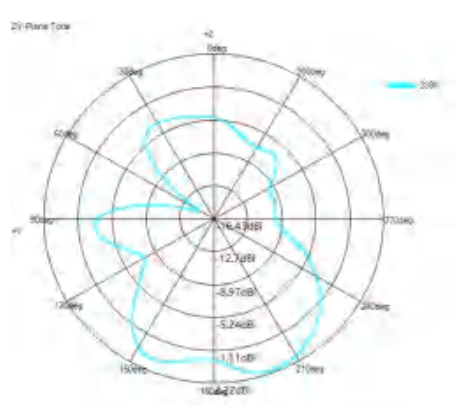
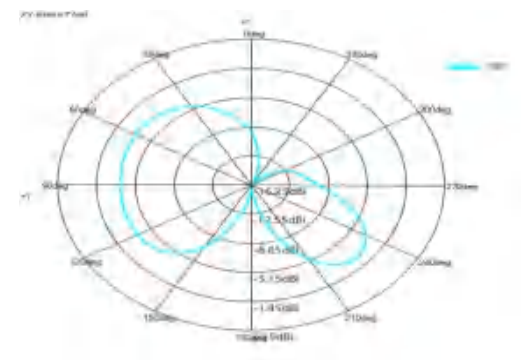
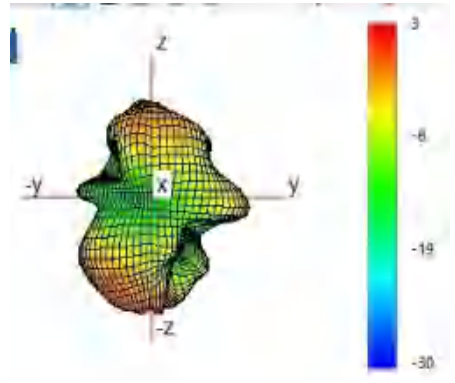
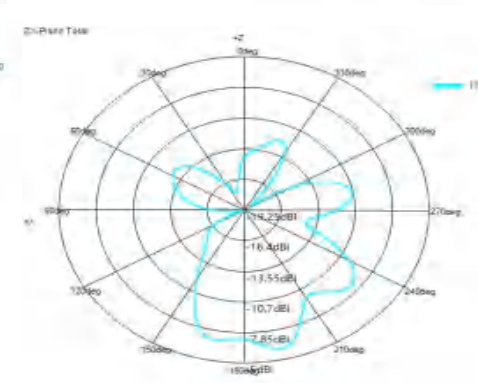
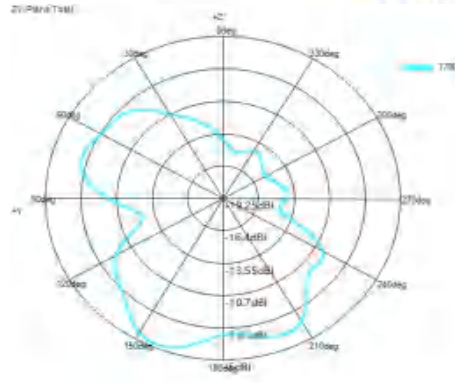
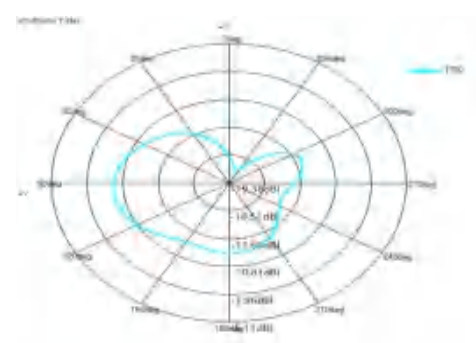
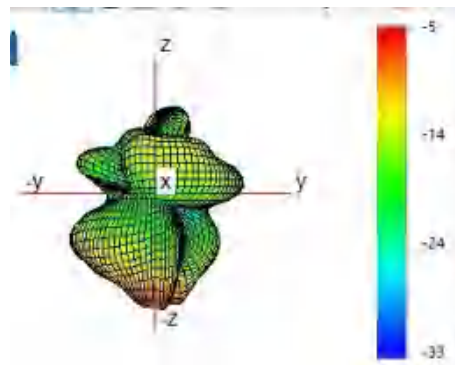
5.1 ANT3 Passive Efficiency Data & Gain

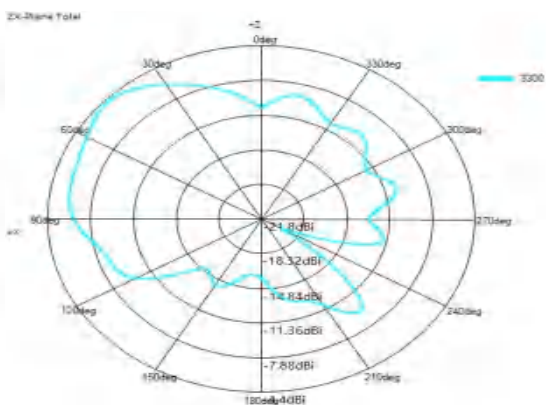
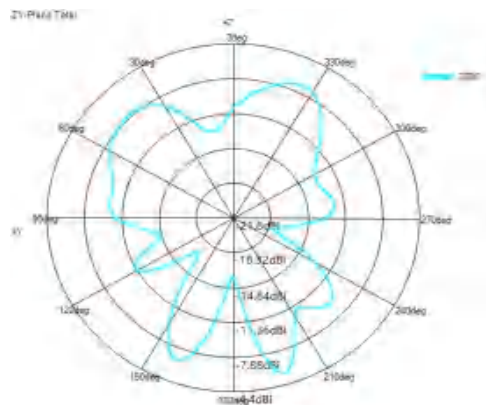
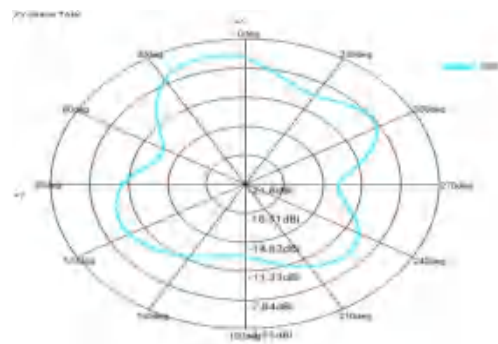
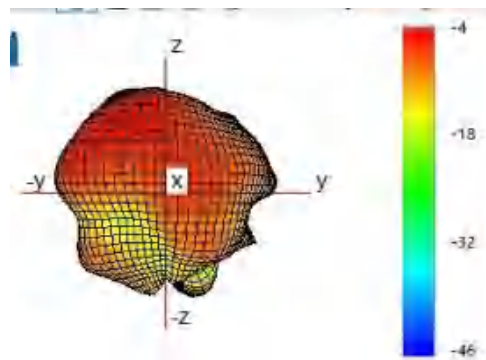
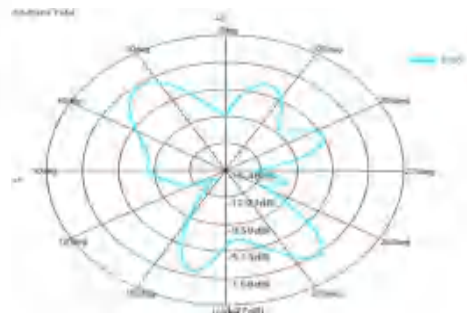
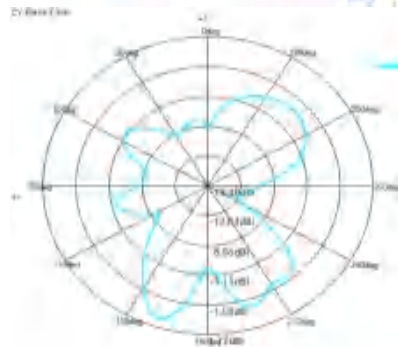
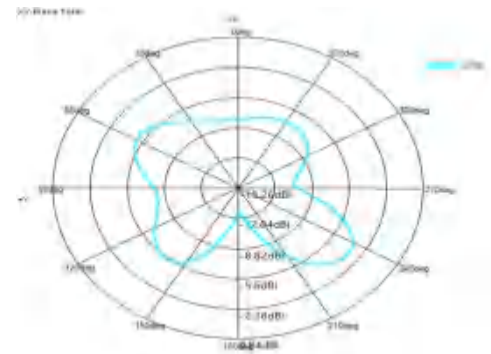
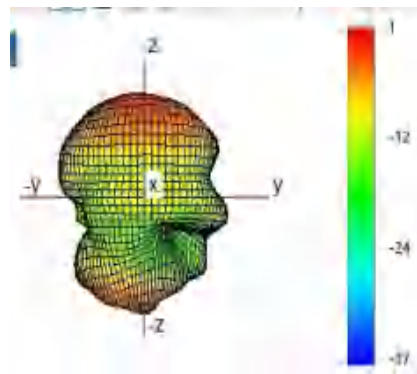
Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
1700	-10.0	3.7	-14.3
1720	-9.6	3.8	-14.2
1740	-9.1	4.1	-13.9
1760	-8.7	4.3	-13.6
1780	-8.5	4.5	-13.5
1800	-8.2	4.8	-13.2
1820	-7.6	5.5	-12.6
1840	-7.3	6.1	-12.2
1860	-6.9	6.7	-11.7
1880	-6.5	7.6	-11.2
1900	-5.5	9.2	-10.4
1920	-4.6	10.2	-9.9
1940	-4.2	10.7	-9.7
1960	-3.9	11.8	-9.3
1980	-3.8	12.2	-9.1
2000	-3.9	11.8	-9.3
2020	-3.6	11.9	-9.2
2040	-3.0	12.9	-8.9
2060	-2.4	14.0	-8.5
2080	-2.1	14.8	-8.3
2100	-1.8	15.5	-8.1
2120	-1.4	17.4	-7.6
2140	-1.1	18.5	-7.3
2160	-1.0	18.6	-7.3
2180	-0.8	19.6	-7.1
2200	-0.2	22.1	-6.6

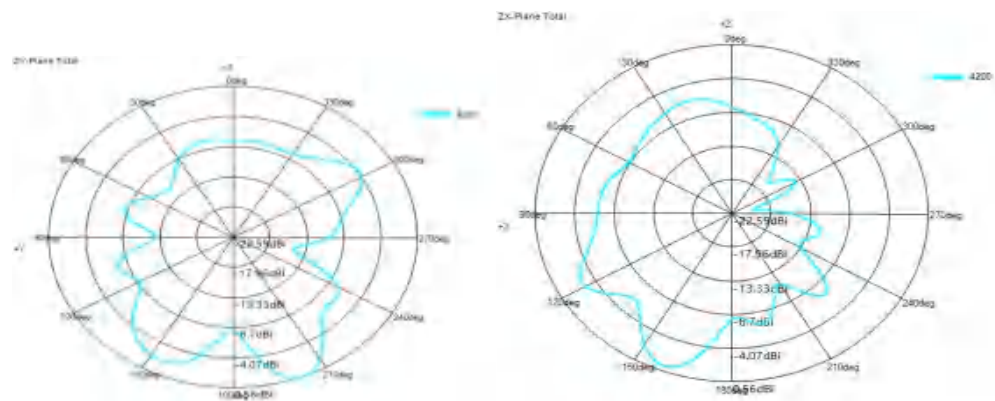
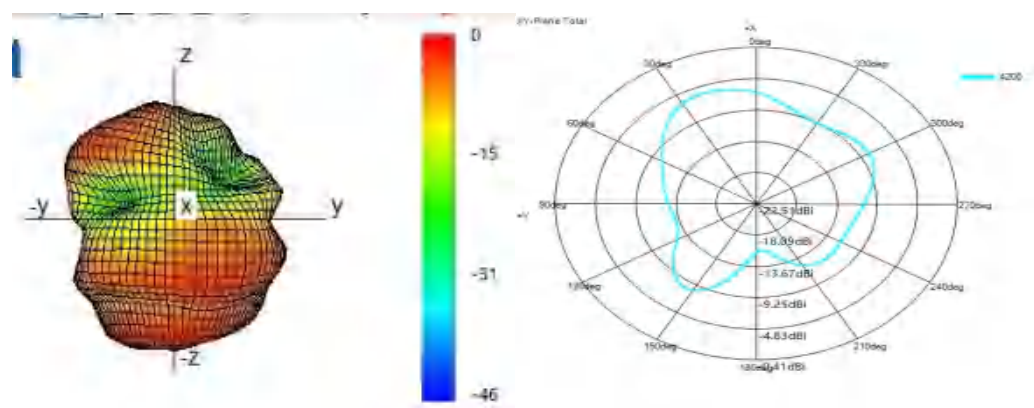
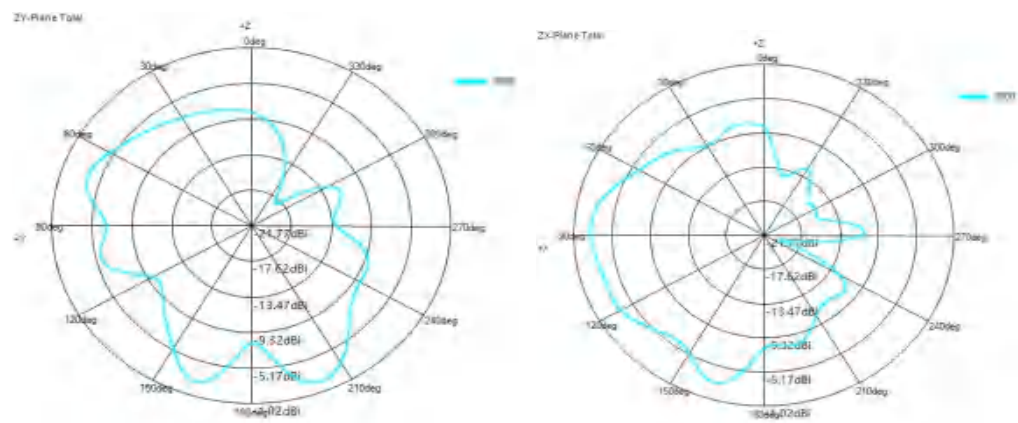
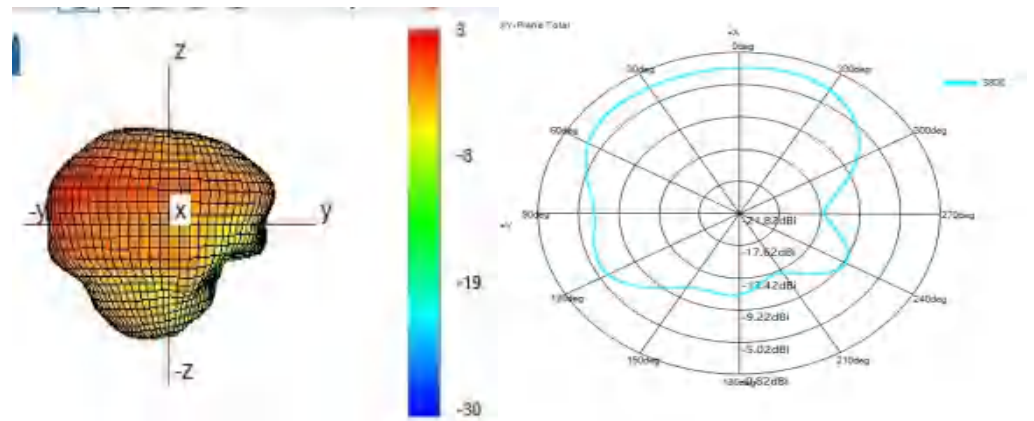
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
2220	0.2	23.7	-6.3
2240	0.4	25.1	-6.0
2260	0.3	25.4	-6.0
2280	0.2	26.4	-5.8
2300	0.2	26.6	-5.8
2320	0.1	26.5	-5.8
2340	0.0	27.5	-5.6
2360	-0.1	29.6	-5.3
2380	-0.4	30.4	-5.2
2400	-0.1	33.6	-4.7
2420	0.1	35.8	-4.5
2440	0.2	36.4	-4.4
2460	0.1	36.4	-4.4
2480	0.1	35.2	-4.5
2500	0.2	35.8	-4.5
2520	0.3	36.8	-4.3
2540	0.4	37.5	-4.3
2560	0.4	38.0	-4.2
2580	0.5	38.8	-4.1
2600	0.8	38.9	-4.1
2620	0.9	37.8	-4.2
2640	0.8	35.5	-4.5
2660	0.8	33.6	-4.7
2680	0.6	32.8	-4.8
2700	0.7	33.0	-4.8

Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3300	-3.5	16.0	-8.0
3320	-3.0	17.4	-7.6
3340	-2.6	17.8	-7.5
3360	-1.9	19.3	-7.2
3380	-1.9	19.1	-7.2
3400	-2.0	18.1	-7.4
3420	-1.7	18.2	-7.4
3440	-1.8	17.3	-7.6
3460	-0.9	20.9	-6.8
3480	-0.5	22.8	-6.4
3500	0.0	25.2	-6.0
3520	0.7	29.0	-5.4
3540	0.7	29.3	-5.3
3560	0.9	30.1	-5.2
3580	0.7	29.0	-5.4
3600	0.2	26.1	-5.8
3620	0.5	28.0	-5.5
3640	0.5	28.5	-5.5
3660	1.0	31.6	-5.0
3680	1.5	36.8	-4.3
3700	1.8	39.4	-4.0

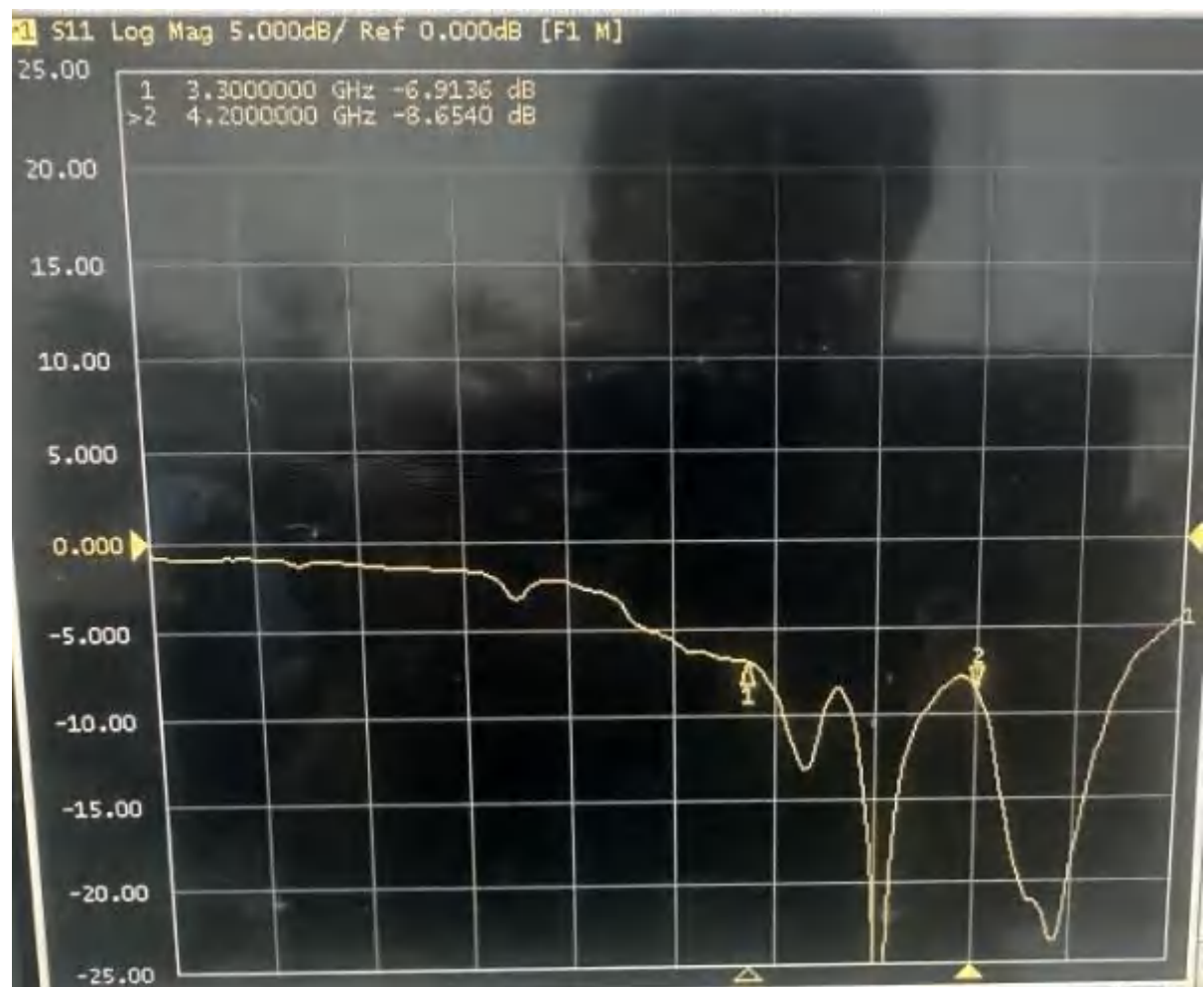
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3720	2.3	44.7	-3.5
3740	2.4	45.2	-3.5
3760	2.0	42.9	-3.7
3780	2.0	44.1	-3.6
3800	1.5	39.7	-4.0
3820	1.3	38.2	-4.2
3840	1.2	38.7	-4.1
3860	0.9	36.8	-4.3
3880	1.1	40.1	-4.0
3900	0.7	37.4	-4.3
3920	0.6	38.4	-4.3
3940	0.3	37.4	-4.3
3960	-0.2	32.9	-4.8
3980	-0.4	30.0	-5.2
4000	-0.8	28.3	-5.5
4020	-1.1	26.5	-5.8
4040	-1.0	28.2	-5.5
4060	-1.3	27.9	-5.5
4080	-1.0	30.2	-5.2
4100	-0.7	33.7	-4.7
4120	-0.9	33.9	-4.7
4140	-0.6	35.9	-4.5
4160	-0.8	34.5	-4.6
4180	-0.8	33.5	-4.8
4200	-0.6	33.8	-4.7







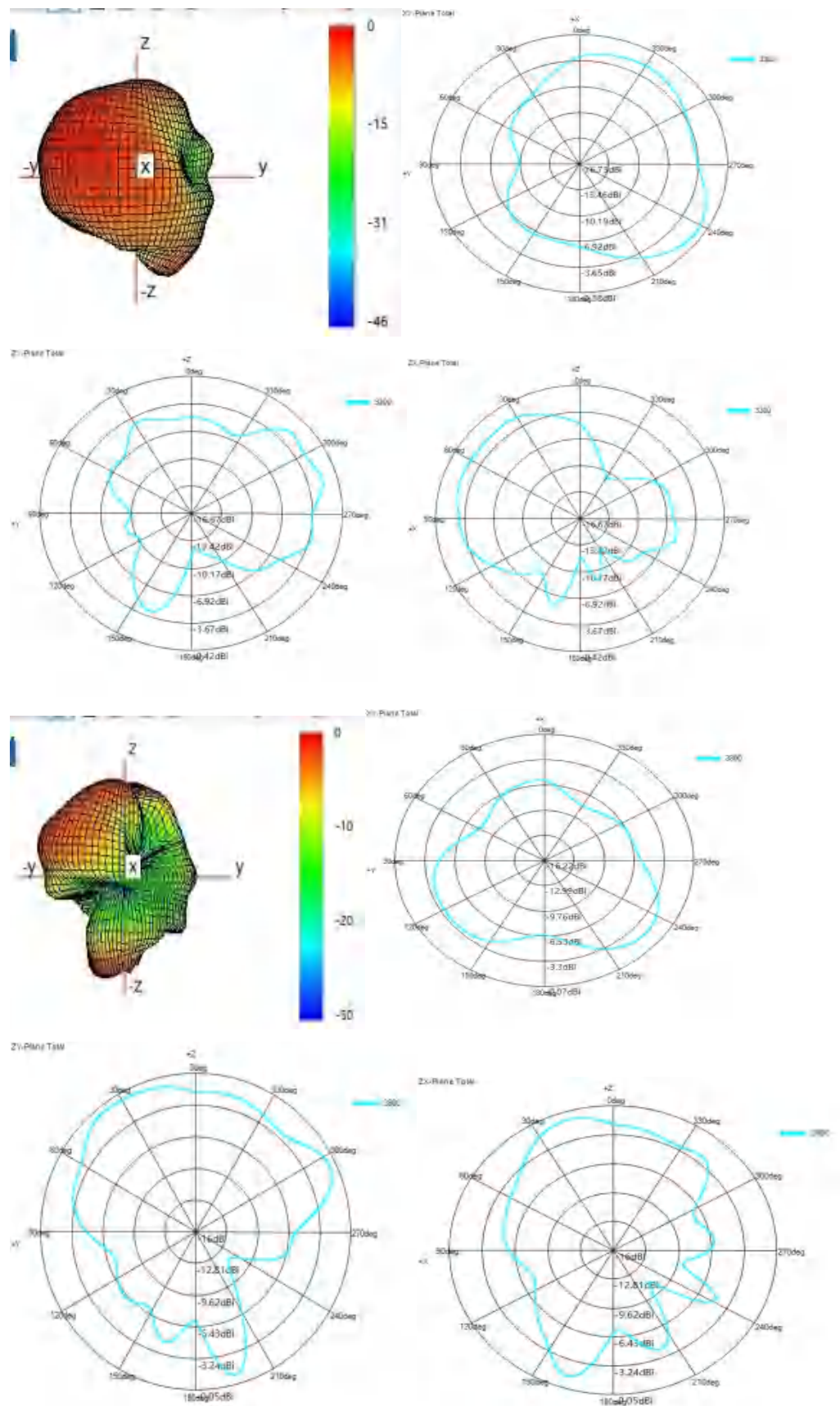
六、ANT4 antenna Test Data

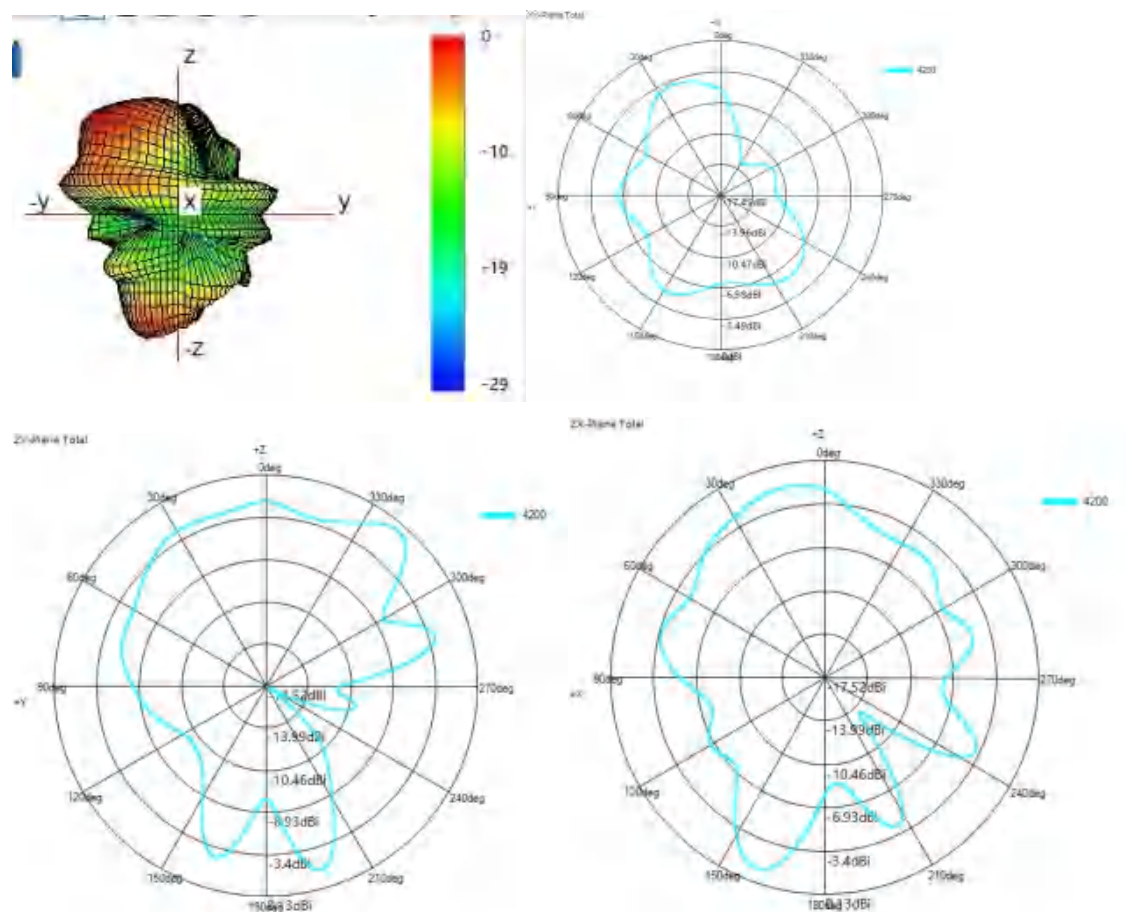


6.1 ANT4Passive Efficiency Data & Gain

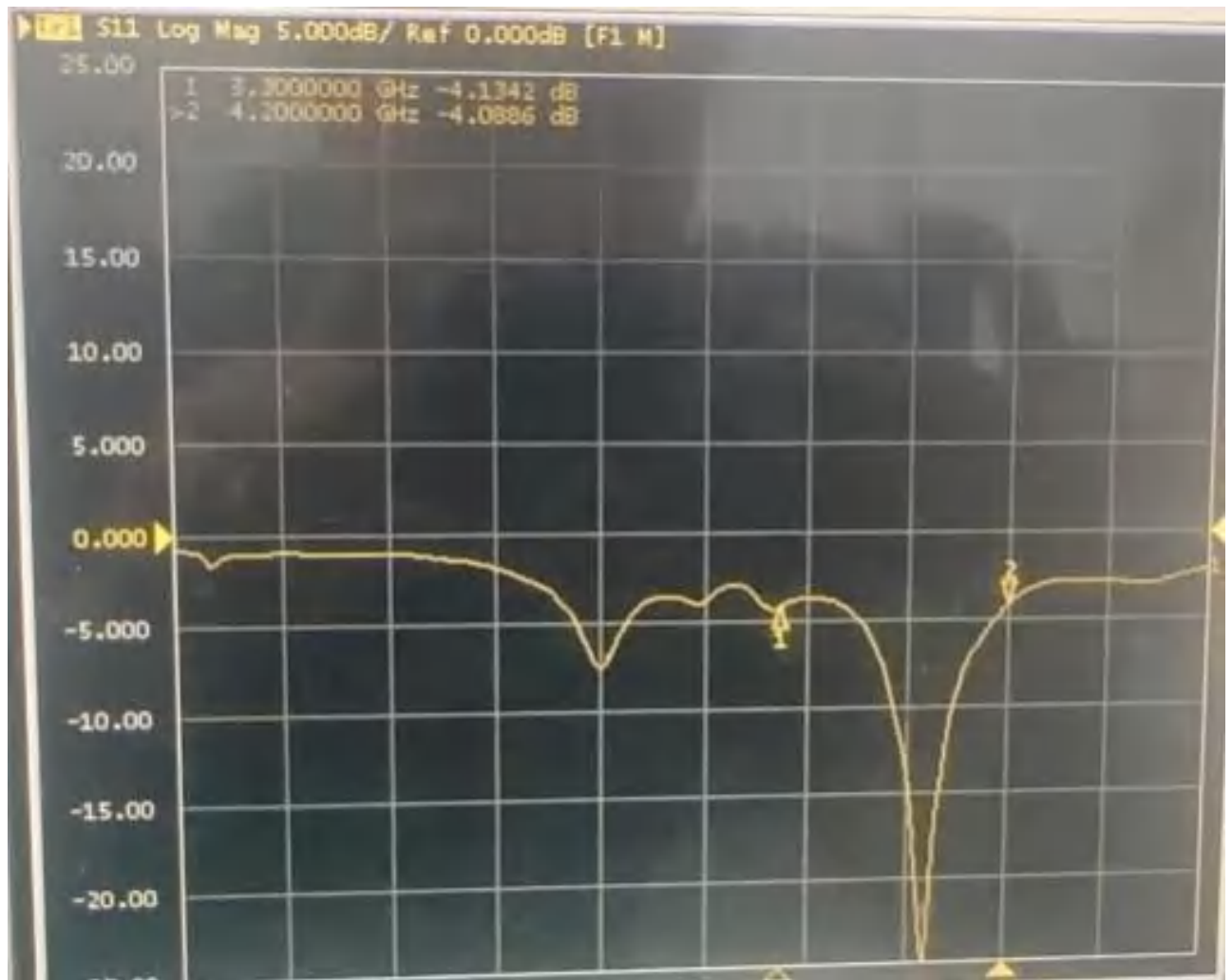
Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3300	1.2	39.9	-4.0
3320	1.6	43.2	-3.7
3340	1.6	43.4	-3.6
3360	1.8	46.6	-3.3
3380	1.7	44.4	-3.5
3400	1.2	40.4	-3.9
3420	1.1	39.9	-4.0
3440	0.7	37.0	-4.3
3460	1.6	42.8	-3.7
3480	1.8	43.8	-3.6
3500	2.1	46.1	-3.4
3520	2.5	50.7	-3.0
3540	2.3	47.7	-3.2
3560	2.0	45.5	-3.4
3580	1.6	41.6	-3.8
3600	0.9	35.2	-4.5
3620	0.9	34.6	-4.6
3640	0.7	33.0	-4.8
3660	1.0	35.1	-4.6
3680	1.3	39.0	-4.1
3700	1.4	39.1	-4.1

Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3720	2.0	42.5	-3.7
3740	2.0	42.3	-3.7
3760	1.8	39.3	-4.1
3780	1.9	39.3	-4.1
3800	1.5	35.6	-4.5
3820	1.6	34.6	-4.6
3840	1.9	36.1	-4.4
3860	2.0	35.5	-4.5
3880	2.8	41.3	-3.8
3900	2.7	41.0	-3.9
3920	3.2	44.2	-3.5
3940	3.0	44.8	-3.5
3960	2.7	41.6	-3.8
3980	2.4	40.1	-4.0
4000	2.1	38.5	-4.1
4020	2.0	36.0	-4.4
4040	2.1	38.2	-4.2
4060	2.0	37.2	-4.3
4080	2.3	38.7	-4.1
4100	2.4	40.6	-3.9
4120	2.3	38.1	-4.2
4140	2.3	37.7	-4.2
4160	2.1	33.9	-4.7
4180	1.7	30.9	-5.1
4200	1.6	29.9	-5.2



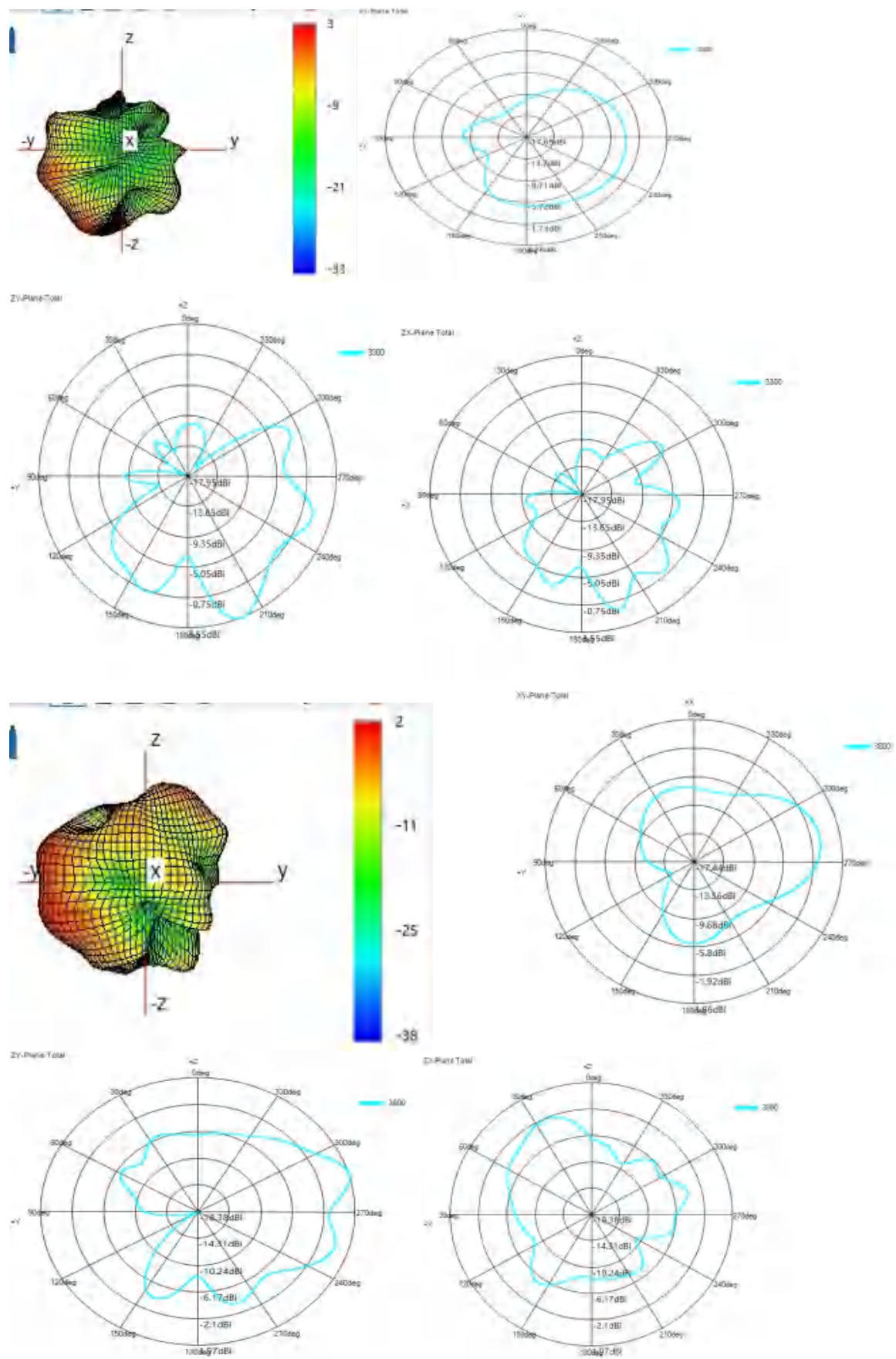


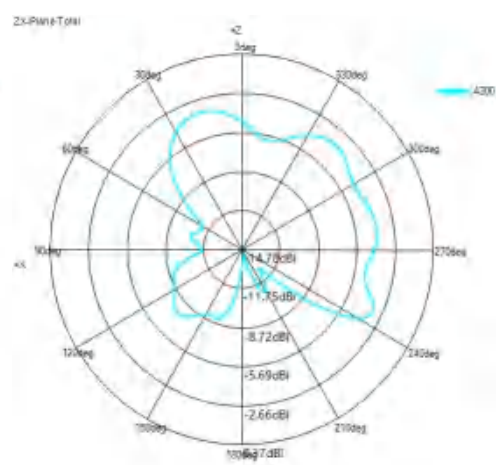
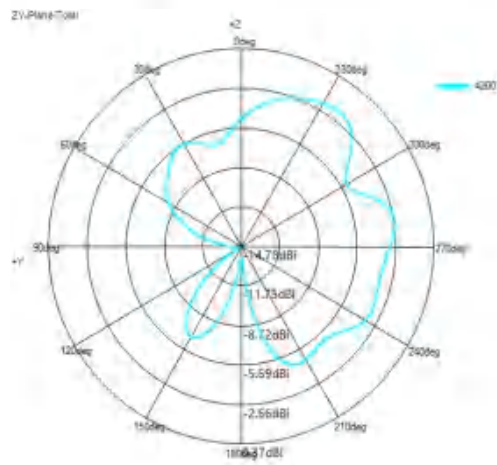
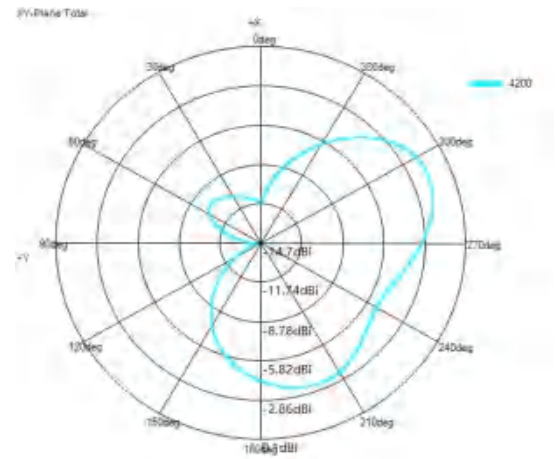
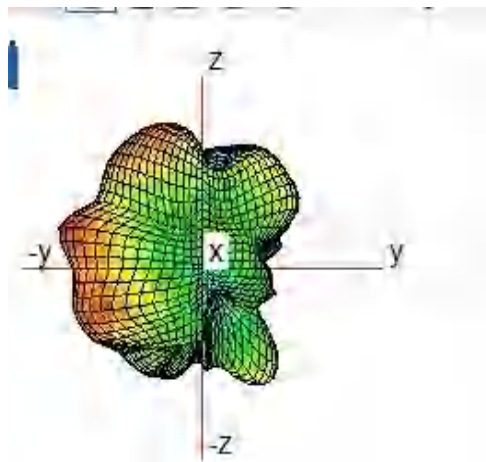
七、ANT5 antenna Test Data



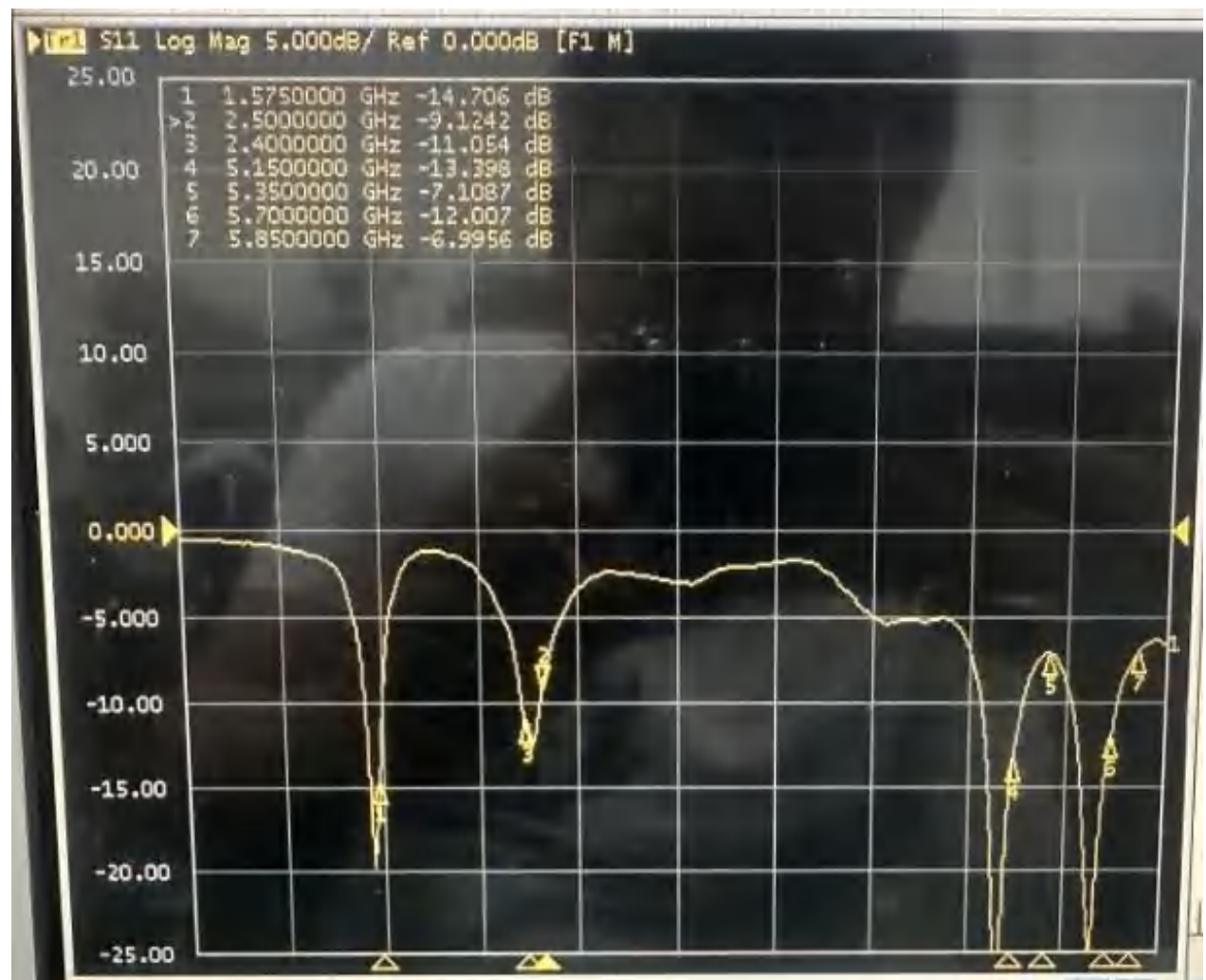
7.1 ANT5 Passive Efficiency Data & Gain

Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
3300	-4.7	25.4	-6.0
3350	-5.2	26.1	-5.8
3400	-5.7	27.2	-5.7
3450	-5.8	26.5	-5.8
3500	-5.1	28.7	-5.4
3550	-4.0	31.2	-5.1
3600	-4.1	29.3	-5.3
3650	-3.4	28.0	-5.5
3700	-1.0	27.6	-5.6
3750	0.6	27.5	-5.6
3800	0.7	26.1	-5.8
3850	0.8	25.8	-5.9
3900	1.1	27.8	-5.6
3950	0.8	25.9	-5.9
4000	-0.1	26.4	-5.8
4050	-0.7	29.8	-5.3
4100	-1.3	21.8	-6.6
4150	-3.0	20.5	-6.9
4200	-4.8	23.1	-6.4





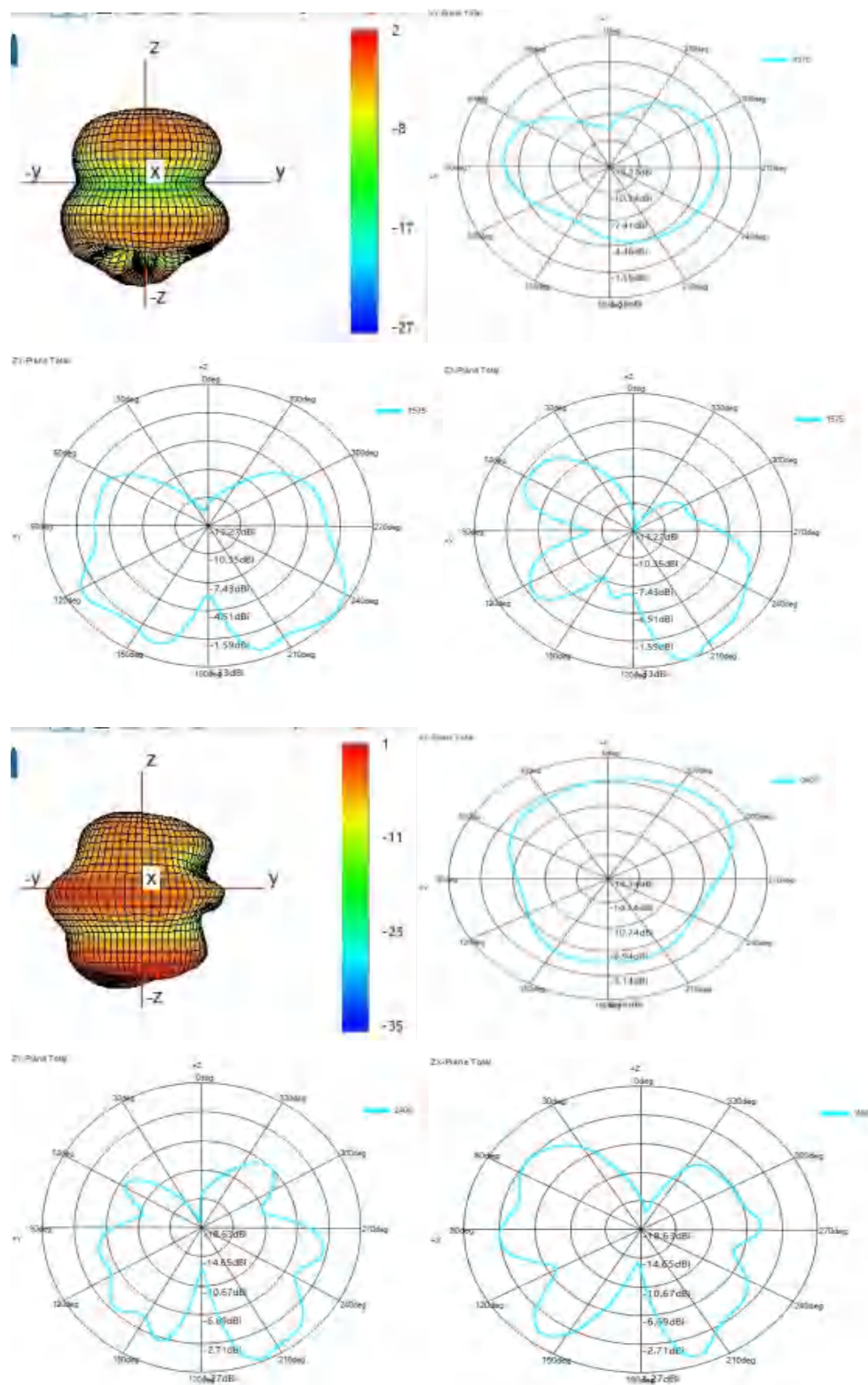
八、 ANT6 antenna Test Data

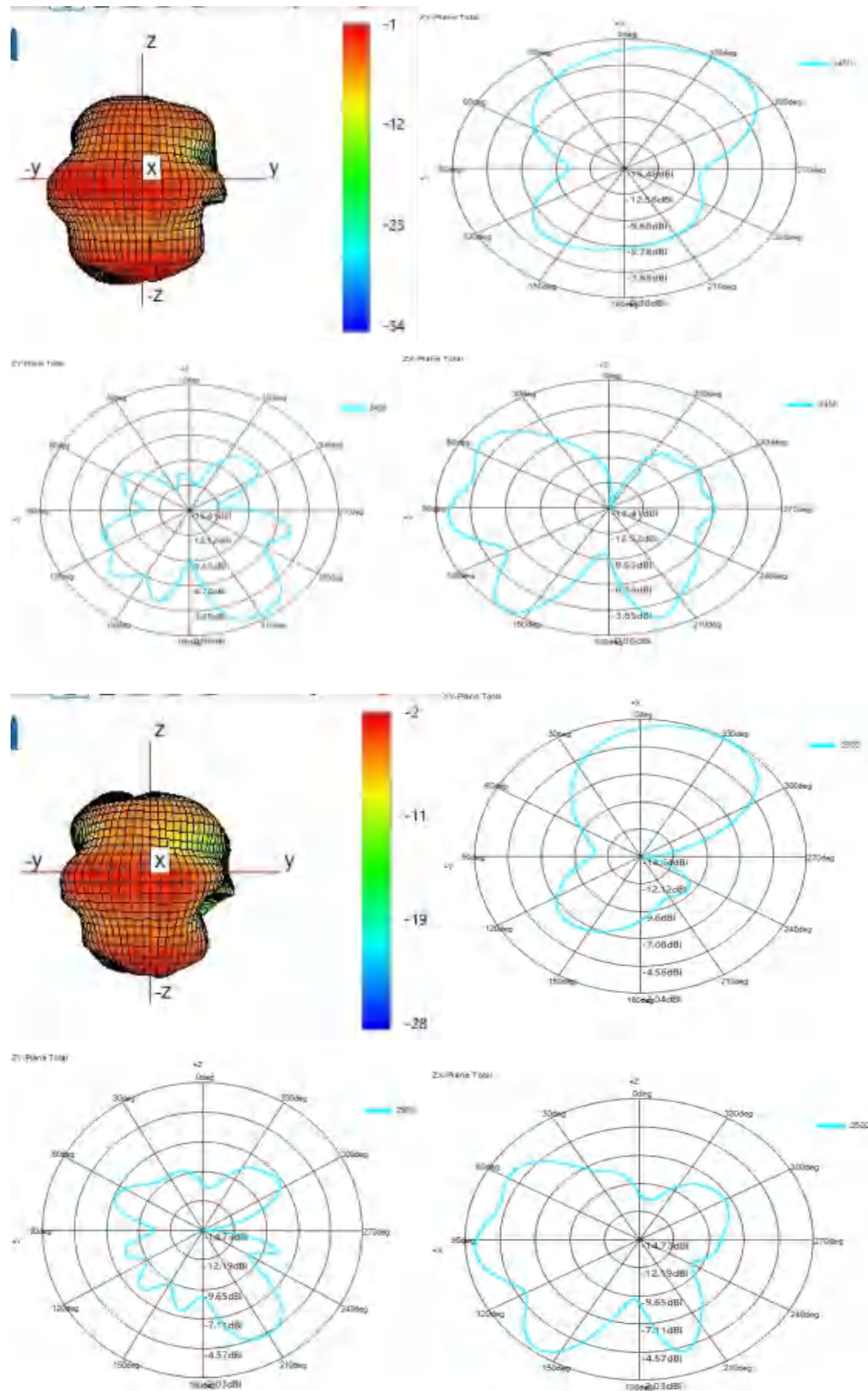


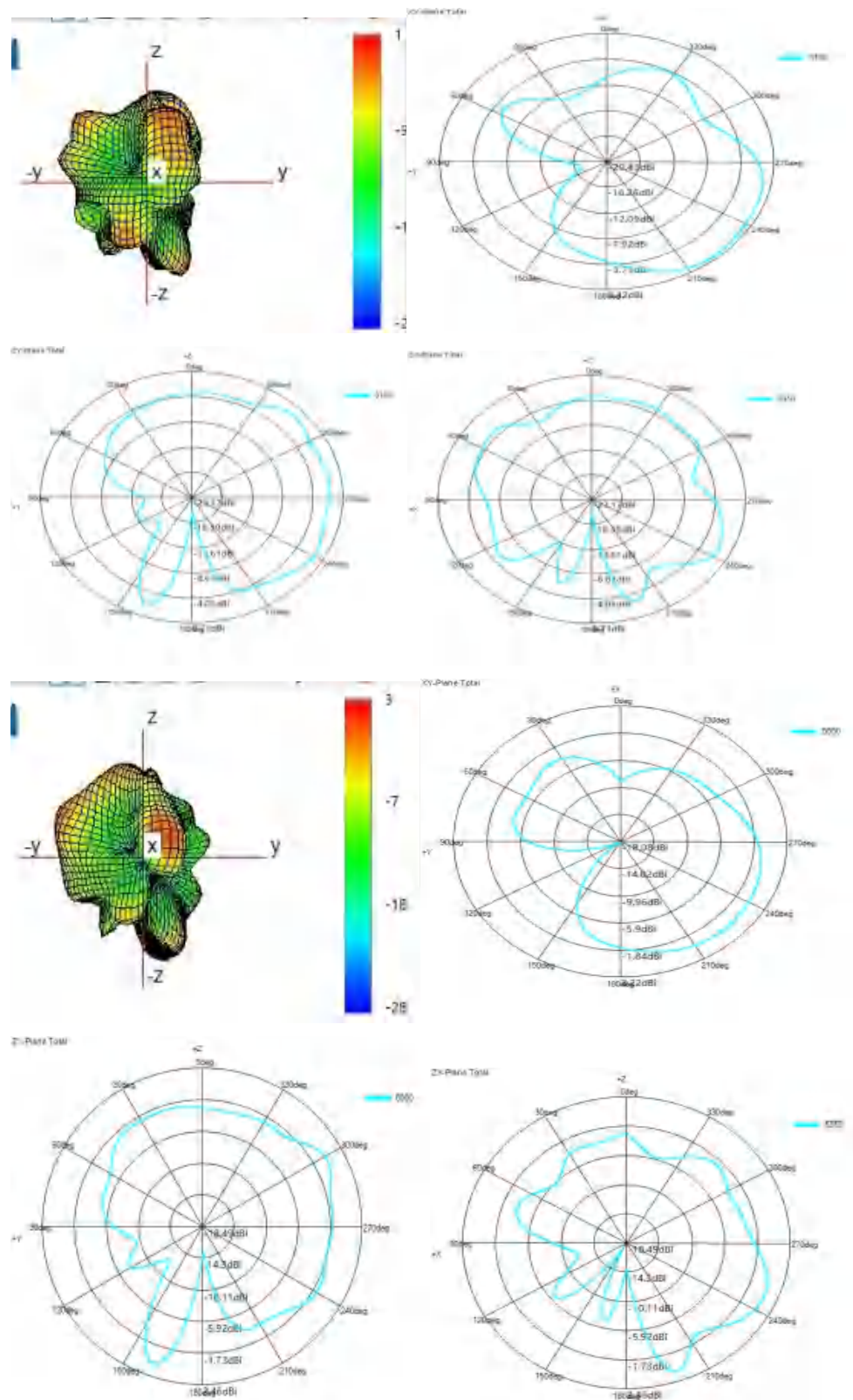
8.1 ANT6 Passive Efficiency Data & Gain

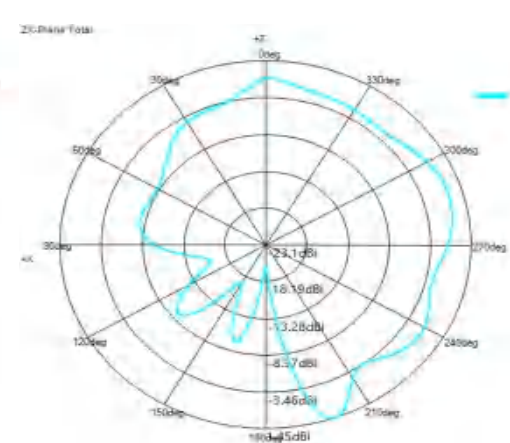
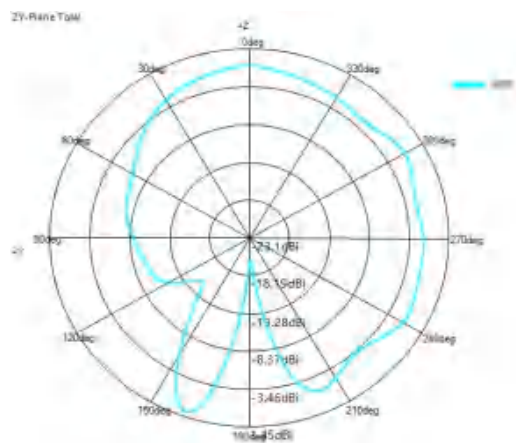
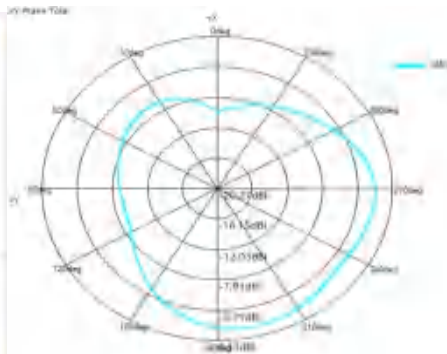
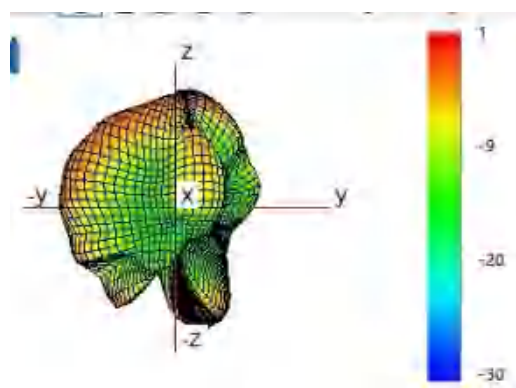
Freq (MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
1500	1.8	42.4	-3.7
1505	2.0	44.1	-3.6
1510	2.1	45.7	-3.4
1515	2.2	47.3	-3.3
1520	2.4	49.2	-3.1
1525	2.5	50.4	-3.0
1530	2.6	51.5	-2.9
1535	2.6	52.1	-2.8
1540	2.6	52.5	-2.8
1545	2.6	51.9	-2.9
1550	2.6	51.1	-2.9
1555	2.6	50.4	-3.0
1560	2.5	49.8	-3.0
1565	2.6	49.5	-3.1
1570	2.6	49.3	-3.1
1575	2.6	48.8	-3.1
1580	2.4	47.3	-3.3
1585	2.2	45.4	-3.4
1590	2.2	43.8	-3.6
1595	2.1	42.3	-3.7
1600	1.9	40.5	-3.9
2400	2.3	41.8	-3.8
2410	2.3	43.6	-3.6
2420	2.4	45.0	-3.5
2430	2.4	44.8	-3.5
2440	2.3	45.3	-3.4
2450	2.3	45.0	-3.5
2460	2.0	43.6	-3.6
2470	1.7	41.7	-3.8
2480	1.4	39.6	-4.0
2490	1.1	38.7	-4.1
2500	1.0	37.6	-4.3

Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
5150	0.9	34.6	-4.6
5200	1.8	45.6	-3.4
5250	2.0	47.8	-3.2
5300	0.8	35.1	-4.6
5350	0.6	35.4	-4.5
5400	2.0	49.7	-3.0
5450	1.4	42.0	-3.8
5500	0.0	31.3	-5.0
5550	0.1	34.4	-4.6
5600	1.0	42.3	-3.7
5650	0.1	35.5	-4.5
5700	-0.9	27.5	-5.6
5750	0.2	32.7	-4.9
5800	1.1	35.3	-4.5
5850	0.3	27.7	-5.6









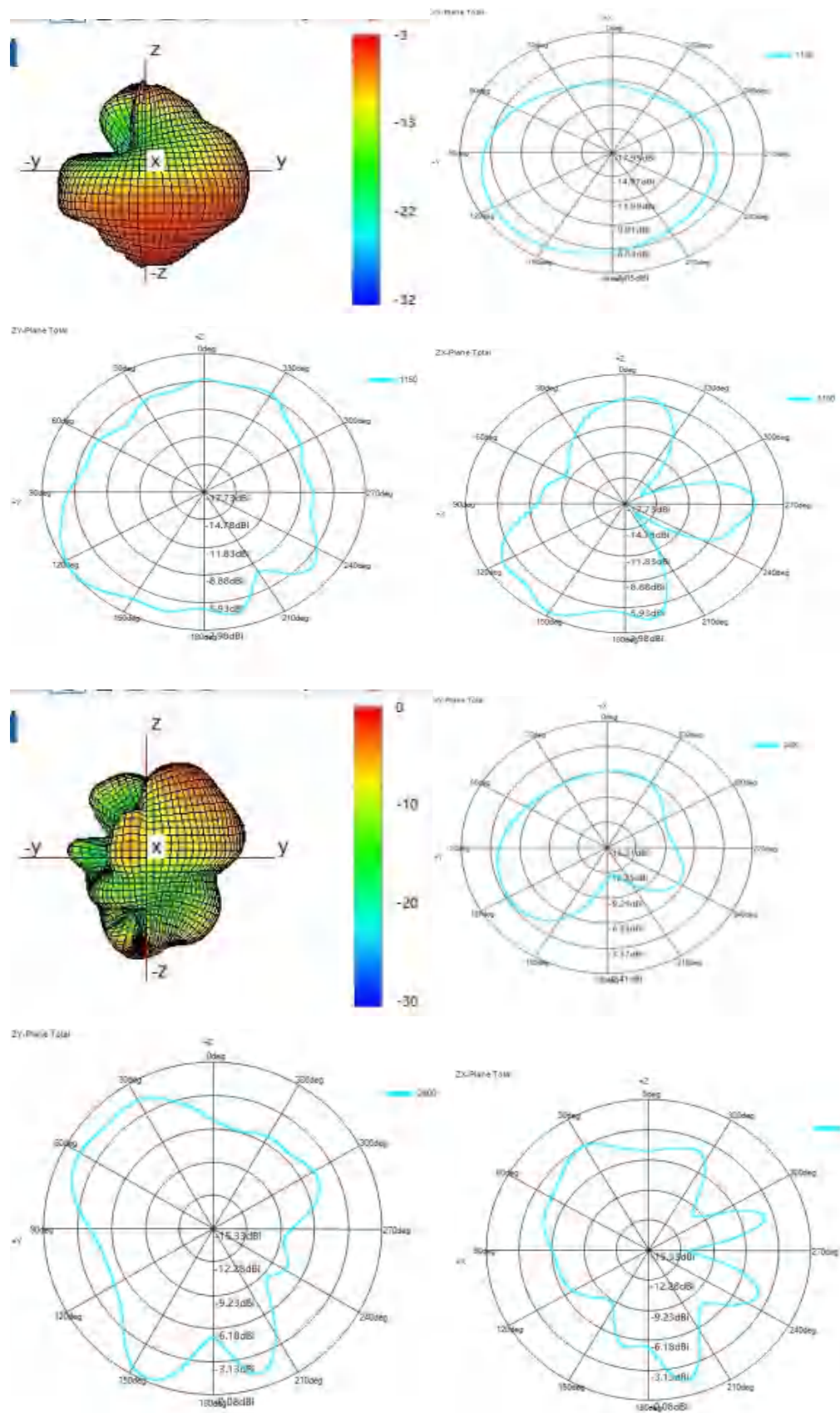
九、 ANT7 antenna Test Data

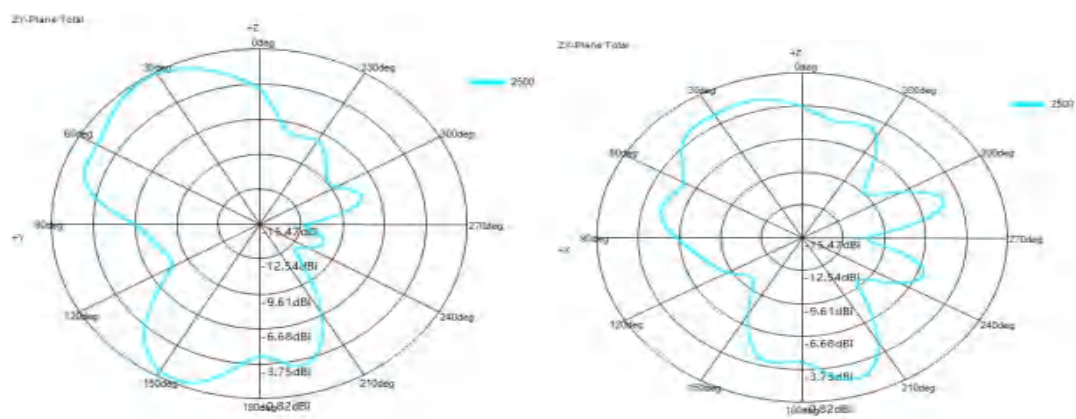
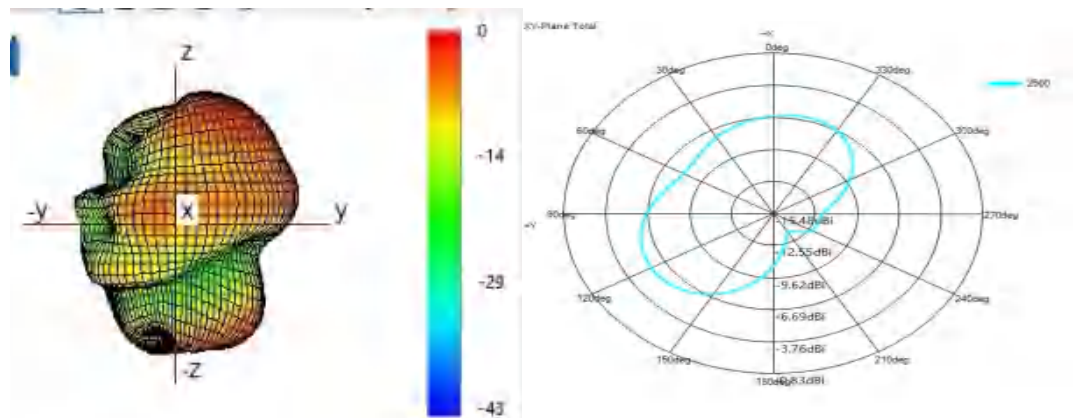
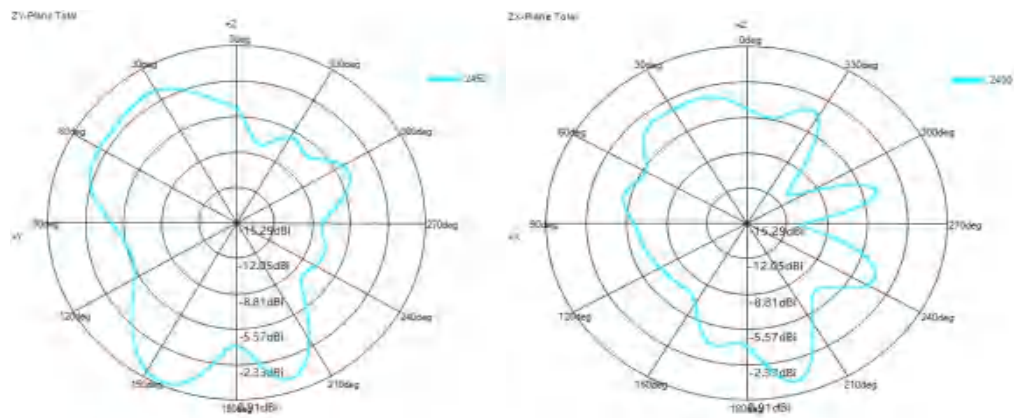
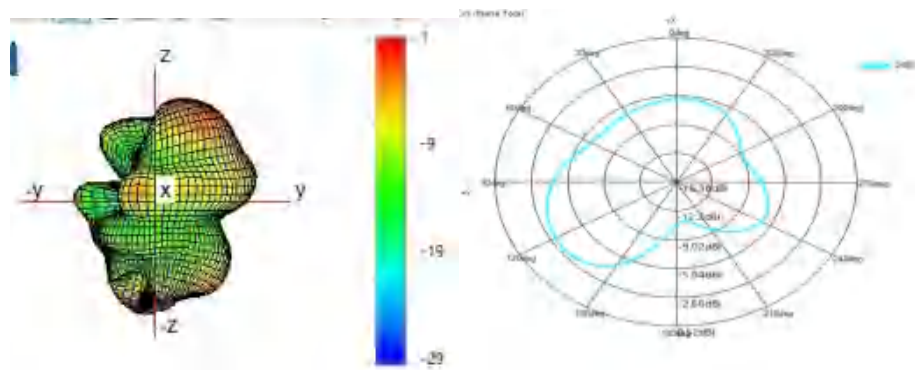


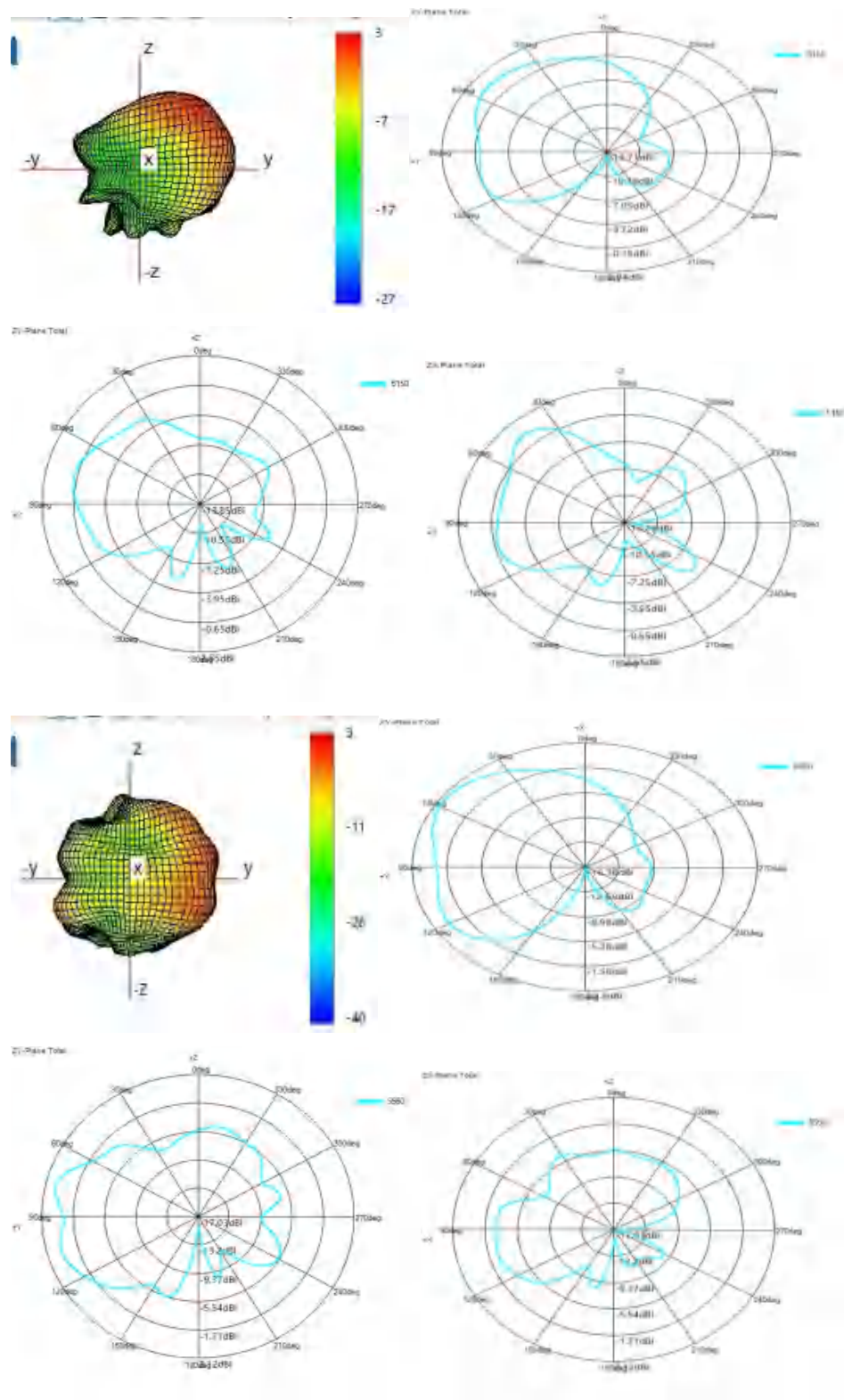
9.1 ANT7 Passive Efficiency Data & Gain

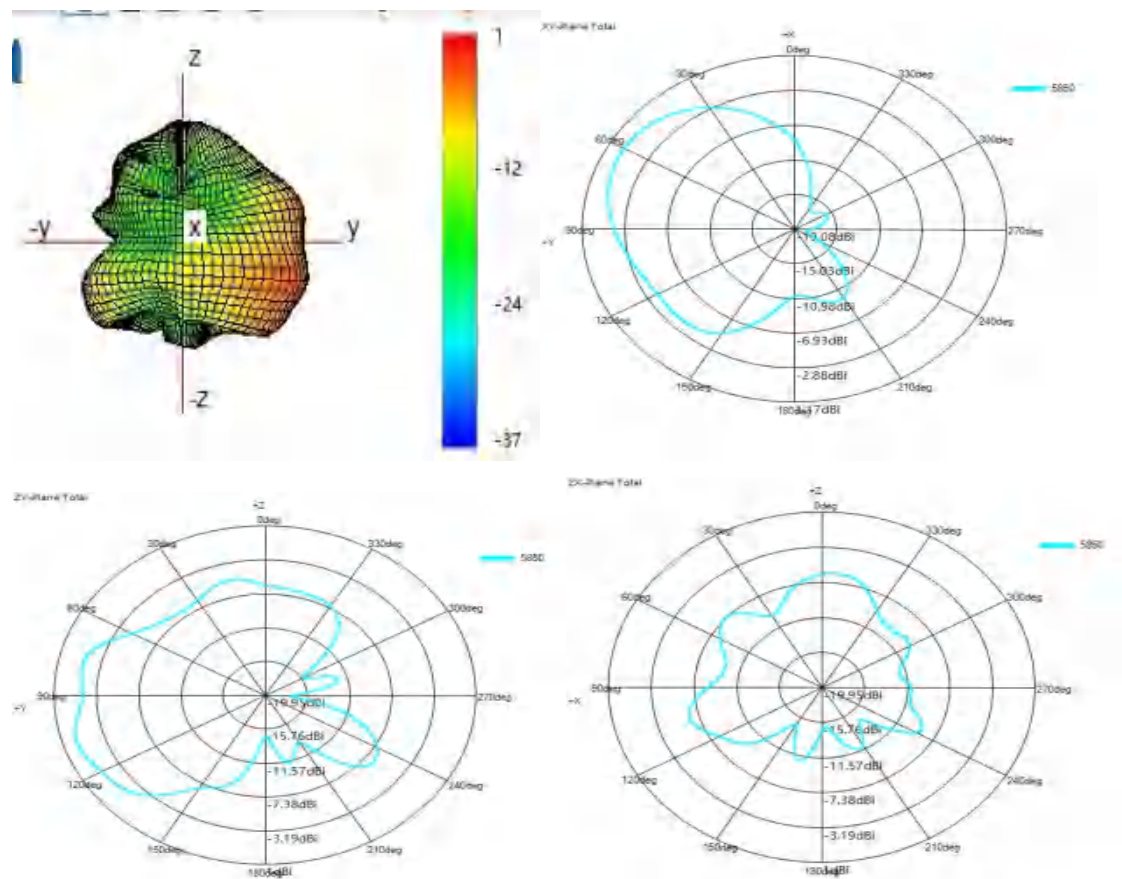
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
1150	-2.4	24.2	-6.2
1155	-2.4	24.4	-6.1
1160	-2.5	24.6	-6.1
1165	-2.4	24.7	-6.1
1170	-2.5	24.6	-6.1
1175	-2.6	24.0	-6.2
1180	-2.8	23.1	-6.4
1185	-2.9	22.3	-6.5
1190	-3.0	21.9	-6.6
1195	-3.2	21.2	-6.7
1200	-3.5	19.9	-7.0
2400	-0.6	36.6	-4.4
2410	-0.4	37.8	-4.2
2420	-0.6	37.7	-4.2
2430	-1.0	34.5	-4.6
2440	-0.7	34.4	-4.6
2450	-0.7	35.0	-4.6
2460	-1.1	32.7	-4.9
2470	-1.1	31.0	-5.1
2480	-1.4	29.1	-5.4
2490	-1.5	28.4	-5.5
2500	-1.2	26.2	-5.8

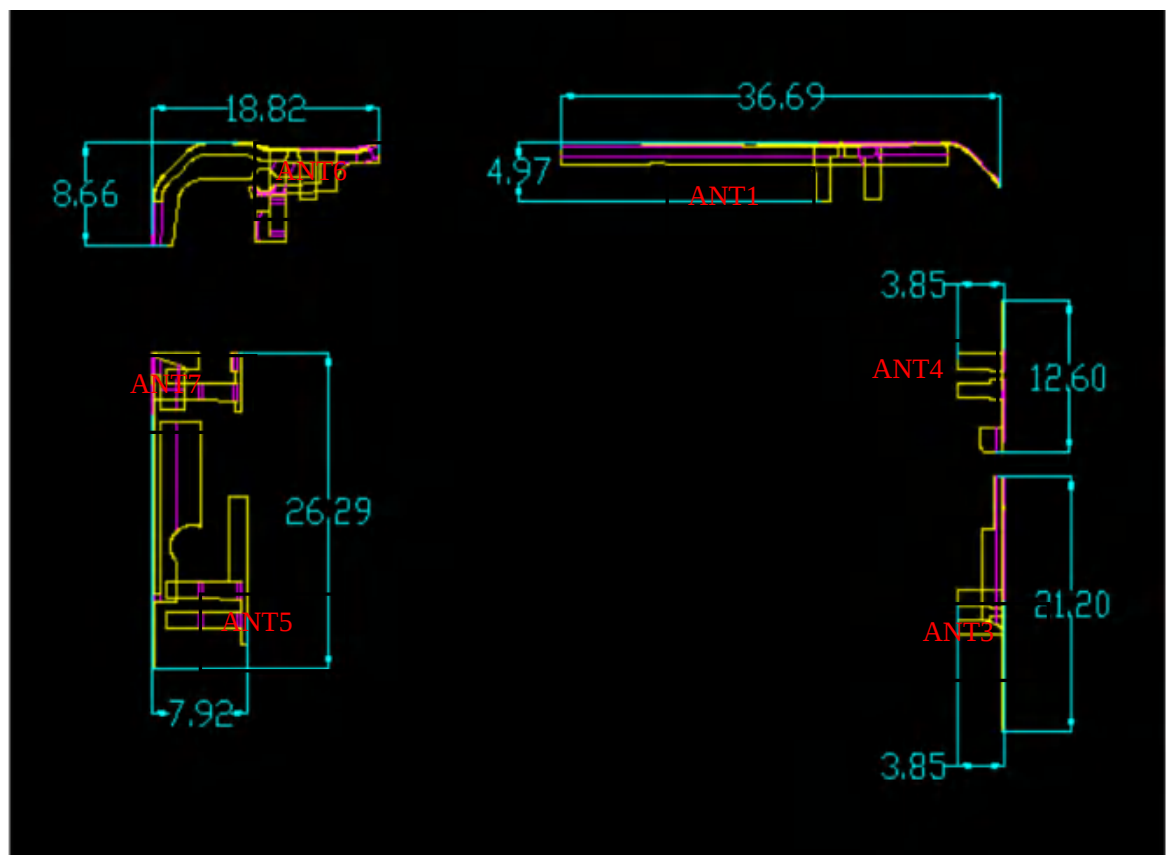
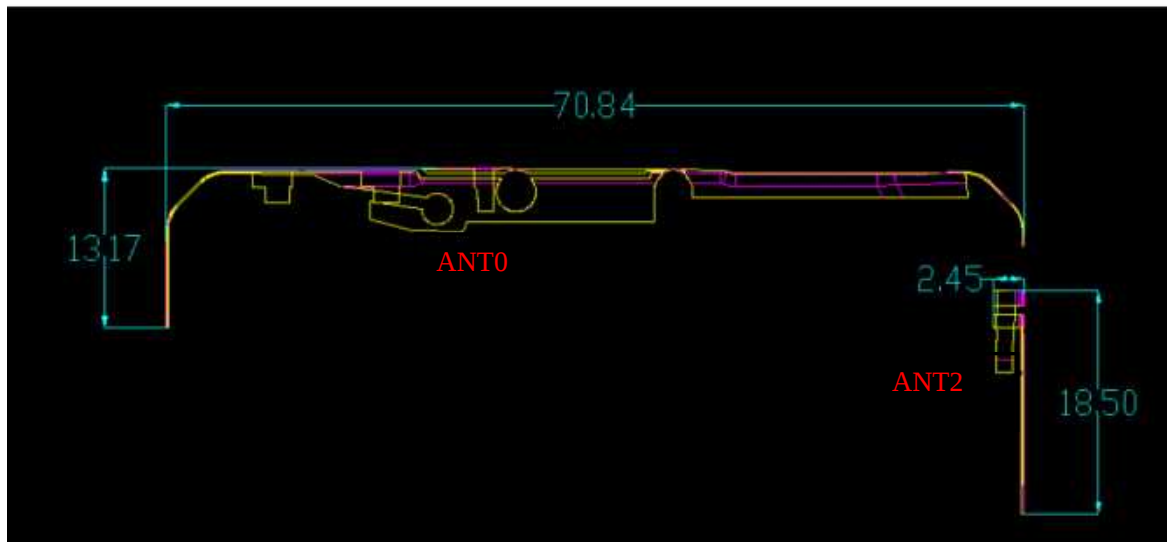
Freq(MHz)	Gain(dBi)	Efficiency(%)	Efficiency (dB)
5150	-1.9	32.7	-4.9
5200	-1.3	39.4	-4.1
5250	-1.0	39.6	-4.0
5300	-2.2	30.0	-5.2
5350	-2.0	30.8	-5.1
5400	-0.9	42.2	-3.8
5450	-2.1	32.2	-4.9
5500	-3.8	22.3	-6.5
5550	-3.1	24.8	-6.1
5600	-1.7	33.7	-4.7
5650	-1.8	33.0	-4.8
5700	-2.1	29.0	-5.4
5750	-1.0	36.2	-4.4
5800	-0.4	40.7	-3.9
5850	-1.1	33.8	-4.8

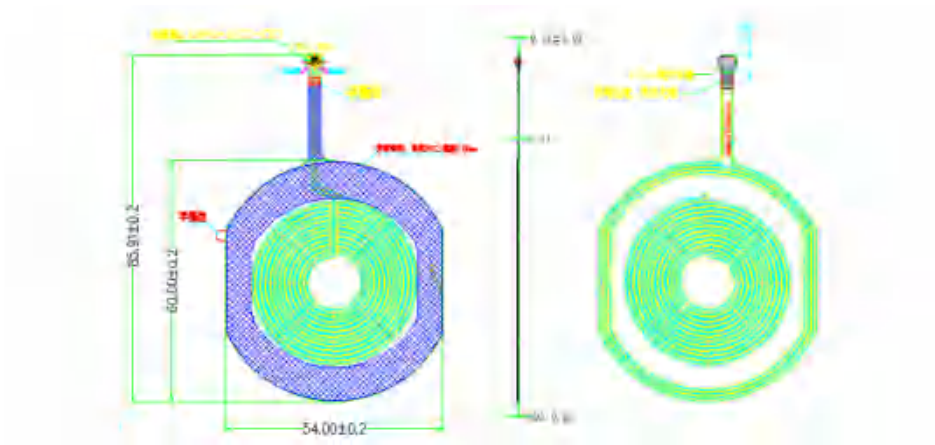






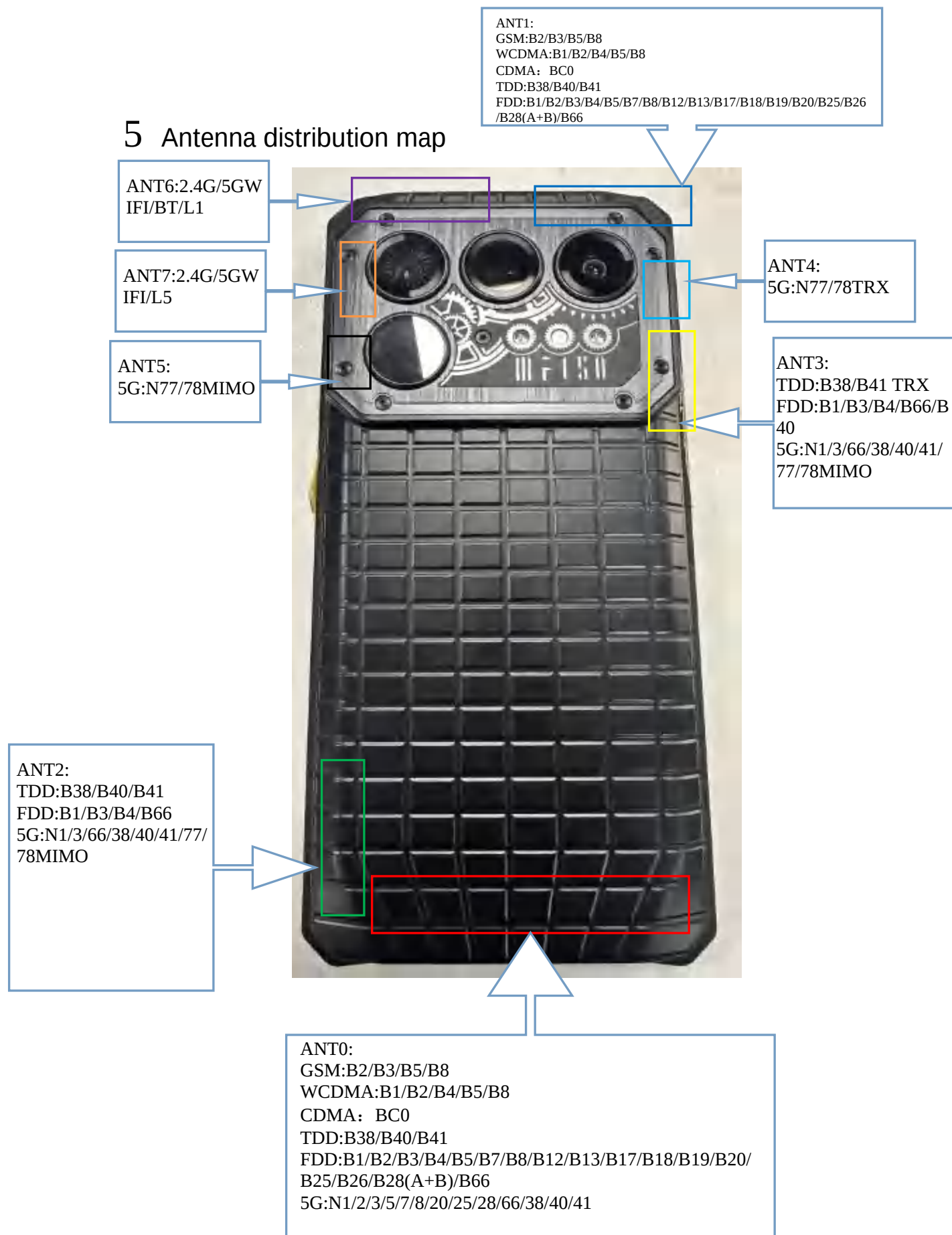






unit : mm

5 Antenna distribution map



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