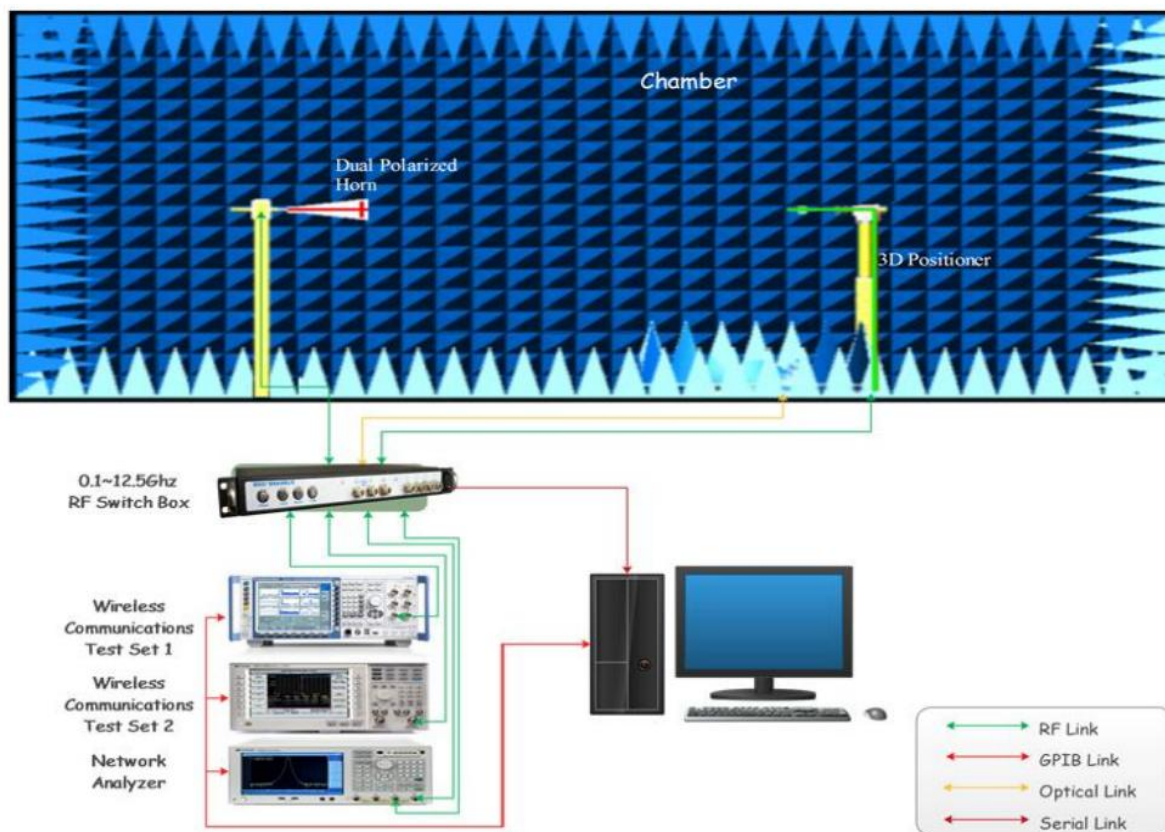


GQ5015 Antenna report

Test Address	Shenzhen3Good Wireless Communications CO.,LTD Room501,Jinfulai Building,No.49-1,Dabao Road,Baoan District,Shenzhen
Test Date	December30(th), 2024
Test Instrument	vector network analyzer-Agilent Technologies E5071B

Facility description Measurement procedure





Antenna information:

Customer	Shenzhen Gotron Electronic CO.,LTD
Antenna Type	LDS

Passive performance figure:

Frequency(MHZ)	703~960	1710~2690
VSWR	<3.5	<3.5



ANT0

(1550MHZ-1600MHZ)GPS (2400MHZ-2500MHZ) BT/WIFI 2.4G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1550	36.35	-4.4	3.51	2400	32.08	-4.94	1.67
1555	36.8	-4.34	3.46	2410	32.41	-4.89	1.75
1560	35.91	-4.45	3.27	2420	32.89	-4.83	1.74
1565	35.24	-4.53	3.09	2430	33.21	-4.79	1.78
1570	36.15	-4.42	3.11	2440	33.22	-4.79	1.63
1575	35.59	-4.49	2.96	2450	34.06	-4.68	1.88
1580	35.65	-4.48	2.88	2460	33.52	-4.75	1.91
1585	35.17	-4.54	2.7	2470	32.85	-4.84	1.82
1590	35.89	-4.45	2.69	2480	32.89	-4.83	1.8
1595	34.64	-4.6	2.5	2490	34.1	-4.67	1.78
1600	33.71	-4.72	2.31	2500	32.5	-4.88	1.55

(5150MHZ-5850MHZ) WIFI 5G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	19.61	-7.08	-0.51	5400	34.46	-4.63	0.85	5630	28.63	-5.43	0.54
5160	18.83	-7.25	-0.78	5410	34.2	-4.66	0.68	5640	27.89	-5.54	0.47
5170	17.78	-7.5	-1.15	5420	34.2	-4.66	0.71	5650	27.11	-5.67	0.38
5180	17.58	-7.55	-1.37	5430	33.5	-4.75	0.6	5660	27.46	-5.61	0.45
5190	18.07	-7.43	-1.19	5440	32.84	-4.84	0.52	5670	25.85	-5.88	0.13
5200	18.69	-7.29	-1.08	5450	33.12	-4.8	0.29	5680	25.64	-5.91	0.2
5210	19.93	-7.01	-0.92	5460	33.14	-4.8	0.31	5690	24.19	-6.16	-0.02
5220	20.29	-6.93	-0.95	5470	32.28	-4.91	0.13	5700	22.97	-6.39	-0.08
5230	20.36	-6.91	-0.97	5480	30.2	-5.2	-0.07	5710	21.2	-6.74	-0.77
5240	19.87	-7.02	-1.28	5490	30.46	-5.16	0.05	5720	20.48	-6.89	-0.68
5250	20.77	-6.83	-1.18	5500	29.73	-5.27	-0.25	5730	21.38	-6.7	-0.78
5260	22.27	-6.52	-0.69	5510	29.4	-5.32	-0.2	5740	20.86	-6.81	-0.52
5270	22.42	-6.49	-0.59	5520	30.04	-5.22	-0.06	5750	20.38	-6.91	-1.1
5280	23.17	-6.35	-0.27	5530	32.16	-4.93	0.17	5760	18.37	-7.36	-1.39
5290	24.99	-6.02	-0.06	5540	33.06	-4.81	0.37	5770	18.63	-7.3	-1.74
5300	24.58	-6.09	-0.1	5550	31.55	-5.01	0.07	5780	18.09	-7.43	-1.61
5310	25.32	-5.97	0.08	5560	30.51	-5.16	0.1	5790	17.47	-7.58	-2.06
5320	27.98	-5.53	0.37	5570	31.5	-5.02	0.22	5800	16.53	-7.82	-2.07
5330	27.85	-5.55	0.33	5580	31.83	-4.97	0.41	5810	15.86	-8	-2.24
5340	29.21	-5.34	0.33	5590	31.46	-5.02	0.51	5820	15.77	-8.02	-2.53
5350	30.3	-5.19	0.49	5600	31.2	-5.06	0.51	5830	15.31	-8.15	-2.53
5360	30.14	-5.21	0.51	5610	30.28	-5.19	0.74	5840	15.55	-8.08	-2.61
5370	30.39	-5.17	0.5	5620	29.59	-5.29	0.46	5850	16.56	-7.81	-2.52
5380	31.37	-5.03	0.63								
5390	29.11	-5.36	0.07								



ANT2

(600MHZ-700MHZ)(700MHZ-800MHZ)(800MHZ-900MHZ) (1710MHZ-2700MHZ)

Freq	Effi	Effi	Gain	Freq	Effi	Effi	Gain	Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)	(MHz)	(%)	(dB)	(dBi)	(MHz)	(%)	(dB)	(dBi)
820	5.51	-12.59	-8.77	1710	30.26	-5.19	0.42	1960	33.92	-4.7	-1.32
830	5.48	-12.61	-8.89	1720	31.7	-4.99	0.5	1970	33.74	-4.72	-1.16
840	5.97	-12.24	-8.42	1730	31.88	-4.96	0.5	1980	35.43	-4.51	-0.75
850	6.19	-12.08	-7.94	1740	30.72	-5.13	0.5	1990	34.57	-4.61	-0.66
860	7.2	-11.43	-6.8	1750	31.53	-5.01	0.79	2000	35.11	-4.55	-0.58
870	8.5	-10.71	-6.01	1760	31.72	-4.99	0.86	2010	34.12	-4.67	-0.73
880	11.8	-9.28	-4.43	1770	31.99	-4.95	0.85	2020	32.68	-4.86	-1.05
890	15.25	-8.17	-3.49	1780	32.37	-4.9	0.81	2030	33.4	-4.76	-1.05
900	19.32	-7.14	-2.41	1790	31.65	-5	0.6	2040	32.74	-4.85	-1.26
910	22.19	-6.54	-1.76	1800	31.39	-5.03	0.63	2050	31.92	-4.96	-1.44
920	22.74	-6.43	-1.66	1810	32.77	-4.85	0.82	2060	31.35	-5.04	-1.46
930	22.7	-6.44	-1.53	1820	33.03	-4.81	0.87	2070	30.86	-5.11	-1.35
940	20.74	-6.83	-1.87	1830	34.24	-4.65	1.05	2080	30.06	-5.22	-1.46
950	18.18	-7.41	-2.45	1840	35.05	-4.55	1.2	2090	30.57	-5.15	-1.27
960	14.79	-8.3	-3.38	1850	36.38	-4.39	1.42	2100	29.83	-5.25	-1.54
				1860	38.2	-4.18	1.63	2110	25.41	-5.95	-2.14
				1870	38.41	-4.16	1.66	2120	24.74	-6.07	-2.36
				1880	37.97	-4.21	1.64	2130	25.24	-5.98	-2.2
				1890	38.54	-4.14	1.6	2140	26.06	-5.84	-2.1
				1900	39.48	-4.04	1.55	2150	25.65	-5.91	-2.04
				1910	39.26	-4.06	1.25	2160	25.41	-5.95	-2.02
				1920	39.83	-4	1.06	2170	25.17	-5.99	-2.08
				1930	38.59	-4.14	0.45	2180	25.2	-5.99	-2.11
				1940	35.84	-4.46	-0.2	2190	24.78	-6.06	-2.23
				1950	35.4	-4.51	-0.75	2200	24.25	-6.15	-2.3



Freq	Effi	Effi	Gain	Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)	(MHz)	(%)	(dB)	(dBi)
2210	24.51	-6.11	-2.32	2460	38.12	-4.19	1.37
2220	24.58	-6.09	-2.39	2470	38.25	-4.17	1.41
2230	25.24	-5.98	-2.35	2480	39.93	-3.99	1.68
2240	24.12	-6.18	-2.57	2490	42.07	-3.76	1.89
2250	23.77	-6.24	-2.59	2500	42.28	-3.74	2.01
2260	22.74	-6.43	-2.88	2510	42.12	-3.76	1.96
2270	22.66	-6.45	-2.92	2520	42.38	-3.73	1.97
2280	21.02	-6.77	-3.39	2530	41.31	-3.84	1.84
2290	20.62	-6.86	-3.56	2540	39.52	-4.03	1.52
2300	20.85	-6.81	-3.56	2550	38.3	-4.17	1.33
2310	21.49	-6.68	-3.53	2560	37.89	-4.21	1.34
2320	23.61	-6.27	-3.18	2570	37.19	-4.3	1.34
2330	25.49	-5.94	-2.84	2580	33.59	-4.74	0.94
2340	27.54	-5.6	-2.34	2590	31.02	-5.08	0.53
2350	28.6	-5.44	-2.2	2600	31.33	-5.04	0.5
2360	29.58	-5.29	-2.04	2610	29.8	-5.26	0.22
2370	30.45	-5.16	-1.66	2620	26.97	-5.69	-0.2
2380	31.13	-5.07	-1.04	2630	25.39	-5.95	-0.48
2390	30.94	-5.09	-0.76	2640	25.66	-5.91	-0.47
2400	32.17	-4.92	-0.38	2650	25.59	-5.92	-0.57
2410	33.11	-4.8	-0.08	2660	26.92	-5.7	-0.46
2420	34.92	-4.57	0.39	2670	27.22	-5.65	-0.36
2430	36.32	-4.4	0.85	2680	28.54	-5.45	-0.13
2440	36.05	-4.43	1	2690	26.85	-5.71	-0.43
2450	37.39	-4.27	1.26	2700	26.44	-5.78	-0.45

RF2 2.7nH

Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
820	14.23	-8.47	-5.56
830	13.78	-8.61	-6.11
840	13.62	-8.66	-5.79
850	13.97	-8.55	-5.67
860	14.75	-8.31	-5.08
870	15.24	-8.17	-4.83
880	15.86	-8	-4.56
890	16.38	-7.86	-4.33
900	14.95	-8.25	-4.55
910	14.35	-8.43	-4.51
920	14.06	-8.52	-4.59
930	13.34	-8.75	-4.53
940	12.04	-9.19	-4.96



950	10.86	-9.64	-5.36
960	9.59	-10.18	-5.94

RF3 7.5nH

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	9.46	-10.24	-6.95
710	14.48	-8.39	-4.87
720	15.96	-7.97	-4.47
730	14.55	-8.37	-4.39
740	13.76	-8.61	-4.79
750	12.75	-8.94	-4.62
760	12.94	-8.88	-4.76
770	11.9	-9.25	-4.82
780	12.76	-8.94	-4.83
790	14.18	-8.48	-4.35
800	17.28	-7.63	-3.93

RF4 15nH

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
600	5.54	-12.57	-7.92
610	6.19	-12.08	-7.6
620	7.9	-11.02	-7.1
630	9.71	-10.13	-6.58
640	10.05	-9.98	-6.08
650	8.87	-10.52	-6.58
660	8.38	-10.77	-6.89
670	8.18	-10.87	-7.56
680	8.87	-10.52	-7.9
690	11.65	-9.34	-6.25
700	14.38	-8.42	-5.38

ANT3

(2490MHZ-2700MHZ) (3300MHZ-5100MHZ)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2500	2.32	-16.35	-10.06	3300	22.87	-6.41	-2.39
2510	2.23	-16.52	-10.3	3320	24.88	-6.04	-1.86
2520	2.33	-16.33	-10.43	3340	23.93	-6.21	-1.91
2530	2.45	-16.1	-10.43	3360	25.34	-5.96	-1.47
2540	2.53	-15.97	-10.41	3380	24.04	-6.19	-1.56
2550	2.77	-15.58	-10.13	3400	30.44	-5.17	-0.53
2560	2.98	-15.26	-9.87	3420	27.76	-5.57	-1.29
2570	3	-15.23	-9.94	3440	31.16	-5.06	-1.05
2580	3.32	-14.78	-9.58	3460	28.77	-5.41	-1.77
2590	3.48	-14.58	-9.32	3480	29.53	-5.3	-1.9
2600	3.86	-14.14	-8.83	3500	27.25	-5.65	-1.85
2610	4.09	-13.89	-8.45	3520	30.47	-5.16	-1
2620	4.04	-13.94	-8.56	3540	29.74	-5.27	-0.52
2630	4.51	-13.46	-8.17	3560	31.68	-4.99	0.13
2640	5.23	-12.82	-7.59	3580	28.43	-5.46	0.14
2650	5.45	-12.63	-7.42	3600	31.1	-5.07	0.79
2660	5.88	-12.31	-7.12	3620	28.1	-5.51	0.6
2670	5.86	-12.32	-7.25	3640	30.92	-5.1	1.04
2680	5.6	-12.52	-7.48	3660	29.52	-5.3	0.82
2690	5.78	-12.38	-7.39	3680	28.39	-5.47	0.64
2700	5.78	-12.38	-7.51	3700	27.39	-5.62	0.53
				3720	29.77	-5.26	0.9
				3740	25.78	-5.89	0.31
				3760	27.48	-5.61	0.68



3780	23.24	-6.34	-0.05
3800	23.92	-6.21	-0.02
3820	24.39	-6.13	0
3840	23.22	-6.34	-0.14
3860	23.27	-6.33	-0.19
3880	25.08	-6.01	0.2



ANT4

(2490MHZ-2700MHZ) (3300MHZ-5100MHZ)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2490	35.16	-4.54	-0.86	3300	43.43	-3.62	1.5
2500	36.61	-4.36	-0.63	3320	50.2	-2.99	2.11
2510	35.97	-4.44	-0.77	3340	44.24	-3.54	1.64
2520	36.95	-4.32	-0.6	3360	49.05	-3.09	2.21
2530	39.15	-4.07	-0.21	3380	48.19	-3.17	2.06
2540	39.36	-4.05	-0.14	3400	50.96	-2.93	2.2
2550	40.95	-3.88	0.17	3420	46.66	-3.31	1.8
2560	42.31	-3.74	0.38	3440	48.09	-3.18	2.1
2570	43.66	-3.6	0.55	3460	39.54	-4.03	1.37
2580	43.79	-3.59	0.6	3480	41.65	-3.8	1.71
2590	44.45	-3.52	0.72	3500	36.08	-4.43	1.05
2600	45.35	-3.43	0.92	3520	36.71	-4.35	1.27
2610	46.39	-3.34	1.05	3540	36.59	-4.37	1.03
2620	44.4	-3.53	0.92	3560	36.3	-4.4	0.87
2630	44.41	-3.53	0.82	3580	33.73	-4.72	0.3
2640	46.31	-3.34	1.06	3600	38.86	-4.1	0.67
2650	46.36	-3.34	0.98	3620	34.34	-4.64	0.31
2660	46.7	-3.31	1.1	3640	39.93	-3.99	0.91
2670	46.61	-3.32	0.97	3660	39.33	-4.05	0.8
2680	46.75	-3.3	1.01	3680	39.03	-4.09	0.9
2690	46.15	-3.36	0.93	3700	40.44	-3.93	1.13
2700	46.26	-3.35	0.91	3720	42.6	-3.71	1.51
				3740	37.01	-4.32	0.86
				3760	40.88	-3.88	1.28
				3780	33.19	-4.79	0.32
				3800	33.74	-4.72	0.35
				3820	32.91	-4.83	0.24
				3840	30.65	-5.14	-0.29
				3860	30.17	-5.2	-0.29
				3880	32.36	-4.9	-0.02

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3900	31.65	-5	-0.19	4480	28.29	-5.48	-1.58
3920	35.03	-4.56	0.07	4500	29.95	-5.24	-1.35
3940	36.76	-4.35	0.06	4520	31.54	-5.01	-0.98
3960	34.95	-4.57	-0.26	4540	28.37	-5.47	-1.45
3980	41.22	-3.85	0.41	4560	30.92	-5.1	-1.3
4000	35.11	-4.55	-0.28	4580	31.51	-5.02	-1.35
4020	38.14	-4.19	0	4600	29.83	-5.25	-1.42
4040	39.4	-4.05	0.09	4620	31.25	-5.05	-1.26
4060	37.34	-4.28	-0.11	4640	27.24	-5.65	-1.79
4080	39.03	-4.09	0.09	4660	25.89	-5.87	-2.01
4100	35.93	-4.45	-0.12	4680	25.74	-5.89	-1.95
4120	32.29	-4.91	-0.5	4700	24.3	-6.14	-1.94
4140	34.18	-4.66	-0.29	4720	23.4	-6.31	-2.01
4160	28.74	-5.42	-1.09	4740	23.74	-6.25	-2.08
4180	30.17	-5.2	-1.08	4760	20.89	-6.8	-2.68
4200	30.5	-5.16	-1.15	4780	25.52	-5.93	-1.7
4220	31.58	-5.01	-1.02	4800	26.69	-5.74	-1.1
4240	31.8	-4.98	-1.17	4820	26.93	-5.7	-0.8
4260	30.96	-5.09	-1.22	4840	29.9	-5.24	-0.39
4280	32.45	-4.89	-0.96	4860	28.69	-5.42	-0.54
4300	32.41	-4.89	-1.05	4880	27.06	-5.68	-0.81
4320	32.79	-4.84	-0.78	4900	29.53	-5.3	-0.78
4340	32.26	-4.91	-0.99	4920	24.12	-6.18	-1.71
4360	32.52	-4.88	-1.18	4940	24.04	-6.19	-1.18
4380	30.94	-5.09	-1.57	4960	24.33	-6.14	-0.87
4400	29.6	-5.29	-1.79	4980	21.42	-6.69	-1.13
4420	26.93	-5.7	-2.2	5000	22.07	-6.56	-0.92
4440	30.02	-5.23	-1.72				
4460	29.1	-5.36	-1.75				



ANT5

(600MHZ-700MHZ)(700MHZ-800MHZ)(800MHZ-900MHZ) (1710MHZ-2700MHZ)

RF1 0 欧姆

ANT5:NC R169:12nH R167:5.6pF

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
820	17.64	-7.53	-5.54	1710	11.8	-9.28	-1.43
830	17.42	-7.59	-5.37	1720	13.08	-8.83	-1.24
840	18.09	-7.42	-4.6	1730	13.64	-8.65	-1.43
850	18.56	-7.31	-4.09	1740	13.85	-8.59	-1.57
860	20.38	-6.91	-3.66	1750	14.82	-8.29	-1.52
870	21.58	-6.66	-3.26	1760	15.06	-8.22	-1.64
880	24.68	-6.08	-2.71	1770	16.58	-7.8	-1.55
890	25.86	-5.87	-2.21	1780	17.14	-7.66	-1.73
900	25.55	-5.93	-2.01	1790	17.12	-7.66	-1.9
910	24.71	-6.07	-1.73	1800	17.73	-7.51	-1.83
920	25.21	-5.98	-1.51	1810	17.41	-7.59	-1.79
930	22.73	-6.43	-2.06	1820	16.98	-7.7	-2.04
940	18.96	-7.22	-3.46	1830	17.87	-7.48	-1.85
950	15.9	-7.99	-4.89	1840	18.2	-7.4	-2.01
960	14.25	-8.46	-5.07	1850	18.86	-7.24	-1.86
				1860	19.23	-7.16	-1.93
				1870	19.48	-7.1	-2.04
				1880	20.76	-6.83	-1.95
				1890	21.5	-6.67	-2.01
				1900	22.14	-6.55	-1.92
				1910	22.79	-6.42	-1.81
				1920	22.97	-6.39	-1.62
				1930	23.1	-6.36	-1.58
				1940	23.37	-6.31	-1.43
				1950	23.33	-6.32	-1.14



Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
1960	23.07	-6.37	-0.98	2210	23.48	-6.29	-3.41	2460	18.99	-7.21	-1.4
1970	23.14	-6.36	-0.83	2220	22.23	-6.53	-3.67	2470	16.35	-7.87	-2.02
1980	23.7	-6.25	-0.79	2230	20.78	-6.82	-4.03	2480	14.79	-8.3	-2.6
1990	23.89	-6.22	-0.74	2240	20.82	-6.81	-4.08	2490	14.61	-8.35	-2.93
2000	25.09	-6	-0.63	2250	21	-6.78	-4.1	2500	13.87	-8.58	-3.35
2010	24.31	-6.14	-0.84	2260	19.5	-7.1	-4.38	2510	12.93	-8.88	-3.71
2020	24.18	-6.17	-0.98	2270	19.81	-7.03	-4.42	2520	12.52	-9.02	-3.99
2030	25.37	-5.96	-0.9	2280	18.43	-7.35	-4.73	2530	11.06	-9.56	-4.71
2040	25.78	-5.89	-0.97	2290	18.17	-7.41	-4.61	2540	10.55	-9.77	-5.29
2050	25.3	-5.97	-1.18	2300	18.12	-7.42	-4.32	2550	10.34	-9.85	-5.6
2060	23.51	-6.29	-1.55	2310	17.57	-7.55	-4.16	2560	10.63	-9.74	-5.57
2070	22.46	-6.49	-2.03	2320	17.14	-7.66	-4.09	2570	10.41	-9.83	-5.63
2080	23.49	-6.29	-2.04	2330	18.51	-7.33	-3.49	2580	9.68	-10.14	-5.96
2090	24.59	-6.09	-1.92	2340	18.85	-7.25	-3.27	2590	9.09	-10.41	-6.09
2100	24.91	-6.04	-1.89	2350	20.9	-6.8	-2.63	2600	9.99	-10	-5.63
2110	20.61	-6.86	-2.68	2360	20.44	-6.9	-2.63	2610	9.92	-10.03	-5.72
2120	19.69	-7.06	-2.94	2370	20.61	-6.86	-2.41	2620	9.39	-10.28	-5.96
2130	20.76	-6.83	-2.97	2380	21.95	-6.59	-1.88	2630	9.17	-10.38	-5.98
2140	22.63	-6.45	-2.86	2390	24.62	-6.09	-1.24	2640	9.5	-10.22	-5.74
2150	22.42	-6.49	-3.08	2400	26.43	-5.78	-0.77	2650	9.92	-10.04	-5.46
2160	21.93	-6.59	-3.36	2410	27.01	-5.68	-0.6	2660	10.75	-9.69	-5.02
2170	20.27	-6.93	-3.89	2420	25.27	-5.97	-0.63	2670	11.43	-9.42	-4.77
2180	20.37	-6.91	-4.14	2430	23.61	-6.27	-0.73	2680	12.62	-8.99	-4.39
2190	22.89	-6.4	-3.54	2440	22.24	-6.53	-0.88	2690	12.06	-9.19	-4.52
2200	23.71	-6.25	-3.32	2450	20.77	-6.83	-1.13	2700	12.3	-9.1	-4.47

RF2		2nH	
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
750	14.84	-8.29	-4.67
760	16.15	-7.92	-4.39
770	14.62	-8.35	-4.83
780	16.1	-7.93	-4.51
790	19.63	-7.07	-3.9
800	26.38	-5.79	-2.12
810	24.86	-6.04	-1.97
820	25.52	-5.93	-1.53
830	24.65	-6.08	-1.57
840	23.74	-6.25	-1.98
850	21.63	-6.65	-2.76
860	20.95	-6.79	-3.07



870	19.27	-7.15	-3.47
880	18.31	-7.37	-3.65
890	16.84	-7.74	-4.21
900	15.36	-8.14	-4.81



RF3		6.8nH	
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
700	23.68	-6.26	-3.59
710	33.96	-4.69	-1.88
720	34.66	-4.6	-2.21
730	30.77	-5.12	-2.3
740	28.07	-5.52	-2.66
750	26.22	-5.81	-2.41
760	24.98	-6.02	-2.58
770	21.5	-6.68	-3.25
780	20.1	-6.97	-4.06
790	20.72	-6.84	-3.59
800	23.05	-6.37	-2.69

RF4		12nH	
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
600	12.94	-8.88	-4.88
610	14.23	-8.47	-4.88
620	16.93	-7.71	-4.8
630	19.06	-7.2	-4.46
640	18.93	-7.23	-4.32
650	17.11	-7.67	-4.83
660	16.89	-7.72	-5.19
670	18.24	-7.39	-4.76
680	21.05	-6.77	-3.38
690	27.45	-5.61	-1.73
700	30.33	-5.18	-1.63

ANT6

(2490MHZ-2700MHZ) (3300MHZ-5100MHZ)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2490	47.04	-3.28	0.88	3300	41.73	-3.8	2.53
2500	47.83	-3.2	0.87	3320	47.53	-3.23	3
2510	47.26	-3.26	0.89	3340	42.87	-3.68	2.4
2520	47.32	-3.25	0.83	3360	47.74	-3.21	2.83
2530	49.23	-3.08	1.04	3380	46.26	-3.35	2.53
2540	48.34	-3.16	0.99	3400	49.4	-3.06	2.75
2550	49.06	-3.09	1.14	3420	44.54	-3.51	2.18
2560	49.33	-3.07	1.24	3440	43.52	-3.61	1.82
2570	49.73	-3.03	1.34	3460	35.38	-4.51	0.71
2580	47.52	-3.23	1.16	3480	36.17	-4.42	0.57
2590	46.76	-3.3	1.11	3500	30.4	-5.17	-0.22
2600	46.01	-3.37	1.05	3520	30.75	-5.12	-0.16
2610	46.24	-3.35	1.15	3540	29.8	-5.26	-0.23
2620	43.05	-3.66	0.88	3560	29.3	-5.33	-0.42
2630	42.77	-3.69	0.95	3580	27.28	-5.64	-0.74
2640	43.4	-3.63	0.95	3600	30.46	-5.16	-0.28
2650	43.61	-3.6	1	3620	27.59	-5.59	-0.64
2660	43.28	-3.64	0.87	3640	32	-4.95	0.04
2670	43.53	-3.61	0.86	3660	30.93	-5.1	-0.09
2680	43.99	-3.57	0.85	3680	31.2	-5.06	-0.08
2690	43.56	-3.61	0.77	3700	30.75	-5.12	-0.33
2700	43.89	-3.58	0.76	3720	31.67	-4.99	-0.31
				3740	29.1	-5.36	-0.82
				3760	30.62	-5.14	-0.86



3780	25.14	-6	-1.95
3800	26.7	-5.73	-1.79
3820	26.02	-5.85	
3840	25.62	-5.91	
3860	26.14	-5.83	
3880	27.69	-5.58	

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3900	28.93	-5.39	-1.61	4480	39.93	-3.99	0.64
3920	31.62	-5	-1.21	4500	40.98	-3.87	0.74
3940	33.57	-4.74	-0.77	4520	41.6	-3.81	0.72
3960	33.31	-4.77	-0.61	4540	37.81	-4.22	0.64
3980	37.1	-4.31	-0.17	4560	39.4	-4.05	1.03
4000	32.57	-4.87	-0.72	4580	40.84	-3.89	1.47
4020	35.6	-4.48	-0.21	4600	38.44	-4.15	1.29
4040	34.44	-4.63	-0.06	4620	39.66	-4.02	1.61
4060	33.86	-4.7	-0.03	4640	35.54	-4.49	1.16
4080	34.34	-4.64	-0.02	4660	34.35	-4.64	1.06
4100	32.25	-4.91	-0.35	4680	34.23	-4.66	0.84
4120	29.64	-5.28	-0.66	4700	33.18	-4.79	0.46
4140	30.96	-5.09	-0.35	4720	31.48	-5.02	0.36
4160	27.47	-5.61	-0.74	4740	32.14	-4.93	0.4
4180	29.58	-5.29	-0.26	4760	29.04	-5.37	0.01
4200	29.47	-5.31	-0.12	4780	35.16	-4.54	0.61
4220	31.88	-4.96	0.2	4800	37.1	-4.31	0.67
4240	31.46	-5.02	0.32	4820	37.08	-4.31	0.31
4260	30.76	-5.12	0.39	4840	40.64	-3.91	0.69
4280	33.1	-4.8	0.65	4860	40.28	-3.95	0.09
4300	31.83	-4.97	0.53	4880	38.61	-4.13	0.32
4320	34.65	-4.6	1.04	4900	40.27	-3.95	0.53
4340	34.74	-4.59	0.95	4920	35.33	-4.52	0.21
4360	37.61	-4.25	1.22	4940	34.57	-4.61	0.19
4380	40.83	-3.89	1.32	4960	35.58	-4.49	0.49
4400	39.41	-4.04	1.02	4980	33.83	-4.71	0.41
4420	38.04	-4.2	0.25	5000	34.85	-4.58	0.81
4440	42.03	-3.76	0.43				
4460	40.81	-3.89	0.73				

ANT7

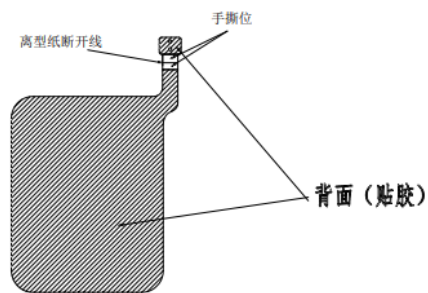
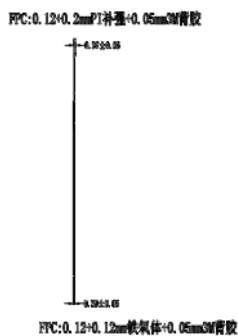
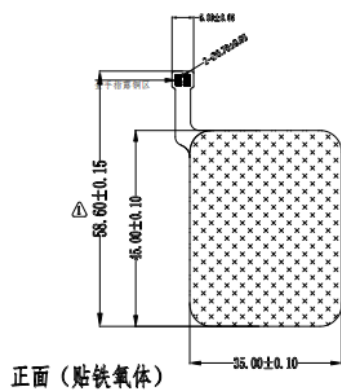
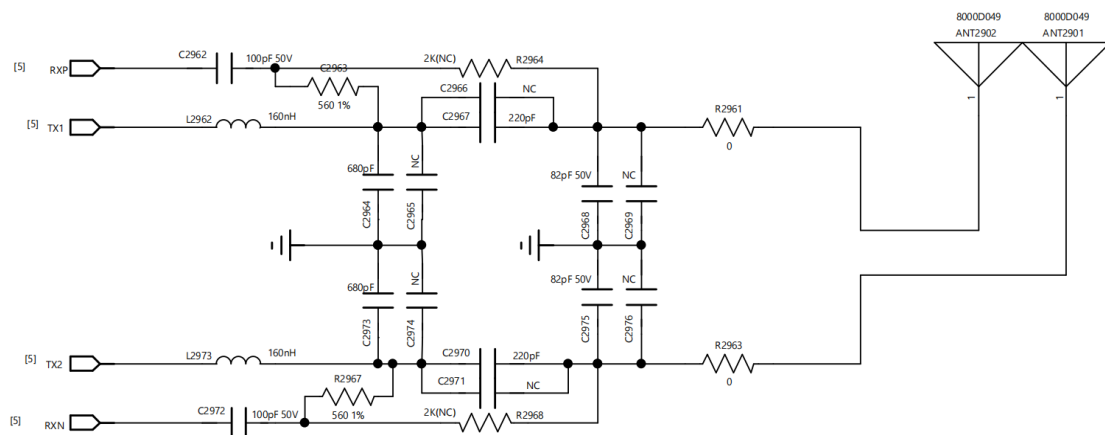
(2490MHZ-2700MHZ) (3300MHZ-5100MHZ)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2490	18.33	-7.37	-1.35	3300	36.3	-4.4	0.96
2500	18.85	-7.25	-1.42	3320	40.91	-3.88	1.39
2510	18.28	-7.38	-1.68	3340	37.3	-4.28	0.96
2520	18.81	-7.26	-1.82	3360	39.12	-4.08	1
2530	19.47	-7.11	-1.79	3380	38.11	-4.19	0.57
2540	19.97	-7	-1.81	3400	46.2	-3.35	1.11
2550	21.26	-6.72	-1.54	3420	40.47	-3.93	0.56
2560	22.42	-6.49	-1.34	3440	43.43	-3.62	1.12
2570	23.1	-6.36	-1.19	3460	36.72	-4.35	0.39
2580	23.3	-6.33	-1.08	3480	37.03	-4.31	0.55
2590	23.52	-6.29	-0.87	3500	33.4	-4.76	-0.04
2600	24.47	-6.11	-0.62	3520	34.65	-4.6	0.06
2610	25.01	-6.02	-0.37	3540	31.37	-5.04	-0.63
2620	23.8	-6.23	-0.49	3560	31.78	-4.98	-0.61
2630	24.06	-6.19	-0.36	3580	25.38	-5.95	-1.67
2640	25.34	-5.96	-0.06	3600	27.17	-5.66	-1.41
2650	25.63	-5.91	-0.08	3620	22.77	-6.43	-2.34
2660	26.02	-5.85	-0.08	3640	22.93	-6.4	-2.58
2670	25.37	-5.96	-0.35	3660	22.29	-6.52	-2.77
2680	24.69	-6.07	-0.55	3680	20.35	-6.91	-3.02
2690	24.28	-6.15	-0.69	3700	19.45	-7.11	-3.22
2700	23.79	-6.24	-0.77	3720	23	-6.38	-2.6
				3740	19.16	-7.18	-3.42
				3760	20.4	-6.9	-2.84
				3780	19.99	-6.99	-2.69
				3800	19.74	-7.05	-2.66
				3820	22.8	-6.42	-2.03
				3840	22.58	-6.46	-1.78
				3860	21.56	-6.66	-1.58
				3880	24.01	-6.2	-0.88

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
3900	21.76	-6.62	-1.16	4480	24.28	-6.15	-0.89
3920	22.67	-6.45	-0.84	4500	22.45	-6.49	-0.93
3940	26.34	-5.79	-0.23	4520	20.8	-6.82	-0.88
3960	20.96	-6.79	-0.97	4540	20.63	-6.85	-0.71
3980	25.01	-6.02	-0.19	4560	18.52	-7.32	-1.22
4000	21.04	-6.77	-0.93	4580	21.1	-6.76	-0.46
4020	19.09	-7.19	-1.24	4600	20.54	-6.87	-0.71
4040	21.38	-6.7	-0.86	4620	20.48	-6.89	-0.88
4060	21.81	-6.61	-0.9	4640	22.14	-6.55	-0.69
4080	21.88	-6.6	-1.05	4660	21.66	-6.64	-1.06
4100	24.72	-6.07	-0.88	4680	20.39	-6.91	-1.78
4120	21.13	-6.75	-1.35	4700	20.49	-6.89	-1.74
4140	23.65	-6.26	-0.71	4720	17.89	-7.47	-2
4160	23.65	-6.26	-0.57	4740	18	-7.45	-2.14
4180	20.9	-6.8	-0.93	4760	15.34	-8.14	-2.59
4200	23.33	-6.32	-0.65	4780	15.71	-8.04	-2.44
4220	24.81	-6.05	-0.51	4800	16.29	-7.88	-2.03
4240	22.51	-6.48	-1.28	4820	14.63	-8.35	-2.38
4260	25.29	-5.97	-0.63	4840	15.82	-8.01	-2.54
4280	23.64	-6.26	-0.84	4860	16.5	-7.83	-2.41
4300	21.88	-6.6	-1.12	4880	15.72	-8.04	-2.8
4320	26.67	-5.74	-0.35	4900	17.6	-7.55	-2.07
4340	24.13	-6.18	-0.94	4920	16.54	-7.81	-2.2
4360	25.82	-5.88	-0.81	4940	16.57	-7.81	-2.06
4380	29.25	-5.34	-0.36	4960	18.23	-7.39	-1.6
4400	23.77	-6.24	-1.57	4980	16.29	-7.88	-1.86
4420	24.04	-6.19	-1.67	5000	16.45	-7.84	-2
4440	25.66	-5.91	-1				
4460	24.1	-6.18	-1.29				

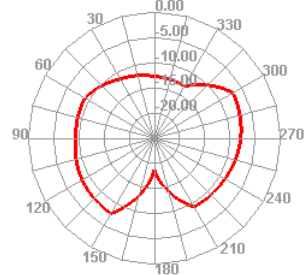


NFC (13.56MHZ)

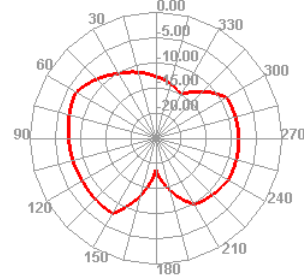


2D/3DPattenPlots
Efficient (2G+3G+4G)
Efficient (619-698MHz)

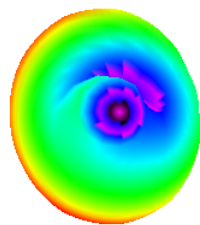
680.000MHz E1



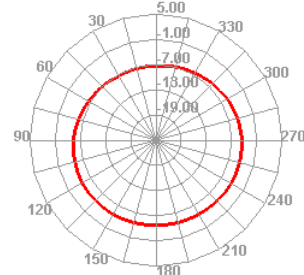
680.000MHz E2



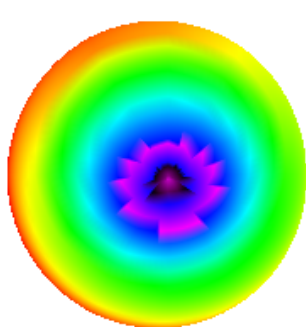
800.000MHz



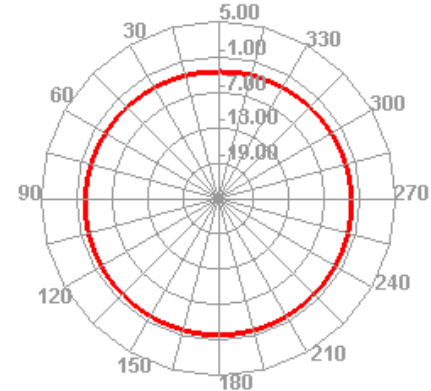
800.000MHz H



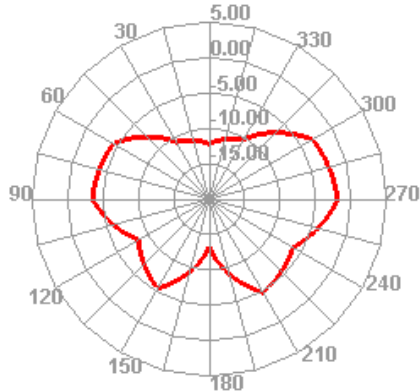
710.000MHz



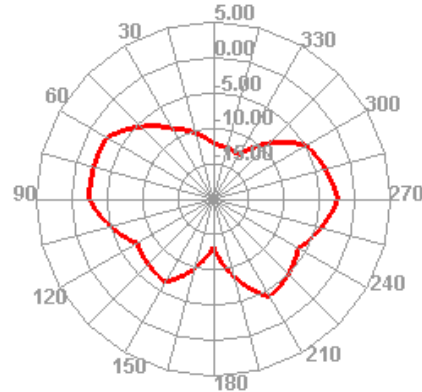
710.000MHz H



710.000MHz E1

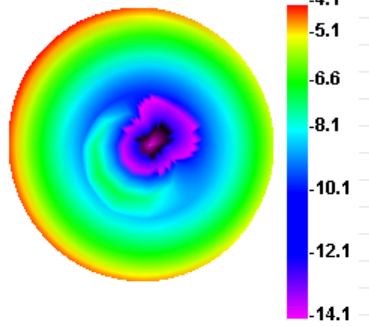


710.000MHz E2

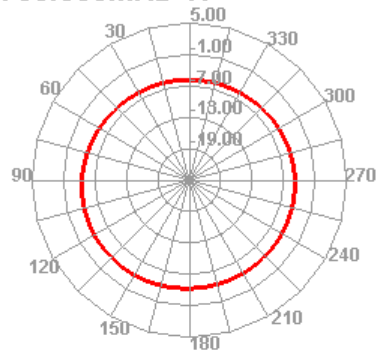


Efficient (746-787MHz)

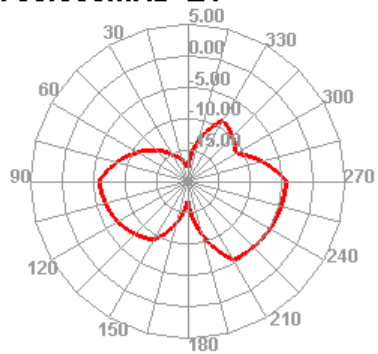
780.000MHz



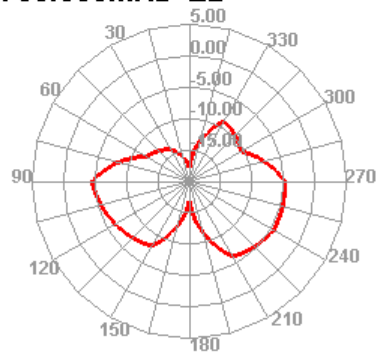
780.000MHz H



780.000MHz E1

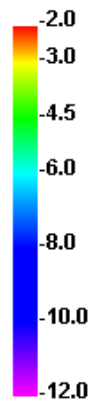
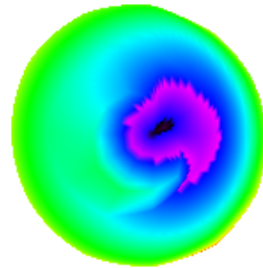


780.000MHz E2

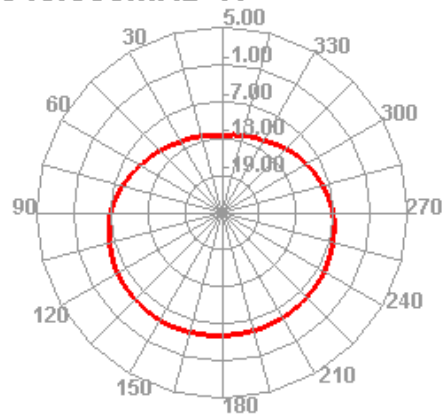


Efficient (791-894MHz)

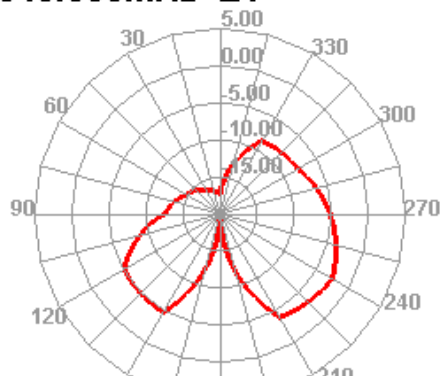
840.000MHz



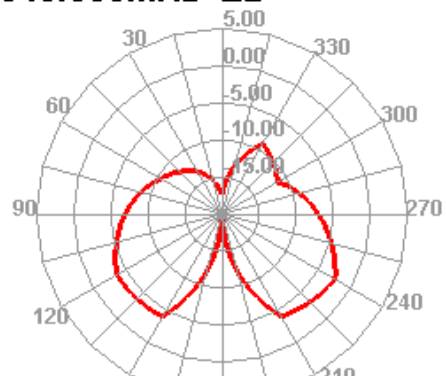
840.000MHz H



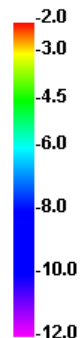
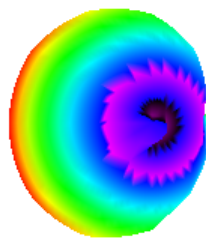
840.000MHz E1



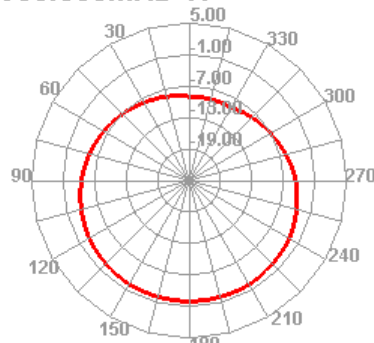
840.000MHz E2



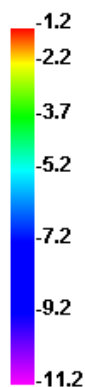
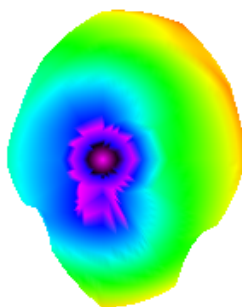
900.000MHz



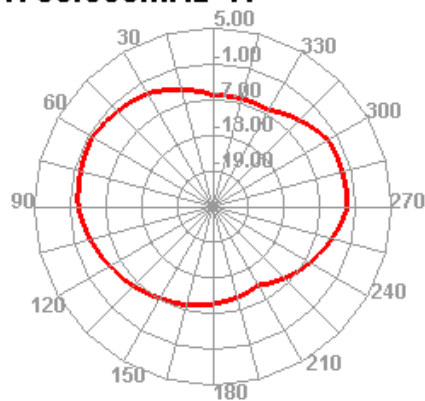
900.000MHz H



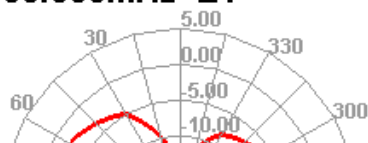
1750.000MHz E1



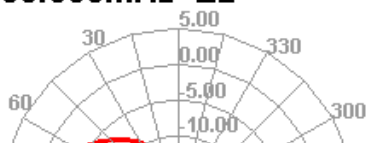
1750.000MHz H



1750.000MHz E1



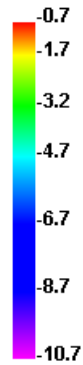
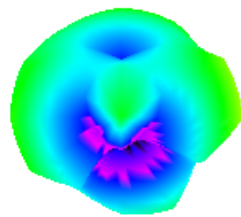
1750.000MHz E2



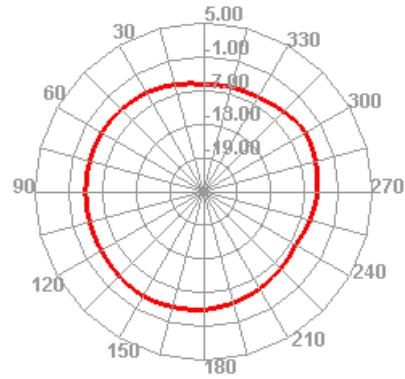


Efficient (1850-1990MHz)

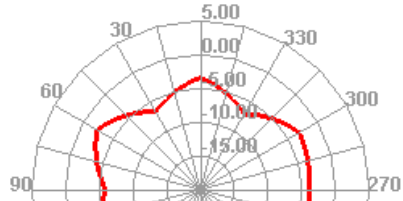
1850.000MHz



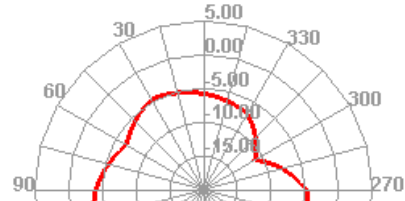
1850.000MHz H



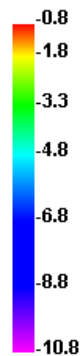
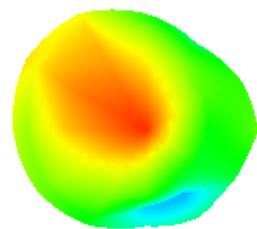
1850.000MHz E1



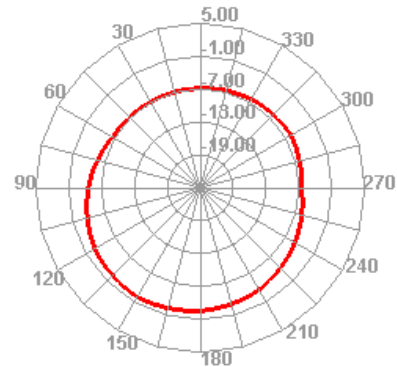
1850.000MHz E2



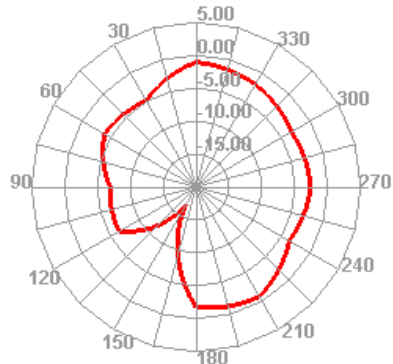
1920.000MHz



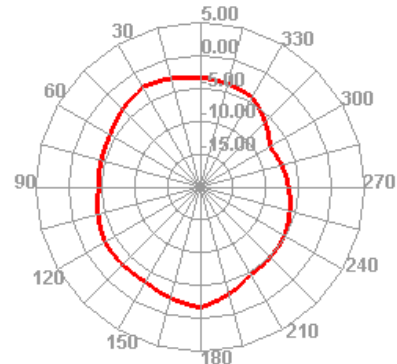
1920.000MHz H



1920.000MHz E1

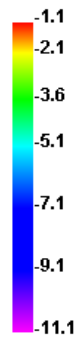
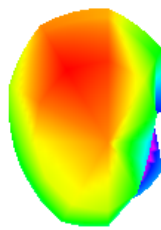


1920.000MHz E2

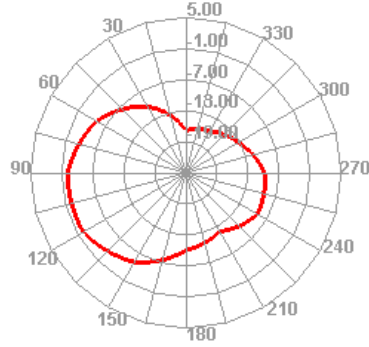


Efficient (2300-2400MHz)

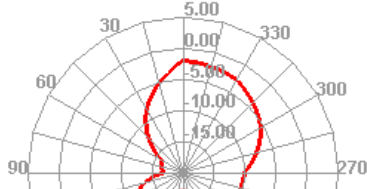
2350.000MHz



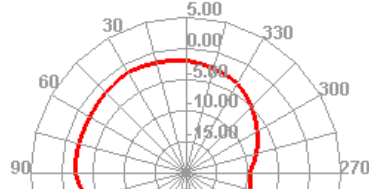
2350.000MHz H



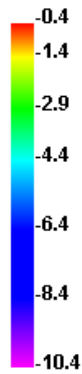
2350.000MHz E1



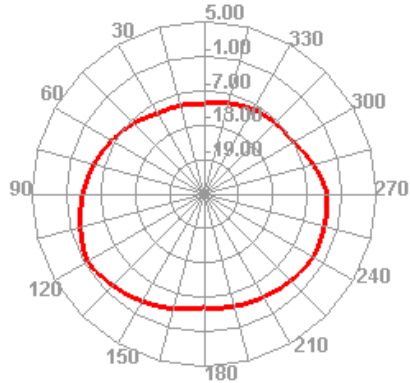
2350.000MHz E2



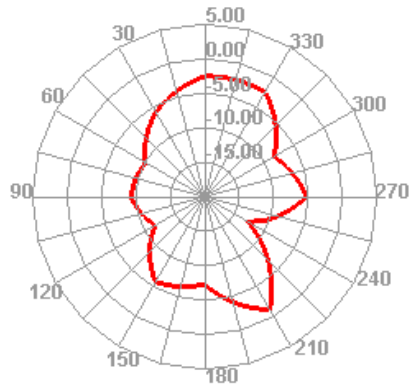
2550.000MHz



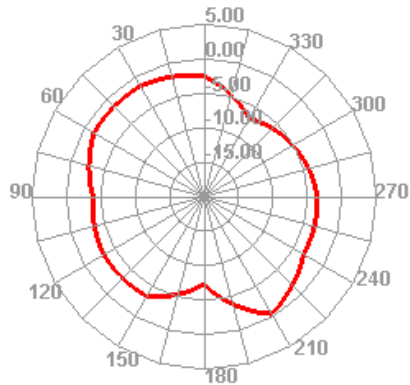
2550.000MHz H



2550.000MHz E1



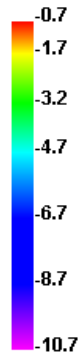
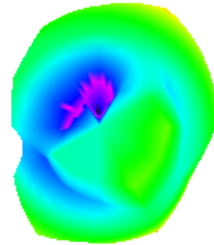
2550.000MHz E2



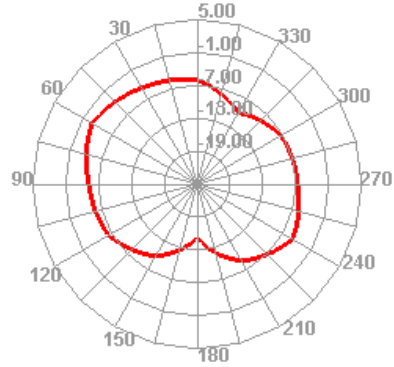
Efficient (5G+2.4G/5.8G-WiFi/BT/GPS)

Efficient (2496-2690MHz)

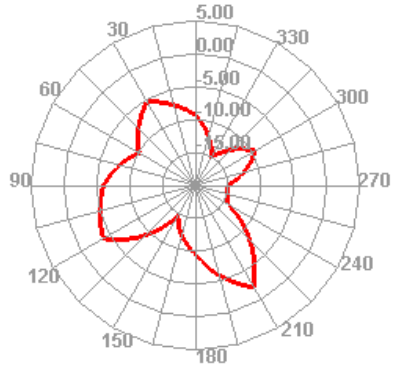
2600.000MHz



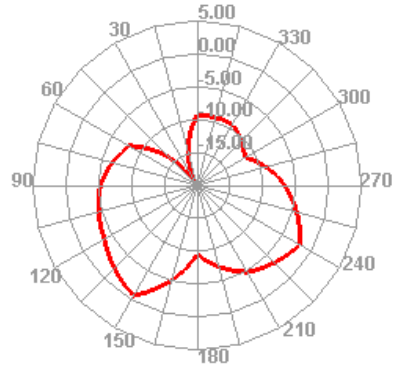
2600.000MHz H



2600.000MHz E1

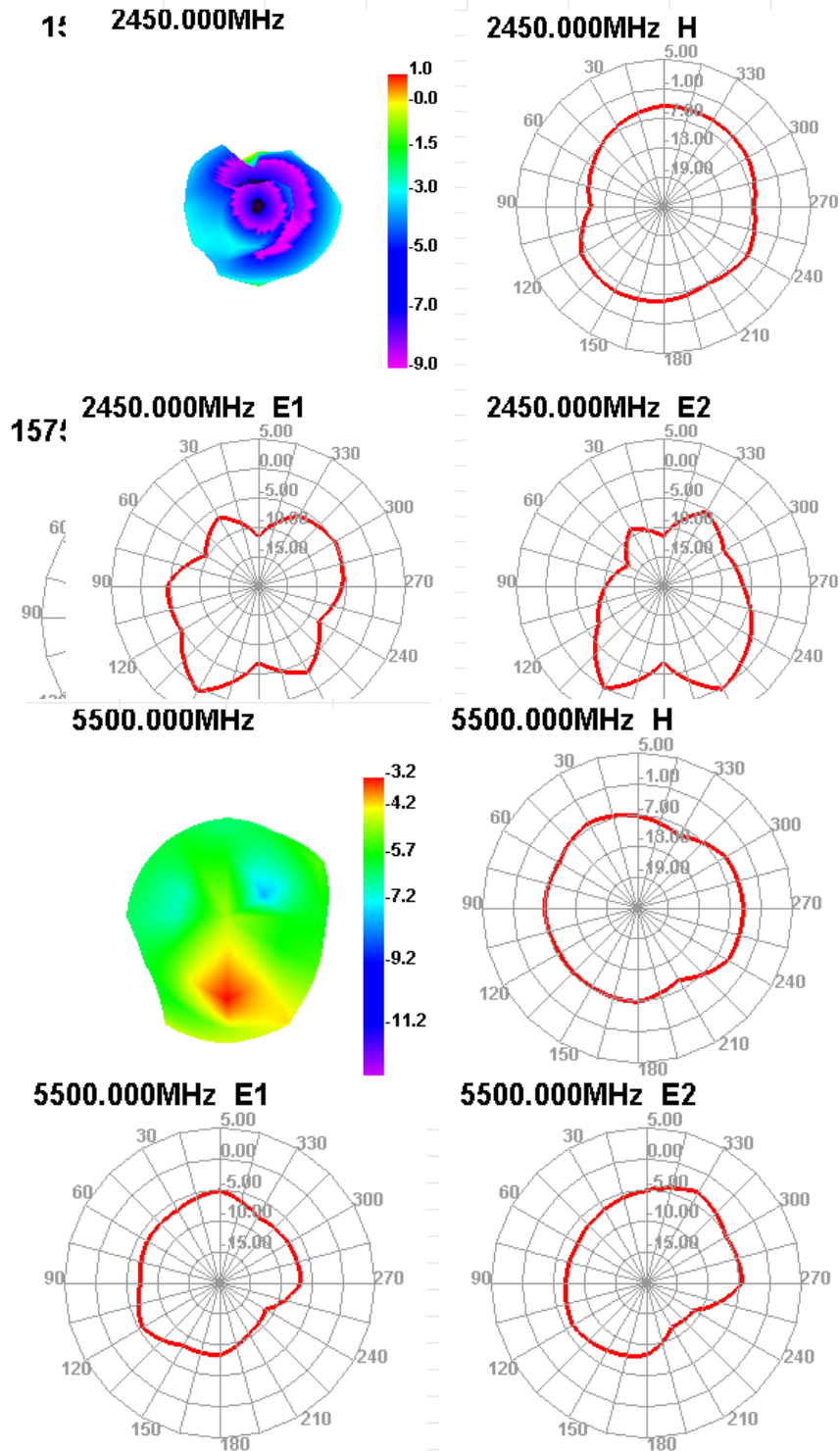


2600.000MHz E2

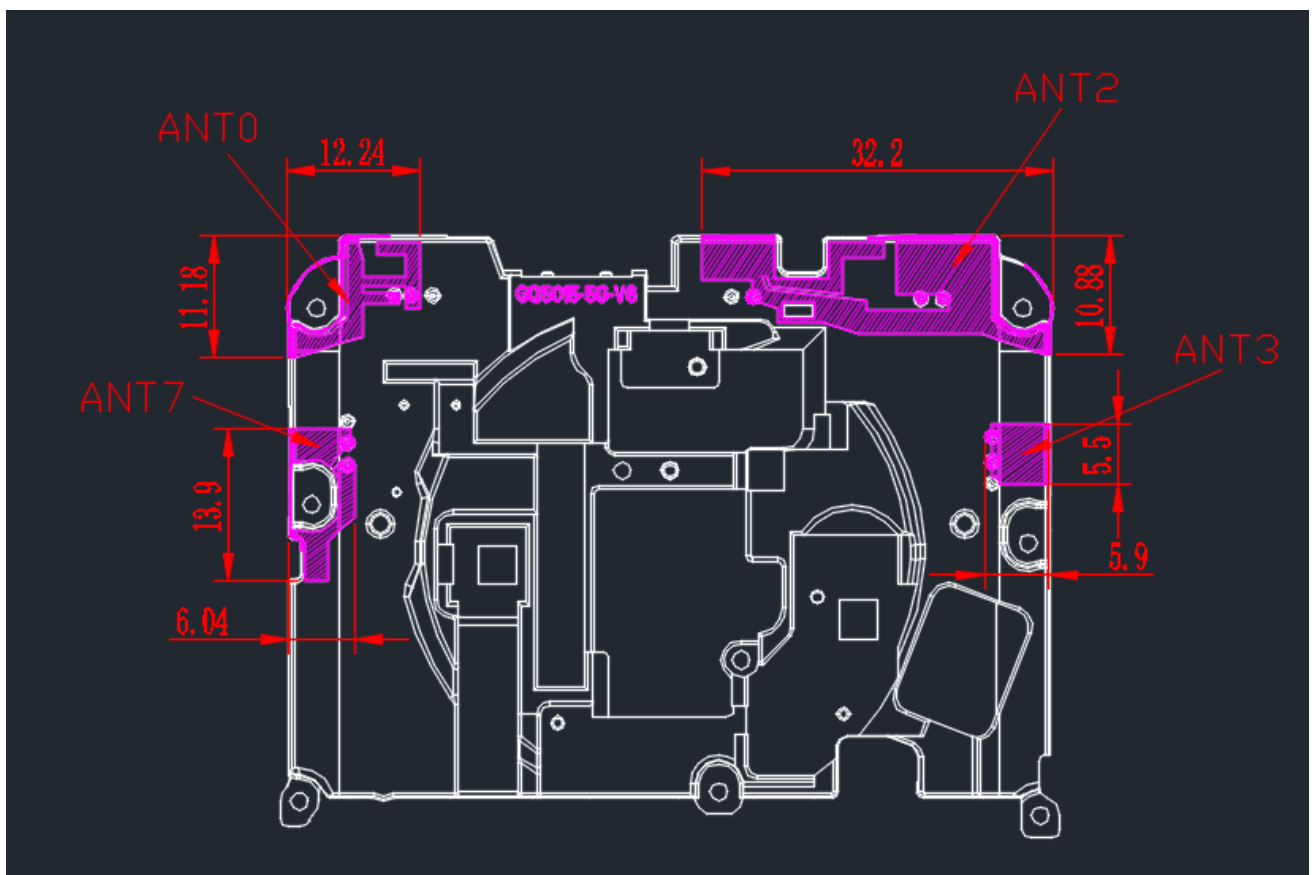
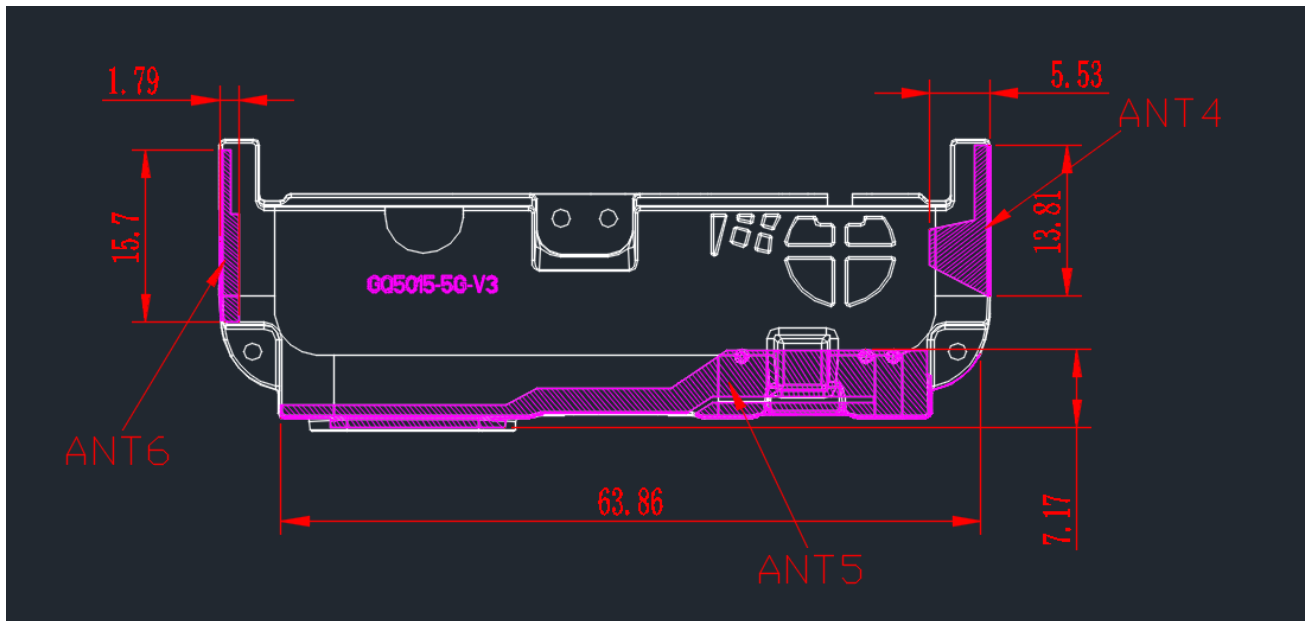


Efficient (1575MHz)

Efficient (2400-2500MHz)



Antenna Size



Mainboard antenna

