



Shenzhen Meihejia Technology Co., Ltd.

Antenna test report

Address: Building 43, Zhongwu Industrial Zone, Xixiang Street, Bao's District, Shenzhen



customer name	Greta	project name	K104-MB
Commissioning frequency band	GSM 850/900/1800/1900 + W1900/850+ B2/3/4/5/7/8/28AB	structure mode	coaxial cable +FPC
Radio frequency engineer	Cao gong	construction engineer	Liang gong
Antenna type	PIFA	date	2024-6-22

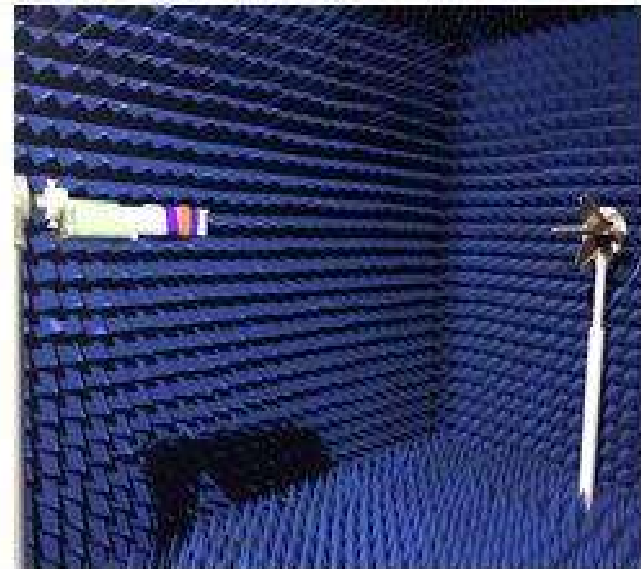


Test environment

	test project	equipment
1 (parameter)	1. (Return Loss) 2. (VSWR)	Agilent E5071B HP 8753D
2. (Active)	1. (TRP) 2. (TIS)	1. ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Agilent 8960 E5515B × 2 StarPoint SP6011
3. (Passive)	1. (Gain) 2. (Efficiency)	1. ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. Agilent E5071B HP 8753D



Test Equipment



Efficient (main antenna)

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
700	28.74	-5.42	-7.39	-9.54	4.911	4.827	-7.39	-23.32	41.55	41.35
710	31.81	-4.97	-6.6	-8.75	5.992	5.818	-6.6	-22.36	41.01	40.85
720	27.94	-5.54	-6.55	-8.7	6.093	5.846	-6.55	-22.34	39.65	39.6
730	25.25	-5.98	-5.94	-8.09	7.487	6.765	-5.94	-23.11	39.85	39.86
740	26.56	-5.76	-5.46	-7.61	8.817	7.741	-5.46	-23.3	39.44	39.45
750	28.99	-5.38	-5.01	-7.16	10.103	8.882	-5.01	-20.99	39.77	39.79
760	32.52	-4.88	-4.42	-6.57	11.781	10.741	-4.42	-18.66	39.71	39.7
770	30.31	-5.18	-3.18	-5.33	15.646	14.666	-3.18	-15.6	40.86	40.92
780	31.91	-4.96	-2.84	-4.99	17.34	16.571	-2.84	-14.58	40.68	40.66
790	28.38	-5.47	-2.35	-4.5	19.558	18.826	-2.35	-14	40.77	40.72
800	26.17	-5.82	-2.88	-5.03	14.104	12.067	-2.88	-13.94	40.35	40.06
810	27.1	-5.67	-2.91	-5.06	14.869	12.227	-2.91	-14.22	40.37	40.2
820	27.88	-5.55	-2.97	-5.12	15.326	12.552	-2.97	-13.58	40.27	40.12
830	27.22	-5.65	-3.28	-5.43	14.958	12.266	-3.28	-13.38	40	39.86
840	26.04	-5.84	-3.34	-5.49	14.671	11.373	-3.34	-14.2	40.01	39.81
850	25.62	-5.91	-3.18	-5.33	15.072	10.546	-3.18	-15.03	40.08	39.83
860	24.4	-6.13	-3.06	-5.21	14.924	9.479	-3.06	-16.28	39.81	39.57
870	20.97	-6.78	-3.46	-5.61	13.127	7.842	-3.46	-17.74	39.99	39.67
880	19.75	-7.04	-3.64	-5.79	12.418	7.33	-3.64	-17.58	40.07	39.83
890	19.22	-7.16	-3.83	-5.98	11.943	7.275	-3.83	-17.03	40.17	39.85
900	17.76	-7.51	-4.23	-6.38	10.975	6.781	-4.23	-17.9	39.95	39.77
910	14.87	-8.28	-5.09	-7.24	9.301	5.573	-5.09	-20.43	39.93	39.79
920	14.24	-8.46	-5.08	-7.23	9.171	5.071	-5.08	-22.36	40.04	39.9
930	15.29	-8.16	-4.52	-6.67	10.079	5.212	-4.52	-22.05	40.11	40.1
940	14.13	-8.5	-4.75	-6.9	9.388	4.741	-4.75	-20.99	40.5	40.77
950	14.06	-8.52	-4.69	-6.84	9.296	4.768	-4.69	-20.94	40.96	41.44
960	14.07	-8.52	-4.68	-6.83	9.178	4.891	-4.68	-20.53	41.16	41.75
970	15.29	-8.16	-4.37	-6.52	9.932	5.355	-4.37	-20.2	41.46	42.04
980	13.87	-8.58	-4.78	-6.93	9.057	4.809	-4.78	-20.53	41.83	42.17
990	11.66	-9.33	-5.28	-7.43	7.749	3.906	-5.28	-21.62	41.49	41.9
1000	15.59	-8.07	-3.93	-6.08	10.447	5.145	-3.93	-20.22	42.1	42.49

Efficient (main antenna)

Passive Test For D3										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
1700	49.92	-3.02	1.27	-0.88	23.906	26.019	1.27	-17.27	47.89	47.94
1710	48.66	-3.13	1.18	-0.97	22.868	25.789	1.18	-17.79	47.64	47.68
1720	42.31	-3.74	0.52	-1.63	19.563	22.749	0.52	-17.77	47.64	47.71
1730	44.22	-3.54	0.68	-1.47	20.268	23.957	0.68	-17.05	47.75	47.92
1740	48.16	-3.17	0.92	-1.23	21.946	26.219	0.92	-18.34	47.75	47.86
1750	48.71	-3.12	0.95	-1.2	22.07	26.641	0.95	-17.89	47.66	47.79
1760	41.7	-3.8	0.21	-1.94	18.724	22.975	0.21	-18.97	47.61	47.81
1770	43.3	-3.64	0.36	-1.79	19.3	23.998	0.36	-19.79	47.78	47.94
1780	51.15	-2.91	1.09	-1.06	22.685	28.468	1.09	-19.38	48.07	48.12
1790	44.59	-3.51	0.51	-1.64	19.615	24.974	0.51	-19.83	47.64	47.85
1800	41.41	-3.83	0.29	-1.86	18.345	23.067	0.29	-19.26	47.65	47.74
1810	43.63	-3.6	0.57	-1.58	19.439	24.192	0.57	-18.93	47.71	47.82
1820	44.48	-3.52	0.79	-1.36	19.769	24.707	0.79	-18.18	47.77	47.92
1830	38.33	-4.16	0.12	-2.03	17.115	21.22	0.12	-19.58	47.84	47.82
1840	33.56	-4.74	-0.51	-2.66	14.938	18.621	-0.51	-20.4	47.78	47.8
1850	38.75	-4.12	-0.14	-2.29	16.921	21.83	-0.14	-21.48	47.88	47.91
1860	36.24	-4.41	-0.63	-2.78	15.489	20.754	-0.63	-23.99	47.91	48.07
1870	31.22	-5.06	-1.5	-3.65	13.13	18.09	-1.5	-25.5	47.86	47.92
1880	31.7	-4.99	-1.38	-3.53	13.138	18.561	-1.38	-25.75	48.02	48.22
1890	33.91	-4.7	-1.06	-3.21	13.919	19.988	-1.06	-23.99	48.09	48.16
1900	33.37	-4.77	-1.04	-3.19	13.567	19.801	-1.04	-23.58	48.32	48.3
1910	31.05	-5.08	-1.37	-3.52	12.55	18.495	-1.37	-21.82	48.32	48.52
1920	33.76	-4.72	-1.08	-3.23	13.639	20.125	-1.08	-23.13	48.53	48.87



Efficient (main antenna)

1930	36.32	-4.4	-0.58	-2.73	14.778	21.541	-0.58	-22.25	48.63	49
1940	31.62	-5	-1.02	-3.17	12.947	18.672	-1.02	-21.17	48.66	49.02
1950	31.63	-5	-0.75	-2.9	13.006	18.62	-0.75	-18.39	48.89	49.2
1960	32.39	-4.9	-0.51	-2.66	13.392	19.002	-0.51	-17.96	48.95	49.19
1970	33.01	-4.81	-0.49	-2.64	13.698	19.307	-0.49	-16.15	48.98	49.33
1980	29.94	-5.24	-0.86	-3.01	12.506	17.436	-0.86	-15.74	49.18	49.6
1990	29.4	-5.32	-0.67	-2.82	12.362	17.042	-0.67	-16.35	49.58	49.99
2000	32.76	-4.85	-0.23	-2.38	13.921	18.838	-0.23	-15.95	49.45	49.96
2010	29.81	-5.26	-0.51	-2.66	12.741	17.066	-0.51	-16.77	49.59	50.05
2020	27.49	-5.61	-1.02	-3.17	11.807	15.684	-1.02	-16.48	49.89	50.23
2030	29.62	-5.28	-0.87	-3.02	12.772	16.852	-0.87	-16.1	50.05	50.24
2040	32.47	-4.89	-0.77	-2.92	14.113	18.354	-0.77	-15.18	50.05	50.24
2050	31.42	-5.03	-0.93	-3.08	13.704	17.717	-0.93	-15.29	50.05	50.3
2060	28.82	-5.4	-1.5	-3.65	12.634	16.183	-1.5	-15.44	50.38	50.69
2070	32.16	-4.93	-1.09	-3.24	14.321	17.835	-1.09	-14.8	50.61	50.88
2080	35.76	-4.47	-0.56	-2.71	15.866	19.895	-0.56	-14.27	50.36	50.58
2090	31.43	-5.03	-1.19	-3.34	13.885	17.549	-1.19	-14.07	50.32	50.55
2100	30.3	-5.19	-1.49	-3.64	13.382	16.918	-1.49	-13.4	50.57	50.82



Efficient (main antenna)

Passive Test For D4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2110	27.47	-5.61	-2.01	-4.16	12.173	15.292	-2.01	-14.07	49.82	50.14
2120	31.15	-5.07	-1.47	-3.62	13.885	17.266	-1.47	-13.2	50	50.34
2130	28.22	-5.49	-1.74	-3.89	12.591	15.633	-1.74	-14.45	50.15	50.54
2140	22.89	-6.4	-2.58	-4.73	10.304	12.59	-2.58	-16.06	49.72	50.17
2150	26.26	-5.81	-1.88	-4.03	11.957	14.307	-1.88	-16.15	49.29	49.77
2160	31.99	-4.95	-0.93	-3.08	14.459	17.532	-0.93	-14.8	49.84	50.31
2170	28.59	-5.44	-1.35	-3.5	13.047	15.543	-1.35	-14.64	49.75	50.29
2180	27.29	-5.64	-1.51	-3.66	12.37	14.923	-1.51	-14.22	49.43	50.09
2190	30.06	-5.22	-1.02	-3.17	13.625	16.433	-1.02	-13.33	49.23	49.92
2200	35.11	-4.55	-0.41	-2.56	15.797	19.317	-0.41	-12.73	49.66	50.38
2210	32.83	-4.84	-0.71	-2.86	14.577	18.255	-0.71	-13.75	49.75	50.53
2220	32.16	-4.93	-0.72	-2.87	13.948	18.217	-0.72	-13.79	49.52	50.41
2230	37.26	-4.29	-0.01	-2.16	15.816	21.449	-0.01	-13.19	49.85	50.81
2240	36.94	-4.33	-0.13	-2.28	15.395	21.545	-0.13	-12.7	50.26	51.21
2250	35.45	-4.5	-0.04	-2.19	14.677	20.773	-0.04	-12.64	50.07	51.1
2260	36.71	-4.35	0	-2.15	15.431	21.28	0	-12.08	49.97	51.15
2270	38.98	-4.09	0.47	-1.68	16.79	22.191	0.47	-11.54	50.15	51.36
2280	38.91	-4.1	0.54	-1.61	16.971	21.938	0.54	-12	50.71	52.08
2290	37.83	-4.22	0.61	-1.54	16.65	21.184	0.61	-12.76	50.85	52.37
2300	36.45	-4.38	0.47	-1.68	15.813	20.638	0.47	-13.5	50.51	52.13
2310	36.2	-4.41	0.51	-1.64	15.655	20.545	0.51	-14.34	50.68	52.29
2320	37.92	-4.21	0.79	-1.36	16.246	21.67	0.79	-14	51.08	52.73
2330	40.24	-3.95	0.71	-1.44	17.436	22.805	0.71	-14.57	51.36	53.1



Efficient (main antenna)

2340	40.81	-3.89	0.35	-1.8	17.739	23.069	0.35	-16.4	51.38	53.26
2350	38.3	-4.17	0.06	-2.09	16.747	21.552	0.06	-18.37	51.5	53.48
2360	40.37	-3.94	0.34	-1.81	17.85	22.521	0.34	-16.7	51.91	53.84
2370	41.54	-3.82	0.41	-1.74	18.589	22.948	0.41	-16.39	51.74	53.68
2380	37.5	-4.26	-0.18	-2.33	17.207	20.293	-0.18	-17.64	51.61	53.55
2390	35.4	-4.51	-0.44	-2.59	16.658	18.74	-0.44	-17.07	51.76	53.74
2400	37.12	-4.3	-0.67	-2.82	17.994	19.129	-0.67	-16.94	52.03	53.99
2410	36.72	-4.35	-0.89	-3.04	18.184	18.536	-0.89	-15.7	51.99	53.84
2420	31.58	-5.01	-1.73	-3.88	15.666	15.912	-1.73	-14.65	52.04	53.98
2430	29.11	-5.36	-1.93	-4.08	14.478	14.632	-1.93	-14.53	52.23	54.02
2440	35.69	-4.47	-0.73	-2.88	17.787	17.902	-0.73	-14.01	52.54	54.25
2450	35.47	-4.5	-0.77	-2.92	17.664	17.804	-0.77	-13.48	52.64	54.11
2460	30.93	-5.1	-1.39	-3.54	15.441	15.491	-1.39	-13.83	52.59	54.02
2470	31.54	-5.01	-1.24	-3.39	15.794	15.743	-1.24	-13.66	52.66	54.04
2480	36.83	-4.34	-0.44	-2.59	18.325	18.502	-0.44	-12.86	53.06	54.43
2490	40.58	-3.92	0.17	-1.98	20.067	20.513	0.17	-11.29	53.33	54.57
2500	34.62	-4.61	-0.65	-2.8	16.942	17.683	-0.65	-11.43	53.11	54.29
2510	35.4	-4.51	-0.12	-2.27	17.07	18.325	-0.12	-11.8	53.16	54.41
2520	41.27	-3.84	0.44	-1.71	20.229	21.036	0.44	-11.71	53.17	54.22
2530	38.66	-4.13	0.3	-1.85	18.991	19.669	0.3	-11.31	53.12	54.23
2540	34.94	-4.57	-0.22	-2.37	17.193	17.747	-0.22	-11.59	53.03	53.94
2550	36.65	-4.36	0.17	-1.98	17.93	18.724	0.17	-10.99	53.13	54.09
2560	42.67	-3.7	0.9	-1.25	20.809	21.86	0.9	-11.56	53.3	54.17
2570	41.92	-3.78	0.82	-1.33	20.491	21.43	0.82	-11.69	53.66	54.34
2580	36.75	-4.35	0.1	-2.05	18.067	18.682	0.1	-12.59	53.61	54.41
2590	41.66	-3.8	0.75	-1.4	20.577	21.087	0.75	-11.44	53.59	54.31



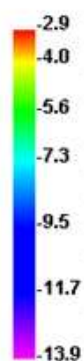
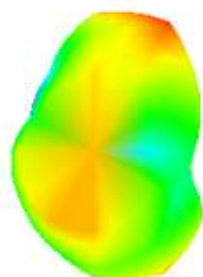
Efficient (main antenna)

2600	45.4	-3.43	1.17	-0.98	22.617	22.785	1.17	-12.25	53.79	54.37
2610	41.79	-3.79	0.8	-1.35	20.996	20.798	0.8	-13.04	53.74	54.27
2620	37.84	-4.22	0.24	-1.91	19.096	18.749	0.24	-13.66	53.58	53.95
2630	40.05	-3.97	0.42	-1.73	20.032	20.022	0.42	-12.81	53.71	54.08
2640	43.24	-3.64	0.73	-1.42	21.681	21.561	0.73	-11.72	54.15	54.44
2650	38.79	-4.11	0.16	-1.99	19.617	19.171	0.16	-12.88	54.43	54.64
2660	41.09	-3.86	0.56	-1.59	20.949	20.145	0.56	-12.66	54.68	54.88
2670	45.56	-3.41	0.81	-1.34	23.837	21.727	0.81	-12.33	54.58	54.76
2680	41.1	-3.86	0.25	-1.9	21.863	19.232	0.25	-12.18	54.67	54.84
2690	36.57	-4.37	-0.52	-2.67	19.783	16.784	-0.52	-12.4	54.85	54.87
2700	38.07	-4.19	-0.66	-2.81	20.929	17.138	-0.66	-11.81	55.06	55.05
2710	41.22	-3.85	-0.38	-2.53	22.833	18.386	-0.38	-12.44	55.23	55.33
2720	32.98	-4.82	-1.51	-3.66	18.388	14.594	-1.51	-13.02	55.7	55.87
2730	32.35	-4.9	-1.67	-3.82	18.434	13.915	-1.67	-13.59	55.66	55.77
2740	38.26	-4.17	-0.89	-3.04	21.79	16.471	-0.89	-13.12	55.65	55.68
2750	33.53	-4.75	-1.14	-3.29	19.145	14.385	-1.14	-13.62	55.67	55.71

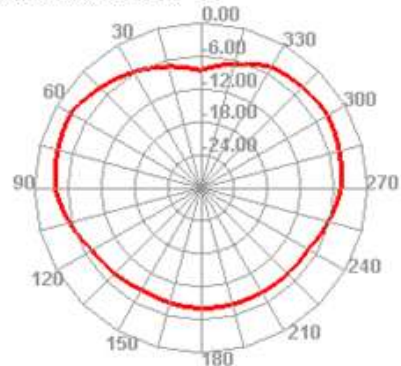


Efficient (main antenna)

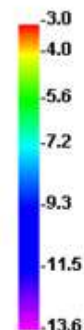
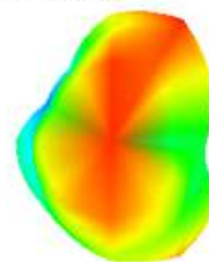
800.000MHz



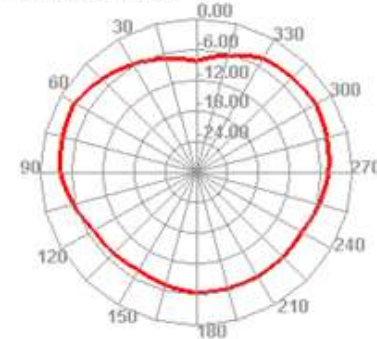
800.000MHz H



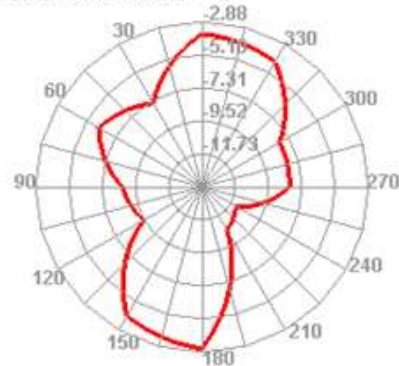
820.000MHz



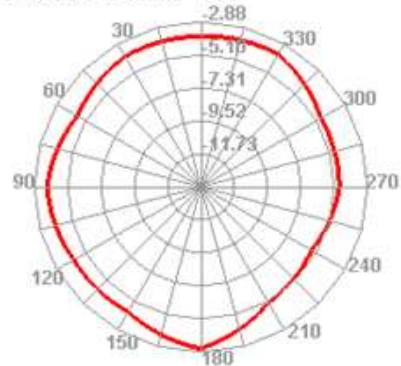
820.000MHz H



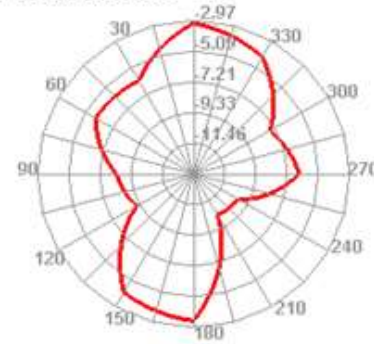
800.000MHz E1



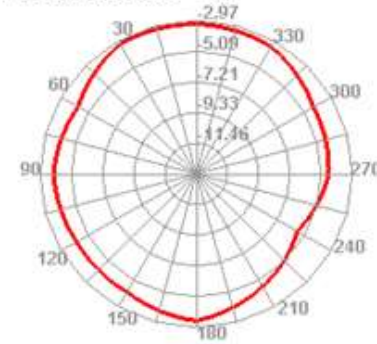
800.000MHz E2



820.000MHz E1



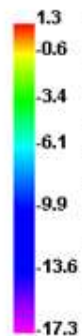
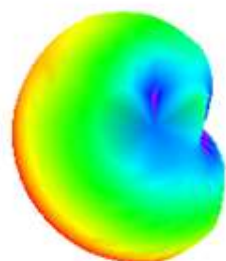
820.000MHz E2



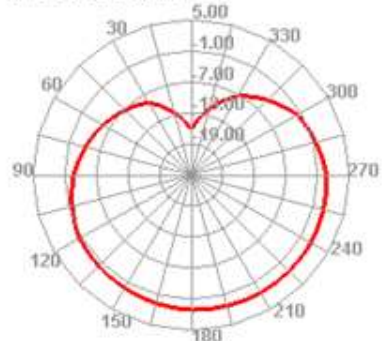


Efficient (main antenna)

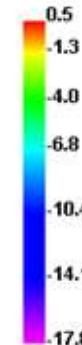
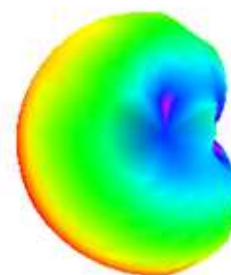
1700.000MHz



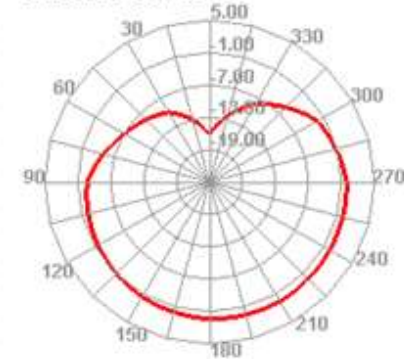
1700.000MHz H



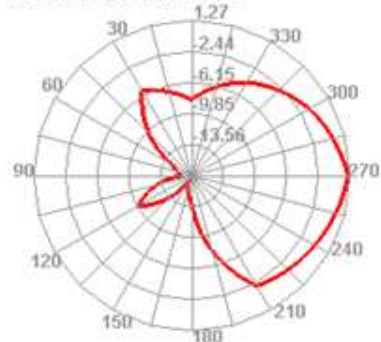
1720.000MHz



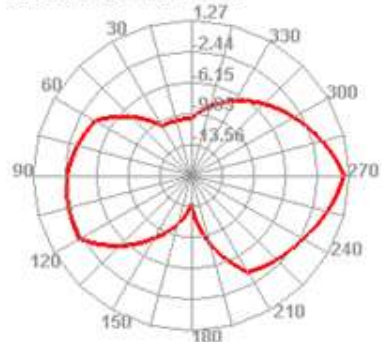
1720.000MHz H



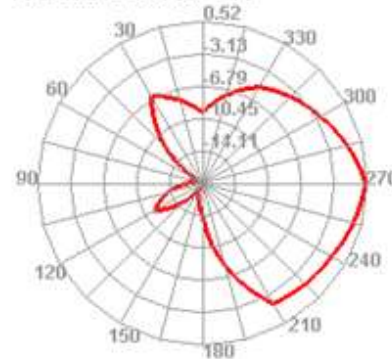
1700.000MHz E1



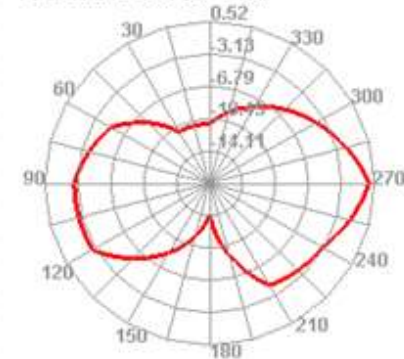
1700.000MHz E2



1720.000MHz E1



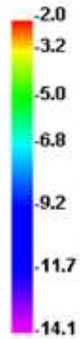
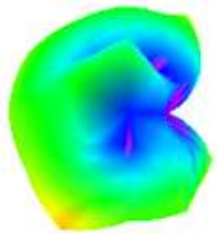
1720.000MHz E2



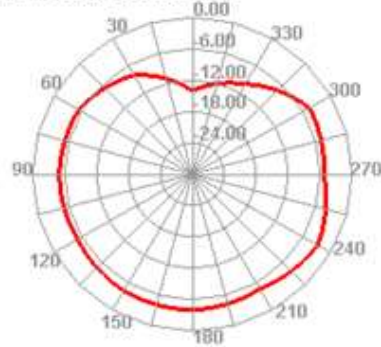


Efficient (main antenna)

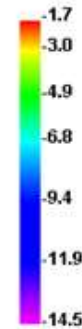
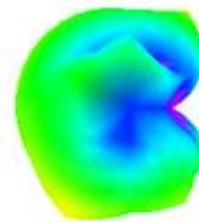
2110.000MHz



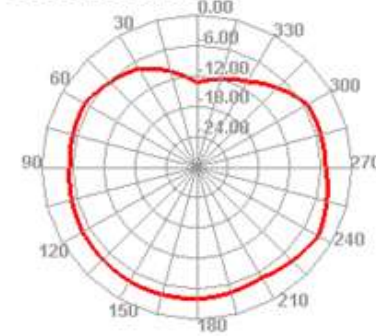
2110.000MHz H



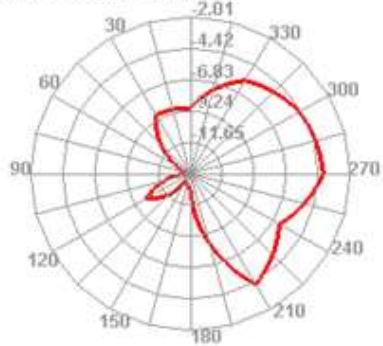
2130.000MHz



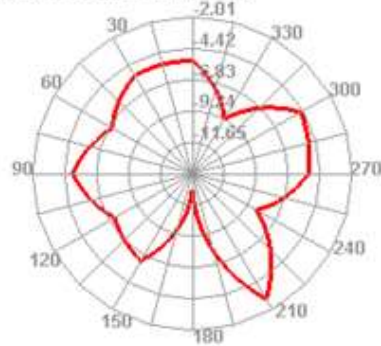
2130.000MHz H



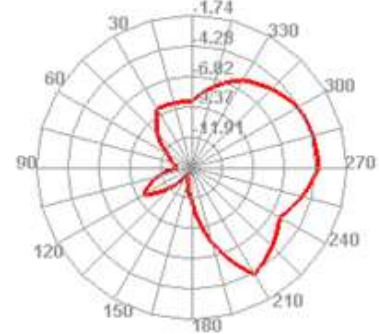
2110.000MHz E1



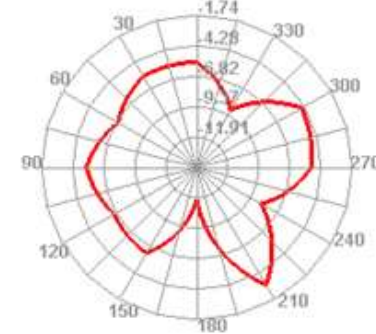
2110.000MHz E2



2130.000MHz E1



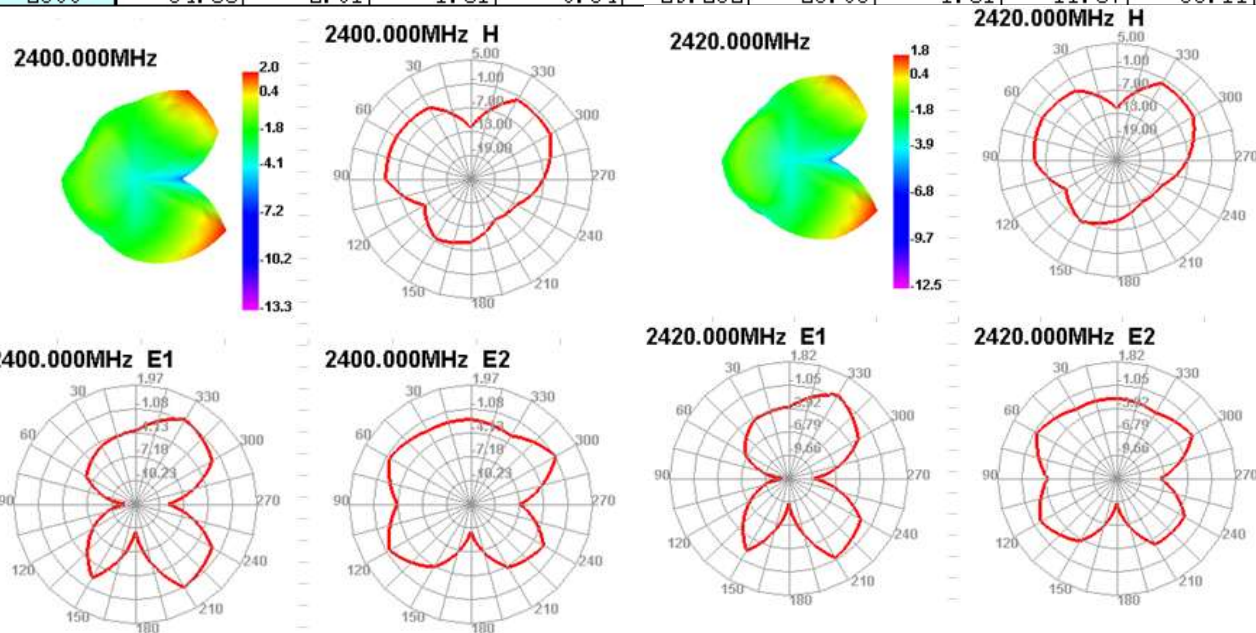
2130.000MHz E2



Efficient

2.4G WIFI

Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	52	-2.84	1.97	-0.18	30.553	21.45	1.97	-13.28	52.03	53.99
2410	51.46	-2.89	1.91	-0.24	29.764	21.698	1.91	-13.96	51.99	53.84
2420	49.65	-3.04	1.82	-0.33	28.728	20.919	1.82	-12.53	52.04	53.98
2430	47.45	-3.24	1.34	-0.81	27.212	20.238	1.34	-12.37	52.23	54.02
2440	51.31	-2.9	1.58	-0.57	29.006	22.304	1.58	-11.82	52.54	54.25
2450	54.34	-2.65	1.86	-0.29	30.165	24.177	1.86	-12.18	52.64	54.11
2460	52.27	-2.82	1.72	-0.43	28.879	23.393	1.72	-12.26	52.59	54.02
2470	49.21	-3.08	1.56	-0.59	26.886	22.326	1.56	-12.13	52.66	54.04
2480	49.87	-3.02	1.54	-0.61	27.027	22.846	1.54	-11.42	53.06	54.43
2490	56.13	-2.51	2	-0.15	30.048	26.081	2	-11.86	53.33	54.57
2500	54.88	-2.61	1.81	-0.34	29.232	25.65	1.81	-11.87	53.11	54.29

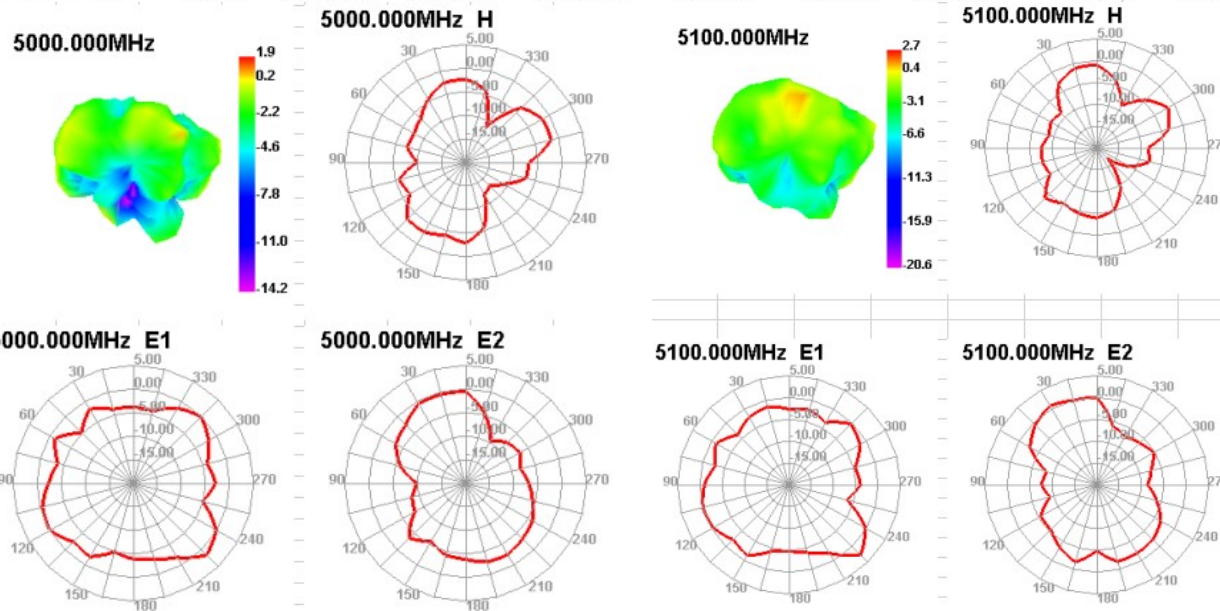


Efficient

5G WIFI

Passive Test For 5.8

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5000	46.67	-3.31	1.85	-0.3	20.83	25.842	1.85	-14.19	60.98	61.12
5100	49.34	-3.07	2.72	0.57	21.539	27.8	2.72	-20.56	62.27	61.85
5200	46.53	-3.32	2.61	0.46	19.821	26.71	2.61	-15.82	61.29	61.02
5300	47.43	-3.24	2.39	0.24	20.042	27.387	2.39	-17.77	62.07	61.55
5400	54.3	-2.65	2.97	0.82	22.628	31.669	2.97	-18.02	62.13	60.92
5500	54.3	-2.65	3.27	1.12	22.779	31.523	3.27	-15.15	63.01	61.73
5600	46.08	-3.37	2.94	0.79	19.41	26.668	2.94	-17.6	63.72	61.99
5700	52.48	-2.8	3.28	1.13	20.976	31.508	3.28	-16.71	64.01	63.03
5800	50.29	-2.98	2.74	0.59	19.693	30.6	2.74	-17.24	63.93	62.81
5900	43.42	-3.62	1.79	-0.36	17.19	26.228	1.79	-14.67	64.36	63.01
6000	0.93	-20.32	-14.54	-16.69	0.392	0.537	-14.54	-33.8	49.87	48.27







Provide better service for our customers

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