

Antenna Test Report

Manufacturer: 70mai

Model: UP12

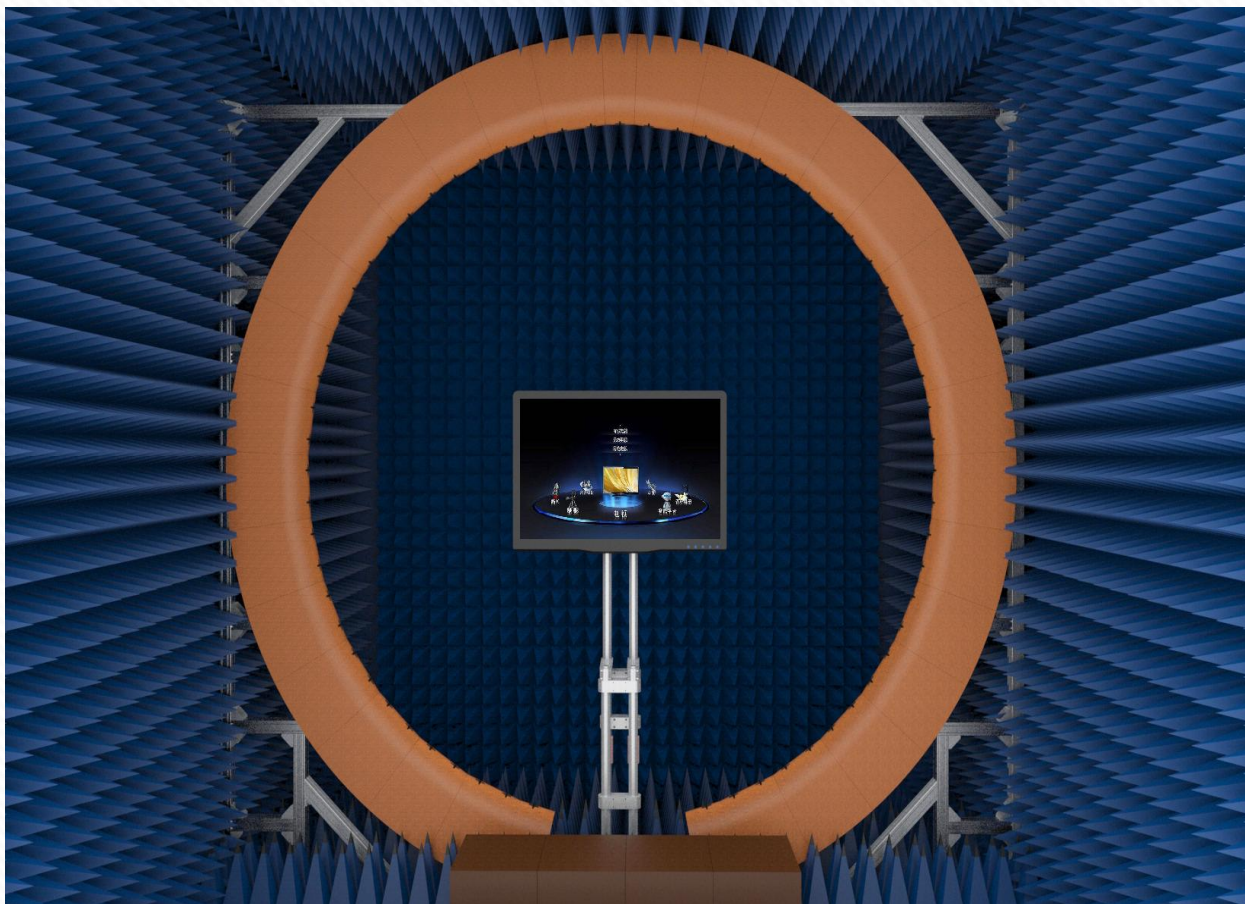
Antenna type

Main antenna: Monopole antenna

Diversity antenna: PIFA antenna

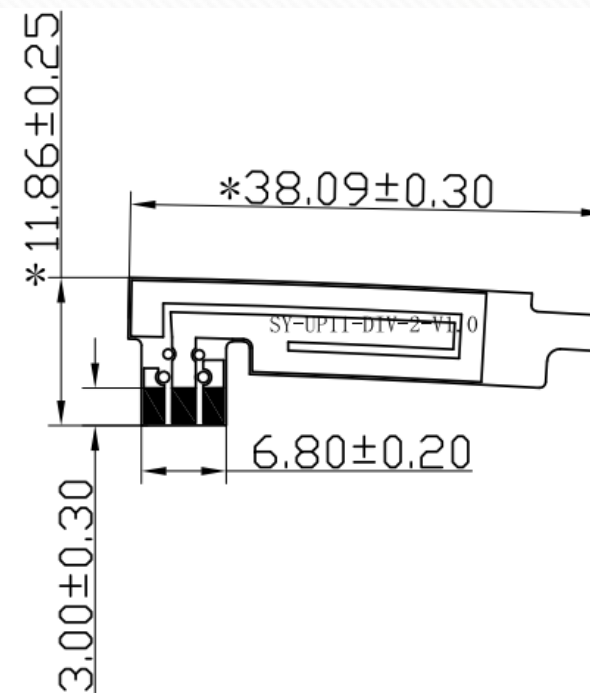
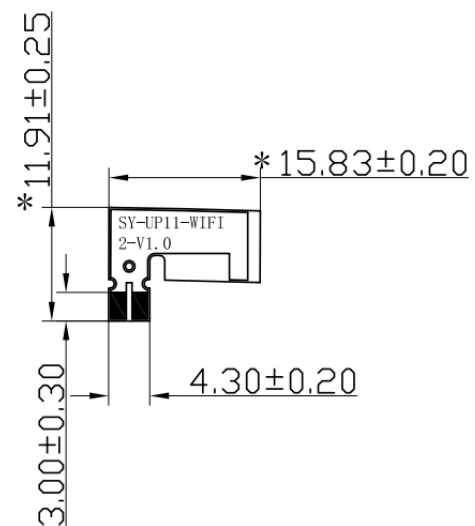
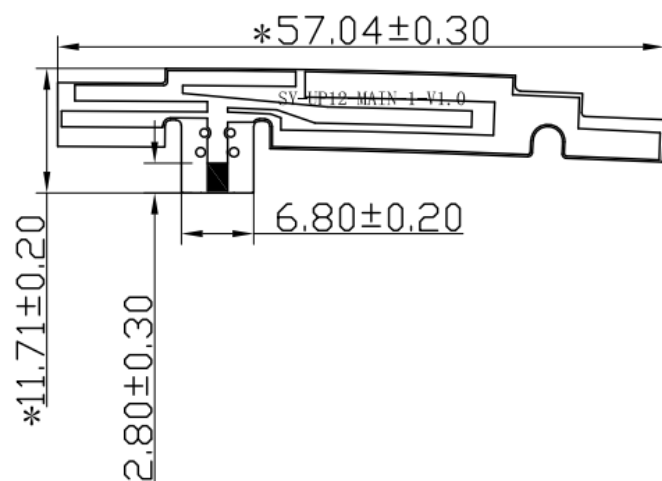
WiFi antenna: PIFA antenna

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Equipment Name	QTY
OTA Laboratory	10
5G Comprehensive Tester (SP9500-CTS)	3
R&S Comprehensive Tester (High-end CMW500)	7
Nihon Avitronics Comprehensive Tester (Dual-channel 8820)	4
NB-IoT Comprehensive Tester (SP8315)	3
Agilent Comprehensive Tester (8960)	9
Agilent Network Analyzer (E5062A)	7
Agilent Network Analyzer (E5071C 8.5GHz)	11
Agilent Network Analyzer (E5071B 8.5GHz)	10
R&S Network Analyzer (ZND)	10
R&S Network Analyzer (ZVB)	3
OTA Head/Ear/ Cochlea/Arm	5
GPS/WIFI Active Test Equipment	5

Antenna size

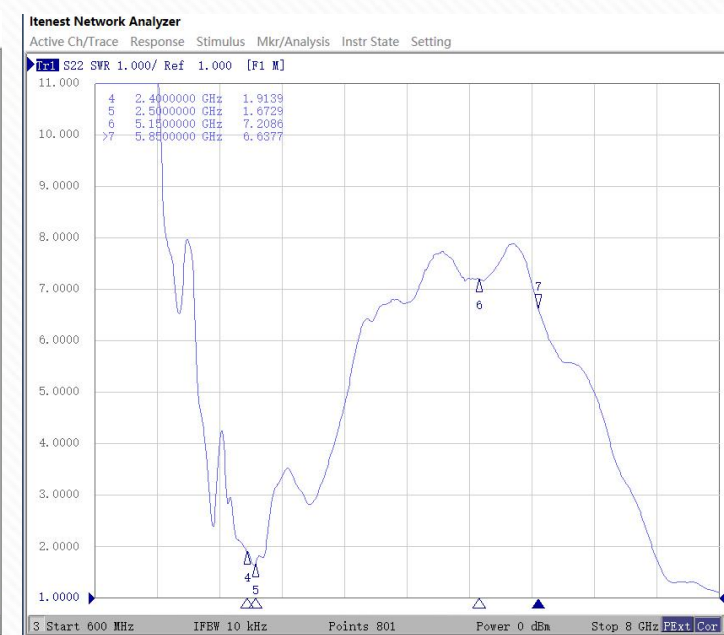
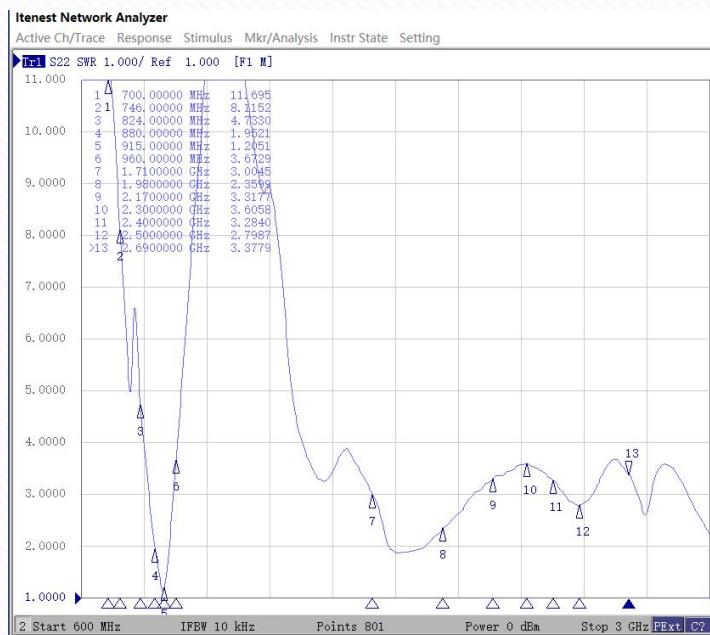
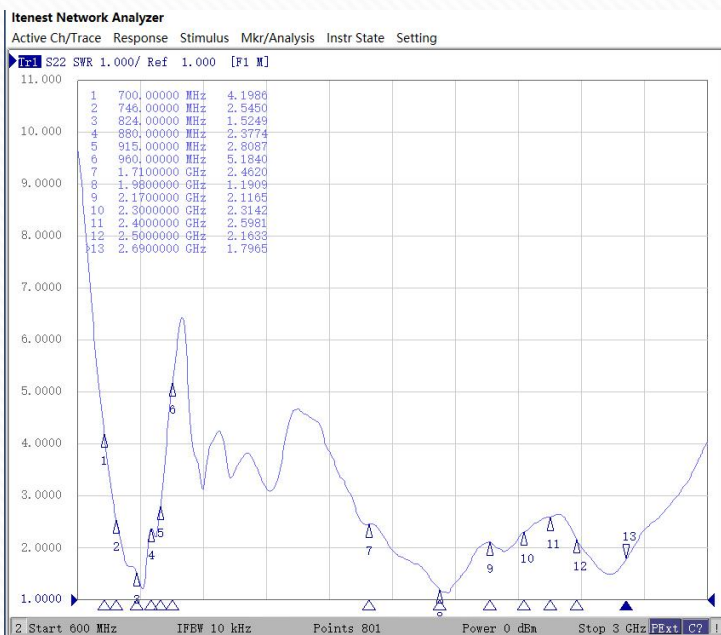


Antenna S11

主天线

分集天线

WiFi天线



Main antenna efficiency

主天线															
Fre	Effi (. db)	Effi (. %)	MaxGain/dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/dBi
600	-8.09	15.52	-3.72	1710	-2.81	52.36	1.57	2080	-3.23	47.53	1.63	2560	-3.03	49.77	2.78
610	-7.74	16.83	-3.65	1720	-2.43	57.15	1.48	2090	-3.92	40.55	1.98	2570	-3.51	44.57	1.77
620	-7.92	16.16	-3.96	1730	-2.64	54.45	1.61	2100	-3.69	42.76	1.79	2580	-3.48	44.87	2.14
630	-7.87	16.35	-3.79	1740	-2.16	60.81	1.60	2110	-4.07	39.17	1.82	2590	-4.01	39.72	1.22
640	-7.82	16.53	-3.29	1750	-2.56	55.46	1.85	2120	-3.71	42.56	1.34	2600	-4.45	35.89	1.66
650	-7.39	18.23	-2.76	1760	-2.24	59.70	1.68	2130	-3.94	40.36	1.29	2610	-4.77	33.34	0.88
660	-7.27	18.74	-2.43	1770	-2.45	56.89	1.87	2140	-3.46	45.08	0.02	2620	-4.55	35.08	1.46
670	-7.13	19.36	-1.55	1780	-1.98	63.39	1.96	2150	-3.62	43.45	0.39	2630	-4.81	33.04	0.80
680	-7.07	19.63	-0.51	1790	-2.11	61.52	2.19	2160	-3.25	47.32	-0.51	2640	-4.56	34.99	1.38
690	-6.91	20.36	0.46	1800	-1.87	65.01	1.76	2170	-3.33	46.45	-0.07	2650	-4.73	33.65	1.05
700	-6.63	21.72	0.89	1810	-2.12	61.38	2.11					2660	-4.39	36.39	1.85
710	-6.49	22.43	1.06	1820	-1.96	63.68	1.91	2300	-2.58	55.21	0.85	2670	-4.63	34.43	1.54
720	-6.24	23.77	0.84	1830	-2.2	60.26	1.65	2310	-2.84	52.00	0.53	2680	-4.37	36.56	2.04
730	-6.1	24.53	1.13	1840	-2.03	62.66	1.12	2320	-2.54	55.72	1.04	2690	-4.44	35.97	1.75
740	-5.84	26.03	0.80	1850	-2.23	59.84	1.50	2330	-2.83	52.12	0.77				
750	-5.62	27.43	0.87	1860	-2.09	61.8	1.08	2340	-2.54	55.72	1.50				
760	-5.44	28.57	1.42	1870	-2.28	59.16	1.66	2350	-2.87	51.64	1.13				
770	-5.4	28.85	1.04	1880	-2.18	60.53	1.50	2360	-2.45	56.89	2.32				
780	-5.24	29.89	0.37	1890	-2.46	56.75	1.44	2370	-2.74	53.21	1.86				
790	-4.97	31.87	0.87	1900	-2.47	56.62	1.56	2380	-2.35	58.21	2.66				
800	-4.74	33.61	1.99	1910	-2.67	54.08	1.35	2390	-2.74	53.21	1.9				
810	-4.77	33.35	1.80	1920	-2.54	55.72	1.41	2400	-2.4	57.54	2.36				
820	-4.4	36.30	1.05	1930	-2.8	52.48	1.63	2410	-2.79	52.60	1.60				
830	-4.23	37.79	-0.88	1940	-2.5	56.23	1.49	2420	-2.42	57.28	2.51				
840	-4.3	37.12	-0.99	1950	-2.59	55.08	1.73	2430	-2.88	51.52	1.99				
850	-4.62	34.49	-1.5	1960	-2.22	59.98	1.50	2440	-2.47	56.62	2.18				
860	-4.79	33.21	-1.34	1970	-2.31	58.75	2.05	2450	-2.94	50.82	1.45				
870	-4.96	31.92	-1.25	1980	-1.98	63.39	1.8	2460	-2.54	55.72	2.35				
880	-4.95	31.98	-1.68	1990	-2.12	61.38	2.25	2470	-2.9	51.29	1.45				
890	-5.7	26.92	-2.12	2000	-1.86	65.16	1.73	2480	-2.58	55.21	2.21				
900	-6.03	24.92	-2.15	2010	-2.34	58.34	2.26	2490	-2.99	50.23	1.30				
910	-6.28	23.54	-2.32	2020	-2.01	62.95	1.97	2500	-2.65	54.33	2.28				
920	-6.77	21.04	-2.7	2030	-2.45	56.89	2.39	2510	-2.67	54.08	1.37				
930	-6.95	20.20	-3.03	2040	-2.1	61.66	1.84	2520	-2.32	58.61	2.54				
940	-7.21	19.01	-3.16	2050	-2.57	55.34	2.78	2530	-2.72	53.46	1.66				
950	-7.41	18.16	-3.23	2060	-2.42	57.28	1.80	2540	-2.58	55.21	2.44				
960	-7.52	17.70	-3.44	2070	-3.18	48.08	2.09	2550	-3.18	48.08	2.19				

Diversity antenna efficiency

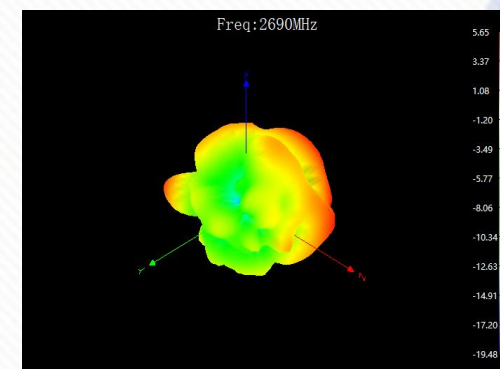
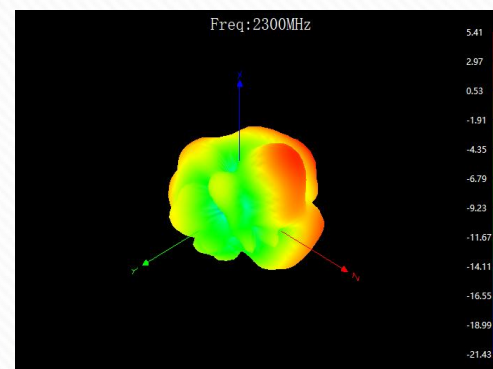
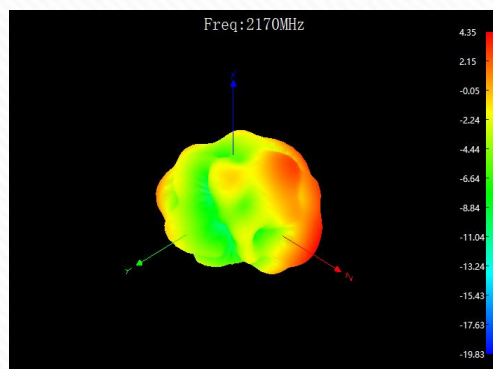
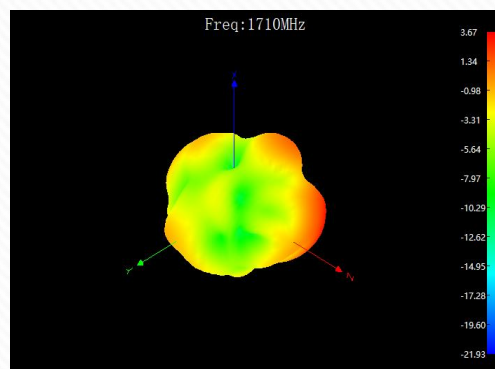
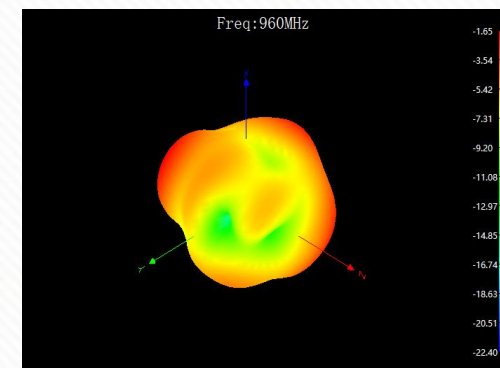
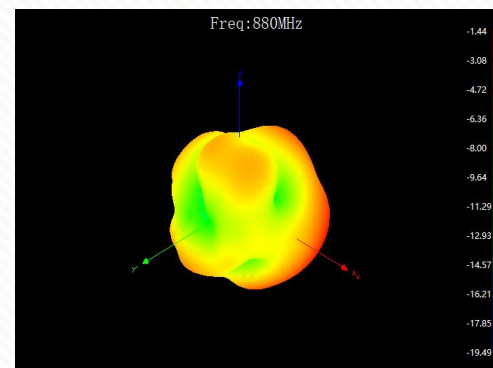
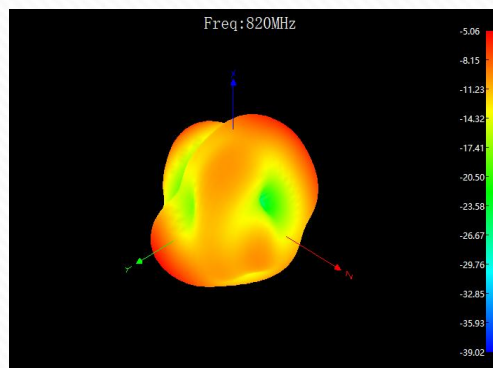
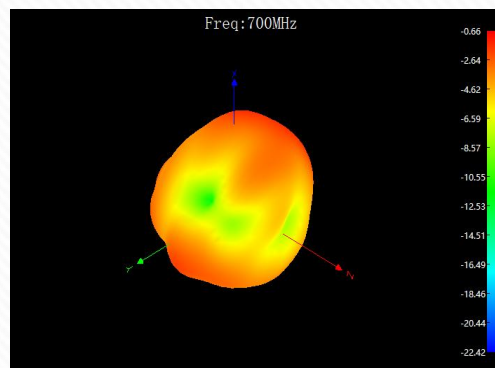
分集天线																			
Fre	Effi (. db)	Effi (. %)	MaxGain/ dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/ dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/ dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/ dBi	Fre	Effi (. db)	Effi (. %)	MaxGain/ dBi
700	-13.1	4.9	-4.47	1710	-2.99	50.27	1.63	1980	-2.51	56.13	2.66	2300	-4.07	39.17	0.25	2570	-5.33	29.31	0.79
710	-12.79	5.26	-4.75	1720	-2.53	55.88	2.36	1990	-2.76	52.99	2.08	2310	-4.24	37.67	-0.26	2580	-5.17	30.41	1.45
720	-12.86	5.18	-5.57	1730	-2.61	54.86	1.88	2000	-2.55	55.62	2.47	2320	-3.91	40.64	0.00	2590	-5.56	27.8	0.79
730	-12.81	5.24	-6.51	1740	-2.09	61.84	2.26	2010	-3.02	49.91	1.67	2330	-4.25	37.58	-0.35	2600	-5.94	25.47	1.48
740	-12.61	5.48	-6.50	1750	-2.39	57.71	1.85	2020	-2.62	54.73	2.52	2340	-3.9	40.74	-0.05	2610	-6.18	24.10	0.88
750	-11.69	6.78	-6.29	1760	-2.13	61.27	2.61	2030	-2.94	50.84	2	2350	-4.25	37.58	-0.36	2620	-5.81	26.24	1.66
760	-12.03	6.27	-7.38	1770	-2.41	57.45	2.18	2040	-2.48	56.53	2.48	2360	-3.8	41.69	0.32	2630	-5.77	26.49	1.40
770	-10.93	8.07	-6.57	1780	-2.09	61.84	2.47	2050	-2.8	52.51	1.82	2370	-4.08	39.08	0.01	2640	-5.29	29.58	1.77
780	-10.14	9.68	-5.41	1790	-2.28	59.19	2.17	2060	-2.49	56.39	2.46	2380	-3.68	42.85	0.22	2650	-5.27	29.72	1.61
790	-9.64	10.86	-4.67	1800	-2.11	61.55	2.48	2070	-3.06	49.46	1.87	2390	-3.98	39.99	-0.11	2660	-4.85	32.73	1.85
800	-9.34	11.64	-4	1810	-2.38	57.84	2.17	2080	-2.96	50.61	2.17	2400	-3.63	43.35	-0.11	2670	-5.04	31.33	1.48
810	-8.79	13.21	-3.16	1820	-2.3	58.91	2.13	2090	-3.49	44.79	1.16	2410	-4.08	39.08	-0.57	2680	-4.62	34.51	2.13
820	-8.1	15.49	-2.58	1830	-2.53	55.88	1.9	2100	-3.11	48.90	1.86	2420	-3.64	43.25	-0.12	2690	-4.61	34.59	1.93
830	-7.29	18.66	-1.50	1840	-2.35	58.24	1.86	2110	-3.28	47.02	1.31	2430	-3.98	39.99	-0.19				
840	-6.51	22.34	-1.03	1850	-2.51	56.13	1.40	2120	-2.87	51.67	2.29	2440	-3.47	44.98	0.68				
850	-5.84	26.06	-1.09	1860	-2.37	57.98	1.70	2130	-3.17	48.22	1.35	2450	-3.88	40.93	0.22				
860	-5.43	28.64	-1.18	1870	-2.54	55.75	1.37	2140	-2.96	50.61	1.88	2460	-3.59	43.75	1.16				
870	-4.89	32.43	-0.21	1880	-2.46	56.79	1.69	2150	-3.39	45.84	1.30	2470	-3.95	40.27	0.33				
880	-4.39	36.39	0.53	1890	-2.76	52.99	1.35	2160	-3.29	46.91	1.58	2480	-3.7	42.66	1.22				
890	-4.38	36.48	0.85	1900	-2.86	51.79	1.60	2170	-3.62	43.48	0.73	2490	-4.04	39.45	0.7				
900	-4.54	35.16	1.59	1910	-3.18	48.11	1.22					2500	-3.79	41.78	1.44				
910	-4.98	31.77	1.29	1920	-3.12	48.78	1.57					2510	-3.92	40.55	0.57				
920	-5.24	29.92	0.73	1930	-3.4	45.74	1.13					2520	-3.84	41.30	1.68				
930	-6.52	22.28	0.03	1940	-3.09	49.12	1.48					2530	-4.38	36.48	0.89				
940	-7.38	18.28	-0.16	1950	-3.15	48.45	1.54					2540	-4.34	36.81	2				
950	-8.26	14.93	-1.01	1960	-2.75	53.12	2.46					2550	-5	31.62	0.88				
960	-8.41	14.42	-1.43	1970	-2.8	52.51	2.27					2560	-4.9	32.36	1.71				

WiFi antenna efficiency

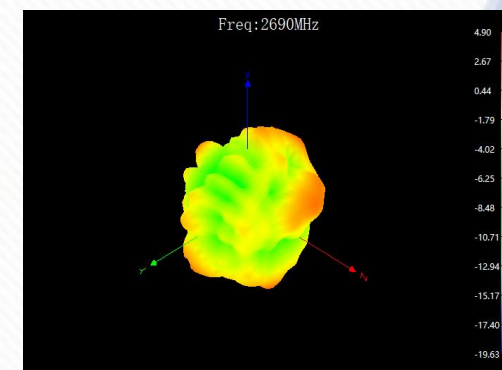
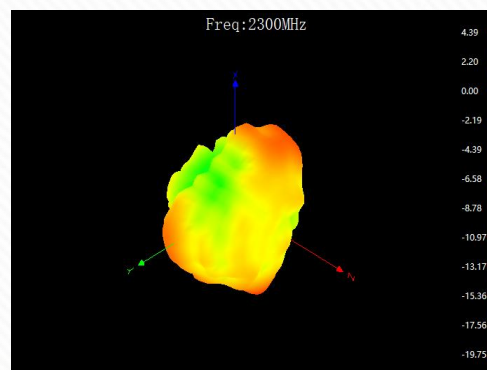
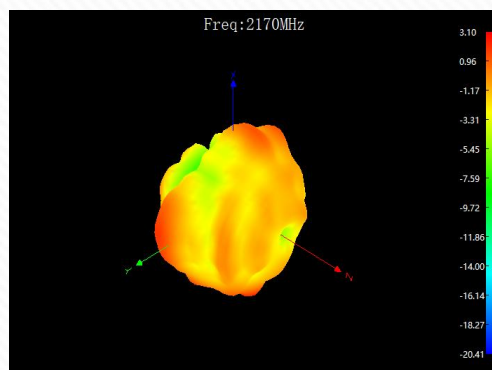
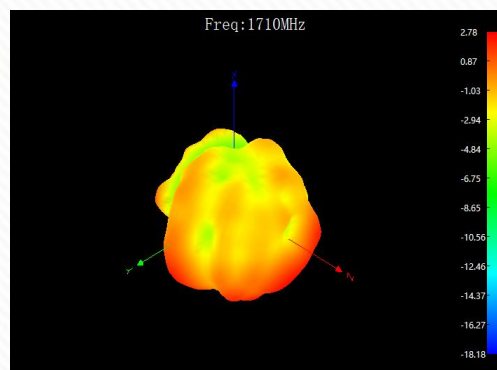
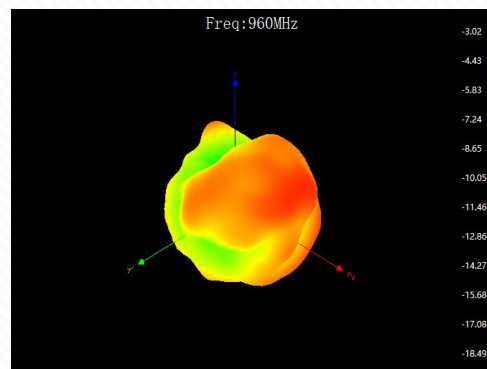
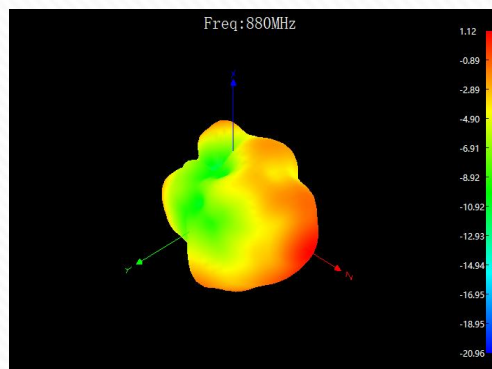
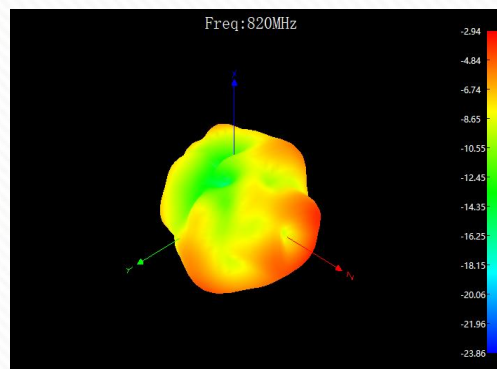
WIFI天线

Fre	Effi (. db)	Effi (. %)	MaxGain/dBi
2400	-2.45	56.94	1.57
2410	-2.87	51.69	0.65
2420	-2.53	55.90	1.48
2430	-2.94	50.86	0.87
2440	-2.58	55.25	1.93
2450	-3.1	49.03	0.95
2460	-2.88	51.57	1.57
2470	-3.26	47.25	0.34
2480	-2.96	50.63	0.86
2490	-3.28	47.04	0.72
2500	-2.91	51.22	1.49

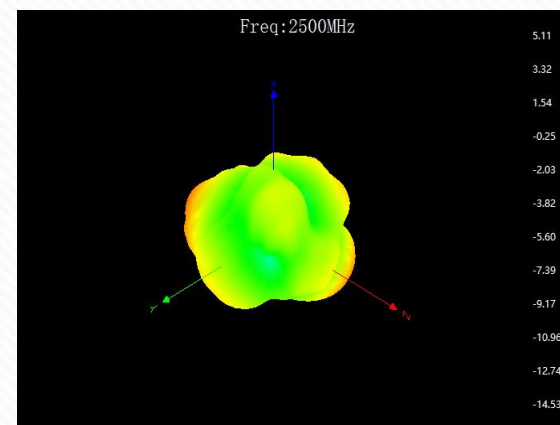
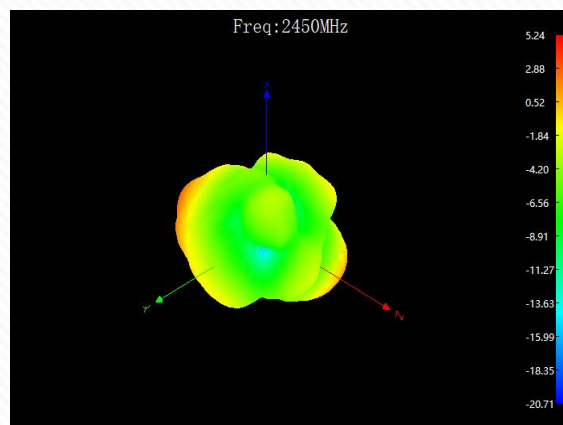
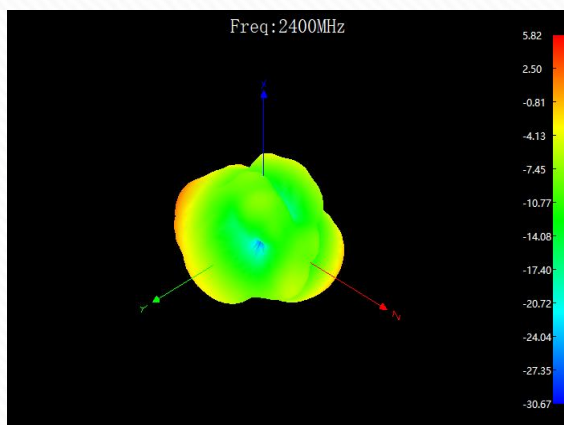
Main antenna pattern



Directional pattern of a diversity antenna



WiFi antenna pattern



Thank You

上海研发中心：上海市青浦区高光路215弄99号4号楼1楼

深圳研发中心：深圳市光明区南太云创谷中心5栋6楼

重庆研发中心：重庆市渝北区仙桃数据谷东路19号ARM生态产业园1F

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