

测试信息

Test information

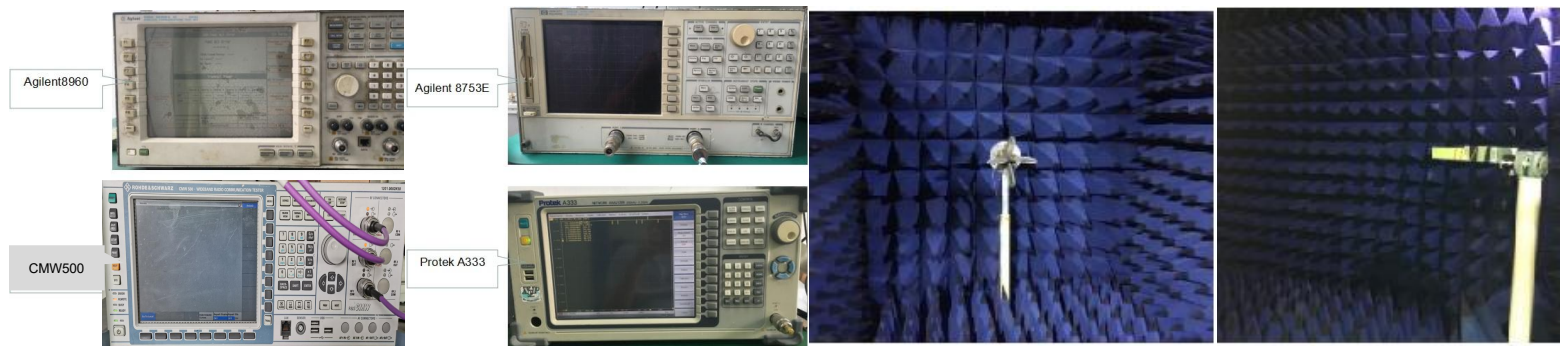
Manufacturer:Shenzhen Lianlijia Technology Co.,Ltd

	Antenna band	Antenna state	Antenna form	Matchc hanges	Note
Main ANT	2G	FPC	PIFA	NO	
	3G				
	4G B1/B3/B38/B39/B40/B41				
AUX ANT	BT/WIFI				
	GPS				
	DIV				

测试环境

Test environment

	测试项目	测试设备
S参数 (S-parameter)	1. 电压驻波比 (VSWR) 2. 回波损耗 (Rrtun Loss)	网络分析仪: Agilent8753ES
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS) 3. 屏灭/屏亮	1. 暗室: 5*3*3m (3D) Chamber 2. 综测仪: Agilent8960 CMW500
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: 5*3*3m (3D) Chamber 2. 网络分析仪: Agilent 8753ES



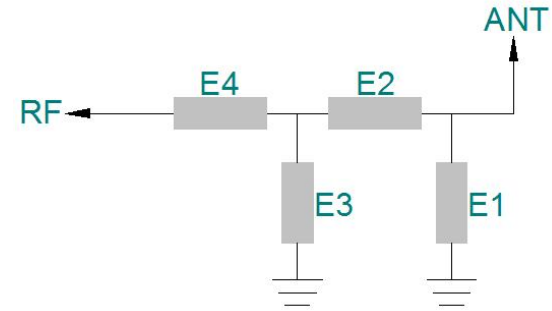
WIFI天线

Antenna position



X15 model WF antenna CS26222 line length 60mm (4IPEX)

匹配电路 Matching circuit

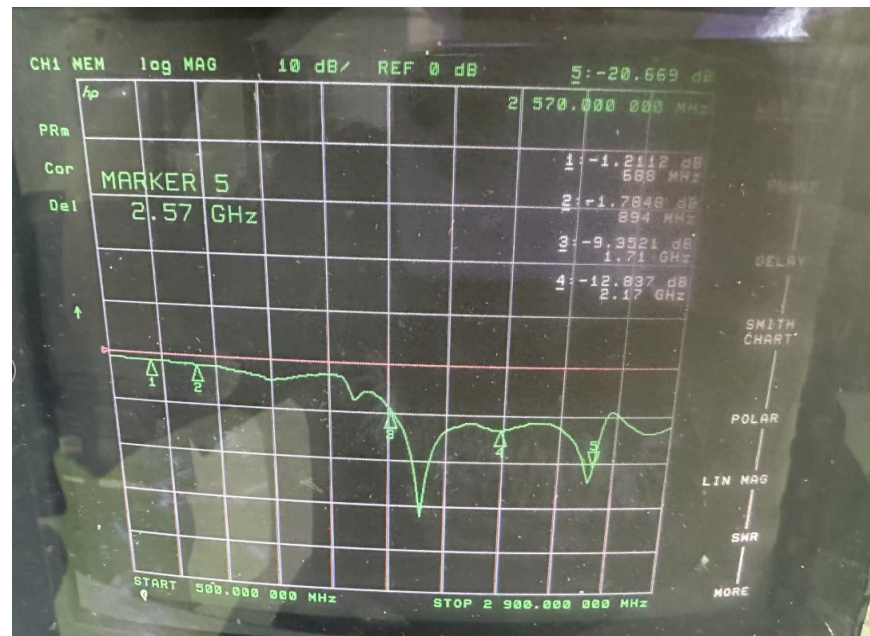


	电容 (PF)	电感 (NH)
E1(0402)		
E2(0402)		
E3(0402)		
E4(0402)		

无源测试数据

Passive test data

MAIN ANT S11-VSWR&Return Loss



Frequency (MHZ)	1710	2170	2600
VSWR	2.03	1.59	1.21
Return Loss (DB)	-9.35	-12.83	-20.66

无源测试数据

Passive test data

MAIN ANT GAIN&Efficiency-(1700-1900)

Passive Test For 高频								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
1710	51.82	-2.86	0.82	-1.33	27.906	23.913	0.82	-14.02
1720	51.05	-2.92	0.65	-1.5	28.158	22.895	0.65	-12.65
1730	53.49	-2.72	1.26	-0.89	30.588	22.903	1.26	-11.64
1740	50.72	-2.95	1.46	-0.69	29.879	20.837	1.46	-11.02
1750	47.85	-3.2	1.53	-0.62	28.644	19.208	1.53	-10.48
1760	46.89	-3.29	1.51	-0.64	27.965	18.921	1.51	-9.37
1770	50.46	-2.97	1.74	-0.41	29.992	20.472	1.74	-8.77
1780	52.09	-2.83	1.65	-0.5	31.075	21.018	1.65	-8.26
1790	47.51	-3.23	1.03	-1.12	28.197	19.317	1.03	-9.27
1800	46.37	-3.34	0.78	-1.37	27.039	19.335	0.78	-11.02
1810	45.38	-3.43	0.52	-1.63	25.598	19.778	0.52	-11.79
1820	49.84	-3.02	0.63	-1.52	27.205	22.64	0.63	-11.48
1830	47.27	-3.25	0.4	-1.75	25.065	22.202	0.4	-10.97
1840	47.91	-3.2	0.55	-1.6	25.189	22.716	0.55	-10.33
1850	56.83	-2.45	1.32	-0.83	30.147	26.679	1.32	-9.3
1860	57.01	-2.44	1.26	-0.89	30.111	26.904	1.26	-9.55
1870	53.5	-2.72	0.84	-1.31	28.087	25.415	0.84	-10.38
1880	59.6	-2.25	1.7	-0.45	31.641	27.956	1.7	-10.12
1890	59.18	-2.28	2.04	-0.11	32.128	27.047	2.04	-10.03
1900	55.22	-2.58	1.94	-0.21	30.914	24.307	1.94	-9.93

无源测试数据

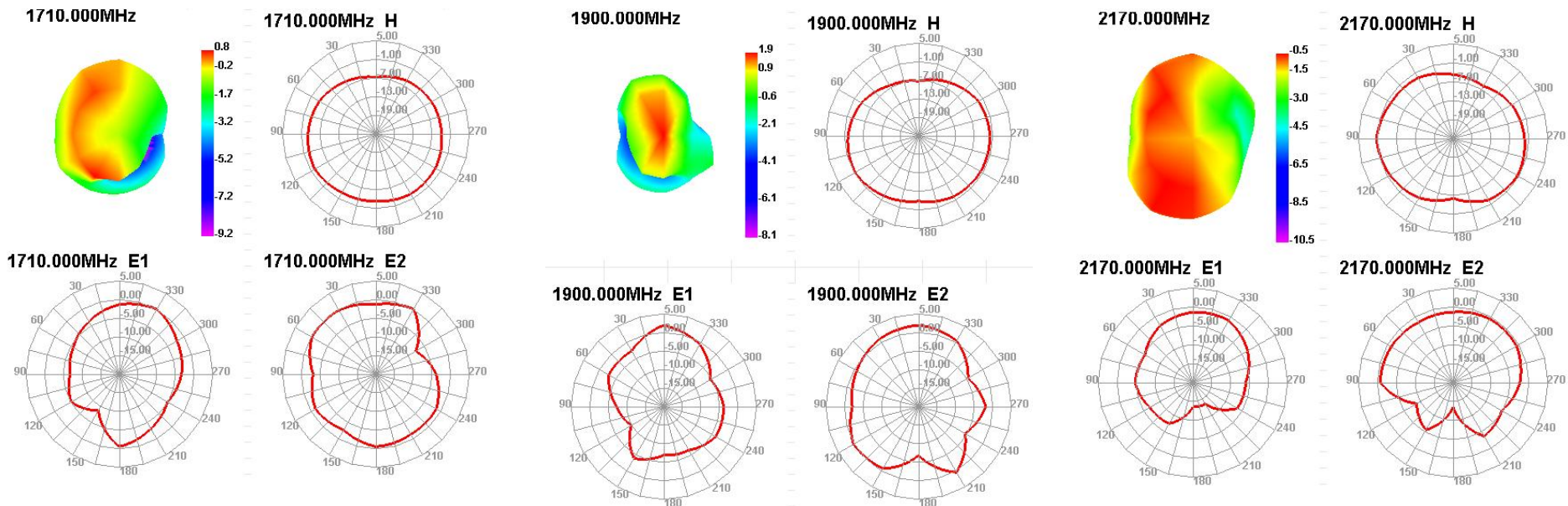
Passive test data

MAIN ANT GAIN&Efficiency-(1910-2170)

1910	50.77	-2.94	1.82	-0.33	29.111	21.656	1.82	-9.58
1920	54.79	-2.61	2.27	0.12	32.213	22.582	2.27	-8.55
1930	56.18	-2.5	2.54	0.39	33.489	22.689	2.54	-8.18
1940	51.88	-2.85	2.21	0.06	31.396	20.482	2.21	-8.54
1950	52.34	-2.81	2.17	0.02	31.94	20.404	2.17	-8.94
1960	48.82	-3.11	1.92	-0.23	30.175	18.644	1.92	-9.78
1970	46.26	-3.35	1.69	-0.46	29.028	17.231	1.69	-10.78
1980	49.49	-3.06	1.99	-0.16	31.508	17.978	1.99	-10.6
1990	44.79	-3.49	1.59	-0.56	28.818	15.975	1.59	-10.72
2000	46.13	-3.36	1.69	-0.46	29.661	16.467	1.69	-10.34
2010	49.09	-3.09	1.89	-0.26	31.209	17.882	1.89	-10.11
2020	50.72	-2.95	1.84	-0.31	31.889	18.834	1.84	-10.39
2030	48.93	-3.1	1.49	-0.66	30.693	18.234	1.49	-11.11
2040	45.27	-3.44	0.94	-1.21	28.791	16.475	0.94	-11.97
2050	51.83	-2.85	1.43	-0.72	33.511	18.316	1.43	-11.57
2060	49.41	-3.06	1.09	-1.06	32.563	16.851	1.09	-11.53
2070	44.43	-3.52	0.52	-1.63	29.479	14.953	0.52	-13.86
2080	44.4	-3.53	0.33	-1.82	29.466	14.937	0.33	-15.79
2090	51.57	-2.88	0.75	-1.4	33.731	17.839	0.75	-14.54
2100	56.47	-2.48	0.86	-1.29	36.291	20.184	0.86	-12.58
2110	51.24	-2.9	0.17	-1.98	32.293	18.944	0.17	-11.88
2120	48.19	-3.17	-0.4	-2.55	30.169	18.017	-0.4	-13.07
2130	45.13	-3.45	-0.87	-3.02	28.333	16.801	-0.87	-13.44
2140	50.71	-2.95	-0.42	-2.57	32.273	18.434	-0.42	-12.79
2150	48.34	-3.16	-0.35	-2.5	31.226	17.112	-0.35	-12.51
2160	45.39	-3.43	-0.54	-2.69	29.82	15.574	-0.54	-13.3
2170	45.06	-3.46	-0.48	-2.63	29.777	15.287	-0.48	-13.6

无源测试数据 Passive test data

MAIN ANT Direction of figure(1700-2170)



无源测试数据

Passive test data

MAIN ANT GAIN&Efficiency-(2300-2500)

Passive Test For 高频								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)
2300	44.67	-3.5	0.38	-1.77	28.22	16.451	0.38	-17.14
2310	48.61	-3.13	0.95	-1.2	31.14	17.47	0.95	-17.48
2320	49.41	-3.06	1.22	-0.93	32.038	17.368	1.22	-18.63
2330	46.7	-3.31	1.04	-1.11	30.383	16.321	1.04	-19.37
2340	48.9	-3.11	1.25	-0.9	31.573	17.332	1.25	-18.49
2350	53.58	-2.71	1.64	-0.51	34.199	19.382	1.64	-17.55
2360	51.17	-2.91	1.44	-0.71	32.289	18.881	1.44	-17.75
2370	49.42	-3.06	1.25	-0.9	31.016	18.402	1.25	-18.67
2380	51.23	-2.9	1.32	-0.83	32.17	19.064	1.32	-20.34
2390	52.49	-2.8	1.33	-0.82	32.791	19.699	1.33	-21.98
2400	52.39	-2.81	1.23	-0.92	32.709	19.681	1.23	-21.56
2410	54.88	-2.61	1.5	-0.65	34.34	20.543	1.5	-20.34
2420	56.5	-2.48	1.73	-0.42	35.573	20.922	1.73	-19.27
2430	54.96	-2.6	1.73	-0.42	34.756	20.209	1.73	-19.38
2440	56.15	-2.51	1.84	-0.31	35.27	20.881	1.84	-19.71
2450	61.32	-2.12	2.25	0.1	38.188	23.133	2.25	-19.7
2460	64.01	-1.94	2.34	0.19	39.519	24.491	2.34	-18.29
2470	58.72	-2.31	1.92	-0.23	36.147	22.569	1.92	-17.27
2480	60.36	-2.19	2.21	0.06	37.023	23.342	2.21	-16.45
2490	63.84	-1.95	2.55	0.4	38.526	25.31	2.55	-16.39
2500	61.15	-2.14	2.49	0.34	36.278	24.87	2.49	-16.69

无源测试数据

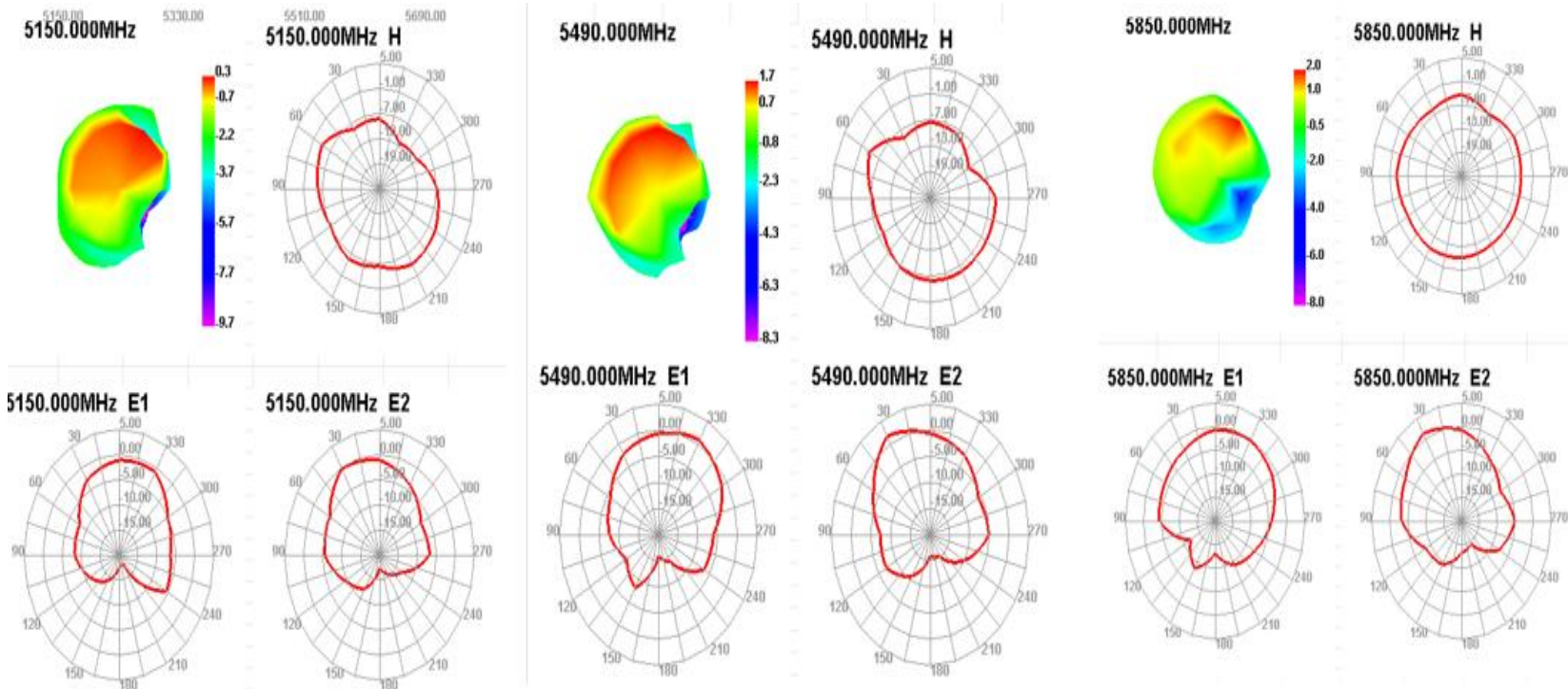
Passive test data

MAIN ANT GAIN&Efficiency-51500-5850)

Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dBi)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	12.83	-6.41	0.29	-1.86	7.047	5.784	0.29	-20.86	6.71	60	49.82	49.4
5170	14.42	-6.12	0.52	-1.63	8.373	6.049	0.52	-21.36	6.64	60	50.13	49.77
5190	14.47	-6.11	0.39	-1.76	8.246	6.223	0.39	-21.25	6.5	60	50.42	49.95
5210	18.91	-5.39	0.93	-1.22	11.506	7.402	0.93	-18.97	6.32	60	50.88	50.49
5230	16.15	-5.82	0.46	-1.69	9.708	6.446	0.46	-19.8	6.28	60	50.42	50.08
5250	20.3	-5.19	1.08	-1.07	13.142	7.159	1.08	-19.35	6.27	60	51.02	50.72
5270	19.37	-5.32	0.82	-1.33	12.382	6.983	0.82	-23.53	6.15	60	50.85	50.6
5290	21.76	-4.98	1.24	-0.91	13.941	7.818	1.24	-21.25	6.22	60	51.34	51.12
5310	19.36	-5.32	0.93	-1.22	12.172	7.187	0.93	-19.8	6.25	90	50.44	50.36
5330	19.46	-5.31	1.06	-1.09	12.561	6.894	1.06	-21.01	6.37	90	51.08	51.01
5350	20.6	-5.14	1.26	-0.89	13.576	7.022	1.26	-23.49	6.4	90	51.02	51.01
5370	19.3	-5.33	1.05	-1.1	12.234	7.067	1.05	-22.48	6.38	90	50.91	50.95
5390	17.55	-5.6	0.83	-1.32	10.656	6.891	0.83	-21.21	6.42	90	50.46	50.43
5410	21.54	-5.01	1.56	-0.59	13.889	7.649	1.56	-20.74	6.57	90	51.18	51.09
5430	19.86	-5.25	1.56	-0.59	12.943	6.916	1.56	-20.29	6.81	90	50.69	50.7
5450	20.89	-5.1	1.71	-0.44	13.703	7.19	1.71	-21.37	6.82	90	50.71	50.85
5470	21.02	-5.08	1.64	-0.51	13.458	7.565	1.64	-19.82	6.73	60	50.93	50.83
5490	20.15	-5.21	1.73	-0.42	12.803	7.346	1.73	-18.98	6.93	60	50.92	50.79
5510	22.34	-4.9	2.13	-0.02	14.844	7.497	2.13	-19.09	7.04	60	51.18	51.16
5530	21.58	-5.01	2.04	-0.11	14.362	7.217	2.04	-20.12	7.05	60	51.44	51.3
5550	24.89	-4.57	2.46	0.31	16.711	8.182	2.46	-21.13	7.04	60	51.89	51.76
5570	21.15	-5.07	1.85	-0.3	13.632	7.517	1.85	-22.73	6.91	60	51.42	51.33
5590	22.68	-4.86	2.03	-0.12	14.906	7.771	2.03	-21.93	6.89	60	51.71	51.76
5610	19.56	-5.29	1.68	-0.47	12.637	6.921	1.68	-22.87	6.97	60	51.17	51.22
5630	21.69	-4.99	1.98	-0.17	14.226	7.466	1.98	-21.95	6.97	60	51.78	51.77
5650	19.56	-5.29	1.72	-0.43	12.523	7.033	1.72	-20.53	7.01	60	51.47	51.55
5670	19.35	-5.32	1.62	-0.53	12.378	6.975	1.62	-20.53	6.95	60	52.12	52.28
5690	18.92	-5.39	1.69	-0.46	12.121	6.795	1.69	-20.15	7.08	60	52.12	52.25
5710	16.27	-5.8	1.16	-0.99	9.983	6.291	1.16	-19.85	6.97	60	51.95	52.05
5730	21.05	-5.08	1.95	-0.2	13.516	7.533	1.95	-18.89	7.03	60	51.59	51.69
5750	16.26	-5.81	1.48	-0.67	9.817	6.445	1.48	-19.92	7.28	60	51.12	51.15
5770	20.14	-5.21	2.19	0.04	12.826	7.31	2.19	-18.68	7.4	60	51.02	51.06
5790	17.08	-5.67	1.67	-0.48	10.518	6.561	1.67	-19.41	7.34	60	51.08	51.16
5810	20.41	-5.17	1.85	-0.3	12.955	7.45	1.85	-20.24	7.02	90	51.36	51.43
5830	19.83	-5.25	1.57	-0.58	12.36	7.472	1.57	-19.3	6.82	90	51.65	51.66
5850	23.83	-4.71	2.05	-0.1	15.277	8.549	2.05	-17.45	6.75	90	51.88	52.05

无源测试数据 Passive test data

MAIN ANT Direction of figure(5150-5850)



合作共赢

