



深圳市星源创科技有限公司

SHENZHEN Xingyuanchuang TECHNOLOGY CO., LTD

天线测试报告

Antenna Test Report

TC: 思宇星

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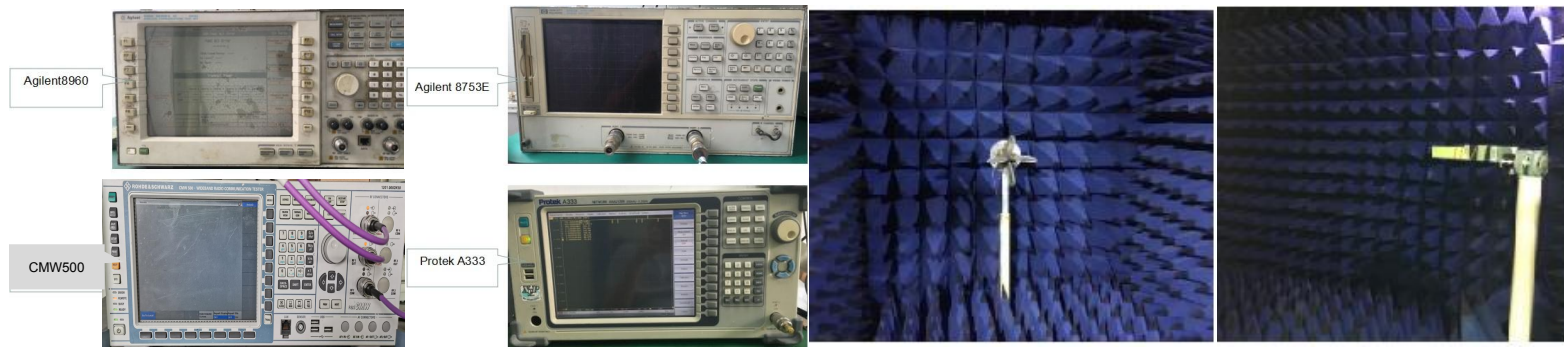
Date: 2024.11.16

REV :V1.0

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





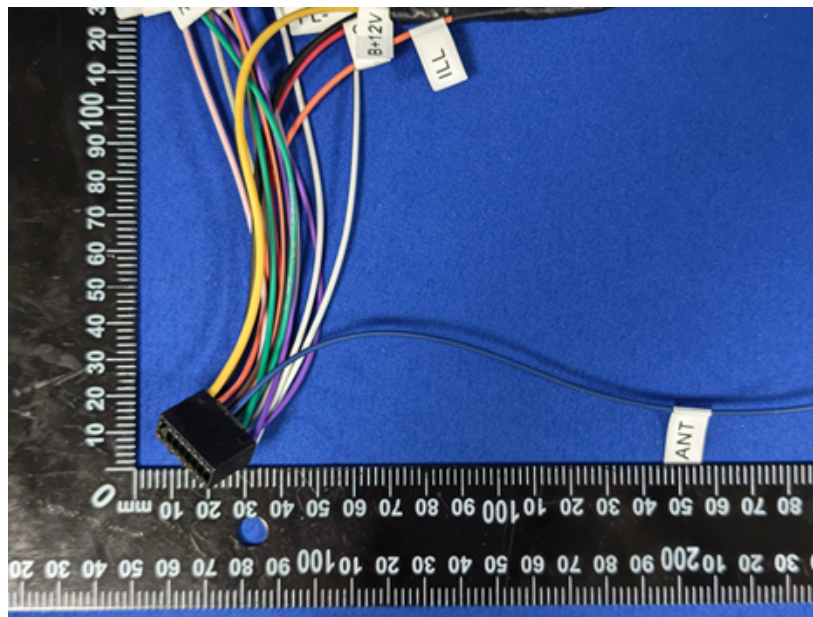
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天线位置

Antenna position





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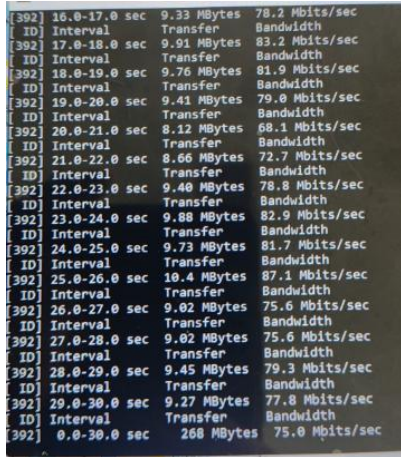
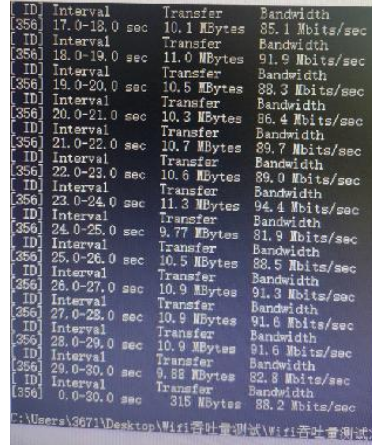
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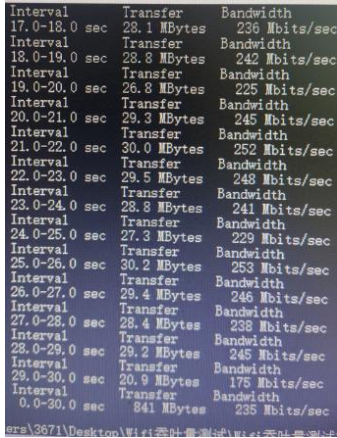
有源测试数据
Active test data

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	14.06	CH1 11Mbps	-70.27
	2437	CH6 11Mbps	14.68	CH6 11Mbps	-71.58
	2467	CH11 11Mbps	13.72	CH11 11Mbps	-72.79
802.11a		TRP		TIS	
	5180	CH36 6Mbps	9.05	CH36 54Mbps	-66.39
	5300	CH60 6Mbps	12.48	CH60 54Mbps	-64.80
	5805	CH161 6Mbps	10.01	CH161 54Mbps	-63.45

吞吐量测试 Throughput test

2.4G wifi 吞吐量测试			
上行	75M	下行	88.20M
图片		图片	
备注			

吞吐量测试 Throughput test

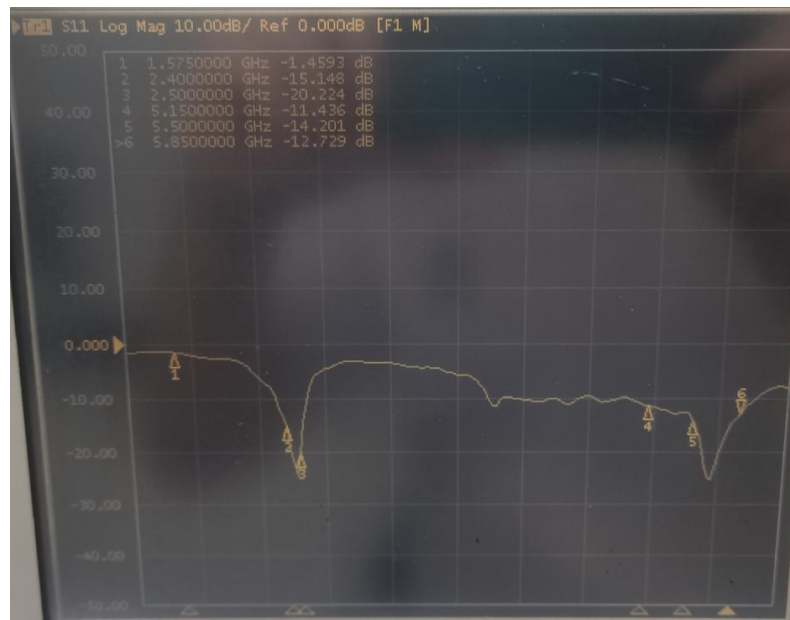
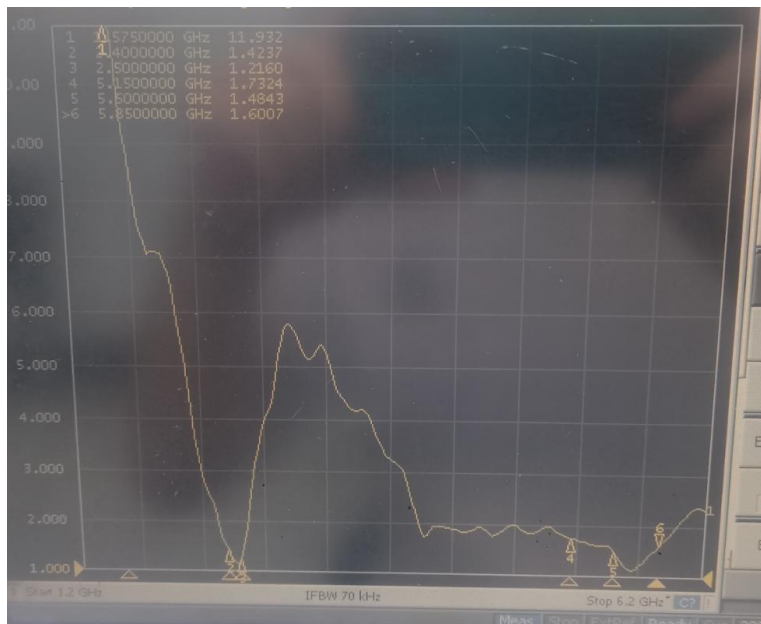
5G wifi 吞吐量测试			
上行	228M	下行	235M
图片		图片	
备注			



无源测试数据

Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	2400		2483	5150	5500	5850
VSWR	1.42		1.21	1.73	1.48	1.60
Return Loss (DB)	-15.14		-20.22	-11.43	-14.21	-12.79



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无源测试数据

Passive test data

ANT1 GAIN&Efficiency-WIFI2.4G/BT

Passive Test For WIFI2.4												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	31.76	-4.98	-0.42	-2.57	17.884	13.872	-0.42	-15.42	4.56	0	45.78	46.01
2410	28.7	-5.42	-1.16	-3.31	15.88	12.822	-1.16	-15.63	4.26	0	46.01	46.29
2420	32.16	-4.93	-0.84	-2.99	17.765	14.391	-0.84	-14.65	4.09	0	45.73	46
2430	32.02	-4.95	-1.05	-3.2	17.737	14.284	-1.05	-14.09	3.9	0	46.01	46.36
2440	32.46	-4.89	-1.04	-3.19	17.912	14.55	-1.04	-13.49	3.85	0	46.12	46.48
2450	32.25	-4.92	-1.1	-3.25	17.526	14.72	-1.1	-13.73	3.81	0	46.12	46.54
2460	34.83	-4.58	-0.64	-2.79	18.735	16.096	-0.64	-14.44	3.94	0	46.14	46.52
2470	36.88	-4.33	-0.37	-2.52	19.742	17.134	-0.37	-14.67	3.96	0	46.4	46.8
2480	37.24	-4.29	-0.52	-2.67	19.735	17.506	-0.52	-14.04	3.77	30	46.26	46.64
2490	39.53	-4.03	-0.51	-2.66	20.711	18.816	-0.51	-13.61	3.52	30	46.51	46.91
2500	38.74	-4.12	-0.79	-2.94	20.181	18.559	-0.79	-13.39	3.33	30	46.47	46.86



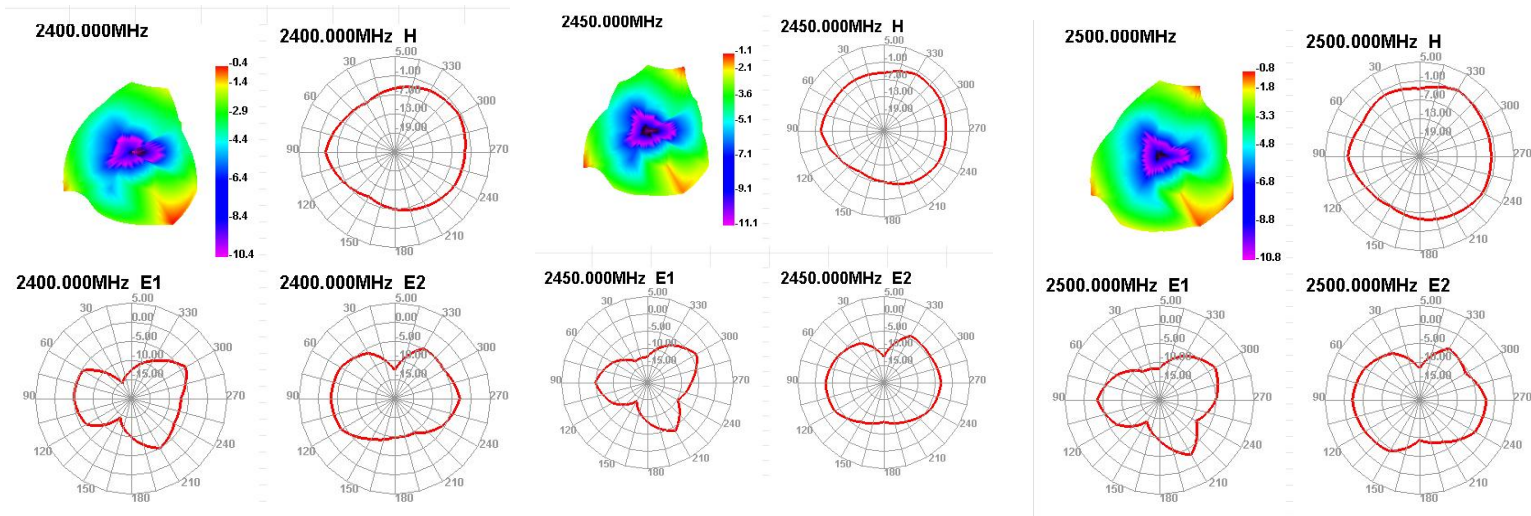
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无源测试数据
Passive test data

ANT1 Direction of figure(2.4/BT)





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无源测试数据

Passive test data

ANT1 GAIN&Efficiency-WIFI 5G

Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	14.68	-8.33	-1.17	-3.32	7.433	7.251	-1.17	-21.91	7.16	0	49.82	49.4
5170	15.95	-7.97	-1.12	-3.27	7.852	8.096	-1.12	-22.24	6.85	0	50.13	49.77
5190	16.2	-7.9	-1.82	-3.97	7.589	8.612	-1.82	-21.54	6.08	0	50.42	49.95
5210	19.49	-7.1	-0.68	-2.83	8.791	10.701	-0.68	-19.05	6.42	0	50.88	50.49
5230	17.85	-7.48	-0.73	-2.88	7.836	10.019	-0.73	-20.28	6.75	0	50.42	50.08
5250	21.37	-6.7	0.28	-1.87	9.282	12.091	0.28	-18.74	6.98	0	51.02	50.72
5270	21.41	-6.69	0.54	-1.61	9.298	12.116	0.54	-17.07	7.23	0	50.85	50.6
5290	24	-6.2	0.82	-1.33	10.646	13.355	0.82	-14.93	7.02	30	51.34	51.12
5310	21.69	-6.64	-0.02	-2.17	9.824	11.863	-0.02	-16.76	6.62	30	50.44	50.36
5330	21.15	-6.75	-0.52	-2.67	9.74	11.411	-0.52	-18.4	6.23	30	51.08	51.01
5350	21.89	-6.6	-0.42	-2.57	10.287	11.6	-0.42	-17.97	6.18	30	51.02	51.01
5370	20.55	-6.87	-0.81	-2.96	9.87	10.675	-0.81	-17.22	6.06	0	50.91	50.95
5390	19.52	-7.1	-1	-3.15	9.656	9.862	-1	-19.38	6.09	0	50.46	50.43
5410	21.72	-6.63	-0.35	-2.5	11.029	10.694	-0.35	-21.35	6.29	0	51.18	51.09
5430	21.82	-6.61	-0.23	-2.38	11.227	10.596	-0.23	-21.51	6.38	90	50.69	50.7
5450	22.29	-6.52	-0.02	-2.17	11.741	10.551	-0.02	-21.36	6.5	90	50.71	50.85
5470	21.89	-6.6	0.08	-2.07	11.759	10.133	0.08	-22.09	6.68	90	50.93	50.83
5490	20.96	-6.79	0.13	-2.02	11.367	9.596	0.13	-22.58	6.92	90	50.92	50.79
5510	22.12	-6.55	0.51	-1.64	12.024	10.094	0.51	-20.85	7.06	90	51.18	51.16
5530	21.91	-6.59	0.35	-1.8	11.96	9.95	0.35	-22.38	6.94	90	51.44	51.3
5550	23.48	-6.29	0.52	-1.63	13.024	10.459	0.52	-22.75	6.81	90	51.89	51.76
5570	21.96	-6.58	0.17	-1.98	12.142	9.82	0.17	-22.43	6.75	60	51.42	51.33
5590	22.9	-6.4	0.25	-1.9	12.607	10.291	0.25	-21.88	6.65	60	51.71	51.76
5610	20	-6.99	-0.49	-2.64	10.977	9.023	-0.49	-22.5	6.5	60	51.17	51.22
5630	20.47	-6.89	-0.38	-2.53	11.239	9.231	-0.38	-19.93	6.51	60	51.78	51.77
5650	19.18	-7.17	-0.61	-2.76	10.346	8.831	-0.61	-20.64	6.57	180	51.47	51.55
5670	21.97	-6.58	0.05	-2.1	11.649	10.326	0.05	-18.98	6.63	180	52.12	52.28
5690	20.36	-6.91	-0.57	-2.72	10.647	9.717	-0.57	-18.66	6.34	60	52.12	52.25
5710	22.21	-6.53	-0.42	-2.57	11.567	10.644	-0.42	-18.62	6.12	60	51.95	52.05
5730	23.14	-6.36	-0.41	-2.56	11.973	11.164	-0.41	-19.74	5.95	60	51.59	51.69
5750	22.26	-6.53	-0.69	-2.84	11.471	10.788	-0.69	-20.44	5.83	0	51.12	51.15
5770	24.27	-6.15	-0.7	-2.85	12.375	11.895	-0.7	-20.06	5.45	0	51.02	51.06
5790	22.22	-6.53	-0.8	-2.95	11.15	11.066	-0.8	-22.37	5.74	0	51.08	51.16
5810	24.14	-6.17	-0.01	-2.16	12.064	12.073	-0.01	-23.8	6.16	0	51.36	51.43
5830	23.81	-6.23	-0.02	-2.17	11.924	11.887	-0.02	-22.38	6.21	0	51.65	51.66
5850	27	-5.69	0.79	-1.36	13.5	13.496	0.79	-19.3	6.47	0	51.88	52.05



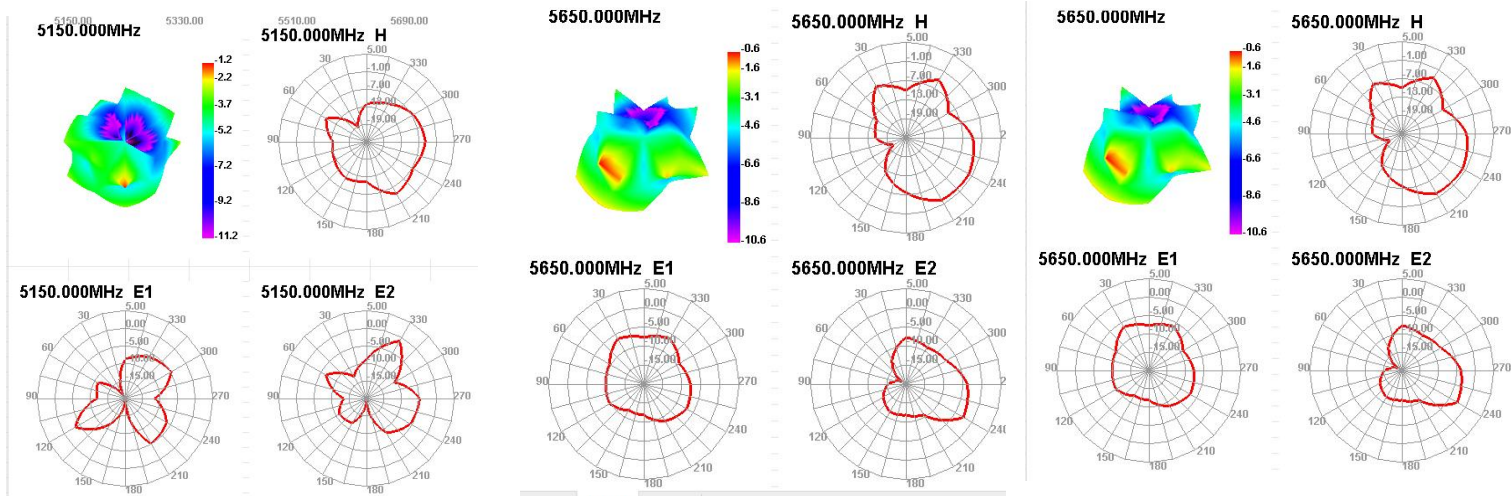
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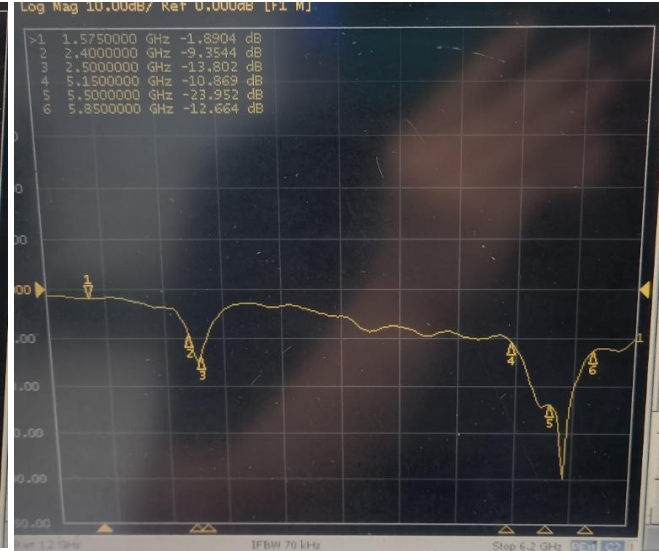
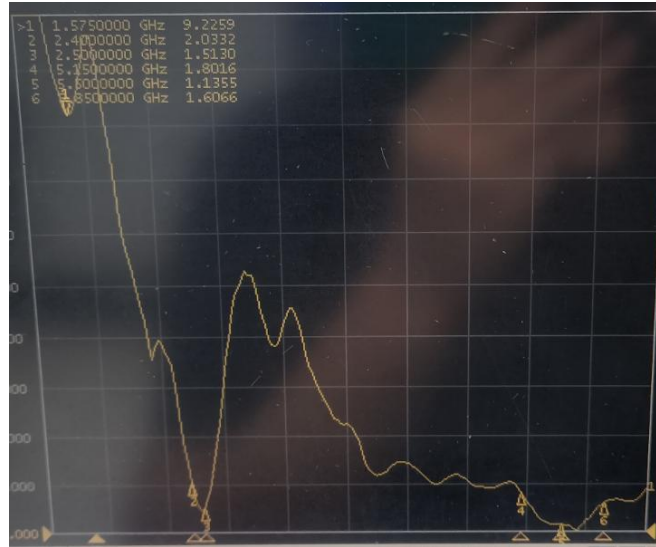
无源测试数据
Passive test data

ANT1 Direction of figure(5G)



无源测试数据 Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	2400		2483	5150	5500	5850
VSWR	2.03		1.51	1.80	1.13	1.60
Return Loss (DB)	-9.35		-13.80	-10.86	-23.95	-12.64