



天线测试报告

Antenna Test Report

Antenna model: T30A2

*Address: 1506 Tangwei Stock
Business Building, Fuhai Street,
Fuyong Town, Baoan District,
Shenzhen*

***Date: 2024. 7. 31.
REV :V1. 0***



测试信息

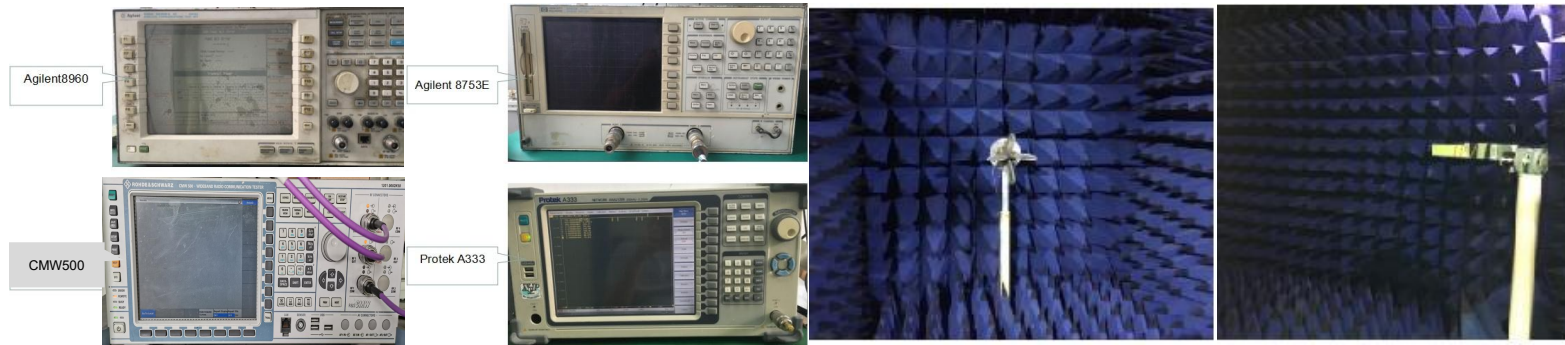
Test information

Antenna band		Antenna state	Antenna form	Match changes	Note
Main ANT	2G				
	3G			NO	
	4G				
AUX ANT	BT/WIFI	2.4/5G	FPC	PIFA	NO
	GPS				NO
	DIV				NO

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





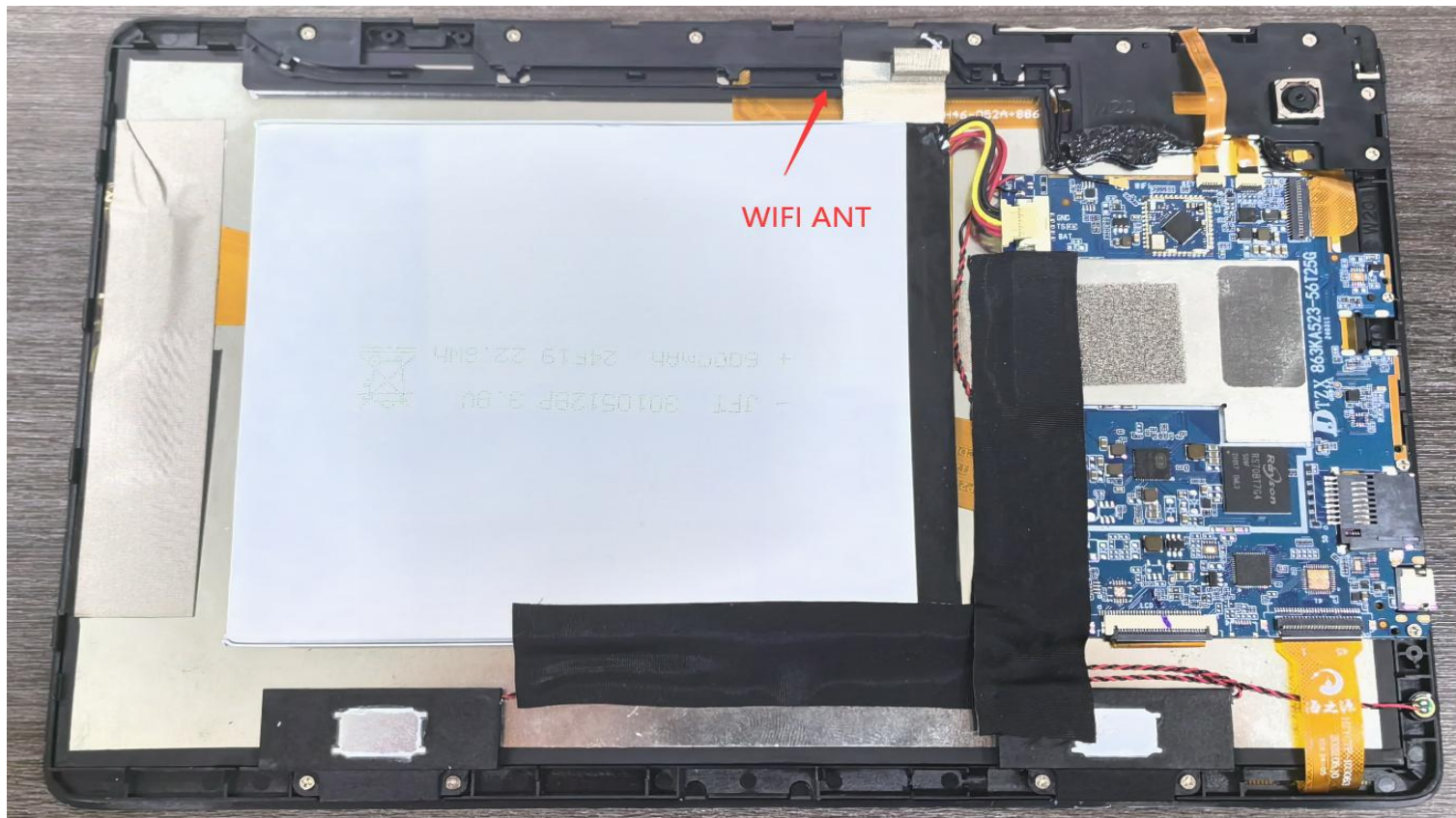
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天线位置

Antenna position



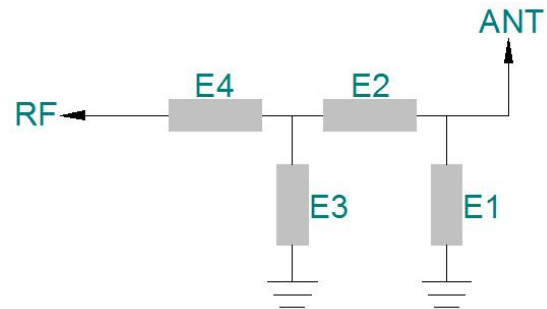


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匹配电路
Matching circuit



匹配电路原理图&位号图

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



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有源测试数据
Active test data

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	12.32	CH1 11Mbps	-75.85
	2437	CH6 11Mbps	11.52	CH6 11Mbps	-77.19
	2467	CH11 11Mbps	11.44	CH11 11Mbps	-78.7
802.11a		TRP		TIS	
	5180	CH36 6Mbps	12.54	CH36 54Mbps	-70.29
	5300	CH60 6Mbps	11.56	CH60 54Mbps	-70.52
	5700	CH140 6Mbps	12.48	CH140 54Mbps	-70.73



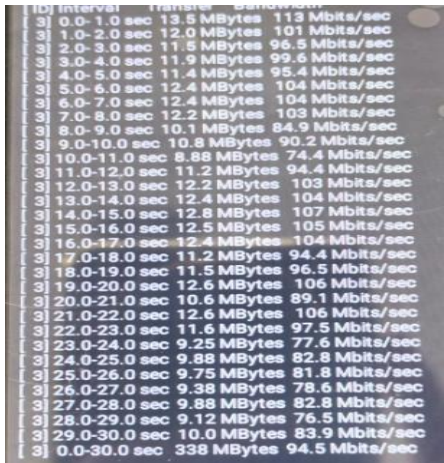
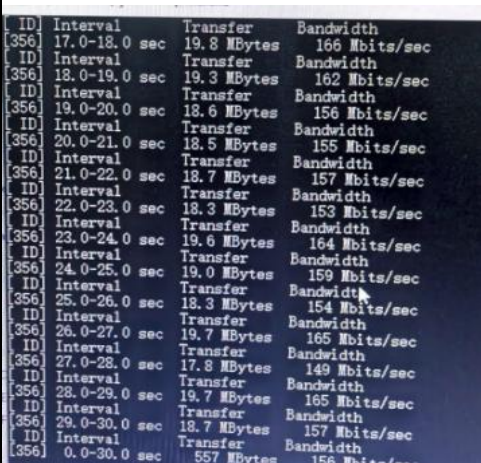
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吞吐量测试

Throughput test

2.4G wifi 吞吐量测试			
上行	94.5M	下行	156M
图片		图片	
备注			



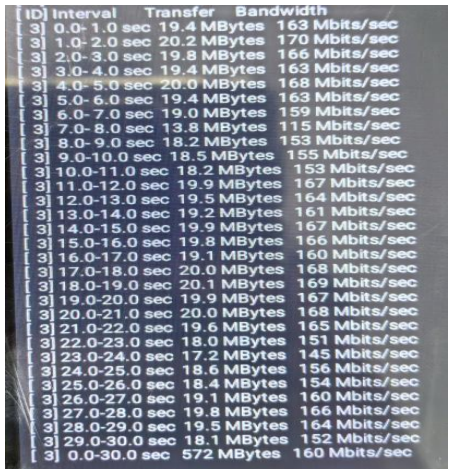
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吞吐量测试

Throughput test

5G wifi 天吐量测试			
上行	160M	下行	195M
图片		图片	
备注			

Wifi/BT天线实测

Wifi Antenna test

WIFI

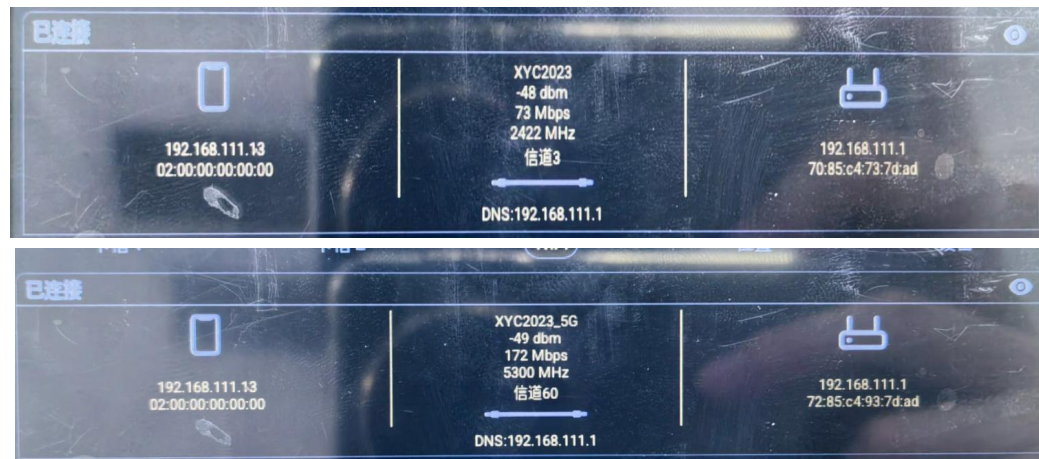
测试环境：开放空间

测试工具：Wifi Analytical Assistant

测试距离：10m

信号强度：2.4G :-48dBm 5G:-49dBm

测试结果如右图



BT

测试环境：开放空间(通道)

测试工具：蓝牙音响

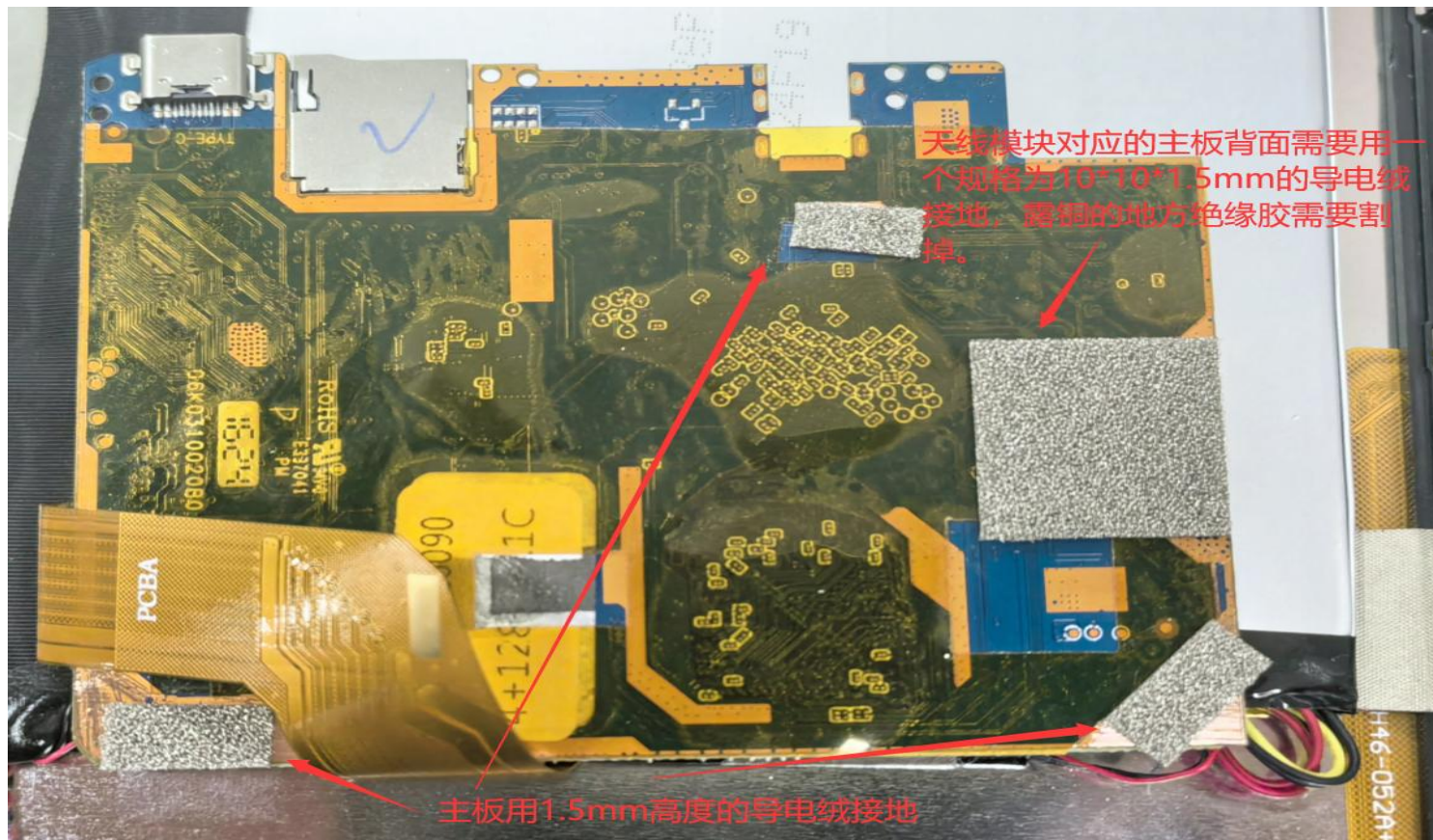
测试距离：10m

结果：播放音乐流畅，无杂音。



环境处理

Environmental treatment





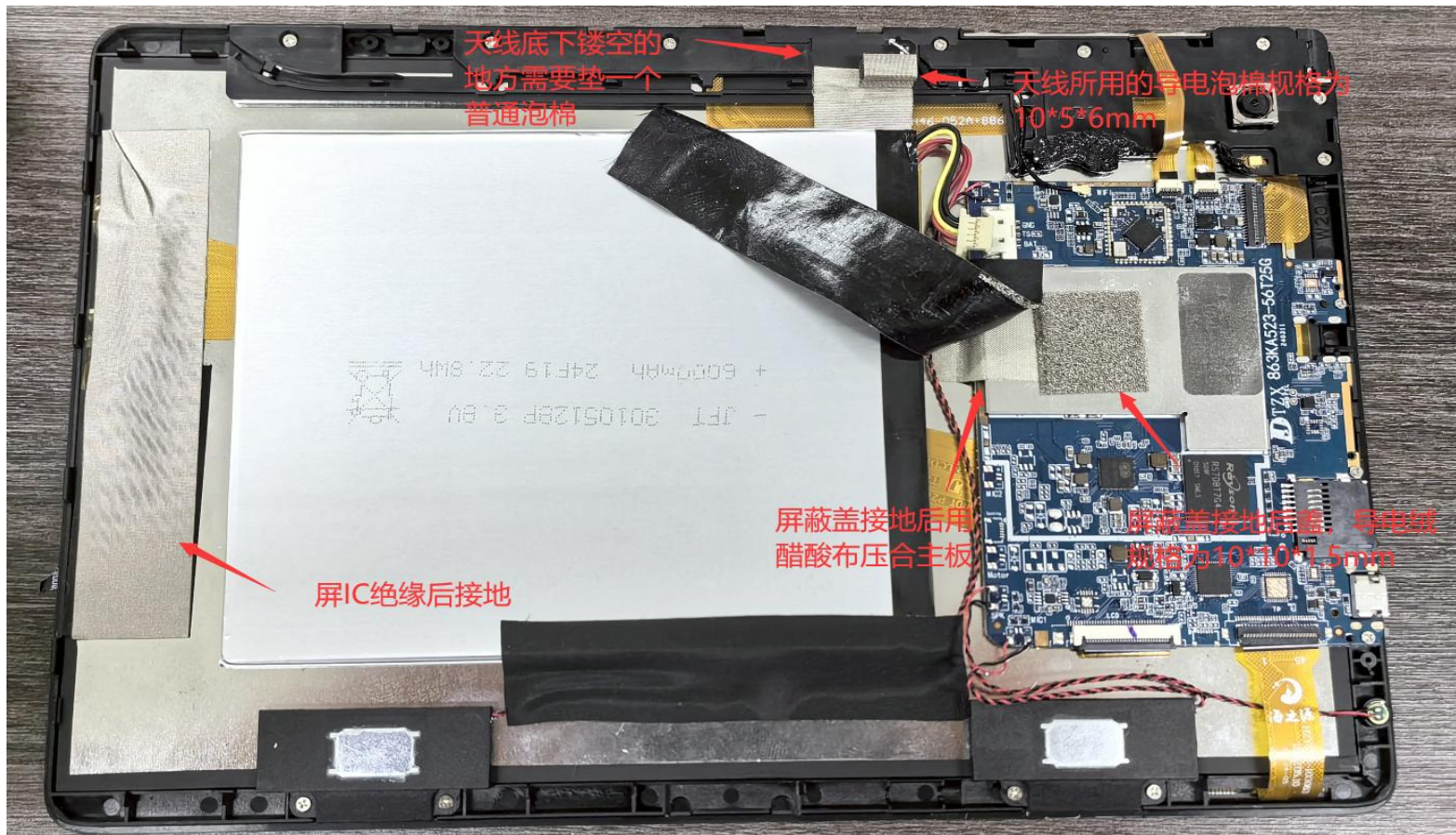
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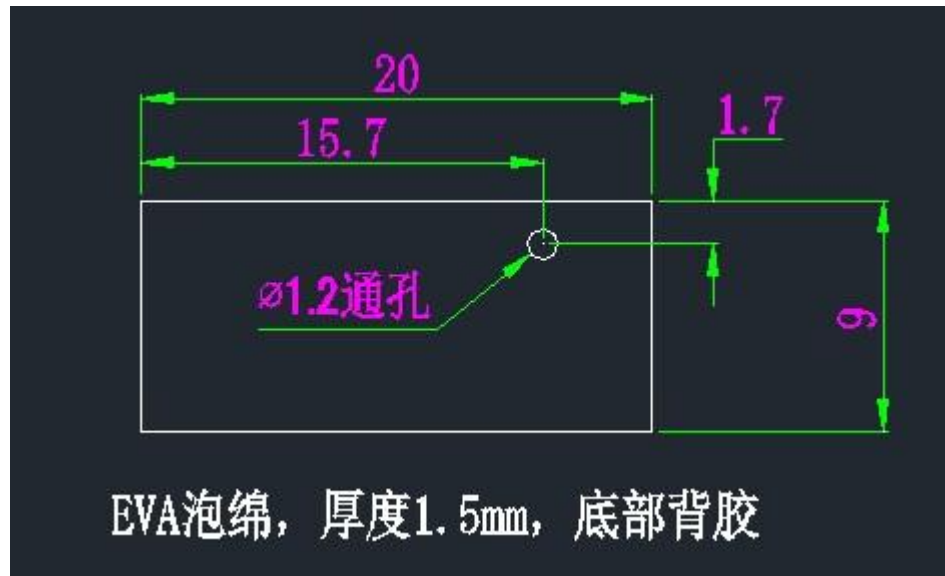
环境处理

Environmental treatment



环境处理

Environmental treatment



环境处理

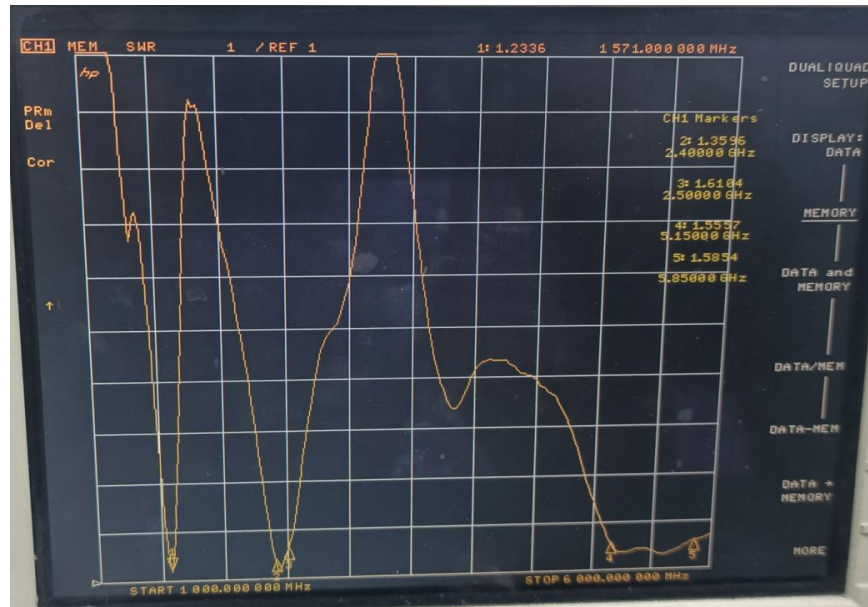
Environmental treatment





无源测试数据 Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.35	1.61	1.55	1.58
Return Loss (DB)	-16.34	-12.62	-13.25	-12.9

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 (%)	DHIS (%)	Max (dB)	Min (dB)
2400	42.82	-3.68	-0.3	-2.45	24.16	18.655	-0.3	-11.91
2410	42.83	-3.68	-0.58	-2.73	24.337	18.497	-0.58	-12.47
2420	43.99	-3.57	-0.49	-2.64	25.05	18.939	-0.49	-12.12
2430	46.42	-3.33	-0.19	-2.34	26.368	20.049	-0.19	-11.07
2440	48.92	-3.11	0.38	-1.77	27.87	21.048	0.38	-10.07
2450	49.09	-3.09	0.72	-1.43	28.083	21.007	0.72	-9.15
2460	43.15	-3.65	0.44	-1.71	24.515	18.64	0.44	-9.29
2470	47.86	-3.2	0.81	-1.34	26.832	21.027	0.81	-9.18
2480	48.05	-3.18	0.89	-1.26	26.705	21.345	0.89	-9.6
2490	43.15	-3.65	0.22	-1.93	23.836	19.317	0.22	-10.7
2500	43.63	-3.6	0.41	-1.74	24.325	19.308	0.41	-11.22



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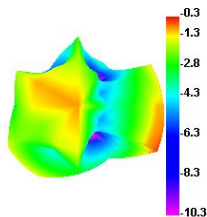
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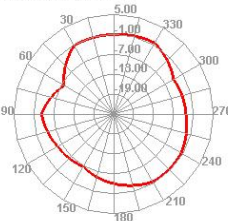
无源测试数据
Passive test data

ANT1 Direction of figure (2.4/BT)

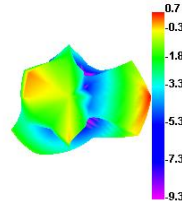
2400.000MHz



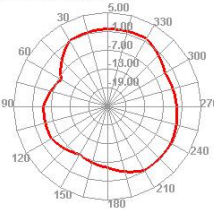
2400.000MHz H



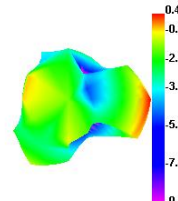
2450.000MHz



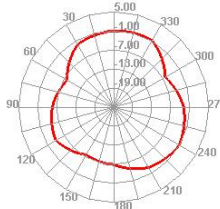
2450.000MHz H



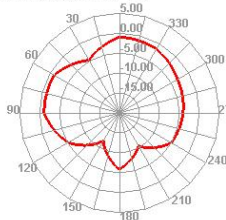
2500.000MHz



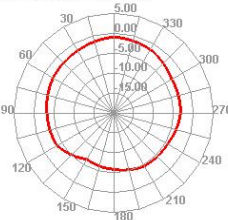
2500.000MHz H



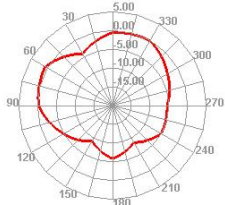
2400.000MHz E1



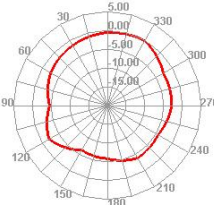
2400.000MHz E2



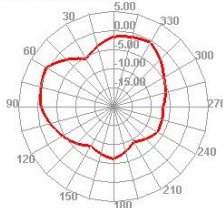
2450.000MHz E1



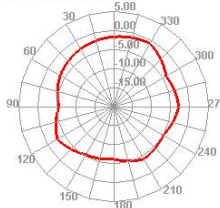
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2





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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 (%)	DHS (%)	Max (dB)	Min (dB)
5150	20.82	-6.82	-0.06	-2.21	12.964	7.851	-0.06	-17.58
5170	23.11	-6.36	0.08	-2.07	14.294	8.818	0.08	-17.41
5190	21.75	-6.63	-0.61	-2.76	13.46	8.287	-0.61	-18.71
5210	25.87	-5.87	0.07	-2.08	15.907	9.962	0.07	-18.44
5230	23.04	-6.38	0.03	-2.12	14.255	8.783	0.03	-20.95
5250	26.78	-5.72	0.77	-1.38	16.719	10.059	0.77	-20.52
5270	25.77	-5.89	0.63	-1.52	16.186	9.584	0.63	-19.05
5290	27.94	-5.54	1.23	-0.92	17.56	10.379	1.23	-20.26
5310	25.74	-5.89	0.7	-1.45	16.186	9.552	0.7	-20.72
5330	26.05	-5.84	0.25	-1.9	16.63	9.419	0.25	-17.36
5350	27.28	-5.64	0.74	-1.41	17.491	9.785	0.74	-16.17
5370	26.48	-5.77	0.43	-1.72	16.845	9.632	0.43	-14.76
5390	26.32	-5.8	0.16	-1.99	16.739	9.581	0.16	-16.16
5410	31.16	-5.06	0.8	-1.35	19.899	11.263	0.8	-16.31
5430	31.26	-5.05	0.89	-1.26	19.881	11.375	0.89	-16.9
5450	33.46	-4.75	1.05	-1.1	21.277	12.185	1.05	-15.37
5470	33.19	-4.79	0.71	-1.44	21.015	12.177	0.71	-14.5
5490	32.93	-4.82	0.29	-1.86	20.833	12.099	0.29	-14.49
5510	36.76	-4.35	0.73	-1.42	23.246	13.51	0.73	-13.53
5530	37.34	-4.28	0.75	-1.4	23.324	14.02	0.75	-13.05
5550	41.89	-3.78	0.81	-1.34	26.15	15.743	0.81	-13.88
5570	37.54	-4.26	0.29	-1.86	23.35	14.186	0.29	-16.46
5590	41.59	-3.81	0.64	-1.51	25.709	15.879	0.64	-16.48
5610	38.13	-4.19	0.14	-2.01	23.327	14.807	0.14	-15.27
5630	44.55	-3.51	0.87	-1.28	27.157	17.389	0.87	-13.49
5650	40.14	-3.96	0.64	-1.51	24.544	15.597	0.64	-14.72
5670	44.31	-3.53	0.99	-1.16	26.965	17.349	0.99	-14.15
5690	41.83	-3.78	0.56	-1.59	25.401	16.434	0.56	-15.28
5710	44.12	-3.55	0.79	-1.36	26.651	17.464	0.79	-15.44
5730	46.84	-3.29	1.37	-0.78	28.176	18.663	1.37	-14.75
5750	42.84	-3.68	1.23	-0.92	25.715	17.125	1.23	-14.91
5770	46.31	-3.34	1.61	-0.54	27.411	18.903	1.61	-15.07
5790	43.59	-3.61	1.24	-0.91	25.303	18.289	1.24	-16.29
5810	45.96	-3.38	1.34	-0.81	26.264	19.695	1.34	-15.81
5830	45.61	-3.41	1.32	-0.83	25.823	19.783	1.32	-16.13
5850	47.84	-3.2	1.42	-0.73	26.958	20.886	1.42	-16.15



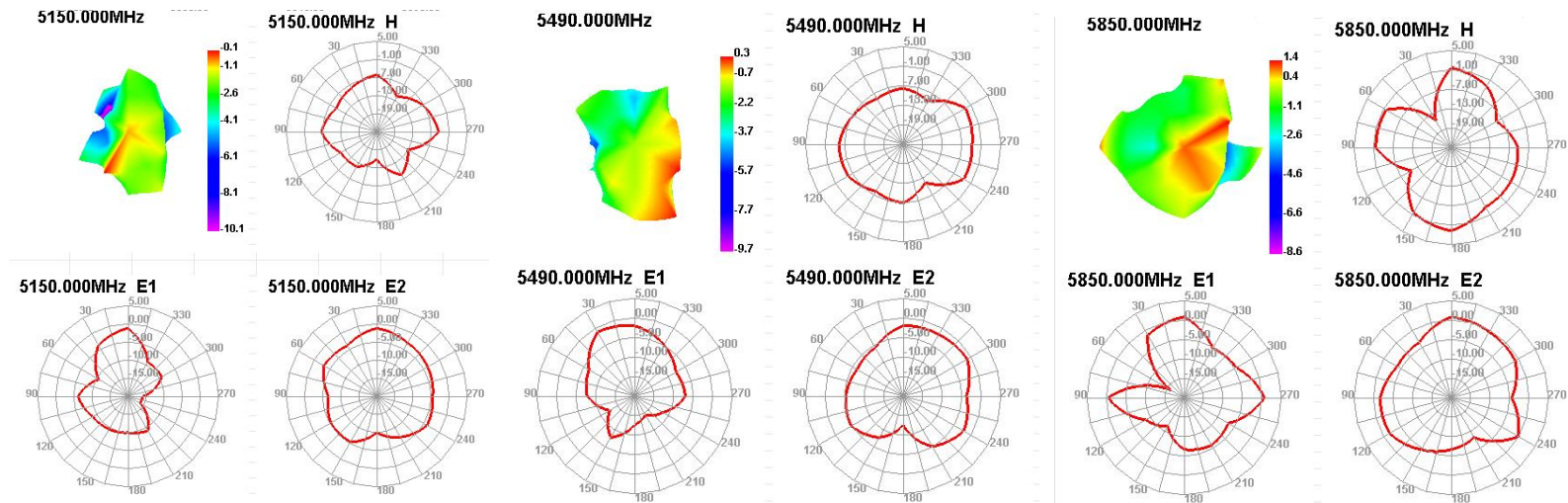
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无源测试数据
Passive test data

ANT1 Direction of figure(5G)



合作共赢

