



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: 微步 (联腾)

MN: A353TW-PS (A154主板)

RF: 刘磊确

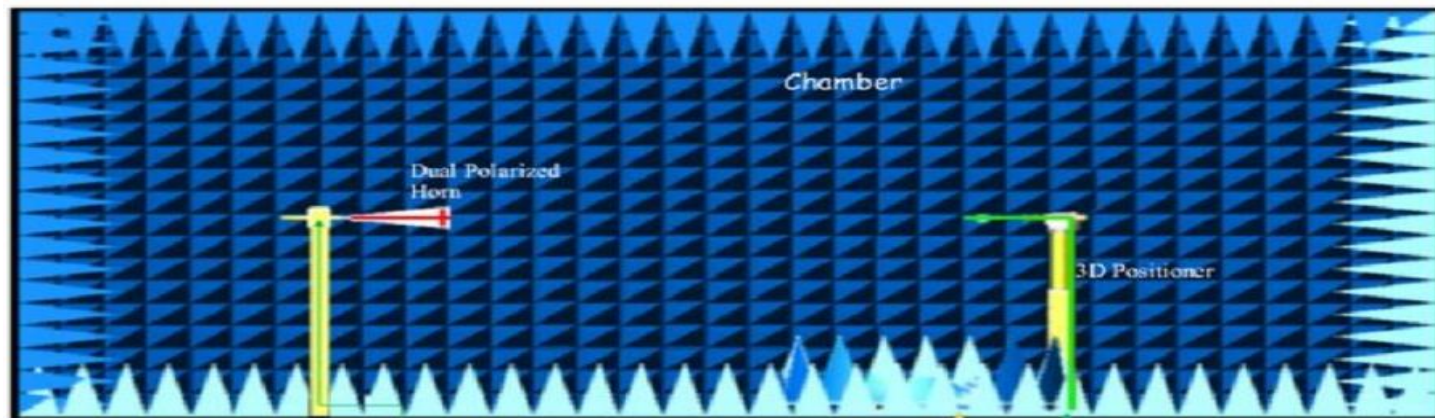
MD: 黄清清

MP: 13005478517

Date: 2025. 3. 17

REV :V1. 0

OTA Chamber Overview

0.1~12.5Ghz
RF Switch BoxWireless
Communications
Test Set 1Wireless
Communications
Test Set 2Network
Analyzer

Standard	
Passive	Agilent HP8753/E5062/E5071
GSM	Agilent 8960
CDMA2000	Agilent 8960
WCDMA	Agilent 8960
TDSCDMA	Agilent 8960
LTE	RS CMW500
BT	RS CMU500/200
WIFI	Agilent N4010

RF Link

GPIB Link

Optical Link

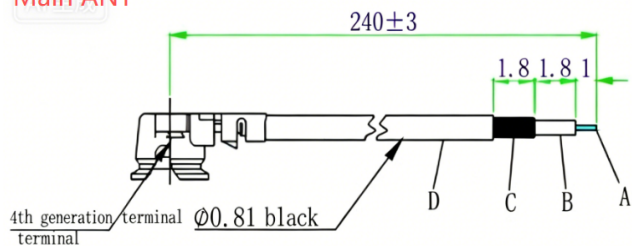
Serial Link



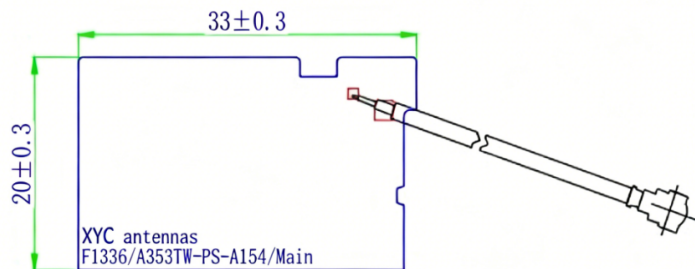
天线位置

Antenna position

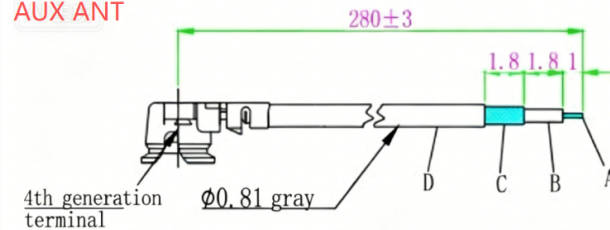
Main ANT



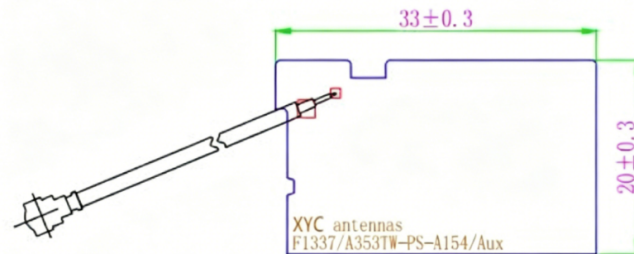
A - Center conductor B - Dielectric
C - Outer conductor D - Jacket

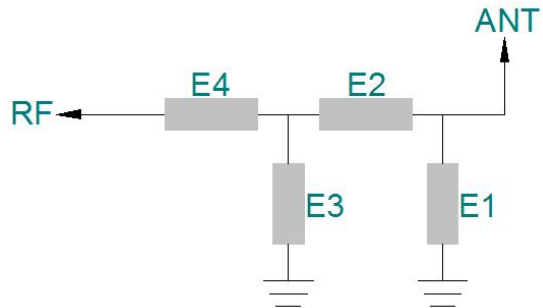


AUX ANT



A - Center conductor B - Dielectric
C - Outer conductor D - Jacket





匹配电路原理图&位号图

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

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	11.96	CH1 11Mbps	-80.38
	2437	CH6 11Mbps	12.67	CH6 11Mbps	-81.86
	2467	CH11 11Mbps	11.15	CH11 11Mbps	-81.37
802.11a		TRP		TIS	
	5180	CH36 6Mbps	10.66	CH36 54Mbps	-70.73
	5300	CH60 6Mbps	11.74	CH60 54Mbps	-70.93
	5805	CH161 6Mbps	11.17	CH161 54Mbps	-69.25



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WIFI-吞吐量测试-RVR
Throughput test

RVR测试系统(2.4G-AX-40M-1-CH6)													
TX		WiFi RvR 测试数据(2G_ax_40M_CH6I_TX)					RX		WiFi RvR 测试数据(2G_ax_40M_CH6I_RX)				
图片							图片						
角度\衰减		0dB	10dB	20dB	30dB	40dB	角度\衰减		0dB	10dB	20dB	30dB	40dB
0.0°		229	232	218	181	102	0.0°		244	248	238	204	129
90.0°		237	237	230	206	117	90.0°		240	238	242	229	140
180.0°		237	237	222	234	160	180.0°		240	239	239	230	182
270.0°		237	237	225	208	114	270.0°		240	248	233	233	138
平均		235.00	235.80	223.80	207.30	123.30	平均		241.00	243.30	238.00	224.00	147.30
方差		4.00	2.50	5.10	21.70	25.30	方差		2.00	5.50	3.70	13.40	23.70
备注													



WIFI-吞吐量测试-RVR Throughput test

RVR测试系统 (5G-AX-80M-1-CH60)															
TX		WiFi RvR 测试数据(5G_ax_80M_CH60_TX)					RX		WiFi RvR 测试数据(5G_ax_80M_CH60_RX)						
图片							图片								
		角度\衰减	0dB	10dB	20dB	30dB	40dB			角度\衰减	0dB	10dB	20dB	30dB	40dB
		0.0°	446	496	478	392	274			0.0°	504	505	505	485	321
		90.0°	477	481	472	420	274			90.0°	501	503	502	471	349
		180.0°	481	497	468	333	168			180.0°	503	504	501	380	222
		270.0°	502	502	497	382	286			270.0°	504	503	503	496	342
		平均	476.50	494.00	478.80	381.80	250.50			平均	503.00	503.80	502.80	458.00	308.50
		方差	23.10	9.10	12.80	36.30	55.30			方差	1.40	1.00	1.70	53.00	58.90
备注															



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BT天线实测 BT Antenna test

测试环境：开放空间(通道)

测试工具：蓝牙音响

测试距离：10/m

结果：播放音乐流畅，无杂音。



ANTENNA

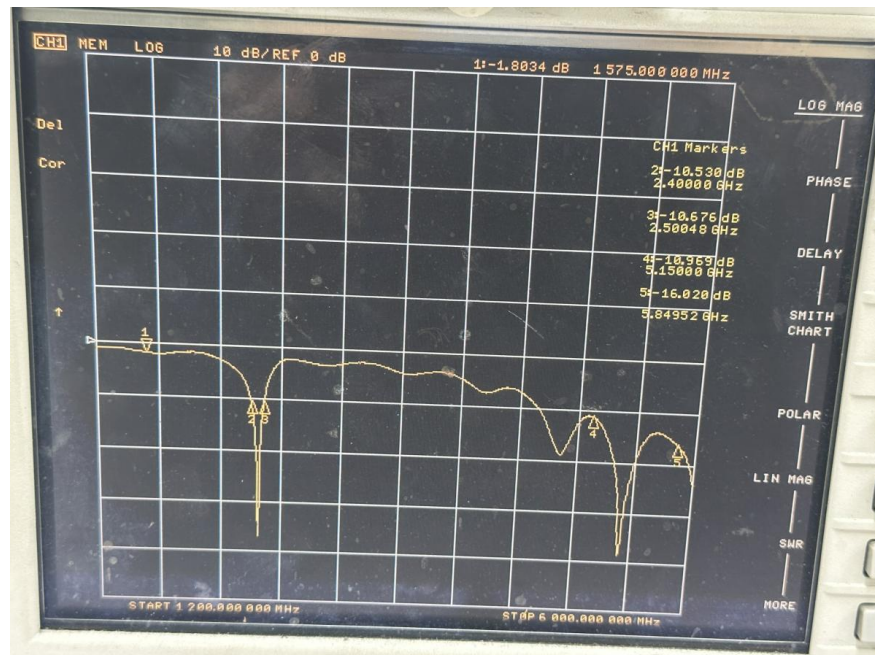
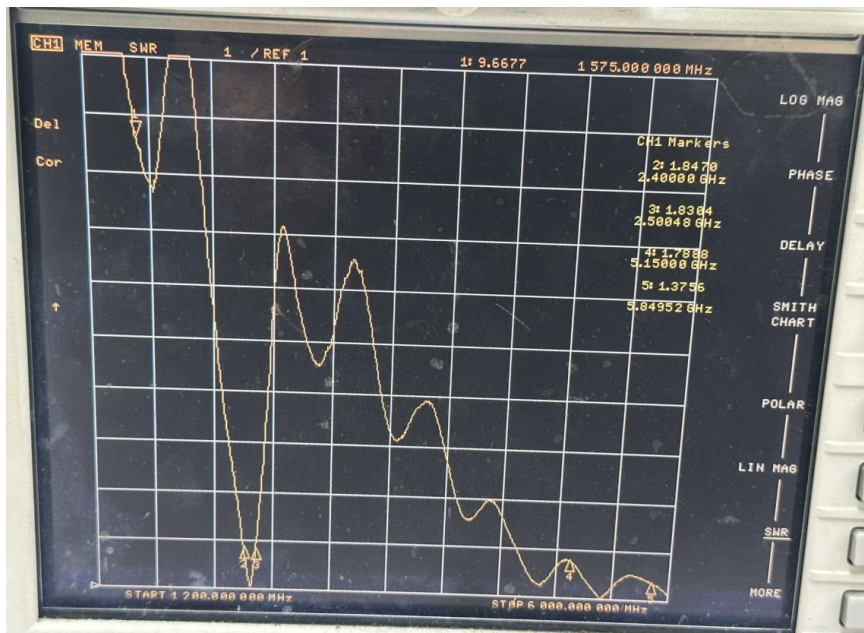
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无源测试数据

Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.84	1.83	1.78	1.37
Return Loss (DB)	-10.53	-10.67	-10.96	-16.02



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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)
2400	33.68	-4.73	0.59	-1.56	17.894	15.785	0.59	-16.54
2410	32.48	-4.88	0.3	-1.85	17.362	15.12	0.3	-17.15
2420	33.73	-4.72	0.75	-1.4	18.031	15.699	0.75	-14.92
2430	31.4	-5.03	0.76	-1.39	16.914	14.486	0.76	-14.77
2440	30.68	-5.13	0.9	-1.25	16.434	14.245	0.9	-16.25
2450	31.29	-5.05	1.04	-1.11	16.605	14.685	1.04	-16.55
2460	31.78	-4.98	0.95	-1.2	16.73	15.054	0.95	-16.53
2470	30.61	-5.14	0.67	-1.48	15.996	14.611	0.67	-17.5
2480	30.61	-5.14	0.27	-1.88	15.865	14.747	0.27	-17.79
2490	32.12	-4.93	0.2	-1.95	16.438	15.684	0.2	-18.25
2500	28.61	-5.43	-0.82	-2.97	14.39	14.222	-0.82	-23.36



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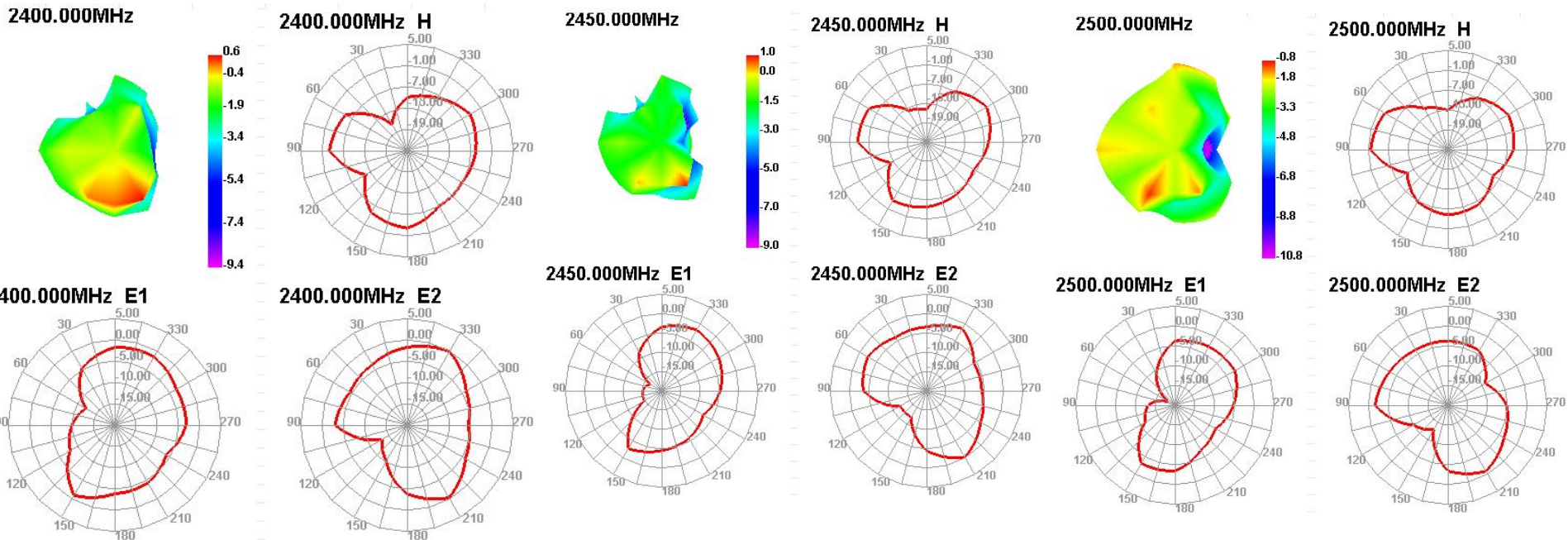
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无源测试数据

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 (%)	DHS (%)	Max (dB)	Min (dB)
5150	33.54	-4.74	1.52	-0.63	20.52	13.021	1.52	-18.68
5170	30.29	-5.19	1.21	-0.94	18.365	11.923	1.21	-19.17
5190	35.97	-4.44	1.7	-0.45	21.694	14.276	1.7	-18.98
5210	34.53	-4.62	1.37	-0.78	21.088	13.443	1.37	-18.67
5230	36.74	-4.35	1.24	-0.91	22.34	14.399	1.24	-16.2
5250	42.32	-3.73	1.63	-0.52	25.504	16.821	1.63	-18.53
5270	42.59	-3.71	1.76	-0.39	25.621	16.97	1.76	-20.12
5290	49.72	-3.03	1.81	-0.34	29.855	19.867	1.81	-18.59
5310	43.31	-3.63	0.96	-1.19	26.102	17.211	0.96	-18.04
5330	44.64	-3.5	0.91	-1.24	26.59	18.054	0.91	-17.93
5350	45.36	-3.43	0.75	-1.4	26.681	18.68	0.75	-20.64
5370	42.62	-3.7	0.65	-1.5	25.026	17.597	0.65	-25.27
5390	40.5	-3.93	0.34	-1.81	23.851	16.648	0.34	-21.14
5410	46.56	-3.32	0.95	-1.2	27.173	19.391	0.95	-17.48
5430	44.45	-3.52	0.84	-1.31	25.586	18.867	0.84	-17.8
5450	48.69	-3.13	1.26	-0.89	28.022	20.665	1.26	-20.24
5470	47.5	-3.23	1.39	-0.76	27.445	20.051	1.39	-21.08
5490	47.98	-3.19	1.66	-0.49	27.374	20.604	1.66	-21.91
5510	51.76	-2.86	2.11	-0.04	29.128	22.628	2.11	-19.35
5530	51.83	-2.85	2.49	0.34	29.08	22.75	2.49	-19.25
5550	56.8	-2.46	3.01	0.86	31.771	25.028	3.01	-21.38
5570	54.3	-2.65	2.56	0.41	30.247	24.057	2.56	-23.2
5590	53.27	-2.73	2.05	-0.1	29.362	23.911	2.05	-17.94
5610	52.91	-2.76	2.05	-0.1	28.93	23.978	2.05	-16.66
5630	47.49	-3.23	1.32	-0.83	25.951	21.538	1.32	-18.23
5650	50.79	-2.94	2.13	-0.02	27.339	23.453	2.13	-17.47
5670	52.59	-2.79	2.69	0.54	28.023	24.568	2.69	-14.57
5690	49.2	-3.08	2.07	-0.08	26.315	22.89	2.07	-14.55
5710	54.52	-2.63	3.36	1.21	29.034	25.484	3.36	-15.15
5730	54.89	-2.6	3.51	1.36	29.201	25.691	3.51	-15.34
5750	50.12	-3	3.37	1.22	26.51	23.606	3.37	-15.03
5770	53.61	-2.71	3.81	1.66	28.374	25.234	3.81	-14.17
5790	48.47	-3.15	3.43	1.28	25.641	22.828	3.43	-15.62
5810	52.03	-2.84	3.95	1.8	27.27	24.762	3.95	-16.82
5830	51.24	-2.9	3.7	1.55	26.773	24.472	3.7	-17.68
5850	52.8	-2.77	3.75	1.6	27.357	25.439	3.75	-16.59



ANTENNA

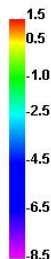
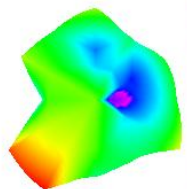
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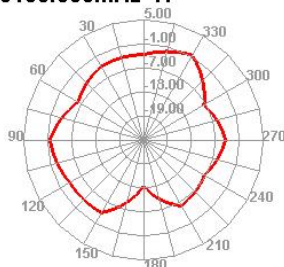
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Passive test data

ANT1 Direction of figure(5G)

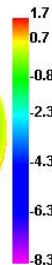
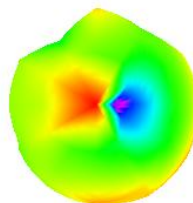
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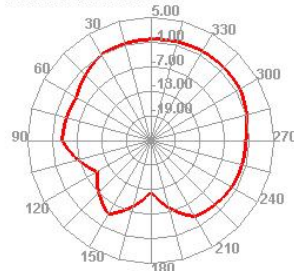
5150.000MHz H



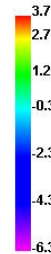
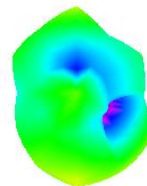
5490.000MHz



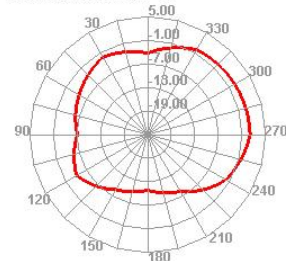
5490.000MHz H



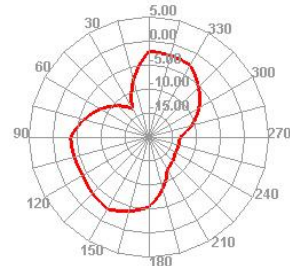
5850.000MHz



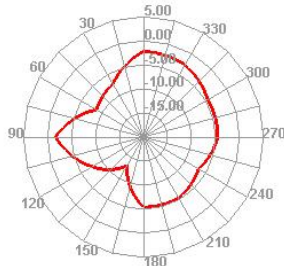
5850.000MHz H



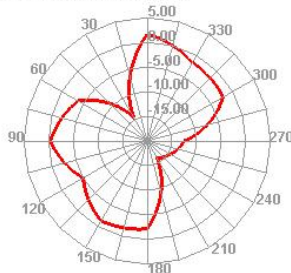
5150.000MHz E1



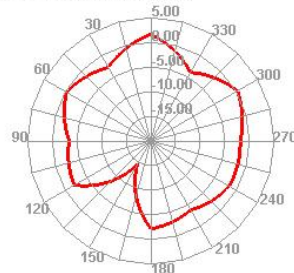
5150.000MHz E2



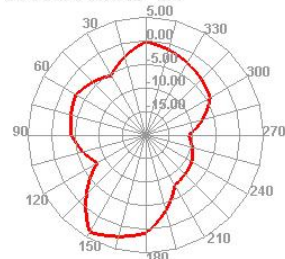
5490.000MHz E1



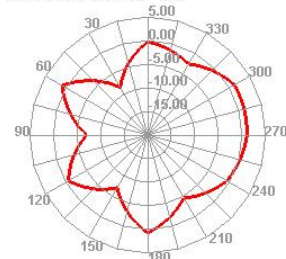
5490.000MHz E2



5850.000MHz E1



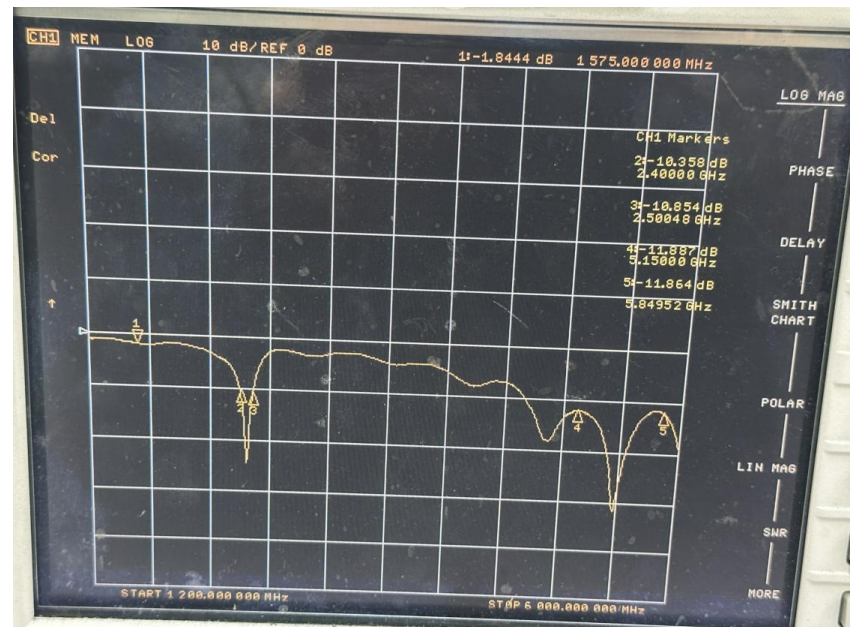
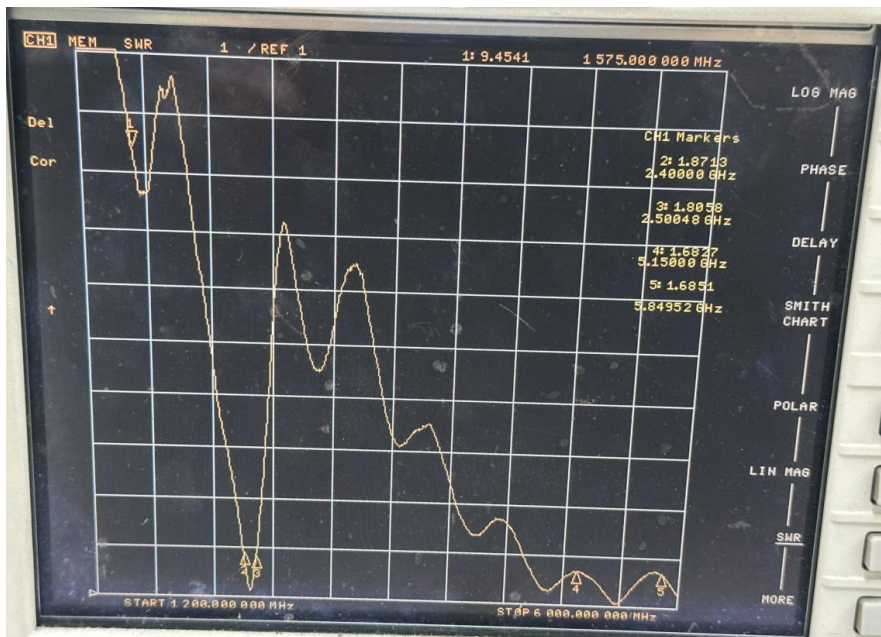
5850.000MHz E2





无源测试数据 Passive test data

ANT2 S11-VSWR&Return Loss



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.87	1.8	1.68	1.68
Return Loss (DB)	-10.35	-10.85	-11.88	-11.86



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无源测试数据

Passive test data

ANT2 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	35.6	-4.49	-0.5	-2.65	19.686	15.917	-0.5	-13.87
2410	34.18	-4.66	-0.62	-2.77	18.944	15.241	-0.62	-14.85
2420	35.47	-4.5	-0.29	-2.44	19.72	15.754	-0.29	-15.24
2430	33.38	-4.77	-0.52	-2.67	18.687	14.688	-0.52	-16.04
2440	33.21	-4.79	-0.51	-2.66	18.688	14.521	-0.51	-17.18
2450	33.51	-4.75	-0.53	-2.68	18.675	14.839	-0.53	-17.69
2460	33.72	-4.72	-0.52	-2.67	18.431	15.293	-0.52	-17.64
2470	32.07	-4.94	-0.54	-2.69	17.574	14.497	-0.54	-17.74
2480	31.63	-5	-0.63	-2.78	17.129	14.504	-0.63	-17.6
2490	32.41	-4.89	-0.71	-2.86	17.529	14.881	-0.71	-16.69
2500	28.45	-5.46	-0.6	-2.75	15.023	13.425	-0.6	-16.52



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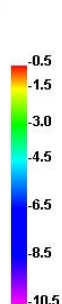
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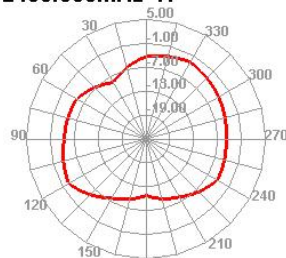
无源测试数据
Passive test data

ANT2 Direction of figure (2.4/BT)

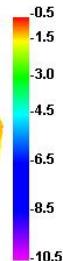
2400.000MHz



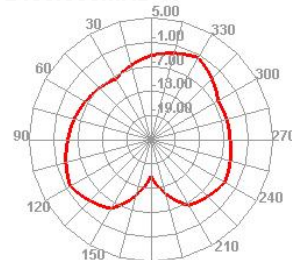
2400.000MHz H



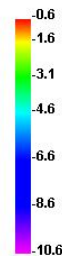
2450.000MHz



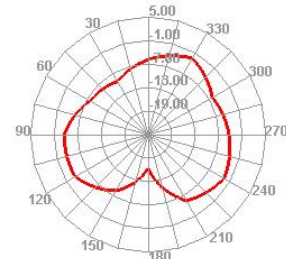
2450.000MHz H



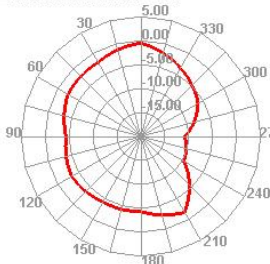
2500.000MHz



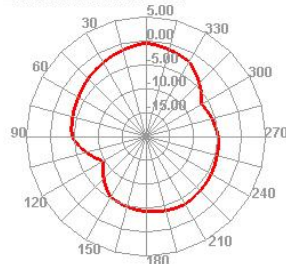
2500.000MHz H



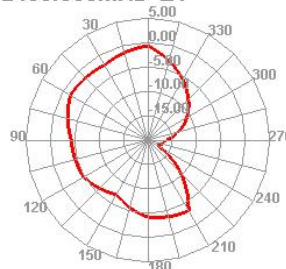
2400.000MHz E1



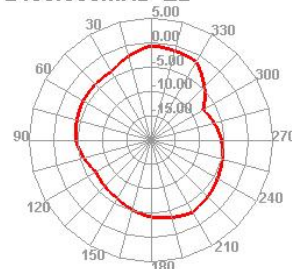
2400.000MHz E2



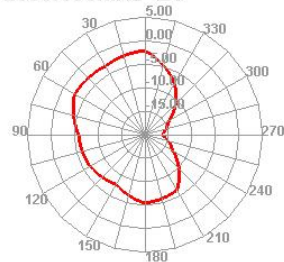
2450.000MHz E1



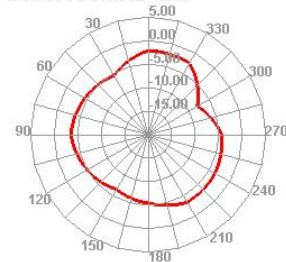
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2





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深圳市星源创科技有限公司

SHENZHEN Xingyuanchuang TECHNOLOGY CO., LTD

无源测试数据
Passive test data

ANT2 GAIN&Efficiency-WIFI 5G

Passive Test For WIFI5G								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
5150	34.8	-4.58	0.17	-1.98	18.586	16.211	0.17	-18.38
5170	31.25	-5.05	-0.19	-2.34	16.638	14.615	-0.19	-18.45
5190	36.06	-4.43	0.54	-1.61	19.136	16.928	0.54	-17.28
5210	35.49	-4.5	0.43	-1.72	18.713	16.782	0.43	-16.97
5230	35.83	-4.46	0.3	-1.85	18.881	16.954	0.3	-17.35
5250	40.69	-3.91	0.99	-1.16	21.387	19.3	0.99	-17
5270	39.79	-4	0.73	-1.42	20.745	19.046	0.73	-18.76
5290	45.89	-3.38	1.47	-0.68	23.541	22.353	1.47	-18.03
5310	39.33	-4.05	0.53	-1.62	20.157	19.17	0.53	-18.62
5330	40.86	-3.89	0.66	-1.49	21.047	19.81	0.66	-19.61
5350	41.35	-3.84	0.75	-1.4	21.34	20.009	0.75	-19.14
5370	39.9	-3.99	0.58	-1.57	20.781	19.123	0.58	-18.18
5390	37.47	-4.26	0.12	-2.03	19.503	17.969	0.12	-20.4
5410	43.21	-3.64	0.73	-1.42	22.628	20.579	0.73	-21.28
5430	39.18	-4.07	0.46	-1.69	20.689	18.495	0.46	-20.91
5450	42.9	-3.68	0.57	-1.58	22.571	20.329	0.57	-18.71
5470	40.14	-3.96	-0.09	-2.24	21.054	19.09	-0.09	-19.63
5490	40.73	-3.9	0.47	-1.68	21.172	19.559	0.47	-21.69
5510	41.8	-3.79	0.27	-1.88	21.798	20.003	0.27	-18.96
5530	43.52	-3.61	0.63	-1.52	22.87	20.647	0.63	-17.47
5550	47.53	-3.23	1.4	-0.75	25.05	22.479	1.4	-16.73
5570	48.44	-3.15	1.01	-1.14	25.68	22.765	1.01	-18.08
5590	48.79	-3.12	0.44	-1.71	25.607	23.179	0.44	-17.55
5610	49.26	-3.08	0.38	-1.77	25.656	23.603	0.38	-15.81
5630	44.25	-3.54	-0.06	-2.21	23.053	21.199	-0.06	-16.59
5650	45.25	-3.44	-0.04	-2.19	23.431	21.819	-0.04	-17.76
5670	48.05	-3.18	0.64	-1.51	24.403	23.652	0.64	-15.92
5690	42.13	-3.75	-0.17	-2.32	21.483	20.65	-0.17	-14.28
5710	49.79	-3.03	1.37	-0.78	24.908	24.877	1.37	-15.31
5730	48.11	-3.18	1.01	-1.14	24.488	23.619	1.01	-16.54
5750	47.46	-3.24	1.33	-0.82	23.807	23.656	1.33	-14.41
5770	49.74	-3.03	1.77	-0.38	24.54	25.196	1.77	-13.12
5790	46.35	-3.34	1.48	-0.67	22.873	23.478	1.48	-14.1
5810	48.01	-3.19	1.63	-0.52	23.679	24.336	1.63	-14.88
5830	48.81	-3.12	1.48	-0.67	23.978	24.828	1.48	-16.14
5850	49.87	-3.02	1.58	-0.57	24.201	25.671	1.58	-19.73



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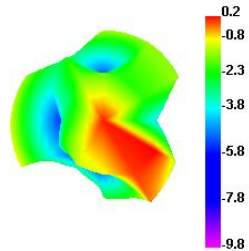
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无源测试数据

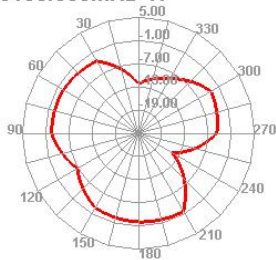
Passive test data

ANT2 Direction of figure(5G)

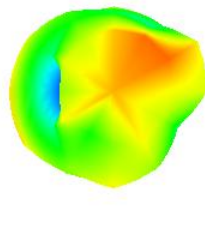
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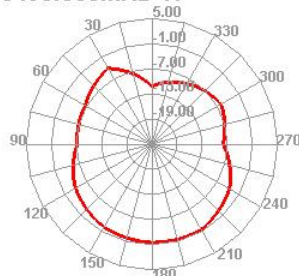
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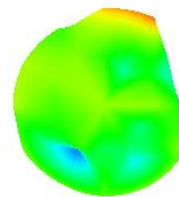
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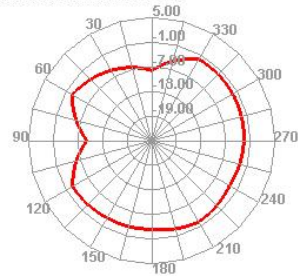
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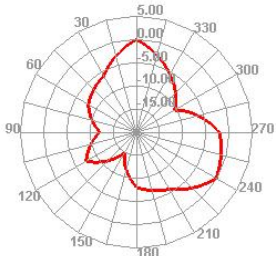
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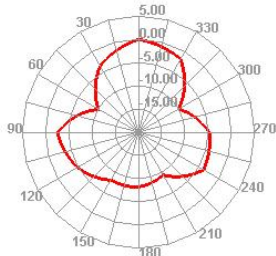
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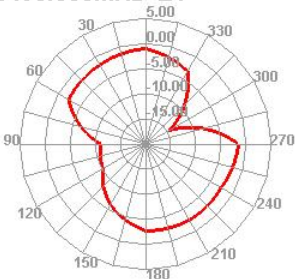
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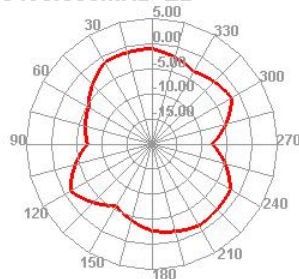
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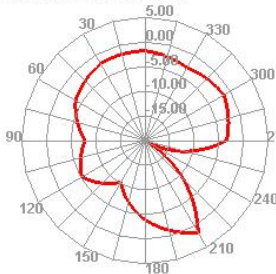
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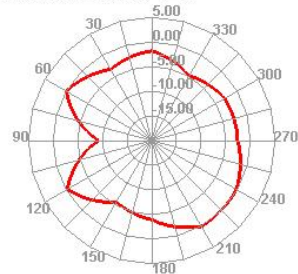
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5850.000MHz E1



5850.000MHz E2



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