



深圳市顺达成科技有限公司

ShenZhen ShunDaCheng Technology Co., Ltd.

承 认 书

SPECIFICATION FOR APPROVAL

客户项目名 Customer Project Name	F215Q	顺达成项目名 SDC Project Name	F215Q
客户编码 Customer P/N	CZ. 0215. A012 CZ. 0215. A013	顺达成料号 SDC P/N	PCB2202-1131R-305(DIV) PCB2202-1131R-190(MAIN)
频段 Band	WIFI2. 4G/5. 8G		
版本号 Version	A0		
	设计人信息/Designer Information		
射频工程师 RF Engineer	杨永辉	研发主管 R&D Diretor	符学荣
结构工程师 ME Engineer	李瑶娜		

审批/ Approval				客户批准/Customer Approval	
	制作 Prepared By	审核 Checked By	批准 Approval By	审核 Checked By	批准 Approval By
签章 Signature	李瑶娜	杨永辉	符学荣		
日期 Date	2024. 02. 23	2024. 02. 23	2024. 02. 23		

修订履历/Change Log				
版本 Version	修订内容 Change Description	责任人 Person in Charge	核准 Approval By	日期 Date

公司地址：深圳市宝安区福永镇重庆路新福工业园 B5 栋 4 楼
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Chongqing Road, Baoan District, Shenzhen



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样品尺寸测量报告

Sample Dimensions Test Report

测试日期 Test Date	2024. 02. 23	样品数量 Sample Qty.	3	测试人 Inspector	许燕芳
尺寸编号 Dimension No.	标准 Standard	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	Pass/NG
①长度 length	47±0. 2mm	47	47. 1	47	Pass
②宽度 width	8. 3±0. 2mm	8. 3	8. 3	8. 4	Pass
③厚度 thickness	0. 6±0. 05mm	0. 6	0. 6	0. 6	Pass
④线长 Line length	305±2mm	305	306	306	Pass
最终结论 Conclusion					PASS
测试人&日期 Inspector & Date	许燕芳 2024. 02. 23		批准&日期 Approval & Date		



Drawing or Product Image





样品尺寸测量报告

Sample Dimensions Test Report

测试日期 Test Date	2024. 02. 23	样品数量 Sample Qty.	3	测试人 Inspector	许燕芳
尺寸编号 Dimension No.	标准 Standard	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	Pass/NG
①长度 length	47±0. 2mm	47	47. 1	47	Pass
②宽度 width	8. 3±0. 2mm	8. 3	8. 3	8. 4	Pass
③厚度 thickness	0. 6±0. 05mm	0. 6	0. 6	0. 6	Pass
④线长 Line length	190±2mm	190	191	190	Pass
最终结论 Conclusion					PASS
测试人&日期 Inspector & Date	许燕芳 2024. 02. 23		批准&日期 Approval & Date		



射频性能测量报告

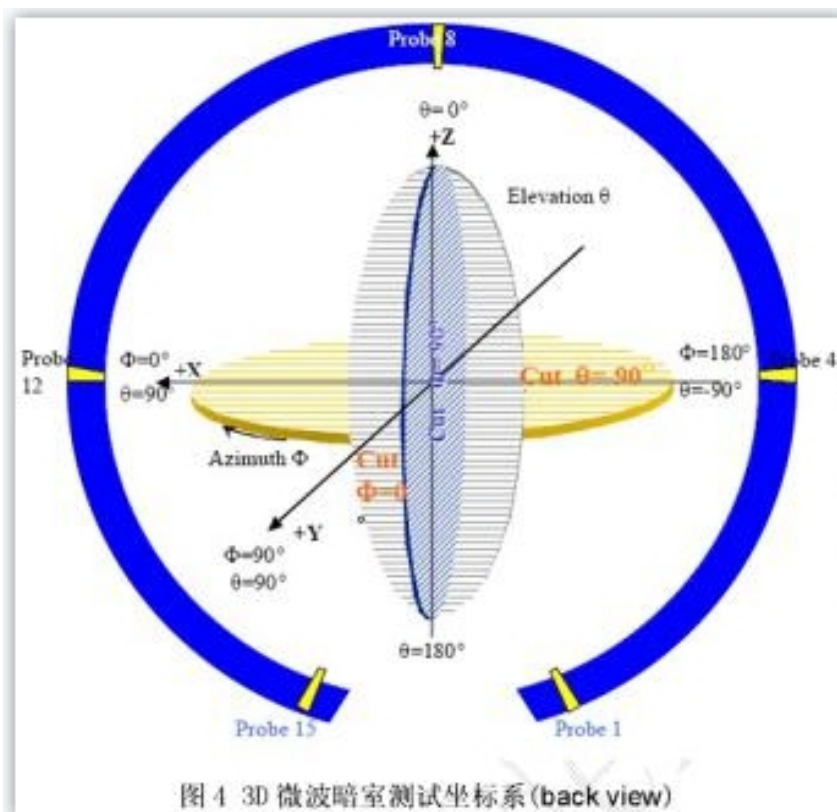
RF Performance Test Report

天线测试设备简介

Antenna Test Equipment Introduction

测试天线输入特性使用 **Agilent E5071C** and **Agilent 5062A** 矢量网络分析仪；辐射特性利用广屏三维近场暗室进行测试，并分别使用 8960 E5515 和 Agilent E4438C 进行了分析。暗房的测试坐标如下：

Test of antenna input characteristics using **Agilent E5071C** and **Agilent 5062A** vector network analyzer; The radiation pattern of the antenna are tested using the guangping 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:



1. S11 参数测量/S11 Parameter-VSWR

使用一根 50 Ω 同轴电缆连接到天线，然后该电缆连接到网络分析仪测量 S11 参数，被测量产品远离金属至少 20 厘米。

Measuring Method is a 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

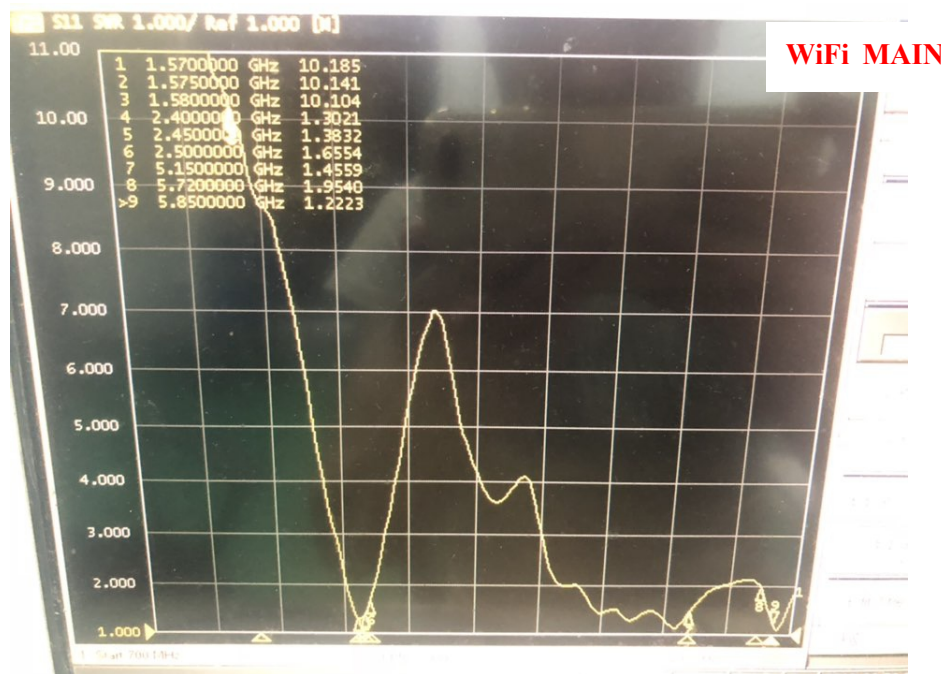


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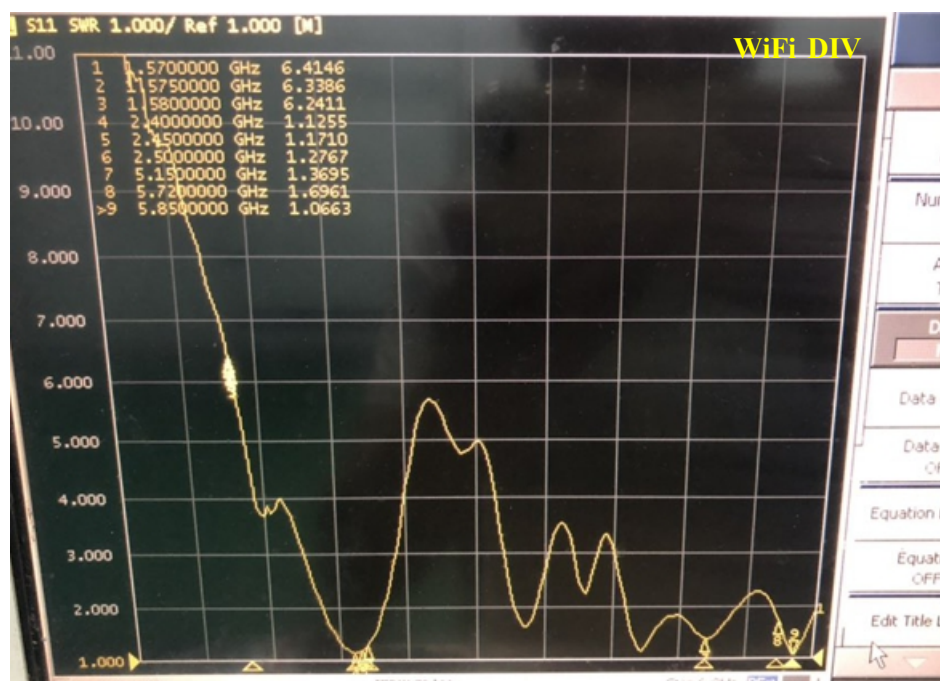
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S11 Parameter-VSWR

Frequency (MHZ)	2400	2450	2500	5150	5720	5850
Standing wave ratio	1.30	1.38	1.65	1.45	1.95	1.22



Frequency (MHZ)	2400	2450	2500	5150	5720	5850
Standing wave ratio	1.12	1.17	1.27	1.36	1.69	1.06





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2. 天线匹配网络/Antenna Matching Network

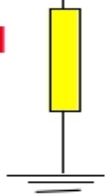
Antenna



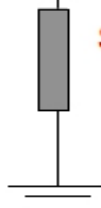
Series
N/A

PA

Shunt 01
N/A



Shunt 02
N/A

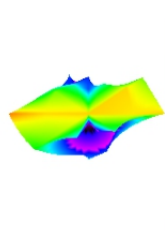


3. Gain & Efficiency

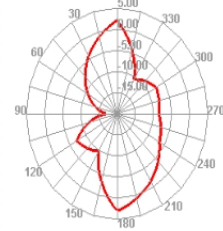
WiFi MAIN

Passive Test For 2.4G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	56.75	-2.46	3.93	1.78	27.66	29.089	3.93	-16.94	6.39	300	47.77	47.82
2425	56.87	-2.45	3.98	1.83	26.748	30.126	3.98	-20.91	6.43	300	48.06	48.12
2450	63.57	-1.97	4.47	2.32	29.431	34.137	4.47	-22.58	6.43	300	48.56	48.53
2475	61.68	-2.1	4.24	2.09	27.875	33.808	4.24	-19.02	6.33	300	48.46	48.26
2500	60.38	-2.19	4.13	1.98	26.834	33.547	4.13	-22.67	6.32	300	48.42	48.12

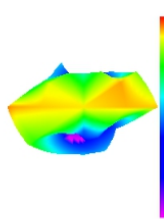
2400.000MHz



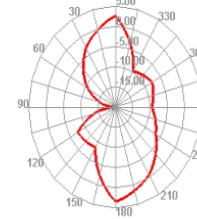
2400.000MHz H



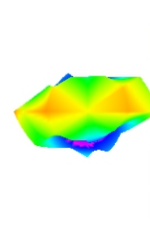
2450.000MHz



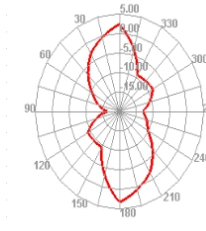
2450.000MHz H



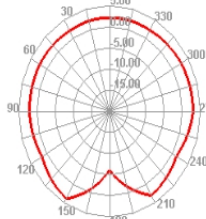
2500.000MHz



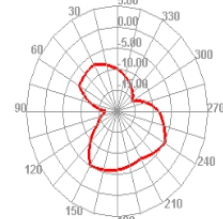
2500.000MHz H



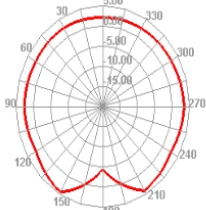
2400.000MHz E1



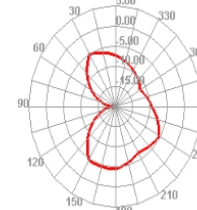
2400.000MHz E2



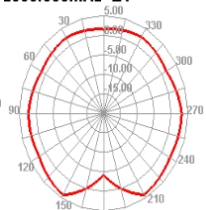
2450.000MHz E1



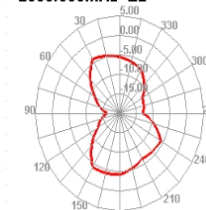
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2



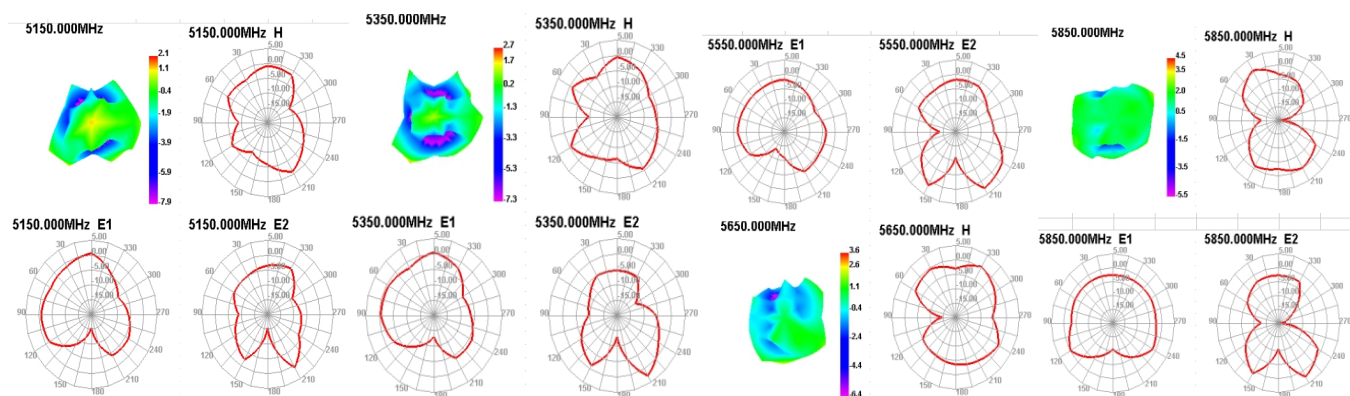


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Passive Test For 5.8G

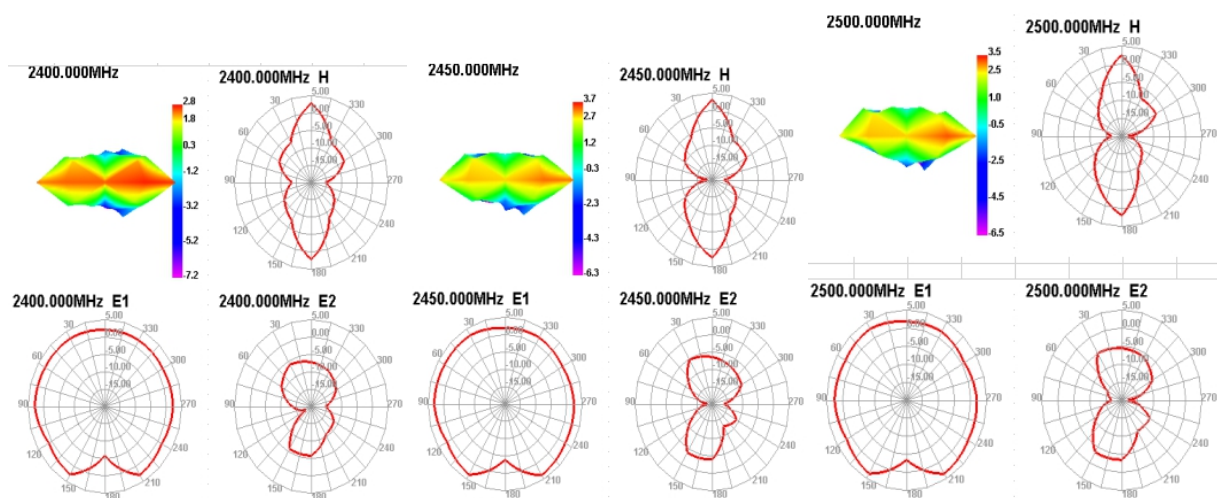
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	48.73	-3.12	2.06	-0.09	17.654	31.071	2.06	-15.51	5.19	120	58.6	58.01
5250	52.58	-2.79	2.35	0.2	18.631	33.954	2.35	-20.01	5.14	90	58.53	57.74
5350	56.46	-2.48	2.75	0.6	18.866	37.59	2.75	-13.25	5.23	120	57.99	57.08
5450	57.88	-2.37	2.75	0.6	19.958	37.922	2.75	-12.65	5.12	60	59.19	57.9
5550	63.85	-1.95	3.46	1.31	23.056	40.793	3.46	-13.81	5.41	150	60.21	58.81
5650	64.94	-1.87	3.61	1.46	23.327	41.613	3.61	-14.69	5.48	150	60.31	59.42
5750	66.42	-1.78	3.65	1.5	24.434	41.984	3.65	-14.53	5.42	0	60.88	60.28
5850	64.33	-1.92	4.48	2.33	23.293	41.037	4.48	-19.41	6.4	0	61.09	60.41



WiFi DIV

Passive Test For 2.4G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	49.68	-3.04	2.78	0.63	26.259	23.425	2.78	-18.53	5.82	300	47.77	47.82
2425	49.02	-3.1	2.87	0.72	24.622	24.393	2.87	-15.99	5.97	300	48.06	48.12
2450	55.14	-2.59	3.68	1.53	26.716	28.428	3.68	-18.64	6.26	300	48.56	48.53
2475	53.99	-2.68	3.55	1.4	25.706	28.279	3.55	-19.58	6.22	300	48.46	48.26
2500	52.46	-2.8	3.45	1.3	24.871	27.586	3.45	-18.06	6.25	300	48.42	48.12





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Passive Test For 5.8G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	43.38	-3.63	1.02	-1.15	17.353	22.406	1	-19.66	5.01	270	58.6	58.01
5250	45.06	-3.46	1.67	-1.48	15.503	22.498	0.67	-17.18	4.88	120	58.53	57.74
5350	43.07	-3.66	1.04	-1.19	17.783	25.289	0.96	-14.31	4.62	90	57.99	57.08
5450	48.39	-3.15	1.36	-1.29	21.699	26.693	0.86	-12.83	4.02	90	59.19	57.9
5550	55.7	-2.54	1.57	-0.58	26.292	29.411	1.57	-15.27	4.11	90	60.21	58.81
5650	59.99	-2.22	2.18	0.03	30.382	29.604	2.18	-15.05	4.4	240	60.31	59.42
5750	59.83	-2.23	2.49	0.34	31.628	28.207	2.49	-12.25	4.72	240	60.88	60.28
5850	52.92	-2.76	2.06	-0.09	27.876	25.045	2.06	-12.86	4.82	240	61.09	60.41

