

承認書
APPROVAL

客 户
:

品 名 规 格
DESCRIPTION: FPC ANT

料 号
PART NO.:

客 户 料 号
CUS PART NO.:

日 期
D A T E: 2023-11-3

云顶呈样签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

联系电话: 0755 23073599

※ 承认书一式三份, 惠蒙贵司承认签章

※ Approval in duplicate, please signed by your company.

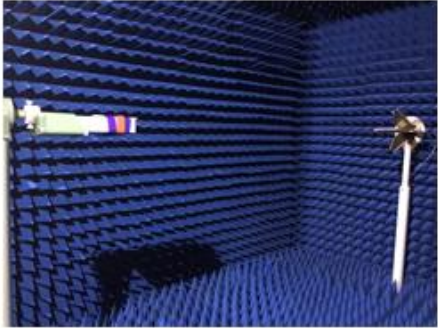
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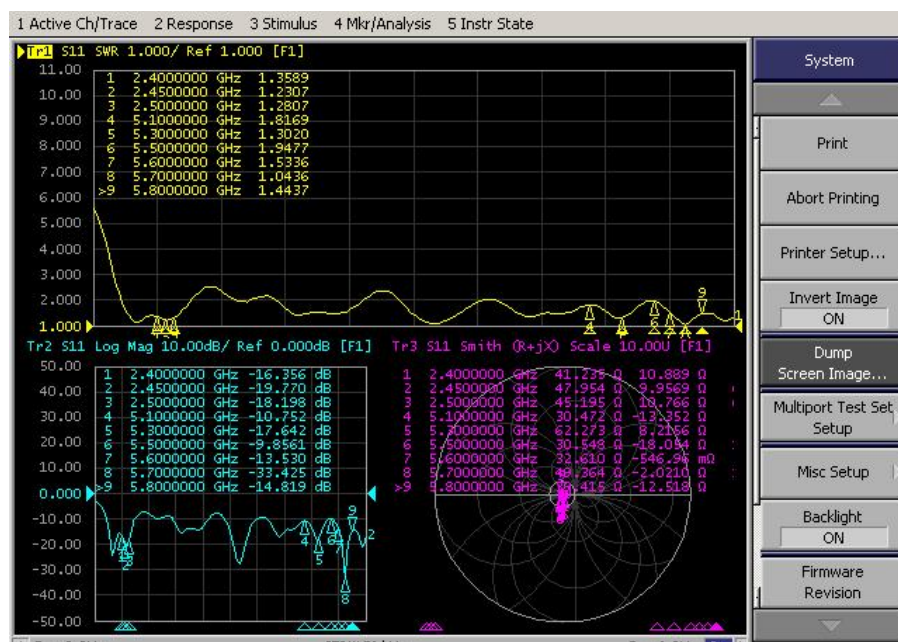
E-mail:ws@szydtx.com

1.测试项目与设备

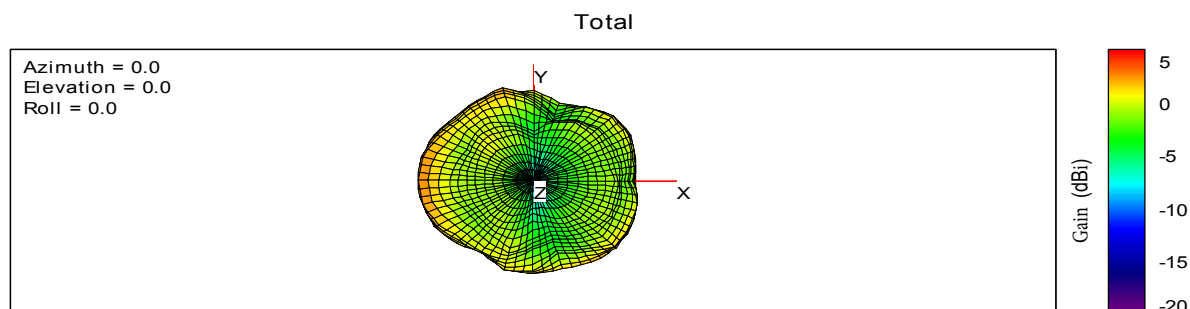
	测试项目	设备
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011
3.无源测试 (Passive)	1.天线增益 (Gain) 2.天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B HP 8753D



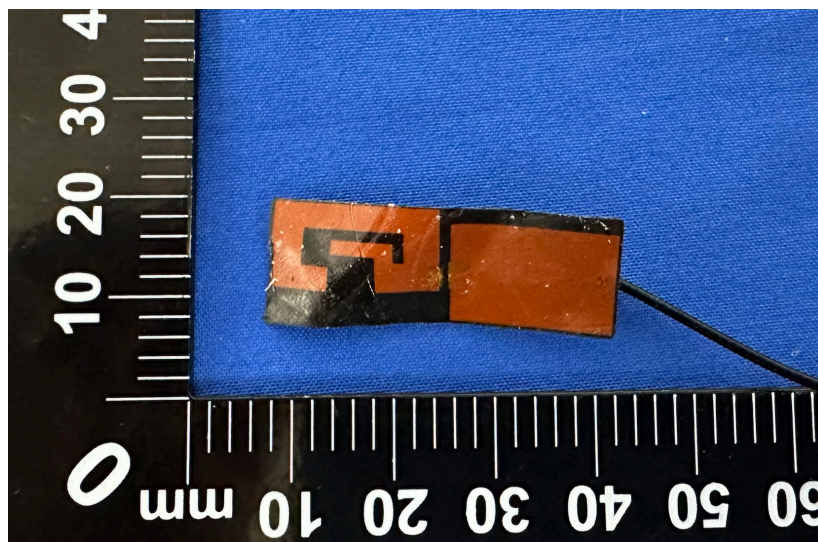
2. 天线性能



3D and 1D Radiation Patterns



3.天线结构图:



4.天线效率和增益:

Passive Test For WIFI										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	50.95	-2.93	2.57	0.42	22.906	28.047	2.57	-23.43	48.09	47.94
2410	50.35	-2.98	2.48	0.33	23.585	26.761	2.48	-24.02	48.07	47.87
2420	51.21	-2.91	2.46	0.31	25.17	26.045	2.46	-26.2	48.18	48
2430	53.88	-2.69	2.59	0.44	27.509	26.373	2.59	-27.38	48.17	47.99
2440	56.87	-2.45	2.76	0.61	29.67	27.204	2.76	-26.16	48.33	48.11
2450	59.47	-2.26	2.83	0.68	31.157	28.317	2.83	-27.79	48.44	48.14
2460	60.02	-2.22	2.73	0.58	31.354	28.668	2.73	-26.56	48.41	48.06
2470	60.23	-2.2	2.63	0.48	31.501	28.732	2.63	-25.39	48.49	48.11
2480	60.97	-2.15	2.62	0.47	32.315	28.653	2.62	-23.73	48.63	48.18
2490	62.93	-2.01	2.71	0.56	34.131	28.803	2.71	-22.93	48.76	48.29
2500	63.47	-1.97	2.79	0.64	35.22	28.248	2.79	-22.05	48.69	48.16

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电器技术参数			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500	Frequency Range	2400~2500
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
增益	2.83 DBI	Gain	2.83 DBI
最大输入功率	50W	Maximum Input Power	50W
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	BLACK
接口形式	SMA	Input connector	SMA
天线长度	157mm	Cable length	157mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

环境性能测试 (Environment performance test) :

项目	测试条件	测试结果
储存环境	在没有指定的情况下测试温度、湿度、气压如下: 1. 温度为-30℃~+80℃ 2. 相对湿度为45%-85% 3. 气压为86kpa-106kpa	电气机械性能正常
高低温试验	在70℃与-40℃之间进行5次循环, 然后在正常条件下 1-2H, 检查外观质量。	尺寸应满足规定并应 满足 于机械、电气性能
耐恒定湿热 试验	相对湿度95±3%, 试验温度: 40℃. 持续2H作用后, 试品取出后5min之内测定电气性能, 试品在正常条 件下1-2H, 检查外观质量	尺寸应满足规定并应 满足 于机械、电气性能
振动试验	振频范围10-55HZ, 位移幅值: 0.35MM, 加速度幅值: 50.0M/S, 扫频循环次数: 30次	电气机械性能正常
跌落试验	1M高空按照互相垂直的轴方向自由跌落3次	电气机械性能正常

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings:1.Temperature: -30 °C ~ +80 °C ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between -40℃ to 70℃,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity:95±3%,Test temperature: 40℃,last 2 hours ,put it after 5 min test the electrical function .Test products during common condition 1-2 hours ,Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1m height fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal