

样品承认规格书

PART SHEET FOR APPROVAL

制造商名称: Manufacturer:	深圳市英佳创电子科技有限公司 SHENZHEN YINGJIACHUANG ELECTRONIC TECHNOLOGY CO.,LTD.
供应商名称: Supplier:	深圳市英佳创电子科技有限公司 SHENZHEN YINGJIACHUANG ELECTRONIC TECHNOLOGY CO.,LTD.
产品名称: Part Description:	BT 黑色内置天线 (L=110mm) BT built-in antenna (L=110mm)
规格型号: Model No:	HB35
制造商 P/N: Manufacturer P/N:	YJC-6N110-R01
爱普生编码: EPSON P/N:	223214700
华曦达编码: SDMC P/N:	360100442
日期: Issued Date:	2024.05.06

供应商确认 Supplier confirmation

承办 Made By	审核 Engineer	批准 Approver
殷飞杰	方文锋	肖汉

华曦达确认 SDMC confirmation

承认原因: Approval Reason:	☐ 新物料 New Part ☐ 替代料 Substitute Part		
承办 Made By	审核 Engineer		批准 Approver
	品质 Quality	研发 R&D	业务 Sales

备注：签名表明提交样品获得承认，图纸规格已经受控。Note: Signature indicates that the submitted sample is approved and the drawing/specification is now the controlling document.



深圳市英佳创电子科技有限公司

<http://www.szsyjc.com>

APPROVAL SHEET

承认书

CUSTOMER NAME 客户名称	深圳市华曦达科技股份有限公司	
CUSTOMER P/N 客户料号		
PART NAME 品 名	2.4G 黑色 PCB 内置天线 L=110mm 2.4G black PCB built-in antenna L=110mm (适用机型: HB35)	
P/ N 料 号	YJC-6N110-R01	
APPROVAL REV. 版 次	A1	
DELIVERY DATE 送样日期	2024 年 05 月 06 日	
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CHECKED BY 审 核	方文锋	
APPROVED BY 核 准	肖 汉	
Customer Approved 客 户 承 认		
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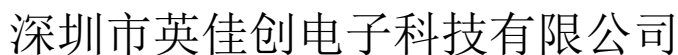
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履历表(Resumer):

版本 Version	变更内容及更改原因 Changes and reasons	发行 publish	发行 publish
A/0	初版发行 (Issued)	2024 年 01 月 05 日 (January 05, 2024)	
A/1	更新PCB板丝印 (Update the PCB screen printing)	2024 年 05 月 06 日 (May 06, 2024)	

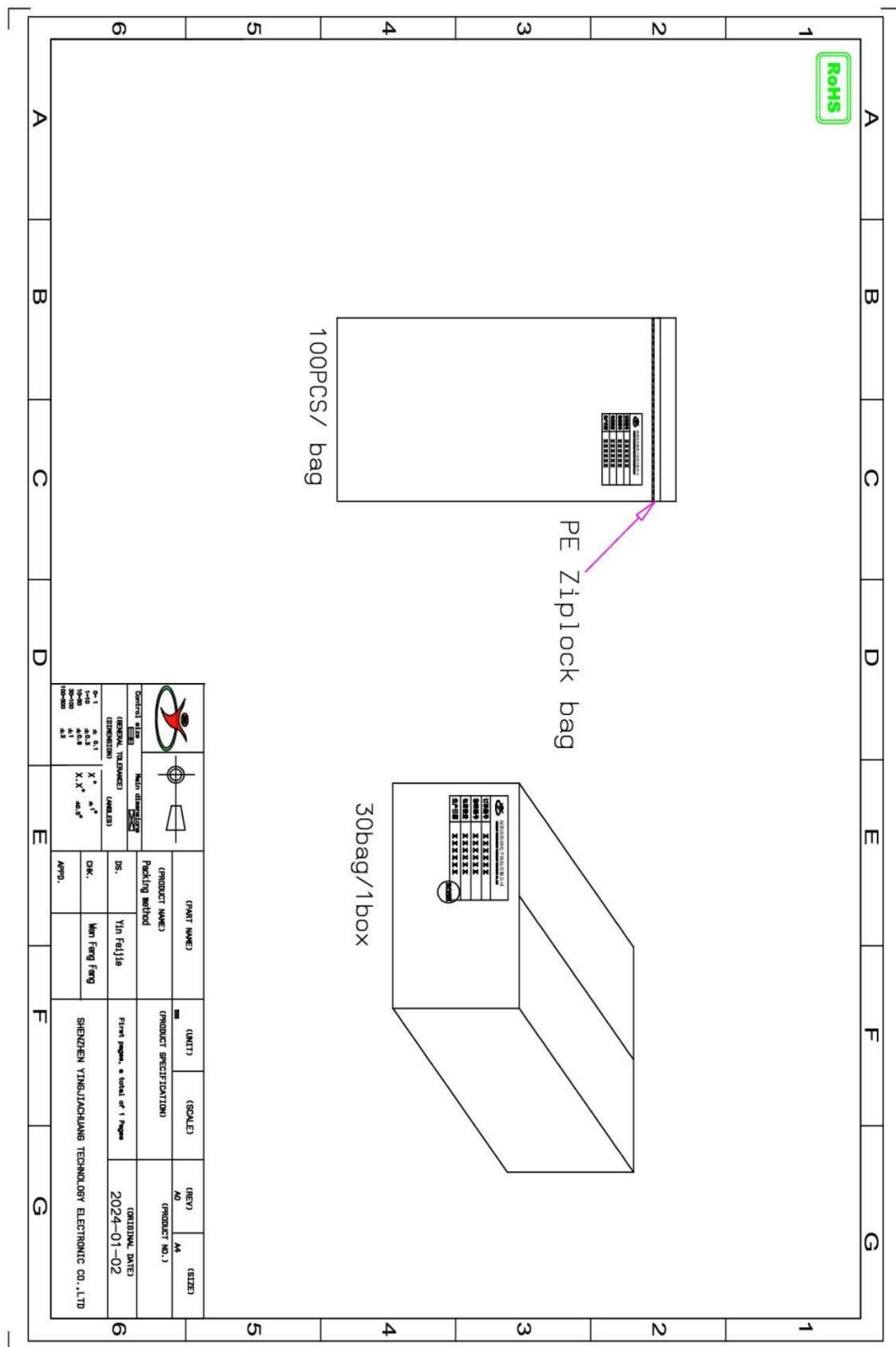


产品平面图 (Product plan):





包装方式图 (Packing pattern drawing) :





产品规格 Product Type		RF1.13 低损线		
结构图 Structure Drawing				
结构特性 Structure Characteristics				
结构 Structure	项目 Item	标准值 Standard Value		
内导体 Inner Conductor	材质 Material	镀银铜线 Silverplated Copper Wire		
	结构 Construction(mm)	7/0.083		
	标称外径 Nom.Dia(mm)	0.249±0.02		
绝缘层 Insulation	材质 Material	聚全氟乙丙烯 FEP		
	标称外径 Nom.Dia(mm)	0.735±0.02		
外导体 Outer Conductor	材质 Material	铜塑箔 Cu-Plastic Composite Tape		
	标称外径 Nom.Dia(mm)	0.759±0.02		
	材质 Material	镀锡铜线 TC Wire	16*4/0.05	
	标称外径 Nom.Dia(mm)	0.96±0.05		
	编织覆盖率 Coverage Ratio(%)	90±5		
护套 Jacket	材质 Material	聚全氟乙丙烯 FEP		
	标称外径 Nom.Dia(mm)	1.15±0.05		
电气性能 Electrical Characteristics				
项目 Item	标准值 Standard Value	项目 Item	频率 Frequency	标准值 Standard Value
阻抗 Impedanc (Ω)	50±2	衰减 Attenuation@20℃ (dB/m)	1GHz	1.88
电容 Capacitance(pF/m)	98		2GHz	2.55
速率 Velocity(%)	70		3GHz	3.05
驻波比 VSWR	≤1.30@DC-6GHz		4GHz	3.52
最大工作电压 Max.Operating Voltage(V)	1000		5GHz	4.05
最大工作频率 Max.Operating Frequency(GHz)	8		6GHz	4.40
可靠性 Dependability				
最小弯曲半径(单次)Min.Bending Radius/Single		mm	5	
最小弯曲半径（重复）Min.Bending Radius/Repeated		mm	10	
工作温度范围 Operating Temperature		℃	-55-+200	
包装 Packing				
包装方式 Packing Mode		纸盘 Papery Reel		
包装长度 The Length of Each Reel(m)		1000		
每盘段数 The Joints of Each Reel		≤5		
最小段长 Min. Segment Length(m)		≥10		
使用提示 Trips for Use				
存储环境 Storage Environment		温度：30℃以下，湿度：20-65%		
最佳保存周期 The Best Save Cycle		2个月，2个月以上上锡效果变差，但电性能不受影响，夏季高温高湿环境开剥后需尽快流转		
加工温度 Processing Temperature		可短时承受 260℃的高温，300℃以上易发生分解，400℃以上发生显著的热分解		
铁氟龙收缩 Teflon Shrink		材料的固有属性，绝缘 0.2mm 以下，护套 0.3mm 以下		
护套窜动 Jacket Taaverse		加工长度（护套残留长度）低于 5CM 时易发生		

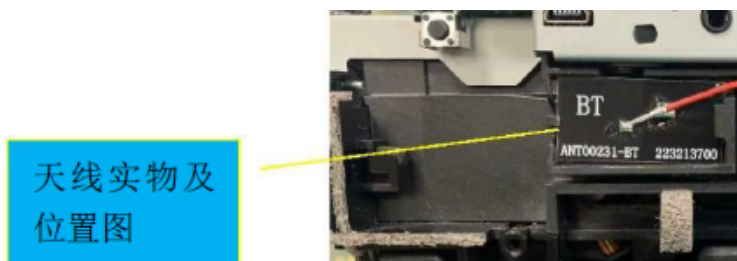


环境性能测试(Environmental performance testing)：

项目(Project)	测试条件(Test condition)	规格(Specification)
储存环境 Storage Conditions	In the absence of specified test temperature, humidity, air pressure is as follows: 在没有指定的情况下测试温度、湿度、气压如下: 1. Temperature is $-45^{\circ}\text{C}\sim+85^{\circ}\text{C}$ 1. 温度为 $-45^{\circ}\text{C}\sim+85^{\circ}\text{C}$ 2. Relative humidity of 20~80% 2. 相对湿度为20~80% 3. Air pressure is 86 kpa to 106 kpa 3. 气压为86kpa-106kpa	Electrical and mechanical properties is normal 电气机械性能正常
高低温试验 high and low temperature test	Between 85°C and -45°C for 5 loops, then 1-2 h under normal conditions, check the appearance quality. 在 85°C 与 -45°C 之间进行5次循环, 然后在正常条件下1-2H, 检查外观质量。	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties 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 Constant damp and hot resistance test	80 + / - 3% relative humidity, temperature test: 40°C . Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality 相对湿度 $80\pm3\%$, 试验温度: 40°C . 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	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties 尺寸应满足规定并应满足于机械、电气性能
振动试验 vibration test	10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times 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	Electrical and mechanical properties is normal 电气机械性能正常
跌落试验 fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times 1M高空按照互相垂直的轴方向自由跌落3次	Electrical and mechanical properties is normal 电气机械性能正常



天线实物图与位置图: Antenna physical diagram and location diagram



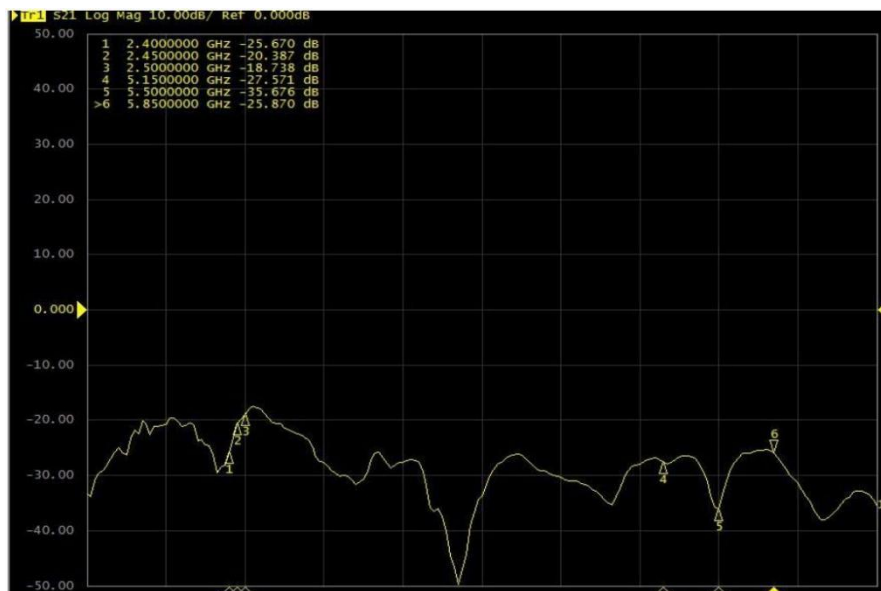
天线性能测试图: Antenna performance test diagram



Freq/GHz	2.4	2.45	2.5
VSWR	1.4	1.2	1.2

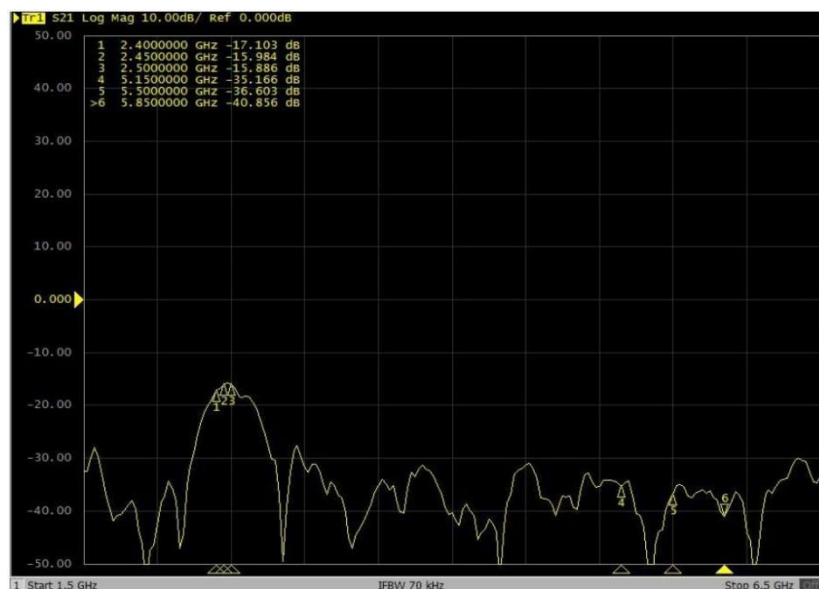


隔离度测试图 Wi-Fi Ant-0 & BT (Isolation test chart)



Freq/GHz	2.4	2.45	2.5	5.15	5.5	5.85
S21/ dB	-25	-20	-18	-27	-35	-25

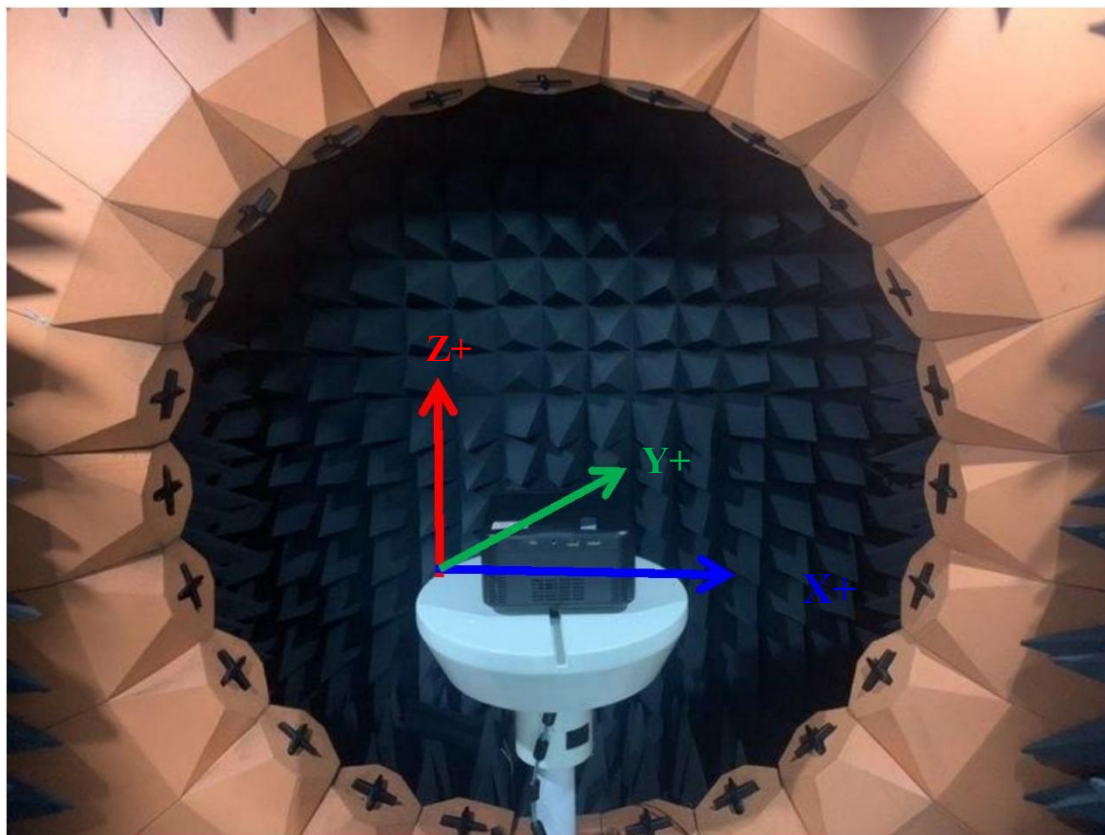
隔离度测试图 Wi-Fi Ant-1 & BT (Isolation test chart)



Freq/GHz	2.4	2.45	2.5	5.15	5.5	5.85
S21/ dB	-17	-15	-15	-35	-36	-40



参考坐标系 Reference Coordinate System



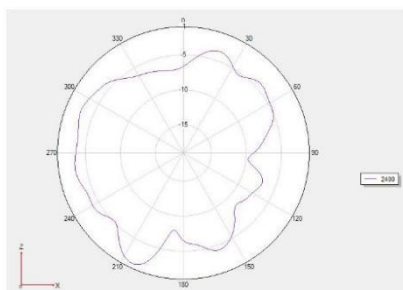
	XY	XZ	YZ
0°	Right	Up	Up
90°	Front	Right	Front
180°	Left	Down	Down
270°	Back	Left	Back



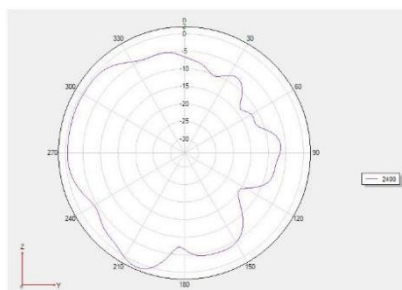
2D、3D 测试数据(2.4G): 2D and 3D test data (2.4G) :

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	45.88	1.63
2410MHz	46.2	2.10
2420MHz	46.83	2.14
2430MHz	48.98	2.33
2440MHz	47.83	2.56
2450MHz	49.75	2.54
2460MHz	48.72	2.89
2470MHz	48.72	2.90
2480MHz	48.98	3.32
2490MHz	48.72	3.46
2500MHz	46.95	2.96

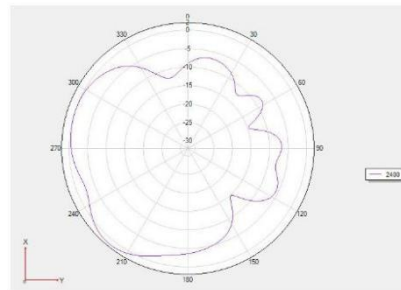
Phi =0 freq=2400MHz



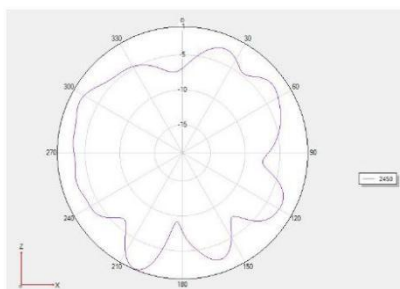
Phi =90 freq=2400MHz



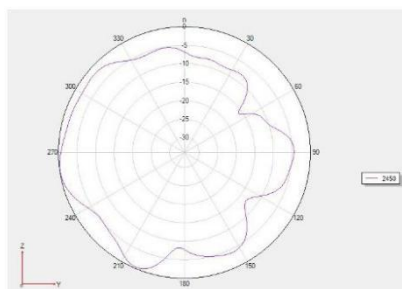
Theta =90 freq=2400MHz



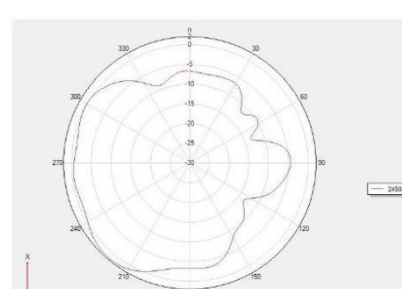
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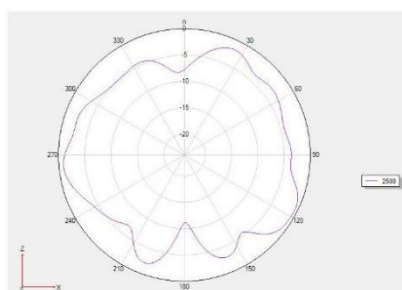
Phi =90 freq=2450MHz



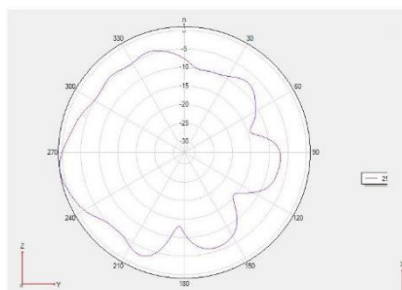
Theta =90 freq=2450MHz



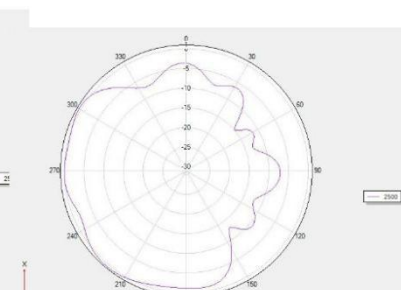
Phi =0 freq=2500MHz



Phi =90 freq=2500MHz

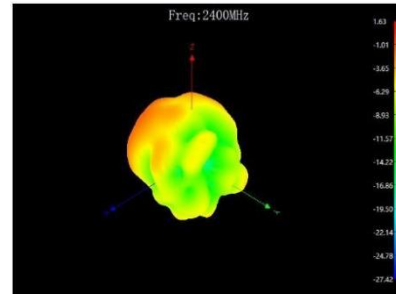
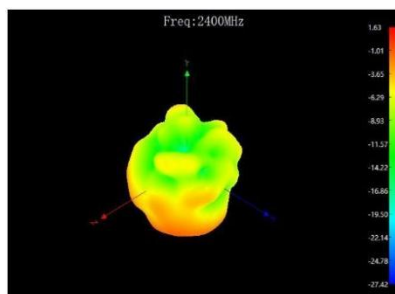
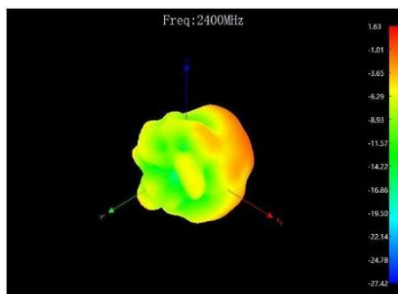


Theta =90 freq=2500MHz

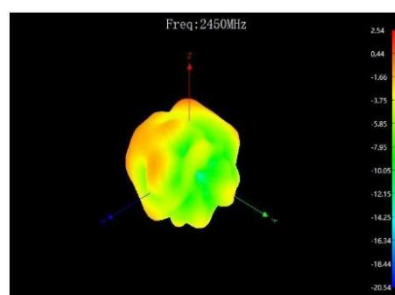
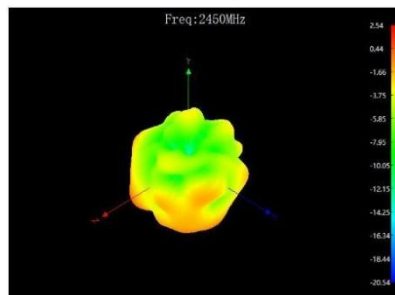
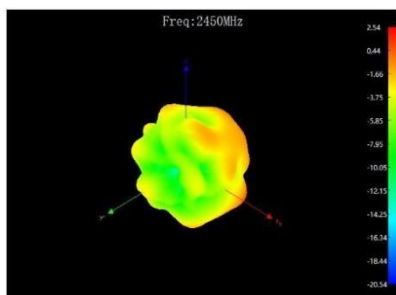




3D 2400:



3D 2450:



3D 2500

