

样品承认书

客户名称 Customer Name: 昊之源 Hollyland

客户料号: Customer P/N: L:5061-(1880-1930)MHz-L ;R: 5061-(1880-1930)MHz-R

项目名称 Project Name: 5601-1.9G

规格描述 Product Spec: FPC 21.74mm*17.78mm±0.2

版 本 REV: V1.0

日 期 Date: 2023-12-21

制作 drawing	审核 check	

客户承认 Customer Approve

审核 check	批准 approved	承认 approval

目录

Index

一、封面 Cover	-----1
二、目录 Index	-----2
三、电性能指标 Electrical Performance Index	-----3-5
四、测试报告 Test report	-----6-11
五、工程图纸 Product Drawing	-----12-13
六、测试设备及原理 Testing Equipment&Principle	-----14
七、可靠性测试报告 Reliability test report	-----15
八、产品包装规范 Code for product packaging	-----16

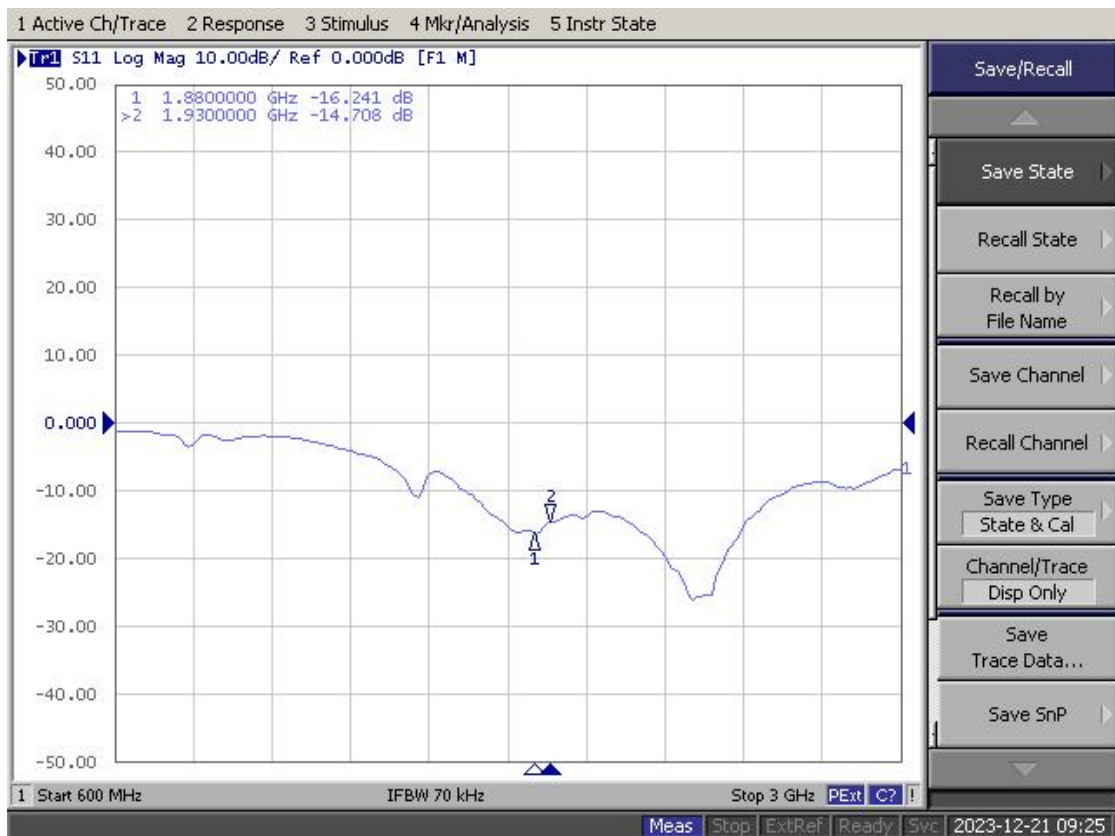
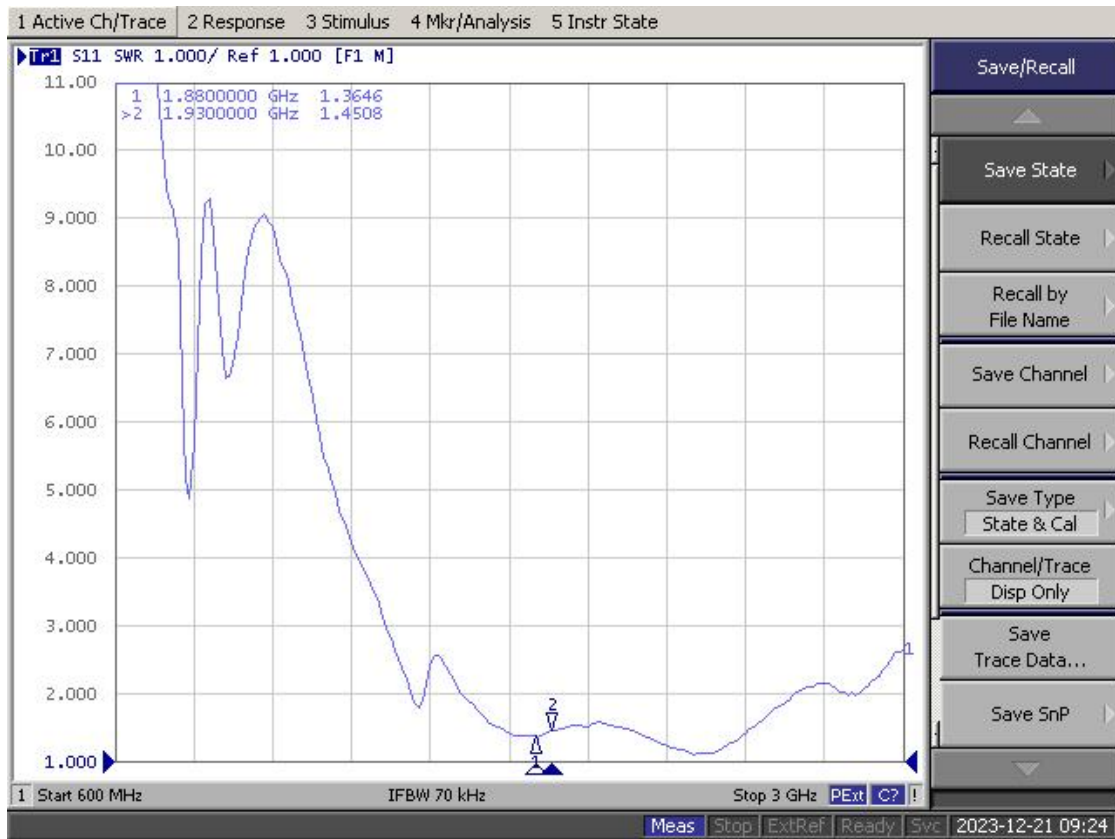
电性能指标 Electrical Performance Index(NB)

电 器 性 能 指 标		Electrical Specifications	
频率范围		1880-1930MHz	
电压驻波比	≤2.0	VSWR	≤2.0
辐射方式	全向	Radiation	OMNI
极化方式	线极化	Polarizatin	LINEAR
输入阻抗	50 Ω	Input Impedance	50 Ω
机 械 性 能 指 标		Mechanical Specifications	
接口形式	顶针式	Input connector	pintle
天线材质	FPC	Antenna materia	FPC
工作温度	-30℃~+80℃	Working Temperature	-30℃~+80℃
工作湿度	40~85%	Working Humidity	40~85%

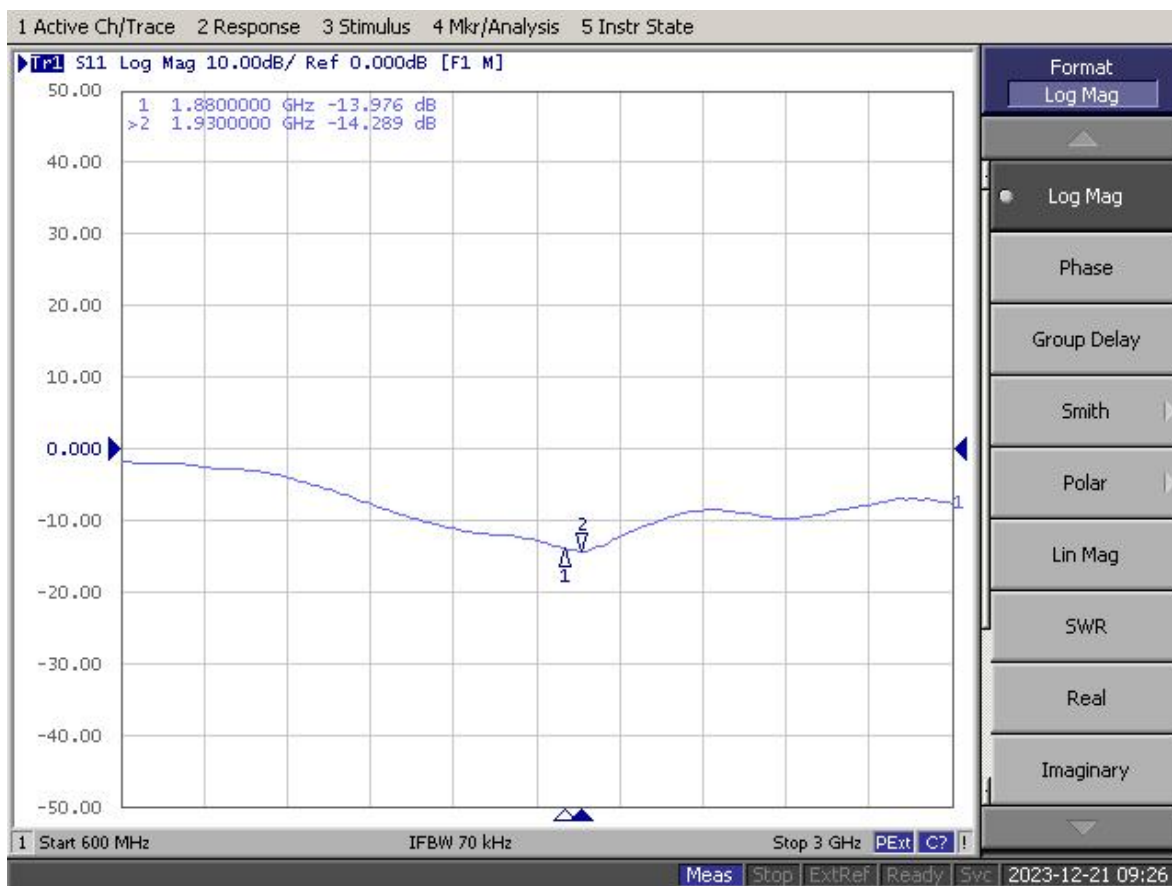
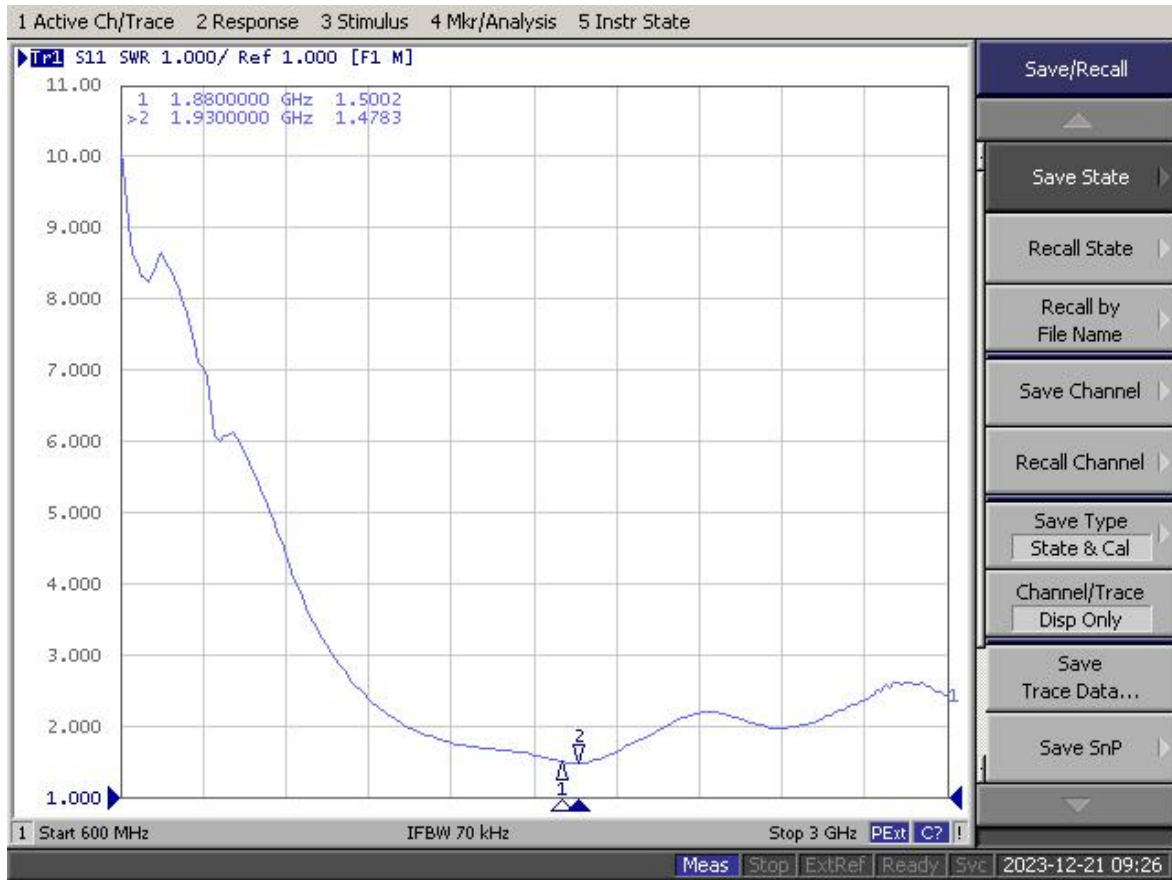


电性能指标 Electrical Performance Index

L(左)



R(右)



电性能指标 Electrical Performance Index

Simulated head data

模拟人头数据：L（左）

Frequency/MHz	MaxGain/dBi	Efficiency / %
1880	3.85	33.81
1885	3.78	34.67
1890	3.84	34.83
1895	3.92	36.81
1900	3.79	34.51
1905	3.62	34.83
1910	3.46	33.5
1915	3.48	33.96
1920	3.34	33.04
1925	3.35	33.04
1930	3.03	32.06

R（右）

Frequency/MHz	MaxGain/dBi	Efficiency / %
1880	3.03	28.18
1885	3.01	29.04
1890	3.03	28.91
1895	3.16	29.44
1900	2.96	27.61
1905	3.07	27.54
1910	2.58	25.53
1915	2.92	25.94
1920	2.55	25.59
1925	2.85	25.47
1930	2.33	25.23

Free spatial data

自由空间数据：L（左）

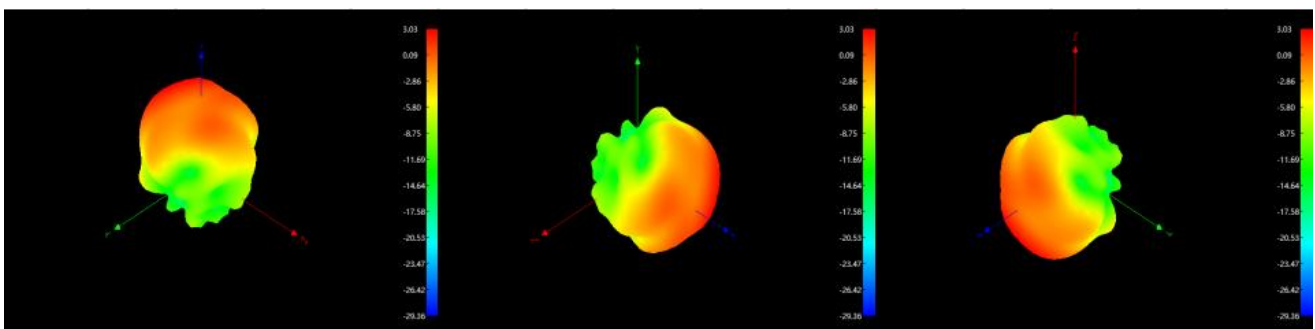
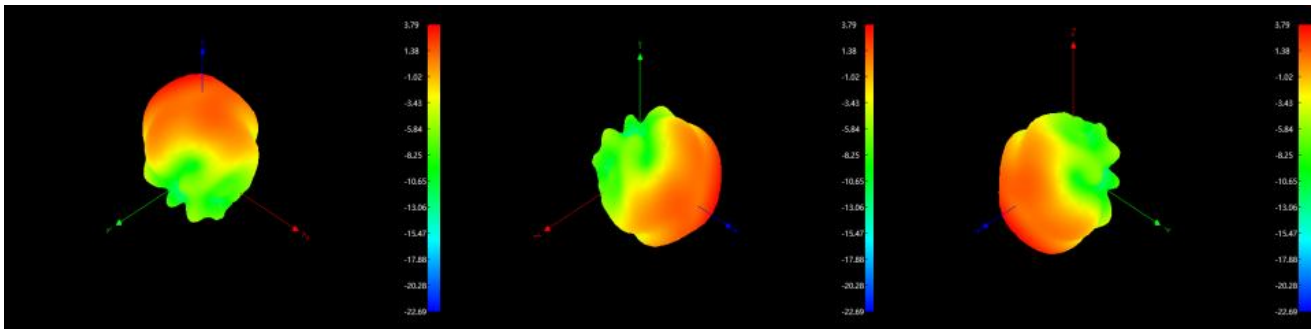
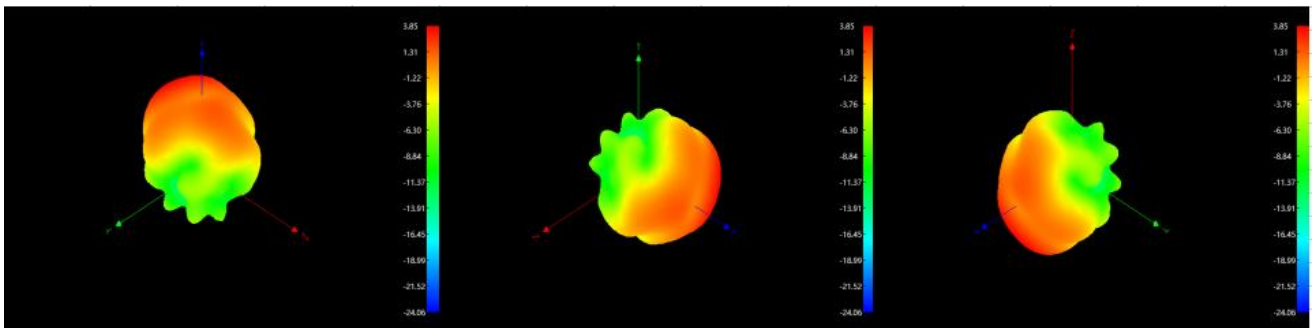
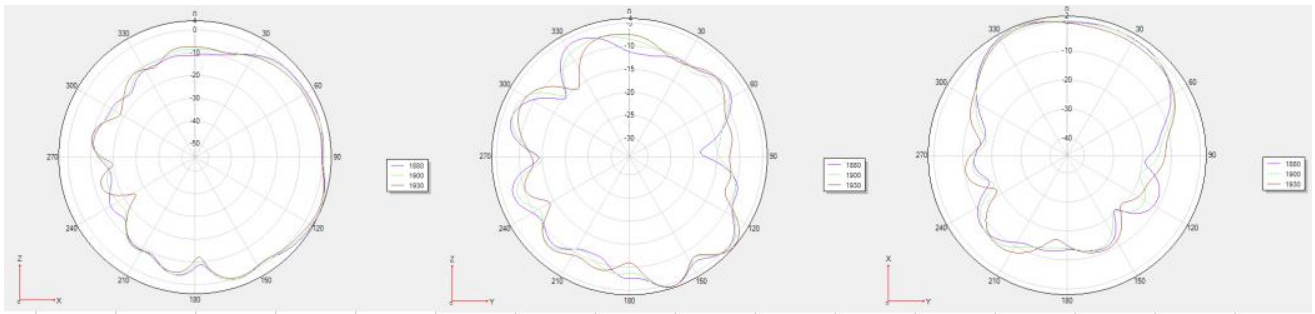
Frequency/MHz	MaxGain/dBi	Efficiency / %
1880	3.28	59.16
1885	3.12	60.53
1890	3.26	60.26
1895	3.33	63.97
1900	3.09	60.12
1905	2.84	60.81
1910	2.72	59.7
1915	2.72	61.8
1920	2.56	61.24
1925	2.58	63.68
1930	2.26	63.68

R（右）

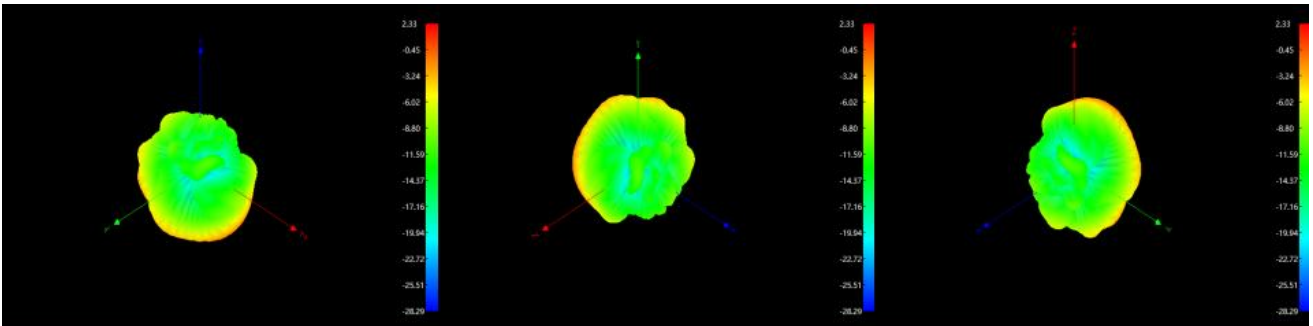
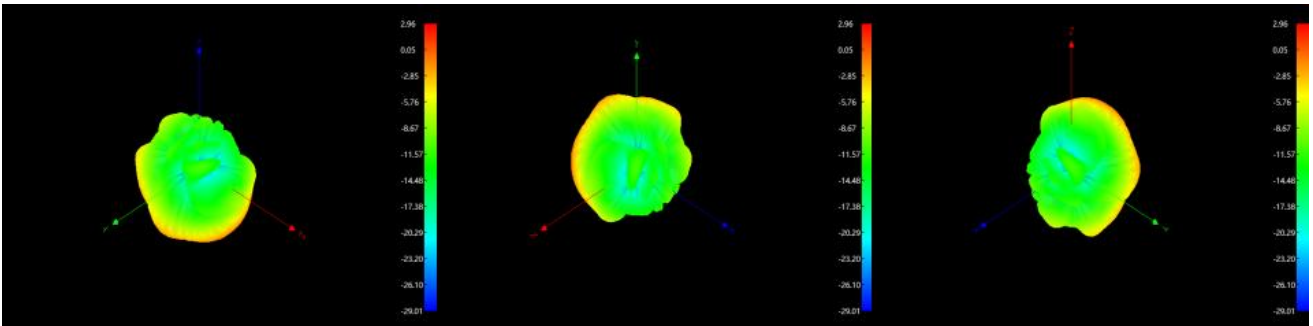
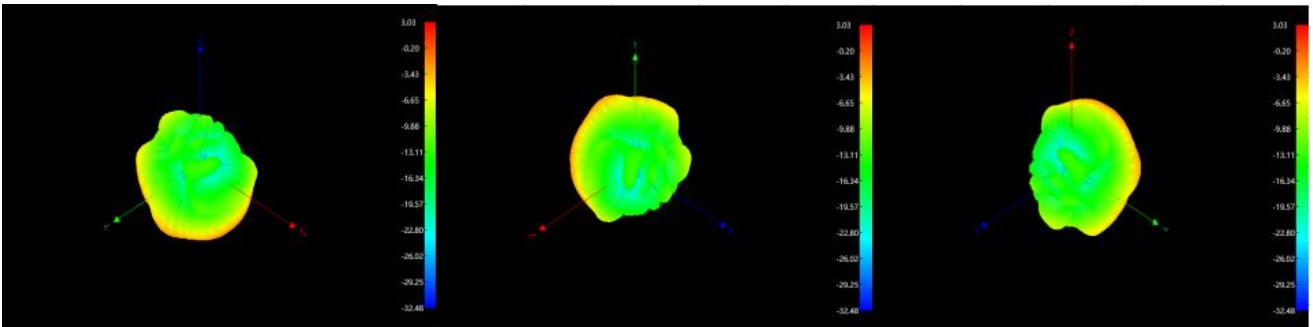
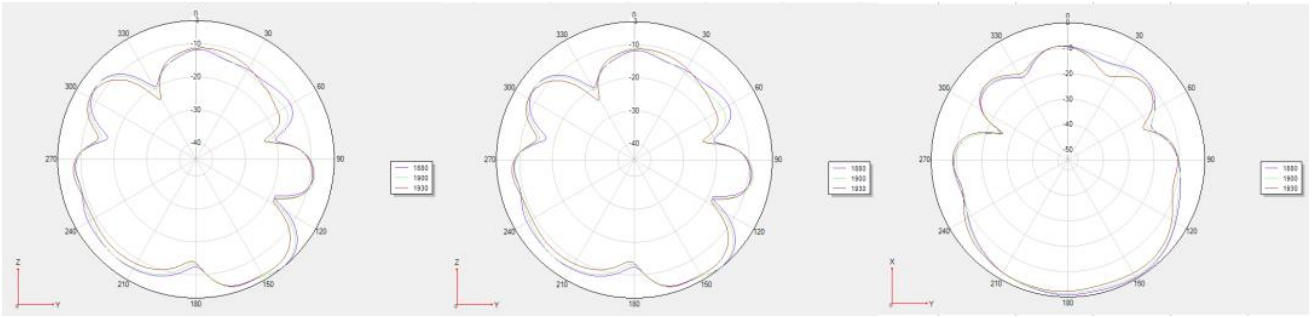
Frequency/MHz	MaxGain/dBi	Efficiency / %
1880	2.62	59.43
1885	2.86	61.24
1890	2.79	60.67
1895	3.15	64.71
1900	2.76	61.09
1905	3	61.94
1910	2.73	60.53
1915	3.26	63.39
1920	2.92	62.37
1925	3.33	64.12
1930	2.93	64.71

人头测试方向图：Head test directions

2D/3D (L)

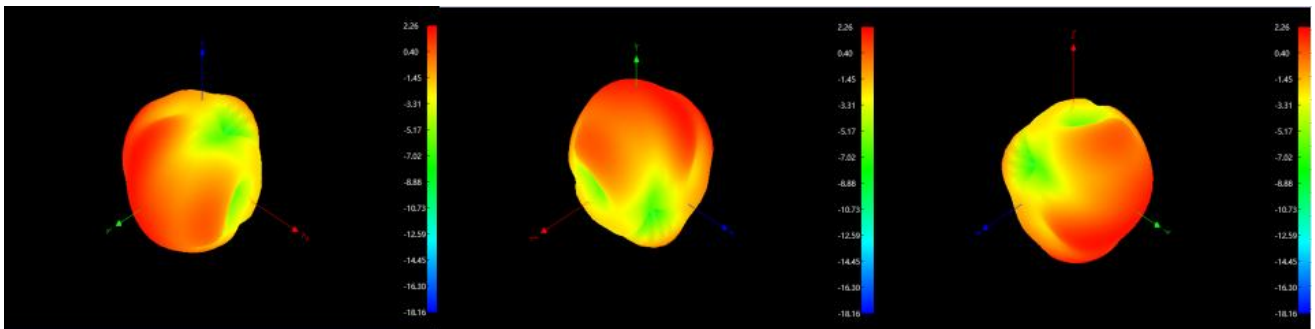
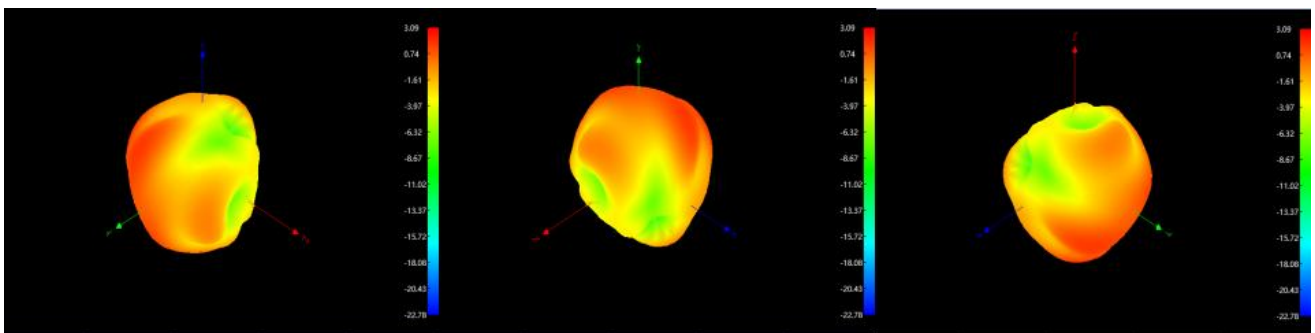
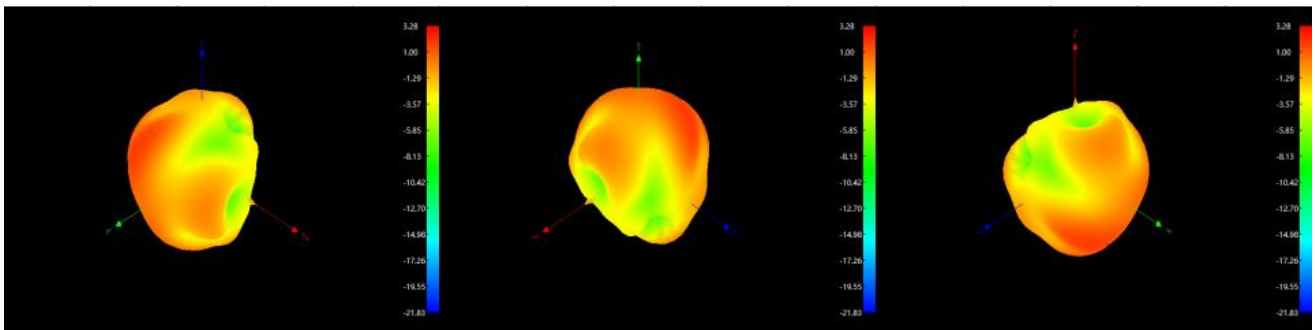
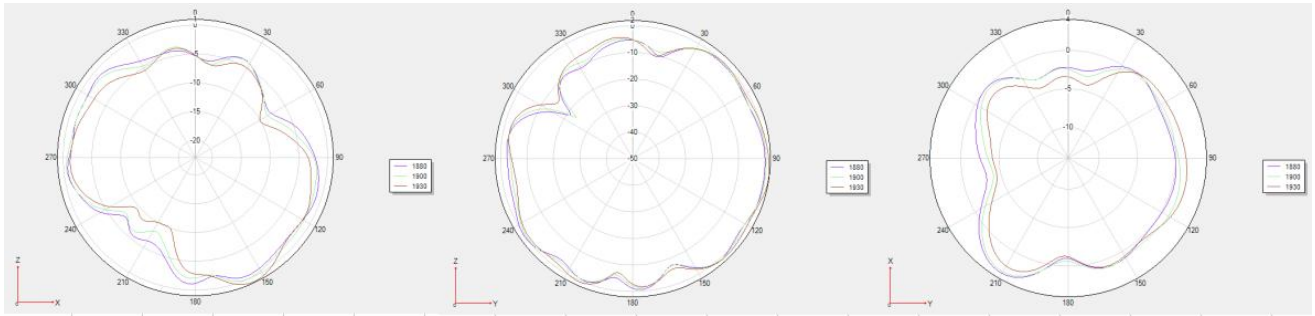


2D/3D (R)

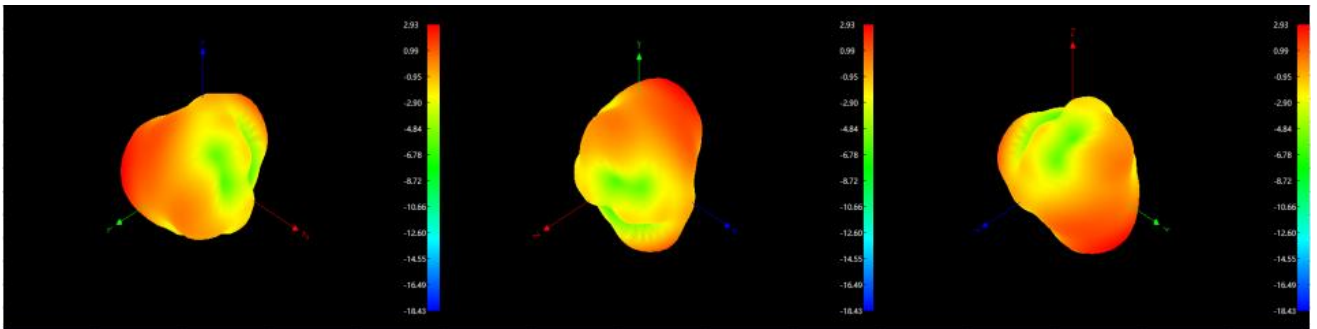
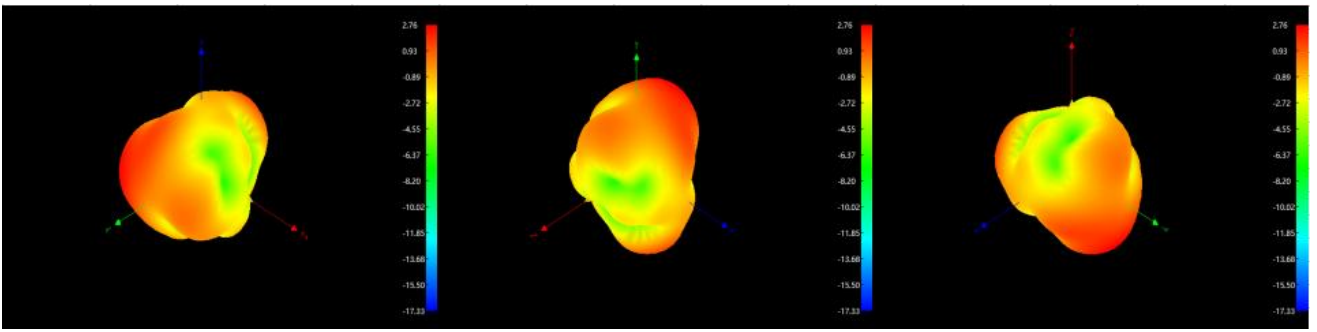
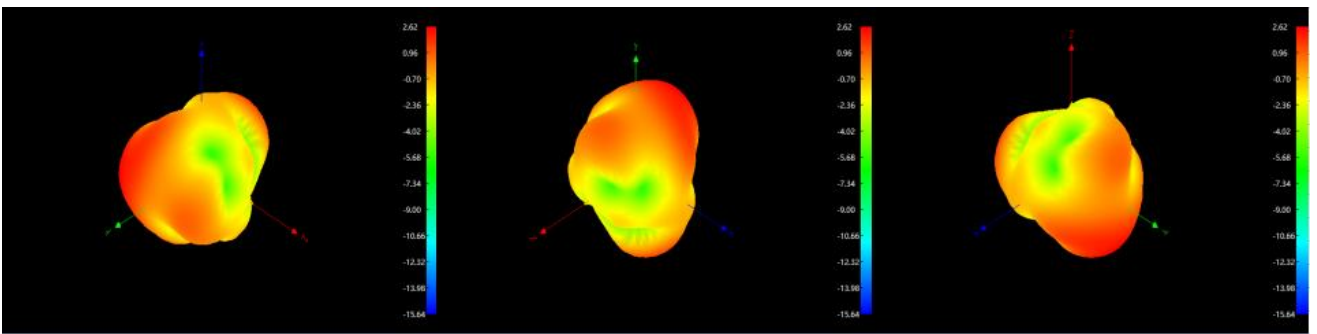
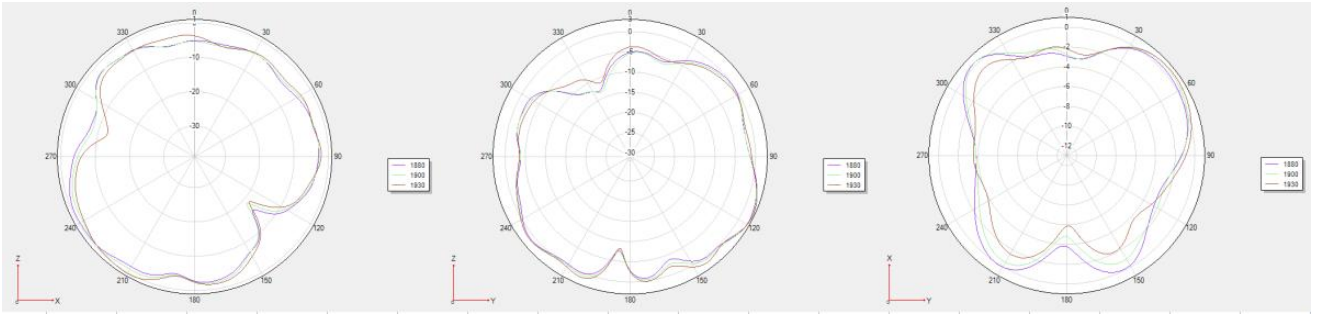


自由空间测试方向图： Free space test direction diagram:

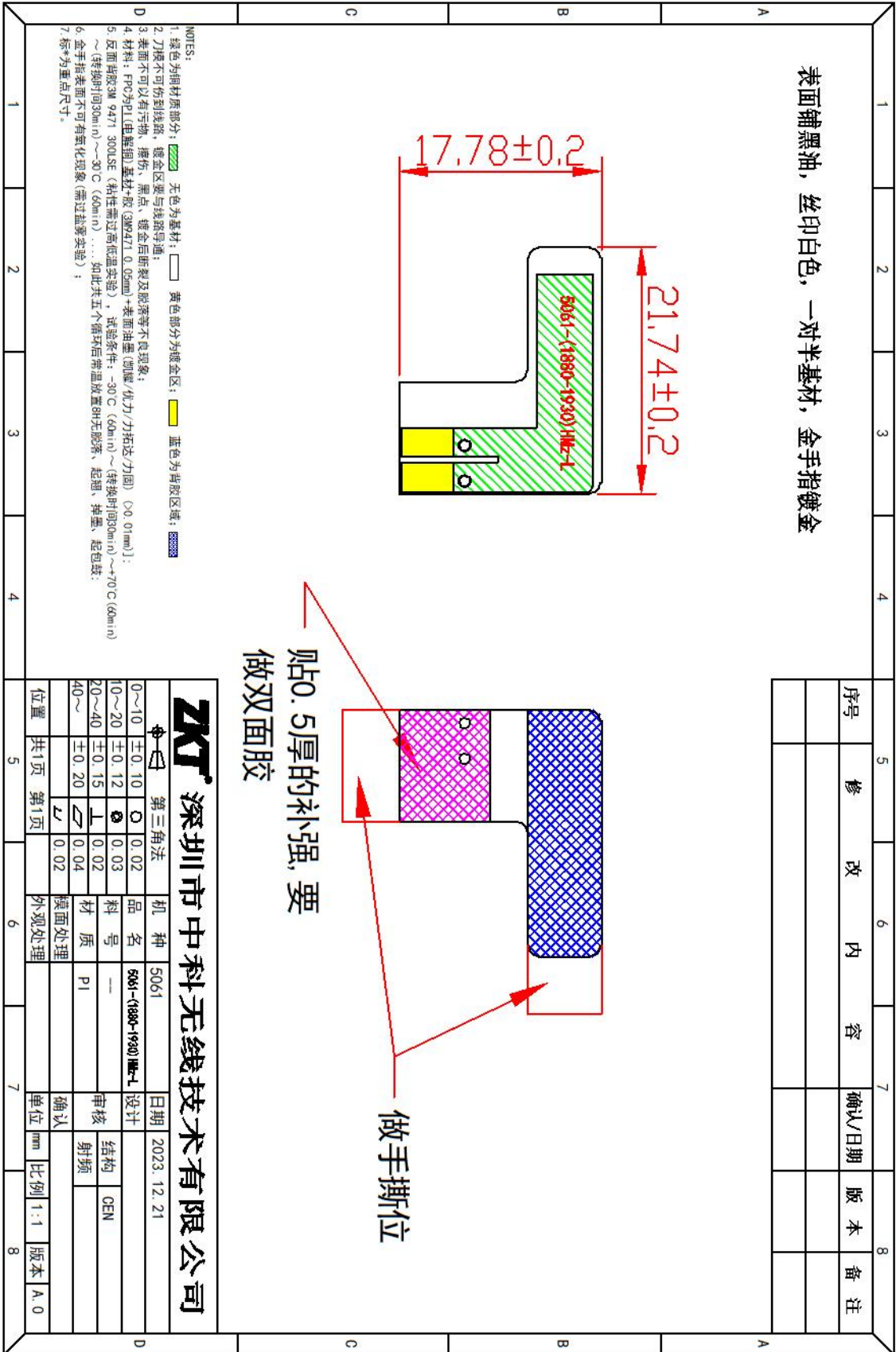
2D/3D (L)



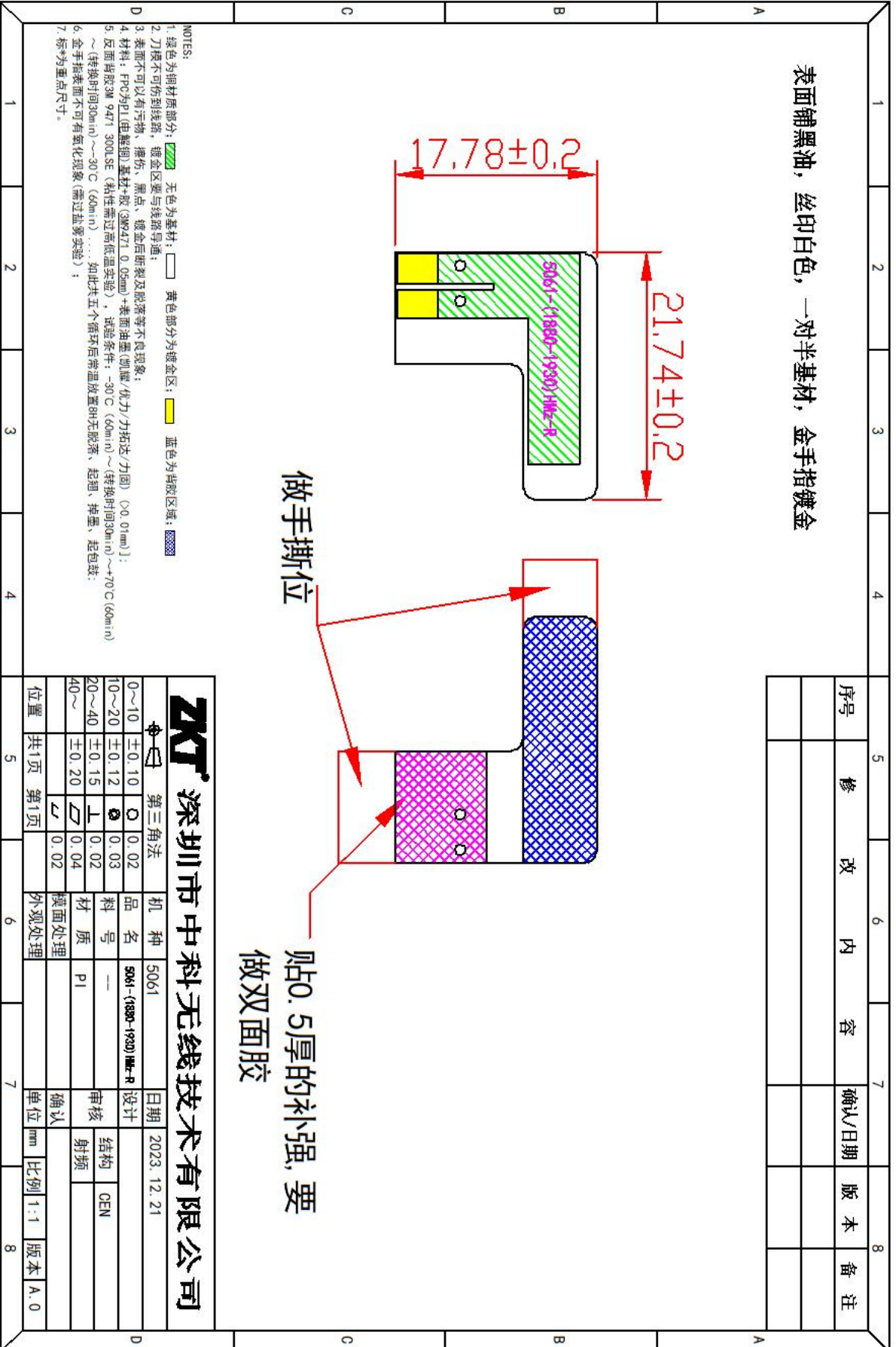
2D/3D (R)



工程图纸 Product Drawing



R



序号	修改内容	确认/日期	版本	备注

测试设备及原理 Testing Equipment and Principle

1. 测试设备:

网络分析仪 Network Analyzers :

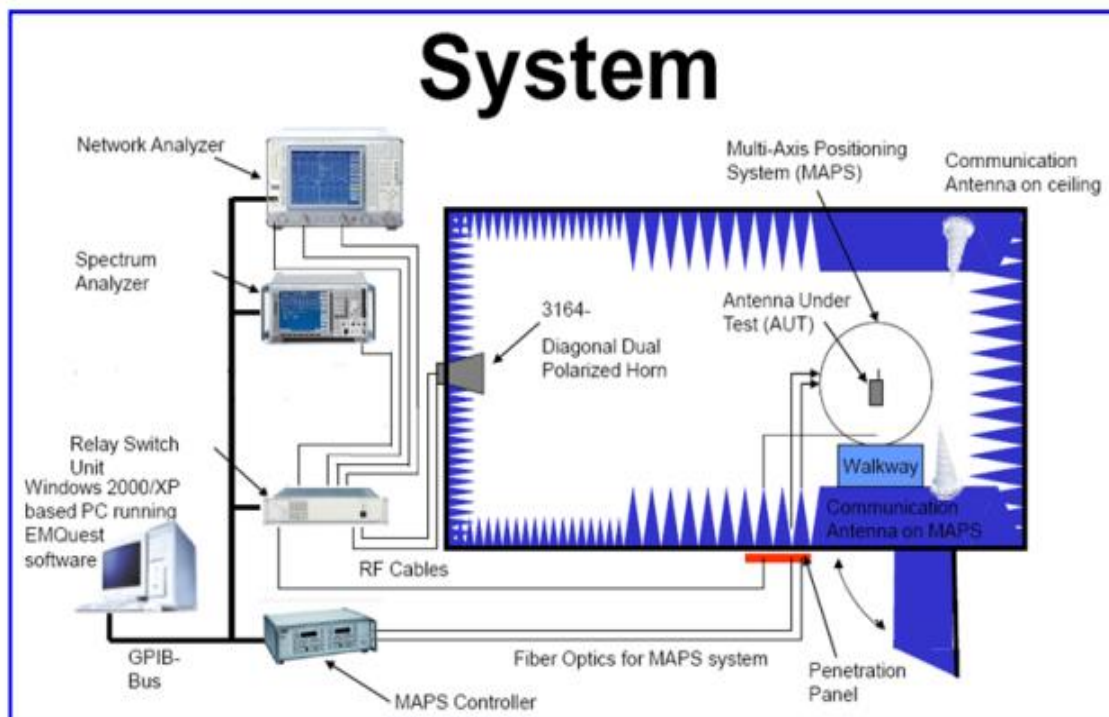
Agilent 8753D 5071B

综合测试仪 Communications Test Set:

Agilent E5515C

3D 暗室测试系统 3D Chamber Test System:

2. 测试原理: Test principle



可靠性测试报告 Reliability test report

测试项目		测试方法	要求	结果
C1	V.S.W.R. 电性驻波比	设计网路分析仪参数进行测试	符合待测物规范	pass
M1	天线增益	设计天线暗室参数进行测试	符合待测物规范	pass
M2	Vibration 震动	GB / T2423. 48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80to 20 Hz3 directions; 2 hours for each direction 振幅 1.5mm; 频率 20~80~20Hz; 3个方向各 2H	1. No Visual Damage 2. Frequency Tol. ≤5% 无明显外观不良; 频率偏移 ≤5%	pass
M6	Random Drop 跌落	GB / T2423. 8-1995 Single: Height: 1.0 Meter; 3 directions; 1 time for each direction 单支天线, 高 1m; 3个方向各 1次	1. No parts separated、fracture 2. Frequency Tol. ≤5% 产品无脱落、断裂; 频率偏移 ≤5%	pass
E3	Dimension 尺寸	Inspection of dimension, color, material, package, surface process. 检查尺寸, 颜色, 材料, 包装, 表面处理	Directive DUT specification 符合待测物规范	pass
E4	Temperature and Humidity Chamber 恒温恒湿	GB / T 2423. 3-2006 Temp: 80° C / 12 H; -40° C / 12H RH: ≥ 90%; Time: 24H 温度 80° C 测试 12H 转 -40° C 测试 12H; 湿度 ≥ 90%; 时间 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%	pass
E5	Thermal Shock 冷热冲击	GB / T 2423. 22 - 2008 - 40° C (30 minutes) to + 80° C (30 minutes); Cycles: 24 - 40° C 测试 30 分转 80° C 测试 30 分为一个周期; 共 24 周期	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 恢复 2H 后, 无明显外观不良; 频率偏移 ≤5%	pass
R1	Aging test 老化	GB / T 2423. 2 - 2008 Temp: 80° C; Time: 24 hours 温度 80° C, 测试 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤5% 無明顯外觀不良; 频率偏移 ≤5%	pass
M1	RoHS	With Reference to IEC 62321:2008 with flow chart 参考 IEC 62321 测试流程	Directive RoHS 2015/863/EU 符合 RoHS 2015/863/EU 标准	pass