

Shenzhen Jiexuntong Wireless Technology Co., Ltd Antenna Recognition Letter

Customer Name: Lingdu

Project model: AL502

Our part number:

20514051401/20514052401

Antenna specifications: FPC antenna

Date of issuance: October 12, 2023

Manufacturer recognition column:

Project Preparation	RF	structure	ratify	data

Customer recognition column:

confirm	to examine	ratify	data



Confirmation Letter Change History

version	data	Change description	Remarks
R/A	2023-8-11	First edition	
R/A	2023-10-12	Revised version	

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一、Antenna image

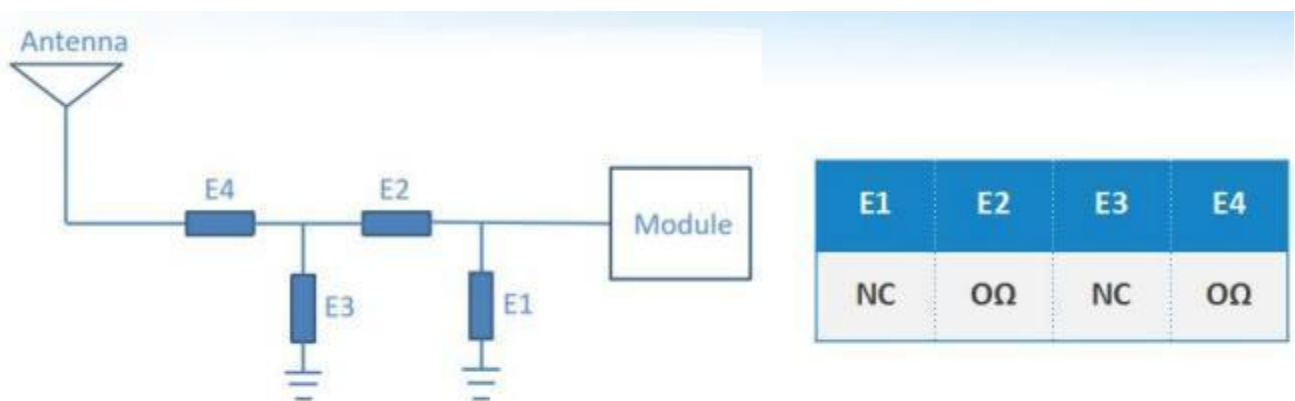


二. testing environment

2.1. Environmental treatment

无

3、Antenna matching



***:我司未对原有天线前端匹配做更改。**

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三：Products Specification

无源电性能指标 Passive Electrical Specifications

频率范围 Frequency Range (MHz)	2400-2500
输入阻抗 Input Impedance (Ω)	50
电压驻波比 VSWR	≤ 2.0
极化形式 Polarization Type	线极化

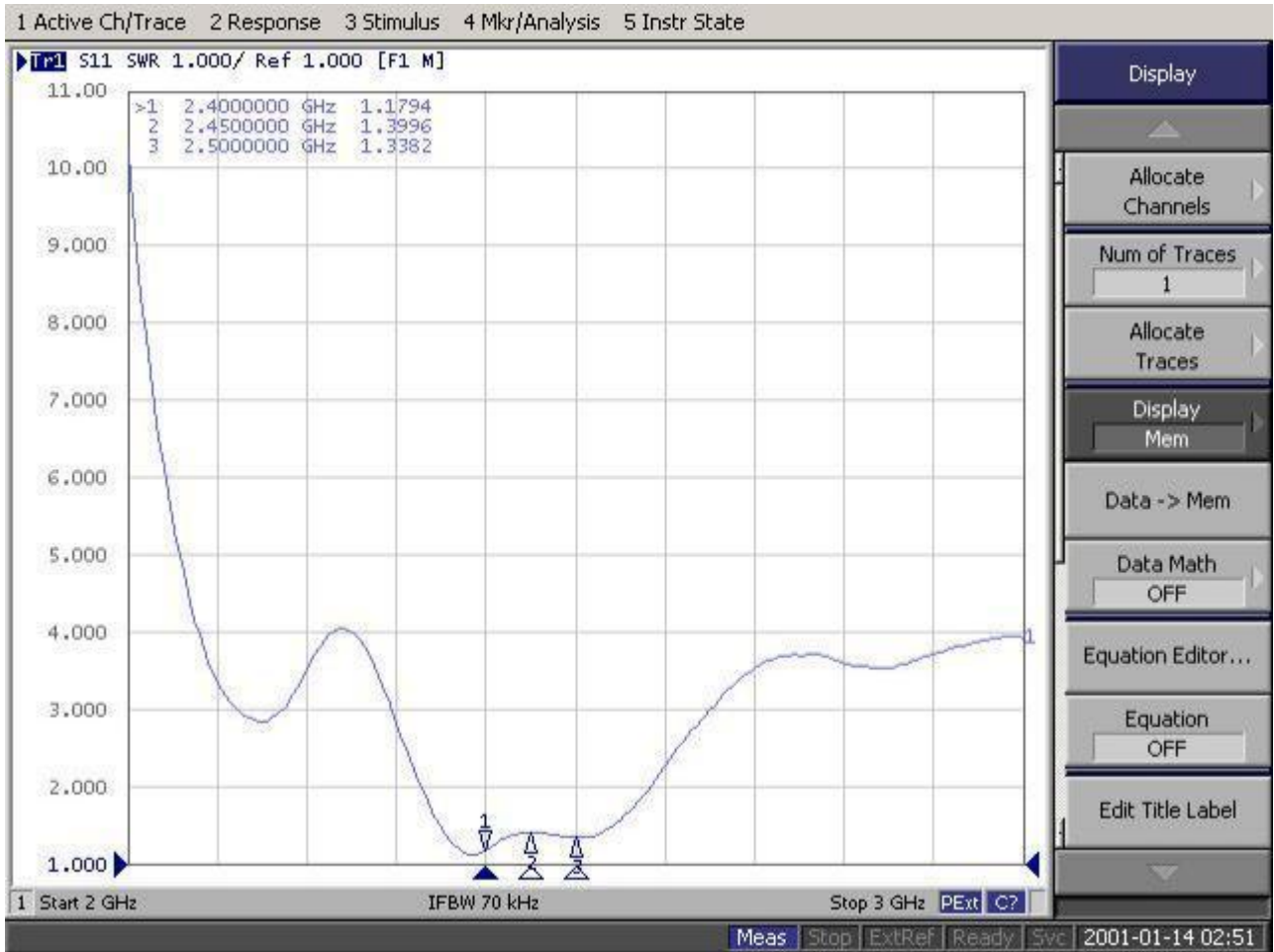
机械指标 Mechanical Specifications

天线形式 (Antenna form)	WIFI
天线尺寸 Antenna Size (mm)	33.9*22.3*0.12
馈线长度 Cable Length (mm)	93mm+230mm
辐射体 Radiator	铜 Cuprum
连接器型号 Connect Type	MCX 公直头+MCX 母头
工作温度 Working Temperature ($^{\circ}\text{C}$)	-40 ~ +85
颜色 Radome Color	/



4、Electrical performance report

VSWR



Frequency (MHz)	2400	2450	2500
VSWR	1.17	1.39	1.33

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Passive test data:

Freq (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	1.845714318	-3.471073917	44.96686477
2410	1.687207189	-3.675203866	42.90220497
2420	1.622027796	-3.774241849	41.93491964
2430	1.524246621	-3.841094747	41.29433963
2440	1.513310018	-3.847032858	41.23791643
2450	1.496867764	-3.81678877	41.52609785
2460	1.589075463	-3.699911788	42.65881834
2470	1.584383848	-3.614584637	43.50523674
2480	1.589041356	-3.530837524	44.35231036
2490	1.422152737	-3.554477936	44.11153863
2500	1.201726922	-3.581470065	43.83822825

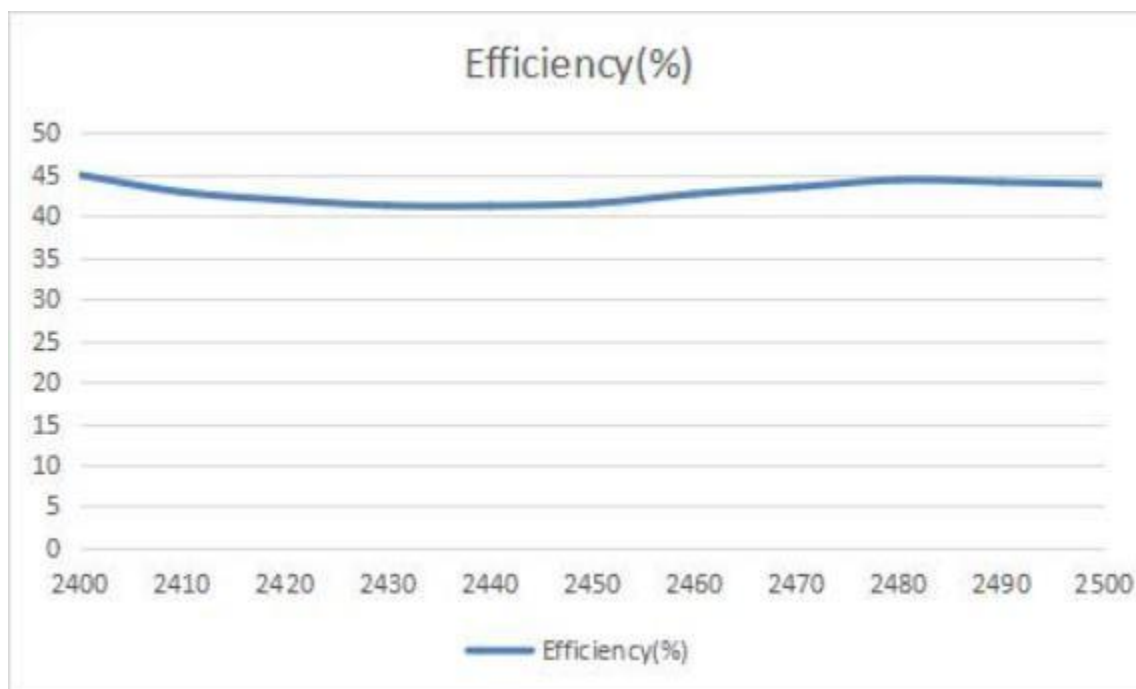
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Active data:

b 模			g 模			gn 模		
信道	TRP	TIS	信道	TRP	TIS	信道	TRP	TIS
1	16.02	-78.26	1	14.42	-72.3	1	13.05	-69.33
6	16.42	-78.49	6	13.11	-73.37	6	12.2	-69.26
11	15.42	-78.33	11	12.59	-73.25	11	13.23	-69.49

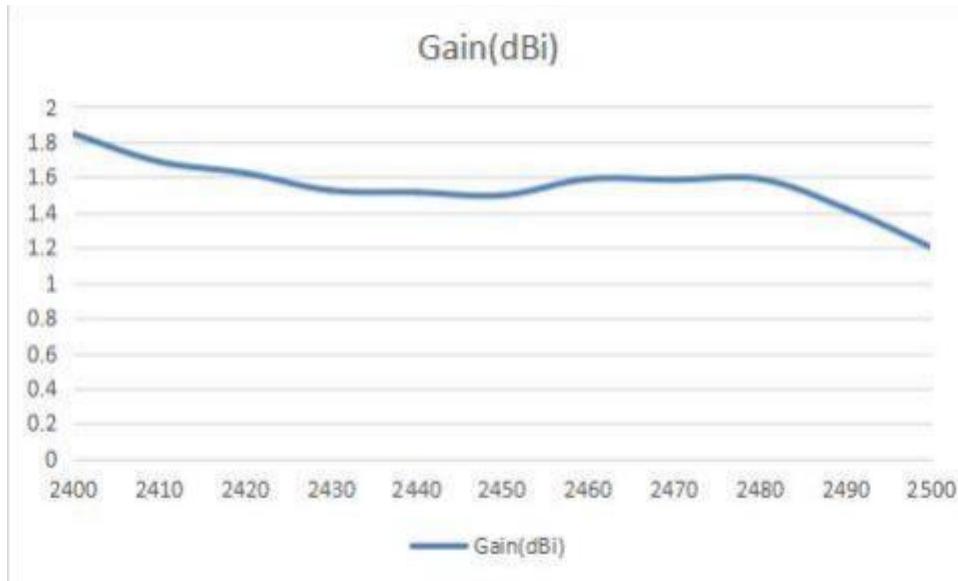


Efficiency line chart:



Frequency (MHz)	2400	2450	2500
Efficiency(%)	44.96	41.52	43.83

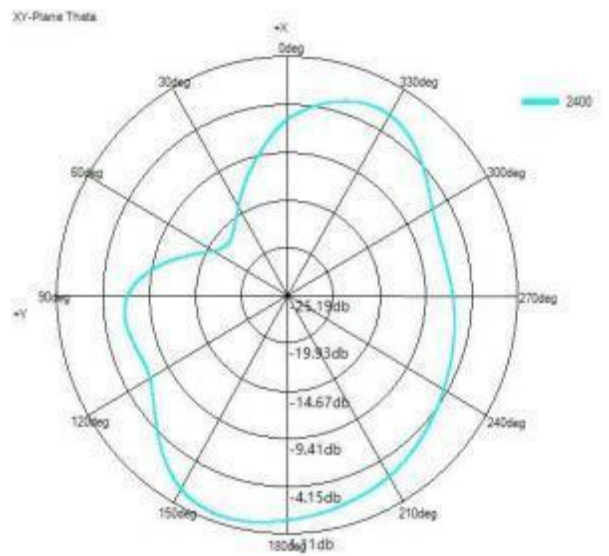
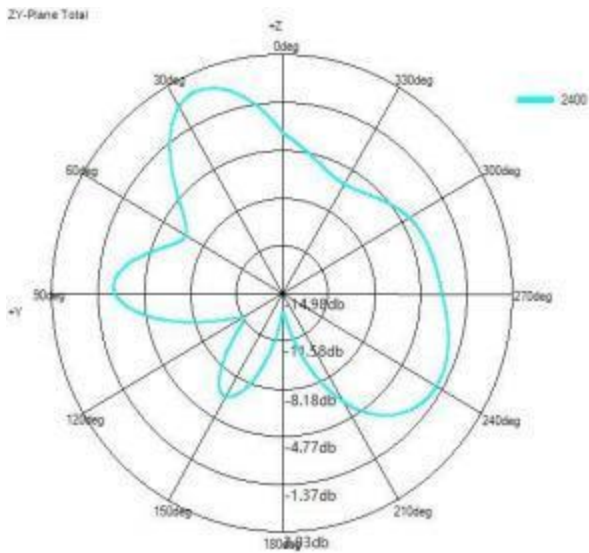
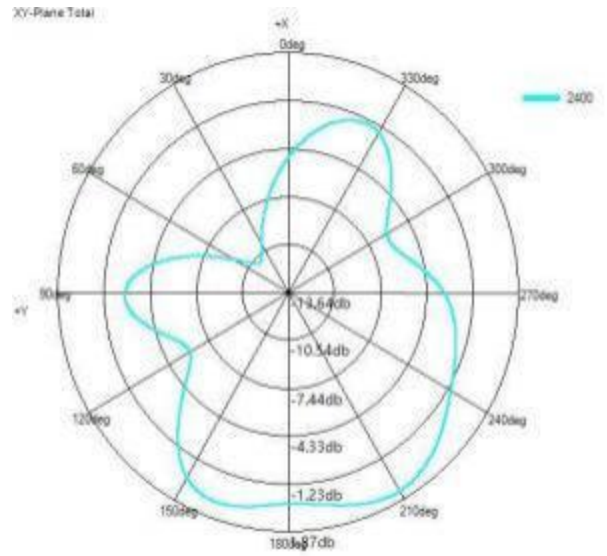
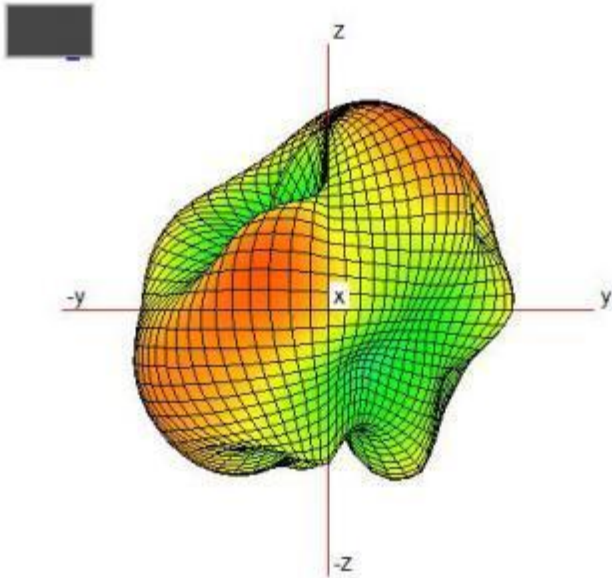
Gain line chart:



Frequency (MHz)	2400	2450	2500
Gain(dbi)	1.84	1.49	1.2

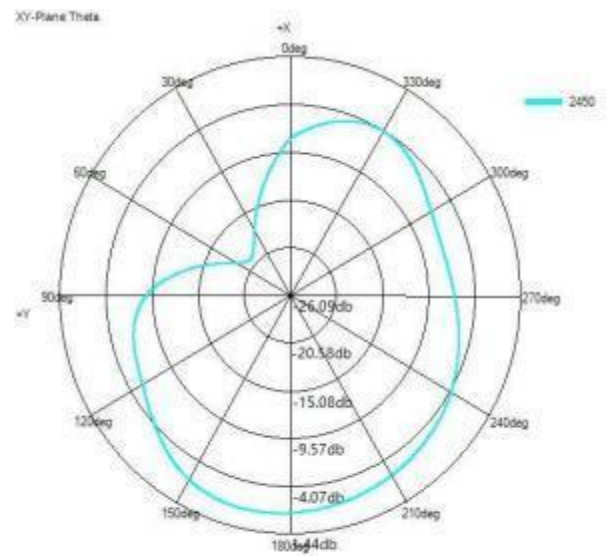
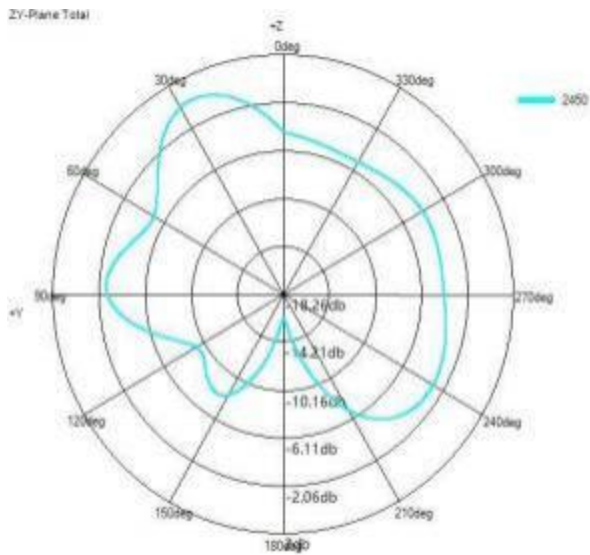
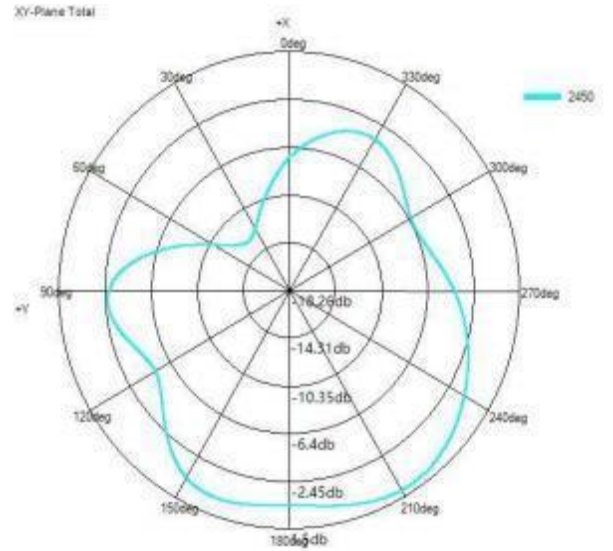
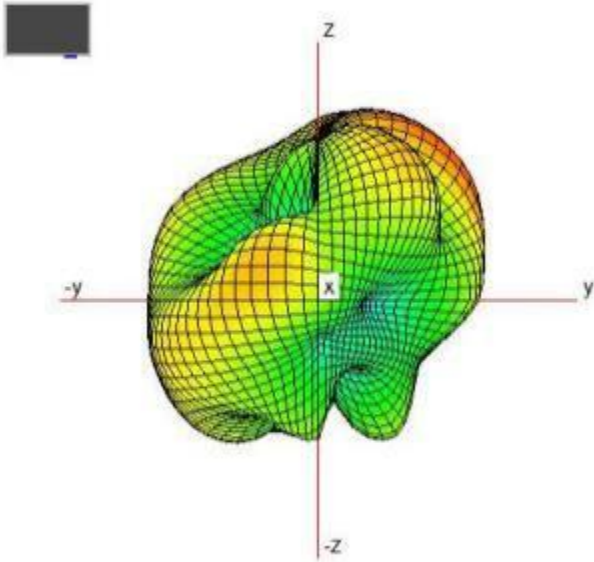
Field diagram:

2400MHZ



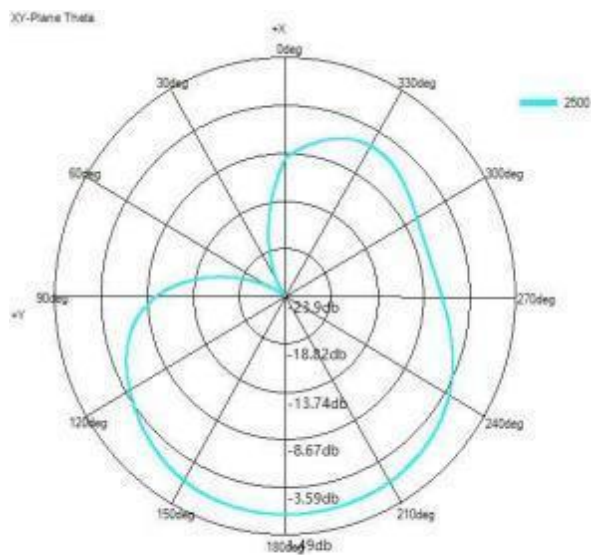
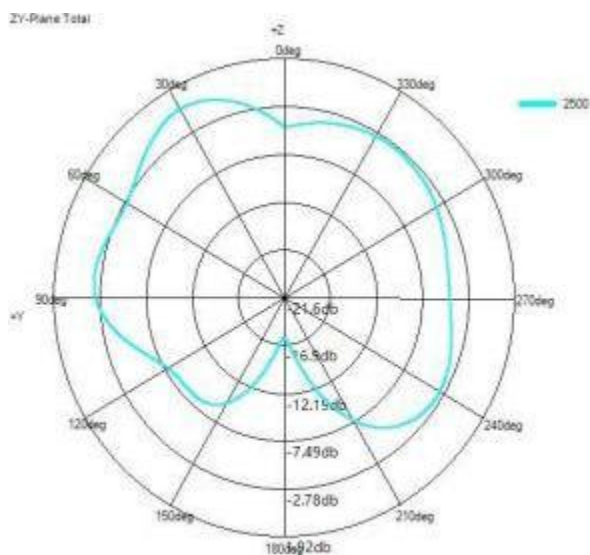
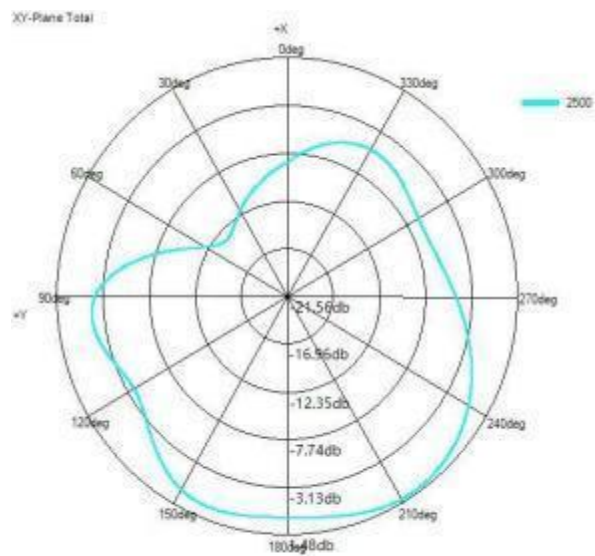
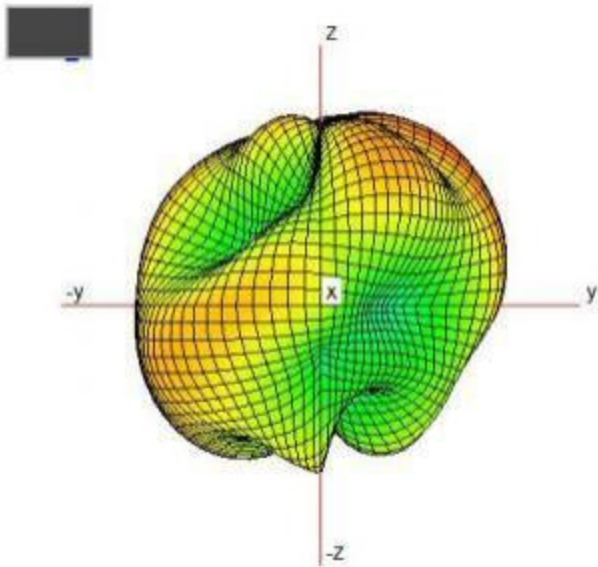
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2450MHZ



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2500MHZ



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五、 Reliability test report

5.1. Salt spray test report

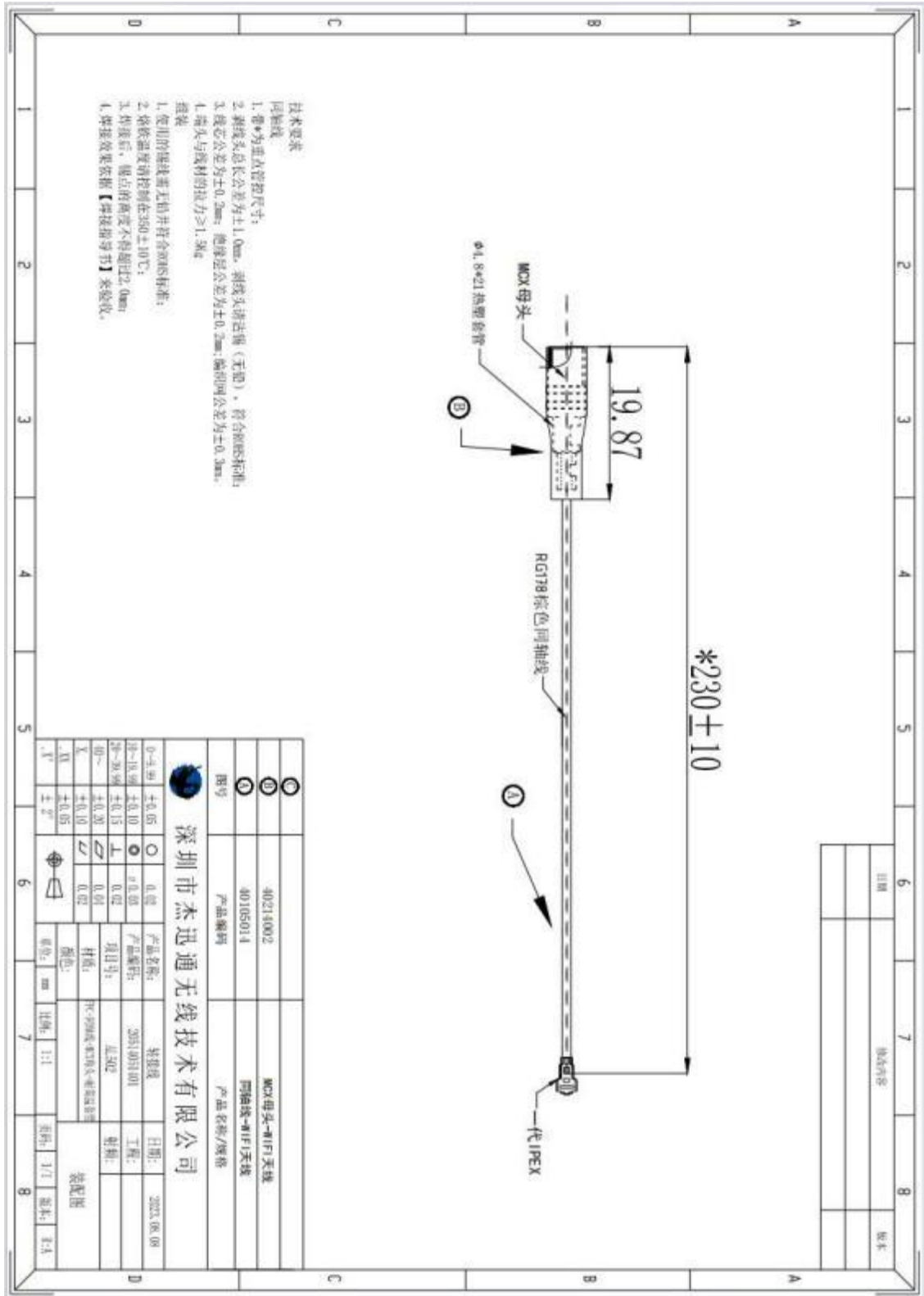
Customers	Ling Du	Part Name	AL502	Completion date	2023-8-6
Testing items	Testing requirements			Actual measurement results	evaluate
Neutral salt spray experiment	<p>Test process: conduct neutral salt spray test on the hardware on the antenna. In a closed environment of $35\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$, the humidity is more than 85%, and the PH value is within the range of 6.5-7.2. After using $5\% \pm 1\%$ Nacl solution and continuous 24h saline spray, the product surface should be free of rust, discoloration, and coating peeling.</p>			<p>After the experiment, the surface of the product has no rust, no discoloration, and no peeling of the coating.</p>	qualified
Experiment: Wang Ming			Approved by: Wang Ming		



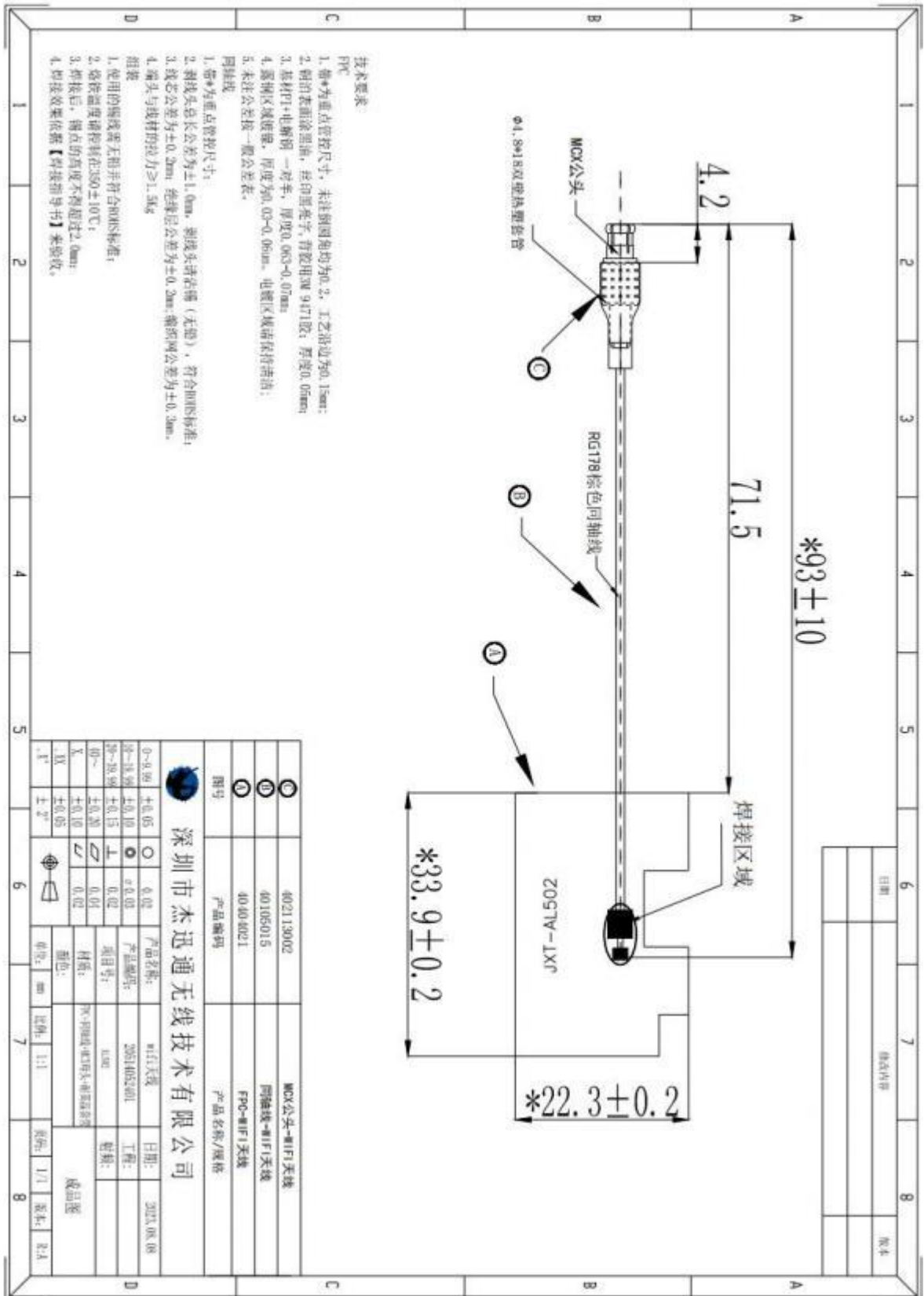
Antenna testing instrument

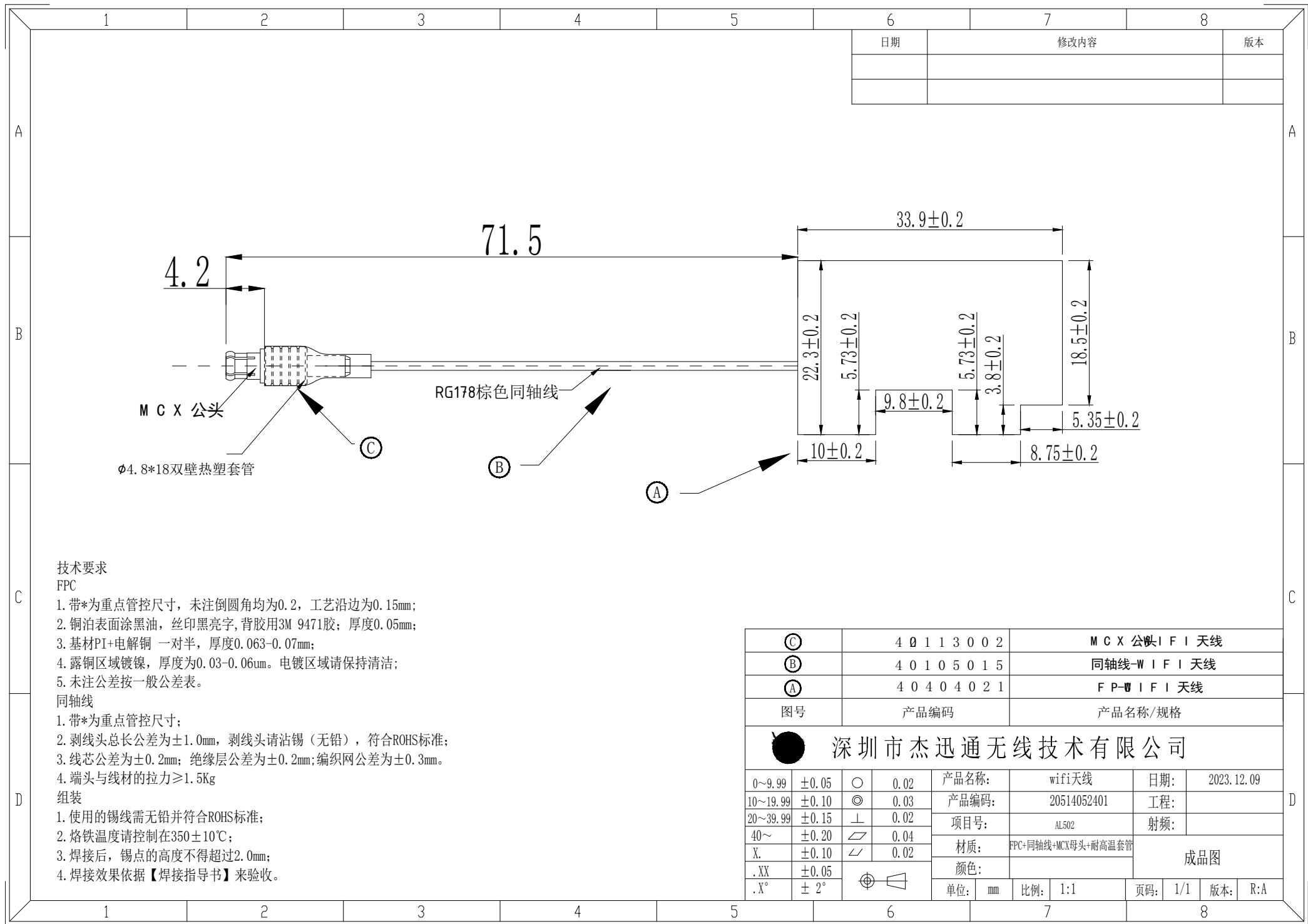


六. Engineering drawings



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日期	修改内容	版本

技术要求

- FPC
- 带*为重点管控尺寸, 未注倒圆角均为0.2, 工艺沿边为0.15mm;
 - 铜泊表面涂黑油, 丝印黑亮字, 背胶用3M 9471胶; 厚度0.05mm;
 - 基材PI+电解铜 一对半, 厚度0.063-0.07mm;
 - 露铜区域镀镍, 厚度为0.03-0.06um. 电镀区域请保持清洁;
 - 未注公差按一般公差表.

同轴线

- 带*为重点管控尺寸;
- 剥线头总长公差为±1.0mm, 剥线头请沾锡(无铅), 符合ROHS标准;
- 线芯公差为±0.2mm; 绝缘层公差为±0.2mm; 编织网公差为±0.3mm.
- 端头与线材的拉力≥1.5Kg

组装

- 使用的锡线需无铅并符合ROHS标准;
- 烙铁温度请控制在350±10℃;
- 焊接后, 锡点的高度不得超过2.0mm;
- 焊接效果依据【焊接指导书】来验收.

Ⓒ	4 0 1 1 3 0 0 2	M C X 公头 I F I 天线
Ⓑ	4 0 1 0 5 0 1 5	同轴线-W I F I 天线
Ⓐ	4 0 4 0 4 0 2 1	F P C-W I F I 天线
图号	产品编码	产品名称/规格



深圳市杰讯通无线技术有限公司

0~9.99	±0.05	○	0.02	产品名称:	wifi天线	日期:	2023.12.09
10~19.99	±0.10	◎	0.03	产品编码:	20514052401	工程:	
20~39.99	±0.15	⊥	0.02	项目号:	AL502	射频:	
40~	±0.20	∕	0.04	材质:	FPC+同轴线+MCX母头+耐高温套管	成品图	
X.	±0.10	∕	0.02	颜色:			
.XX	±0.05			单位:	mm	比例:	1:1
.X°	± 2°			页码:	1/1	版本:	R:A