# Shenzhen Lxc Electronics Technology Co ., Ltd

深圳市连兴创电子科技有限公司

# APPROVAL SHEET

# 承认书

客户（Customer）:_____

产品（Product）:_ 2.4G/5G Antenna(L=150MM)_

型号（Model）:_ Y4-4G/5.G

料号（Part Number）:_ YN-PM0300471 _

制作人（Written By）:_ 唐红交_

签发时间（Issued Date）:_2024-07-18_

客户 CUSTOMER

| | |
|---|---|
| **频率范围(Frequency range)** | WIFI:2400-2500 5150-5850（MHz） |
| **驻波比系数(VSWR)** | <2.0 |
| **输入阻抗(Input Impedance)** | 50（Ω） |
| **极化方式(Polarization)** | 垂直极化 Vertical Polarization |
| **半功率波束（3dB）HPW** | 180° H-plane 120° E-plane |
| **天线类型(Antenna type)** | FPC Antenna（Built-in 内置天线 antenna） |
| **天线增益峰值(Antenna** gain MAX (dBi) | 3dBi+/-1 |
| **天线供应商（Antenna supplier）** | Shenzhen Lxc Electronics Technology Co ., Ltd |
| **天线型号（Antenna Model）** | YN-PM0300471 |

| | | | |
|---|---|---|---|
| **RF by** | | **Checked by** | |
| **ME by** | | **Date** | |
| **Customer Confirm** | | | |

| | | | |
|---|---|---|---|
| 8Project: | | Author:Wang | File Name: |
| Date: 2024-07-18 | | | **YN-PM0300471 天线** |
| TEST: | Language: | Check: Zhong | |
| A | English | | |

Address: 4th Floor, Building C, Jinruihua Industrial Park, No. 12 Huafang Road, Dalang Street, Longhua District, Shenzhen, China
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**Revision History**

| Date | Revision | Description of Changes |
|---|---|---|
| 2024-07-18 | RA | Measured with SUS301 sample. |


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# 1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the program. We test the antenna with the latest version handset. And it seems to be acceptable.

# 2 General Description

## 2.1 Components/Part revisions

VSWR: Voltage Standing Wave Rate.

# 3 Mechanical Description

# 4 Electrical Performance

## 4.1 Set-up

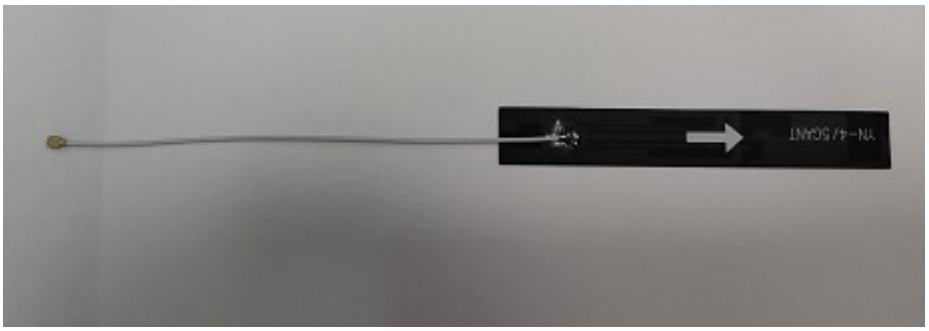
### 4.1.1 VSWR

VSWR measurements (S11) were performed using an Agilent 8753D Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

### 4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the Lxc's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than –30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quite zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

### 4.1.3 Matching Circuit Description



## 整机有源测试数据

| WiFi(5G/A) | CH | 功率(54M) | 灵敏度(54M) | WiFi(2.4G/G) | CH | 功率(54M) | 灵敏度(54M) |
|---|---|---|---|---|---|---|---|
| | 36 | 15.34 | -75.64 | | 1 | 14.35 | -71.28 |
| | 149 | 15.46 | -75.52 | | 6 | 14.28 | -71.45 |
| | 165 | 16.15 | -74.61 | | 11 | 14.68 | -70.82 |
| WiFi(2.4G/B) | CH | 功率(11M) | 灵敏度(11M) | WiFi(2.4G/N) | CH | 功率(MCS7) | 灵敏度(MCS7) |
| | 1 | 14.41 | -80.47 | | 1 | 13.12 | -68.72 |
| | 6 | 14.49 | -81.20 | | 6 | 13.32 | -68.46 |
| | 11 | 14.70 | -80.05 | | 11 | 13.18 | -68.84 |

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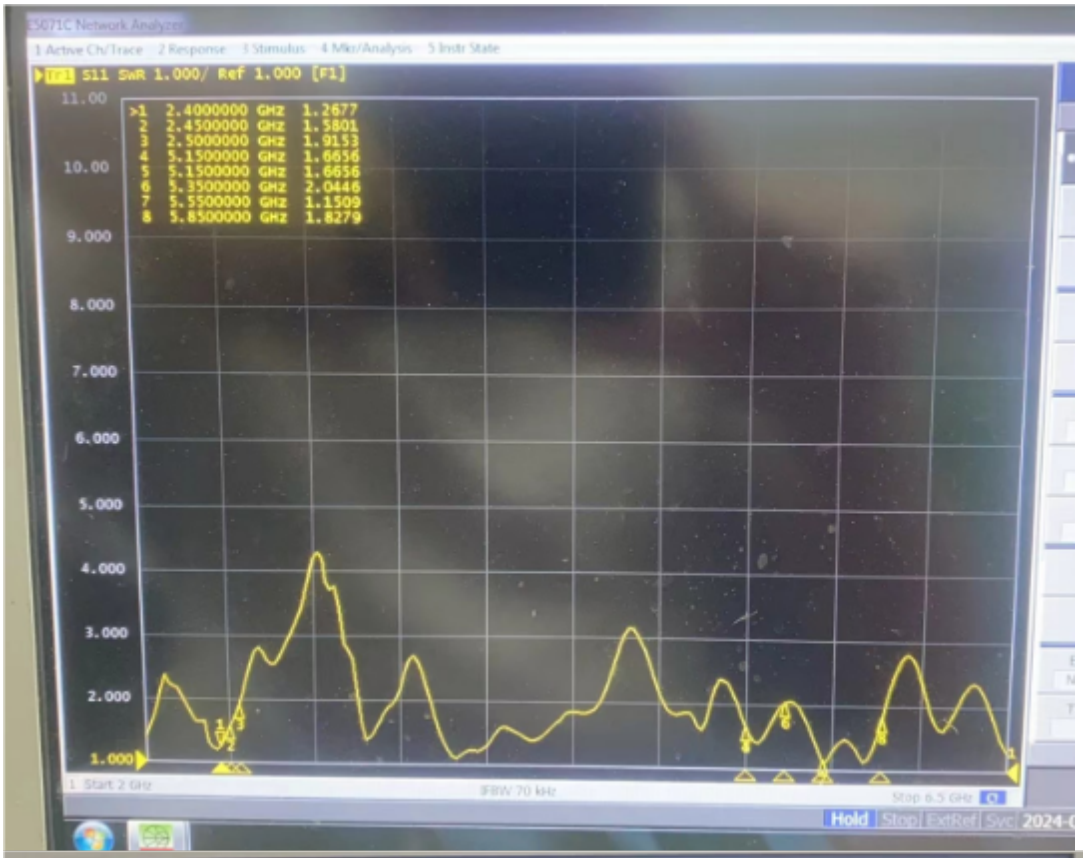
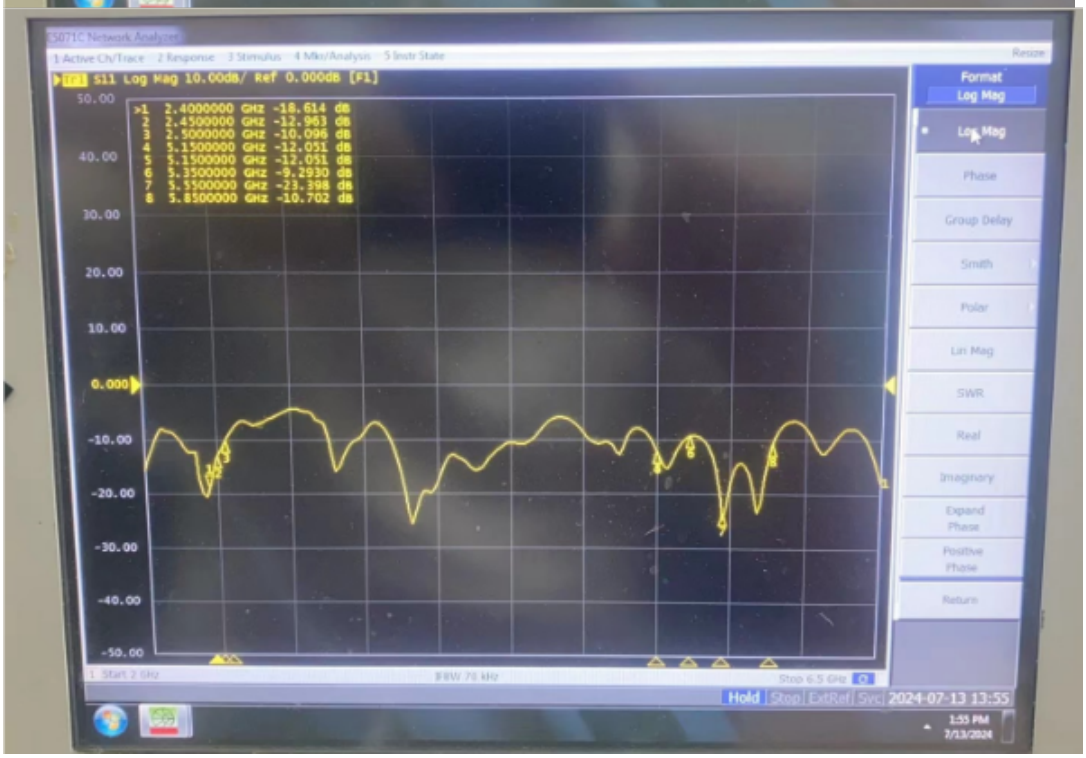
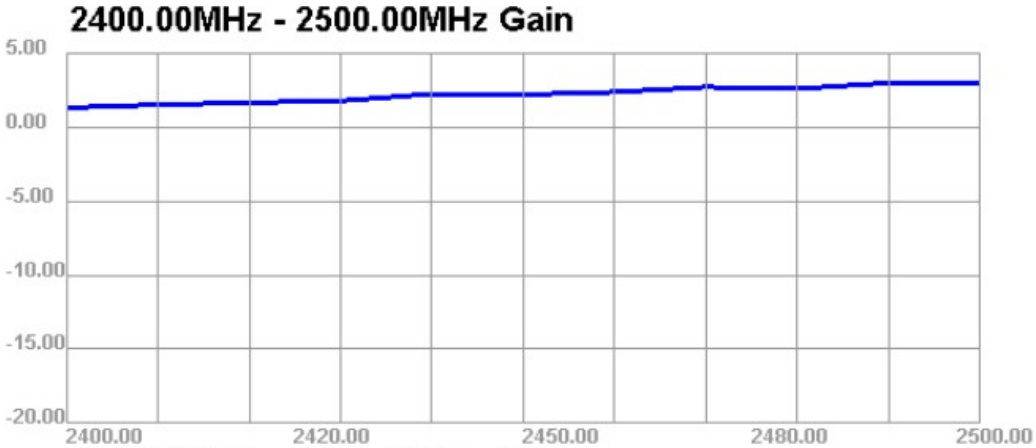
## 4.2 Measurement Data

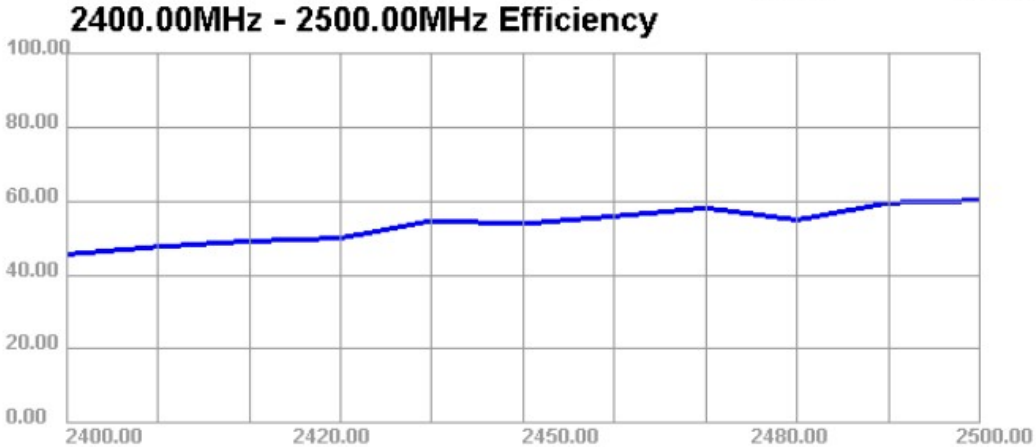
### 4.2.1 Active result（2.4G/5.8G/WIFI）



| Freq | Effi | Gain |
|---|---|---|
| (MHz) | (%) | (dBi) |
| 2400 | 45. 61 | 1. 31 |
| 2410 | 47. 68 | 1. 52 |
| 2420 | 49. 18 | 1. 66 |
| 2430 | 50. 03 | 1. 78 |
| 2440 | 54. 67 | 2. 24 |
| 2450 | 53. 89 | 2. 2 |
| 2460 | 55. 92 | 2. 37 |
| 2470 | 58. 14 | 2. 71 |
| 2480 | 54. 93 | 2. 59 |
| 2490 | 59. 53 | 2. 99 |
| 2500 | 60. 2 | 2. 94 |

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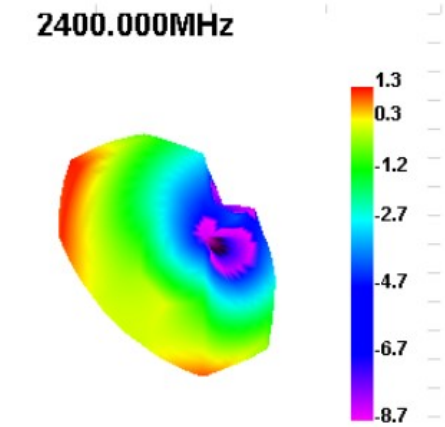


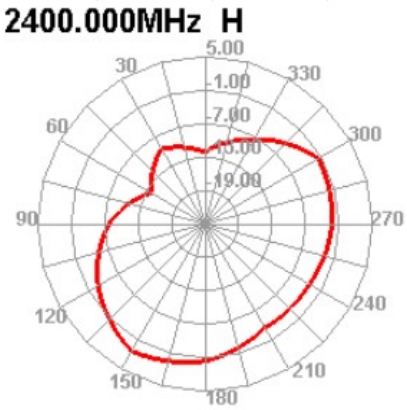


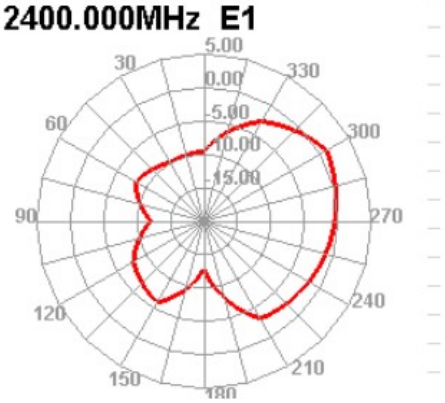


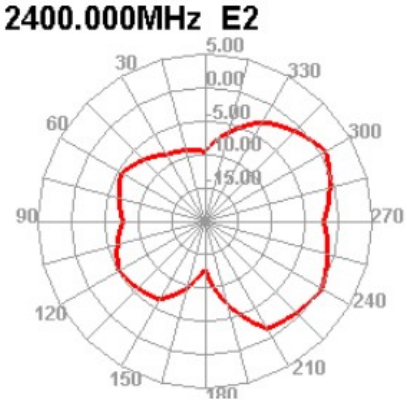


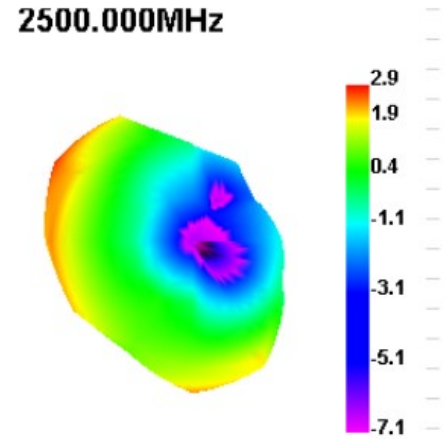


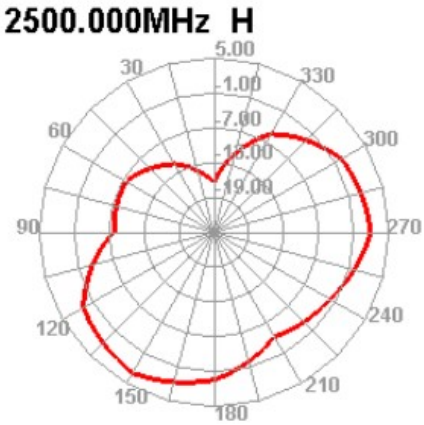


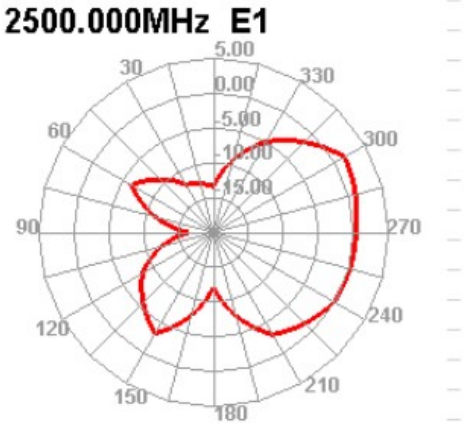


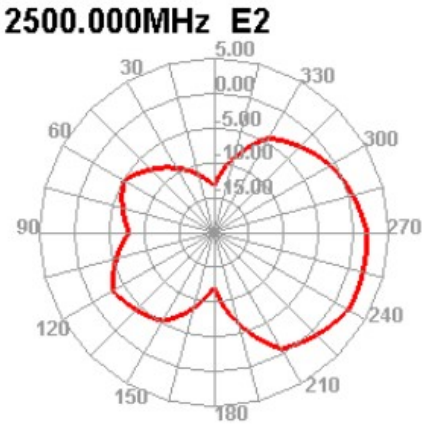


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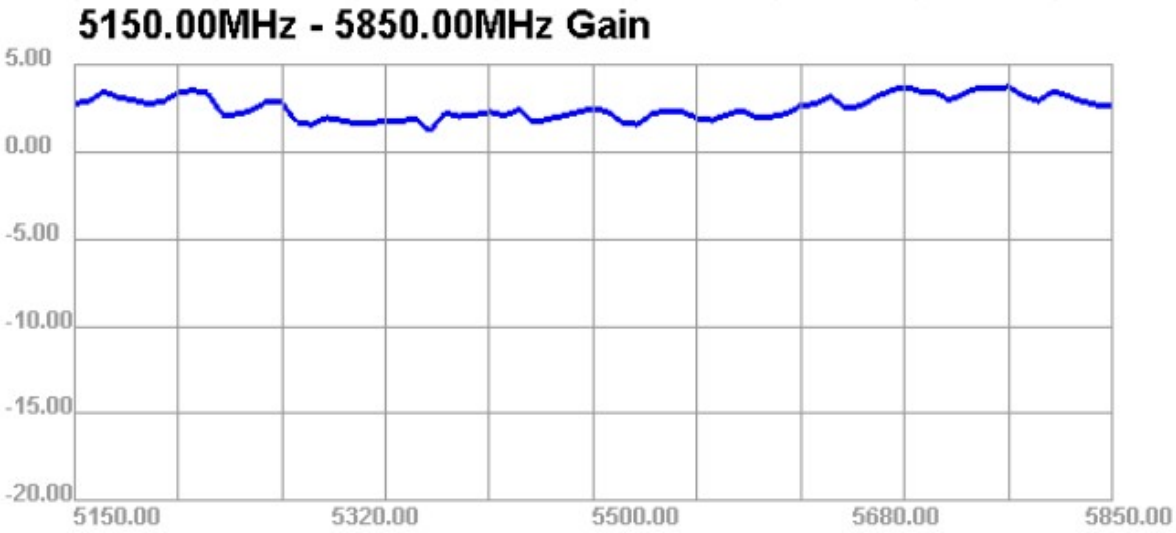
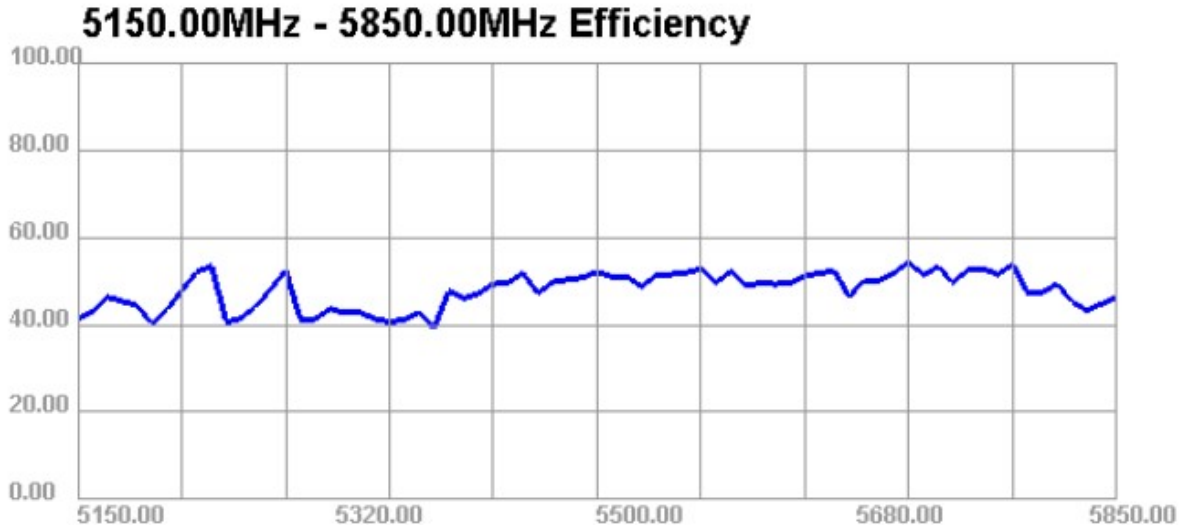
| Freq (MHz) | Effi (%) | Gain (dBi) |
|---|---|---|
| 5150 | 41.23 | 2.77 |
| 5350 | 41.38 | 1.67 |
| 5550 | 51.6 | 2.33 |
| 5650 | 51.85 | 2.74 |
| 5850 | 46.32 | 2.69 |

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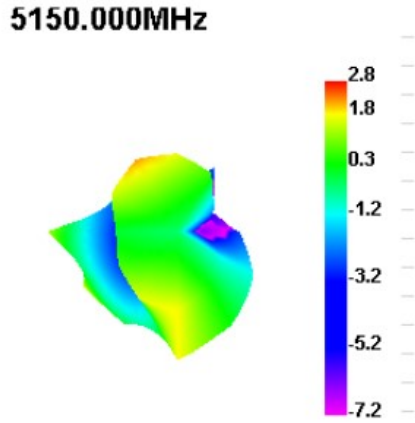


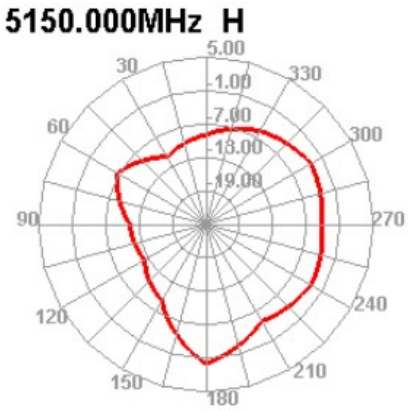


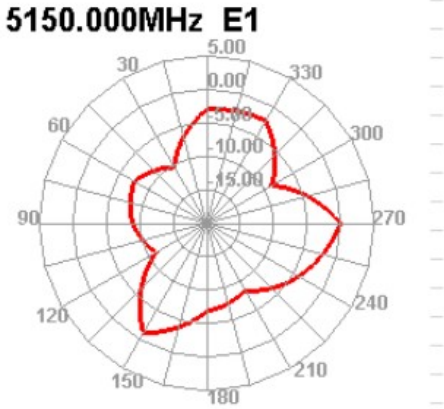


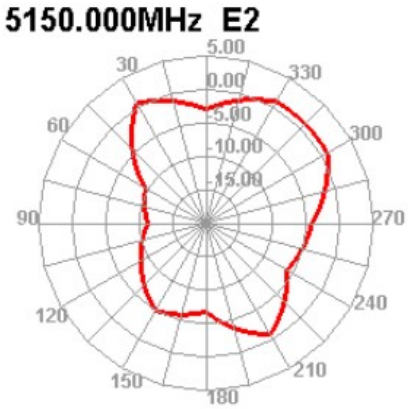


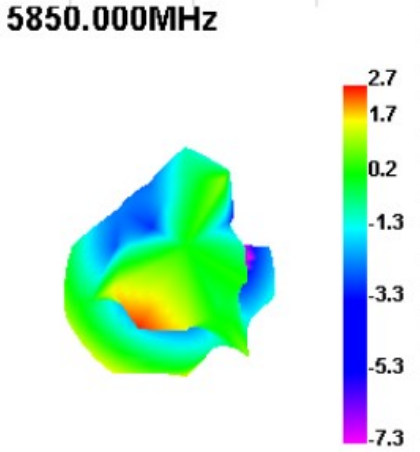


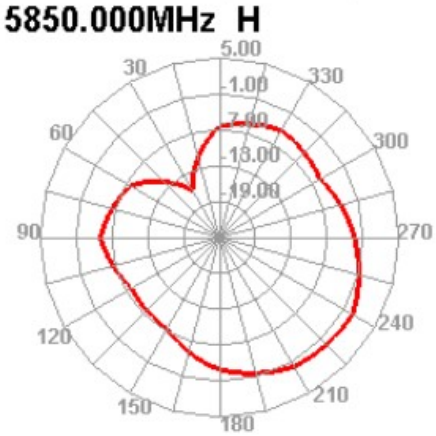


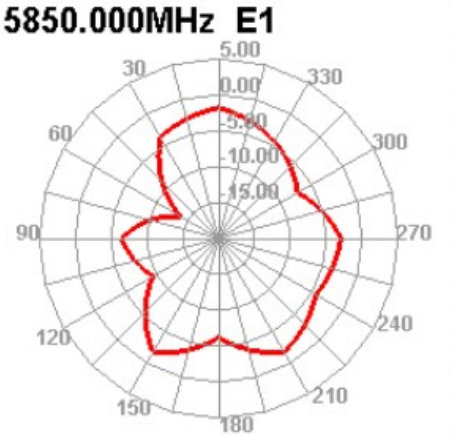


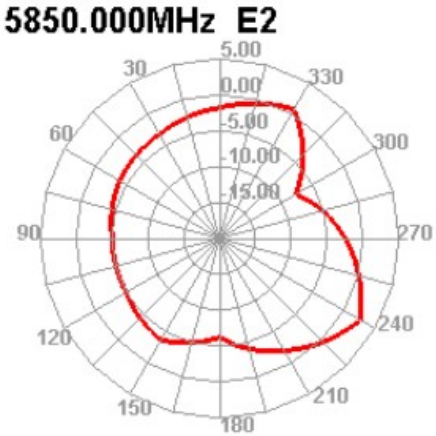


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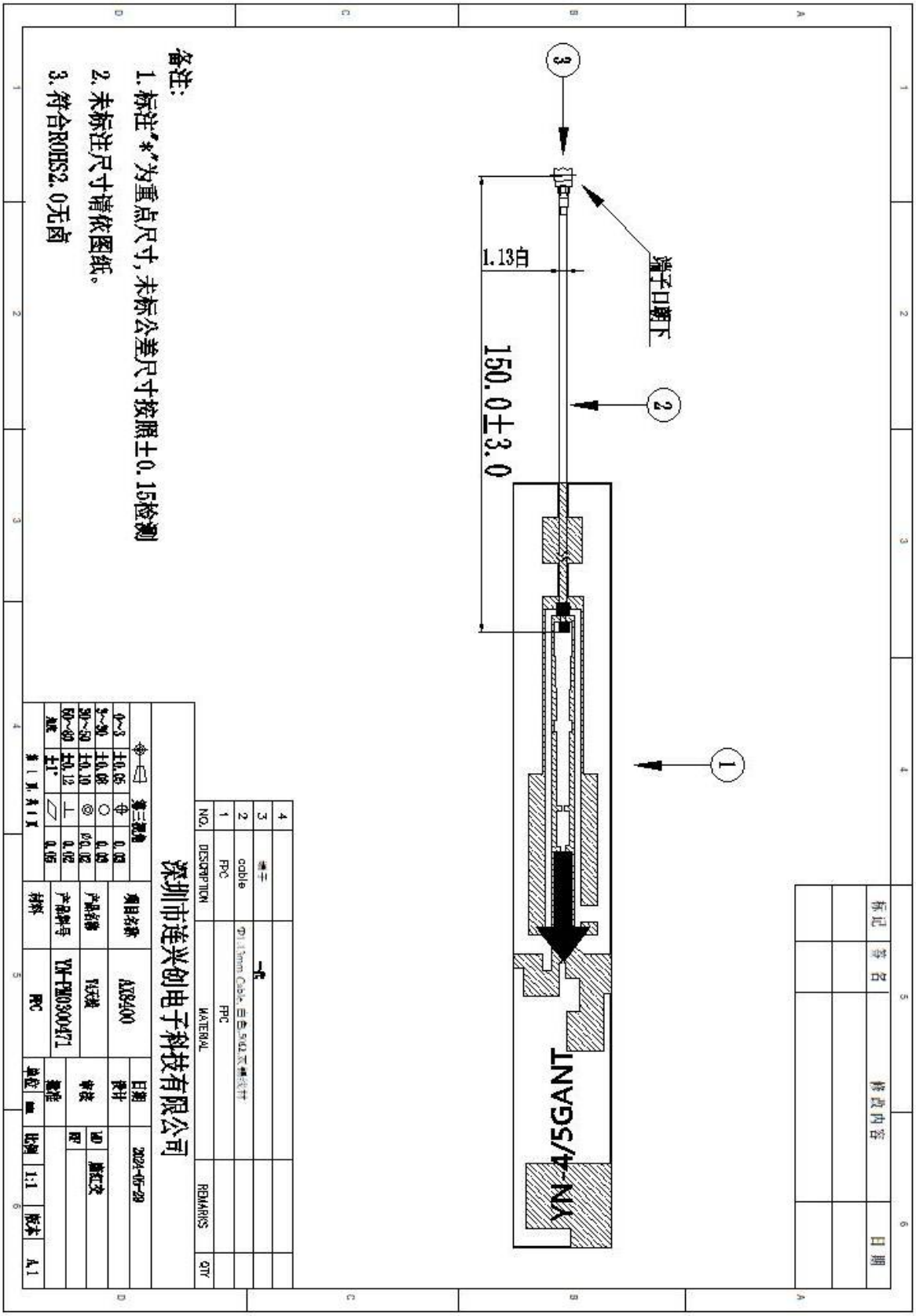
# 6 Mechanical drawing

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# 7 Reliability tests

## 7.1 Test content

| No | 试验项目 | 试验方法 | 判定基准 |
|---|---|---|---|
| 1 | 盐水喷雾试验 | 把盐浓度 5%的溶液喷雾 48HR | 不能有变色，歪（变形）脱落等的缺点 腐蚀面积不能过大 |
| | | | |
| | | | |

## 7.2 Test results

| NO | 样品数 | 试验期间 | 实验结果 | 备注 |
|---|---|---|---|---|
| 1 | 50 | 24 小时 | **OK** | 技术等级为 9 级 腐蚀<0.4mm |
| 2 | 50 | 48 小时 | **OK** | 技术等级为 9 级 腐蚀<0.4mm |

**8**Conclusion

From the above test results, we can know the electrical performance of the antenna is seems good.

Shenzhen Lxc Electronics Technology Co ., Ltd ,look forward to your confirmation, thank you for your cooperation！