



# Tengxiang Technology.Inc

东莞市腾祥电子有限公司

Product Number:AN2450-02C01BX-W

Product Name: Antenna

## Specification For Approval

Date: 2024.8.16

Version: 1.0

客户名称

Customer:

九安

客户料号

Customer P/N:

腾祥料号

T X P/N:

AN2450-02C01BX-W

规格描述

Description :

2.4G/5G 白色天线 1.13mm 黑色线 L=240mm+IPEX

|                               |     |                               |  |
|-------------------------------|-----|-------------------------------|--|
| Tengxiang Checked By:<br>腾祥审核 |     | Customer Approved By:<br>客户审核 |  |
| DRAWN<br>制作                   | 路婷  | TESTED BY<br>检测               |  |
| CHECKED BY<br>审核              | 胡超  | CHECKED BY<br>审核              |  |
| Q.C.DEPT.<br>品管               | 祁志鹏 | Q.C.DEPT.<br>品管               |  |
| APPROVED BY<br>核准             | 韦佳  | APPROVEDBY<br>核准              |  |



NO.53 Shatou ShaChong Road, ChangAn Town, Guangdong province, China

中国广东省东莞市长安镇沙头区沙涌路 53 号

TEL:86-769-81873082 FAX:86-769-82663788

<http://www.tenxiang.cn>



# Tengxiang Technology.Inc

东莞市腾祥电子有限公司

Product Number: AN2450-02C01BX-W

Product Name: Antenna

## Index:

1. Specification (规格)
2. Characteristics and Reliability Test (产品特性和可靠性测试标准)
3. Antenna - S Parameter Test Data (样品测试数据)
4. Antenna - Radiation Pattern Test Data (辐射模式测试数据)
5. Mechanical and Packing Drawing (图纸包装规范)

## Revision History (变更履历)

| Revision | Date      | Change Notification | Description |
|----------|-----------|---------------------|-------------|
| 1.0      | 2024.8.16 | 初版                  |             |
|          |           |                     |             |
|          |           |                     |             |
|          |           |                     |             |
|          |           |                     |             |
|          |           |                     |             |

Product Number:AN2450-02C01BX-W

Product Name: Antenna

## 1. Specification

|                                                                                    |                            |
|------------------------------------------------------------------------------------|----------------------------|
| <b>Sample Photo</b>                                                                |                            |
|  |                            |
| <b>A. Electrical Characteristics</b>                                               |                            |
| Frequency 频率                                                                       | 2400 -2500MHz/5150-5850MHz |
| S.W.R. 驻波比                                                                         | $\leq 2.0$ / $\leq 2.5$    |
| Antenna Gain 增益                                                                    | 2.17dBi / 2.19dBi          |
| Polarization 极化方式                                                                  | Linear                     |
| Impedance 阻抗                                                                       | 50 Ohm                     |
| <b>B. Material &amp; Mechanical Characteristics</b>                                |                            |
| Material of Plastic 塑胶材质                                                           | TPE/ABS/PC+PBT/POM         |
| Cable Type 线材规格                                                                    | OD1.13mm ,Black            |
| Connector Type 连接器规格                                                               | I-PEX                      |
| <b>C. Environmental</b>                                                            |                            |
| Storage Temperature<br>存储温度                                                        | - 30 °C ~ + 65 °C          |
| Operation Temperature<br>工作温度                                                      | - 30 °C ~ + 65 °C          |
| Antenna Color Storage life<br>天线颜色存储寿命                                             | < 2 year                   |

Product Number: AN2450-02C01BX-W

Product Name: Antenna

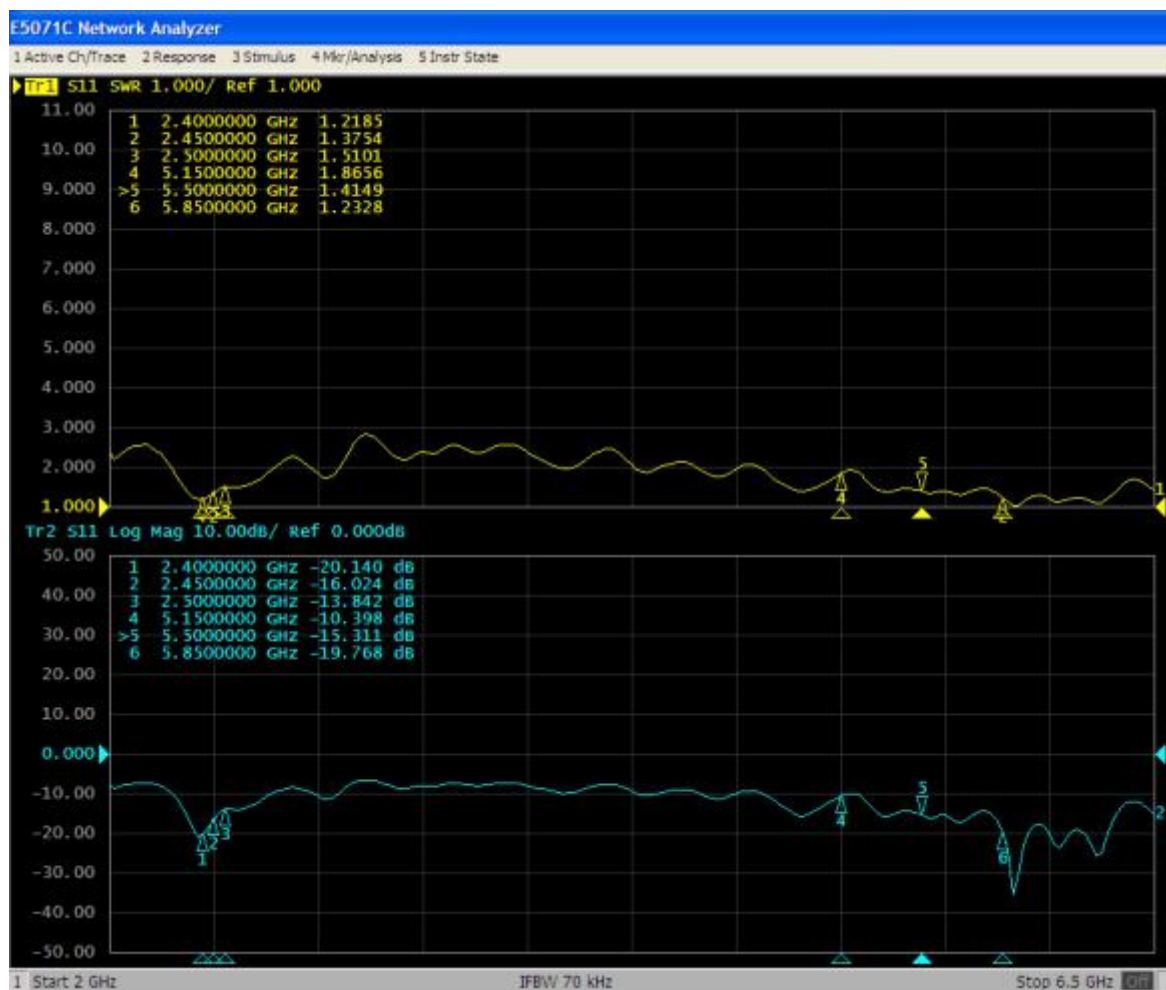
## 2. Characteristics and Reliability Test

| Test Items 测试项目 |                                          | Test Condition and Procedure 测试方法                                                                                                                | Requirements 要求                                                                                                    | Result 结果 |
|-----------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------|
| 1               | V.S.W.R.<br>电压驻波比                        | Set DUT on Network Analyzer; make individual calibration to test 设置网络分析仪参数进行测试                                                                   | Directive DUT specification<br>符合待测物规范                                                                             | PASS      |
| 2               | Antenna Gain<br>天线增益                     | Set DUT on Antenna Chamber; make individual calibration to test 设置天线暗室参数进行测试                                                                     | Directive DUT specification<br>符合待测物规范                                                                             | PASS      |
| 3               | Pull Test<br>拉力                          | Holding with individual specification; force applied to axis of terminal 单独定义产品端子拉力                                                              | 1. Directive DUT specification<br>2. Frequency Tol. $\leq 5\%$<br>符合待测物规范; 频率偏移 $\leq 5\%$                         | PASS      |
| 4               | Dimension<br>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<br>符合待测物规范                                                                             | PASS      |
| 5               | Salt Spray 盐雾                            | GB / T 2423.17-2008<br>Temp: 35°C; RH: $\geq 95\%$ ; NaCl solution: $\geq 5\%$ ; Time: 24H<br>温度 35°C; 湿度 $\geq 95\%$ ; 盐水浓度 $\geq 5\%$ ; 测试 24H | 1. No Visual Damage<br>2. Frequency Tol. $\leq 5\%$<br>无明显外观不良; 频率偏移 $\leq 5\%$                                    | PASS      |
| 6               | Temperature and Humidity Chamber<br>恒温恒湿 | GB / T 2423.3-2006<br>Temp: 65°C / 12 H; -30°C / 12H RH: $\geq 90\%$ ; Time: 24H<br>温度 65°C 测试 12H 转 -30°C 测试 12H; 湿度 $\geq 90\%$ ; 时间 24H       | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol. $\leq 5\%$<br>恢复 2H 后, 无明显外观不良; 频率偏移 $\leq 5\%$ | PASS      |
| 7               | Aging test<br>老化                         | GB / T 2423.2 - 2008<br>Temp: 65°C; Time: 24 hours<br>温度 65°C, 测试 24H                                                                            | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol. $\leq 5\%$<br>无明显外观不良; 频率偏移 $\leq 5\%$          | PASS      |
| 8               | RoHS                                     | With Reference to IEC 62321:2008 with flow chart<br>参考 IEC 62321 测试流程                                                                            | Directive RoHS 2011/65/EU<br>符合 RoHS 2015/863/EU 标准                                                                | PASS      |

Product Number: AN2450-02C01BX-W

Product Name: Antenna

## 3. Antenna - S Parameter Test Data



Product Number:AN2450-02C01BX-W

Product Name: Antenna

## 4. Antenna - Radiation Pattern Test Data

| Frequency ID    | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz) | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 | 5150.0 |
| Gain (dBi)      | 1.66   | 1.77   | 1.70   | 1.83   | 1.93   | 2.17   | 2.01   | 1.98   | 1.51   | 1.27   | 1.62   | 1.59   |
| Efficiency (%)  | 61.19  | 62.46  | 60.26  | 61.22  | 62.60  | 67.32  | 66.95  | 69.92  | 66.73  | 65.37  | 61.85  | 52.14  |

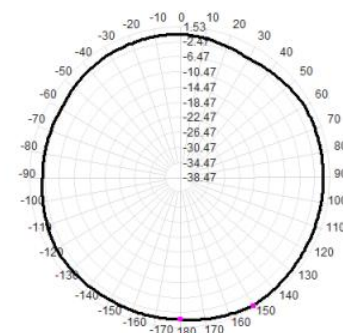
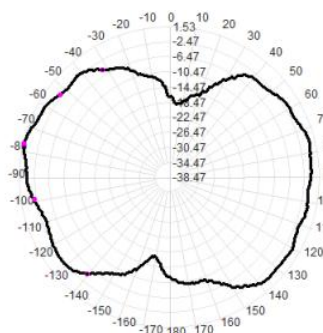
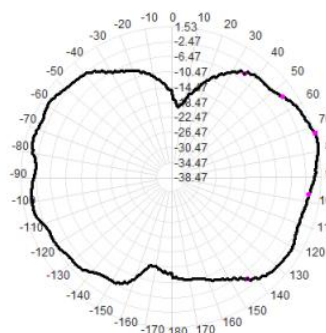
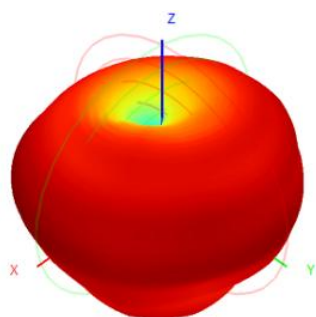
| 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25     | 26     |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5150.0 | 5200.0 | 5250.0 | 5300.0 | 5350.0 | 5400.0 | 5450.0 | 5500.0 | 5550.0 | 5600.0 | 5650.0 | 5700.0 | 5750.0 | 5800.0 | 5850.0 |
| 1.59   | 1.72   | 1.59   | 1.66   | 1.59   | 1.55   | 2.15   | 1.43   | 1.75   | 1.67   | 2.09   | 1.70   | 2.03   | 2.19   | 1.68   |
| 52.14  | 53.27  | 53.98  | 54.25  | 53.38  | 54.66  | 52.31  | 53.18  | 56.87  | 53.96  | 51.24  | 50.92  | 51.12  | 50.08  | 52.51  |

XZ

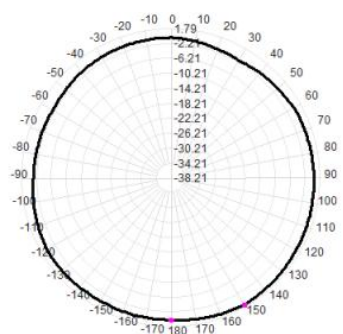
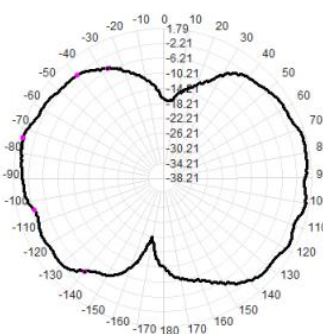
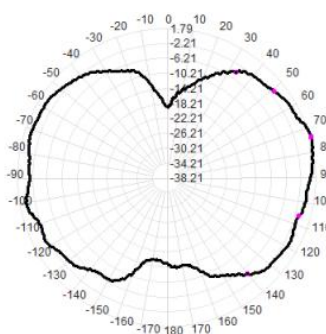
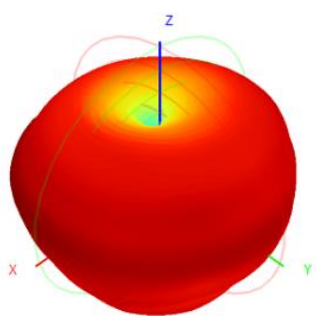
YZ

XY

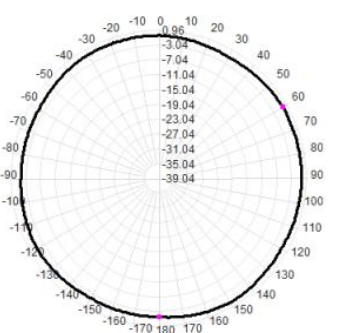
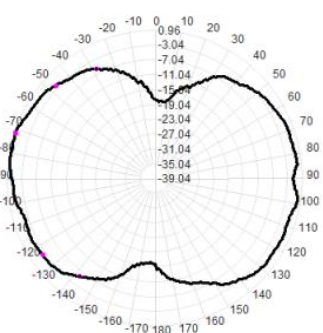
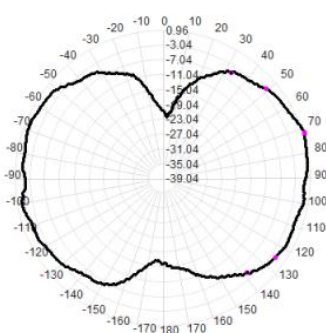
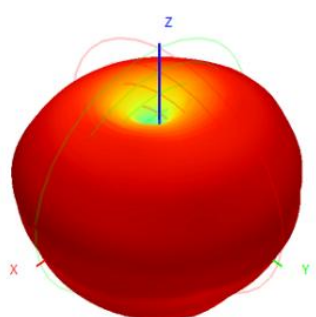
2400MHz



2450MHz



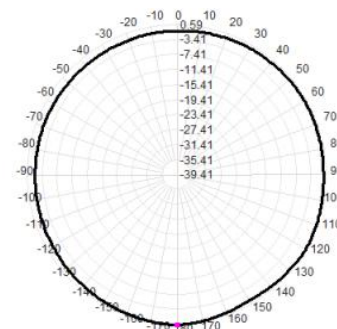
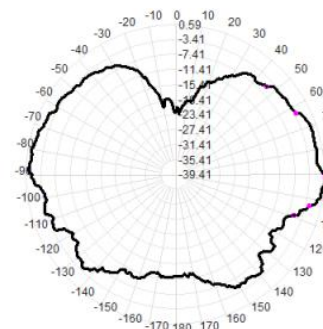
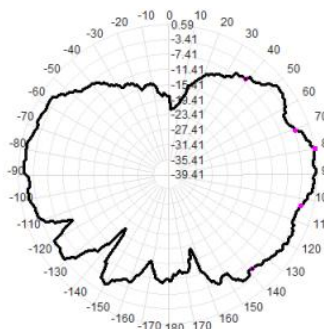
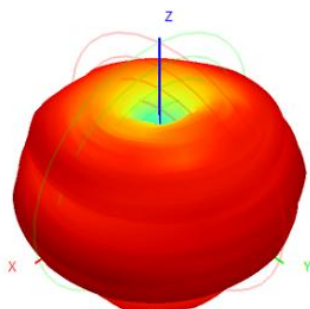
2500MHz



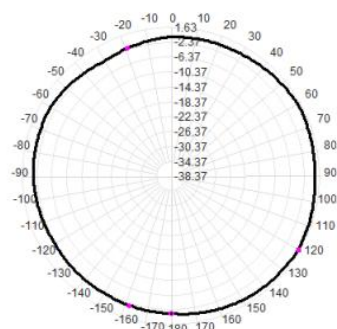
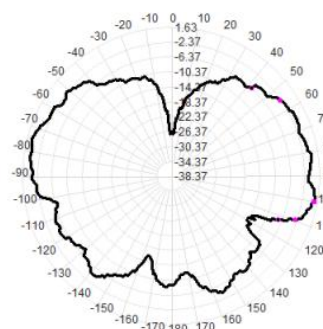
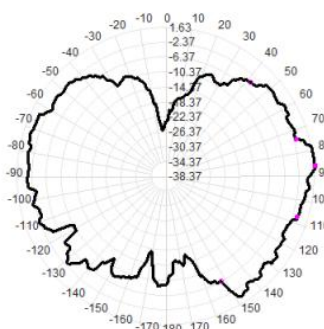
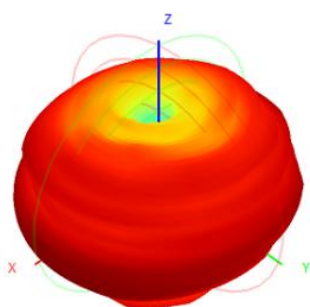
Product Number:AN2450-02C01BX-W

Product Name: Antenna

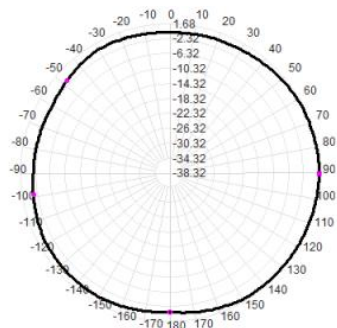
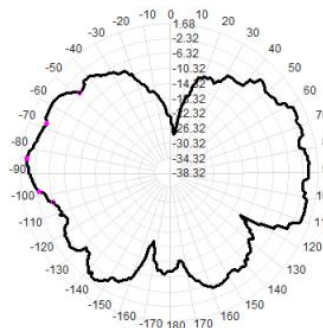
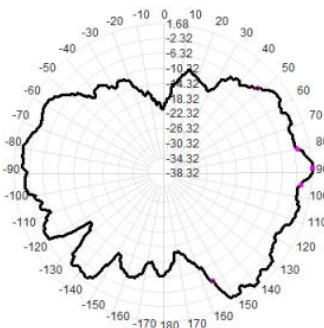
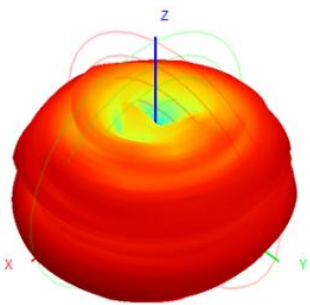
5150MHz



5550MHz



5850MHz



5. Mechanical Drawing See attached files

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |             |          |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|------|-------------|-------------|----------|------------|---|---|----------|-------|--|---------------|---|---|----------------|-----|-----|-------|---|---|----------------|-------|--------|-------|---|---|----------------|-------|-----|-------|---|---|-----------------|-------|-----|-------|---|-----|-------------|------|----------|--------|------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2               | 3           | 4        | 5             | 6                                                                                                                                                                                                                              | 7 | 8 |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| <div>HF<input type="checkbox"/></div> <div>RoHS 2.0<input checked="" type="checkbox"/></div> <div>REACH<input type="checkbox"/></div> <div>CONFIDENTIAL</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |             |          |               | <table><tr><td>SIGN</td><td>DATE</td><td>DESCRIPTION</td><td>APPROVER</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table> |   |   | SIGN | DATE        | DESCRIPTION | APPROVER |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| SIGN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DATE            | DESCRIPTION | APPROVER |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |             |          |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |             |          |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |             |          |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| <div><p>Note:<br/>1. Dimension: Take * is the important dimension<br/>2. Tolerance: Unmarked tolerance refer to the standard tolerance please</p></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |          |               |                                                                                                                                                                                                                                |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| <table><tr><td>6</td><td>CR-113-ZP-A</td><td>I-PEX</td><td>Cu</td><td>Au Plating</td><td>1</td></tr><tr><td>5</td><td>CB-113BS</td><td>Cable</td><td></td><td>Ø1.13mm,BLACK</td><td>1</td></tr><tr><td>4</td><td>AN01-1215-PW-1</td><td>PIN</td><td>POM</td><td>White</td><td>2</td></tr><tr><td>3</td><td>AN0201-01WT198</td><td>Body3</td><td>PC+PBT</td><td>White</td><td>1</td></tr><tr><td>2</td><td>AN58-02WT198-C</td><td>Body2</td><td>ABS</td><td>White</td><td>1</td></tr><tr><td>1</td><td>ANT02-03WT198-1</td><td>Body1</td><td>TPE</td><td>White</td><td>1</td></tr><tr><td>No.</td><td>Part Number</td><td>Name</td><td>Material</td><td>Finish</td><td>Q'ty</td></tr></table> |                 |             |          |               |                                                                                                                                                                                                                                |   |   | 6    | CR-113-ZP-A | I-PEX       | Cu       | Au Plating | 1 | 5 | CB-113BS | Cable |  | Ø1.13mm,BLACK | 1 | 4 | AN01-1215-PW-1 | PIN | POM | White | 2 | 3 | AN0201-01WT198 | Body3 | PC+PBT | White | 1 | 2 | AN58-02WT198-C | Body2 | ABS | White | 1 | 1 | ANT02-03WT198-1 | Body1 | TPE | White | 1 | No. | Part Number | Name | Material | Finish | Q'ty |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CR-113-ZP-A     | I-PEX       | Cu       | Au Plating    | 1                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CB-113BS        | Cable       |          | Ø1.13mm,BLACK | 1                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | AN01-1215-PW-1  | PIN         | POM      | White         | 2                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | AN0201-01WT198  | Body3       | PC+PBT   | White         | 1                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | AN58-02WT198-C  | Body2       | ABS      | White         | 1                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ANT02-03WT198-1 | Body1       | TPE      | White         | 1                                                                                                                                                                                                                              |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Part Number     | Name        | Material | Finish        | Q'ty                                                                                                                                                                                                                           |   |   |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2               | 3           | 4        | 5             | 6                                                                                                                                                                                                                              | 7 | 8 |      |             |             |          |            |   |   |          |       |  |               |   |   |                |     |     |       |   |   |                |       |        |       |   |   |                |       |     |       |   |   |                 |       |     |       |   |     |             |      |          |        |      |

Tengxiang Electronics Co., Ltd.

|                            |            |            |            |
|----------------------------|------------|------------|------------|
| TITLE: 2.4GHz Antenna      |            |            |            |
| PART NO.: AN2450-02C01BX-W |            | DWG NAME:  |            |
| APP BY                     | CHK BY     | RF BY      | DES BY     |
| YCX                        | HC         | WJ         | DWF        |
| 2024.08.16                 | 2024.08.16 | 2024.08.16 | 2024.08.16 |
| UNITS: mm                  |            |            | Tolerance  |
| SCALE: 1/1                 |            |            | X.X ±0.5   |
| REVISION: A                |            |            | X.XX ±0.2  |
|                            |            |            | X° ±1      |

# 產品包裝規範

## PACKING CRITERION

Date: 2024.08.16

Page: 1 of 1

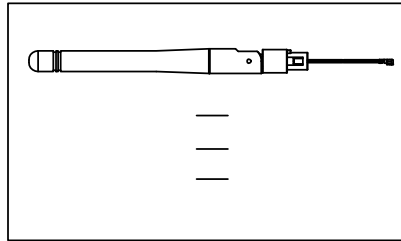
Part Number : AN2450-02C01BX-W

Revision : A

Name: Antenna

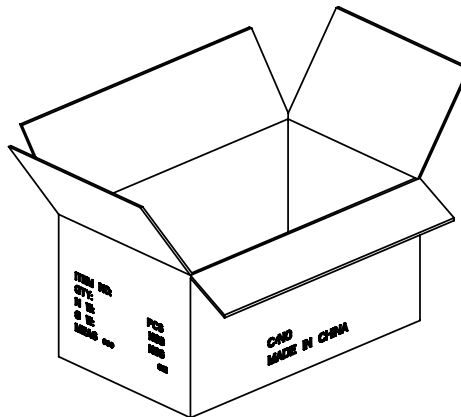
Customer : ALL

1 . Enter PE bag。



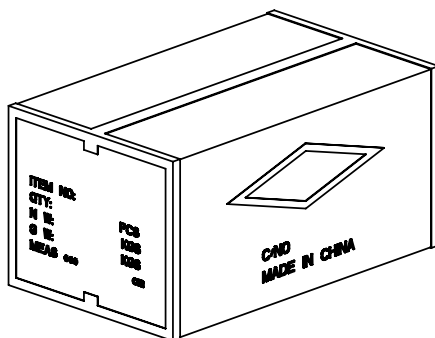
50pcs/ PE bag

2.PACKING 。

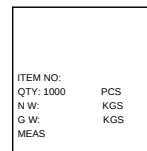


1000pcs/Carton

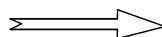
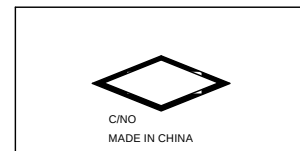
3. SEALING 。



SIDE



FRONT



APPROVED BY : YCX

CHECKED BY : HC

DESIGNED BY : DWF