



# Tengxiang Technology.Inc

Product Number: AN2450-15BC11SM-B

Product Name: Antenna

## Specification For Approval

Customer: \_\_\_\_\_

Customer P/N: \_\_\_\_\_

Tengxiang P/N: AN2450-15BC11SM-B

Description : 2.4/5G ANTENNA BLACK

| Tengxiang Checked By:                                                                                   | Customer Approved By: |
|---------------------------------------------------------------------------------------------------------|-----------------------|
| 工程: HC<br>射频: 韦佳<br> |                       |



# Tengxiang Technology.Inc

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

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

<http://www.tenxiang.cn>

Product Number: AN2450-15BC11SM-B

Product Name: Antenna

## 1. Specification

|                                                                                    |                           |
|------------------------------------------------------------------------------------|---------------------------|
| Sample Photo                                                                       |                           |
|  |                           |
| <b>A. Electrical Characteristics</b>                                               |                           |
| Frequency                                                                          | 2400-2500 / 5150-5850 MHz |
| V.S.W.R.                                                                           | $\leq 2.0$                |
| Antenna Gain                                                                       | 4.54dBi                   |
| Polarization                                                                       | Linear                    |
| Impedance                                                                          | 50 Ohm                    |
| <b>B. Material &amp; Mechanical Characteristics</b>                                |                           |
| Material of Radiator                                                               | PCB                       |
| Material of Plastic                                                                | ABS / POM                 |
| Cable Type                                                                         | RG178                     |
| Connector Type                                                                     | SMA Plug                  |
| <b>C. Environmental</b>                                                            |                           |
| Operation Temperature                                                              | - 40 °C ~ + 80 °C         |
| Storage Temperature                                                                | - 40 °C ~ + 80 °C         |

## 2. Characteristics and Reliability Test

| Test Items |          | Test Condition and Procedure                                     | Requirements                |
|------------|----------|------------------------------------------------------------------|-----------------------------|
| C1         | V.S.W.R. | Set DUT on Network Analyzer; make individual calibration to test | Directive DUT specification |

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|    |                      |                                                                                                                                      |                                                                         |
|----|----------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| C2 | Antenna Gain         | Set DUT on Antenna Chamber; make individual calibration to test                                                                      | Directive DUT specification                                             |
| M1 | Vibration            | MIL-STD-202G, 201A<br>Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz<br>3 directions; 2 hours for each direction                   | 1. No Visual Damage<br>2. Frequency Tol.<= 5%                           |
| M2 | Random Drop          | Height: 1.5 Meter;<br>3 directions; 1 time for each direction                                                                        | 1. No parts separated<br>2. Frequency Tol.<= 5%                         |
| M3 | Solderability        | MIL-STD-202G, 210F, cond. A<br>Solder iron: 350±10°C; Duration: 5 seconds                                                            | 1. Mounted on PCB<br>2. No Visual Damage                                |
| M4 | Terminal-Pull Test   | MIL-STD-202G, 211A, cond. A<br>Holding with individual specification; force applied to axis of terminal                              | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M5 | Terminal-Torque Test | MIL-STD-202G, 211A, cond. E<br>Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal | 1. Directive DUT specification<br>2. Frequency Tol.<= 5%                |
| M6 | Dimension            | Inspection of dimension, color, material, package, surface process                                                                   | Directive DUT specification                                             |
| E1 | Salt Spray           | MIL-STD-202G, 101E, cond. B<br>Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%;<br>Time: 24 hours                                       | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E2 | Humidity             | MIL-STD-202G, 103B, cond. B<br>Temp: 40°C; RH: >= 95%; Time: 48 hours                                                                | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E3 | Thermal Shock        | 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes)<br>Cycles: 24                                                                    | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| E4 | Life (High Temp.)    | MIL-STD-202G, 108A, cond. A<br>Temp: 85°C; Time: 24 hours                                                                            | After 2 Hours Recovery<br>1. No Visual Damage<br>2. Frequency Tol.<= 5% |
| R1 | RoHS                 | With Reference to IEC 62321:2008 with flow chart                                                                                     | Directive RoHS 2015/863/EU                                              |

Product Number: AN2450-15BC11SM-B

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### 3. Antenna - S Parameter Test Data

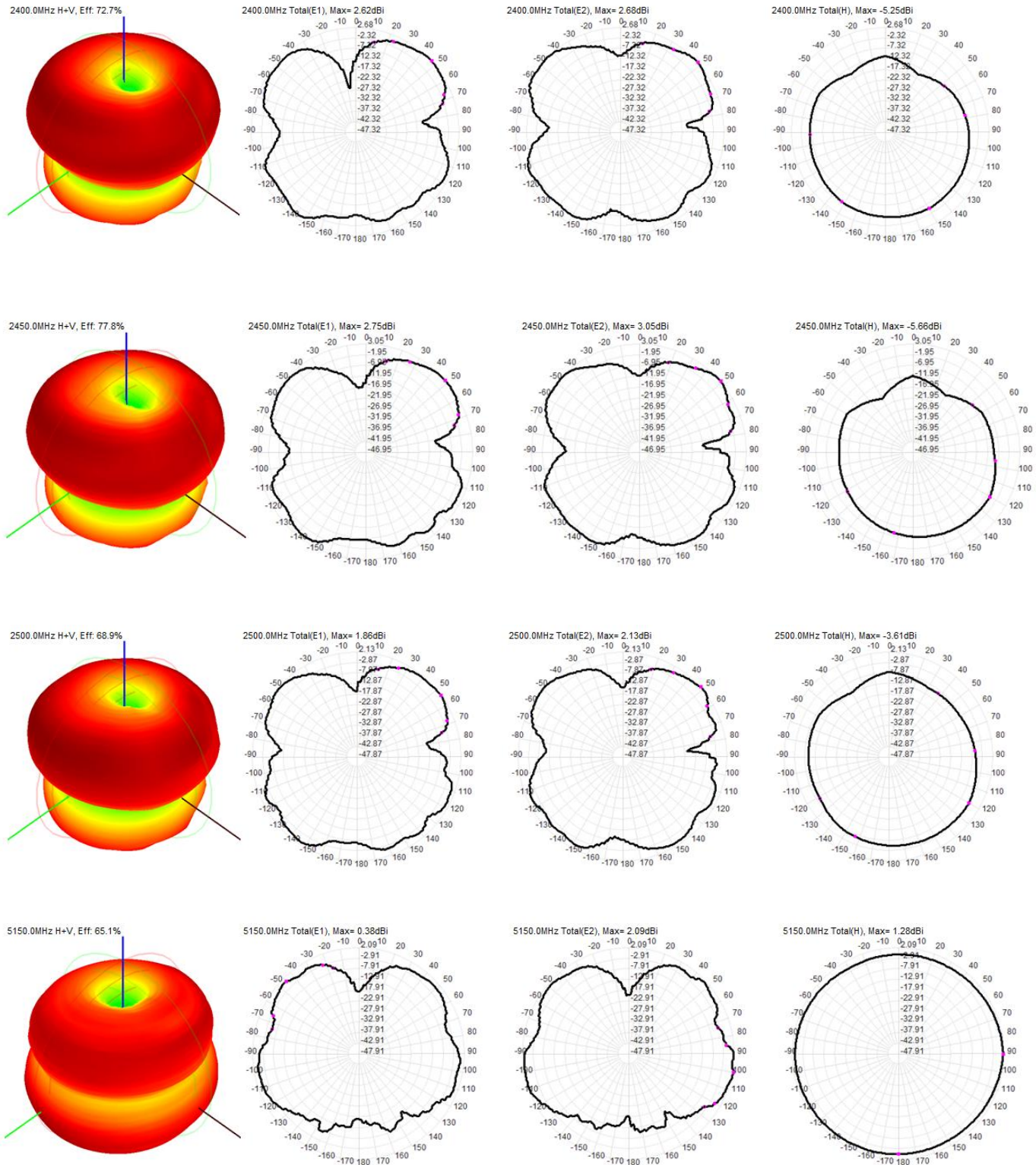


### 4. Antenna - Radiation Pattern Test Data

| Frequency ID               | 1      | 6      | 11     | 12     | 20     | 26     |
|----------------------------|--------|--------|--------|--------|--------|--------|
| Frequency (MHz)            | 2400.0 | 2450.0 | 2500.0 | 5150.0 | 5550.0 | 5850.0 |
| Efficiency (dBi)           | -1.39  | -1.09  | -1.62  | -1.87  | -1.32  | -1.55  |
| Gain (dBi)                 | 2.74   | 3.05   | 2.21   | 2.09   | 3.84   | 4.54   |
| Efficiency (%)             | 72.67  | 77.83  | 68.94  | 65.07  | 73.82  | 69.91  |
| Directivity (dB)           | 4.13   | 4.14   | 3.83   | 3.96   | 5.16   | 6.09   |
| Peak Gain Position (Theta) | 135.00 | 131.00 | 128.00 | 80.00  | 90.00  | 98.00  |
| Peak Gain Position (Phi)   | 300.00 | 90.00  | 300.00 | 90.00  | 90.00  | 90.00  |
| Efficiency ThetaPol (%)    | 69.65  | 74.82  | 66.38  | 64.22  | 71.69  | 65.64  |
| Efficiency PhiPol (%)      | 3.03   | 3.01   | 2.56   | 0.85   | 2.12   | 4.27   |
| Upper Hem. Efficiency (%)  | 43.29  | 44.23  | 36.87  | 33.05  | 36.29  | 44.12  |
| Lower Hem. Efficiency (%)  | 29.38  | 33.60  | 32.07  | 32.03  | 37.52  | 25.79  |

Product Number: AN2450-15BC11SM-B

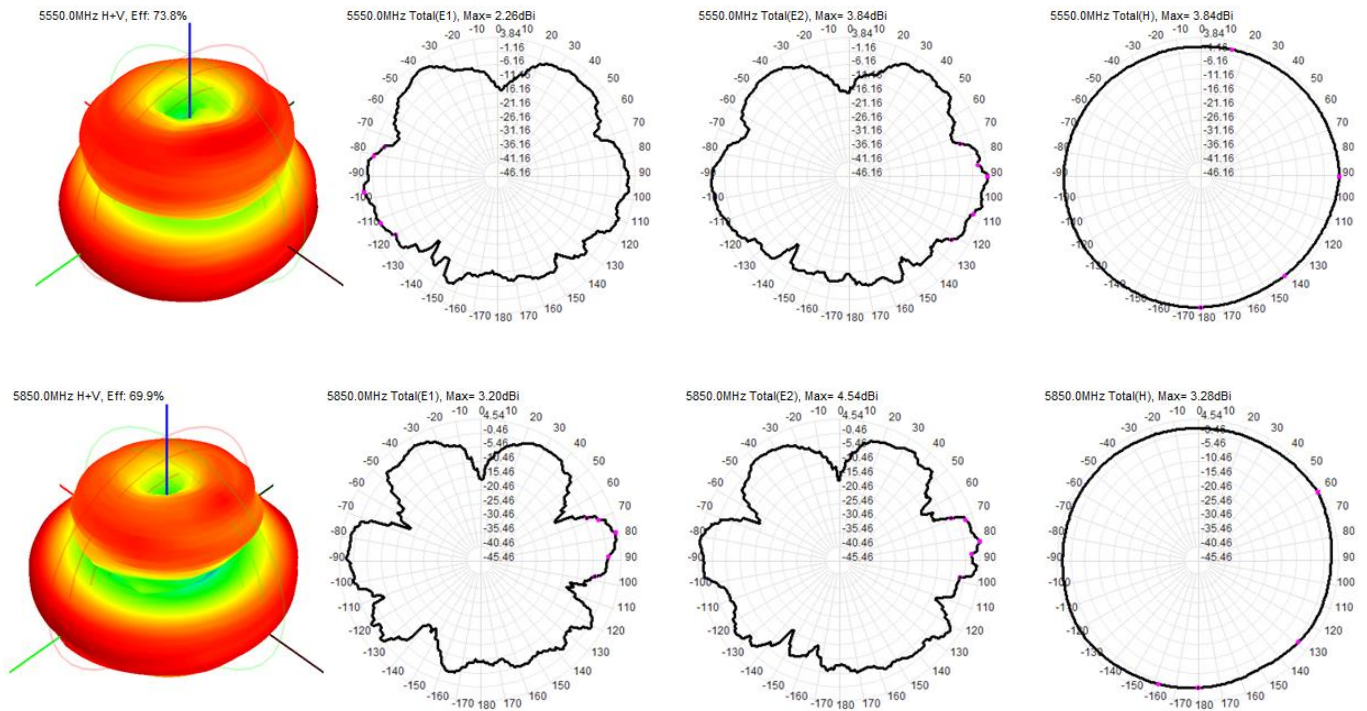
Product Name: Antenna





Product Number: AN2450-15BC11SM-B

Product Name: Antenna

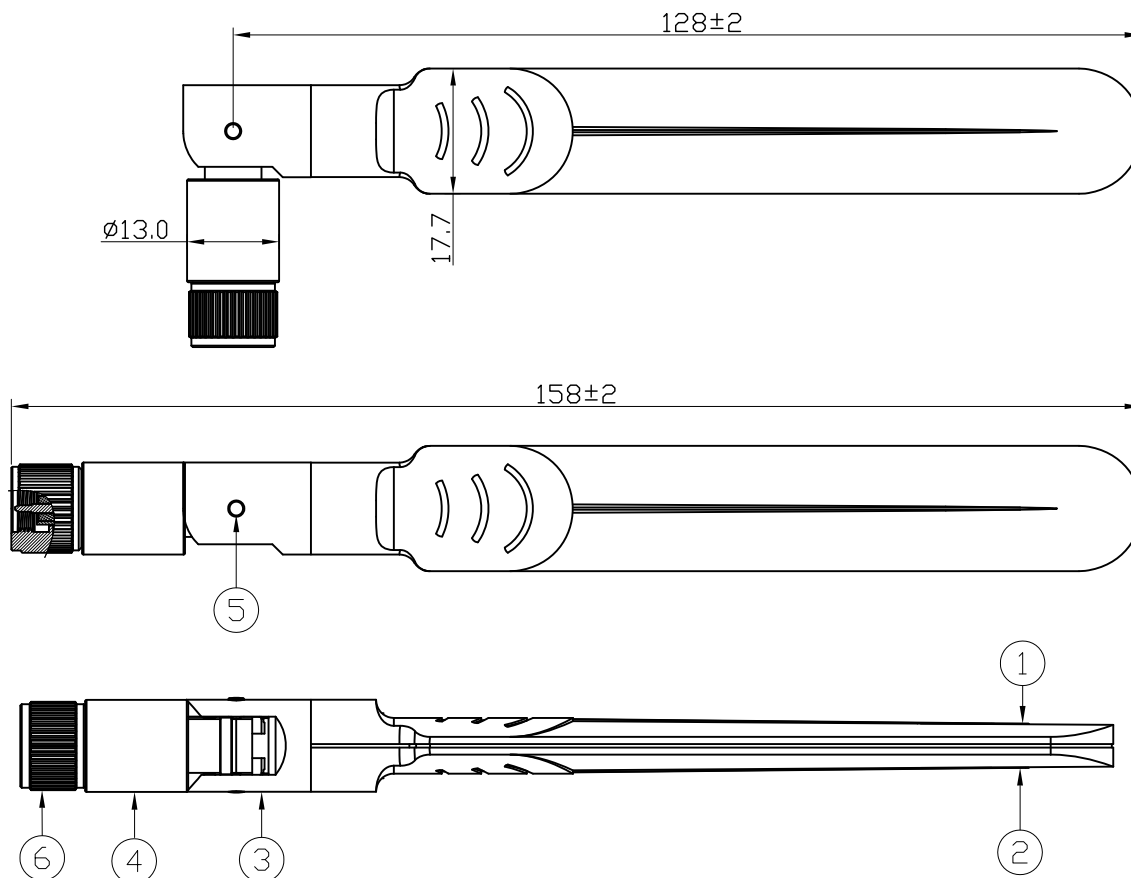


## 5. Mechanical Drawing (See attached files)

RoHS

Compatible

| SIGN | DATE | DESCRIPTION | APPROVER |
|------|------|-------------|----------|
| △    |      |             |          |
| △    |      |             |          |
| △    |      |             |          |



|     |             |           |          |        |      |
|-----|-------------|-----------|----------|--------|------|
| 6   | SMA512      | SMA Plug  | POM      | Black  | 1    |
| 5   | AN03-514PB  | Hinge Pin | POM      | Black  | 2    |
| 4   | AN1201-05B  | Body3     | ABS      | Black  | 1    |
| 3   | AN9203-02B  | Body2     | ABS      | Black  | 1    |
| 2   | ANT15-02B   | Body-B    | ABS      | Black  | 1    |
| 1   | ANT15-01B   | Body-A    | ABS      | Black  | 1    |
| No. | Part Number | Name      | Material | Finish | Q'ty |



Tengxiang Technology Inc.

TITLE: 2.4/5.0GHz Antenna

PART NO.:AN2450-15BC11SM-B

DWG NAME:

APP BY

CHK BY

RF BY

DES BY

UNITS: mm

Tolerance

HC

SCALE: 1/1

X.X ±0.3

2020.11.21

REVISION: A

X.XX ±0.1

X° ±1

# 產品包裝規範

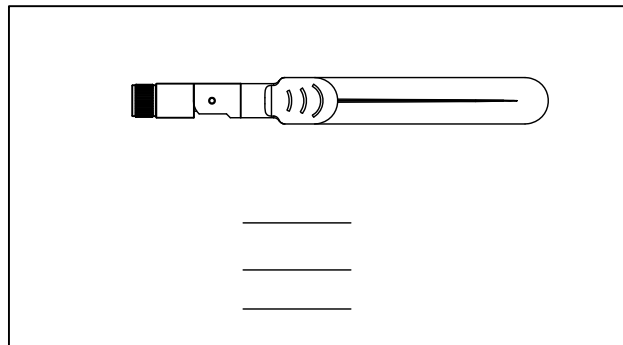
## PACKING CRITERION

Date: 2020.11.21

Page: 1 of 1

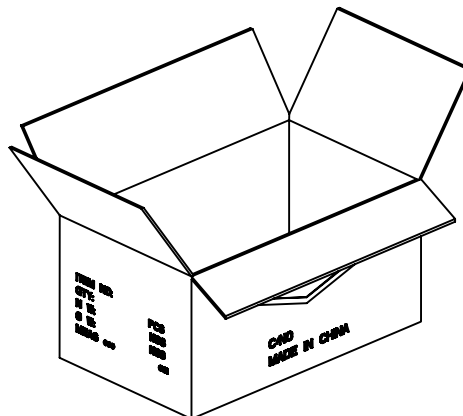
|                                 |                |
|---------------------------------|----------------|
| Part Number : AN2450-15BC11SM-B | Revision : A   |
| Name: Antenna                   | Customer : ALL |

1 . Enter PE bag。



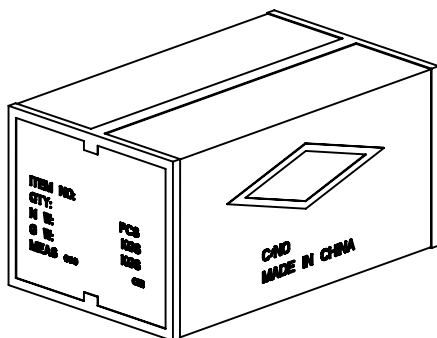
20PCS/PE BAG

2.PACKING 。

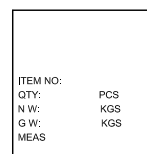


1000PCS/CARTON

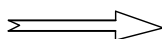
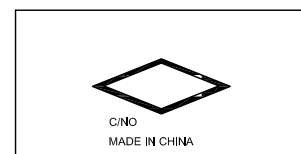
3. SEALING 。



SIDE



FRONT



APPROVED BY : YCX

CHECKED BY : PEAK

DESIGNED BY : HC