



# SPECIFICATION

ShenZhen TianDa Communication CO., LTD

B0110 antenna

## Product Recognition Letter

|                     |                               |                     |                |
|---------------------|-------------------------------|---------------------|----------------|
| Customer            | WUUK                          | Frequency band      | 2400-2500MHz   |
| Project name        | B0110                         | Version             | A              |
| Project item number | BX-B1-10-WI-A<br>02. 06. 0024 | Color               | natural colour |
| R F design          | Xinchuang<br>Wang             | Structure<br>Design | Luhong<br>Zhou |
| Date                | 2023.06.28                    |                     |                |

Customer confirmation:

Does the assembly meet your company's requirements: ☐OK ☐NG

ShenZhen TianDa Communication CO., LTD.

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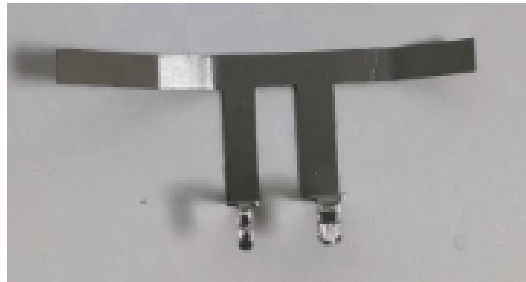
# Catalogue

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## 1、WIFI antenna

### 1. Specifications

This admission letter mainly provides the test status of the electrical and structural performance parameters of the WIFI antenna in the B0110 project. Below is a picture of the WIFI antenna.

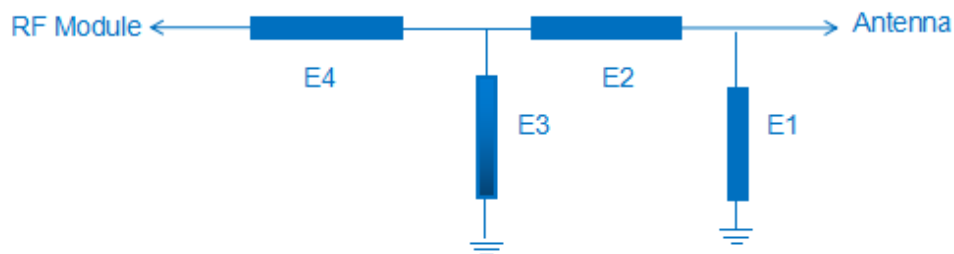


#### 1.1、Electrical specifications

1.1.1. Electrical performance index The antenna working frequency band of the project is 2400-2500 MHz, and below are the electrical performance indicators of the antenna design and trial production.

| WIFI            |                 |            |
|-----------------|-----------------|------------|
| frequency range | frequency (MHz) | VSWR       |
| WIFI            | 2400~2500       | $\leq 2.0$ |

#### 1.1.2、Matching circuit diagrams

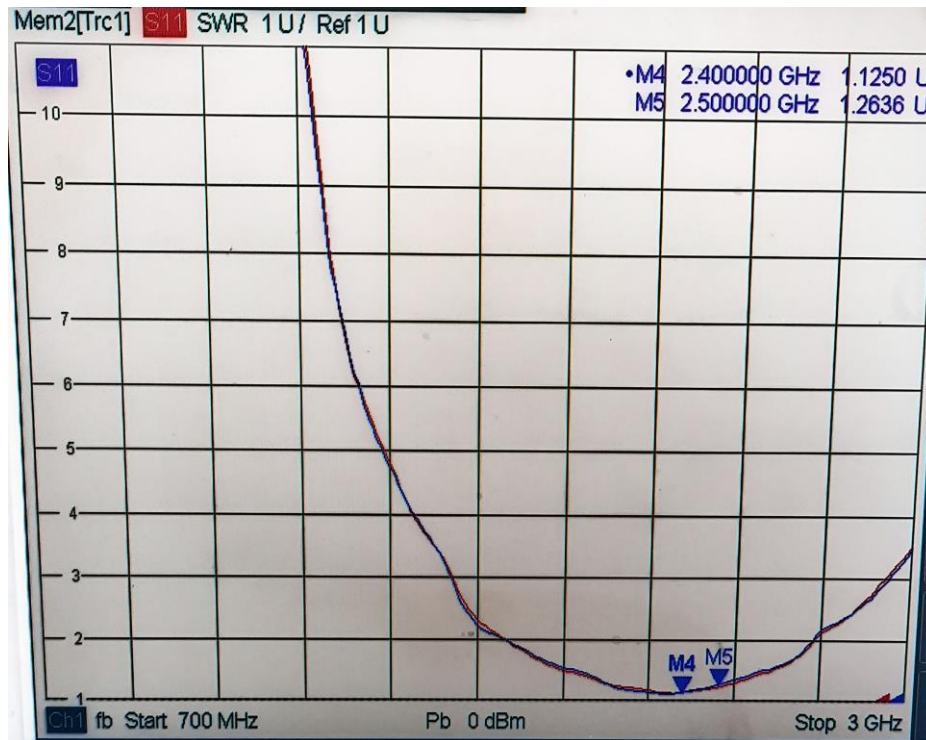


The matching circuit of WIFI antenna is 0.5 pF capacitor in parallel from the antenna end, and 3.9 nH inductance in series。

## 1.2. Test

### 1.2.1. Passive test

#### 1.2.1.1. Antenna standing wave test (VSWR)

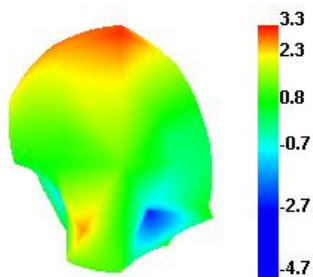


#### 1.2.1.2. Antenna gain, and efficiency

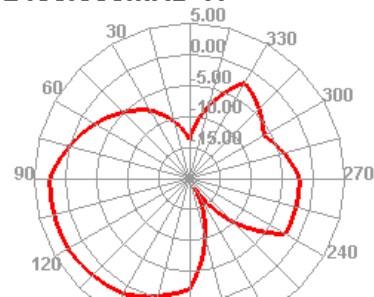
| Passive Test For 2400-2500 |          |            |            |          |          |          |          |           |           |
|----------------------------|----------|------------|------------|----------|----------|----------|----------|-----------|-----------|
| Freq (MHz)                 | Effi (%) | Gain (dBi) | Gain (dBd) | UHIS (%) | DHIS (%) | Max (dB) | Min (dB) | AttH (dB) | AttV (dB) |
| 2400                       | 63.06    | 3.26       | 1.11       | 32.17    | 30.885   | 3.26     | -18.27   | 49.56     | 50.15     |
| 2410                       | 64.38    | 3.39       | 1.24       | 32.833   | 31.543   | 3.39     | -19.05   | 49.79     | 50.51     |
| 2420                       | 61.66    | 3.13       | 1.08       | 31.462   | 30.197   | 3.13     | -19.52   | 49.81     | 50.44     |
| 2430                       | 62.19    | 3.2        | 1.05       | 32.121   | 30.064   | 3.2      | -21.84   | 49.9      | 50.67     |
| 2440                       | 61.13    | 3.37       | 1.22       | 31.779   | 29.35    | 3.37     | -22.49   | 50.01     | 50.88     |
| 2450                       | 63.89    | 3.44       | 1.29       | 33.584   | 30.307   | 3.44     | -20.9    | 50.17     | 50.97     |
| 2460                       | 64.48    | 3.34       | 1.19       | 33.145   | 31.337   | 3.34     | -18.37   | 50.3      | 51.18     |
| 2470                       | 64.09    | 3.3        | 1.15       | 33.118   | 30.973   | 3.3      | -17.25   | 50.29     | 51.14     |
| 2480                       | 64.5     | 3.52       | 1.37       | 34.439   | 30.058   | 3.52     | -15.62   | 50.15     | 50.99     |
| 2490                       | 62.33    | 3.41       | 1.26       | 33.295   | 29.039   | 3.41     | -14.29   | 50.02     | 50.92     |
| 2500                       | 62.05    | 3.37       | 1.22       | 33.256   | 28.79    | 3.37     | -12.69   | 50.06     | 50.9      |

#### 1.2.1.3. antenna pattern

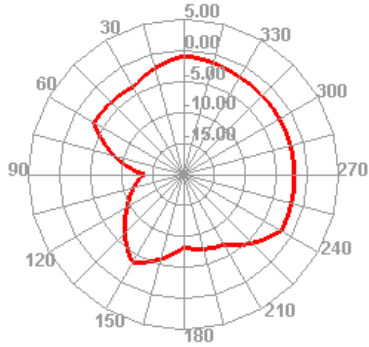
2400.000MHz



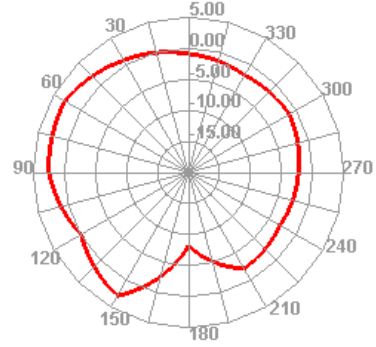
2400.000MHz H



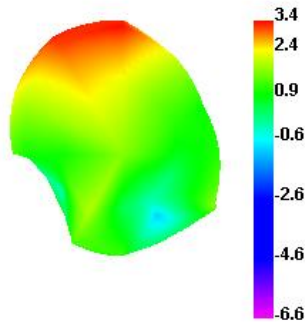
**2400.000MHz E1**



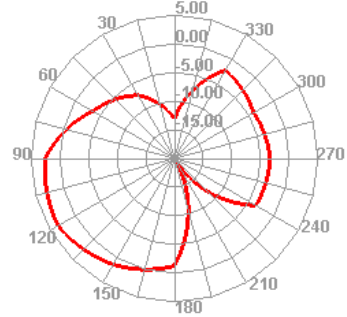
**2400.000MHz E2**



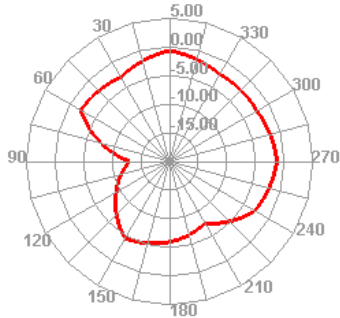
**2450.000MHz**



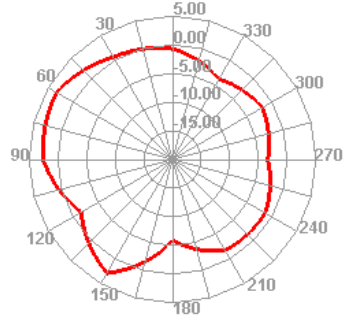
**2450.000MHz H**



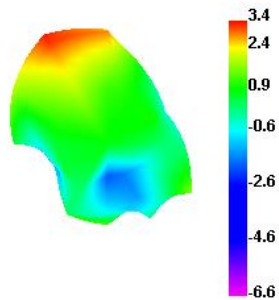
**2450.000MHz E1**



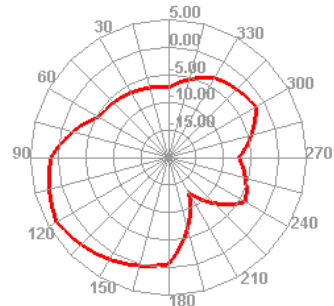
**2450.000MHz E2**

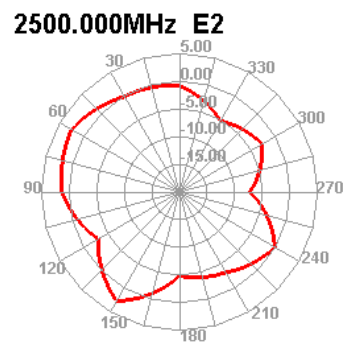
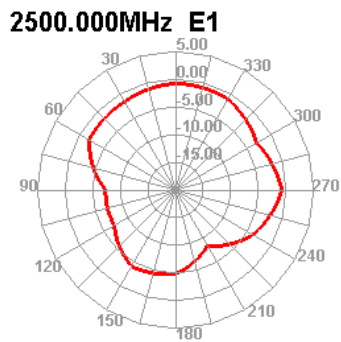


**2500.000MHz**



**2500.000MHz H**





### 1.2.2、Active test data of the whole machine

| b模式 (11M) | 暗室 ■ 三角锥 □ 屏蔽箱 □ |       |       |
|-----------|------------------|-------|-------|
| Band      | 2. 4G            |       |       |
| Channel   | 1                | 6     | 13    |
| TRP       | 18.6             | 18.1  | 17.3  |
| TIS       | -85.9            | -87.1 | -87.5 |

Above is the WIFI active test antenna data of the whole machine.

## 2、Structural specifications

2.1. Composition of the antenna The WIFI antenna is mainly composed of foreign white copper.

### 2.2、engineering drawing

