Shenzhen Aihui Technology Co. , Ltd.

# Antenna specification

# Antenna Sample Confirmation From

| | | | | | |
|---|---|---|---|---|---|
| **Name of supplier** | ShenZhen Aihui Technology Co., Ltd | | | | |
| **Customer name** | Zhi Niu | | | | |
| **Sample name** | FPC | | | | |
| **model** | ZJ.255.YKW2R00-W3 | | | | |
| **Sample size** | F1 antenna;mini-WIFI-AH band first generation terminal 80mm (1.13)<br>F2 antenna;mini-WIFI-AH band first generation terminal 80mm (1.13) | | | | |
| **Inspection item** | **Performance test** | **Visual inspection** | **Structure** | **In the news** | **Test results** |
| | | | | | |
| Notes | | | | | |
| Quality Audit | | Project Audit | | Business confirm | |

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| | | | | | |
|---|---|---|---|---|---|
| | | | | ation | |
| The following is to be completed by the client | | | | | |
| Customer feedback | | | | | |
| Customer signature/seal | | | | | date:2025-01-14 |

# Antenna Test Report

| Test Unit: Shenzhen Aihui Technology Co. , Ltd. | | | |
|---|---|---|---|
| Materials | **FPC** | | |
| Antenna form | **PIFA** | Polarization mode | **Linear** |
| Application scenario | **Wifi /BT** | | |
| Working band | **WIFI/BT** | **VSWR** | **≤2** |
| Power | **Max：2W** | **Impedance** | **50Ω** |
| **dBi** | **≥** | | |
| **Test Equipment** | **HPE5071C、Shielding Room、3D automatic turntable** | | |

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**Antenna Description:：**

**1. Grounding processing and picture description: no**

**2. Need to change the motherboard to match: no**

- Test voltage: 3.6V, check the antenna contact is good before testing.
- The RF cable of the integrated tester is kept in a natural state and can not be curled.

Specification:test the specified power level, all indicators must conform to the specifications.

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1.Project Image

2.Test Fixture

3.Antenna matching circuit

4.S11 test

5.Antenna passive efficiency and gain

6.Darkroom test equipment and data

7.Schematic diagram of antenna assembly

8.Antenna environment handling

9.Antenna mass production index

10.Structural drawing

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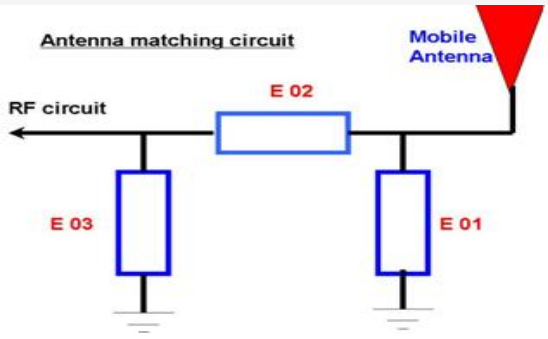
## 1.Project Image

The final verification antenna performance prototype in our company for at least one year, easy to analyze and solve the problem of antenna mass production, to ensure the quality of antenna shipment

## 2.Test Fixture

Objective: to test the passive parameters of antenna as accurately as possible. Making Method: the handset is made of a 50 ohm coaxial cable, one end of which is connected to the test point of the back end of the matching circuit of the handset motherboard (front end of the RF test hole) , and the other end is connected to the SMA joint. The diagram is as follows:

## 3、Antenna matching circuit




**Modify**

| E01 | E02 | E03 |
|---|---|---|
| No | No | No |

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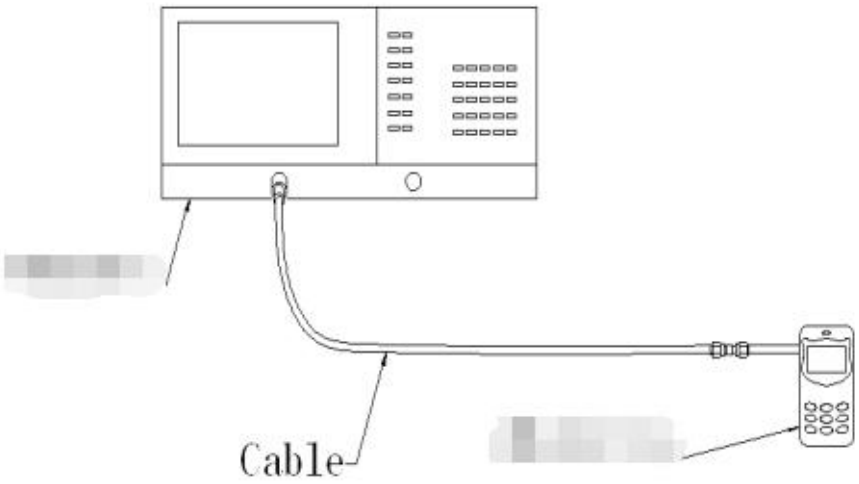
Note: The match is unmodified.

## 4.S11 test

4.0 4.0s11 test method description of test equipment: Network Analyzer (E5071C) test method: a 50 ohm CABLE is used to export from the instrument test port. The SMA connector for connecting the handset is calibrated using a calibration piece, record the echo loss and standing wave ratio corresponding to the relevant frequency points. The test schematic is as follows:

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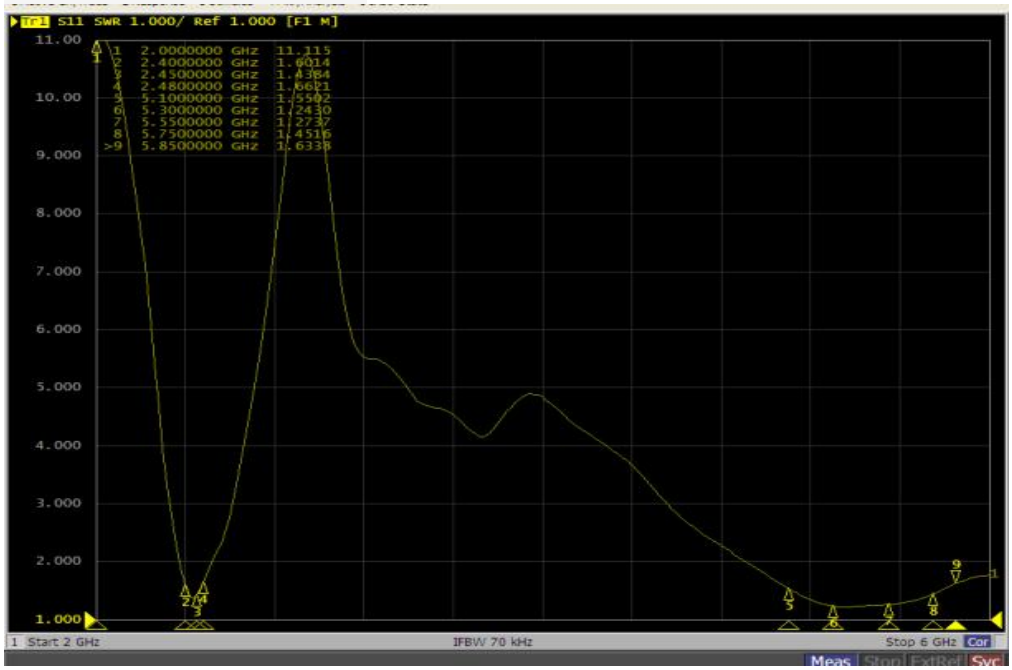
| Product Electrical Performance Index | |
|---|---|
| Operating frequency range | 2400-2500MHz<br>4900-5850MHz |
| SWR | 2400-2500 MHz: < 1.5<br>4900-5850 MHz: < 1.5 |
| Antenna gain | 2400-2500 MHz: 1.5dBi ± 0.5dBi<br>4900-5850 MHz: 1.5dBi ± 0.5dBi |
| Radiation efficiency | 2400-2500MHz: > 50%<br>4900-5850 MHz: > 50% |
| Impedance | 50 ohm |
| Product material description | |
| **FPC** | Electrolytic copper+PI |
| Coaxial line | Braided thread |
| Product environment description | |
| Operating temperature | - 30˚C ~ + 85 ˚C |
| Storage temperature | - 30˚C ~ + 85 ˚C |

## 5. antenna SWR

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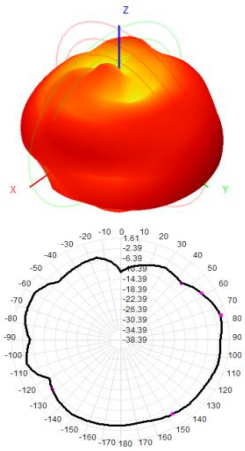
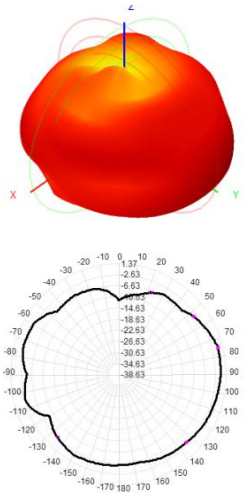
## 5.2 Test data for this antenna

| Frequency Band | 2.4GWIFI-B | | | 2.4WIFI-G | | |
|---|---|---|---|---|---|---|
| channel | L | M | H | L | M | H |
| TRP | 15.38 | 15.27 | 15.14 | 13.49 | 13.38 | 13.36 |
| TIS | -78.76 | 78.10 | -77.33 | -68.14 | -68.11 | -68.42 |
| Frequency Band | 2.4WIFI-N | | | 5.8WIFI-A | | |
| channel | L | M | H | L | M | H |
| TRP | 13.60 | 13.53 | 13.55 | 15.17 | 15.36 | 14.55 |
| TIS | -67.50 | -67.43 | -67.49 | -67.12 | -67.33 | -68.14 |

## 5.3 antenna passive data

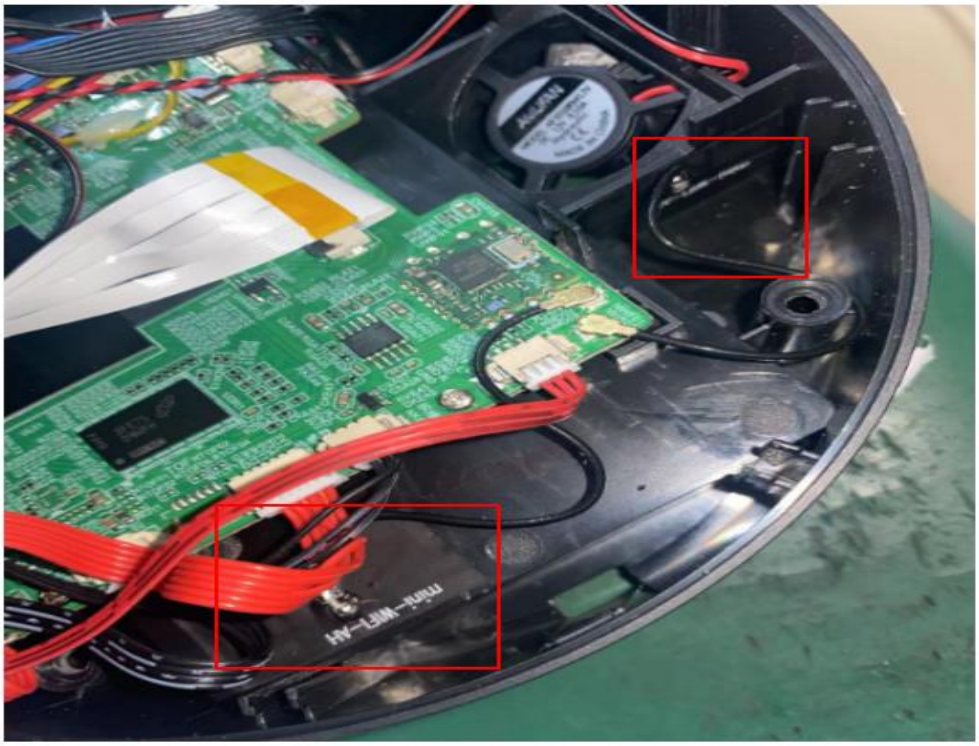


| test data: | | |
|---|---|---|
| WIFI 2.4G | | |
| Freq(MHz) | Efficiency (%) | Gain (dBi) |
| 2400 | 51.1 | 1.04 |
| 2410 | 52.3 | 1.19 |
| 2420 | 52.9 | 1.30 |
| 2430 | 54.5 | 1.44 |
| 2440 | 56.3 | 1.61 |
| 2450 | 55.8 | 1.53 |
| 2460 | 54.6 | 1.46 |
| 2470 | 52.8 | 1.28 |
| 2480 | 52.2 | 1.16 |



| test data | | |
|---|---|---|
| WIFI 5.8G | | |
| Freq(MHz) | Efficiency (%) | Gain (dBi) |
| 5000 | 52.4 | 1.10 |
| 5100 | 53.1 | 1.12 |
| 5200 | 53.6 | 1.16 |
| 5300 | 55.9 | 1.30 |
| 5400 | 56.6 | 1.37 |
| 5500 | 55.0 | 1.25 |
| 5600 | 54.8 | 1.21 |
| 5700 | 54.2 | 1.18 |
| 5800 | 53.5 | 1.14 |
| 5850 | 51.7 | 1.06 |

## 6.1 Antenna assembly diagram

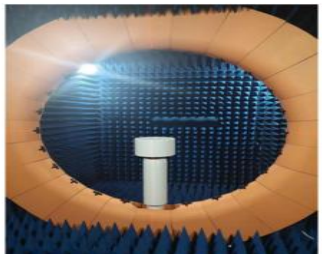


## 6.Test Equipment

## Test system: shielded darkroom

## The temperature was 22 ° C ± 3 ° C and the humidity was 50% ± 15%

Test equipment: when testing passive data, use the Network analyzer AGILENTE5071C to test active data, use the omnibus CMW500



and

nzhen

## 7.Antenna environment handling

Red box paste conductive sponge grounding

## 8.Antenna mass production index

When the antenna is mass-produced, the standing wave ratio is taken as the mass-produced test standard.

Based on the differences of the project itself, the following criteria are given:

| Frequency | Standard for volume production |
| --- | --- |
| 2400 MHZ -2500MHZ<br>5100MH-5850MH | VSWR (Mass Production performance) &<br>LT; VSWR(recognition performance) 0.5 |

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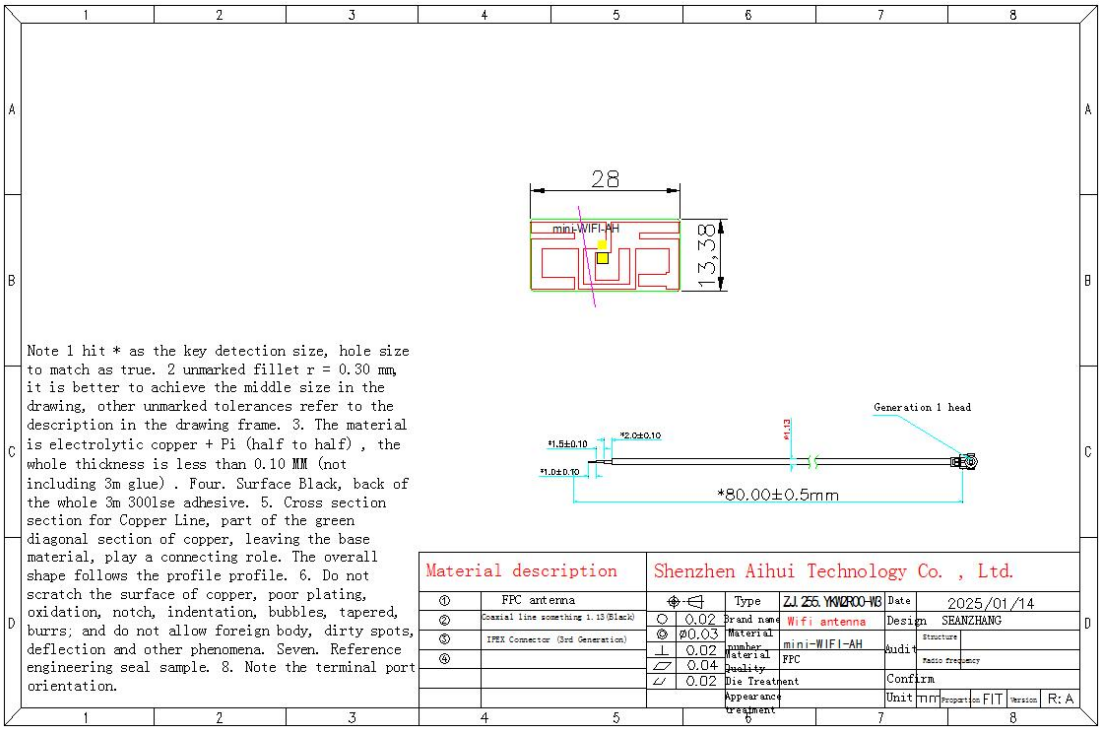
# 9.Structural drawings

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