

# Test Report

## Approve Sheet

### Product Specification Parameter List

SPECIFICATION+2. 4G antenna

| DESCRIPTION       | VALUE            |
|-------------------|------------------|
| Frequency range   | 2400-2500MHZ     |
| Impedance         | 50 Ω             |
| V.S.W.R           | 2.0Max           |
| Gain              | 2.02dBi          |
| Radiation         | Omni-directional |
| Radiating element | 1/4 Wave Helical |
| Polarization      | linear Vertical  |
| Admitted power    | 1W               |
| Connector         | IPEX             |
| Operating temp    | -10℃~+60℃        |
| Storage temp      | -10℃~+70℃        |

# Shenzhen Junyi Electronic Commerce Co.,Ltd.

## Test Report

|                                                   |                                                                                                                                                                                                                                                                                              |                                                                                                            |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Test Conditions:                                  |                                                                                                                                                                                                                                                                                              |                                                                                                            |
| Item                                              | Test Conditions                                                                                                                                                                                                                                                                              | Remark                                                                                                     |
| Storage Environment                               | The temperature, humidity, and barometric pressure were tested without specification as follows :<br>1. Temperature: -30℃ ~+80℃<br>2. Relative Humidity: 45%-85%<br>3. Pneumatic: 86kpa-106kpa                                                                                               | Positive electrical and mechanical properties normal                                                       |
| High and low temperature test                     | Perform 5 cycles between 70℃ and 40℃, then inspect the appearance quality under normal conditions for 1-2 hours.                                                                                                                                                                             | The dimensions meet the specifications,The mechanical & electrical performance requirements should be met. |
| Resistance to constant humidity and heat testing. | Relative humidity of 95±3% and test temperature of 40℃. After a continuous exposure of 2 hours, the electrical performance of the specimen should be measured within 5 minutes after removal. The specimen should be inspected for appearance quality under normal conditions for 1-2 hours. | The dimensions meet the specifications,The mechanical & electrical performance requirements should be met. |
| Vibration testing.                                | Vibration frequency range: 10-55Hz;<br>Displacement amplitude: 0.35mm;<br>Acceleration amplitude: 50.0m/s;<br>Sweeping cycle: 30 cycles.                                                                                                                                                     | Positive electrical and mechanical properties normal                                                       |
| Impact testing.                                   | The object will be dropped freely three times from a height of 1 meter, along perpendicular axes.                                                                                                                                                                                            | Positive electrical and mechanical properties normal                                                       |
| Tensile strength                                  | Testing the instrument's load-bearing capacity using a push-pull force gauge: ≥50N.                                                                                                                                                                                                          | Positive electrical and mechanical properties normal                                                       |
| Voltage resistance.                               | 1. Insulation spark voltage: 1.5KV<br>2. Sheath spark voltage: 1.5KV<br>3. Insulation-to-sheath withstand voltage: 0.5KV                                                                                                                                                                     | Positive electrical and mechanical properties normal                                                       |
| Torque testing.                                   | To test the fixed nut, use a torque wrench and perform a torque test by twisting it in the 360-degree direction. The tested value should be ≥2N.                                                                                                                                             | There is no torque malfunction.                                                                            |

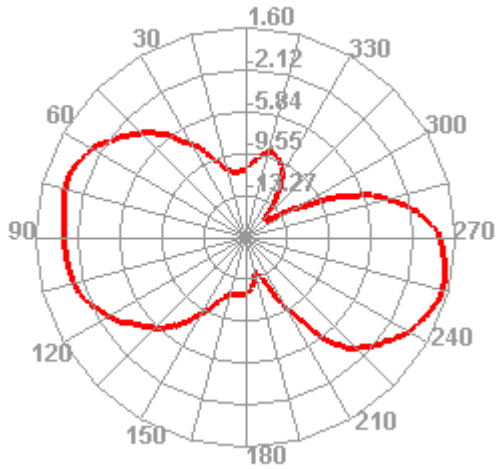
# Test Report

Product standing wave chart:

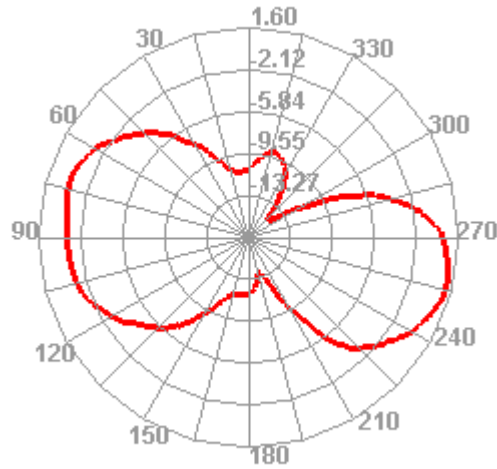


# Test Report

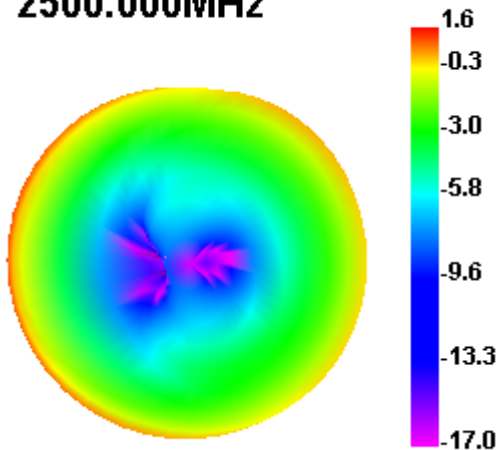
2500.000MHz E1



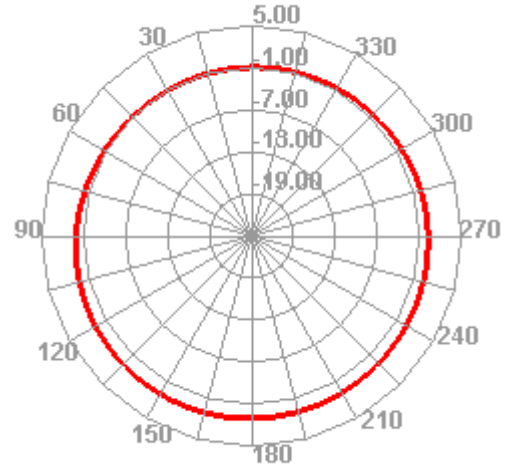
2500.000MHz E1



2500.000MHz



2500.000MHz H



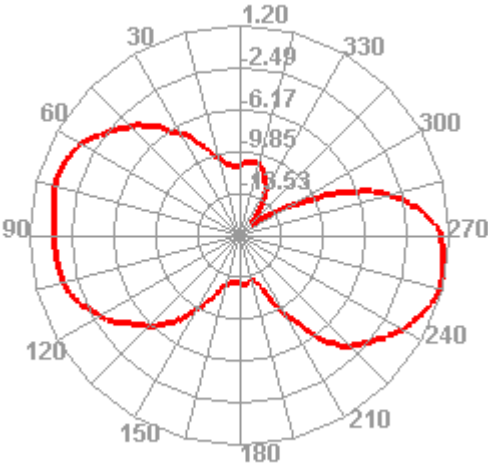
Passive Test For wifi

| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) | Gain<br>(dBd) | Max<br>(dB) | Min<br>(dB) | Attenut<br>Hor | Attenut<br>Ver |
|---------------|-------------|--------------|---------------|---------------|-------------|-------------|----------------|----------------|
| 2400          | 47.57       | -3.23        | 0.07          | -2.08         | 0.07        | -17.55      | 47.06          | 46.33          |
| 2410          | 50.49       | -2.97        | 0.29          | -1.86         | 0.29        | -17.84      | 47.2           | 46.63          |
| 2420          | 48.63       | -3.13        | 0.19          | -1.96         | 0.19        | -18.34      | 47.32          | 46.53          |
| 2430          | 42.78       | -3.69        | -0.38         | -2.53         | -0.38       | -19.05      | 47.08          | 46.39          |
| 2440          | 49.46       | -3.06        | 0.22          | -1.93         | 0.22        | -18.4       | 47.26          | 46.55          |
| 2450          | 61.96       | -2.08        | 1.2           | -0.95         | 1.2         | -17.21      | 48             | 47.41          |
| 2460          | 57.89       | -2.37        | 0.95          | -1.2          | 0.95        | -17.28      | 48.03          | 47.34          |
| 2470          | 56.11       | -2.51        | 0.91          | -1.24         | 0.91        | -17.35      | 48.08          | 47.47          |
| 2480          | 61.54       | -2.11        | 1.4           | -0.75         | 1.4         | -16.99      | 48.2           | 47.68          |
| 2490          | 69.12       | -1.6         | 2.02          | -0.13         | 2.02        | -16.49      | 48.41          | 47.89          |
| 2500          | 62.81       | -2.02        | 1.6           | -0.55         | 1.6         | -16.99      | 48.36          | 47.93          |
| 2510          | 57.32       | -2.42        | 1.23          | -0.92         | 1.23        | -17.39      | 48.17          | 47.66          |

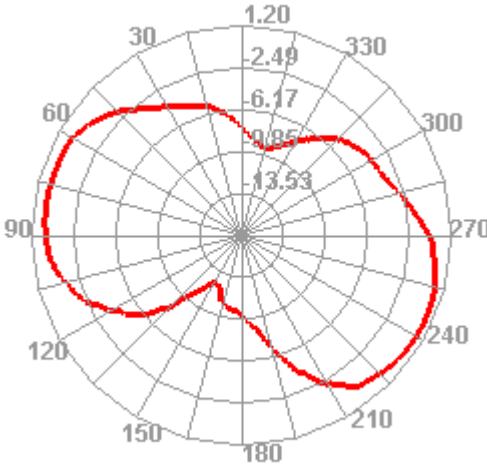
Test Report

|      |       |       |      |       |      |        |       |       |
|------|-------|-------|------|-------|------|--------|-------|-------|
| 2520 | 58.07 | -2.36 | 1.23 | -0.92 | 1.23 | -17.13 | 48.09 | 47.68 |
| 2530 | 60.32 | -2.2  | 1.4  | -0.75 | 1.4  | -16.68 | 48.03 | 47.56 |
| 2540 | 53.74 | -2.7  | 0.89 | -1.26 | 0.89 | -16.94 | 47.97 | 47.54 |
| 2550 | 51.79 | -2.86 | 0.75 | -1.4  | 0.75 | -16.98 | 48.04 | 47.63 |

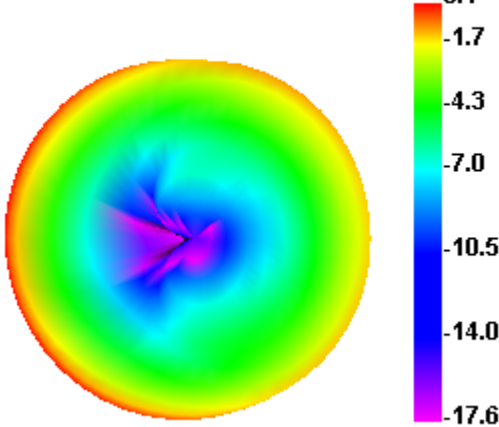
2450.000MHz E1



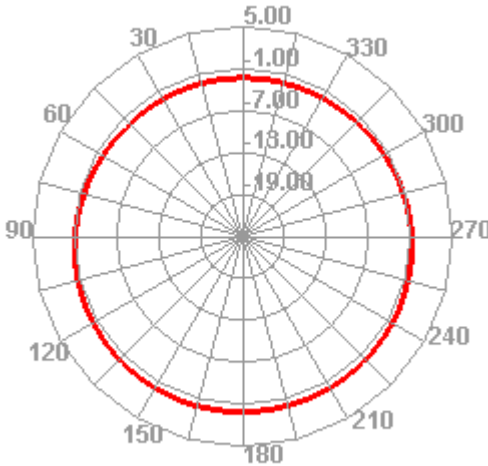
2450.000MHz E2



2400.000MHz



2400.000MHz H



Test Report

