

# Antenna Specifications



Shenzhen Lejin radio frequency technology Co., LTD

## 1.Product Specification

| A. Electrical Characteristics            |                     |
|------------------------------------------|---------------------|
| Frequency                                | 2400MHz ~2500 MHz   |
| VSWR                                     | <2.0                |
| Efficiency                               | ≥20%                |
| Impedance                                | 50Ohm               |
| Polarization                             | Linear              |
| Model                                    | LJRF_WF25A          |
| B. Material & Mechanical Characteristics |                     |
| Material of Radiator                     | FPC(black),LJWF25A  |
| Cable Type                               | Φ1.13mm,L60mm,Black |
| Connector Type                           | IPX1                |
| Dimension                                | 26.0*17.1mm         |
| C. Environmental                         |                     |
| Operation Temperature                    | - 20 °C ~ + 70 °C   |
| Storage Temperature                      | - 30 °C ~ + 85 °C   |
| Humidity                                 | 40%~95%             |

## 2.Test Equipment & Conditions

- |                                  |                     |
|----------------------------------|---------------------|
| 1.Network Analyzers              | Agilent 8753D/5071C |
| 2.HSPA and LTE protocol test set | R&S CMW500 -PT      |
| 3.Communications Test Set        | Agilent 8960        |
| 4.3D Chamber Test System         |                     |

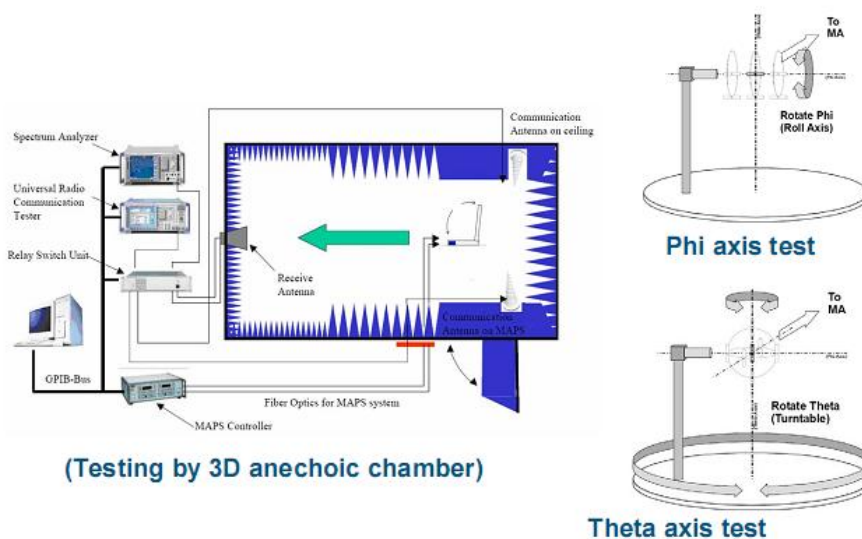


Chart 1 Test topology

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### 3.Test Report

#### 3.1 Voltage Standing Wave Ratio(VSWR).

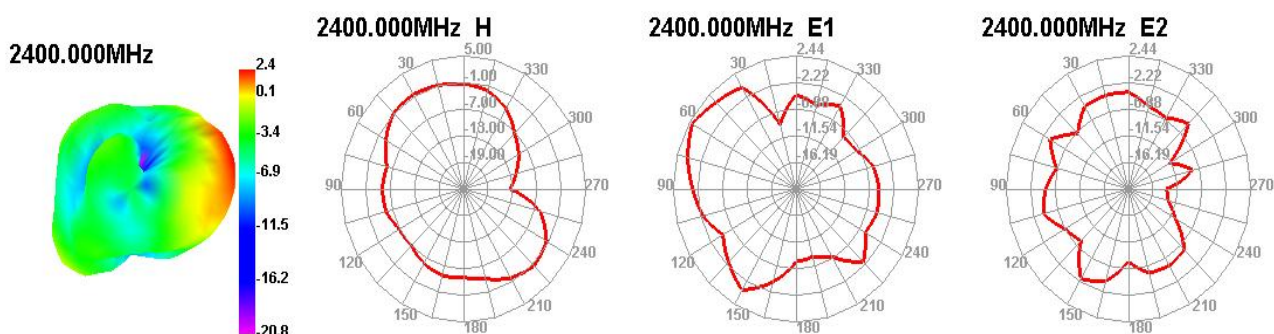


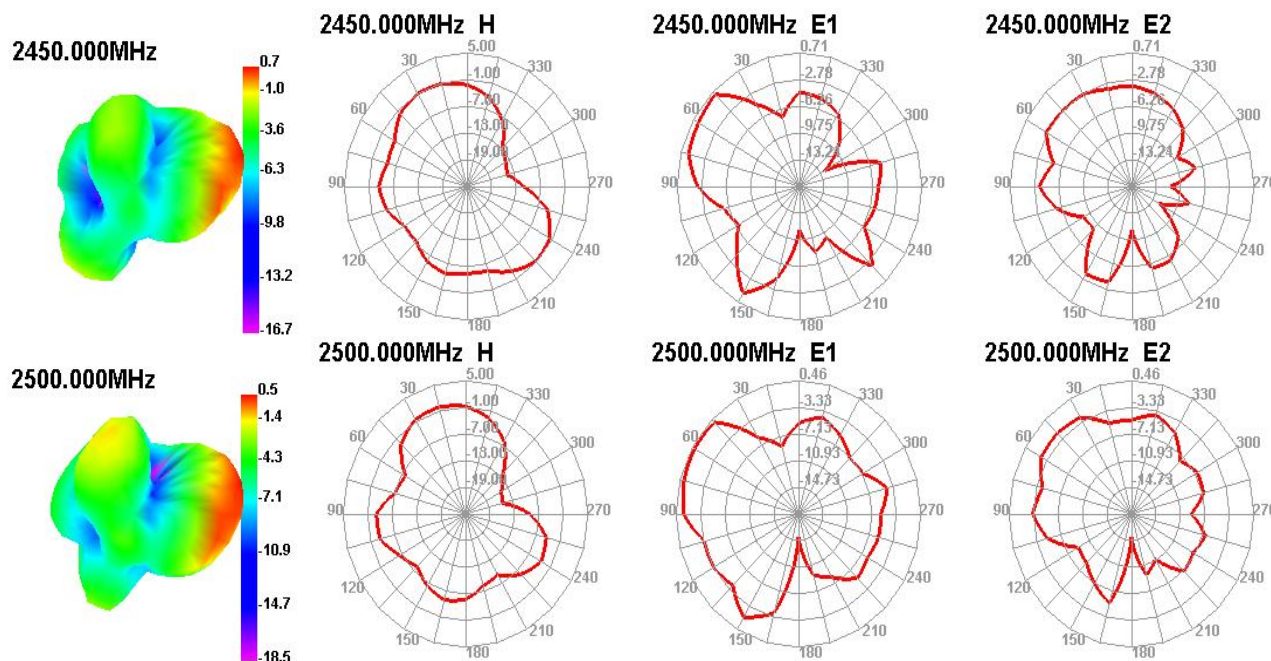
Chart 2 VSWR

#### 3.2 Efficient and gain.

| Passive  | Freq(MHz) | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Test For | Effi(%)   | 23.11 | 24.56 | 27.01 | 29.35 | 33.63 | 26.36 | 25.93 | 24.53 | 31.29 | 26.12 | 26.85 |
| 2.4G     | Gain(dBi) | 1.77  | 1.51  | 1.74  | 1.93  | 1.81  | 1.96  | 1.62  | 1.55  | 1.25  | 1.42  | 1.46  |

#### 3.3 Radiation pattern.

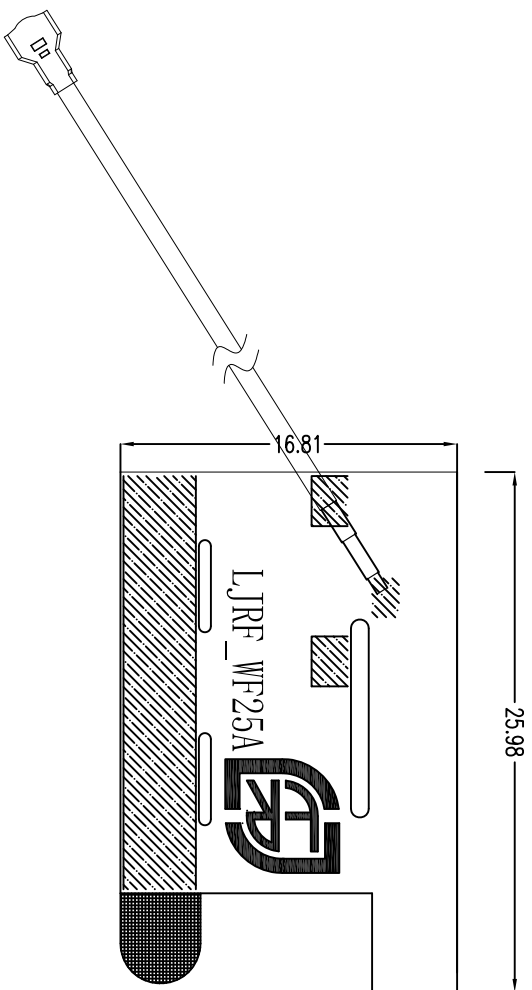




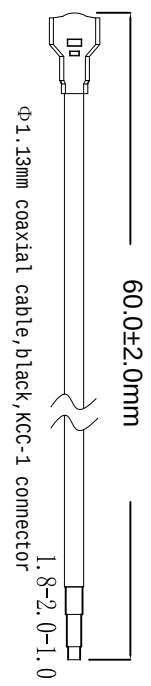
#### 4. Reliability Test

| Test Item                            | Test condition                                                                                                                                                                                                                                                                                                                 | Equipment             | Specification                                                         | Result |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------|--------|
| 1 Low Temp. Storage Test             | Temperature: -30℃ , Time:48hrs<br>Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃, test antenna after 2 hours.                                         | Temp.&Humidity Tester | No material deformation is allowed.<br>Electronic Performance is ok . | PASS   |
| 2 High Temp./High Humid Storage Test | Temperature: 85℃ Humidity: 85% RH Time:48hrs<br>Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃, test antenna after 2 hours. | Temp.&Humidity Tester | No material deformation is allowed.<br>Electronic Performance is ok . | PASS   |
| 3 Salt-Spray 6 pray Test             | Placing antenna in the Salt-Spray Tester ,set the test condition , Temp: 35 ± 2℃ Humidity: 85% NaCl salt spray :5 ± 1%.PH value :6.5~7.2 Testtime:24hours                                                                                                                                                                      | Salt-Spray Tester     | No color change<br>No appear rusting                                  | PASS   |

#### 5. Assemble type



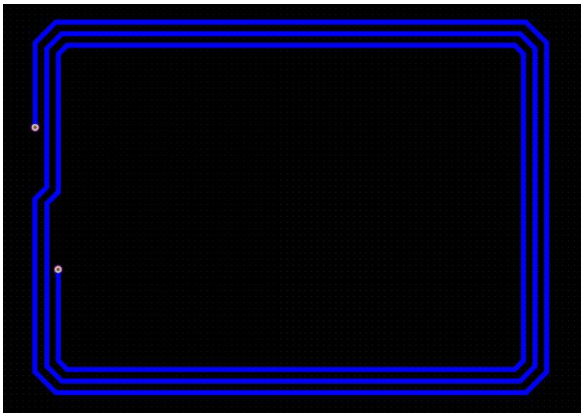
Connector direction:Up



Model: X2033

Product Specification

|                             |      |                 |
|-----------------------------|------|-----------------|
| Length (amax)               | 53   | mm              |
| Width (bmax)                | 39   | mm              |
| Track width (w)             | 600  | μm              |
| Gap between tracks (g)      | 600  | μm              |
| Additional Overlap Area (A) | 2067 | mm <sup>2</sup> |
| Track Thickness             | 35   | μm              |
| Number of Turns (N)         | 3    |                 |
| Turn exponent (E)           | 1.66 |                 |
| PCB Thickness               | 1.2  | mm              |
| Er                          | 4.3  |                 |



We statement that All measurements were performed radiated and therefore additional antenna gain documentation is not required.