



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳市维度创新实业有限公司

Product Name: 2.4GHz Antenna

Product Model: SC1

Part Number: LJF02-23053108A-R0A

Write By : Pengsiheng

Issued Date: 2023-06-08

### CUSTOMER

| ENGINEER R&D DEPT | BUSSINESS DEPT | APPROVAL |
|-------------------|----------------|----------|
|                   |                |          |

### LEJIN

| R&D DEPT | ENGINEER DEPT | APPROVAL |
|----------|---------------|----------|
|          |               |          |

| REV  | MODIFIED DESCRIPTION  | DATE       | REMARK |
|------|-----------------------|------------|--------|
| V1.0 | Initial Draft Release | 2023/06/08 |        |
|      |                       |            |        |
|      |                       |            |        |



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### 3.Product Specification

| A. Electrical Characteristics            |                     |
|------------------------------------------|---------------------|
| <b>Frequency</b>                         | 2400MHz ~2500 MHz   |
| <b>VSWR</b>                              | <2.0                |
| <b>Efficiency</b>                        | ≥40%                |
| <b>Impedance</b>                         | 50Ohm               |
| <b>Polarization</b>                      | Linear              |
| <b>Gain(2.4GHz)</b>                      | ≤2.5dB              |
| B. Material & Mechanical Characteristics |                     |
| <b>Material of Radiator</b>              | FPC(Black),LJWF25B  |
| <b>Cable Type</b>                        | Φ1.13mm,L115mm,gray |
| <b>Connector Type</b>                    | IPX1                |
| <b>Dimension</b>                         | 26.0*16.8mm         |
| C. Environmental                         |                     |
| <b>Operation Temperature</b>             | - 20 °C ~ + 70 °C   |
| <b>Storage Temperature</b>               | - 30 °C ~ + 85 °C   |
| <b>Humidity</b>                          | 40%~95%             |

### 4.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         |                     |

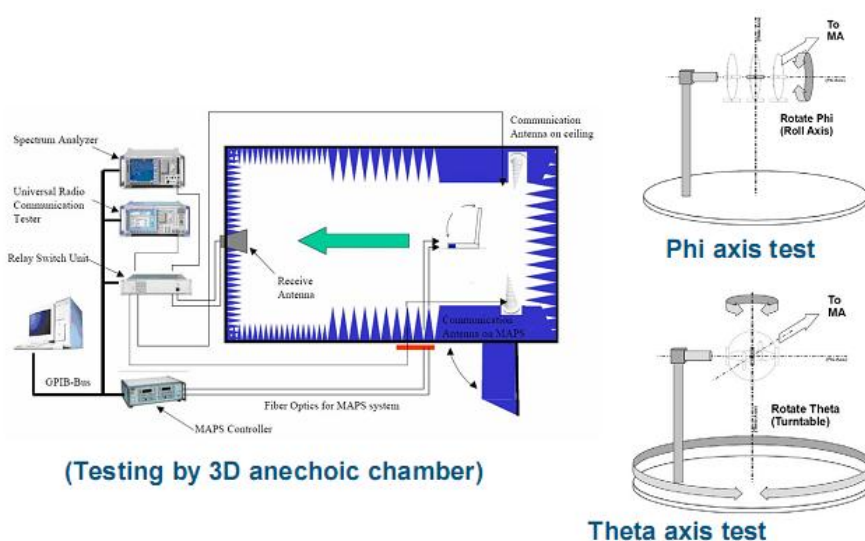


Chart 1 Test topology

## 5.Test Report

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

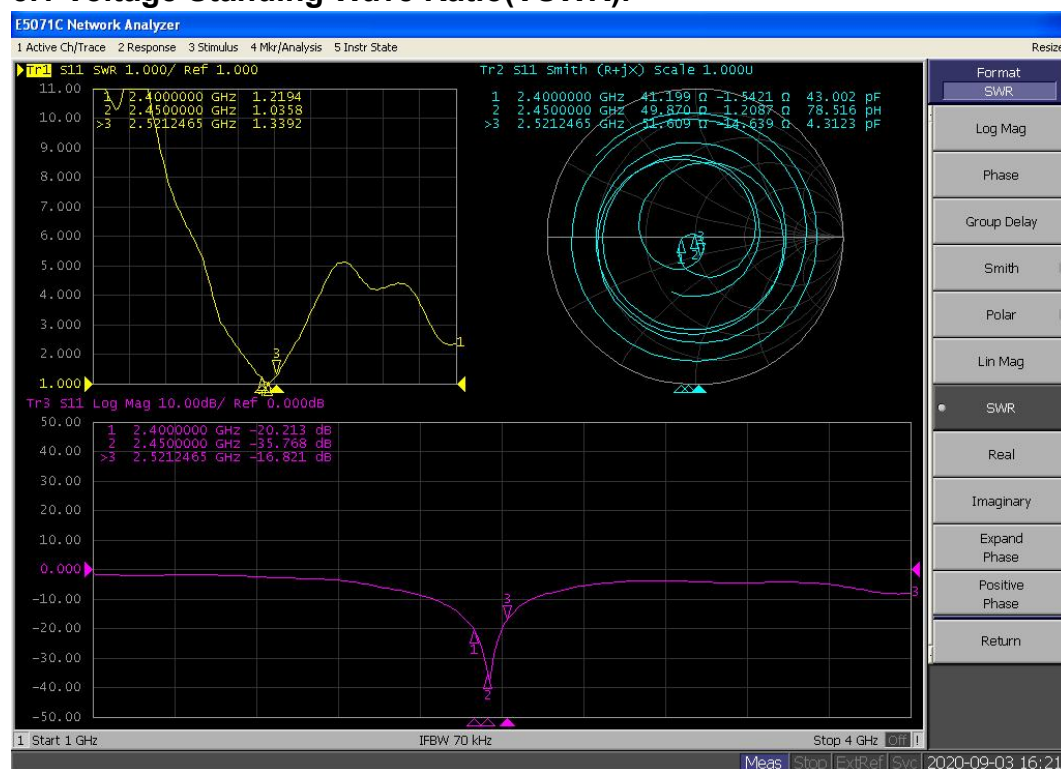
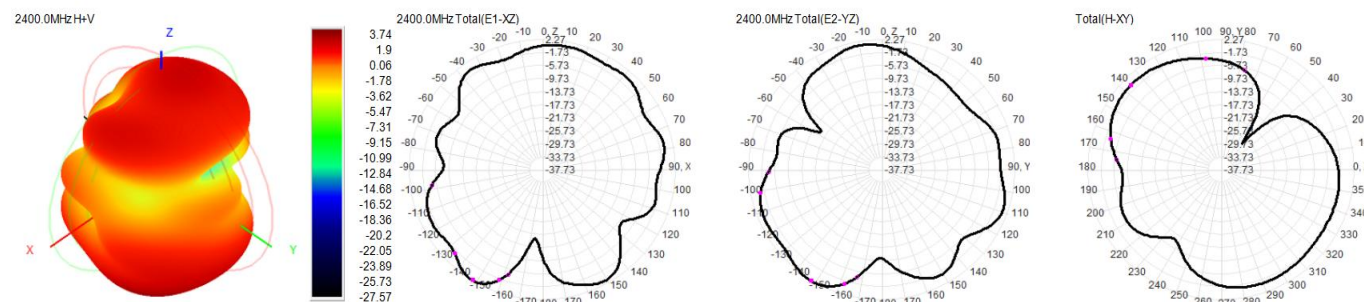


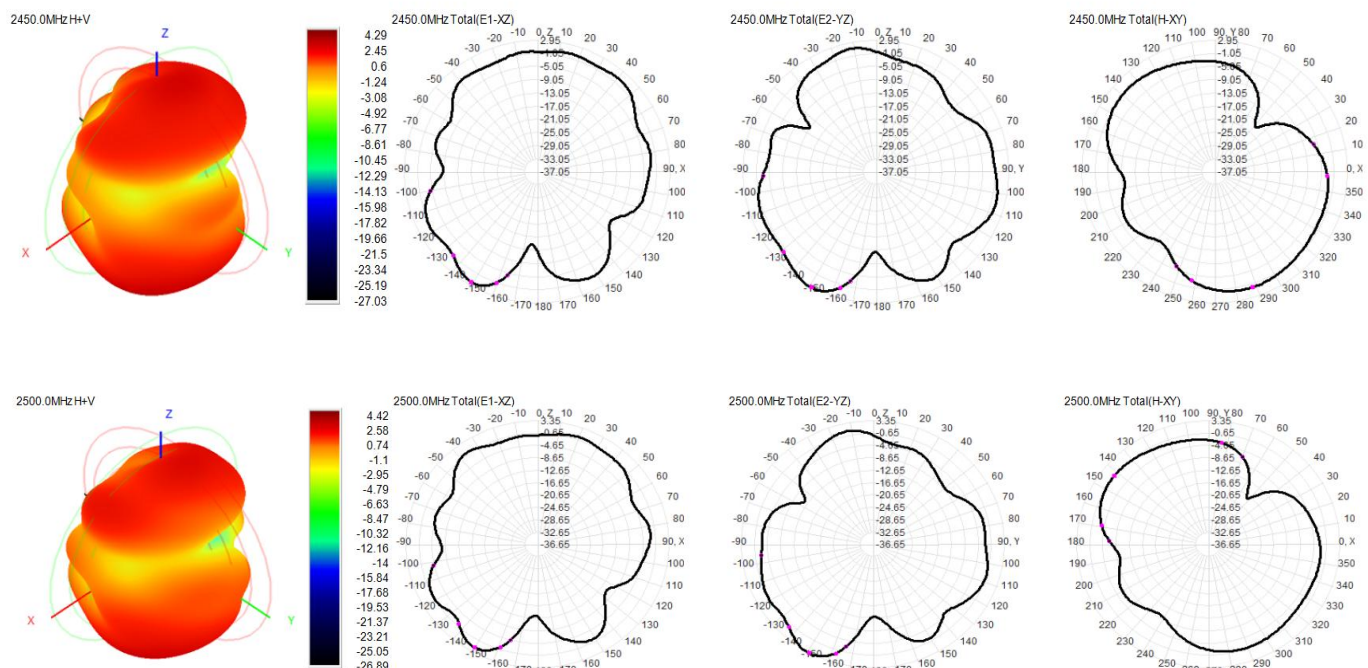
Chart 2 VSWR

### 5.2 Efficient and gain.

| Passive  | Freq(MHz) | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Test For | Effi(%)   | 60.64 | 61.73 | 61.68 | 59.90 | 59.51 | 57.85 | 56.92 | 56.73 | 54.80 | 52.79 | 52.94 |
|          | Gain(dBi) | 2.31  | 2.29  | 2.32  | 2.38  | 2.34  | 2.29  | 2.42  | 2.38  | 2.34  | 2.29  | 2.42  |

### 5.3 Radiation pattern.





## 6. 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. 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. Electronic Performance is ok. | PASS   |
| 3         | Salt-Spray 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 No appear rusting                                 | PASS   |

## 7. Assemble type.



Chart3 assemble type

## 8.Product Drawing



Length :25.75mm

Width:16.84mm

