



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳市艾莱卡科技有限公司

Product Name: 2.4GHz Antenna

Product Model:

Part Number: LJP02-24071308-R0A

Write By : Huxuwen

Issued Date: 2024-07-13

### 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 | 2024/07/13 |        |
|      |                       |            |        |
|      |                       |            |        |



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### 3.Product Specification

| A. Electrical Characteristics            |                   |
|------------------------------------------|-------------------|
| Frequency                                | 2400MHz ~2500 MHz |
| VSWR                                     | <2.0              |
| Efficiency                               | ≥40%              |
| Impedance                                | 50Ohm             |
| Polarization                             | Linear            |
| Gain                                     | ≤3.64dB           |
| B. Material & Mechanical Characteristics |                   |
| Material of Radiator                     | PCB(black),板载     |
| Cable Type                               | N/A               |
| Connector Type                           | N/A               |
| Dimension                                | N/A               |
| C. Environmental                         |                   |
| Operation Temperature                    | - 20 °C ~ + 70 °C |
| Storage Temperature                      | - 30 °C ~ + 85 °C |
| Humidity                                 | 40%~95%           |

### 4.TestEquipment & Conditions

- |                                  |                     |
|----------------------------------|---------------------|
| 1.Network Analyzers              | Agilent 8753D/5071C |
| 2.HSPA and LTE protocol test set | R&SCMW500 -PT       |
| 3.Communications Test Set        | Agilent 8960        |
| 4.3D Chamber Test System         |                     |

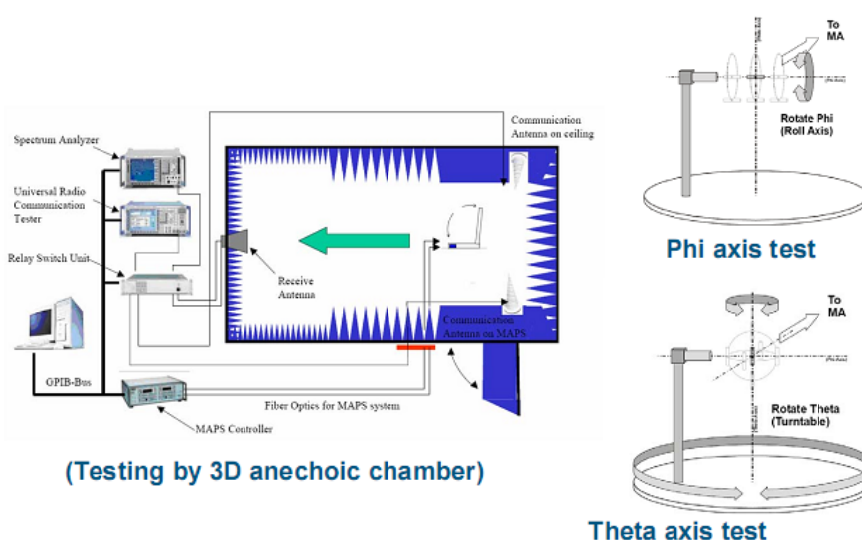


Chart1 Test topology

## 5.Test Report

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

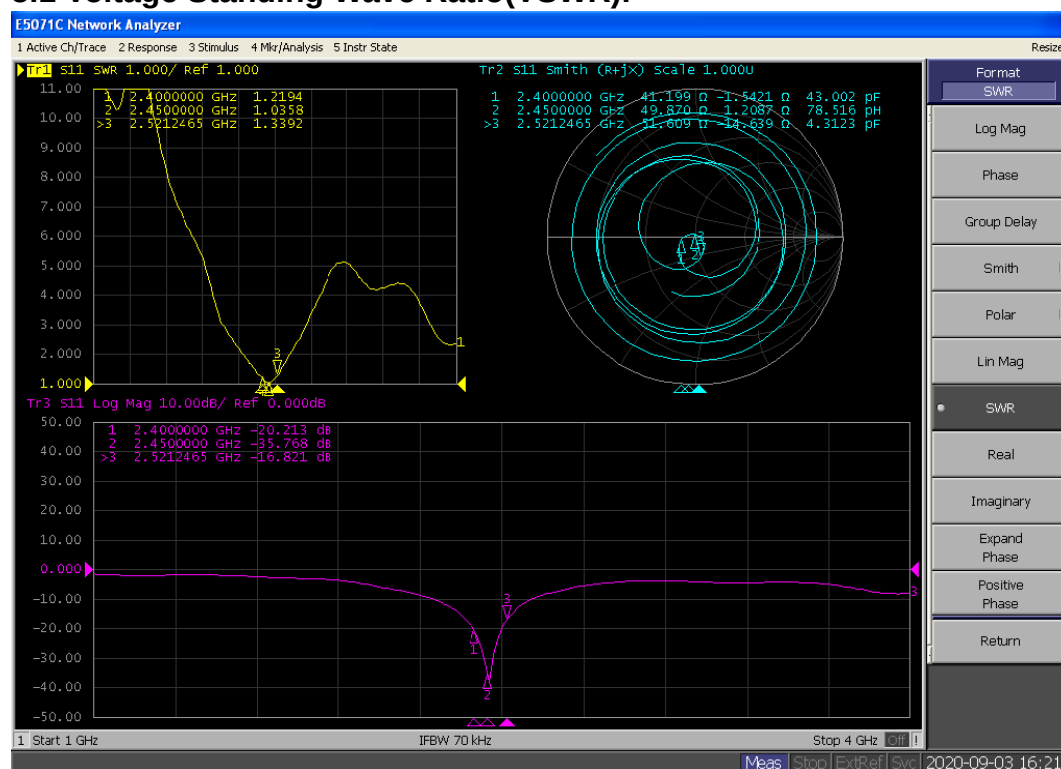
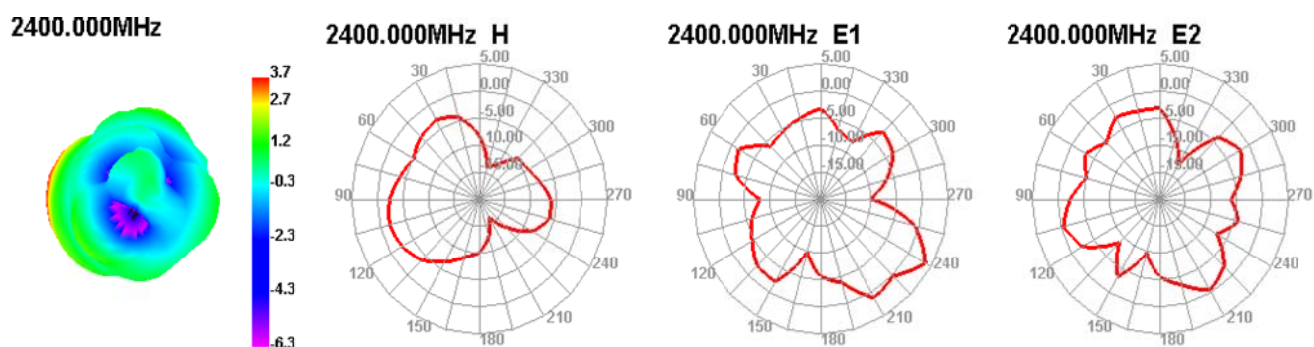


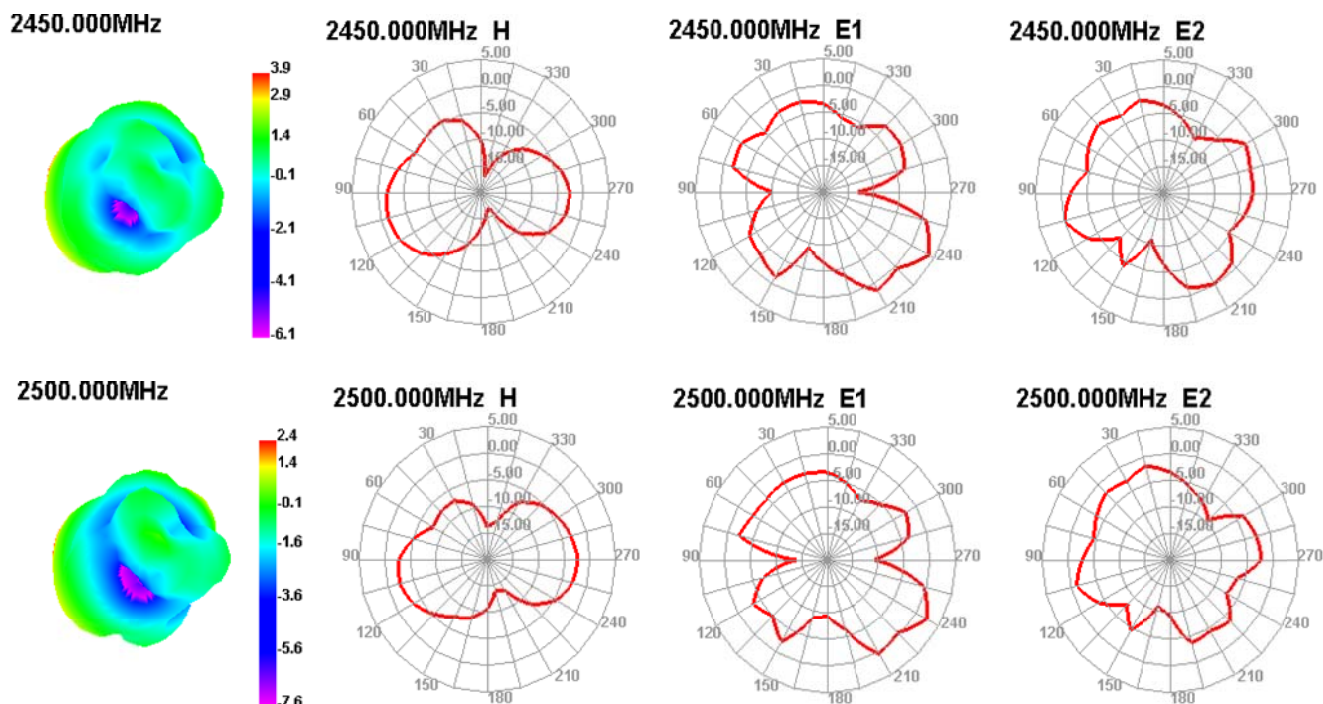
Chart2 VSWR

### 5.2 Efficient and gain.

| Passive Test | Freq(MHz) | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|--------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2.4GHz       | Effi(%)   | 58.62 | 51.84 | 56.47 | 55.07 | 54.54 | 53.06 | 51.80 | 52.38 | 53.21 | 52.77 | 50.64 |
|              | Gain(dBi) | 3.55  | 3.60  | 2.75  | 2.84  | 3.01  | 3.64  | 3.24  | 3.02  | 2.72  | 2.37  | 2.20  |

### 5.3 Radiation pattern.





## 6. Reliability Test

| Test Item                            | Test condition                                                                                                                                                                                                                                                                                                             | Equipment             | Specification                                                      | Result |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------|--------|
| 1 LowTemp. 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-downthe temp. to -30℃ in one hour, store antenna for44 hours; step-up temp to 25℃,test antenna after2 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 thetemp. to 80℃ and the humidity up to 85% in onehour, 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 6pray Test              | Placing antenna in the Salt-Spray Tester ,set thetest 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 appear rusting                                     | PASS   |

## 7. Assemble type (omit)

## 8. Product Drawing

