



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

Customer Name: \_\_\_\_\_

Product Name: 2.4GHz Antenna

Product Model: \_\_\_\_\_

Part Number: LJW01-17091602-R0A

Write By : Huxuwen

Issued Date: 2021-04-08

### 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 | 2021/04/08 |        |
|      |                       |            |        |
|      |                       |            |        |



## Index

|                                |   |
|--------------------------------|---|
| 1. Cover                       | 1 |
| 2. Index                       | 2 |
| 3. Product Specification       | 3 |
| 4. Test Equipment & Conditions | 3 |
| 5. Test Report                 | 4 |
| 6. Reliability Test            | 5 |
| 7. Assemble type               | 5 |
| 8. Product Drawing             | 6 |

### 3.Product Specification

| A. Electrical Characteristics            |                     |
|------------------------------------------|---------------------|
| Frequency                                | 2400MHz ~2500 MHz   |
| VSWR                                     | <2.0                |
| Efficiency                               | >40%                |
| Impedance                                | 50Ohm               |
| Polarization                             | Linear              |
| Gain                                     | 1.19dBi             |
| B. Material & Mechanical Characteristics |                     |
| Material of Radiator                     | Metal               |
| Cable Type                               | N/A                 |
| Connector Type                           | N/A                 |
| Dimension                                | 19.0*3.50*3.75(H)mm |
| C. Environmental                         |                     |
| Operation Temperature                    | - 20 °C ~ + 70 °C   |
| Storage Temperature                      | - 30 °C ~ + 85 °C   |
| Humidity                                 | 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

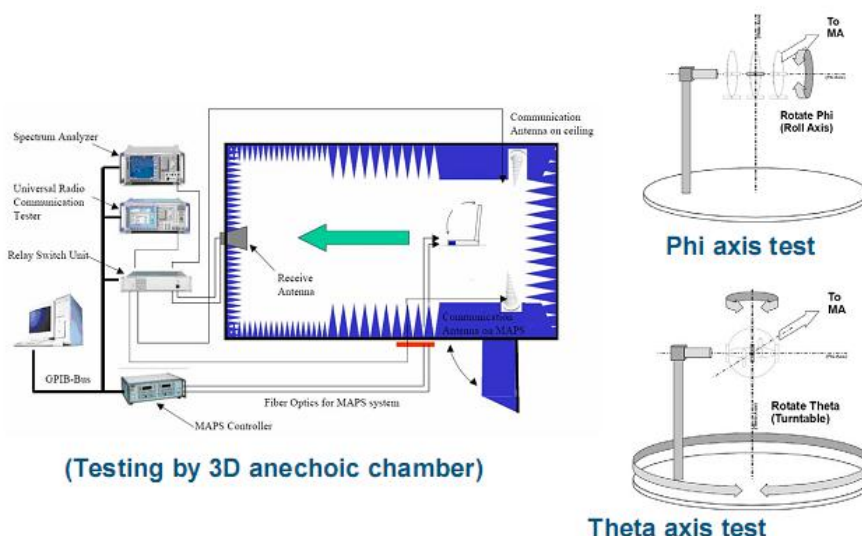


Chart 1 Test topology

## 5.Test Report

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

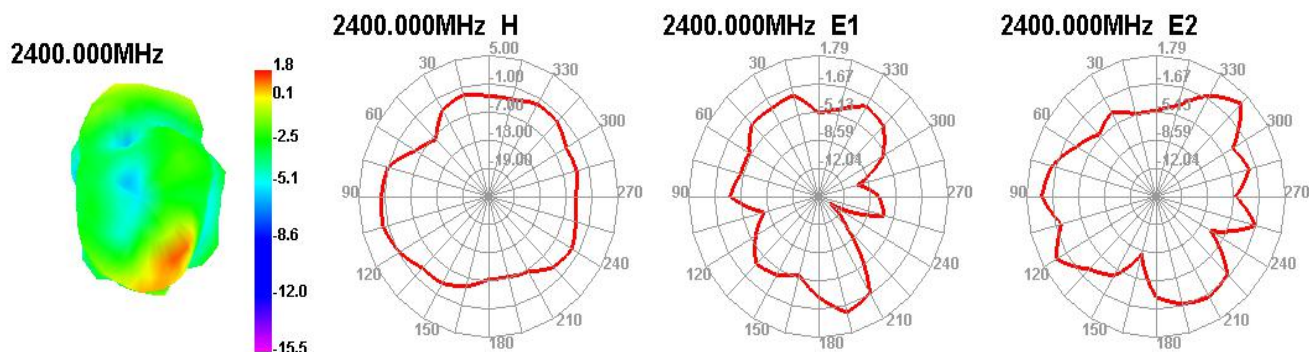


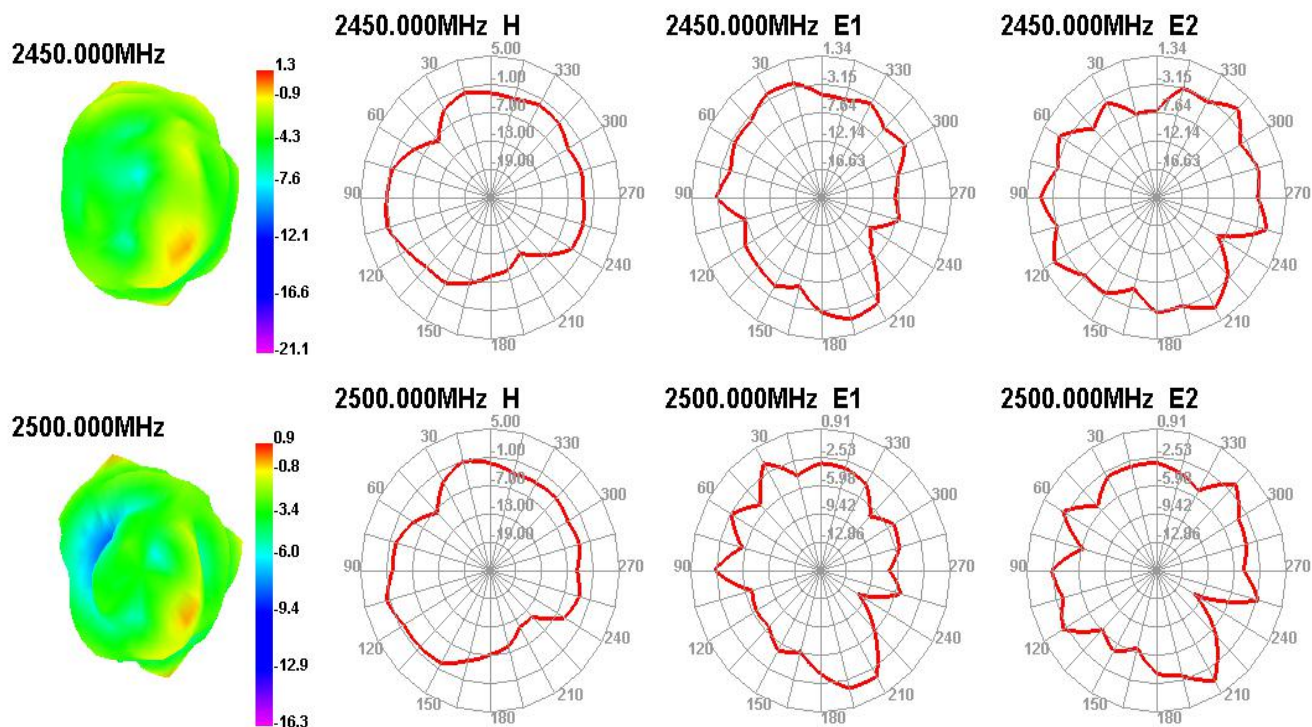
Chart 2 VSWR

### 5.2 Efficient and gain.

| Passive       | Freq(MHz) | 2400  | 2410  | 2420  | 2430  | 2440  | 2450  | 2460  | 2470  | 2480  | 2490  | 2500  |
|---------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Test For WIFI | Effi(%)   | 42.62 | 46.84 | 51.47 | 55.07 | 53.54 | 48.06 | 51.80 | 49.38 | 44.21 | 42.77 | 40.64 |
|               | Gain(dBi) | 0.97  | 1.04  | 1.06  | 1.05  | 0.94  | 0.99  | 1.02  | 1.19  | 1.02  | 0.77  | 0.36  |

### 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.&Hum. 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.&Hum. 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   |

## 7. Assemble type(omitted)

## 8. Product Drawing

