



# SPECIFICATIONS FOR APPROVAL

Customer Name: 深圳乐木骆科技有限公司

Product Name: WIFI Antenna

Product Model: 203

Part Number: LJF02-23022508-R0A

Write By : Huxuwen

Issued Date: 2023-02-27

## CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

## LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL

REV	MODIFIED DESCRIPTION	DATE	REMARK
V0.1	Initial Draft Release	2023/02/27	



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## 3.Product Specification

A. Electrical Characteristics	
<b>Frequency</b>	2400MHz ~2500 MHz 5150MHz ~5850 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(Yellow),LJWF84A
<b>Cable Type</b>	Φ1.13mm,L120mm,Black
<b>Connector Type</b>	IPX1
<b>Dimension</b>	45.0*11.mm
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

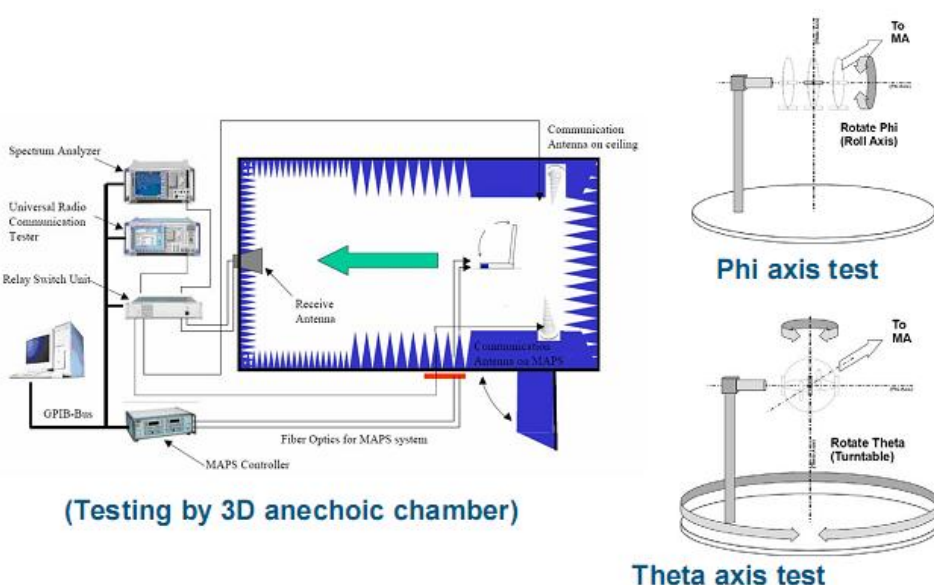


Chart 1 Test topology



## 5. Test Report

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

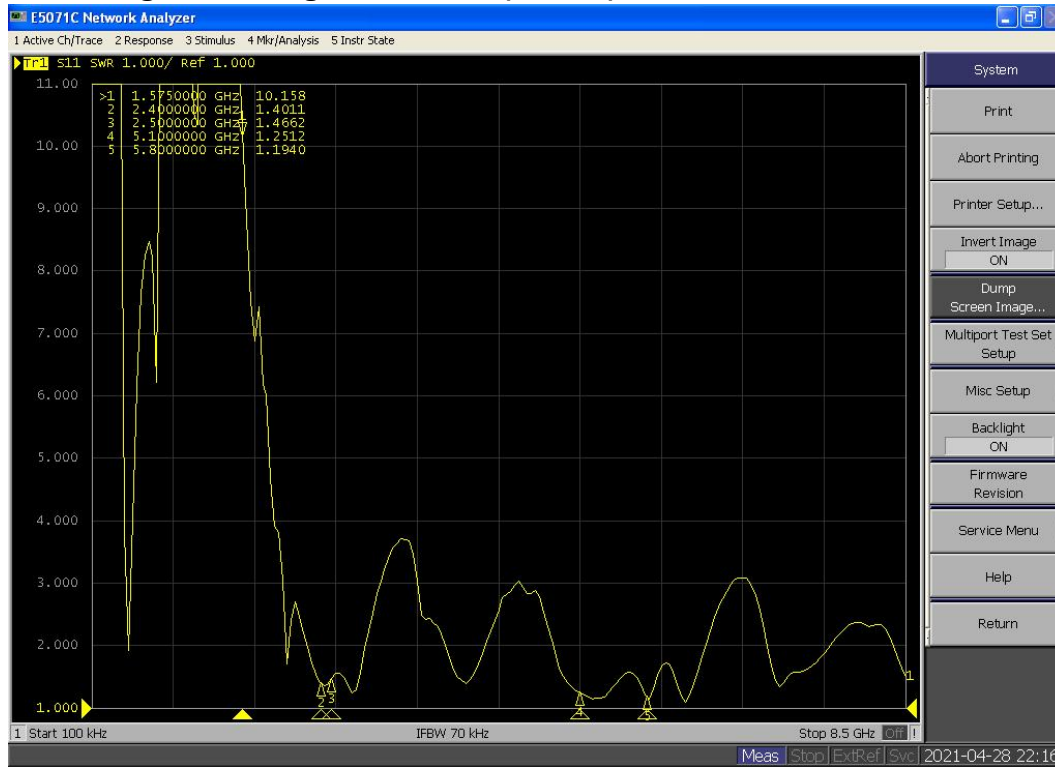


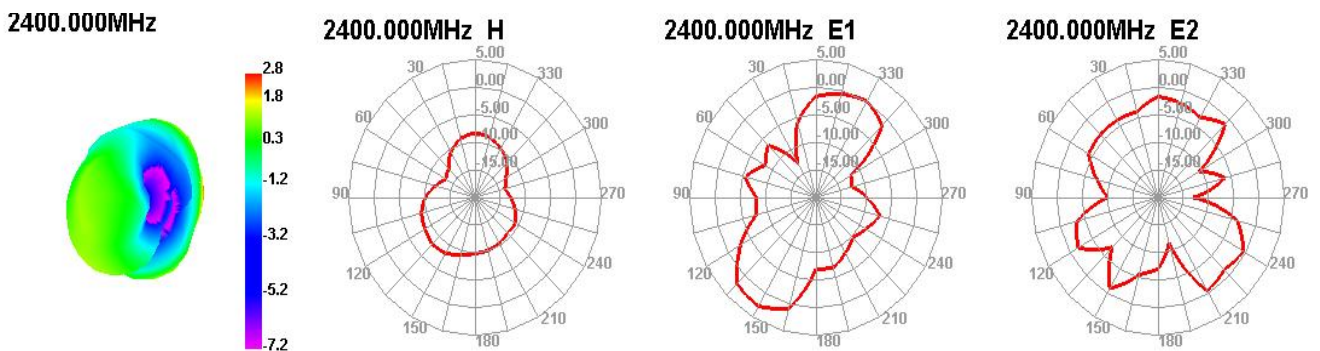
Chart 2 VSWR

### 5.2 Efficient and gain.

Passive Test For 2.4GHz	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Effi(%)		53.13	56.42	51.28	52.75	56.56	55.37	59.05	57.41	58.62	60.07	58.52
Gain(dBi)		2.14	2.28	1.92	1.94	2.10	1.98	2.24	2.18	2.26	2.15	2.08

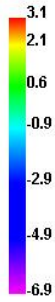
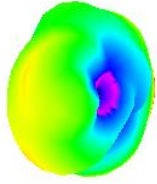
Passive Test For WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
Effi(%)		54.31	53.00	52.99	57.95	57.71	56.34	55.47	57.58	56.27	54.79	57.37	55.58	57.06	52.53	53.91
Gain(dBi)		2.23	2.39	2.32	2.37	2.35	2.48	2.58	2.31	2.55	2.48	2.57	2.48	2.37	2.34	2.28

### 5.3 Radiation pattern.

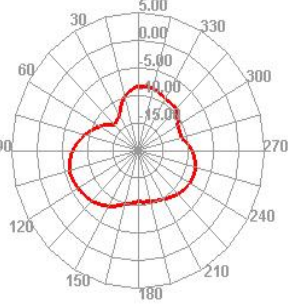




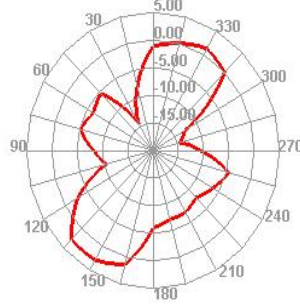
2450.000MHz



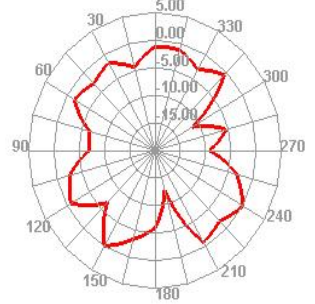
2450.000MHz H



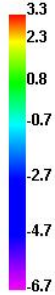
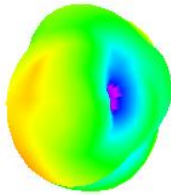
2450.000MHz E1



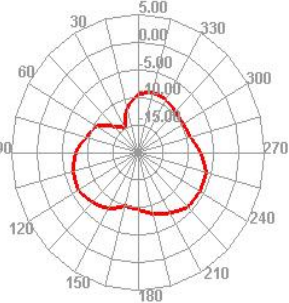
2450.000MHz E2



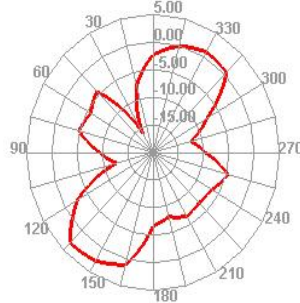
2500.000MHz



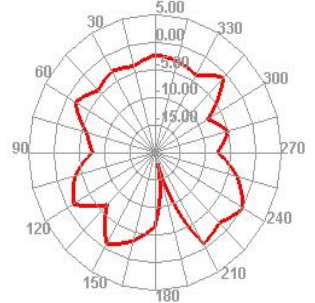
2500.000MHz H



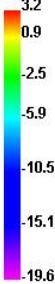
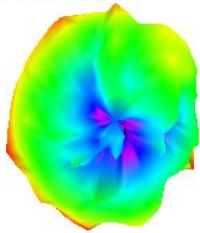
2500.000MHz E1



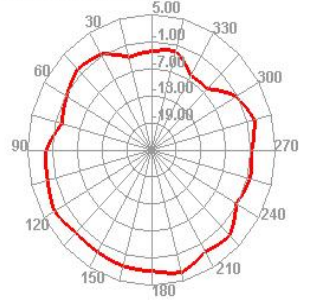
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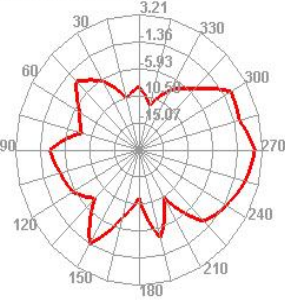
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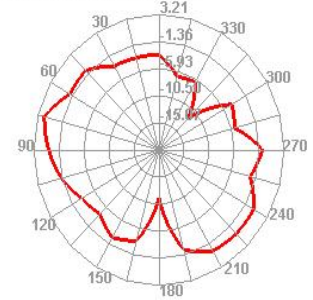
5200.000MHz H



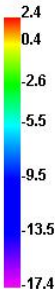
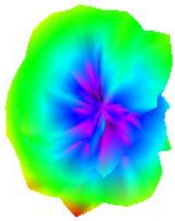
5200.000MHz E1



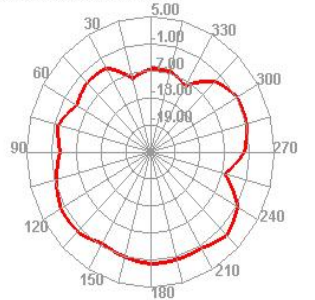
5200.000MHz E2



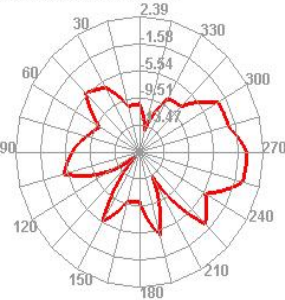
5550.000MHz



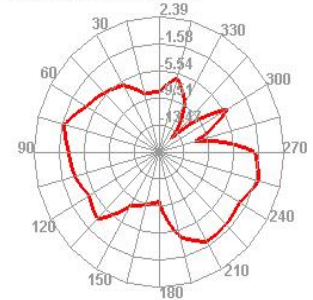
5550.000MHz H



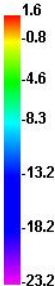
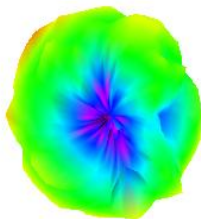
5550.000MHz E1



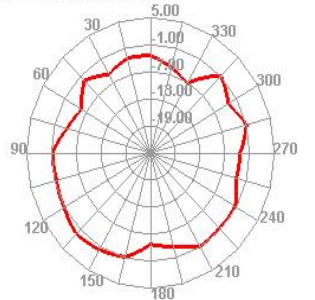
5550.000MHz E2



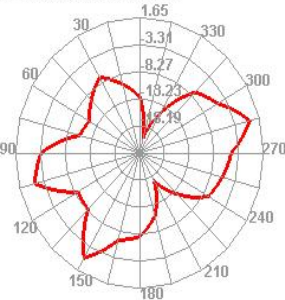
6000.000MHz



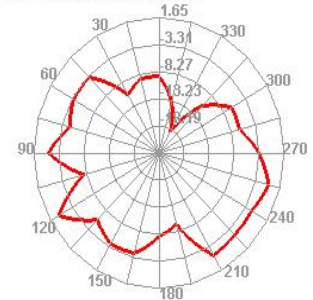
6000.000MHz H



6000.000MHz E1



6000.000MHz E2



## 6. Reliability Test

Test Item	Test condition	Equipment	Specification	Result
1 Low Temp. Storage Test	Temperature: -30°C, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25 °C and humidity is 65% for one hour, then step-down the temp. to -30 °C in one hour, store antenna for 44 hours; step-up temp to 25 °C ,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°C Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25 °C and humidity is 65% for one hour, then step-up the temp. to 80 °C and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25 °C ,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°C 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

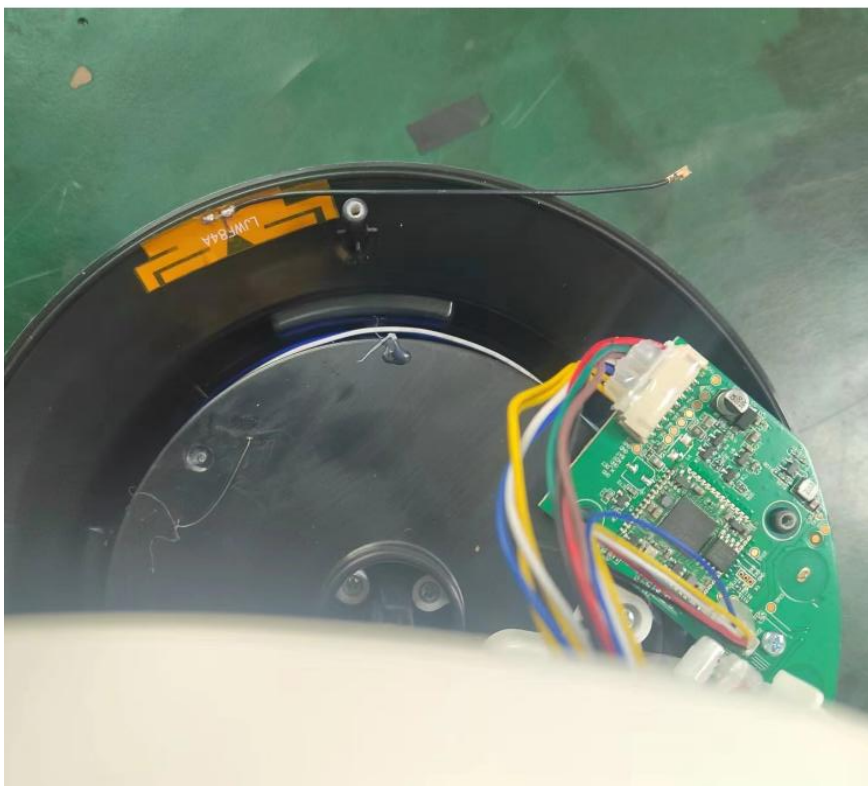
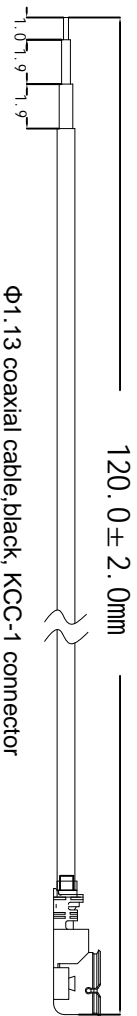
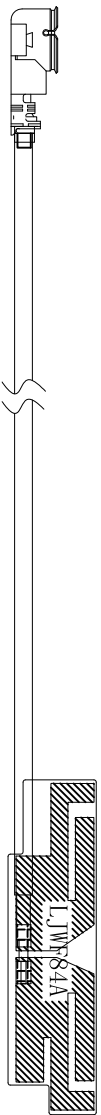
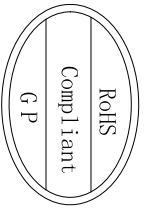


Chart 3 203 assemble type

## 8. Product Drawing



120.0 ± 2.0mm

Φ1.13 coaxial cable, black, KCC-1 connector

25.98

**Remark:**

- 1.FPC material:Electrolytic copper.
- 2.Backing in behind:3M300LSE.
- 3.Tolerance: Cutting die:±0.1mm;Circuit on FPC:±0.05mm; others are ±0.05mm.
- 4.ROHS:(Pb,Hg,Cr+6,PBBs,PBDEs),<1000ppm; Cd,<100ppm.

1			
2			
3			

**SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD**

Project: 乐木骆

Part Name: WIFI/BT ANT

Part No.: 203

Material: MD

Treatment: LjF02-23022508-R0A

Location: ±0.20 Angle: ±0.5°

Third Angle: 0.02

0~10 ±0.05

10~18 ±0.10

18~30 ±0.12

30~40 ±0.15

40~ ±0.20

Rev	Description	Date	Remark
1	New drawing		

Unit	mm	Scale	FIT	Rev	A

Project	Date	2023-02-27
Designed by		
Checked by		
Approved by		