



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

Customer Name: Shenzhen Creality 3D Technology Co.,LTD

Product Name: WIFI Antenna

Product Model: F011

Part Number: LJF02-24073008-R0A

Write By : Huxuwen

Issued Date: 2024-07-30

### 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	2024/07/30	



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## 1.1 Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz 5150MHz ~5850 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4G)	≤2.49dBi
Gain(2.4G)	≤3.13dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(black),LJWF42A
Cable Type	Φ1.13mm,L80mm,black
Connector Type	IPX1
Dimension	30.0*10.0mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 70 °C
Storage Temperature	- 30 °C ~ + 85 °C
Humidity	40%~95%

## 1.2 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         |                     |

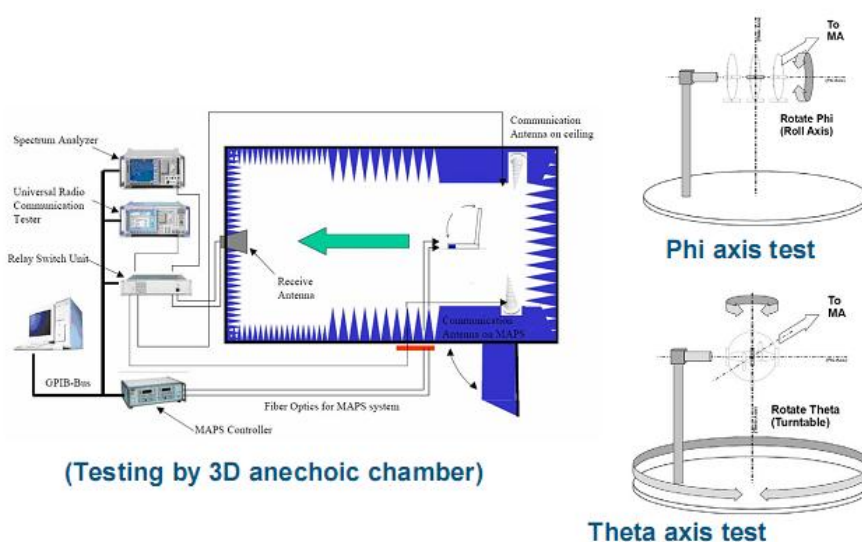


Chart 1 Test topology

## 1.3 Test Report

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

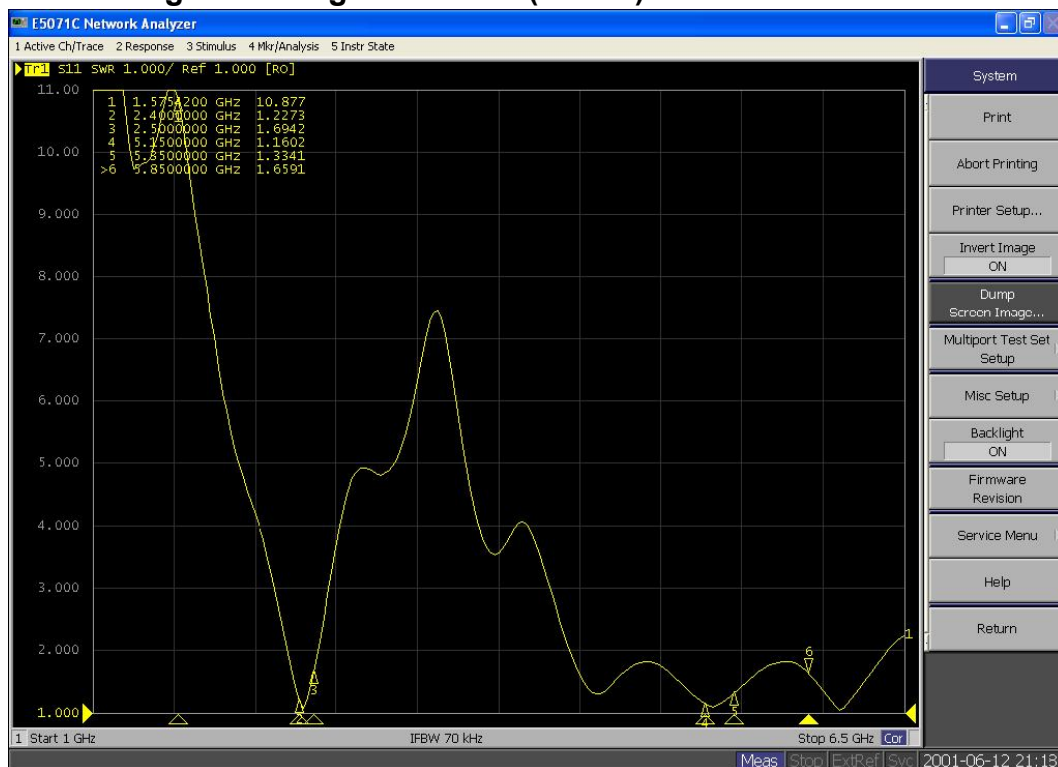


Chart 2 VSWR

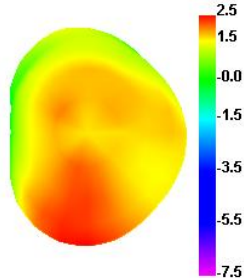
### 1.3.2 Efficient and gain.

Passive Test	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
2.4GHz	Effi(%)	49.39	49.73	50.03	50.61	50.92	51.24	51.70	52.35	53.59	52.61	51.66
	Gain(dBi)	2.48	2.49	2.48	2.45	2.42	2.33	2.24	2.14	2.06	2.04	2.07

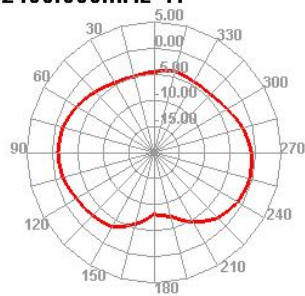
Passive Test WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
5G	Effi(%)	53.64	53.19	50.30	52.06	54.00	51.62	51.36	53.09	52.82	51.62	51.30	51.70	52.90	52.86	50.46	53.35	55.13	51.84
	Gain(dBi)	2.27	2.08	1.96	2.14	2.75	2.88	2.64	2.94	3.13	3.01	2.86	2.72	2.66	2.53	2.48	2.30	2.05	1.84

### 1.3.3 Radiation pattern.

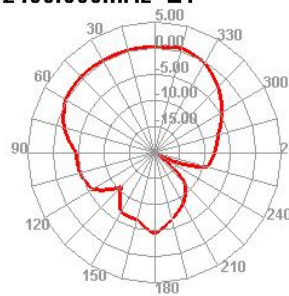
2400.000MHz



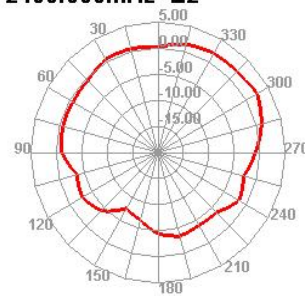
2400.000MHz H



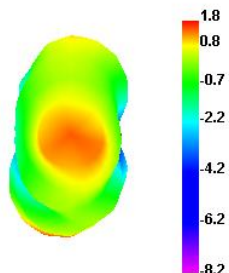
2400.000MHz E1



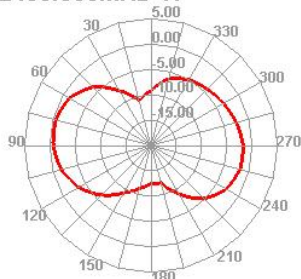
2400.000MHz E2



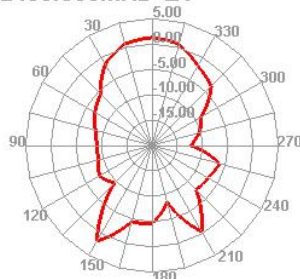
2450.000MHz



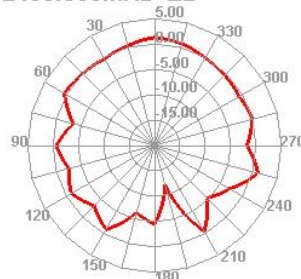
2450.000MHz H



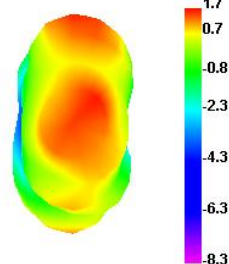
2450.000MHz E1



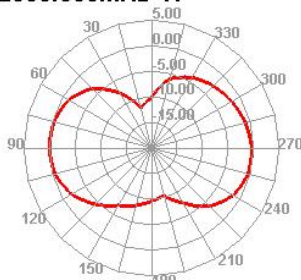
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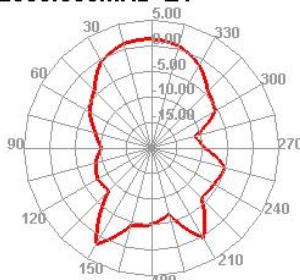
2500.000MHz



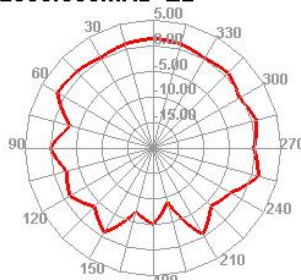
2500.000MHz H



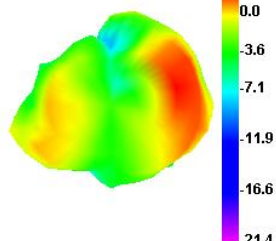
2500.000MHz E1



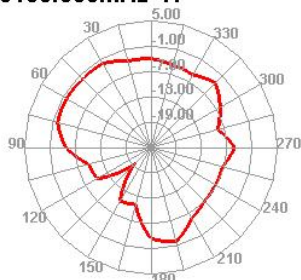
2500.000MHz E2



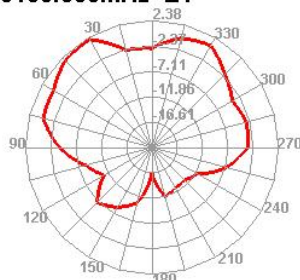
5150.000MHz



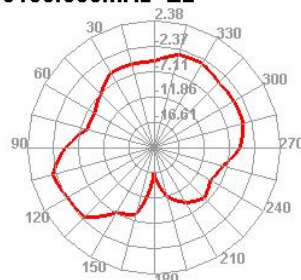
5150.000MHz H



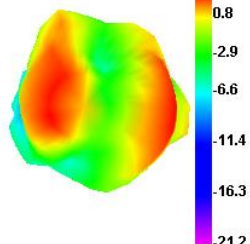
5150.000MHz E1



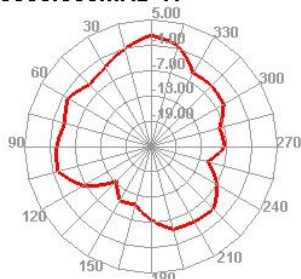
5150.000MHz E2



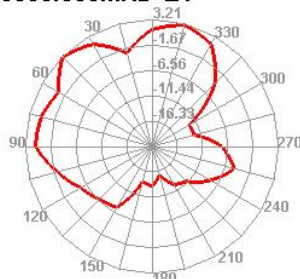
5550.000MHz



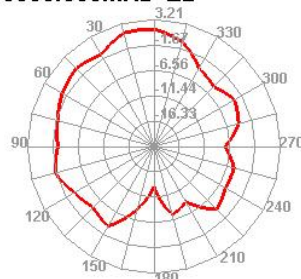
5550.000MHz H



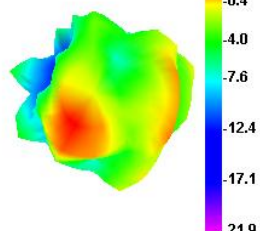
5550.000MHz E1



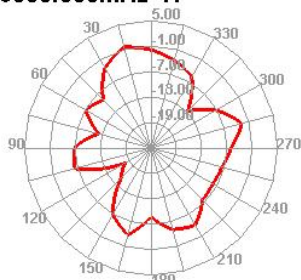
5550.000MHz E2



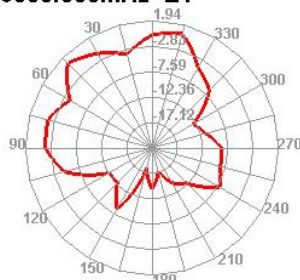
6000.000MHz



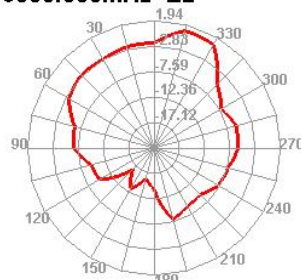
6000.000MHz H



6000.000MHz E1



6000.000MHz E2





## 5. Reliability Test

Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃, Time:48hrs 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 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 6 pray Test	Placing antenna in the Salt-Spray Tester, set the test condition, Temp: $35 \pm 2^\circ\text{C}$ Humidity: 85% NaCl salt spray: $5 \pm 1\%$ . PH value: 6.5~7.2 Testtime: 24 hours	Salt-Spray Tester	No color change No appearance rusting	PASS

