



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

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

Product Name: WIFI Antenna

Product Model: CL-103

Part Number: LJF02-21051910-R1A

Write By : Huxuwen

Issued Date: 2021-05-19

### 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	2021/05/19	
V1.1	Revise the spec of cable	2023/02/28	



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### 3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	>60%
Impedance	50Ohm
Polarization	Linear
Gain	>=1.8dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Green),70B
Cable Type	Φ1.37mm,L500mm,Black
Connector Type	IPX1
Dimension	48.3*8.25mm
C. Environmental	
Operation Temperature	- 30 °C ~ + 80 °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         |                     |

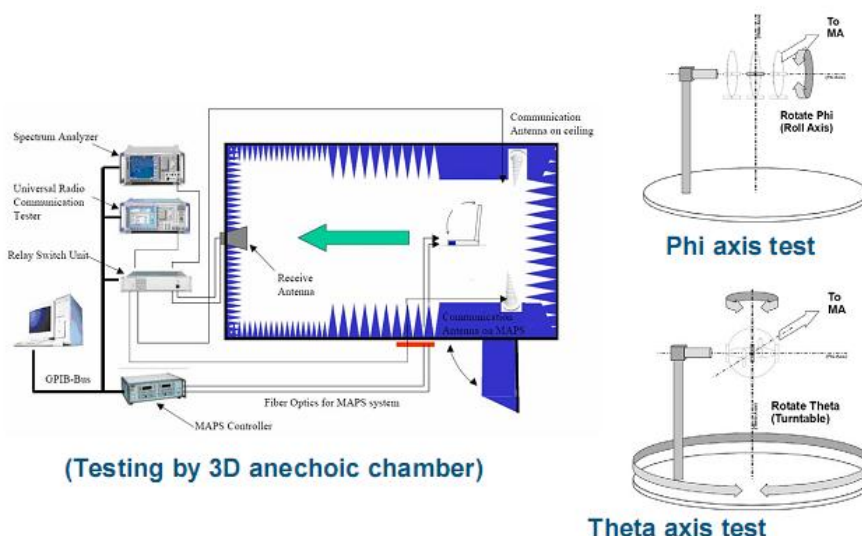


Chart 1 Test topology

## 5.Test Report

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

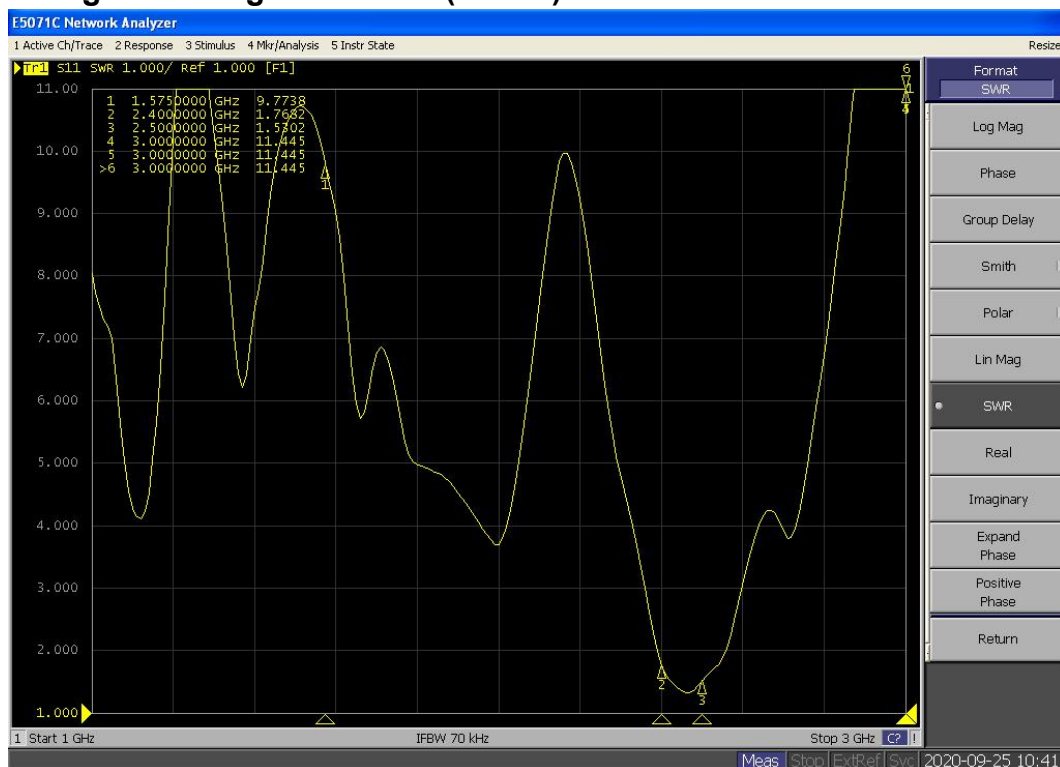
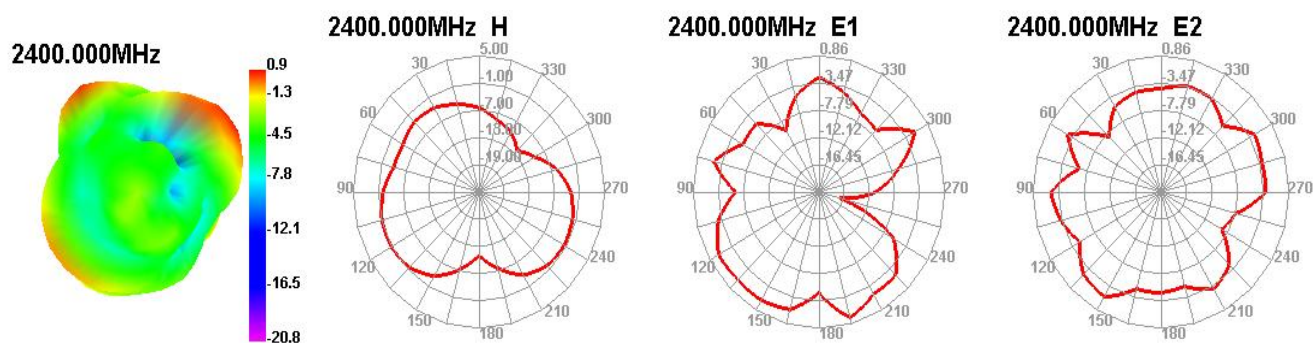


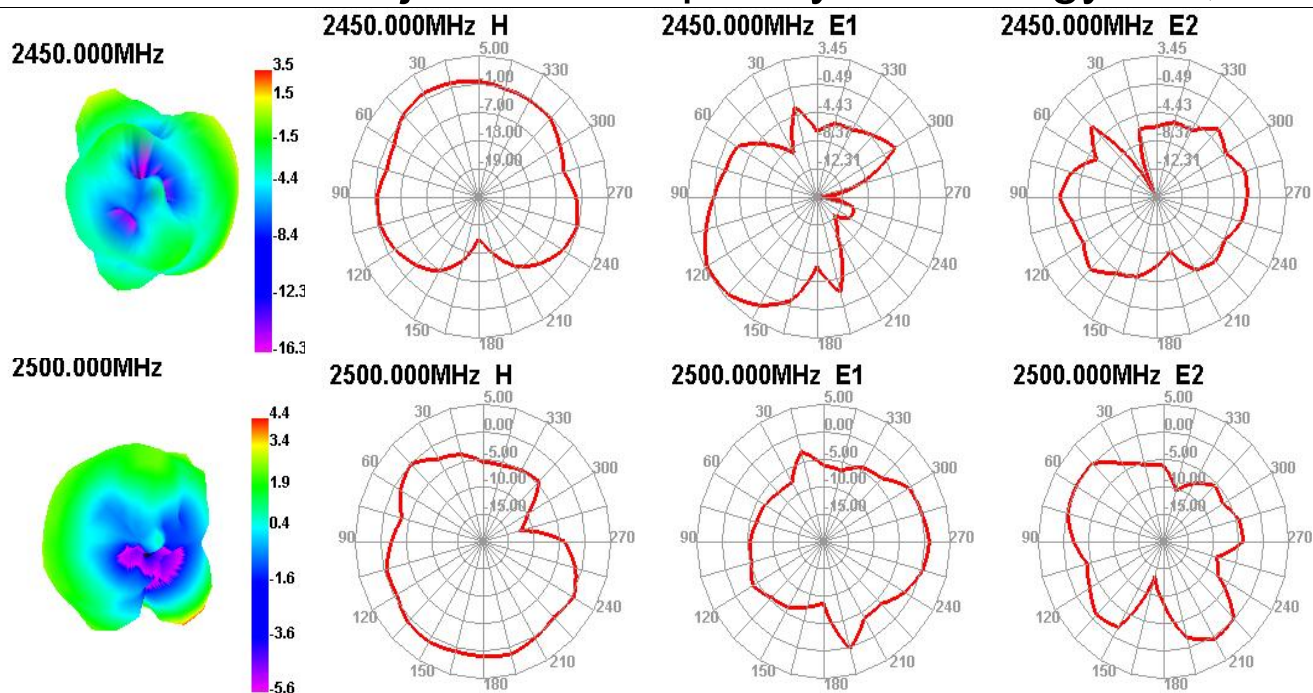
Chart 2 VSWR

### 5.2 Efficient and gain.

Passive Test For WIFI 2.4G	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	67.47	69.42	72.23	73.69	70.52	71.04	65.51	68.02	65.23	60.17	53.71
	Gain(dBi)	1.88	2.03	2.20	2.24	2.12	2.19	2.04	2.02	1.87	1.92	1.69

### 5.3 Radiation pattern.



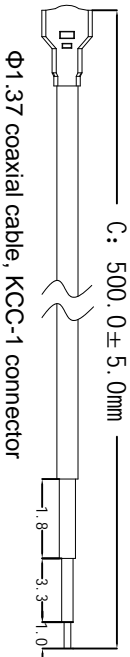
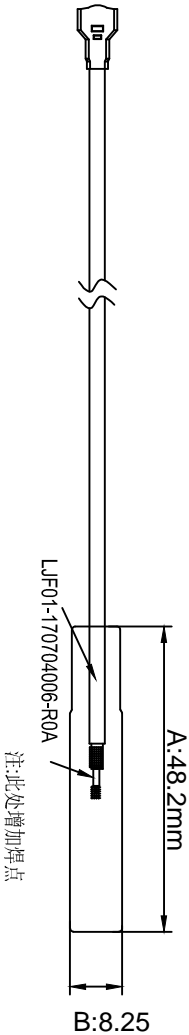
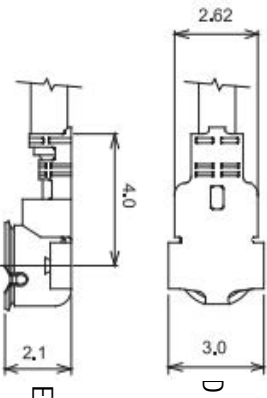
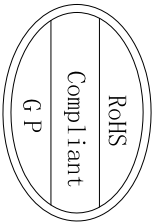


## 6. Reliability Test

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.&Humi. 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.&Humi. 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±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(omitted)

## 8. Product Drawing



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

 SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

						Third Angle		Project		Creativity 3D		Date		2018-08-09									
				0~10		±0.05		○		0.02		Part Name		2.4G ANT									
				10~18		±0.10		◎		Ø0.03		Part No.		CL103									
				18~30		±0.12		⊥		0.02		Material											
				30~40		±0.15				0.04		Treatment		LJF02-21051910-R1A									
				40~		±0.20		Angle		±0.5°		Approved by											
				Location								Unit		mm		Scale		FIT		Rev		A	
Rev				Description		Date		Remark															
1				2		3		4		5		6		7		8							