



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-89

Part Number: LJF02-20123008-R0A

Write By : Huxuwen

Issued Date: 2020-12-30

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	2020/12/30	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	>40%
Impedance	50Ohm
Polarization	Linear
Gain	>=2.0dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Green),70B
Cable Type	Φ1.13mm,L100mm,Black
Connector Type	IPX1
Dimension	
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 | |

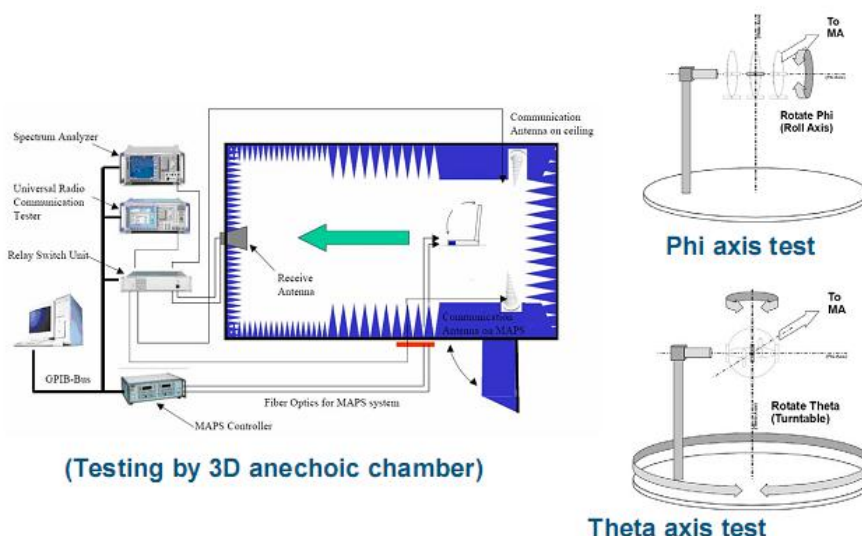


图 1 Test topology

5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

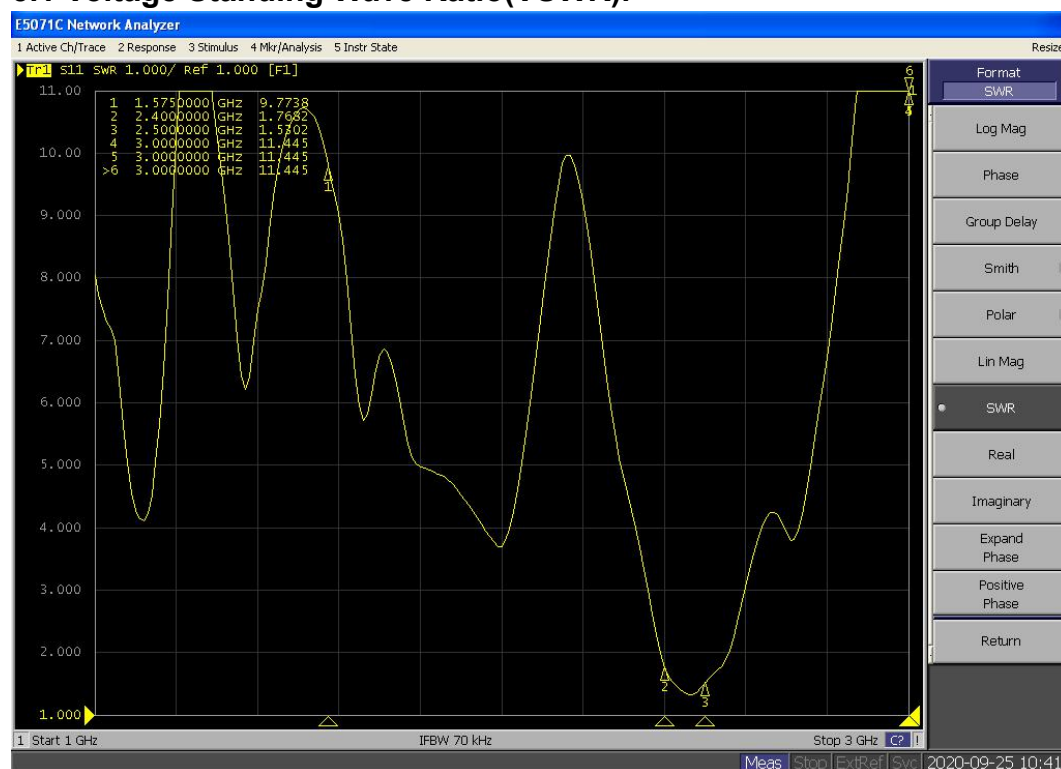
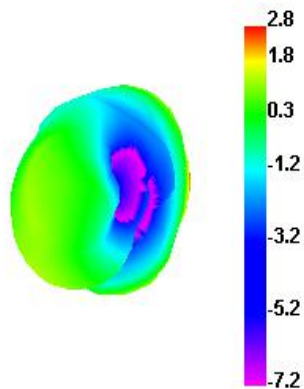


图 2 VSWR

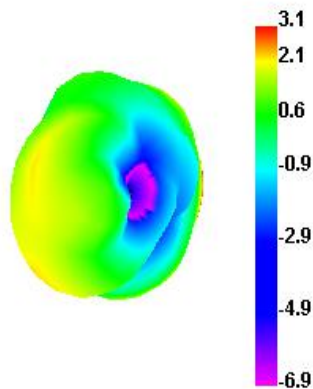
5.2 Efficient and gain(estimating conducted by Lejin in Jan,2021,using 3D drawing document that provided by Crealty.)

Passive Test For WIFI BT											
Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Effi (%)	40.34	44.32	43.77	44.20	43.01	47.76	45.67	48.94	47.85	50.34	47.45
Gain(dBi)	2.35	2.46	2.43	2.38	2.42	2.54	2.38	2.33	2.40	2.05	1.93

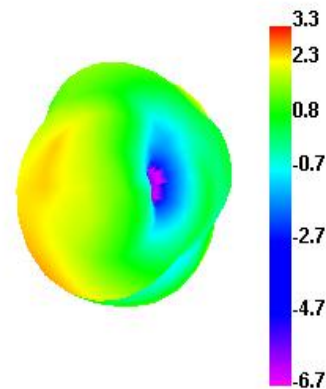
2400.000MHz



2450.000MHz

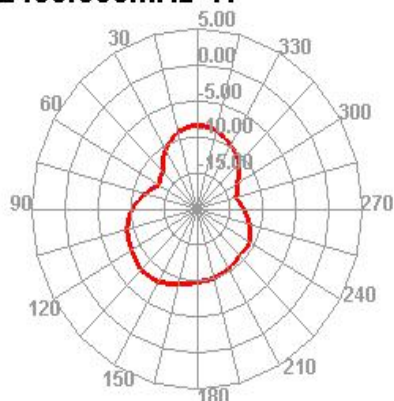


2500.000MHz

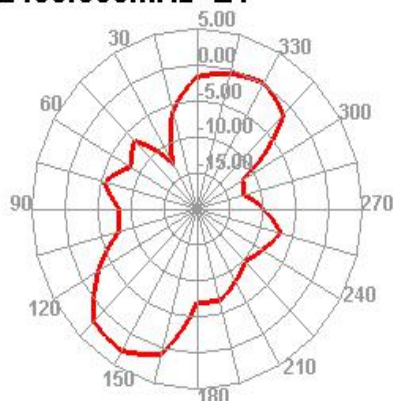




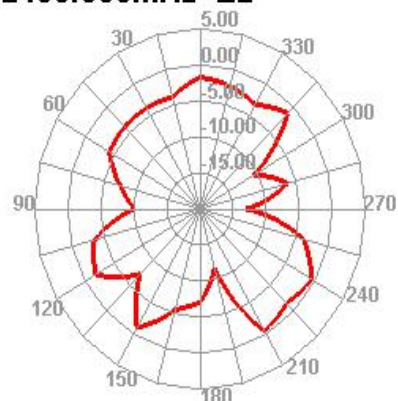
2400.000MHz H



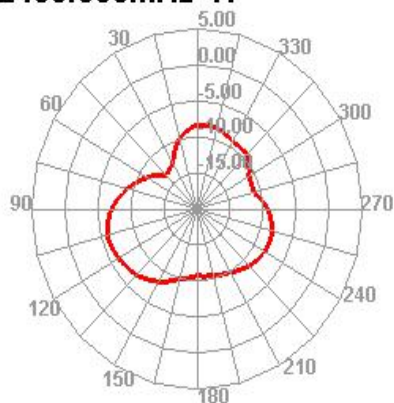
2400.000MHz E1



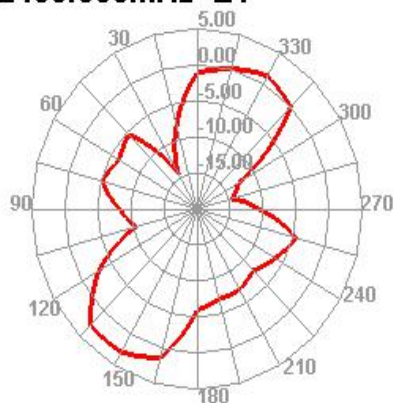
2400.000MHz E2



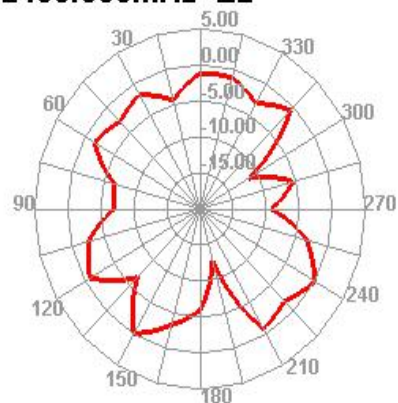
2450.000MHz H



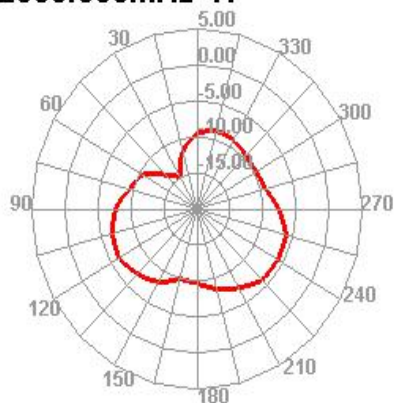
2450.000MHz E1



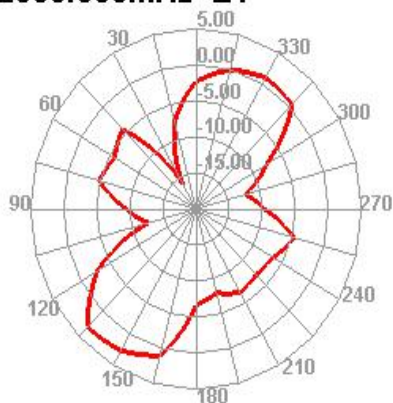
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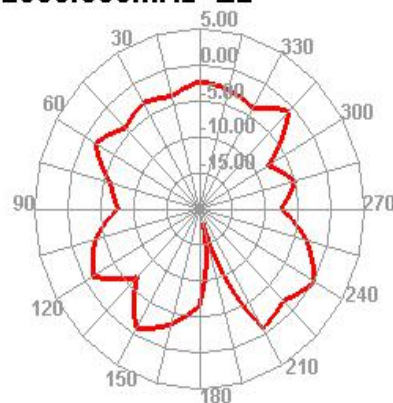
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



6. Reliability Test

Test Item	Test condition	Equipment	Specification	Result
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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:24hours	Salt-Spray Tester	No color change No appear rusting	PASS

7.Assemble type



图3 Overall assemble type

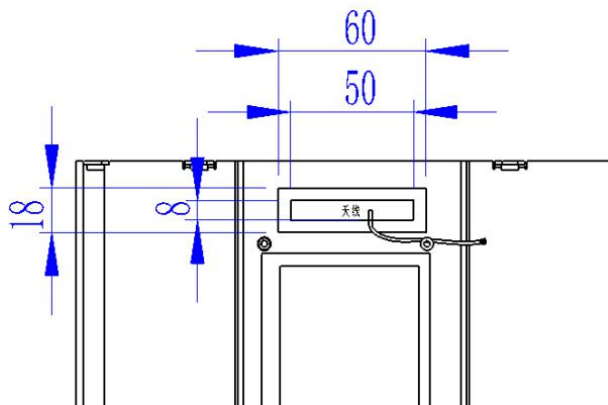
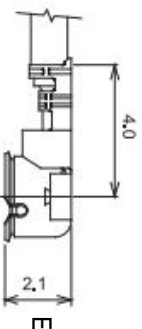
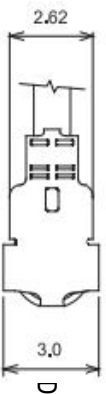
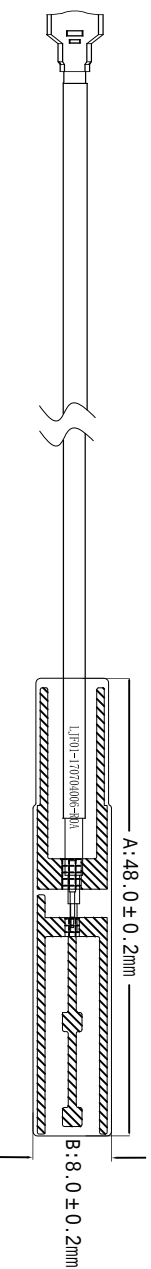
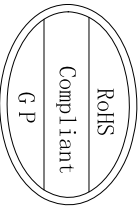


图 4 Antenna position

8.Product Drawing



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.

Rev		Description		Date	Remark
A		New drawing			
1					

SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD			
Third Angle		Project	Creality 3D
0~10	±0.05	0.02	
10~18	±0.10	0.03	
18~30	±0.12	0.02	
30~40	±0.15	0.04	
40~	±0.20	Angle	±0.5°
Location		Treatment	LJF02-20123008-R0A

Part Name	CE-09	Designed by					
Part No.		MD					
Material		Checked by	RF				
		Approved by					
		Unit	mm	Scale	F/T	Rev	A
Treatment	LJF02 -20123008 -ROA						

Unit	mm	Scale	FIT	Rev	A
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