



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

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

Product Name: WIFI/BT Antenna

Product Model: F009

Part Number: LJF02-24080508-R0A

Write By : Huxuwen

Issued Date: 2024-08-05

### 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	2024/08/05	



## 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	≤1.80dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJRF35A
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%

### 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        |

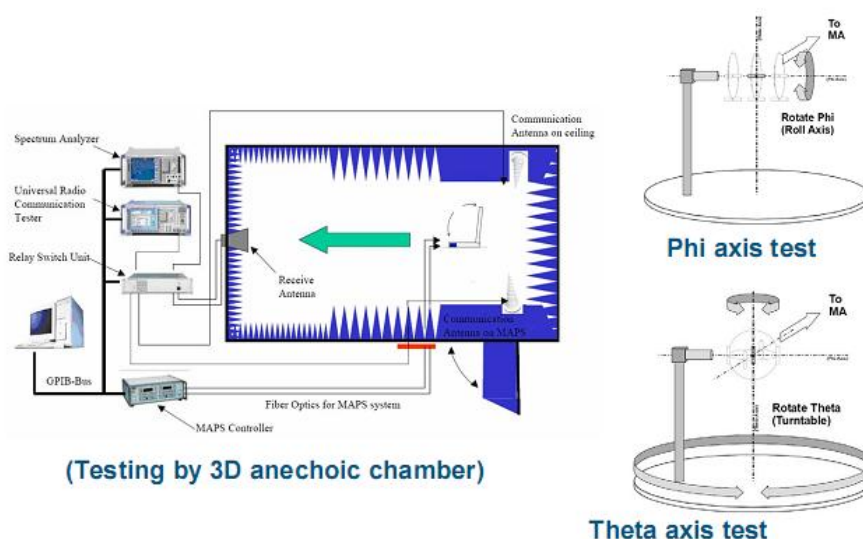


Chart 1 Test topology

## 5.Test Report

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

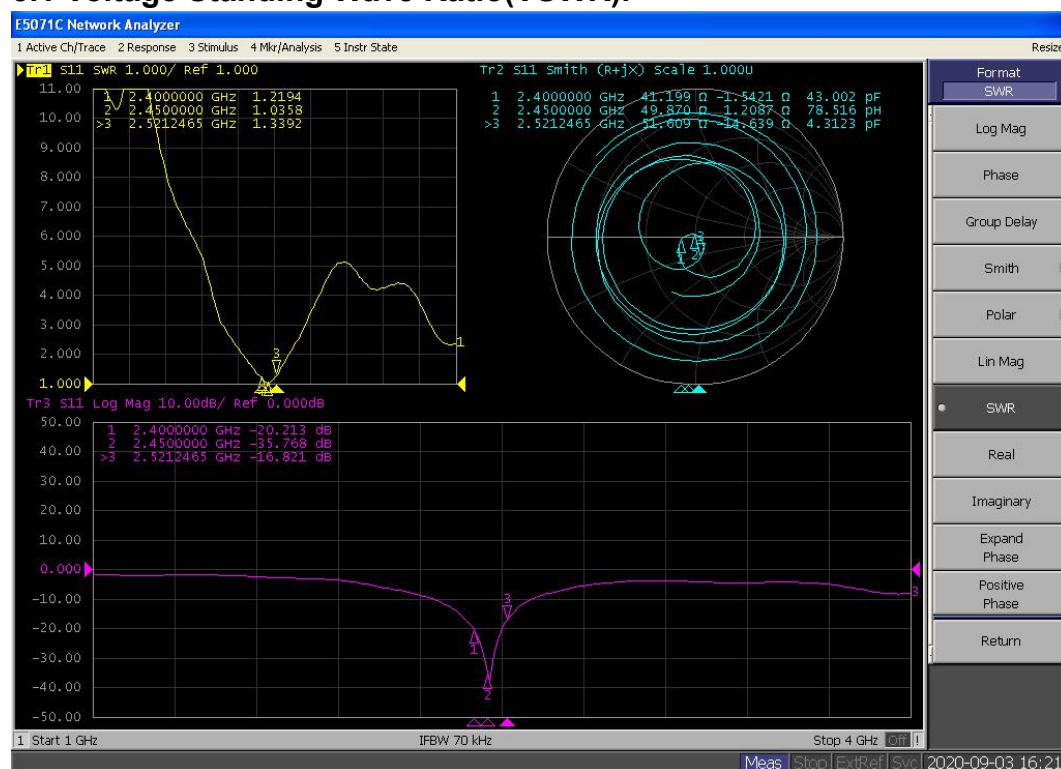
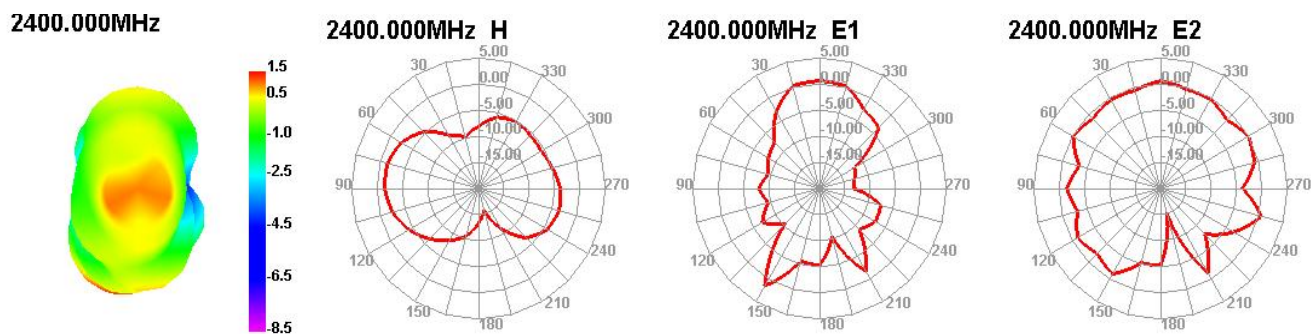


Chart 2 VSWR

### 5.2 Efficient and gain.

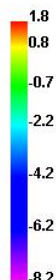
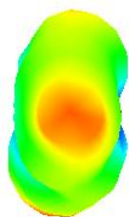
Passive Test	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	47.18	53.75	51.22	50.93	50.25	53.64	55.35	53.98	54.36	54.52	50.35
	Gain(dBi)	1.50	1.79	1.48	1.49	1.36	1.76	1.80	1.61	1.45	1.43	1.67

### 5.3 Radiation pattern.

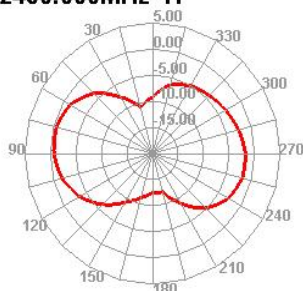




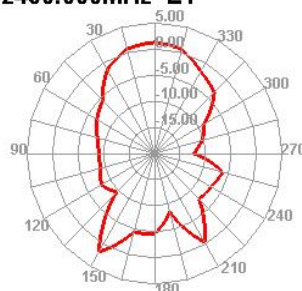
2450.000MHz



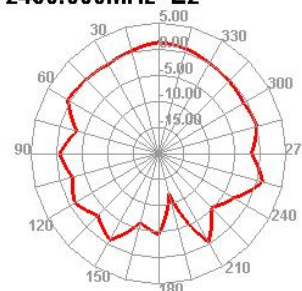
2450.000MHz H



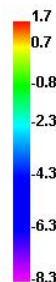
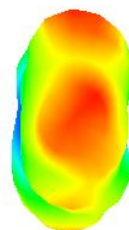
2450.000MHz E1



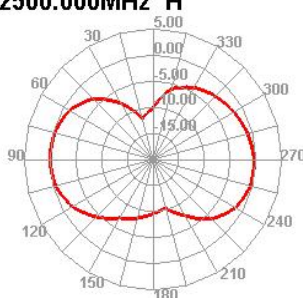
2450.000MHz E2



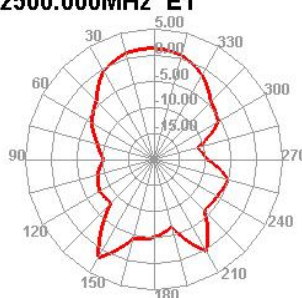
2500.000MHz



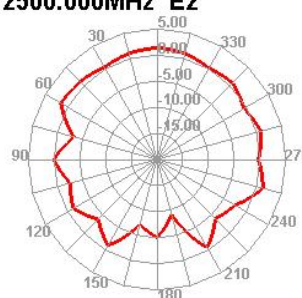
2500.000MHz H



2500.000MHz E1

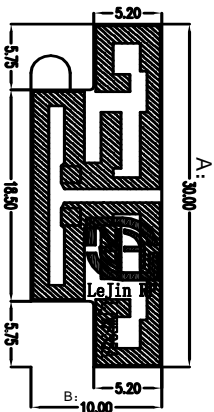
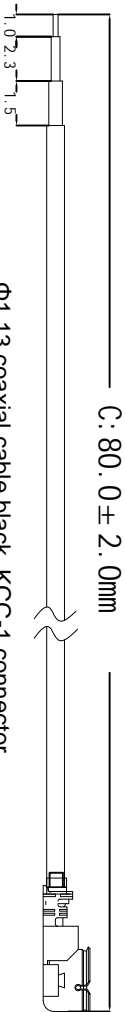
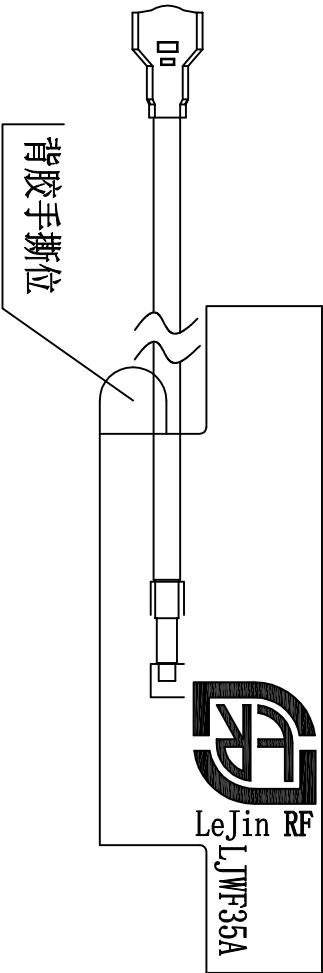
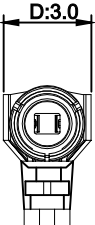
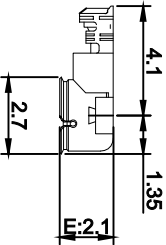
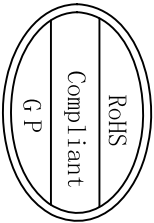


2500.000MHz E2



## 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.&Hum. 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.&Hum. 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




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.

SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD



深圳乐进射频科技有限公司

A		B		C		D	
1		2		3		4	
Rev		Description		Date		Remark	
A		New drawing					
1							

		Third Angle		Project		Creat i ty 3D		Date		2024-08-05			
0~10		±0.05	○	0.02		Part Name		WIFI ANT		Designed by			
10~18		±0.10	◎	Ø0.03		Part No.				Checked by			
18~30		±0.12	⊥	0.02		Material				RF			
30~40		±0.15	∇	0.04		Treatment		LJF02-24080508-R0A		Approved by			
40~		±0.20	Angle	±0.5°									
Location										Unit		mm	
5				6				7				8	
										Scale		FIT	
										Rev		A	