



Shenzhen Lejin radio frequency technology Co., LTD

## SPECIFICATIONS FOR APPROVAL

Customer Name: Shenzhen Weichenshi Technology Co., Ltd

Product Name: WIFI/BT Antenna

Product Model:

Part Number: LJF02-25011409-R0A

Write By : FUQIANG

Issued Date: 2025-04-02

### 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	2025/04/02	



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### 3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz 5150MHz ~5850 MHz
VSWR	<2.0
Efficiency	≥30%
Impedance	50Ohm
Type	Dipole
Polarization	Linear
Gain(2.4G)	≤2.32dBi
Gain(5G)	≤2.07dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Green),70B
Cable Type	Φ1.13mm,L100mm,Black
Connector Type	IPX1
Dimension	48.0*8.0mm
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

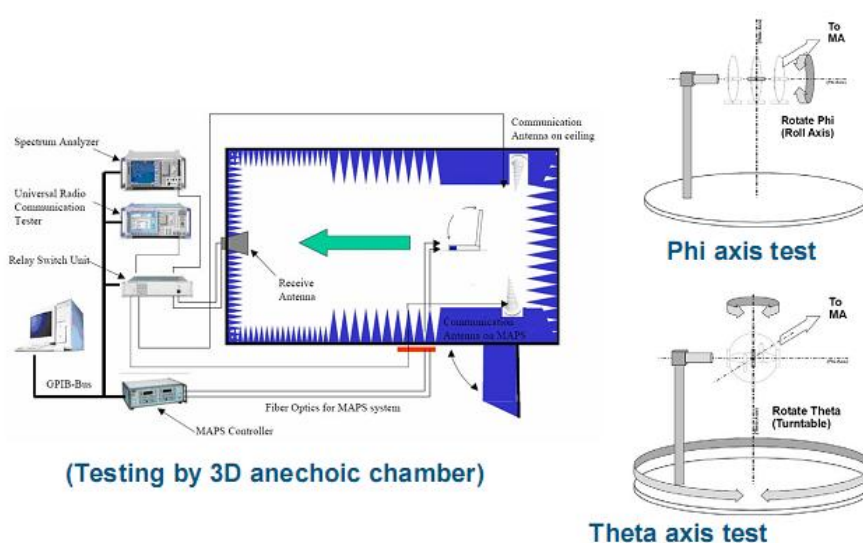


Chart 1 Test topology

## 5.Test Report

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

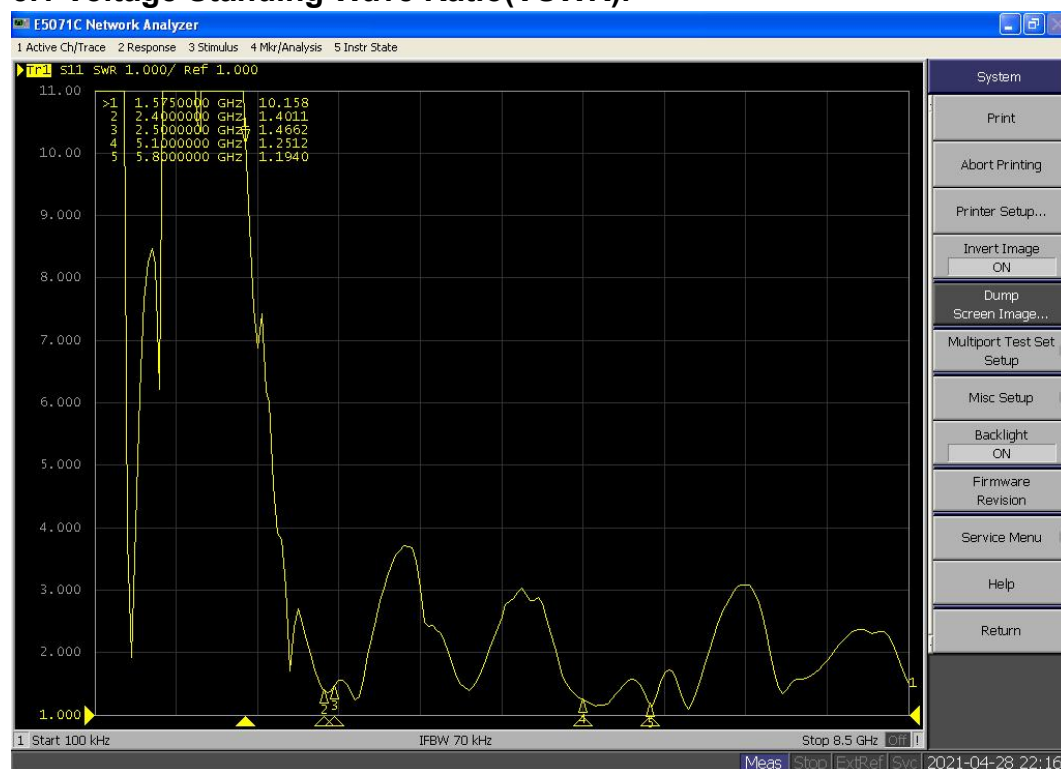


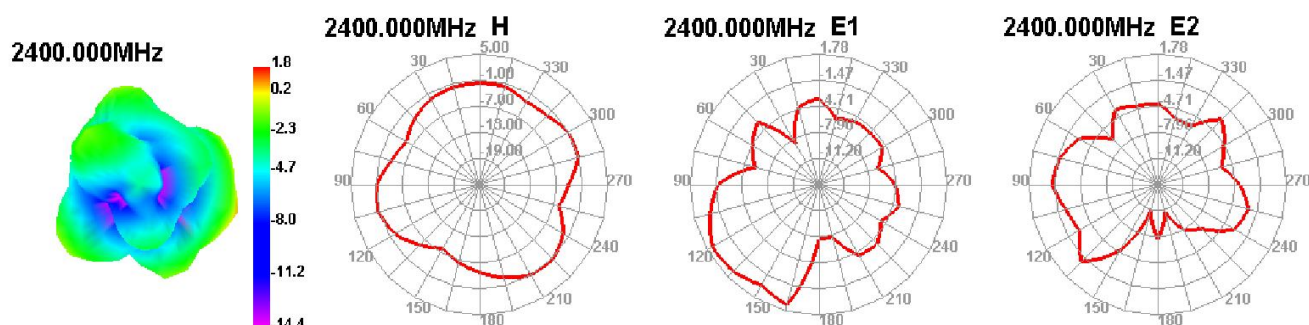
Chart 2 VSWR

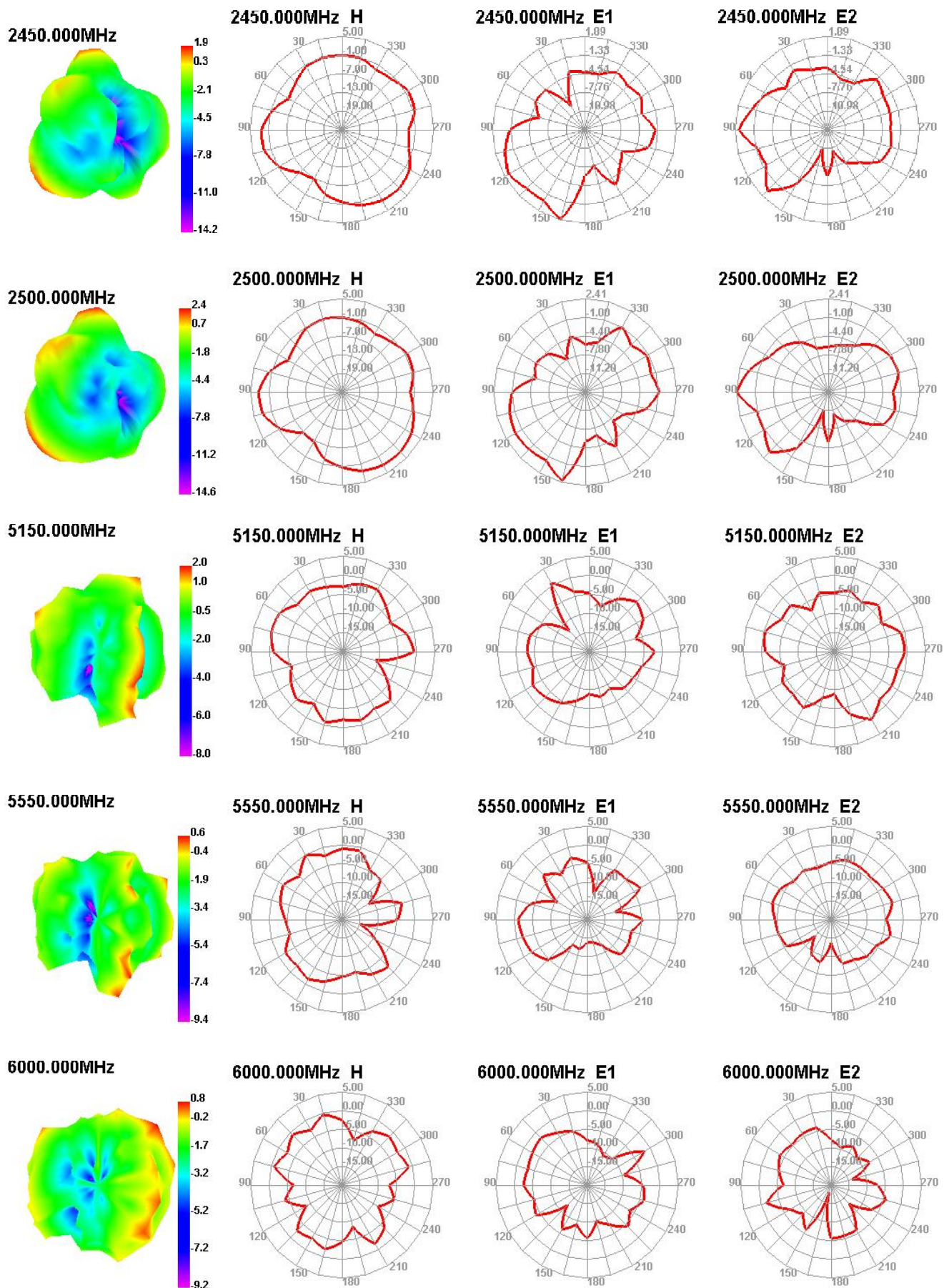
### 5.2 Efficient and gain.

Passive Test	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
2.4GHz	Effi(%)	45.81	44.26	47.82	47.20	53.84	47.12	46.80	50.33	48.06	62.25	53.04
	Gain(dBi)	1.78	1.71	1.66	2.32	1.93	1.89	1.55	2.08	2.10	2.41	2.37

Passive Test For WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
WIFI 5G	Effi(%)	39.19	37.05	42.91	39.76	42.53	43.98	42.88	42.47	39.24	42.22	40.94	42.80	40.43	41.64	46.47	34.40	32.54	45.08
	Gain(dBi)	2.07	1.83	1.71	1.54	1.31	1.26	0.80	0.79	0.59	0.85	0.73	0.77	1.07	0.99	0.82	0.79	0.93	0.76

### 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: 24 hours	Salt-Spray Tester	No color change No appear rusting	PASS

## 7. Assemble type

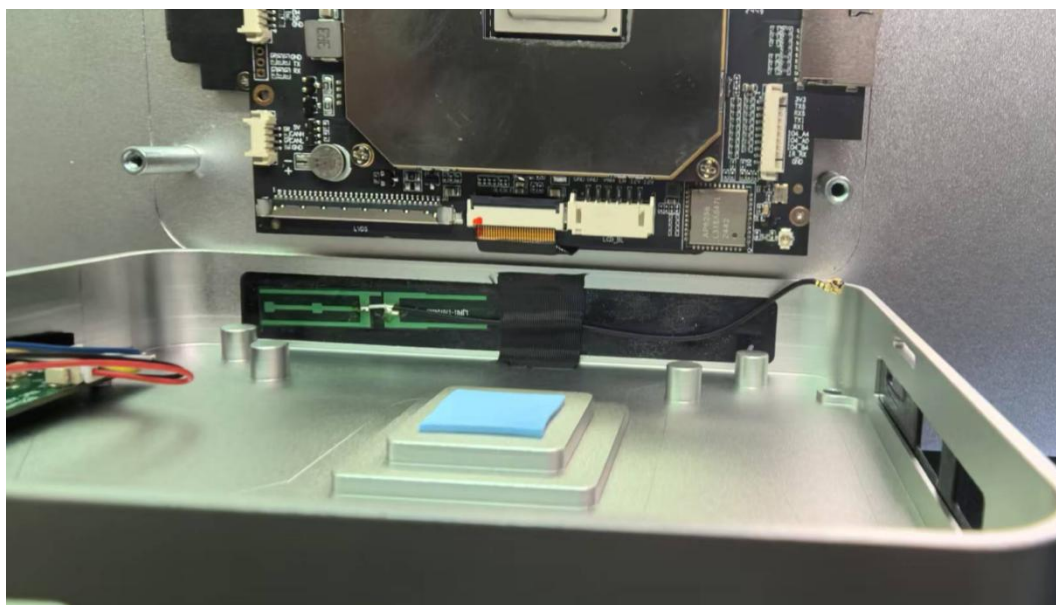
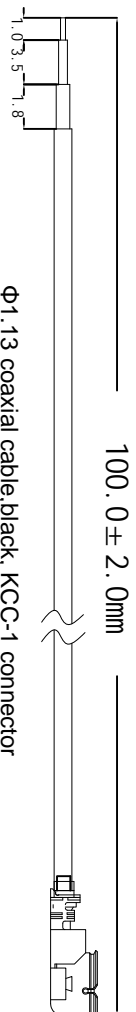
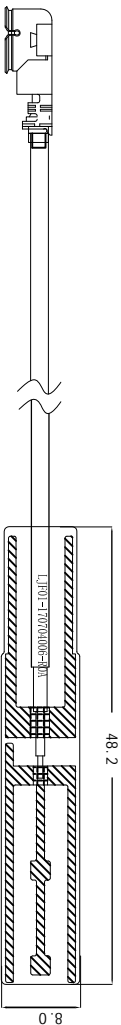
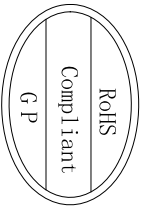


Chart 3 Assemble type

## 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.



SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

1			
Revise	2		
record	3		

Third Angle	Project	维辰思	Date	2025-04-02
0~10 ±0.05	Part Name	WiFi/BT ANT	Designed by	
10~18 ±0.10	Part No.		Checked by	MD
18~30 ±0.12	Material		RF	
30~40 ±0.15			Approved by	
40~ ±0.20	Treatment	LJF02-25011409-R0A	Unit	mm
Angle ±0.5°			Scale	FIT
Location			Rev	A

1	2	3	4	5	6	7	8
Rev	Description	Date	Remark	Location	Treatment	Unit	Scale
A	New drawing					mm	FIT
1							