



Lejin RF

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

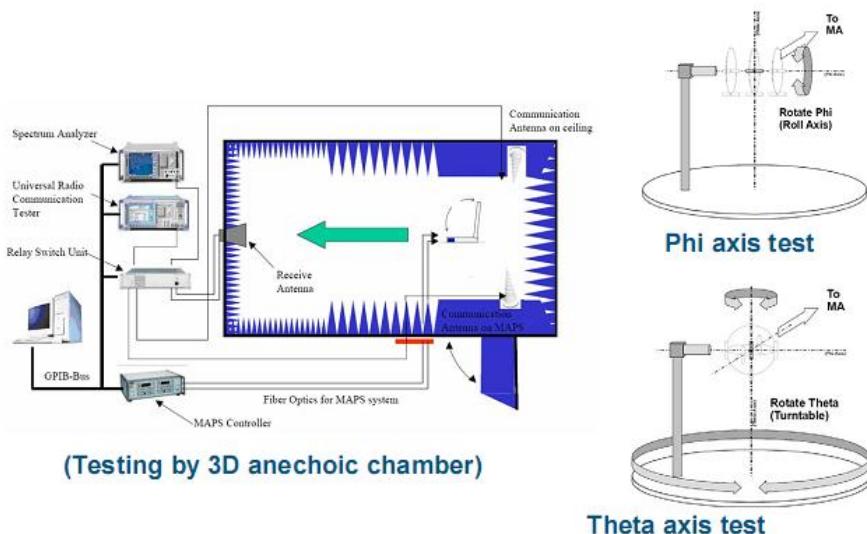


Chart 1 Test topology

5. Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

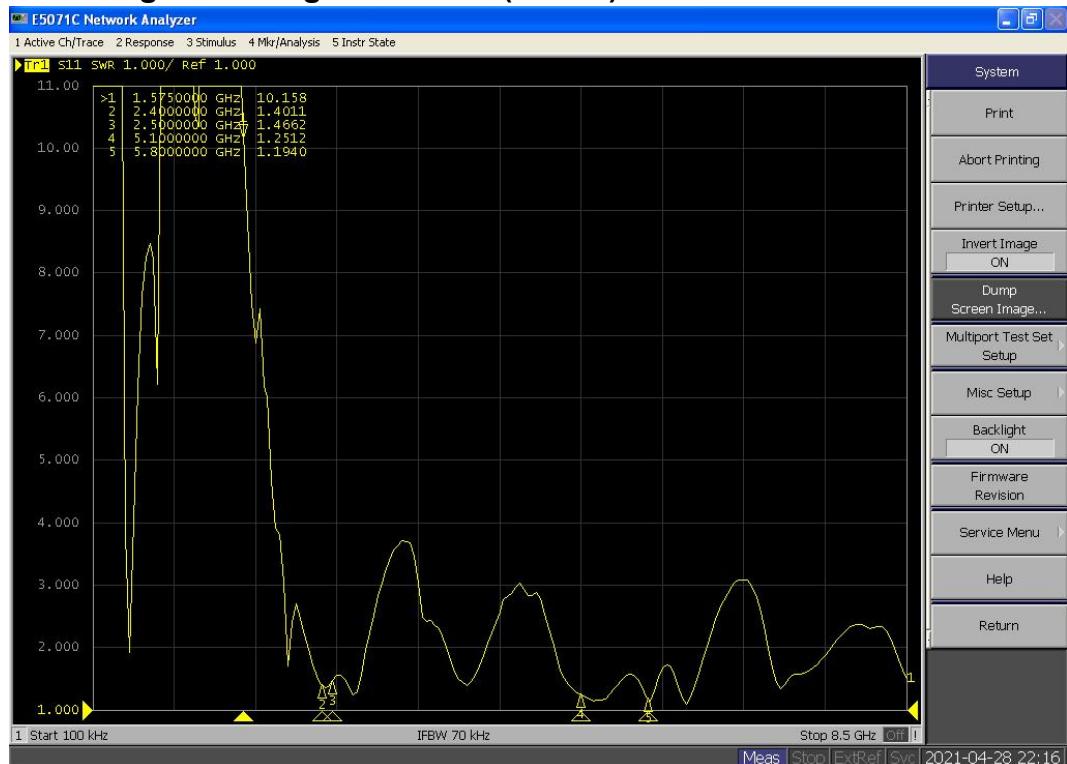


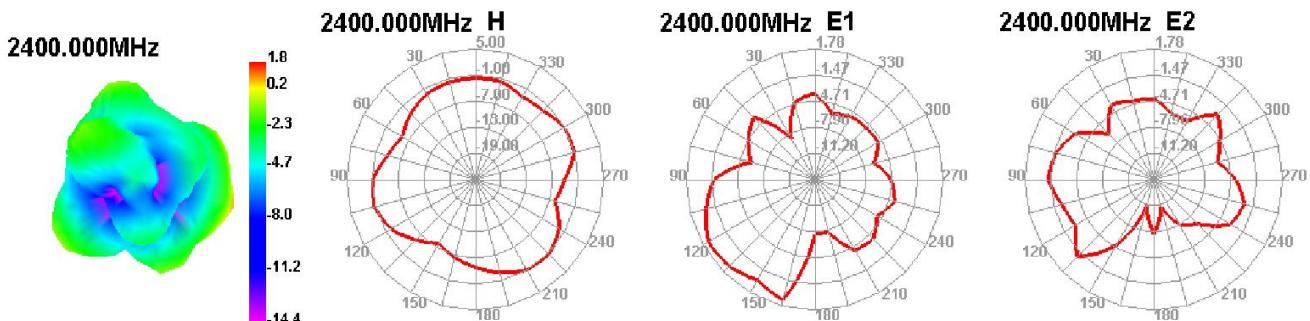
Chart 2 VSWR

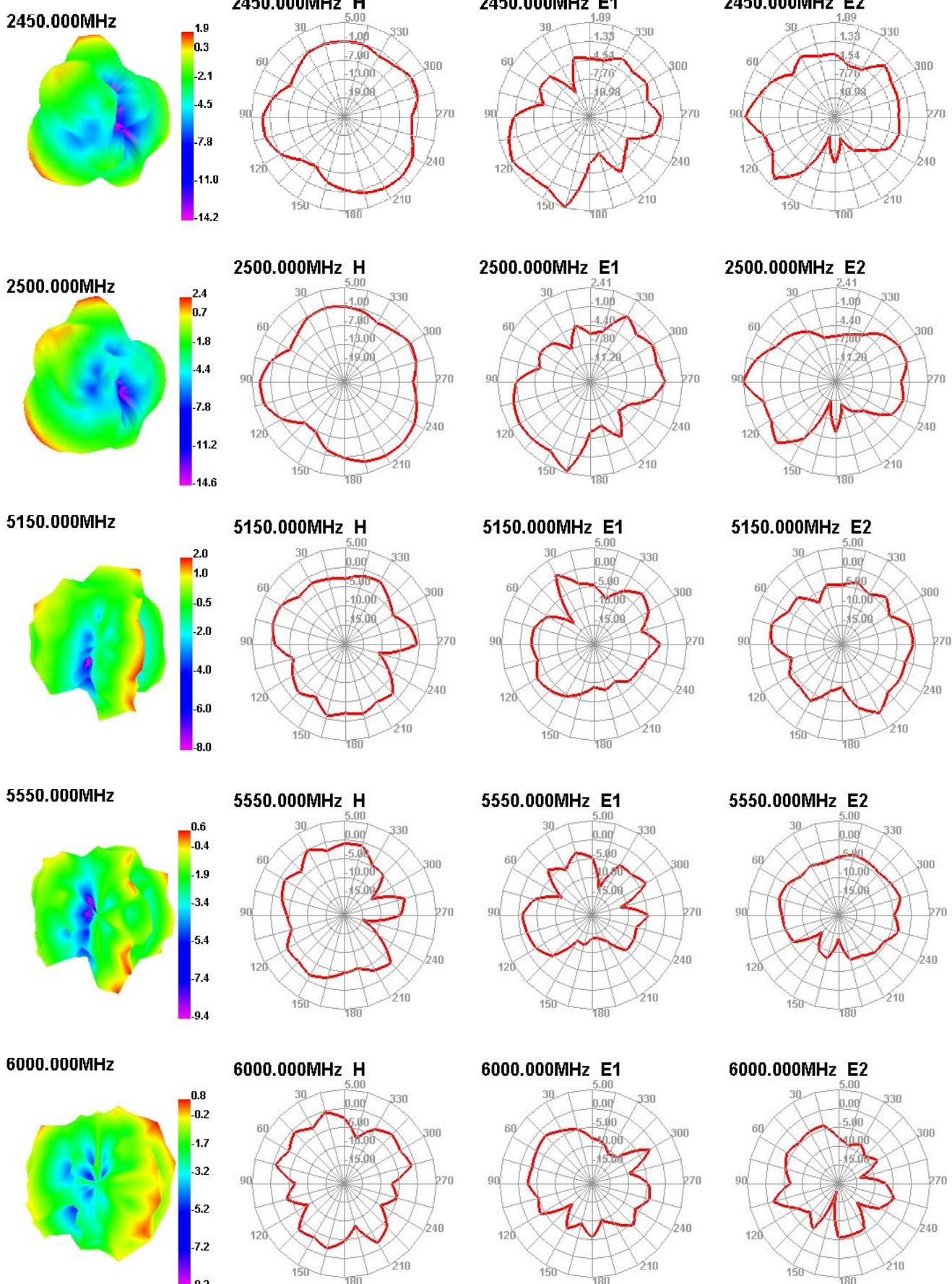
5.2 Efficient and gain.

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
	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	<p>Temperature: -30°C , Time:48hrs</p> <p>Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25 °C and humidity is 65% for one hour, then step-down the temp. to -30°C in one hour, store antenna for 44 hours; step-up temp to 25°C, test antenna after 2 hours.</p>	Temp.&Hum. Tester	<p>No material deformation is allowed.</p> <p>Electronic Performance is ok .</p>	PASS
2	High Temp./High Humid Storage Test	<p>Temperature: 85°C Humidity: 85% RH Time:48hrs</p> <p>Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25 °C and humidity is 65% for one hour, then step-up the temp. to 80 °C and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25 °C ,test antenna after 2 hours.</p>	Temp.&Hum. Tester	<p>No material deformation is allowed.</p> <p>Electronic Performance is ok .</p>	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	<p>No color change</p> <p>No appear rusting</p>	PASS

7. Assemble type

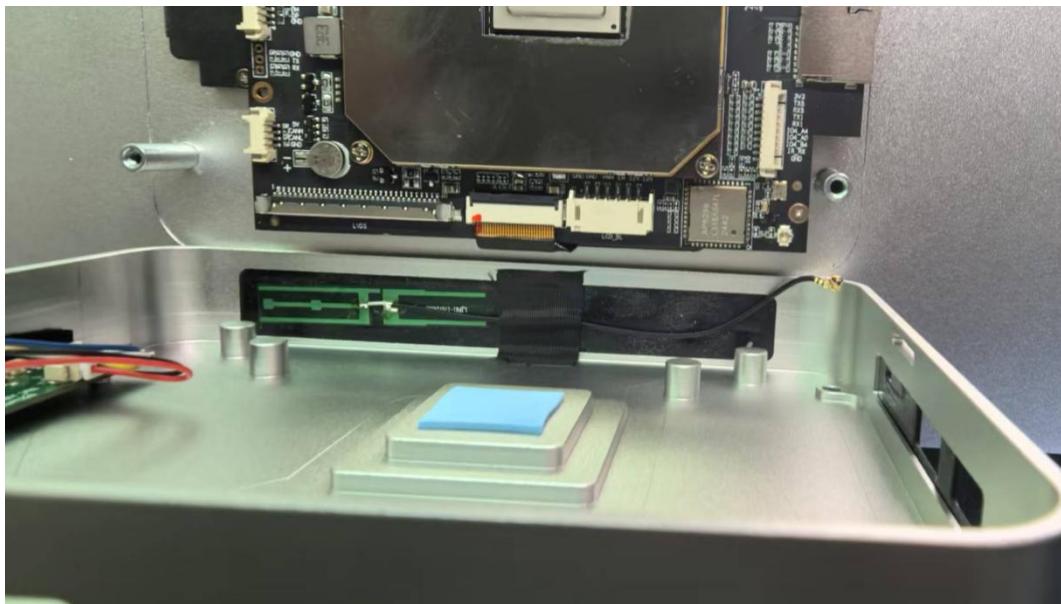
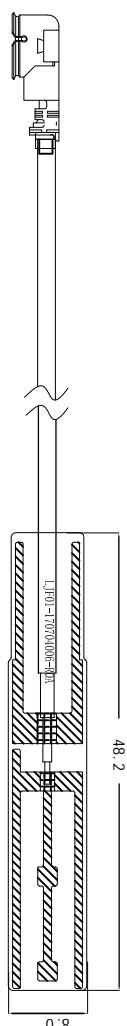
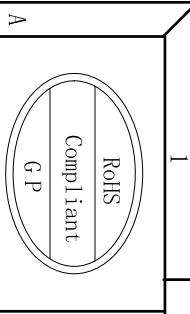


Chart 3 Assemble type

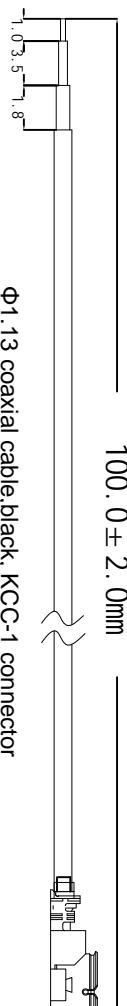
8. Product Drawing

1 2 3 4 5 6 7 8



B

C



Φ1.13 coaxial cable, black, KCC-1 connector

Remark:

1.FPC material: Electrolytic copper.

2.Backing in behind 3M300LSE.

3.Tolerance: Cutting die: ± 0.1 mm; Circuit on FPC: ± 0.05 mm; others are ± 0.05 mm.

SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

SHEET NUMBER: 1/1							
DRAWING NUMBER: LF02-25011409-R0A							
DRAWING DATE: 2025-04-02							
D	Rev	Part No.	Material	Treatment	Approved by	Unit	Scale
D	1	WF1/BT ANT	LJF02-25011409-R0A			mm	FIT
A	2	WF1/BT ANT	LJF02-25011409-R0A			mm	Rev
	3	WF1/BT ANT	LJF02-25011409-R0A			mm	A
	4	WF1/BT ANT	LJF02-25011409-R0A			mm	
	5	WF1/BT ANT	LJF02-25011409-R0A			mm	
	6	WF1/BT ANT	LJF02-25011409-R0A			mm	
	7	WF1/BT ANT	LJF02-25011409-R0A			mm	
	8	WF1/BT ANT	LJF02-25011409-R0A			mm	