

Part acceptance form

Supplier: Shenzhen Lejin Radio Frequency Technology Co., LTD

Material name: FPC antenna

Bom number: 3102070201

Specifications and Models: FPC antenna_L450_2.4G_Lejin antenna

Supplier's Material number: LJF02-22030208A-R0A

Application date: 2022-06-29

	data	OK	reliability	OK
Department to sign:	appearance	OK	size	OK
	assembly	OK	function	OK

List of Acknowledgement

1. Function introduction and product specifications
2. Certificate of raw material /MSDS
3. Structural drawings
4. FAI full-size measurement report/attached self-evaluation
5. Reliability test report
6. SGS of raw materials shall be confirmed within the validity period of 1 year
7. Environmental Statement
8. Relevant certification certificates

Note:

The part acceptance letter shall include but not limited to the above information. If there are other requirements, it shall be supplemented, such as CPK report of part acceptance, process roadmap, QC engineering drawing, BOM, inspection specification on parts, product packaging specification, FMEA, etc. In addition, it is necessary to verify the supplier's manufacturing capability, quality control ability, and keep original records for the customer to acknowledge the supplier's parts.



3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz
VSWR	<2.0
Efficiency	≥35%
Impedance	50Ohm
Polarization	Linear
Gain(2.4GHz)	≤2.27dBi
B. Material & Mechanical Characteristics	
Material of Radiator	FPC, LJWF28C
Cable Type	Φ1.37mm, L450mm
Connector Type	IPX1
Dimension	25.0*18.5mm
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 |
| 4.3D Chamber Test System | |

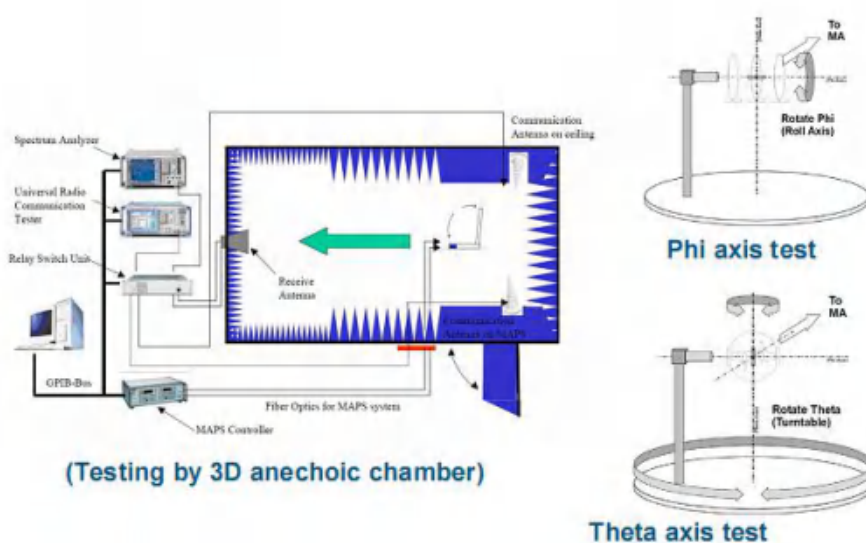


Chart 1 Test topology



5.Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

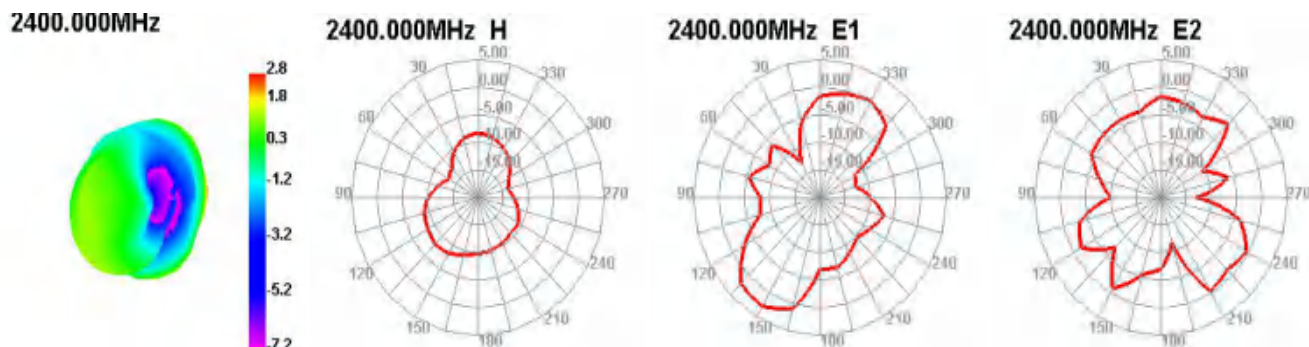


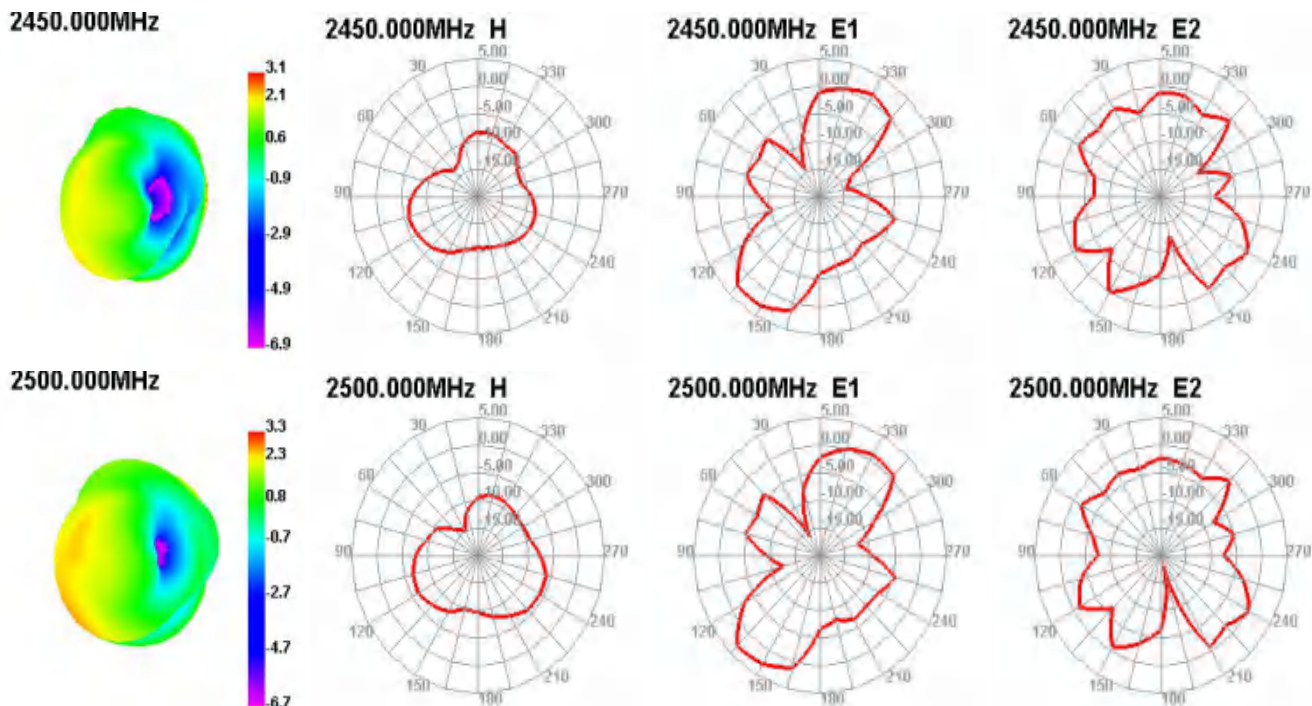
Chart 2 passive chart

5.2 Efficient and gain.

Passive	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Test For	EM(%)	42.92	48.42	45.89	49.73	45.98	49.52	47.16	50.01	43.90	43.55	41.54
2.4G	Gain(dB)	1.92	2.00	2.05	2.16	2.13	2.27	2.03	2.15	2.25	2.14	1.88

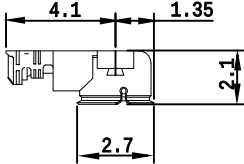
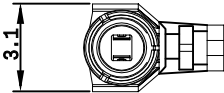
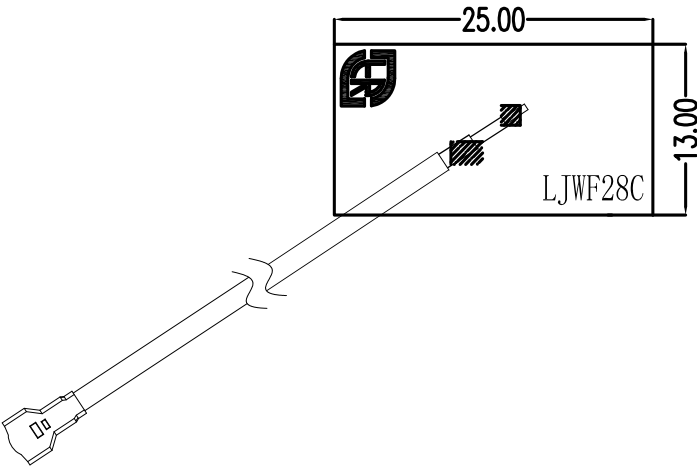
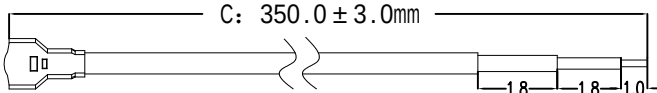
5.3 Radiation pattern.





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 for44 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±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

1		2		3		4		5		6		7		8																																																																																	
A		RoHS Compliant GP      Φ1.37 coaxial cable,Black, KCC-1 connector														B																																																																															
																C																																																																															
D		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 <table><tr><td></td><td>Third Angle</td><td>Project</td><td>Creality 3D</td><td>Date</td><td colspan="5">2018-08-09</td></tr><tr><td>0~10</td><td>±0.05</td><td></td><td>0.02</td><td>Part Name</td><td>2.4G ANT</td><td>Designed by</td><td colspan="4"></td></tr><tr><td>10~18</td><td>±0.10</td><td></td><td>Ø0.03</td><td>Part No.</td><td></td><td>Checked by</td><td>MD</td><td colspan="3"></td></tr><tr><td>18~30</td><td>±0.12</td><td></td><td>0.02</td><td>Material</td><td></td><td></td><td>RF</td><td colspan="3"></td></tr><tr><td>30~40</td><td>±0.15</td><td></td><td>0.04</td><td></td><td></td><td>Approved by</td><td colspan="4"></td></tr><tr><td>40~</td><td>±0.20</td><td>Angle</td><td>±0.5°</td><td>Treatment</td><td>LJF02-22030208A-R0A</td><td>Unit</td><td>mm</td><td>Scale</td><td>FIT</td><td>Rev</td><td>A</td></tr><tr><td colspan="2">Location</td><td colspan="10"></td></tr></table>															Third Angle	Project	Creality 3D	Date	2018-08-09					0~10	±0.05		0.02	Part Name	2.4G ANT	Designed by					10~18	±0.10		Ø0.03	Part No.		Checked by	MD				18~30	±0.12		0.02	Material			RF				30~40	±0.15		0.04			Approved by					40~	±0.20	Angle	±0.5°	Treatment	LJF02-22030208A-R0A	Unit	mm	Scale	FIT	Rev	A	Location												D	
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深圳市乐进射频科技有 限公司							产品全尺寸测量FAI报告 (First Article Inspection)															
							记录编号			QS-2021.5.04							版本/修改		A/0		NO. 2013040004	
品名			天线				物料编码	3102070201				项目号	201			工序别		成型		尺寸单位: mm		
材质			FPC				实测值					偏离方向		尺寸偏离程度						让步能接受程度		
尺寸 编码	重点 尺寸	尺寸 DIMENSION	图纸 位置	上公差 +TOL	下公差- TOL	检测量具	样品1	样品2	样品3	样品4	样品5	偏上UPPER	偏下 LOWER	0%-25%	25%-50%	50%-75%	75%-100%	100%+	尺寸	上公差	下公差	
1		25.0	A	0.20	0.20	千分尺	25.08	25.08	25.06	24.96	25.05	40.00%	20%		OK							
2		13.0	B	0.20	0.20	千分尺	13.02	13.04	13.01	13.02	13.04	20.00%	0%	OK								
3	▲	450.0	C	3.00	3.00	卡尺	450.50	450.60	450.80	451.00	451.00	33.33%	0%		OK							
4		3.0	D	0.10	0.10	千分尺	3.01	3.02	2.98	3.02	3.00	20.00%	20%	OK								
5		2.1	E	0.10	0.10	千分尺	2.10	2.08	2.11	2.08	2.12	20.00%	20%	OK								
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