

Specification Recognition Letter

Specification For Approval

Customer Name: 360

Customer

IPEX-2.4G/5.8G FPC Antenna -113 Black-L63MM

Part name

Feiyu Letter Item:

Part No

Customer material number:

Customer Part No

Customer Confirm Customer confirmation		
Confirm Confirmation	Verify Check	Approval Approver

Manufacturers acknowledge Manufacturer recognition			
Sales Representative Sales	Ficus Drafters	Verify the check	Approval Approver
Royi	Zheng Shaojuan	Zhou Xihua	Li He
Thank you for the opportunity to give our company a sample of recognition. If Huimon admits, please sign this form back to our company. Thank you for giving us the chance to approve samples. If you agree to pass it, please kindly send it back to us.			

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Modify records

Version	Date	Engineer	Modify content
A0	2024-9-2	Zheng Shaoju an	New
A1	2024-10-23	Zheng Shaoju an	Change wire length as required

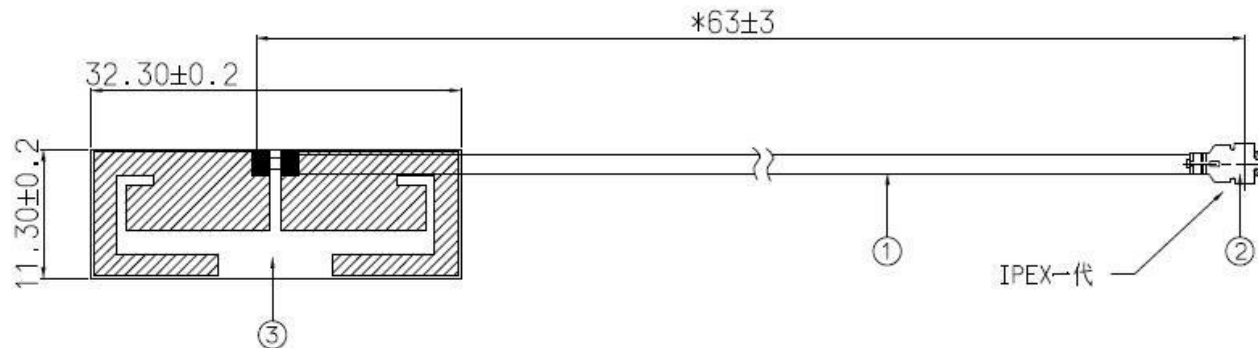
I-Product

Dimensions

END PRODUCT DRAWING 成品图

RoHS Compliant

REV	DATE	DESCRIPTION	ECN NO.	NAME
A0	2024.10.23	新订图面		郑少娟



备注:

1. 产品外观无损伤;
2. 成品须100%网分测试OK;
3. 成品须100%全检OK;
4. 采用环保制程;
5. 标注*部分为重点管控尺寸.

工作频段 (Frequency Range)	2400~2500/5150~5850MHz
增益 (Gain)	2dBi
电压驻波比 (VSWR)	对比波形
极化方式 (Polarization)	Linear
特性阻抗 (Impedance)	50 ohm

客户料号 (CUSTOMER NO)

⑦				角法 ANGLE PROJECTION	产品名称 (PRODUCT NAME)				
⑤					IPEX-2.4G/5.8G FPC天线-113黑-L63MM				
④				<div>公差 GENERAL TOLERANCE</div> <div>100~200: ± 3.00 50~100: ± 2.00 25~50: ± 0.20 10~25: ± 0.10 ~10: ± 0.05</div> <div>▼ Critical Dim @: Major</div>	产品料号 (PRODUCT NO)	单位 (UNIT)	MM	比例 (SIZE)	FREE
③	L32.3*11.3*T=0.2mm2.4G/5.8G-黑色	1	FPC			页数 (PAGE)	1 OF 1	幅面 (FORMAT)	A4
②	20278-112R-13-插头	1	IPEX		设计 (D S)		<div>深圳飞宇信电子有限公司 SHENZHEN FLY ELECTRONIC CO.,LTD</div>		
①	1.13黑	1	线材		审核 (CHK)				
No.	Name	Qty	Remark		核准 (APPD)				

2. Product Appearance

Exterior dimension	L32.3 * 11.3mm	Fixed way	Back glue
FPC Color	Black	Cable	1.13 line +63MM

3. antenna performance parameters

Project	Characteristics	Unit
Frequency range	2400~2500/5150~5850	MHz
output impedance	50	Ω
standing wave ratio	≤ 2.0 (measured with prototype)	--
Gain	≥ 2.0	dBi
polarization mode	linear polarization	
radiation direction	Omni-directional	
Maximum input power	5	W
Working temperature	-40 to +70	°C
Storage temperature	-40 to +70	°C

4. Wire specifications

1.13 Line Structure Diagram



	Materials	Diameter (mm)
1. Inner conductor	Tinned copper wire	$7/0.08 \pm 0.02$
2. Insulator	Solid Polyethylene (PE)	0.66 ± 0.02
3. Outer conductor	Tinned copper wire	0.88 ± 0.05
4. Sheath	PEF FEP	1.13 ± 0.05

electrical performance parameters

96±3 capacitance (pF/m)	
50 Impedance (ohm)	
Rate (%) 66	
Bending radius (mm) ≤ 7	
Maximum Operating Voltage (VMS) (1000)	
Maximum operating frequency (in MHz) 6000	
Range of operating	-40 to +80

Attenuation (typical)

Frequency (MHz)	Attenuation (≧ dB/m)
100	0.42
400	0.58
1000	2.20
2000	3.40
3000	4.20
4000	4.50
5000	5.20

6000 5.60

5. Environmental Experiment
Environmental test report
5.1 High and low temperature constant humidity test

Test Items	High temperature, low temperature and constant humidity test			
Testing equipment	Constant temperature and humidity test chamber			
Inspection standard	1. The metal surface coating is free of peeling, cracks, wrinkles and other defects; non-metallic parts can not have discoloration, cracks, deformation, degumming and other phenomena.			
Test Name	Test Items	Require ments	Test Method	Result judgment
High temperatur e test	Temperature (°C)	70±3	Test steps:	Qualifie d
	Test sample temperature time (h)	1	a) Put the tested part into the test chamber, and then put the high temperature chamber temperature	
	Test duration (h)	2	Adjust the degree to 70 °C 3 °C, and monitor the time.	
	Recovery time (h)	1	B) After the test, place it at room temperature for 1 hour and carry out regular inspection. test.	
Low temperatur e test	Temperature (°C)	-40±3	Test steps:	Qualifie d
	Test sample temperature time (h)	1	a) Put the tested part into the test chamber, and then put the low temperature chamber	
	Test duration (h)	2	The degree is adjusted to -40 °C +3 °C, and the monitoring time is maintained.	
	Recovery time (h)	1	B) After the test, place it at room temperature for 1 hour and carry out regular inspection. test.	
constant damp heat	Temperature (°C)	+40±3	a) Put the tested part into the test chamber, and then warm the test chamber.	Qualifie d
Test	Relative humidity (%)	90-95	The degree is adjusted to +40 °C 3 °C, the humidity is 90-95%, monitoring Time.	
	Test duration (h)	21		
	Recovery time (h)	1	B) After the test, place it at room temperature for 1 hour and carry out regular inspection. test.	
Confirmed by: Guo Guangfen		Approved by: Xie Zhoujun		

5.2 Free drop test

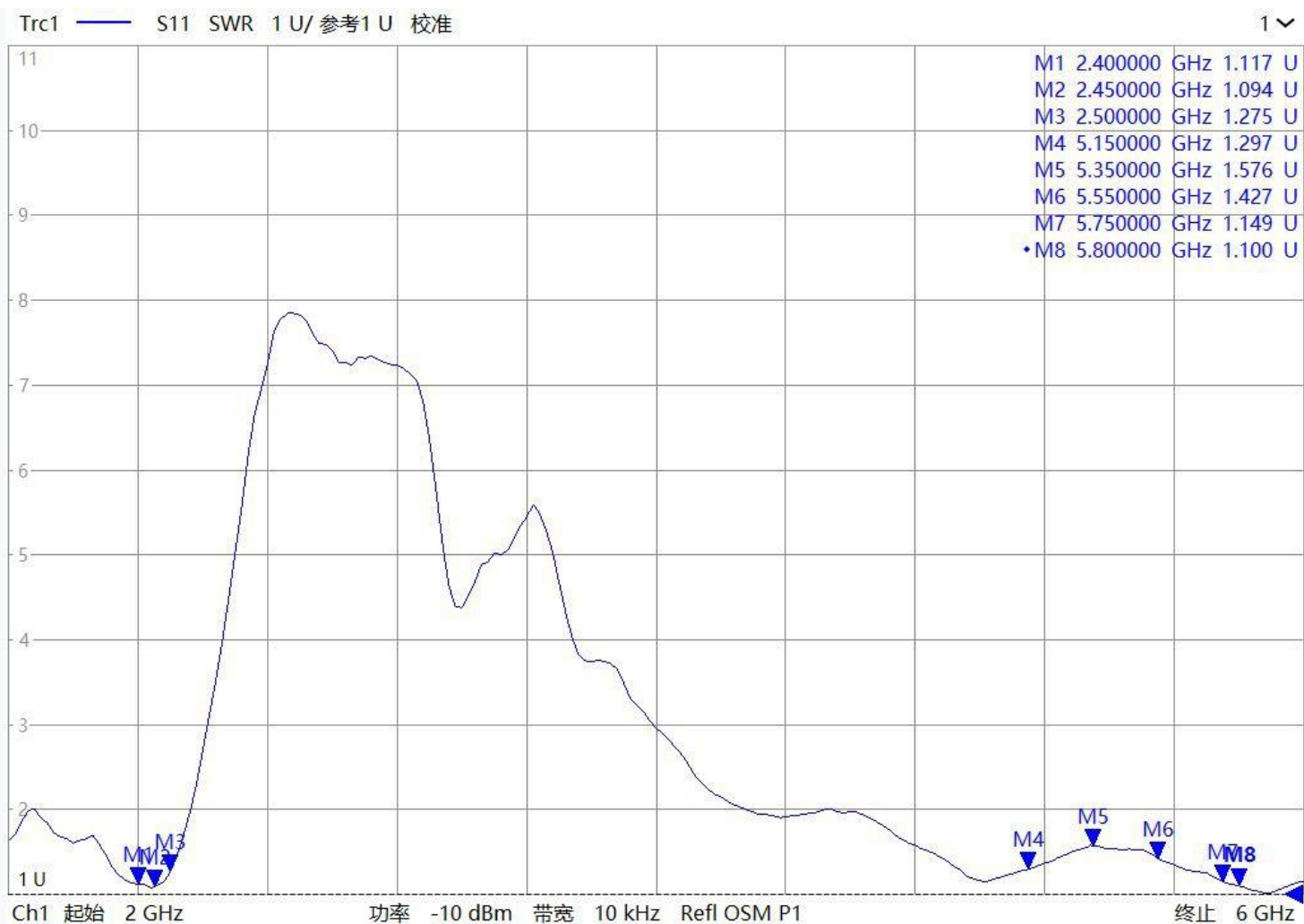
Test Items	Free drop test
Testing	1 meter high table top

equipment				
Inspection standard	1. Falling at a height of 1 meter, the product has no defects such as falling off, cracks, etc., and the appearance has no deformation.			
Test Name	Test Items	Requirements	Test Method	Result judgment
Test of free drop	Drop height 1000mm	The front and back sides fell 2 times	Test steps: a) Drop the tested part at a height of 1000mm. After the test regular inspection.	Qualified
Confirmed by: Guo Guangfen Approved by: Xie Zhoujun				

5.3 Salt spray test

Test Items	Salt spray test			
Testing equipment	Salt spray test machine			
Inspection standard	1. There is no peeling of the coating on the metal surface; the appearance is free of rust, corrosion, oxidation and other undesirable phenomena.			
Test Name	Test Items	Requirements	Test Method	Result judgment
Salt spray test	1. NaCl concentration: 2. Air pressure: 3. PH: 4. Spray volume: 5. Salt water test temperature setting a. Laboratory temperature: B. Pressure barrel temperature: 6. Test time:	40-60g/1kg $1.0 \pm 0.01 \text{ kgf m}^2$ 6.5-7.2 1.0-2.0ml/80c/h. $35 \pm 1 \text{ }^\circ\text{C}$ $47 \pm 1 \text{ }^\circ\text{C}$ 24h	Test steps: a) The salt spray tester shall be adjusted to the relevant test conditions. b) Put the tested piece into the salt spray tester and place it for 24 hours. After the test, rinse with clean water, visually inspect the appearance of the tested parts and conduct regular inspection.	Qualified
Confirmed by: Guo Guangfen Approved by: Xie Zhoujun				

6. Antenna performance test (with prototype)



Frequency(MHz)	Gain(dBi)	Efficiency(%)
2400	3.34	65.99
2410	3.72	70.35
2420	3.59	65.74
2430	3.47	61.71
2440	4.29	72.85
2450	4.25	69.78
2460	4.01	64.19
2470	4.26	67.6
2480	3.84	63.15
2490	3.94	66.98
2500	4.1	70.46

Frequency(MHz)	Gain(dBi)	Efficiency(%)
5150	5.62	71.27
5200	6.1	77.01
5250	5.87	75.39
5300	5.95	75.19
5350	6.65	78.08
5400	6.38	70.38
5450	5.75	59.27
5500	5.62	60.3
5550	5.31	63.4
5600	6.05	63.28
5650	6.29	60.32
5700	5.88	61.67
5750	6.33	65.88
5800	6.78	64.84
5850	6.75	63.22

