

# 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

<b>Customer Confirm Customer confirmation</b>		
<b>Confirm Confirmation</b>	<b>Verify Check</b>	<b>Approval Approver</b>

<b>Manufacturers acknowledge Manufacturer recognition</b>			
<b>Sales Representative Sales</b>	<b>Ficus Drafters</b>	<b>Verify the check</b>	<b>Approval Approver</b>
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.

Shenzhen Feiyuxin Electronics Co., Ltd.

Address: Feiyuxin Industrial Park, 76 Baotong South Road, Xikeng

Industrial Zone, Henggang Town, Longgang District, Shenzhen  
City, China Tel: 0755-89737230 Fax: 0755-89737181  
<http://www.fyxzdz.com>

**Directo  
ry  
Catalo  
g**

1. Product Dimensions Figure 3
2. Product Appearance 4
3. **antenna performance parameters** 4
4. **Cable specifications** 5
5. **Environmental test** 6
6. **Antenna Performance Test 7-9**

**Modify  
records**

<b>Version</b>	<b>Date</b>	<b>Engineer</b>	<b>Modify content</b>
A0	2024-9-2	Zheng Shaojun	New
A1	2024-10-23	Zheng Shaojun	Change wire length as required

**1 Product  
Dimensions**

B

C

D

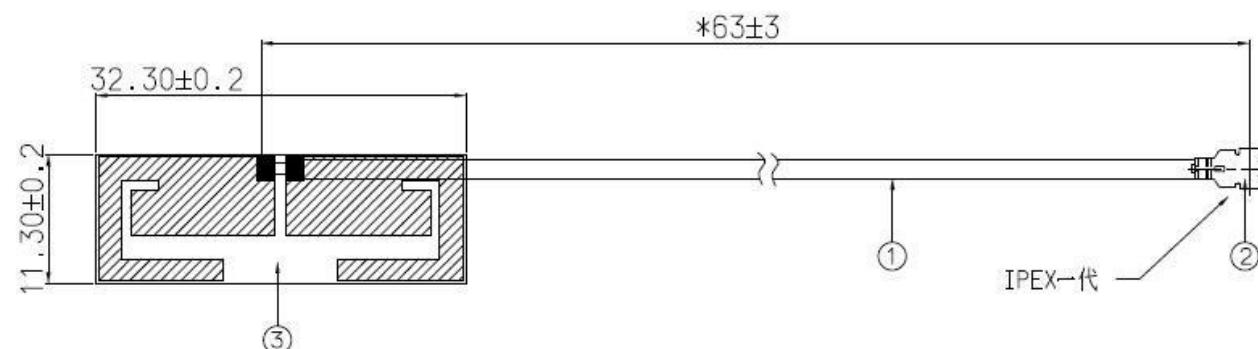
E

F

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。

4 工作频段 (Frequency Range) 2400~2500/5150~5850MHz

增益 (Gain) 2dB1

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)

5 ⑦ L32.3\*11.3\*T=0.2mm 2.4G/5.8G-黑色

⑤ ④ ③ 20278-112R-13-插头

② ① 1.13黑

No. Name

Qty

Remark

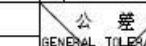
Critical Dim  
Major

核准 (APPD)



产品名称 (PRODUCT NAME)

IPEX-2.4G/5.8G FPC天线-113黑-L63MM



GENERAL TOLERANCE

100~200: ± 3.00

50~100: ± 2.00

25~50: ± 0.20

10~25: ± 0.10

≤10: ± 0.05

产品料号 (PRODUCT NO)

单位 (UNIT)

M M

比例 (SIZE)

FREE

页数 (PAGE)

1 OF 1

幅面 (FORMAT)

A4

设计 (DES)

审核 (CHK)

复核 (APPD)

深圳飞宇信电子有限公司

SHENZHEN FLY ELECTRONIC CO., LTD

## 2. Product Appearance

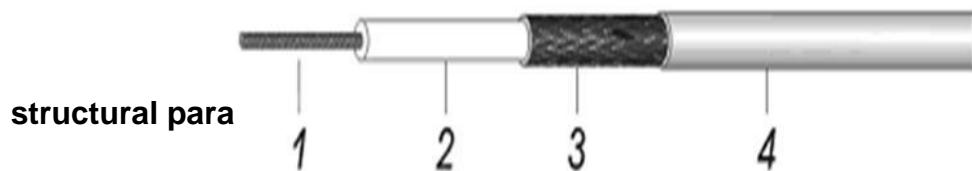
Exterior dimension	L32.3 * 11.3mm	Fixed way	Back glue
FPC Color	Black	Cable	1.13 line +63MM

## 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±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) &lt; 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	Requirements	Test Method	Result judgment
High temperature test	Temperature (°C)	70±3	Test steps:  a) Put the tested part into the test chamber, and then put the high temperature chamber temperature Adjust the degree to 70 °C 3 °C, and monitor the time. B) After the test, place it at room temperature for 1 hour and carry out regular inspection. test.	Qualified
	Test sample temperature time (h)	1		
	Test duration (h)	2		
	Recovery time (h)	1		
Low temperature test	Temperature (°C)	-40±3	Test steps:  a) Put the tested part into the test chamber, and then put the low temperature chamber The degree is adjusted to -40 °C +3 °C, and the monitoring time is maintained. B) After the test, place it at room temperature for 1 hour and carry out regular inspection. test.	Qualified
	Test sample temperature time (h)	1		
	Test duration (h)	2		
	Recovery time (h)	1		
constant damp heat Test	Temperature (°C)	+40±3	a) Put the tested part into the test chamber, and then warm the test chamber.  The degree is adjusted to +40 °C 3 °C, the humidity is 90-95%, monitoring Time.	Qualified
	Relative humidity (%)	90-95		
	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**

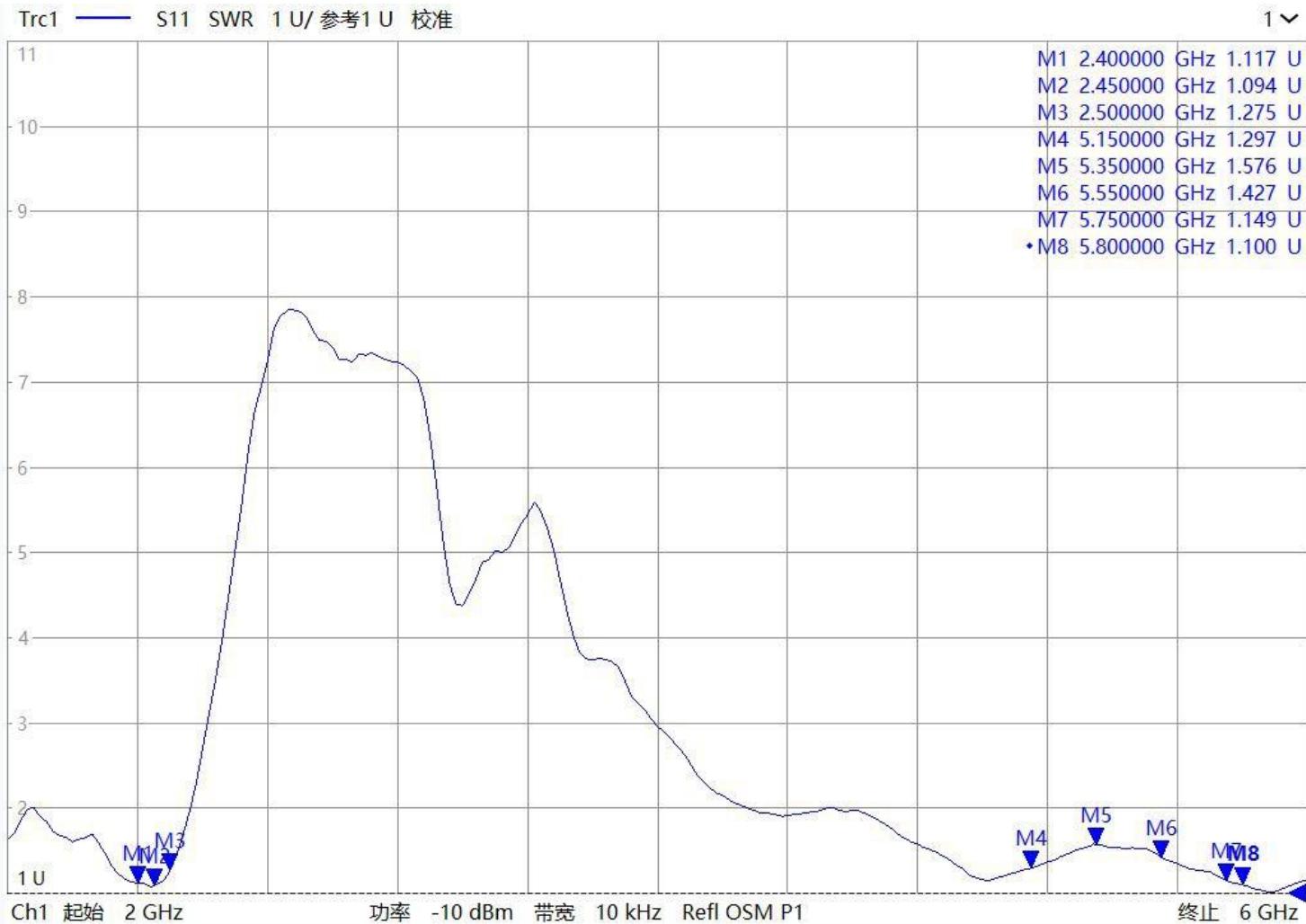
Test Items	<b>Free drop test</b>
Testing	1 meter high table top

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 $\pm 1$ °C 47 $\pm 1$ °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

