

Specification For Approval

Customer: 10109

Part name: IPEX-2. 4G FPC Antenna-113 Grey-L250MM

Part No: 3. 03. 0101003987

Customer Part No: 304ANT00532

Customer confirmation		
Confirmation	check	Approver

Manufacturer recognition			
Sales	Drafters	check	Approver
LIYING	ZHENGSHAOJUAN	CHENXIANYE	LIHE
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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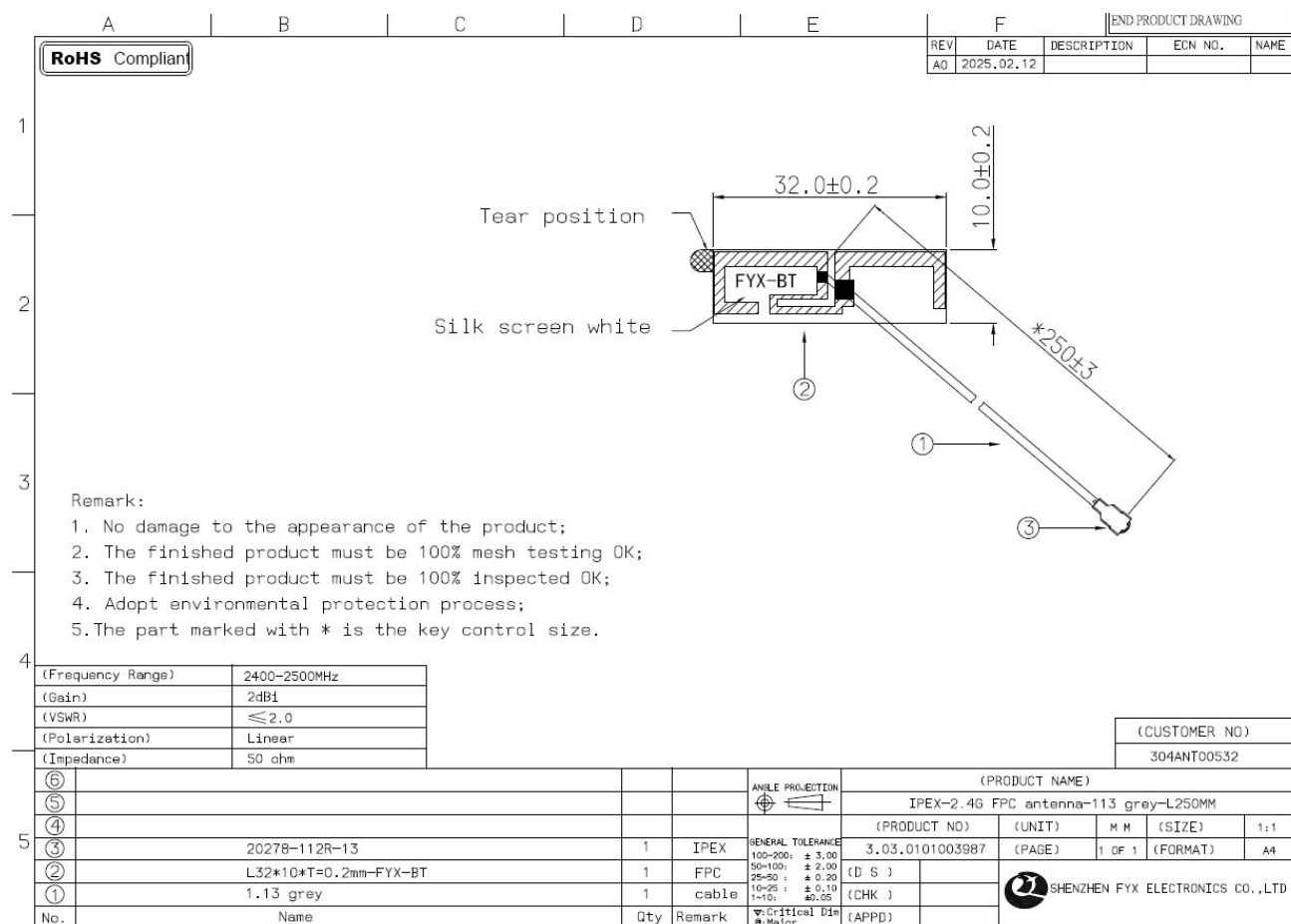
Catalog

1.Product dimension drawing.....	3
2.Product appearance.....	4
3.Antenna performance parameters	4
4.Cable specification.....	5
5.Environmental experiment.....	6-7
6.Standing wave ratio of antenna.....	7-8

Modification record

Edition	Date	Ngineer	Modification
A0	2025-2-12	ZHENGSHAOJUAN	NEW

1. Product dimension drawing



2. Product appearance

Size	L32.0*10.0mm	Fixed mode	Paste type
FPC colour	black	Cable	1.13 线 L250MM

3. Antenna performance parameters

Items	Specifications	unit
Center Frequency	2400~2500	MHz
Output impedance	50	Ω
V. S. W. R	≤ 2.0	——
Gain	2.72	dBi
Polarization mode	Linear polarization	
Radiation direction	omnidirectional	
Maximum input power	5	W
working temperature	-40~+70	$^{\circ}\text{C}$
Storage temperature	-40~+70	$^{\circ}\text{C}$

4. Cable specification

1.13 Structure chart



Structure parameter

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

Electric performance parameters

Capacitance (pF/m)	96 ± 3
l(ohm)	50
Rate (%)	66
Bending radius (mm)	≤ 7
Maximum working voltage (VMS)	1000
Maximum operating frequency (MHz)	6000
Operating temperature range (°C)	-40 至 +80

Attenuation

(MHz)	($\geq$ 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 low temperature and constant humidity test

Items	High temperature, low temperature and constant humidity test			
Testing equipment	Alternating constant temperature and humidity test chamber			
Inspection standard	1. The coating on the metal surface shall be free of peeling, cracking, wrinkling and other defects; the non-metal part shall not have discoloration, cracking, deformation, degumming and other phenomena.			
Test name	Test items	requirement	test method	Result judgment
High temperature test	Temperature (°C) Test sample temperature time (H) Recovery time (H)	$70\pm 3^{\circ}\text{C}$ 12H 1H	Test procedure: a) Put the test piece into the test chamber, and then adjust the temperature of the high temperature chamber to $75^{\circ}\text{C}\pm 3^{\circ}\text{C}$, and monitor the time. b) After the test, it was placed at room temperature for 1 hour for routine inspection.	OK
Low temperature test	Temperature (°C) Test sample temperature time (H) Recovery time (H)	-40 ± 3 12H 1H	Test procedure: a) Put the tested part into the test chamber, and then adjust the temperature of the low temperature chamber to $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, and monitor the time. b) Place at room temperature for 1 hour after test for routine inspection.	OK
Constant damp heat test	Temperature (°C) Test sample temperature time (H) Test duration (H) Recovery time (H)	$40\pm 3^{\circ}\text{C}$ 70-85% 24H 1H	a) Put the tested object into the test chamber, then adjust the temperature of the test chamber to $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$, the humidity to 70-85%, and monitor the time. b) After the test, it was placed at room temperature for 1 hour for routine inspection.	OK
Identifying person:GUOQUANGFENG Give permission to: XIEZHOUJUN				

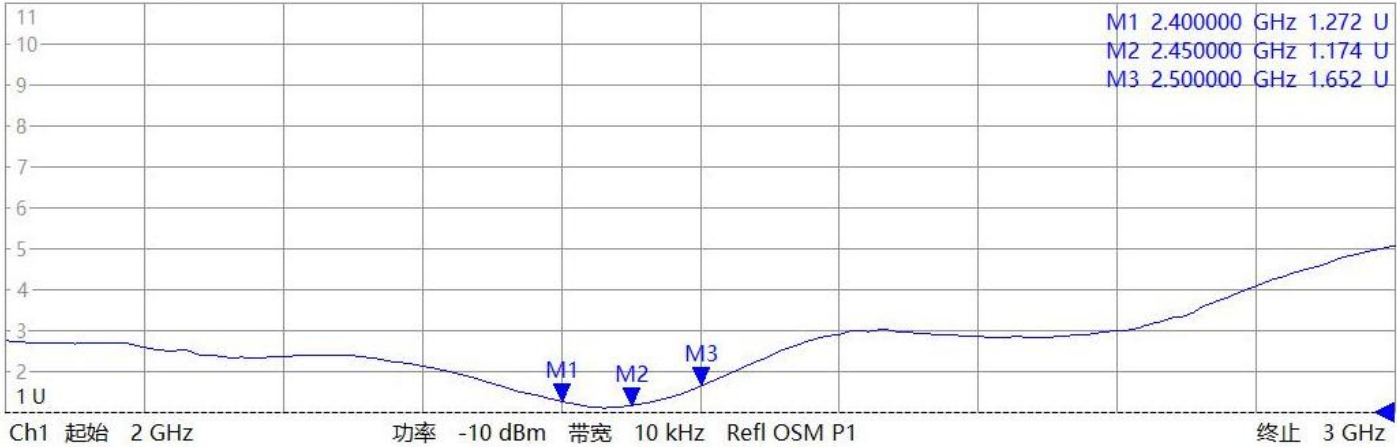
5.2 Salt spray test

Items	Salt spray test
Testing equipment	Salt spray tester
Inspection	1. The coating on the metal surface shall not fall off; the appearance shall

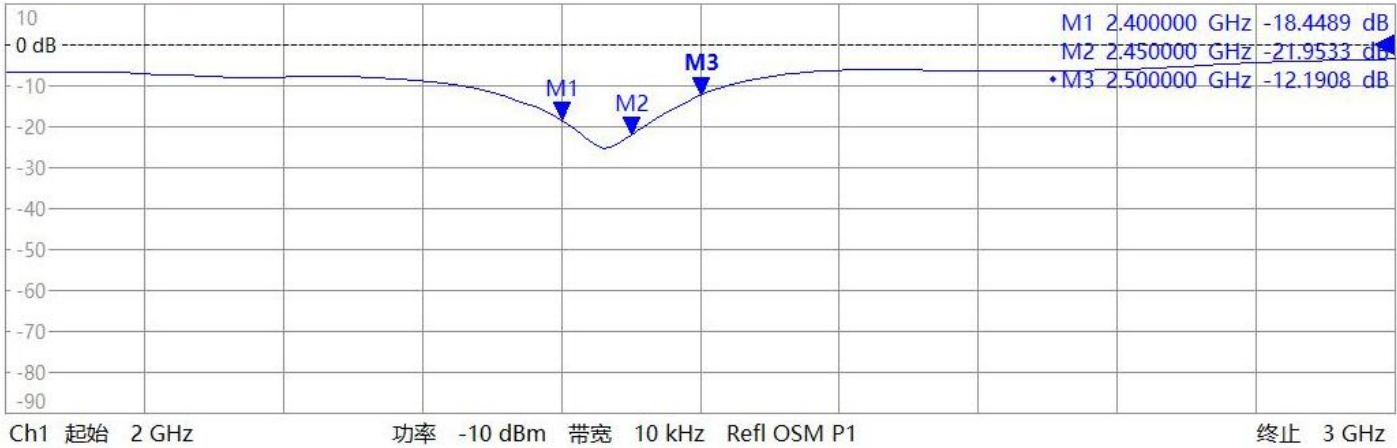
on standard	be free of rust, corrosion, oxidation and other adverse phenomena.			
Test name	Items	requirement	test method	Result judgment
Salt spray test	1. NaCl concentration: 2. Air pressure: 3. PH value: 4. spray volume: 5. Salt water test temperature setting a. Laboratory temperature: b. Pressure tank 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。 $35 \pm 1^\circ\text{C}$ $47 \pm 1^\circ\text{C}$ 24H	Test procedure: a) Adjust the salt spray tester to relevant test conditions. b) Put the test piece into the salt spray testing machine for 24 hours. After the test, rinse with clean water, visually inspect the appearance of the tested parts, and carry out routine inspection.	OK
Identifying person:GUOGUANGFENG		Give permission to: XIEZHOUJUN		

6. Antenna performance test (same as prototype test)

Trc1 — S11 SWR 1 U/ 参考1 U Cal int



Trc2 — S11 dB Mag 10 dB/ 参考0 dB Cal int



Frequency(MHz)	Gain(dBi)	Efficiency(%)
2400	2.41	57.06
2410	2.7	59.01
2420	2.35	55.25
2430	1.95	61.82
2440	2.61	59.22
2450	2.4	57.23
2460	1.97	53.24
2470	2.24	55.71
2480	2.06	52.41
2490	2.47	55.01
2500	2.72	57.05

