Sample acceptance

Name of the supplier Shenzhen Feiyuxin Electronics Co., LTD

Grid type number IPEX-2.4G FPC Ant.-1.13 Gray-L140MM

SAP Material coding

ERP Material coding

Acceptance stamp					
Supplier acceptance (Supplier field)			Customer acceptance		
Engineering	Quality	approval	R&d recognition	R&d approval	Quality confirmation
Li Yongjie	Chen Yan	Li HE			
Seal and sign			Seal and sign		
Date		2024-08-14	Date		
Instructions: ☐acceptance ☐Conditional acceptance					

Document correction record					
Version	Modify location	modify content	modifier	approver	Time in Force
A0	/	New drawing			

Specification For Approval

Customer: 10295

Part name: IPEX-2.4G FPC Ant.-1.13 Gray-L140MM

Part No: 3.03.0101003983

Customer Part No:

Customer confirmation		
Confirmation	check	Approver

Manufacturer recognition			
Sales	Drafters	check	Approver
Luo Yi	Li Yongjie	Zhou Xihua	Li He
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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Modification record

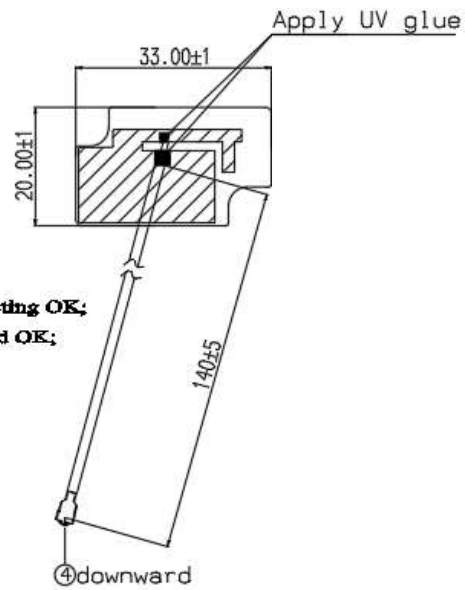
Versions	Date	Engineer	Content modification
A0	2024.08.14	Li Yongjie	New Drawing

1.Product size drawing

END PRODUCT DRAWING

REV	DATE	DESCRIPTION	ECN NO.	NAME
A0	2024.05.10	New Drawing		Li Yongjie

RoHS Compliant



Requirements:

1. No damage to wire;
2. The finished product must be 100% mesh testing OK;
3. The finished product must be 100% inspected OK;
4. Adopt environmental protection process;
5. Mark @ part as the key control size.

Frequency Range	2400-2500MHz
Gain	2dBi
VSWR	Compare the waveform
Polarization	Linear Vertical
Impedance	50 ohm

CUSTOMER NO

No.	Description	Qty	Name
⑥			
⑤			
④			
③	2.4G-Bleck	1	FPC
②	2027B-112R-13-Plug	1	IPEX
①	1.13Gray	1	cable

ANGLE PROJECTION

GENERAL TOLERANCE
100~200: ± 2.00
50~100: ± 1.00
25~50 : ± 0.50
10~25 : ± 0.10
1~10: ±0.05
☆:Critical Dim
◎:Major

PRODUCT NAME	IPEX-2.4G FPC Ant.-1.13 Gray-L140MM
PRODUCT NO	3.03.0101003983
UNIT	MM
PAGE	1 OF 1
SIZE	FORMAT
FREE	A4
D S	Li Yongjie
CHK	Zhou Xihua
APPD	Li He

SHENZHEN FYX ELECTRONIC CO.,LTD

Form Number: FYX/E-QR-14A Version: 3rd edition

2. Product appearance

Size	L33*20mm	Fixed mode	Paste type
Weight	0.82g	Connector	IPEX
colour	FPC black	Cable	1.13

3.Antenna performance parameters

Items	Specifications	unit
Center Frequency	2400～2500	MHz
Output impedance	50	Ω
V.S.W.R	Compare the waveform	-
Average Gain	1.87	dBi
Maximum Peak Gain	2.0 @2470MHz	dBi
Maximum Efficiency	67.33%@2490MHz	
Polarization mode	Linear polarization	
Radiation direction	omnidirectional	
Maximum input power	5	W
working temperature	-40～+70	℃
Storage temperature	-45～+75	℃

4. Cable specification

1.13 Structure chart

Structure parameter

	Material Science	Diameter(mm)
1.Inner conductor	Tinned copper wire	7/0.08±0.02
2.Insulator	（PE）	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
Impimipedance(ohm)	50
Rate (%)	66
Bending radius（mm）	≤7
Maximum working voltage	1000
Maximum operating frequency（MHz）	6000
Operating temperature range (℃)	-40～ +80
Attenuation	
（MHz）	(≯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

5.1High low temperature and constant humidity test

No	3.03.0101003983		Specifications	IPEX-2.4G FPC Ant.-1.13 Gray-L140MM
Items	High temperature, low temperature and constant humidity test			
Testing equipment	Alternating constant temperature and humidity test chamber		number	3
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 temperatur	Temperature (℃) Test sample temperature	75±3 1	Test procedure: a) Put the test piece into the test	OK

e test	time (H) Test duration (H) Recovery time (H)	2 1	chamber, and then adjust the temperature of the high temperature chamber to 75 °C± 3 °C, and monitor the time. b) After the test, it was placed at room temperature for 1 hour for routine inspection.	
Low temperature test	Temperature (°C) Test sample temperature time (H) Test duration (H) Recovery time (H)	-40±3 1 2 1	Test procedure: a) Put the test piece into the test chamber, and then adjust the temperature of the high temperature chamber to 75 °C± 3 °C, and monitor the time. b) After the test, it was placed at room temperature for 1 hour for routine inspection	OK
Constant damp heat test	Temperature (°C) Test sample temperature time (H) Test duration (H) Recovery time (H)	+40±3 90-95 21 1	a) Put the tested object into the test chamber, then adjust the temperature of the test chamber to + 40 °C± 3 °C, the humidity to 90-95%, and monitor the time. b) After the test, it was placed at room temperature for 1 hour for routine inspection.	OK
inspector：Guo Guangfeng			ratify：Xie Zhoujun	

5.2 Free fall test

No	3.03.0101003983	Specifications	IPEX-2.4G FPC Ant.-1.13 Gray-L140MM
Items	**Free fall test**		
Testing equipment	1m high desktop	number	3
Inspection standard	1. The product has no defects such as falling off, cracking, etc. and no deformation in appearance when it falls 1 meter high.		

Test name	**Items**	requirement	test method	Result

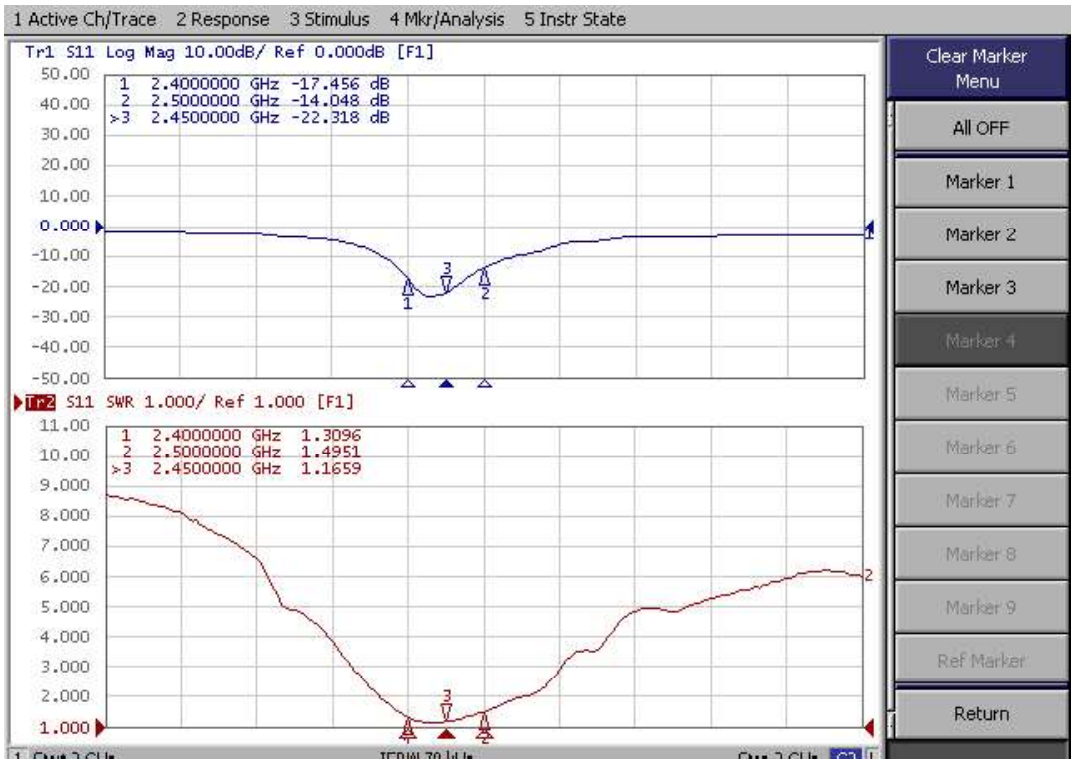
				judgment
Free fall test	1000mm Drop height 1000mm	Drop both sides twice	Test procedure: a) Drop the test piece at a height of 1000mm, and carry out routine inspection after the test.	OK
inspector：Guo Guangfeng			ratify：Xie Zhoujun	

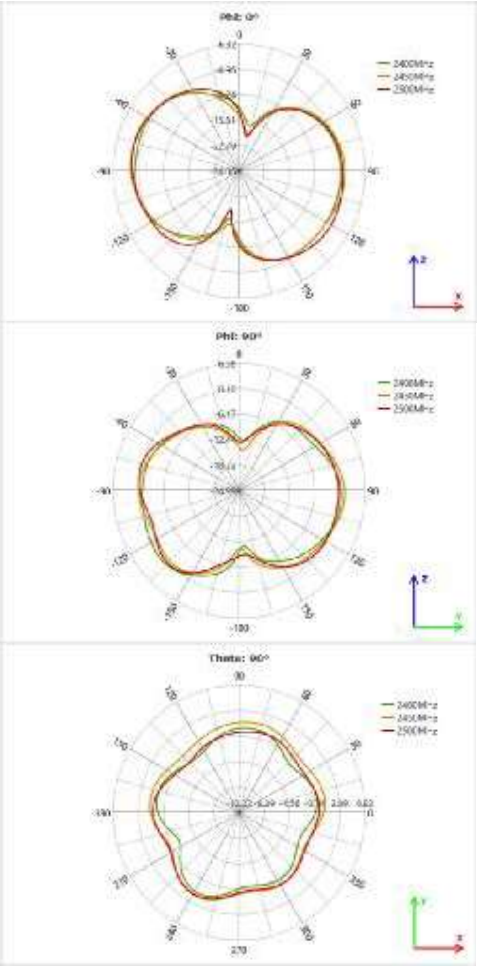
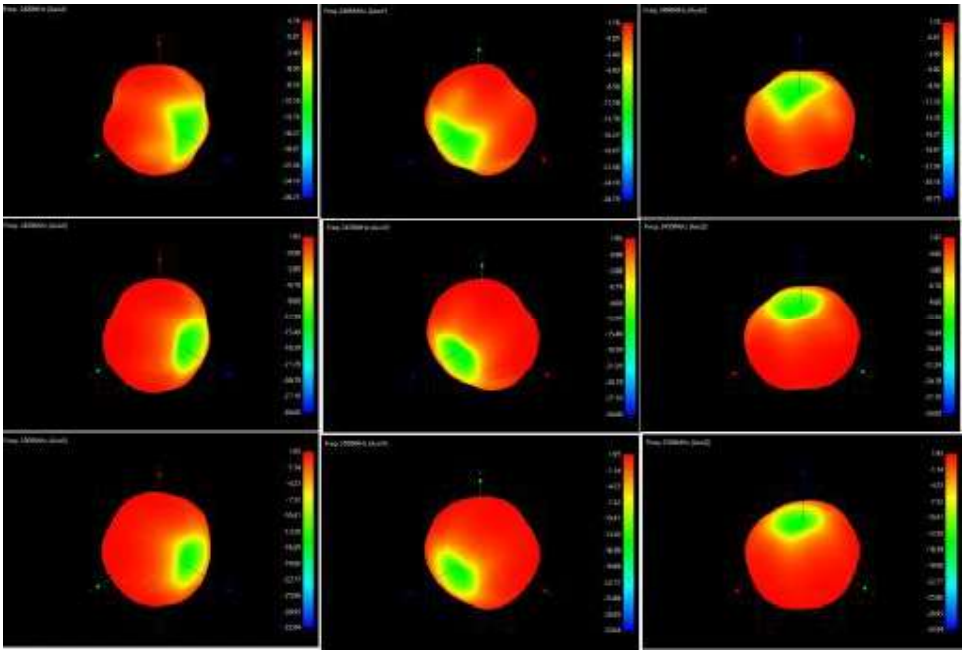
5.3 Salt spray test

NO	3.03.0101003983		Specifications	IPEX-2.4G FPC Ant.-1.13 Gray-L140MM
Items	**Salt spray test**			
Testing equipment	Salt spray tester		number	3
Inspection standard	1. The coating on the metal surface shall not fall off; the appearance shall 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±0.01kgf ㎡ 6.5-7.2 1.0-2.0ml/80c/h。 35±1℃ 47±1℃ 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
inspector：Guo Guangfeng			ratify：Xie Zhoujun	

6.Product pictures

7.Antenna performance test





Freqency(MHz)	Gain(dBi)	Efficiency(%)
2400	1.78	63.45
2410	1.53	62.25
2420	1.62	60.75
2430	1.62	60.58
2440	2.04	62.32
2450	1.92	61.58
2460	1.74	60.51
2470	2.07	64.91
2480	1.93	62.42
2490	2.4	67.33
2500	1.95	61.78