

2.4G-FPC antenna Antenna

Antenna Specification Confirmation Letter

Customer Name:

Antenna frequency band: 2400–2500MHz

Version: A0

Production date: 2025-06-30

Number: FS-NZ-FPC-339

Structures:		RF:	
Auditing:		Appreval:	
Customer confirmation			
Customer review:		Customer approval:	

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Modify the record

Versions	Dates	RF	Modify the content
A0	2025-06-30		

PARTS DRAWING

ROHS Compliant

REV

PRODUCT NO.

DATE

NAME

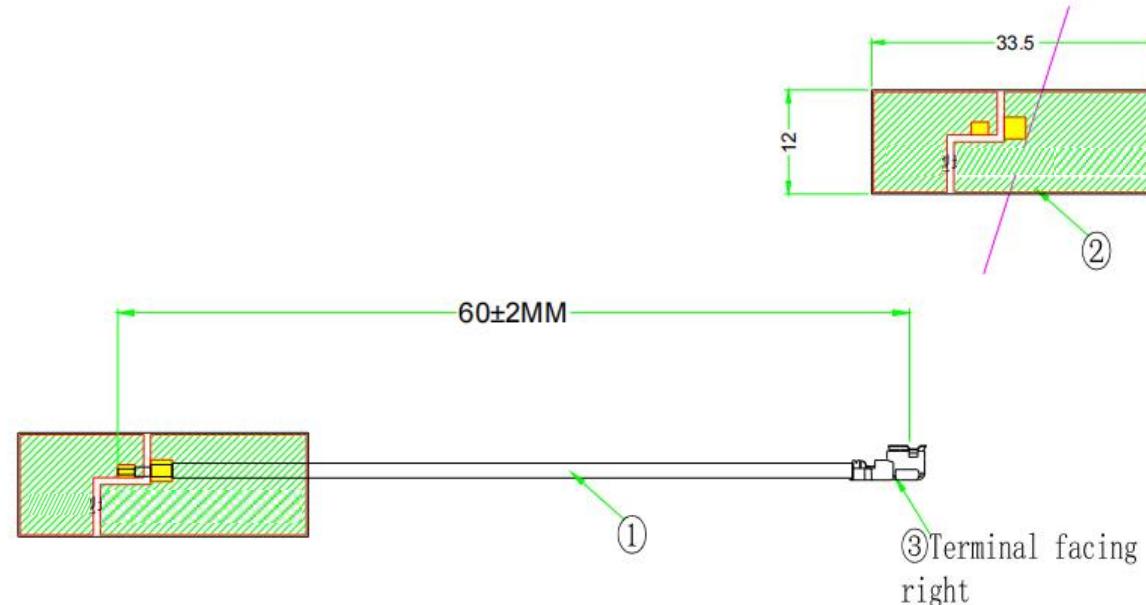
DESCRIPTION

A0

FS-NZ-FPC-339

2024.04.17

Initial Issuance



NO	Code	Name	Description	Q'ty	Frequency Range	2400-2500MHZ	ANGLE PROJECTION	PRODUCT NAME							
					Gain	2.45DBi		FPC-24G-1.13 first generation terminal -1.13 wire - double tin - black - l=60MM							
					Polarization	vertical	GENERAL TOLERANCE		PRODUCT NO.			PAGE	M	SIZE	1:3
4				1	Impedance	50 Ω	100~200 :	± 3.00	FS-NZ-FPC-339	1 OF 1	FORNMT	A4			
3	IPEX	1.13 Generation Terminal		1			50~100 :	± 2.00							
2	FPC	33.5 * 12 * 0.12MM surface black oil white printing		1	operation temperature: -45°C~85°C		25~50 :	± 0.20							
1	wire rod	1.13 wire double tin black L=60MM		1	storage temperature: -45°C~85°C		10~25 :	± 0.15							
							1~10 :	± 0.1							

Product Features Specification Table

一、Basic characteristics of the product:

Product type : FPC-24G-1.13 first generation terminal -1.13 wire - double tin- black - L=60MM	
DESCRIPTION	VALUE
Frequency Range	2400-2500MHz
Impedance	50 Ω
VSWR	Compare the waveforms of samples
Gain	2.45DBi
Radiation	Omni-directional
Polarization	linear Vertical
Powers	1W
Connector model	IPEX
Operating temperature	-45 °C~+85 °C
Storage temperature	-45 °C~+85 °C

1. Summary:

This report to account for the measurement setup and result of the Antenna. The measurement setup includes s-parameter, The measured data for Antenna are presented and analysis.

2. S-Parameter Measurement S:

A. Reflection coefficient :

- (a) Instrument: Network Analyzer
- (b) Setup:
 - (1) Calibrate the Network Analyzer by one port calibration using O.S.L. calibration kits.
 - (2) Connect the antenna under test to the Network Analyzer.
 - (3) Measure the S11(reflection coefficient) shown in Fig. 1.
- (4) Generally, the S11 is less than -10dB to ensure the 90% VSWR 2.0:1 power into antenna and only less than 10% power back to system.

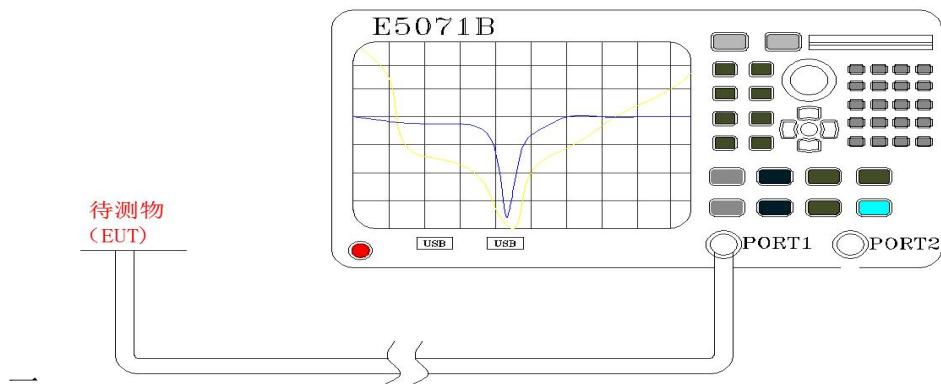


Fig.1 Antenna measured in Network Analyzer

3. S-Parameter Measurement Result S:

S-Parameter test data:

Frequency MHz	2400	2450	2500
V.S.W.R	1.31	1.07	1.26

S-Parameter test image :



Physical picture:

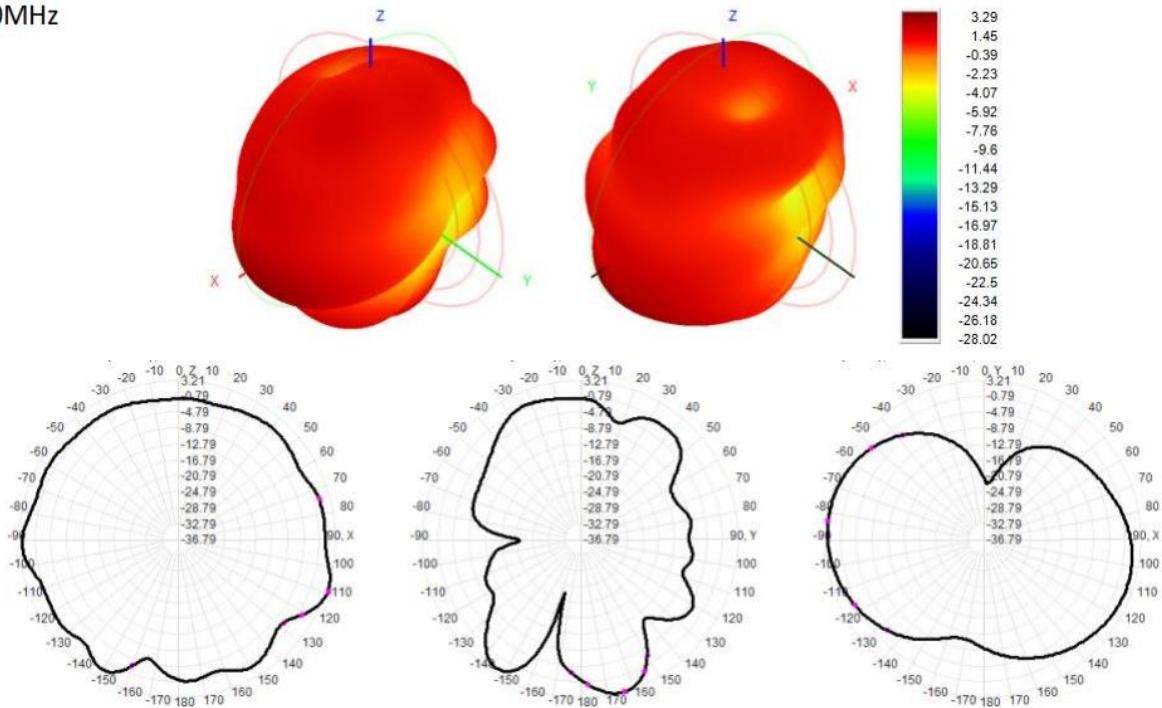


Passive numerical value:

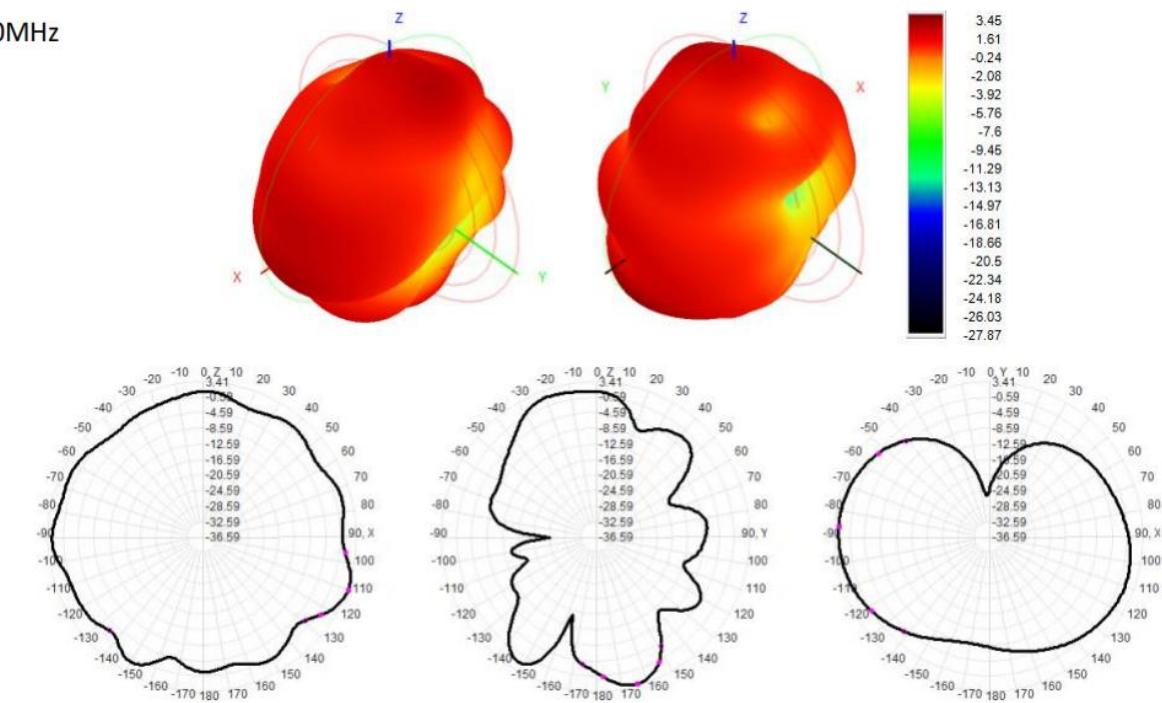
Frequency (MHz) (工作频段)	Efficiency (%) (效率)	Peak GAIN (dBi) (增益)
2400	54. 57	2. 29
2450	55. 27	2. 45
2500	57. 49	2. 14

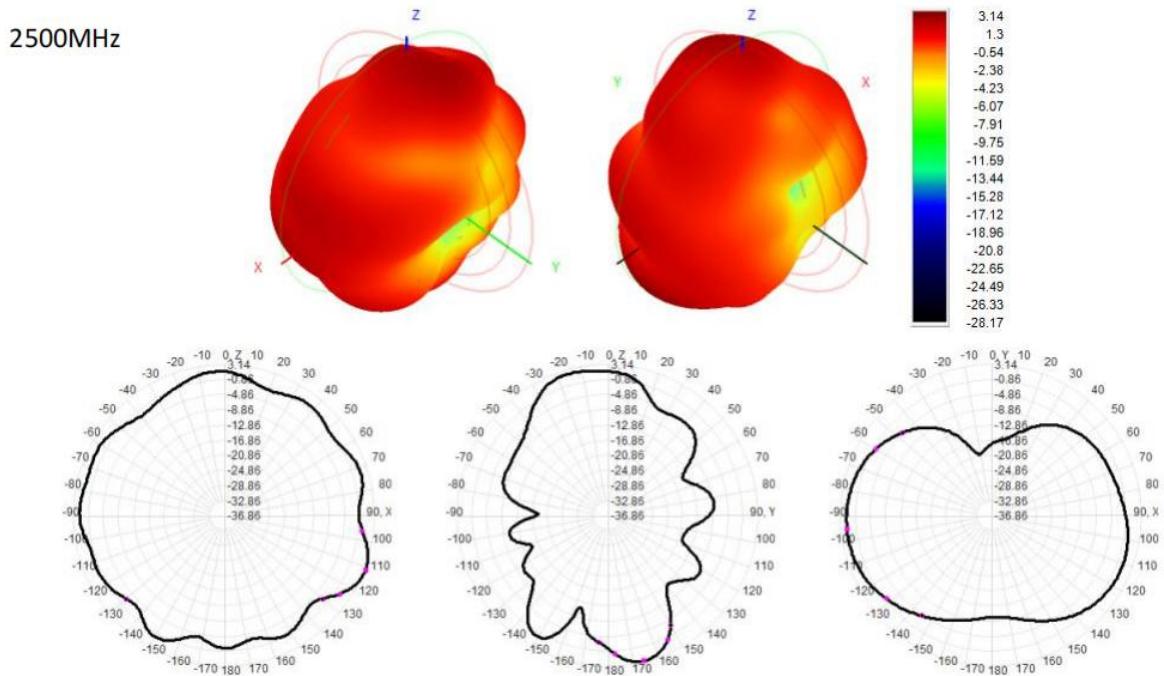
2D、3D:

2400MHz



2450MHz





Environmental test requirements

Preface	Test items	Test methods and conditions	Test equipment	Test results
1	Temperature and humidity test	<p>Reference E1A 364-31 Method Three, Test Condition A</p> <p>The purpose of this test process is to conduct detailed standard tests. The products used are affected by high humidity and heat. Influence the performance of the material for evaluation.</p>	<p>K. SON INS THS-A4L-150</p>	<p>Qualified</p>

		Requirements: Temperature: 85°C Humidity: 90~95% (R. H) Time : 72 hours		
2	Low temperature test	Refer to Feisheng Electronic Test Specification The measured sample should be traveled in a temperature-balanced environment, and its temperature setting Set at -45° C Requirements : Time : 24 hours	K. SON INS THS-A4L-150	Qualified
3	High temperature test	Refer to Feisheng Electronic Test Specification: The measured sample should be placed in a constant temperature environment, and the gas temperature should be set at 70°C. Requirements : Time : 24 hours	K. SON INS THS-A4L-150	Qualified

Environmental test requirements

Preface	Test items	Test methods and conditions	Test equipment	Test results
4	Hot and cold tests	Refer to Feisheng Electronic Test Specification: The measured sample should be placed in a fixed environment, and the temperature should be set at -45~85°C . Requirements : More than 8 hours. (30 minutes/time, 12 cycles)	K. SON INS THS-A4L-150	Qualified

5	Salt spray test	<p>Refer to Feisheng Electronic Test Specification:</p> <p>The tested sample should be placed in a fixed environment:</p> <p>NaCL Concentration: 40–60g/1Kg</p> <p>PH value: 6.5–7.2</p> <p>Test time: 24 hours</p>	Salt spray tester	Qualified
		<p>1. Gold-plated products are not allowed to peel with rust spots.</p> <p>2. Other nickel-plated, tinned and galvanized products shall not have more than two rust points on the same shaft or surface.</p>		

Mechanical test requirements

Preface	Test items	Test methods and conditions	Test equipment	Test results
1	Vibration test	<p>Test condition A</p> <p>The purpose of this test process is to evaluate the products used in the detailed standard test methods, which are moved or moved to affect the performance of the material.</p> <p>Requirements :</p> <p>Vibration range: 10–55HZ</p> <p>Displacement amplitude value: 0.35mm</p> <p>Acceleration amplitude: 50.0M/S</p>	Vibration tester	Qualified

		Number of frequency sweeping cycles: 30Times		
2	DROP TESTS	<p>Refer to Feisheng Electronic Test Specification:</p> <p>The measured sample should be placed at a certain height, and its height should be set to 1 meter, and it should fall freely 3 times in the direction of 6 surfaces.</p> <p>Requirements :</p> <p>The mechanical characteristics of the product are normal after the drop test.</p>	Drop test fixtures	Qualified

Mechanical test requirements

		Refer to Feisheng Electronic Test Specification:		
3	Tula test	<p>Fix the object under test through the fixture, and after applying a certain force in the opposite direction, the product assembly shall not fall off.</p> <p>Requirements:</p> <ol style="list-style-type: none"> 1. The product assembly cannot fall off. 2. Minimum tensile force: 1.2KG 	Tile tester	Qualified

Note: Feisheng Electronics performs the above mechanical and environmental parameter tests before R&D and

trial delivery.