



NOVA 2.4G/5G Specification Approval

Customer Name: NOVA STAR

Antenna frequency band: 2400-2500/5150-5850MHz

Version: A0

Production date: 2024-08-09

Number: FS-WZ-JB-094

Customer part number: 120010041

Research and development of Feisheng Electronics Co., Ltd.

Structures:

Xu Long

RF:

Guo Xi

Auditing:

LI Sheng

Appreval:

LI Sheng

Customer confirmation

Customer review:

Customer
approval:

Feisheng Electronics Co., Ltd.

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Modify the record

Versions	Dates	RF	Modify the content
A0	2024-08-09	Xu Long	

PARTS DRAWING				ROHS Compliant		REV	PRODUCT NO.	DATE	NAME	DESCRIPTION
						A0	FS-WZ-JB-094	2024.08.09		Initial Issuance

②Female

195±2MM

154±2MM

Ø13MM

90°

③

④

①

Ask

1. There is no broken skin or damage to the wire sheath.
2. The finished product must be 100% tested for continuity OK.
3. 100% inspection of finished products is required.
4. Adopt environmental protection process. The finished product meets ROHS requirements.

Test conditions

rated voltage: AC 60V
Contact impedance: 20-0hm
voltage withstand: AC200V
Insulation impedance: 500m-0hm
characteristic impedance: 50 Ohm

Frequency Range	2400-2500MHz 5150-5850MHz
Gain	5DBi
VSWR	Comparing Waveforms
Polarization	vertical
Impedance	50 Ω
operation temperature: -45℃~85℃ storage temperature: -45℃~85℃	

PRODUCT NAME				
Glue stick antenna WIFI dual frequency -5DB rubber sleeve SMA male and female needle-L=195MM				
PRODUCT NO.	UNIT	M M	SIZE	1:3
FS-WZ-JB-094	PAGE	1 OF 1	FORMT	A4

NO	Name	Description	Q'ty
4	Rubber sleeve	154 * 13MM 50B rubber sleeve black	1
3	Up solid	18 * 13MM black 50B connector type	1
2	Bottom Solid	14.5 * 13MM black 50B connector type	1
1	SMA	Straight male and female needles made of black zinc alloy	1

ANGLE PROJECTION	
GENERAL TOLERANCE	
100~200 :	± 3.00
50~100 :	± 2.00
25~50 :	± 0.20
10~25 :	± 0.15
1~10 :	± 0.1

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深圳市飞胜电子有限公司
SHENZHEN FEISHENG ELECTRONIC CO.,LTD

Product Features Specification Table

一、Basic characteristics of the product:

Product type : Glue stick antenna WIFI dual frequency -5DB rubber sleeve SMA male and female needle-L=195MM	
DESCRIPTION	VALUE
Frequency Range	2400-2500/5150-5850MHz
Impedance	50 Ω
VSWR	≤ 2.3
Gain	2DBi
Radiation	Omni-directional
Polarization	linear Vertical
Powers	1W
Connector model	SMA
Operating temperature	-45℃~+85℃
Storage temperature	-45℃~+85℃

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.

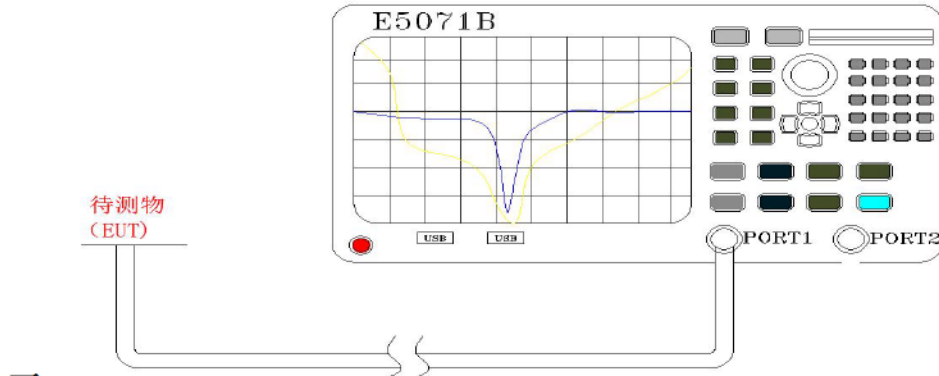


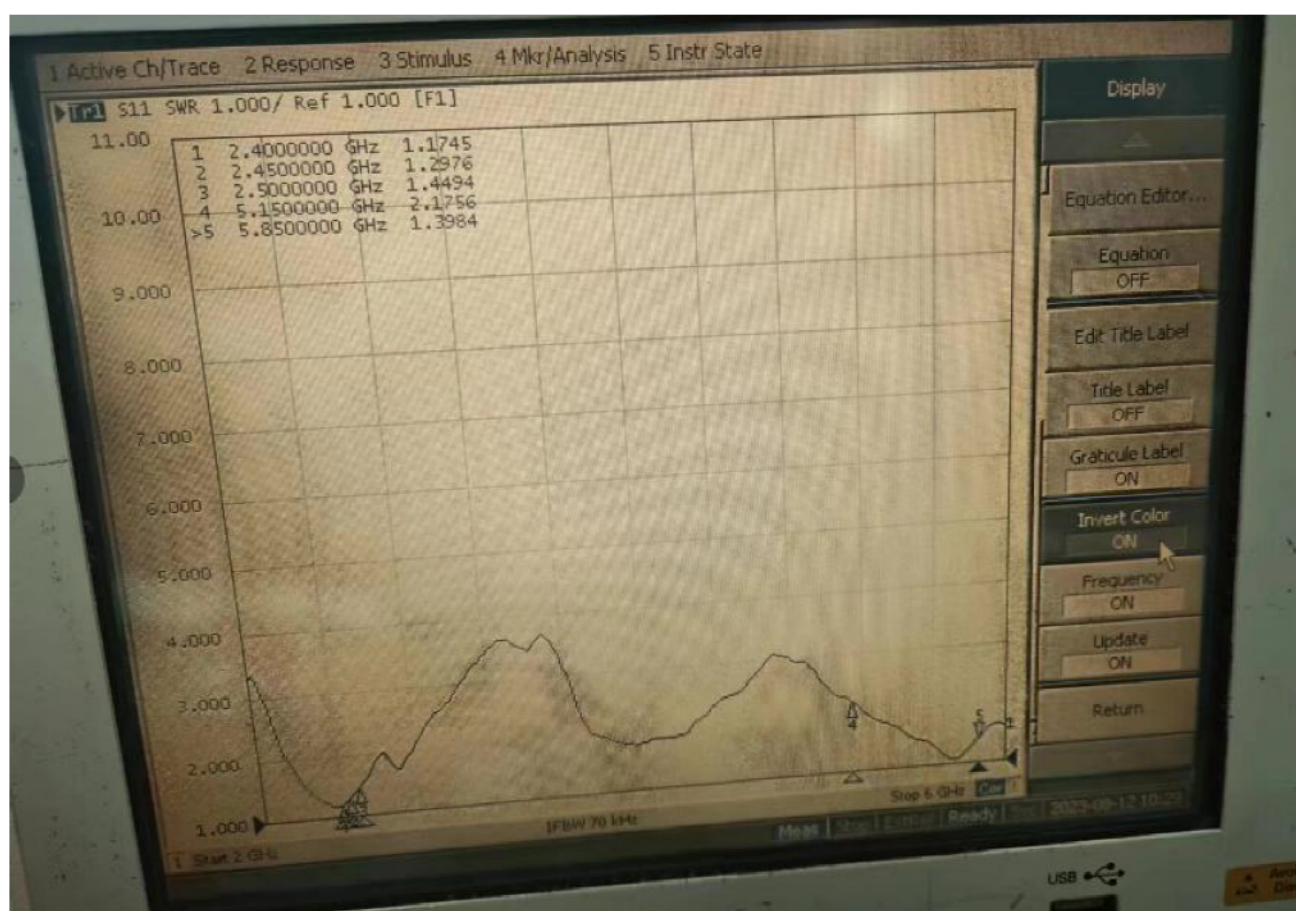
Fig.1 Antenna measured in Network Analyzer

3. S-Parameter Measurement Result S:

S-Parameter test data :

Frequency MHz	2400	2450	2480	5100	5800
Loss DB value	1.17	1.29	1.44	2.17	1.39

S-Parameter test image :



Antenna appearance:



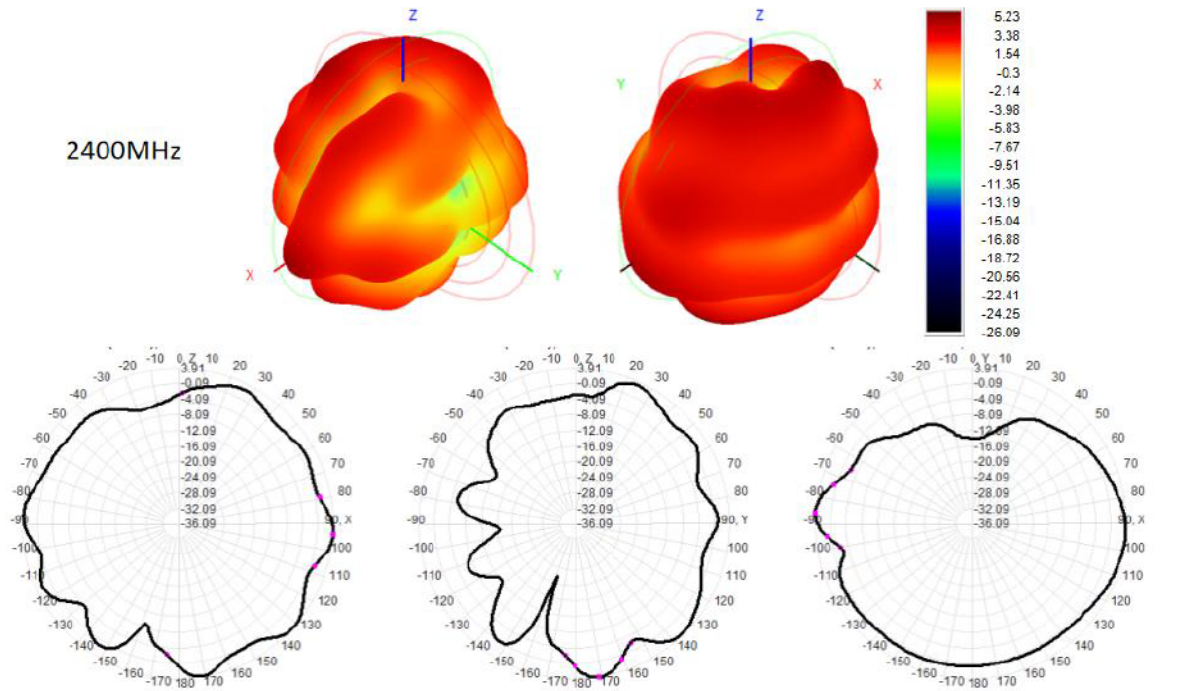
Passive numerical value:

Fred (MHz)	Effi (%)	Effi (%)	Gain (dBi)
2400	41.07	-2.09	1.63
2410	41.62	-2.50	1.59
2420	41.98	-2.69	1.75
2430	41.81	-2.09	1.38
2440	41.54	-2.34	1.75
2450	41.83	-2.42	1.55
2460	41.15	-2.49	1.69
2470	41.26	-2.88	1.89
2480	41.78	-2.87	1.94
2490	41.05	-2.07	2.00
2500	41.07	-2.09	1.71

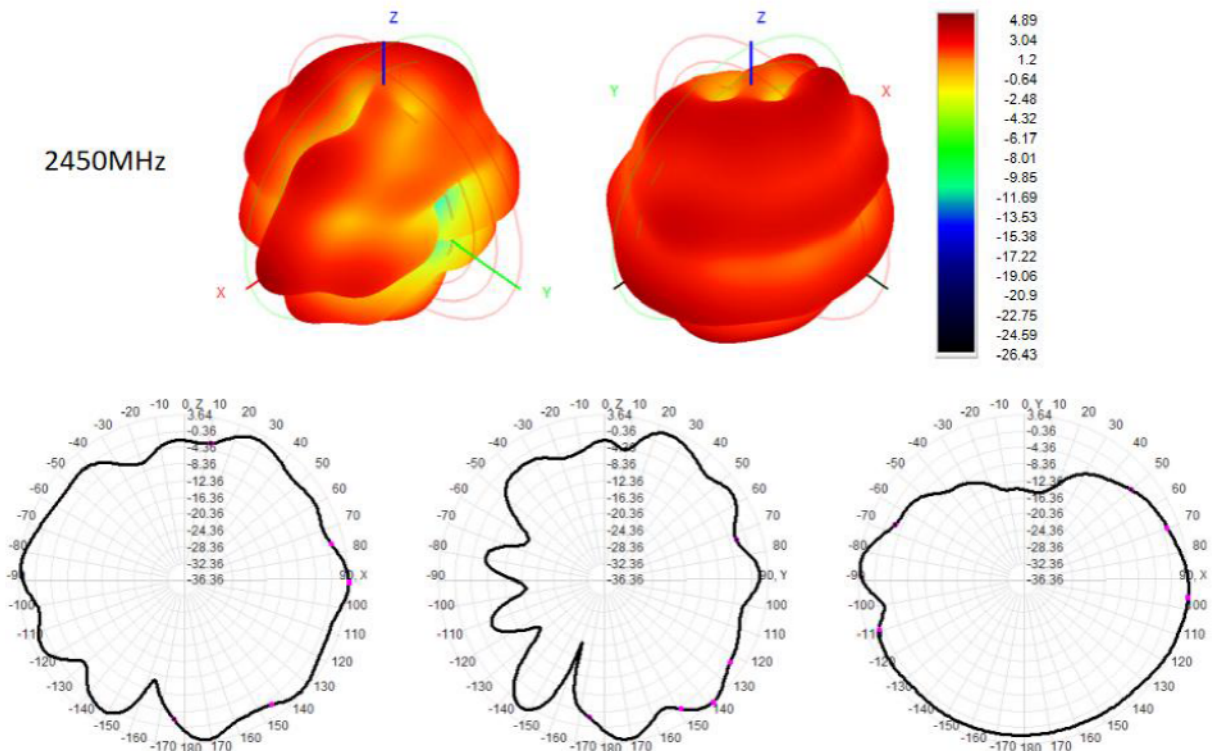
Fred (MHz)	Effi (%)	Effi (%)	Gain (dBi)
4900	60.30	-0.78	1.23
5000	60.53	-0.44	1.59
5100	60.61	-0.25	1.99
5200	60.27	-0.69	1.34
5300	60.49	-0.35	1.48
5400	60.96	-0.35	1.08
5500	60.30	-0.75	1.31
5600	60.73	-0.58	1.53
5700	60.76	0.16	1.78
5800	60.21	-0.63	1.36
5900	60.47	-0.28	1.41

2D/3D:

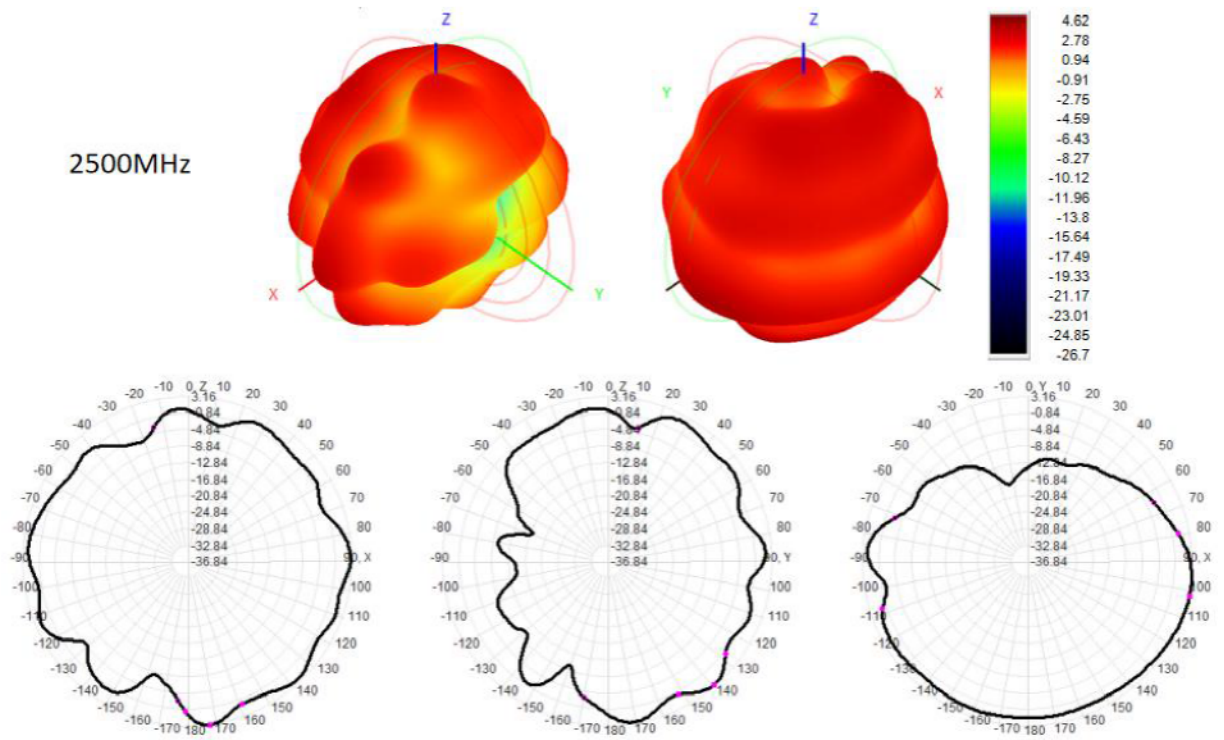
2400MHz



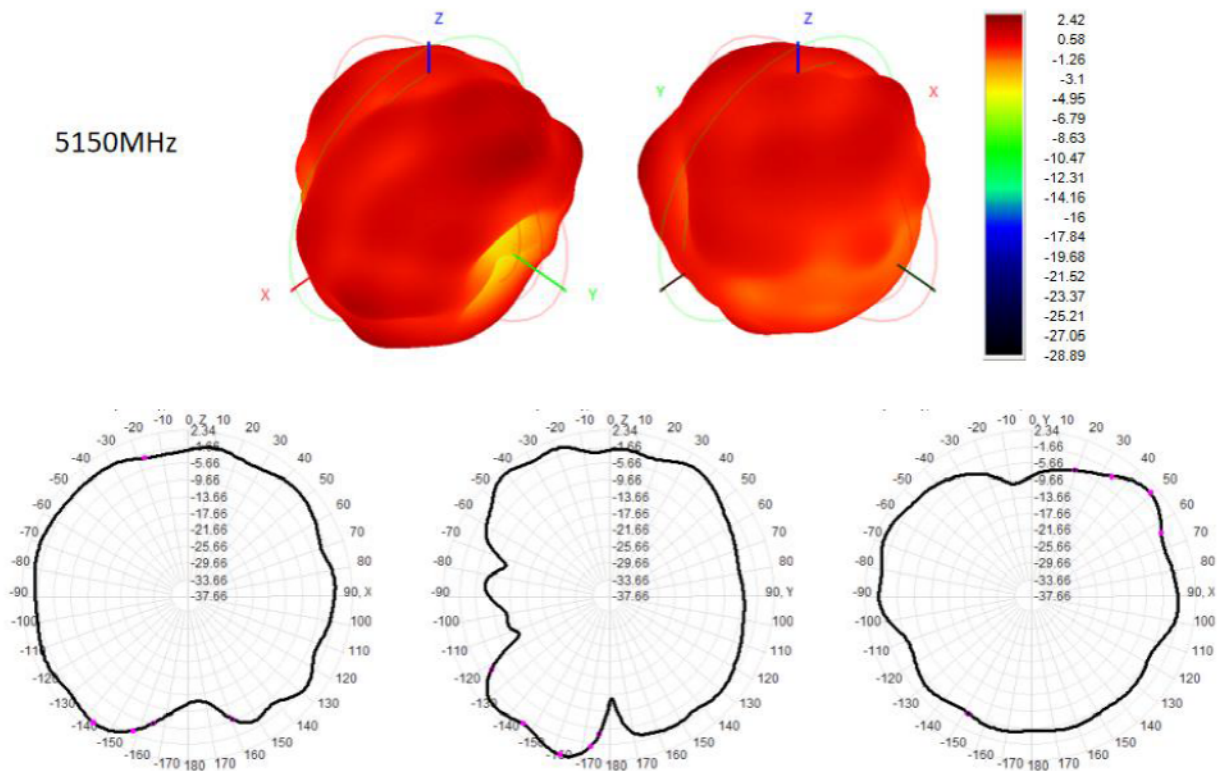
2450MHz



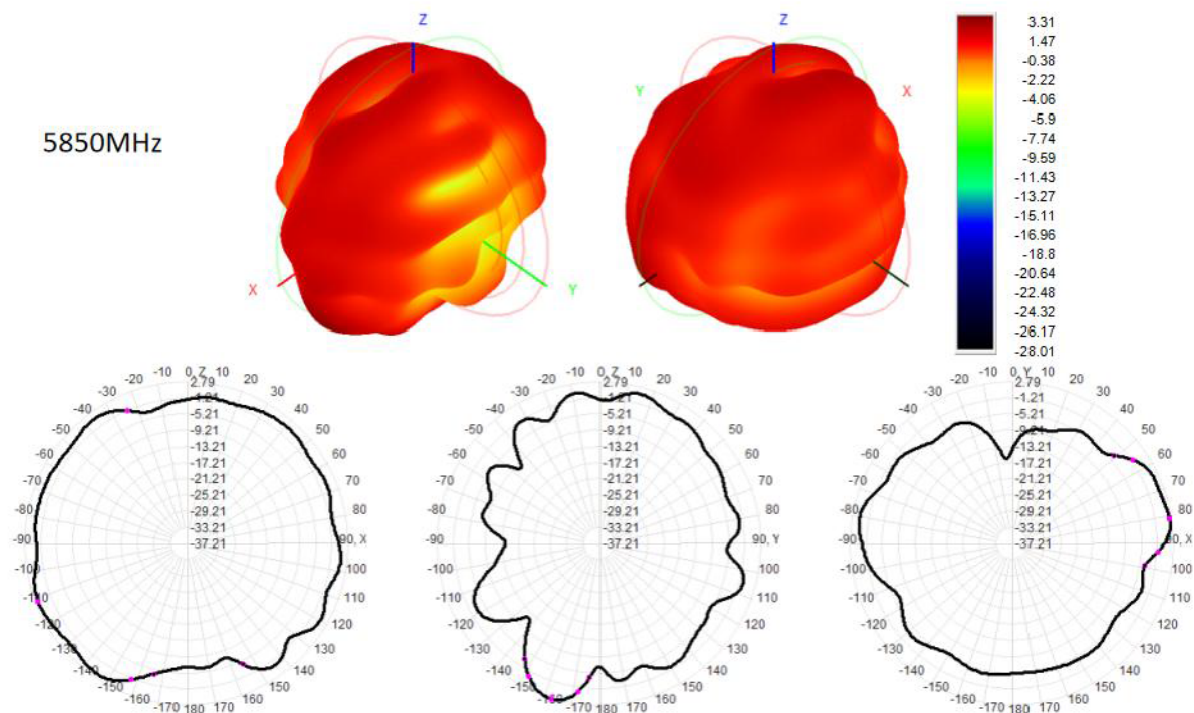
2500MHz



5150MHz



5850MHz



Environmental test requirements

Preface	Test items	Test methods and conditions	Test equipment	Test results
1	Temperature and humidity test	Reference E1A 364-31 Method Three, Test Condition A 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. Requirements: Temperature: 85℃ Humidity: 90~95% (R.H) Time : 72 hours	K. SON INS THS-A4L-150	Qualified
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℃. Requirements : Time : 24 hours	K. SON INS THS-A4L-150	Qualified

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

Mechanical test requirements

Preface	Test items	Test methods and conditions	Test equipment	Test results
1	Vibration test	Test condition A 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.	Vibration tester	Qualified
		Requirements : Vibration range: 10-55HZ Displacement amplitude value: 0.35mm Acceleration amplitude: 50.0M/S Number of frequency sweeping cycles: 30Times		
2	DROP TESTS	Refer to Feisheng Electronic Test Specification: 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.	Drop test fixtures	Qualified
		Requirements : The mechanical characteristics of the product are normal after the drop test.		

3	Tula test	Refer to Feisheng Electronic Test Specification: 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.	Tile tester	Qualified
		Requirements: 1. The product assembly cannot fall off. 2. Minimum tensile force: 1.2KG		

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