Spring day Line specification recognition letter

Product specifications for approval

Customer's name: China Science and Technology Speed

.Antenna frequency band: 433MHz

Version: The0 Date of production: 2024-10-17

Number: FS-987 Machine Model: SF-DD

.Structure:		**Radio frequency:**	
Audit:		**Approval:**	
Customer's confirmation			
Customer review:		**Customer's approval:**	

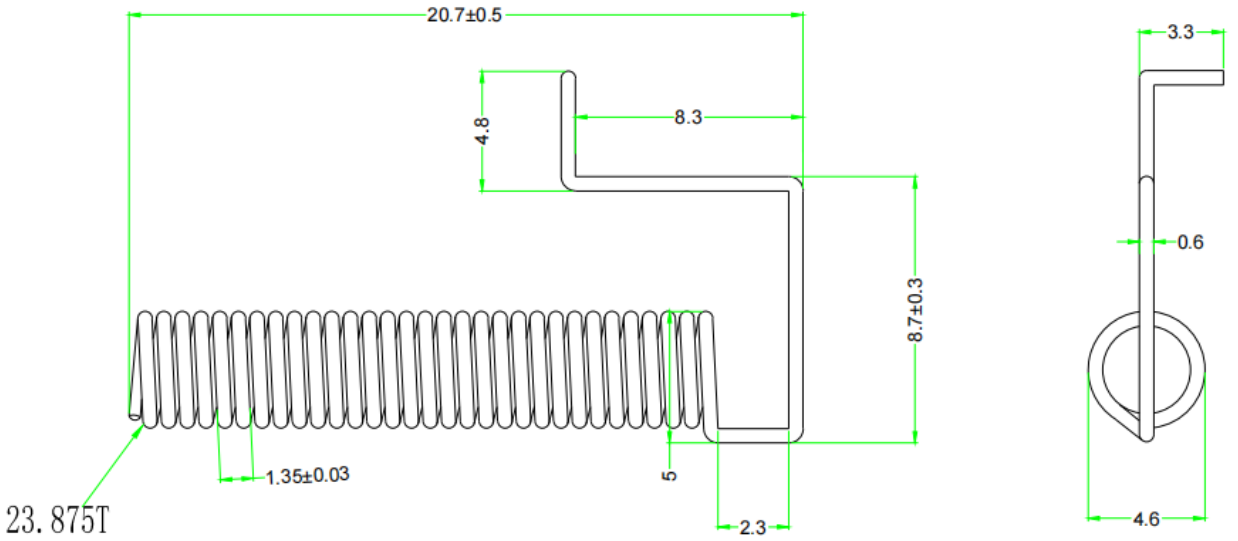
INDEX.

Modify the record

Edition	Date	Engineer	Modify the content
A0.	October 17, 2024		

PARTS DRAWING 零件图 | ROHS Compliant

REV	PRODUCT NO.	DATE	NAME	DESCRIPTION
A0	FS-987	2024.10.17		初始发行



技术要求：

1. 未注公差按±0.2
2. 表面光滑、无污渍、刮伤.
3. 材料需符合RoHS要求。

工作频段 (Frequency Range)	433MHz
增益 (Gain)	2DBi
电压驻波比 (VSWR)	对比波形
极化方式 (Polarization)	垂直
特性阻抗 (Impedance)	50Ω

工作温度：-45℃~85℃
储存温度：-45℃~85℃

角法 ANGLE PROJECTION

公差 GENERAL TOLERANEC

100~200：	± 3.00
50~100：	± 2.00
25~50：	± 0.20
10~25：	± 0.15
1~10：	± 0.1

产品名称（PRODUCT NAME）					
弹簧天线-433MHz-黄铜-L=20.7MM					
产品料号		单位（UNIT）	M M	比例（SIZE）	1:3
FS-987		页数（PAGE）	1 OF 1	帽面（FORNMT）	A4
业务		仓库			
PMC		生产			
采购		品质			

Product Feature Specification Table

I. Basic characteristics of the product:

Product type:Spring Antenna-433MHz-Brass-L=20.7MM	
DESCRIPTION	**VALUE.**
Working frequency band	433MHz
Characteristic impedance	50 Ω
Voltage standing wave ratio	Compare sample waveforms
Increase	2DBi.
Conductive resistance	0.5 Ω
Insulation resistance	Three0 Ω
DC voltage	300 Volts
Power	1 W
Connector model	/
Working temperature	-45℃~+85℃
Storage temperature	-45℃~+85℃

1.Small sizeUmmaryEssentials:

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.

This report is used to illustrate the results of the standard antenna, which includes the return loss value, which is the data representation and analysis of the standard antenna.

2. S-P.ArameterMedium size EasurementSmall size

Parameter'sStandard:

A. Reflection coefficient Reflection coefficient:

.(A) Instrument(Deconer): Network Analyzer(Network Analysis Discussion) .

(B) SetupSet up:

(1) Calibrate the Network Analyzer by one port calibration using O.S.L. calibration kits.
The calibration of the instrument is carried out through the OSL calibration kit.

(2) Connect the antenna under test to the Network Analyzer.

Connect the antenna to be tested to the network analysis.

(3) Measure the S11(reflection coefficient) shown in Fig. 1.

Standard S11.As shown in Figure 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.

Generally speaking,S11.Less than-10 dBVSWR is less than 2.0:1 to ensure 90% of the power is converted into an antenna and only less than.Ten% of the power reflection back system.

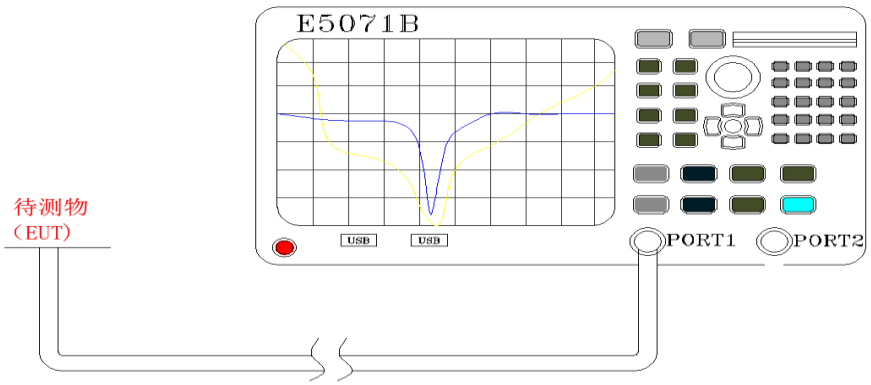


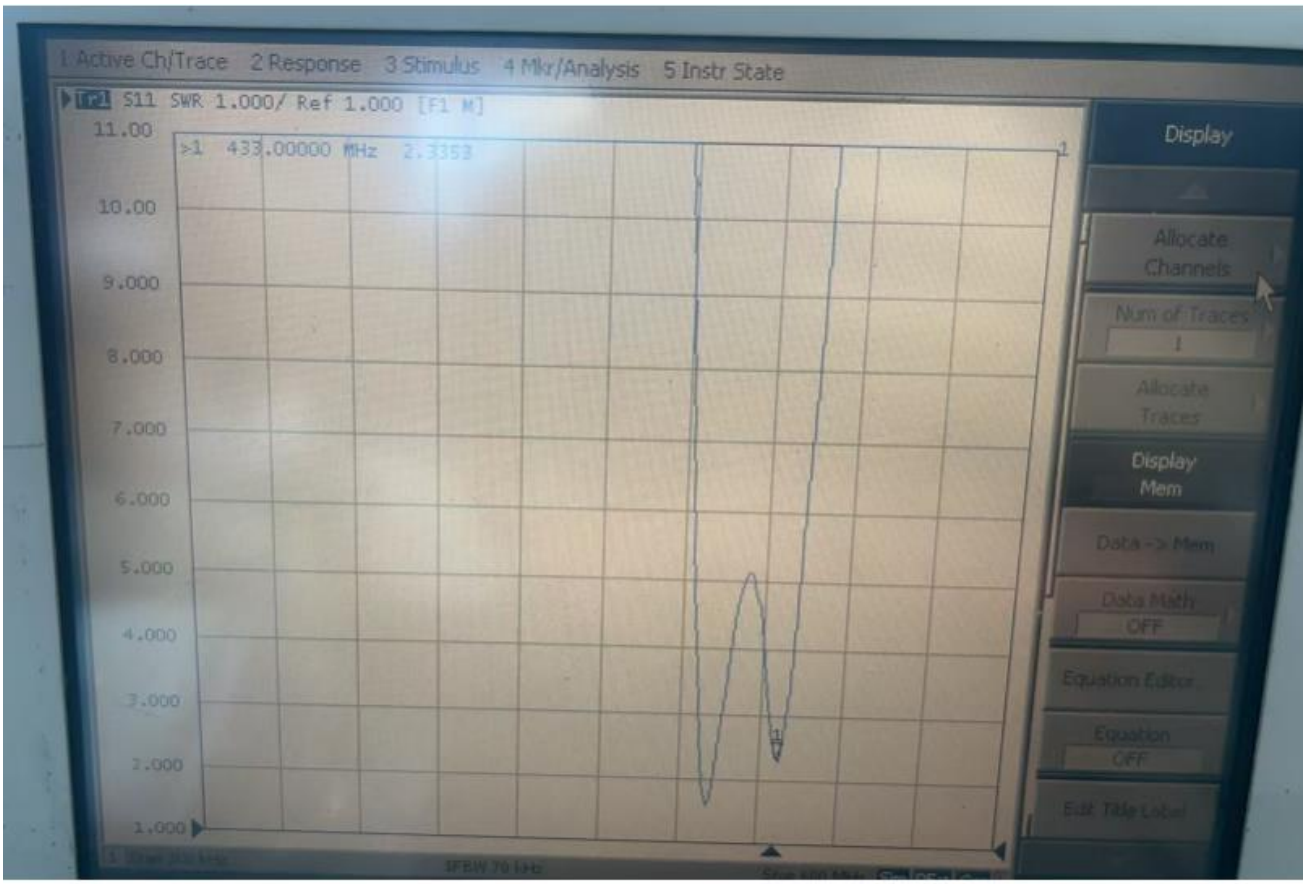
Fig.1 Antenna measured in Network AnalyzerPicture1Antenna Measurement Network Analyzer

3. S-Parameter Measurement Result Standard results of S parameter:

S-Parameter.Test data S-parameter standard data:

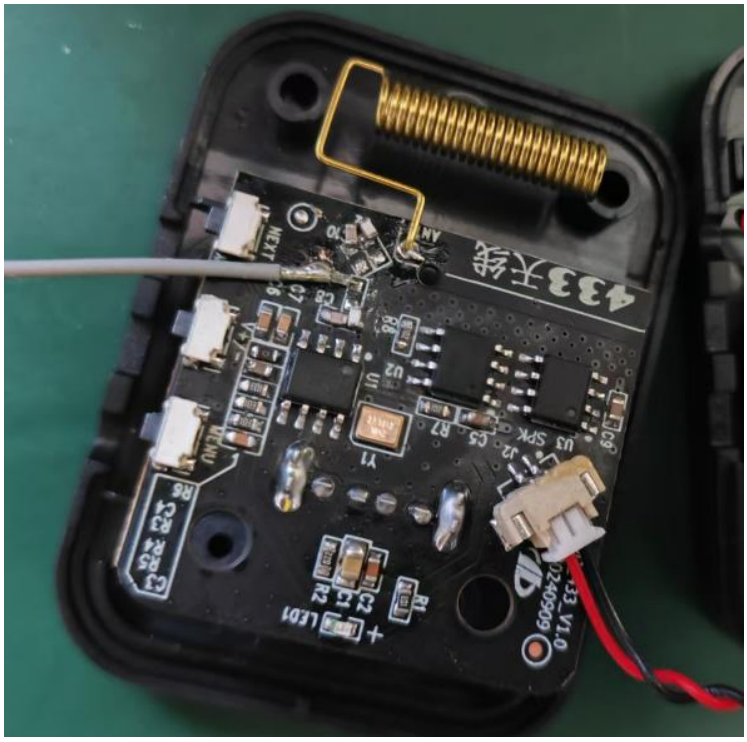
FrequencyMegahertz Working frequency band	433
Standard lossDB value	2.33

S-ParameterTest image S-parameter standard picture:



The appearance of the machine:

Antenna welding position:



Environmental test requirements

Order	Test items	Test methods and conditions	Test equipment	Test results
1	Temperature and humidity test	Refer toEIA 364-31 Method 3, Test Condition A .The purpose of this test program is to use the detailed standard test method.Product, they are evaluated by the influence of high humidity and heat, which affects the performance of materials. Requirements: Temperature: 85℃ Moisture content: 90~95% (R.H) Time: 72 hours	K.SON INS THS-A4L-150.	.Qualified
2	Low-temperature test	Refer to the electronic test specification: The measured sample should be placed in aLastingIn the temperature environment, its temperature is set at-45℃ Demand: Time: Trapped	K.SON INS THS-A4L-150.	.Qualified
Three	High temperature test	Refer to the electronic test specification: The measured sample should be placed in aLastingIn the temperature environment, its temperature is set at85℃. Demand : Time: Trapped	K.SON INS THS-A4L-150.	.Qualified
4	Cold and heat shock	Refer to the electronic test specification: The measured sample should be placed in a fixed environment, and its temperature should be set to-45~85℃. Requirements: More than 8 hours.(30Minute/Come next in order,12 cycles)	K.SON INS THS-A4L-150.	.Qualified

5	Salt spray test	Refer to the electronic test specification: The measured sample should be placed in a fixed environment under its requirements: NaCL concentration: 40-60g/1Kg PH value: 6.5-7.2 Test time:.24 hours	Salt spray testing machine	.Qualified
		1. Gold-plated products are not allowed to have rust and peeling. Two. Other nickel-plated, tin-plated and galvanized products shall not have more than two rust points on the same axis or surface.		

Mechanical test requirements

Order	Test items	Test methods and conditions	Test equipment	Test results
1	Vibration test	Test condition A .The purpose of this test program is to use the detailed standard test method.Product, they are fromMove or move, affect the performance of the material to evaluate.	Vibration tester	.Qualified
		Requirements: Vibration range: 10-55HZ Displacement amplitude: 0.35mm ACCELERATION AMPLitude: 50.0M/S Number of sweep cycles: 30 times		
2	Drop test	Refer to the electronic test specification: The measured sample should be placed at	Drop test jig	.Qualified

		a certain height, the height should be set to 1M, and it should fall freely 3 times in the direction of 6 faces. Demand: After the drop test, the mechanical characteristics of the product are normal.		
Three	Trasin test	Refer to the electronic test specification: After fixing the object under test with the jig and applying force in the opposite direction with a certain force, the product assembly must not fall off. Requirements: 1. The product assembly must not be removed. Two. Minimum tensile force: 1.2KG	Tensil test machine	.Qualified

Note: Electronically carry out the above mechanical and environmental parameter tests before research and development and trial production.