FPC Antenna specification acknowledgment

Product Specifications for A pproval

customer name:

Antenna band: 2400-2500/5150-5850MHz

Version: A0 Production Date: 2024-09-20

Number: HS-NZ-FPC-001

structure:	radio frequency:	
examine and verify:	ratify:	
	Customer confirmation	
Customer review:	Customer approval:	

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amendant record

Version date Engineers modification	
A02024-09-20	

PA	RTS DRA	WING 零件	·图 R	OHS Complia	nt		R	EV	PRODUCT NO.	DATE	1	NAME	Dŧ	SCRIPTION	
							1	40	HS-NZ-FPC-001	2024.09	. 20		书	切始发行	
	要线品。	被无破皮. 100% 烈 (100% 全 位 0	频伤。 声通 OK。 K.	2±0.2 10 1±0.2 10 1±0.2 10 10 10 10 10 10 10 10 10 10 10 10 10	剥锡	125±2444	①1. 37黑	线	45			(C)			
	4.米用坏 要求。	徐制程,成	而有合ROHS	些家园近;500m-0hm 结性图拉,50.0bm		LfF MRR (Frequency Range)	2400-2500/5150-5850MH	Z	RelE XVGLE PROJECTION			产品名称(PRODUCT N	(AME)	
	5. 未注公	差请以一般	t公差为准。	14 PERCENCE ON ONLY		-Hild (Gain) de (Catante	2081			内置印	C-WIFI-	-环剥镀锡-1.:	37线-黑色	b-单银-L=125MM	
						(VSIII) 极化方式	对比波形		公授 GENERAL THEREASE	产品料	号	单位 (UNIT)	N M	比例 (SIZE)	1:3
ND	Code	Nane	Des	cription	0'tv	(Polarization)	悪旦		100~200; ± 3.00	HS-NZ-FF	C-001	页数 (PAGE)	1 OF 1	帽面 (FORNAT)	. 14
3	Contraction of the second				1	(Impedance)	50 12		ib~100: ± 2.00	业务		仓库			
2		FPC	表面黑油		1	工作温度	± −45°C \$85°C		22+60 t ± 0.20 10+25 t ± 0.15	PMC		生产		深圳市华圣电子有限	限公司
1		线材	1.37线 单键 #	E色 L=1250M	1	储存温度	: −45°C~85°C		l⇔10: ± 0.1	采购		品质			

Product characteristics specification sheet

I. Basic characteristics of products:

Product type: FPC antenna-WIFI dual frequency-ring stripping tin-1.37 wiredouble tin wire-black-L=125MM

DESCRIPTION	VALUE
Frequency range (working band)	2400-2500/5150-5850MHz
Impedance (Characteristic impedance)	50 Ω
V.S.W.R (voltage standing wave ratio)	Compare the sample waveform
Gain(gain)	2DBi
Radiation (Directionality)	Omni-directional
Polarization (linearization mode)	linear Vertical
Admitted power (power)	1W
Connector (joint type)	/
Operating temp (working temperature)	-45℃~+85℃
Storagetemp (storage temperature)	-45℃~+85℃

1. Summary Overview:

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

This report is used to illustrate the results of the measured antenna, which includes the voltage standing wave ratio and reflection coefficient of S parameters, for the data representation and analysis of the measured antenna

2. Measurement of S-Parameter Measurement S parameters:

A. Reflection coefficient Reflection coefficient:

(a) Instrument (Protocol): Network Analyzer (Network

- Analysis Protocol). (b) Setup establishment:
 - (1) Calibrate the Network Analyzer by one port calibration using O.S.L. calibration kits. The calibration of the instrument is performed by the OSL calibration kit for one port.
 - (2) Connect the antenna under test to the Network Analyzer.Connect the antenna under test to the network analysis protocol.
 - (3) Measure theS11(reflection coefficient) shown in Fig. 1. Measure S11 as shown in Figure 1.
 - (4) Generally,theS11 is less than –10dB to ensure the 90% VSWR 2.0:1 power intoantenna and only less than10% power back to syste m.

Generally, the S11 is less than-10dB VSWR less than 2.0: 1 to ensure that 90% of the power is converted into the antenna and less than 10% of the power is reflected back into the system.



Fig.1 Antenna measured in Network Analyzer Figure 1 Antenna measurement network analyzer

3. Measurement results of S-Parameter Measurement Result S parameters:

S-Parameter test dataS parameter measurement data:

Frequency MHz Working frequency band	2400	2450	2500	5150	5850
V.S.W.R Stationary Wave Ratio	1.41	1.48	1.61	1.53	1.66

S-Parameter test image S parameter measurement image:



picture of real products:



Value without source:

Frequency (MHz) (工作频段)	Efficiency (%) (效率)	Peak GAIN (dBi) (增益)
2400	28.37	1. 71
2450	23.71	1.83
2500	29.70	1.88
5150	32. 45	1. 94
5850	40.68	2.02









Environmental testing requirements

ord er	test item	Test method and conditions	testing facility	test result
1	Temperatu re and humidity testing	Refer to method EIA 364-31, test condition A The purpose of this test procedure is to evaluate products used in detailed standard test methods that are affected by high humidity and heat to affect material performance. ask: temperature:85°C Humidity: 90~95% (R.H) Time: 72 hours	K.SON INS THS-A4L-150	qualified
2	Low temperatur e test	Refer to the electronic test specifications: The samples shall be placed in a constant temperature environment with a temperature set at-45 °C ask: Time: 24 hours	K.SON INS THS-A4L-150	quali fied



3	High temperatur e testing	Refer to electronic test specifications: The samples shall be placed in a constant temperature environment with a temperature set at 85°C. ask: Time: 24 hours	K.SON INS THS-A4L-150	qualified
4	Cold and hot shock	Refer to the electronic test specifications: The samples shall be placed in a fixed environment with a temperature set at-45 to 85°C. ask: More than 8 hours. (30 minutes per session, 12 cycles)	K.SON INS THS-A4L-150	qualified
5	Salt Spray Test	Refer to Feisheng Electronics test specification: The samples shall be placed in a fixed environment as required: NaCL concentration: 40-60g/1Kg pH: 6.5-7.2 Test time: 24H 1. Gold-plated products shall not have rust spots or peeling 2. Other nickel, tin and zinc plating products on the same shaft or surface shall not have more than two rust spots.	Salt spray tester	qualified

Mechanical test requirements

ord er	test item	Test method and conditions	testing facility	test result
		test condition A		
		The purpose of this test procedure is to		
		evaluate the performance of materials by		
		moving or handling products used in detailed		
1		standard test methods.	Vibration	qualified

Vibration testing	ask:	testing machine	
-	Vibration range: 10-55HZ		
	Displacement amplitude: 0.35mm		
	Acceleration amplitude: 50.0M/S		

		Scan frequency cycle: 30 times		
2	drop test	Refer to the electronic test specifications: The samples to be tested should be placed at a certain height, which is set at 1M, and freely dropped 3 times in the direction of 6 surfaces ask:	Drop test fixture	qualified
		The mechanical characteristics of the product are normal after the drop test		
3	strain relief test	Refer to the electronic test specifications: The test object is fixed by the fixture, and the force is applied in the opposite direction with a certain force so that the product assembly cannot fall off. ask: 1. The product assembly shall not be detachable.	Tensile testing machine	qualified
		2. Minimum pull: 1.2KG		

Note: Electronic execution of the above mechanical and environmental parameters is carried out before R&D and trial production.