

Development case

number: Y231010527.

Date: November 6,

2023

edition Ben: A0-1106

Letter of acceptance

Customer Name: Hao Microelectronics_____

Debugging project: HW 5713-52-V2.0._____

Customer Item:_____

Boantong material number:

74220274

Specification: Built-in antenna -2.4G- black 0.81 silver-
tin wire-2nd generation terminal

-L=55mm-FPC-32.5×6.5mm

Factory signature:

Compile and write	Exami ne and verify	Approv e
Huang feihui	Qin Linshu	Liu Lihua

Customer recognition signature:

Check	Examine and verify	Approve

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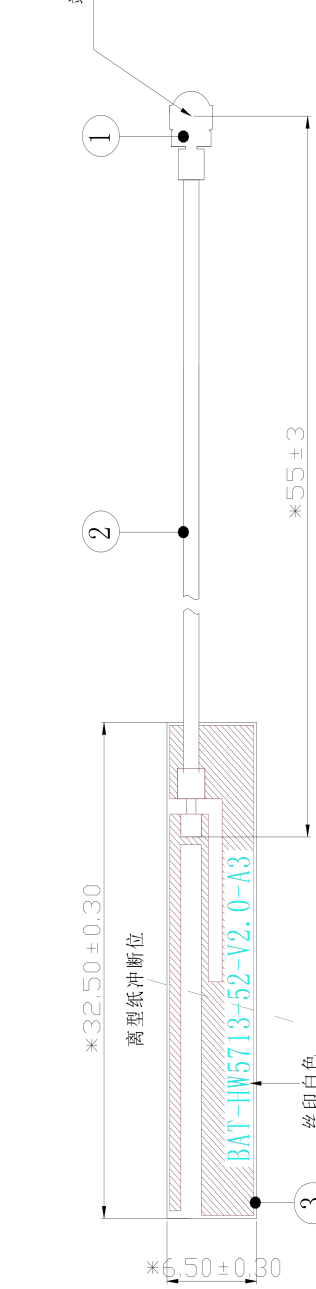
表单编号: B&T-QR-EN-002 版本: B3

catalogue

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3. Product drawing

		版次	修改日期	修订内容
		A0	23-10-19	
		A0-1106	23-11-6	更新FPC



正视图

技术要求

- 天线焊接部位牢固，线缆尺寸准确（端子维持力 $\geq 0.5\text{kgf}$ ）。
- 丝印颜色为亮白色，字体清晰不易脱落。
- "*"为IQC重点检验尺寸。
- 包装以及品质标准分别参考博安通包装规范和博安通品质标准。
- 材料符合ROHS2.0要求。
- 端子杯口对朝向。

序号	零件名称	备 注	设 计	唐海林	图 形	名 称	内 容
①	2代RF端子		审 核			项 目 号	Y231010527
②	同轴线		批 准			料 号	74220274
③	FPC						

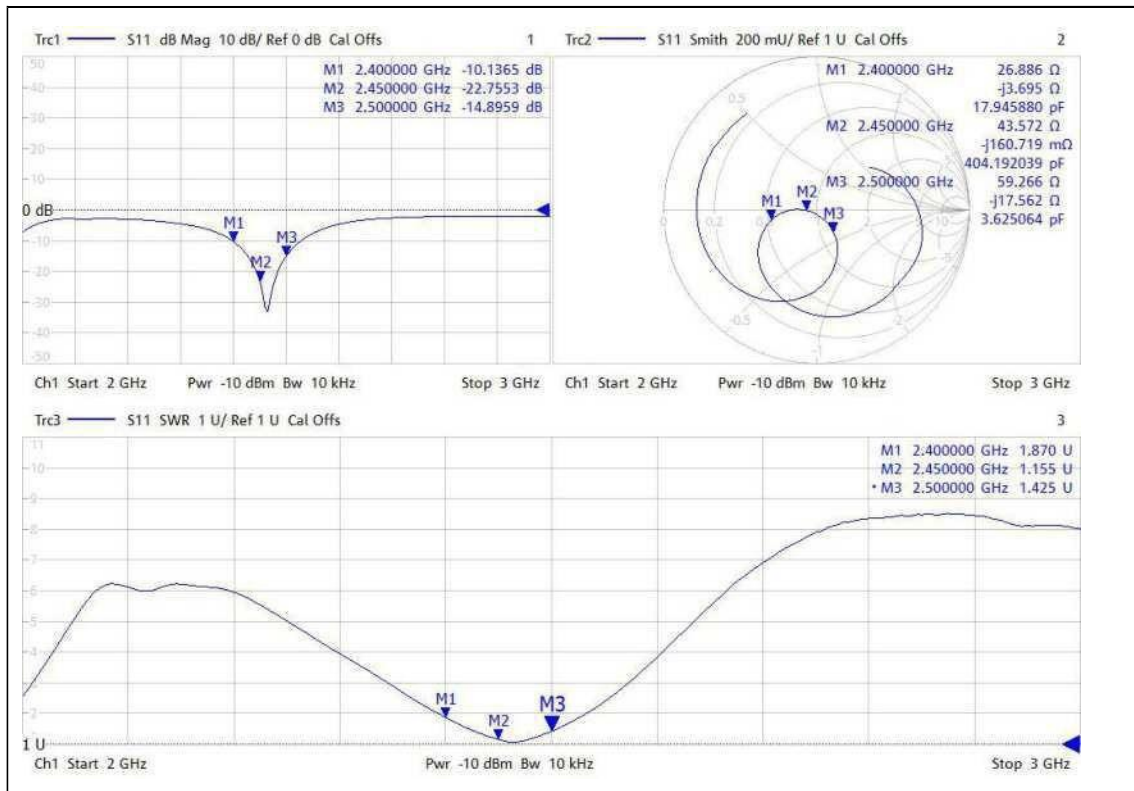
博安通

4. Performance parameters

Electrical parameters	
frequency range	2400~2500MHz
input impedance	50Ω
standing-wave ratio	Control engineering sealing sample
Power capacity	<10w
Polarization mode	Linear polarization
radiation direction	omnidirection
Joint type	2nd generation terminal
Mechanical parameters	
line supervisor	55±3mm
Terminal maintenance force	≥0.5 kg f
coaxial line	Black 0.81 silver-tin wire
Salt spray test	24H
environmental parameter	
Working temperature	-30°C~65°C

5. Electrical Performance Test

S11



S parameter VSWR

Freq (MHz)	2400	2450	two thous and and five hund red
Optimized antenna	1.870	1.155	1.425

Passive test data

Frequency (MHz)	Optimize d antenna	
	Gain (dBi)	Efficiency (%)
2400	1.15	45.97
2410	1.03	45.28
2420	0.89	44.13
2430	1.13	44.33
2440	1.21	46.41
2450	1.39	45.33
2460	1.11	45.56
2470	1.11	45.58

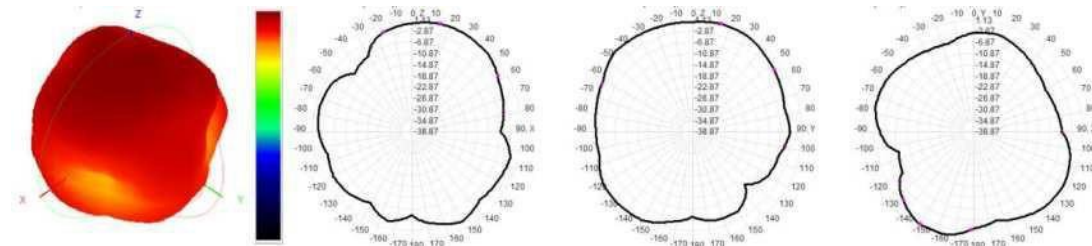
5. Electrical Performance Test

2480	1.02	43.56
2490	0.76	43.93
two thousand and five hundred	0.71	44.06

Antenna pattern

Optimized antenna

2450MHz 1.39dBi



6, material composition and harmful substances list

item	specifications	texture of wood	RoHS test results (PPM)						ICP detection number	testing time
			Cd	Pb	Hg	Cr+6	PBB	PBD E		
one	0.81 line	FEP	ND	ND	ND	ND	ND	ND	NGBMR23000169901	2023/2/6
		silver-coated copper wire	ND	ND	ND	ND	ND	ND	CANEC23000141401	2023/2/13
		tinned wire	ND	ND	ND	ND	ND	ND	CANEC23005577501	2023/7/7
2	post	PBT black	ND	2.24	ND	ND	ND	ND	ETR23705931	2023/8/4
		Carobronze	ND	ND	ND	ND	ND	ND	CANEC2301145809	2023/2/8
three	FPC	PI	ND	ND	ND	ND	ND	ND	SHAEC23001049105	2023/2/15
		gum	ND	ND	ND	ND	ND	ND	SHAEC2217569205	2023/1/4

Product packaging specification

PACKING CRITERION

Product material number: 74220274

Product specifications: built-in antenna -2.4G- black 0.81 silver tin wire-2nd generation terminal-L = 55mm-FPC-32.5× 6.5mm.

demanding side	*****		
supplier	Zhongshan boantong communication technology co., ltd Sichuan boantong communication technology co., ltd		
Material code	*****		
Production order number	*****		
Commodity specification	*****	inspector	**
Quantity/unit	*****	date	****.*.*
Traceability code	*****	serial number	**

demanding side	*****		
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Material code	*****		
Production order number	*****		
Commodity specification	*****	inspector	**
Quantity/unit	*****	date	****.*.*
Traceability code	*****	serial number	**

1. Labeling requirements (refer to the corresponding finished product labeling requirements according to the customer's name; if there is no requirement, it shall be subject to the general labeling requirements).

The inner label is about 10cm long and 6cm wide, and the outer label is about 10cm long and 6cm wide.

II. Packing

Requirements

Operation

Description:

Outer packing:

1. Inner packaging:

product 50 PCS/ pouch,

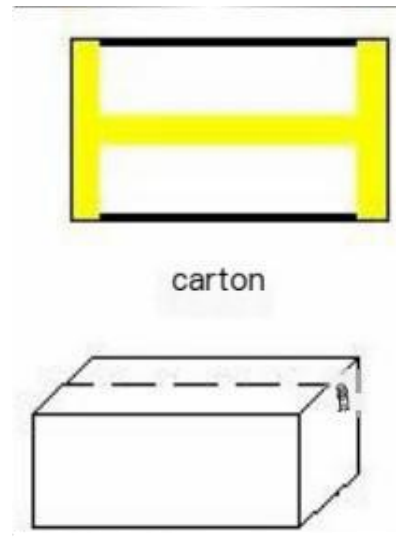
200 PCS/big bag

2. Outer packing:

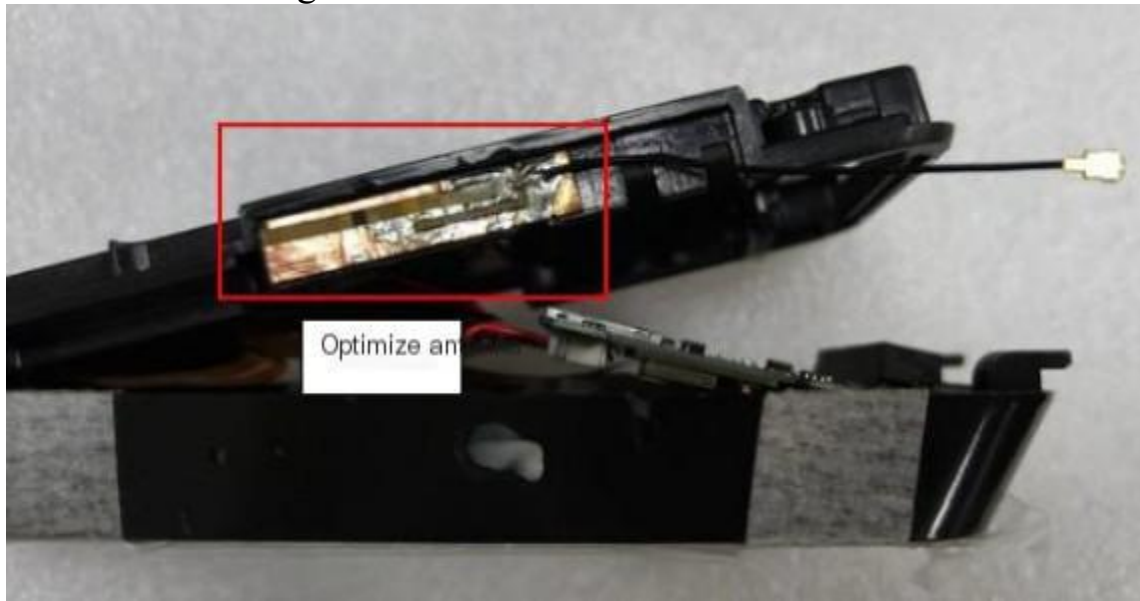
According to the actual packaging quantity/box.

Precautions:

1. Whether to add partitions and pearl cotton;
2. Labeling, such as ROHS;



8. Schematic diagram of antenna installation



9, reliability test requirements

Serial Number	Reliability Test Name	Experimental conditions	Judgment criteria
one	Constant temperature and humidity test	High temperature: 70 °C, humidity: 80% RH24H, low temperature: -40 °C for 24 hours; total duration of 48 hours	Appearance requirements before and after the experiment: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. Non metallic parts should not discolor, crack, deform, or peel off; The electrical performance test meets the standard requirements:
two	High and low temperature thermal shock test	70 °C for 2 hours, -40 °C for 2 hours, 6 cycles, for a total of 24 hours:	Appearance requirements before and after the experiment: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. Non metallic parts should not change color, crack, deform, or peel off: electrical performance testing meets standard requirements:
three	Salt spray test	Prepare a (5 ± 1)% NACL solution to ensure salt solubility The pH value of the liquid is neutral (6.5~7.2); The pressure barrel temperature is 47 ± 1 °C, the spray pressure is kept at 1.00 ± 0.1kgf/cm ² , and the spray volume is 1.0~2.0ml/80cm ² /h: The experiment lasted for 24 hours.	The exposed area of the product surface must not have oxidation or rust; Oxidation/rusting area after salt spray test in other areas<1.0%
four	Terminal holding force test	Normal temperature and humidity: Test holding force requirement: ≥ 0.5kgf.	The terminals and cables are free from detachment, looseness, etc. After testing, the electrical performance meets the standard requirements
five	Terminal insertion and extraction force test	Normal temperature and humidity; The terminal is connected to the socket normally, and the insertion/extraction force is ≥ 1.0kgf.	The insertion/extraction force of the terminal meets the requirements, and the terminal has no defects such as detachment or damage;