B&T 博安通

Project：Y240416806
Date.：2025.02.12
Ver.：A1

Antenna SPEC

Customer name：臻火

Customer project：X1-T950S

Customer P/N：014.02.X101.0140

B&T P/N：74220436

Spec.：Built-in antenna -2.4G- gray 1.13 tin-tin wire-1st generation terminal -L=95mm-FPC-23.4×18mm

Factory signature:

compilation	verify	approval
Qiucuiping	Qin Linshu	Liulihua

Sealed by customer:

check	verify	approval

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Document making / revising / abolishing resume

Version	Date	Develop/revise content	Formulate	approval
A0	2024.04.24	First formulation	Qiucuiping	Qin Linshu/Liulihua
A0-0426	2024.04.26	Update insulation stripping size	Qiucuiping	Qin Linshu/Liulihua
A1	2025.02.12	Terminal stripping and terminal modification	Qiucuiping	Qin Linshu/Liulihua

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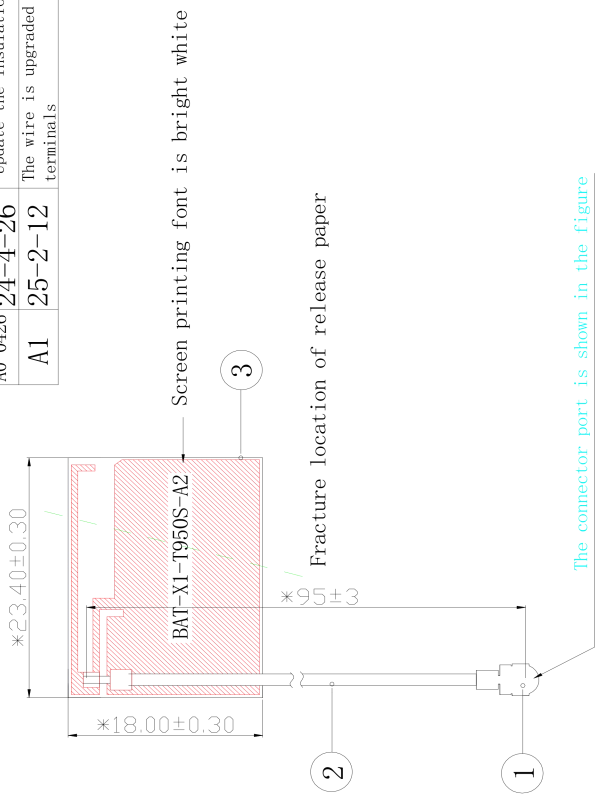
3、Product drawing

Version	Modification date	Revised content
A0	24-4-24	
A0-0426	24-4-26	Update the insulation stripping dimensions
A1	25-2-12	The wire is upgraded with 1st-generation terminals



Front view

Technical requirements

1. The antenna welding part is firm and the cable size is accurate (the holding force of the connector is ≧1Kgf).
2. The silk screen color is the original color of the substrate, and the font is clear and not easy to fall off.
3. "*" indicates the dimensions that are key to IQC inspection.
4. The packaging and quality standards refer to the Boantong Packaging Specifications and B&T Quality Standards respectively.
5. The materials comply with ROHS.
6. The connector port identification direction.

Number	Part Name	Remarks
①	1st connector	
②	Coaxial line	
③	FPC	

Design	Xie Meiquan
Toexamine	
Approval	
1 >X	±0.05
1~9.99	±0.10
10~19.99	±0.15
20~39.99	±0.20
40~	±0.30

Weight	Quantity	Proportion	Company
		1:1	mm

Page 1 1 in total

B&T

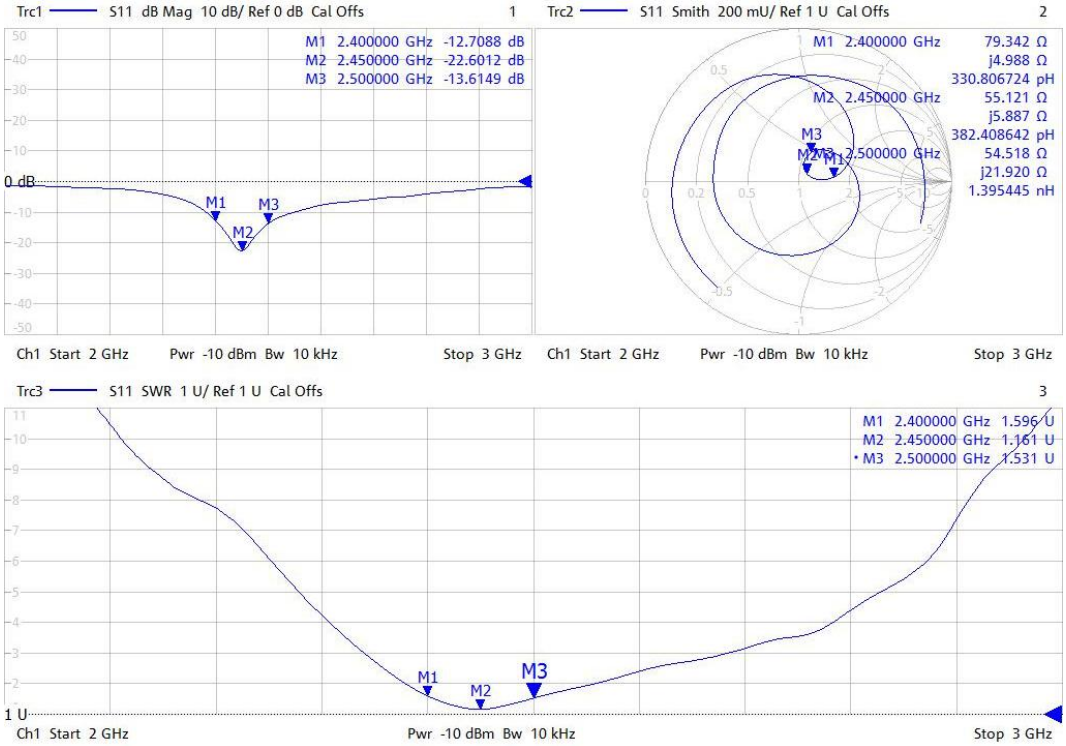
Name	Built-in antenna-2.4G-grey 1.13 tin wire-first generation terminal-L=95mm-FPC-23.4×18mm
Project number	Y240416806
Part number	74220436

4、Properties &parameter

Electrical parameter	
Freq Range	2400~2500MHz
Characteristic Impedance	50Ω
VSWR	＜2
Gain	≥0.73dBi，≤1.82dBi
Power capacity	<10w
Polarization mode	Linear polarization
Radiation mode	omnidirectional
Joint type	IPEX connector
Mechanical parameter	
visible length	95±3mm
Coaxial cable	grey1.13 tin tin cable
Salt fog test	24H
Environment parameter	
Operating Temp	-30℃~65℃

5、Electrical performance test report(Whole machine testing）

S11 Parameter



Standing wave ratio data

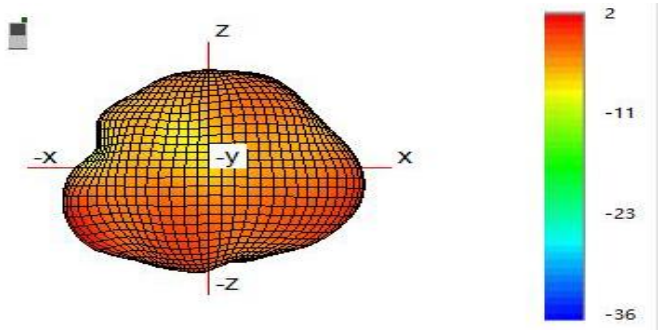
Freq/MHz	2400	2450	2500
VSWR	1.596	1.161	1.531

Antenna darkroom test data

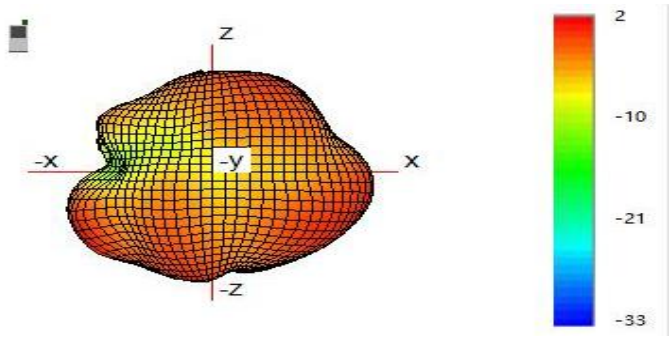
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	1.72	40.76
2410	1.82	41.87
2420	1.78	43.63
2430	1.58	44.23
2440	1.32	44.91
2450	1.19	45.95
2460	0.94	46.07
2470	0.88	46.11
2480	0.73	44.89
2490	0.87	44.16
2500	0.96	43.68

Antenna direction diagram

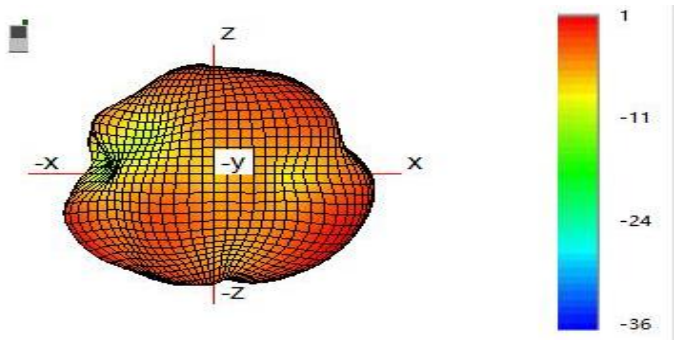
2400MHz



2450MHz



2500MHz



6、List of Material Composition and Hazardous Substances

Item	Specification	Texture of material	RoHS Test Results (PPM)						ICP test number	Test time
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	wire	FEP	ND	ND	ND	ND	ND	ND	NGBPC24007471211	2024/12/23
		Tinned wire	ND	ND	ND	ND	ND	ND	A2240376995101001	2024/7/1
2	Terminal	PBT	ND	ND	ND	ND	ND	ND	A2250134628103008E	2025/3/12
		Phosphor Bronze	ND	4	ND	ND	ND	ND	CANEC24029407215	2025/1/8
3	FPC	PI	ND	ND	ND	ND	ND	ND	SHAEC24028809005	2024/12/20
		Tape	ND	ND	ND	ND	ND	ND	SHAEC24027480901	2024/12/6

PACKING CRITERION

P/N：74220436

Spec：Built-in antenna -2.4G- gray 1.13 tin-tin wire-1st generation terminal -L=95mm-FPC-23.4×18mm

一、Contents of label(according to the customer's name, refer to the corresponding finished product label production requirements. If there is no requirement, it will follow the ordinary label requirements.)

The inner and outer labels are about 10cm long and 6cm wid

buyer	**********		
vender	Sichuan B&T Technology Co., Ltd.		
Purchase No	**********		
Material No.	**********		
Name specification	********	QC	**
Q’ty/Unit	*****	Manufacture date	****.**.*
Trace code	********	Serial number	**

二、Packing requirement

Operating description：

1．inner packing：

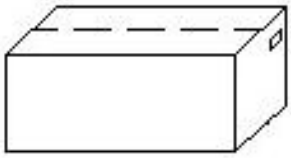
50 PCS/small bag，

200 PCS/big bag.

2．outer packing：

Quantity according to actual packing/carton

纸箱

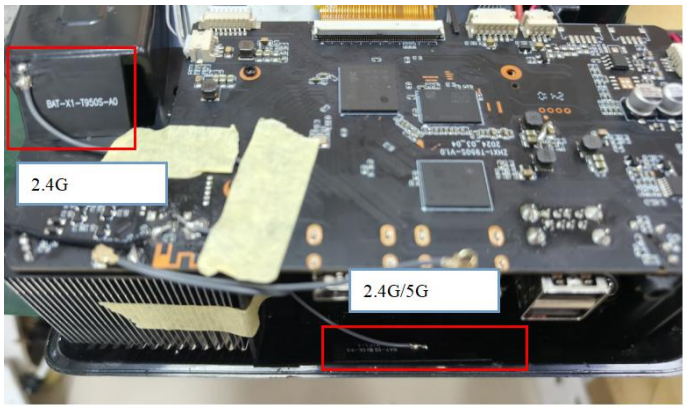


Notice：

1．Whether to add partitions, pearl cotton；

2．Labeling, such as ROHS；

8、Antenna installation position Diagram



9、Antenna test darkroom placement

No.	Reliability test name	Test conditions	Judgment criteria
1	Constant temperature and humidity test	High temperature:70°C， Humidity:80%RH 24H; low temperature: -40°C 24H; total duration: 48H;	Appearance requirements before and after the test: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. The non-metallic parts should not change color, crack, deform, degumming or other defects. Electrical performance testing meets standard requirements;
2	High and low temperature thermal shock test	70°C for 2H, -40°C for 2H, 6 cycles, 24 hours in total;	Appearance requirements before and after the test: The metal surface coating should be free of peeling, cracks, wrinkles, separation, etc. The non-metallic parts should not change color, crack, deform, degumming or other defects. Electrical performance testing meets standard requirements.
3	Salt spray test	24H;Prepare a concentration (5±1)% NACL solution to ensure that the pH value of the salt solution is neutral (6.5~7.2); The temperature of the pressure barrel is 47±1°C, the spray pressure is maintained at 1.00±0.1kgf/cm2, and the spray volume is 1.0~2.0ml;/80cm2/h; Test time: 24H;	There should be no oxidation or rust on the exposed areas of the product surface; Oxidation/rust area after salt spray test in other areas < 1.0%

4	Connector retention test	Normal temperature and humidity; Test maintenance requirements: ≥1.0 kgf;	There are no loose or loose terminals or cables. After the test, the electrical performance test meets the standard requirements.
5	Connector insertion and extraction force test	Normal temperature and humidity; The terminal and the seat are connected normally, and the insertion force/pull-out force is ≥1.0kgf;	The terminal insertion force/extraction force meets the requirements, and the terminals have no defects such as falling off or damage.