

Project: Y240827972

Date.: 2024.09.20

Ver.: A0

Antenna SPEC

Customer name: 臻火Customer project: HM102Customer P/N: 014. 02. H102. 0135B&T P/N: 74300244Spec.: Built-in antenna-2.4/5g-gray 1.13 tin-tin wire-1st generation
terminal-l = 180mm-FPC-43x10mm

Factory signature:

compilation	verify	approval
Qiucuiiping	QinLinshu	Liulihua

Sealed by customer:

check	verify	approval

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Form number: B&T-QR-EN-002 version: B3

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3、 Product drawing

Version		Modification date		Revised content	
A0		24-9-20			

Front view

Technical requirements

- The antenna welding part is firm and the cable size is accurate (the holding force of the connector is $\geq 1\text{KgF}$).
- The silk screen color is the original color of the substrate, and the font is clear and not easy to fall off.
- "*" indicates the dimensions that are key to IQC inspection.
- The packaging and quality standards refer to the Boantong Packaging Specifications and B&T Quality Standards respectively.
- The materials comply with RoHS.
- Connector ports are not orientation sensitive

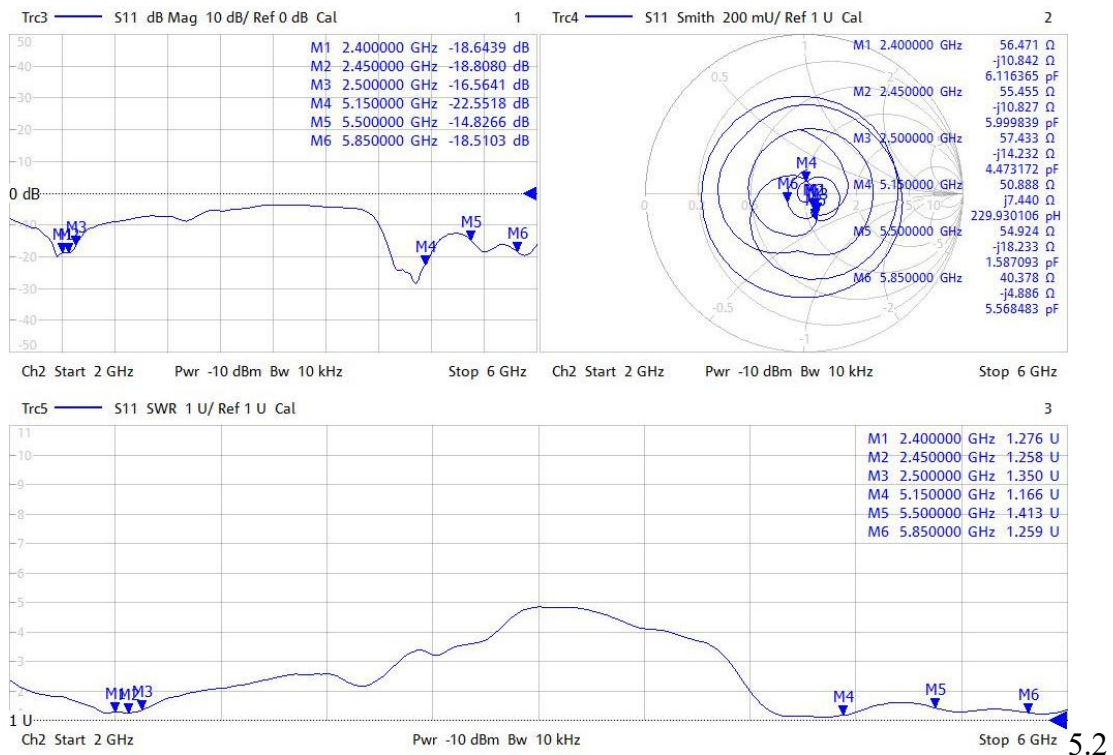
Number	Part Name	remarks	Design	Xie Meiquan	Name		
①	1st connector		Toexamine		Built-in Antenna ~2.4/5G		
②	Coaxial line				Dual-Band-Gray 1.13 Tin-Plated		
③	FPC		Approval	Zeng Kang	Wire-Gen 1 Terminal-L=180mm-FPC		
			1 > X	±0.05	Project number	Y240827972	
			1 ~ 9.99	±0.10	Part number	74300244	
			10 ~ 19.99	±0.15			
			20 ~ 39.99	±0.20			
			40 ~	+0.30			
Page 1 1 in total							
B&T							

4、Properties ¶meter

Electrical parameter	
Freq Range	2400~2500/5150~5850MHz
Characteristic Impedance	50Ω
VSWR	<2
Gain	$\geq 2.24\text{dBi}$, $\leq 5.79\text{dBi}$
Power capacity	<10w
Polarization mode	Linear polarization
Radiation mode	omnidirectional
Joint type	IPEX connector
Mechanical parameter	
visible length	180±3mm
Coaxial cable	grey1.13 tin tin cable
Salt fog test	24H
Environment parameter	
Operating Temp	-30°C~65°C

5、Electrical performance test report(Whole machine testing)

S11 Parameter



Standing wave ratio data

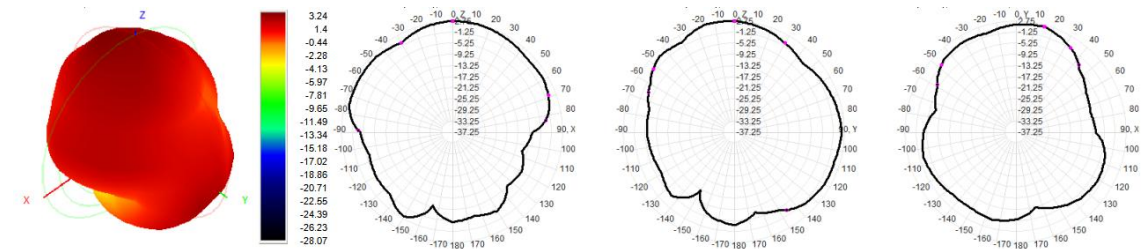
Freq/MHz	2400	2450	2500	5150	5500	5850
板载天线	1.276	1.258	1.350	1.166	1.413	1.259

Antenna darkroom test data

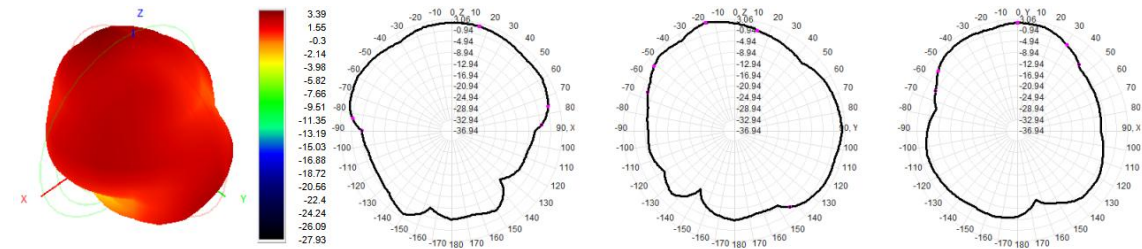
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	3.24	66.20
2410	3.31	66.29
2420	3.43	66.33
2430	3.53	66.36
2440	3.51	66.58
2450	3.39	66.78
2460	3.31	66.97
2470	3.29	67.11
2480	3.33	67.44
2490	3.32	67.47
2500	3.29	67.93
5150	3.58	58.16
5250	3.10	58.80
5350	3.91	59.41
5450	4.18	59.55
5550	3.87	60.09
5650	4.48	60.80
5750	4.73	59.37
5850	5.79	58.32

Antenna direction diagram

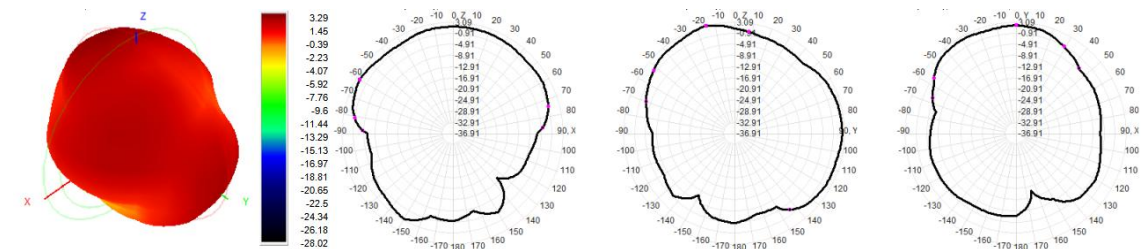
2400MHz



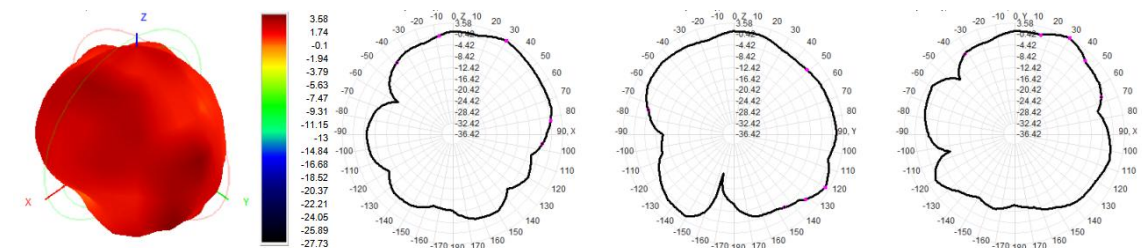
2450MHz



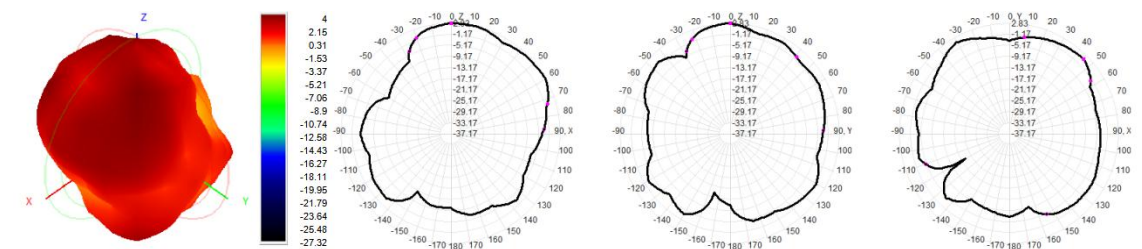
2500MHz



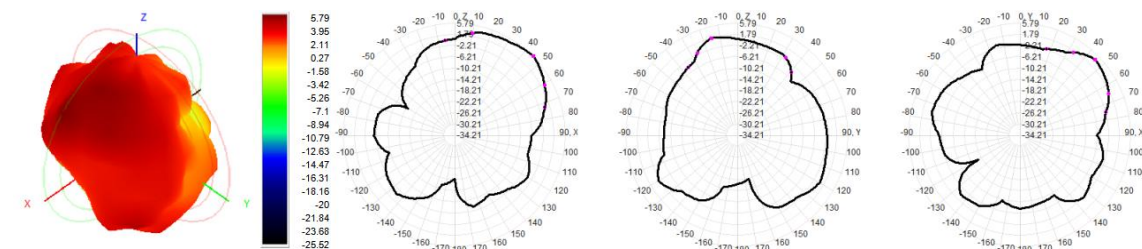
5150MHz



5500MHz



5850MHz



6、List of Material Composition and Hazardous Substances

Item	Specific ation	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: 74300244

Spec: Built-in antenna-2.4/5g-gray 1.13 tin-tin wire-1st generation terminal-1 = 180mm-FPC-43x10mm

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 wide

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

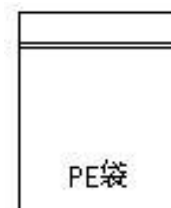
二、Packing requirement

Operating description:

1. inner packing:

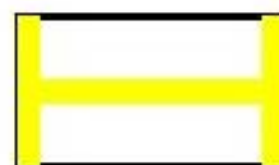
50 PCS/small bag, The terminal head is wrapped with pearl cotton for protection.

200 PCS/big bag, Put a bag of desiccant to prevent moisture.



2. outer packing:

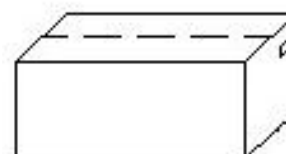
Quantity according to actual packing/carton



纸箱

Notice:

- Whether to add partitions, pearl cotton;
- 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.