

Antenna Product Specification

Customer Name: Lockin Technology (Beijing) Co., Ltd.
LOCKIN (U.S.) INC.

Part Name : Built-in antenna 2.4G- black 1.37 tin-tin wire -MCX-K
(integral flange)-See line length 60mm-FPC-48 ×
13mm

Product Model: BAT-V411-WIFI-AI

Customer PN: 0184000111

Antenna type: FPC Antenna

Vendor confirmation					
Department	Compilation	verify	approval		
Autograph	Qiucuiqing	LvJie	Liulihua		
Date	2025.02.17	2025.02.17	2025.02.17		
Customer confirmation					
Department					
Autograph					
Date					

Name of contractor: Sichuan B&T Technology Co., Ltd.

address: Room No. 2 and 3, 5F, Building 8, No. 218, Wenwu Middle Road, Tangxun Street, Economic Development Zone, Mianyang City, Sichuan Province

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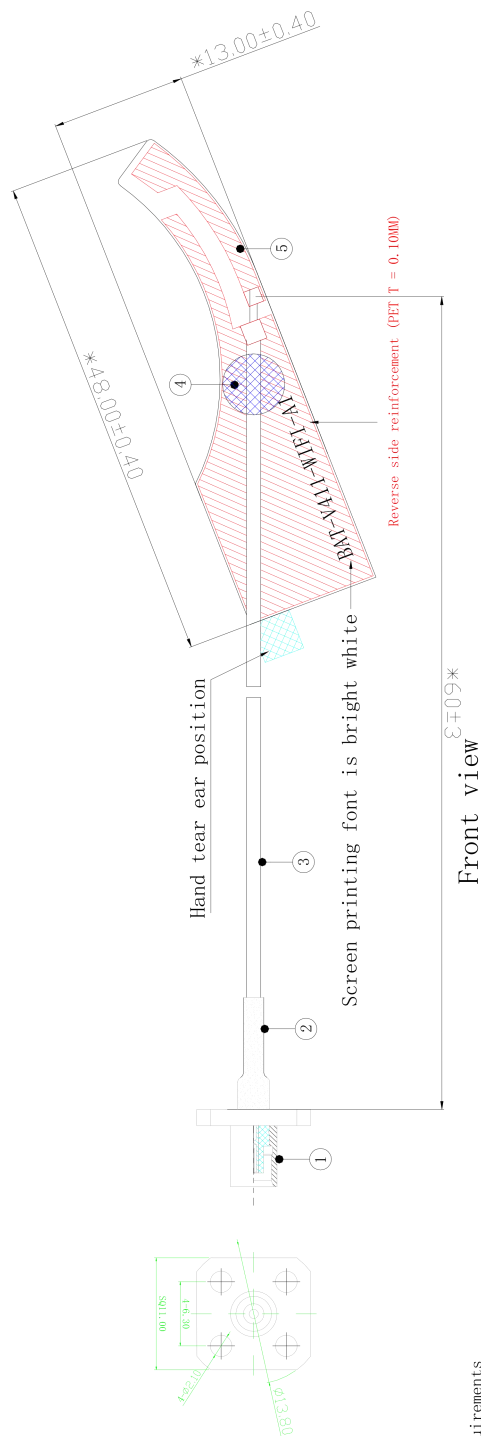
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Revision History

Version	Date	Develop/revise content	Formulate	approval
A0	2024.09.09	First formulation	Qiucui ping	LvJie/Liulihua
A0-1217	2024.12.17	Update FPC antenna and add UV glue	Qiucui ping	LvJie/Liulihua
A1	2025.02.17	Update dispensing position and add point 6 of technical requirements	Qiucui ping	LvJie/Liulihua

二、2D Drawings

Version	Modification date	Revised content
A0	24-9-10	
A0-0913	24-9-13	Heat Shrink Tubing Changeover to Shared Material Number
A0-1216	24-12-16	Update PFC Antenna with UV Adhesive
A1	25-2-17	Update Glue Dispensing Locations and Add Technical Requirement Item 6



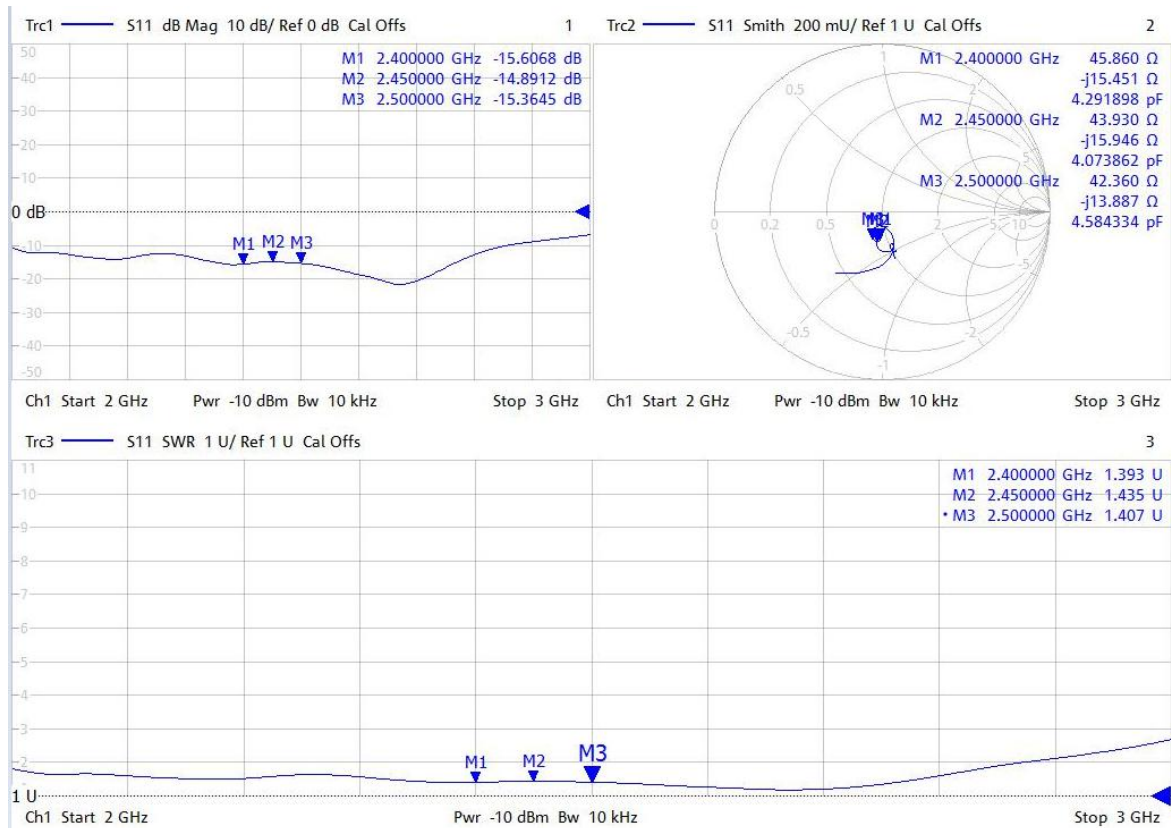
Technical requirements

1. The antenna welding part is firm and the cable size is accurate (the holding force of the connector is $\geq 1\text{kgf}$).
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 Boontong Packaging Specifications and B&T Quality Standards respectively.
5. The materials comply with ROHS.
6. The glue dispensing thickness must be less than 2.5mm (excluding the thickness of the FPC).

Number	Part Name	Remarks	Design	Tang Hailin			Name	
①	MCX-K	Integrated Flange	Toexamine				Project number	Y240614886
②	Heat shrink tubing						Part number	74220516
③	Coaxial line		Approval	Tang Hailin				
④	UV adhesive		1 > X	±0.05				
⑤	FPC		1~9.99	±0.10				
			10~19.99	±0.15				
			20~39.99	±0.20				
			40 ~	+0.30				
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B&T								

三、Electrical performance test report(Whole machine testing)

S11 Parameter



Standing wave ratio data

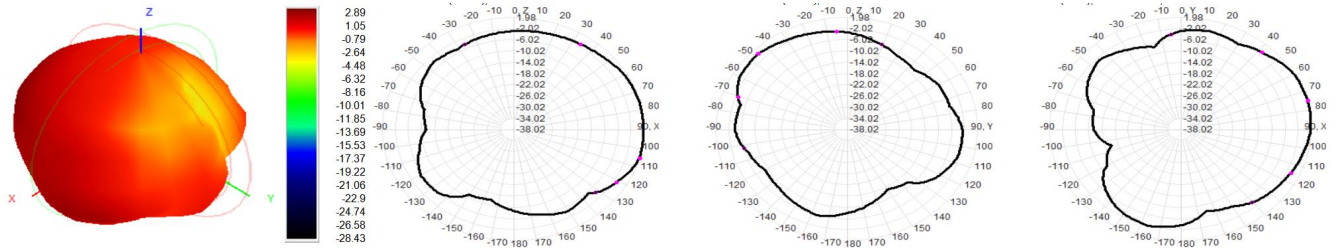
Freq/MHz	2400MHz	2450MHz	2500MHz
VSWR	1.39	1.43	1.40

Antenna darkroom test data

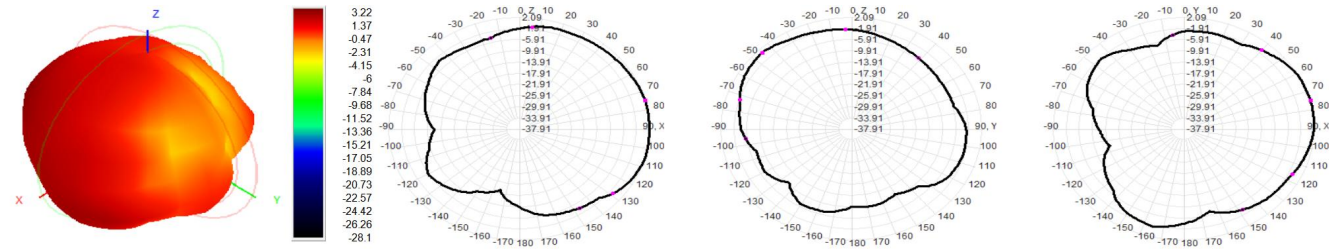
Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400.0	-3.37	2.89	45.98
2410.0	-3.40	2.92	45.76
2420.0	-3.23	3.08	47.56
2430.0	-3.11	3.11	48.81
2440.0	-3.05	3.11	49.50
2450.0	-2.92	3.22	51.08
2460.0	-2.81	3.24	52.34
2470.0	-2.77	3.18	52.88
2480.0	-2.72	3.09	53.48
2490.0	-2.67	2.97	54.04
2500.0	-2.59	2.91	55.03

Antenna direction diagram

2400M 3D-E1-E2-H



2450M 3D-E1-E2-H



2500M 3D-E1-E2-H

