PRODUCT SPECIFICATION

Customer Name: BOE

Product Name: TC642(FF87)-2.4G

Customer Material Number: 405-000043

Rui Xiang material number: F158F8701111000

Versions: V01

Authorizer	Check	Compile
Xudong.Zhang	Bo.Li	Xiangyang.Ye
2024.07.18	2024.07.18	2024.07.18

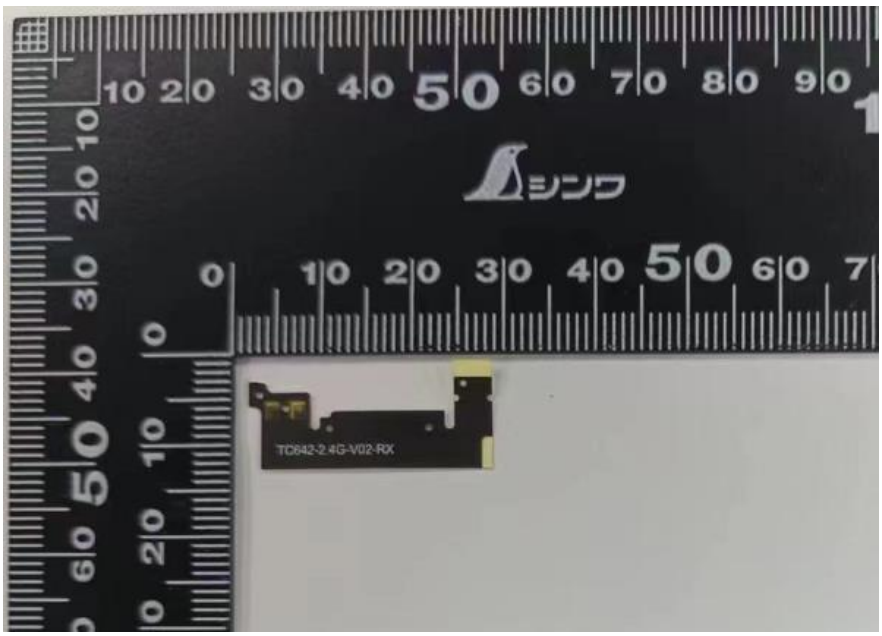
Manufacturer: Kunshan innowave Communication Technology Co.,Ltd.

Address: Building H, Jintu Zhizao Garden, No. 55 Shengchuang Road, Yushan Town, Kunshan City, Jiangsu Province

1.Antenna specification

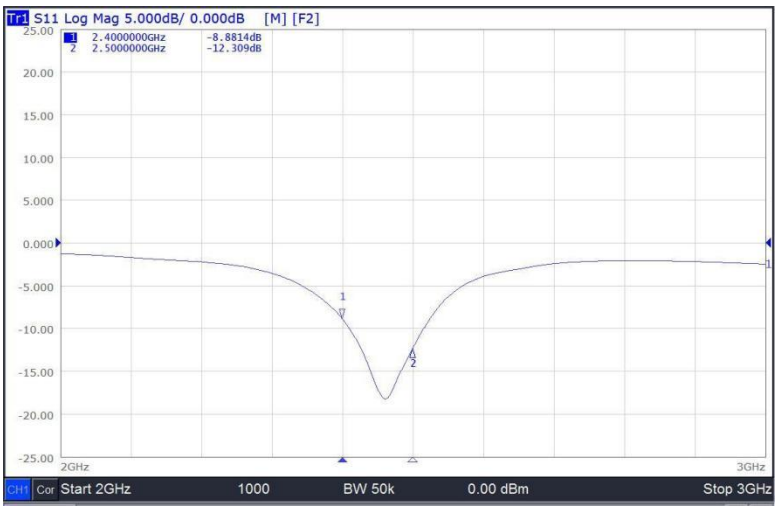
Antenna Type	Monopole FPC Antenna
Frequency	2400MHz~2500MHz
VSWR	3.0 Max
Impedance	50Ω
Polarization	Linear
Radiation pattern	Omni-directional
Antenna size（mm）	27.16*9.93
Antenna Gain(dbi)	-1.4
Working Temperature（℃）	-20~65
Storage Temperature（℃）	-20~85

2.Antenna Photo



3.AntennaReturn loss

The Return loss test device is connected as follows: E5071B network analyzer →50 ohm coaxial Cable→ test fixture



4.Antenna Efficiency

Frequency (MHz)	Efficiency (dB)
2400	-7.7
2410	-7.3
2420	-7.0
2430	-6.6
2440	-6.5
2450	-6.5
2460	-6.4
2470	-6.5
2480	-6.6
2490	-6.6
2500	-6.7

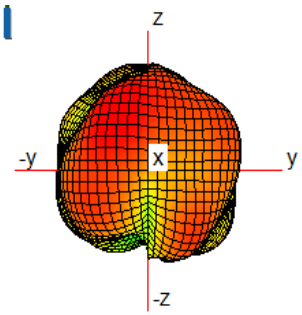
5.Antenna OTA

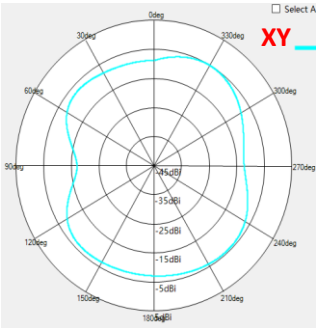
Band	Channel	TRP	TIS (Screen is light on)
		6M	54M
11G	1	10.6	-82.6
	6	10.7	-81.4
	11	10.4	-82.0

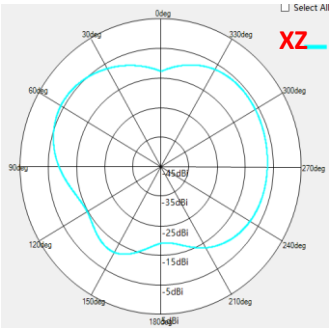
Band	Channel	TRP	TIS (Screen is light on)
		11M	11M
11B	1	11.2	-68.3
	6	11.3	-67.1
	11	10.9	-68.1

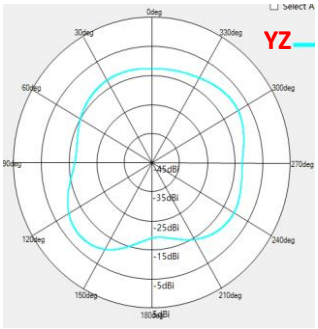
6.Antenna Radiation Pattern

2450MHz





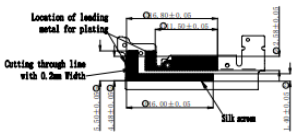




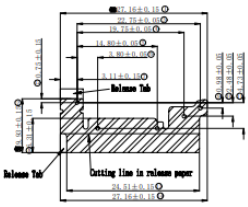
7.Antenna Drawing

Confidential

Version	Symbol	Description	Modified By	Date
T01		Initial release first build	Yunfei Ma	2024/05/10
T02		Antenna pattern modification	Yunfei Ma	2024/05/27
V01		Release for MP	Yunfei Ma	2024/06/19
V02		Antenna pattern modification	Yunfei Ma	2024/07/12



Top: Antenna Pattern

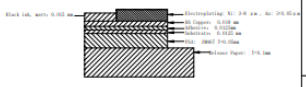


Bottom: Double Side Adhesive

Technical requirements:

1. Top of FPC: antenna pattern, covered by black ink; Bottom of FPC: double side adhesive;
2. "★" indicates critical dimensions; "CPK" indicates CPK dimensions; "( )" indicates assembly dimensions,, "△" indicates changes;
3. Parts shall be clean, no exposion of copper allowed, free of bubbles and other cosmetic defects;
4. The dimensions on the drawing are for manufacturing and inspection;
5. Part must pass reliability tests which is in accordance with Innowave document RX-WI-QAC-014, all materials must comply with Innowave document RX-WI-QAC-008 for restricted substances control specification; all materials must comply with RoHS (2.0) and Reach directive;
6. Part shall be packaged according to the package specifications provided by Innowave engineering team.
7. The document contains confidential and proprietary information, only can be used by authorized people or group, you may not disclose or duplicate this document in anyway without prior written consent of Innowave.

Outline of FPC
Copper
Gold Plating Area
Double Side Adhesive



Tolerance Table	
Outline, ≤50mm	±0.10
Outline, ≤50mm	±0.15
Pattern to outline	±0.15
Pattern to pattern	±0.05
Diameter of hole	±0.05
Hole to outline	±0.15
Hole to hole	±0.10
Ink to pattern	±0.30
Adhesive to outline	±0.35

Project	FF87 (TC642)	M E	Yunfei Ma	Date	2024/07/12
Part Name	FF87-2.4G-ANT	R F	Jiaxing Change	Date	2024/07/12
Part Number	F158F8701111000	Approved	Shihui Li	Date	2024/07/12
Version	V02	Frame	A4		
Scale	1:1	Third Angle Projection			
Unit	MM				

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