

2.4 On board PCB ANT

Specification

SHENZHEN BILIAN ELECTRONIC CO., LTD

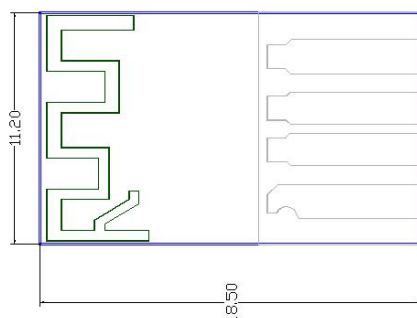
Add: 10~11/F,Building 1A, Huaqiang idea park, Guangming district, Shenzhen. Guangdong, China
Web: www.b-link.net.cn

Revision History

Revision	Summary	Release Date
1.0	Official release	2025-08-15

Product Name: BL-W8188FU9 2.4G On board PCB Ant	
Frequency: 2.4~2.5GHz	
Revision: V1.0	
Customer Approval:	
Company:	
Title:	
Signature:	Date:
BL-link Approval:	
Title:	
Signature:	Date:

1. Introduction



This antenna support 2.4~2.5 band frequency. Designed by On board antenna theory Almost Omni-directional radiation for far field.

Good port matching ,low return loss ,high efficiency can make communication more easily.

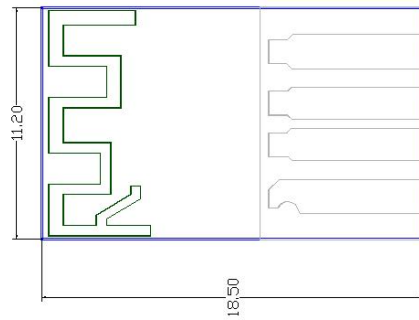
1.1 Features

- Operating Frequencies: 2400~2500MHz
- Radiation: Omni-directional radiation
- Modulation support: WLAN/BT/ZIGBEE
- On board PCB antenna

1.2 General Specifications

Product Name	2.4GHz On board PCB antenna
Frequency	2400~2500MHz
Modulation support	WLAN/BT/ZIGBEE
VSWR	≤ 3
Return loss	$\leq -6\text{dB}$
Radiation	Omni-directional
Gain (peak)	1.0dBi
Polarization	Linear
Admitted Power	2W
Connector	on board
Efficiency	35%~50%
Cable	NI

2. Mechanical Specifications



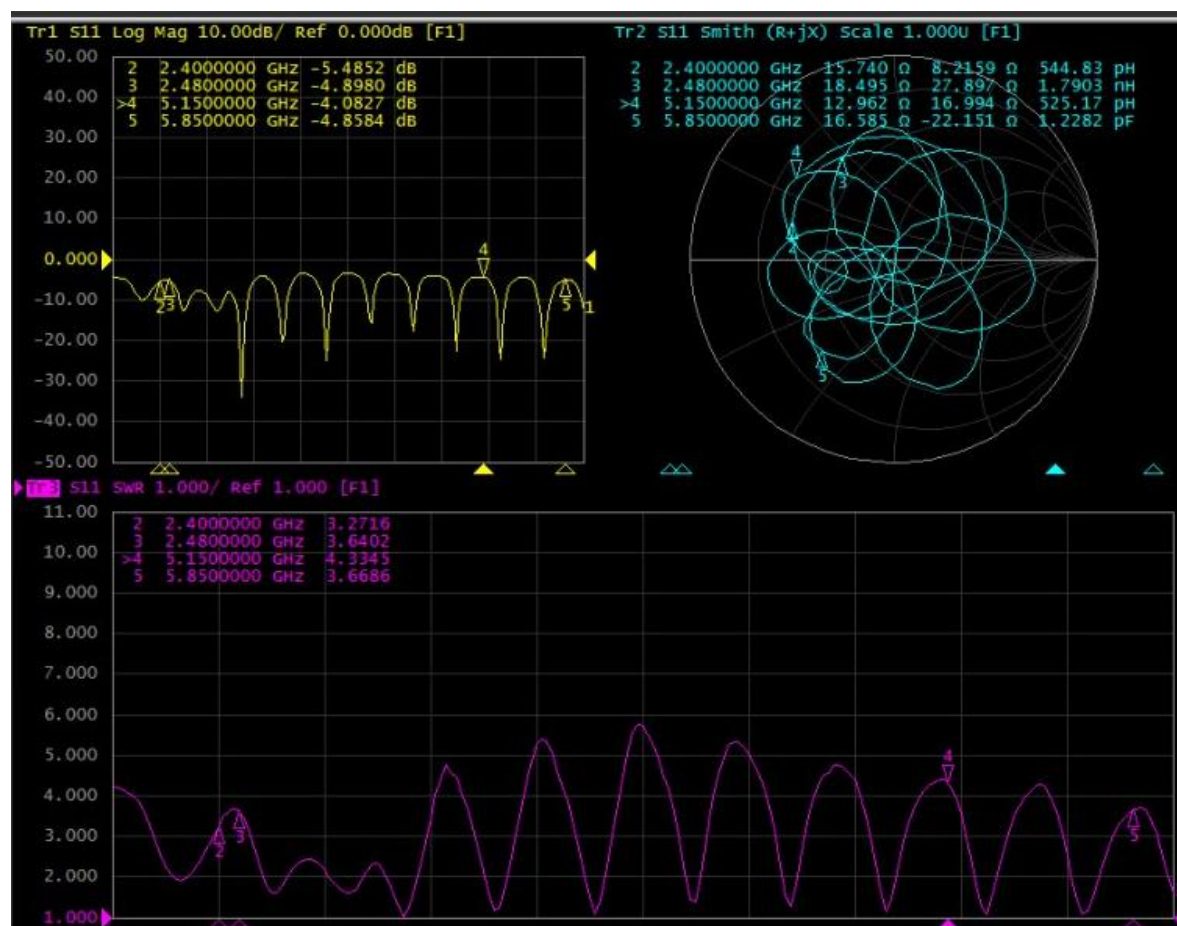
On board PCB antenna

3. S-parameter

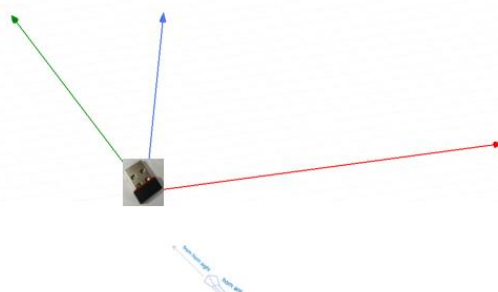


Angilent E5071C

WIFI antenna S11 parameter:



4. Radiation parameter

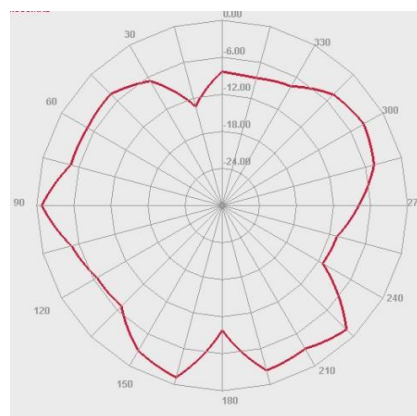
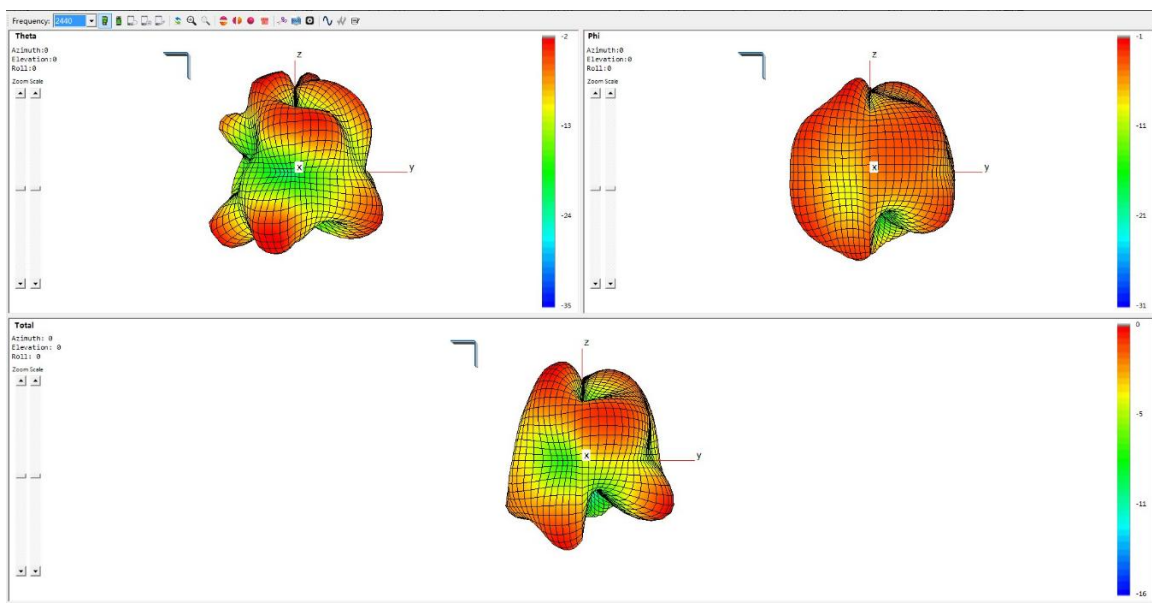


4.1 Gain and efficiency

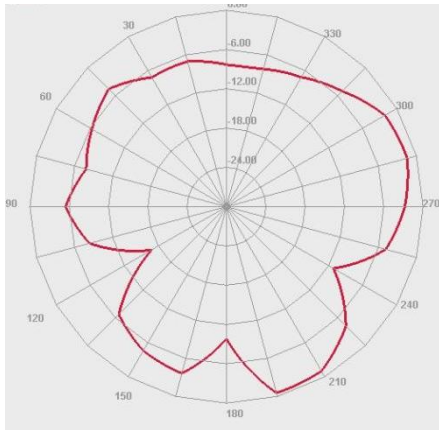
Frequency(MHz)	Gain(dBi)	efficiency
2.400	0.6	35%
2440	1	50%
2480	0.8	45%

4.2 Radiation Pattern

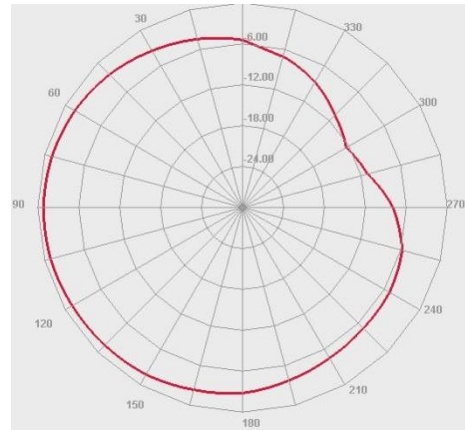
3D Antenna radiation pattern: (2.4G)



ZY plane(2.45GHz)



XZ plane(2.45GHz)



XY plane(2.45GHz)