



2.4&5.8GHz Dipole PCB ANT Specification

SHENZHEN BILIAN ELECTRONIC CO., LTD

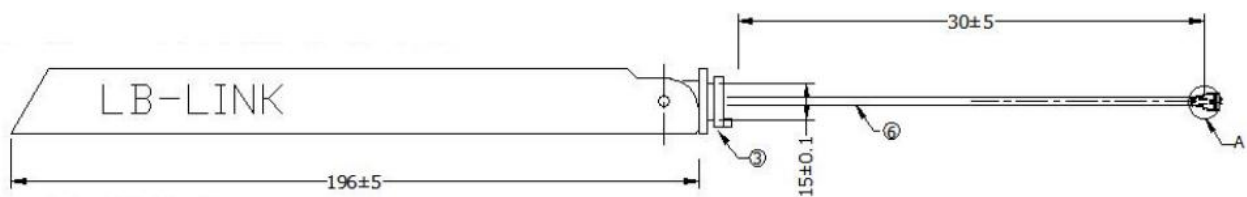
Add: 10~11/F,Building 1A, Huaqiang idea park, Guangming district, Shenzhen. Guangdong, China
Web: www.b-link.net.cn

Product Name: 2.4&5.8GHz Dipole PCB Ant	
Frequency: 2.4~2.5&5.1~5.8GHz	
Revision: V0.1	
Customer Approval:	
Company:	
Title:	
Signature:	Date:
BL-link Approval:	
Title:	
Signature:	Date:

Revision History

Revision	Summary	Release Date
0.1	First release	2024-03-09

1. Introduction



This antenna support 2.4&5.8GHz dual band frequency. Designed by dipole 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/5100~5800MHz
- Radiation: Omni-directional radiation
- Modulation support: WLAN/BT/ZIGBEE
- Connect to host through IPEX connectors

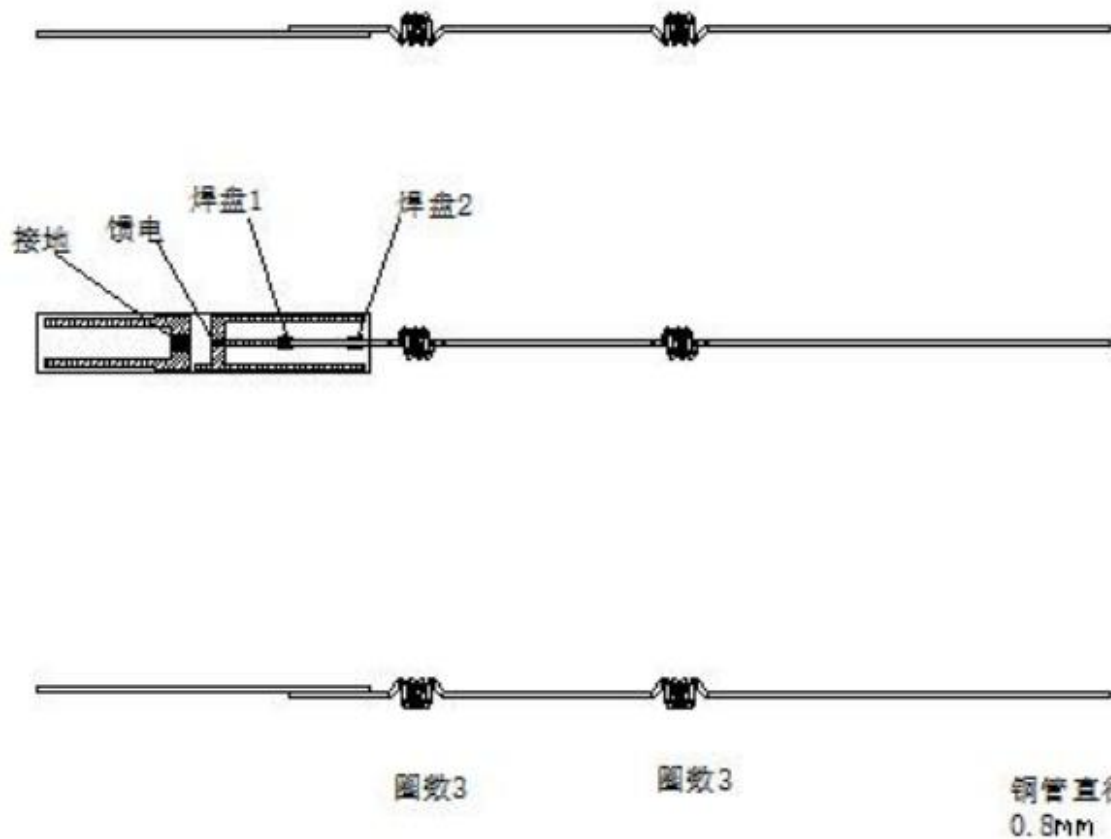
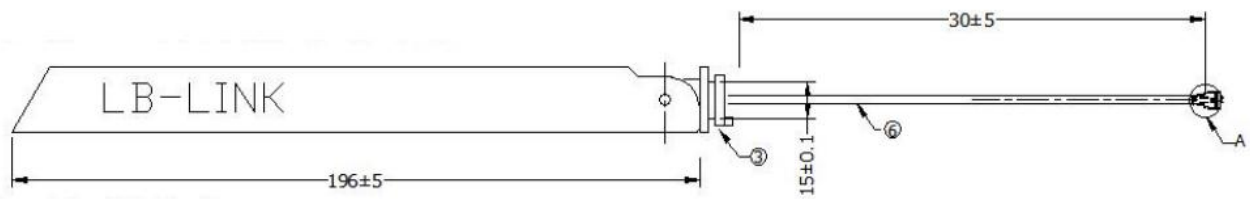
1.2 Applications

- IP Camera
- STB
- Smart TV
- Screen thrower
- Intelligent home furnishing
- Other devices which need to be supported by wireless network

1.3 General Specifications

Product Name	2.4&5.8GHz Dipole PCB antenna
Frequency	2400~2500MHz/5100~5800MHz
Modulation support	WLAN/BT/ZIGBEE
VSWR	<=2
Return loss	<=-8dB
Radiation	Omni-directional
Gain (peak)	5.0dBi
Polarization	Linear
Admitted Power	2W
Connector	IPEX1
Efficiency	40%~70%

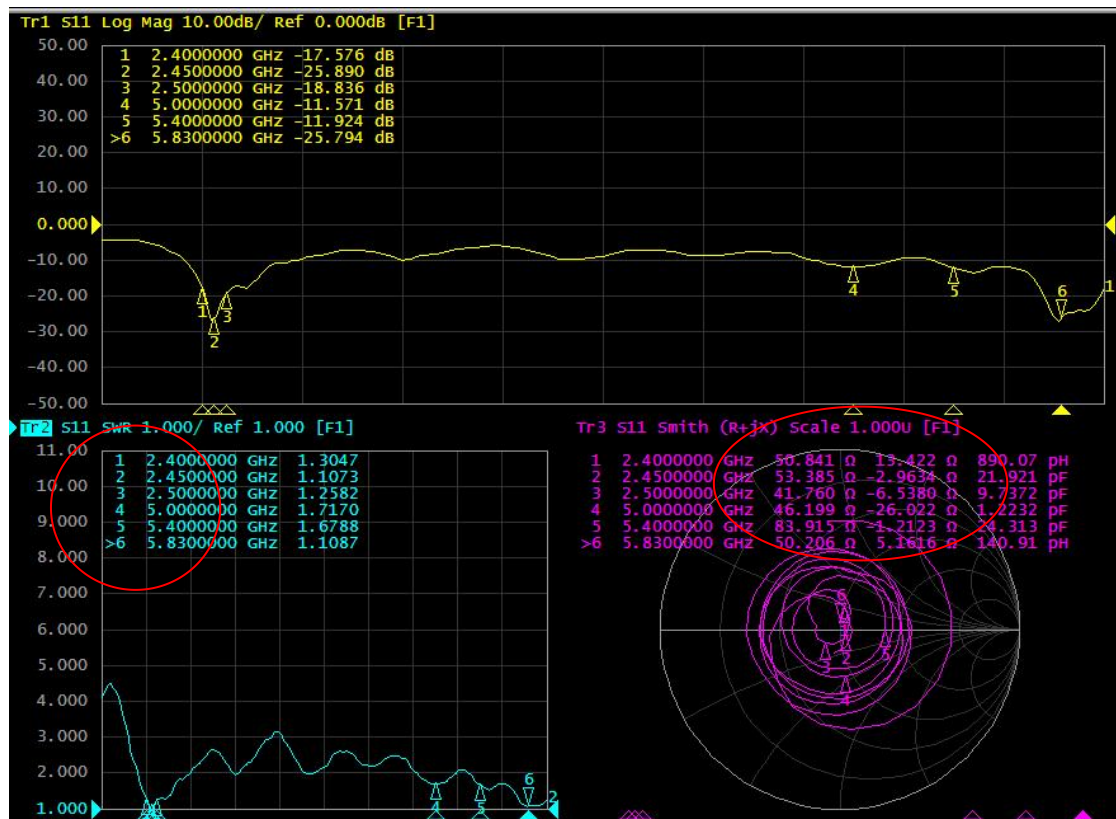
2. Mechanical Specifications



注：天线结构为PCB+螺旋钢管

请将PCB板上的四个焊接点做OSP工艺或者镀锡。

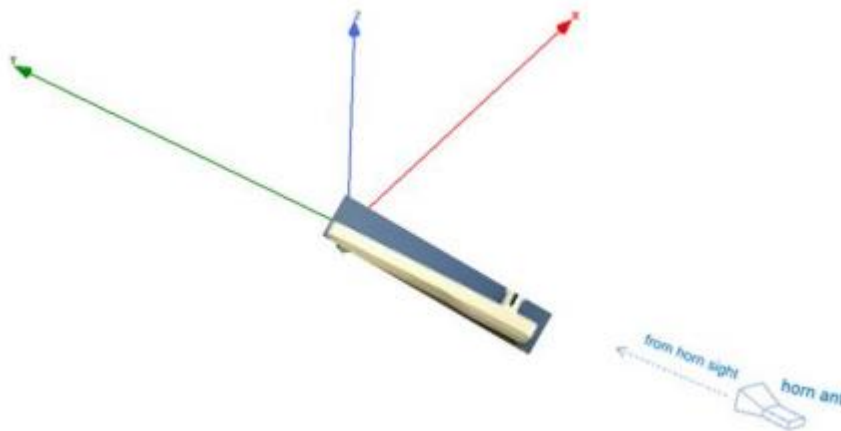
3. S-parameter



Return loss: $\leq -8\text{dB}$

VSWR: ≤ 2

4. Radiation parameter

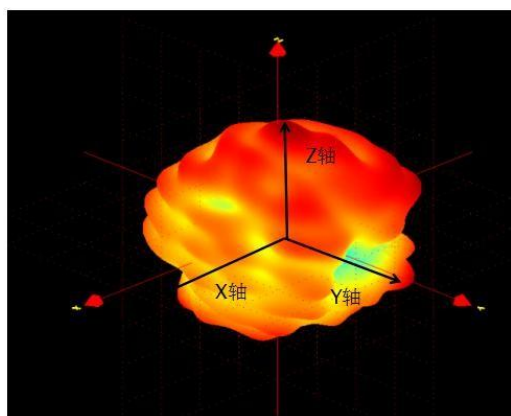


4.1 Gain and efficiency

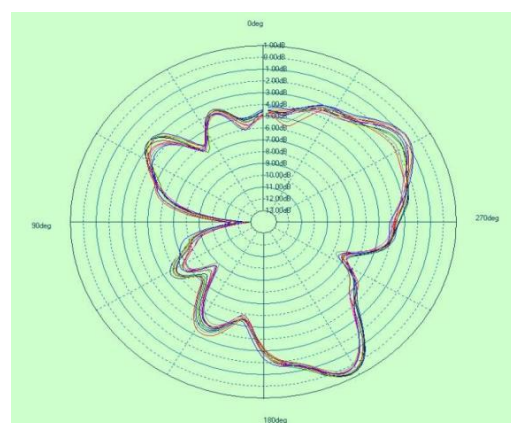
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	4.58	55
2410	4.80	62
2420	4.91	64
2430	4.63	58
2440	5.00	66
2450	4.89	64
2460	4.94	65
2470	4.53	56
2480	4.71	58
2490	4.73	60
2500	4.59	56
5100	4.62	55
5130	4.65	57
5160	4.61	56
5190	4.68	58
5210	4.71	61

5300	4.73	62
5360	4.70	61
5400	4.85	65
5420	4.89	66
5460	4.80	63
5480	4.84	64
5500	4.00	68
5540	4.76	63
5580	4.91	65
5600	5.00	67
5640	4.90	66
5680	4.82	64
5700	4.86	65
5740	4.84	65
5760	4.81	64
5780	4.83	64
5800	4.85	66

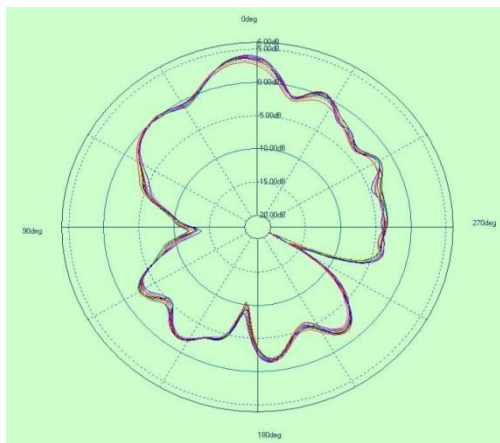
4.2 Radiation Pattern



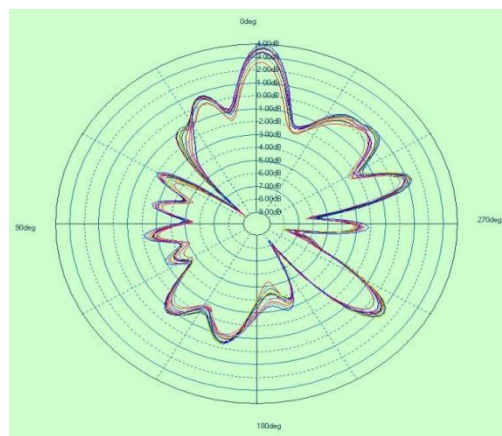
2G 3D radiation



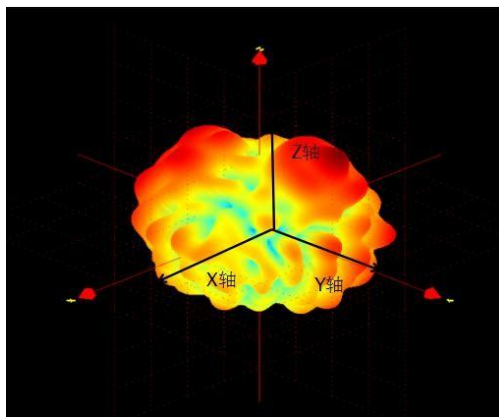
2G XY plane



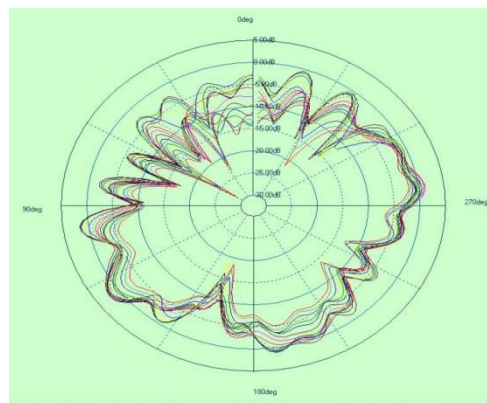
2G XZ plane



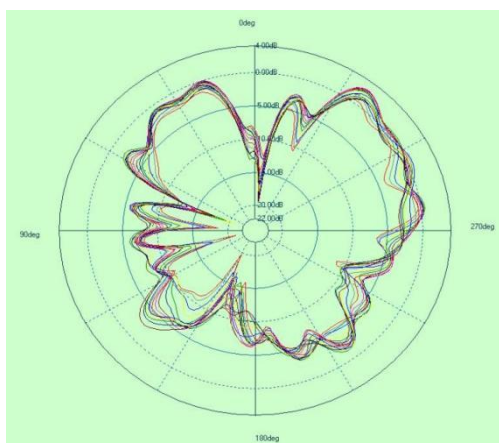
2G YZ plane



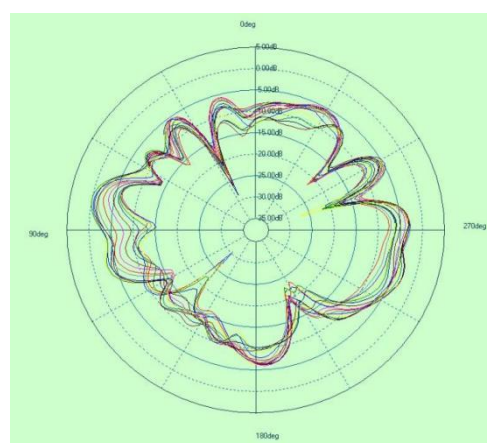
5G 3D radiation



5G XY plane



5G XZ plane



5G YZ plane