



2.4 GHz Dipole PCB ANT Specification

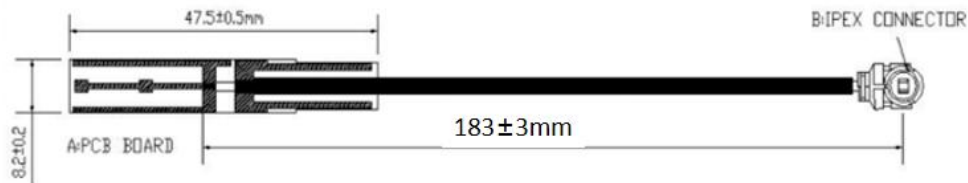
SHENZHEN BILIAN ELECTRONIC CO., LTD

Product Name: 2.4GHz Dipole PCB Ant	
Frequency: 2.4~2.5GHz	
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	2023-07-03

1. Introduction



This antenna support 2.4GHz 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
- Radiation: Omni-directional radiation
- Modulation support: WLAN/BT/ZIGBEE
- Connect to host through IPEX connectors

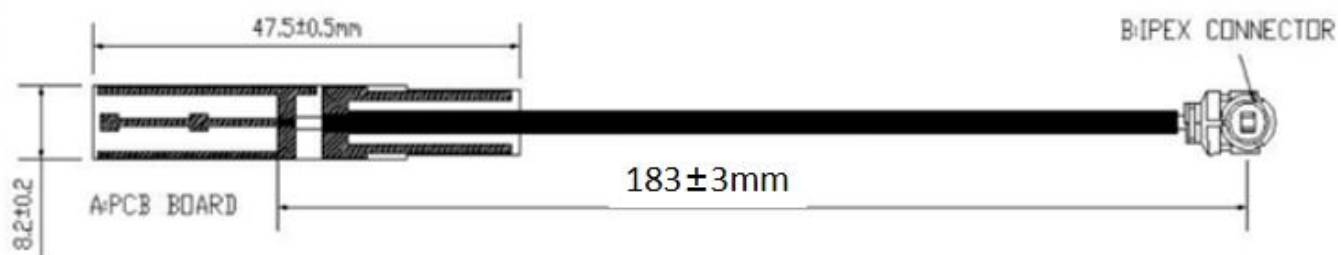
1.2 Applications

- 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	2.4GHz Dipole PCB antenna
Frequency	2400~2500MHz
Modulation support	WLAN/BT/ZIGBEE
VSWR	≤ 2
Return loss	$\leq -8\text{dB}$
Radiation	Omni-directional
Gain (peak)	2.0dBi
Polarization	Linear
Admitted Power	2W
Connector	IPEX1
Efficiency	40%~70%
Cable	RF $\Phi 1.13$ cable and length is 183 mm

2. Mechanical Specifications

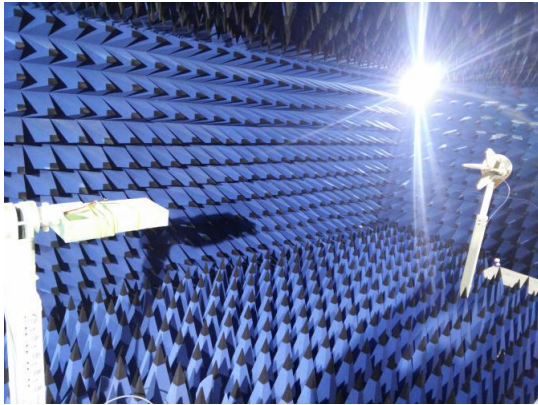


Antenna made by PCB material and fixed to customer' s product shell by bottom side adhesive,
Then through IPEX1 connector connect main board RF signal port.

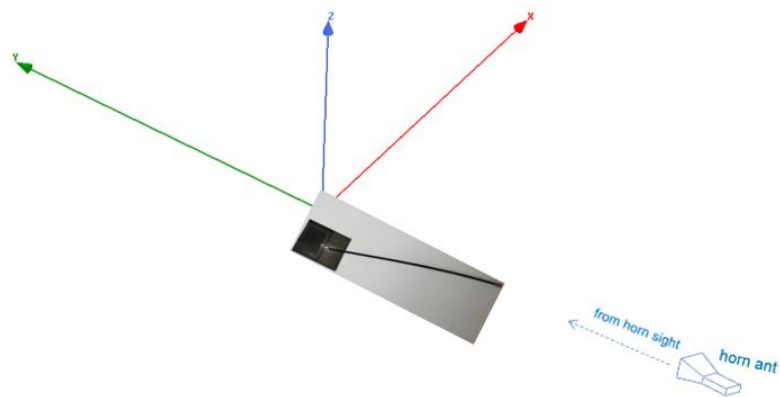
RF $\Phi 1.13$ cable soldering on PCB board.

RF $\Phi 1.13$ cable length 183mm.

3. Antenna chamber structure



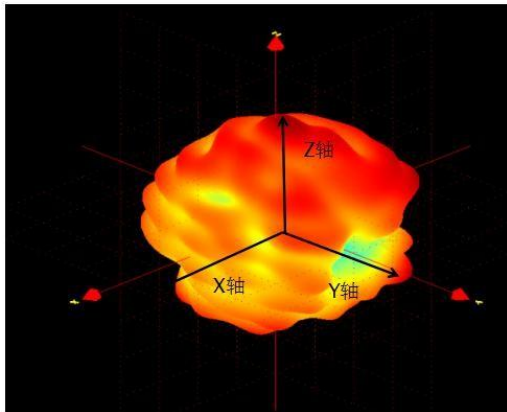
4. Radiation parameter



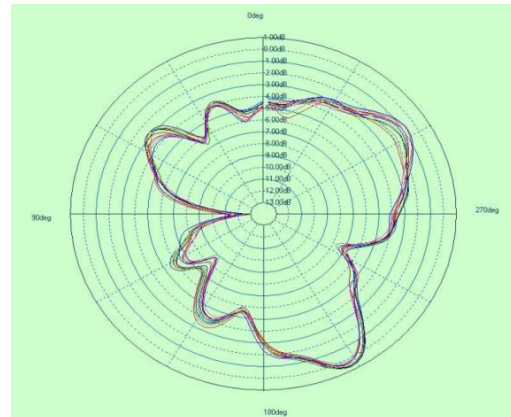
4.1 Gain and efficiency

Frequency	Gain	efficiency
2400~2500MHz	1.5~2.0dBi	45%~70%
2410/2450/2500MHz	1.31/1.68/1.83	60%/62%/65%

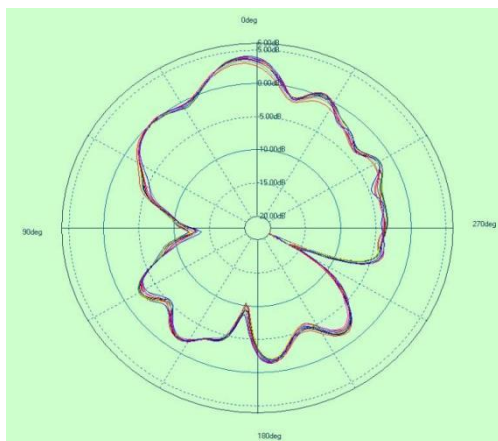
4.2 Radiation Pattern



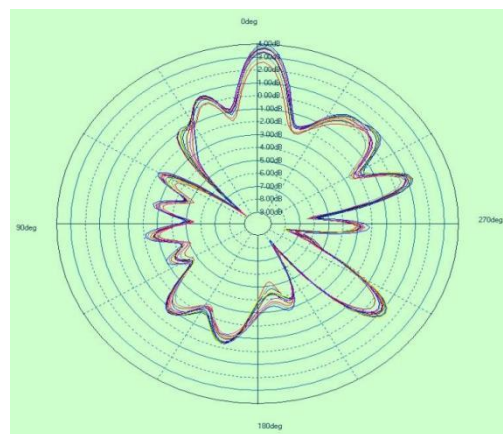
2G 3D radiation



2G XY plane



2G XZ plane



2G YZ plane