2.4&5.8GHz Dipole PCB ANT Specification

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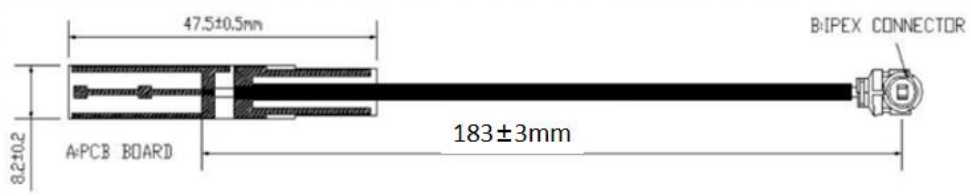
Product Name: 2.4&5.8GHz Dipole PCB Ant	
Frequency: 2.4~2.5&5.1~5.9GHz	
Revision: V0.1	
Customer Approval:	
Company:	
Title:	
Signature:	Date:
BL-link Approval:	
Title:	
Signature:	Date:

evision History

Revision	Summary	Release Date
0.1	First release	2023-07-03

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/5100~5900MHz
- Radiation: Omni-directional radiation
- Modulation support: WLAN/BT/ZIGBEE
- Connect to host through IPEX connectors

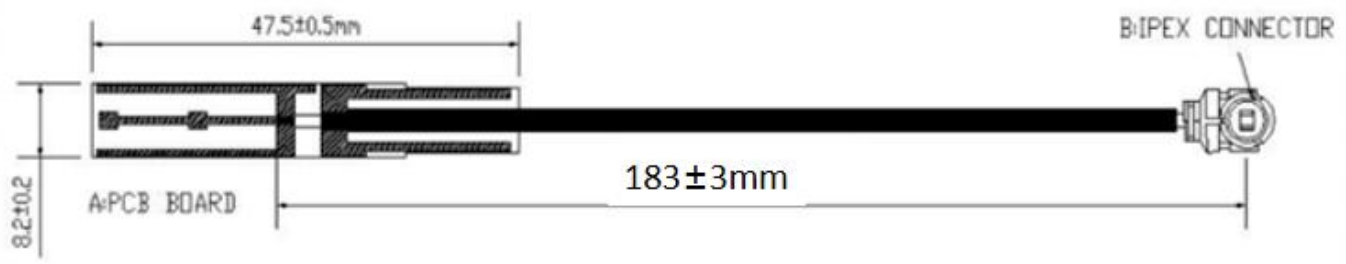
1.2 Applications

- 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/5100~5900MHz
Modulation support	WLAN/BT/ZIGBEE
VSWR	<=2
Return loss	<=-8dB
Radiation	Omni-directional
Gain（peak）	2.0dBi
Polarization	Linear
Admitted Power	2W
Connector	IPEX1
Efficiency	40%~70%
Cable	RF Φ1.13 cable and length is 183 mm

2. Mechanical Specifications

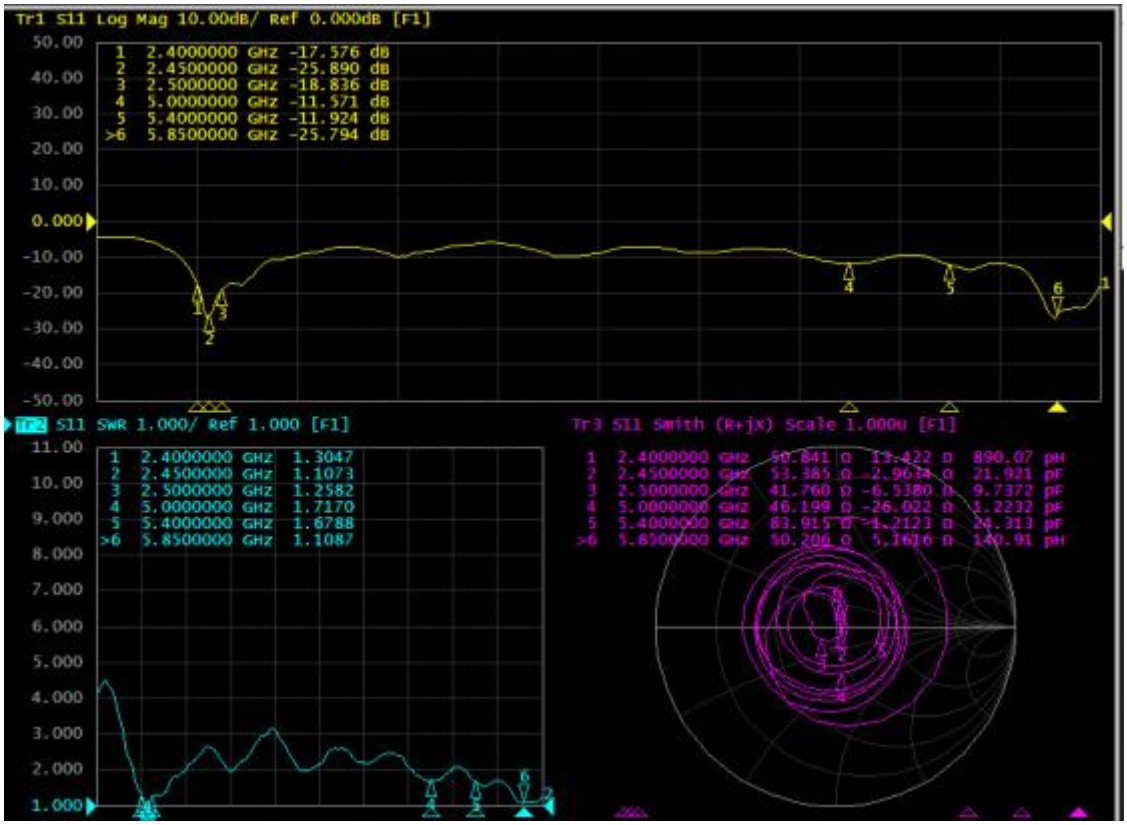


Antenna made by PCB material and fixed to customer’ s product shell by bottom side adhesive,
Then through IPEX1 connector connect main board RF signal port.

RF Φ1.13 cable soldering on PCB board.

RF Φ1.13 cable length 183mm.

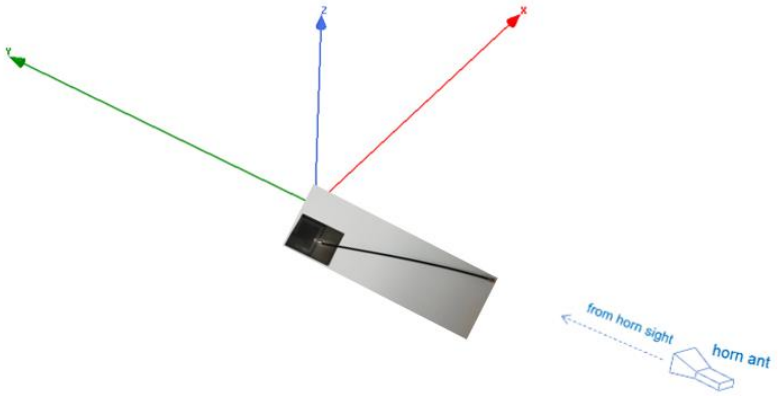
3. S-parameter



Return loss: <=-8dB

VSWR: <=2

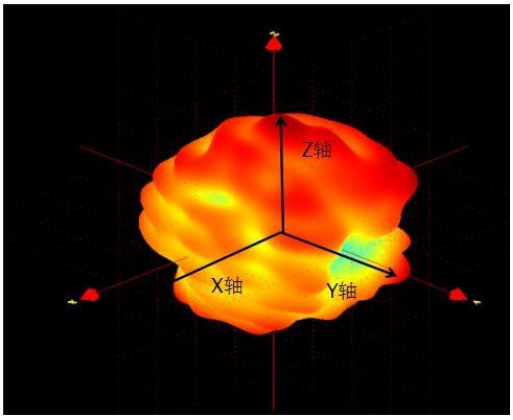
4. Radiation parameter



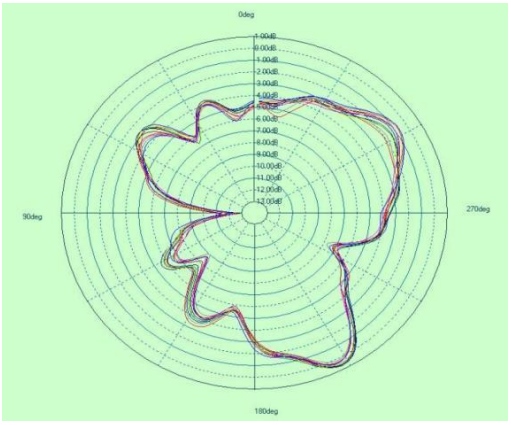
4.1 Gain and efficiency

Frequency	Gain	efficiency
2400~2500MHz	1.5~2.0dBi	45%~70%
5100~5900MHz	1.5~2.0dBi	45%~72%
2410/2450/2500MHz	1.11/1.68/1.83	60%/62%/65%
5100/5500/5900MHz	1.33/1.68/1.88	62%/62%/63%

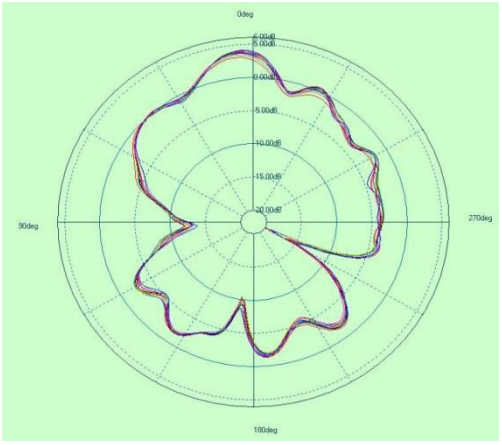
4.2 Radiation Pattern



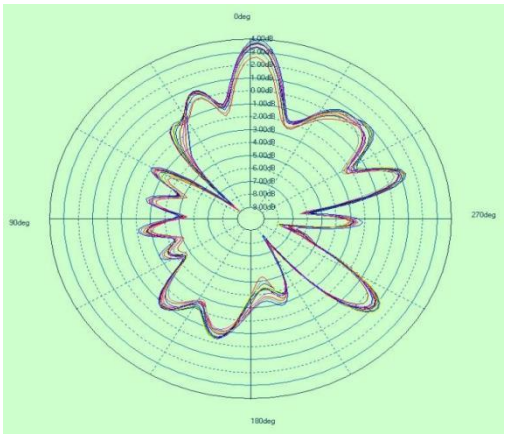
2G 3D radiation



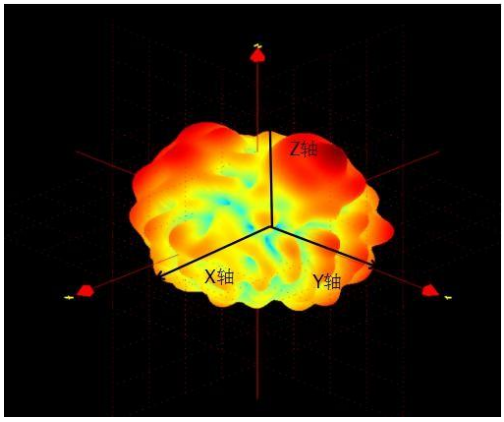
2G XY plane



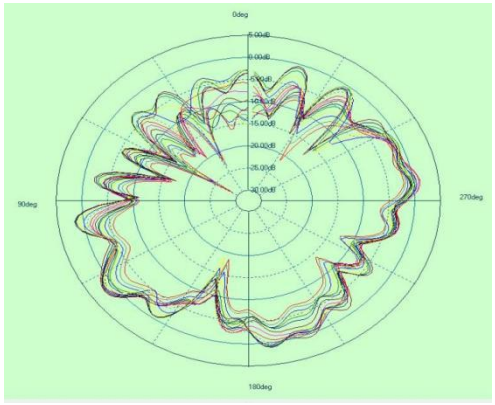
2G XZ plane



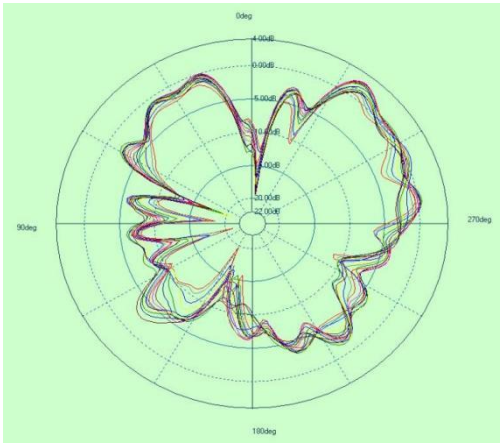
2G YZ plane



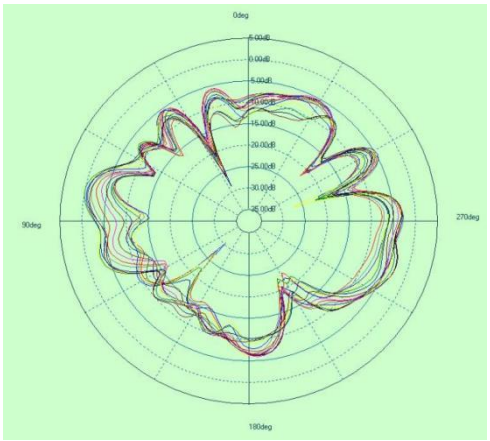
5G 3D radiation



5G XY plane



5G XZ plane



5G YZ plane