



2.4GHz Monopole FPC ANT Specification

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(Top View)



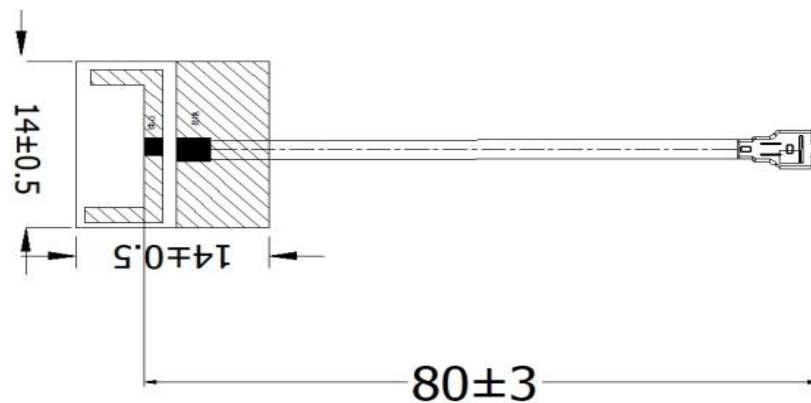
(Bottom View)

Product Name: 2.4GHz Monopole FPC 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	Revised By
0.1	Initial release	2024-08-21	Zjh

1. Introduction



This antenna support 2.4GHz band frequency. Designed by monopole 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
- Modulation support: WLAN, BT, Zigbee
- Connect to host through IPEX1 connector

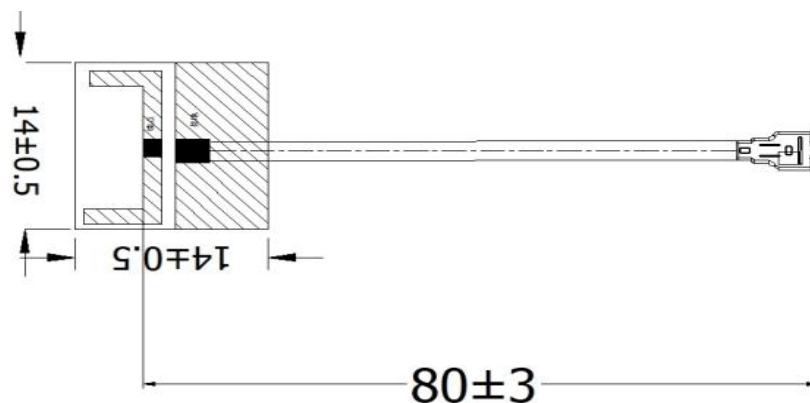
1.2 Applications

- 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 Monopole FPC ANT
Frequency	2400~2500MHz
Modulation support	WLAN/BT/Zigbee
VSWR	≤ 2.5
Return loss	$\leq -8\text{dB}$
Radiation	Omni-directional
Gain (peak)	-0.03dBi
Polarization	Linear
Admitted Power	2W
Connector	IPEX1
Efficiency	35%~50%
Cable	RF $\Phi 1.13$ gray cable and length is 80 mm

2. Mechanical Specifications

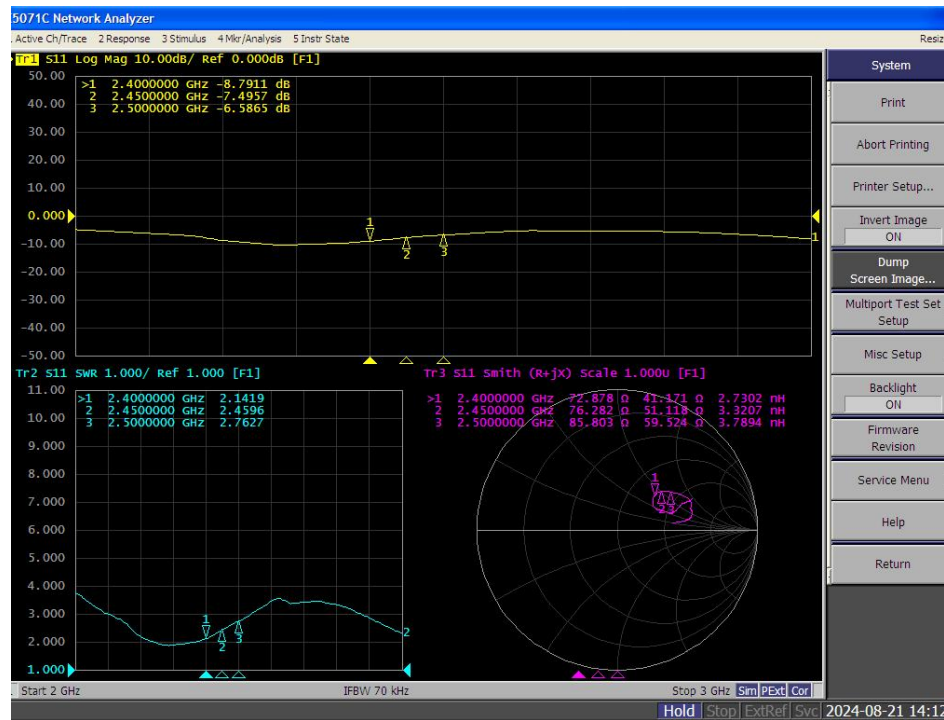


Antenna made by FPC material and fixed to customer' s product shell by bottom side adhesive,
Then through IPEX1 connector connect main board RF signal port.

RF $\Phi 1.13$ cable soldering on FPC. RF $\Phi 1.13$ gray cable length $80\text{mm} \pm 3\text{mm}$.

Dimensions and tolerances of FCB: $14\text{mm} \pm 0.5\text{mm}$ long and $14\text{mm} \pm 0.5\text{mm}$ wide.

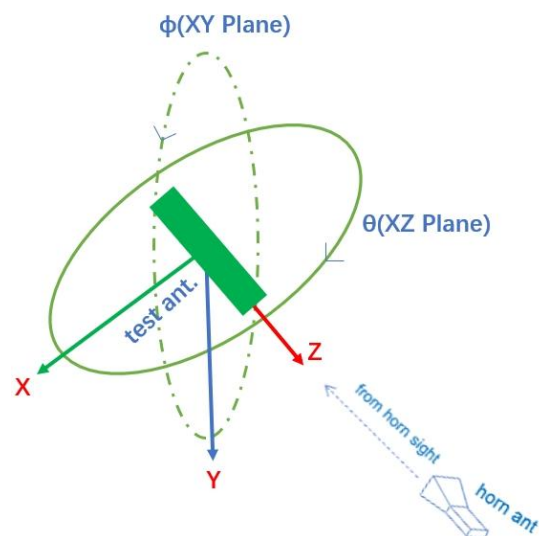
3. S-parameter



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

VSWR: ≤ 2.5

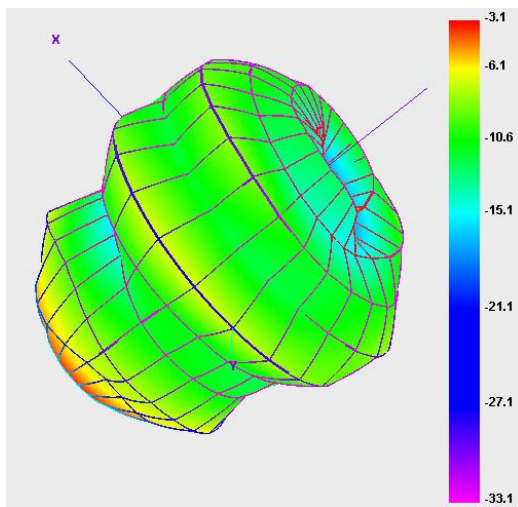
4. Radiation parameter



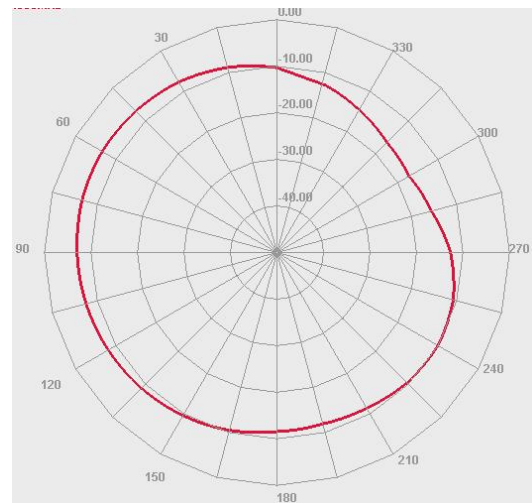
4.1 Gain and efficiency

Frequency	Gain	efficiency
2400~2500MHz	1~2dBi	35%~50%

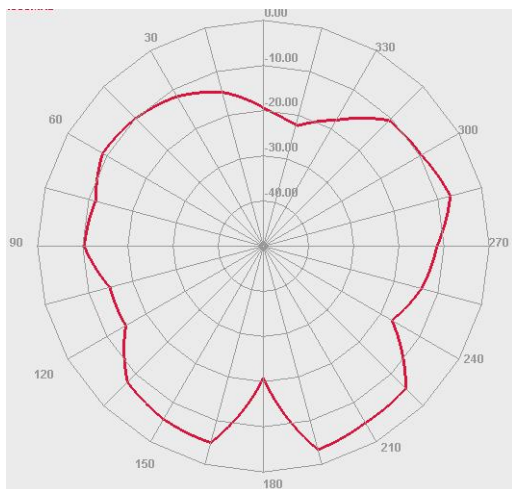
4.2 2.45GHz Radiation Pattern



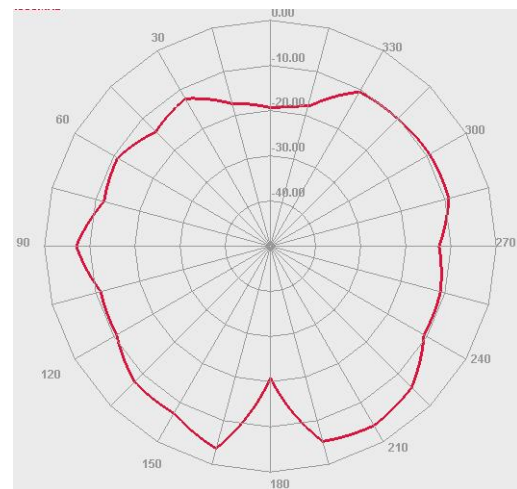
3D radiation



XY plane



XZ plane



YZ plane

Attachment**Full frequency Gain & Efficiency table**

Passive Test For 2G			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	18.96	-7.22	-1.07
2410	21.56	-6.66	-0.53
2420	18.8	-7.26	-1.09
2430	16.11	-7.93	-1.75
2440	21	-6.78	-0.57
2450	23.79	-6.24	-0.03
2460	18.68	-7.29	-1.1
2470	16.82	-7.74	-1.53
2480	20.93	-6.79	-0.48
2490	21.48	-6.68	-0.34
2500	17.21	-7.64	-1.3