

ANTWF-JK110

Wi-Fi_2.4G&5G

Specification

- 2.4GHz & 5GHz Dual-band Antenna
- Omnidirectional , Linear polarization
- SMA interface (male-to-male)
- Size of 11cm
- Supports -40°C to +85°C

Document information

Model	ANTWF-JK110
Overview	2.4G&5G Dual-band
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Document version update

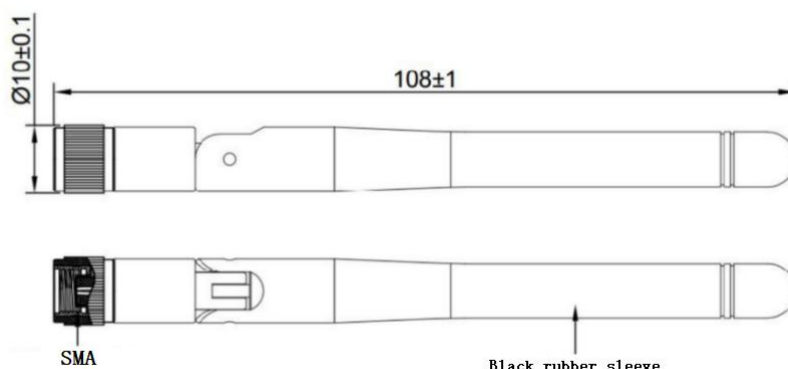
No.	Version	Revised content	Revised date	Revised
1	v1.0	The initial version		

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1. Brief Introduction

ANTWF-JK110 is a supporting both 2.4GHz and 5GHz bands Antenna, widely used in Wi-Fi applications. It offers advantages such as wide bandwidth, low standing wave ratio, and excellent performance consistency. With a total height of approximately 110mm and featuring an SMA interface (SMA male-to-male connector), this antenna is compatible with various 2.4/5GHz dual-band wireless devices, including wireless modules, data transmission radios, and remote control equipment.



2. Specifications

2.1. Electrical Specification

Electrical Specification	
Operation Frequency (MHz)	2400-2500 & 5000-5800
Impedance	50Ω
VSWR	2400-2500 ≤ 2.5 5000-5800 ≤ 2.5
Efficiency (%)	2400-2480 : 83.3 AVG 5000-5800 : 73.8 AVG
Peak Gain (dBi)	2400-2480 : 4.23 5000-5800 : 4.61
Radiation Properties	Omnidirectiona
Polarization	Line Polarization
Type	Dipole Antenna

2.2. Mechanical Parameter

Mechanical Parameter	
Structure Type	SMA Male-to-Male

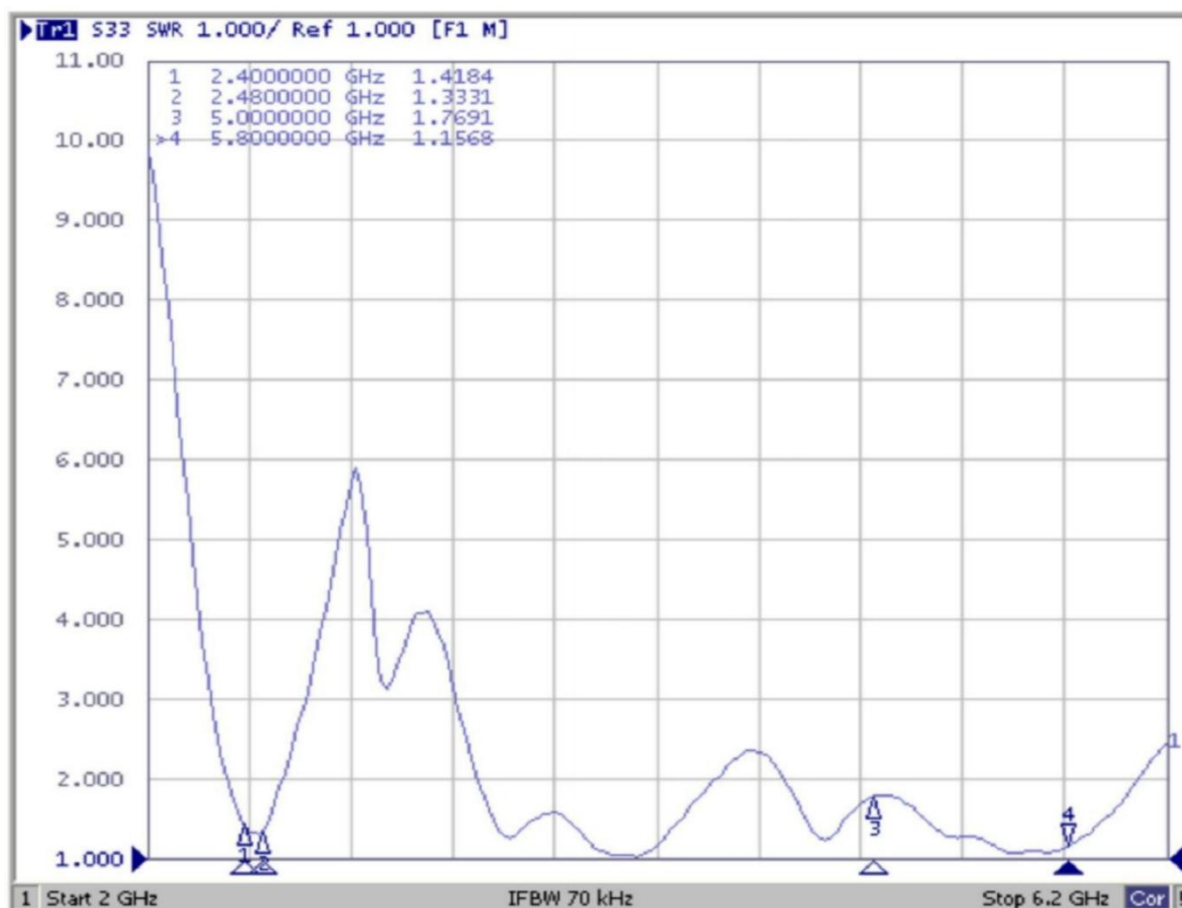
Dimension	φ10mm*108mm
Material	TPE (BLACK)

2.3. Environment Specification

Environment Specification	
Operating temperature	-40°C ~ +80°C
Storage temperature	-40°C ~ +80°C
Salt Spray	48H

3. Test parameters

3.1. VSWR



3.2. Efficiency & Gain

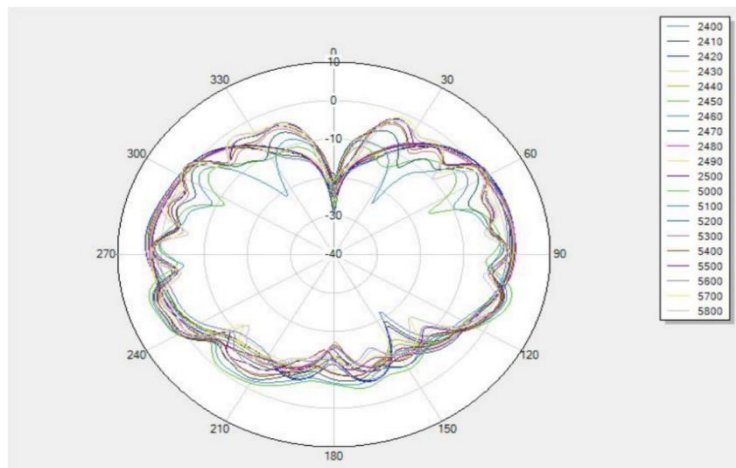
2.4G Band:

Frequency(MHz)	Gain(dBi)	Efficiency(%)
2400	3.13	73.62
2410	3.71	81.1
2420	4.23	89.33
2430	3.9	88.92
2440	3.23	81.66
2450	2.75	78.89
2460	2.79	80.54
2470	3.16	87.3
2480	3.18	88.92
2490	3.09	87.1
2500	2.79	79.07
AVG	3.27	83.31

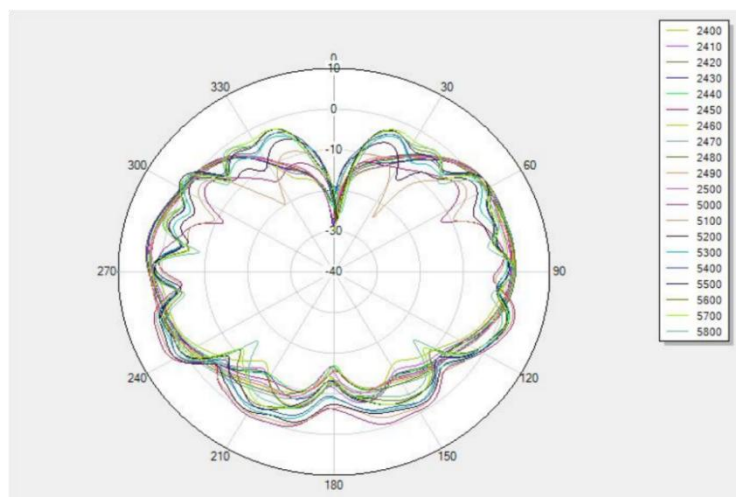
5.8G Band:

Frequency(MHz)	Gain(dBi)	Efficiency(%)
5000	4.5	76.91
5100	4.61	72.28
5200	4.48	73.62
5300	3.59	76.21
5400	3.55	78.52
5500	2.92	73.62
5600	2.96	72.61
5700	3.06	73.62
5800	2.65	67.45
AVG	3.70	73.87

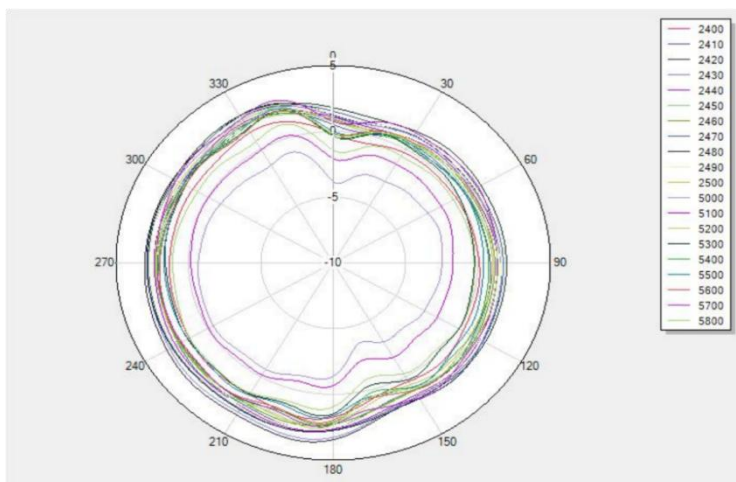
3.3. 2D Radiation Model



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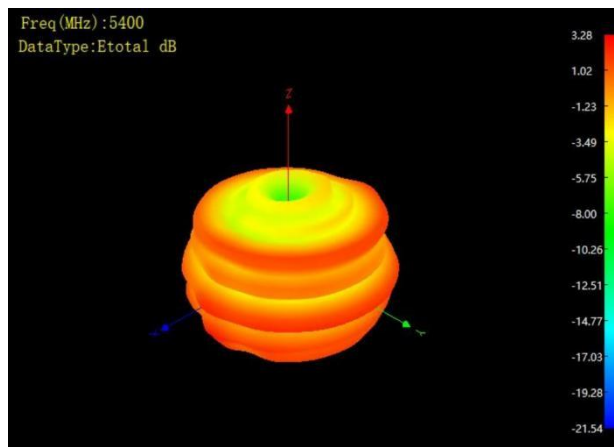
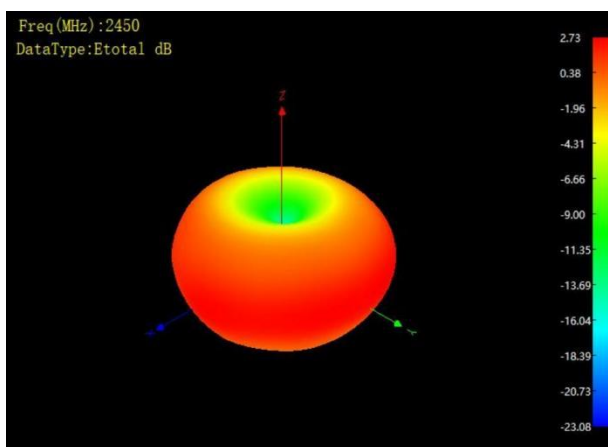
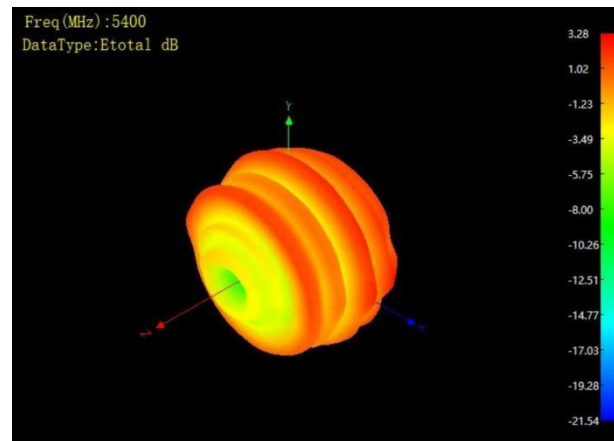
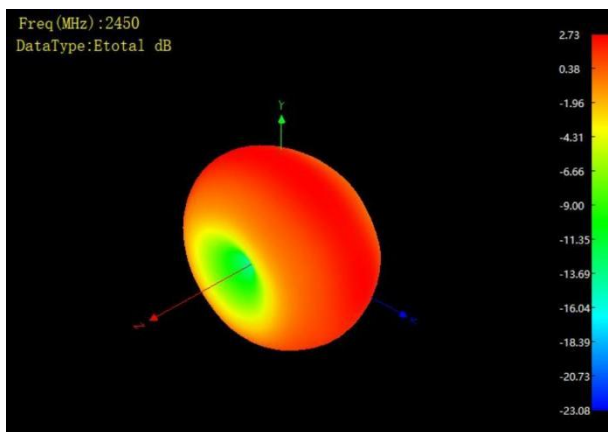
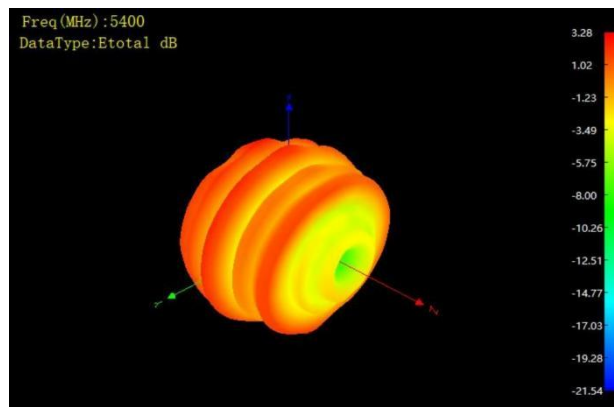
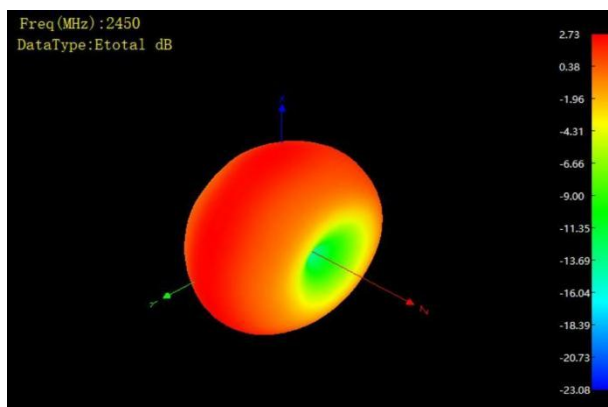


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3.4. 3D Radiation Model



4. Precautions

- The characteristic impedance of the antenna must match that of the wireless communication equipment, typically set at $50\ \Omega$.
- The antenna frequency must match the frequency band of the wireless communication device. Typically, the antenna's frequency range should cover the device's frequency band; otherwise, communication performance will be poor, and high-power devices may even sustain damage.
- Note the radiation type of the antenna. Directional antennas require directional radiation; incorrect installation may result in limited transmission range.
- Pay attention to the antenna installation location; the antenna should be installed as far away as possible from sensitive equipment, and proper matching is required if structural obstructions are present.
- Note that the antenna must not be placed inside the shielded metal enclosure, as this will significantly degrade the actual communication performance of wireless devices.
- Since the ground absorbs electromagnetic waves, the antenna performs poorly when installed close to the ground; it is recommended to increase the installation height.

5. Contact information

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