OA-FW4007 Antenna Datasheet

OverAir® FPC antenna series
Compliant with RoHS specifications

2.4G WIFI/ FPC antenna

Chapter 1 Product Introduction

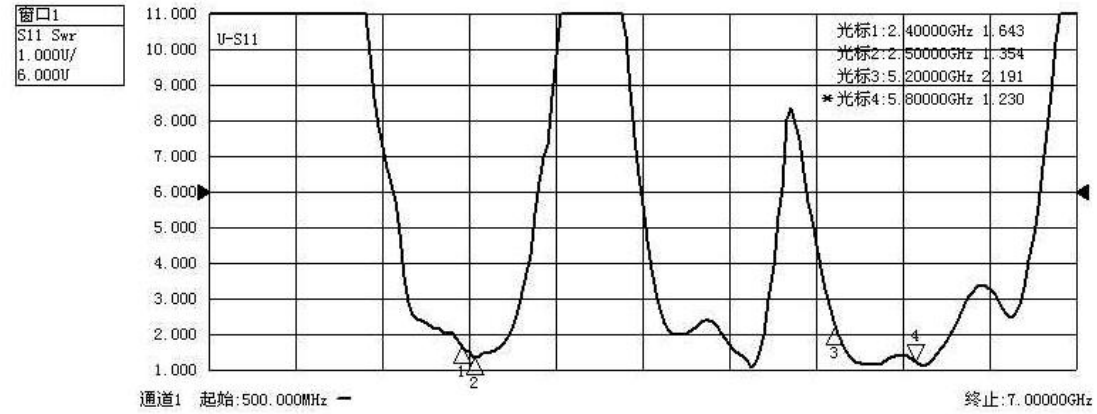
OA-FW4007 is a flexible FPC built-in antenna that operates at 2.4-2.5Ghz/5.2-5.8Ghz with built-in adhesive and coaxial lines.The size of the FPC antenna body is 40 * 6mm, with a thickness of only 0.4mm (including the backing adhesive).Equipped with RF0.81 coaxial line, with less line loss and softer wire, with a wire length of 4cm. It is an IPEX first generation interface.This antenna is suitable for various electronic products and communication devices that use built-in antennas in the 2.4G/5G frequency band (such as Bluetooth, WIFI, etc.).

Chapter 2 Specification Parameters

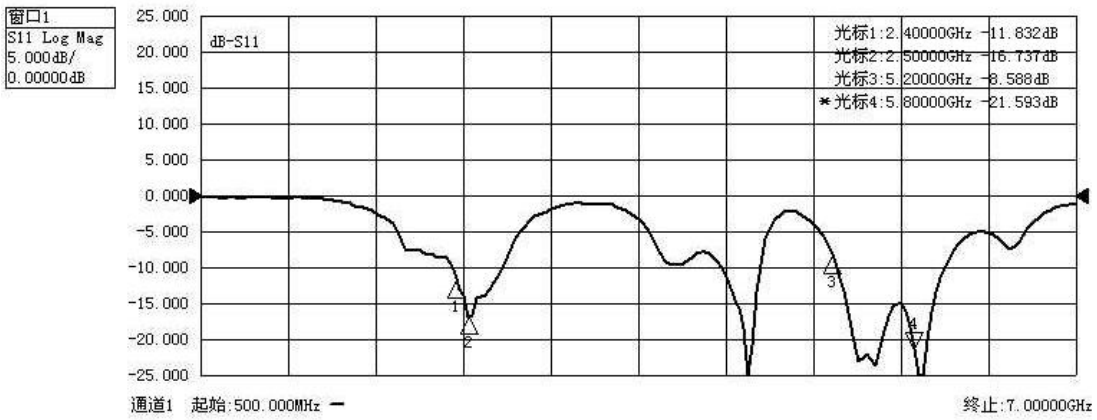
Electrical parameters	
Center Frequency	2450Mhz/5500GHz
Bandwidth	2400-2500Mhz
Antenna Gain	3.6dB（2.4G）
Antenna Efficiency	56.5%（2.4G））
VSWR	<2
Polarization direction	Vertical polarization
Radiation direction	Omnidirectional
Impedance	50Ω
Maximum power	5W
Other parameters	
Antenna Size	40.0*6.0*0.4mm
Antenna Thickness	0.4mm
Coaxial length	4cm
Antenna material	FPC
Coaxial specifications	RF0.81
Interface specifications	IPEX1
Operation Temperature	-30℃~ +80℃

Chapter 3 Antenna Characteristics

VSWR



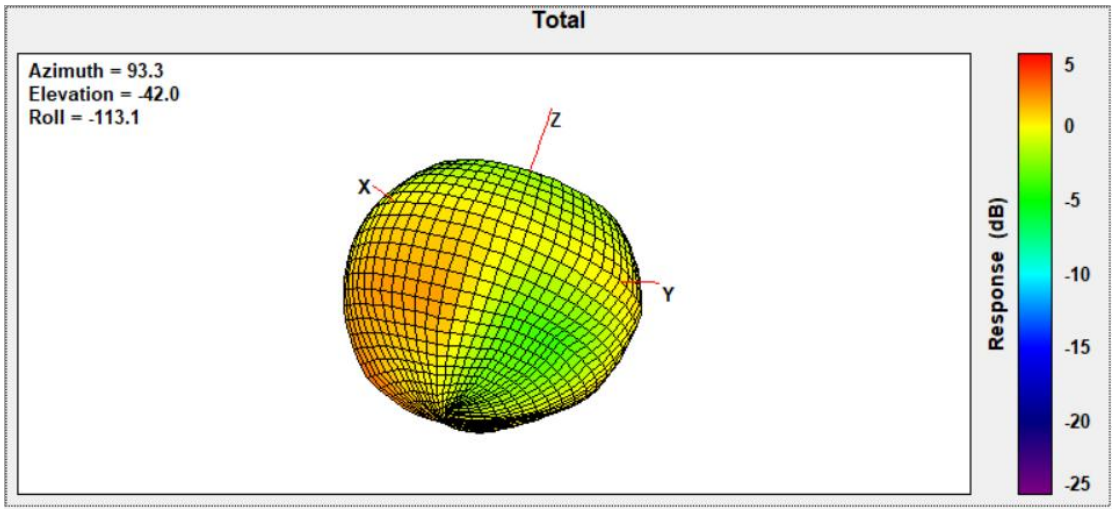
Return Loss



Efficiency and Gain

Frequency (Mhz)	Efficiency (%)	Gain (dBi)
2400	55.6	3.5
2410	56.4	3.4
2420	54.3	3.3
2430	55.2	3.5
2440	53.2	3.4
2450	57.8	3.6
2460	56.9	3.6
2470	57.4	3.6
2480	59.5	3.5
2490	58.2	3.3
2500	57.9	3.4

Antenna Pattern
@2.45GHz:



Chapter 4 Precautions

1、 The antenna should be attached to the insulation surface inside the product, Please do not stick the antenna body to the surface of the metal conductor.

2、 The distance between the antenna body and the metal conductor should be maintained at least 3mm, and the larger the distance between it and the metal conductor, the better.As a conductor, the PCB board also needs to be kept as far away from the antenna as possible.

3、 Do not wrap the coaxial line of the antenna around the antenna body, Otherwise, it may cause a decrease in antenna performance.

4、 The impedance of the antenna may deviate due to the structural differences of different products , π type impedance matching devices can be reserved for debugging and improvement.If you encounter this situation, you can contact our company for technical support.

Chapter 5 Antenna Drawings