
Antenna Specification Document

2.4 GHz ISM Frequency band antenna

Product Model: AB-C07

**Company Name:Shenzhen Aiba Palladium
Technology Co., Ltd**

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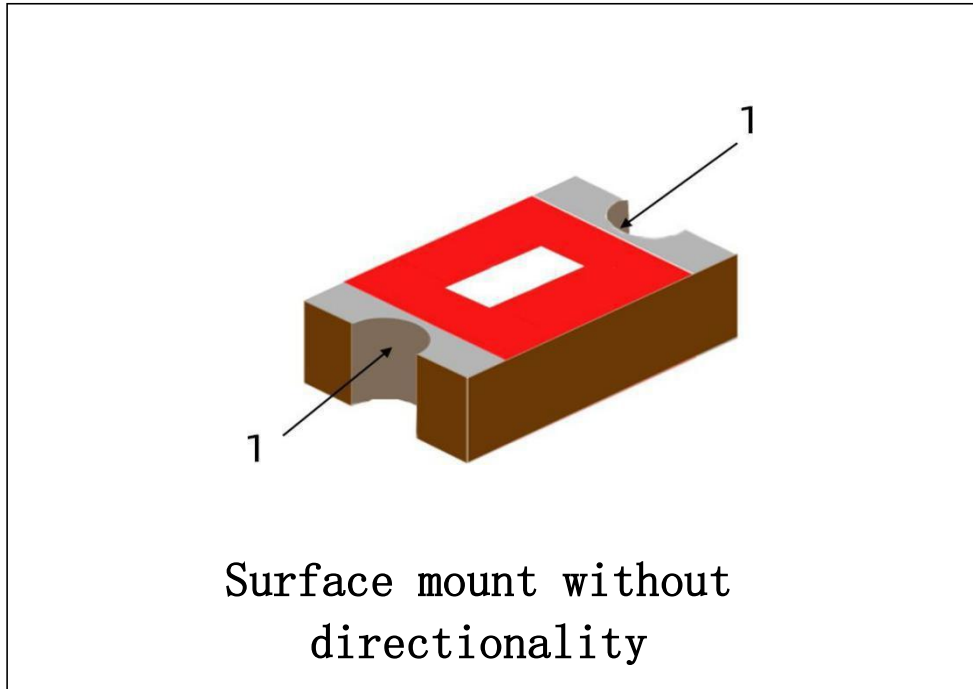
Features:

1. Small size: 3.5 X 1.7 X 1.2 mm
2. Low energy loss, high gain antenna.
3. Has high stability under changes in temperature and humidity.

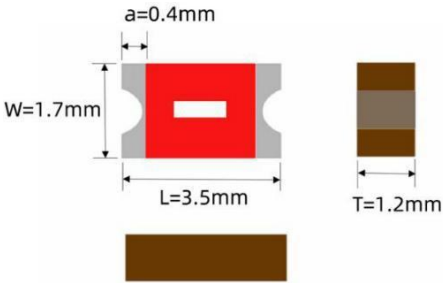
Application:

1. 2.4GHz ISM band antenna application
2. Bluetooth ZigBee、Wireless applications, smart home applications, etc

structure



Size

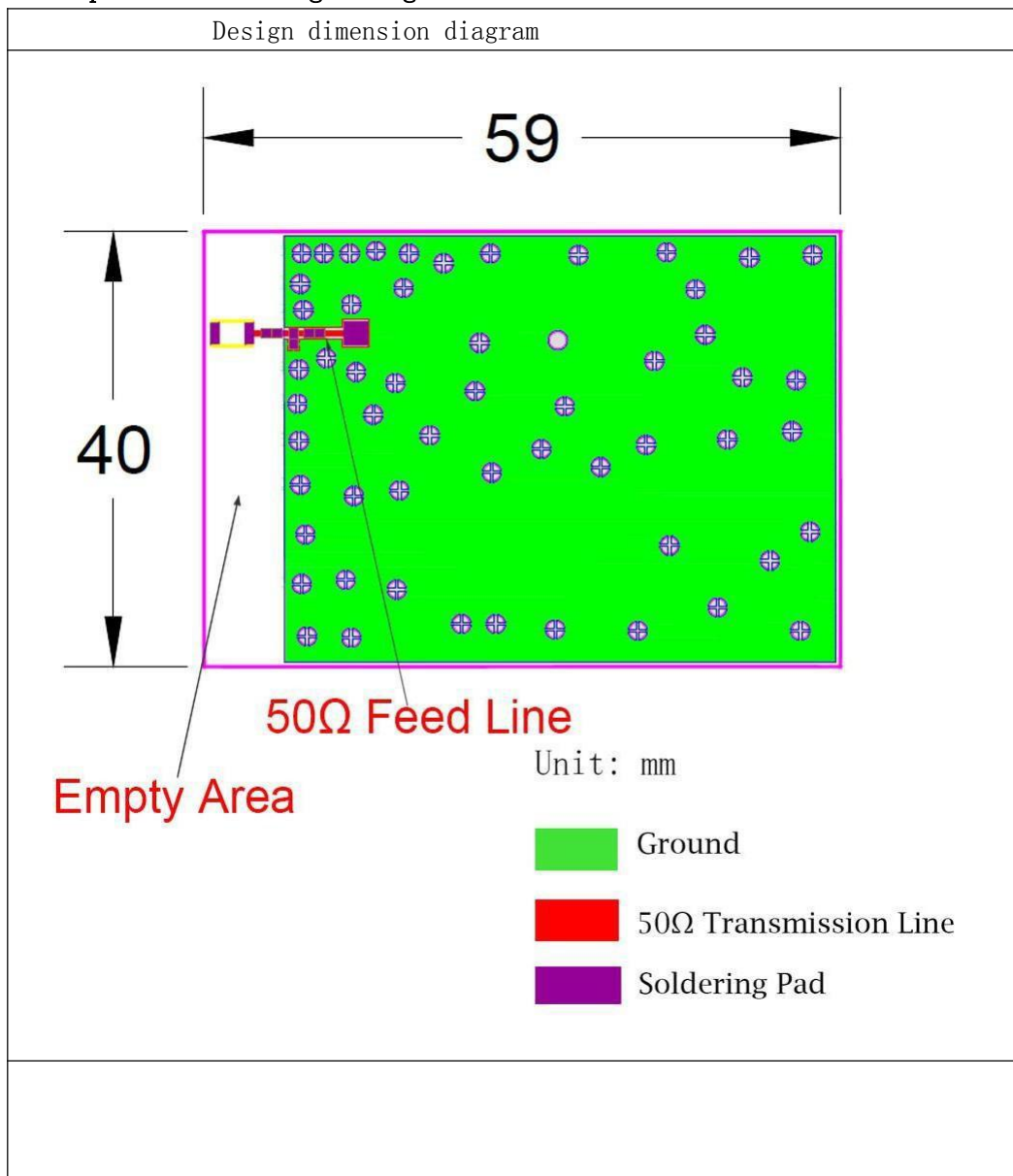
three-view drawing	symbol	Size (mm)
	L	3.5 ± 0.2
	w	1.7 ± 0.1
	T	1.2 ± 0.1
	a	0.4 ± 0.1

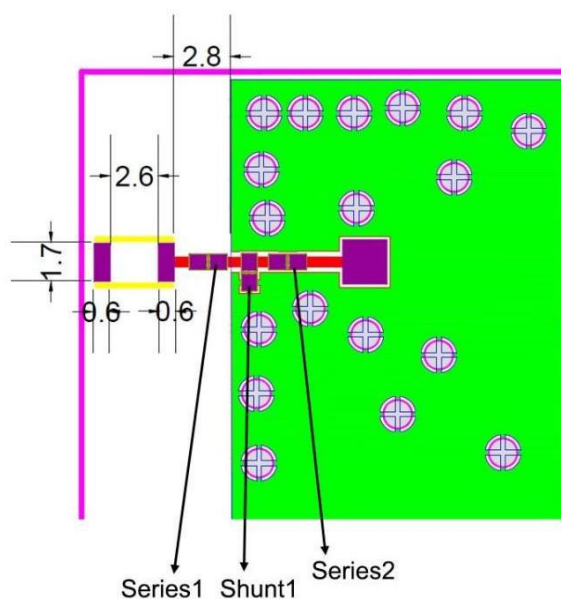
Electrical Characteristics

AB-C07	Specification
Working Frequency	$2450 \pm 50\text{MHz}$
Band Width	$>100\text{MHz}$
Impedance	$50\ \Omega$
Gain(dBi)	3.74 (peak)
VSWR	<2
Operation Temperature	$-40^{\circ}\text{C} \sim +95^{\circ}\text{C}$
Power Capacity	3W

The 2.4G working frequency of the antenna needs to be adjusted through impedance matching devices

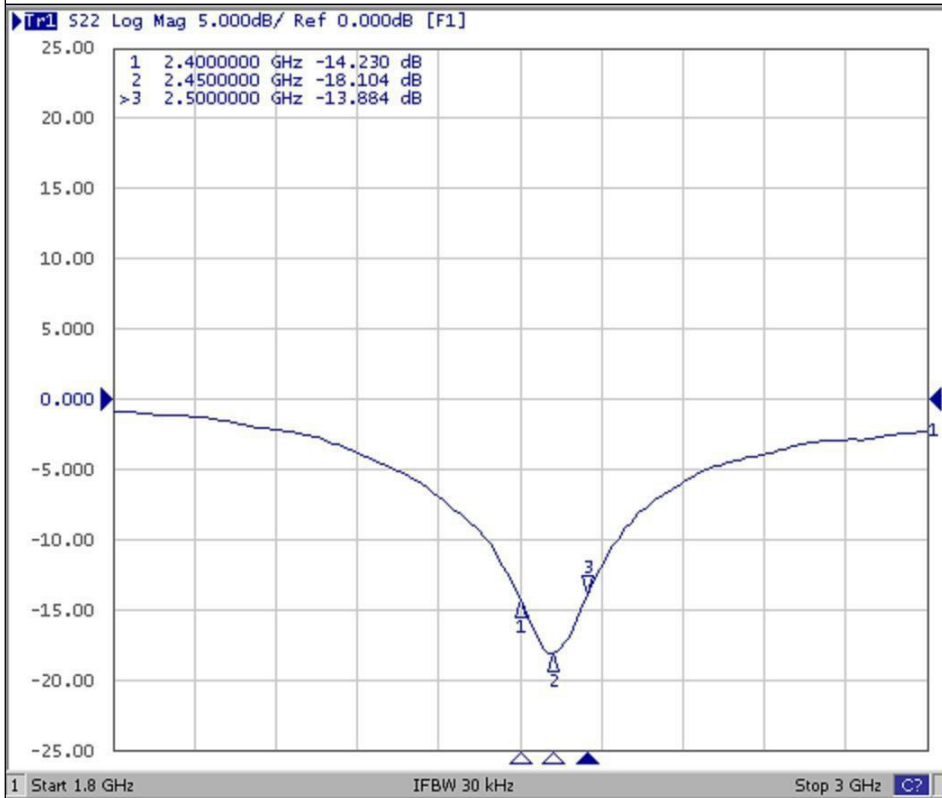
Antenna pad and routing design:





Matching device values	Series 1	5.6nh
	Shunt 1	4.7nh
	Series 2	0 Ω

Characteristics of antenna S11



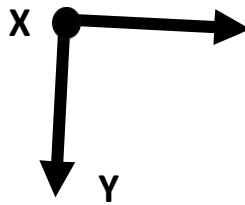
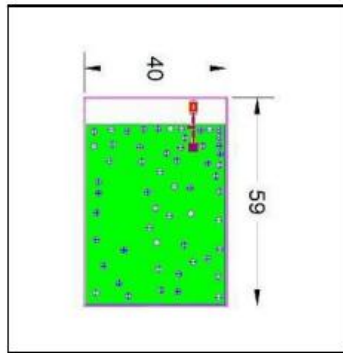
Antenna VSWR characteristics



Efficiency and radiation diagram (test board PCB thickness 1.0mm):

Efficiency, radiation pattern, gain and other performance are based on the test data of the test board.

The specification and characteristic test data of AB-C07 antenna are based on the size of the tested PCB board and the testing direction shown in the following figure. The following data was tested in ETS 3D microwave anechoic chamber.



Z

Gain and efficiency	bandwidth2.4G-2.5GHz
Peak Gain	3.74dBi
Average Gain across the band	3.66dBi
Gain Range across the band	3.42dBi~3.74dBi
Peak Efficiency	58.9%
Average Efficiency across the band	55.9%
Efficiency Range across the band	53.0%~58.9%

Theta
@2.45
GHz

