

SMD Antenna Specification Document

PN: OA-C11

2.4 GHz ISM Frequency band antenna

Manufacturer: Huizhou Beima Tech Limited
Address: No.41 Yalai Rd, Qiuchang Town,
Huiyang District, Huizhou City, Guangdong,
China

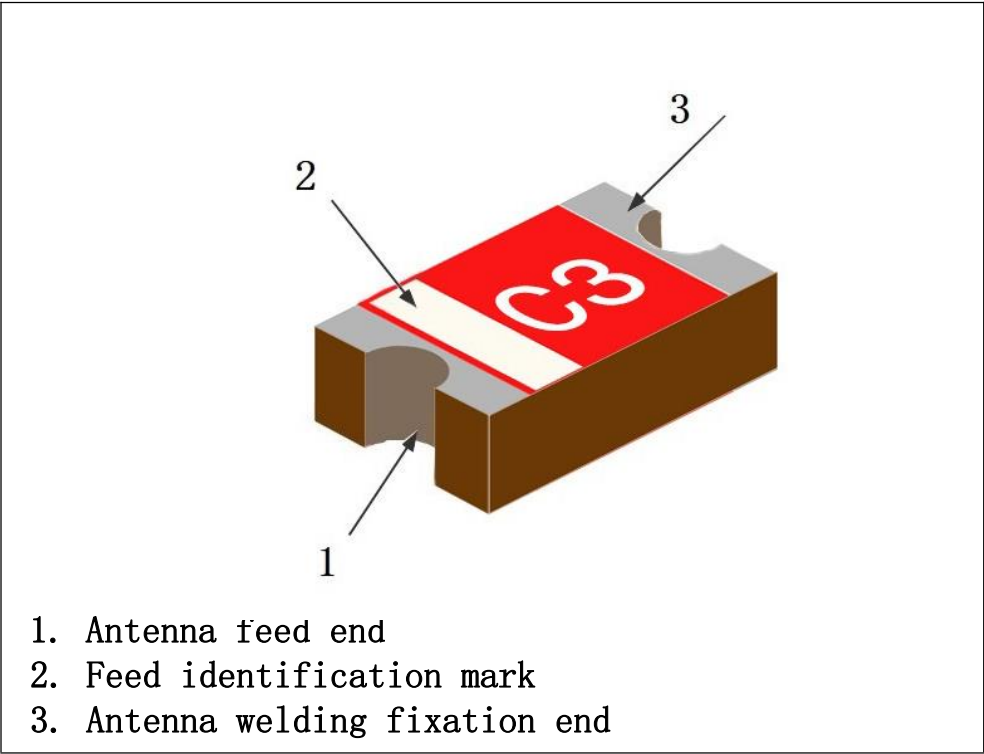
characteristic

- 1. A small-sized SMD surface mount antenna with dimensions of only 3.3 x 1.7 x 1.2 mm³.
- 2. Low energy loss and high antenna efficiency.
- 3. High stability under changes in temperature and humidity.

use

- 1. 2.4GHz ISM band antenna application
- 2. Bluetooth, ZigBee, wireless applications, smart home applications, etc.
- 3. WIFI (only 2.4G)

construction



ends of the

size

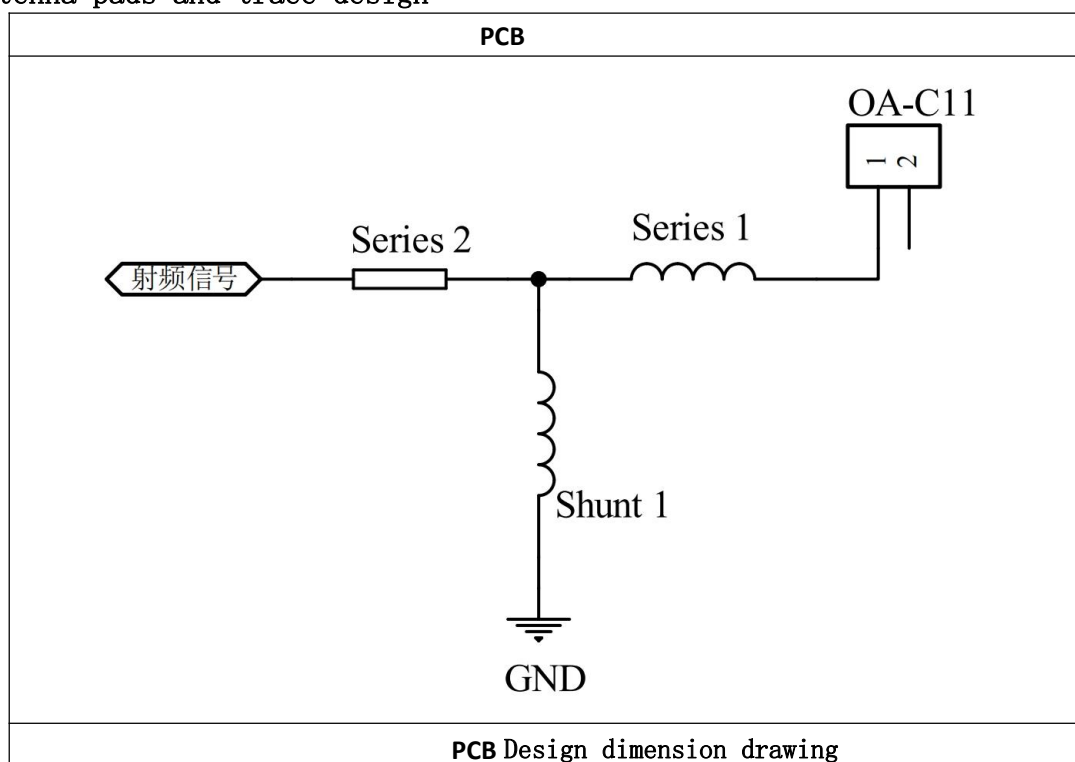
three views	symbol	size(mm)
	L	5.5±0.2
	w	2.0±0.1
	T	1.0±0.1
	a	0.5±0.1

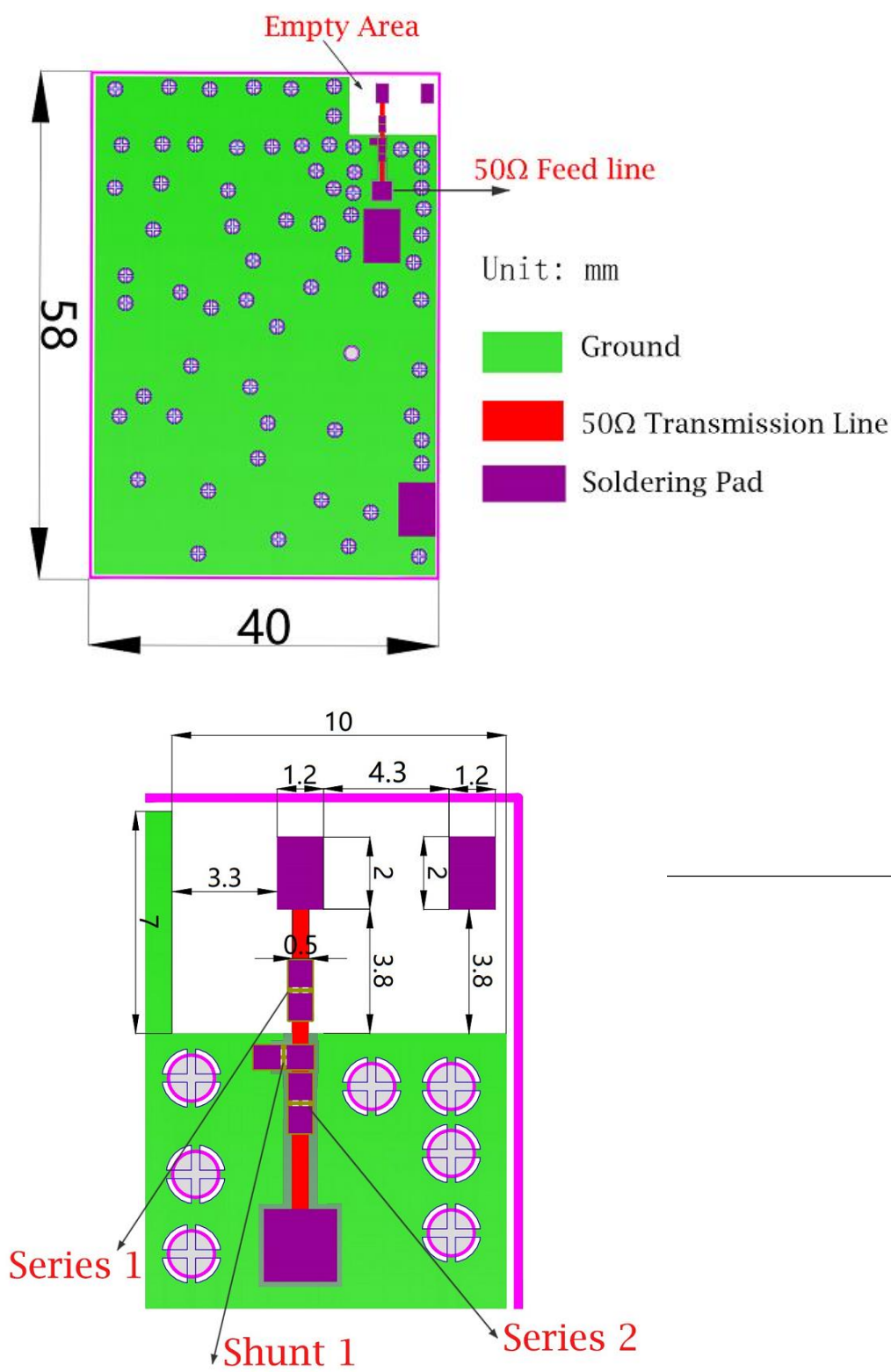
electrical specification

OA-C11	Specification
工作频率范围 Working Frequency	$2450 \pm 50\text{MHz}$
带宽 Band Width	$>100\text{MHz}$
阻抗 Impedance	$50\ \Omega$
增益 Gain(dBi)	4.3 (peak)
驻波比 VSWR	<2
工作温度 Operation Temperature	$-40^{\circ}\text{C} \sim +95^{\circ}\text{C}$
可承受功率 Power Capacity	3W

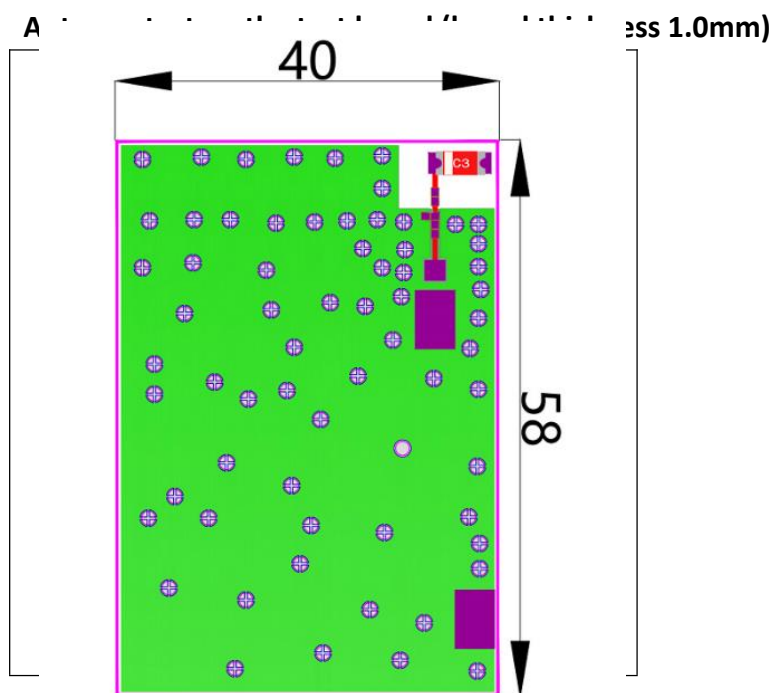
The 2.4G working frequency of the antenna needs to be adjusted through impedance matching devices..

Antenna pads and trace design

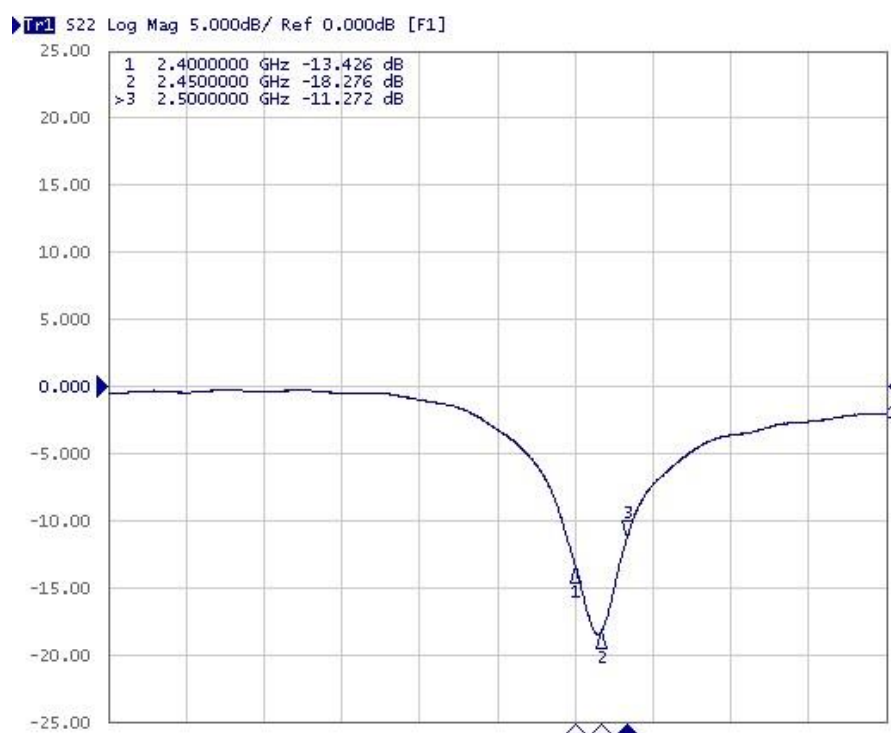




Match the device values	Series 1	Resistance 0Ω
	Shunt 1	3nh
	Series 2	Resistance: 0 ohms



Antenna S11 characteristics

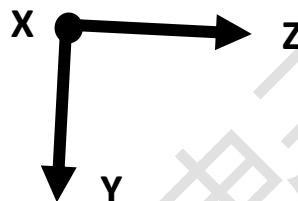
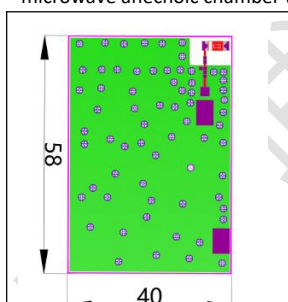


Antenna VSWR characteristics



Efficiency and radiation map

The performance parameters such as efficiency, radiation pattern, gain, etc. were obtained based on the design of the test board. The specification and characteristic test data of the OA-C11 antenna were derived from the size of the test PCB board and the test direction as shown in the figure below. The following data were obtained after the completion of the ETS 3D microwave anechoic chamber test.



Gain and efficiency	2.4G-2.5GHz
峰值增益 Peak Gain	4.3dBi
带内平均增益 Average Gain across the band	4.1dBi
带内增益范围 Gain Range across the band	3.9dBi~4.3dBi
峰值效率 Peak Efficiency	81.7%
Intra-band average efficiency	80.2%

Average Efficiency across the band	
带内效率范围	78.6%~81.7%
Efficiency Range across the band	

