SMD Antenna Specifications

OverAir® SMD Antenna series are RoHS compliant

PN: OA-C09

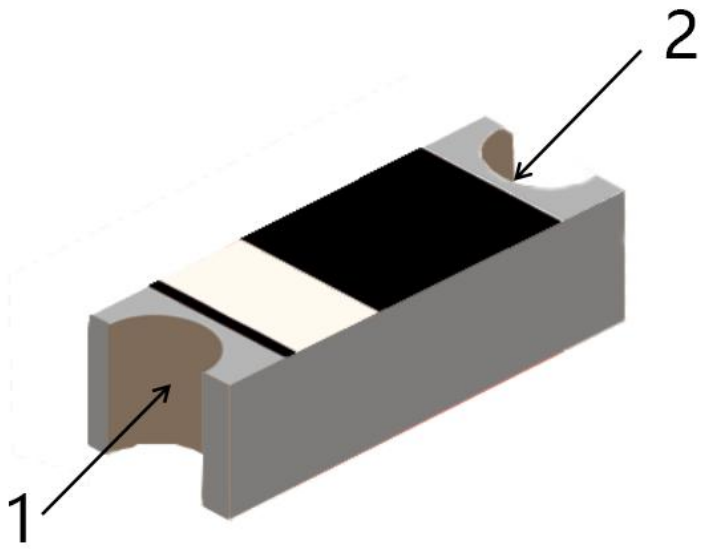
2.4 GHz ISM Band Antenna

manufacturer
Guangzhou Cambrian electronic Technology Co., LTD
Room 1119, Building 1#, Hongda Business and Creative Park, No.96 Yuanxiang Road, Yunpu Street, Huangpu District, Guangzhou

Features

1. Small size SMD patch antenna with size only 5.5 X 1.2 X 1.2 mm.
2. Low energy loss, high antenna efficiency.
3. High stability under temperature and humidity changes.

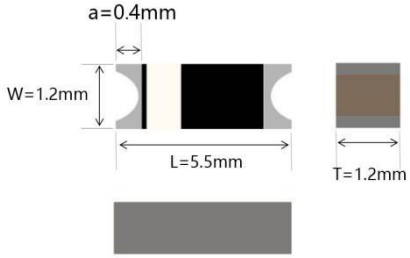
Structure



1：Antenna fixing pad, do not connect any signal

2: Antenna feed pad, connect RF signal pin

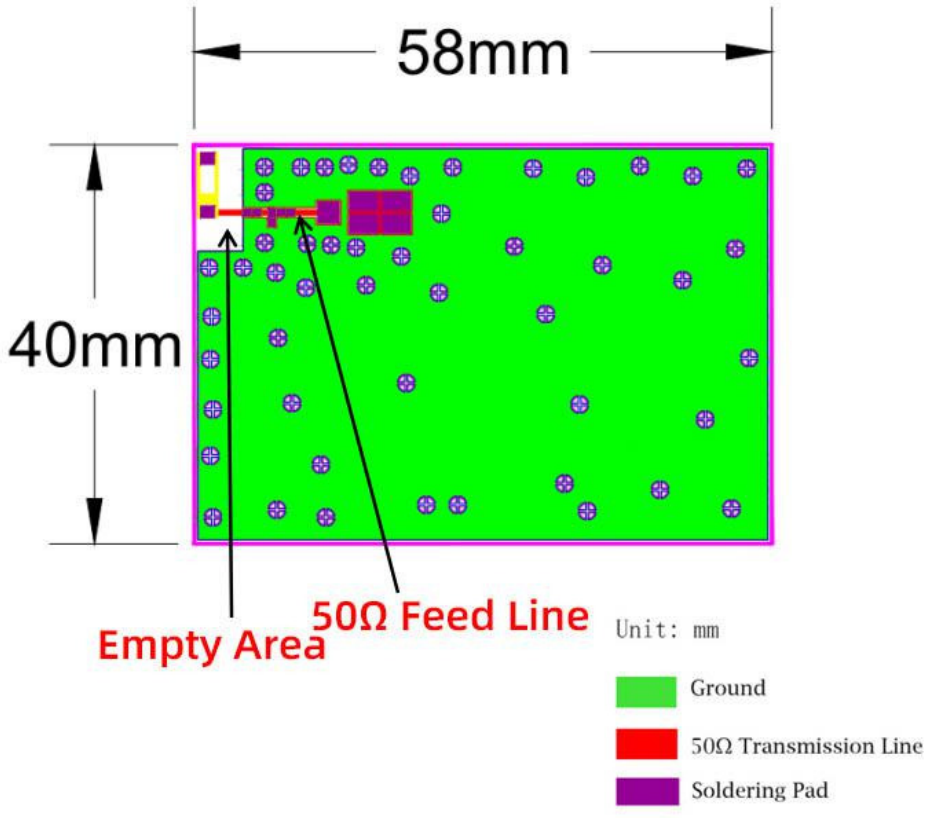
Size

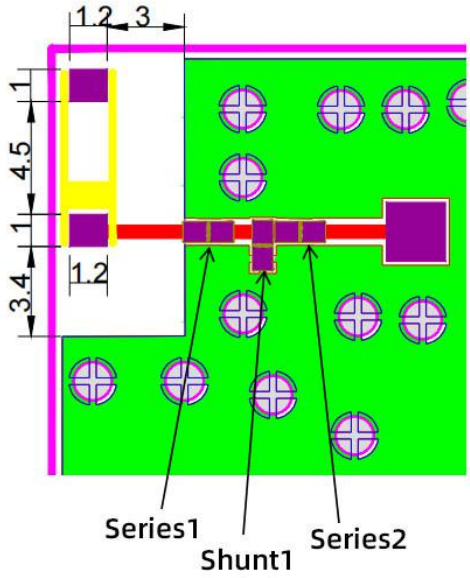
Three View	Symbol	(mm)
	L	5.5±0.2
	w	1.2±0.1
	T	1.2±0.1
	a	0.4±0.1

Electrical Characteristics

OA-C09	Specification
Working Frequency	2450±50MHz
Initial frequency band(GHz)	3.0GHz
Band Width	>100MHz
Impedance	50Ω
Gain(dBi)	4.33（peak）
VSWR	<2
Operation Temperature	-40℃~+95℃
Power Capacity	3W

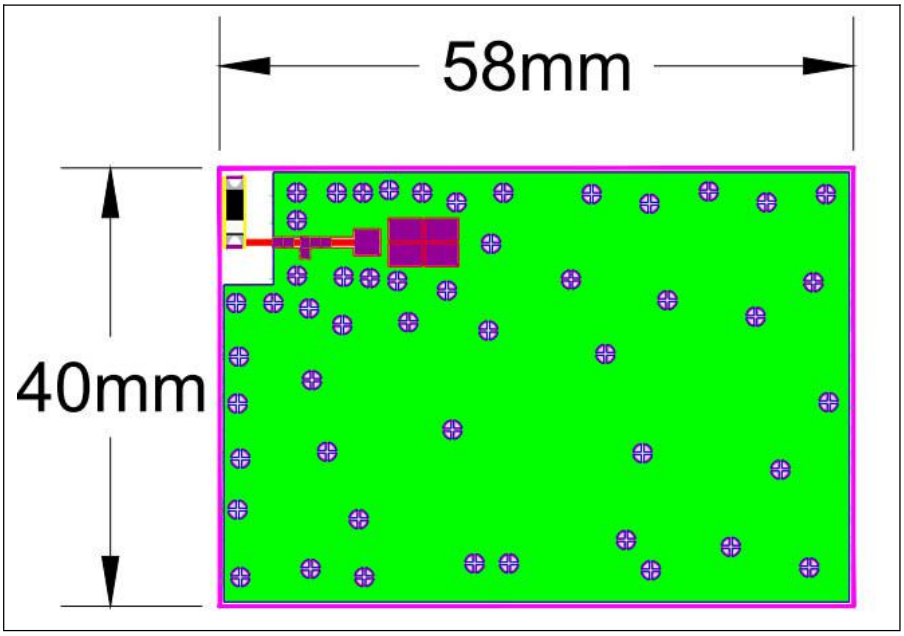
Design dimension drawing



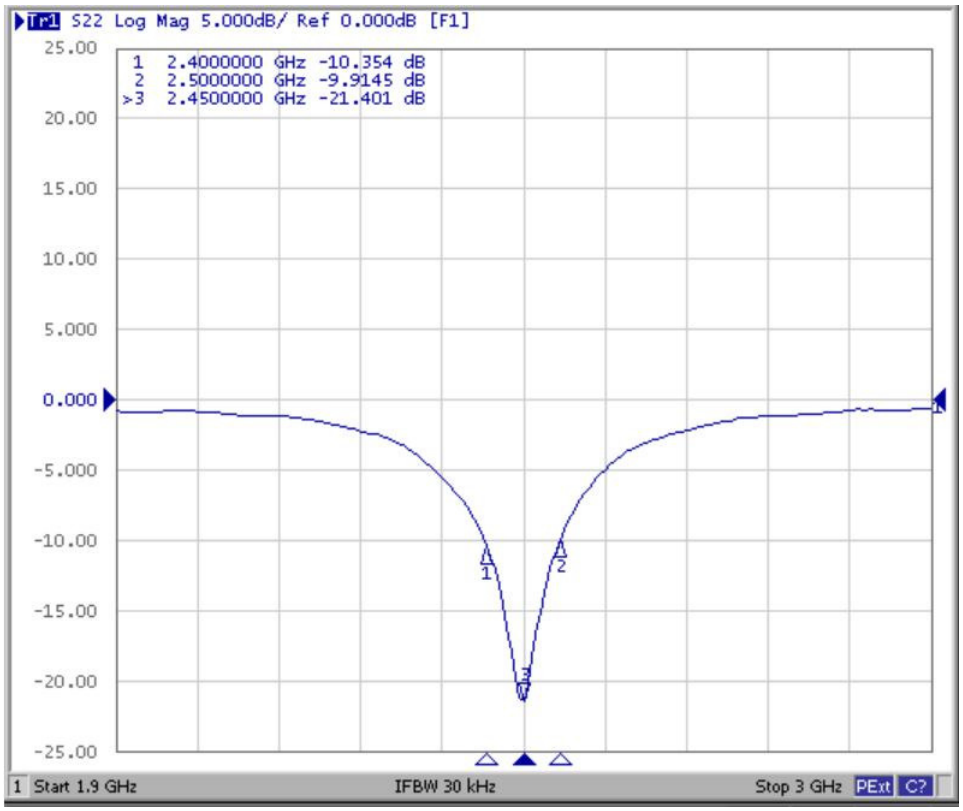


match device value	Series 1	inductance 3.0nh
	Shunt 1	inductance 2.7nh
	Series 2	inductance 3.6nh

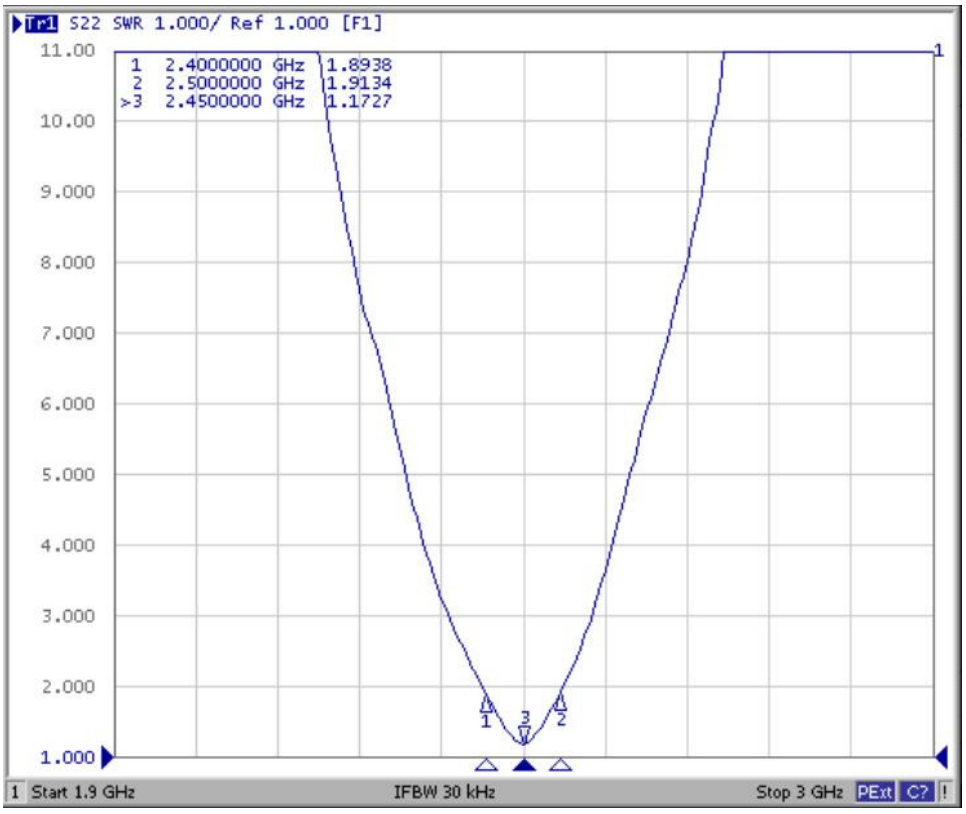
Antenna test on test board (board thickness 1.0mm)



Antenna S11 Characteristics

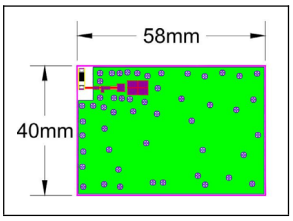


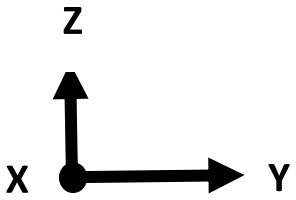
Antenna VSWR Characteristics



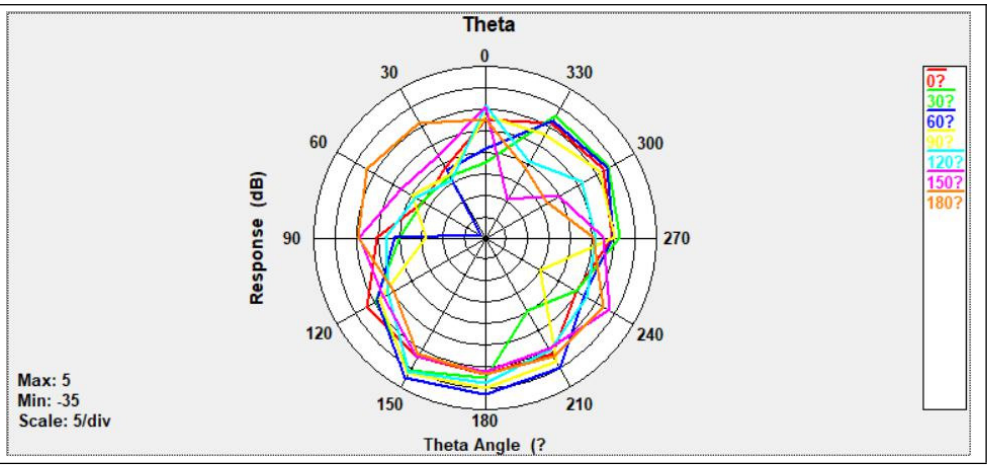
Efficiency and Radiation Patterns

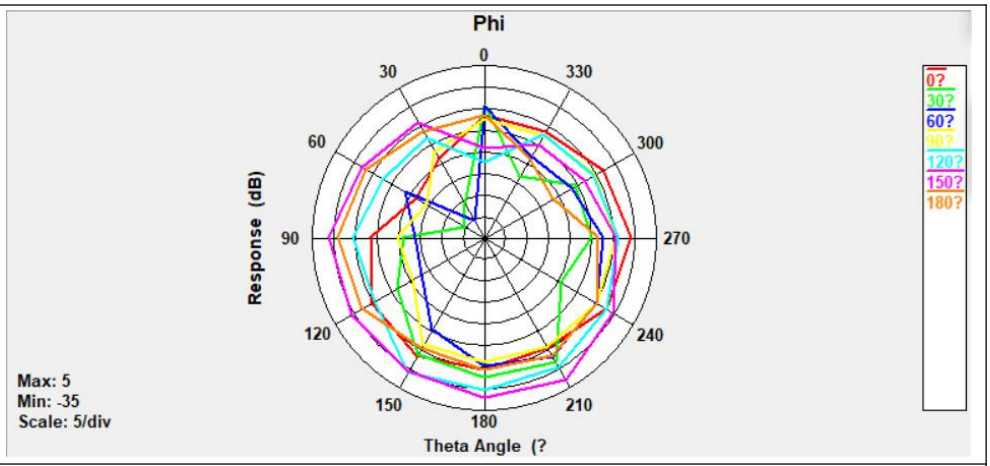
Performance, radiation pattern, gain, etc. are based on the test board design. The specification characteristic test data of OA-C09 antenna is obtained based on the test PCB board size and the test direction shown in the figure below.





Gain and Efficiency	Bandwidth 2.4G-2.5GHz
Peak Gain	4.33dBi
Average Gain across the band	4.0dBi
Gain Range across the band	3.59dBi~4.33dBi
Peak Efficiency	62.5%
Average Efficiency across the band	57.5%
Efficiency Range across the band	51.3%~62.5%

Theta @2.45 GHz	

Phi @2.45 GHz	
Total @2.45 GHz