

APPROVAL SHEET

OverAir™ SMD Antenna series
RoHS Compliance

PN: OA-C11

2.4 GHz ISM band antenna

FEATURES

1. Surface Mounted Devices (SMD) with a small dimension of 3.3 X 1.7 X 1.2 mm³ meet miniaturization trend.
2. Low power loss and high antenna efficiency.
3. High stability in Temperature and Humidity Change.

APPLICATIONS

1. 2.4GHz ISM band RF applications
2. Bluetooth, ZigBee, Wireless, HomeRF
3. WIFI (2.4G only)

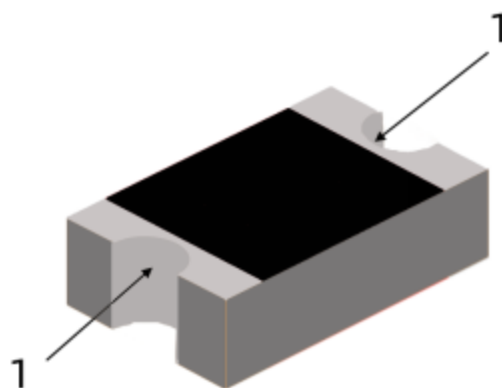
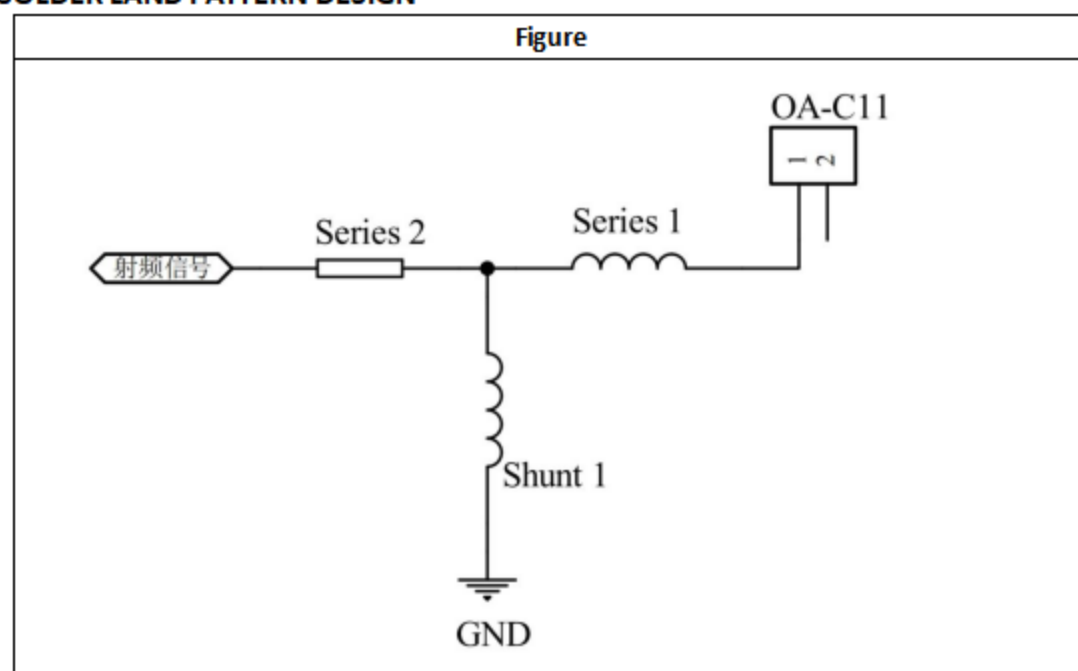
CONSTRUCTION**1、Antenna Feeding****DIMENSIONS**

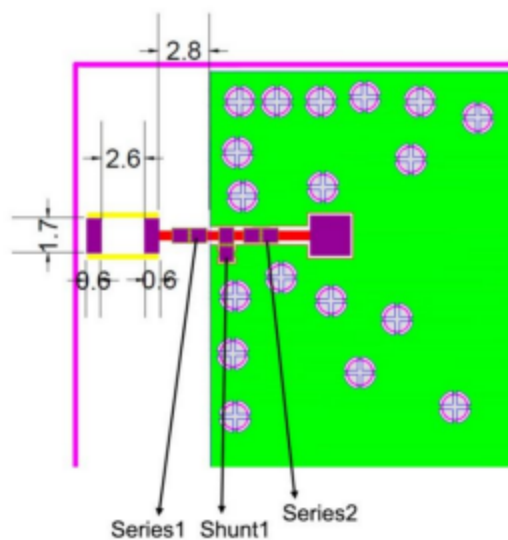
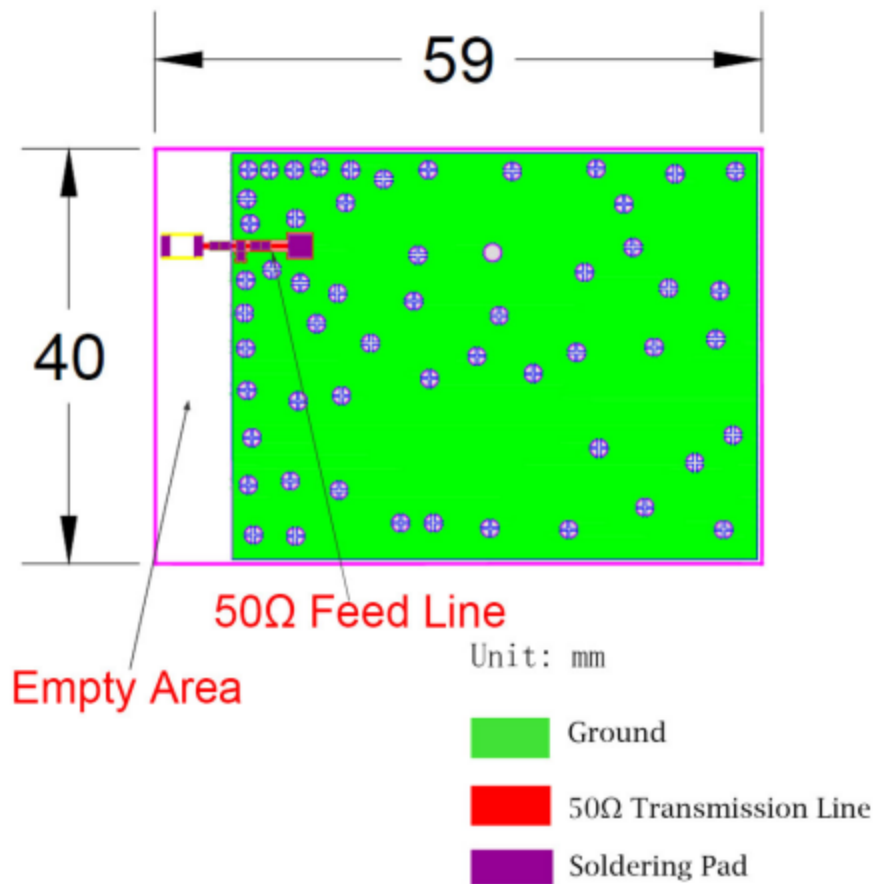
Figure	Symbol	Dimension(mm)
	L	3.3 ± 0.1
	w	1.7 ± 0.1
	T	1.2 ± 0.1
	a	0.5 ± 0.1

OA-C11	Specification
Working Frequency Range	$2450 \pm 50\text{MHz}$
Band Width	$>100\text{MHz}$
Impedance	50Ω
Gain(dBi)	3.85 (peak)
VSWR	<2
Operation Temperature	$-40^{\circ}\text{C} \sim +95^{\circ}\text{C}$
Power Capacity	3W

ELECTRICAL CHARACTERISTICS

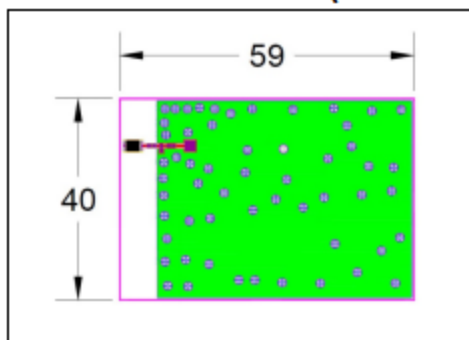
The working frequency need be adjusted to 2.45GHz with matching circuit.

SOLDER LAND PATTERN DESIGN

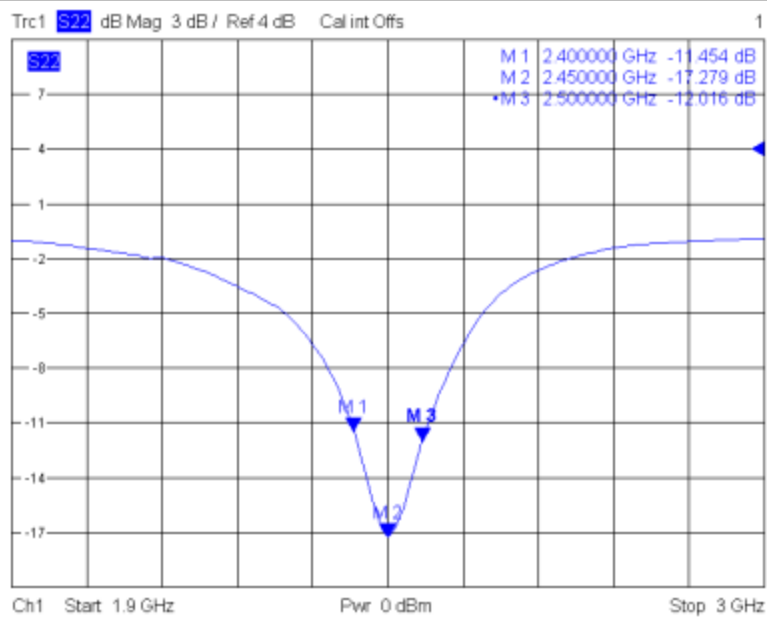


Matching component value	Series 1	2.2nh
	Shunt 1	3nh
	Series 2	0Ω

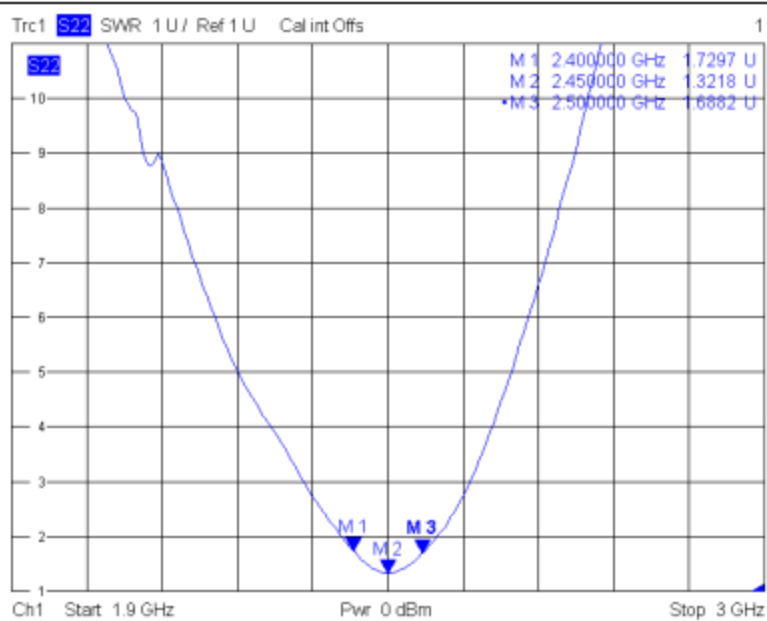
Antenna on Test Board (Thickness 1.0mm)



Antenna S11 on Test Board

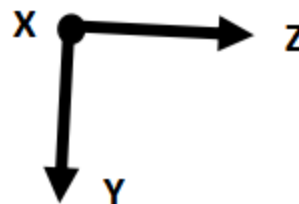
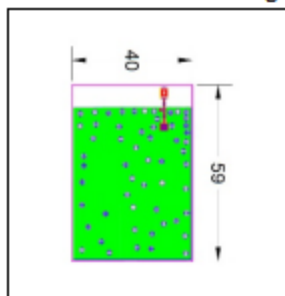


Antenna VSWR on Test Board

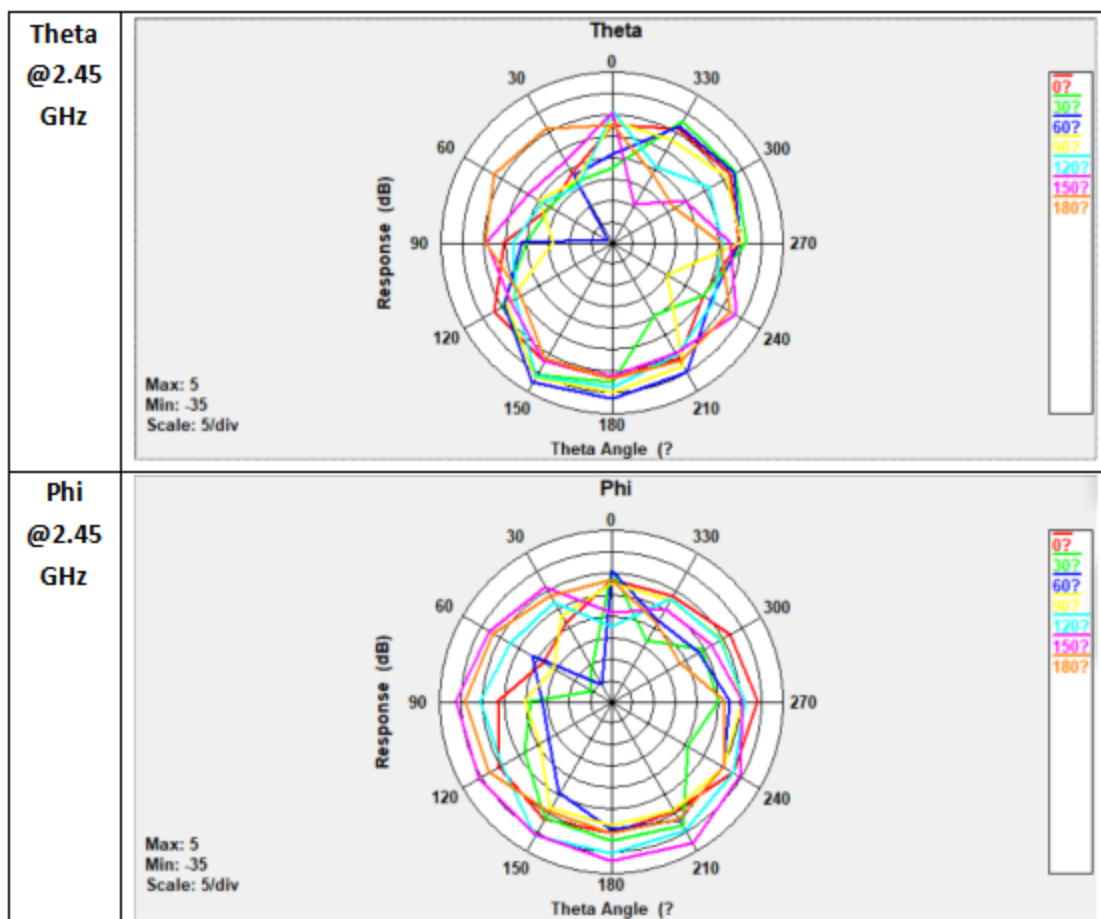


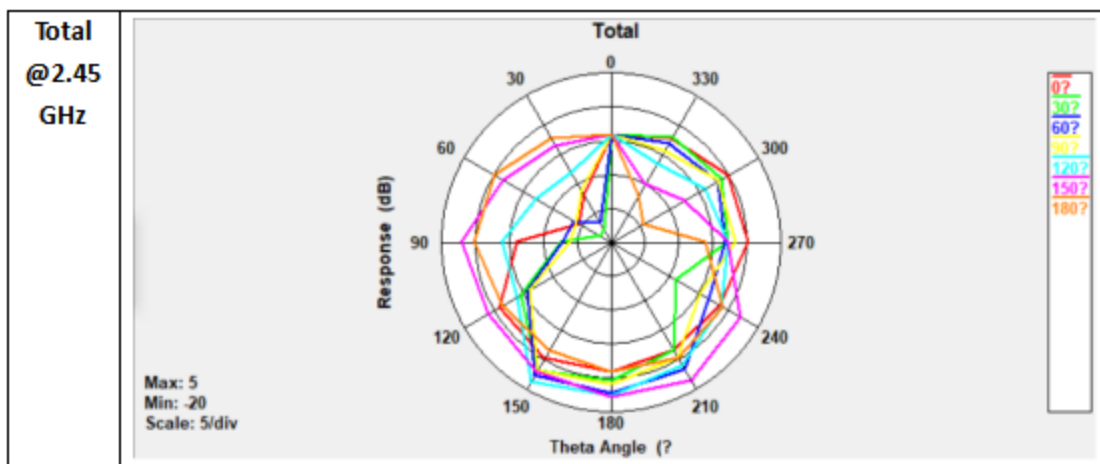
Efficiency and RADIATION PATTERN

Efficiency, Radiation Pattern and Gain were dependent on measurement board design. The specification of OA-C11 antenna was measured based on the PCB size and installation position as shown in the below figure test board. The test results were tested in ETS 3D Chamber.



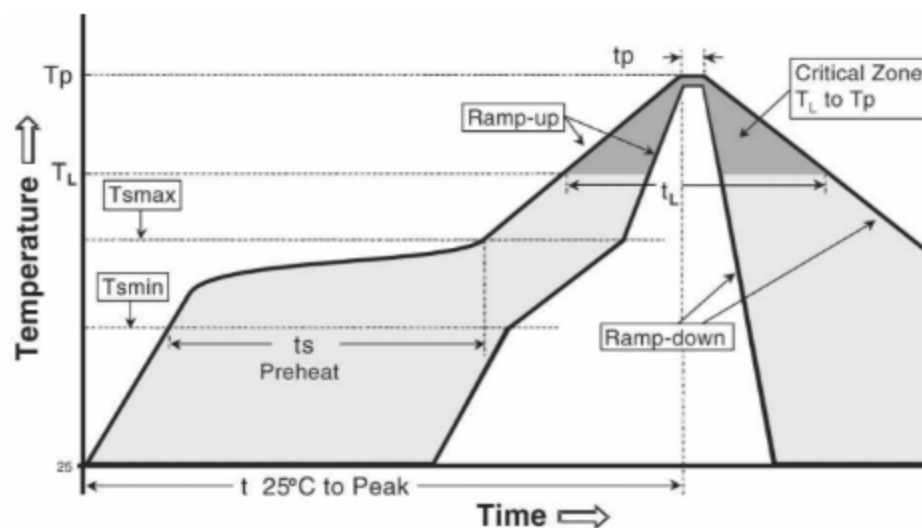
Gain and Efficiency	2.4G-2.5GHz
Peak Gain	3.85dBi
Average Gain across the band	3.76dBi
Gain Range across the band	3.53dBi~3.85dBi
Peak Efficiency	63.2%
Average Efficiency across the band	58.8%
Efficiency Range across the band	54.1%~63.2%





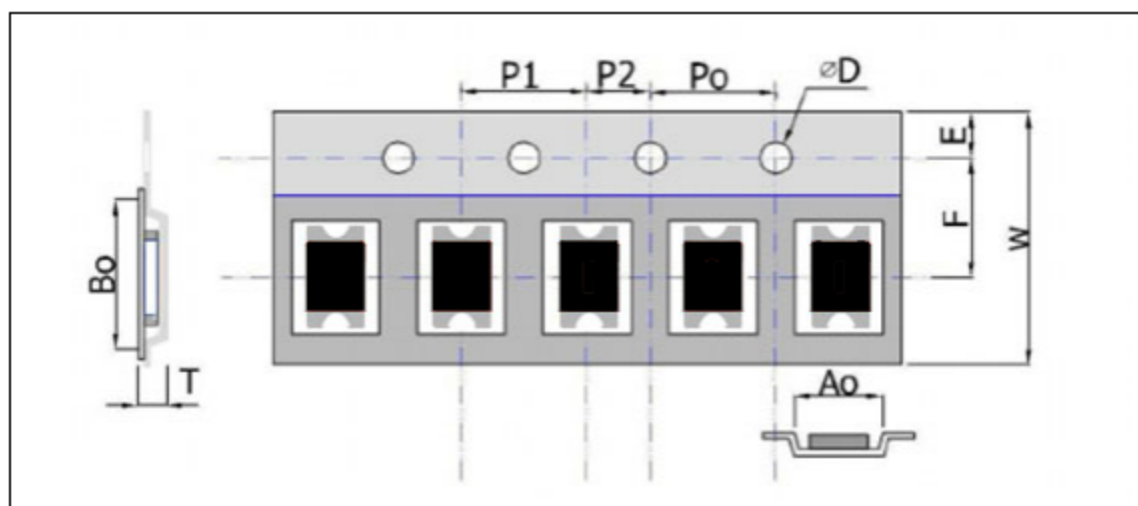
SOLDERING CONDITION

Typical examples of soldering processes that provide reliable joints without any damage is as follows:

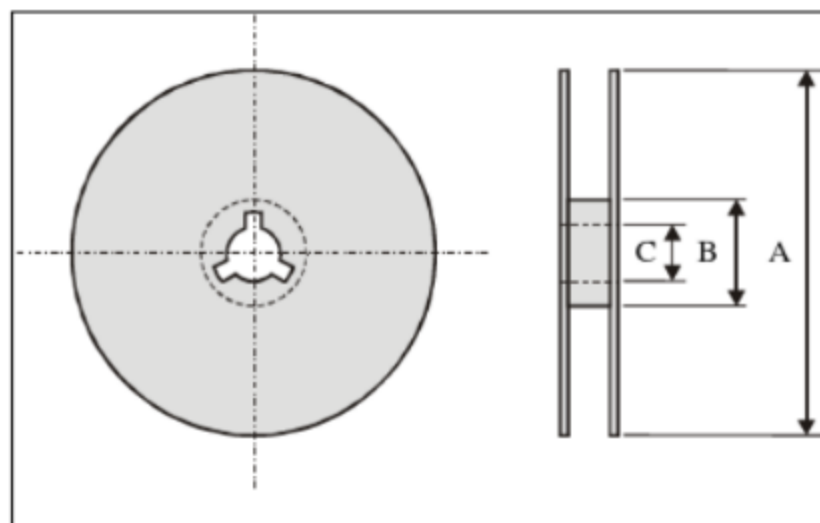


Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (T_{smax} to T_p)	3 °C / second (max.)
PREHEAT	- Temperature Min (T_{smin}) - Temperature Max (T_{smax}) - Time (t_{smin} to t_{smax})	150 °C 200 °C 60-180 seconds
REFLOW	- Temperature (T_L) - Total Time above T_L (t_L)	217 °C 60-150 seconds
PEAK	- Temperature (T_p) - Time (t_p)	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max

PACKAGING

**Plastic Tape specification (unit:mm)**

Index	Ao	Bo	ϕD	T	W
Dimension (mm)	2.0 ± 0.1	4.0 ± 0.1	1.55 ± 0.05	1.8 ± 0.1	12 ± 0.1
Index	E	F	Po	P1	P2
Dimension (mm)	1.5 ± 0.1	5.4 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.1

Reel dimensions

Index	A	B	C
Dimension(mm)	178	60	13.5

Typing Quantity: 2500 pieces per reel.

CAUTION OF HANDLING

Storage environment condition

Products should be storage in the warehouse on the following conditions:

Temperature : -10℃~+40℃

Humidity : 30% to 70% relative humidity

Don't keep products in corrosive gases such as sulfur. Chlorine gas or acid or it may cause oxidization of electrode, resulting in poor solderability.

Products should be storage on the palette for the prevention of the influence from humidity, dust and so on.

Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.

Products should be storage under the airtight packaged condition.

Contact Us

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