

# APPROVAL SHEET

**OverAir™ SMD Antenna series**  
**RoHS Compliance**

**PN: OA-L05**

**2.4GHz bands antenna**

Approver: *Qijun Liang*

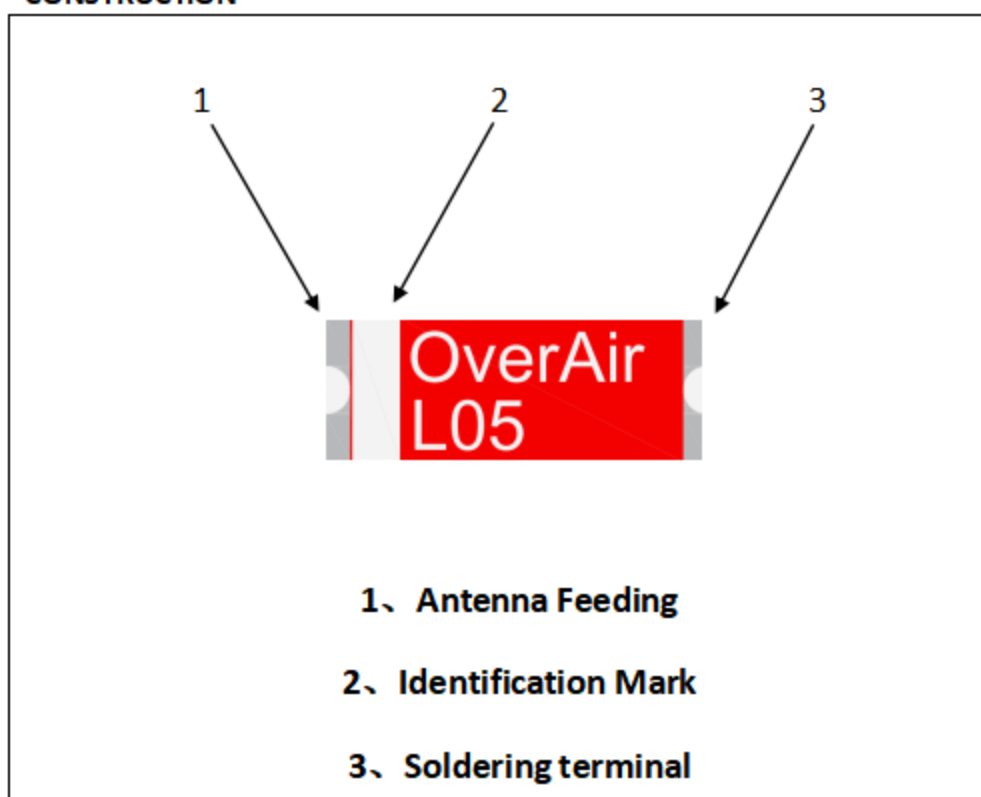
### FEATURES

1. Surface Mounted Devices (SMD) with a small dimension of 8.0 X 3.0 X 2.0 mm<sup>3</sup> meet miniaturization trend.
2. Low power loss and high antenna efficiency.
3. High stability in Temperature and Humidity Change.

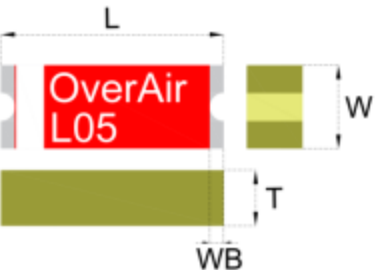
### APPLICATIONS

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

### CONSTRUCTION



### DIMENSIONS

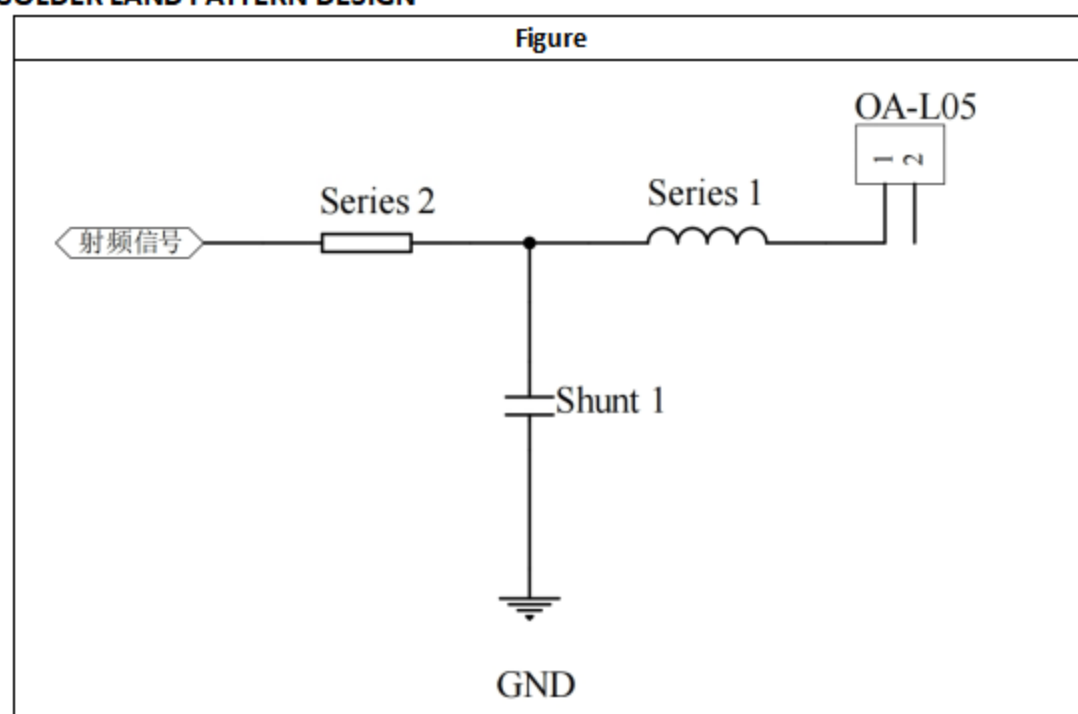
Figure	Symbol	Dimension(mm)
	<b>L</b>	<b>8.0±0.1</b>
	<b>w</b>	<b>3.0±0.1</b>
	<b>T</b>	<b>2.0±0.1</b>
	<b>WB</b>	<b>0.5±0.1</b>

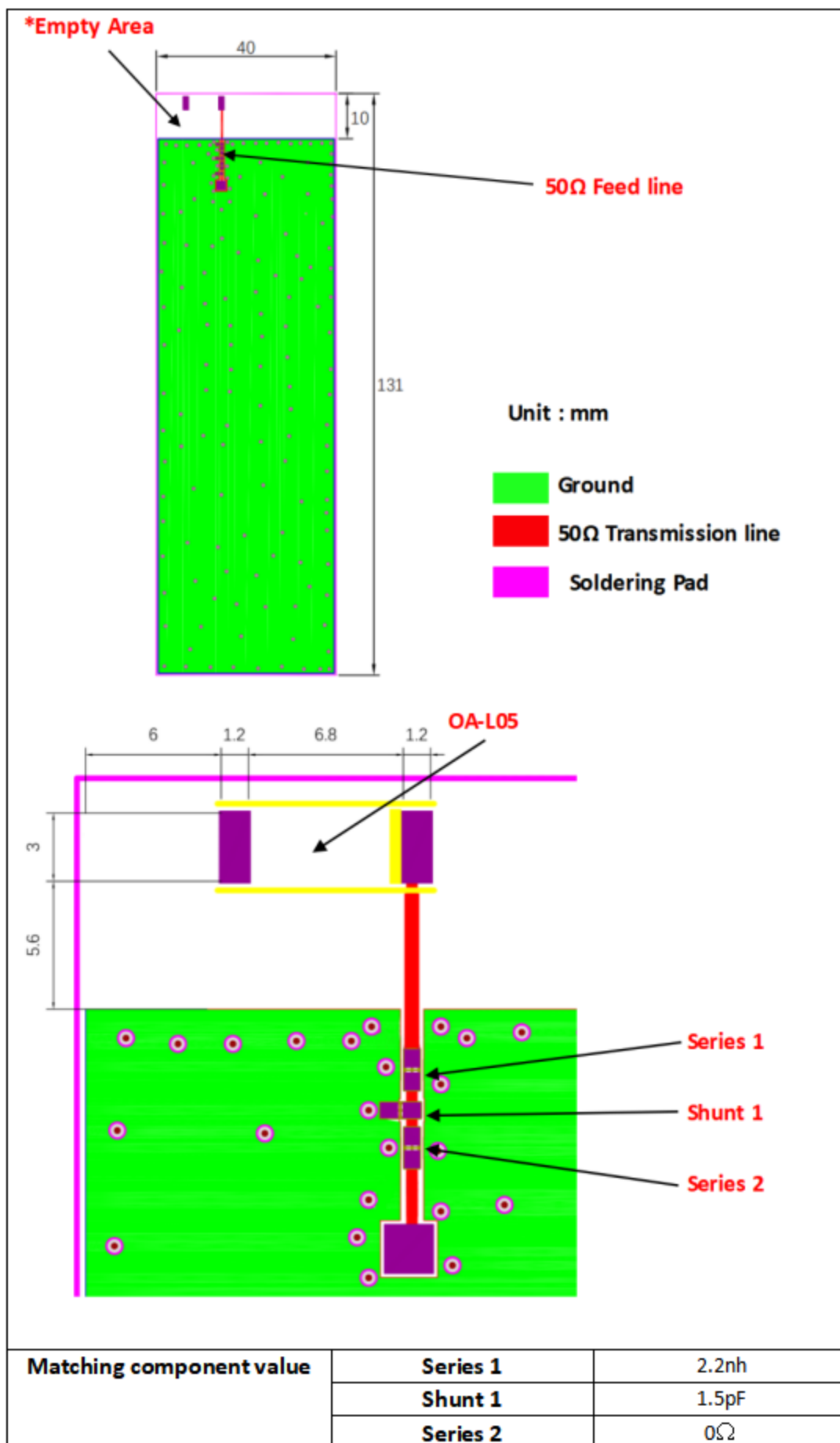
## ELECTRICAL CHARACTERISTICS

OA-L05	Specification
Working Frequency Range	2450 ± 50MHz
Band Width	>100MHz
Impedance	50Ω
Gain(dBi)	5.60(peak)
VSWR	<2
Operation Temperature	-40℃~+95℃
Power Capacity	3W

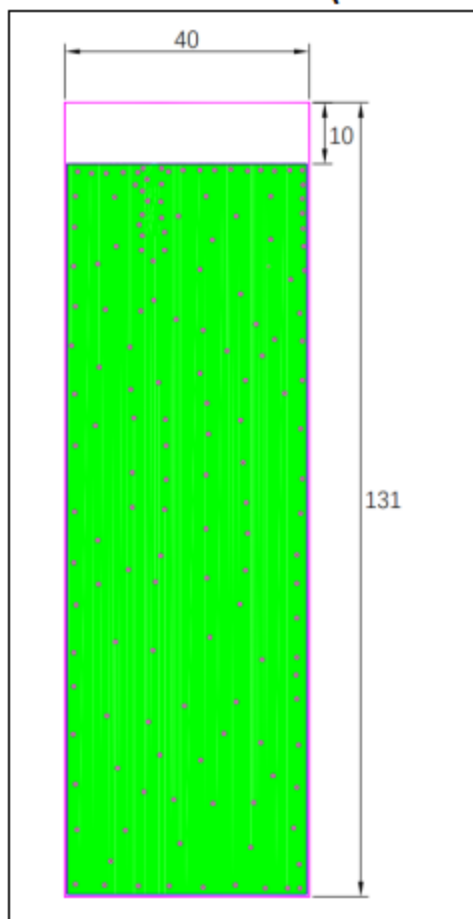
The working frequency need be adjusted to 2.45GHz with matching circuit.

## SOLDER LAND PATTERN DESIGN



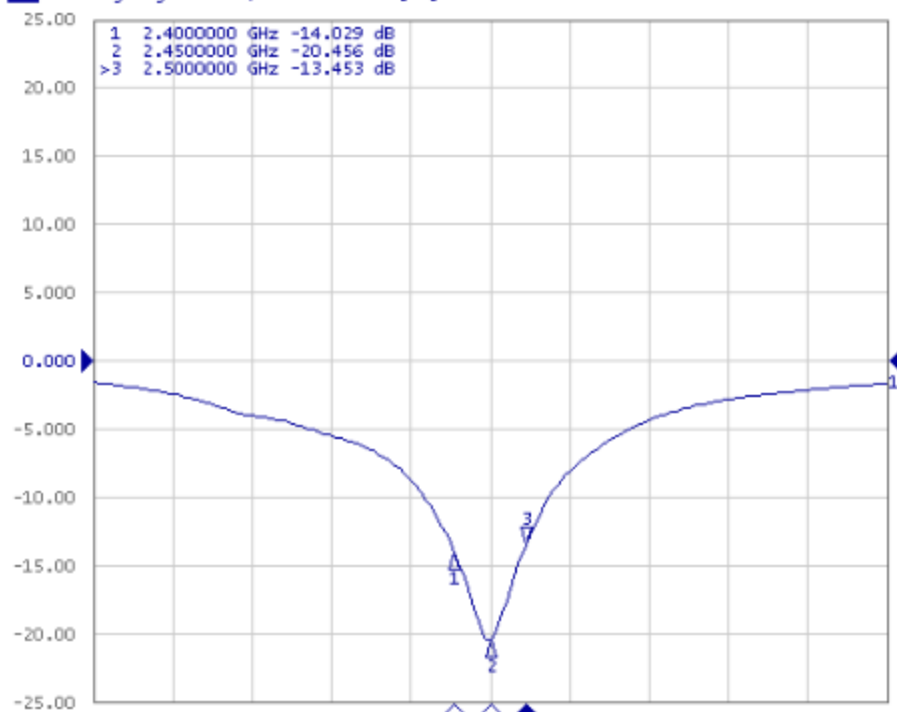


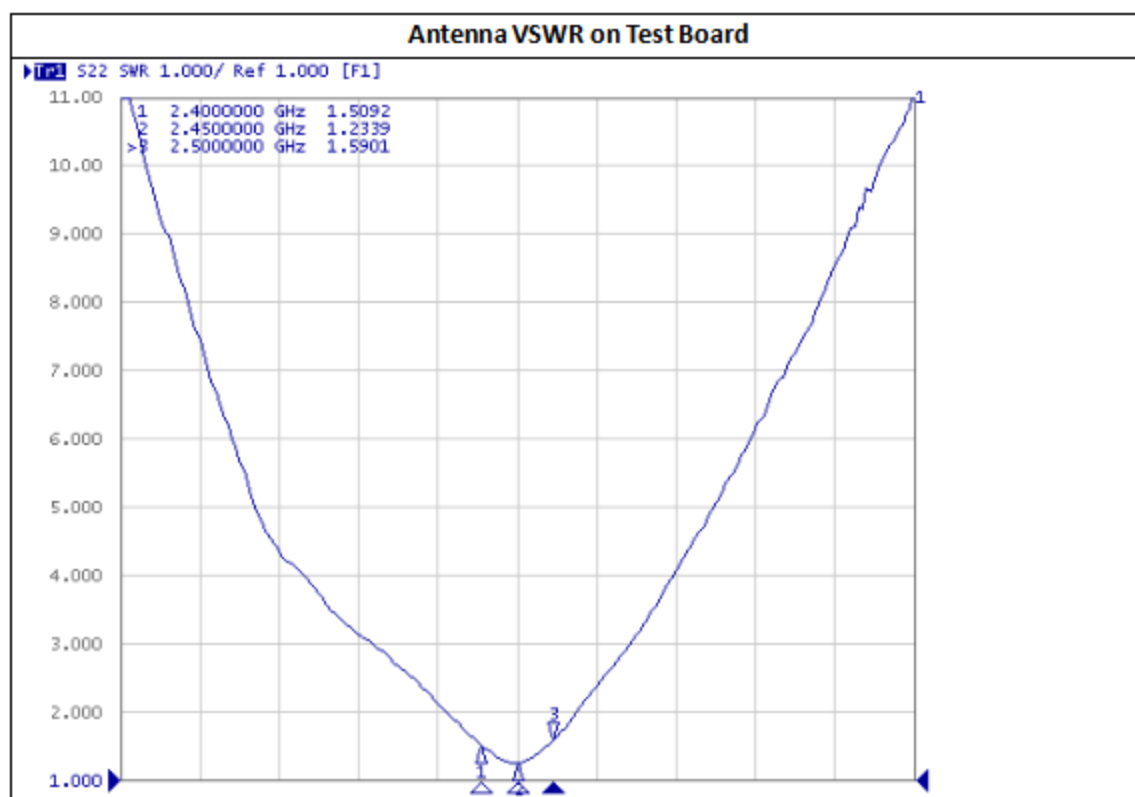
Antenna on Test Board (Thickness 1.0mm)



Antenna S11 on Test Board

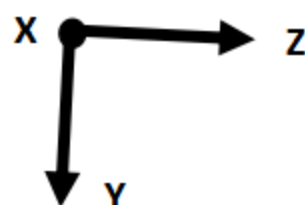
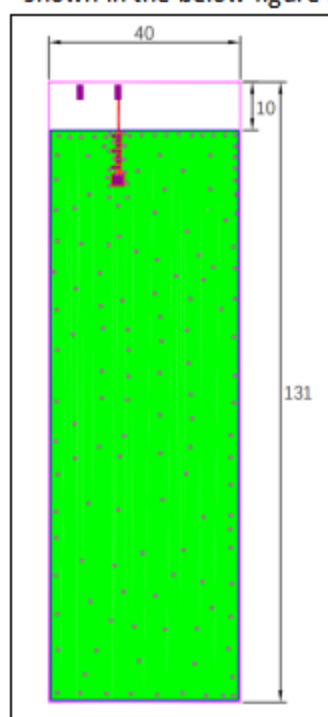
▶ S22 Log Mag 5.000dB/ Ref 0.000dB [F1]



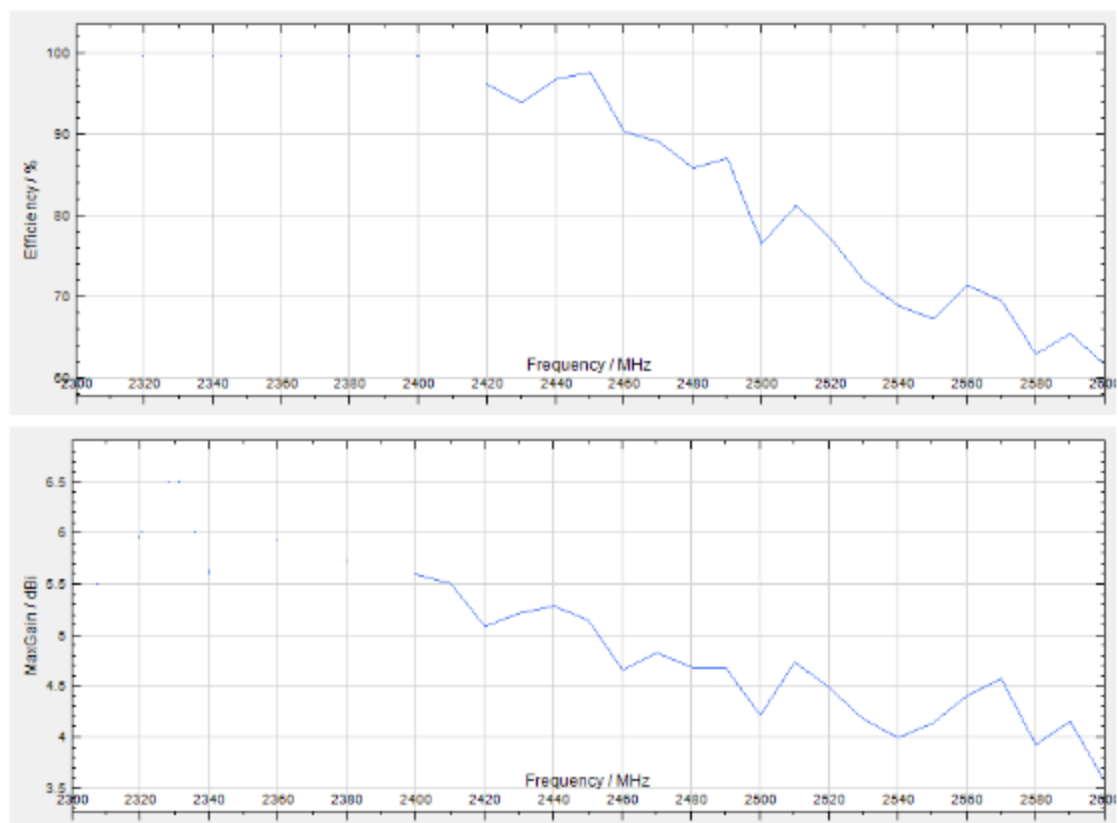


## Efficiency and RADIATION PATTERN

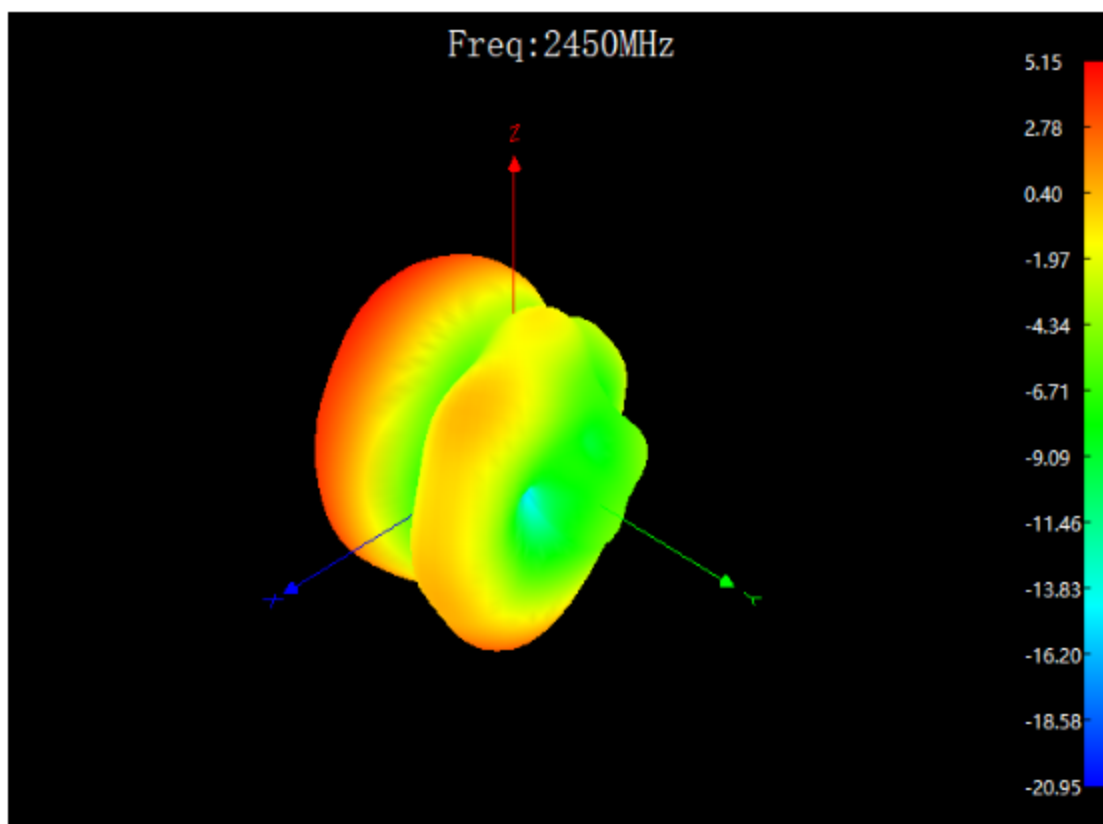
Efficiency , Radiation Pattern and Gain were dependent on measurement board design. The specification of OA-L05 antenna was measured based on the PCB size and installation position as shown in the below figure test board. The test results were tested in ETS 3D Chamber.



### Gain and Efficiency

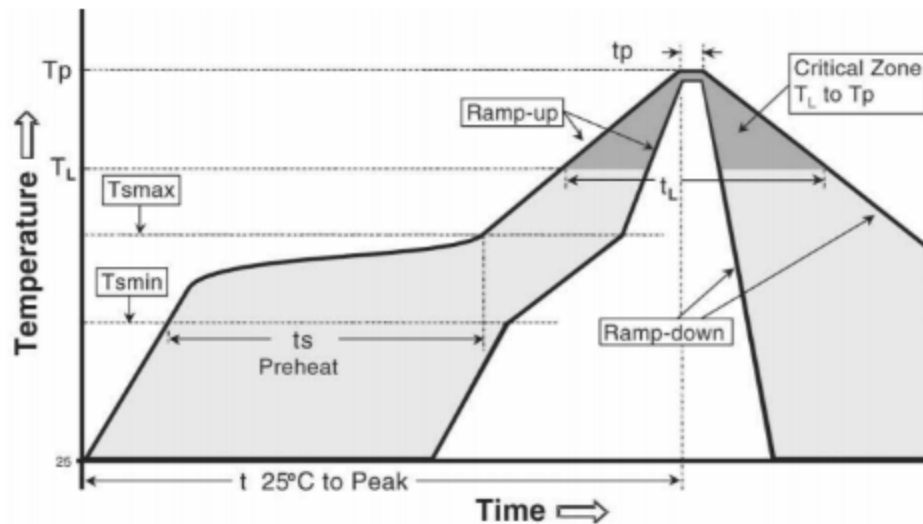


### 3D Pattern



## SOLDERING CONDITION

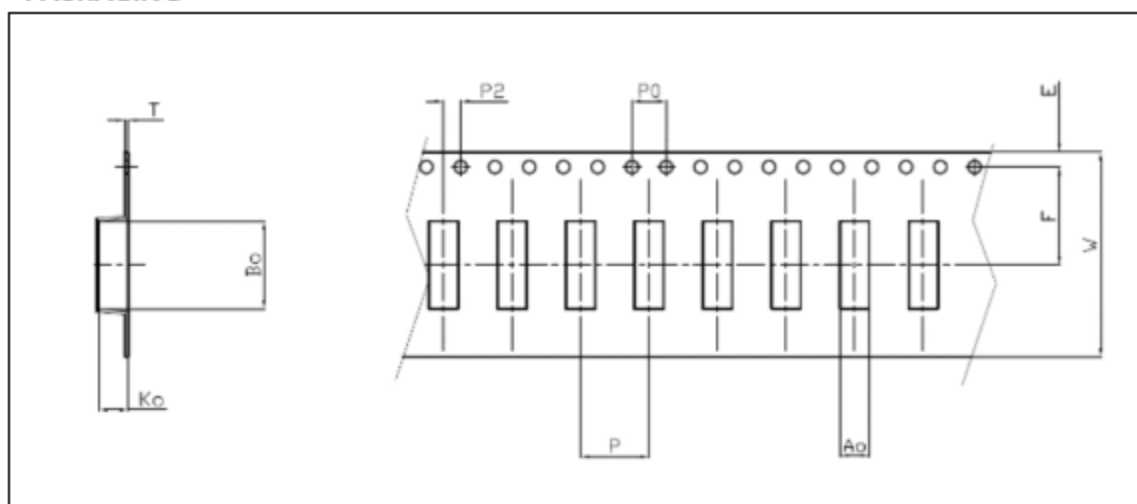
Typical examples of soldering processes that provide reliable joints without any damage is as follows:



Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (T <sub>smax</sub> to T <sub>p</sub> )	3 °C / second (max.)
PREHEAT	<ul style="list-style-type: none"> <li>- Temperature Min (T<sub>smin</sub>)</li> <li>- Temperature Max (T<sub>smax</sub>)</li> <li>- Time (t<sub>smin</sub> to t<sub>smax</sub>)</li> </ul>	150 °C 200 °C 60-180 seconds
REFLOW	<ul style="list-style-type: none"> <li>- Temperature (T<sub>L</sub>)</li> <li>- Total Time above T<sub>L</sub> (t<sub>L</sub>)</li> </ul>	217 °C 60-150 seconds
PEAK	<ul style="list-style-type: none"> <li>- Temperature (T<sub>p</sub>)</li> <li>- Time (t<sub>p</sub>)</li> </ul>	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max



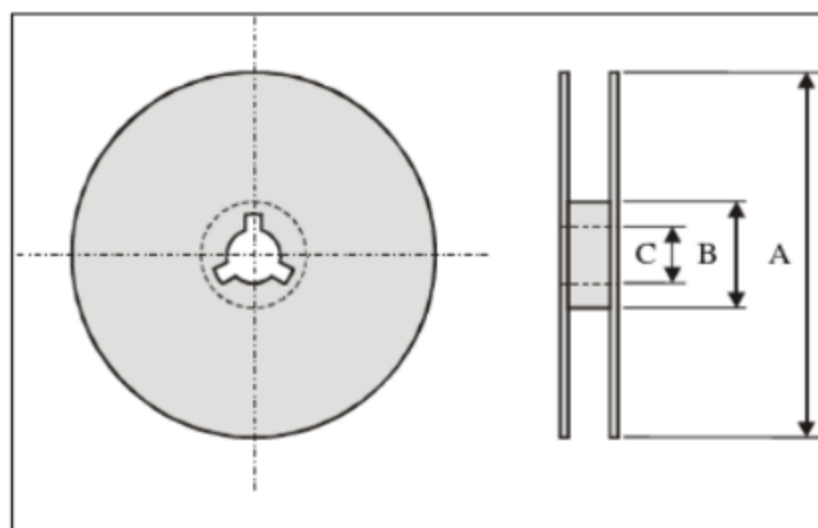
# PACKAGING



## Plastic Tape specification (unit:mm)

Index	Ao	Bo	Ko	T	W
Dimension (mm)	$3.3 \pm 0.1$	$8.4 \pm 0.1$	$2.3 \pm 0.1$	$0.3 \pm 0.05$	$16.0 \pm 0.3$
Index	E	F	P	P0	P2
Dimension (mm)	$1.75 \pm 0.1$	$7.0 \pm 0.1$	$8.0 \pm 0.1$	$4.0 \pm 0.1$	$2.0 \pm 0.1$

## Reel dimensions



Index	A	B	C
Dimension(mm)	330	100	13.5

Typing Quantity: 2000 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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