# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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# Product Specifications Approval Sheet

Product Description: Dielectric Antenna 2450 MHz BW 100MHz Size 10x4mm
TST Parts No.: TQ0191AA0000

Customer Parts No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Nina Chen Nina Chen

Approved by:_____ Kazuma Lee Kazuma Lee

Date:_____ 2023/04/17

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes.

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## Dielectric Antenna 2450 MHz BW 100MHz Size 10x4mm

MODEL NO.: TQ0191AA0000 REV. NO.:1.0

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (**ESD**)

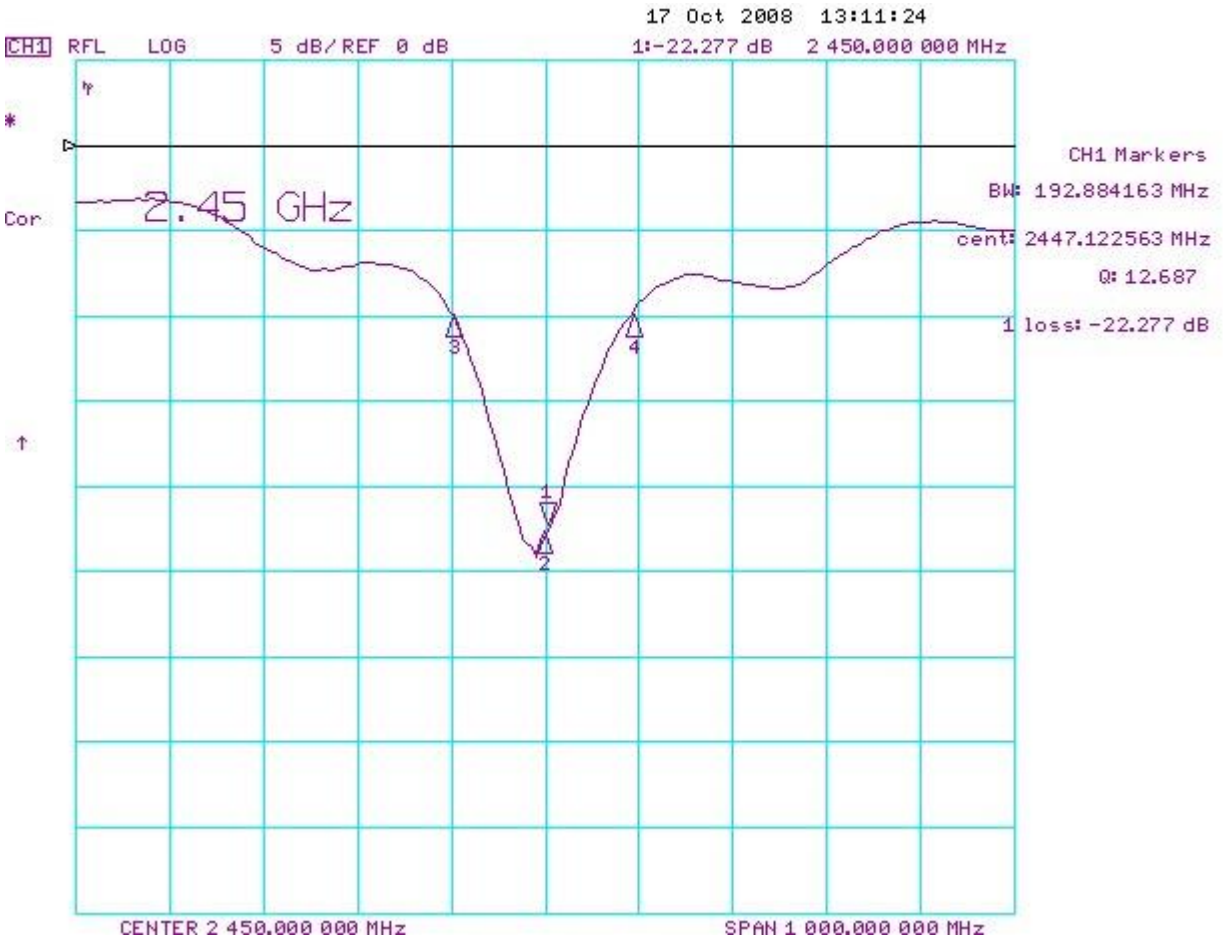
### A. Maximum Rating:

1. Operating Temperature Range: -30°C to +85°C
2. Storage Temperature Range: -30°C to +85°C
3. Moisture Sensitivity Level: Level 1 (**MSL 1**)

### B. Electrical Characteristics:

| Parameter | Specification |
|---|---|
| Working Frequency | 2400~2500 MHz |
| Bandwidth | ＞ 100MHz |
| Dimension | 10*4.0*2.0 mm |
| VSWR | 1.5 max |
| Peak Gain | 2 dBi min |
| Polarization | Linear |
| Impedance | 50 Ohm |
| Termination | Ag (Environmentally-Friendly Pb Free ) |

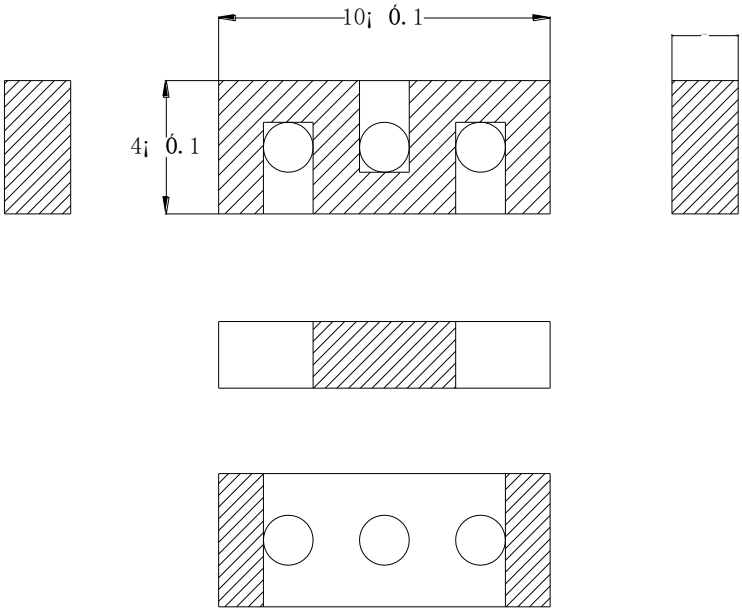
## C.Frequency Characteristics:




**Antenna**

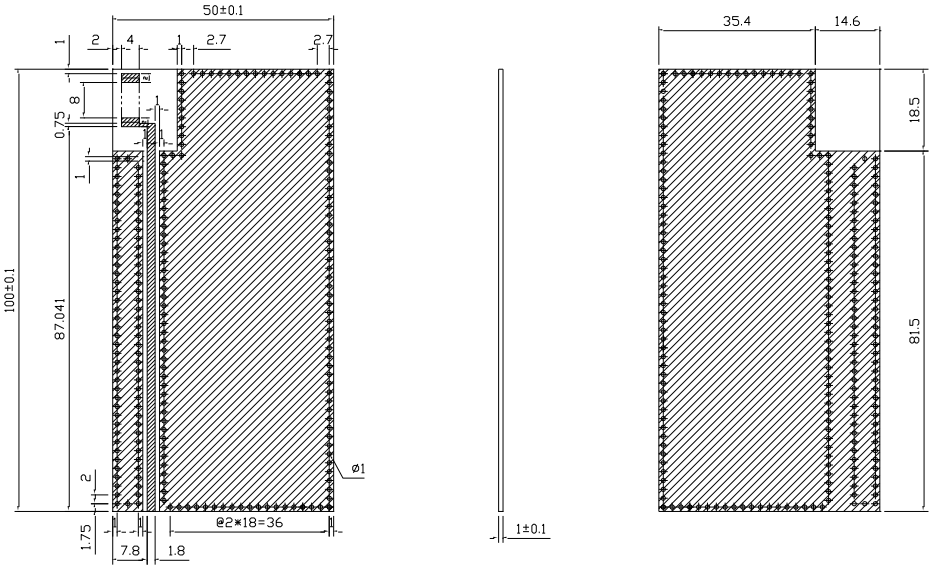
| Band | WIFI (MHz) (free space) | | |
|---|---|---|---|
| | **2400** | **2450** | **2500** |
| Peak Gain (dBi) | **1.87** | **2.56** | **1.75** |
| AVE Gain (dBi) | **-1.93** | **-1.73** | **-2.01** |
| Efficiency（%） | **63.04** | **65.13** | **62.81** |

## D. Dimension:




## Evaluation Board Dimension

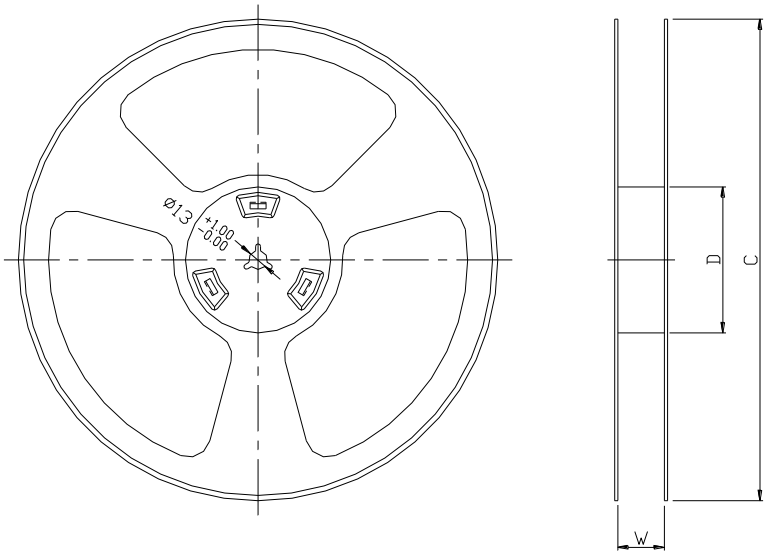
### Ant on right side



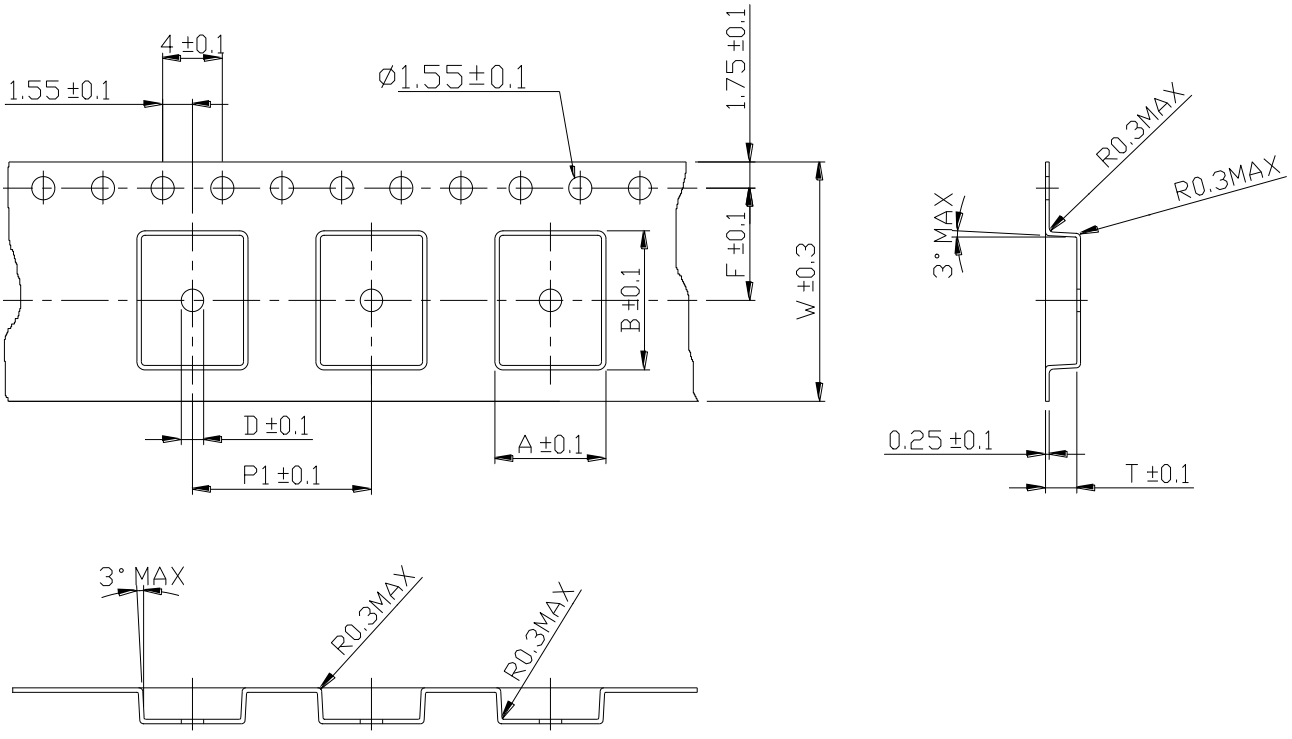

1.Substrate:FR4,t=1.0mm
2.Electrode:Cu,t=35 $\mu$ m

## E. Packing:

**Pieces/tape：1500**

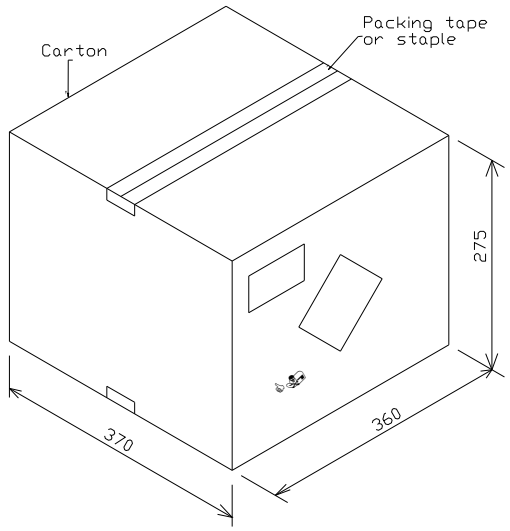



| Product code | Units per Reel | C (mm) | D (mm) | W (mm) |
|---|---|---|---|---|
| Antenna | 1500 | 330±1 | 100±0.5 | 24 +1 -0 |

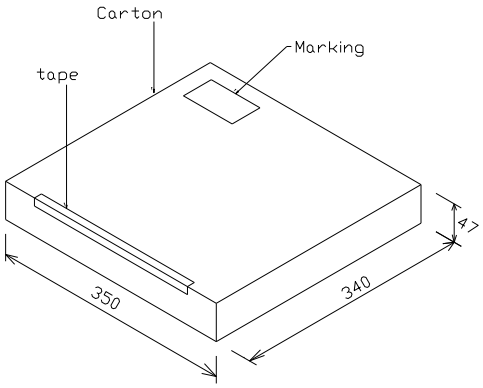


| No | Index | Spec. (mm) |
|---|---|---|
| 1 | A | 4.6 |
| 2 | B | 10.6 |
| 3 | P1 | 12 |
| 4 | W | 24 |
| 5 | F | 8.5 |
| 6 | T | 2.5 |
| 7 | D | 1.5 |

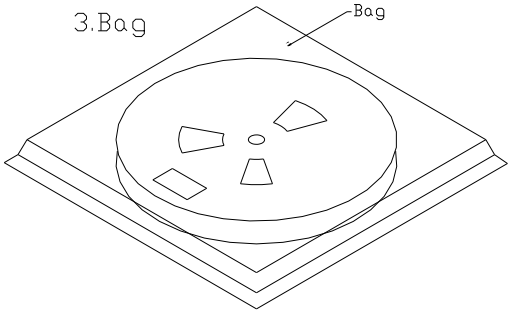
1.Outer Carton



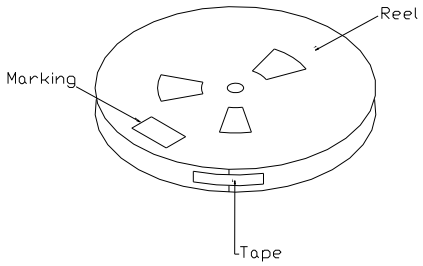

2.Inner Carton




3.Bag

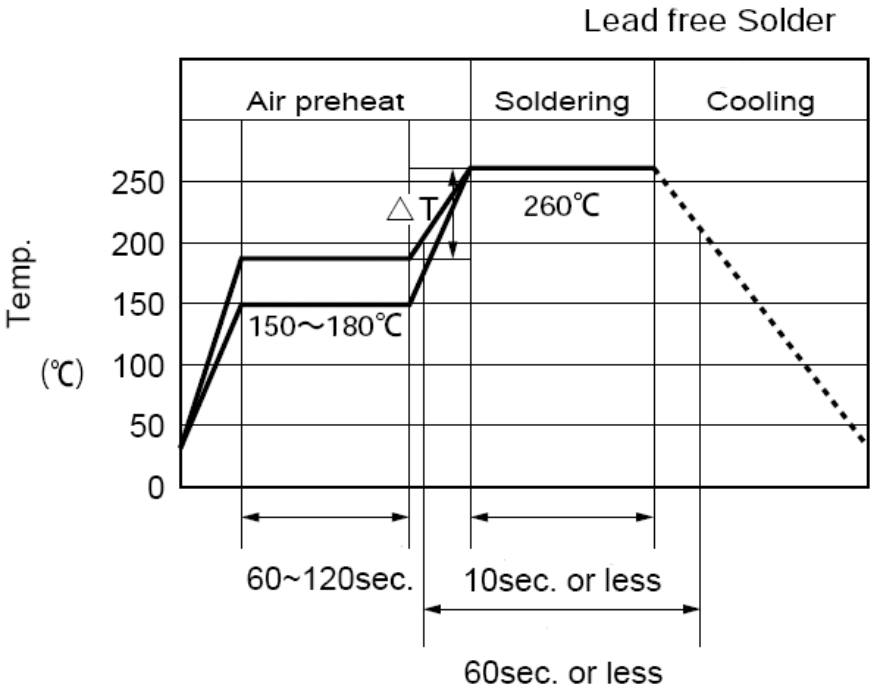



4.Taping




Unit:mm

## F. Recommended Reflow Profile:




1. Time shown in the above figures is measured from the point when chip surface reaches temperature.
2. Temperature difference in high temperature part should be within 110°C.
3. After soldering, do not force cool, allow the parts to cool gradually.

*General attention to soldering:

- High soldering temperatures and long soldering times can cause leaching of the termination, decrease in adherence strength, and the change of characteristic may occur.
- For soldering, please refer to the soldering curves above. However, please keep exposure to temperatures exceeding 200°C to under 50 seconds.
- Please use a mild flux (containing less than 0.2wt% Cl). Also, if the flux is water soluble, be sure to wash thoroughly to remove any residue from the underside of components that could affect resistance.

Cleaning:

When using ultrasonic cleaning, the board may resonate if the output power is too high. Since this vibration can cause cracking or a decrease in the adherence of the termination, we recommend that you use the conditions below.

Frequency: 40 kHz max.

Output power: 20W/liter

Cleaning time: 5minutes max.