TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.
TEL: 886-3-4690038 FAX: 886-3-4697532
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: Print Chip Antenna 2450/5500MHz BW 100/700MHz
Size5.0x2.0mm

TST Parts No.: TQ0089AA0000

Customer Parts No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Nina Chen Nina Chen

Approved by:_____ Kazuma Lee Kazuma Lee

Date:_____ 2022/11/09

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.

TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.
TEL: 886-3-4690038 FAX: 886-3-4697532
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Print Chip Antenna 2450/5500MHz BW 100/700MHz Size5.0x2.0mm

MODEL NO.: TQ0089AA0000 REV. NO.:1.0

A. Maximum Rating:

1. Operating Temperature: -40°C to +105°C
2. Storage Temperature: 0°C to +40°C
3. Moisture Sensitivity Level: Level 1 (**MSL 1**)

RoHS Compliant
Lead free
Lead-free soldering

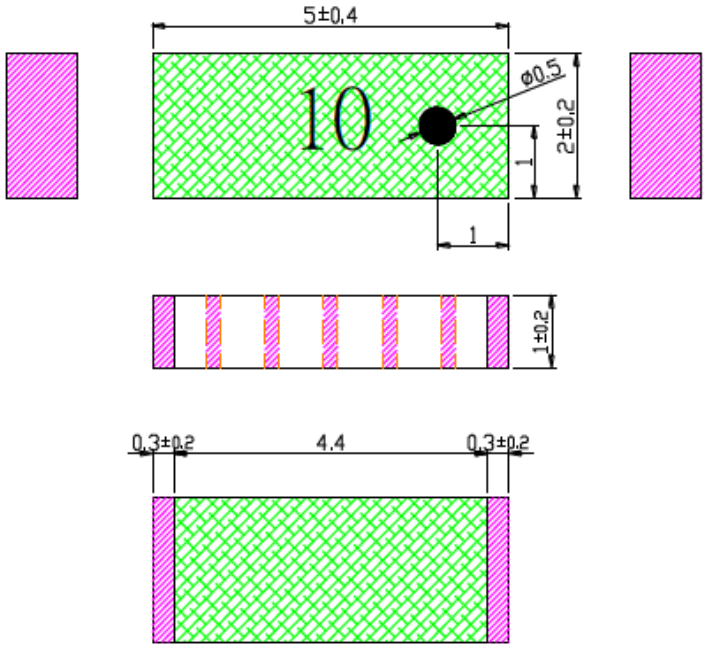
Electrostatic Sensitive Device (**ESD**)

B. Electrical Characteristics:

Item	Unit	Spec
Working Frequency	MHz	2400~2500 / 5150~5850
Polarization	-	Linear
Azimuth		Omni-directional

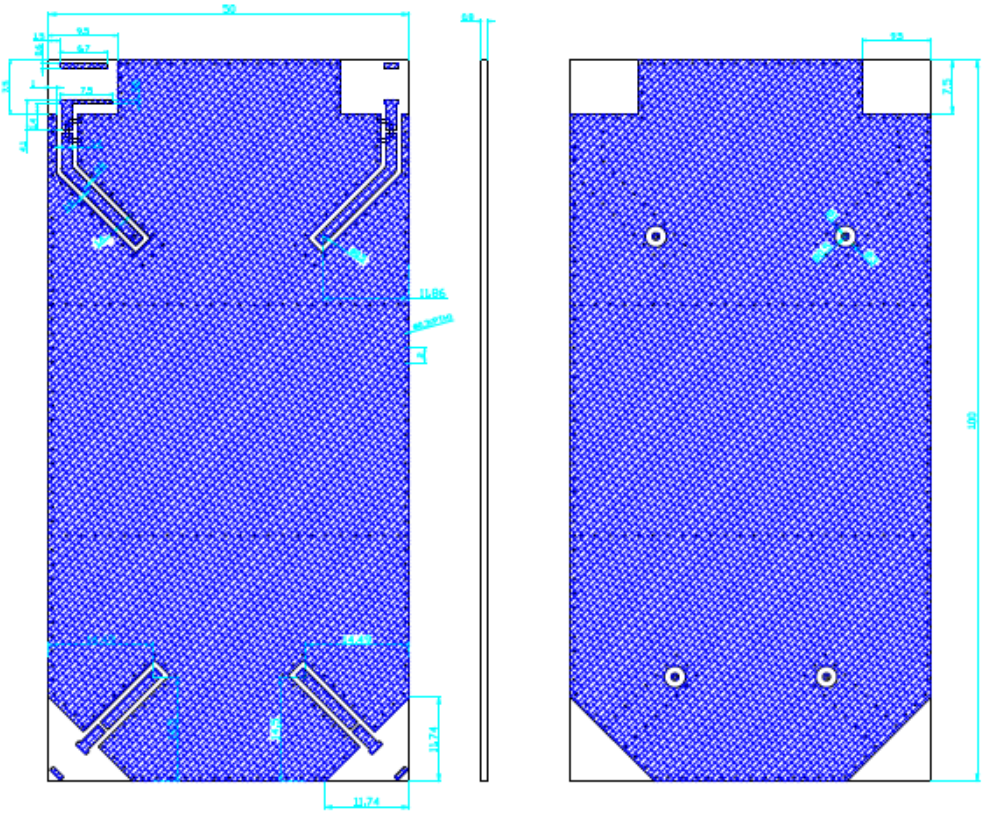
C. Dimension:

Chip Antenna Dimension



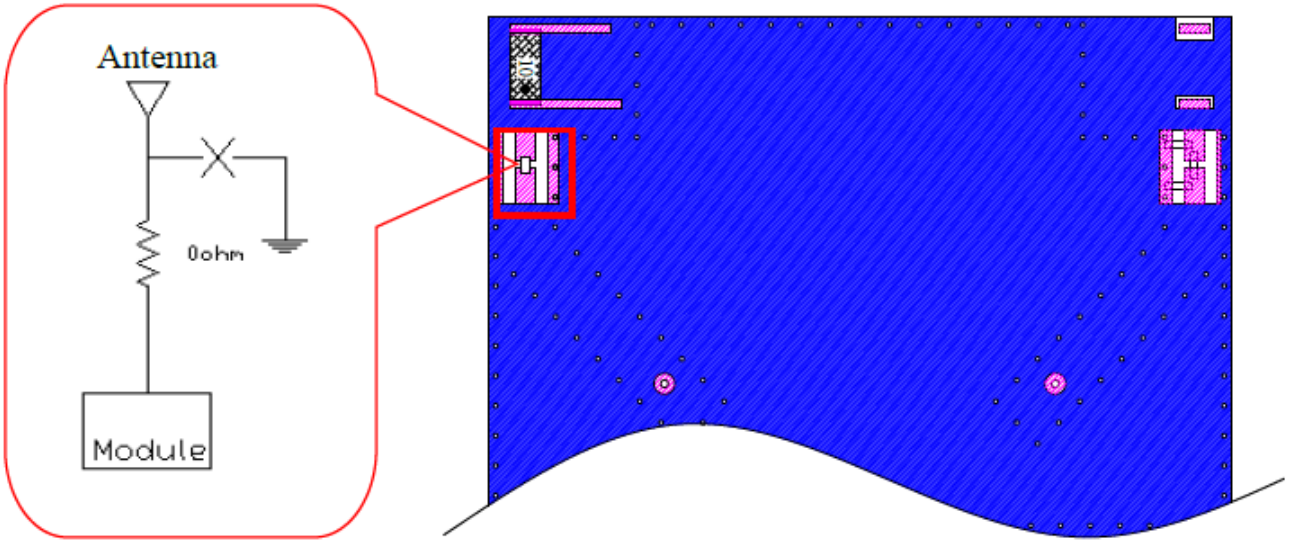
Unit: mm

Demo Board Dimension



D. Matching Circuit:

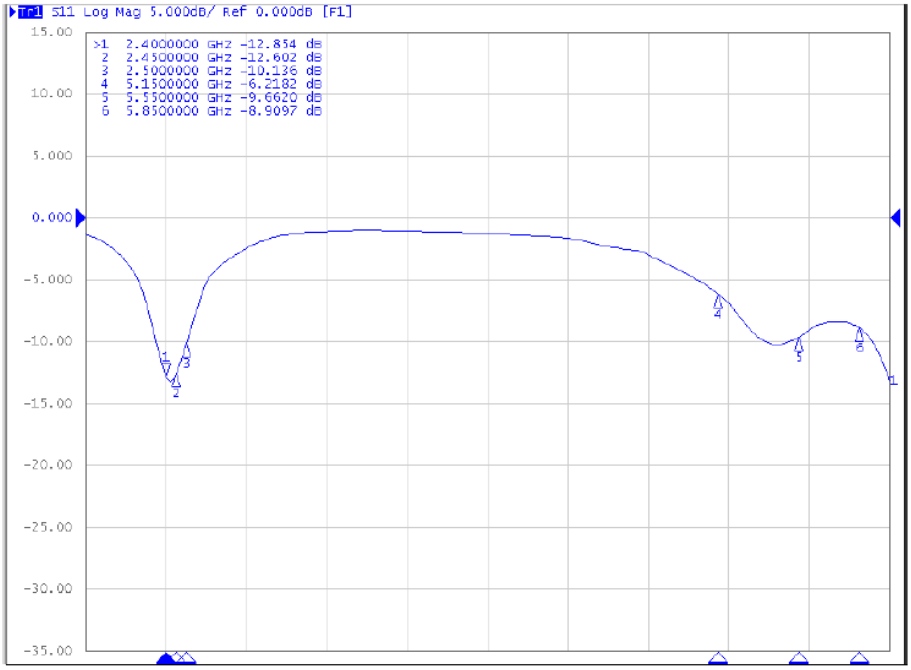
WIFI Antenna Matching



Please be note: The circle point need face to feed-in point.

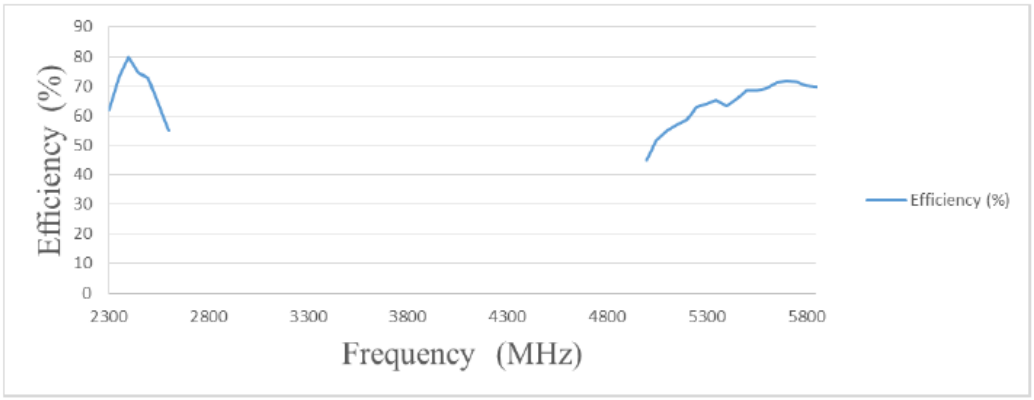
E. Frequency Characteristics:

WIFI Antenna S11 Response curve (Work Frequency)

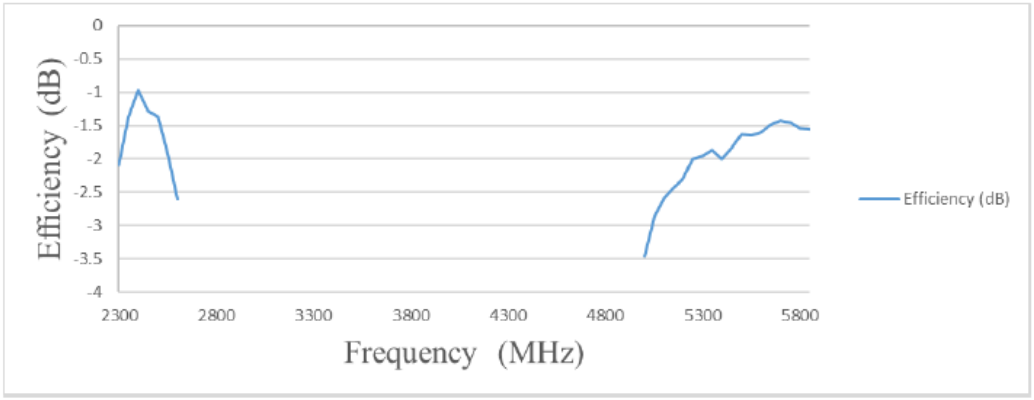


Frequency (MHz)	2400	2450	2500	5150	5550	5850
Return Loss (dB)	-12.85	-12.60	-10.13	-6.21	-9.66	-8.90

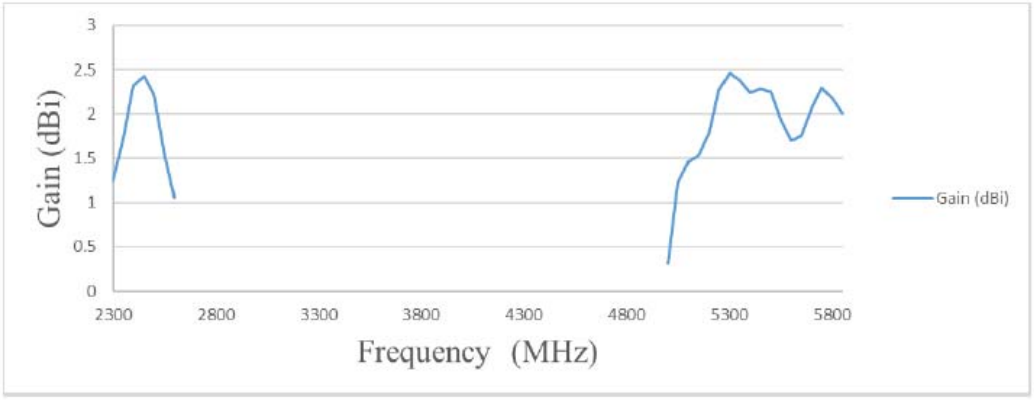
WIFI Antenna Electrical performance



Efficiency



Average Gain



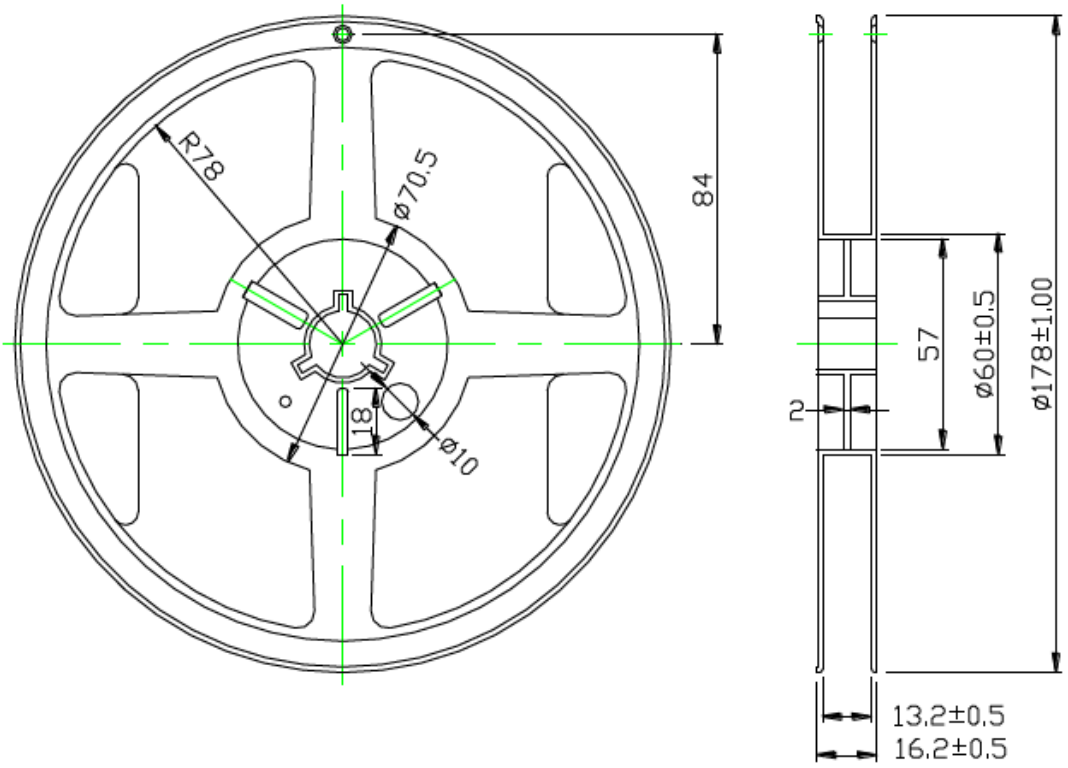
Peak Gain

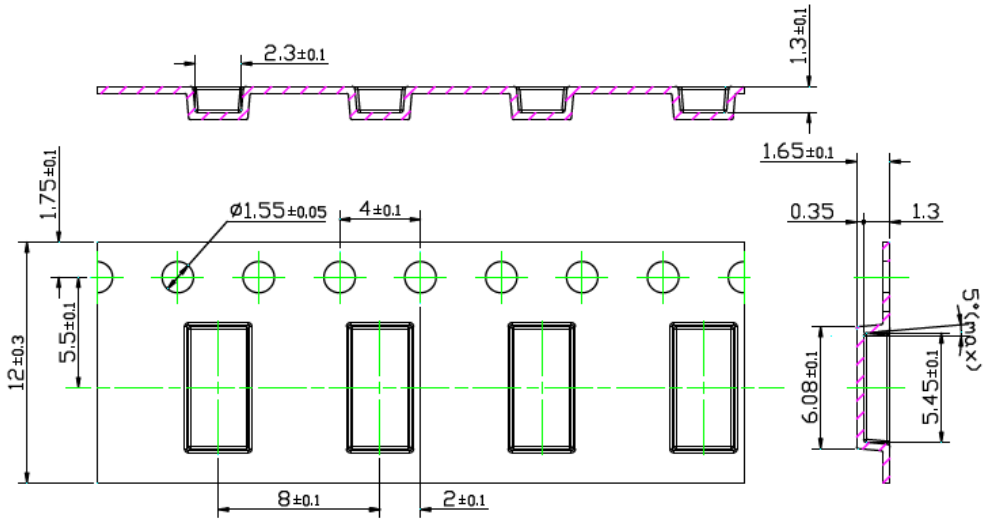
Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	79.96	74.53	73.02	56.97	68.47	69.83
Average (dB)	-0.97	-1.27	-1.36	-2.44	-1.63	-1.55
Peak Gain (dB)	2.32	2.43	2.22	1.53	2.25	2.00

F. Packing:

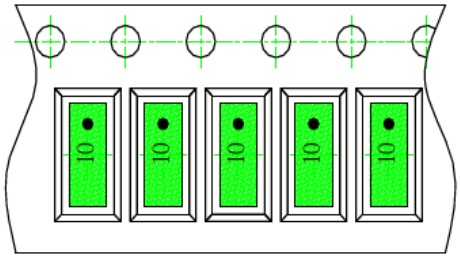
1 Blister tape to IEC 286-3，polyester。

2 Pieces/tape：1500 pcs





Marking direction



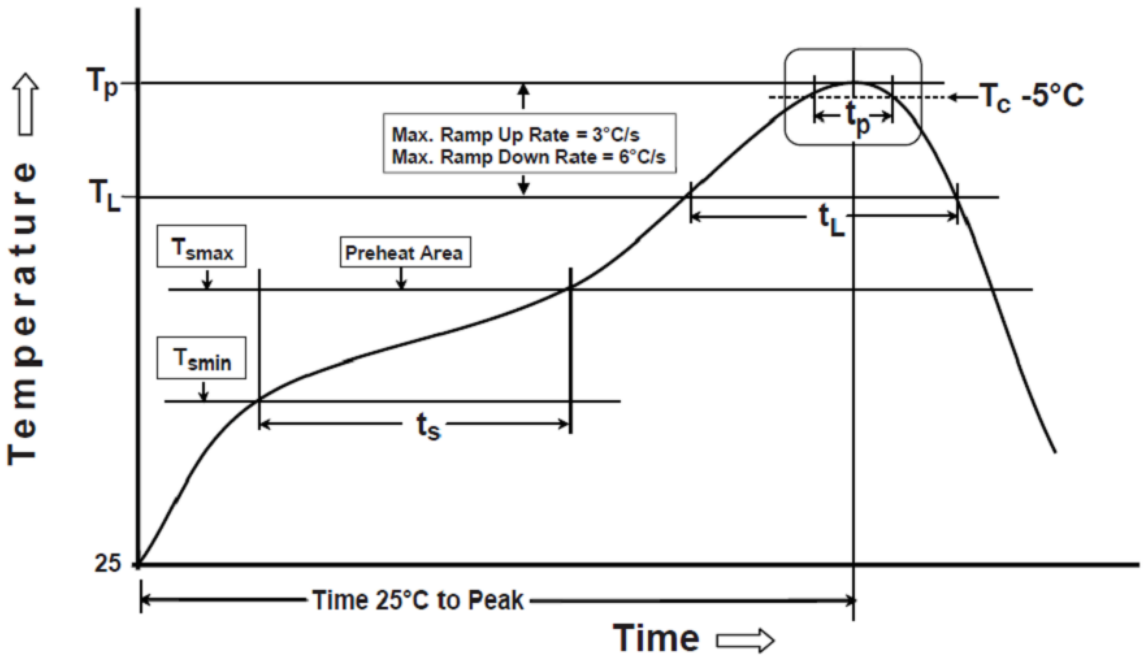
G. Recommended Solder Profile:

Products can be assembled following Pb-free assembly. According to the Standard IPC/JEDEC J-STD-020C, the temperature profile suggested is as follow:

Phase	Profile features	Pb-Free Assembly (SnAgCu)
PREHEAT	-Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(ts) form (Tsmin to Tsmax)	150℃ 200℃ 60-120 seconds
RAMP-UP	Avg. Ramp-up Rate (Tsmax to TP)	3℃/second(max)
REFLOW	-Temperature(TL) -Total Time above TL (t L)	217℃ 30-100 seconds
PEAK	-Temperature(TP) -Time(tp)	260℃ 5-10 second
RAMP-DOWN	Rate	6℃ / second max.
Time from 25℃ to Peak Temperature		8 minutes max.
Composition of solder paste		96.5Sn/3Ag/0.5Cu
Solder Paste Model		SHENMAO PF606-P26

Note：All the temperature measure point is on top surface of the component, if temperature over recommend, it will make component surface peeling or damage.

The graphic shows temperature profile for component assembly process in reflow ovens



Soldering With Iron:

Soldering condition : Soldering iron temperature 270±10 ℃.
Apply preheating at 120℃ for 2-3 minutes. Finish soldering for each terminal within 3 seconds, if soldering iron over temperature 270±10 ℃ or 3 seconds, it will make component surface peeling or damage.
Soldering iron can not leakage of electricity.