



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Description: SAW Filter 1176 MHz SMD 2.0x1.6 mm (BW=40 MHz)

TST Part No.: TA2499A

Customer Part No.: \_\_\_\_\_

|                             |
|-----------------------------|
| Customer signature required |
| Company: _____              |
| Division: _____             |
| Approved by : _____         |
| Date: _____                 |

Checked by: \_\_\_\_\_ David Chang *David*

Approved by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2020/02/18

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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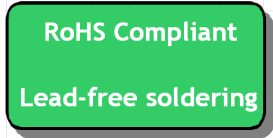
## SAW Filter 1176 MHz

MODEL NO.: TA2499A

REV. NO.:1

### A. MAXIMUM RATING:

1. Input Power Level: 10 dB<sub>m</sub>
2. DC voltage: 3 V
3. Operating Temperature: -40°C to +105°C
4. Storage Temperature: -40°C to +105°C
5. Moisture Sensitivity Level: Level 1(MSL1)

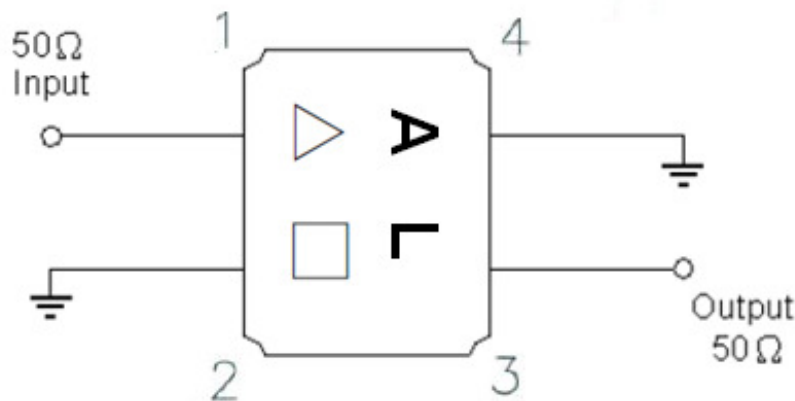


Electrostatic Sensitive Device (ESD)

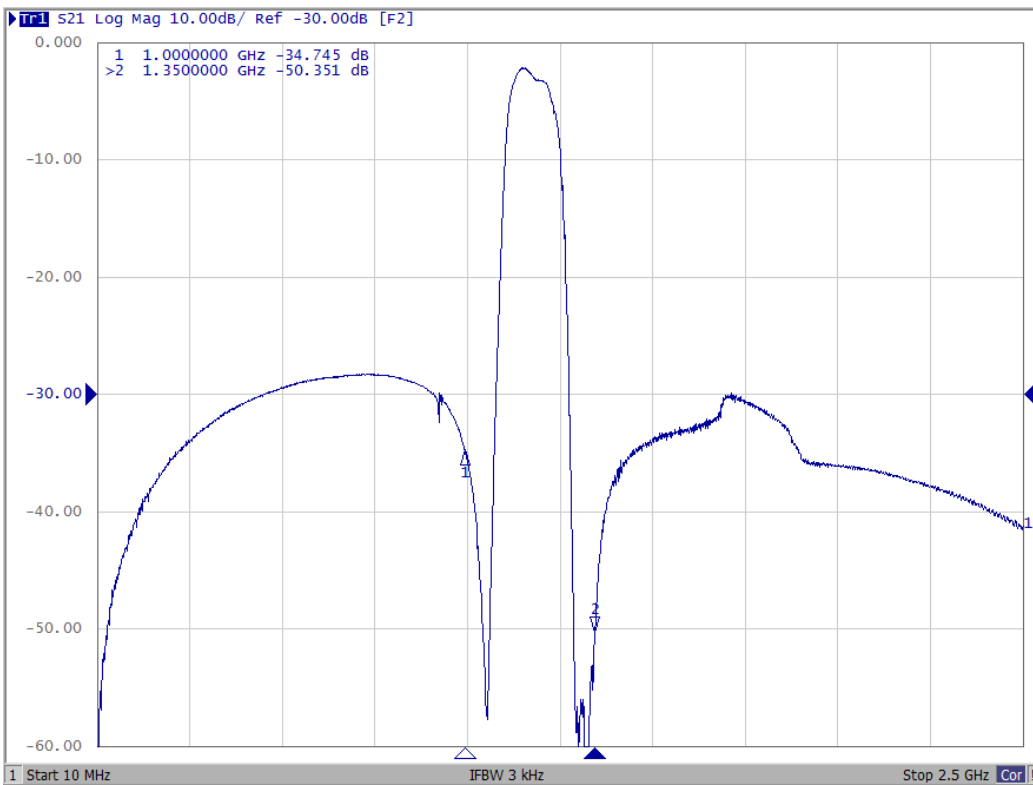
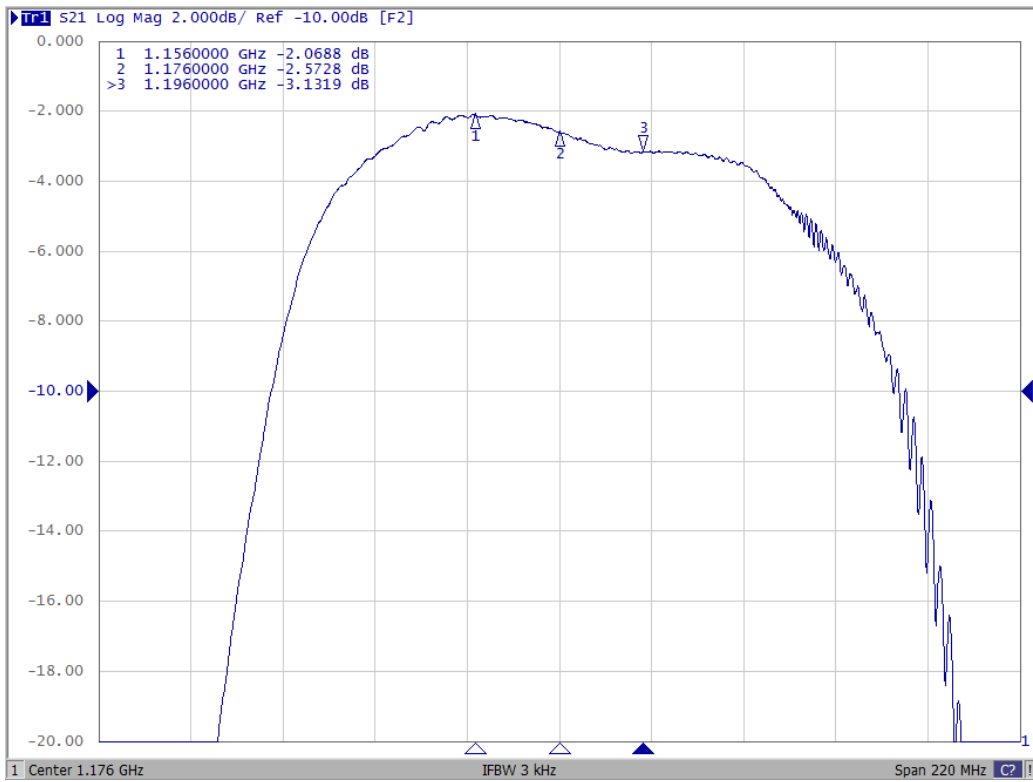
### B. ELECTRICAL CHARACTERISTICS:

| Item   | Unit  | Min. | Typ. | Max. | Note |            |
|--|-------|------|------|------|------|------------|
| Center frequency                               | Fc    | MHz  | -    | 1176 | -    |            |
| Insertion Loss (1156~1196 MHz)                 | IL    | dB   | -    | 3.2  | 3.8  | -40~+85°C  |
| Insertion Loss (1156~1196 MHz)                 | IL    | dB   | -    | 3.2  | 4.0  | -40~+105°C |
| Group Delay Ripple (1156~1196 MHz)             | ns    | -    | 2    | 5.0  | -    |            |
| Return Loss_S11 (1156~1196 MHz)                | dB    | 9.5  | 10   | -    | -    |            |
| <b>Attenuation</b> (Reference level from 0 dB) |       |      |      |      |      |            |
| DC ~ 920 MHz                                   | dB    | 25   | 27   | -    | -    |            |
| 1350 ~ 1780 MHz                                | dB    | 28   | 30   | -    | -    |            |
| 1850 ~ 1910 MHz                                | dB    | 30   | 32   | -    | -    |            |
| 1920 ~ 1980 MHz                                | dB    | 30   | 32   | -    | -    |            |
| 2400 ~ 2500 MHz                                | dB    | 35   | 38   | -    | -    |            |
| Temperature coefficient of frequency           | ppm/k | -    | -80  | -    | -    |            |

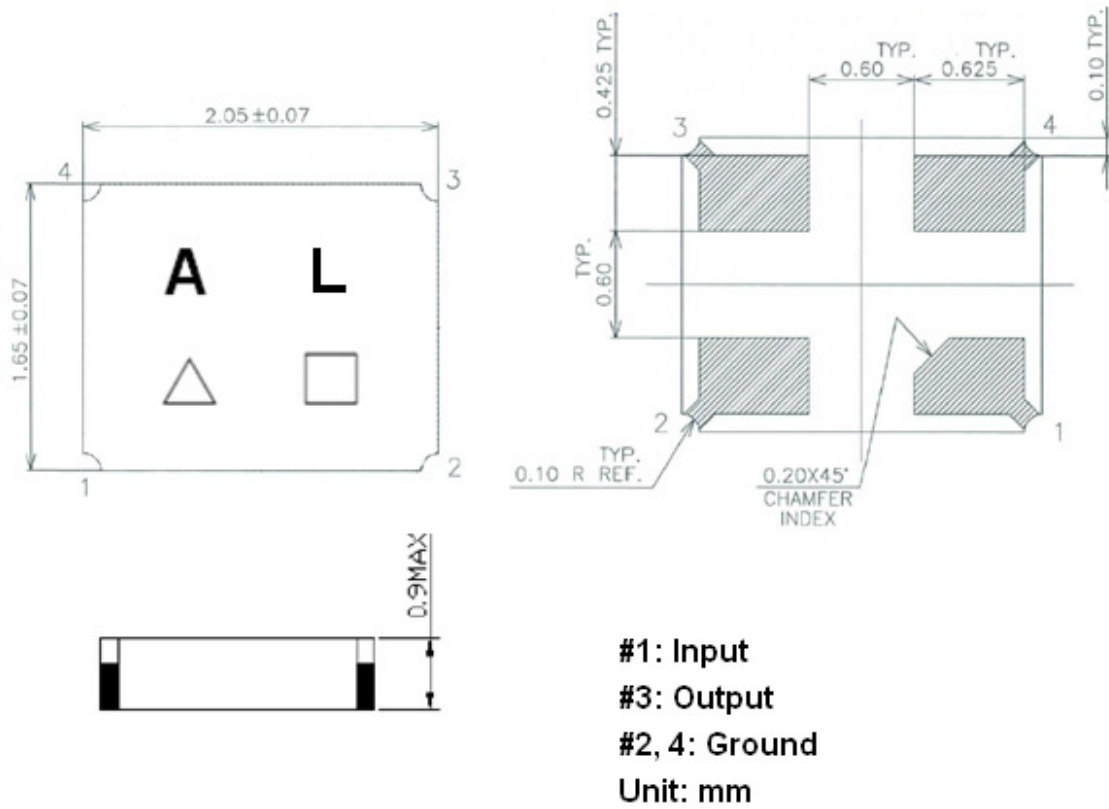
### C. MEASUREMENT CIRCUIT:



## D. Frequency Characteristics:



**E. OUTLINE DRAWING:**



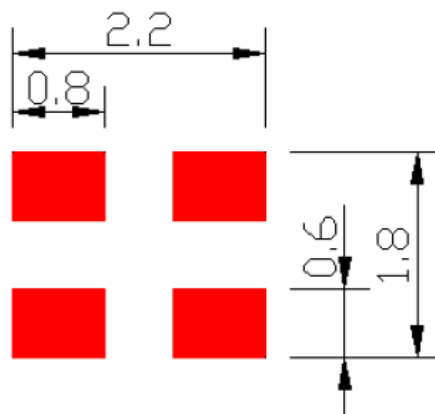
$\Delta$ : Year Code (2020->0, 2021->1, ..., 2029->9)

$\square$ : Date Code (Follow the table from planner each year)

Date Code Table:

|      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| WK01 | WK02 | WK03 | WK04 | WK05 | WK06 | WK07 | WK08 | WK09 | WK10 | WK11 | WK12 | WK13 |
| A    | B    | C    | D    | E    | F    | G    | H    | I    | J    | K    | L    | M    |
| WK14 | WK15 | WK16 | WK17 | WK18 | WK19 | WK20 | WK21 | WK22 | WK23 | WK24 | WK25 | WK26 |
| N    | O    | P    | Q    | R    | S    | T    | U    | V    | W    | X    | Y    | Z    |
| WK27 | WK28 | WK29 | WK30 | WK31 | WK32 | WK33 | WK34 | WK35 | WK36 | WK37 | WK38 | WK39 |
| a    | b    | c    | d    | e    | f    | g    | h    | i    | j    | k    | l    | m    |
| WK40 | WK41 | WK42 | WK43 | WK44 | WK45 | WK46 | WK47 | WK48 | WK49 | WK50 | WK51 | WK52 |
| n    | o    | p    | q    | r    | s    | t    | u    | v    | w    | x    | y    | z    |

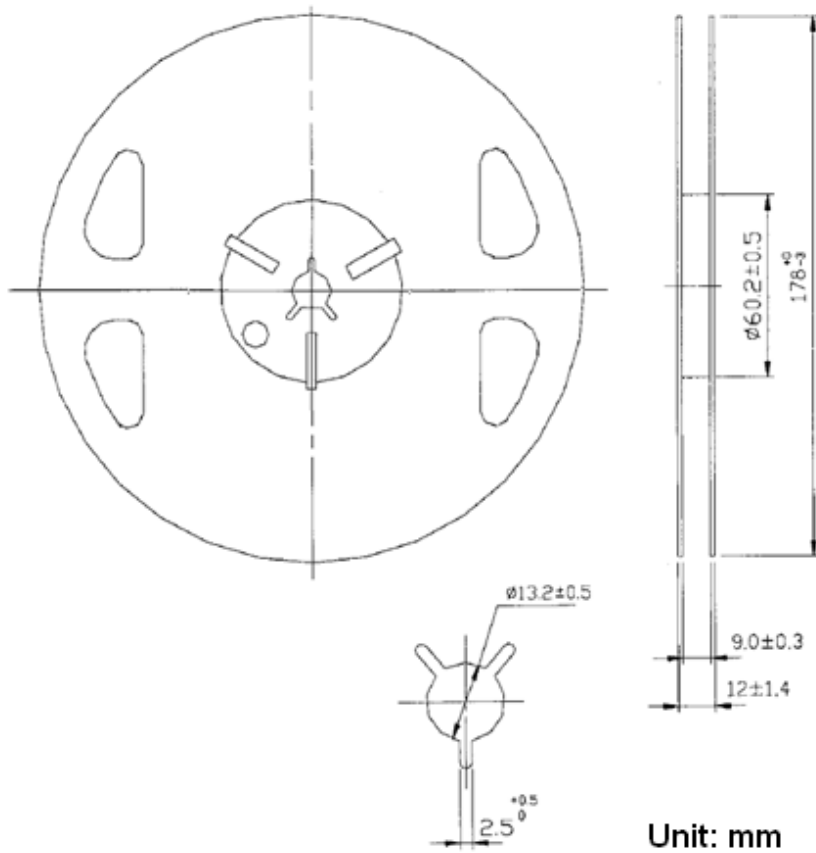
**F. PCB Footprint:**



**G. PACKING: (Ref. WI-75M03)**

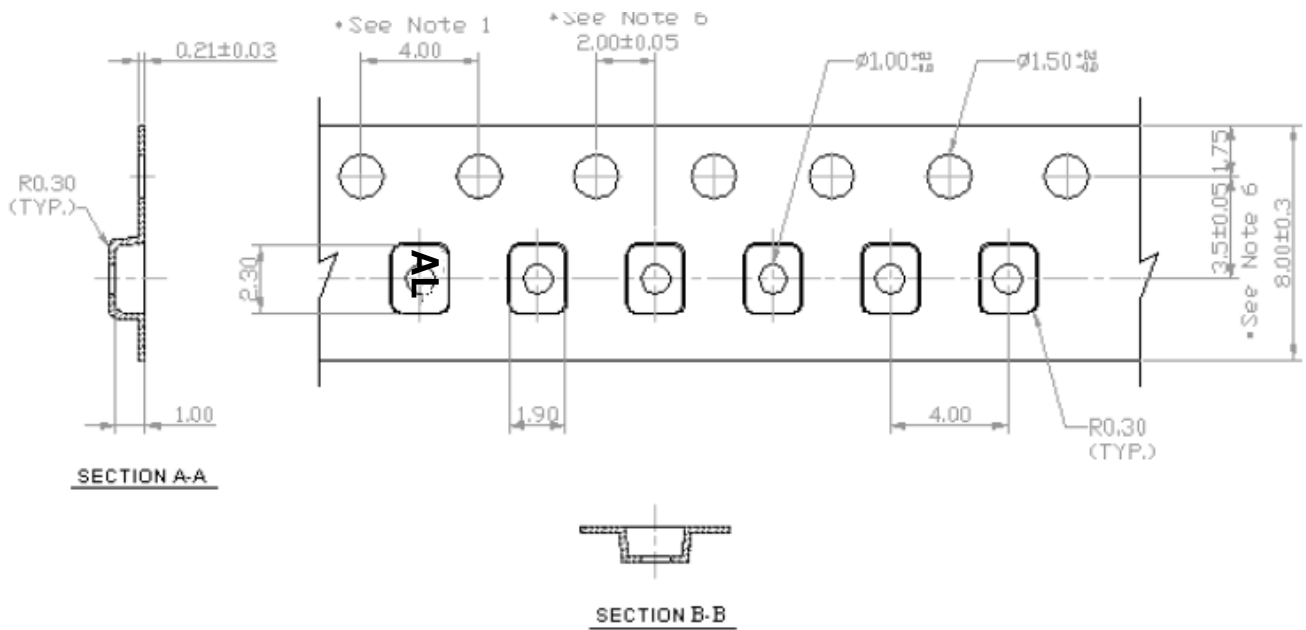
**1. REEL DIMENSION**

**(Please refer to FR-75D10 for packing quantity)**



Unit: mm

**2. TAPE DIMENSION**



Direction of Feed



### H. Recommended Reflow Profile:

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

