



# 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

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## Product Specifications Approval Sheet

Product Description: SAW Filter 847 MHz Band 20 SMD 1.1X0.9 mm (BW=30 MHz)

TST Part No.: TA2042B(This part is compliant with AEC-Q200)

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

Customer signature required

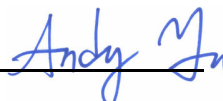
Company: \_\_\_\_\_

Division: \_\_\_\_\_

Approved by : \_\_\_\_\_

Date: \_\_\_\_\_

Checked by: \_\_\_\_\_ Anne Chen 

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

Date: \_\_\_\_\_ 2019/12/13

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 change



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SAW Filter 847 MHz SMD 1.1X0.9 mm (BW=30 MHz)

MODEL NO.:TA2042B

REV.2.0

## A. MAXIMUM RATING:

1. Operating temperature range: -40 °C to +85 °C
2. Storage temperature range: -40 °C to +100 °C
3. Input power : 10dBm
4. Maximum DC Voltage: +/-5 V
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance :  $Z_s = 50 \Omega$

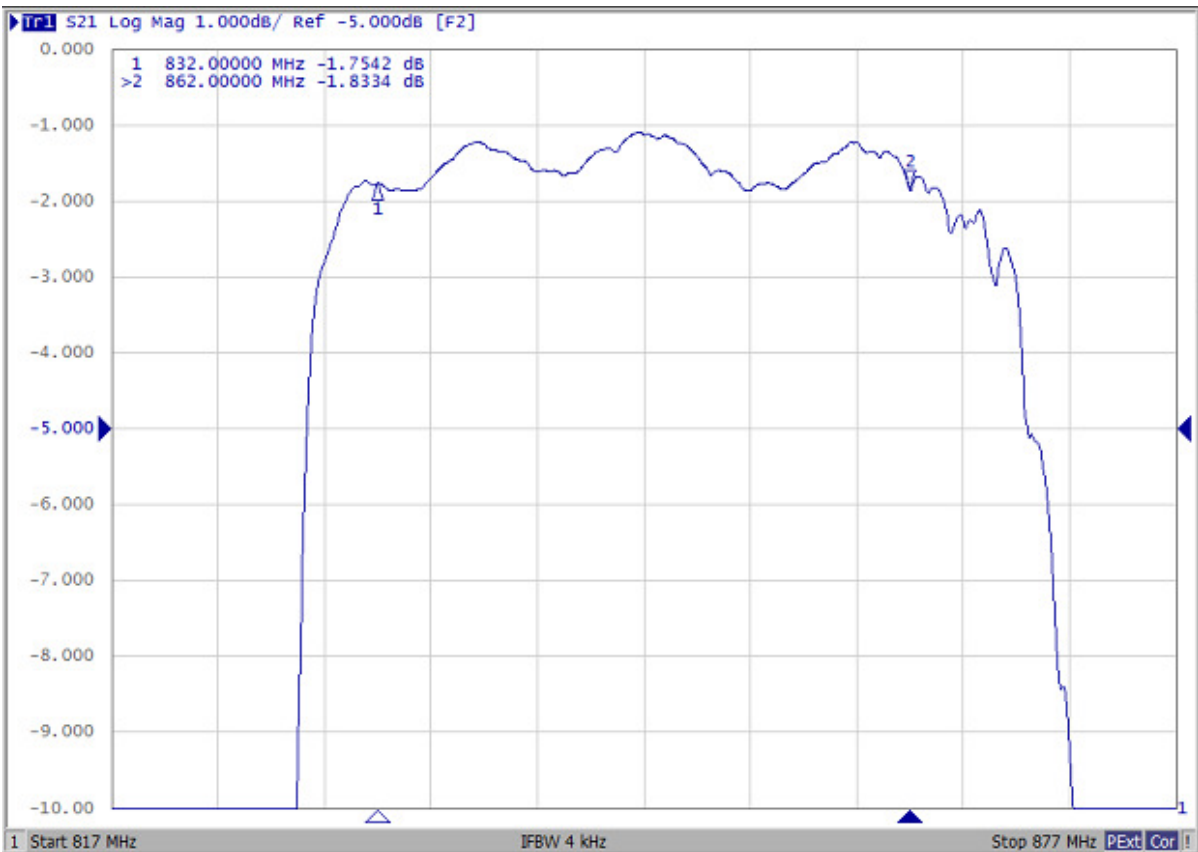
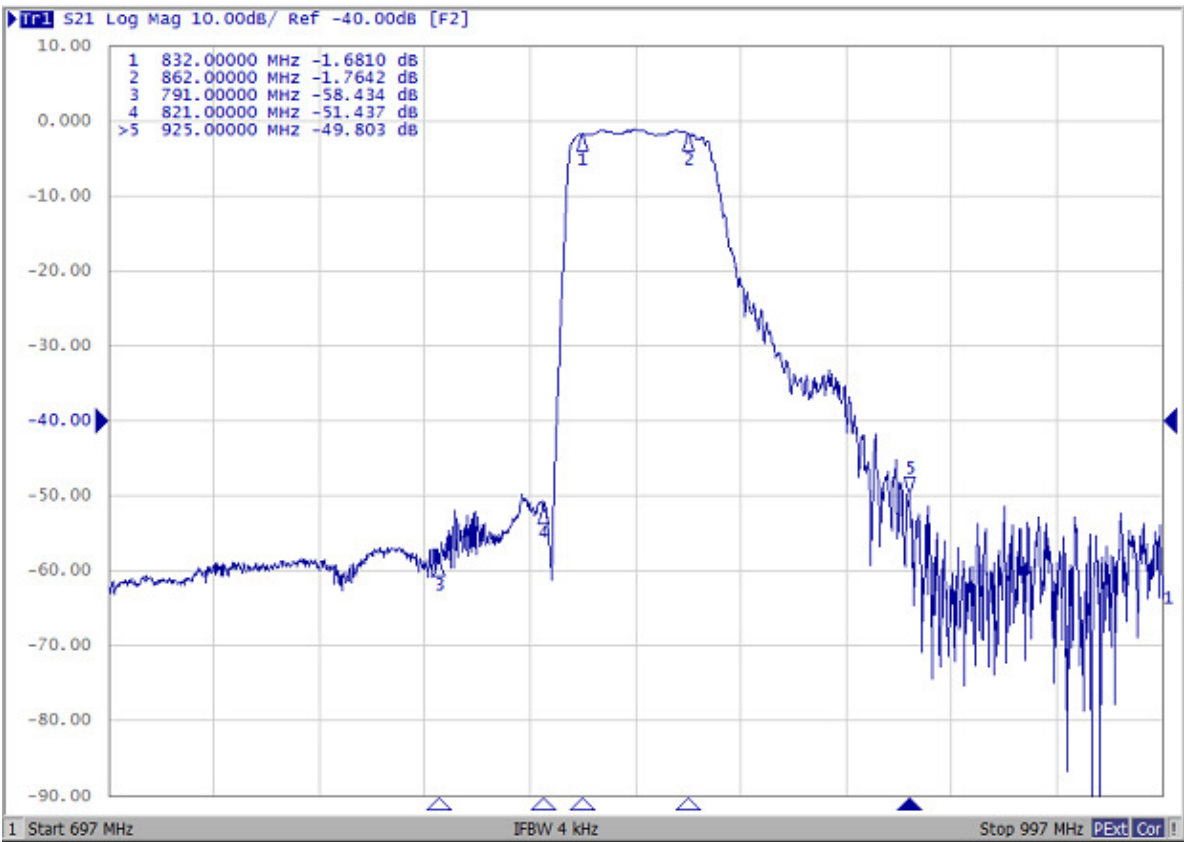
Terminating load impedance :  $Z_L = 50 \Omega$

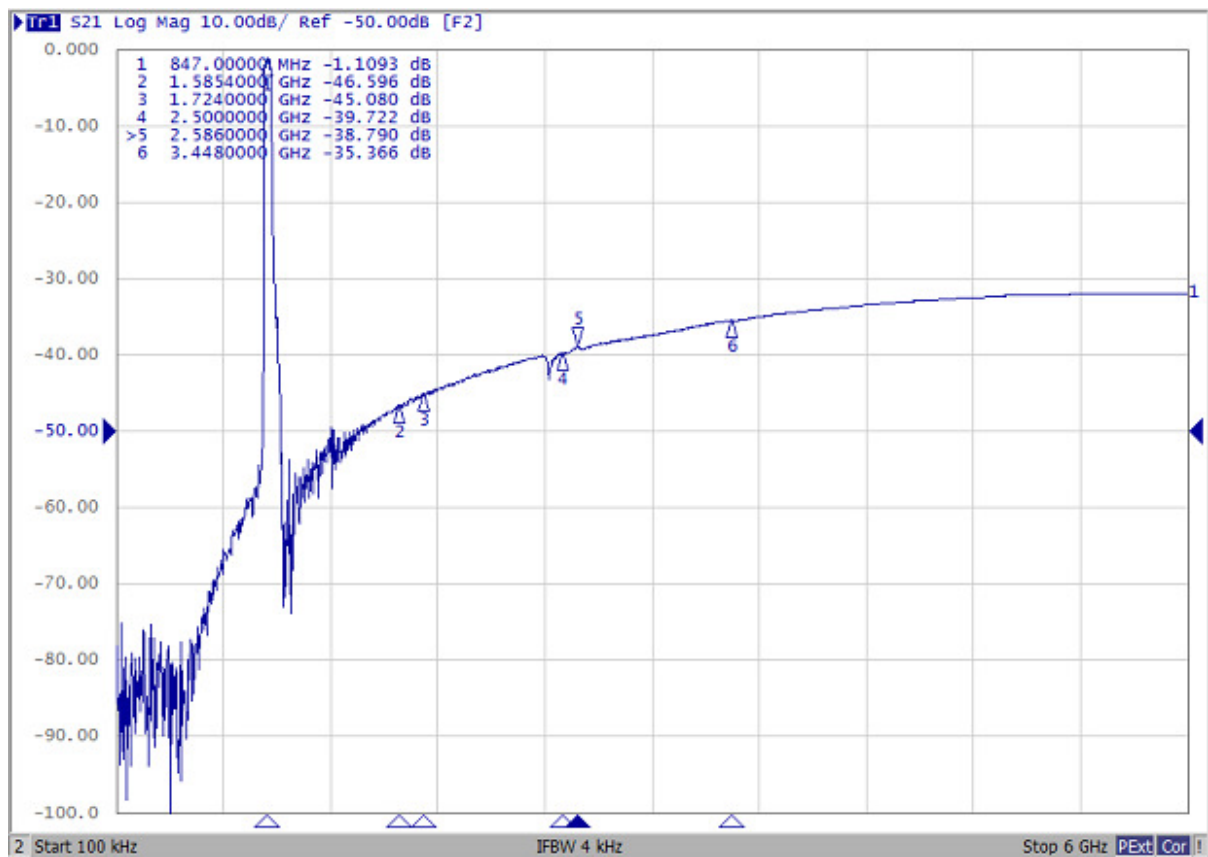
| Parameters Description   |        |             | Unit   | Min | Typ | Max | Remarks      |
|--------------------------|--------|-------------|--------|-----|-----|-----|--------------|
| Insertion Loss           |        | 832~ 862MHz | Db(*1) | -   | 2.0 | 2.5 |              |
| Amplitude ripple         |        | 832~ 862MHz | dB     | -   | 0.9 | 1.6 |              |
| VSWR                     | Input  | 832~ 862MHz | -      | -   | 2.3 | 2.5 |              |
|                          | Output | 832~ 862MHz | -      | -   | 2.3 | 2.5 |              |
| Attenuation:             |        |             |        |     |     |     |              |
| DC ~ 791 MHz             |        |             | dB     | 30  | 55  | -   |              |
| 791 ~ 821 MHz            |        |             | dB     | 40  | 48  | -   |              |
| 925 ~ 960 MHz            |        |             | dB     | 20  | 50  | -   |              |
| 1565.42 ~ 1573.374 MHz   |        |             | dB     | 35  | 47  | -   |              |
| 1573.374 ~ 1577.466 MHz  |        |             | dB     | 35  | 47  | -   |              |
| 1577.466 ~ 1585.42 MHz   |        |             | dB     | 35  | 46  | -   |              |
| 1597.5515 ~ 1605.886 MHz |        |             | dB     | 35  | 46  | -   |              |
| 1664 ~ 1724 MHz          |        |             | dB     | 25  | 45  | -   |              |
| 1805 ~ 1880 MHz          |        |             | dB     | 25  | 44  | -   |              |
| 2110 ~ 2170 MHz          |        |             | dB     | 25  | 42  | -   |              |
| 2400 ~ 2500 MHz          |        |             | dB     | 30  | 41  | -   |              |
| 2496 ~ 2586 MHz          |        |             | dB     | 30  | 40  | -   |              |
| 2570 ~ 2620 MHz          |        |             | dB     | 30  | 40  |     |              |
| 2620 ~ 2690 MHz          |        |             | dB     | 25  | 39  | -   |              |
| 3328 ~ 3448 MHz          |        |             | dB     | 20  | 37  | -   |              |
| Input impedance          |        |             | Ω      | 50  |     |     | single-ended |
| Output impedance         |        |             | Ω      | 50  |     |     | single-ended |

(\*1) Specification of insertion loss includes loss that comes from the test board.(0.05dB)

C. FREQUENCY CHARACTERISTICS:

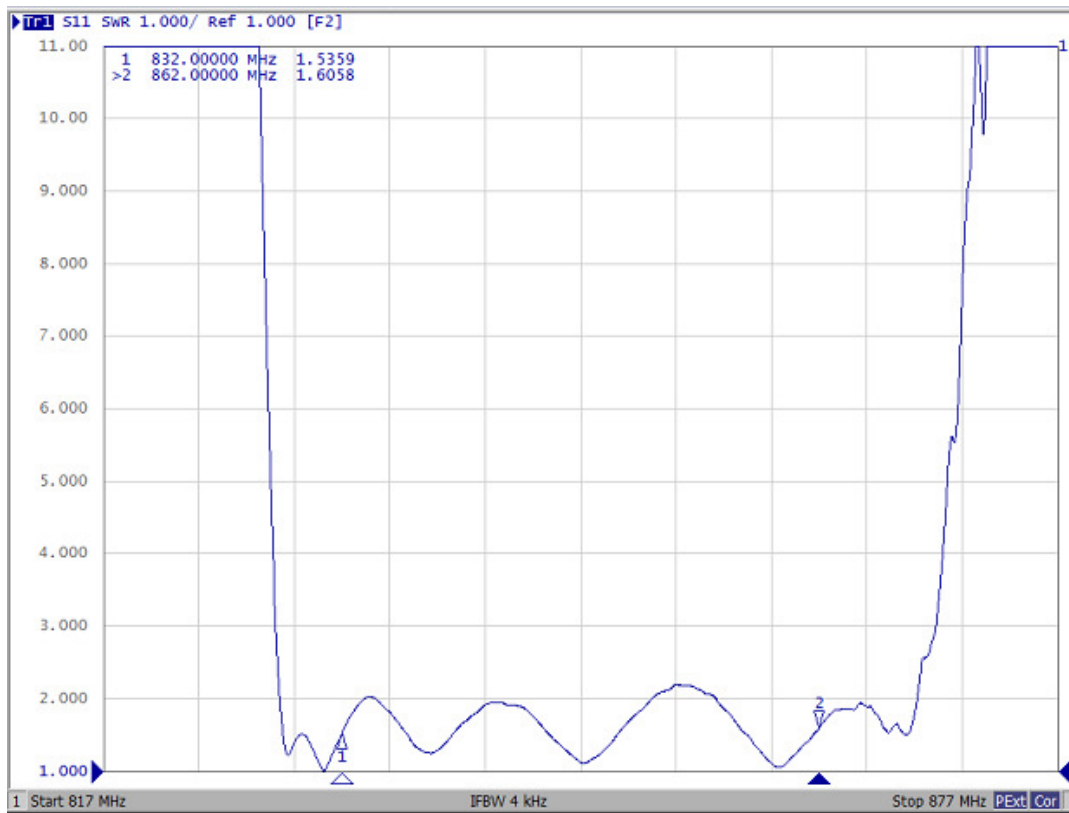
Passband



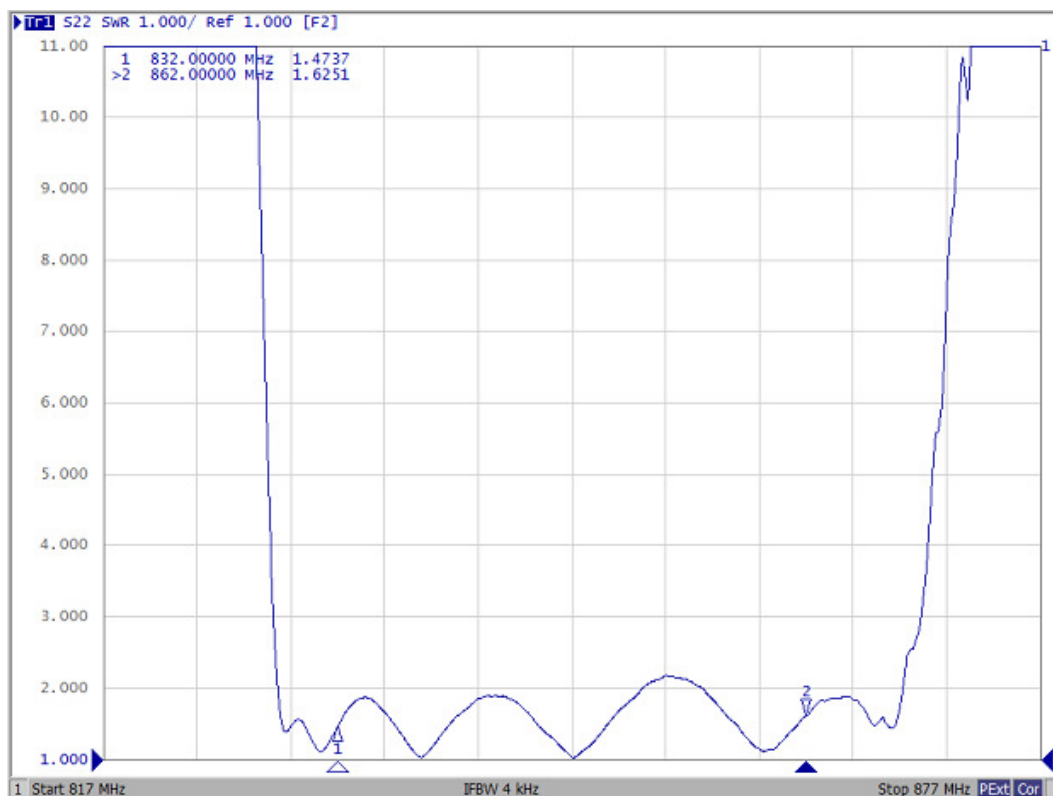


## Reflection Functions :

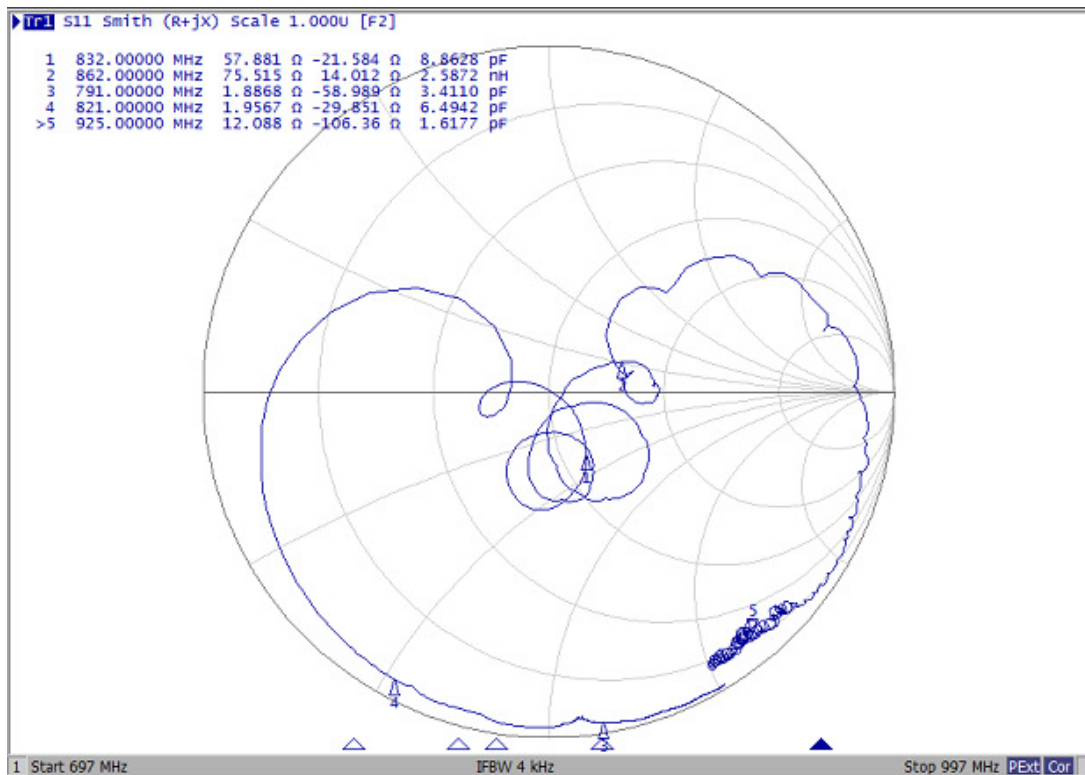
### S11 VSWR



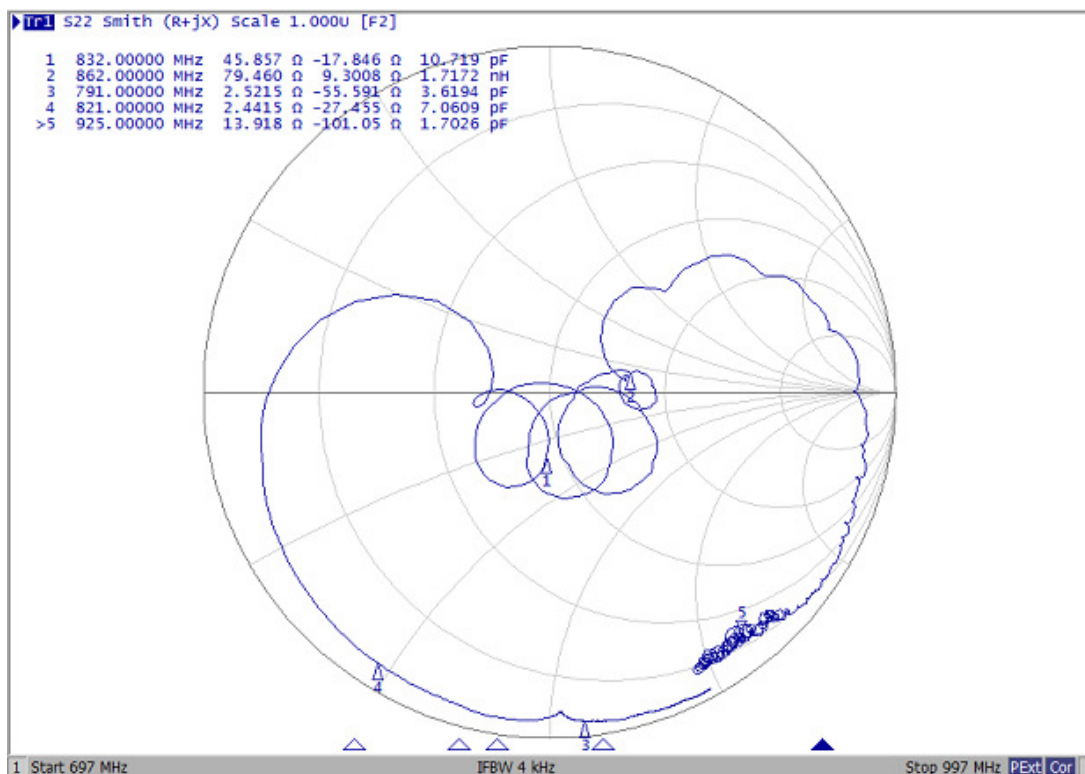
### S22 VSWR



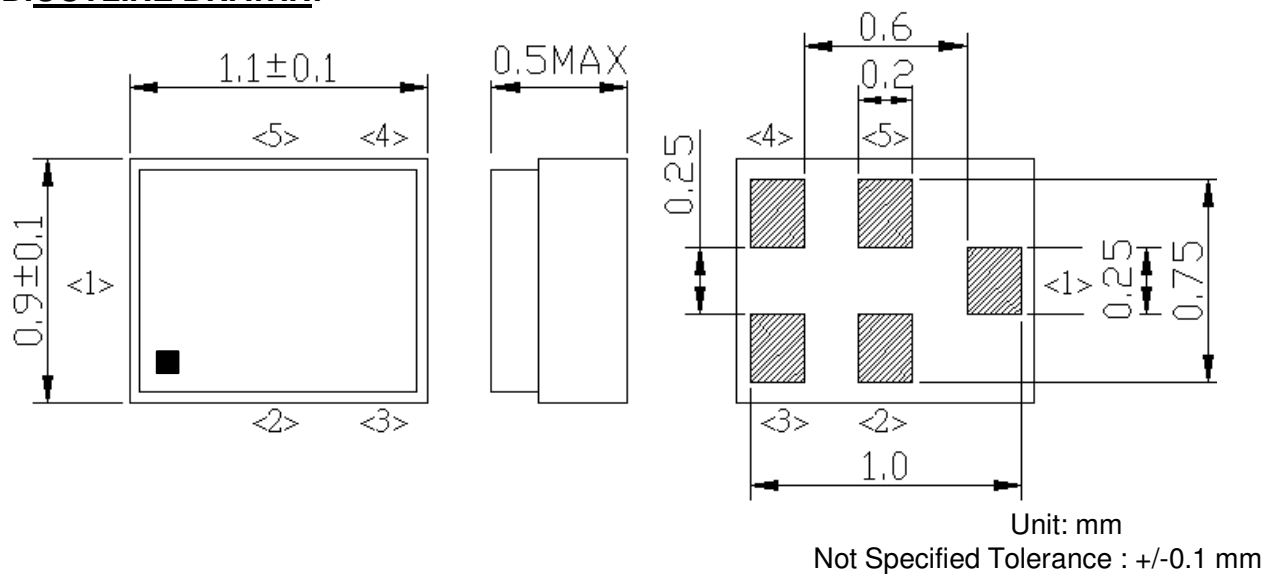
## S11 Smith Chart



## S22 Smith Chart



## D. OUTLINE DRAWIN:



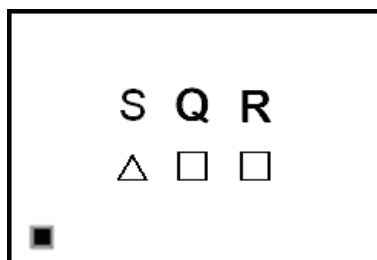
### Pin Configuration

| Pin No. | Symbol | Function         |
|---------|--------|------------------|
| 1       | IN     | Single-ended pin |
| 2       | GND    | Ground           |
| 3       | GND    | Ground           |
| 4       | OUT    | Single-ended pin |
| 5       | GND    | Ground           |

### Top View (Sample Production):



### Top View (Mass Production):



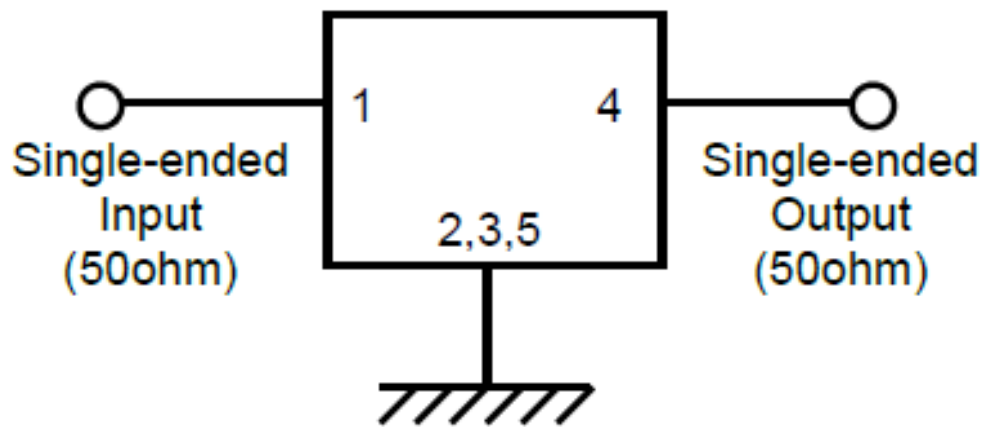
△ : Date Code

□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

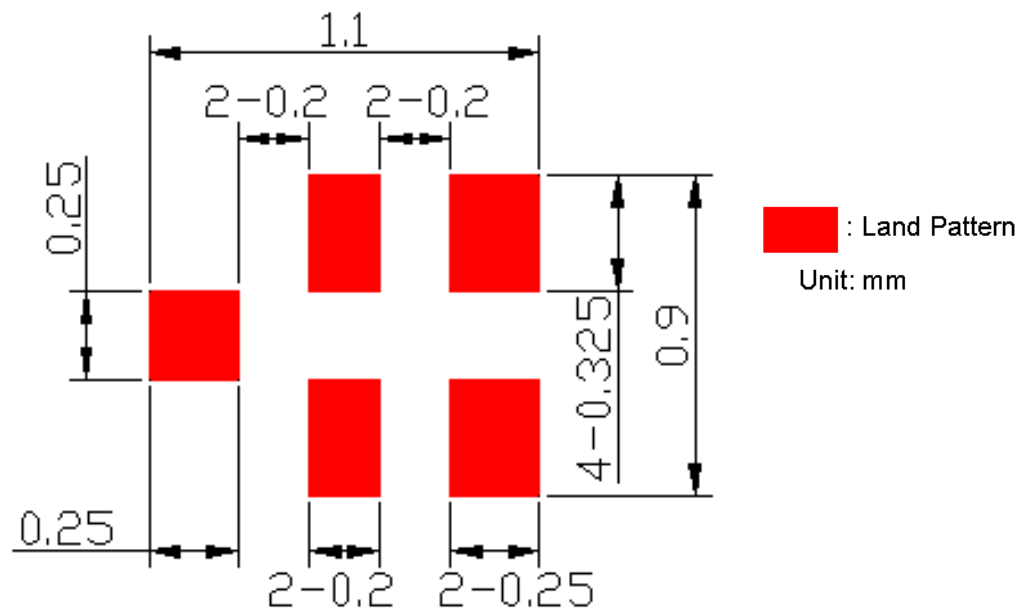
**Date Code:** Follow below table. (4-year cycle)

| Year | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 2018 | N    | P    | Q    | R    | S   | T    | U    | V    | W    | X    | Y    | Z    |
| 2019 | a    | b    | c    | d    | e   | f    | g    | h    | j    | k    | l    | m    |
| 2020 | n    | p    | q    | r    | s   | t    | u    | v    | w    | x    | y    | z    |
| 2021 | A    | B    | C    | D    | E   | F    | G    | H    | J    | K    | L    | M    |

### E.Evaluation Circuit



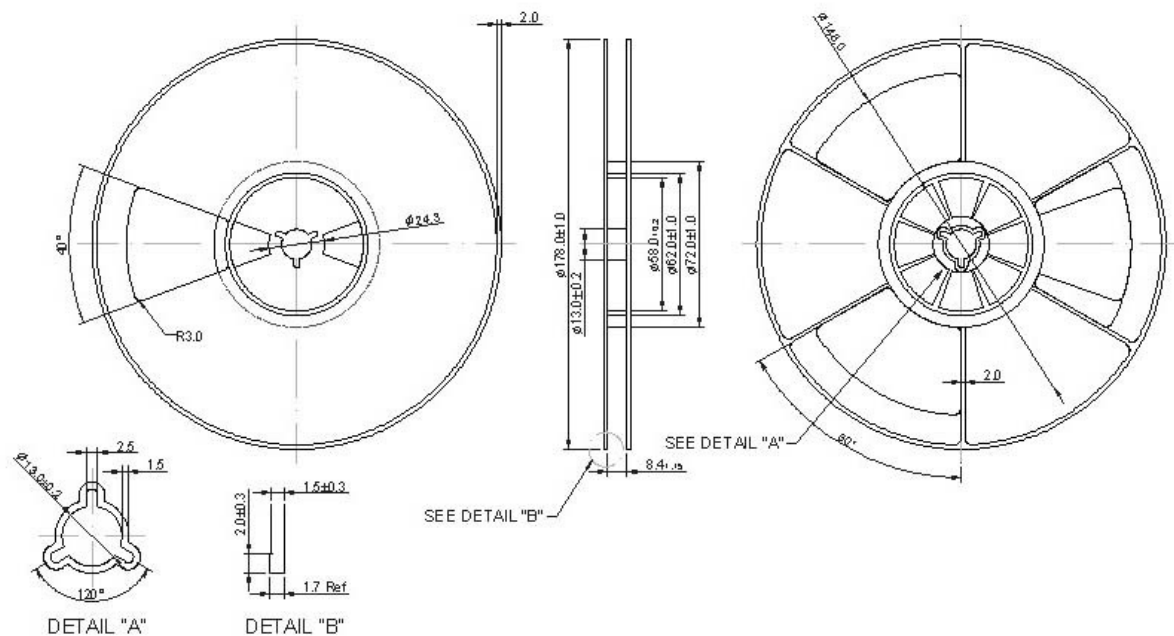
### F. PCB Footprint :



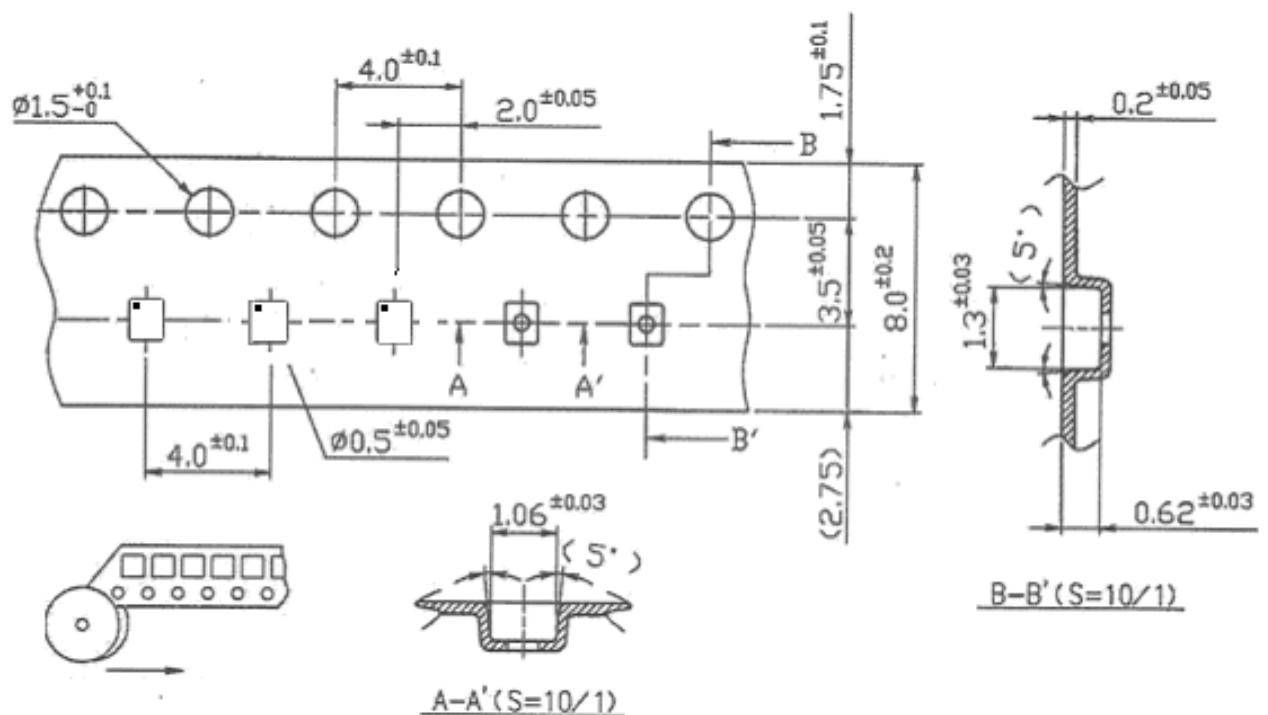
## G. PACKING:

### 1. REEL DIMENSION

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



### 2. TAPE DIMENSION



## 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 245~260°C peak (min. 10sec).
4. Time : 2 times.

