



# 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 1582.47 MHz GPS+GLONASS+Compass

SMD 1.4 X1.1 mm (BW=46.84 MHz)

TST Part No.: TA2411A (This part is compliant by AEC-Q200)

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

Customer signature required

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

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

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

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

Checked by: \_\_\_\_\_ Hayley Chou *Hayley Chou*

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

Date: \_\_\_\_\_ 2018/08/09

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.



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## SAW Filter 1582.47 MHz

MODEL NO.:TA2411A

REV. NO.:2.0

### A. MAXIMUM RATING:

1. Maximum Input Power: 15 dBm
2. Maximum DC Voltage: +/-5 V
3. Operating Temperature: -40 °C to +85 °C
4. Storage Temperature: -55 °C to +125 °C
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD: 50V(MM), 100V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

### B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance:  $Z_s = 50 \Omega$  (Single-ended)

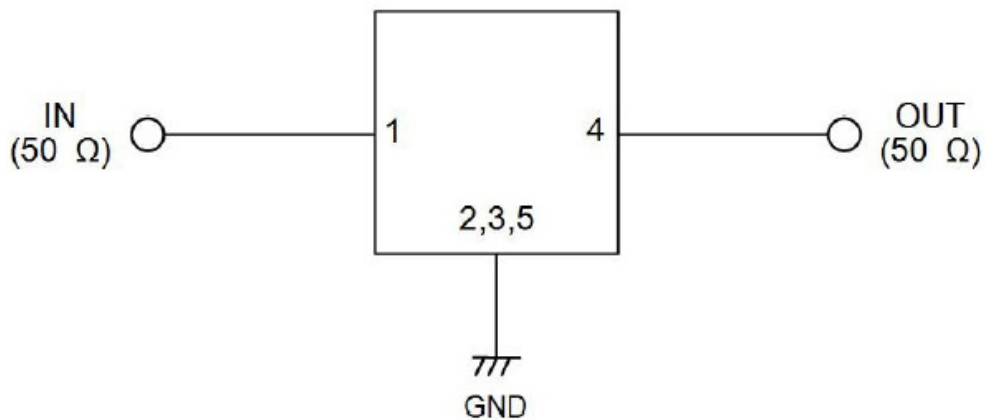
Terminating load impedance:  $Z_L = 50 \Omega$  (Single-ended)

| Parameters Description |                       | Unit              | Min. | Typ. | Max.    |   |
|------------------------|-----------------------|-------------------|------|------|---------|---|
| Center Frequency       |                       | Fc                | MHz  | -    | 1582.47 | - |
| Insertion Loss         | 1574.42 ~ 1576.42 MHz | dB                |      | 1.2  | 1.7     |   |
|                        | 1597.55 ~ 1605.89 MHz | dB                |      | 1.8  | 2.5     |   |
|                        | 1559.05 ~ 1563.14 MHz | dB                |      | 1.7  | 2.5     |   |
| Amplitude Ripple       | 1574.42 ~ 1576.42 MHz | dB <sub>p-p</sub> |      | 0.1  | 0.8     |   |
|                        | 1597.55 ~ 1605.89 MHz | dB <sub>p-p</sub> |      | 0.55 | 1.4     |   |
|                        | 1559.05 ~ 1563.14 MHz | dB <sub>p-p</sub> |      | 0.2  | 1.2     |   |
| Group Delay Ripple     | 1574.42 ~ 1576.42 MHz | nsec              |      | 1.0  | 6.0     |   |
|                        | 1597.55 ~ 1605.89 MHz | nsec              |      | 4.0  | 12.5    |   |
|                        | 1559.05 ~ 1563.14 MHz | nsec              |      | 5.0  | 16.0    |   |
| VSWR(Input/Output)     | 1574.42 ~ 1576.42 MHz | -                 |      | 1.5  | 2.1     |   |
|                        | 1597.55 ~ 1605.89 MHz | -                 |      | 1.4  | 2.0     |   |
|                        | 1559.05 ~ 1563.14 MHz | -                 |      | 1.5  | 2.0     |   |

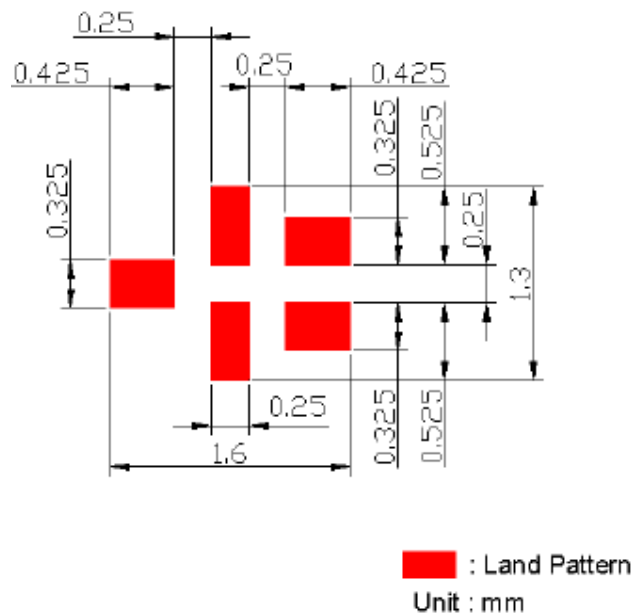
| <b>Attenuation</b> (Reference level from 0 dB) |    |    |      |   |
|------------------------------------------------|----|----|------|---|
| 699~716 MHz                                    | dB | 43 | 47   | - |
| 777~787 MHz                                    | dB | 45 | 46.5 | - |
| 814~849 MHz                                    | dB | 45 | 46.5 | - |
| 880~915 MHz                                    | dB | 45 | 46.5 | - |
| 1427.9~1446.9 MHz                              | dB | 45 | 53   | - |
| 1447.9~1462.9 MHz                              | dB | 45 | 54   | - |
| 1710~1785 MHz                                  | dB | 47 | 54   | - |
| 1850~1915 MHz                                  | dB | 47 | 54   | - |
| 1920~1980 MHz                                  | dB | 47 | 54   | - |
| 2400~2500 MHz                                  | dB | 45 | 50   | - |
| 2500~2570 MHz                                  | dB | 45 | 50   | - |

Notes: (1) No Matching Network.

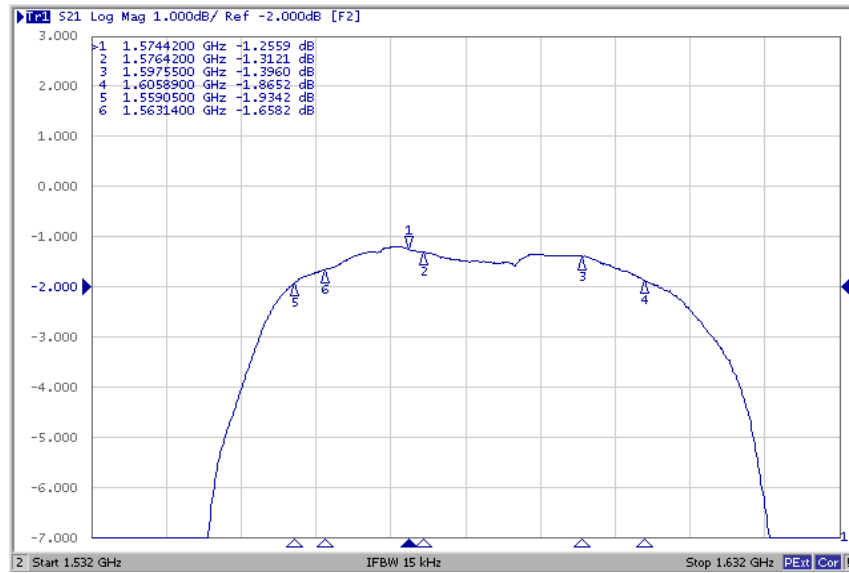
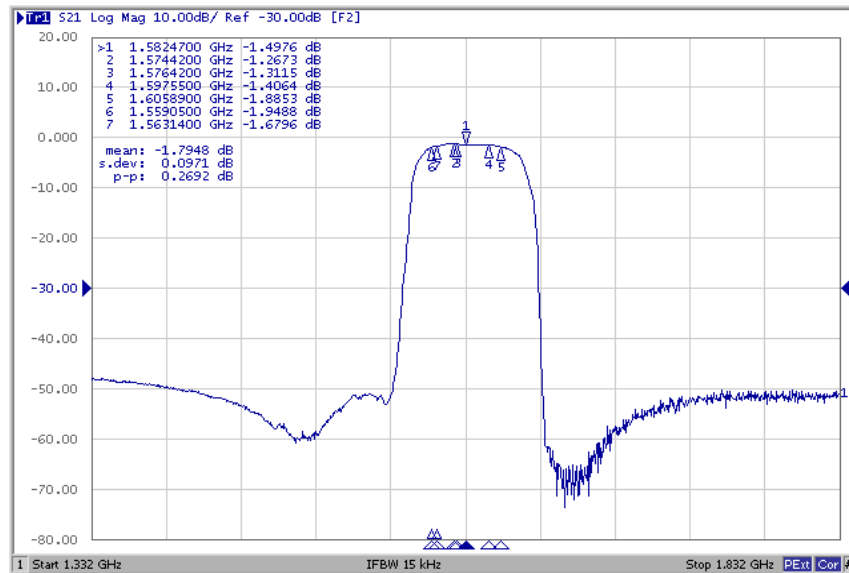
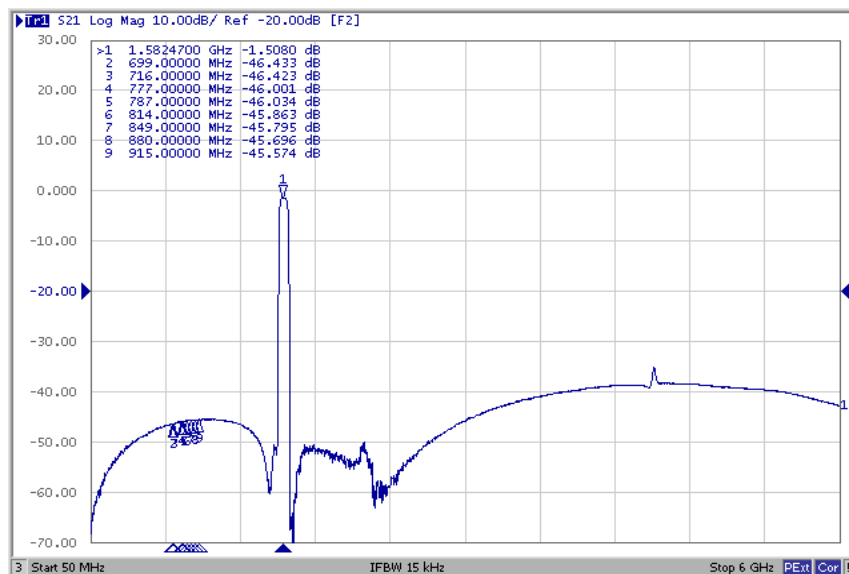
### C. MEASUREMENT CIRCUIT:



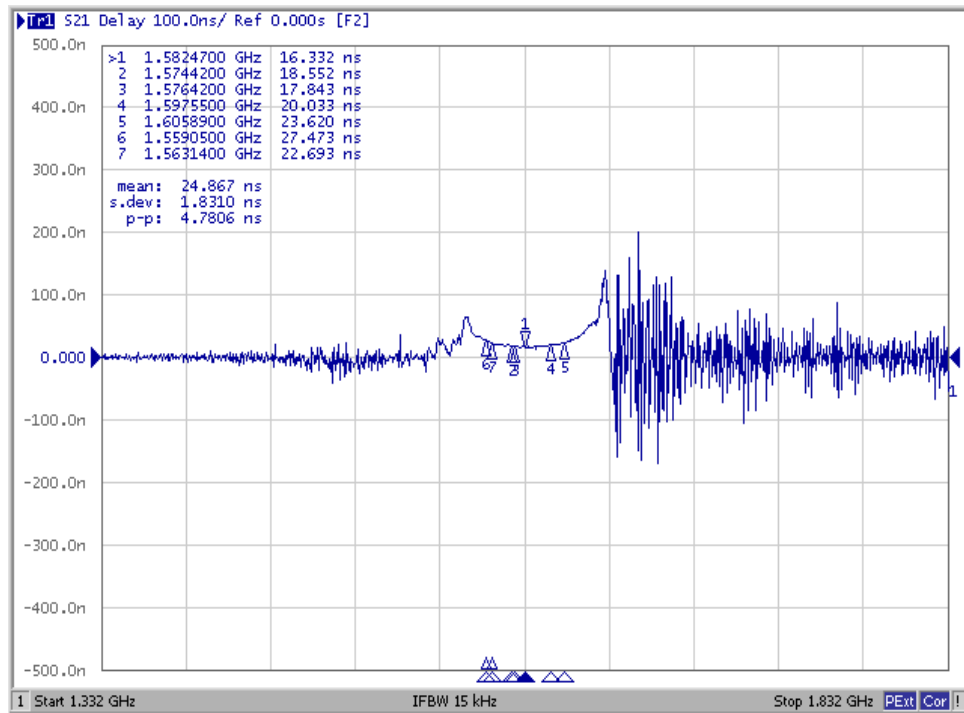
### D. PCB Footprint:



## E. FREQUENCY CHARACTERISTIC:

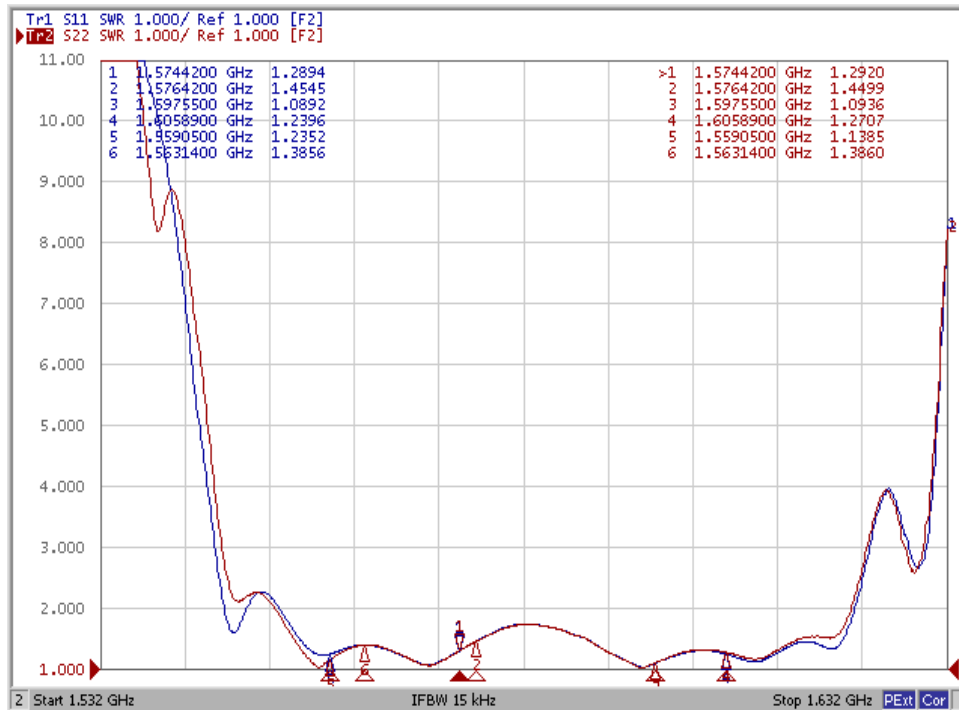


## Group Delay Ripple

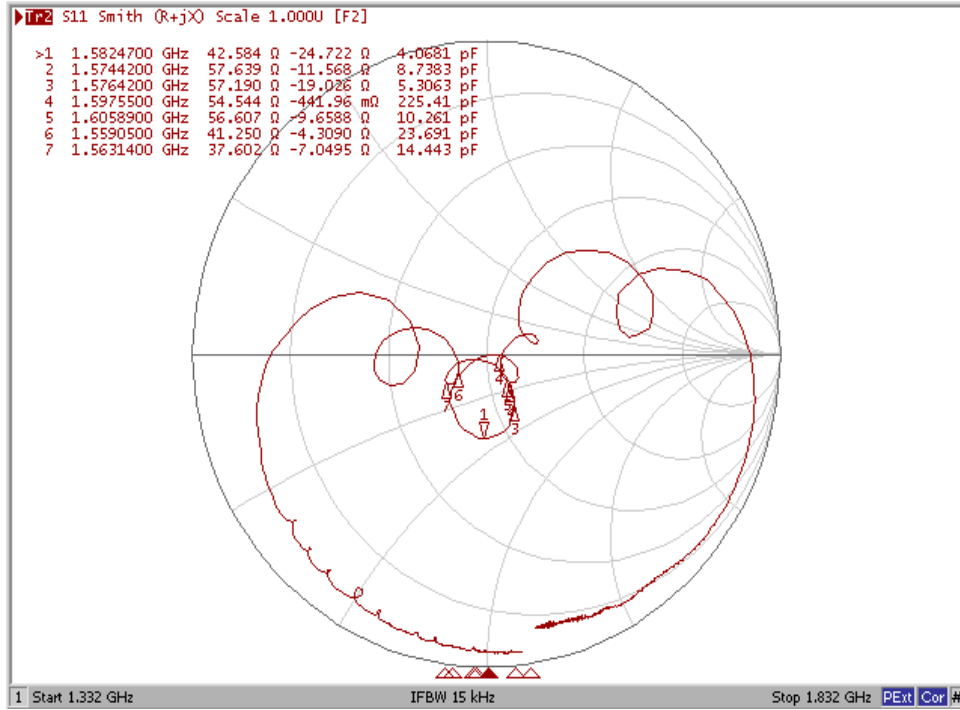
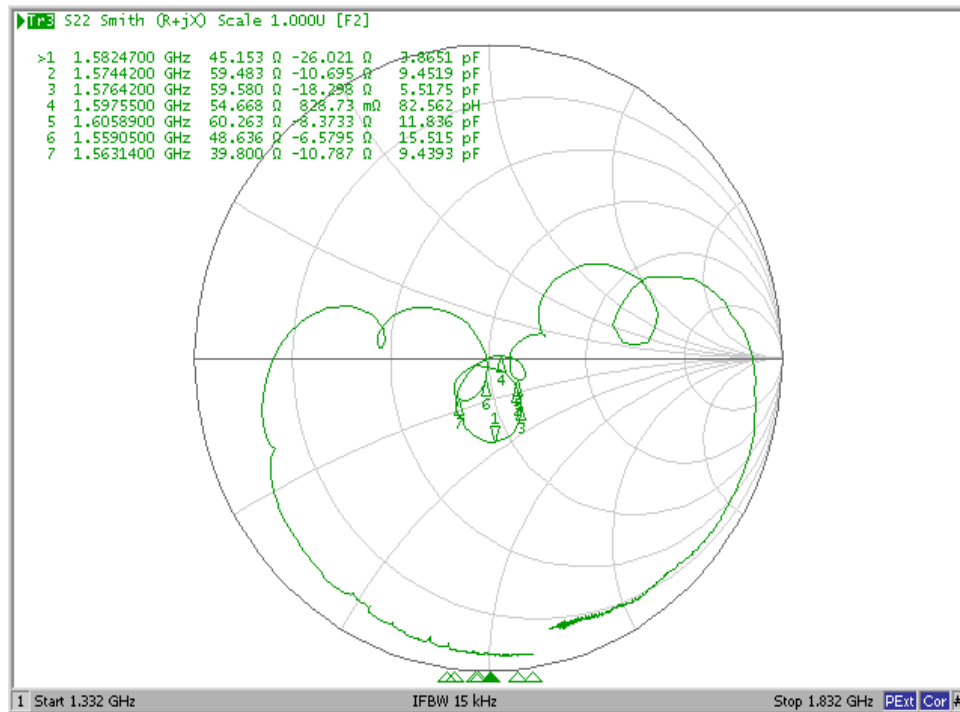


## Reflection Functions:

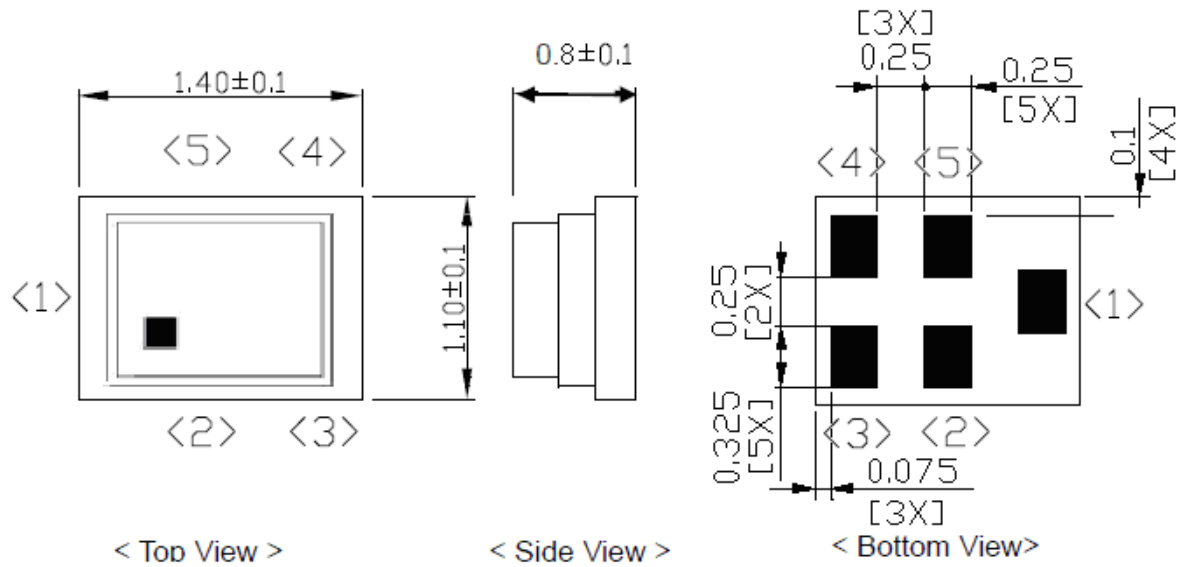
### VSWR



## Smith Chart



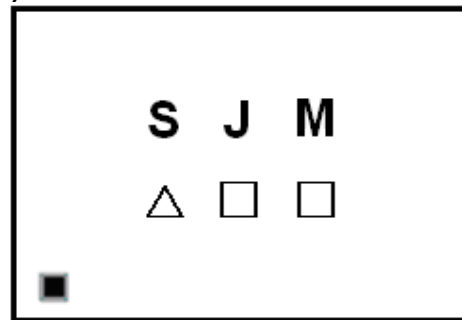
## F. OUTLINE DRAWING:



## Pin Configuration

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

## 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:

| Year | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
|------|------|------|------|------|-----|------|------|------|------|------|------|------|
| 2017 | A    | B    | C    | D    | E   | F    | G    | H    | J    | K    | L    | M    |
| 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    |



#### H. RECOMMENDED TEMPERATURE PROFILE OF REFLOW SOLDERING:

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.

