



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Description: SAW DPX 1733/2133 MHz LTE Band 4 SMD 1814

TST Part No.: TF0122AN

Customer Part No.: _____

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

Checked by: _____ Nina Chen *Nina Chen*

Approved by: _____ Kazuma Lee *Kazuma Lee*

Date: _____ 2023/06/05

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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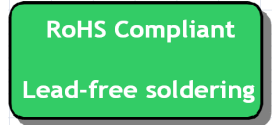
SAW DPX 1733/2133 MHz LTE Band 4 SMD 1814 (45 MHz BW)

MODEL NO.:TF0122AN

REV.No.:2

A. MAXIMUM RATING:

1. Operating temperature range: -20 °C to +105 °C
2. Storage temperature range: -20 °C to +105 °C
3. Input power : 29dBm (Ta=+50degC,50kh,CW)
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 1
6. ESD 50V(MM) 100V(HBM)



Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance (Tx Port): 50//9.1nH Ω (Single-ended)

Terminating impedance (Rx Port): 50 Ω (Single-ended)

Terminating impedance (Ant Port): 50//4.3nH Ω (Single-ended)

Tx to ANT ($f_{T0}=1733$ MHz)

| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|--------------|--------|-----|-----|-----|---------|
| Insertion Loss | 1710~1755MHz | dB(*1) | - | 1.5 | 2.0 | |
| Amplitude ripple | 1710~1755MHz | dB | - | 0.6 | 1.2 | |
| VSWR | Tx | - | - | 1.6 | 2.0 | |
| | ANT | - | - | 1.6 | 2.0 | |
| Attenuation: | | | | | | |
| 1559~1585.42 MHz | | dB | 40 | 43 | - | |
| 2110~2155 MHz | | dB | 44 | 52 | - | |
| 2400~2500 MHz | | dB | 36 | 42 | - | |
| 3420~3510 MHz | | dB | 29 | 35 | - | |
| 5130~5265 MHz | | dB | 21 | 28 | - | |

ANT to Rx (f_{T0}=2133 MHz)

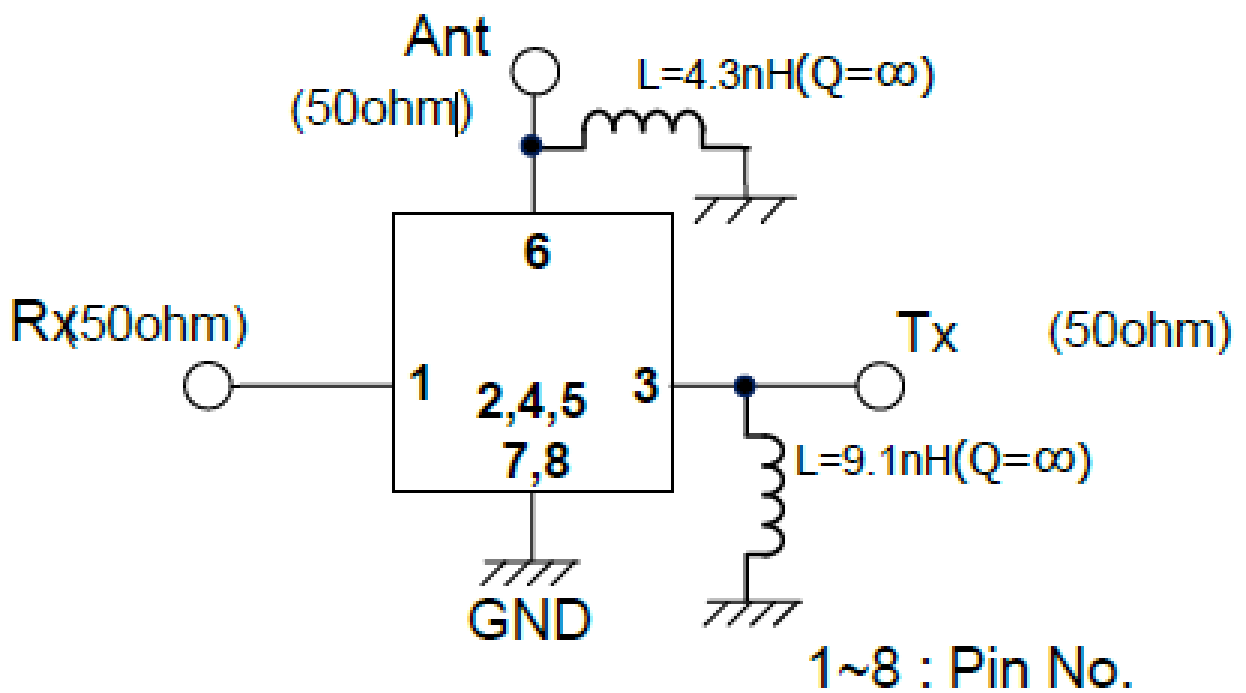
| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|---------------|--------|-----|-----|-----|---------|
| Insertion Loss | 2110~2155 MHz | dB(*1) | - | 1.7 | 2.2 | |
| Amplitude ripple | 2110~2155 MHz | dB | - | 0.4 | 1.0 | |
| VSWR | ANT | - | | 1.5 | 2.0 | |
| | Rx | | | 1.6 | 2.0 | |
| Attenuation: | | | | | | |
| 1710~1755 MHz | | dB | 44 | 50 | - | |
| 2400~2500 MHz | | dB | 35 | 41 | - | |
| 3820~3910 MHz | | dB | 36 | 43 | - | |

Tx to Rx

| | | | | | | |
|-----------|---------------|----|----|----|---|--|
| Isolation | 1710~1755 MHz | dB | 52 | 57 | - | |
| | 2110~2155 MHz | dB | 50 | 55 | - | |

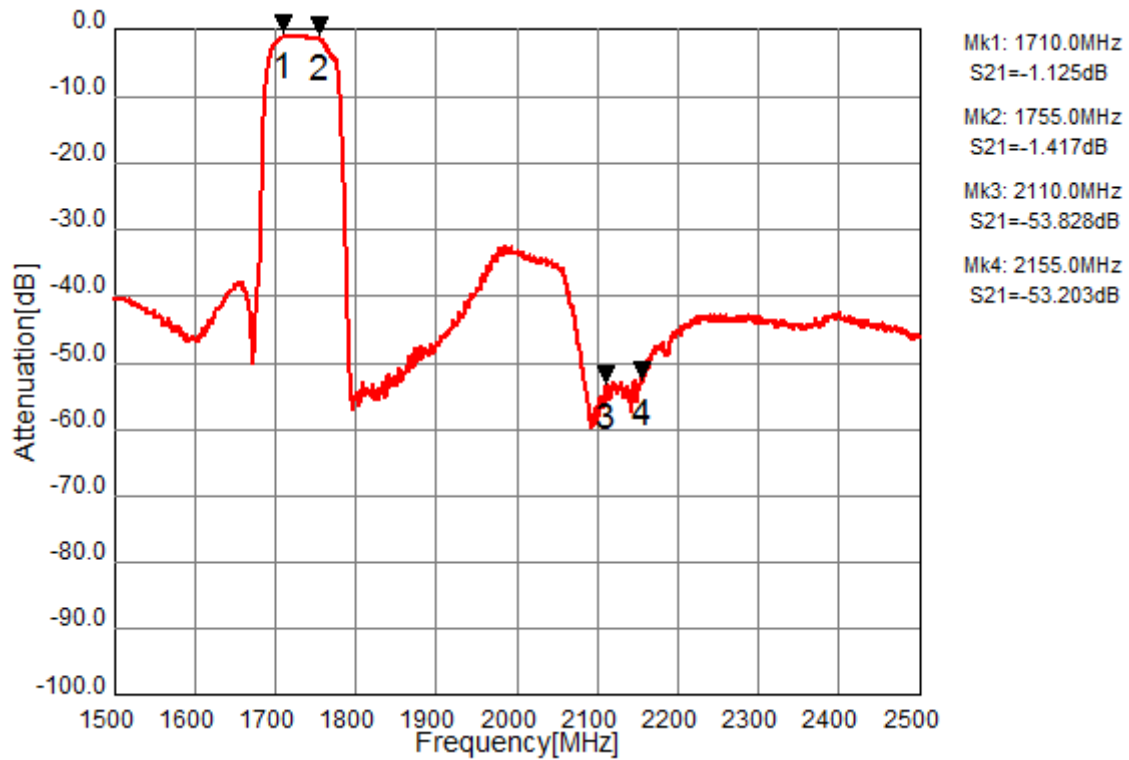
(*1) Specification of insertion loss excludes loss that comes from the test board.

C.EVALUATION CIRCUIT:



D. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

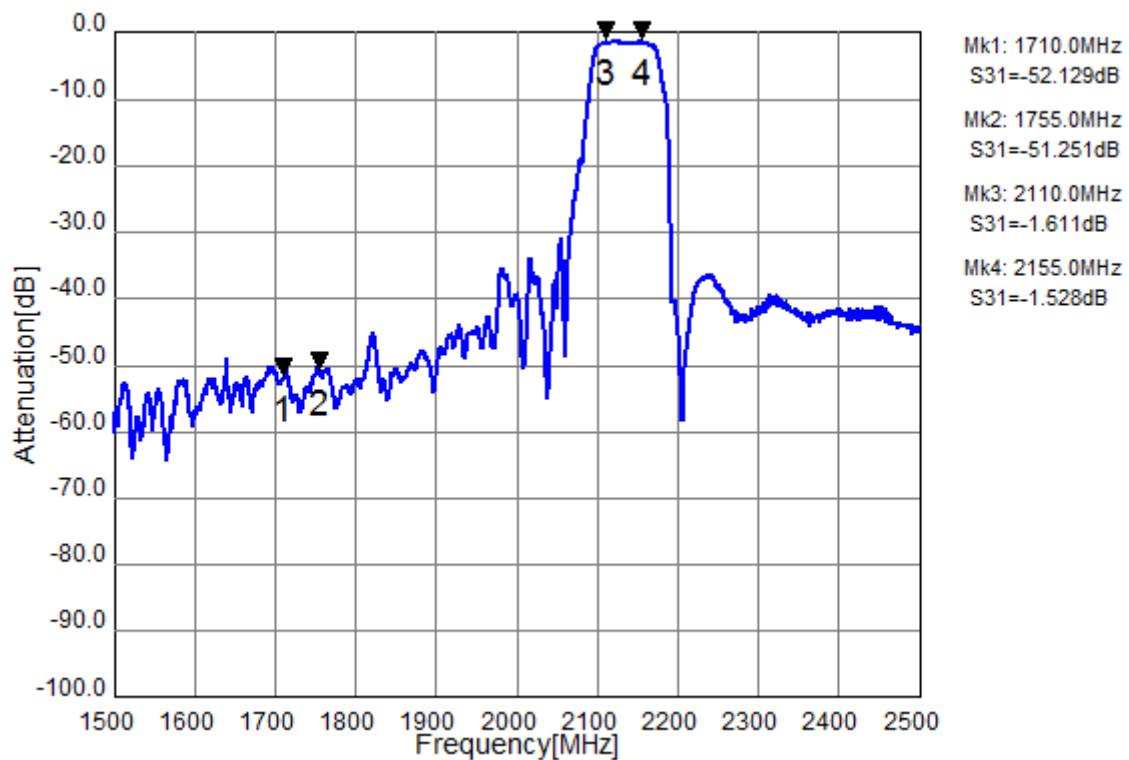
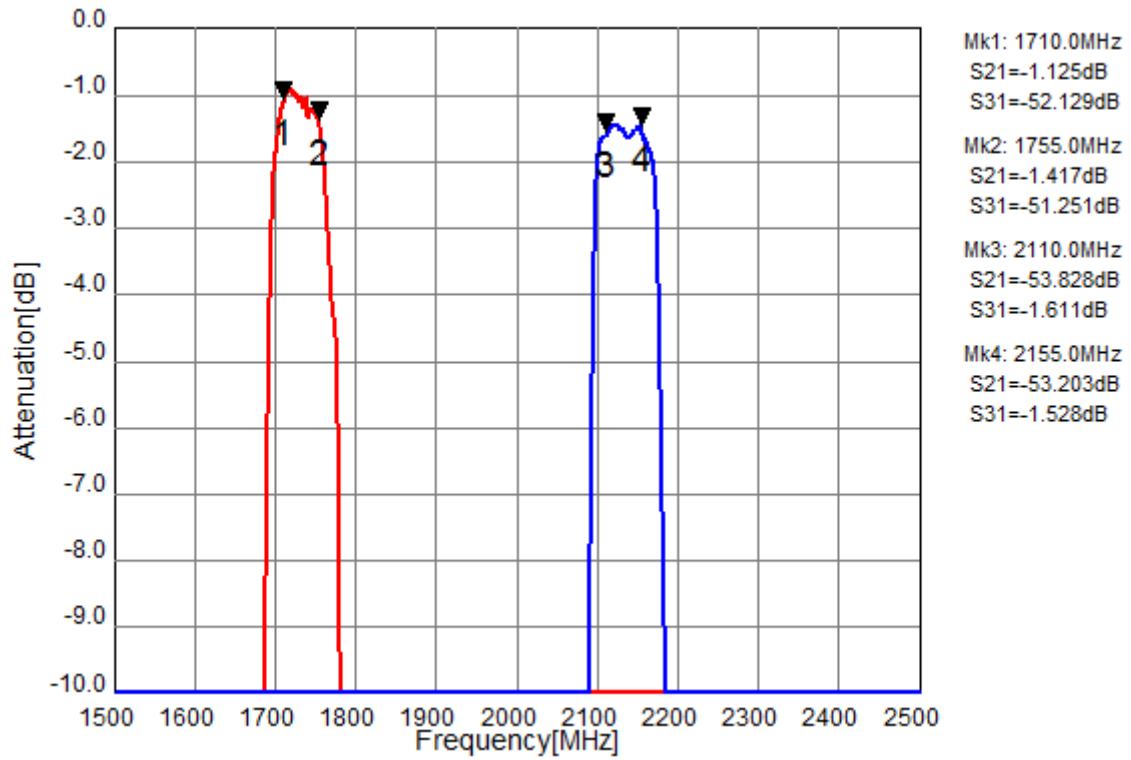


Figure 3-1. Electrical Characteristics

These data **exclude** loss that comes from the test board.

Tx to Ant ,Ant to Rx



Tx to Rx Isolation

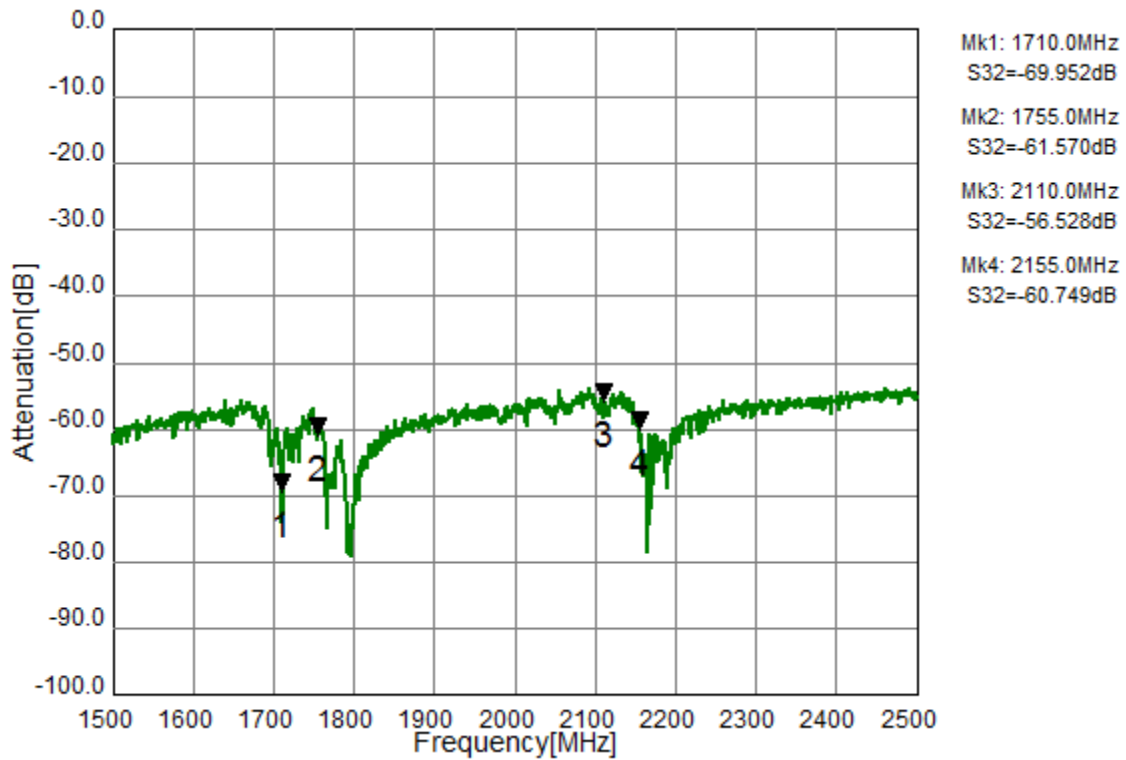


Figure 3-2. Electrical Characteristics

These data **exclude** loss that comes from the test board

Tx Port

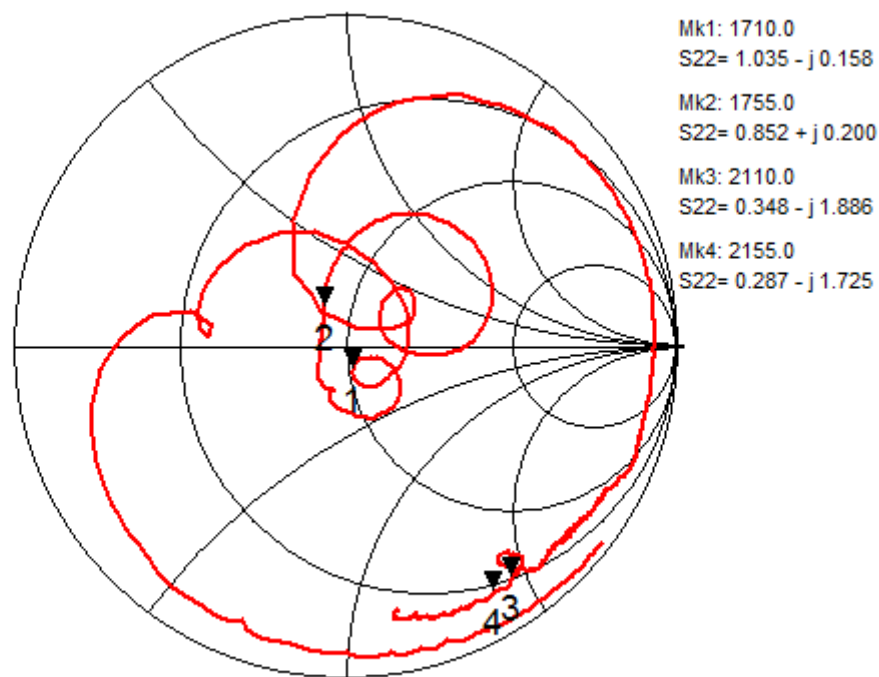
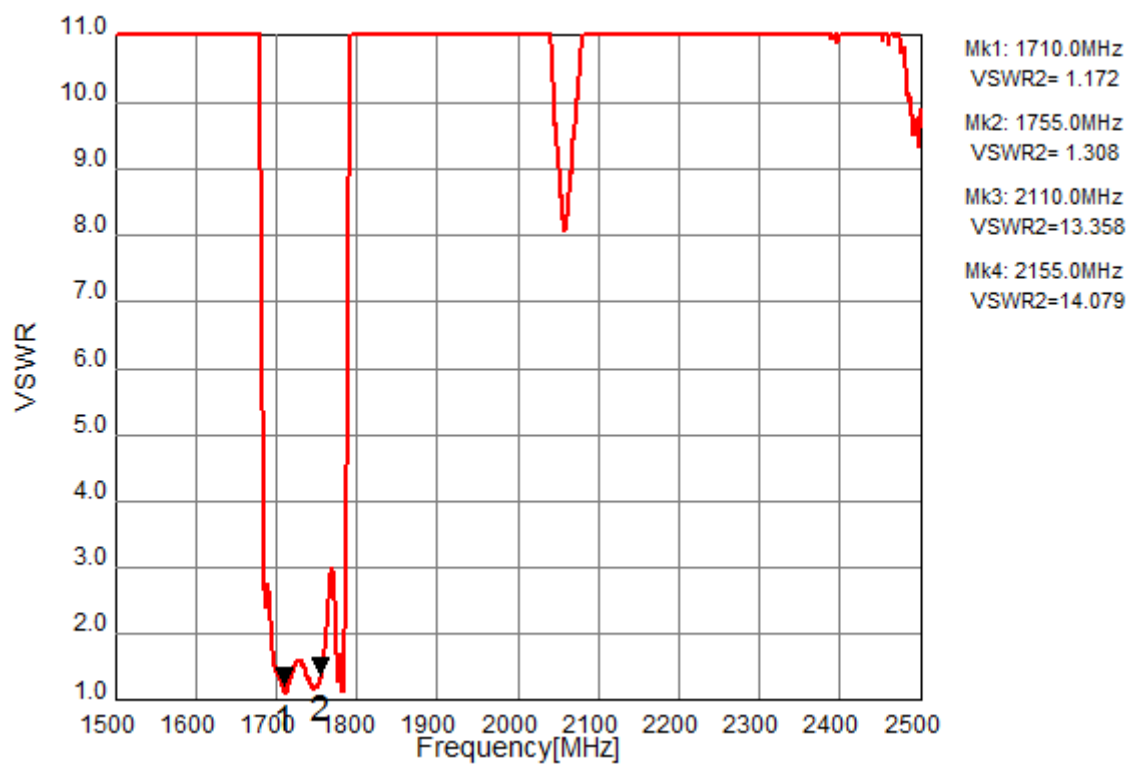


Figure 3-3. Electrical Characteristics

Rx Port

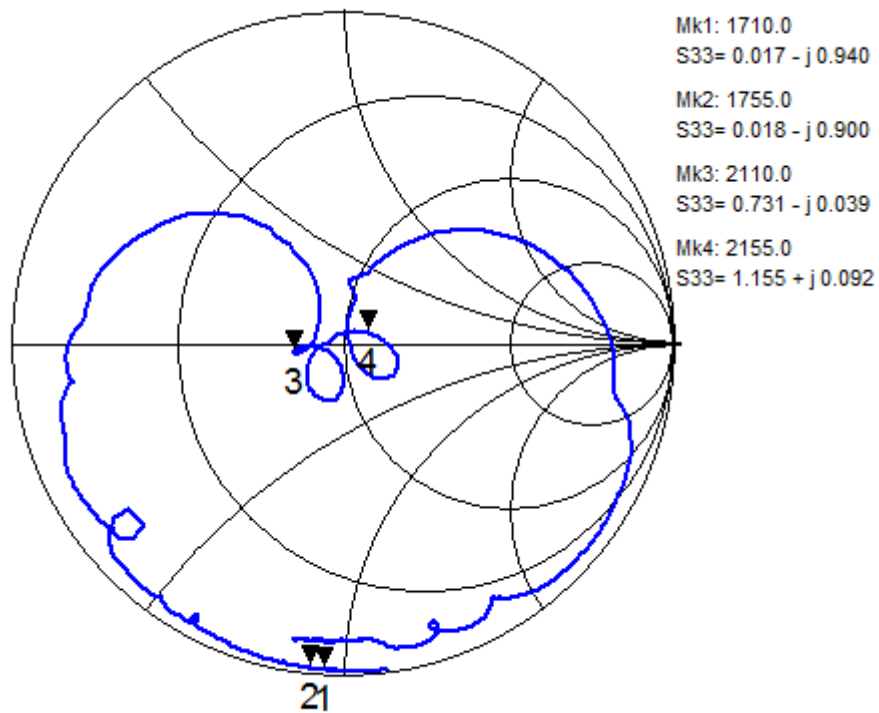
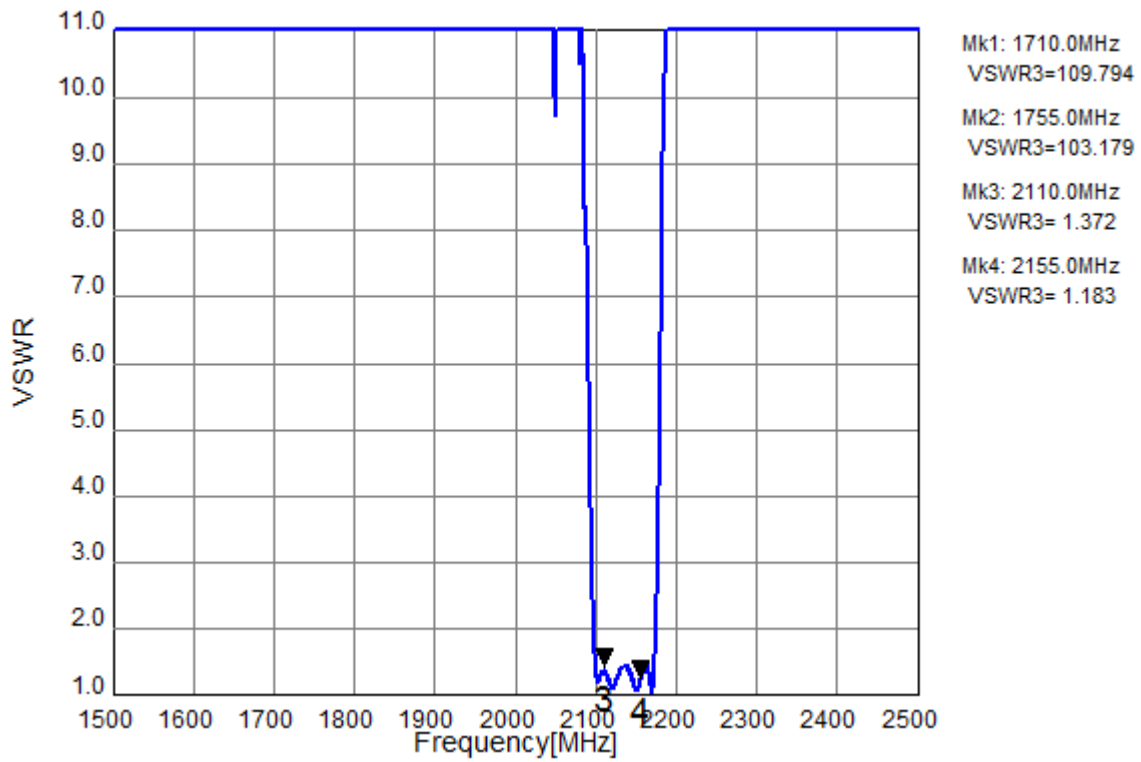


Figure 3-4. Electrical Characteristics

Ant Port

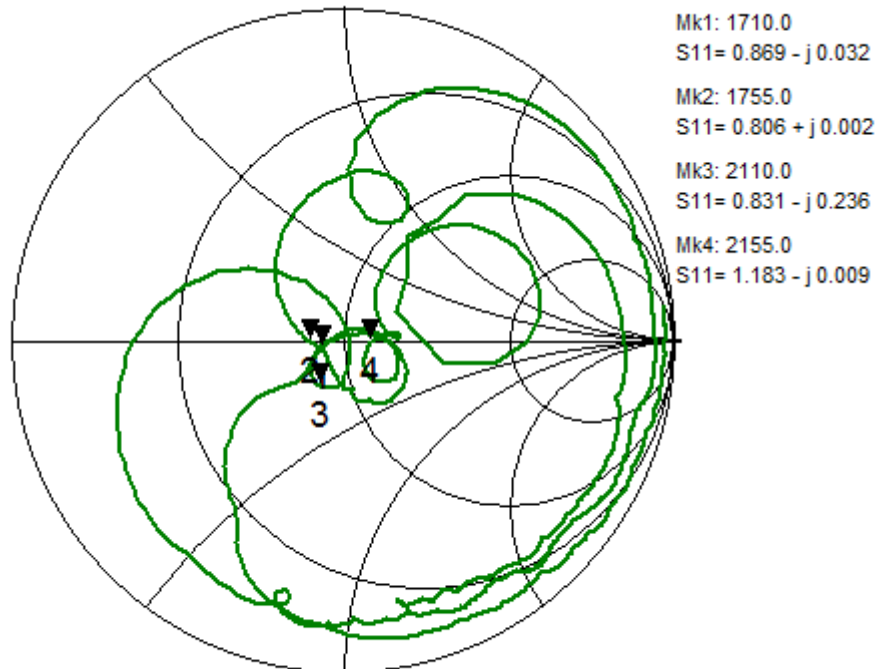
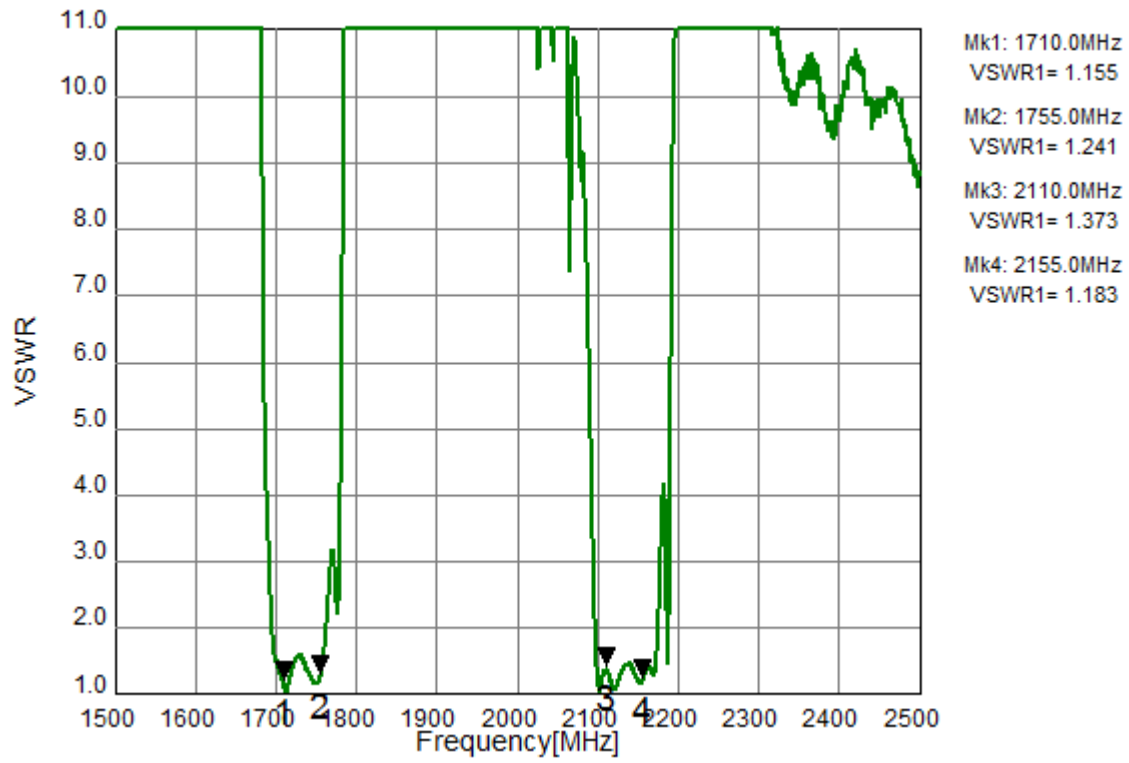
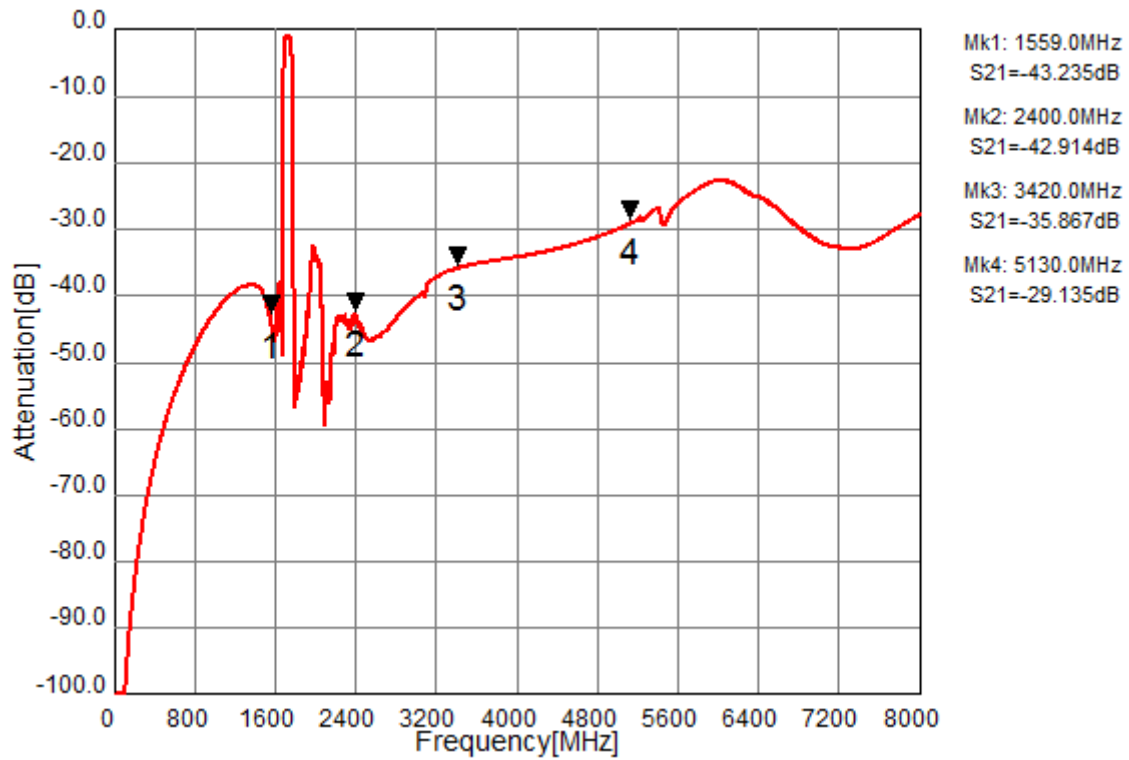


Figure 3-5. Electrical Characteristics

Tx to Ant (Wide span)



Ant to Rx (Wide span)

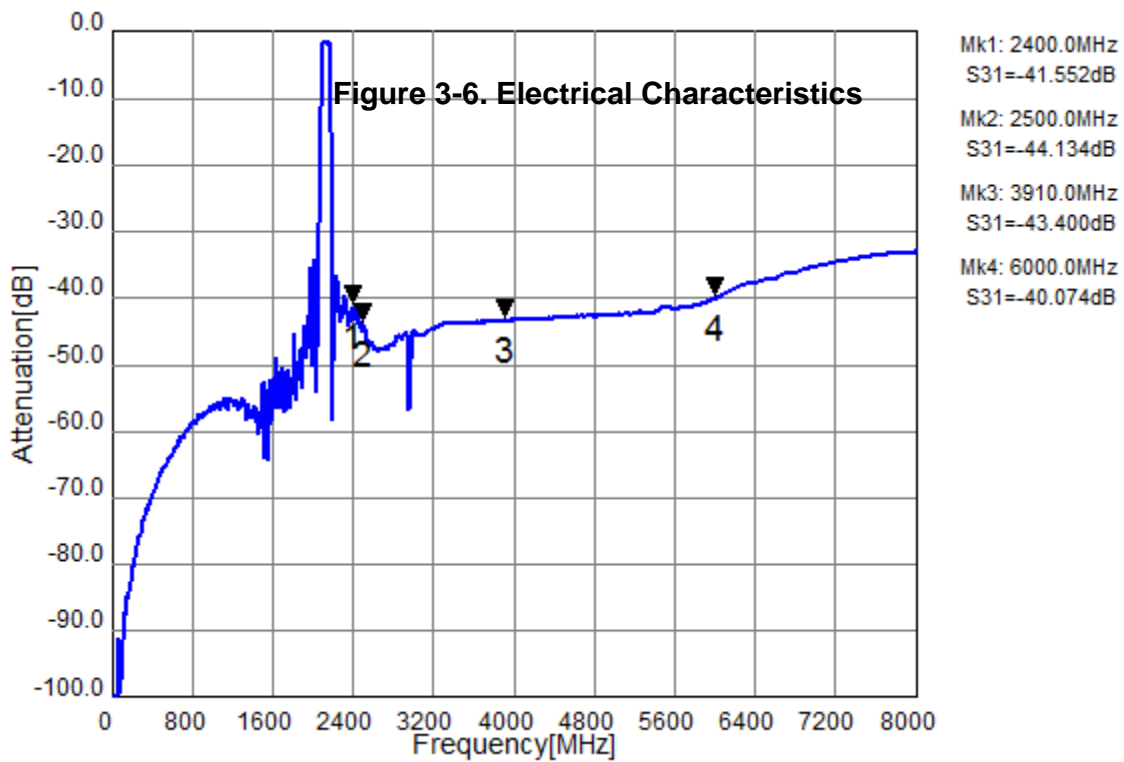
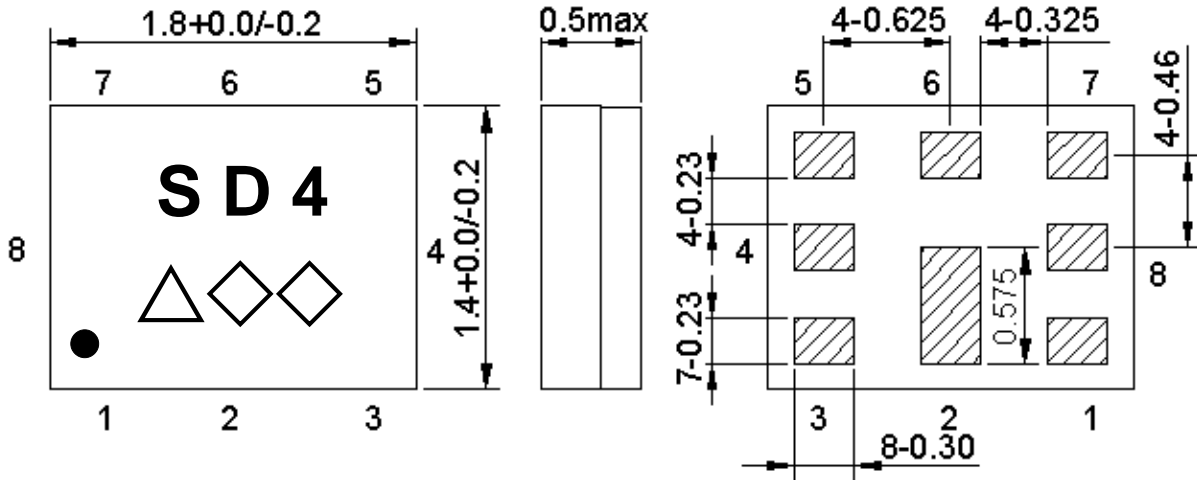


Figure 3-6. Electrical Characteristics

E. OUTLINE DRAWIN:



Marking name : **SD4**

△: Date code(2020May → s ,....., 2027 Dec→m.)

◇◇: Lot Code.

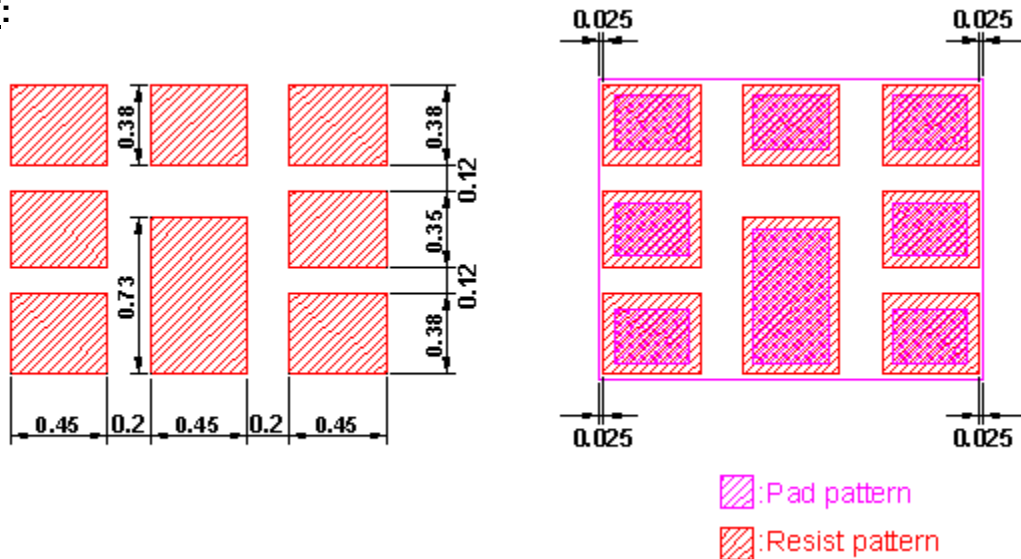
Product Date Code. Follow below table.

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2020/2024 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2021/2025 | A | B | C | D | E | F | G | H | J | K | L | M |
| 2022/2026 | N | P | Q | R | S | T | U | V | W | X | Y | Z |
| 20232027 | a | b | c | d | e | f | g | h | j | k | l | m |

Pin Configuration:

| Pin No. | Pin Name | Description |
|---------|----------|-----------------|
| 1 | Rx | Receive Pin |
| 2 | GND | Ground Pin |
| 3 | Tx | Transmitter Pin |
| 4 | GND | Ground Pin |
| 5 | GND | Ground Pin |
| 6 | ANT | Antenna Pin |
| 7 | GND | Ground Pin |
| 8 | GND | Ground Pin |

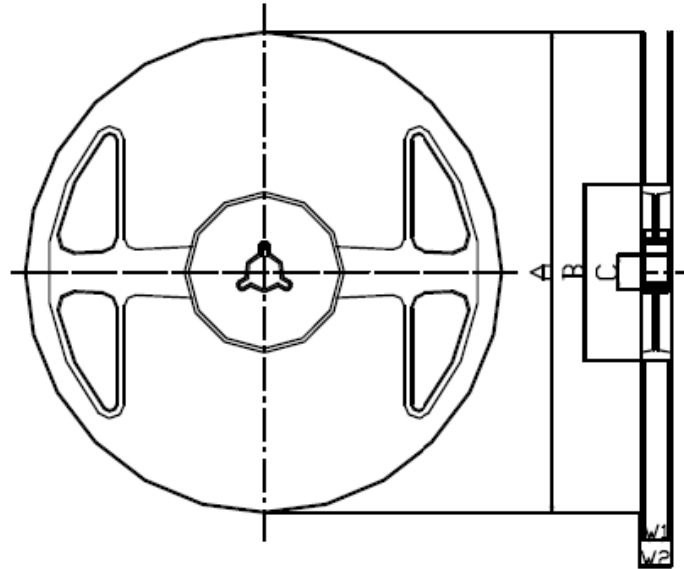
F. FOOTPRINT:



G. PACKING:

1. REEL DIMENSION

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



Materials of Reel

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

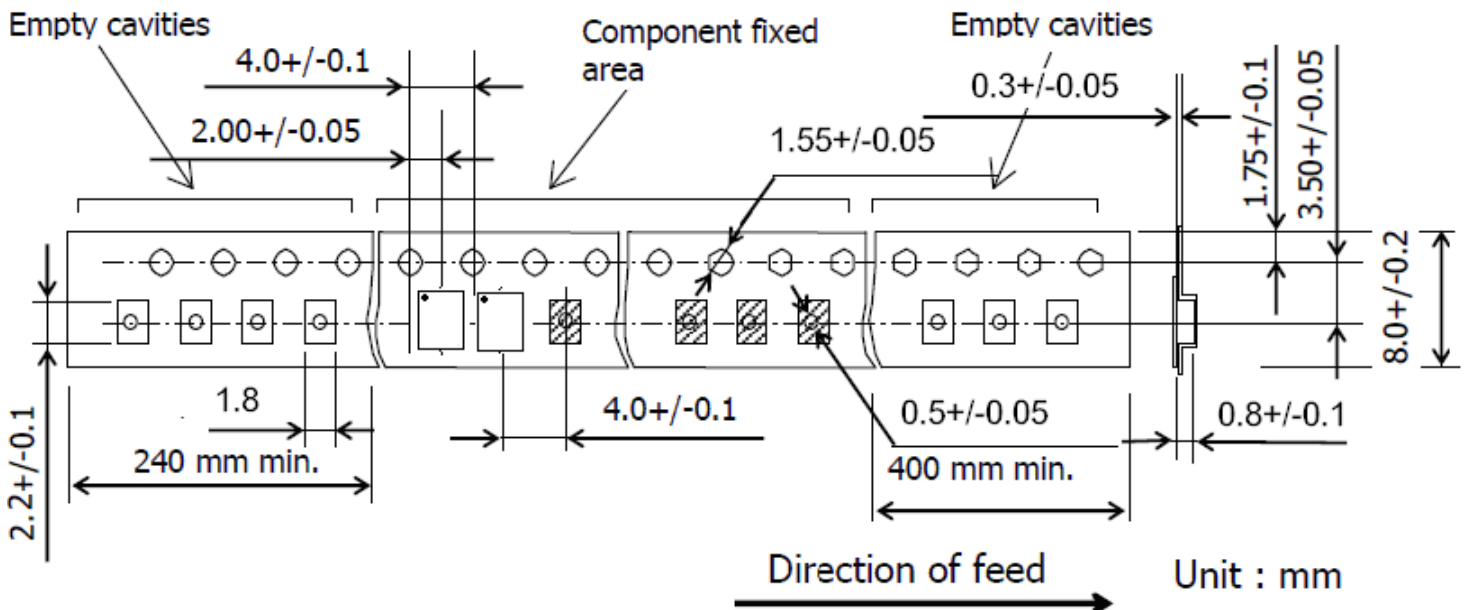
Color : Black

Surface resistance (reference value) : $10^9\Omega/\text{sq Max.}$

Unit : mm

| Code | Quantity | A | B | C | W1 | W2 |
|------|-----------|------------------------|--------------------|--------------------|-----------------|---------------|
| Z | 3,000 pcs | $\phi 180.0 +0.0/-1.5$ | $\phi 66.0 +/-0.5$ | $\phi 13.0 +/-0.2$ | $9.0 +1.0/-0.0$ | $11.4 +/-1.0$ |

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.

