



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet


Product Description: SAW DPX 1950/2140 MHz LTE Band 1 SMD 1814

TST Part No.: TF0126A

Customer Part No.: _____

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

Checked by: _____ Anne Chen 

Approved by: _____ Bob Chau 

Date: _____ 2017, 04, 10

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 1950/2140 MHz LTE Band 1 SMD 1814 (60 MHz BW)

MODEL NO.:TF0126A

REV.No.:2

A. MAXIMUM RATING:

1. Operating temperature range: -20 °C to +85 °C
2. Storage temperature range: -20 °C to +85 °C
3. Input power : 29dBm (0.8W)(Ta=+50°C,>50000h,CW)
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 1
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance (Tx Port): 50//22nH Ω(Single-ended)

Terminating impedance (Rx Port): 100//8.2nH Ω (Balanced)

Terminating impedance (Ant Port): 50//2.7nH Ω (Single-ended)

Tx to ANT (f_{T0}=1950 MHz)

| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|--------------|--------|-----|-----|-----|--------------|
| Insertion Loss | 1950~1980MHz | dB(*1) | - | 1.7 | 2.2 | |
| Amplitude ripple | 1950~1980MHz | dB | - | 0.8 | 1.2 | |
| VSWR | ANT | - | - | 1.6 | 2.0 | |
| | Tx | - | - | 1.4 | 2.0 | |
| Attenuation: | | | | | | |
| 1574~1577 MHz | | dB | 32 | 39 | | |
| 1805~1880 MHz | | dB | 15 | 40 | | |
| 2010~2025 MHz | | dB | 10 | 26 | | Ta=+15~85 °C |
| 2110~2170 MHz | | dB | 40 | 49 | | |
| 2400~2500 MHz | | dB | 30 | 50 | | |
| 3840~3960 MHz | | dB | 30 | 38 | | |

ANT to Rx ($f_{T0}=2140$ MHz)

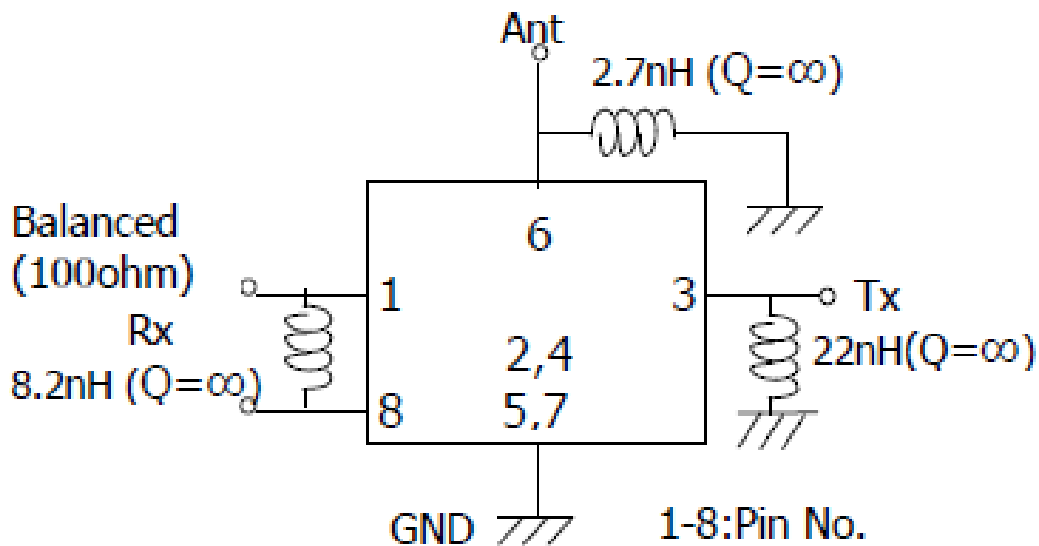
| Parameters Description | | Unit | Min | Typ | Max | Remarks |
|------------------------|---------------|--------|------|-----------|------|---------|
| Insertion Loss | 2110~2170 MHz | dB(*1) | - | 1.8 | 2.2 | |
| Amplitude ripple | 2110~2170 MHz | dB | - | 0.7 | 1.2 | |
| Phase balance | 2110~2170 MHz | Deg | -12 | -8/+1 | +12 | |
| Amplitude balance | 2110~2170 MHz | dB | -1.2 | -0.2/+0.7 | +1.2 | |
| VSWR | ANT | - | | 1.4 | 2.0 | |
| | Rx | - | | 1.7 | 2.1 | |
| Attenuation: | | | | | | |
| 1920~1980 MHz | | dB | 45 | 49 | - | |
| 1980~2025 MHz | | dB | 20 | 41 | - | |
| 2400~2500 MHz | | dB | 30 | 40 | | |

Tx to Rx

| | | | | | | |
|-----------|--------------|----|----|----|---|--|
| Isolation | 1920~1980MHz | dB | 53 | 57 | - | |
| | 2110~2170MHz | dB | 47 | 51 | - | |

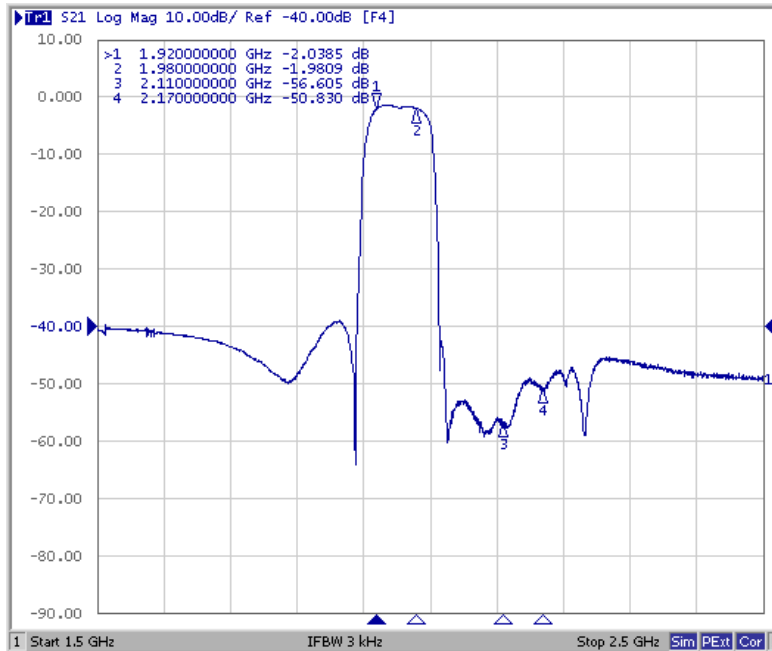
(*1) Specification of insertion loss excludes loss that comes from the test board

C.Evaluation Circuit

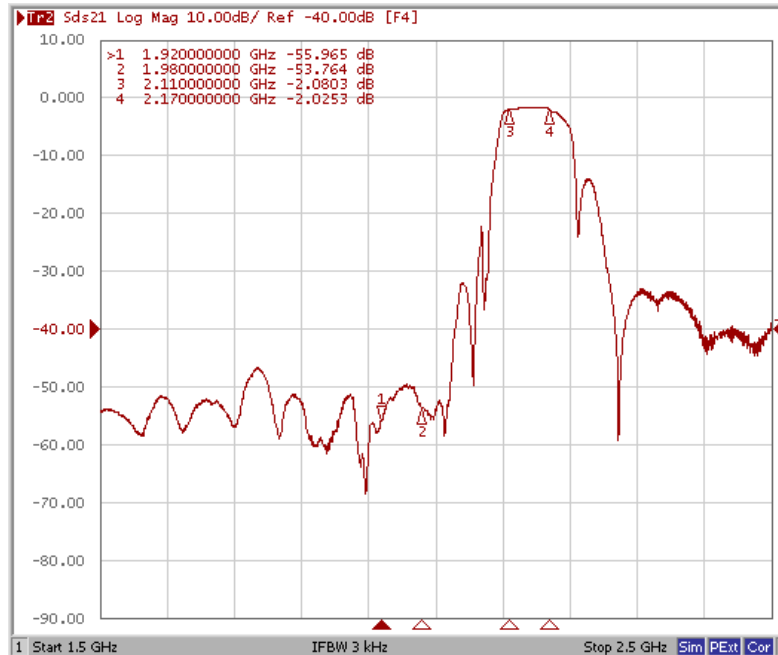


D. FREQUENCY CHARACTERISTICS:

Tx to Ant

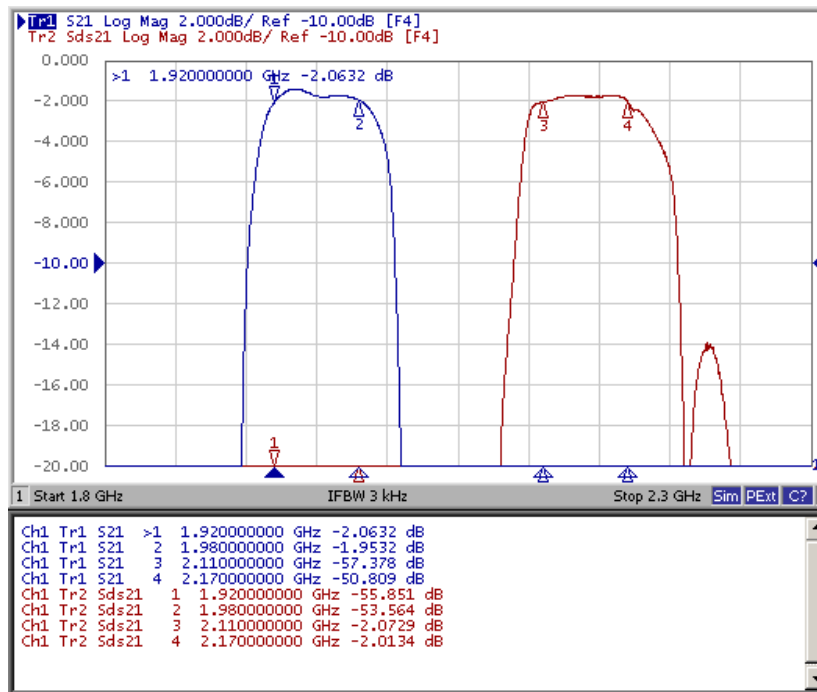


Ant to Rx

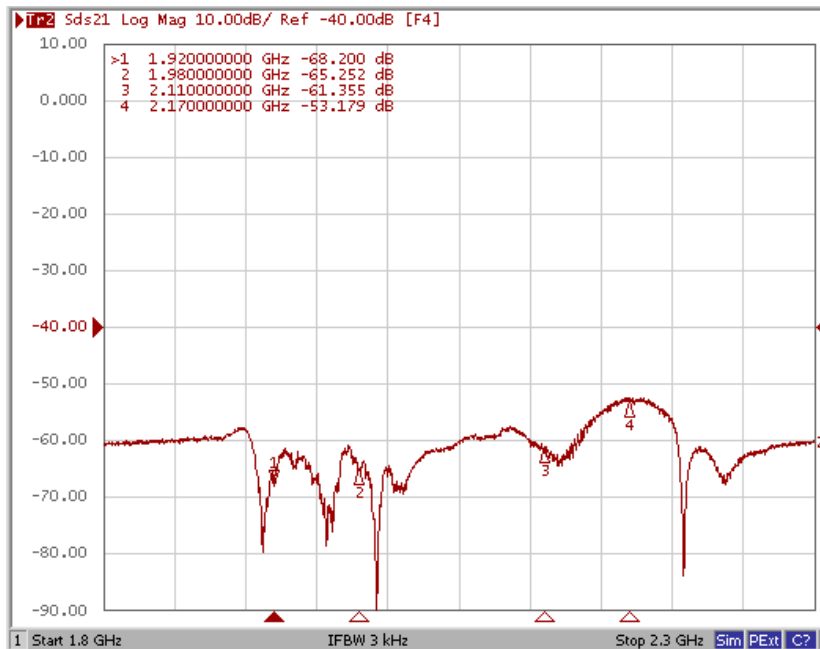


These data exclude loss that comes from the test board.

Tx to Ant ,Ant to Rx

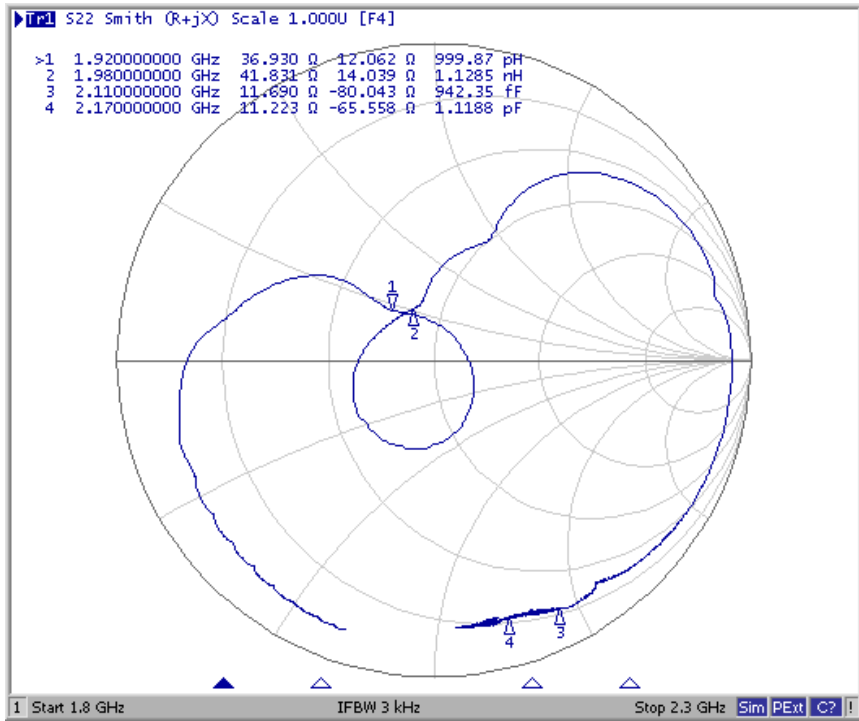


Tx to Rx Isolation

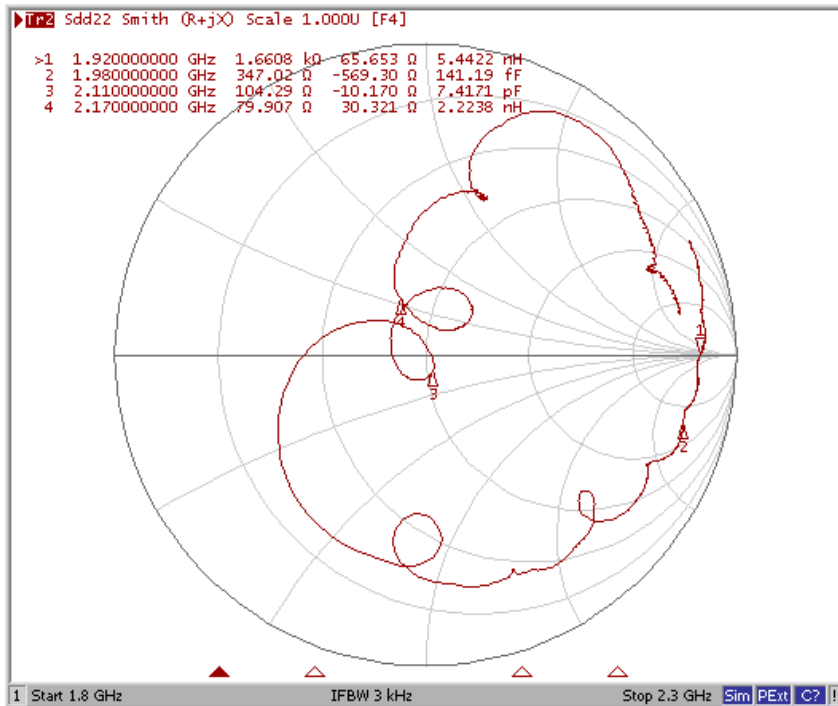
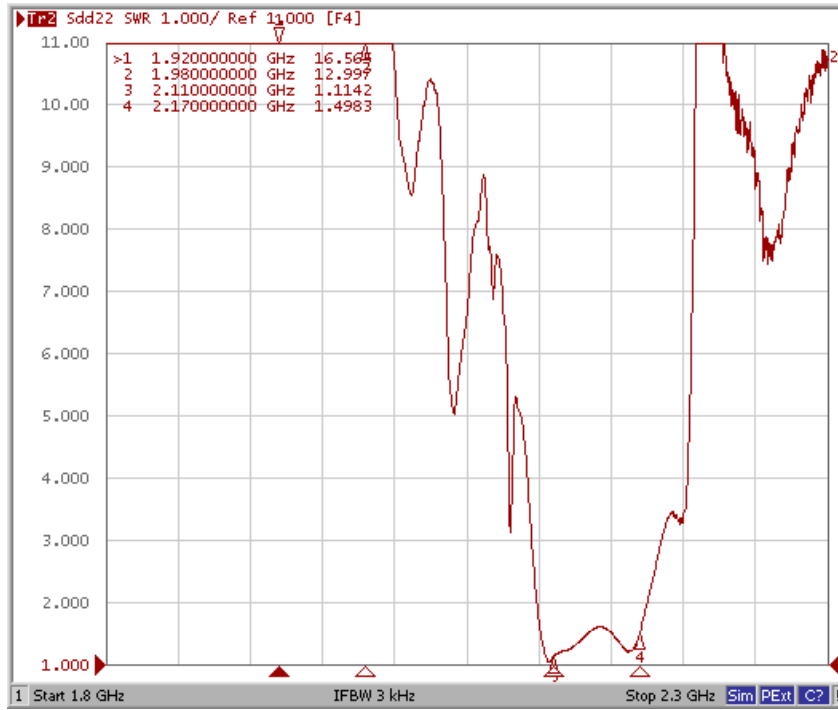


These data exclude loss that comes from the test board.

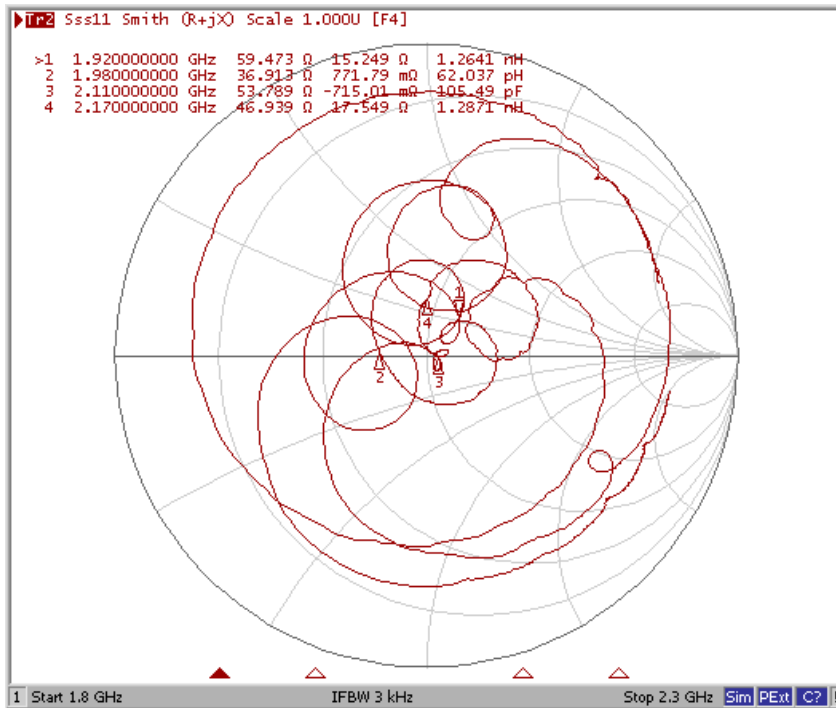
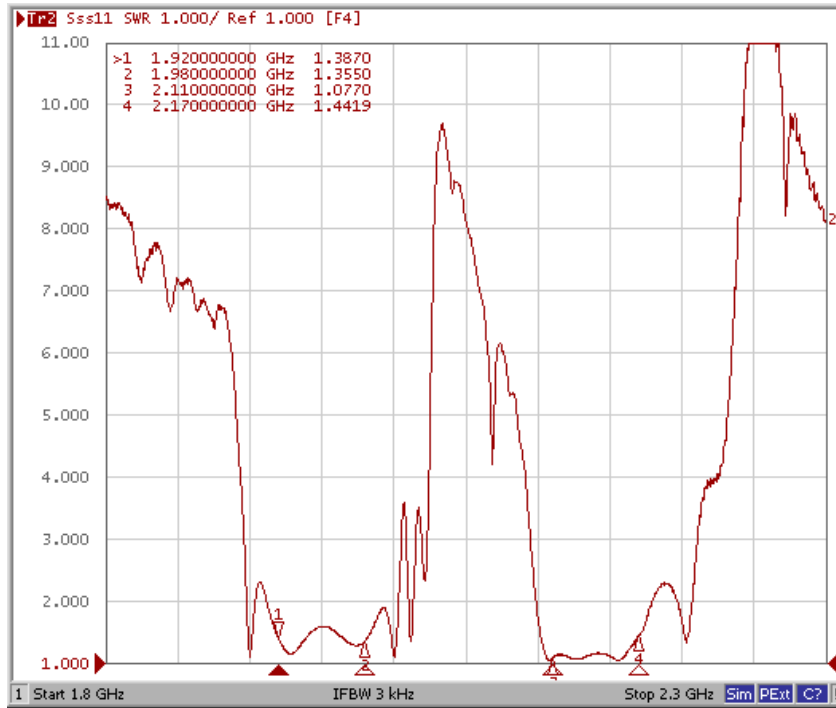
Tx Port



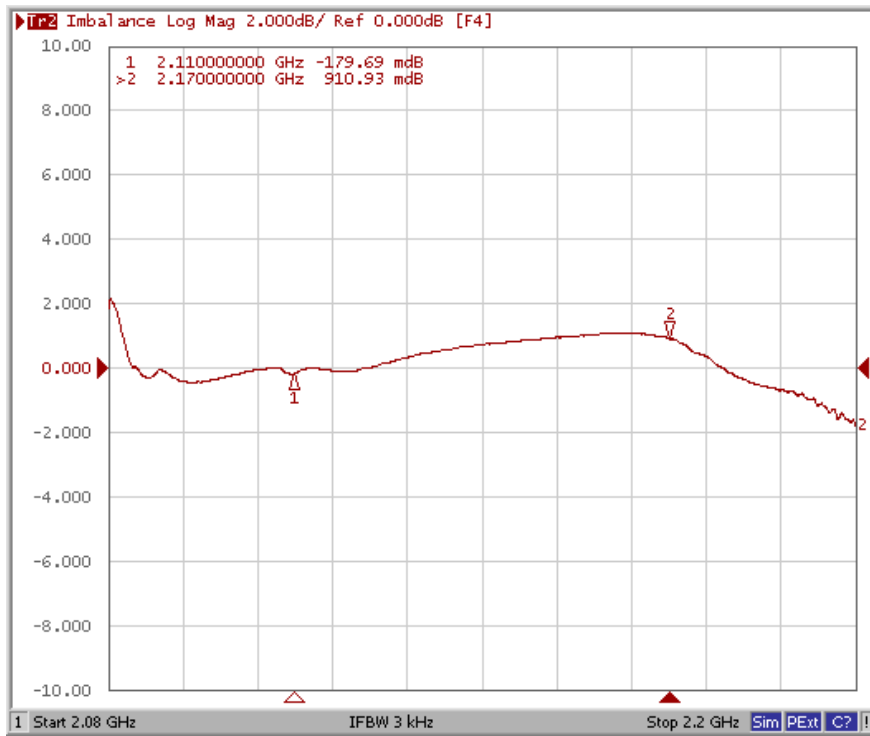
Rx Port



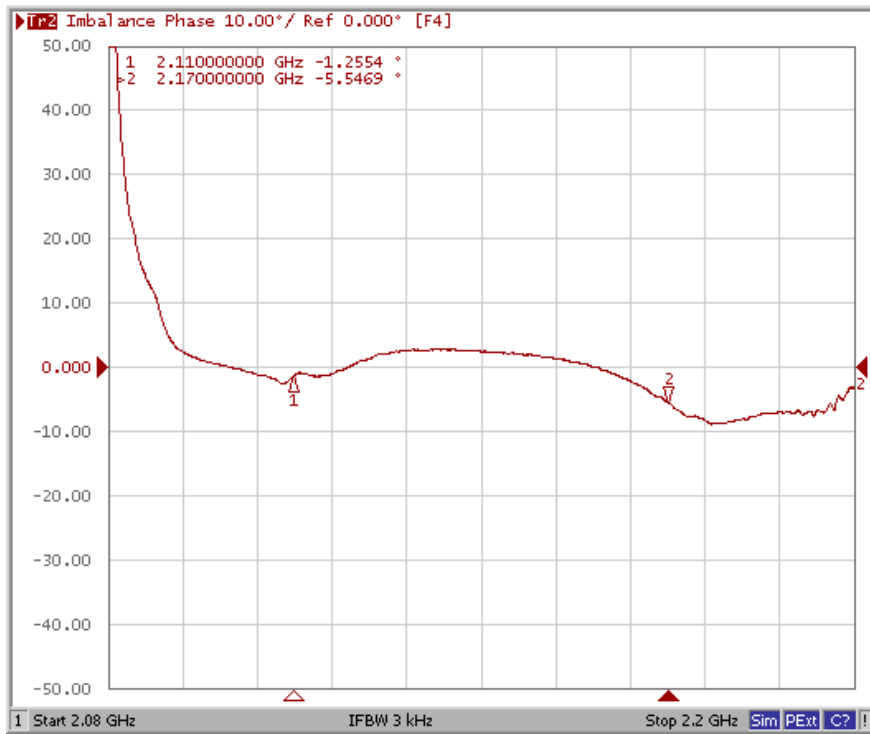
Ant Port



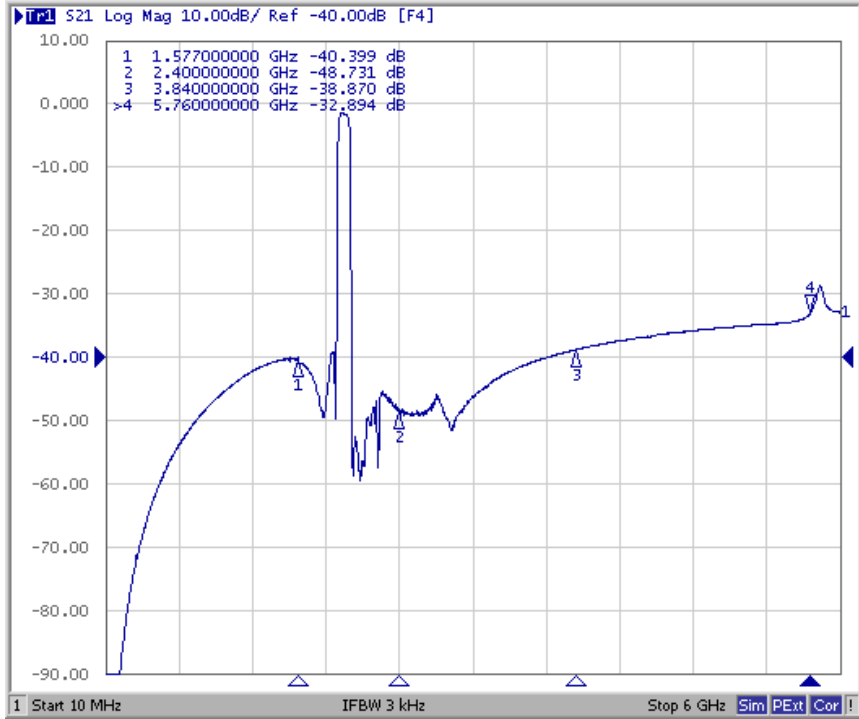
Ant to Rx (Amplitude balance)



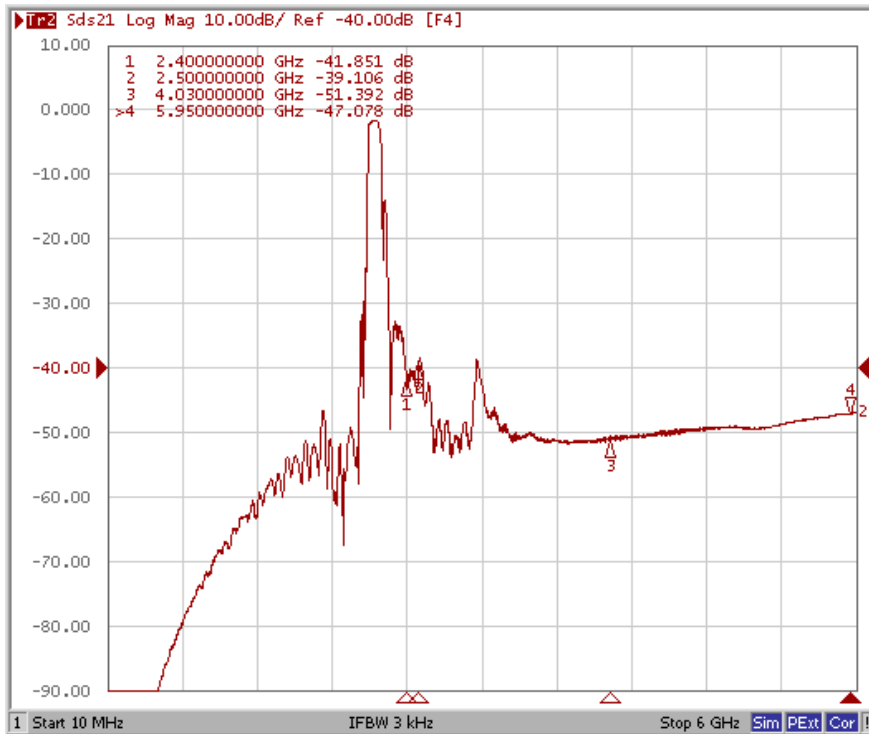
Ant to Rx (Phase balance)



Tx to Ant (Wide span)

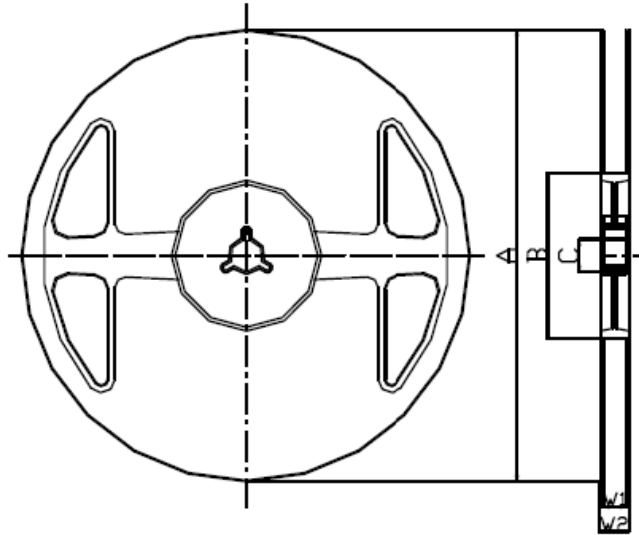


Ant to Rx (Wide span)



G. PACKING:

1. REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

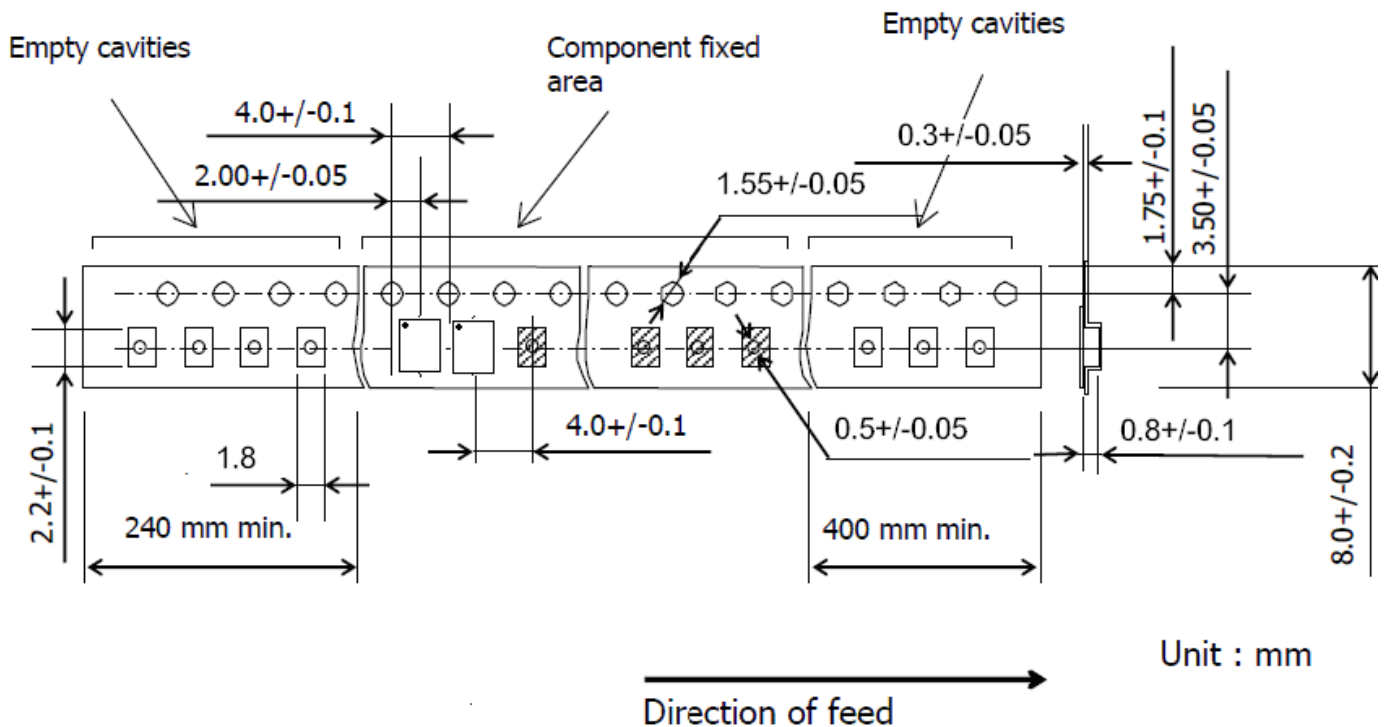
Color : Black

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

Unit : mm

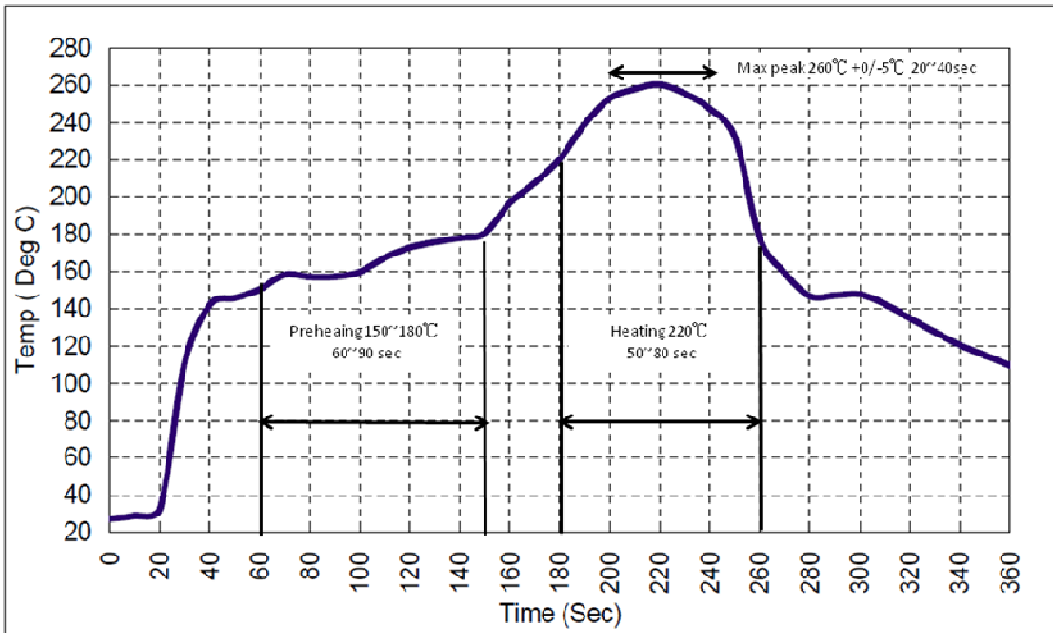
| Code | Quantity | A | B | C | W1 | W2 |
|------|-----------|------------------------|--------------------|--------------------|-----------------|---------------|
| Z | 3,000 pcs | $\phi 180.0 +0.0/-1.5$ | $\phi 66.0 +/-0.5$ | $\phi 13.0 +/-0.2$ | $9.0 +1.0/-0.0$ | $11.4 +/-1.0$ |

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.



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