**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
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

# Product Specifications Approval Sheet

Product Name: Duplexer 1732.5/2132.5MHz 45MHz BW SMD 2.0×1.6 mm

TST Parts No.: TF0087A

Customer Part No.:_____

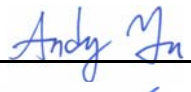
Customer signature required

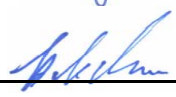
Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Andy Yu 

Approved by:_____ Bob Chau 

Date:_____ 2013, 11,13

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 changes

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## SAW Duplexer 1732.5/2132.5MHz 45MHz BW SMD 2.0×1.6 mm

MODEL NO.: TF0087A REV. No.: 1.0

### A. MAXIMUM RATING:

1. Maximum Input Power: 29 dBm
2. DC voltage: 0 V
3. Operating Temperature: -20°C to +85°C
4. Storage Temperature: -40°C to +85°C

RoHS Compliant

Lead-free soldering

### B. ELECTRICAL CHARACTERISTICS:

| Tx to Ant | | Specifications | | | |
|---|---|---|---|---|---|
| Parameters Description | Condition [MHz] | Unit | Minimum | Typical | Maximum |
| Insertion Loss | 1710.0 ~ 1755.0 | dB | - | 1.8 | 2.0 |
| Ripple | 1710.0 ~ 1755.0 | dB | - | 0.6 | 1.0 |
| VSWR of Ant Port | 1710.0 ~ 1755.0 | - | - | 1.6 | 2.0 |
| VSWR of Tx Port | 1710.0 ~ 1755.0 | - | - | 1.8 | 2.1 |
| Attenuation | 300.0 ~ 1574.0 | dB | 30 | 40 | - |
| | 1574.0 ~ 1577.0 | dB | 45 | 49 | - |
| | 1574.0 ~ 1605.0 | dB | 38 | 45 | - |
| | 1805.0 ~ 1880.0 | dB | 41 | 49 | - |
| | 1930.0 ~ 1990.0 | dB | 42 | 46 | - |
| | 2110.0 ~ 2155.0 | dB | 50 | 54 | - |
| | 2400.0 ~ 2500.0 | dB | 35 | 41 | - |
| | 3420.0 ~ 3540.0 | dB | 21 | 30 | - |
| | 5130.0 ~ 5265.0 | dB | 12 | 24 | - |

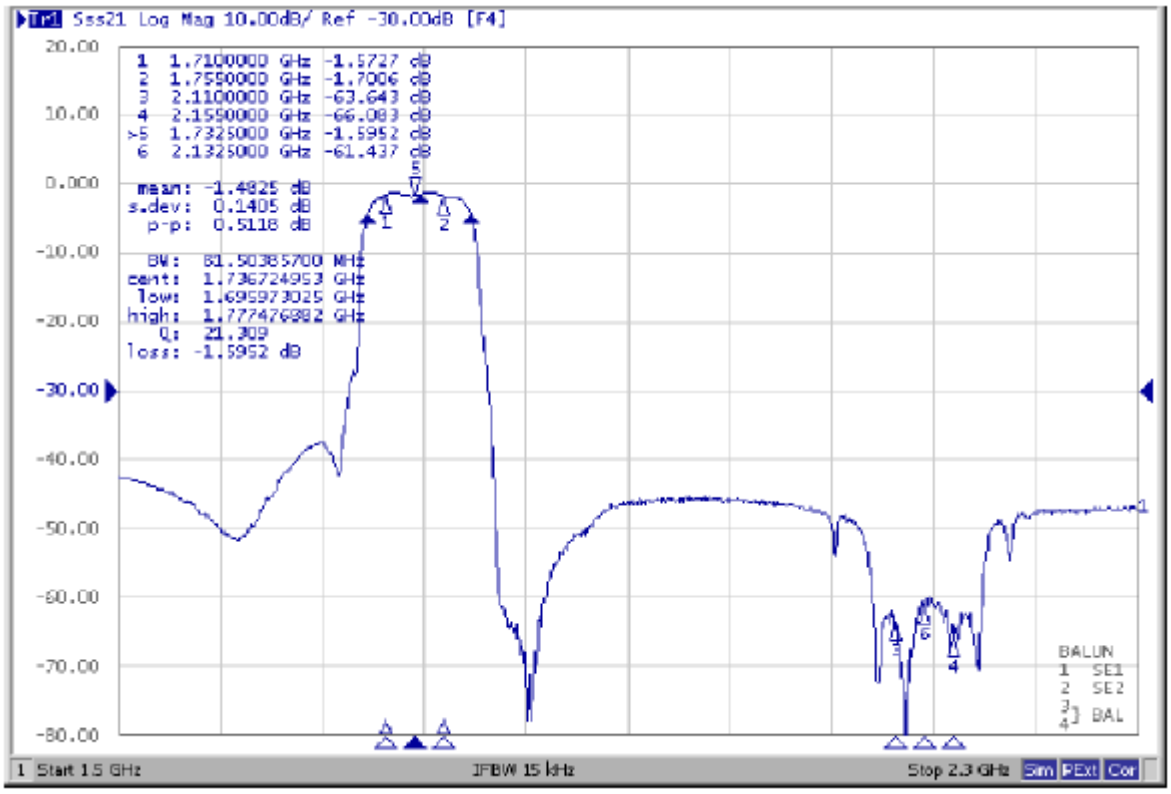
**Notes :** (1) With Matching Network .

| Ant to Rx | | Specifications | | | |
|---|---|---|---|---|---|
| **Parameters Description** | **Condition [MHz]** | **Unit** | **Minimum** | **Typical** | **Maximum** |
| **Insertion Loss** | 2110.0 ~ 2155.0 | dB | - | 1.8 | 2.0 |
| **Ripple** | 2110.0 ~ 2155.0 | dB | - | 0.4 | 0.8 |
| **VSWR of Ant Port** | 2110.0 ~ 2155.0 | - | - | 1.4 | 2.0 |
| **VSWR of Rx Port** | 2110.0 ~ 2155.0 | - | - | 1.6 | 2.0 |
| **Attenuation** | 300.0 ~ 1710.0 | dB | 40 | 47 | - |
| | 1710.0 ~ 1755.0 | dB | 48 | 51 | - |
| | 1755.0 ~ 2025.0 | dB | 30 | 41 | - |
| | 2240.0 ~ 2400.0 | dB | 25 | 30 | - |
| | 2400.0 ~ 2484.0 | dB | 35 | 41 | - |
| | 2484.0 ~ 6000.0 | dB | 35 | 43 | - |
| **Amplitude balance($\lvert S_{31}/S_{41} \rvert$)** | 2110.0 ~ 2155.0 | dB | -1.0 | -0.1/+0.7 | +1.0 |
| **Phase balance** $\Phi(S_{31})-\Phi(S_{41})+180^{\circ}$ | 2110.0 ~ 2155.0 | deg | -12 | -1/+8 | +12 |

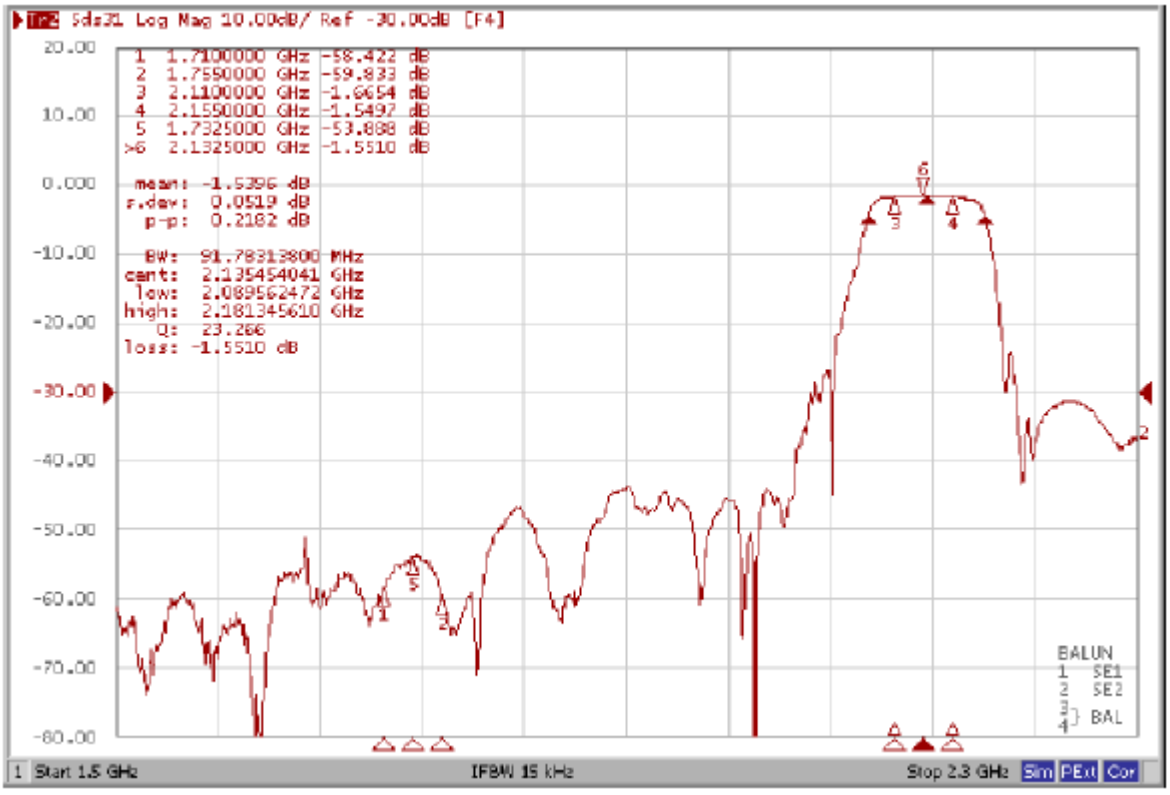
| Tx to Rx | | Specifications | | | |
|---|---|---|---|---|---|
| **Parameters Description** | **Condition [MHz]** | **Unit** | **Minimum** | **Typical** | **Maximum** |
| **Isolation in Tx Band** | 1710.0 ~ 1755.0 | dB | 52 | 55 | - |
| **Isolation in Rx Band** | 2110.0 ~ 2155.0 | dB | 47 | 50 | - |

## C. Frequency Characteristics :

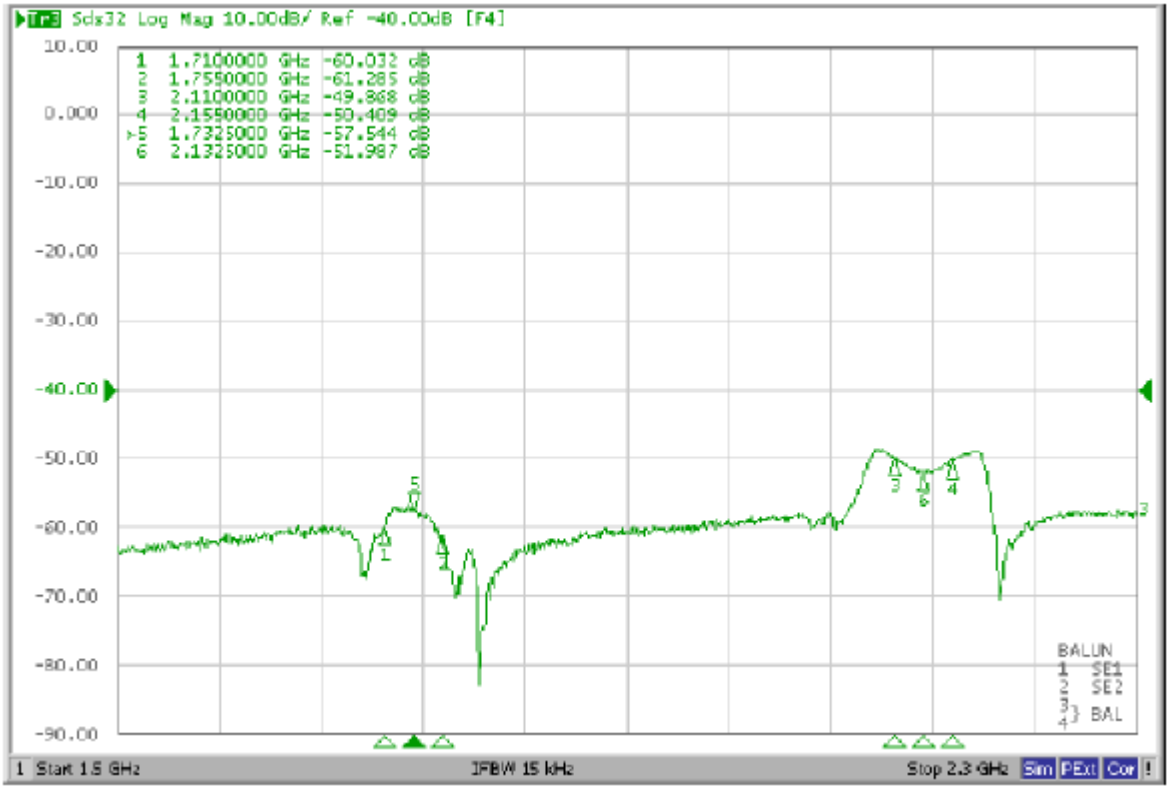
### Tx to Ant



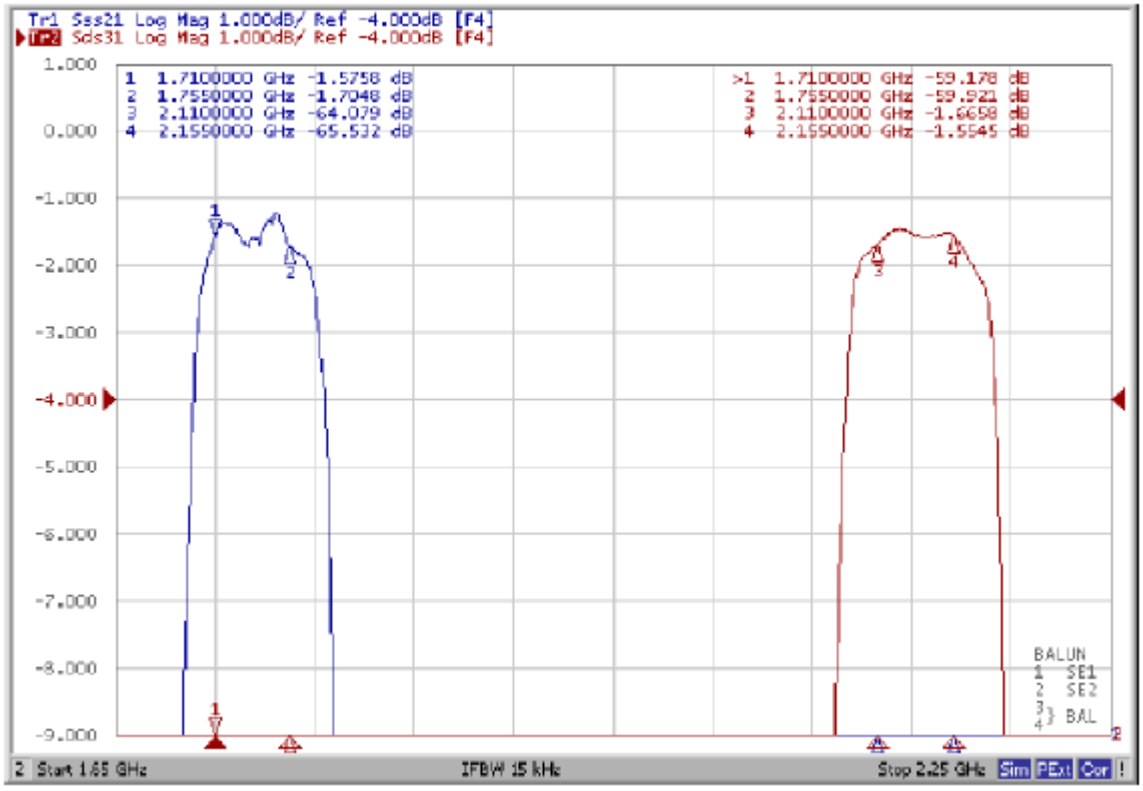

### Ant to Rx



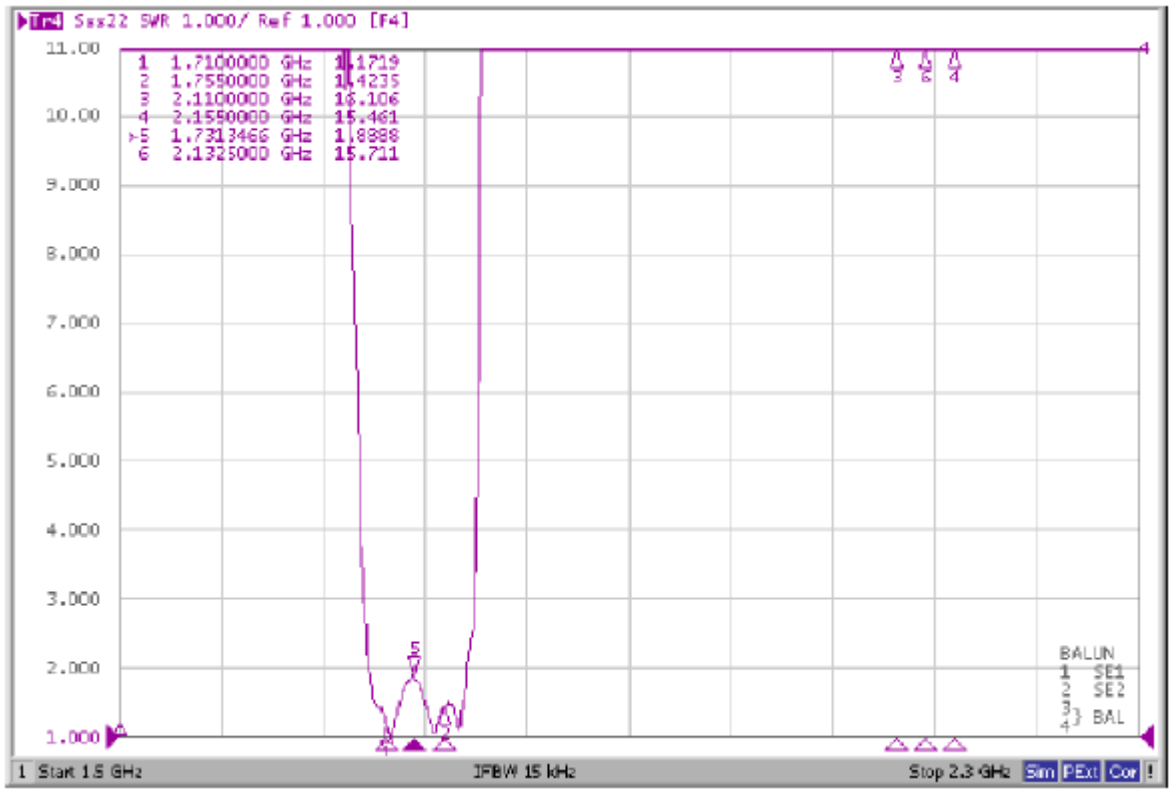
## Isolation



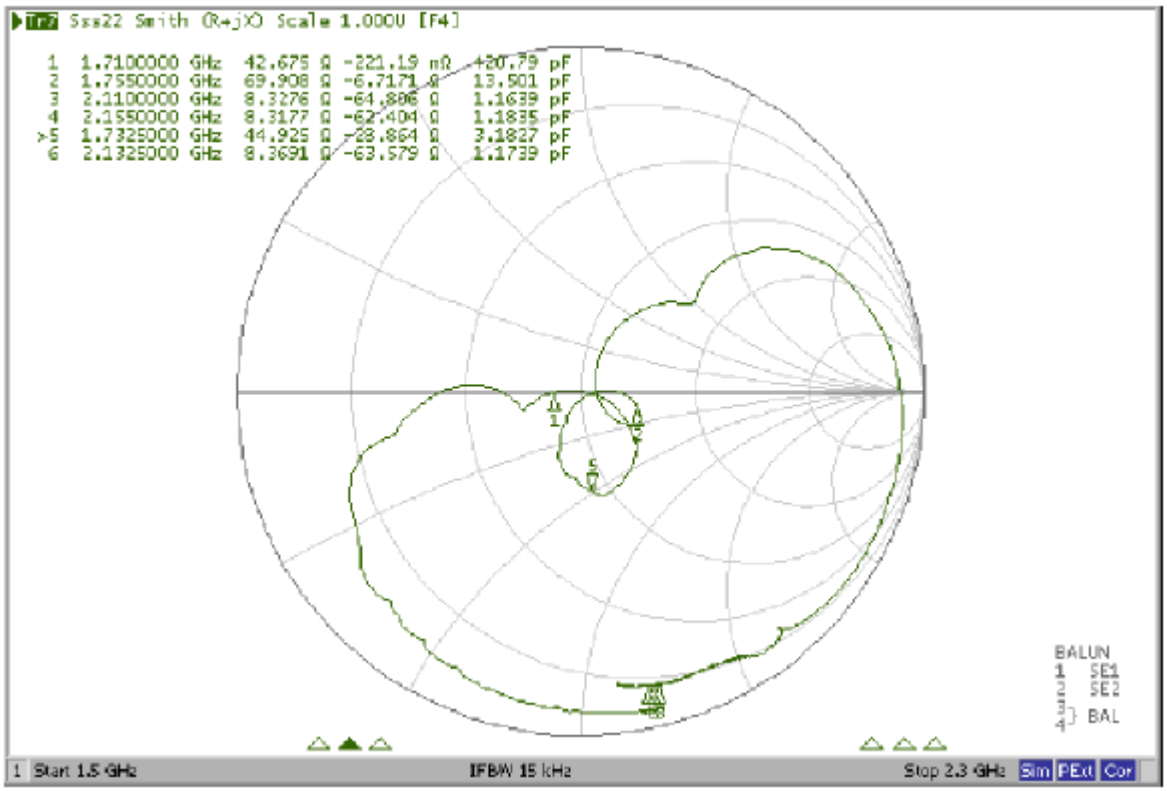

## Ripple



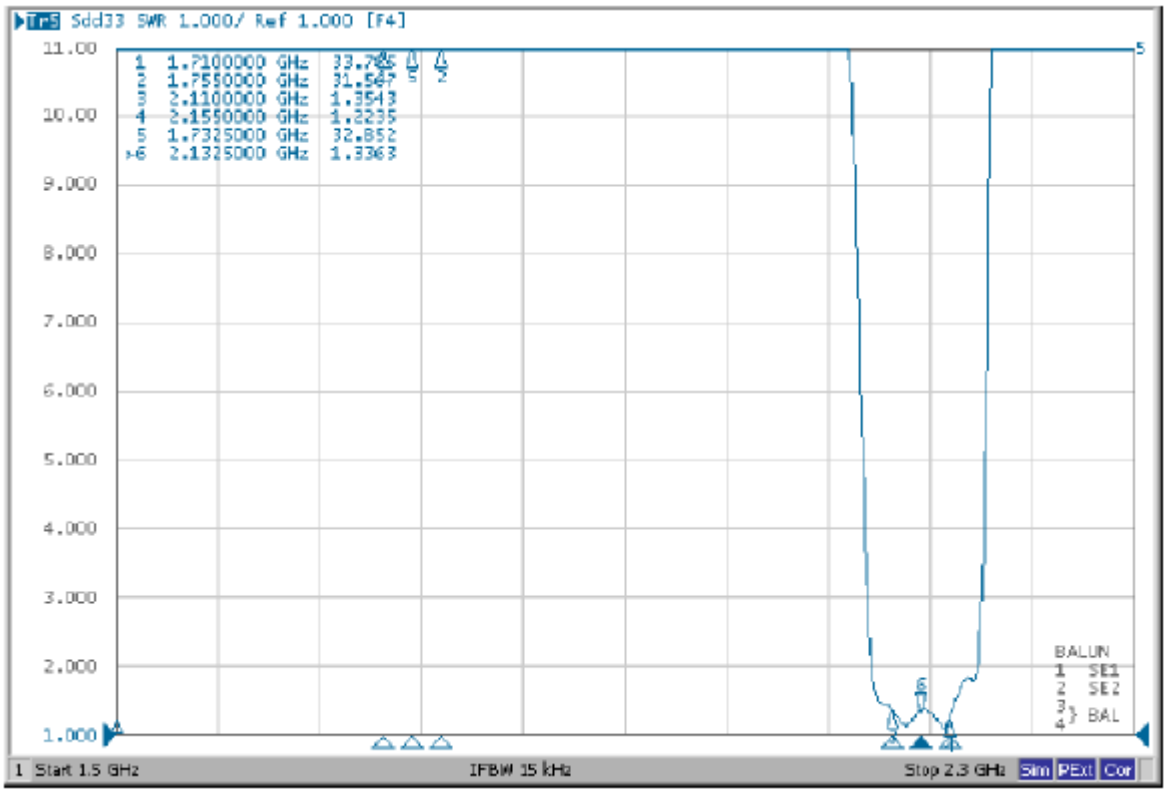
## VSWR (Tx Port)



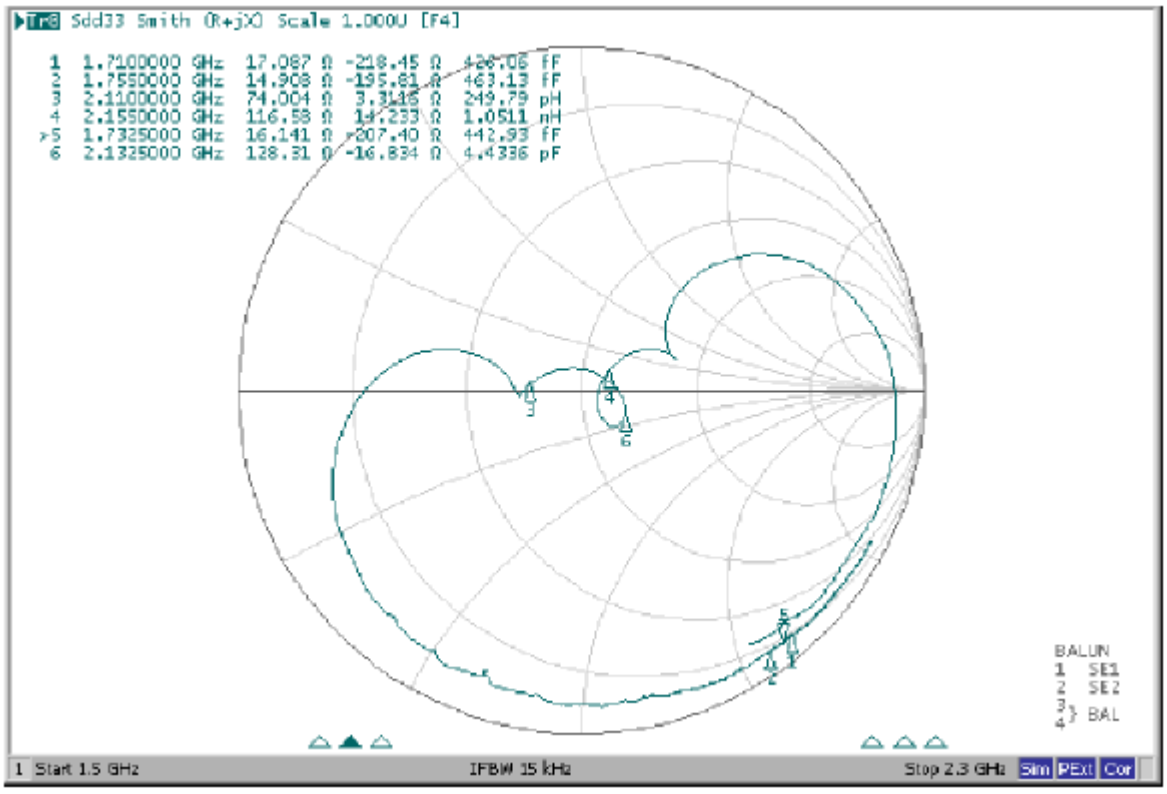

## Smith Chart (Tx Port)



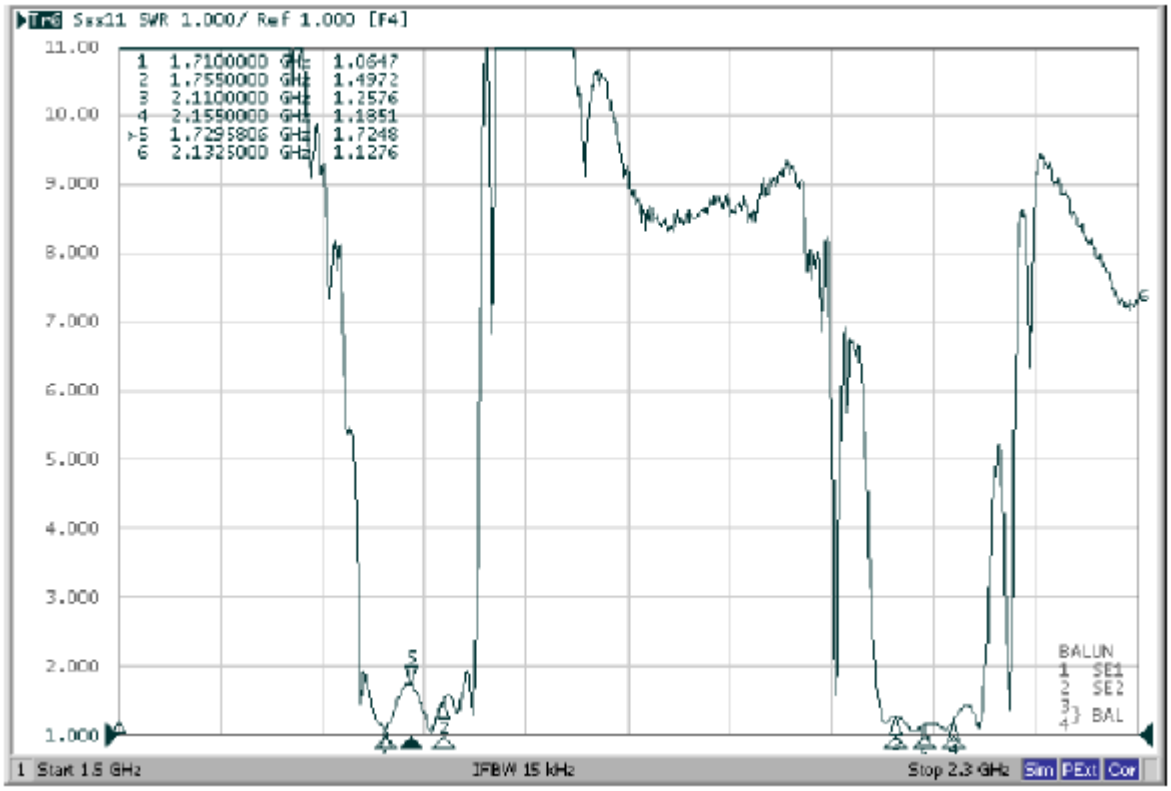
## VSWR (Rx Port)



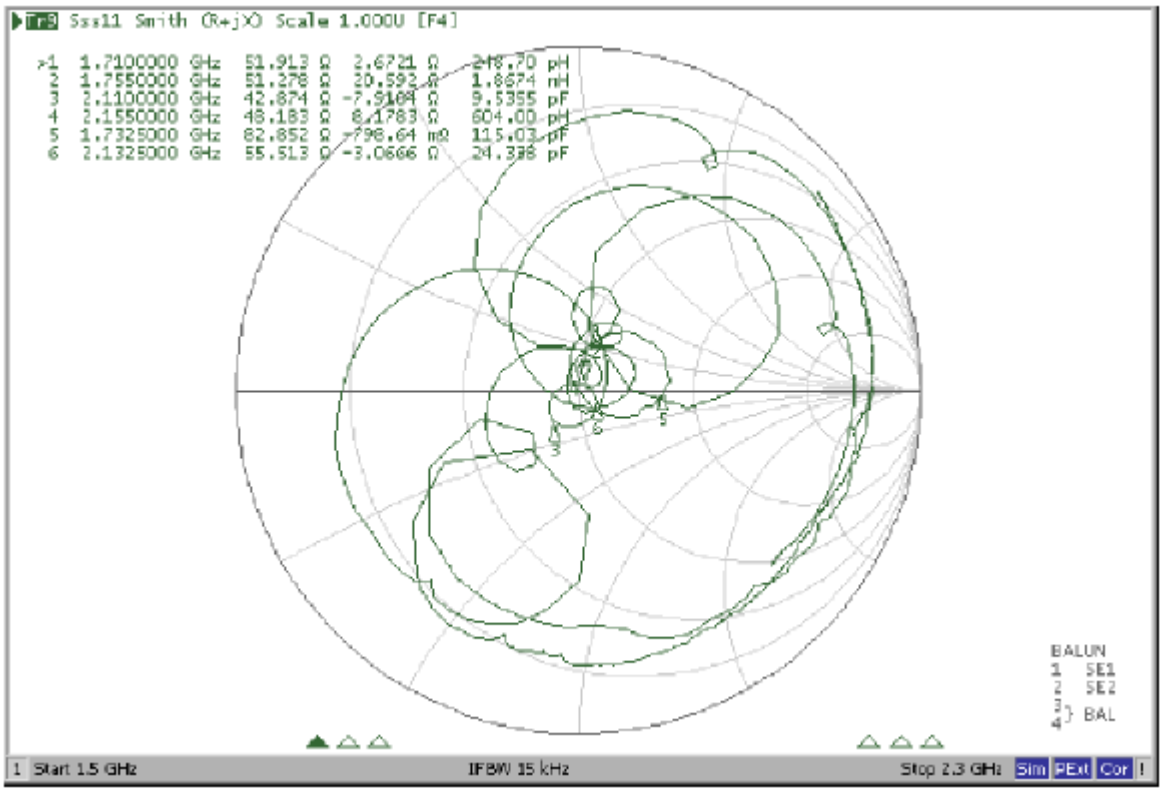

## Smith Chart (Rx Port)



## VSWR (ANT Port)

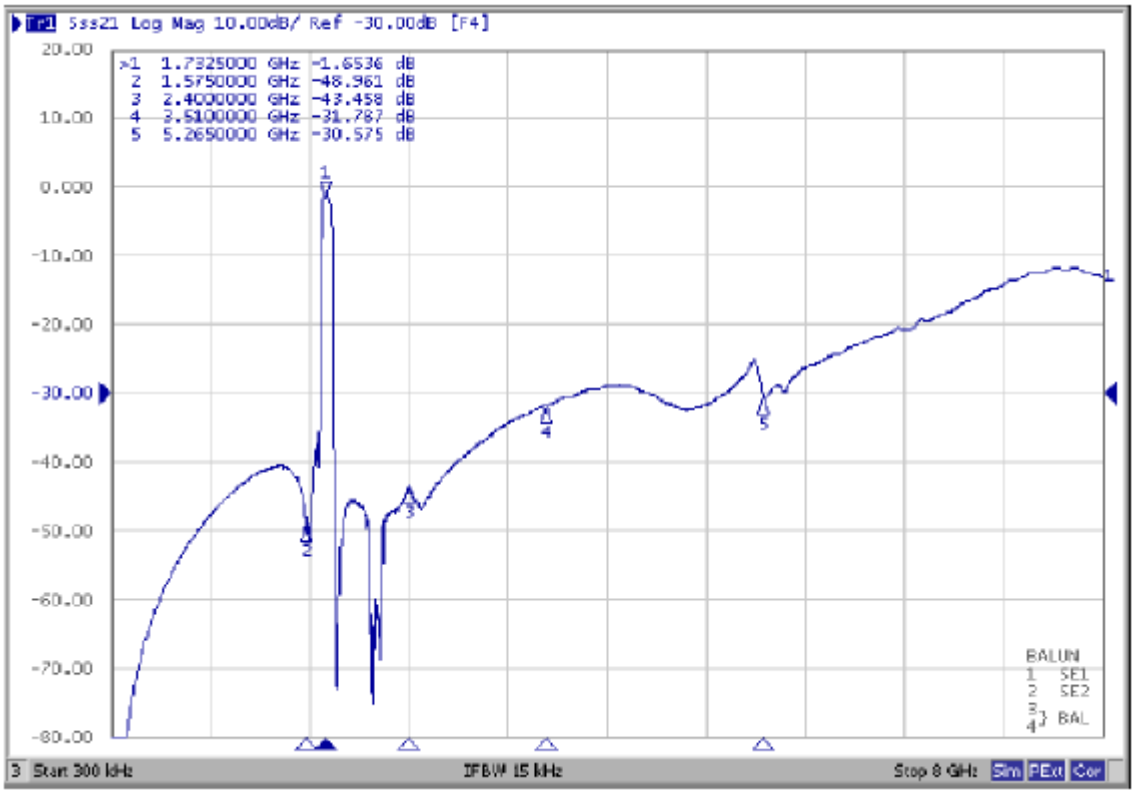



## Smith Chart (ANT Port)

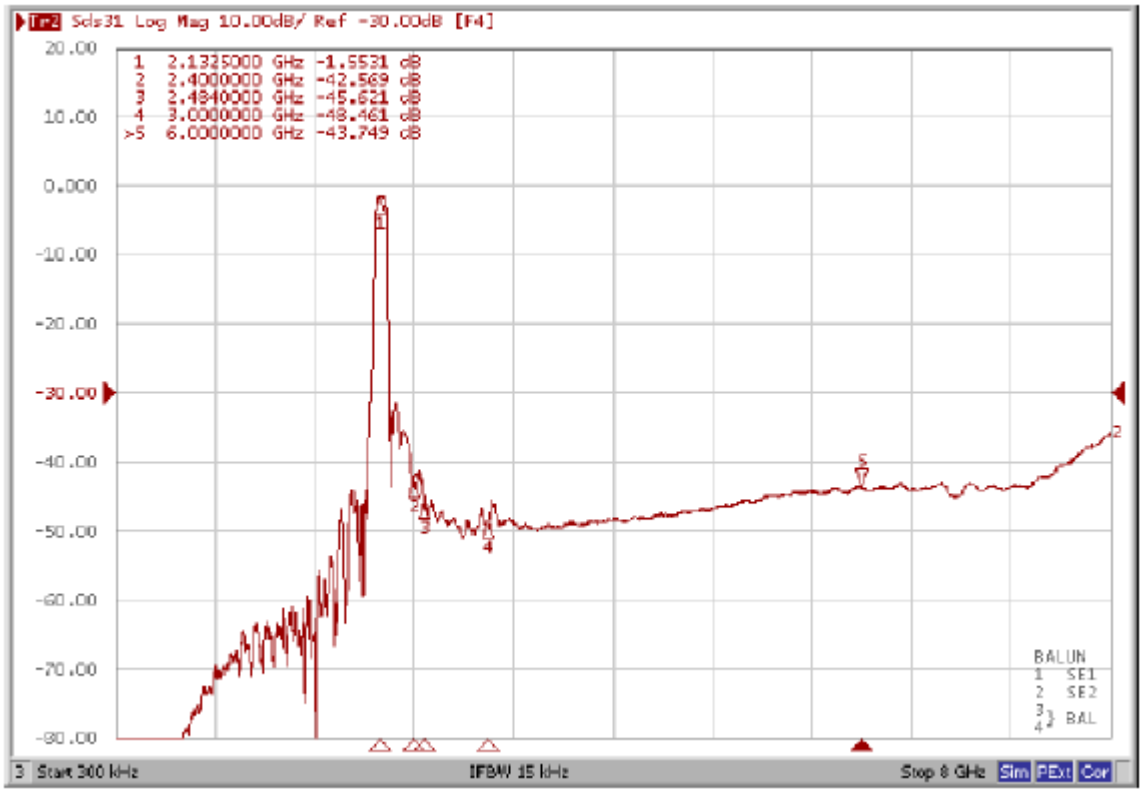


## Wide Span

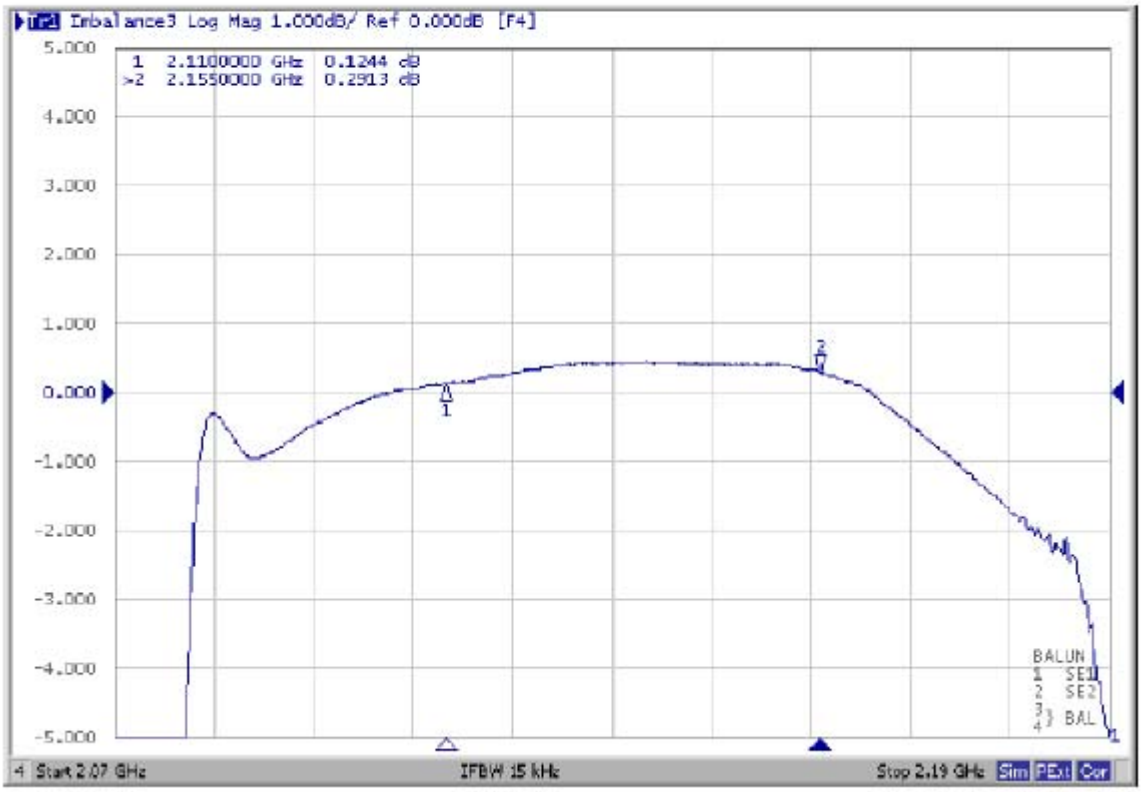
**Tx**




**Rx**

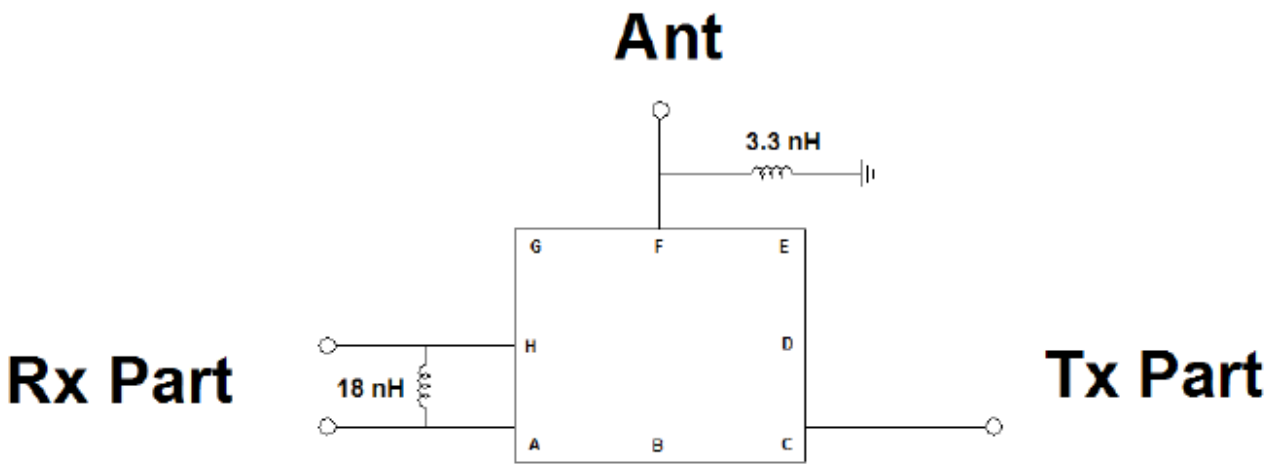


## Amplitude balance of Ant to Rx+/Rx-

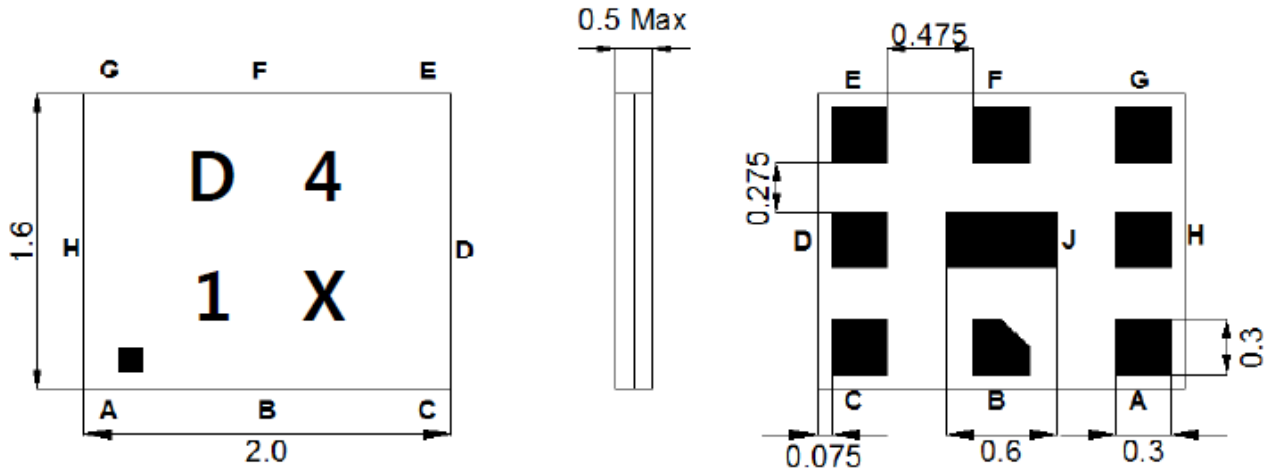



## Phase balance of Ant to Rx+/Rx-

## D. MEASUREMENT CIRCUIT:




## E.OUTLINE DRAWING:



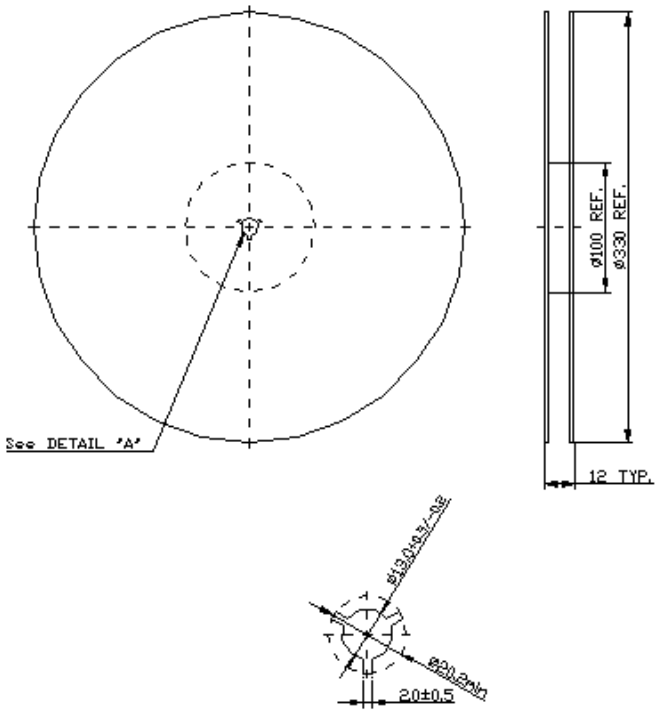

| Marking Descriptions | |
|---|---|
| D | Duplexer Application |
| 4 | Band Class |
| 1 | Series Number |
| X | Date Code(Year+Month) |

| Pin Description | |
|---|---|
| B,D,E,G,J | Ground |
| F | Ant |
| C | Tx (1732.5MHz) |
| A,H | Rx (2132.5MHz) |

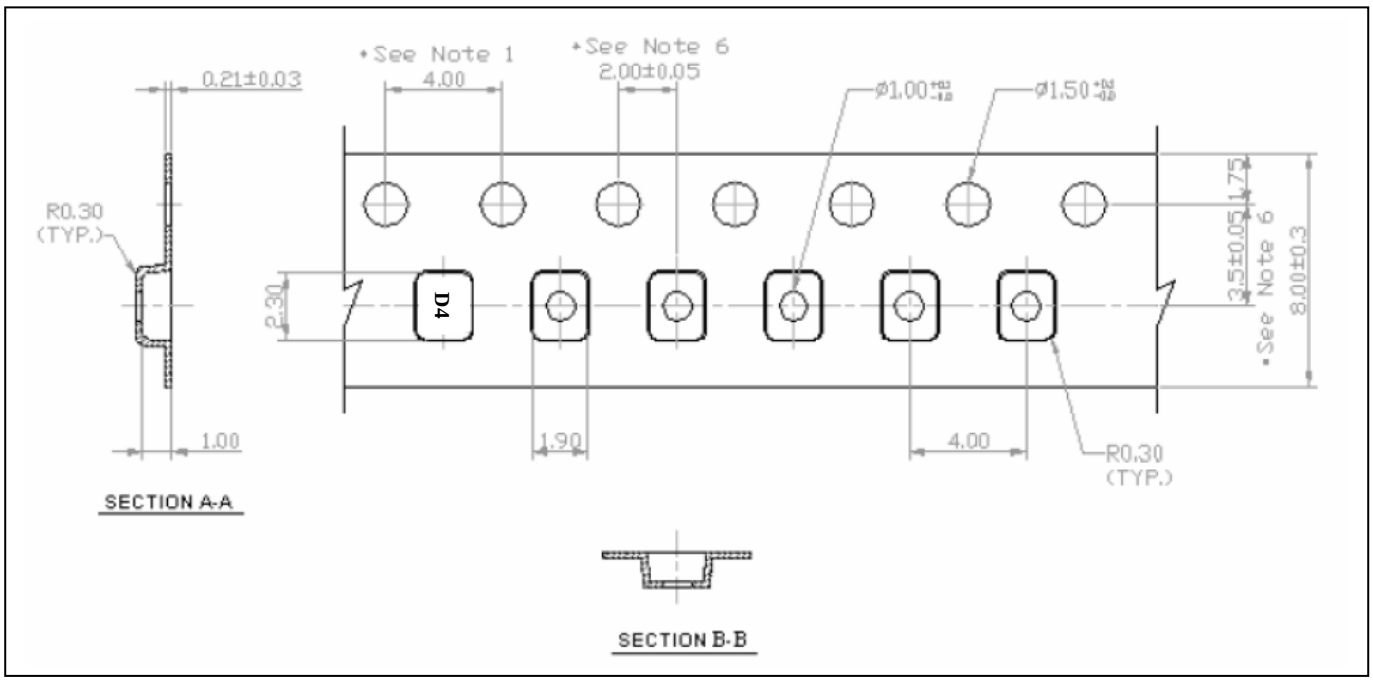
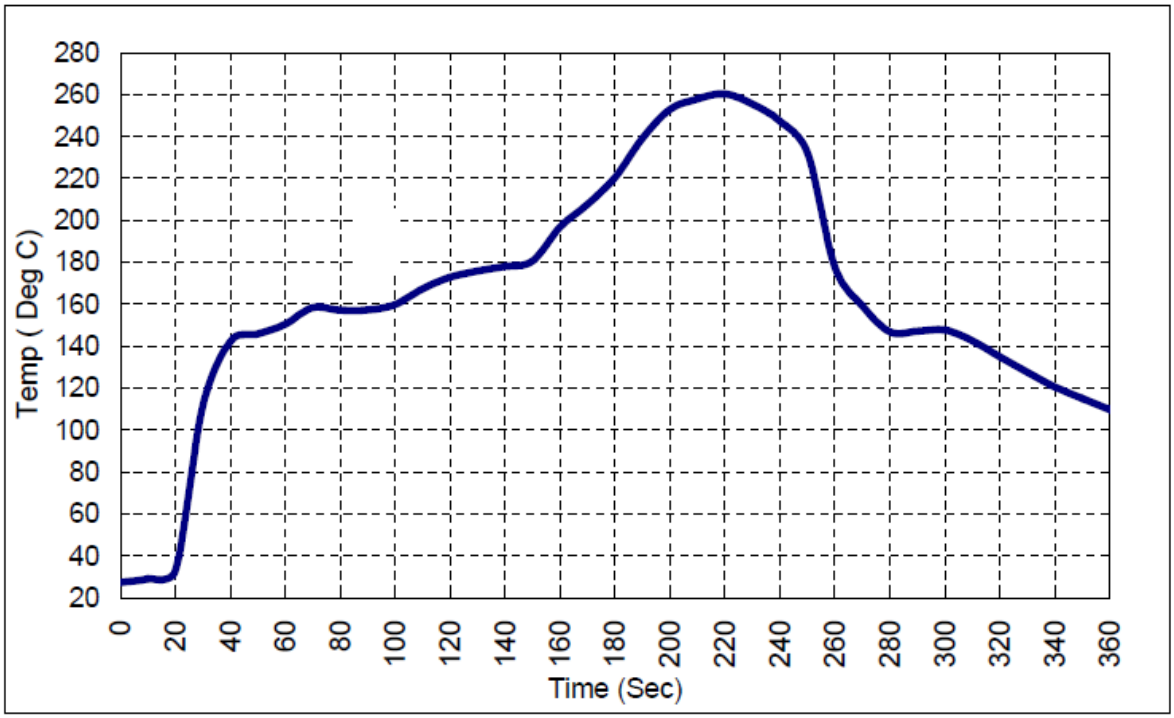
## E. PACKING:

1. REEL DIMENSION

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




2.TAPE DIMENSION



## F. RECOMMENDED REFLOW PROFILE :