



HANGZHOU SAPPLAND MICROELECTRONICS TECHNOLOGY CO., LTD

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# SAW Device Data Sheet

**Band 28B Duplexer / Unbalanced /1814**

**PN: [SPSD28BU11A](#)**

**Rev: 1.1**

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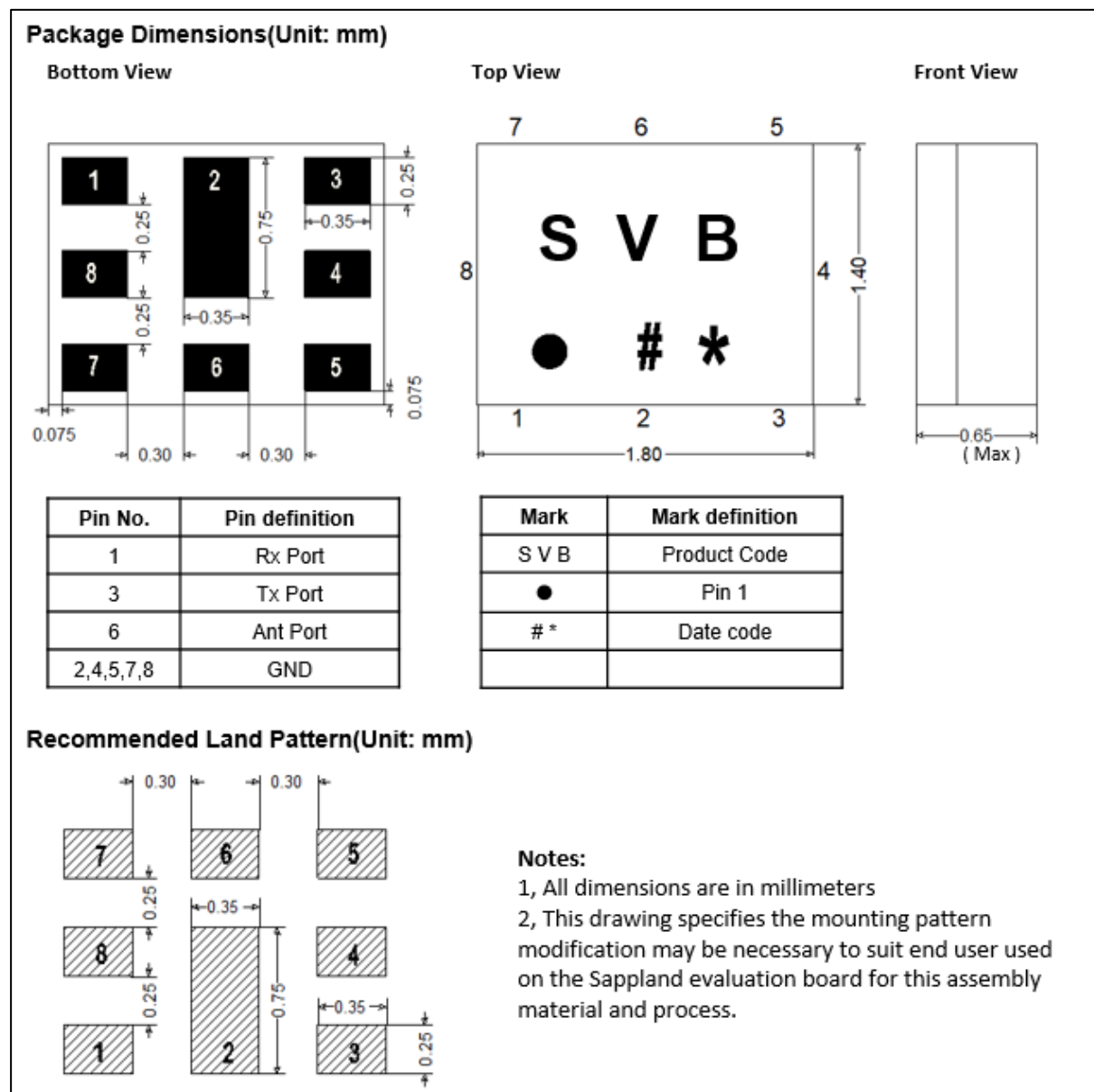
## **Feature:**

- low insertion loss
- high isolation between Tx and Rx

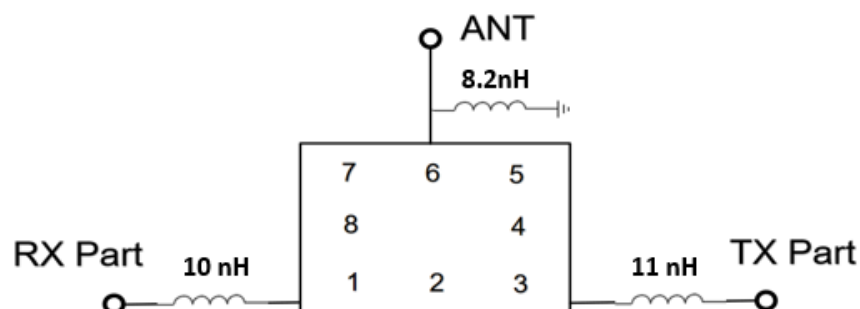
# 1.Revision History

| Revision | Date        | Comments            |
|----------|-------------|---------------------|
| 1.0      | Jun-14-2024 | Initial release     |
| 1.1      | Aug-30-2024 | Update Reeling Qty' |
|          |             |                     |
|          |             |                     |
|          |             |                     |

## 2.Package and Pin map



### Application circuit (with ideal components)



## 3. Performance

### 3.1 Absolute maximum ratings

| Item                              | Rating      | Note             |
|-----------------------------------|-------------|------------------|
| Storage Temperature               | -40 ~ 85 °C |                  |
| Operating Temperature             | -30 ~ 85 °C |                  |
| Input Power Max                   | 29 dBm      | LTE, 5000h, 50°C |
| D.C Voltage between the terminals | 3 V         | 25±2deg.C        |

### 3.2 Electrical specification

#### Tx Electrical specification (-30 to +85 °C)

| TX to ANT            |                       | Characteristics |                   |     | Unit | Note |
|----------------------|-----------------------|-----------------|-------------------|-----|------|------|
|                      |                       | min             | Typ. <sup>1</sup> | max |      |      |
| Center Frequency     |                       | -               | 733               | -   | MHz  |      |
| Insertion Loss       | 720.50~ 745.50 MHz    |                 | 1.7               | 2.5 | dB   |      |
|                      | 718.00~ 748.00 MHz    |                 | 1.7               | 2.7 |      |      |
| Amplitude ripple     | 718.00 ~ 748.00 MHz   |                 | 0.8               | 2.0 | dB   |      |
| VSWR                 | 718.00 ~ 748.00 MHz   |                 | 1.6               | 2.0 | -    | Tx   |
|                      | 718.00 ~ 748.00 MHz   |                 | 1.6               | 2.0 | -    | ANT  |
| Absolute attenuation | 10.00 ~ 698.00 MHz    | 25              | 30                |     | dB   |      |
|                      | 698.00 ~ 710.00 MHz   | 5               | 30                |     | dB   |      |
|                      | 758.00 ~ 773.00 MHz   | 5               | 13                |     | dB   |      |
|                      | 773.00 ~ 803.00 MHz   | 45              | 51                |     | dB   |      |
|                      | 859.00 ~ 894.00 MHz   | 25              | 31                |     | dB   |      |
|                      | 1225.00 ~ 1250.00 MHz | 30              | 36                |     | dB   |      |
|                      | 1436.00 ~ 1510.00 MHz | 25              | 32                |     | dB   |      |
|                      | 1559.00 ~ 1607.00 MHz | 25              | 32                |     | dB   |      |
|                      | 1805.00 ~ 1880.00 MHz | 25              | 32                |     | dB   |      |
|                      | 1930.00 ~ 1990.00 MHz | 25              | 33                |     | dB   |      |
|                      | 2010.00 ~ 2025.00 MHz | 25              | 33                |     | dB   |      |
|                      | 2109.00 ~ 2199.00 MHz | 25              | 34                |     | dB   |      |
|                      | 2400.00 ~ 2484.00 MHz | 20              | 25                |     | dB   |      |
|                      | 2570.00 ~ 2620.00 MHz | 13              | 17                |     | dB   |      |
|                      | 2872.00 ~ 2992.00 MHz | 13              | 17                |     | dB   |      |
|                      | 4900.00 ~ 5950.00 MHz | 19              | 23                |     | dB   |      |

1) Typical value at 25±2deg.C

**Rx Electrical specification (-30 to +85 °C)**

| ANT to RX            |                       | Characteristics |                   |     | Unit | Note |
|----------------------|-----------------------|-----------------|-------------------|-----|------|------|
|                      |                       | min             | Typ. <sup>1</sup> | max |      |      |
| Center Frequency     |                       | -               | 788               | -   | MHz  |      |
| Insertion Loss       | 775.50 ~ 800.50 MHz   |                 | 1.9               | 2.5 | dB   |      |
|                      | 773.00 ~ 803.00 MHz   |                 | 2.0               | 3.0 | dB   |      |
| Amplitude ripple     | 773.00 ~ 803.00 MHz   |                 | 0.8               | 1.5 | dB   |      |
| VSWR                 | 773.00 ~ 803.00 MHz   |                 | 1.7               | 2.3 | -    | Rx   |
|                      | 773.00 ~ 803.00 MHz   |                 | 1.7               | 2.3 | -    | ANT  |
| Absolute attenuation | 10.00 ~ 699.00 MHz    | 40              | 56                |     | dB   |      |
|                      | 45.00 ~ 65.00 MHz     | 45              | 60                |     | dB   |      |
|                      | 703.00 ~ 718.00 MHz   | 40              | 55                |     | dB   |      |
|                      | 718.00 ~ 748.00 MHz   | 40              | 56                |     | dB   |      |
|                      | 824.00 ~ 2400.00 MHz  | 20              | 25                |     | dB   |      |
|                      | 2400.00 ~ 2483.00 MHz | 40              | 53                |     | dB   |      |
|                      | 2496.00 ~ 2690.00 MHz | 40              | 55                |     | dB   |      |
|                      | 3300.00 ~ 4200.00 MHz | 40              | 55                |     | dB   |      |
|                      | 4400.00 ~ 5000.00 MHz | 40              | 56                |     | dB   |      |
|                      | 4900.00 ~ 5950.00 MHz | 25              | 58                |     | dB   |      |

1) Typical value at 25±2deg.C

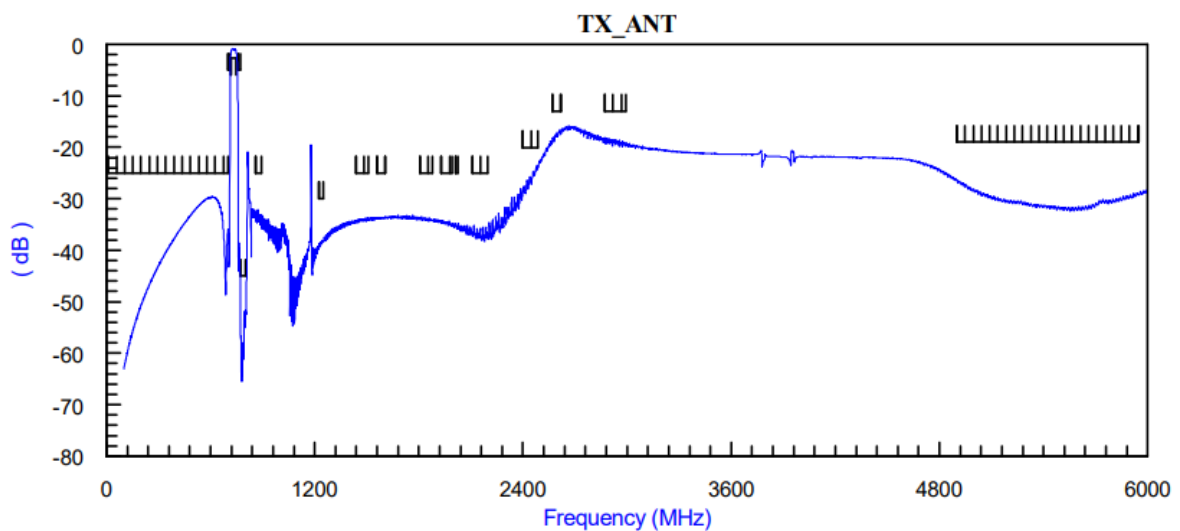
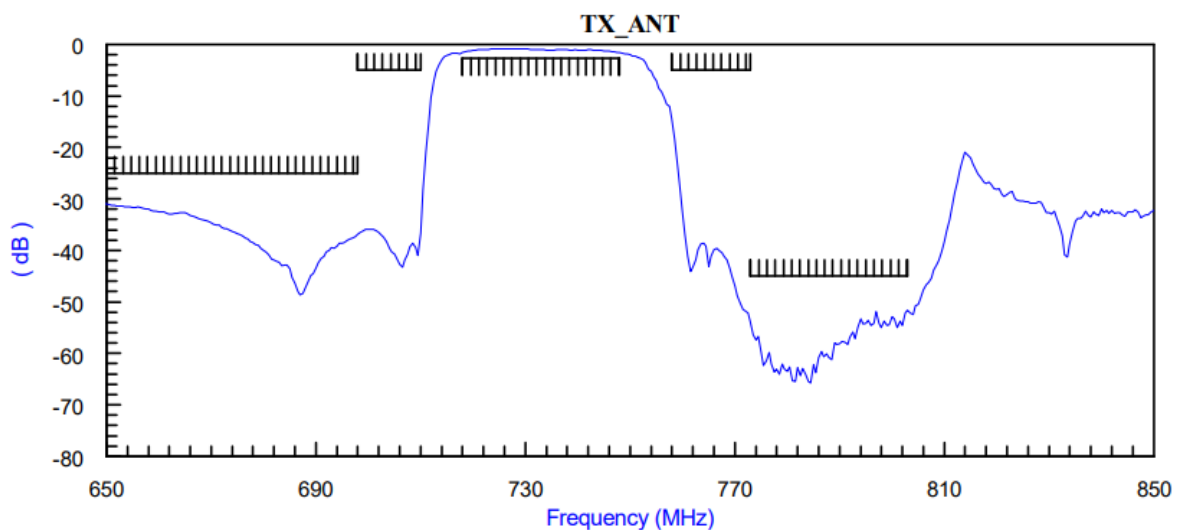
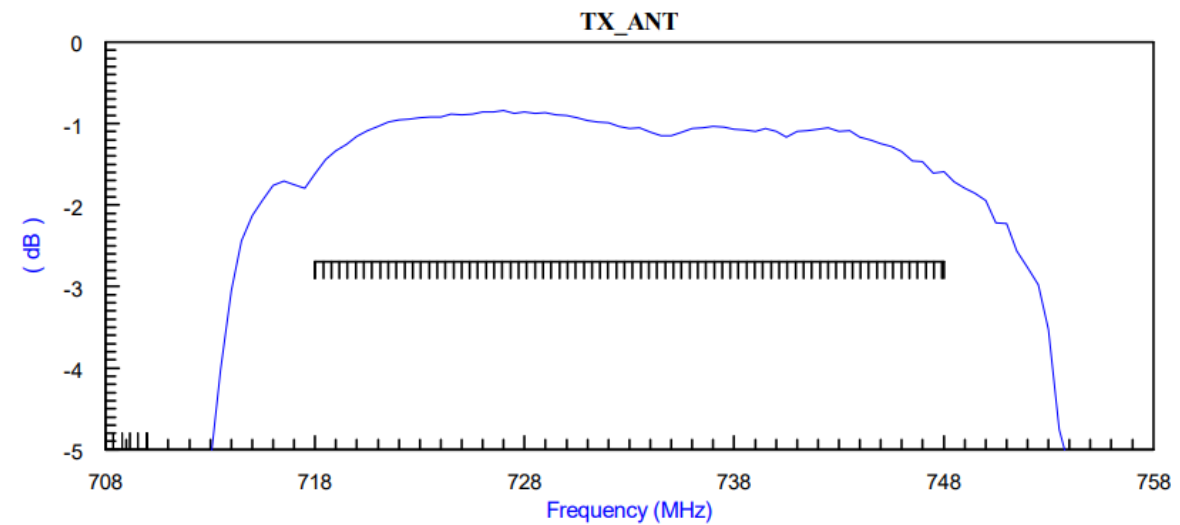
**Tx/Rx Electrical specification (-30 to +85 °C)**

| TX / RX   |                     | Characteristics |                   |     | Unit | Note |
|-----------|---------------------|-----------------|-------------------|-----|------|------|
|           |                     | min             | Typ. <sup>1</sup> | max |      |      |
| Isolation | 718.00 ~ 748.00 MHz | 55              | 58                |     | dB   |      |
|           | 773.00 ~ 803.00 MHz | 52              | 56                |     | dB   |      |

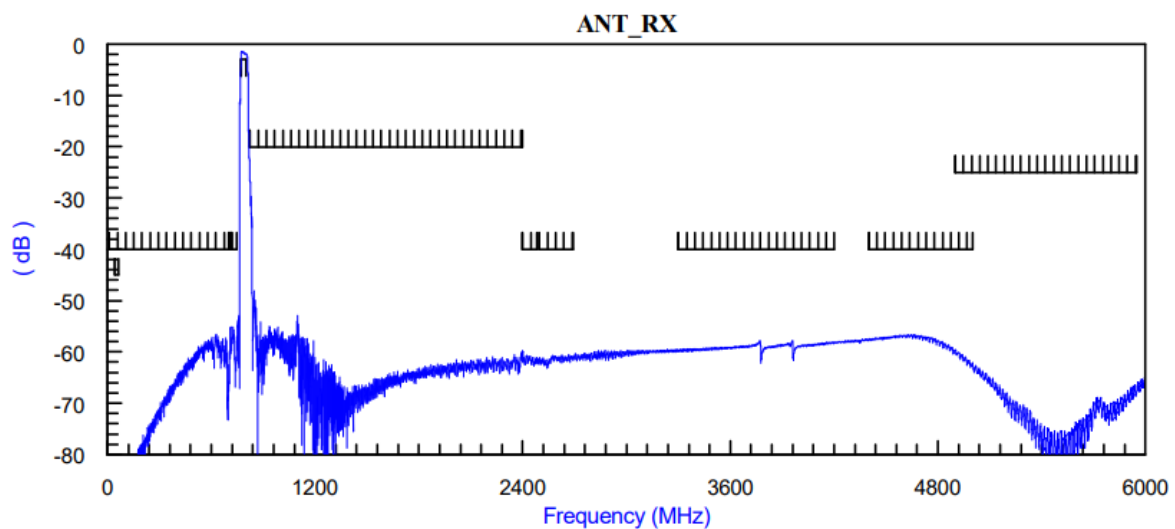
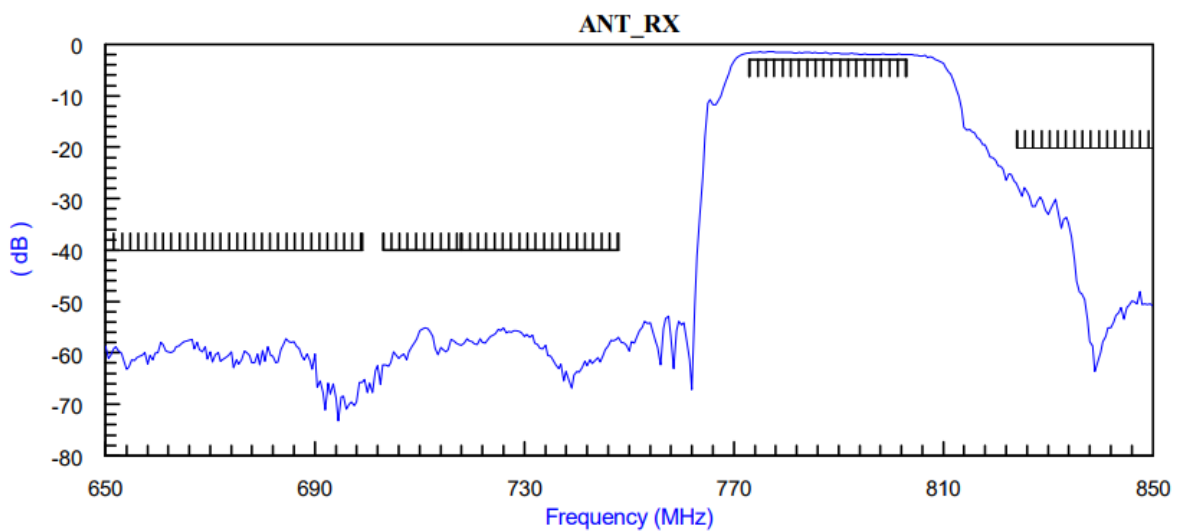
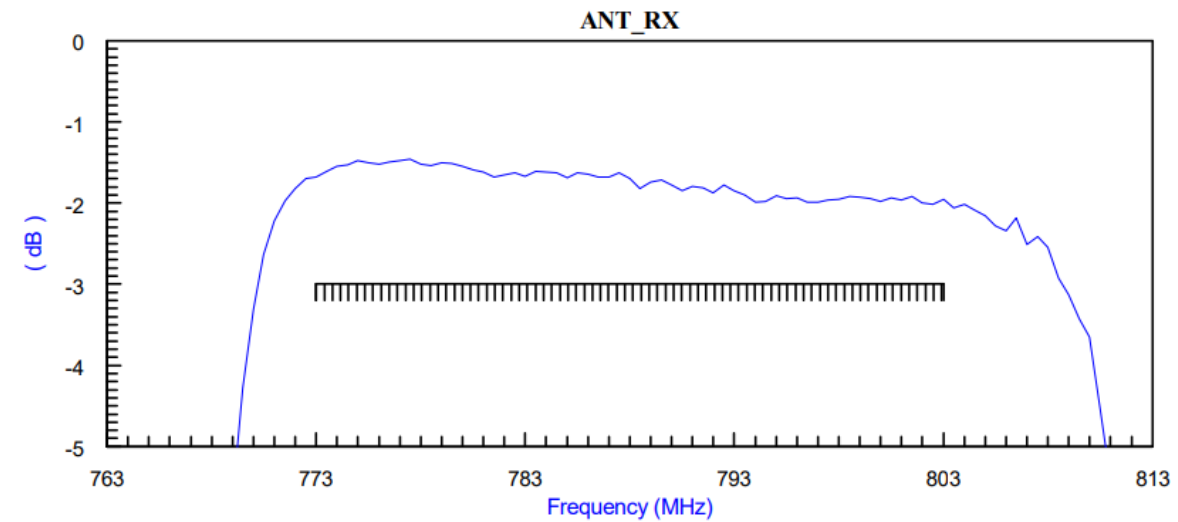
1) Typical value at 25±2deg.C

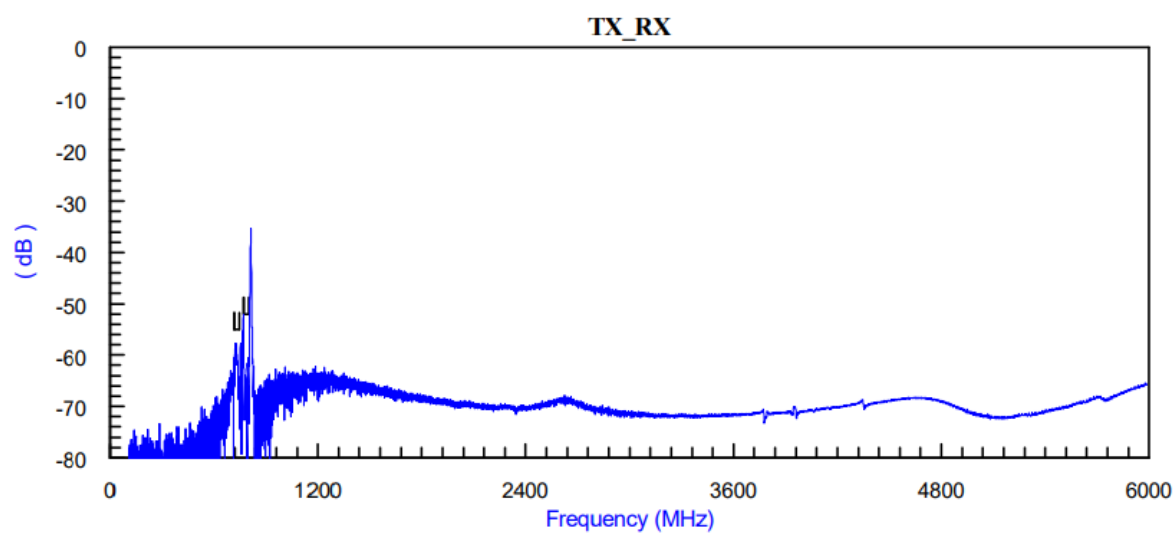
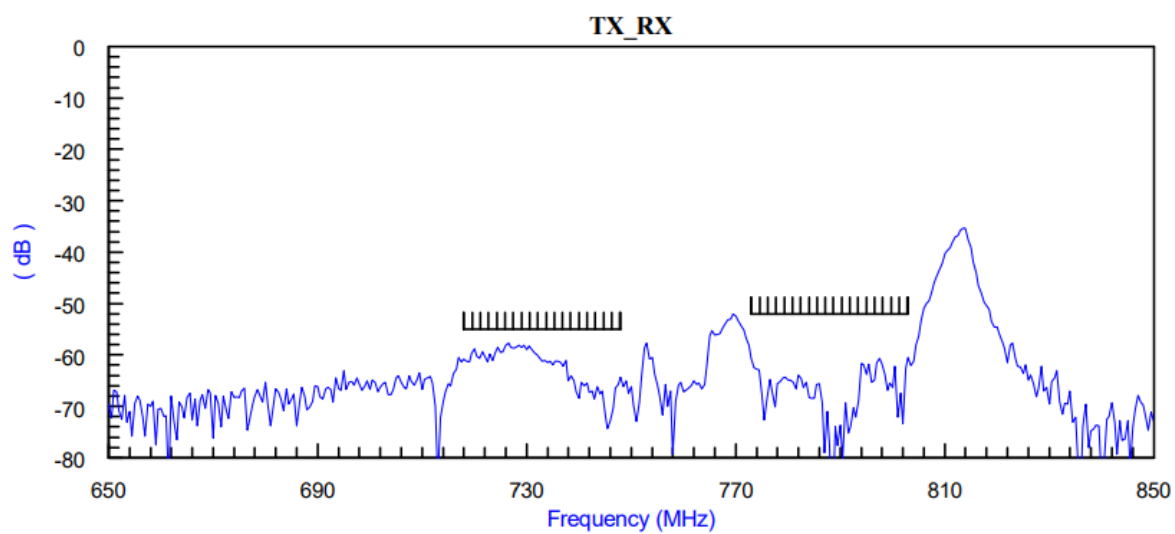
### 3.3 Plots

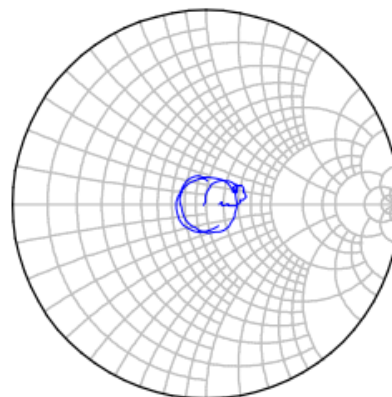
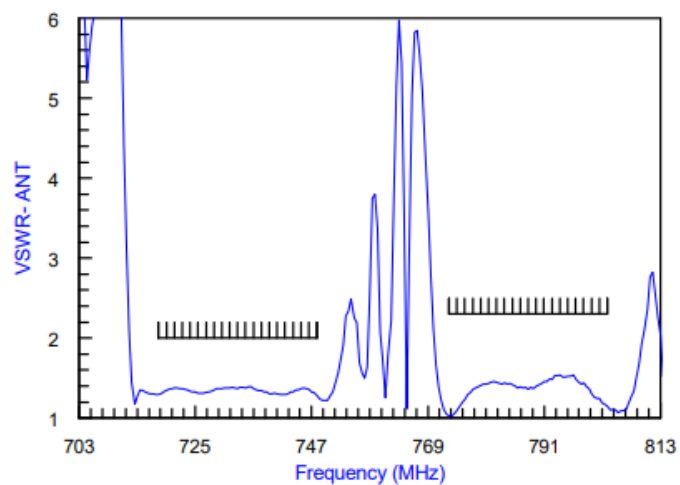
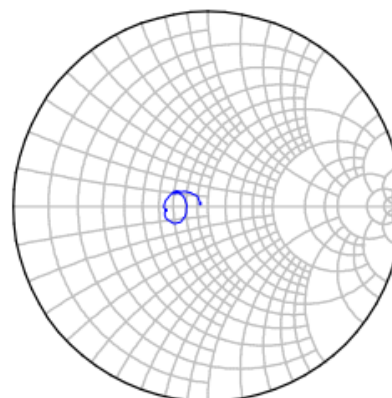
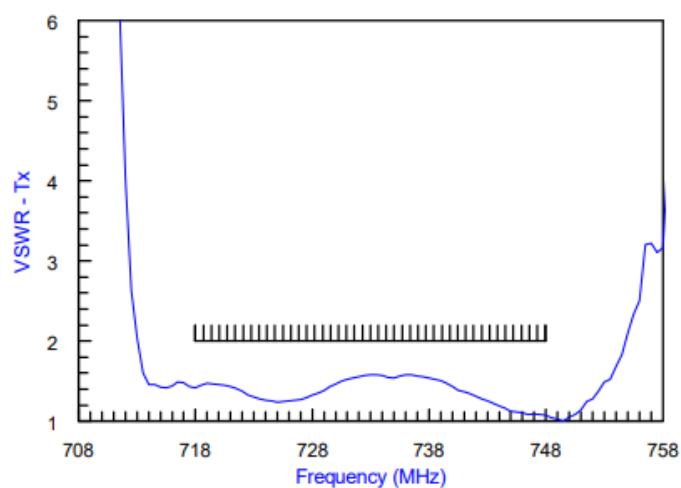
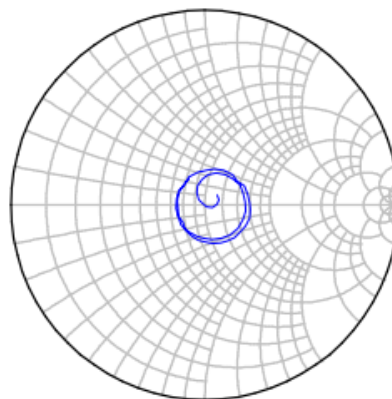
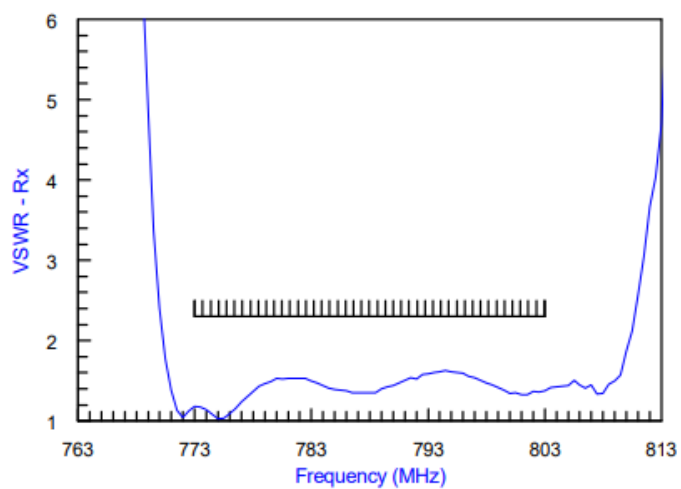
#### Tx-Ant



## Ant-Rx



**Tx-Rx**

**ANT – VSWR / Impedance****Tx – VSWR / Impedance****Rx – VSWR / Impedance**

## 4.Packing Information

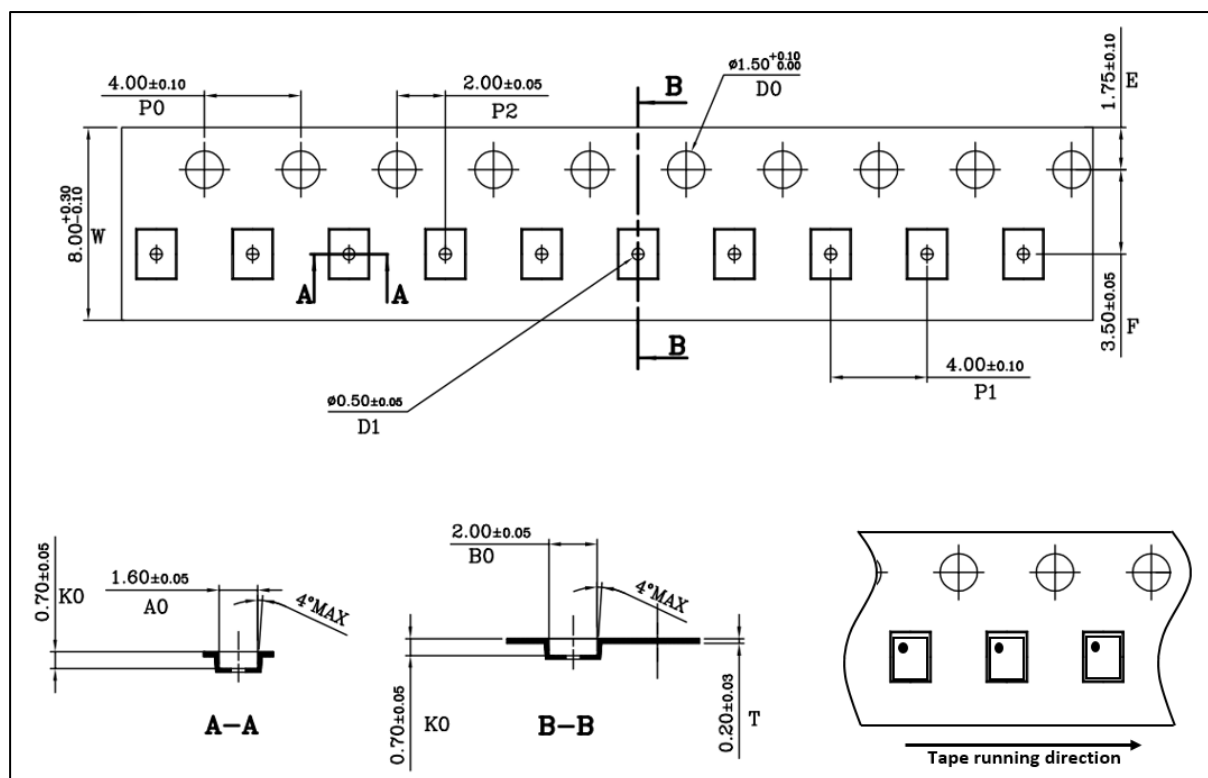


Figure 4-1 Carrier Tape Drawing (unit: mm)

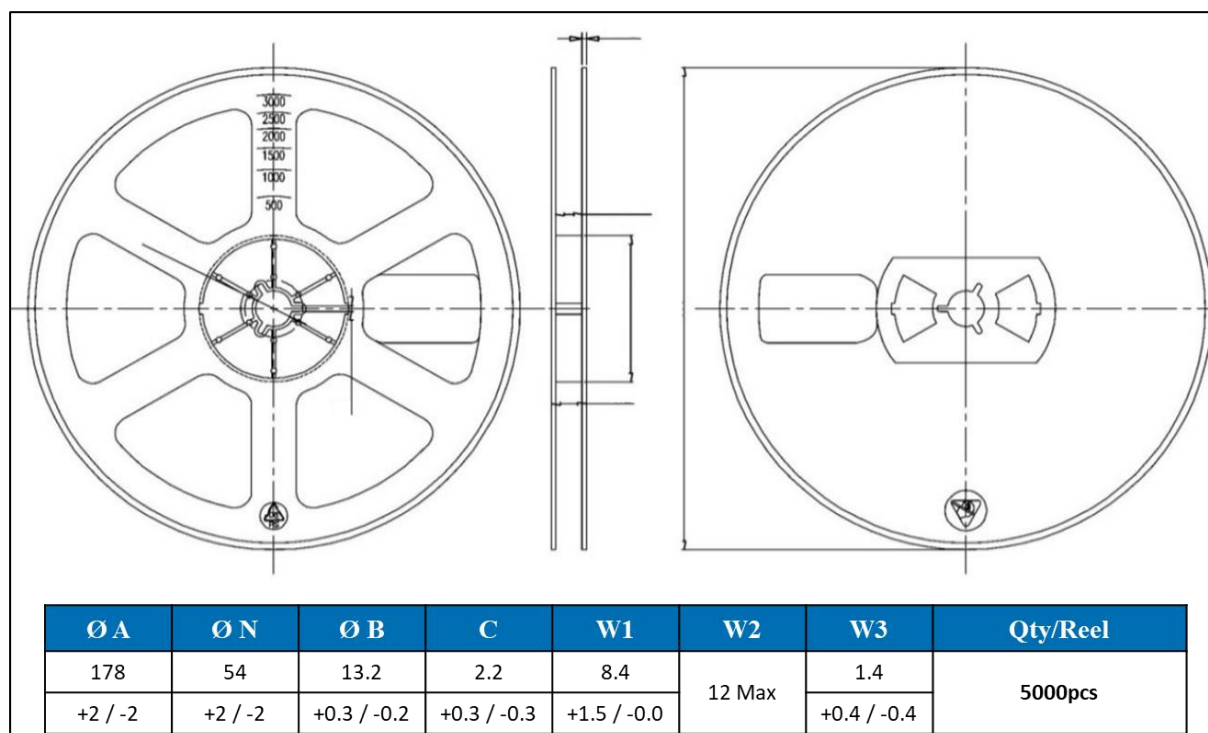


Figure 4-2 Reel Dimensions (Unit: mm) and Reeling Qty'