



HANGZHOU SAPPLAND MICROELECTRONICS TECHNOLOGY CO., LTD

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# SAW Device Preliminary Data Sheet

Band 71 Duplexer / Unbalanced /1814

PN: **SPED71SU11A**

Rev: 0.2

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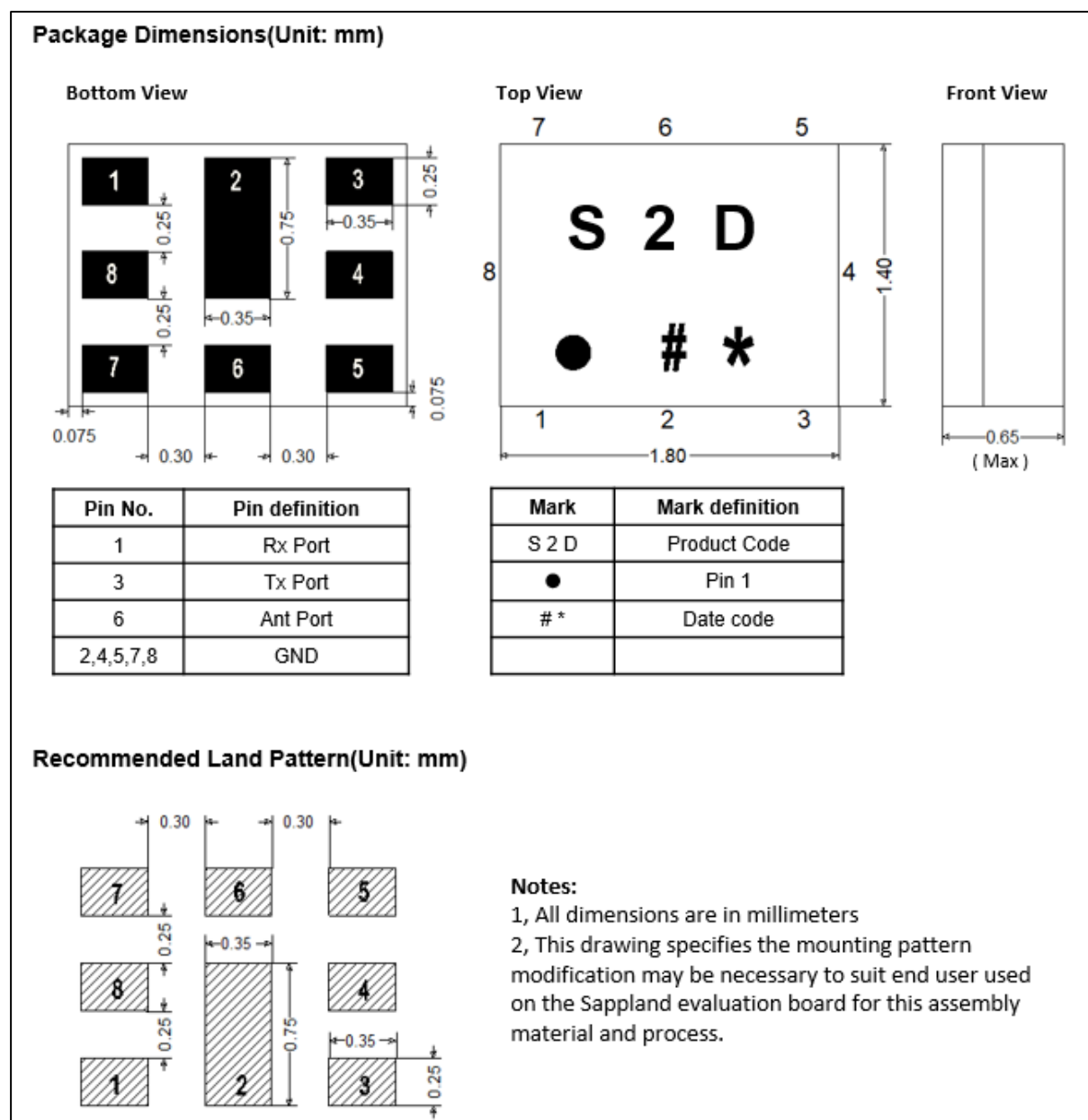
## Feature:

- low insertion loss
- high isolation between Tx and Rx

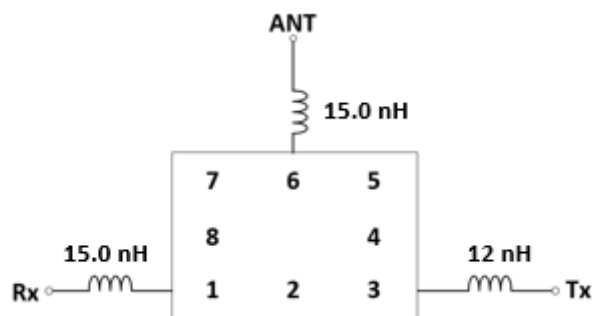
# 1.Revision History

| Revision | Date        | Comments                        |
|----------|-------------|---------------------------------|
| 0.1      | Jun-28-2024 | Initial release                 |
| 0.2      | Aug-30-2024 | Update performance, packing 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                   | 30 dBm      | CW,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     |                       | -               | 680.5             | -   | MHz  |      |
| Insertion Loss       | 663.00 ~ 698.00 MHz   |                 | 1.9               | 2.9 | dB   |      |
| Amplitude ripple     | 663.00 ~ 698.00 MHz   |                 | 1.0               | 2.2 | dB   |      |
| VSWR                 | 663.00 ~ 698.00 MHz   |                 | 1.5               | 2   | -    | Tx   |
|                      | 663.00 ~ 698.00 MHz   |                 | 1.5               | 2   | -    | ANT  |
| Absolute attenuation | 608.00 ~ 614.00 MHz   | 45              | 51                |     | dB   |      |
|                      | 617.00 ~ 652.00 MHz   | 52              | 55                |     | dB   |      |
|                      | 717.00 ~ 729.00 MHz   | 45              | 55                |     | dB   |      |
|                      | 729.00 ~ 756.00 MHz   | 40              | 43                |     | dB   |      |
|                      | 758.00 ~ 768.00 MHz   | 38              | 43                |     | dB   |      |
|                      | 824.00 ~ 894.00 MHz   | 38              | 41                |     | dB   |      |
|                      | 1164.00 ~ 1250.00 MHz | 44              | 55                |     | dB   |      |
|                      | 1326.00 ~ 1396.00 MHz | 50              | 65                |     | dB   |      |
|                      | 1559.00 ~ 1606.00 MHz | 50              | 65                |     | dB   |      |
|                      | 1710.00 ~ 1755.00 MHz | 50              | 64                |     | dB   |      |
|                      | 1805.00 ~ 1880.00 MHz | 50              | 63                |     | dB   |      |
|                      | 1930.00 ~ 1990.00 MHz | 50              | 63                |     | dB   |      |
|                      | 1989.00 ~ 2094.00 MHz | 50              | 63                |     | dB   |      |
|                      | 2110.00 ~ 2200.00 MHz | 50              | 63                |     | dB   |      |
|                      | 2400.00 ~ 2484.00 MHz | 50              | 64                |     | dB   |      |
|                      | 2652.00 ~ 2792.00 MHz | 50              | 64                |     | dB   |      |
|                      | 3315.00 ~ 3490.00 MHz | 50              | 65                |     | dB   |      |
|                      | 4000.00 ~ 5950.00 MHz | 40              | 49                |     | 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     |                       | -               | 634.5             | -   | MHz  |      |
| Insertion Loss       | 617.00 ~ 652.00 MHz   |                 | 2.0               | 2.9 | dB   |      |
| Amplitude ripple     | 617.00 ~ 652.00 MHz   |                 | 0.7               | 2.1 | dB   |      |
| VSWR                 | 617.00 ~ 652.00 MHz   |                 | 1.6               | 2.2 | -    | Rx   |
|                      | 617.00 ~ 652.00 MHz   |                 | 1.6               | 2.2 | -    | ANT  |
| Absolute attenuation | 10.00 ~ 602.00 MHz    | 25              | 30                |     | dB   |      |
|                      | 602.00 ~ 608.00 MHz   | 25              | 36                |     | dB   |      |
|                      | 663.00 ~ 698.00 MHz   | 45              | 55                |     | dB   |      |
|                      | 709.00 ~ 740.00 MHz   | 35              | 41                |     | dB   |      |
|                      | 776.00 ~ 793.00 MHz   | 30              | 34                |     | dB   |      |
|                      | 824.00 ~ 849.00 MHz   | 30              | 34                |     | dB   |      |
|                      | 1058.00 ~ 1138.00 MHz | 35              | 40                |     | dB   |      |
|                      | 1163.00 ~ 1204.00 MHz | 34              | 44                |     | dB   |      |
|                      | 1233.00 ~ 1281.00 MHz | 35              | 46                |     | dB   |      |
|                      | 1461.00 ~ 1484.00 MHz | 40              | 54                |     | dB   |      |
|                      | 1653.00 ~ 1698.00 MHz | 45              | 59                |     | dB   |      |
|                      | 1710.00 ~ 1755.00 MHz | 45              | 59                |     | dB   |      |
|                      | 1850.00 ~ 1920.00 MHz | 50              | 62                |     | dB   |      |
|                      | 1851.00 ~ 1956.00 MHz | 50              | 62                |     | dB   |      |
|                      | 2305.00 ~ 2315.00 MHz | 50              | 75                |     | dB   |      |
|                      | 2327.00 ~ 2407.00 MHz | 50              | 75                |     | dB   |      |
|                      | 2400.00 ~ 2500.00 MHz | 50              | 76                |     | dB   |      |
|                      | 2468.00 ~ 2608.00 MHz | 50              | 78                |     | dB   |      |
|                      | 2922.00 ~ 2967.00 MHz | 50              | 80                |     | dB   |      |
|                      | 4000.00 ~ 5950.00 MHz | 50              | 77                |     | dB   |      |

1) Typical value at 25±2deg.C

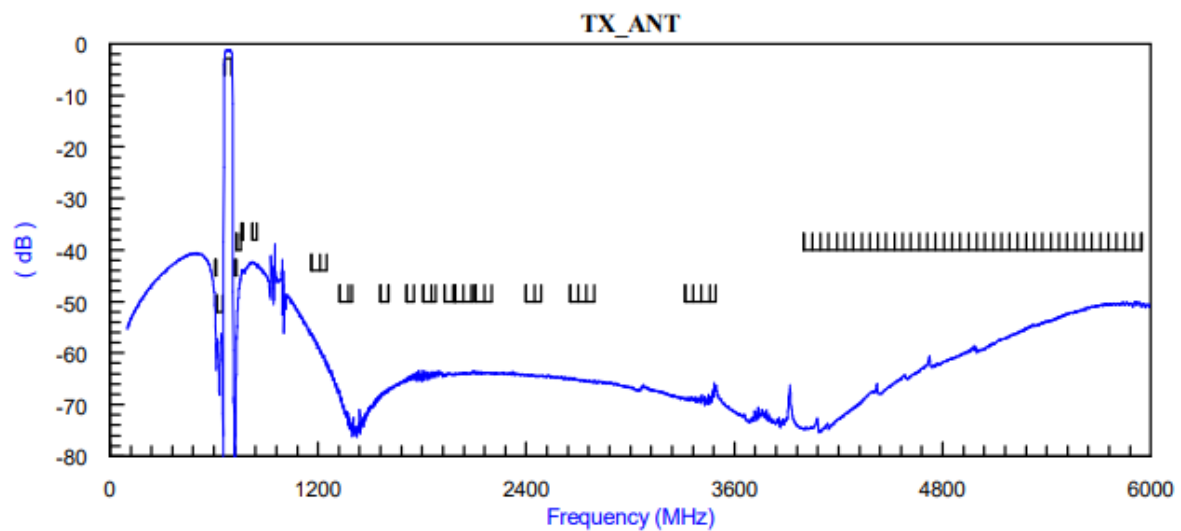
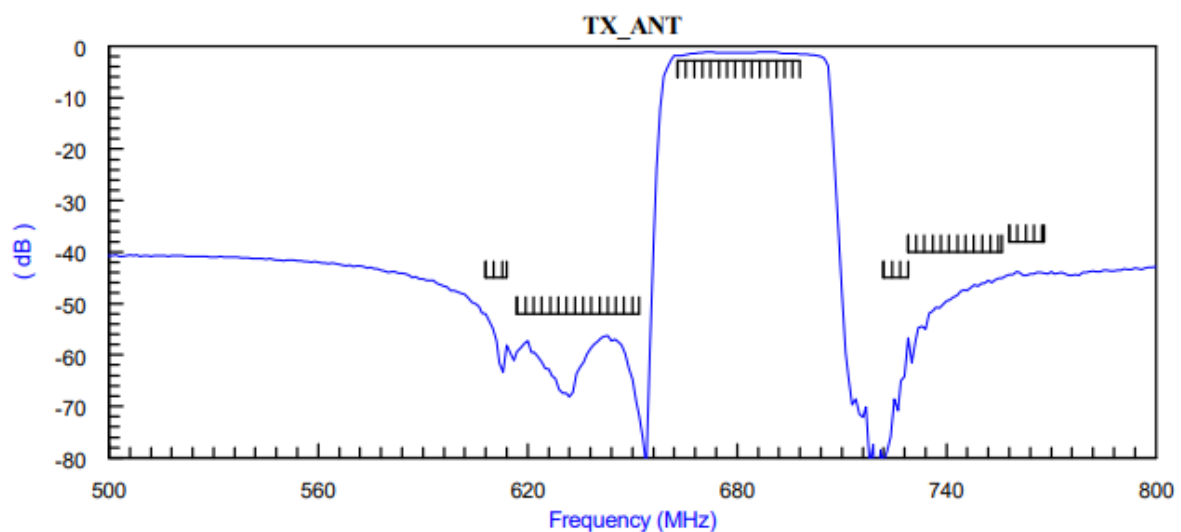
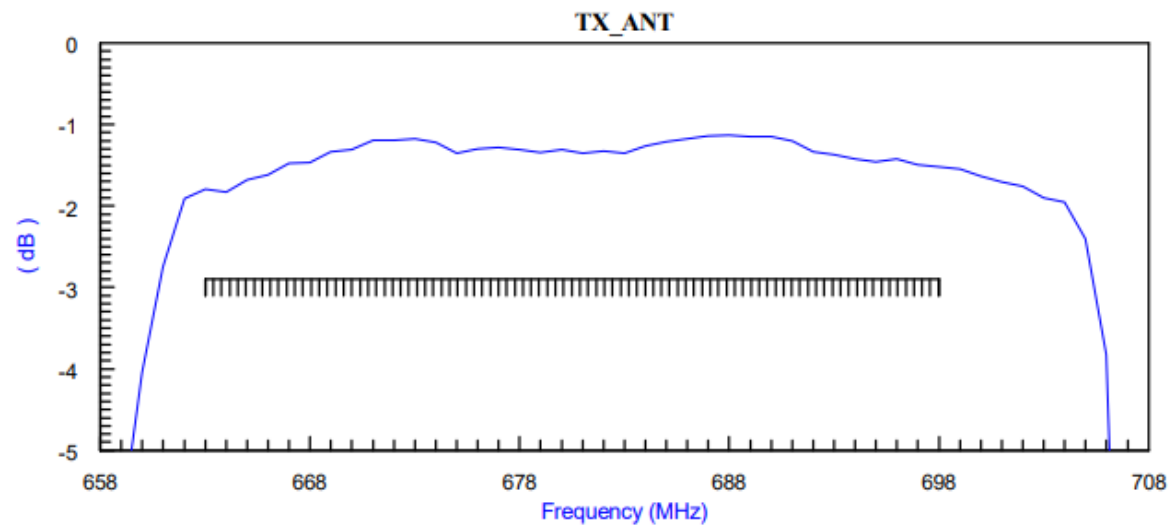
**Tx/Rx Electrical specification (-30 to +85 °C)**

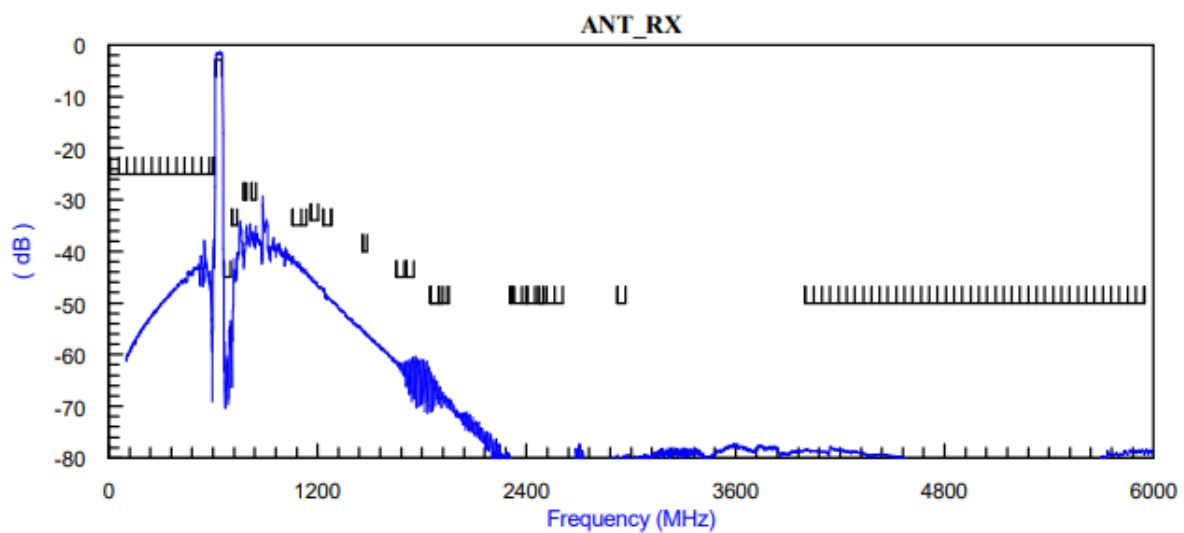
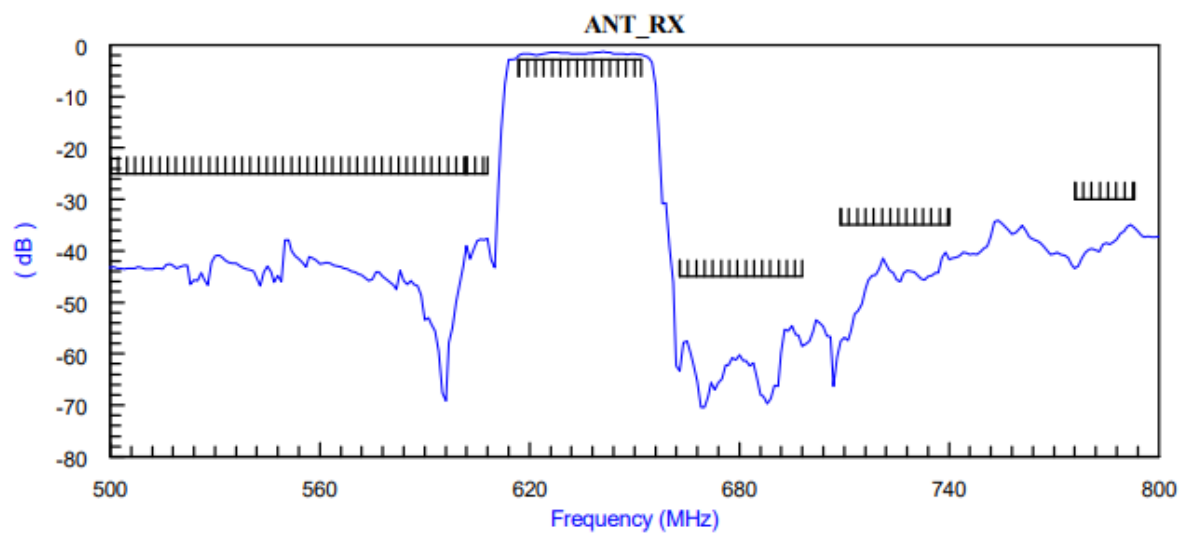
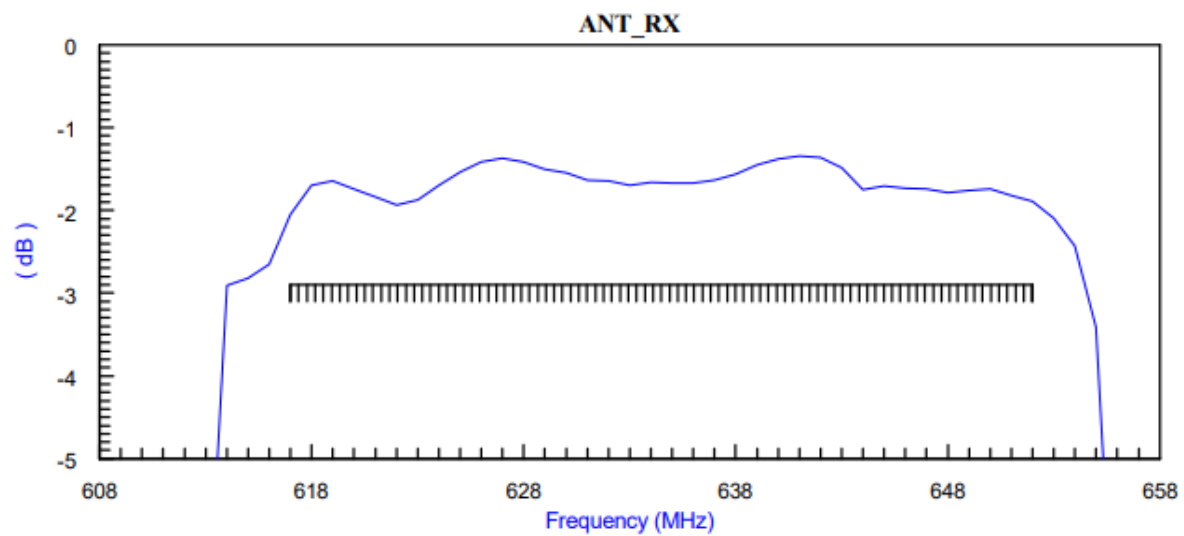
| TX / RX   |                     | Characteristics |                   |     | Unit | Note |
|-----------|---------------------|-----------------|-------------------|-----|------|------|
|           |                     | min             | Typ. <sup>1</sup> | max |      |      |
| Isolation | 617.00 ~ 652.00 MHz | 54              | 57                |     | dB   |      |
|           | 663.00 ~ 698.00 MHz | 54              | 58                |     | dB   |      |

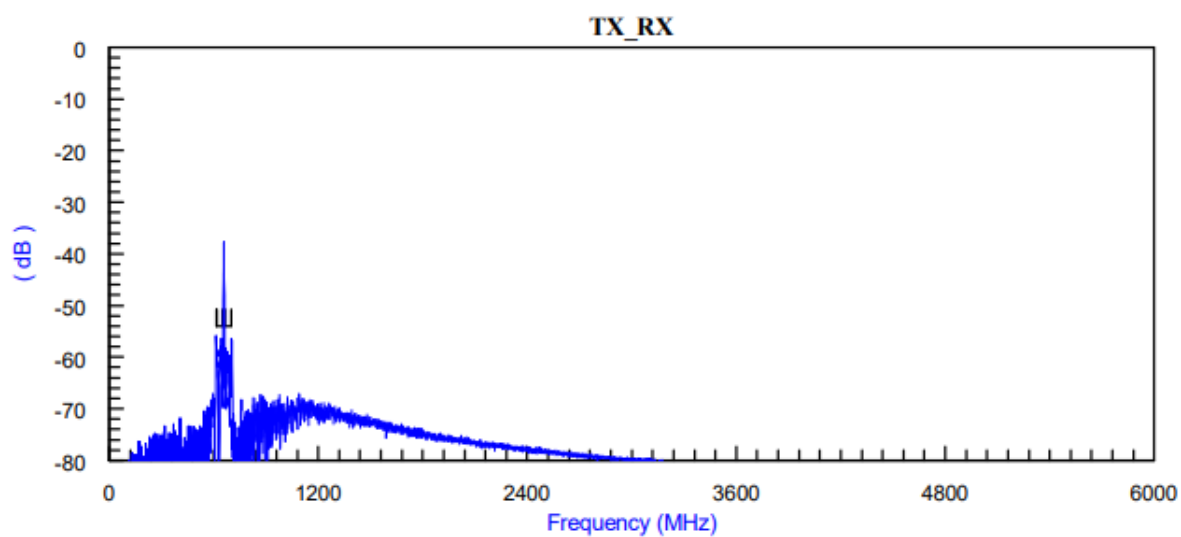
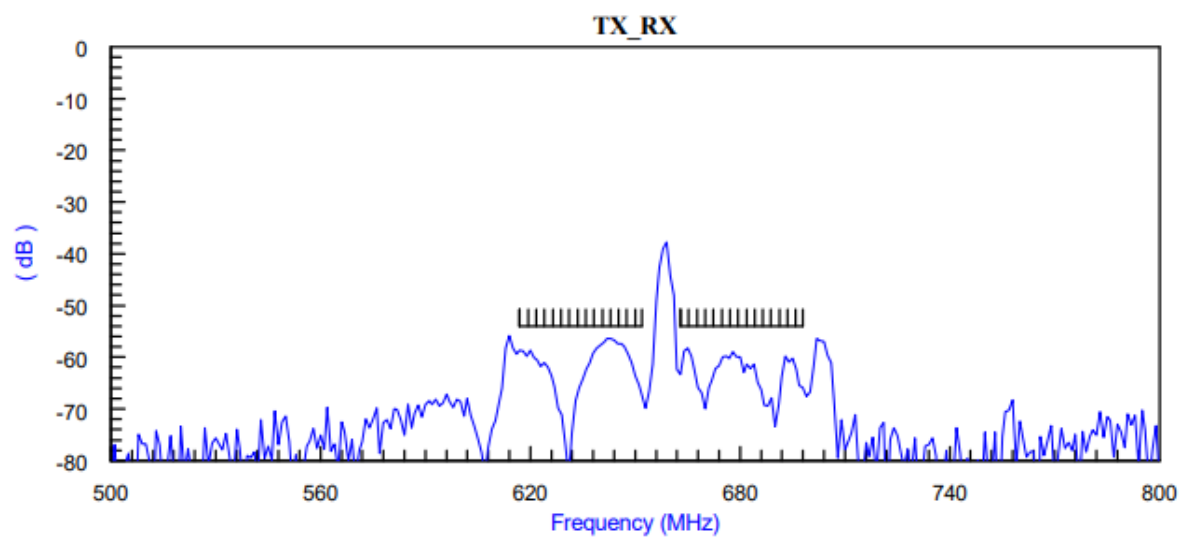
1) Typical value at 25±2deg.C

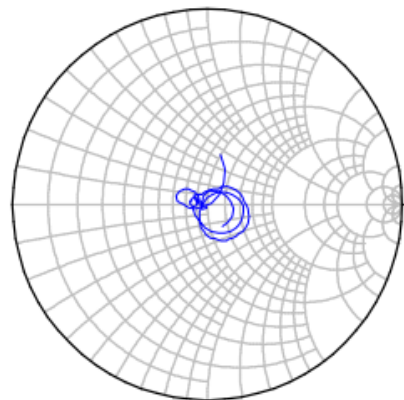
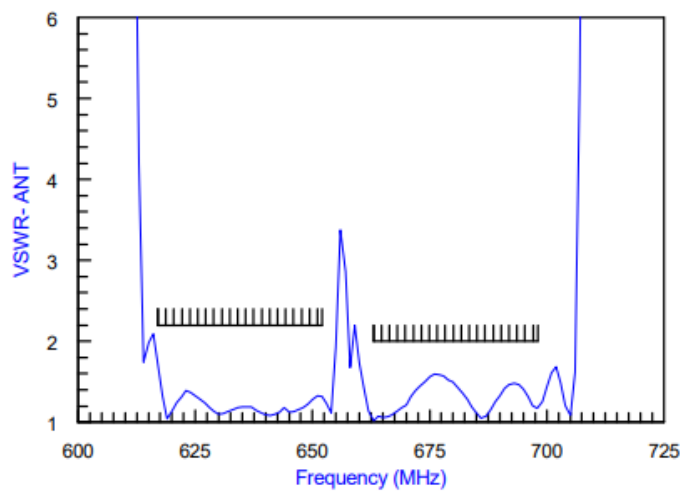
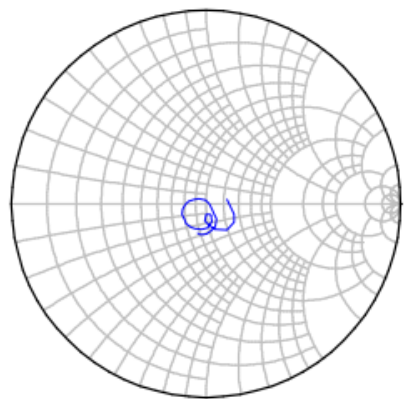
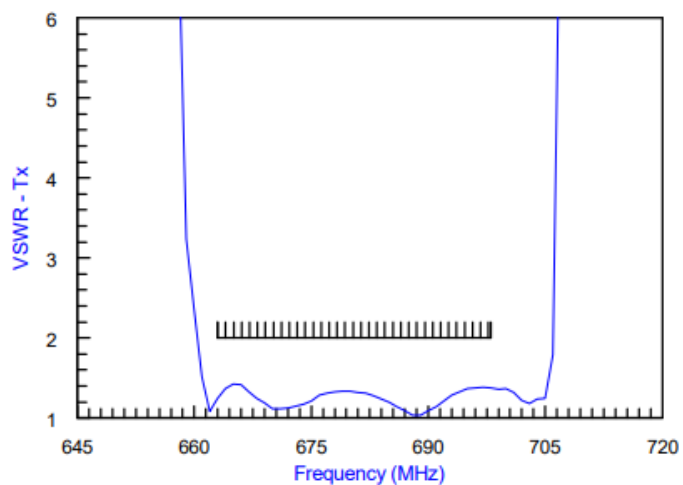
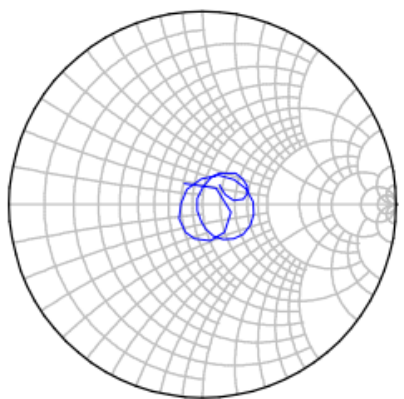
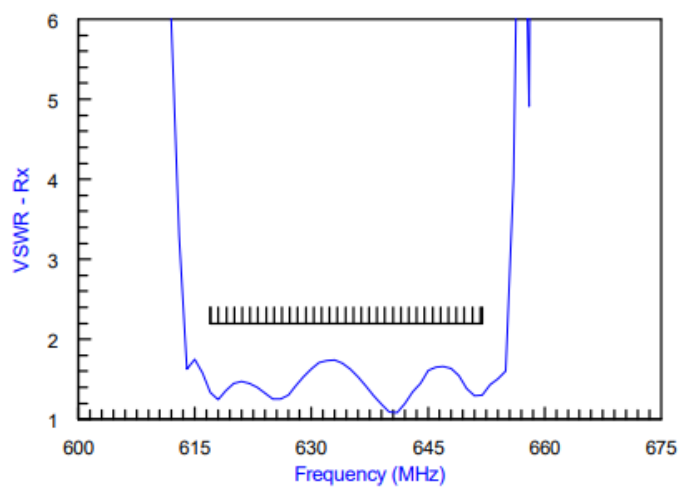
### 3.3 Plots

#### Tx - Ant



**Ant - Rx**

**Tx – Rx**

**Ant – VSWR / Impedance****Tx – VSWR / Impedance****Rx – VSWR / Impedance**

## 4.Packing Information

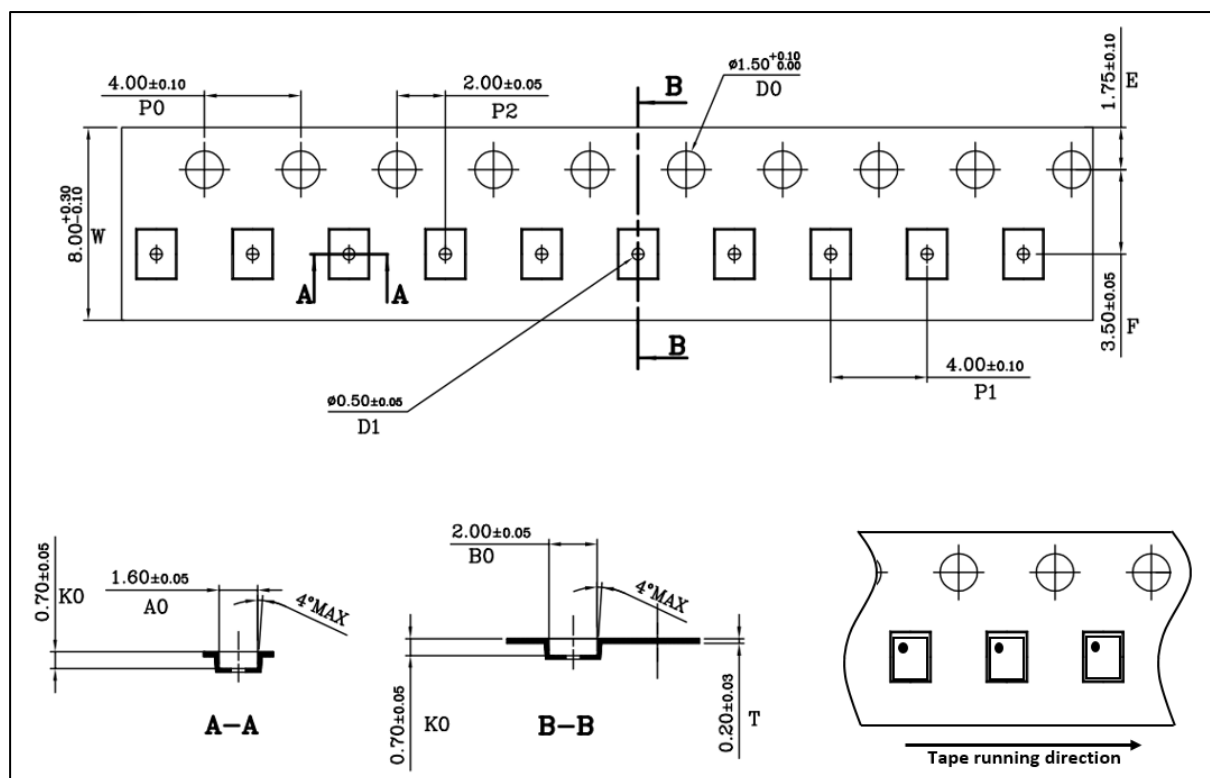


Figure 4-1 Carrier Tape Drawing (unit: mm)

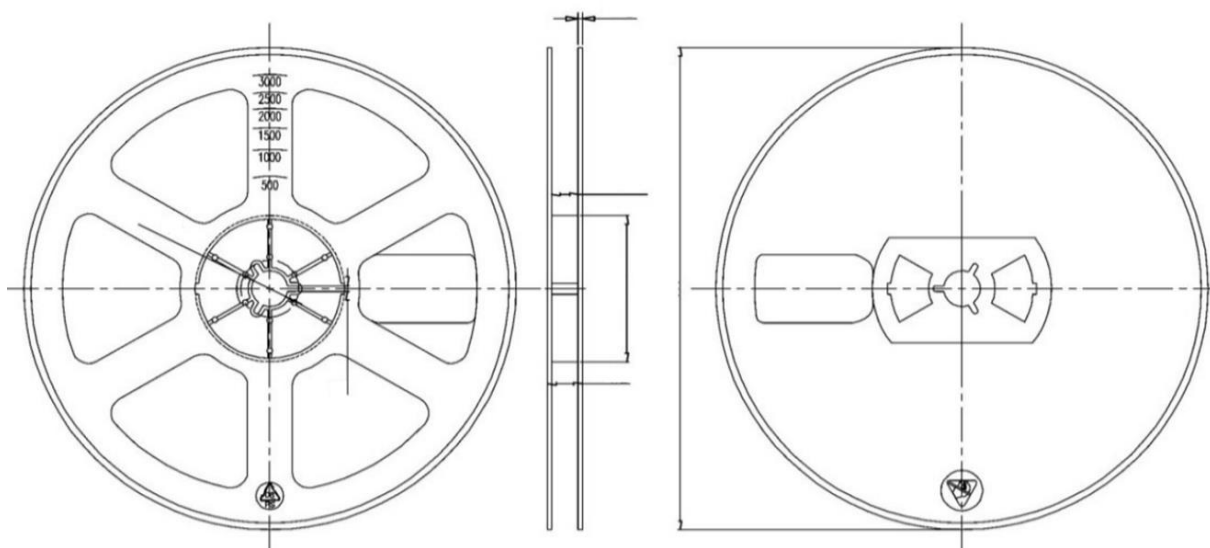


Figure 4-2 Reel Dimensions (Unit: mm) and Reeling Qty'