8F-1, No.51, Sec.1, MinSheng E.Rd • Taipei 104 • Taiwan (R.O.C.)
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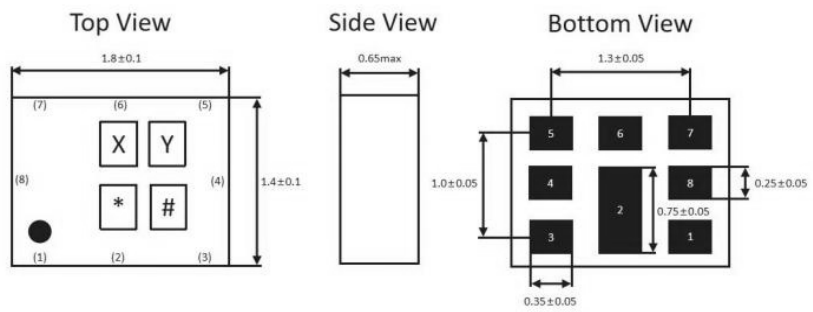
# Specification Sheet

| | | | |
|---|---|---|---|
| Customer Name | XXXX | CUST P/N | NA |
| Approval No. | PD | Temwell P/N | STSD-897-942-S1814W |
| Lot No. | | Date | 2025.04.17 |
| Description | SAW Duplexer | Version | A1 |

(1)Size Diagram（Unit：MM）



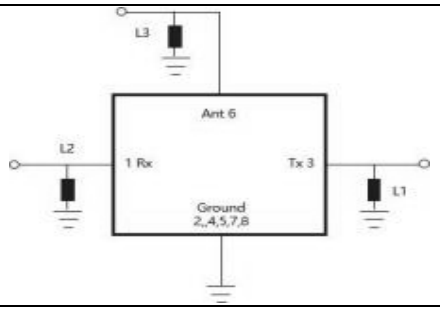

| PinNo. | Description |
|---|---|
| 1 | Rx |
| 3 | Tx |
| 6 | Antenna |
| 2,4,5,7,8 | Ground |
| Tolerance | ±0.1mm |

(2)Electrical Specifications

| Item | | | Specification | | |
|---|---|---|---|---|---|
| Parameter | MHz | Unit | Min. | Typical | Max. |
| Center Frequency | - | MHz | - | 897.5 / 942.5 | - |
| Insertion Loss | 882.5-912.5 | dB | - | 2.4 | 3.0 |
| | 927.5-957.5 | dB | - | 2.5 | 3.5 |
| Ripple Deviation | 882.5-912.5 | dB | - | 1.2 | 1.8 |
| | 927.5-957.5 | dB | - | 1.2 | 2.0 |
| VSWR of Tx Port | 880-915 | - | - | 1.6 | 2.0 |
| VSWR of Rx Port | 925-960 | - | - | 1.6 | 2.0 |
| VSWR of Ant Port | 880-915 | - | - | 1.6 | 2.1 |
| | 925-960 | - | - | 1.5 | 1.9 |
| Attenuation (882.5-912.5) | 10-716 | dB | 20 | 30 | - |
| | 716-862 | dB | 20 | 30 | - |
| | 716-728 | dB | 20 | 30 | - |
| | 925.15-959.85 | dB | 40 | 52 | - |
| | 1559-1563 | dB | 25 | 35 | - |
| | 1565.42-1585.42 | dB | 28 | 36 | - |
| | 1597.55-1605.89 | dB | 28 | 36 | - |
| | 1680-1830 | dB | 33 | 37 | - |
| | 1805-1990 | dB | 30 | 39 | - |
| | 2110-2200 | dB | 35 | 43 | - |
| | 2400-2500 | dB | 35 | 47 | - |
| | 2620-2745 | dB | 35 | 51 | - |
| | 3520-3660 | dB | 30 | 45 | - |
| | 4400-4575 | dB | 15 | 20 | - |
| | 4900-5950 | dB | 12 | 18 | - |
| Attenuation (927.5-957.5) | 10-880 | dB | 38 | 45 | - |
| | 880.15-914.85 | dB | 40 | 52 | - |
| | 1427-1448 | dB | 40 | 50 | - |
| | 1710-1980 | dB | 42 | 54 | - |
| | 2300-2690 | dB | 45 | 61 | - |
| | 2400-2500 | dB | 45 | 63 | - |
| | 4900-5950 | dB | 30 | 41 | - |
| Isolation | 882.5-912.5 | dB | 52 | 57 | - |
| | 927.5-957.5 | dB | 52 | 56 | - |
| Operation Temperature | -20℃~+85℃ | ℃ | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Storage Temperature | -40℃~+85℃ | ℃ | - | - | - |
| RF Power Dissipation | +28.5 | dBm | - | - | - |
| Remark | Note 1: Test Temperature: 25℃±2℃<br>Note 2: Terminating source impedance: 50Ω. Terminating load impedance: 50Ω | | | | |

(3)Test Circuit




| Port | Matching Component |
|---|---|
| Tx | L1 : 13.0 nH ( Ideal inductor ) |
| Rx | L2 : 23.0 nH ( Ideal inductor ) |
| Ant | L3 : 10.0 nH ( Ideal inductor ) |

**Figure 1 Electrical Characteristics: Tx to Ant.**

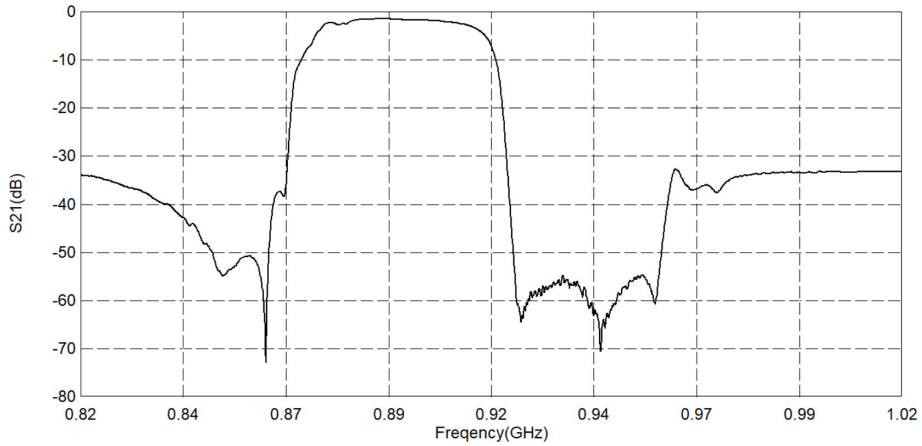



**Figure 2 Electrical Characteristics: Tx to Ant.**

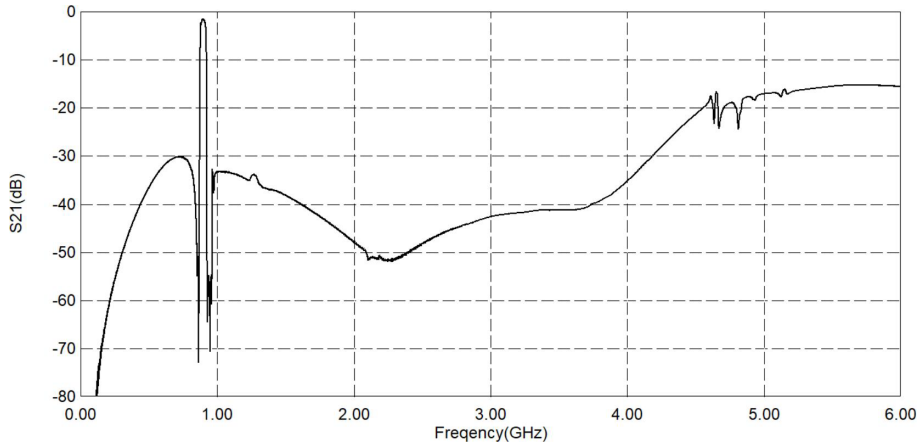



**Figure 3 Electrical Characteristics: Ant to Rx.**

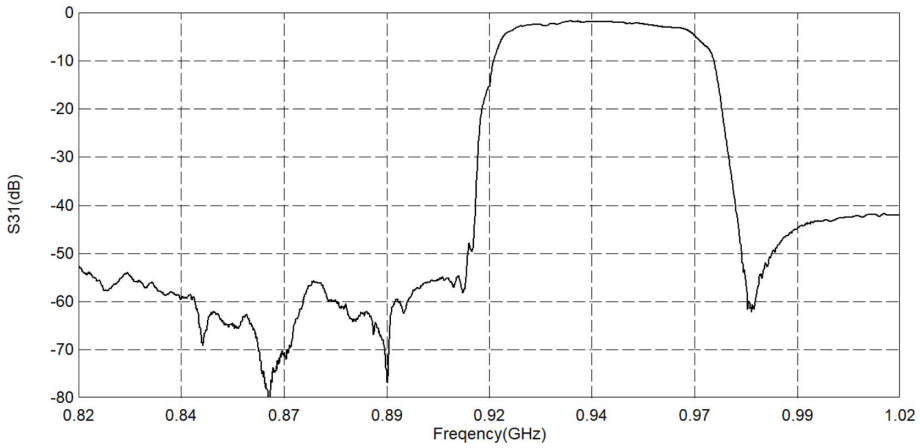



**Figure 4 Electrical Characteristics: Ant to Rx.**

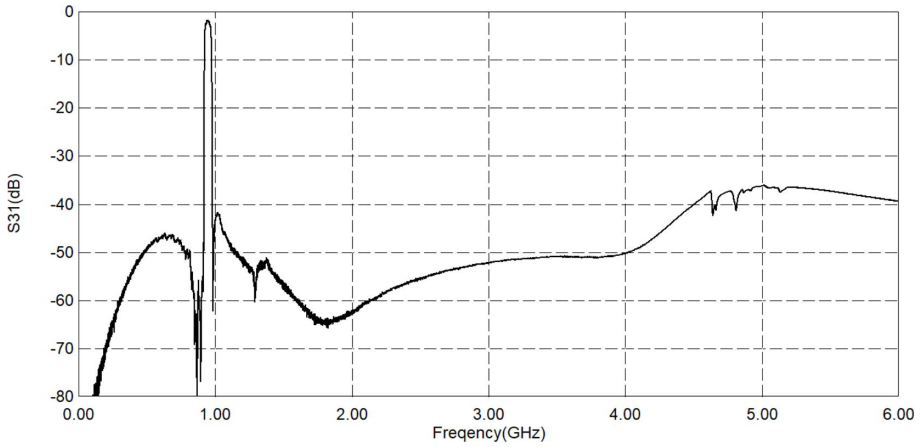



**Figure 5 Electrical Characteristics: Tx to Rx.**

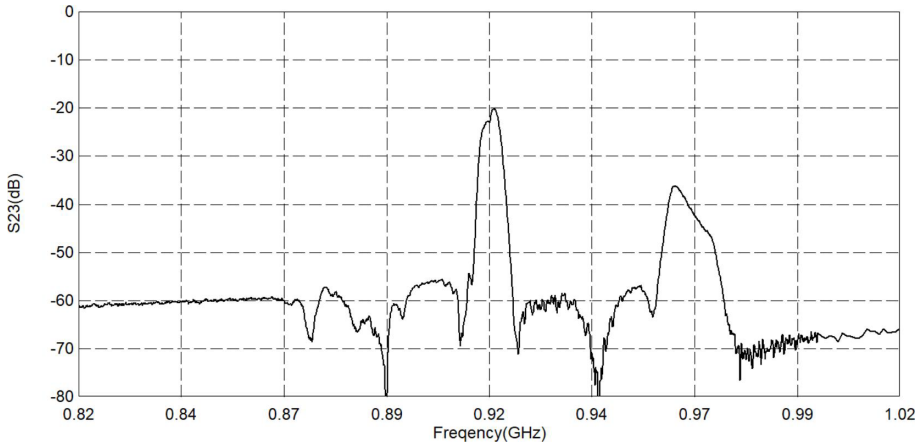



**Figure 6 Electrical Characteristics: Tx to Rx.**

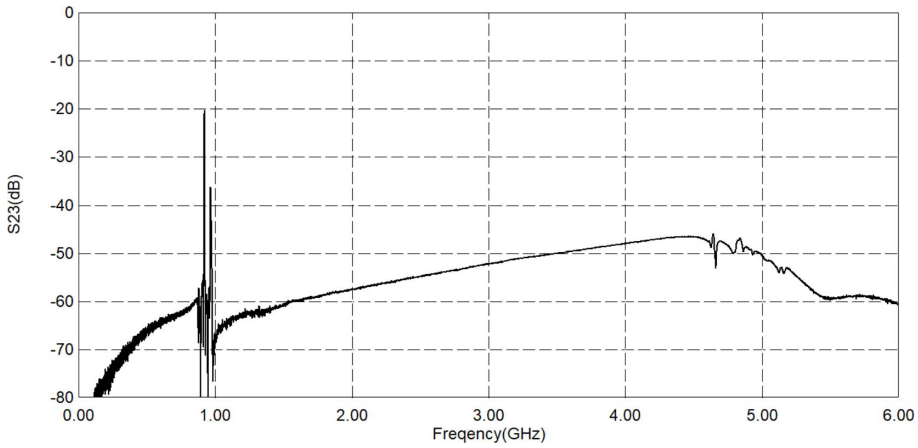
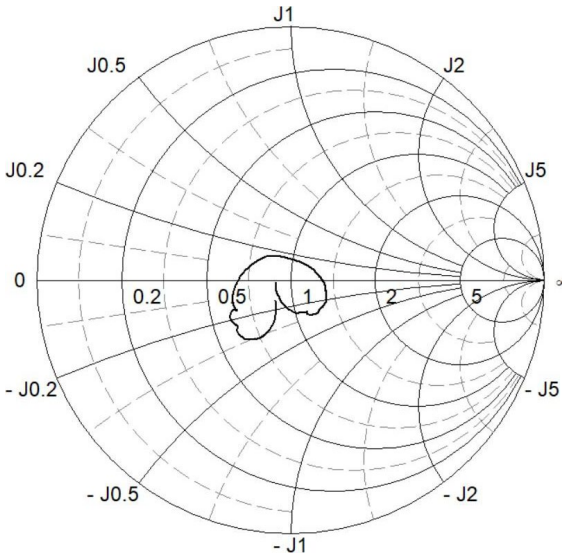
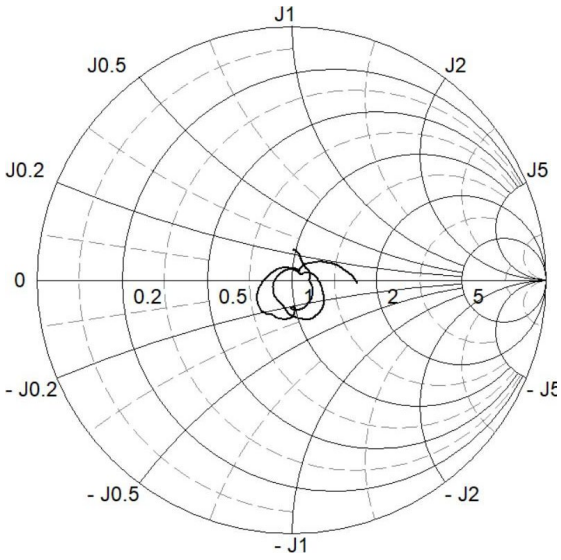



**Figure 7 Smith chart**

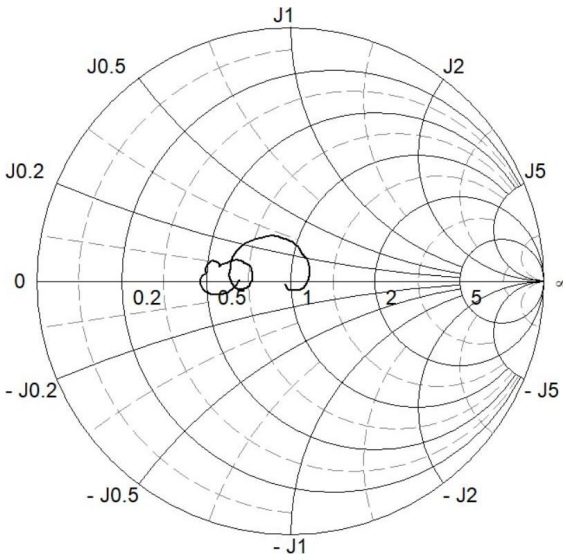
**Tx Input Impedance (880MHz to 915MHz)**



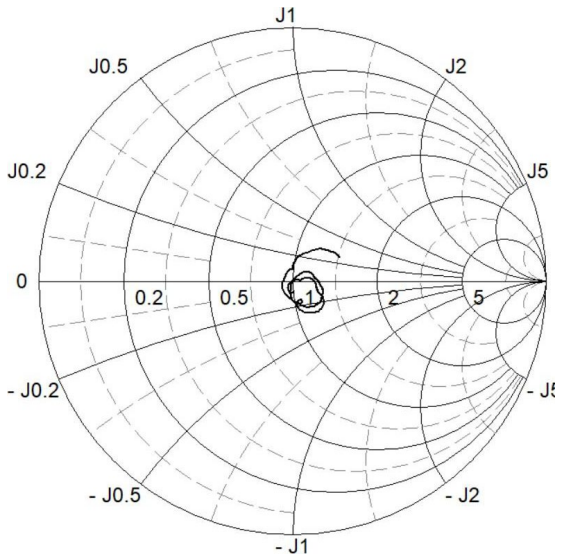

**Rx Input Impedance (925MHz to 960MHz)**




**Ant Input Impedance (Tx Band)**

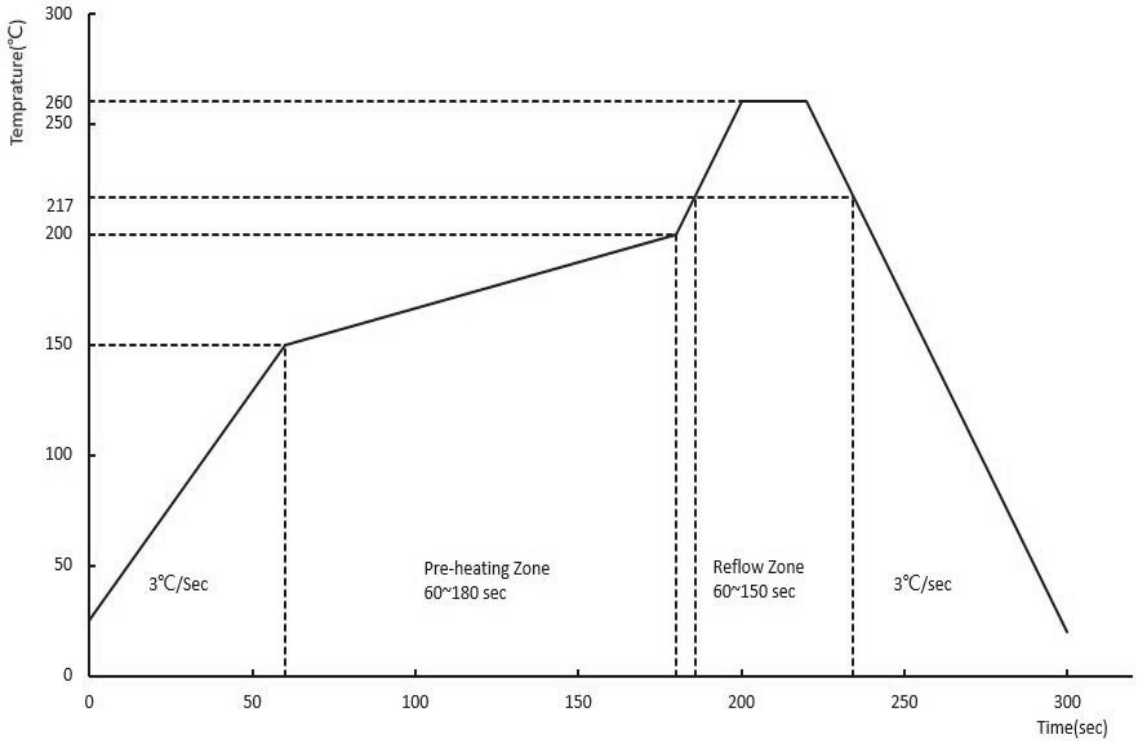



**Ant Input Impedance (Rx Band)**




| Approval | Supervisor | Designer |
|---|---|---|
| C. K. Chang | M. Y. Chen | F.L.Lai |

## Recommended SMT Solder Profile




## Reliability

| No. | Test item | Test condition | |
|---|---|---|---|
| 1 | Temperature Storage | Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h<br>Temperature: -40℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h | |
| 2 | Humidity Test | Conditions: 60℃±2℃ ,90~95%RH | Duration:250h |
| 3 | Thermal Shock | Heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, t1=t2=30min,<br>Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h. | |
| 4 | Vibration Fatigue | Frequency of vibration:10~55Hz<br>Directions: X,Y and Z | Amplitude:1.5mm<br>Duration: 2h |
| 5 | Drop Test | Cycle time:10times | Height:1.0m |
| 6 | Solder Ability Test | Temperature:245℃±5℃<br>Depth: DIP--2/3, SMD--1/5 | Duration:3.0s--5.0s |
| 7 | Resistance to Soldering Heat | Thickness of PCB:1mm , Solder condition: 260℃±5℃ , Duration:10±1s<br>Temperature of Soldering Iron: 350℃±10℃, Duration: 3~4s, Recovery time : 2 ± 0.5h | |