

SAW Single Filter

for WIFI / Bluetooth / Unbalanced / 5pin /1109

- **Co-existence of 4G LTE &WIFI signals**
- **High Rejection in B7/B41/B40 bands**

1 Description

SAWF11092G45AT is a high-performance Surface Acoustic Wave (SAW) Bandpass filter optimized for co-existence between cellular 4G/LTE-TDD Band B40, B41, LTE-FDD Band B7, and Wi-Fi/Bluetooth applications operating in the range of 2.4-2.5 GHz license-free ISM band. It is designed to provide both low insertion loss in the Wi-Fi/BT Band and high rejection in the cellular Bands, in order to enable simultaneous operation of Wi-Fi/BT and 4G/LTE within the same device, such as smartphones.

SAWF11092G45AT uses advanced Chip Scale Package (CSP) technology and is housed in an industry-standard, 5-pin 1.1mmx0.9mm package with a low profile of 0.6mm max.

2 Features

- Low Insertion Loss: 1.3dB at Mid-Band
- High Rejection in B40/B41/B7
- Small Footprint: $0.25 \pm 0.03\text{mm} \times 0.20 \pm 0.03\text{mm}$.
- Package size $1.1 \pm 0.05\text{mm} \times 0.9 \pm 0.05\text{mm}$
- Electrostatic Sensitive Device(ESD)
- Package height 0.6mm max.
- Single-Ended Operation
- RoHS Compliant

3 Package & Dimensions:

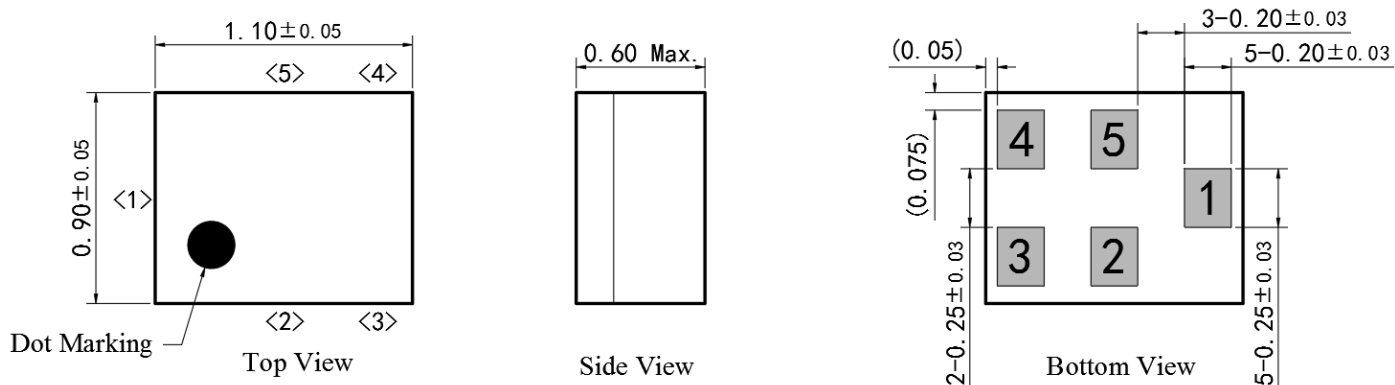


Figure 1: Drawing of Package with each tolerance range

4 Pin configuration

- 1 Input (recommended)
- 4 Output (recommended)
- 2,3,5 To be grounded

5 Matching Circuit(recommended)

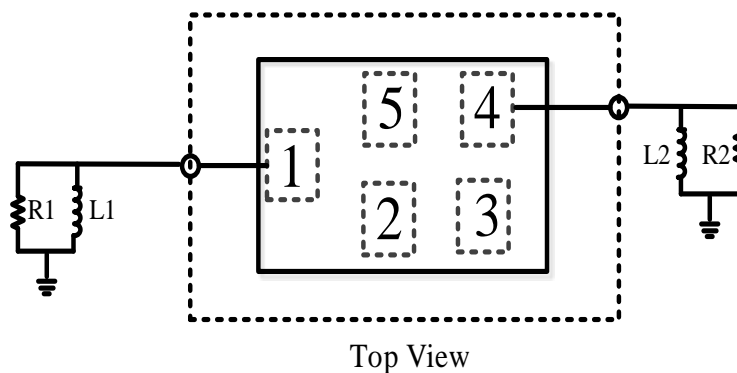


Figure 2: Schematic of matching circuit.

| | |
|------------|--------|
| R1: 50 Ohm | L1: NC |
| R2: 50 Ohm | L2: NC |

6 Absolute Maximum Ratings

| Parameter | Rating | Unit |
|------------------------------|--|------|
| Operating Temperature | -30 to +85 | °C |
| Storage Temperature | -40 to +85 | °C |
| Maximum Input Power | +24 | dBm |
| Maximum DC Voltage | 5 | V |
| Input terminating impedance | 50 | Ω |
| Output terminating impedance | 50 | Ω |
| Input Power@input port | Pin=24dBm Continuous wave for 2000h@+55 °C | |

7 Electrical Specifications

| Parameter | Conditions | Min | Typ. | Max | Unit | Note |
|-----------------|-----------------|-----|------|-----|------|------|
| Insertion Loss | 2403 - 2471 MHz | - | 1.9 | 2.8 | dB | |
| | 2458 - 2476 MHz | - | 1.8 | 2.4 | dB | |
| | 2463 - 2481 MHz | - | 2.2 | 2.8 | dB | |
| Passband Ripple | 2403 - 2481 MHz | - | 1.2 | 1.6 | dB | |
| Attenuation | 800 - 2300 MHz | 25 | 29 | - | dB | |
| | 2300 - 2370 MHz | 29 | 35 | - | dB | |
| | 2370 - 2380 MHz | 10 | 15 | - | dB | |
| | 2510 - 2570 MHz | 36 | 41 | - | dB | |
| | 2570 - 2620 MHz | 30 | 33 | - | dB | |
| | 2620 - 2690 MHz | 30 | 32 | - | dB | |
| VSWR Input | 2403 - 2481 MHz | - | 1.7 | 2.0 | - | |
| VSWR Output | 2403 - 2481 MHz | - | 1.7 | 2.0 | - | |

8 Transmission coefficient

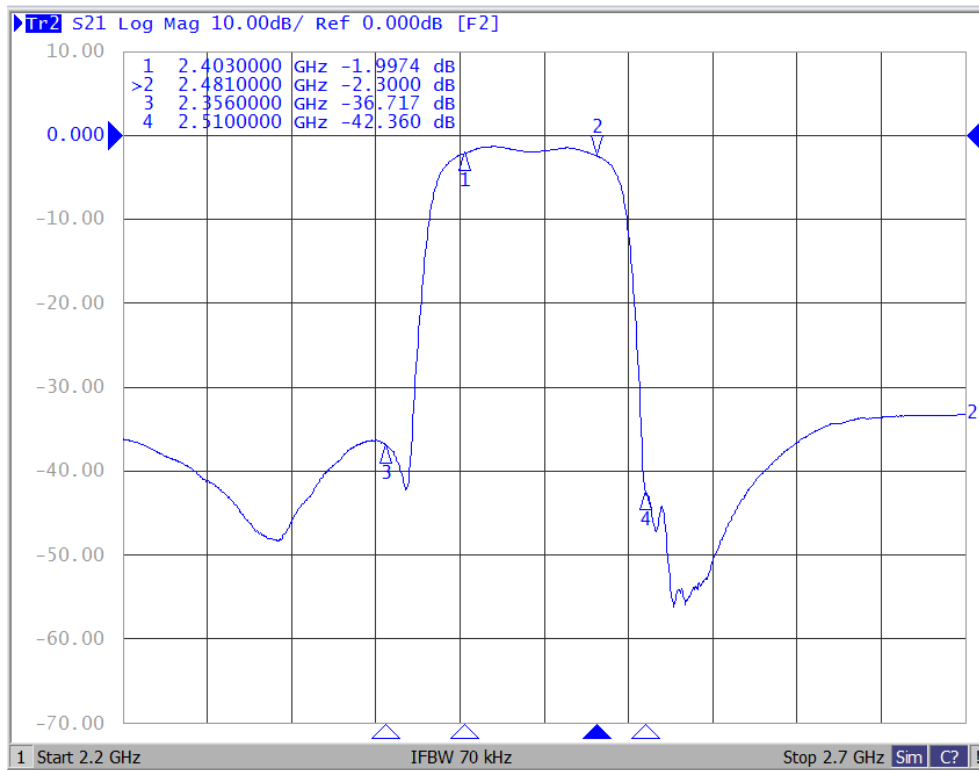


Figure 3: |S21|

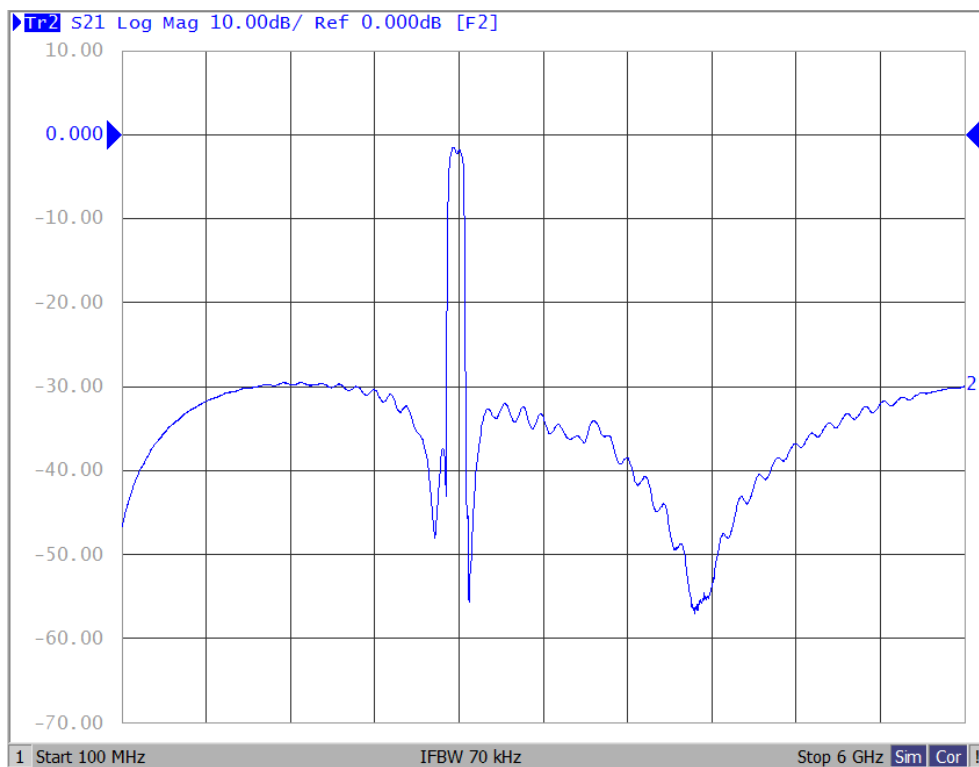


Figure 4: Wide Band |S21|

9 Reflection coefficients

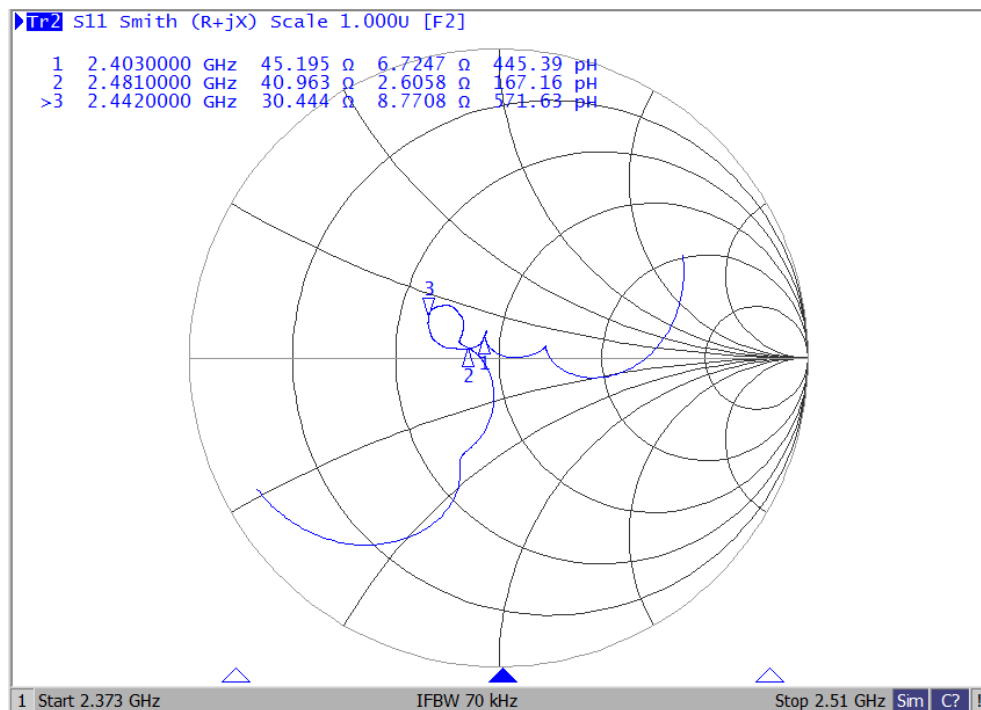
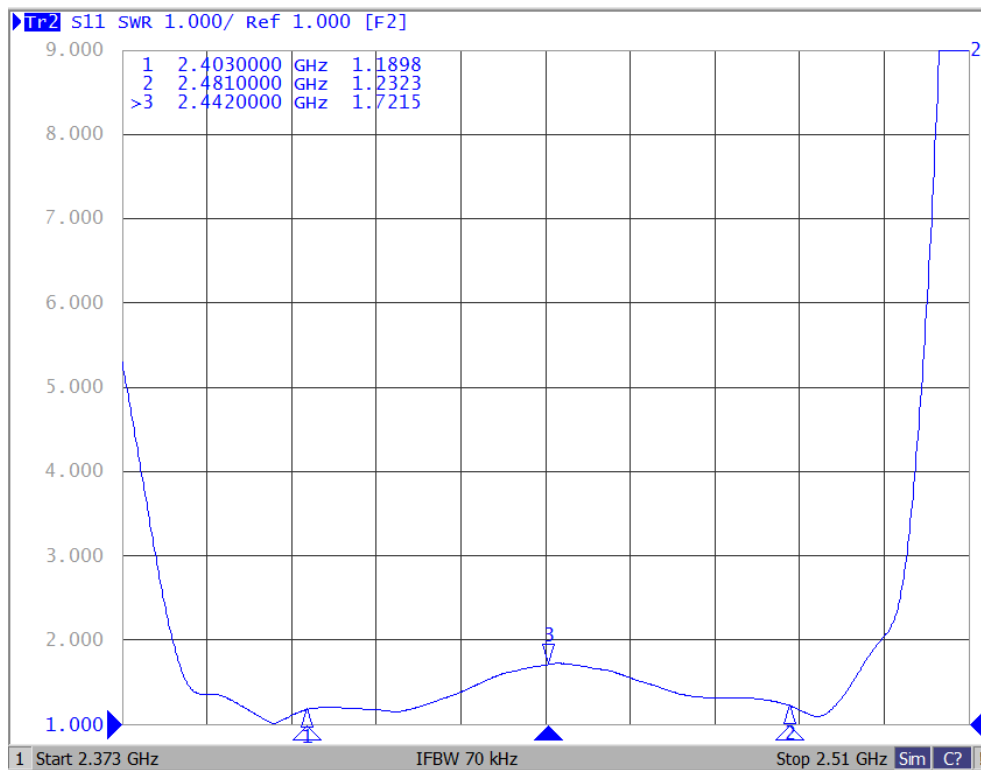


Figure 5: Reflection coefficient (S11)

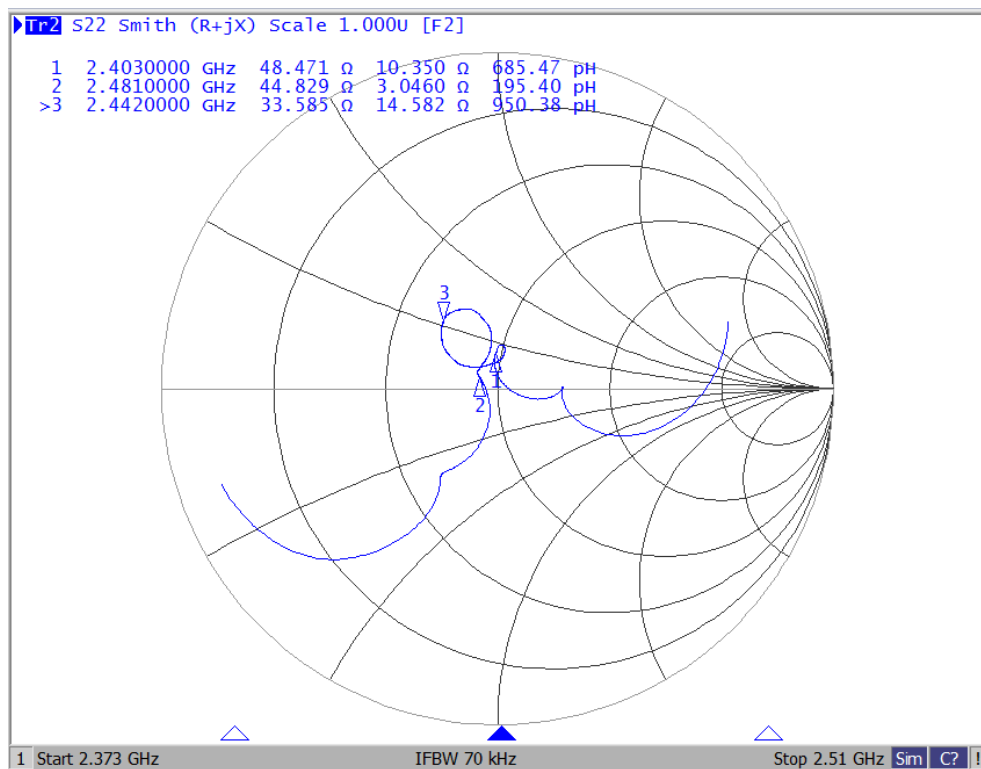
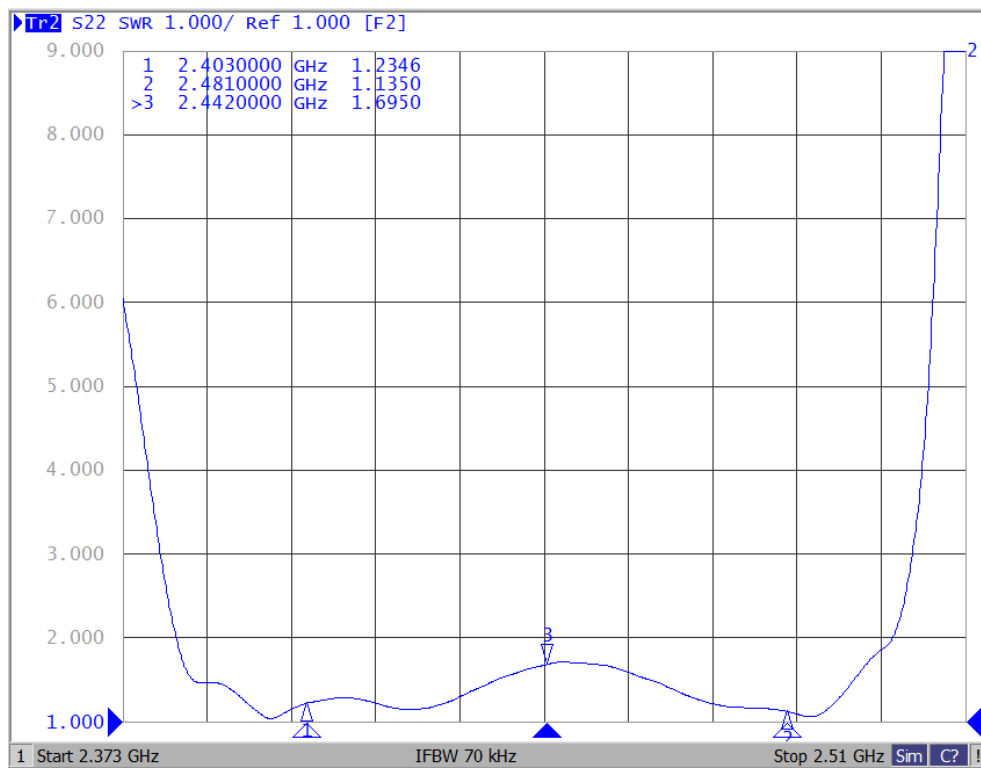


Figure 6: Reflection coefficient (S22)

10 Packing material

10.1 Tape

Tensile Strength of Carrier Tape: Carrier tape 10N or more; Cover tape 5N or more. Packaging quantities: 5000 PCS / Reel.

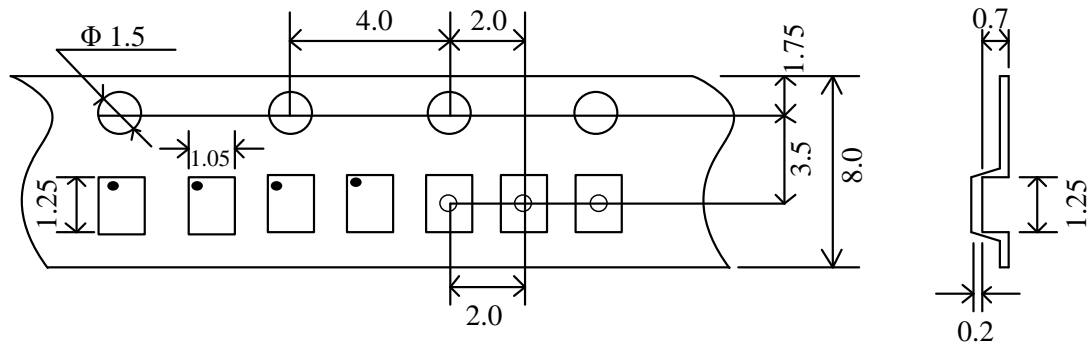


Figure 7: Drawing of tape with tape dimensions according above.

10.2 Reel with diameter of 178mm

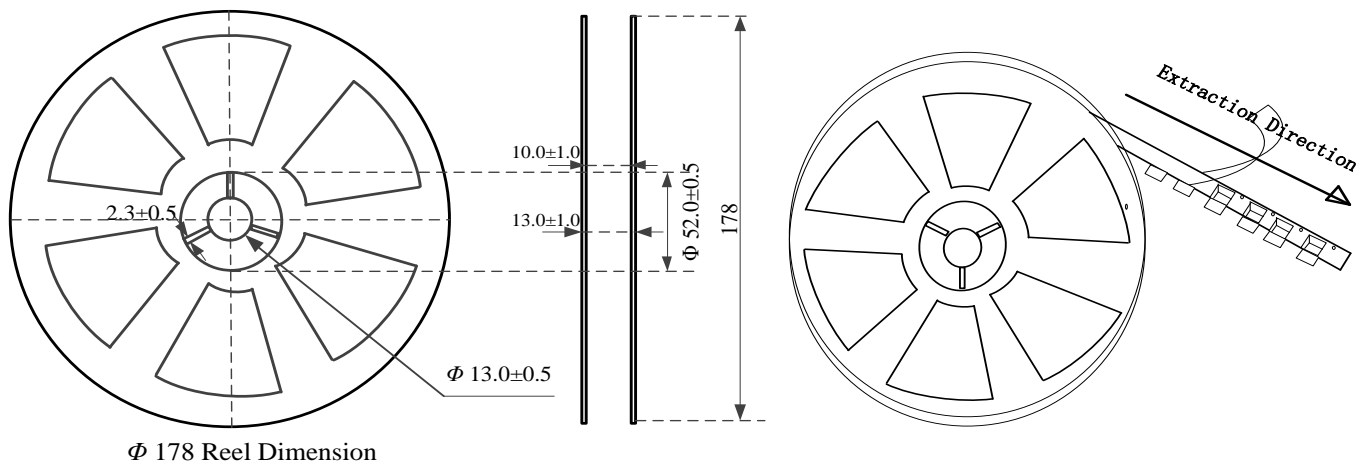


Figure 8: Drawing of reel with diameter of 178mm.