

SAW Single Filter

for B41 / Unbalanced / 5pin /1109

Pinnacle PN: SA4111092G60AT

Key Feature:

✓ **B41 RX SAW Filter (2535-2655MHz)**

✓ **Small Size**

1 Description

SA4111092G60AT is a high-performance Surface Acoustic Wave (SAW) Bandpass filter optimized for B41 operating in the range of 2.535-2.655 GHz. It is designed to provide both low insertion loss in the Band 41 and high rejection in the adjacent cellular Bands for mobile devices.

SA4111092G60AT uses advanced Chip Scale Package (CSP) technology and is housed in an industry-standard, 5-pin 1.1mm x 0.9mm package with a low profile of 0.6mm max.

2 Features

- Low Insertion Loss: 1.5dB at Mid-Band
- High Rejection in WIFI
- 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:

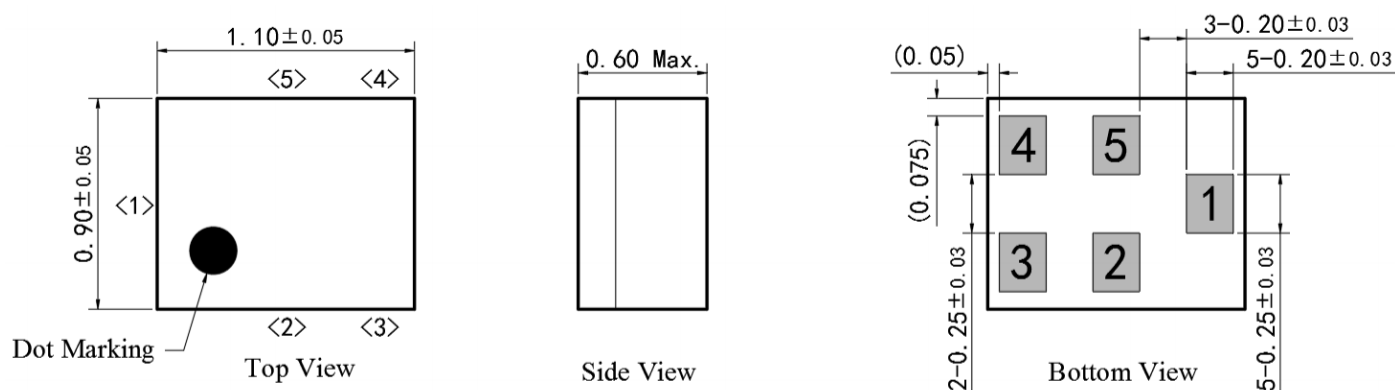


Figure 1: Drawing of Package with each tolerance range

4 Pin configuration

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

5 Matching Circuit(recommended)

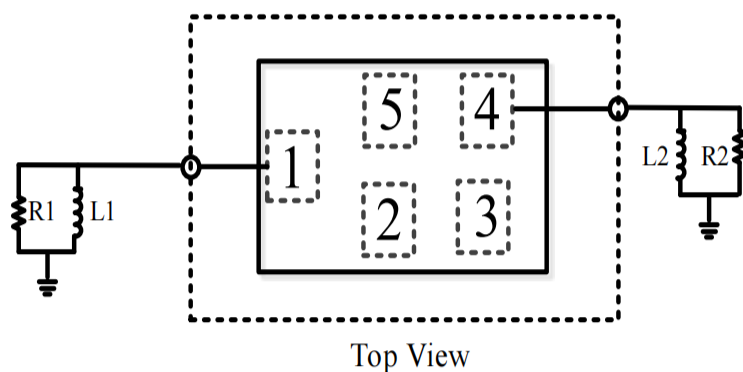


Figure 2: Schematic of matching circuit.

R1: 50 Ohm	L1: 1.8 nH (Q≈30 @2.600MHz)
R2: 50 Ohm	L2: 2 nH (Q≈30 @2.600MHz)

6 Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Temperature	-30 to +85	°C
Storage Temperature	-40 to +85	°C
Maximum Input Power	+15	dBm
Moisture Sensitivity Levels	3	MSL
Maximum DC Voltage	5	V

7 Recommended Soldering Profile

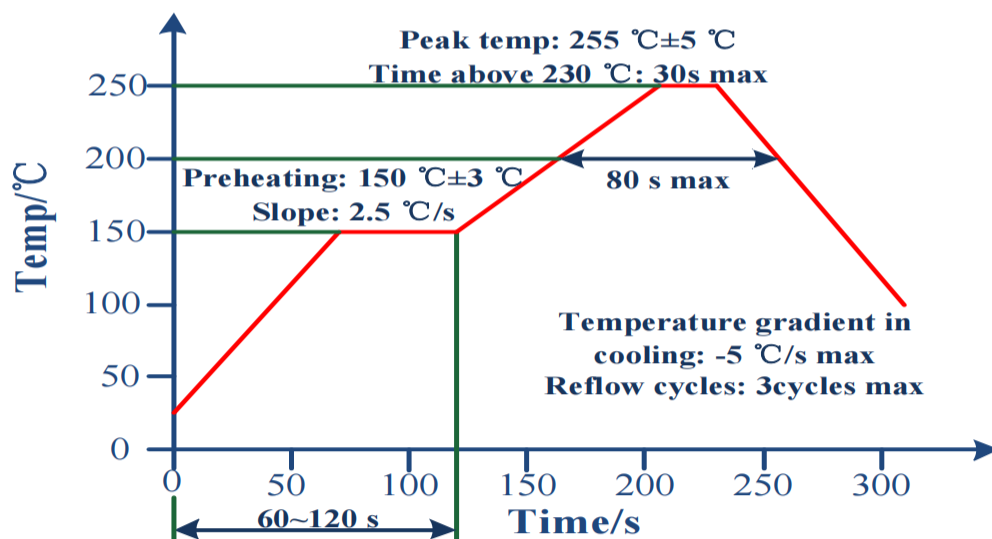


Figure 3: Recommended Reflow profile for convection and infrared soldering-lead-free solder.

8 Electrical Specifications

Parameter	Conditions	Min	Typ.	Max	Unit	Note
Insertion Loss	2535 - 2655 MHz	-	2	2.6	dB	
Passband Ripple	2535 - 2655 MHz	-	1.2	1.6	dB	
Attenuation	10 - 1225 MHz	45	55	-	dB	
	1225 - 1559 MHz	35	37	-	dB	
	1559 - 1606 MHz	32	35	-	dB	
	1606 - 1710 MHz	30	32	-	dB	
	1710 - 2170 MHz	30	32	-	dB	
	2170 - 2400 MHz	40	45	-	dB	
	2401- 2483 MHz	36	42	-	dB	
	2750- 4900 MHz	16	30			
	4901- 6000 MHz	20	30			
VSWR(input)	2535 - 2655 MHz	-	1.5	2	-	
VSWR(output)	2535 - 2655 MHz	-	1.5	2	-	

9 Transmission coefficient

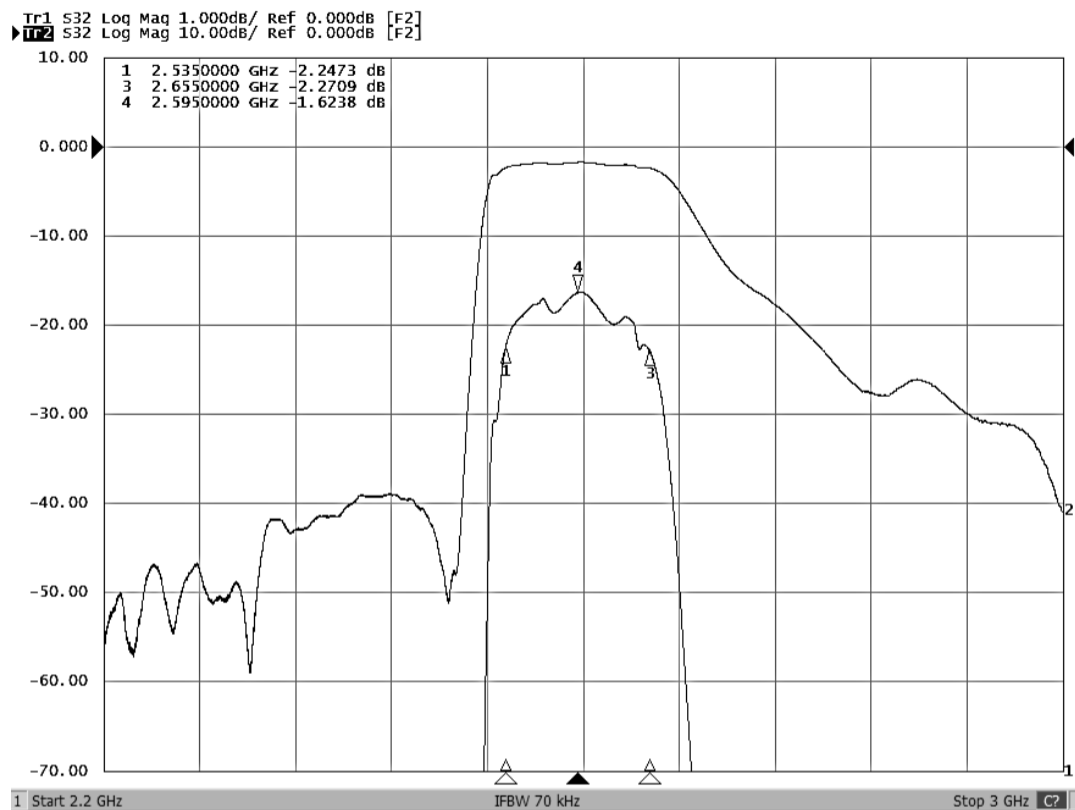


Figure 4: |S21|

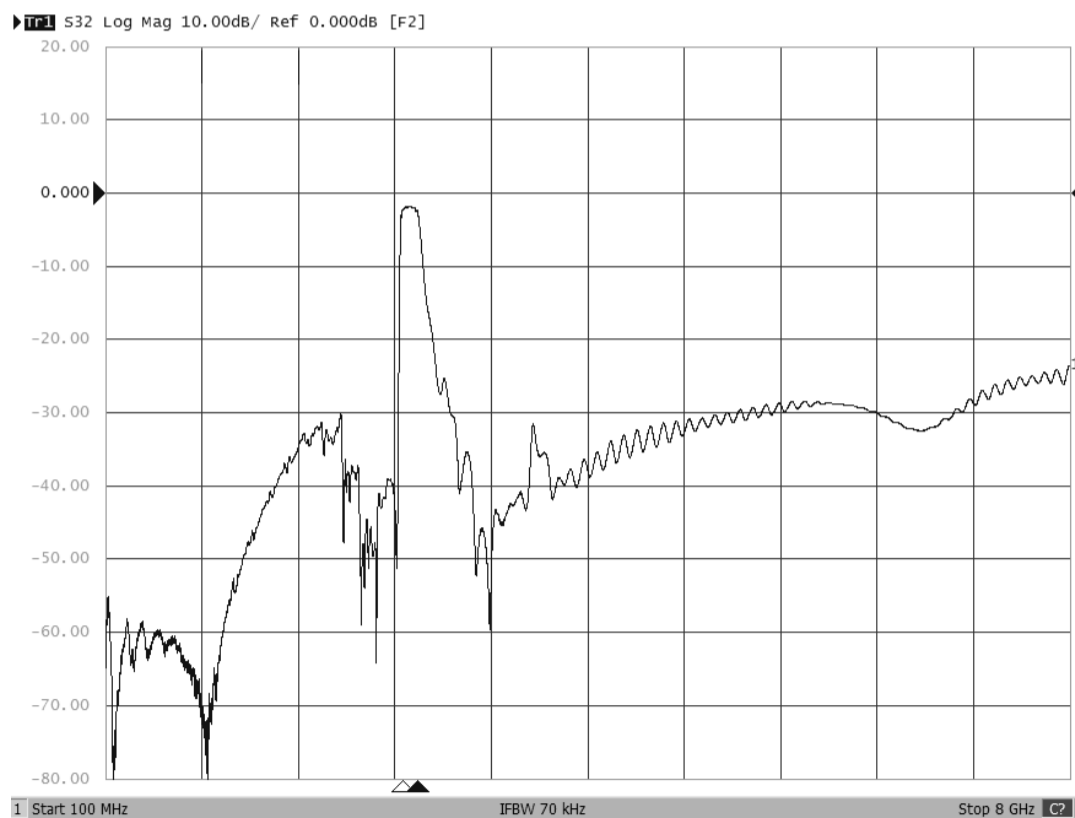


Figure 5: Wide Band |S21|

10 Reflection coefficients

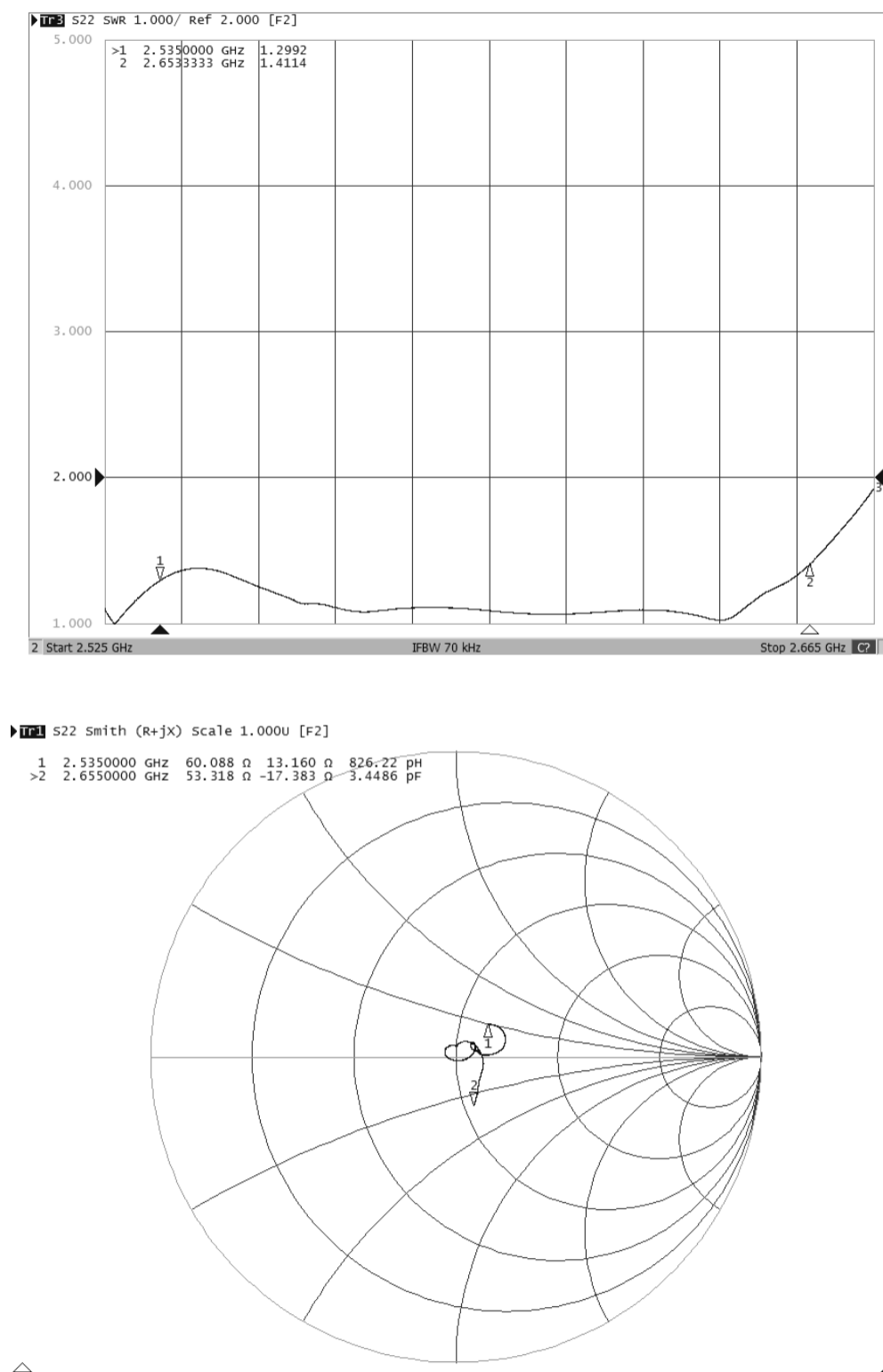
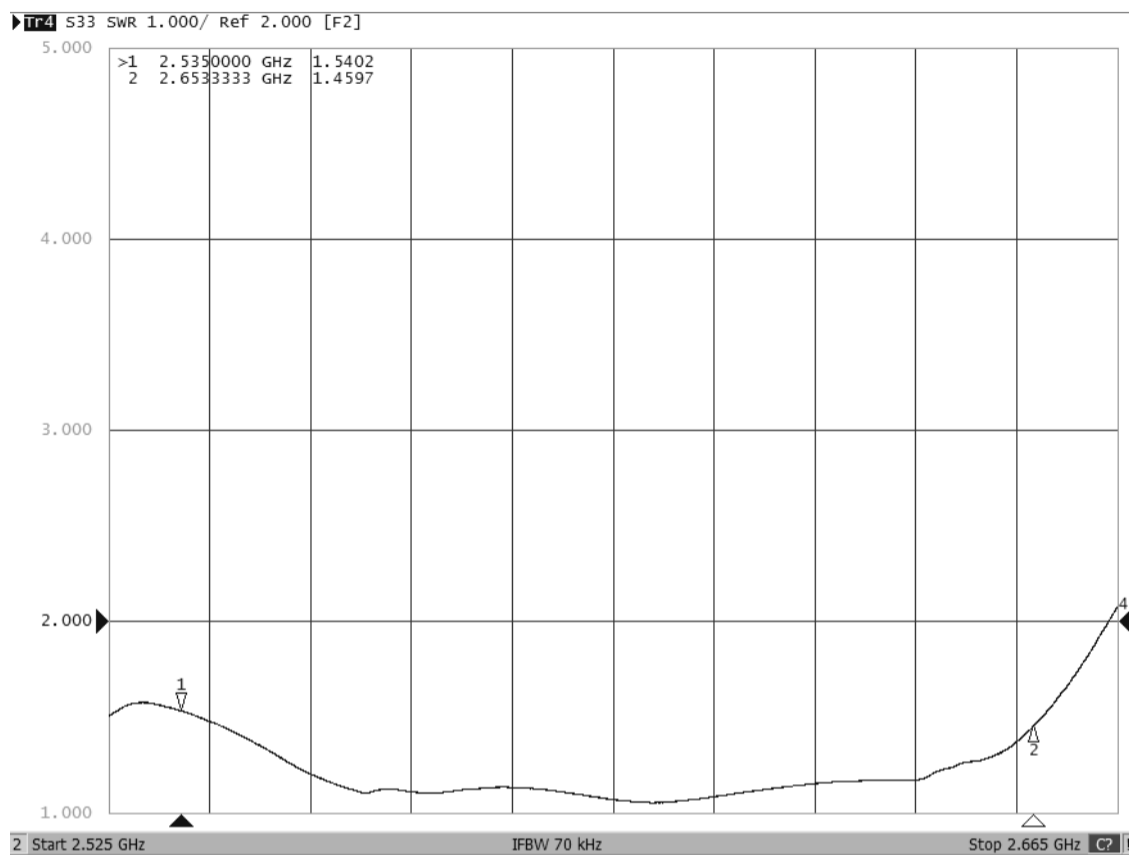


Figure 6: Reflection coefficient (S11)



▶ **Tr2** S33 Smith (R+jX) scale 1.000U [F2]

	1	2.5350000 GHz	78.236 Ω	8.4745 Ω	532.05 pF
>2	2.6550000 GHz	61.350 Ω	-18.934 Ω	3.1660 pF	

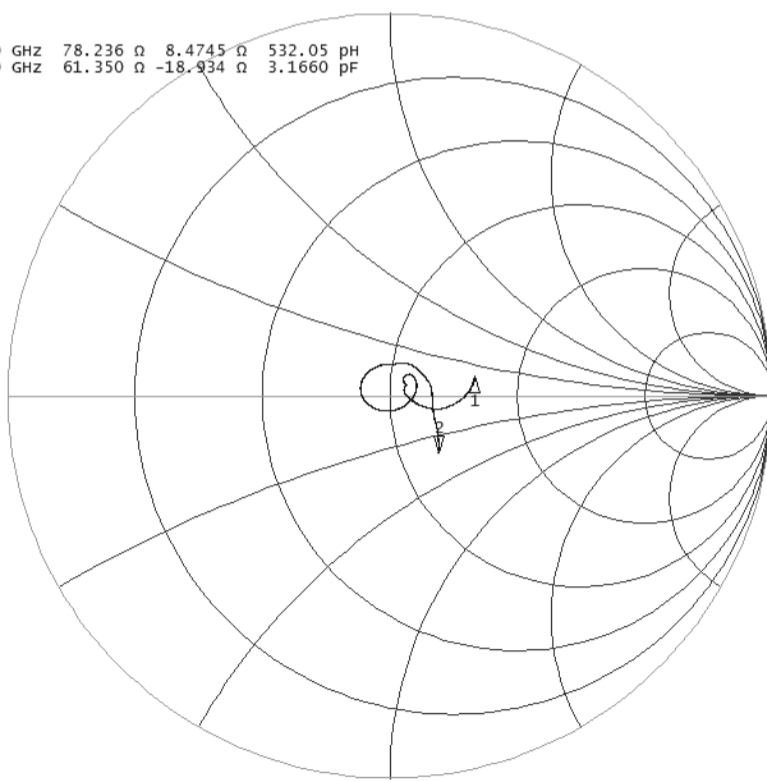


Figure 7: Reflection coefficient (S22)

11.1 Tape

Technical drawing of a mechanical part, showing front and side views with dimensions.

Front View (Left):

- Overall length: 8.0
- Overall width: 1.25
- Top hole diameter: $\Phi 1.5$
- Top hole position from left edge: 1.05
- Top hole spacing: 4.0, 2.0
- Bottom hole diameter: 2.0
- Bottom hole position from right edge: 1.75
- Bottom hole spacing: 2.0

Side View (Right):

- Overall height: 1.25
- Top flange thickness: 0.7
- Bottom flange thickness: 0.2

Figure 8: Drawing of tape with tape dimensions according above.

Technical drawing of a 178mm reel. The left view is a front view showing a circular reel with eight segments. Dimensions include a central hole diameter of $\Phi 13.0 \pm 0.5$, a segment width of 2.3 ± 0.5 , and a total width of 178 . The right view is a side view showing the reel's profile with dimensions for the top layer thickness (10.0 ± 1.0), the bottom layer thickness (13.0 ± 1.0), and the total thickness ($\Phi 52.0 \pm 0.5$). An arrow indicates the 'Extraction Direction' from the right side.

Figure 9: Drawing of reel with diameter of 178mm.