

## **SAW Single Filter**

**for B39 / Unbalanced / 5pin /1109**

➤ **LTE B39 TX**

➤ **Low Insertion Loss**

## 1 Description

SA3911091G90AT is a high-performance Surface Acoustic Wave (SAW) Bandpass filter optimized for TD-LTE applications operating in the range of 1.88GHz-1.92GHz. It is designed to provide both low insertion loss in the Band 39 and high rejection in the adjacent cellular Bands for mobile devices.

SA3911091G90AT uses advanced Chip Scale Package (CSP) technology and is housed in an industry-standard, 5-pin 1.1 mm x 0.9 mm package with a low profile of 0.6mm max.

## 2 Features

- Low Insertion Loss: 1.3dB at Mid-Band
- High Rejection in B41/B40
- 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:

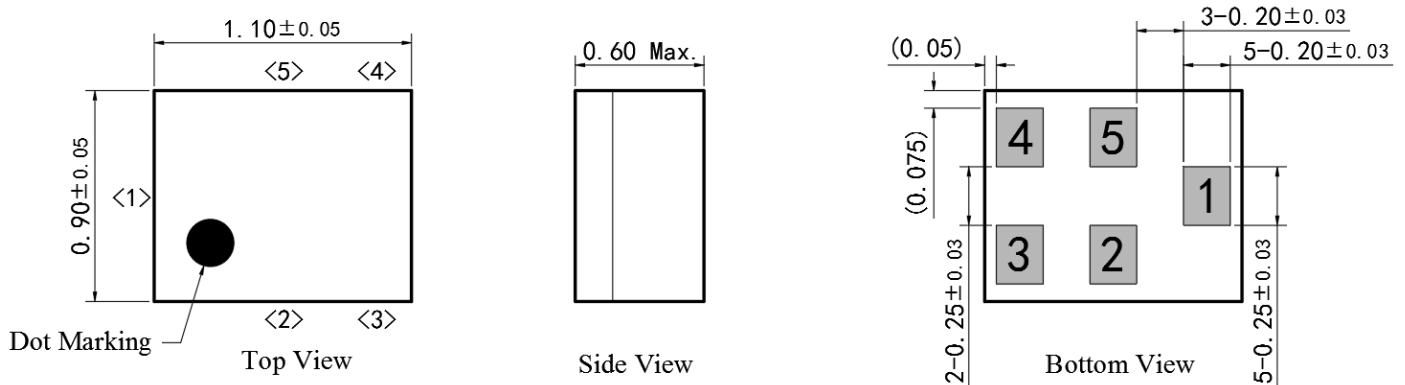


Figure 1: Drawing of Package with each tolerance range

### 4 Pin configuration

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

### 5 Matching Circuit(recommended)

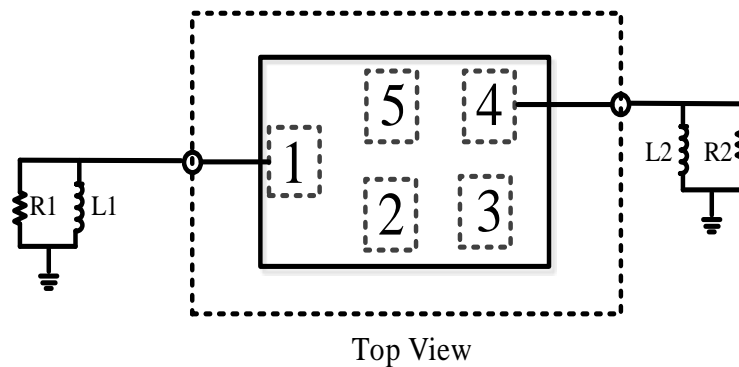


Figure 2: Schematic of matching circuit.

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	+29	dBm
Maximum DC Voltage	5	V
Input terminating impedance	50	Ω
Output terminating impedance	50	Ω
Input Power@input port	Pin=29dBm Continuous wave for 2000h@+55° C	

**7 Electrical Specifications**

<b>Parameter</b>	<b>Conditions</b>	<b>Min</b>	<b>Typ.</b>	<b>Max</b>	<b>Unit</b>
Insertion Loss	1880-1920 MHz	-	1.7	2.1	dB
Attenuation	10 – 1710 MHz	37	43	-	dB
	1710 -1805 MHz	33	35	-	dB
	1805 – 1840 MHz	31	32	-	dB
	1840 – 1850 MHz	31	32	-	dB
	2000 - 2110 MHz	45	47	-	dB
	2100 - 2200 MHz	45	48	-	dB
	2200 - 3000 MHz	35	38	-	dB
VSWR(input)		-	1.7	2	-
VSWR(output)		-	1.7	2	-

## 8 Transmission coefficient

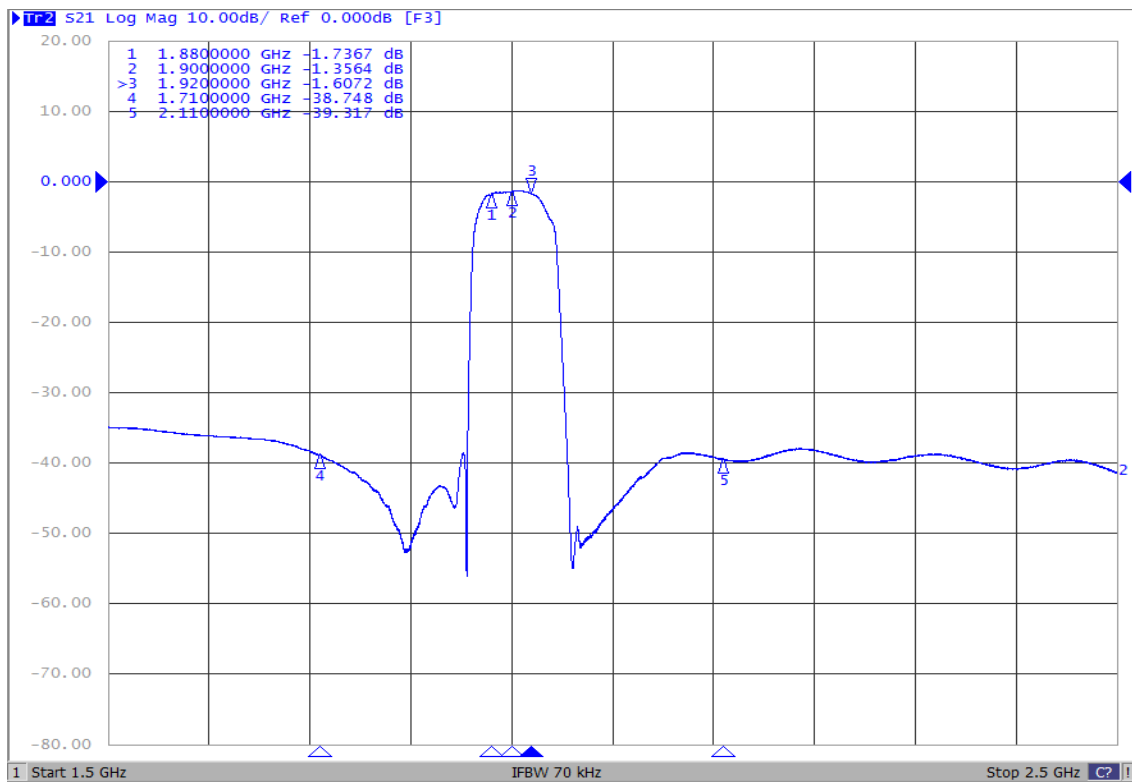
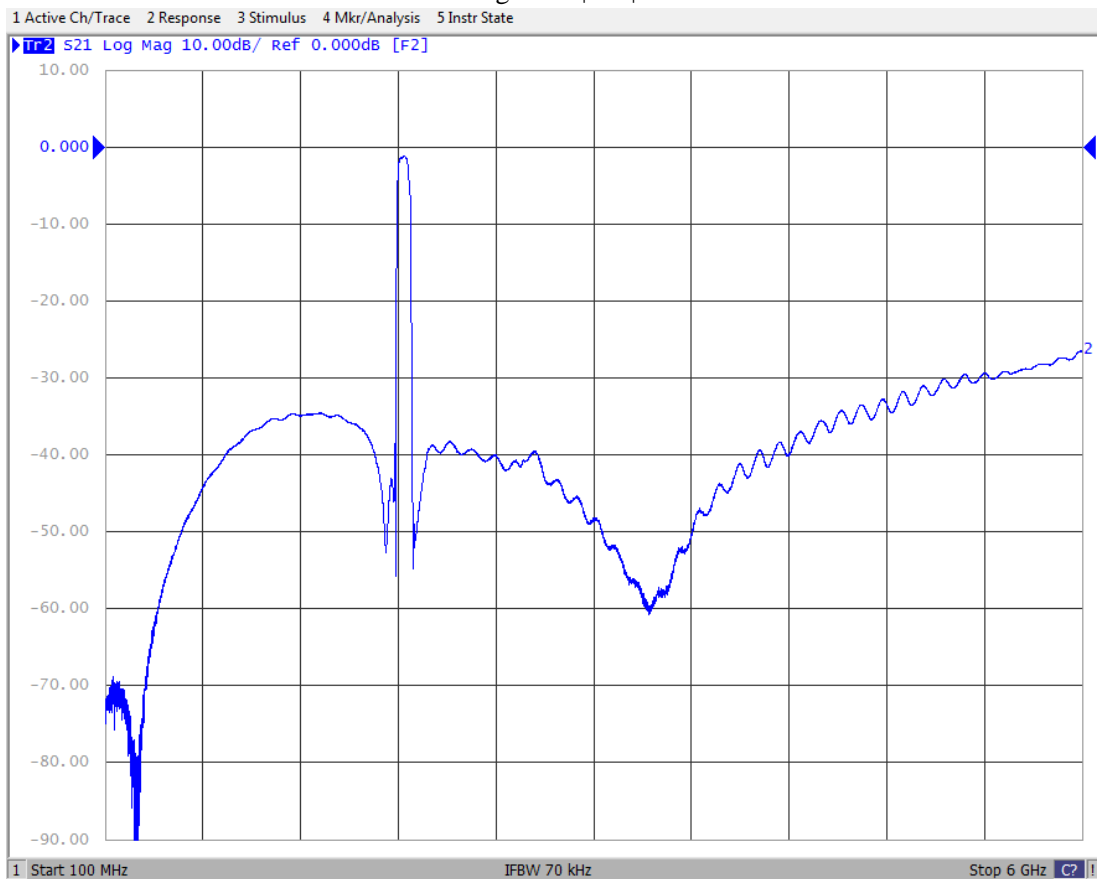
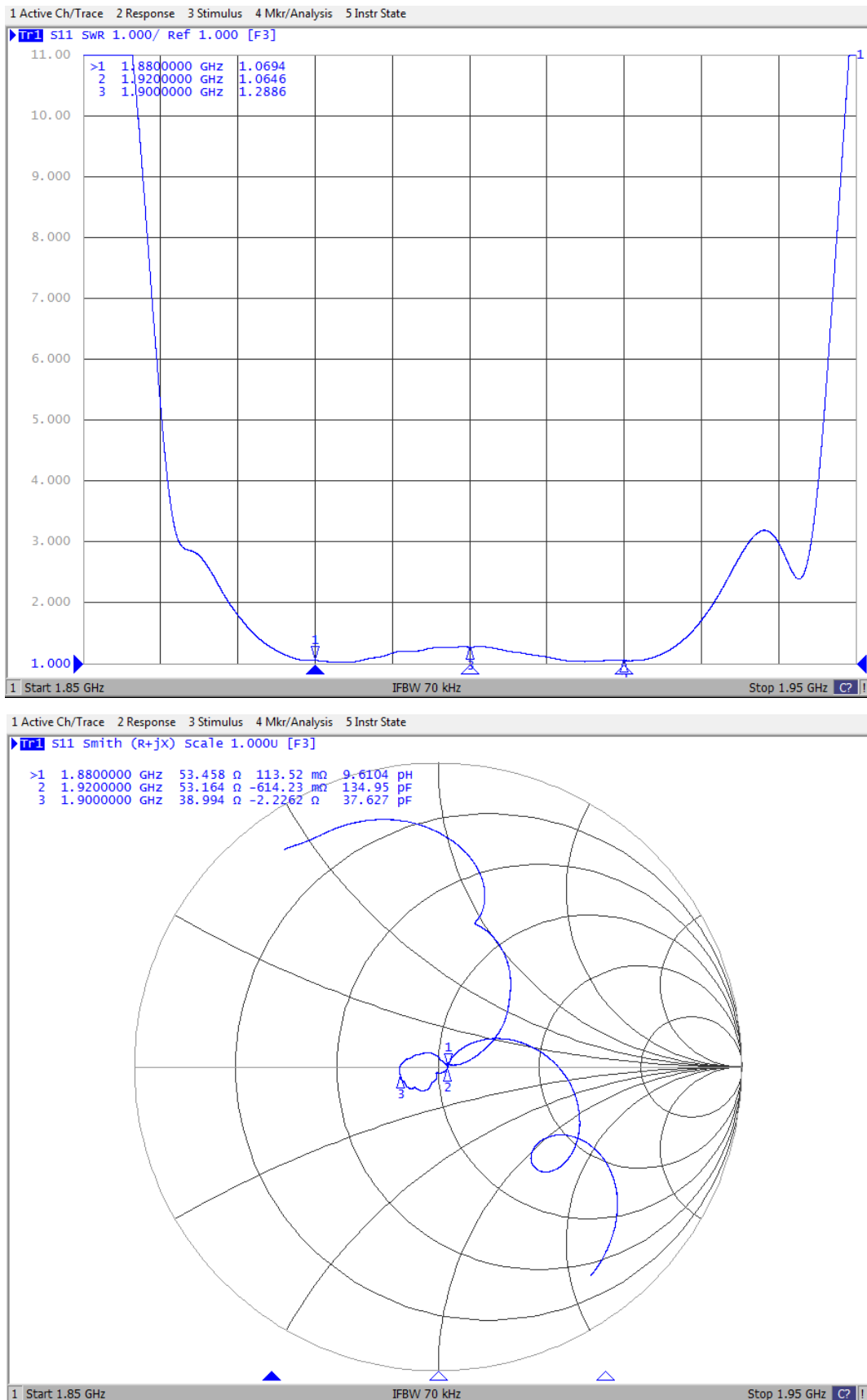


Figure 3: |S21|



**9 Reflection coefficients**

**Figure 5: Reflection coefficient (S11)**

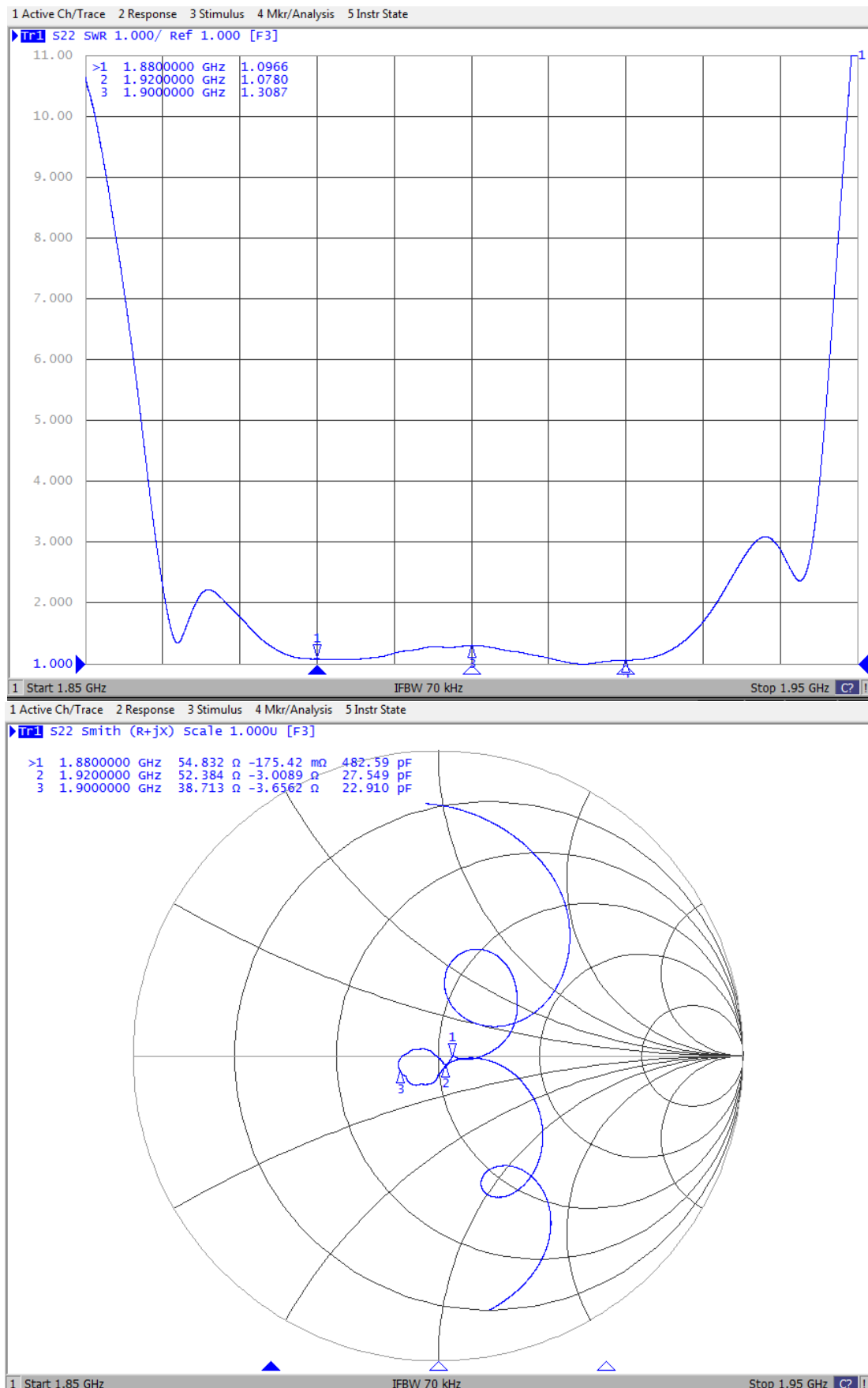


Figure 6: Reflection coefficient (S22)



## 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.

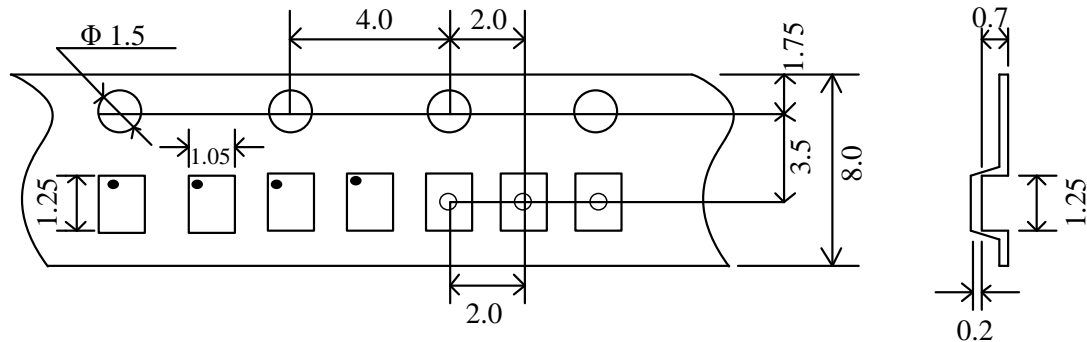


Figure 7: Drawing of tape with tape dimensions according above.