SAW Single Filter

for GPS / Unbalanced / 5pin /1109

Pinnacle PN: SAWF11091G17AT

Key Feature:

- √ Support GPS(L5)
- √ Low Variation of GDT Characteristics
- √ Low Insertion Loss

1 Description

SAWF11091G17AT is a high -performance Surface Acoustic Wave (SAW) Bandpass filter optimized for GPS(L5) applications operating in the range of 1.164-1.189GHz. It is designed to provide both low insertion loss in the GPS(L5) and Low Variation of GDT Characteristics for mobile devices.

SAWF11091G17AT 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: 1.2dB at GPS(L5)
- Small Footprint: 0.25±0.03mm x 0.20±0.03mm.
- Package size 1.1±0.05mm x 0.9±0.05mm
- Approximate weight 2mg
- Moisture Sensitivity Level 3 (MSL3)
- Electrostatic Sensitive Device (ESD)
- Package height 0.6mm max.
- Single-Ended Operation
- RoHS Compliant

3 Package & Dimensions

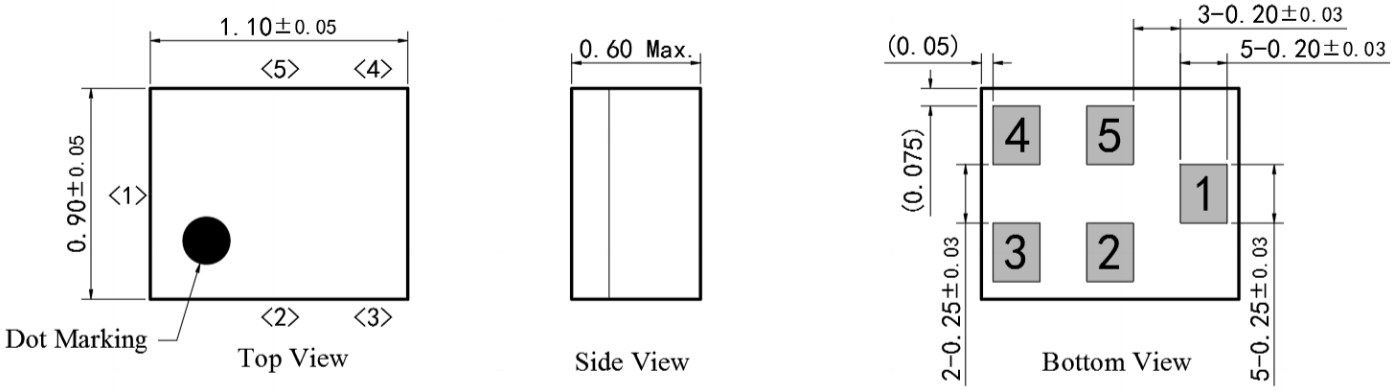


Figure 1: Drawing of Package with each tolerance range

4 Pin configuration

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

5 Matching Circuit(recommended)

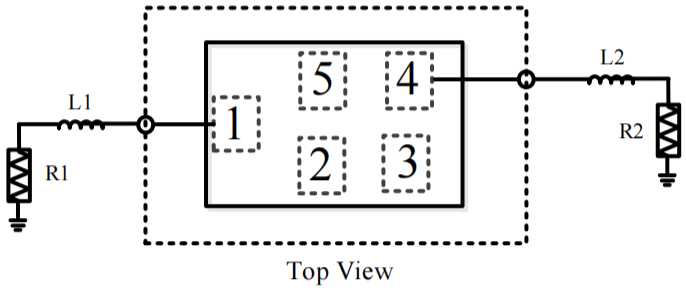


Figure 2: Schematic of matching circuit.

R1：50 Ohm	L1：2 nH
R2：50 Ohm	L2：2 nH

6 Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Temperature	-40 to +85	°C
Storage Temperature	-40 to +85	°C
Maximum Input Power	+15	dBm
Maximum DC Voltage	5	V

7 Recommended Soldering Profile

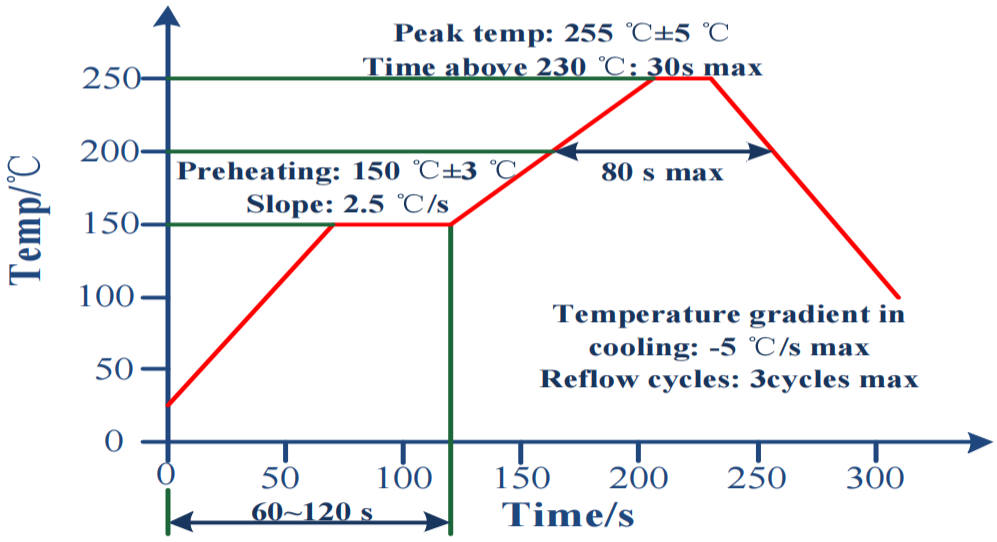


Figure 3: Recommended Reflow profile for convection and infrared soldering-lead-free solder.

8 Electrical Specifications

(At T_a=25°C, unless otherwise specified, as measured on the evaluation board of SAWF11091G17AT with feed line loss de-embedded.)

Parameter	Conditions	Min	Typ.	Max	Unit
Insertion Loss	1164 - 1189 MHz	-	1.2	1.5	dB
Passband Ripple	1164 - 1189 MHz	-	0.5	1.0	dB
Attenuation	638 - 698 MHz	30	34	-	dB
	698 - 748 MHz	30	34	-	dB
	777 - 798 MHz	31	34	-	dB
	807 - 915 MHz	30	33	-	dB
	1427 - 1463 MHz	29	31	-	dB
	1626.5- 1600.5 MHz	29	31	-	dB
	1695 - 1785 MHz	34	36	-	dB
	1850 - 2025 MHz	34	36	-	dB
	2300 - 2400 MHz	34	38	-	dB
	2400 - 2483 MHz	33	37	-	dB
	2500 - 2690 MHz	30	36	-	dB
	3400 - 3800 MHz	32	34	-	dB
	4400 - 4900 MHz	34	37	-	dB
	5150 - 5925 MHz	34	38	-	dB
VSWR (input)	1164 - 1189 MHz	-	1.5	1.7	-
VSWR (output)	1164 - 1189 MHz	-	1.6	1.8	-

9 Transmission coefficients

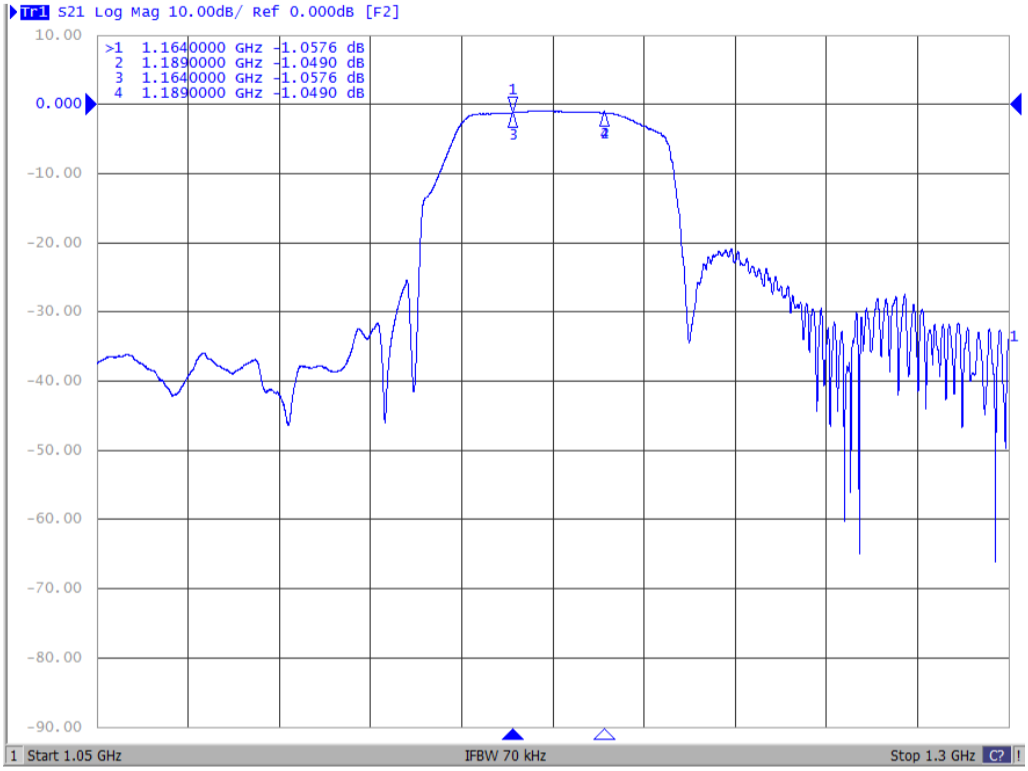


Figure 4: S21

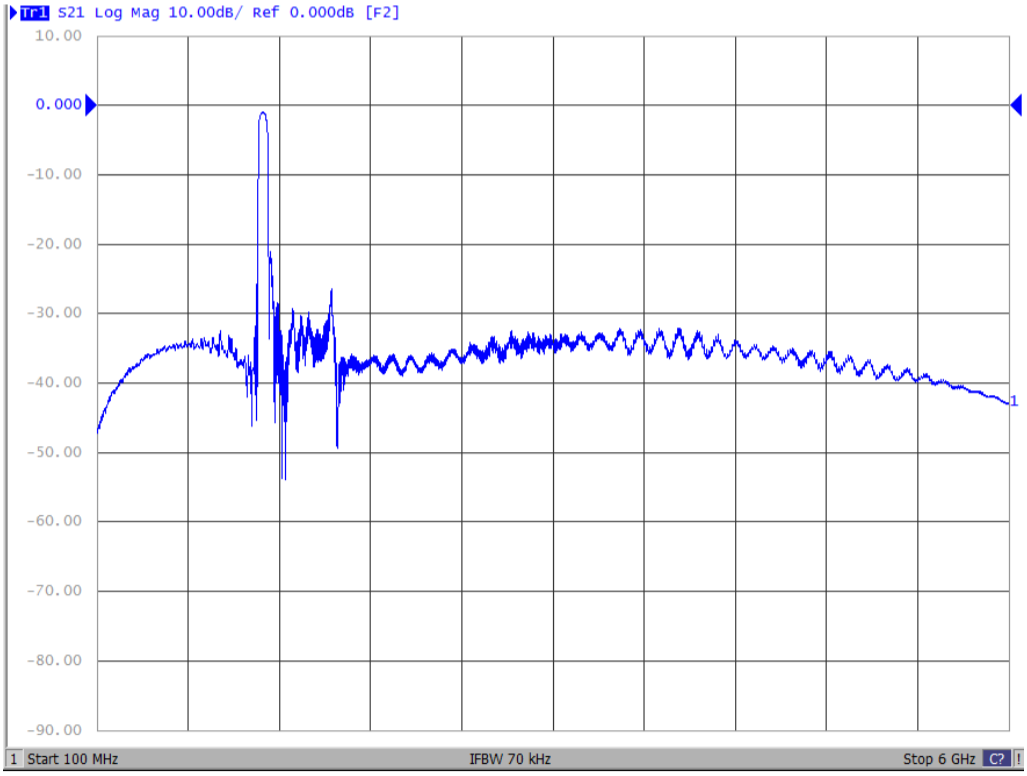
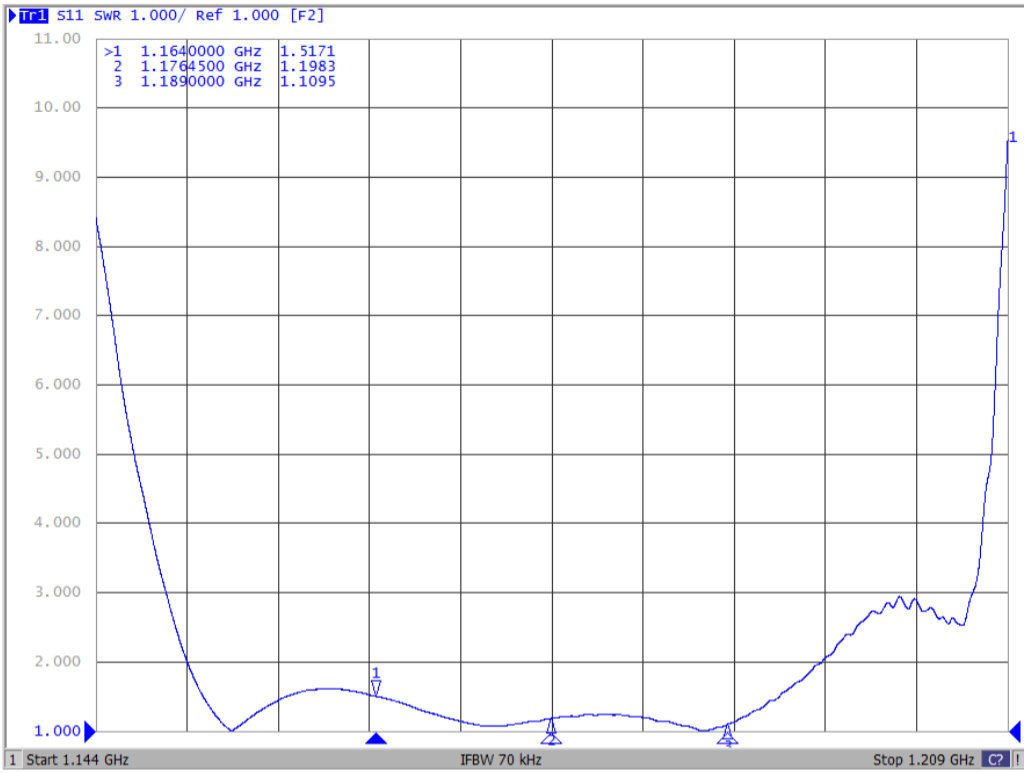


Figure 5: Wide Band S21

10 Reflection coefficients



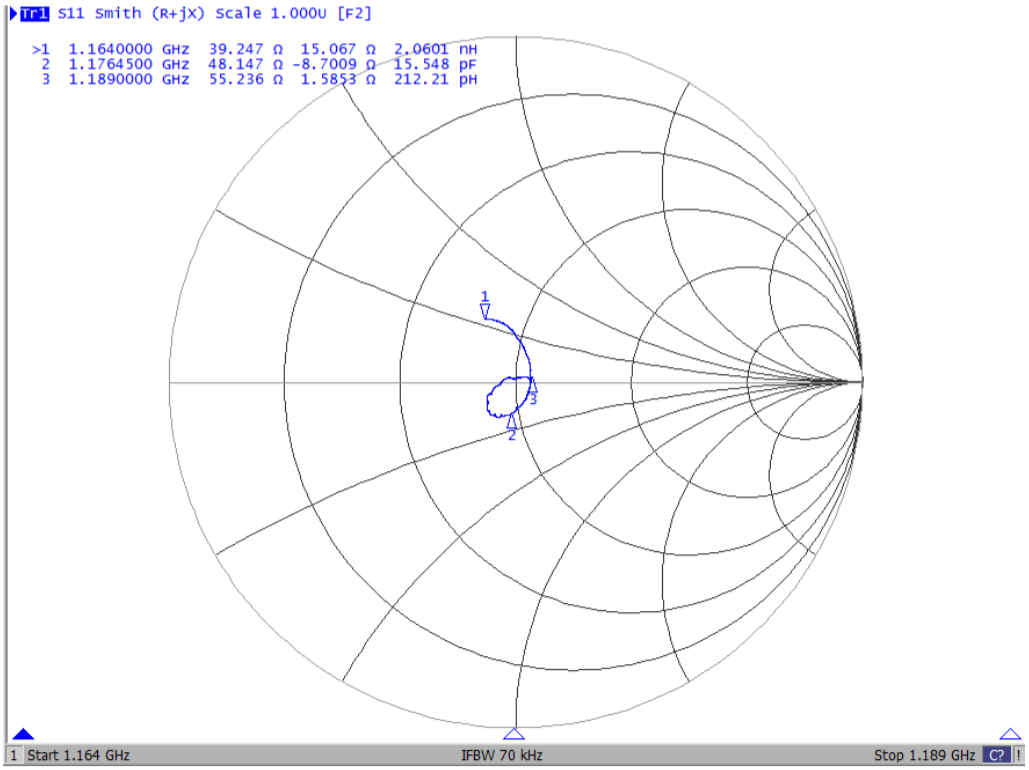
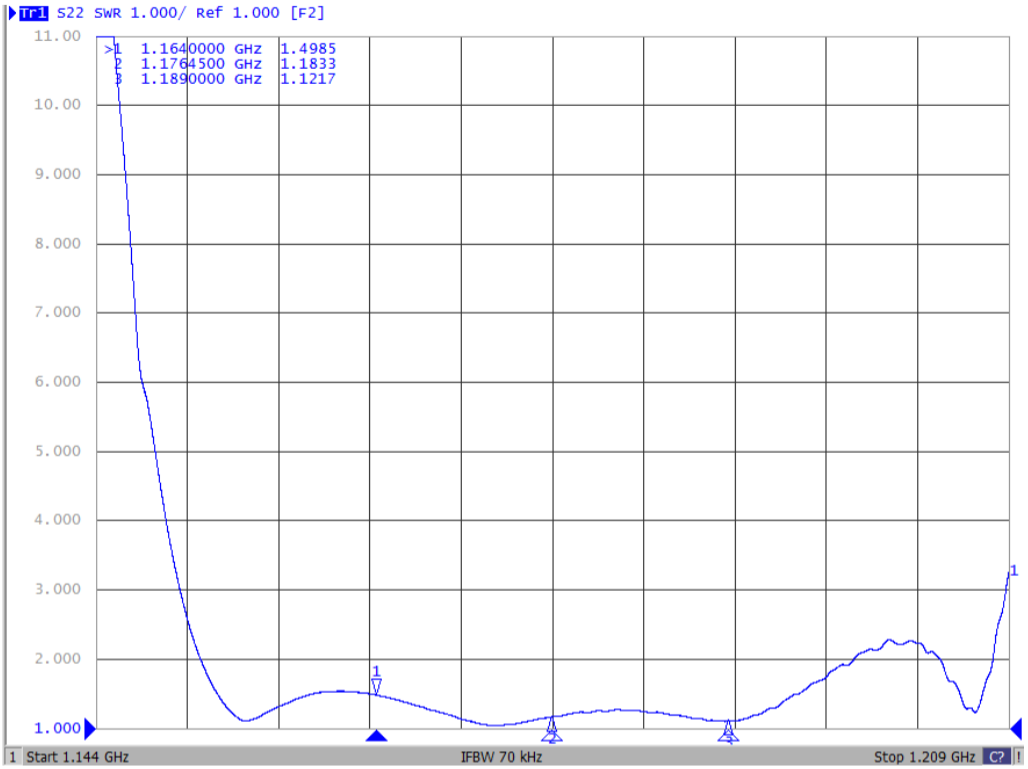


Figure 6: Reflection coefficient for （S11）



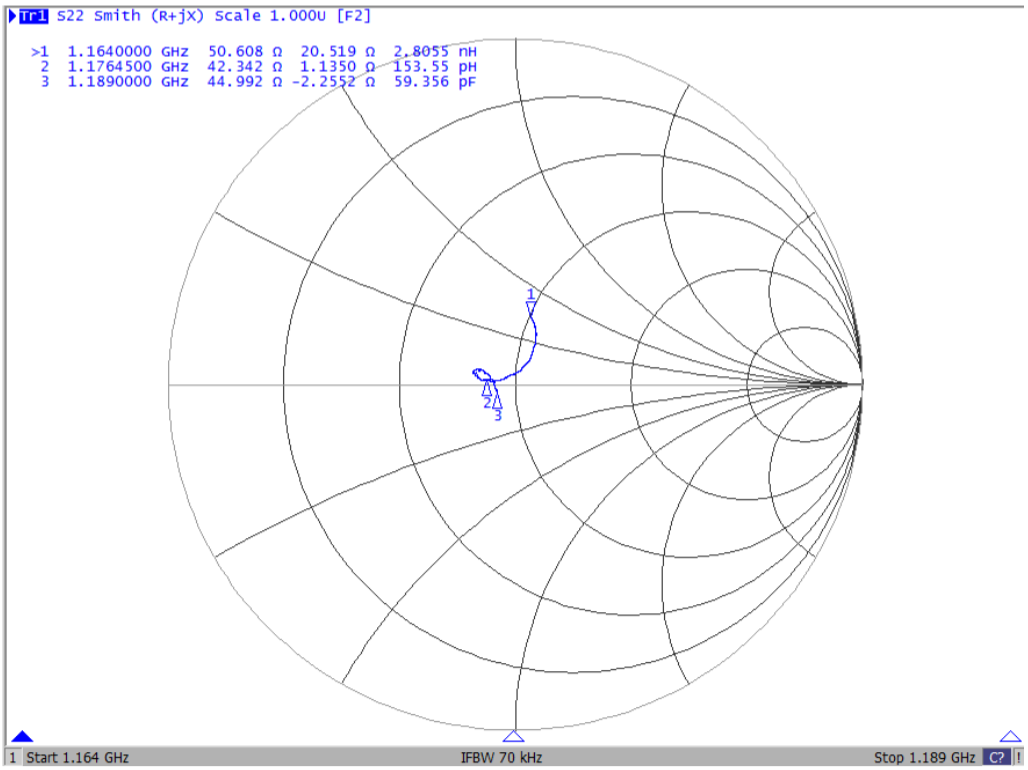


Figure 7: Reflection coefficient for （S22）

11 Packing material

11.1 Tape

Tensile Strength of Carrier Tape: Carrier tape10N or more; Cover tape 5N or more. Packaging quantities: 5000 PCS / Reel.

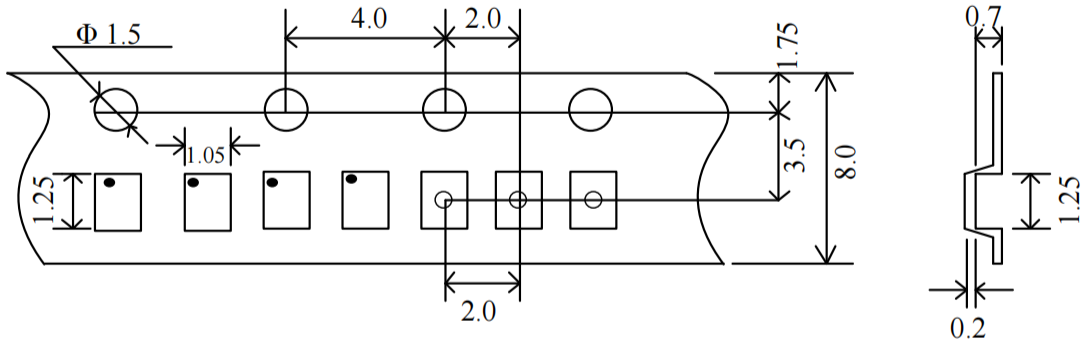


Figure 8: Drawing of tape with tape dimensions according above.

11.2 Reel with diameter of 178mm

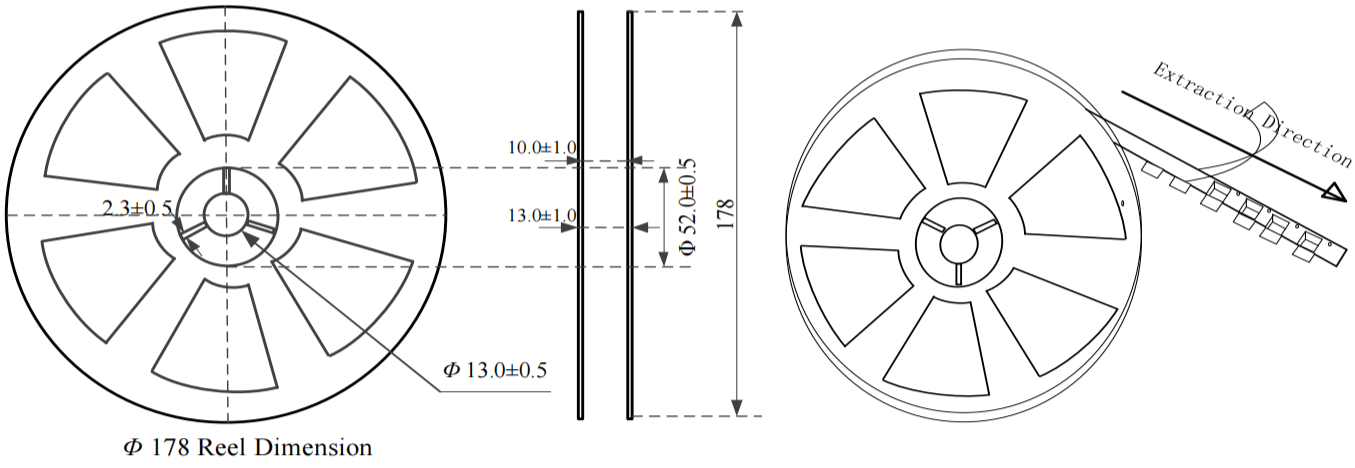


Figure 9: Drawing of reel with diameter of 178mm.