

SAW Single Filter

for B40 / Unbalanced / 5pin /1109

- **LTE B40 TX**
- **High Rejection on ISM2.4GHz**

1 Description

SA4011092G35AT is a high-performance Surface Acoustic Wave (SAW) Bandpass filter optimized for TD-LTE applications operating in the range of 2.3-2.4 GHz. It is designed to provide both low insertion loss in the Band 40 and high rejection in the adjacent cellular Bands for mobile devices.

SA4011092G35AT 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 ISM2.4GHz/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:

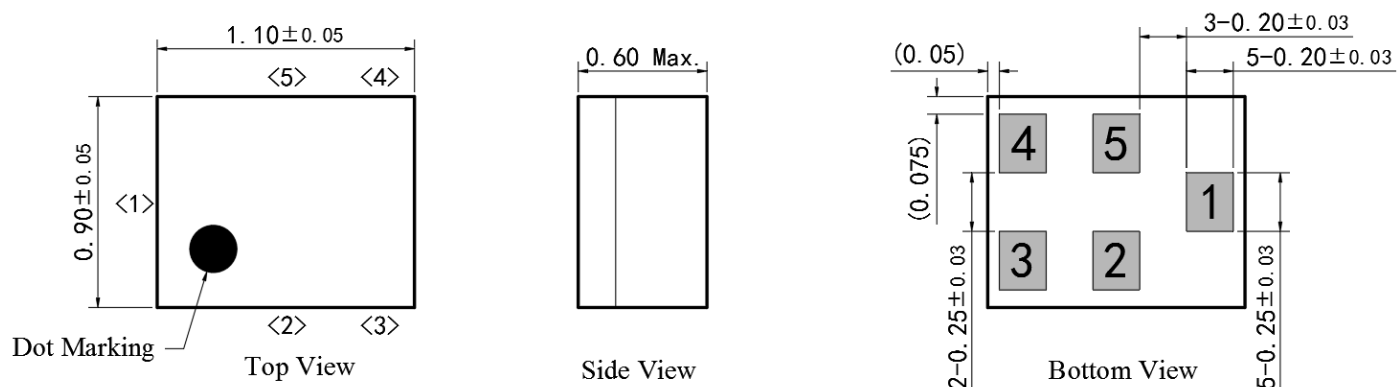


Figure 1: Drawing of Package with each tolerance range

4 Pin configuration

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

5 Matching Circuit(recommended)

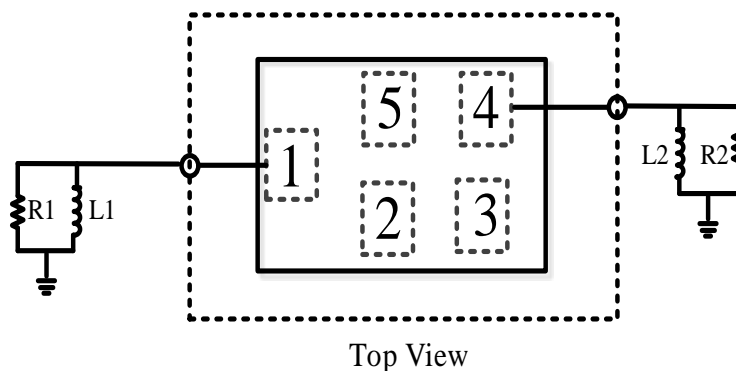


Figure 2: Schematic of matching circuit.

R1: 50 Ohm	L1: 3.0 nH (Q ≈ 30 @ 2.35GHz)
R2: 50 Ohm	L2: 3.0 nH (Q ≈ 30 @ 2.35GHz)

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

Parameter	Conditions	Min	Typ.	Max	Unit	Note
Insertion Loss	2300 - 2400 MHz	-	1.90	2.20	dB	
Passband Ripple	2300 - 2400 MHz	-	0.80	1.60	dB	
Attenuation	10 - 2110 MHz	25	30	-	dB	
	2110 - 2170 MHz	28	33	-	dB	
	2170 - 2240 MHz	30	35	-	dB	
	2435 - 2445 MHz	10	20	-	dB	+23 °C to +85 °C
	2445 - 2455 MHz	40	48	-	dB	+23 °C to +85 °C
	2455 - 2483 MHz	40	49	-	dB	
	4600 - 4800 MHz	24	30	-	dB	
	6900 - 7200 MHz	15	25	-	dB	
VSWR(input)	2300 - 2400 MHz	-	1.35	2.00	-	
VSWR(output)	2300 - 2400 MHz	-	1.40	2.00	-	

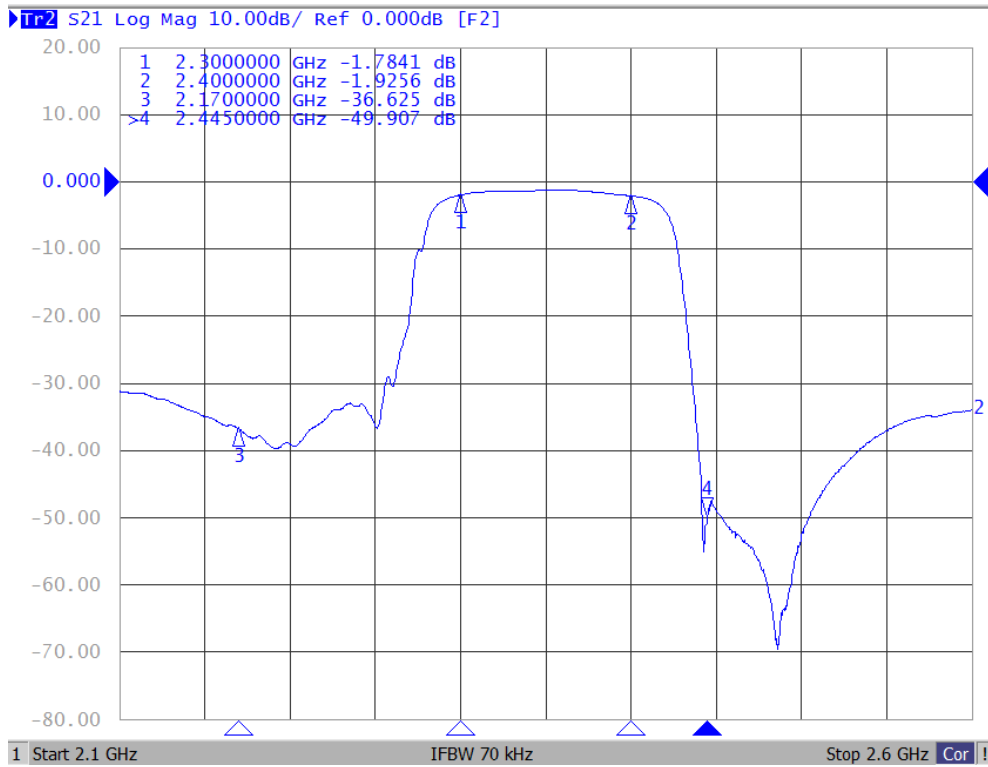
8 Transmission coefficient


Figure 3: |S21|

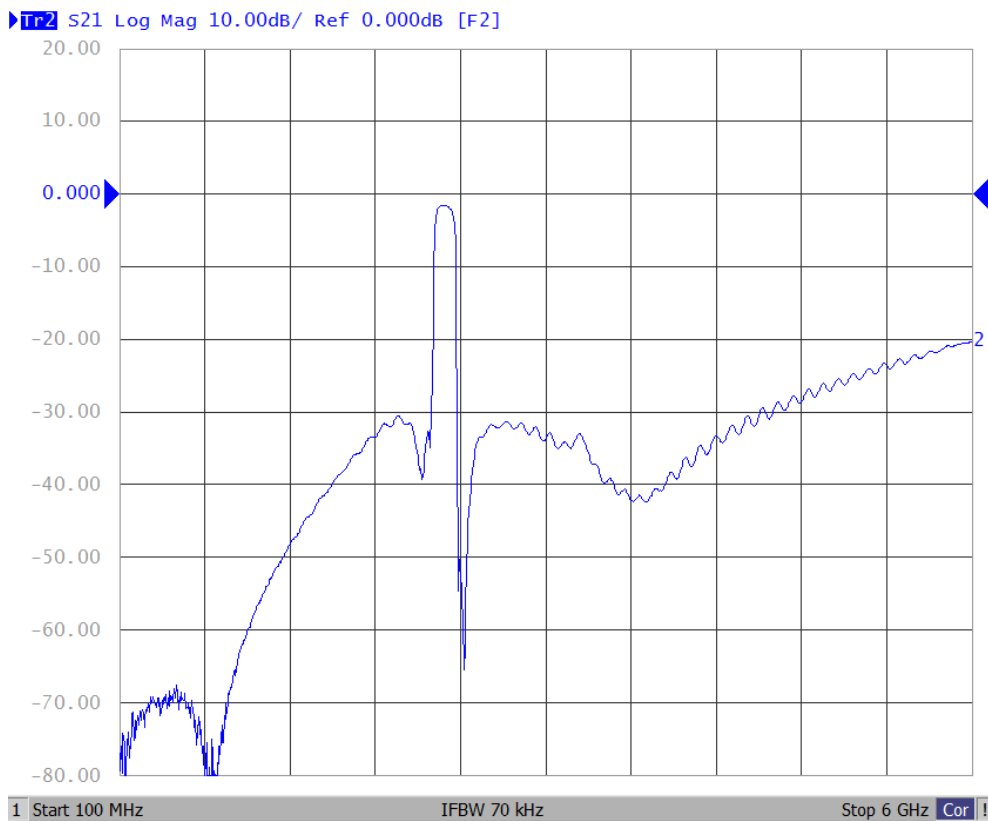
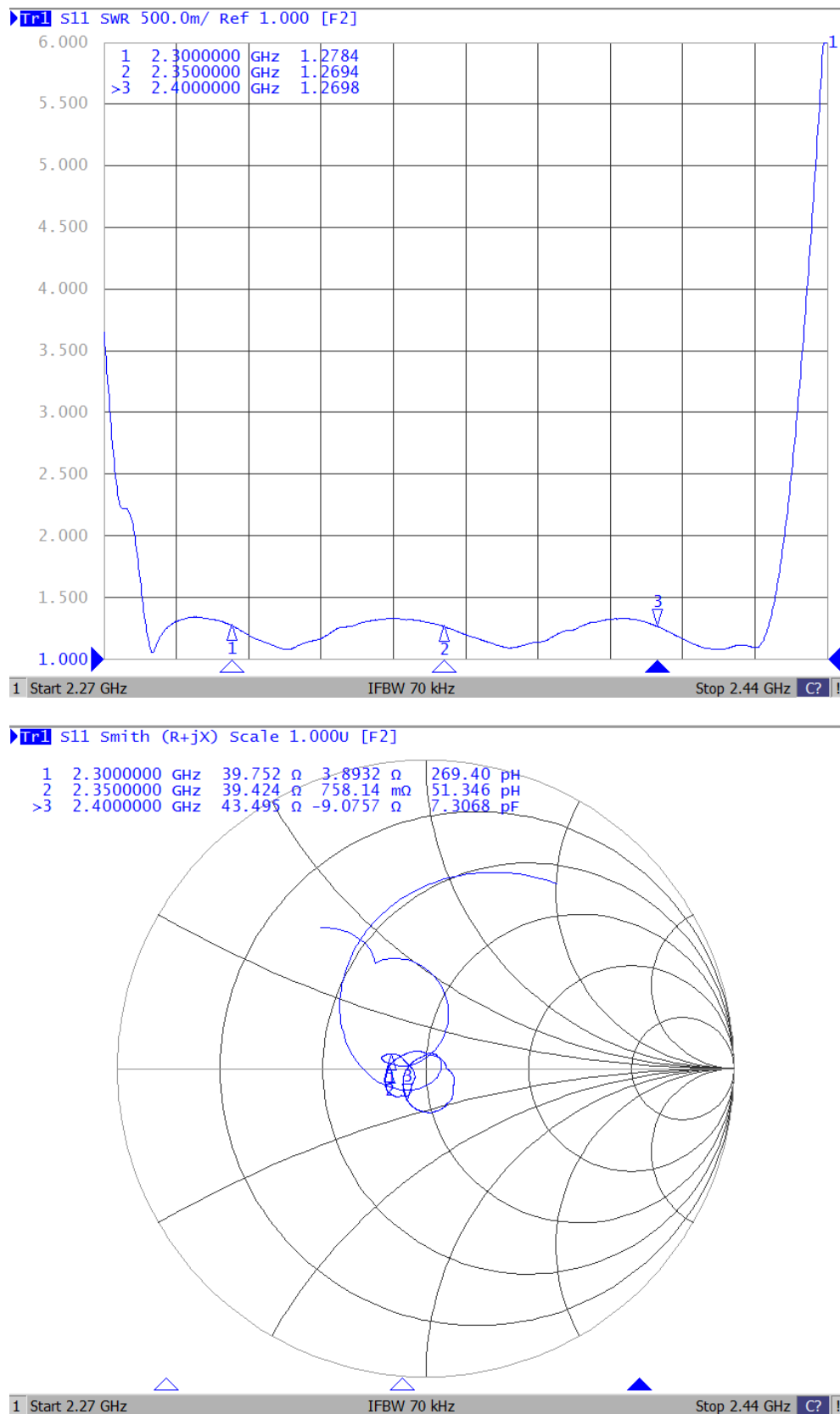


Figure 4: Wide Band |S21|

9 Reflection coefficients

Figure 5: Reflection coefficient (S11)

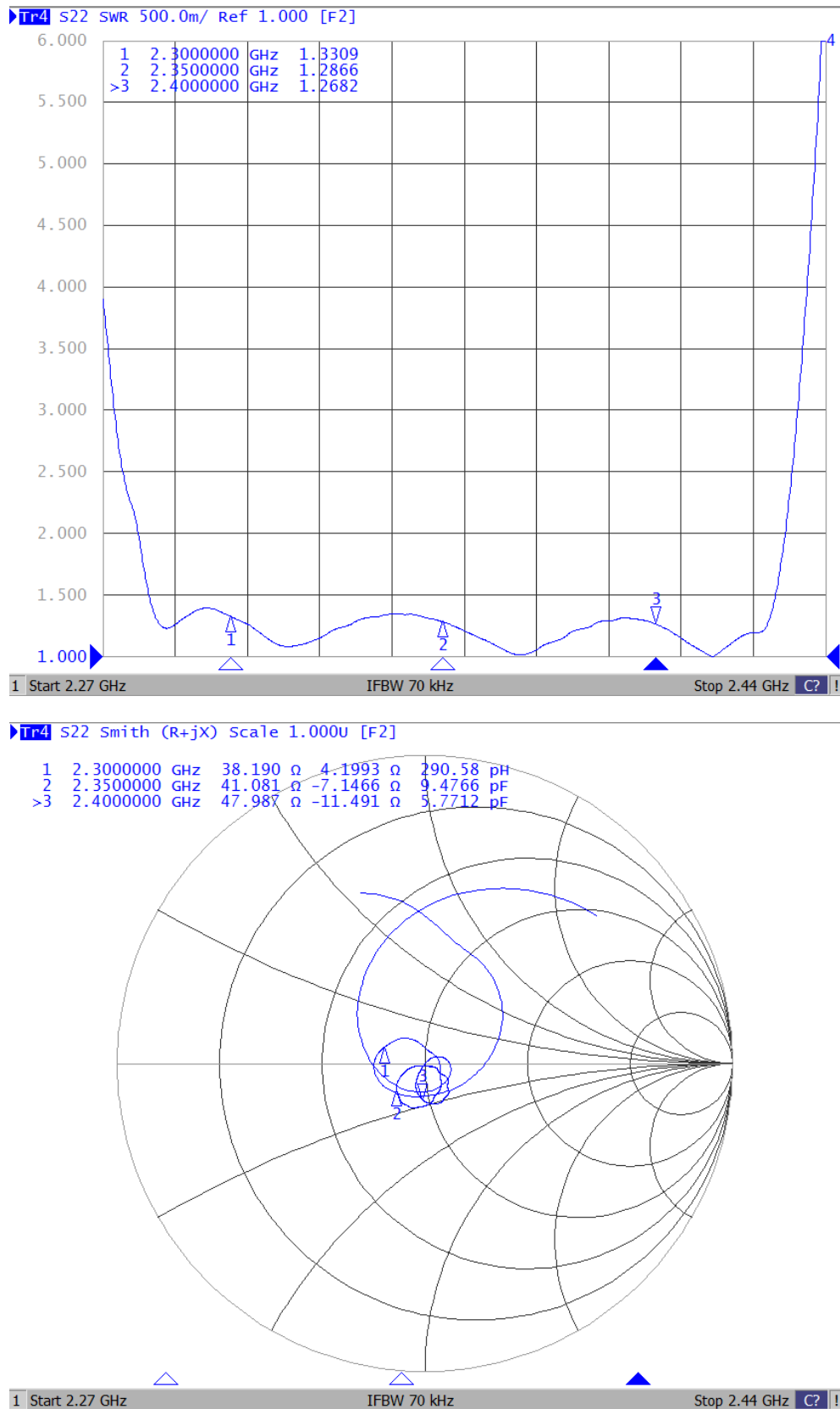


Figure 6: Reflection coefficient (S22)

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.

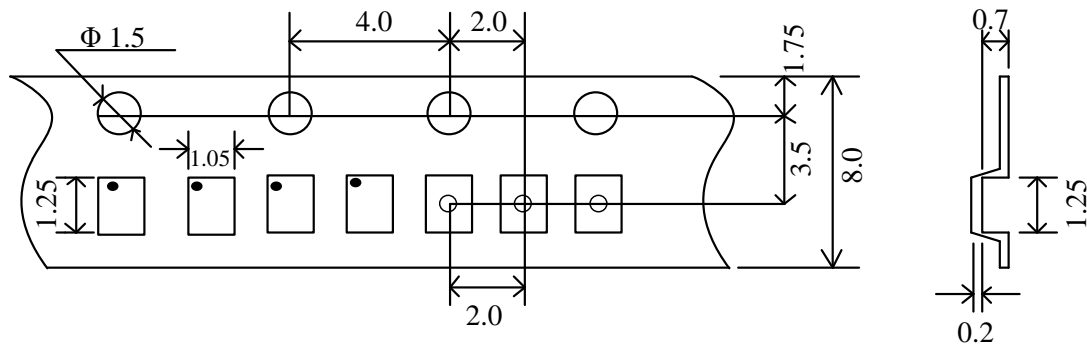


Figure 7: Drawing of tape with tape dimensions according above.

10.2 Reel with diameter of 178mm

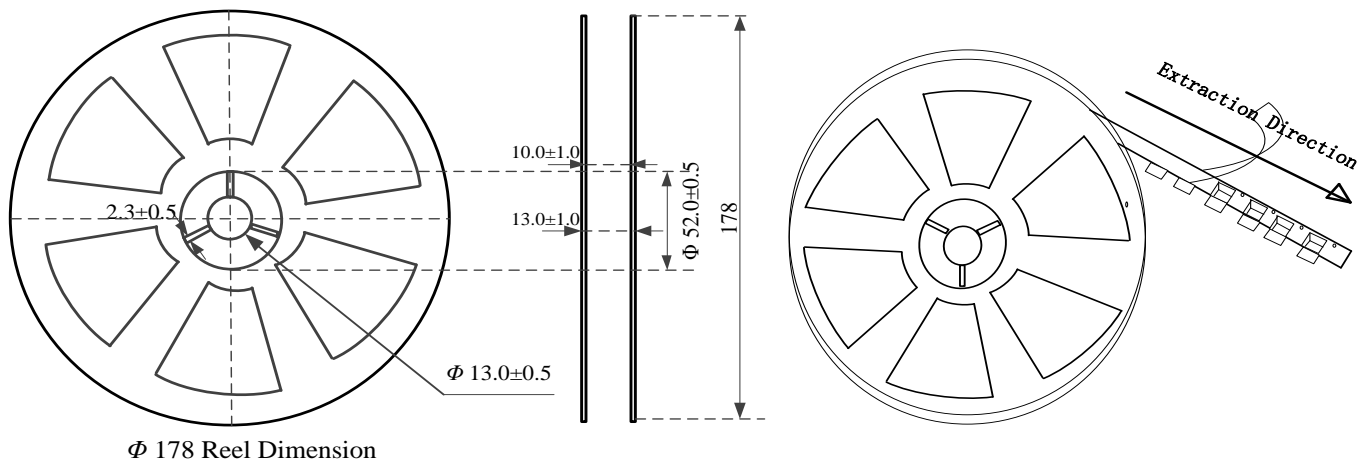


Figure 8: Drawing of reel with diameter of 178mm.