



HANGZHOU SAPPLAND MICROELECTRONICS TECHNOLOGY CO., LTD

SAW Device Data Sheet

Band 12 Duplexer / Unbalanced /1612

PN: **SPSD12SU11F**

Rev: 1.3

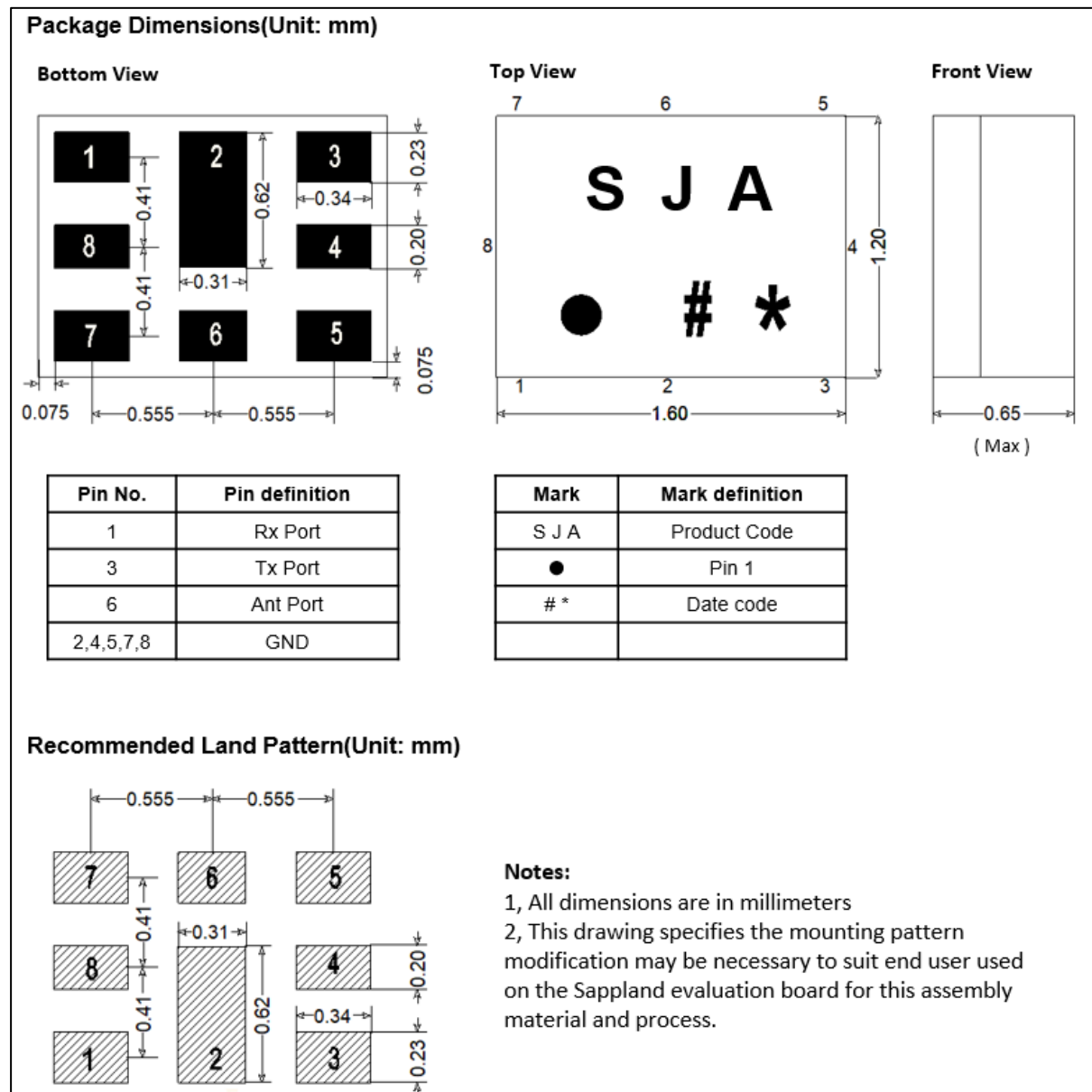
Feature:

- low insertion loss
- high isolation between Tx and Rx

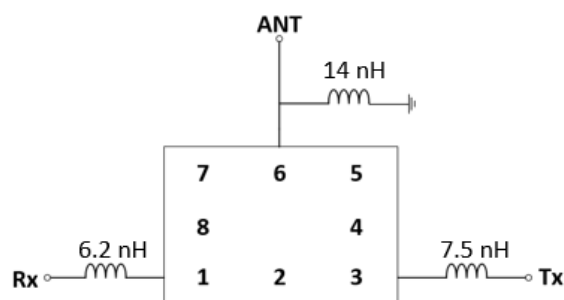
1.Revision History

Revision	Date	Comments
1.0	Oct-27-2023	Initial release
1.1	Feb-07-2024	Update mark definition and performance
1.2	Apr-23-2024	Add pin numbers in package Top view Change operation /specification temperature to -30~85℃ Change plots format , add limit lines in plots, add VSWR plots
1.3	Sep-10-2024	Change packing Qty' to 5000pcs/reel

2.Package and Pin map



Application circuit (with ideal components)



3. Performance

3.1 Absolute maximum ratings

Item	Rating	Note
Storage Temperature	-40 ~ 85 °C	
Operating Temperature	-30 ~ 85 °C	
Input Power Max	30 dBm	5000h,50°C
D.C Voltage between the terminals	3 V	25±2deg.C

3.2 Electrical specification

Tx Electrical specification (-30 to +85 °C)

TX to ANT		Characteristics			Unit	Note
		min	Typ. ¹	max		
Center Frequency		-	707.5	-	MHz	
Insertion Loss	699.25 ~ 715.75 MHz		1.4	2.2	dB	
Amplitude ripple	699.00 ~ 716.00 MHz		0.3	1.2	dB	
VSWR	699.00 ~ 716.00 MHz		1.6	2.0	-	Tx
	699.00 ~ 716.00 MHz		1.6	2.0	-	ANT
Absolute attenuation	10.00 ~ 685.00 MHz	22	27		dB	
	722.00 ~ 729.00 MHz	-	4		dB	
	729.25 ~ 745.75 MHz	40	55		dB	
	746.00 ~ 768.00 MHz	18	23		dB	
	768.00 ~ 805.00 MHz	20	29		dB	
	824.00 ~ 849.00 MHz	20	27		dB	
	869.00 ~ 894.00 MHz	20	28		dB	
	1398.00 ~ 1432.00 MHz	24	34		dB	
	1559.00 ~ 1607.00 MHz	27	37		dB	
	1710.00 ~ 1755.00 MHz	30	35		dB	
	1805.00 ~ 1880.00 MHz	25	31		dB	
	1930.00 ~ 1990.00 MHz	25	30		dB	
	2097.00 ~ 2170.00 MHz	22	27		dB	
	2155.00 ~ 2170.00 MHz	22	27		dB	
	2400.00 ~ 2484.00 MHz	20	24		dB	
	2796.00 ~ 2864.00 MHz	15	20		dB	
	4900.00 ~ 5950.00 MHz	25	32		dB	

1) Typical value at 25±2deg.C

Rx Electrical specification (-30 to +85 °C)

ANT to RX		Characteristics			Unit	Note
		min	Typ. ¹	max		
Center Frequency		-	737.5	-	MHz	
Insertion Loss	729.25 ~ 745.75 MHz		1.7	2.4	dB	
Amplitude ripple	729.00 ~ 746.00 MHz		0.5	1.2	dB	
VSWR	729.00 ~ 746.00 MHz		1.7	2.1	-	Rx
	729.00 ~ 746.00 MHz		1.7	2.1	-	ANT
Absolute attenuation	10.00 ~ 699.00 MHz	40	50		dB	
	30.00 ~ 30.00 MHz	45	50		dB	
	699.25 ~ 715.75 MHz	45	55		dB	
	716.00 ~ 722.00 MHz	-	10		dB	
	776.00 ~ 793.00 MHz	29	38		dB	
	793.00 ~ 805.00 MHz	35	47		dB	
	824.00 ~ 849.00 MHz	40	55		dB	
	1710.00 ~ 1755.00 MHz	40	46		dB	
	1850.00 ~ 1920.00 MHz	40	45		dB	
	2187.00 ~ 2238.00 MHz	40	44		dB	
	2400.00 ~ 2500.00 MHz	40	44		dB	
	4900.00 ~ 5950.00 MHz	35	45		dB	

1) Typical value at 25±2deg.C

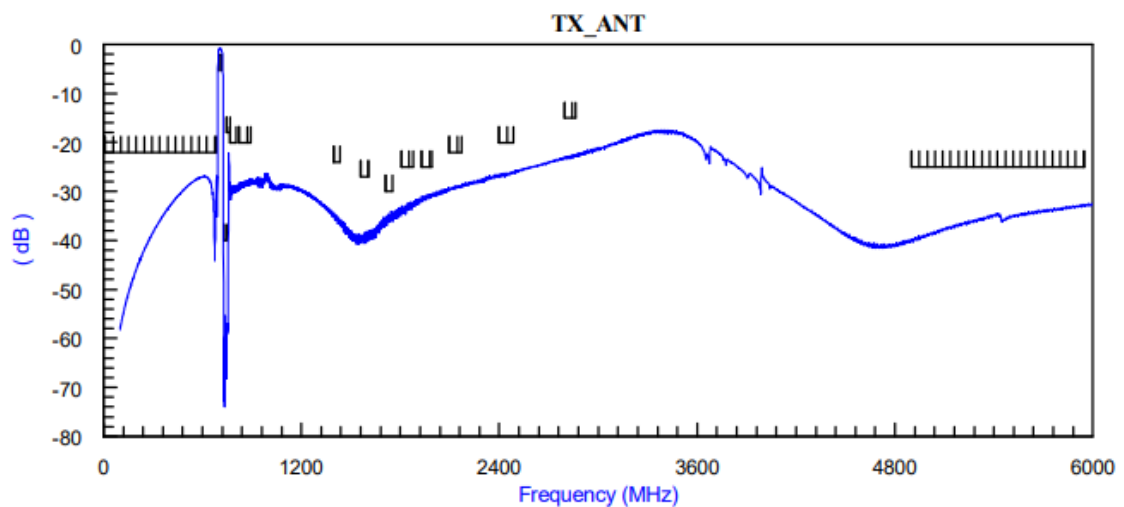
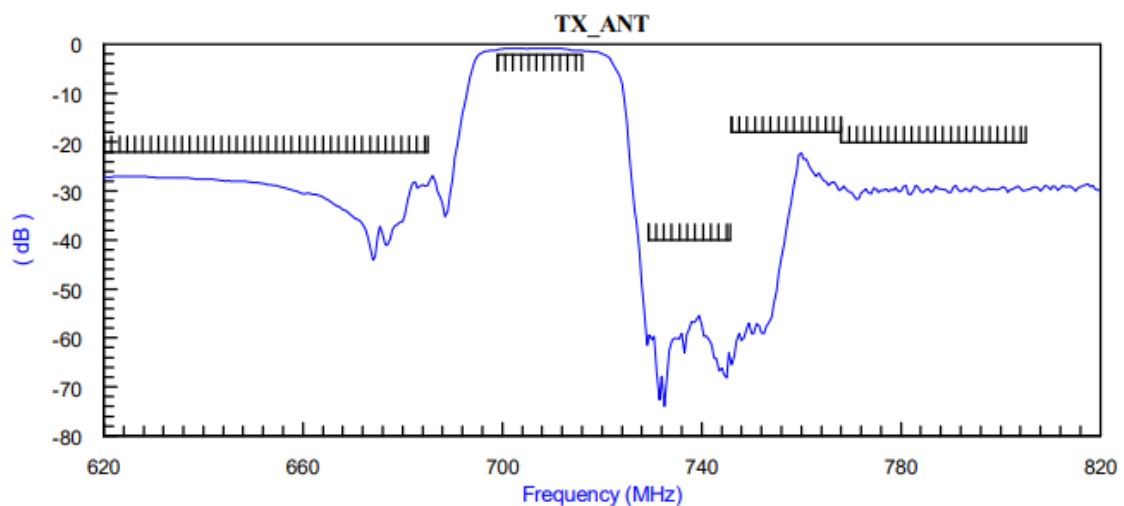
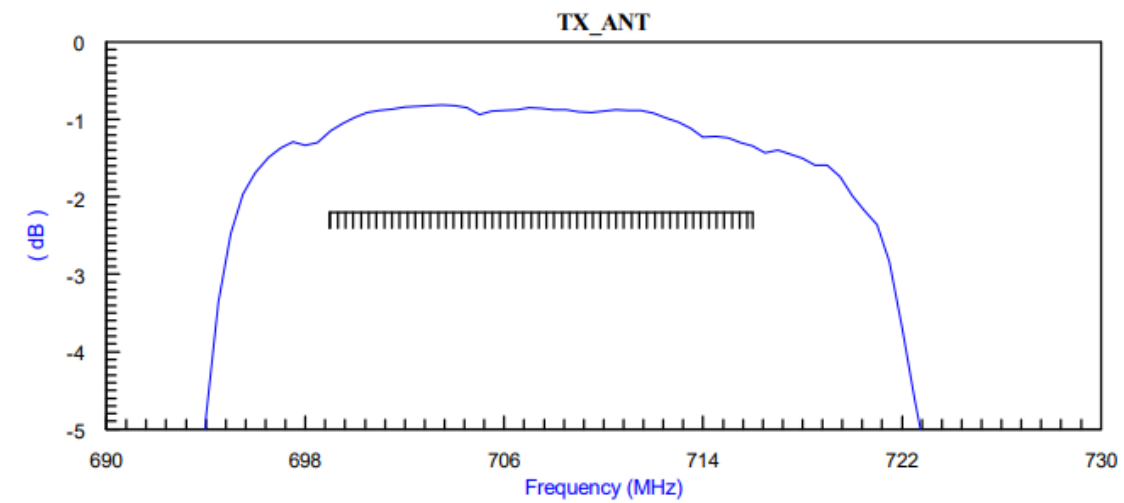
Tx/Rx Electrical specification (-30 to +85 °C)

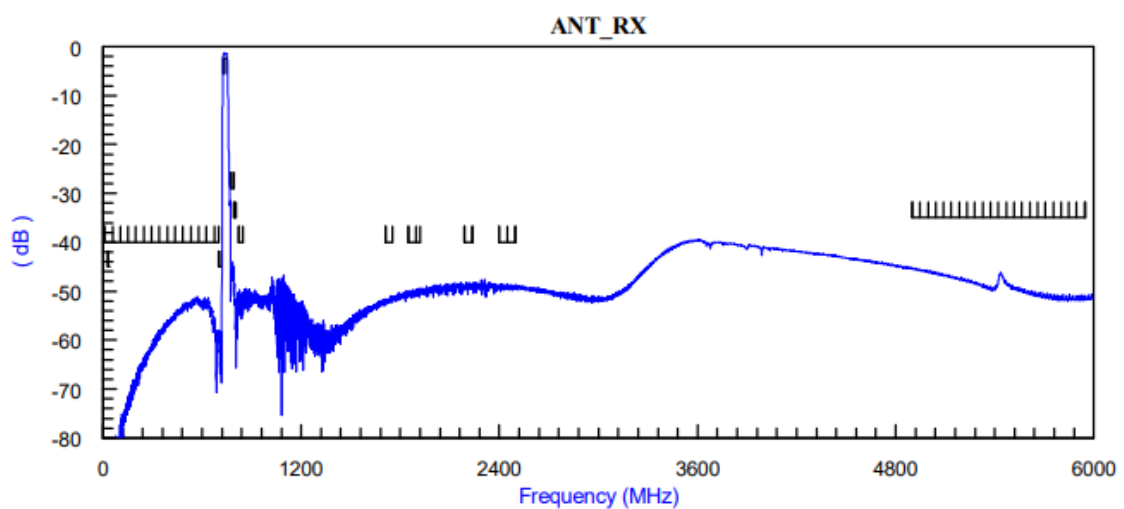
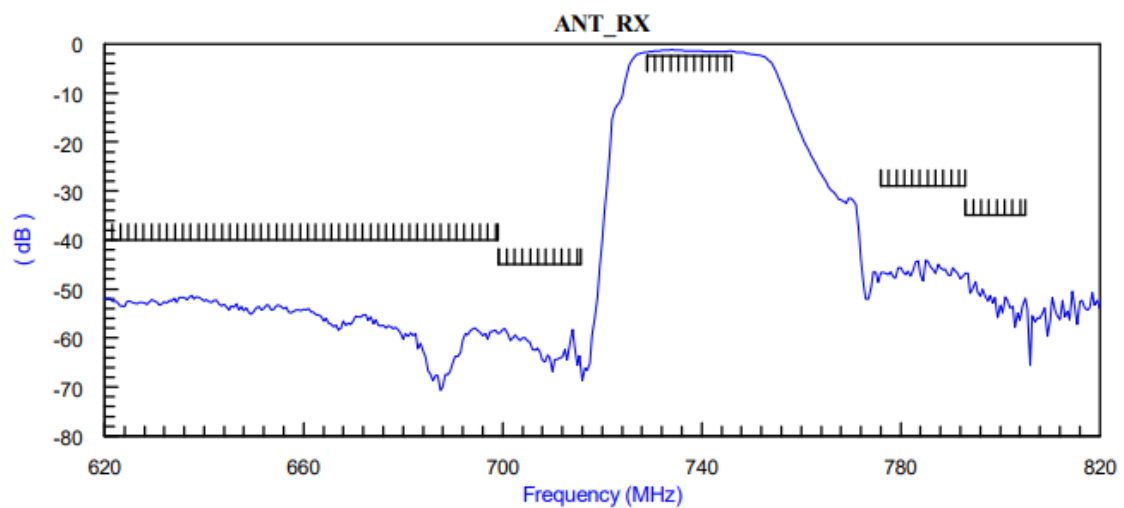
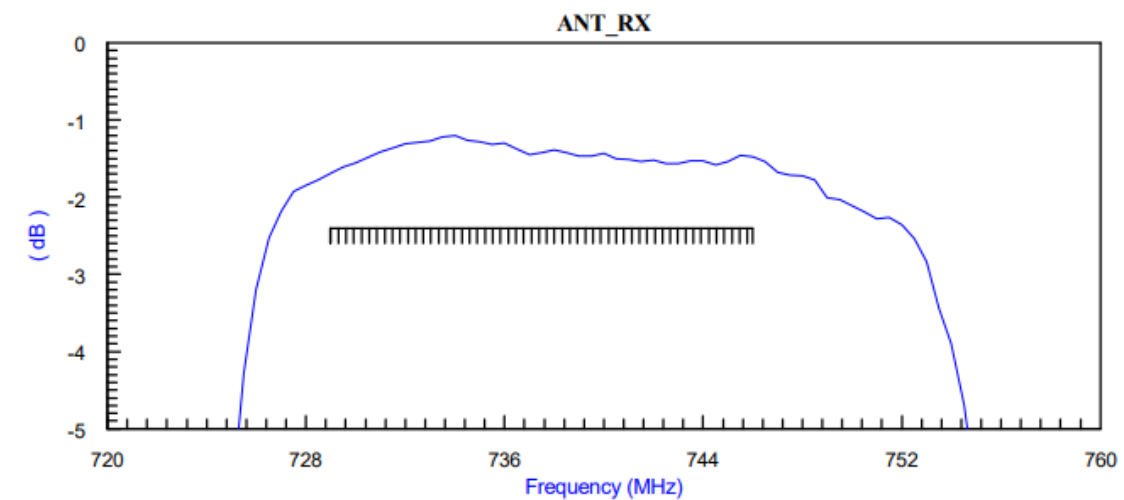
TX / RX		Characteristics			Unit	Note
		min	Typ. ¹	max		
Isolation	701.50 ~ 713.50 MHz	54	57		dB	
	731.50 ~ 743.50 MHz	54	59		dB	

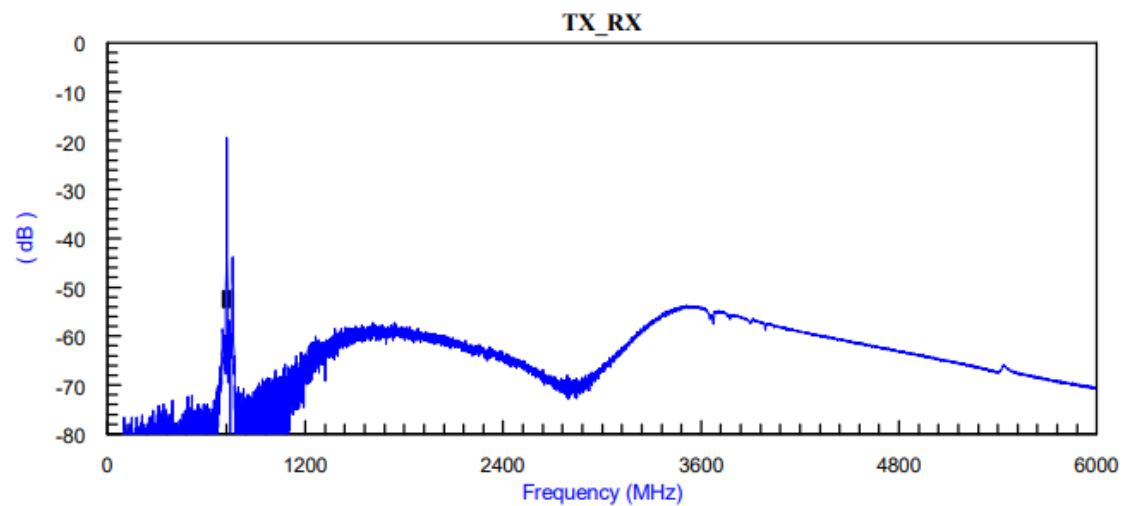
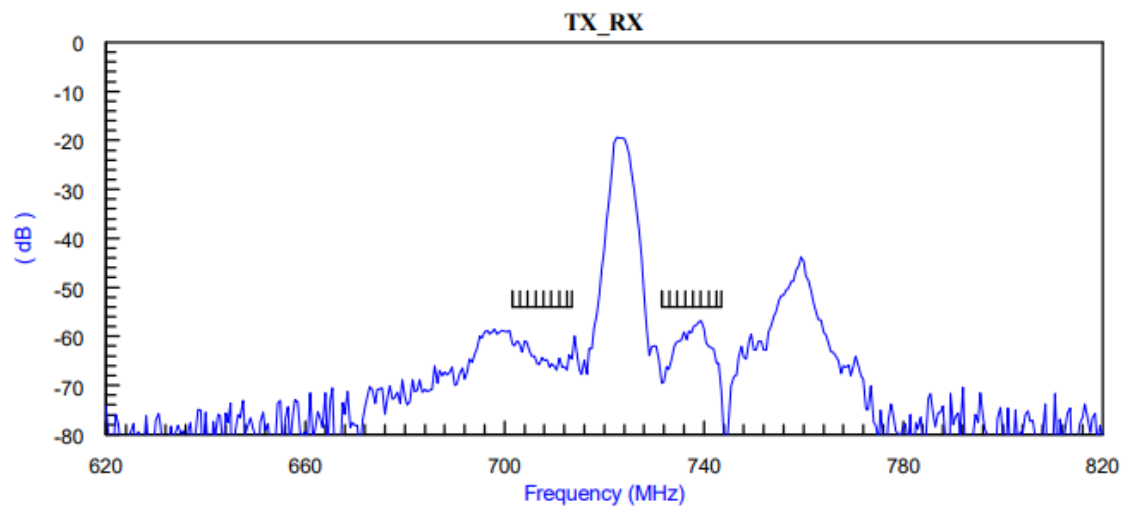
1) Typical value at 25±2deg.C

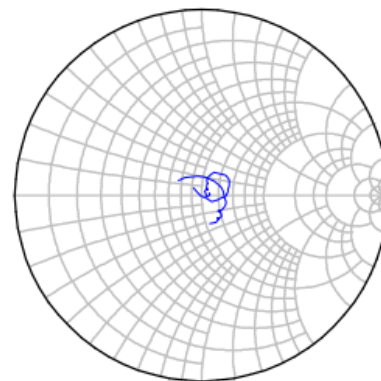
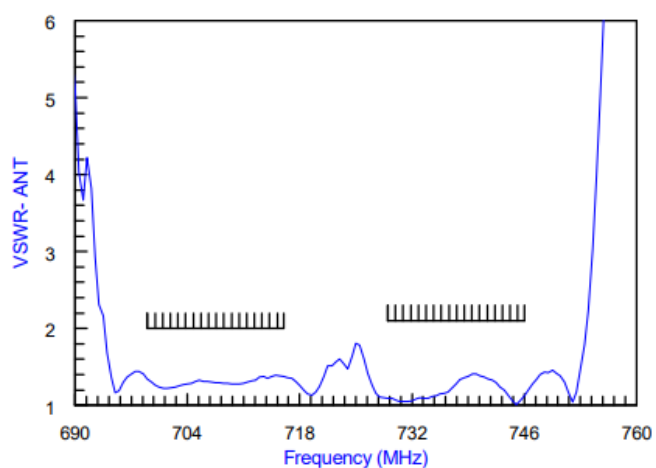
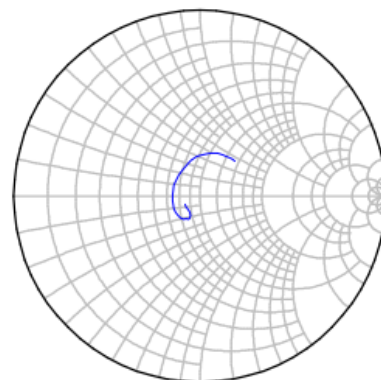
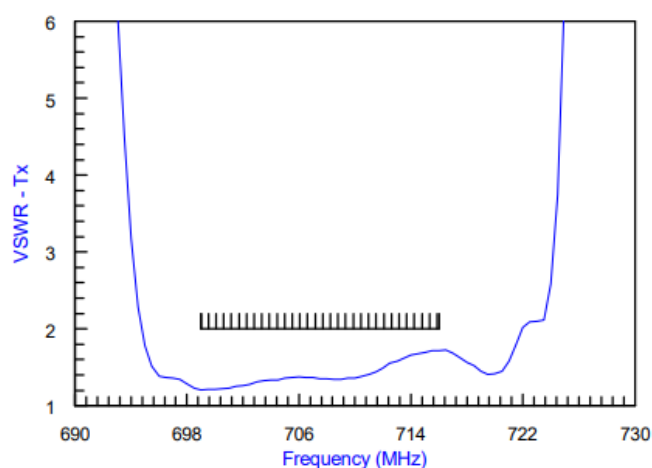
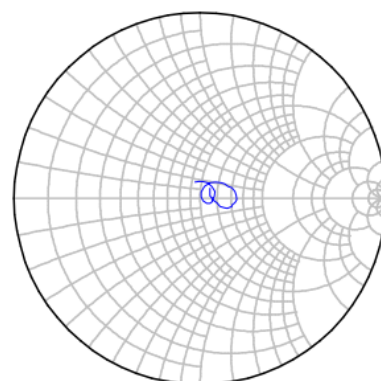
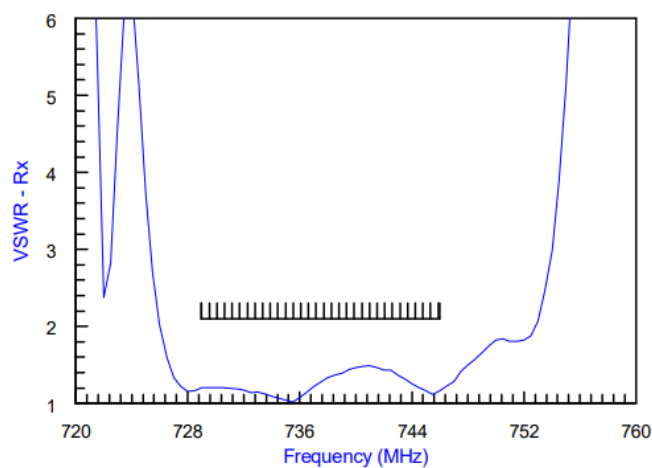
3.3 Plots

Tx-Ant



Ant-Rx

Tx-Rx

ANT – VSWR / Impedance**Tx – VSWR / Impedance****Rx – VSWR / Impedance**

4. Packing Information

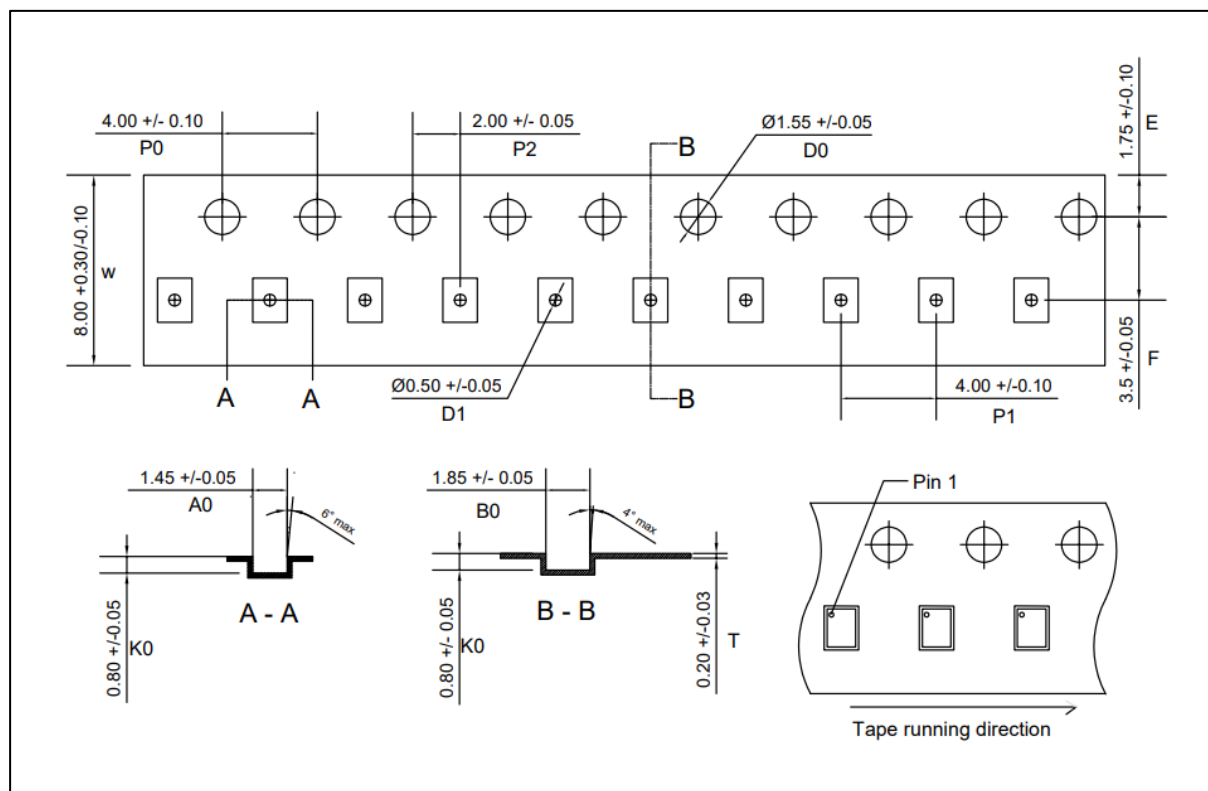


Figure 4-1 Carrier Tape Drawing (unit: mm)

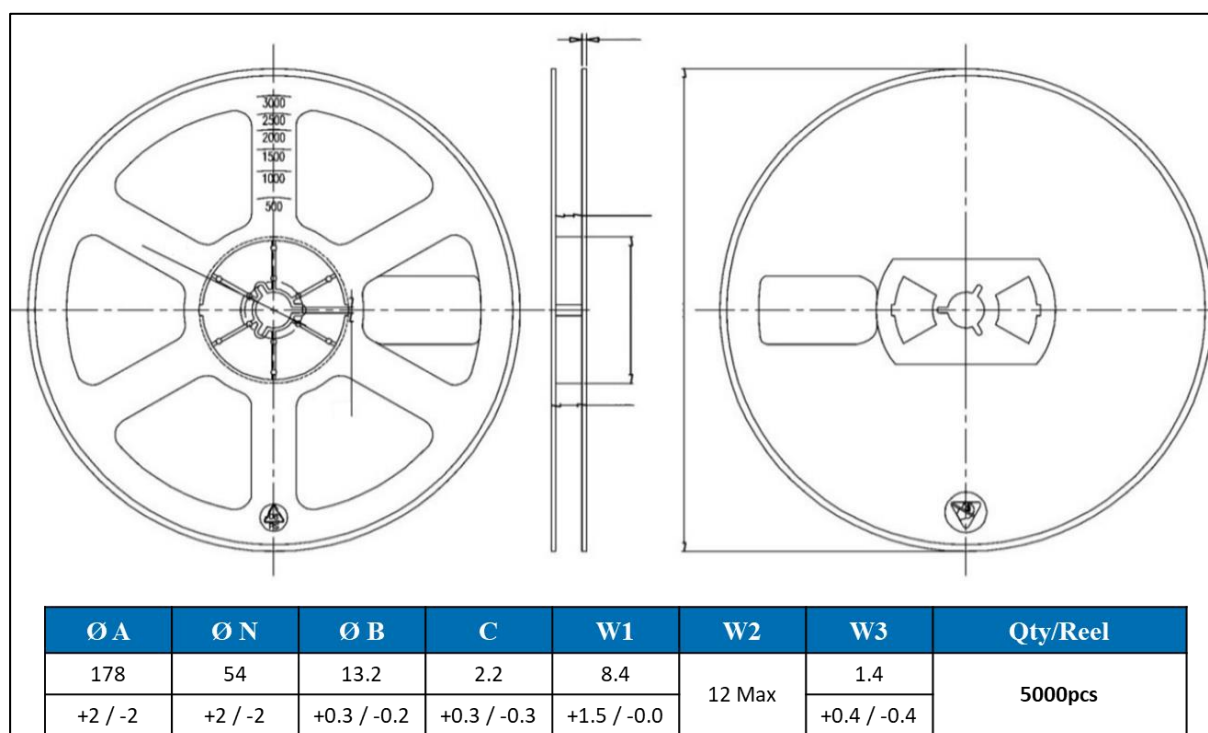


Figure 4-2 Reel Dimensions (Unit: mm) and Reeling Qty'