



HANGZHOU SAPPLAND MICROELECTRONICS TECHNOLOGY CO., LTD

SAW Device Data Sheet

Band 5 Duplexer / Unbalanced /1814

PN: [SPSD005U12A](#)

Rev: 1.1

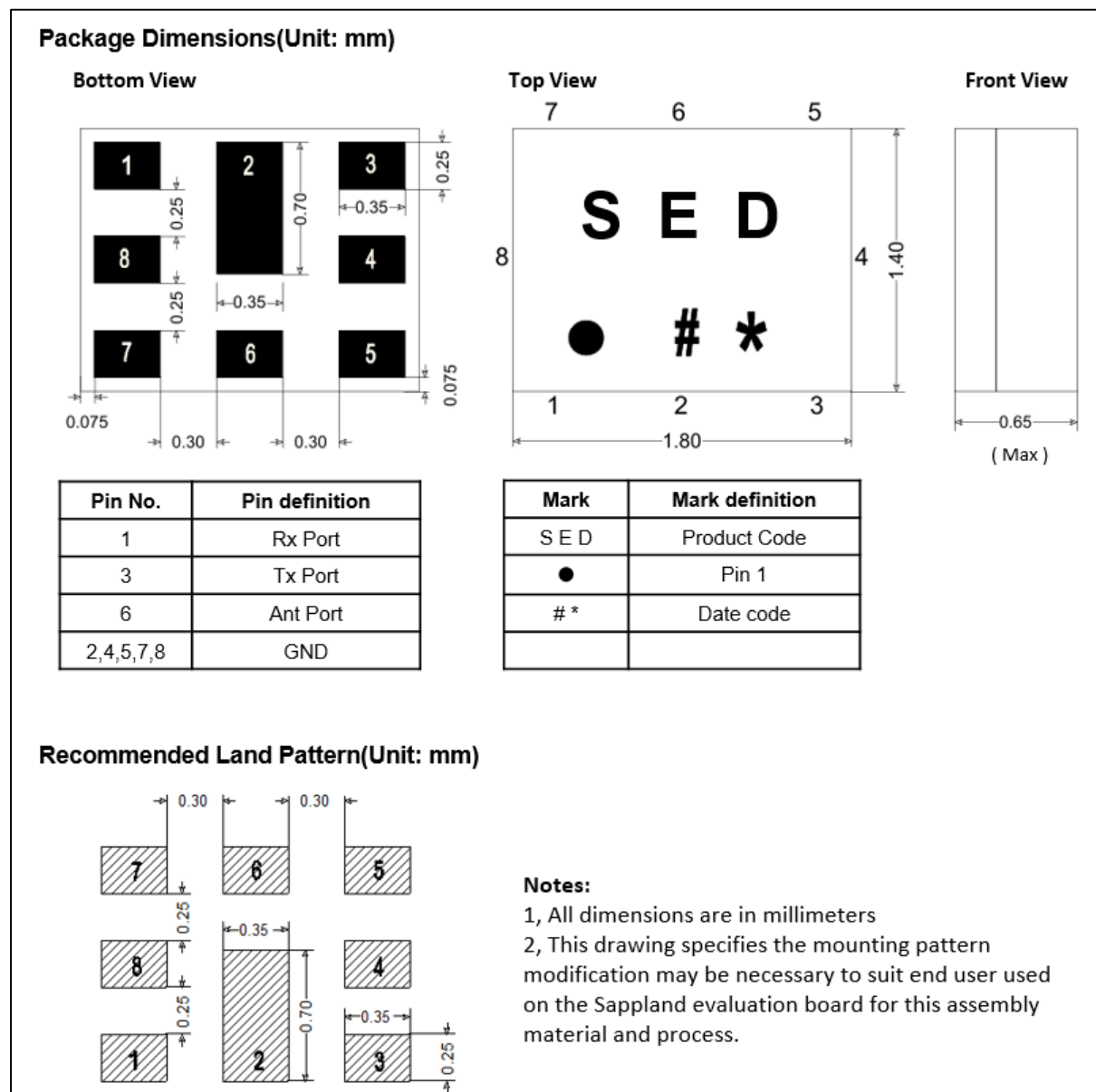
Feature:

- low insertion loss
- high isolation between Tx and Rx

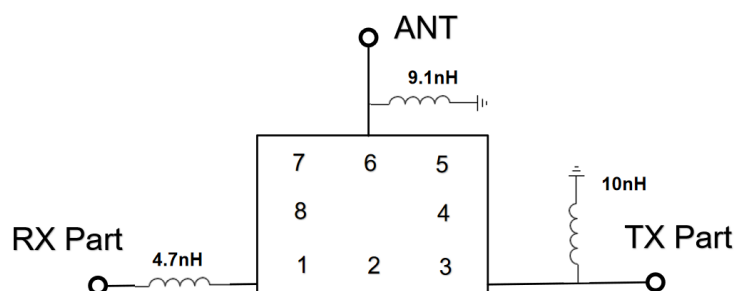
1.Revision History

Revision	Date	Comments
1.0	Aug-03-2023	Initial release
1.1	Oct-29-2024	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	-20 ~ 85 °C	
Input Power Max	31 dBm	CW, 5000h, 50°C
D.C Voltage between the terminals	3 V	25±2deg.C

3.2 Electrical specification

Tx Electrical specification (-20 to +85 °C)

TX to ANT		Characteristics			Unit	Note
		min	Typ. ¹	max		
Center Frequency		-	836.50	-	MHz	
Insertion Loss	824.00 ~ 849.00 MHz	-	1.5	2.0	dB	
Amplitude ripple	824.00 ~ 849.00 MHz	-	0.7	1.2	dB	
VSWR	824.00 ~ 849.00 MHz	-	1.5	2.0	-	Tx
	824.00 ~ 849.00 MHz	-	1.5	2.0	-	ANT
Absolute attenuation	100.00 ~ 750.00 MHz	20	26		dB	
	779.00 ~ 804.00MHz	20	24		dB	
	860.00 ~ 869.00 MHz	3	6		dB	
	869.00 ~ 894.00 MHz	44 ²	52		dB	
	1574.00 ~ 1577.00 MHz	25	31		dB	
	1648.00 ~ 1698.00 MHz	23	28		dB	
	1920.00 ~ 1980.00 MHz	20	24		dB	
	2110.00 ~ 2170.00 MHz	17	21		dB	
	2400.00 ~ 2494.00 MHz	13	17		dB	
	4900.00 ~ 5950.00 MHz	18	22		dB	

1) Typical value at 25±2deg.C

2) At temp. -20 to 25 deg.C

Rx Electrical specification (-20 to +85 °C)

ANT to RX		Characteristics			Unit	Note
		min	Typ. ¹	max		
Center Frequency		-	881.50	-	MHz	
Insertion Loss	869.00 ~ 894.00 MHz	-	1.8	2.2	dB	
Amplitude ripple	869.00 ~ 894.00 MHz	-	0.7	1.2	dB	
VSWR	869.00 ~ 894.00 MHz	-	1.5	2.0	-	Rx
	869.00 ~ 894.00 MHz	-	1.5	2.0	-	ANT
Absolute attenuation	779.00 ~ 804.00 MHz	48	53		dB	
	824.00 ~ 849.00 MHz	45	56		dB	
	849.00 ~ 854.00 MHz	30 ²	56		dB	
	912.00 ~ 979.00 MHz	10	20		dB	
	1850.00 ~ 2682.00 MHz	38	45		dB	
	4900.00 ~ 5950.00 MHz	36	41		dB	

1) Typical value at 25±2deg.C

2) At temp. -20 to 25 deg.C

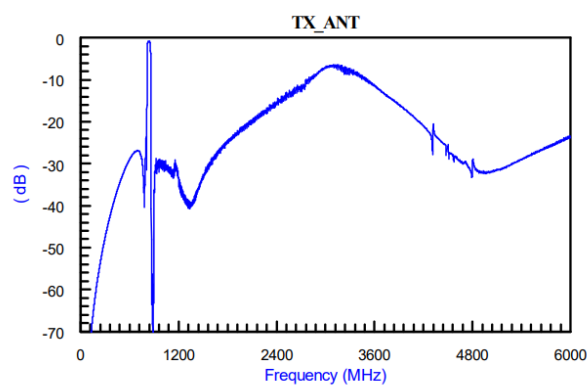
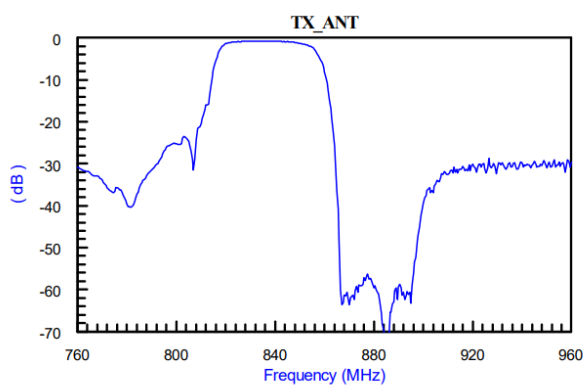
Tx/Rx Electrical specification (-20 to +85 °C)

TX / RX		Characteristics			Unit	Note
		min	Typ. ¹	max		
Isolation	824.00 ~ 849.00 MHz	53	56	-	dB	
	869.00 ~ 894.00 MHz	55	59	-	dB	

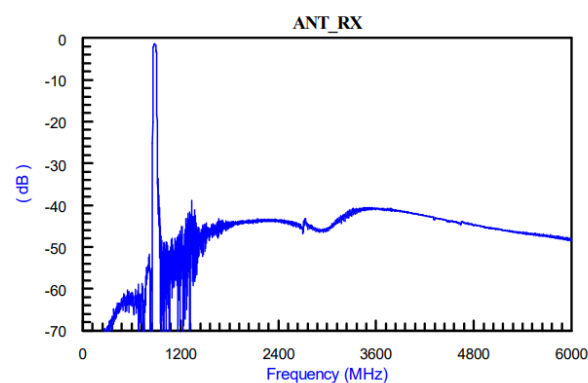
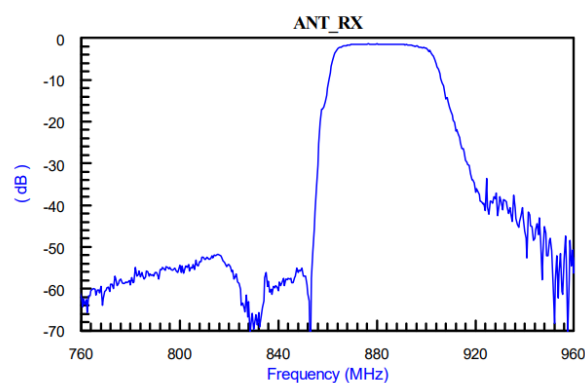
1) Typical value at 25±2deg.C

3.3 Plots

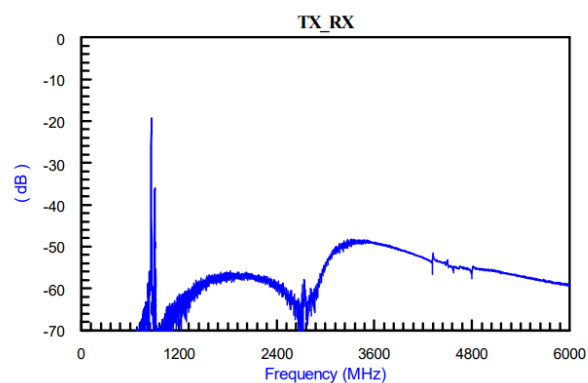
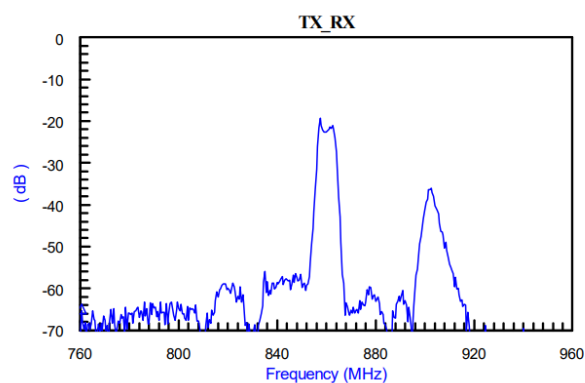
Tx-Ant

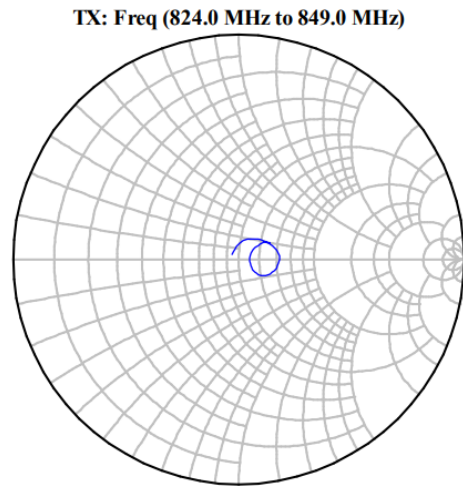
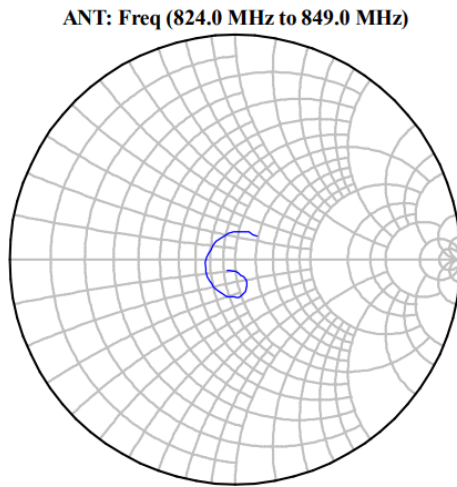
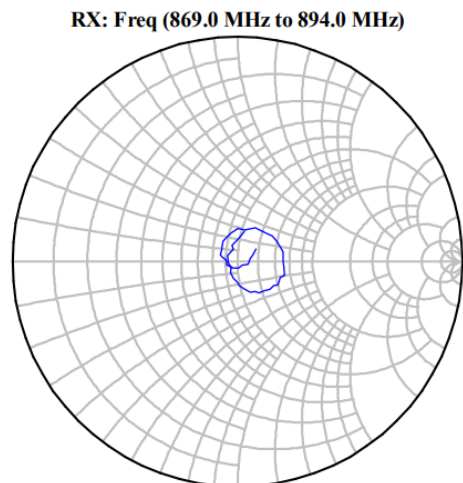
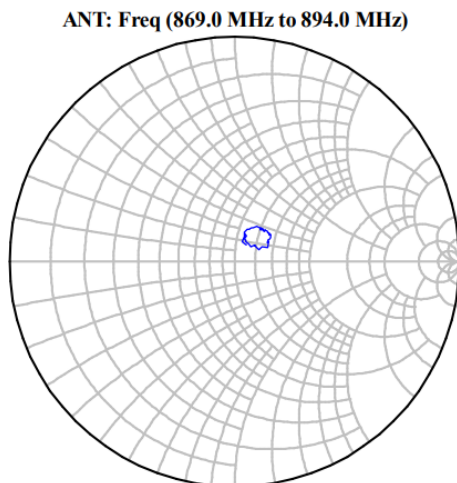


Ant-Rx



Tx-Rx



ANT – Tx Impedance**ANT- Rx Impedance**

4.Packing Information

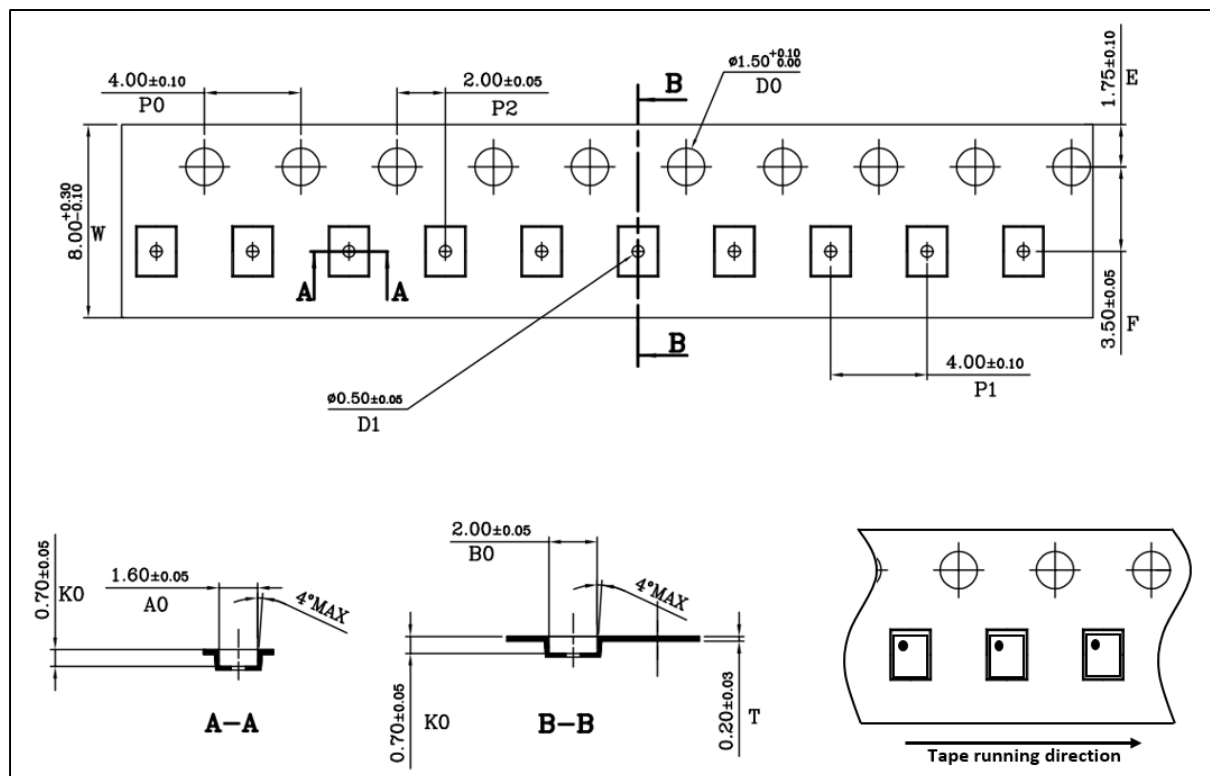


Figure 4-1 Carrier Tape Drawing (unit: mm)

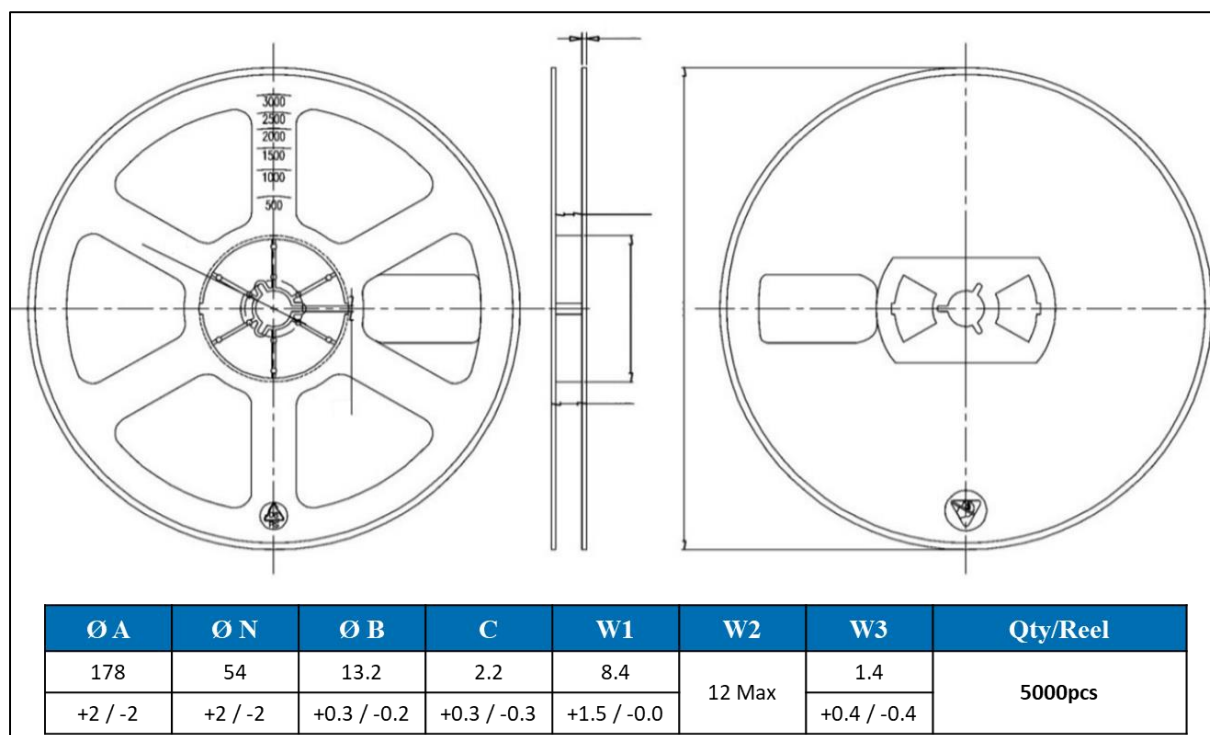


Figure 4-2 Reel Dimensions (Unit: mm) and Reeling Qty'