HANGZHOU SAPPLAND MICROELECTRONICS TECHNOLOGY CO., LTD

SAW Device Data Sheet

Band 13 Duplexer / Unbalanced /1612

PN: SPSC13SU11F

Rev: 1.0

Feature:

- low insertion loss
- high isolation between Tx and Rx
- NS07 rejection,public safety frequency band

 www.sappland.com
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1.Revision History

Revision	Date	Comments
1.0	Jan-06-2025	Initial release

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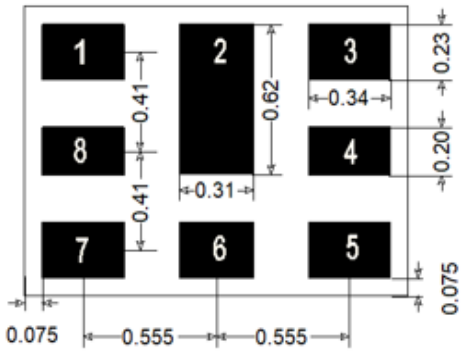
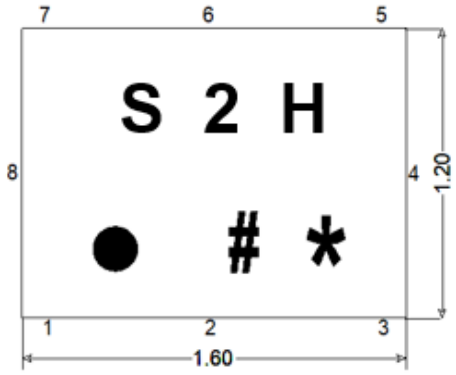
2.Package and Pin map

Package Dimensions(Unit: mm)

Bottom View



Top View



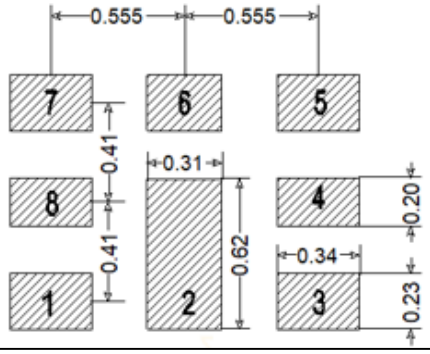
Front View

(Max)

Pin No.	Pin definition
1	Rx Port
3	Tx Port
6	Ant Port
2,4,5,7,8	GND

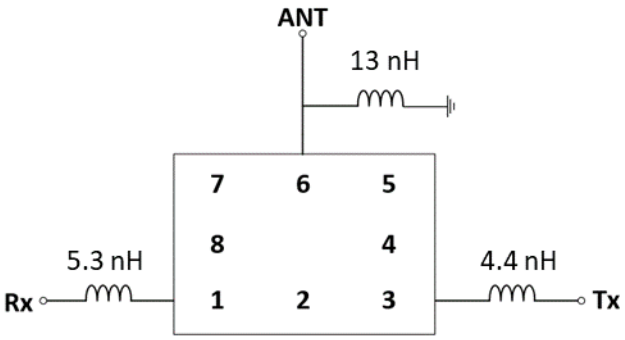
Mark	Mark definition
S 2 H	Product Code
●	Pin 1
# *	Date code

Recommended Land Pattern(Unit: mm)



Notes:
1, All dimensions are in millimeters
2, This drawing specifies the mounting pattern modification may be necessary to suit end user used on the Sappland evaluation board for this assembly material and process.

Application circuit (with ideal components)



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3.Performance

3.1 Absolute maximum ratings

Item	Rating	Note
Storage Temperature	-40 ~ 85 ℃	
Operating Temperature	-30 ~ 85 ℃	
Input Power Max	30 dBm	LTE,5000h,55℃
D.C Voltage between the terminals	3 V	25±2deg.C

3.2 Electrical specification

Tx Electrical specification （-30 to +85 ℃）

TX to ANT		Characteristics			Unit	Note
		min	Typ. [1]	max		
Center Frequency		-	782	-	MHz	
Insertion Loss	777.25 ~ 786.75 MHz		2.4	4.0	dB	
	779.50 ~ 784.50 MHz		1.5	2.3	dB	
Amplitude ripple	777.25 ~ 786.75 MHz		1.4	3.1	dB	
VSWR	777.25 ~ 786.75 MHz		1.3	2.0	-	Tx
	777.25 ~ 786.75 MHz		1.4	2.0	-	ANT
Absolute attenuation	10 ~ 612 MHz	35	41		dB	
	612 ~ 652 MHz	35	41		dB	
	728 ~ 758 MHz	35	46		dB	
	746 ~ 756 MHz	45	58		dB	
	768 ~ 774 MHz	20	24		dB	
	768 ~ 775 MHz	15	24		dB	
	859 ~ 894 MHz	35	44		dB	
	925 ~ 960 MHz	40	45		dB	
	1164 ~ 1189 MHz	40	50		dB	
	1215 ~ 1240 MHz	35	44		dB	
	1427 ~ 1517 MHz	45	57		dB	
	1554 ~ 1574 MHz	45	58		dB	
	1559 ~ 1607 MHz	45	57		dB	
	1800 ~ 2700 MHz	45	50		dB	
	3000 ~ 4000 MHz	33	40		dB	
	4400 ~ 5000 MHz	33	40		dB	
	4900 ~ 5950 MHz	25	31		dB	

1) Typical value at 25±2deg.C

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Rx Electrical specification （-30 to +85 ℃）

ANT to RX		Characteristics			Unit	Note
		min	Typ. [1]	max		
Center Frequency		-	751	-	MHz	
Insertion Loss	746.25 ~ 755.75 MHz		1.3	2.0	dB	
Amplitude ripple	746.25 ~ 755.75 MHz		0.4	1.1	dB	
VSWR	746.25 ~ 755.75 MHz		1.4	2.0	-	Rx
	746.25 ~ 755.75 MHz		1.4	2.0	-	ANT
Absolute attenuation	10 ~ 663 MHz	35	43		dB	
	663 ~ 703 MHz	35	42		dB	
	698 ~ 716 MHz	35	41		dB	
	698 ~ 728 MHz	35	41		dB	
	777 ~ 787 MHz	50	56		dB	
	806 ~ 826 MHz	32	38		dB	
	814 ~ 849 MHz	25	31		dB	
	832 ~ 862 MHz	25	31		dB	
	880 ~ 915 MHz	35	42		dB	
	1476 ~ 1516 MHz	40	45		dB	
	1500 ~ 2000 MHz	38	42		dB	
	2200 ~ 2700 MHz	45	50		dB	
	3000 ~ 5950 MHz	45	51		dB	

1) Typical value at 25±2deg.C

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

TX / RX		Characteristics			Unit	Note
		min	Typ. [1]	max		
Isolation	777.25 ~ 786.75 MHz	55	59		dB	
	746.25 ~ 755.75 MHz	55	60		dB	

1) Typical value at 25±2deg.C

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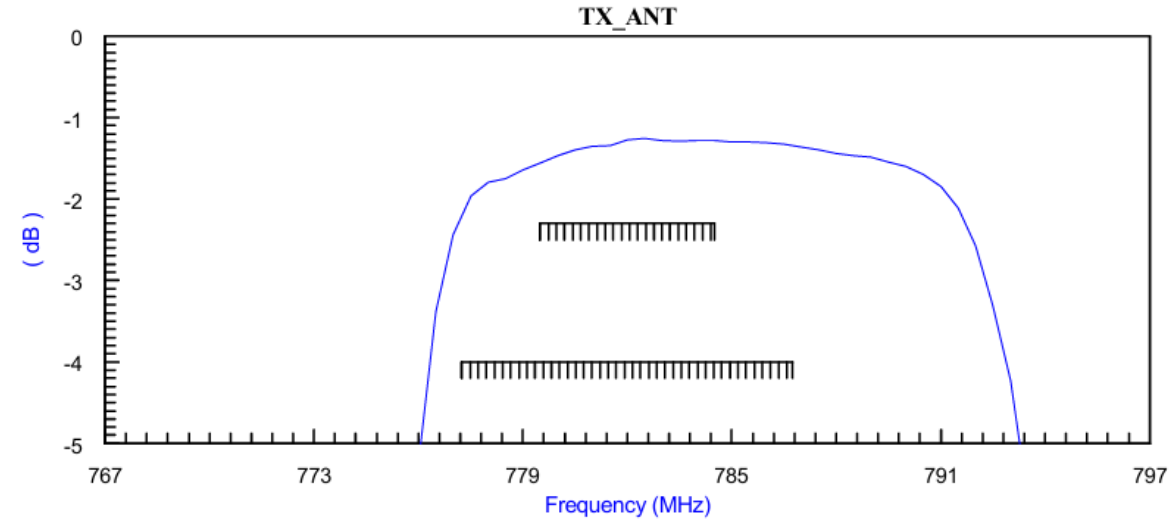
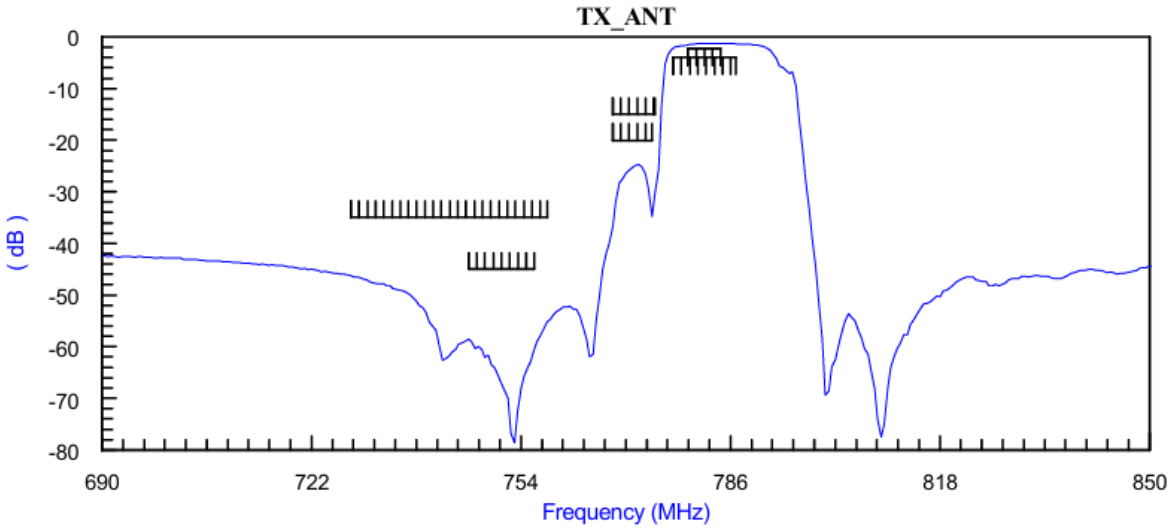
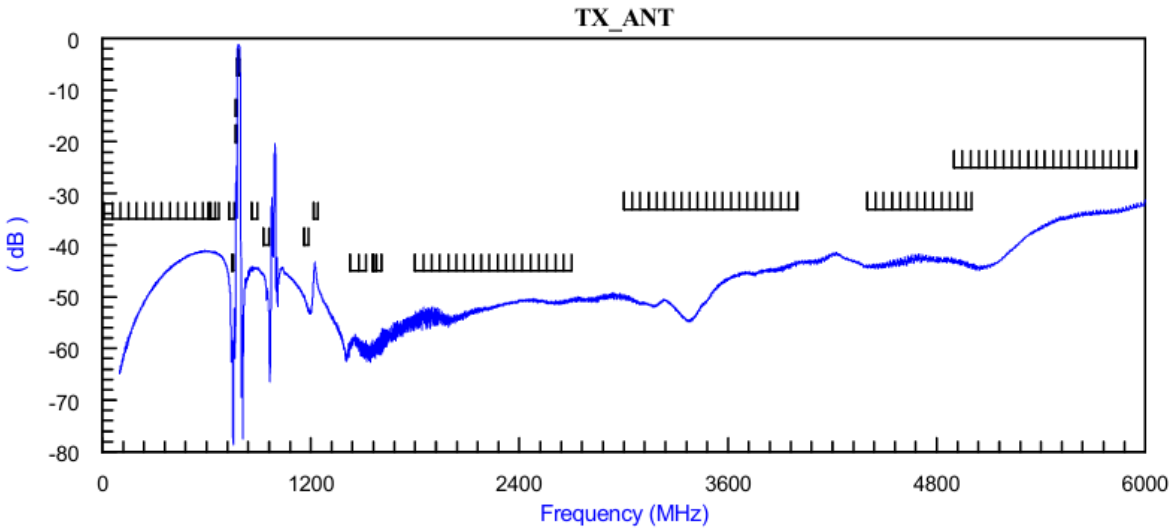
3.3 Plots

Tx-Ant







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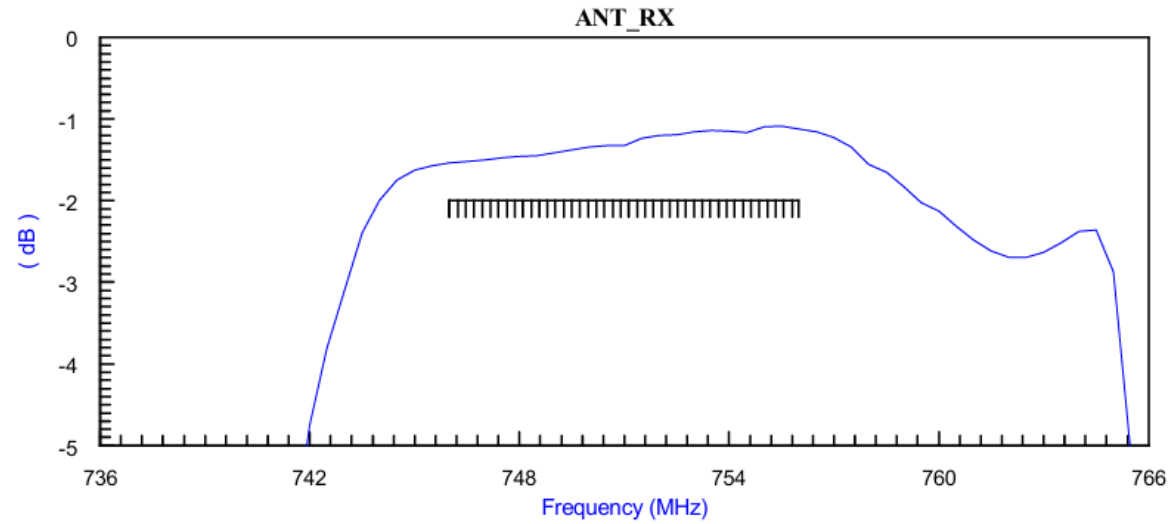
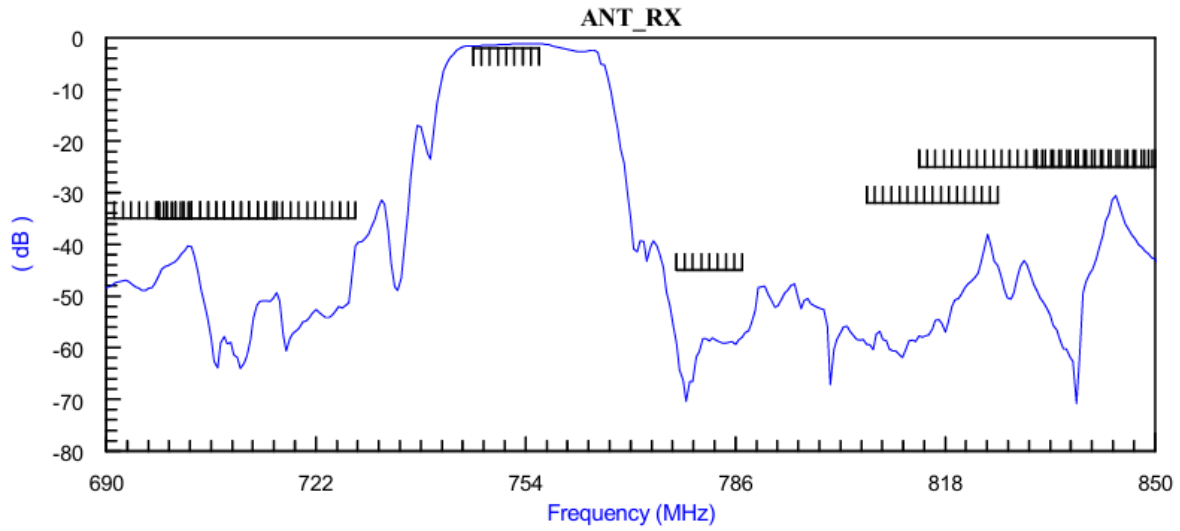
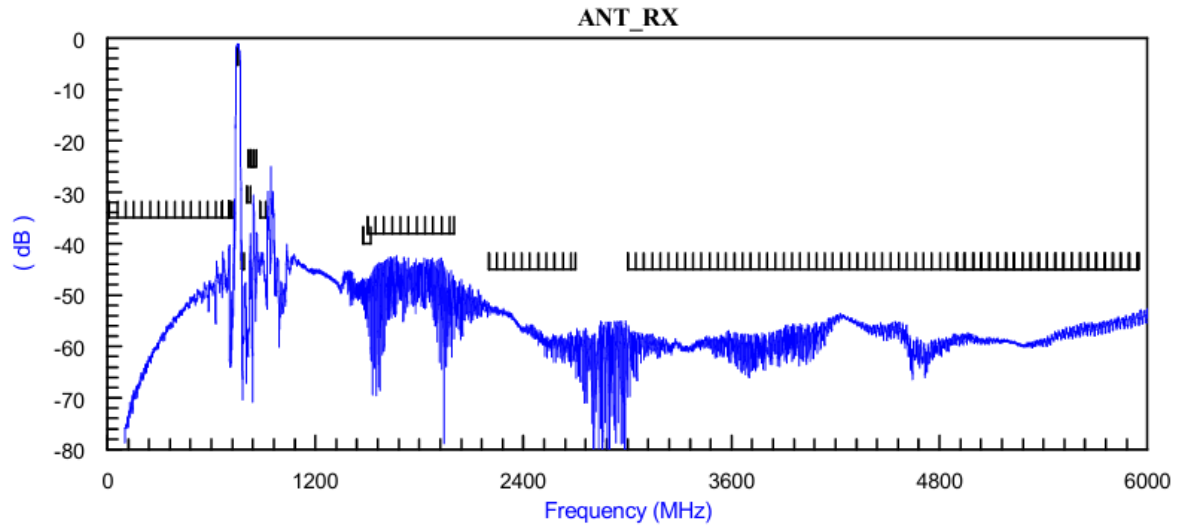
Ant – Rx







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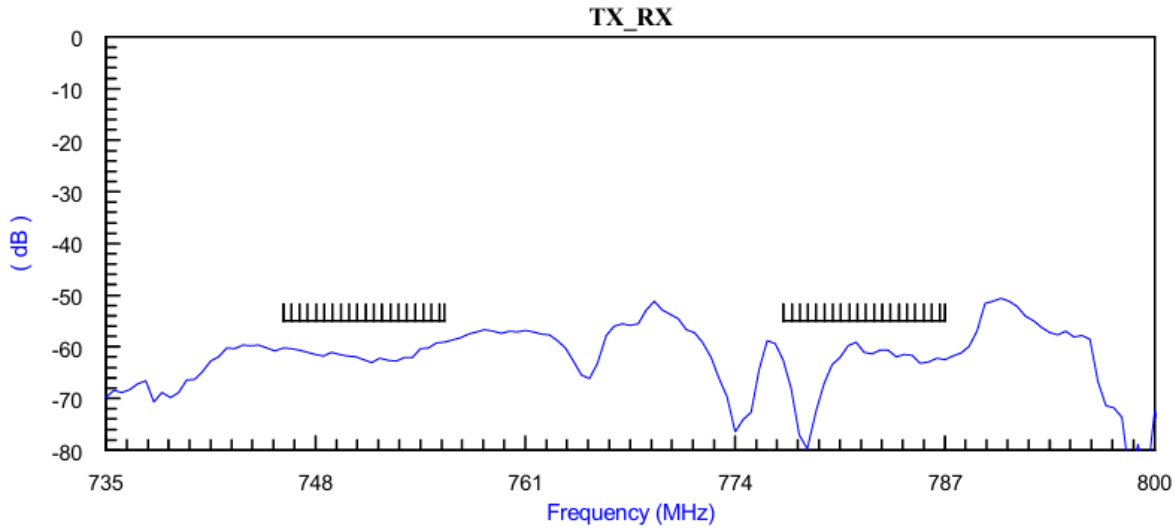
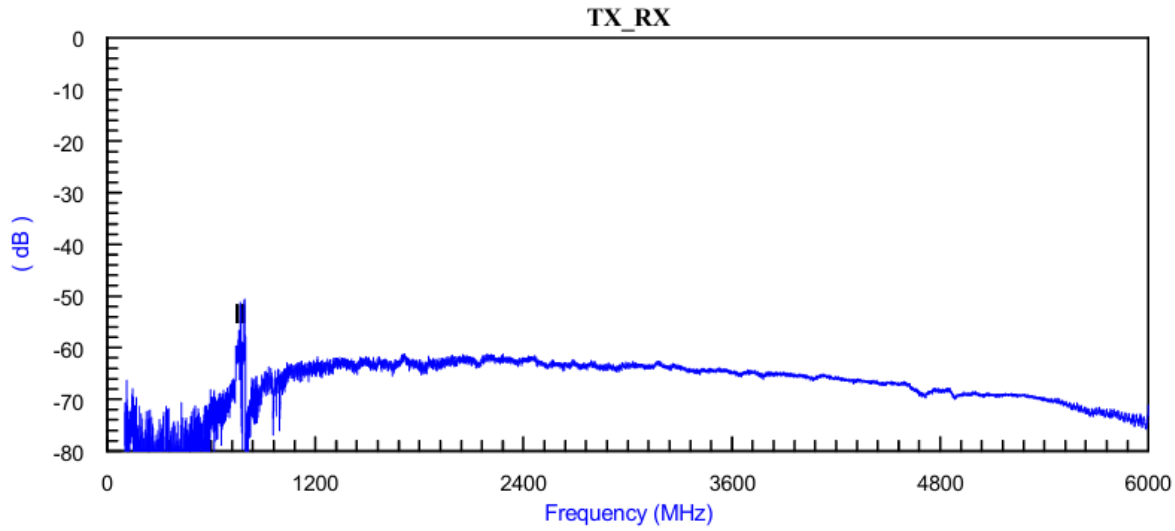
Tx-Rx





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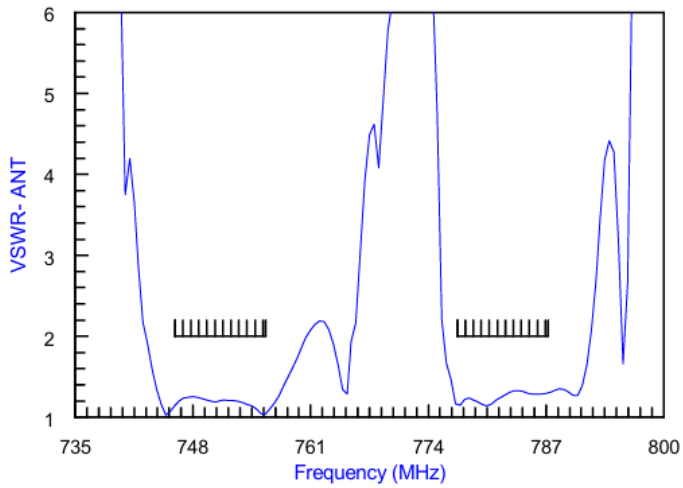
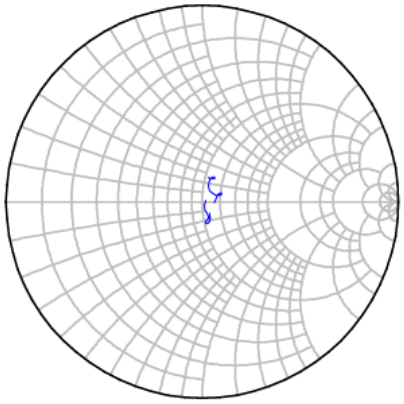
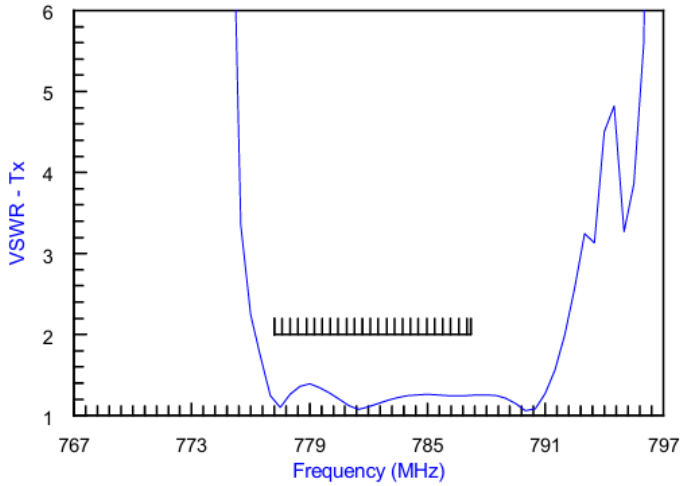
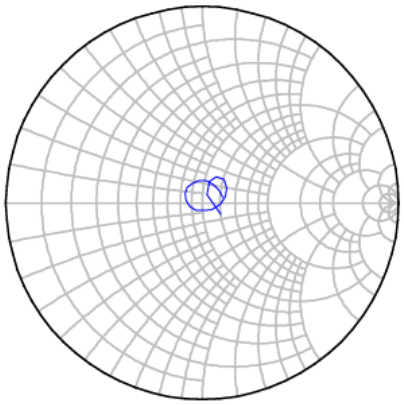
Ant – VSWR / Impedance



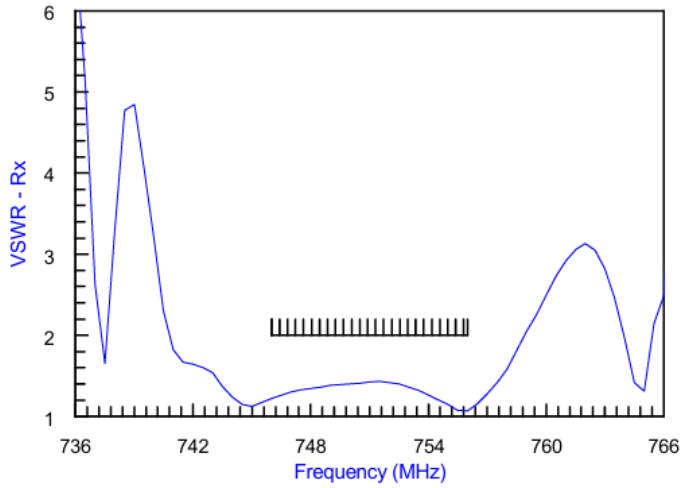


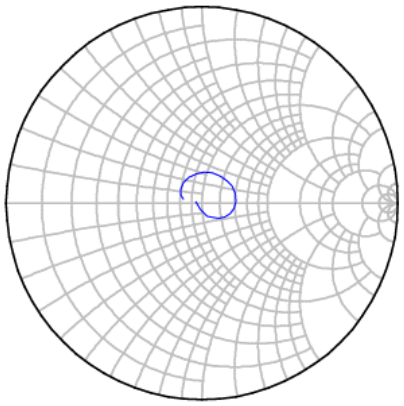
Tx – VSWR / Impedance





Rx – VSWR / Impedance





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4.Packing Information

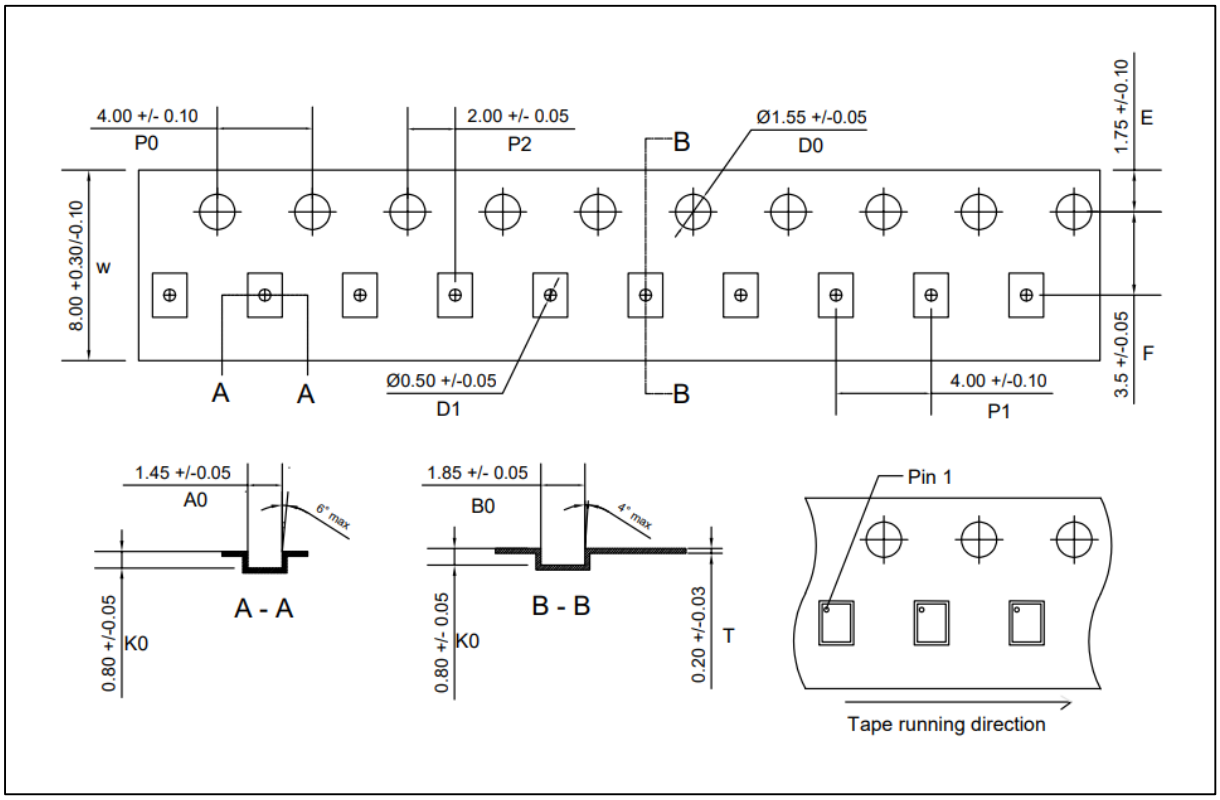
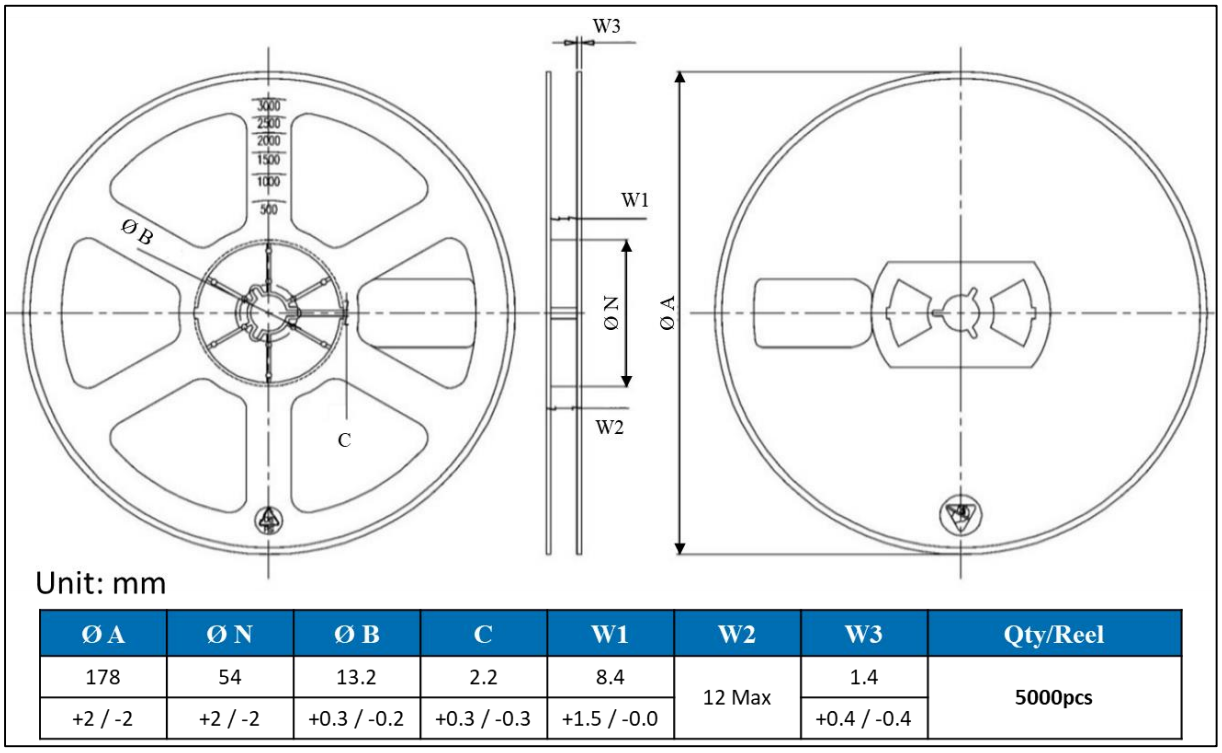


Figure 4-1 Carrier Tape Drawing (unit: mm)



Unit: mm

Ø A	Ø N	Ø B	C	W1	W2	W3	Qty/Reel
178	54	13.2	2.2	8.4	12 Max	1.4	5000pcs
+2 / -2	+2 / -2	+0.3 / -0.2	+0.3 / -0.3	+1.5 / -0.0		+0.4 / -0.4	

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

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