



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: [tstsales@mail.taisaw.com](mailto:tstsales@mail.taisaw.com) Web: [www.taisaw.com](http://www.taisaw.com)

## Product Specifications Approval Sheet

Product Description: SAW Duplexer 836.5/881.5MHz BW 25/25MHz  
SMD1.6x1.2mm

TST Parts No.: TF0226AA0033

Customer Parts No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Nina Chen *Nina Chen*

Approved by: \_\_\_\_\_ Kazuma Lee *Kazuma Lee*

Date: \_\_\_\_\_ 2021/12/29

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes.



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## SAW Duplexer 836.5/881.5MHz BW 25/25MHz SMD 1.6x1.2mm

MODEL NO.: TF0226AA0033

REV. NO.:1.0

### A. Maximum Rating:

1. Input Power Level: 30dBm.
2. DC Voltage : 0 V
3. Operating Temperature: -30°C to +85°C
4. Storage Temperature: -40°C to +100°C
5. Moisture Sensitivity Level: Level 1 (**MSL 1**)



**Electrostatic Sensitive Device (ESD)**

### B. Electrical Characteristics:

#### Tx to Ant

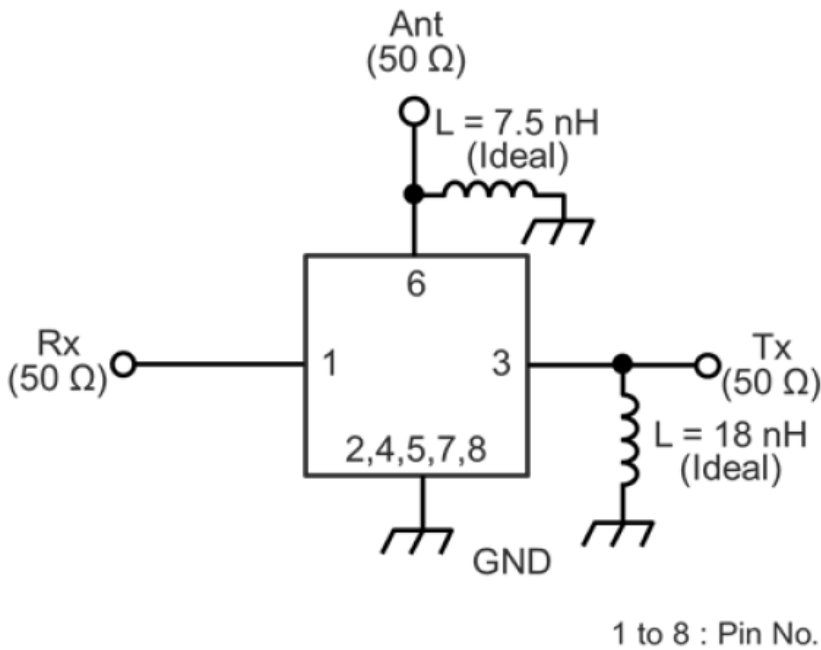
Item		Unit	Min	Typ	Max	Remarks
Center frequency		MHz		836.5		
Insertion Loss	824-849MHz	dB	-	1.3	1.8	
Amplitude Ripple	824-849MHz	dB	-	0.5	1.2	
VSWR	Tx	824-849MHz	-	1.5	2.0	
	Ant	824-849MHz	-	1.5	2.0	
Attenuation	DC-750MHz	dB	27	35	-	
	779-804MHz	dB	30	43	-	
	860-870MHz	dB	3	8	-	
	869-894MHz	dB	52	58	-	
	1574-1577 MHz	dB	40	47	-	
	1648-1698 MHz	dB	40	49	-	
	2400-2494 MHz	dB	35	40	-	
	2494-2547 MHz	dB	30	38	-	

#### Ant to Rx

Item		Unit	Min	Typ	Max	Remarks
Center frequency		MHz		881.5		
Insertion Loss	869-894 MHz	dB	-	1.6	2.3	
Amplitude Ripple	869-894 MHz	dB	-	0.4	1.2	
VSWR	Tx	869-894 MHz	-	1.5	2.0	
	Ant	869-894 MHz	-	1.6	2.0	
Attenuation	779-804 MHz	dB	50	62	-	
	824-849 MHz	dB	50	62	-	

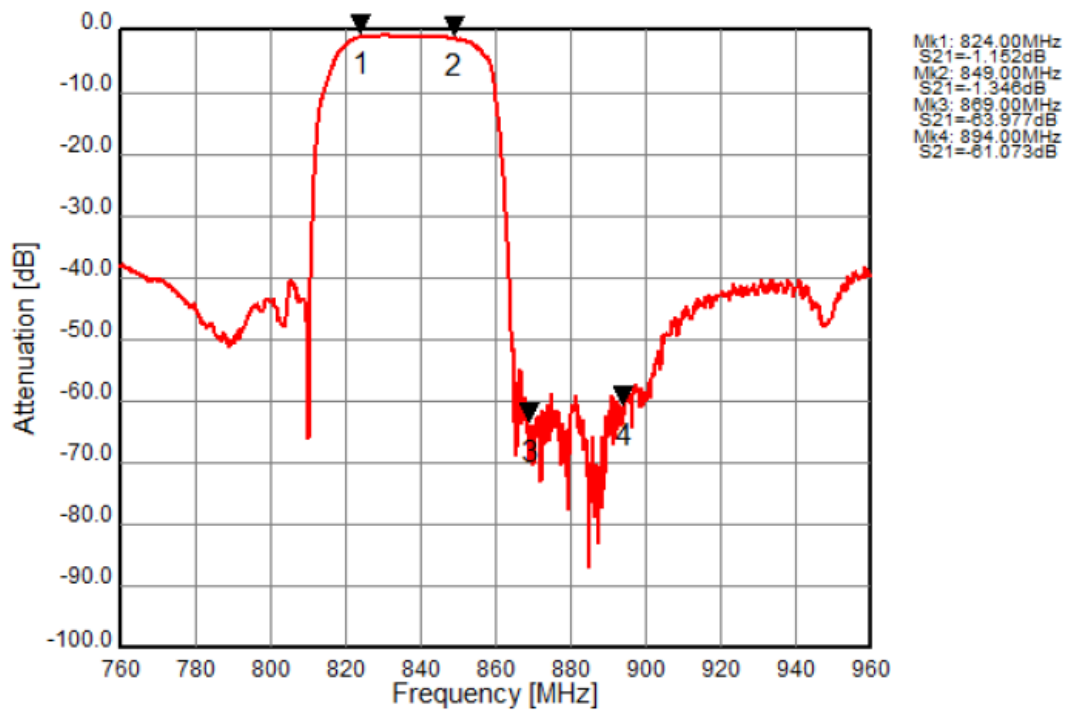
Item		Unit	Min	Typ	Max	Remarks
Tx to Rx	Isolation	824-849 MHz	dB	58	62	-
		869-894 MHz	dB	54	59	-
Terminating Impedance	Tx port	$\Omega$	50//18nH			
	Rx port	$\Omega$	50			
	Ant port	$\Omega$	50//7.5nH			
DC Impedance to ground		M $\Omega$	100			Device only

**C. Schematic**

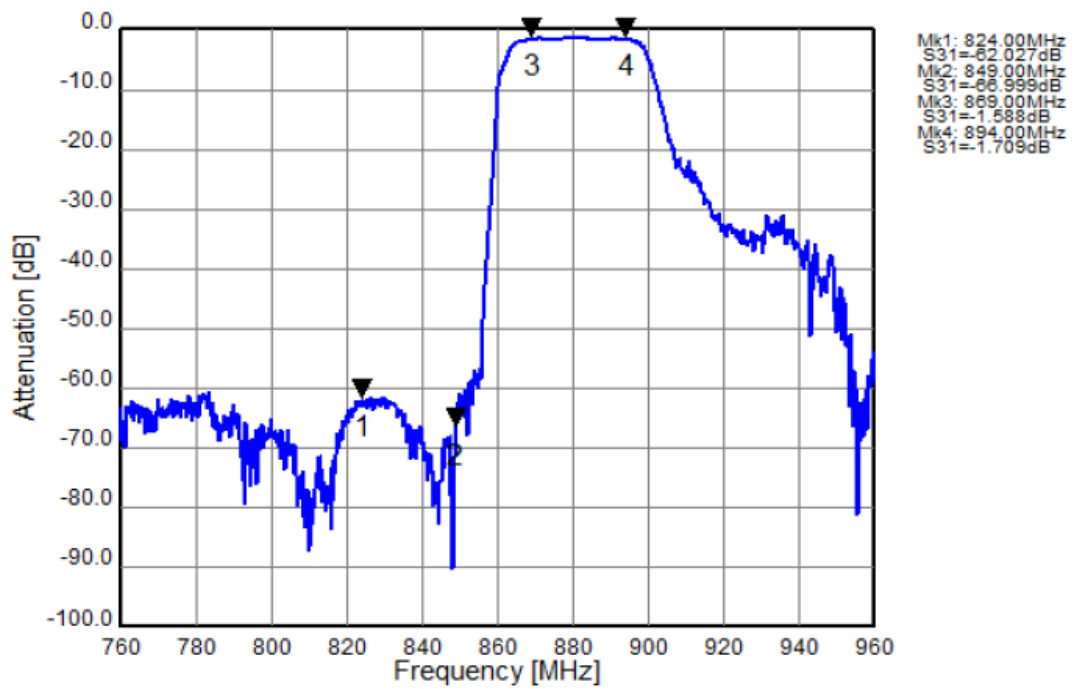


## D. Performance Plots

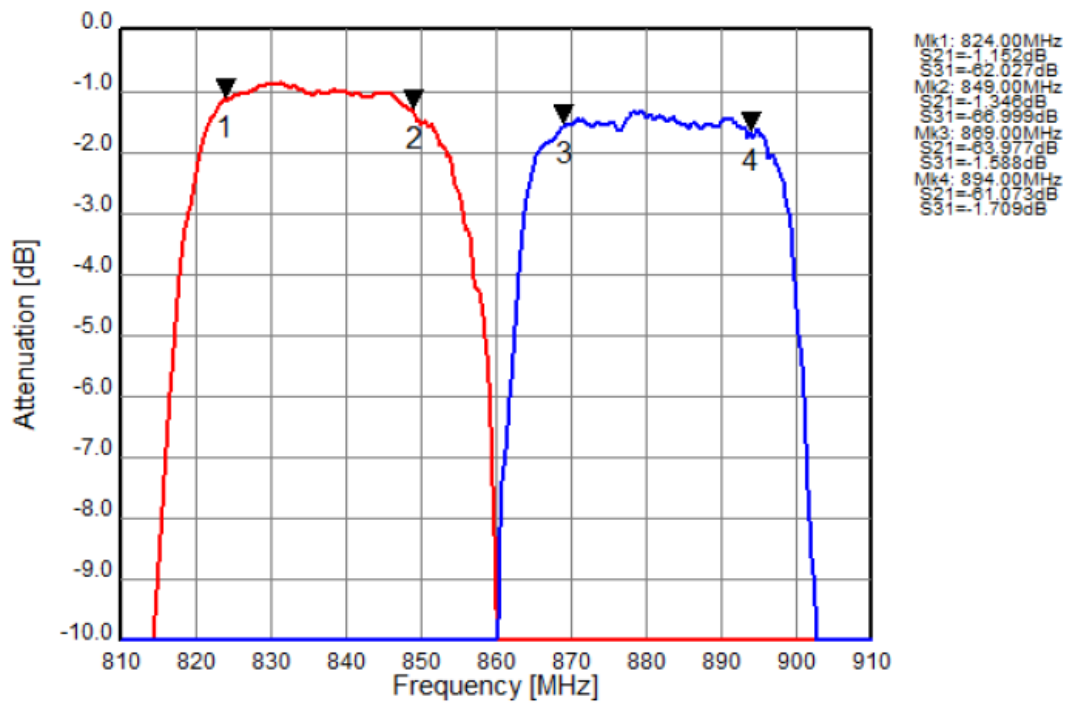
### Tx to Ant



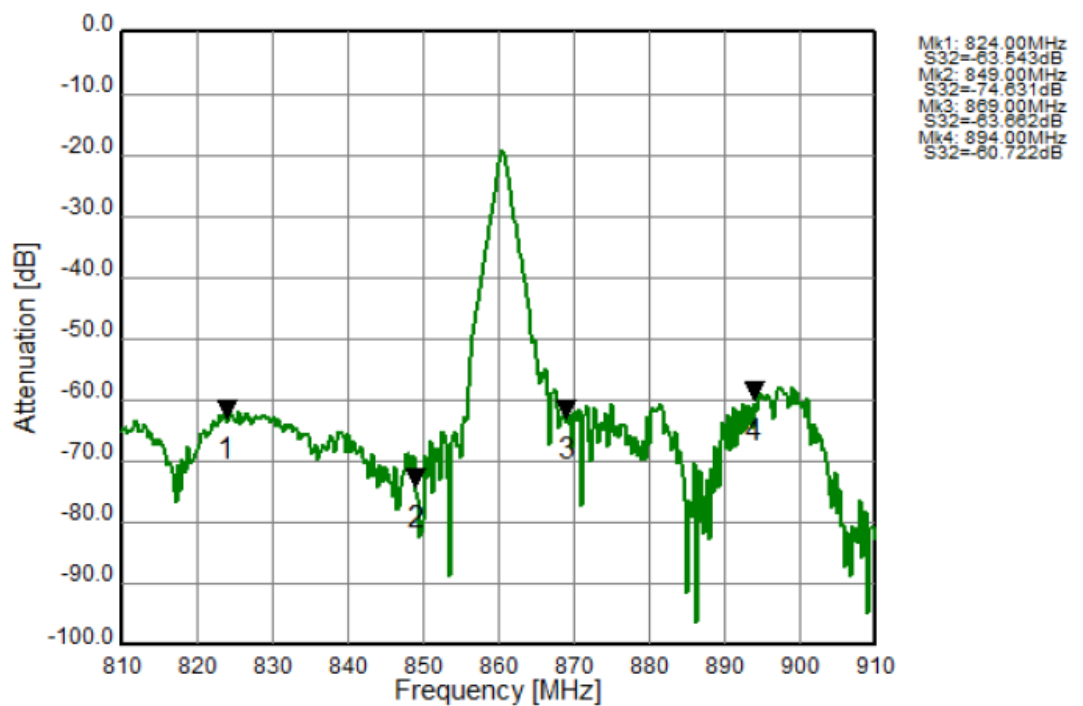
### Ant to Rx



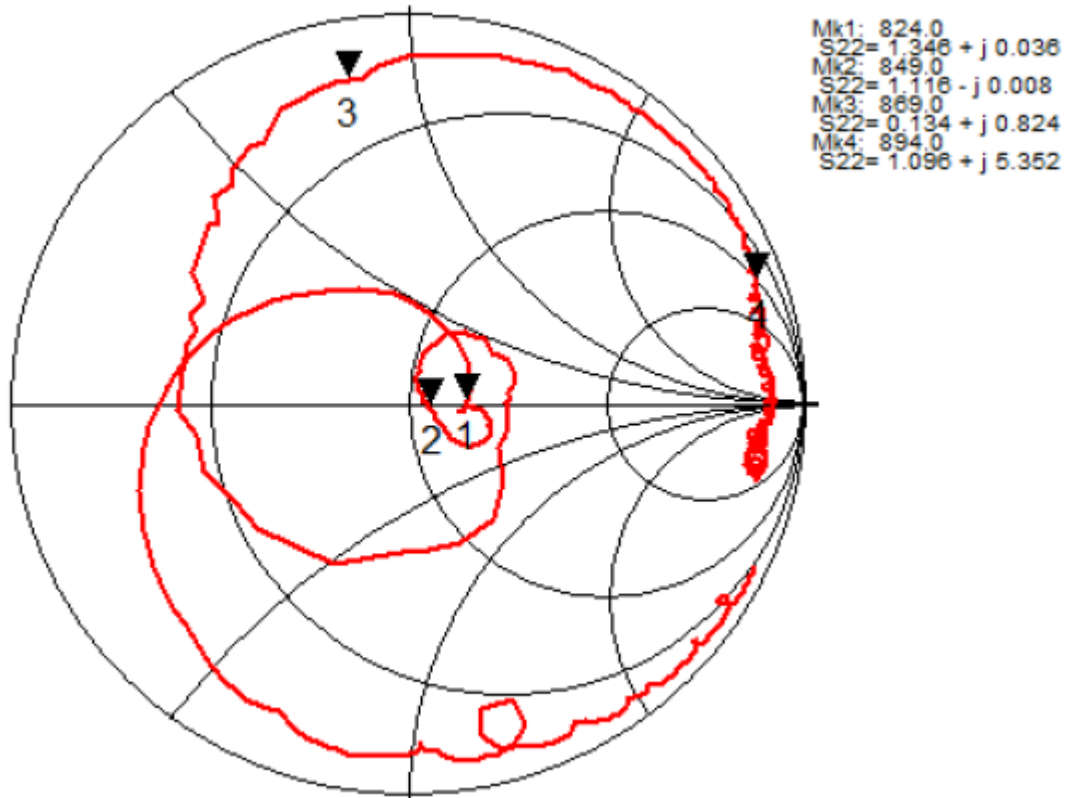
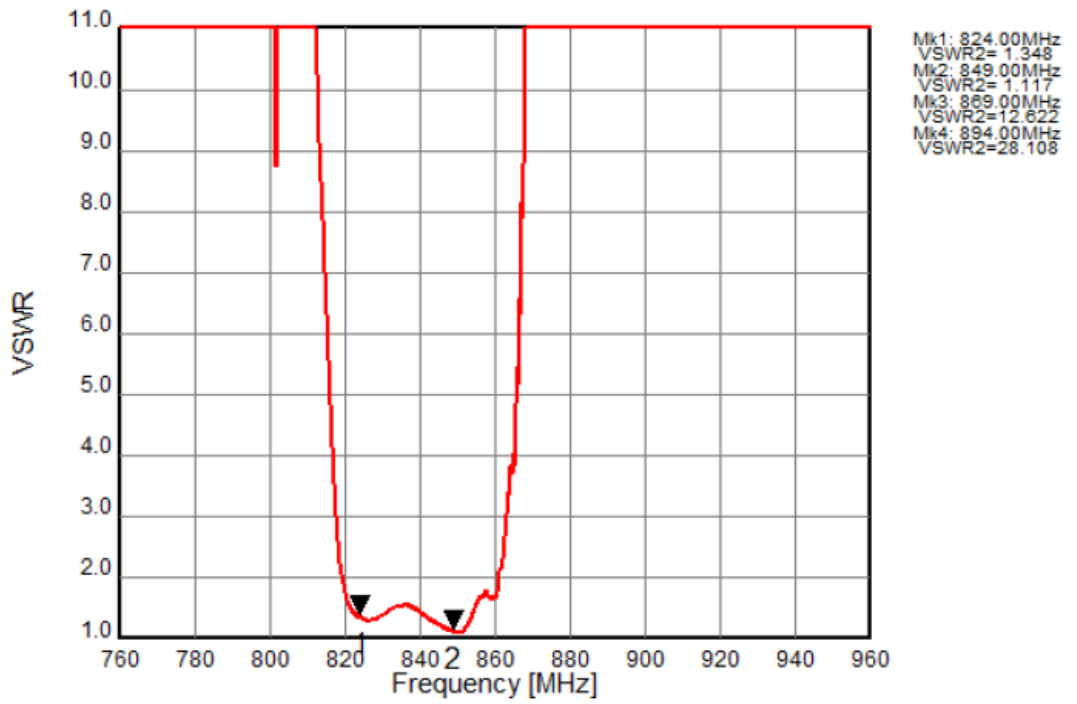
## Tx to Ant, Ant to Rx



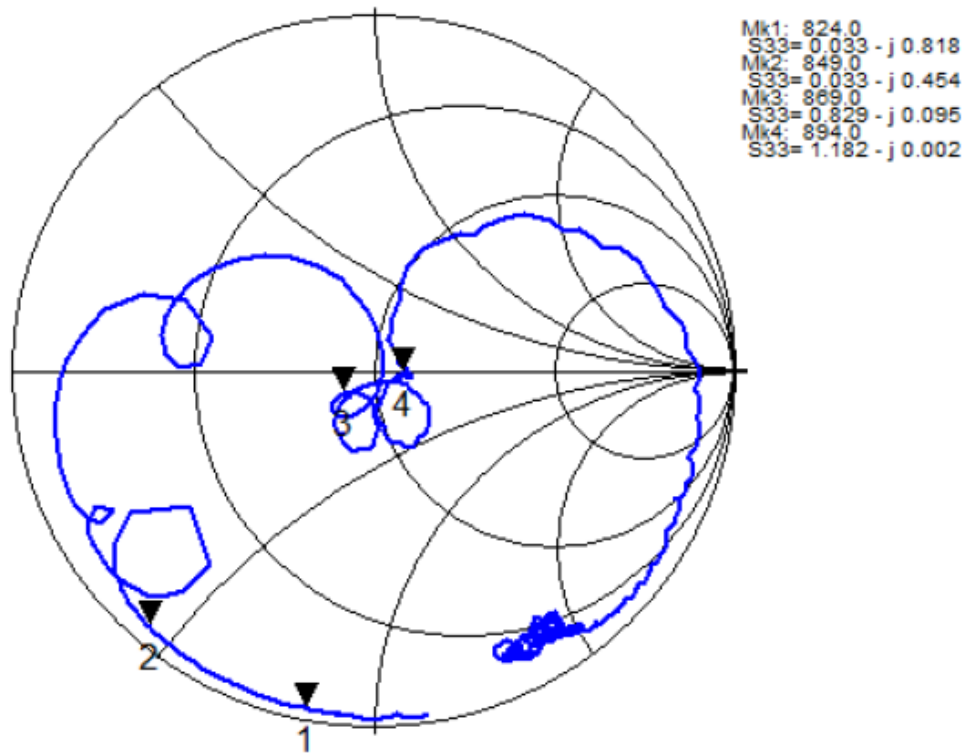
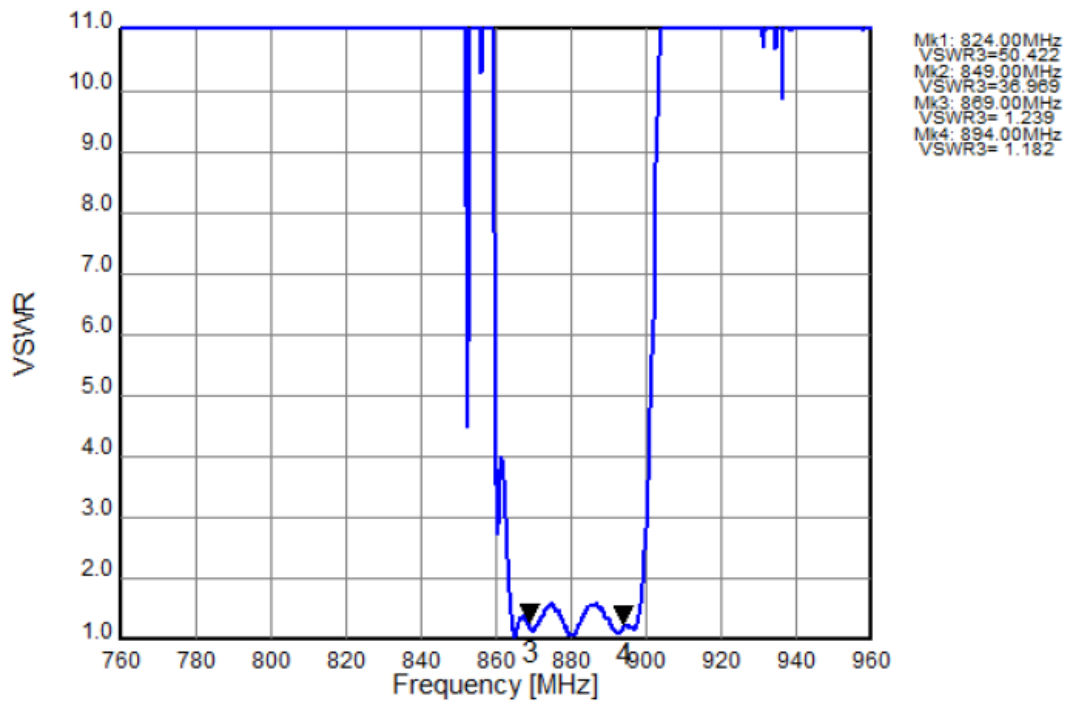
## Tx to Rx Isolation



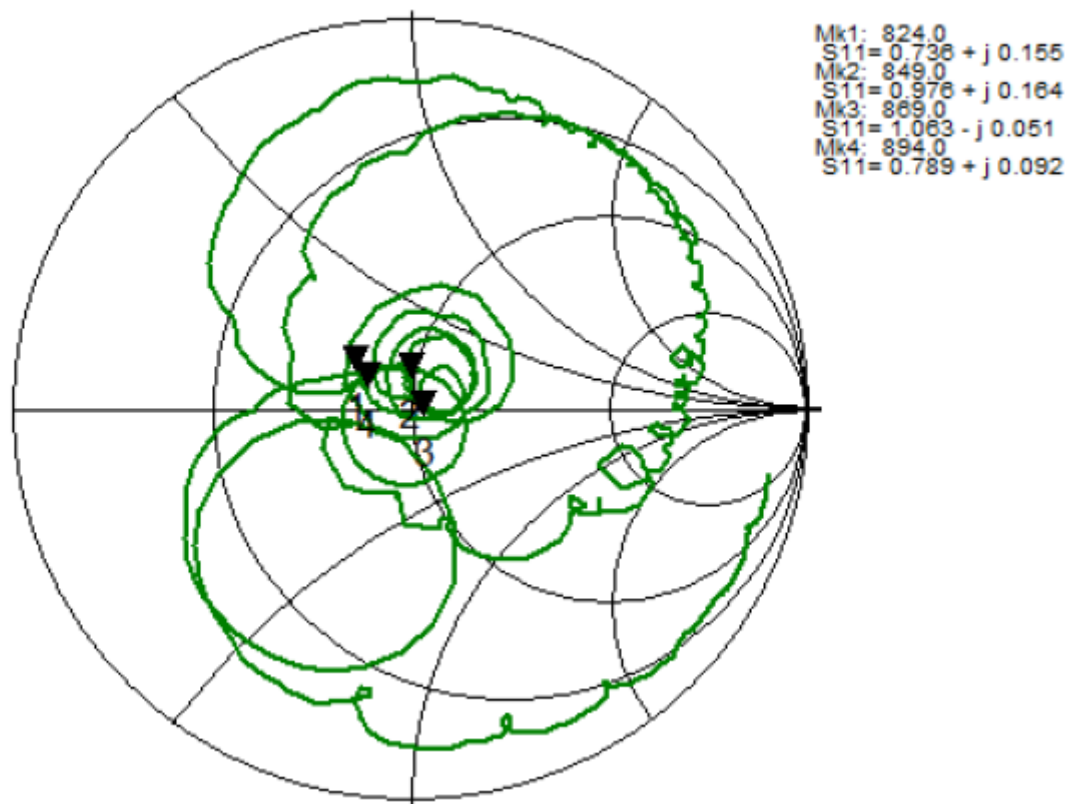
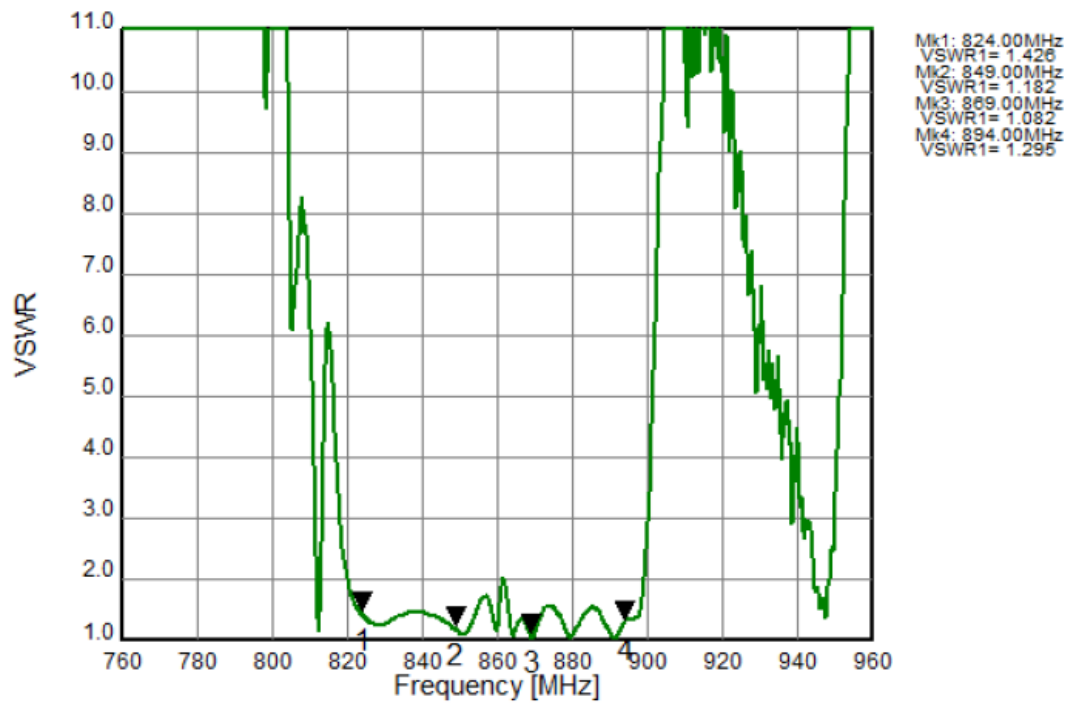
# Tx Port



# Rx Port

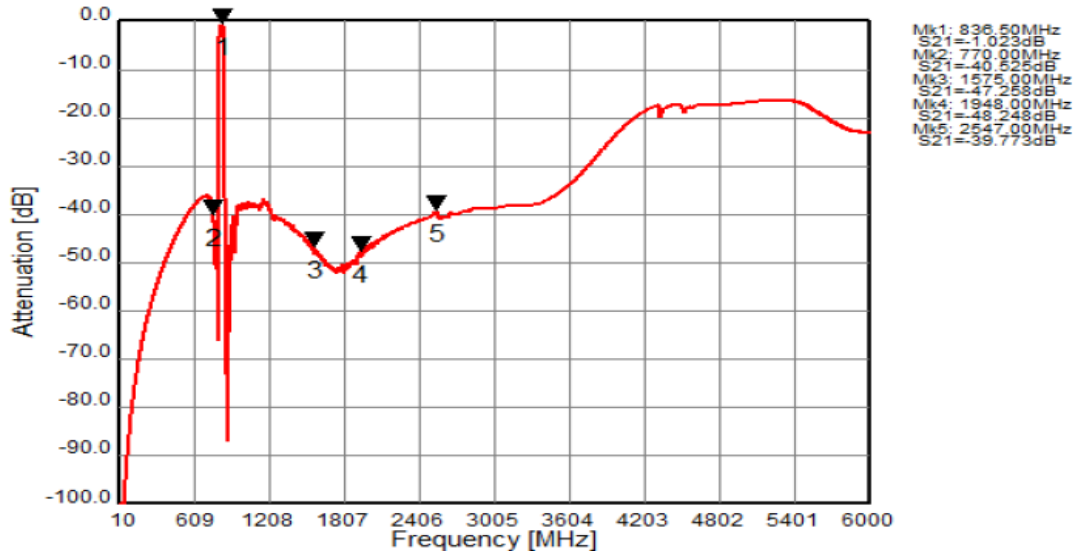


# Ant Port

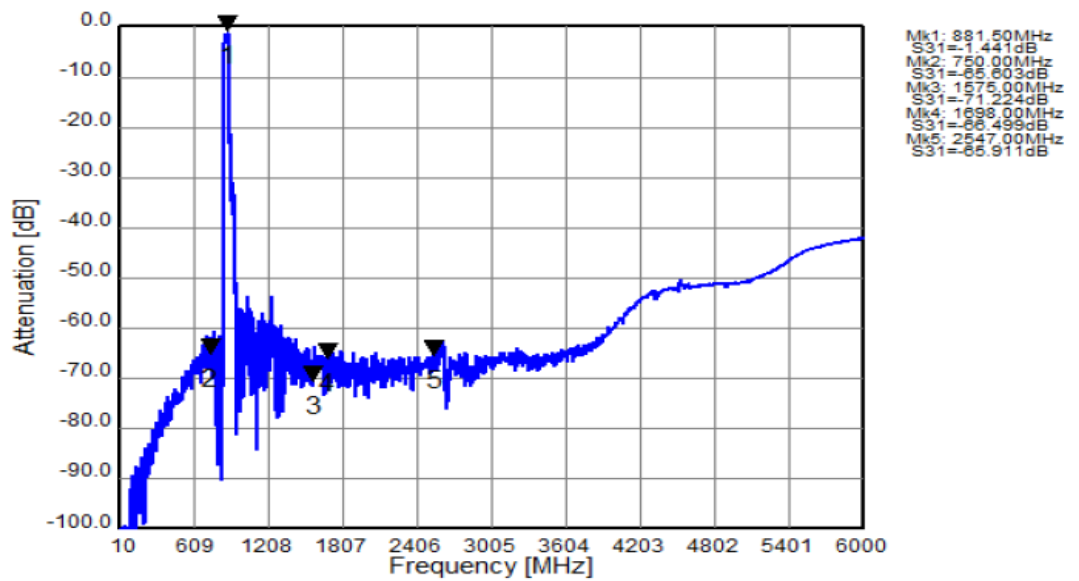




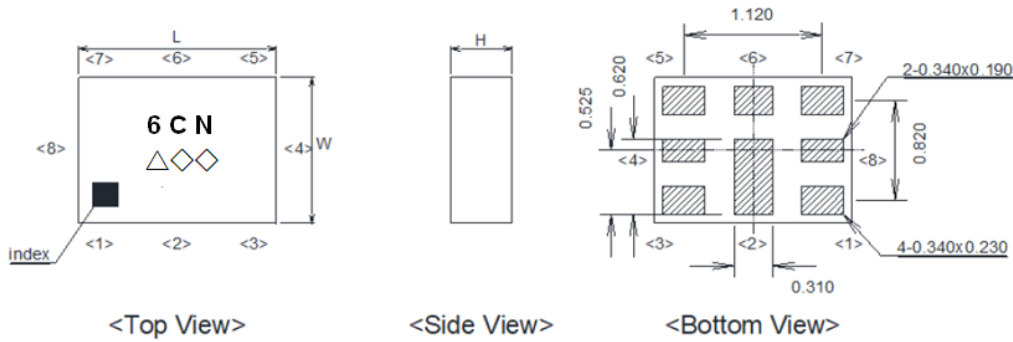
### Tx to Ant (Wide Span)



### Ant to Rx (Wide Span)



## E. Package Drawing and Pin Description



Unit : mm  
1 to 8 : Pin No.

Marking name: 6CN(Part Symbol)

△: Trace Code.(2020 May → s,....., 2023 Dec → m)

◇◇: Lot Code.

Product Trace Code.Follow below table.(4-year cycle)

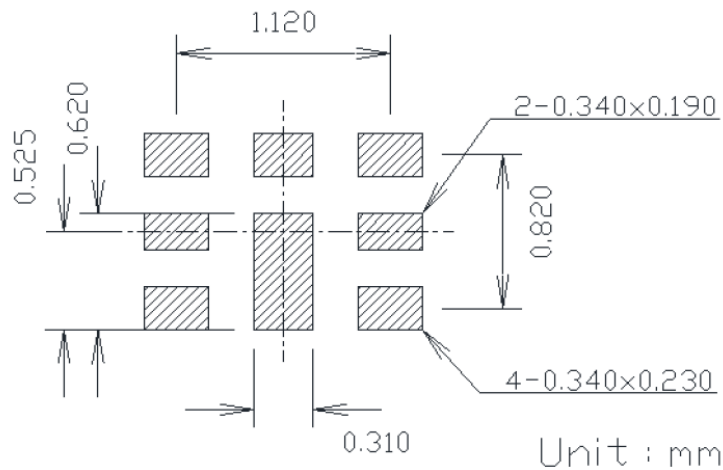
L = 1.6 +/- 0.1 mm

W = 1.2 +/- 0.1 mm

H = 0.44 mm Max

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	n	p	q	r	s	t	u	v	w	x	y	z
2021	A	B	C	D	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	a	b	c	d	e	f	g	h	j	k	l	m

## F.PCB Mounting Pattern



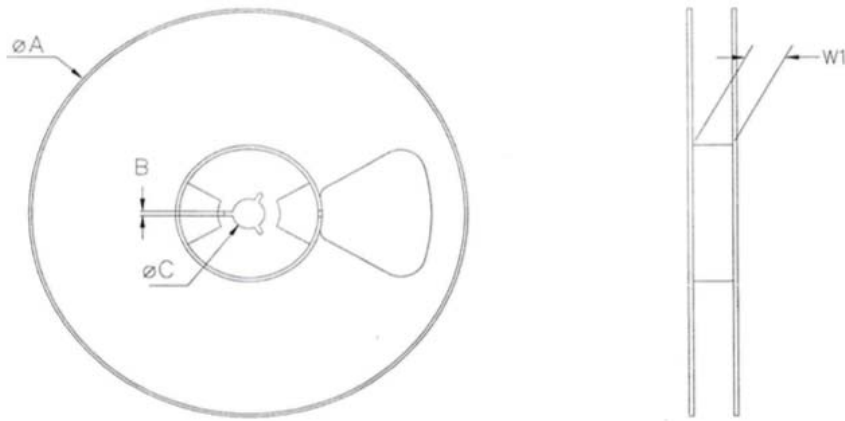
Unit : mm

Pin No.	Symbol	Function
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

### Notes:

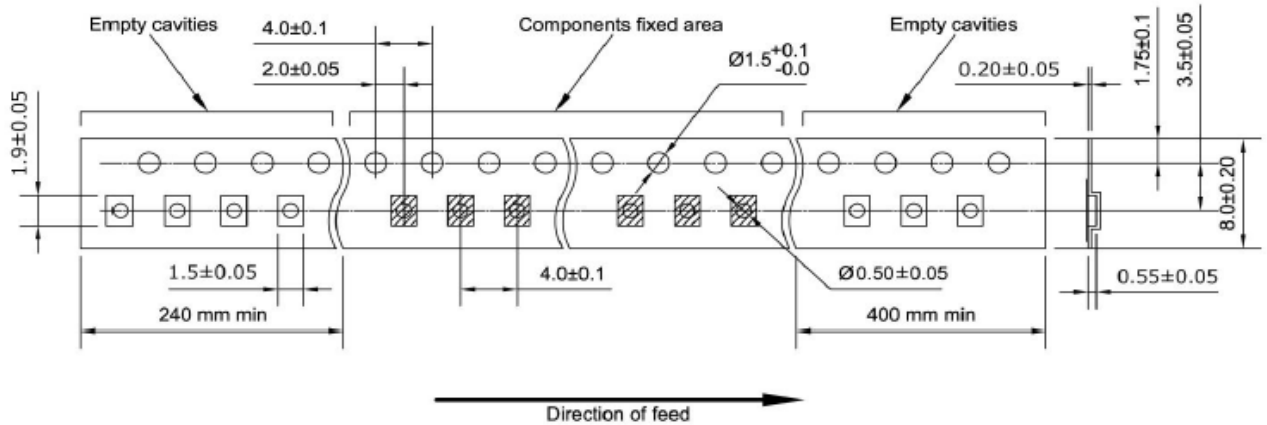
- All units are in mm unless otherwise stated
- General Tolerance
  - Linear: X.XXX = ±0.050mm
  - X.XX = ±0.10mm
- Terminations
  - Au: 0.10 um min.
  - Pd: 0.10 um min.
  - Ni: 2-5 um
- Pin 1 indicated by 0.100 mm Chamfer

## G. Reel Dimension



Item	Parameters	Method	Min	Max
1	$\phi A$ (180mm + 0 / - 2.0)	Caliper	178.96	179.00
2	B (1.5mm Min)	Caliper	2.33	2.36
3	$\phi C$ (13.0mm + 0.5 / - 0.2)	Caliper	13.26	13.29
4	W1 (8.40mm + 1.5 / - 0)	Caliper	9.24	9.27
5	Surface Resistivity ( $10^{11}$ Max) ohms / sq	S.R meter	$10^9$	$10^{10}$
6	Visual		PASS	

### Dimensions of Tape (Standard)



## H. Recommended Solder Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (20~40sec).
4. Time: 2 times.

