



# 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 Name: SAW DPX 847 / 806MHz 29.5/29.5MHz BW Band20 SMD1.8X1.4 mm

TST Parts No.: TF0168B (This part is compliant with AEC-Q200)

Customer Part No.: \_\_\_\_\_

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

Checked by: \_\_\_\_\_ Anne Chen *Anne Chen*

Approved by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2018, 11, 30

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 change



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SAW DPX 847/806MHz 29.5/29.5MHz BW Single type SMD 1.8X1.4 mm

MODEL NO.: TF0168B

REV. No.: 1.0

## A. MAXIMUM RATING:

1. Input power : 29dBm (Ta=+50deg C,50000h,CW )
2. Maximum DC Voltage: +/-5 V
3. Operating temperature range: -40 °C to +85 °C
4. Storage temperature range: -55 °C to +125 °C
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50 Ω (Single-ended)

Terminating impedance(Rx Port): 50 Ω (Single-ended)

Terminating impedance(Ant Port): 50//10nH Ω (Single-ended)

### Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	832.25~ 861.75 MHz	dB(*1)	-	1.8	2.5	
Ripple	832~ 862 MHz	dB	-	1.0	1.8	
VSWR	ANT	-	-	1.6	2.0	
	Tx	-	-	1.7	2.0	
<b>Attenuation:</b>						
<b>791.25 ~ 820.75 MHz</b>		dB	45	54	-	-
<b>1565 ~ 1606 MHz</b>		dB	45	57	-	-
<b>1664 ~ 1724 MHz</b>		dB	40	55	-	-
<b>2400 ~ 2586 MHz</b>		dB	35	44	-	-

**ANT to Rx**

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	791.25 ~ 820.75 MHz	dB(*1)	-	1.8	3.0	
Ripple)	791~ 821 MHz	dB	-	0.9	2.3	
VSWR	ANT	791~ 821 MHz	-	-	1.7	2.3
	Rx		-	-	1.8	2.2
<b>Attenuation:</b>						
<b>832.25 ~ 861.75 MHz</b>		dB	45	53	-	-
<b>1623 ~ 1683 MHz</b>		dB	35	47	-	-
<b>2400 ~ 2545 MHz</b>		dB	30	43		

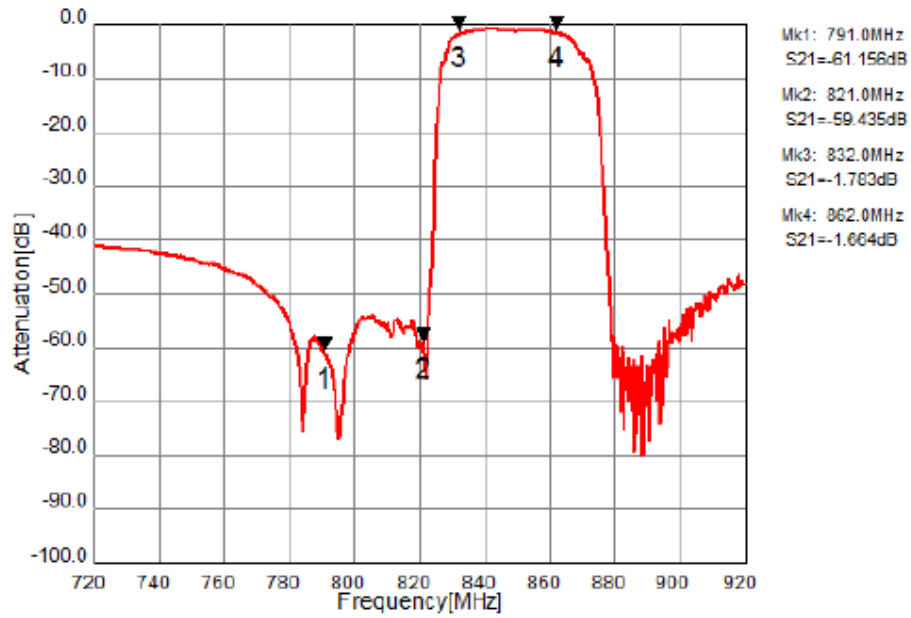
**Tx to Rx**

<b>Isolation</b>	832.25 ~ 861.75 MHz	dB	50	55	-	
	791.25 ~ 820.75 MHz	dB	53	56	-	

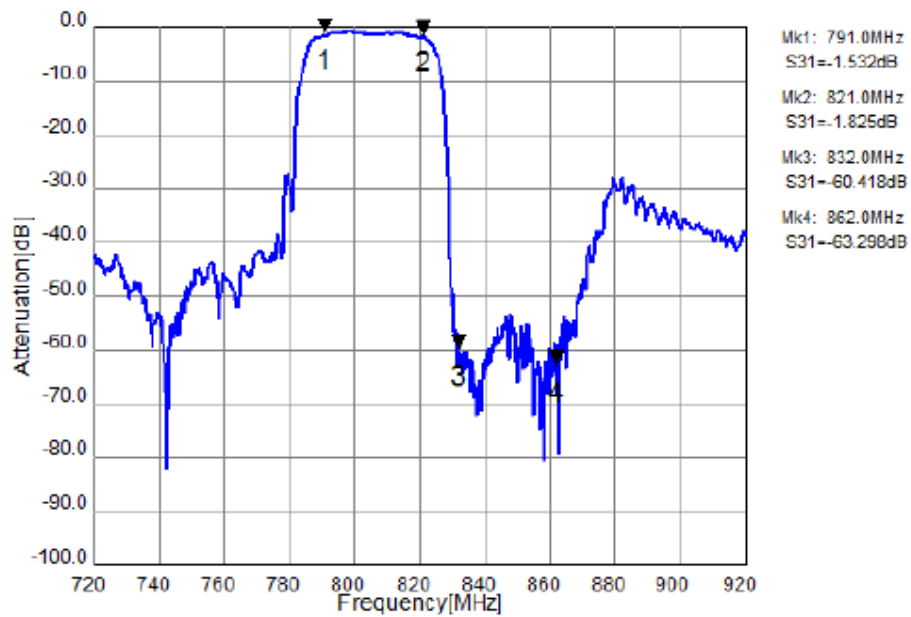
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C. Frequency Characteristics:

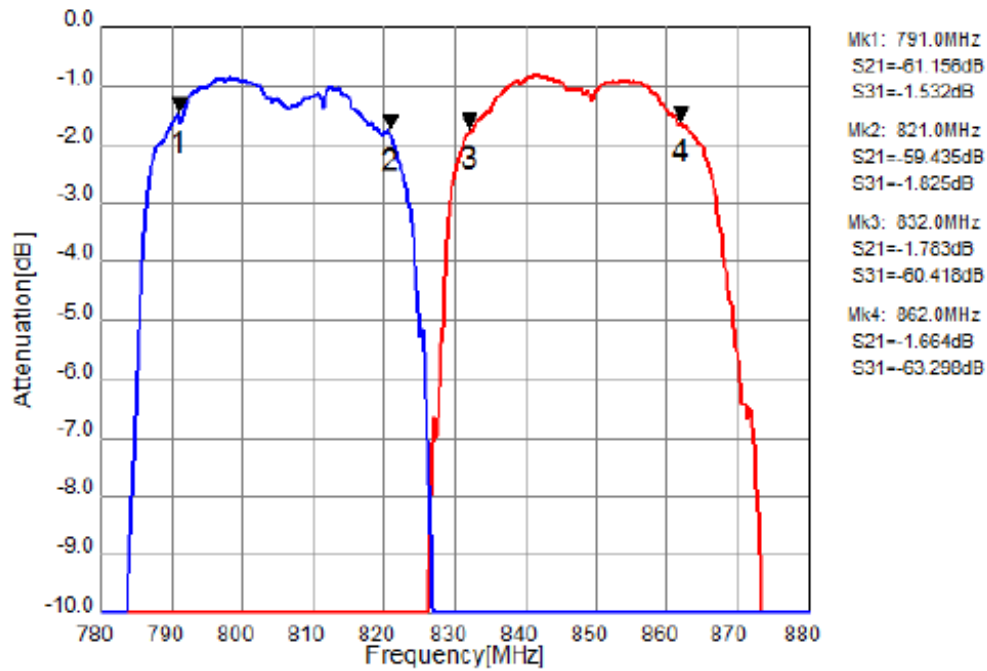
#### Tx to Ant



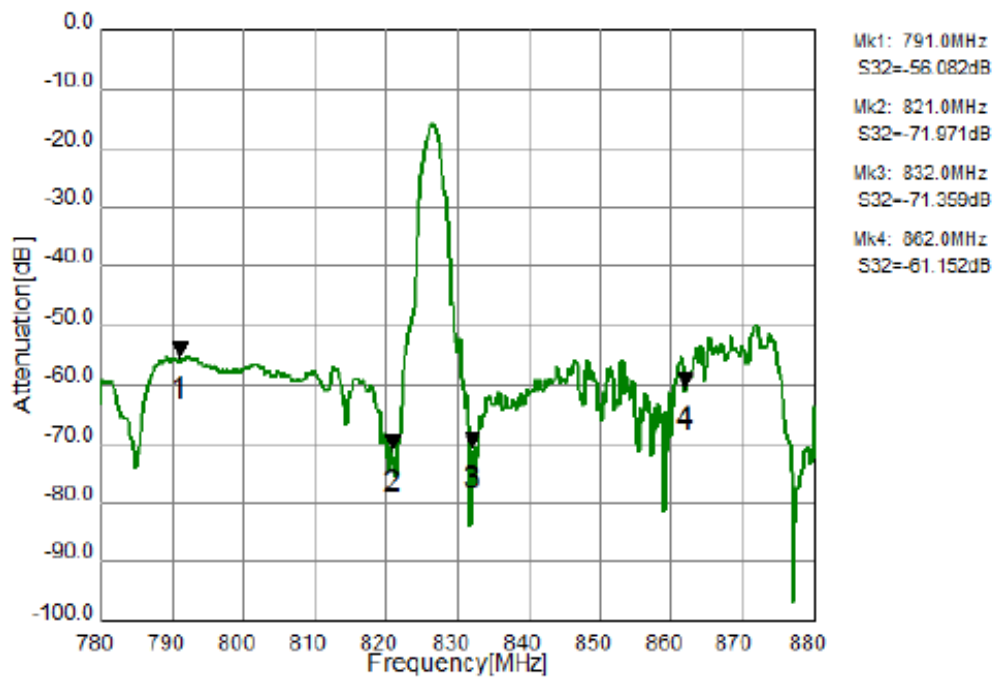
#### Ant to Rx



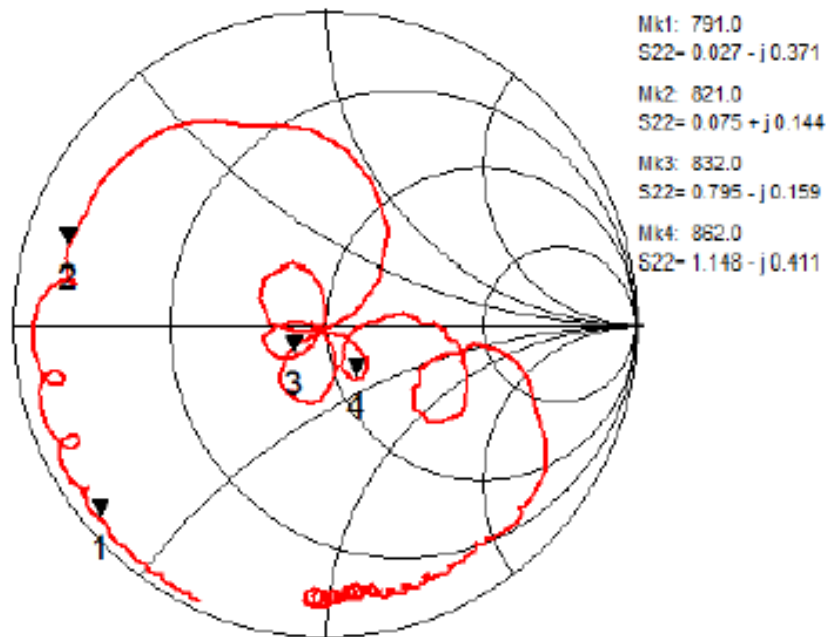
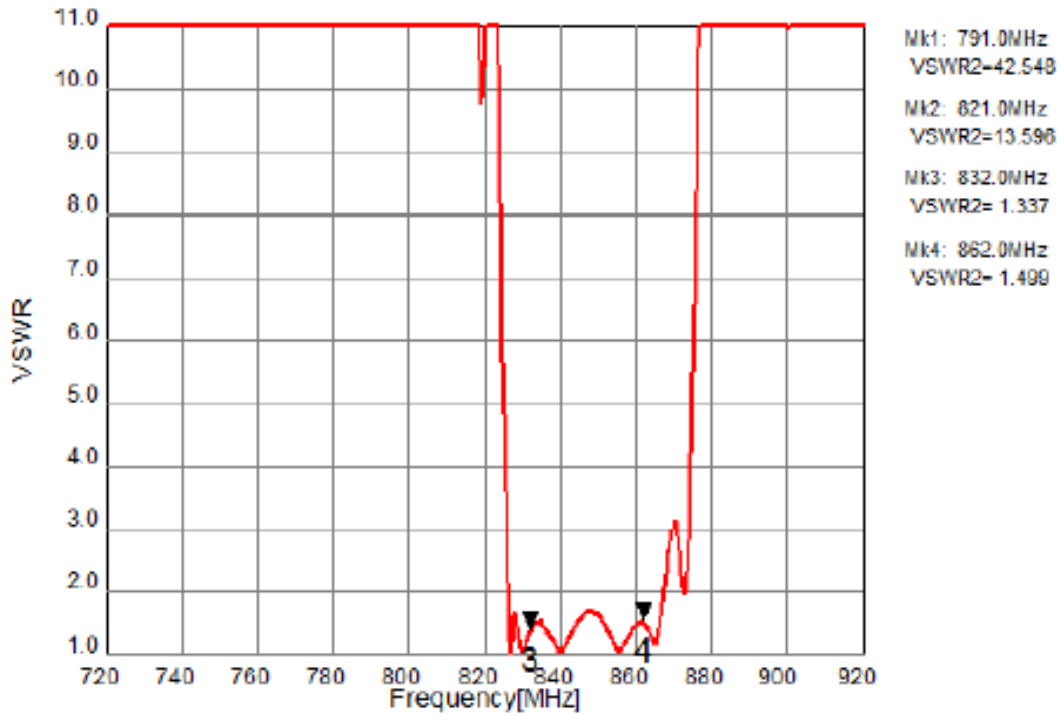
## Ant to Rx, Tx to Ant



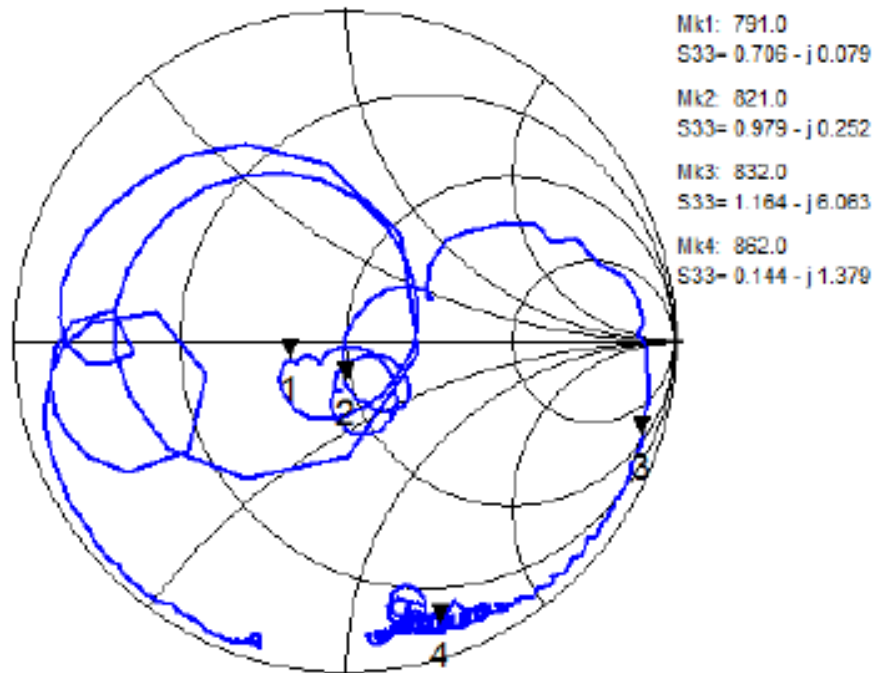
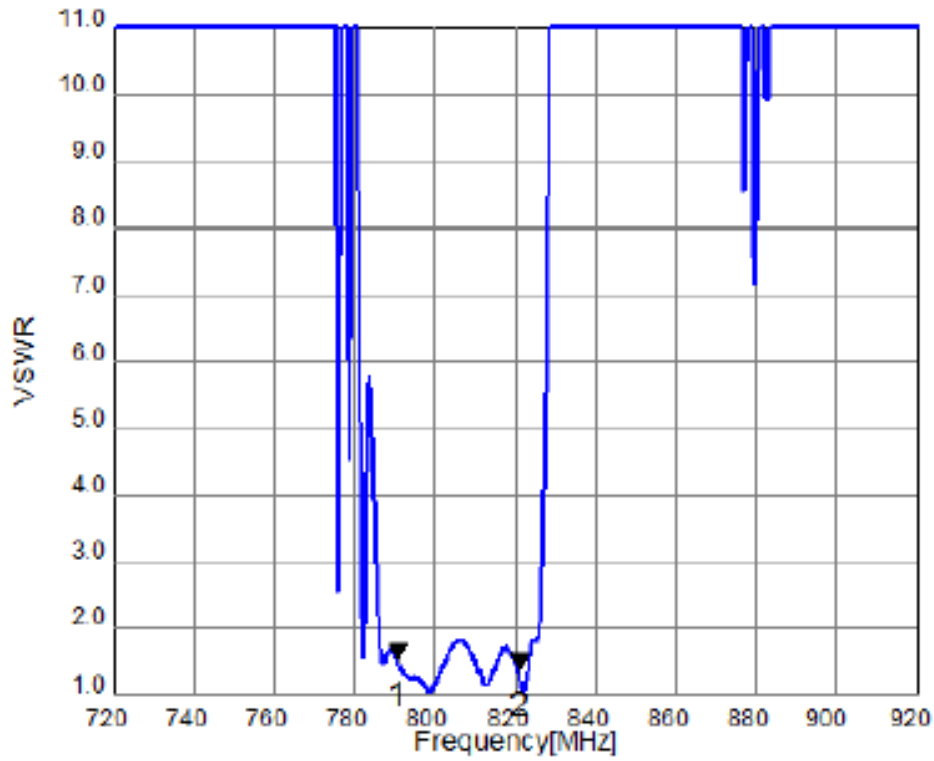
## Tx to Rx Isolation



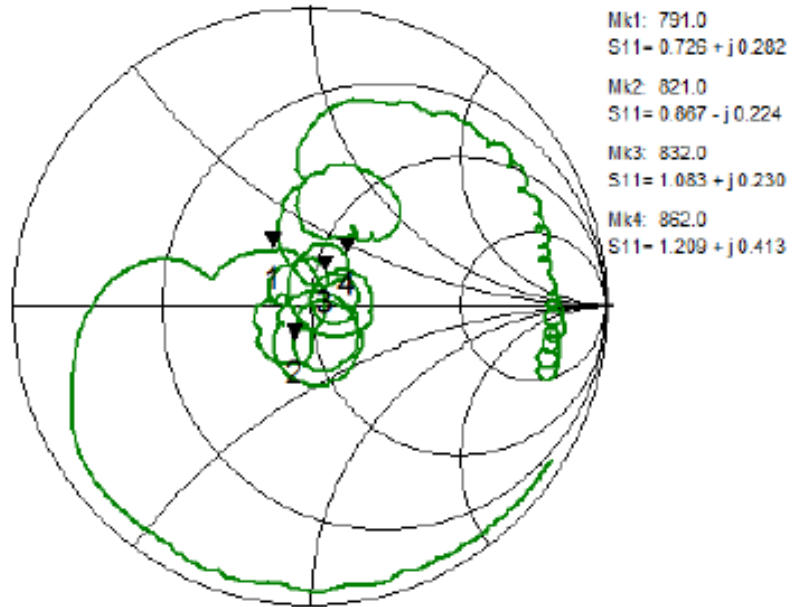
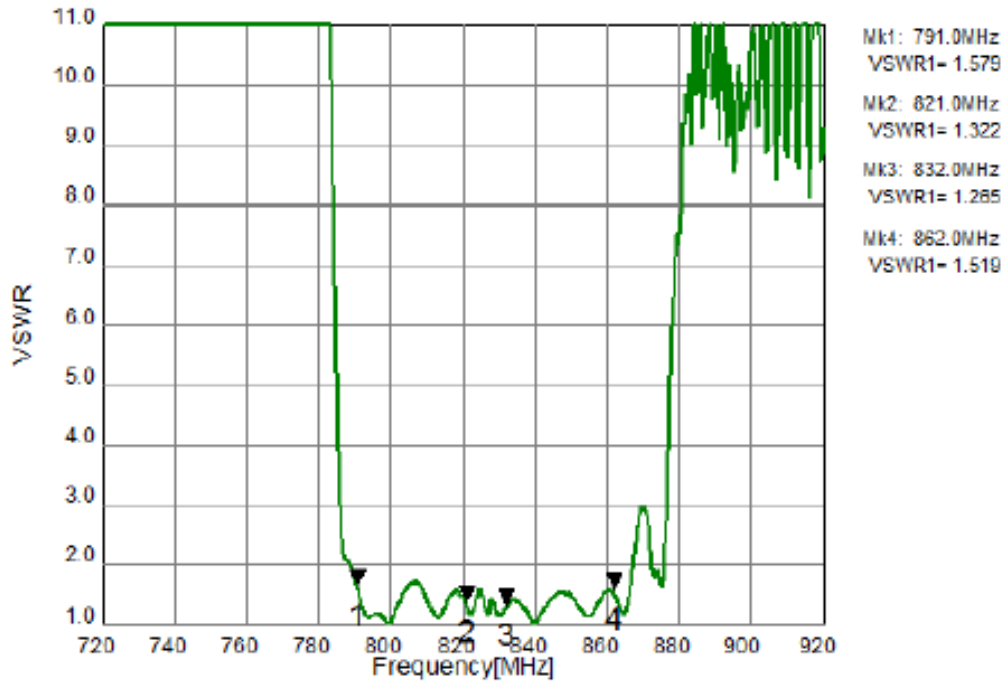
# Tx Port



# Rx Port

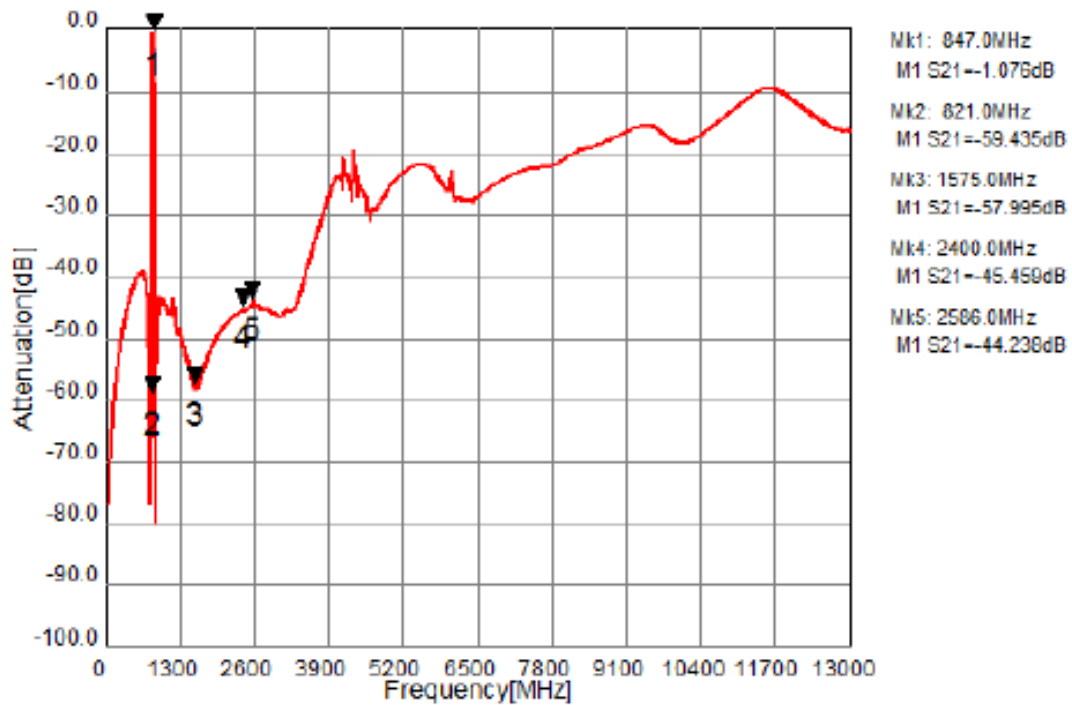


# Ant Port

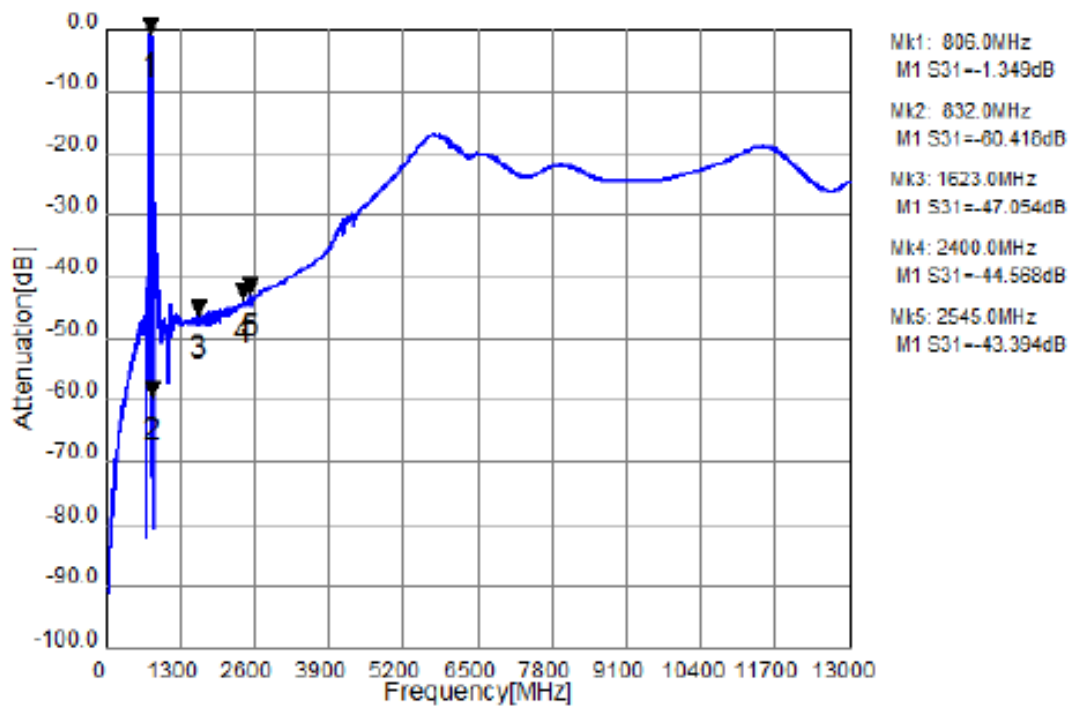




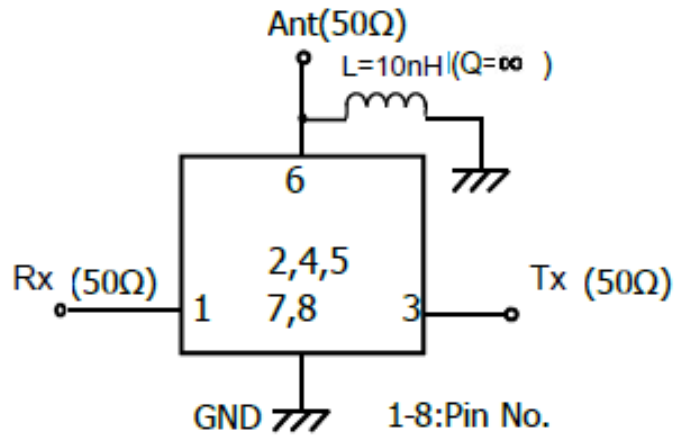
## Tx to Ant (Wide span)



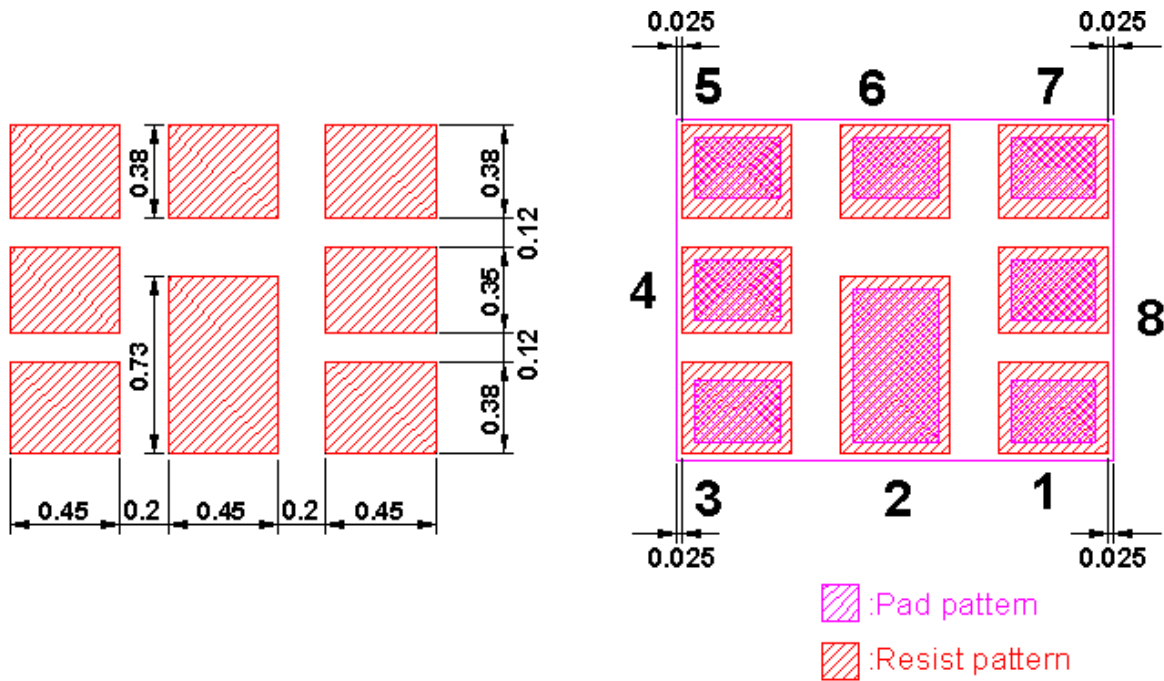
## Ant to Rx (Wide span)



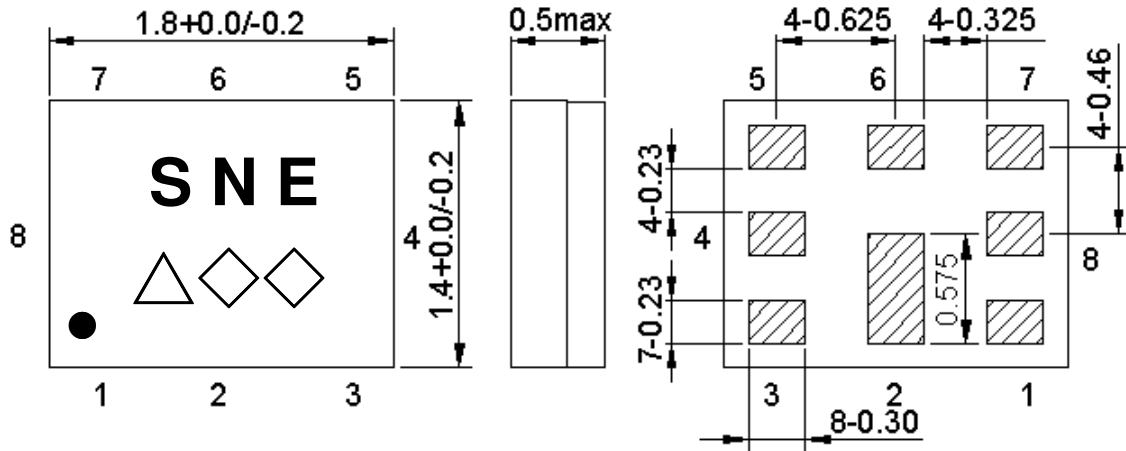
**D. MEASUREMENT CIRCUIT:**



**F. FOOTPRINT:**



**E.OUTLINE DRAWING: (Mass Production)**



Marking name : **SNE**

△: Date code( 2016 May → s ,....., 2019 Dec→m.)

◇◇: Lot Code.

Product Date Code. Follow below table.

Product Date Code. Follow below table.

Not Specified Tolerance :  $\pm 0.05$  mm

Coplanarity :  $0.1$  mm max.

1 to 8 : Pin No.

Unit : mm

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m
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

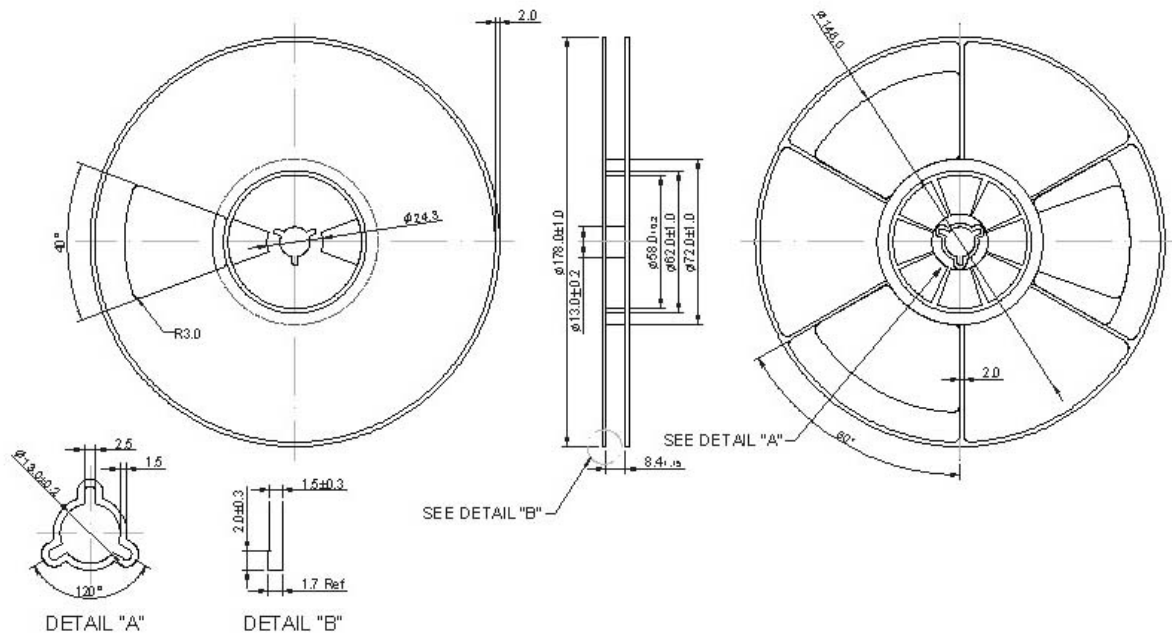
**Pin Configuration**

Pin No.	Pin name	Description
1	Rx	Receiver Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

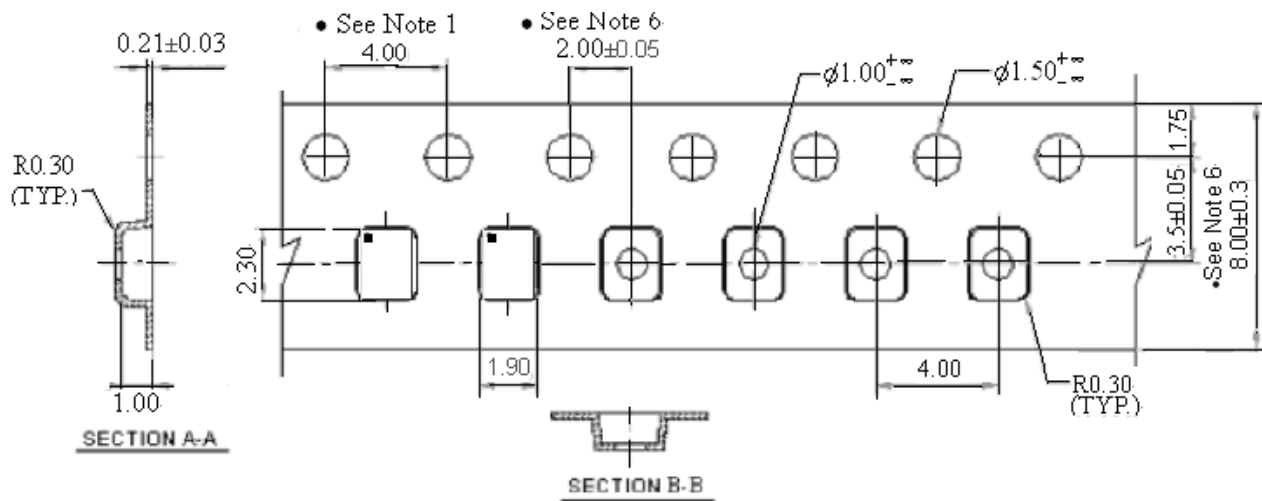
## F. PACKING:

### 1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



### 2. TAPE DIMENSION



## G. RECOMMENDED REFLOW 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.

