



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 Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: SAW Duplexer 1747.5/1842.5MHz BW 74.7/74.7MHz

SMD1.6x1.2mm

TST Parts No.: TF0229AA0033

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.



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 Web: www.taisaw.com

SAW Duplexer 1747.5/1842.5MHz BW 74.7/74.7MHz SMD 1.6x1.2mm

MODEL NO.: TF0229AA0033

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

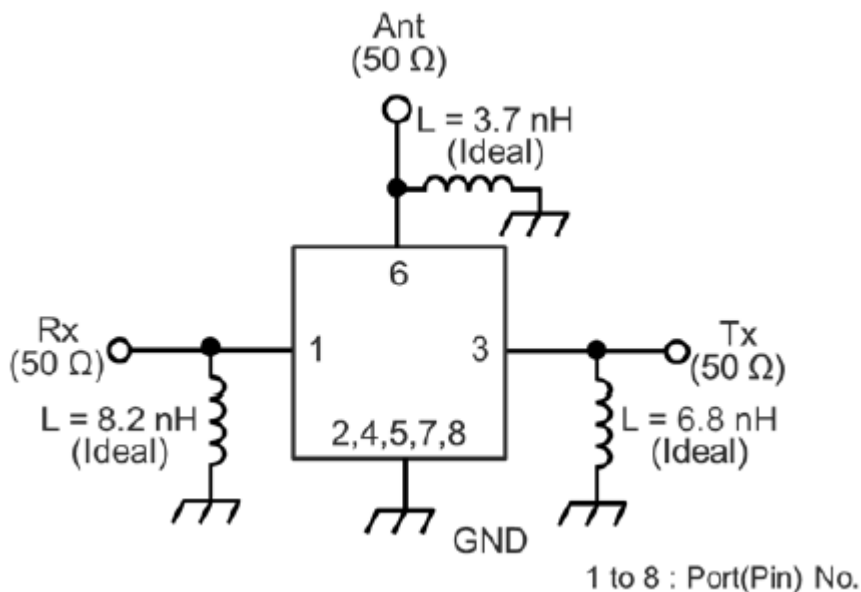
Item		Unit	Min	Typ	Max	Remarks
Center frequency		MHz		1747.5		
Insertion Loss	1710.15-1784.85MHz	-	-	-	2.6	
		dB	-	1.6	2.2	25°C
Amplitude Ripple	1710.15-1784.85MHz	dB	-	-	2.2	
		dB	-	1.1	1.8	25°C
VSWR	Tx	1710.15-1784.85MHz	-	-	1.6	2.0
	Ant	1710.15-1784.85MHz	-	-	1.5	2.0
Attenuation	1559-1586 MHz		dB	36	40	-
	1597-1606 MHz		dB	33	37	-
	1805-1880 MHz	dB	35	-	-	-30~ -20°C
		dB	42	53	-	-20~85°C
	2400-2500 MHz		dB	26	32	-
	3420-3570 MHz		dB	25	30	-
	4900-5355 MHz		dB	17	27	-

Ant to Rx

Item		Unit	Min	Typ	Max	Remarks
Center frequency		MHz		1842.5		
Insertion Loss	1805.15-1879.85MHz	-	-	-	3.3	-30~ -20°C
		dB	-	-	3.1	-20~85°C
		dB	-	2.1	2.9	25°C
Amplitude Ripple	1805.15-1879.85MHz	dB	-	-	2.8	-30~ -20°C
		dB	-	-	2.6	-20~85°C
		dB	-	1.6	2.4	25°C
VSWR	Tx	1805.15-1879.85MHz	-	-	1.4	2.0
	Ant	1805.15-1879.85MHz	-	-	1.4	2.0
Attenuation	1710-1785 MHz	dB	46	57	-	
	2400-2500 MHz	dB	38	44	-	
	3610-3760 MHz	dB	40	51	-	
	5415-5640 MHz	dB	45	52	-	

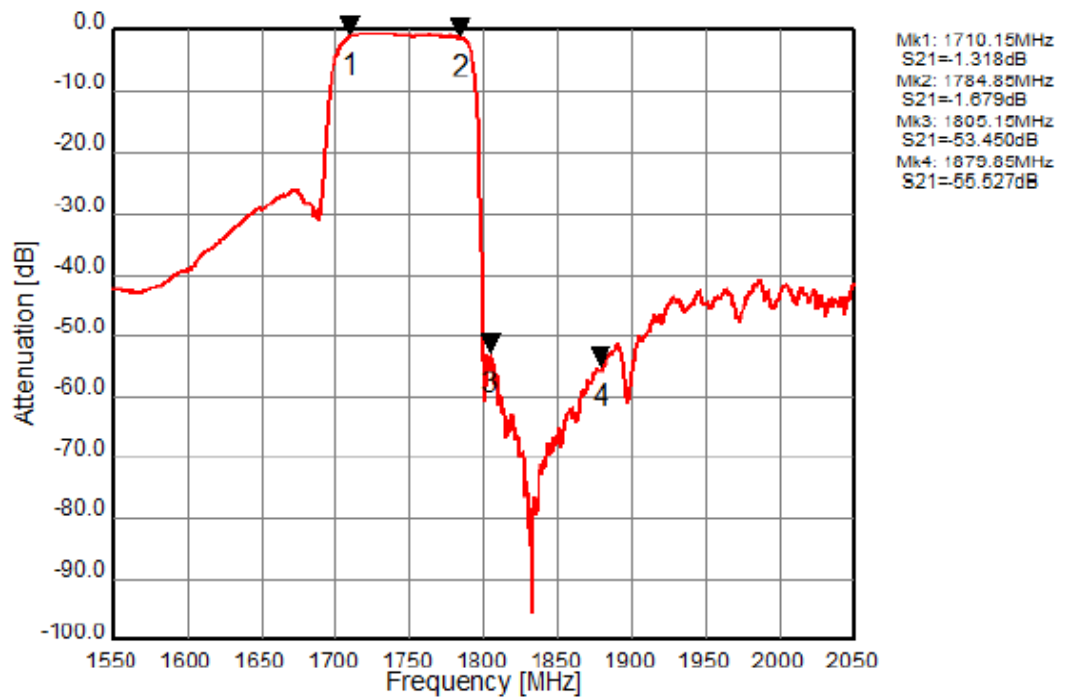
Item		Unit	Min	Typ	Max	Remarks
Tx to Rx	Isolation	1710.15-1784.85 MHz	dB	55	58	-
		1805.15-1879.85 MHz	dB	42	-	-
			dB	50	55	-
Terminating Impedance	Tx port	Ω	50//6.8nH			
	Rx port	Ω	50//8.2nH			
	Ant x port	Ω	50//3.7nH			
DC Impedance to ground		M Ω	100			Device only

C. Schematic

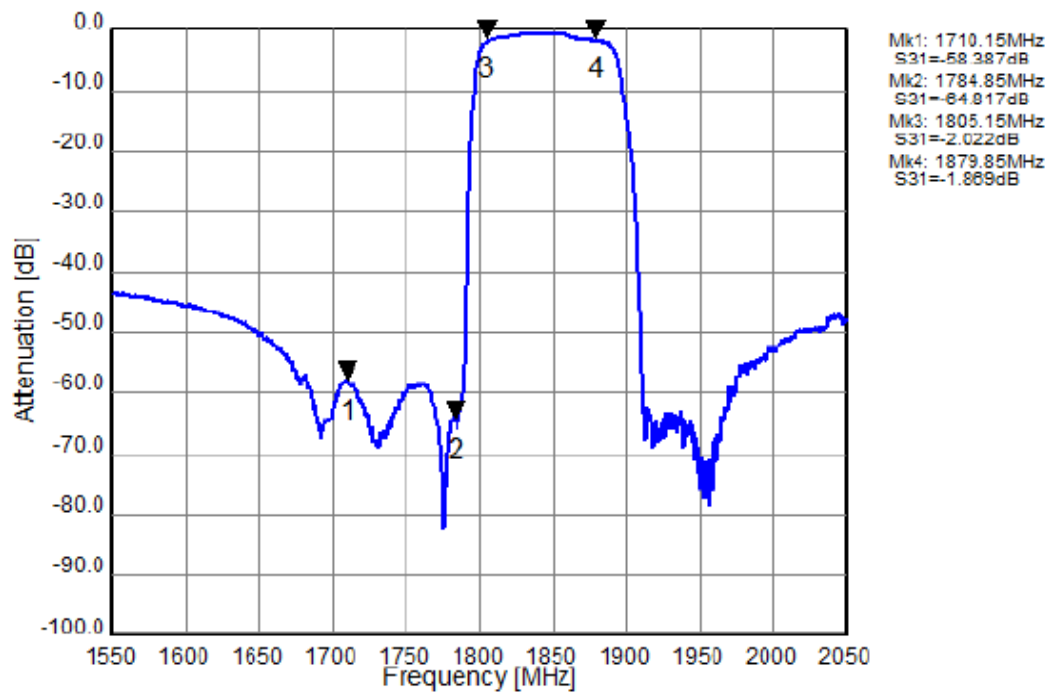


D. Performance Plots

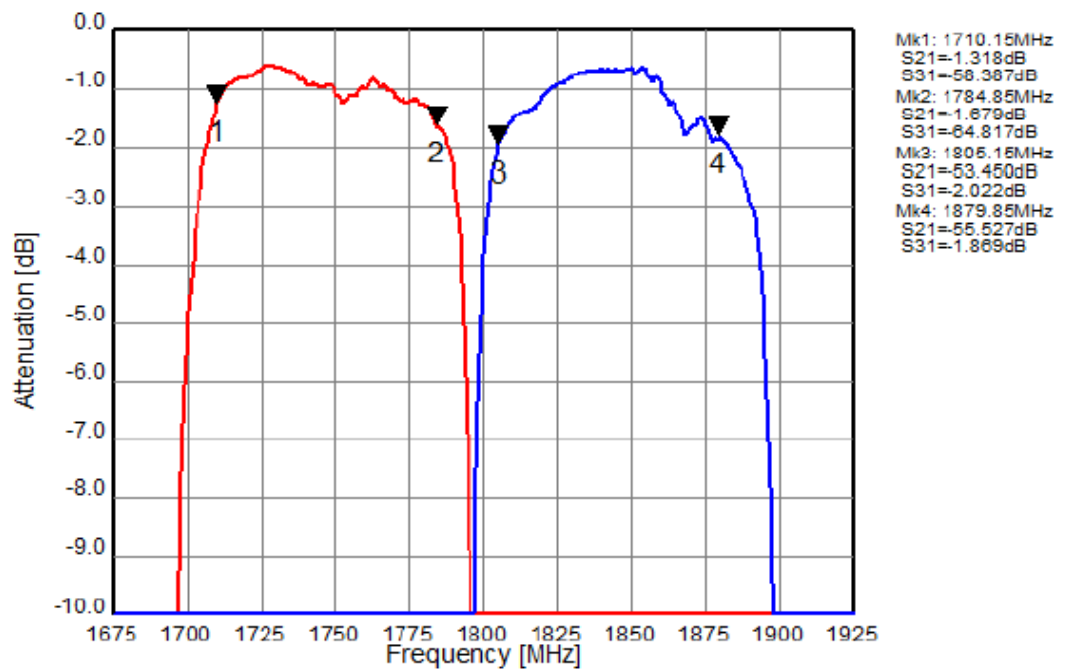
Tx to Ant



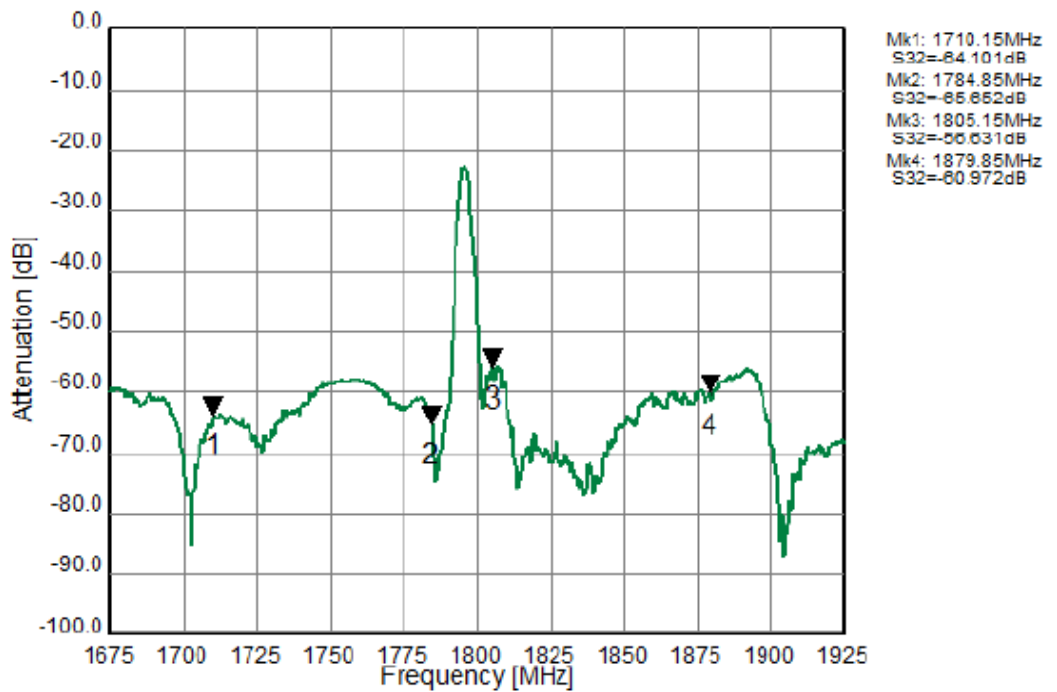
Ant to Rx



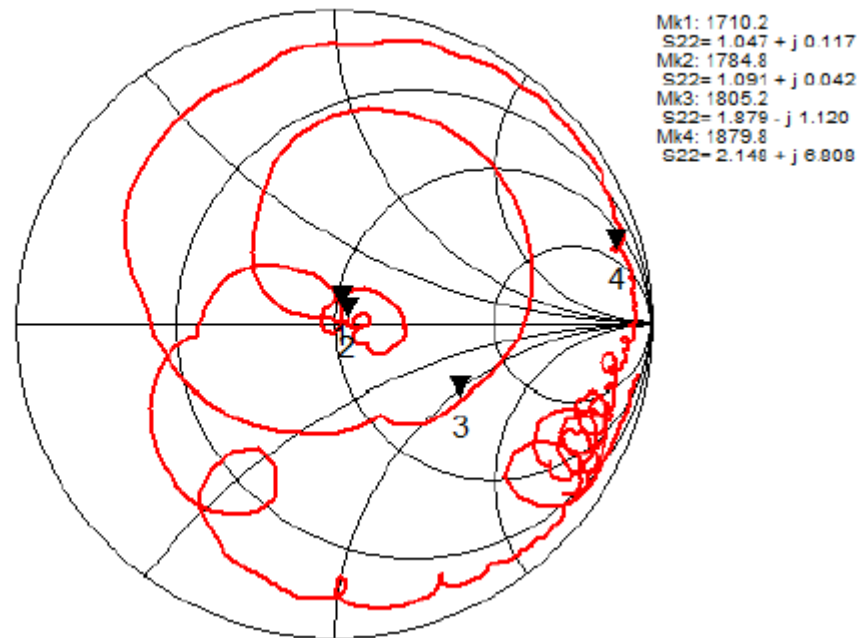
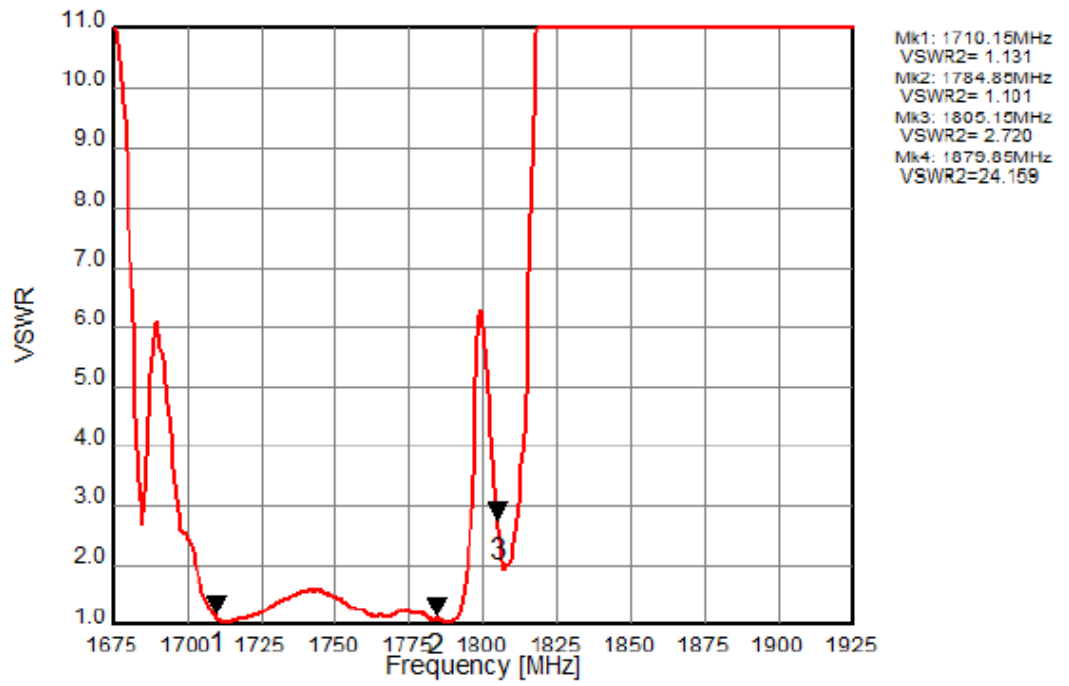
Tx to Ant, Ant to Rx



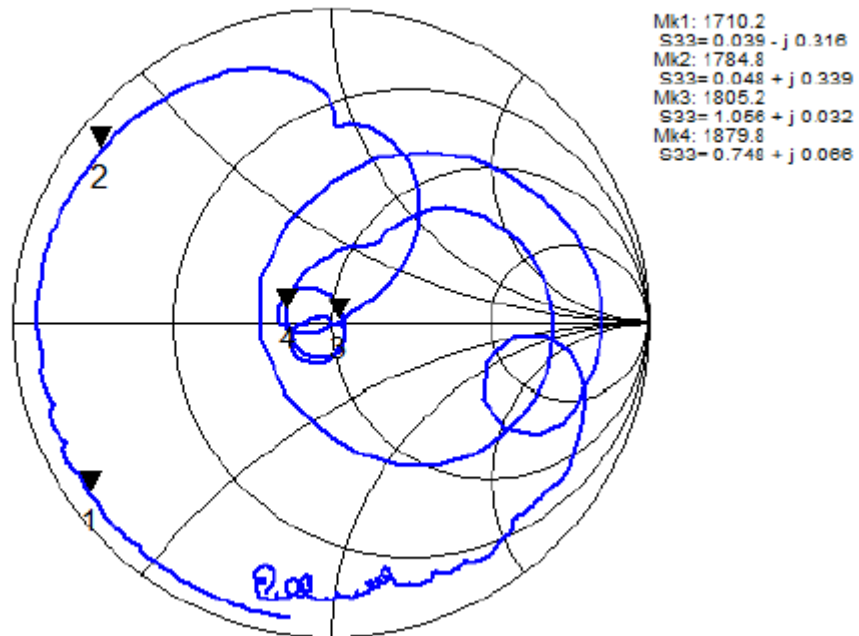
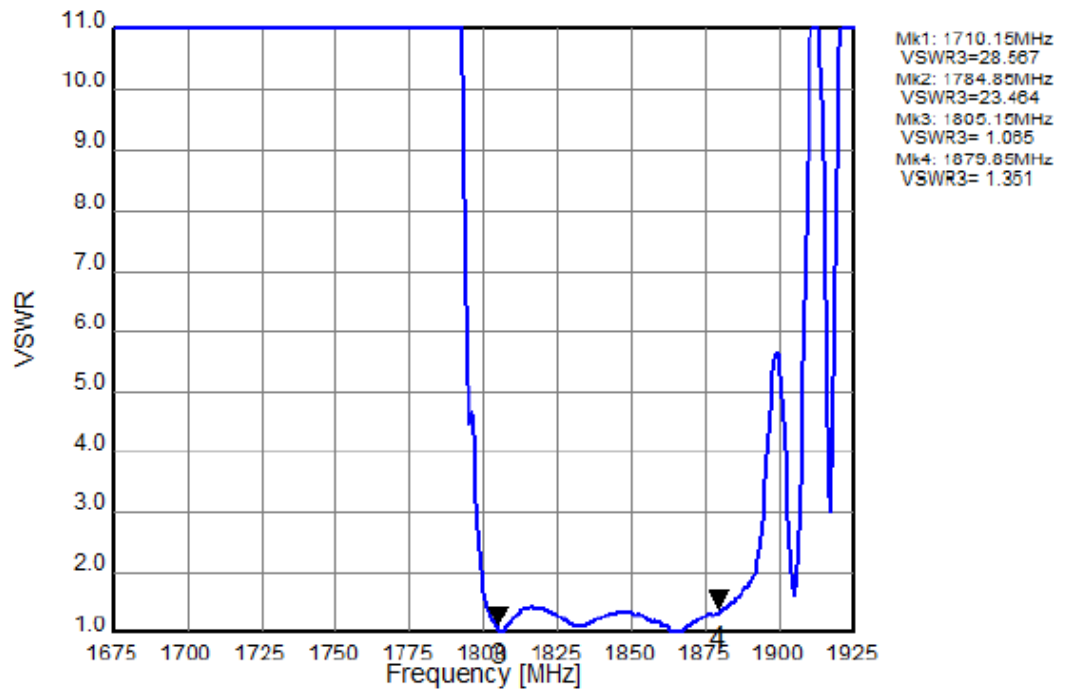
Tx to Rx Isolation



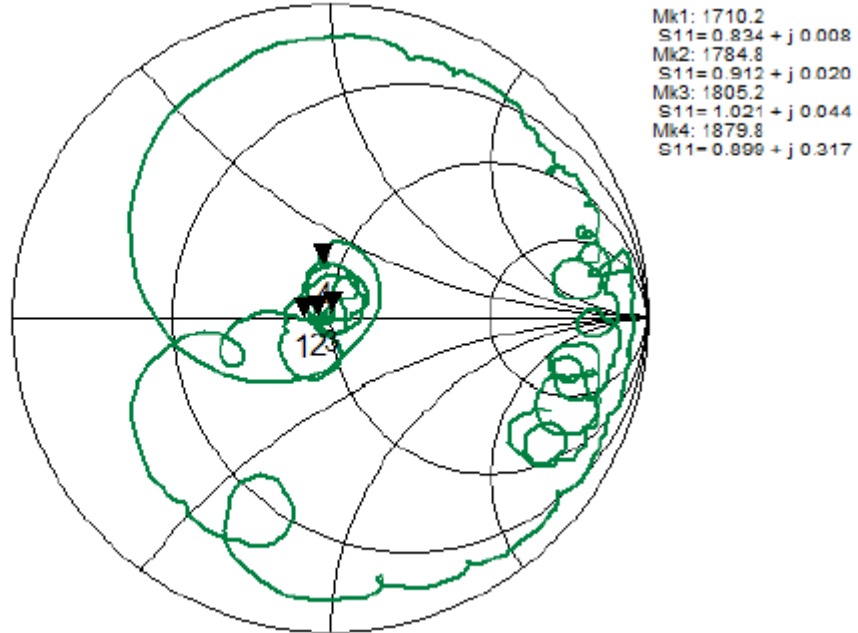
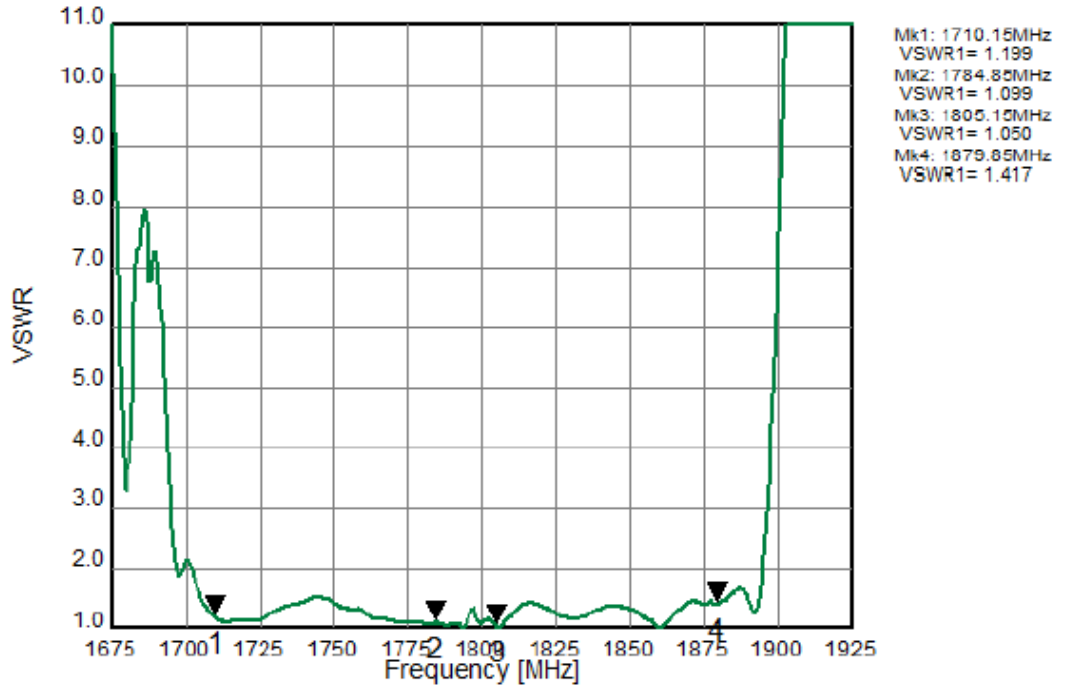
Tx Port



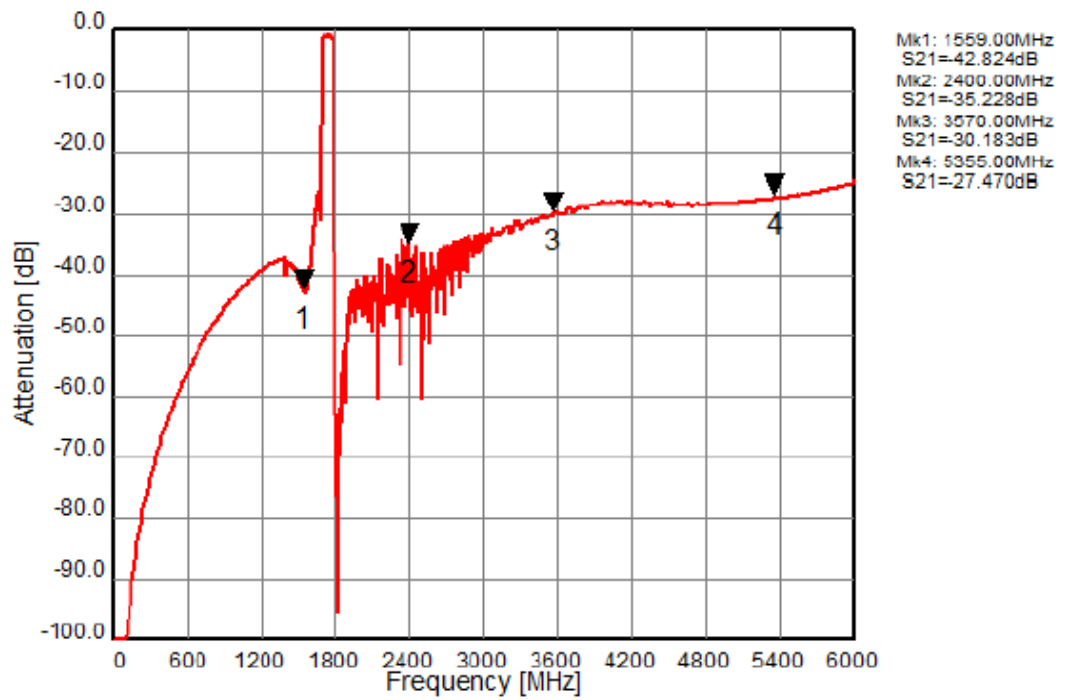
Rx Port



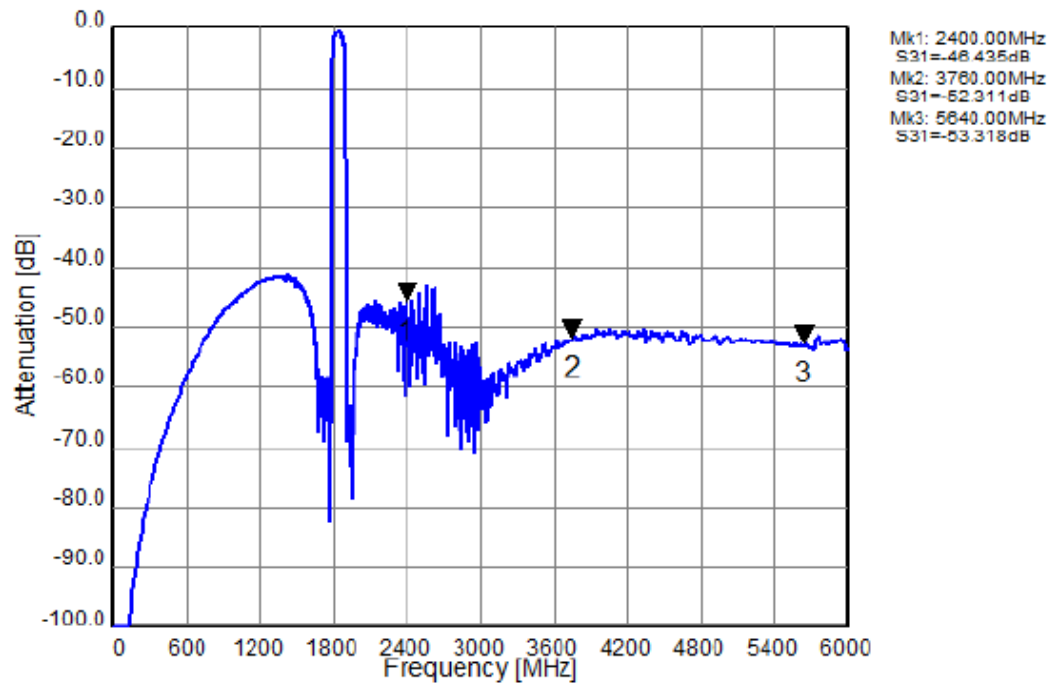
Ant Port



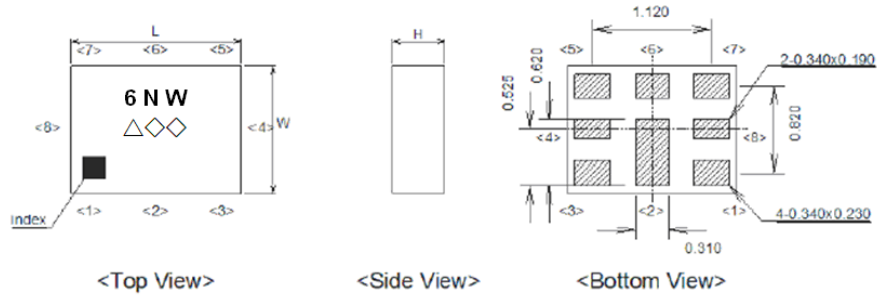
Tx to Ant(Wide span)



Ant to Rx(Wide span)



E. Package Drawing and Pin Description



Unit : mm
1 to 8 : Pin No.

Marking name: 6NW (Part Symbol)

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

◇◇: Lot Code.

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

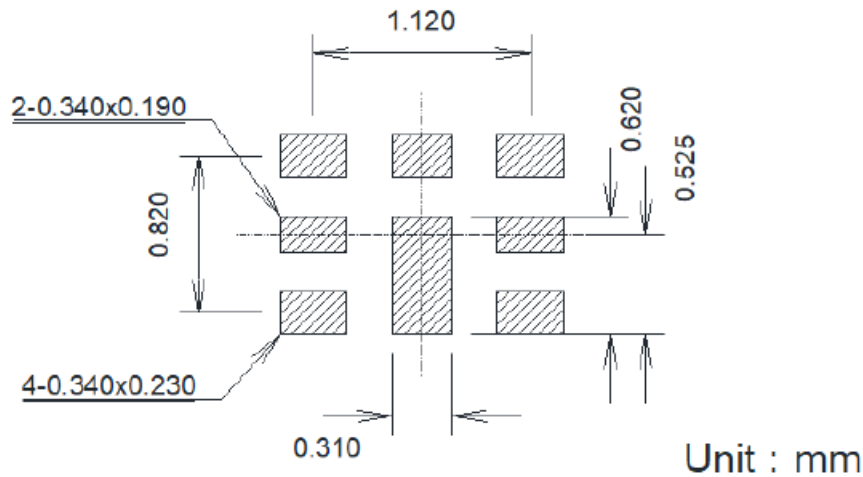
L = 1.6 +/- 0.1 mm

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

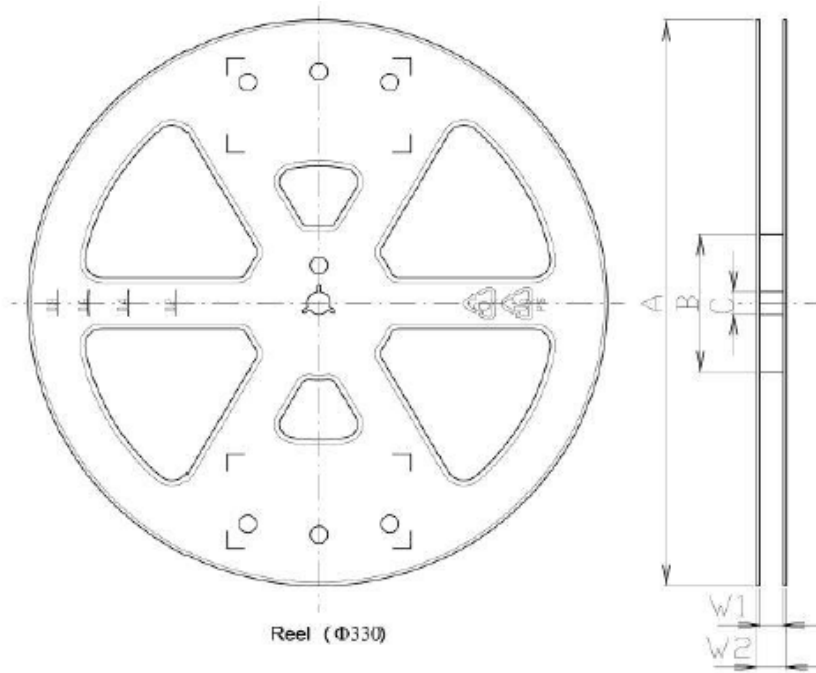


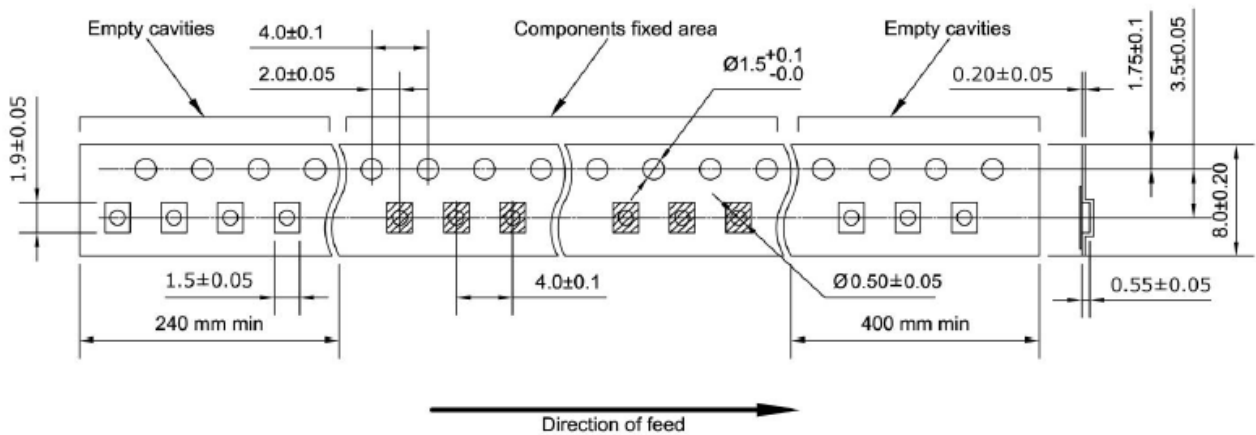
Figure-6

Table-5

Order	Code	Quantity (pcs./reel)	A	B	C	W1	W2	Tape Pitch
Standard	Y	15,000	φ330	φ100	φ13 ±0.2	9.4 ±1.0	13.4 ±1.0	4.0 ±0.1
Option	Z	3,000	φ180	φ60	φ13 ±0.2	9 +1.0/-0.0	11.4 ±1.0	4.0 ±0.1

Unit:mm

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.

