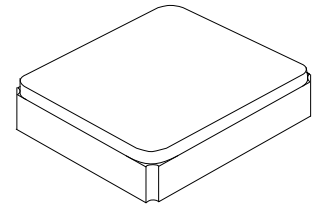


**SF2694QM**

**Maximum Rating:**

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

**1747.5/1842.5 MHz  
SAW Duplexer**



**SM1612-4**

**Electrical Characteristics: .**

**Tx to Ant**

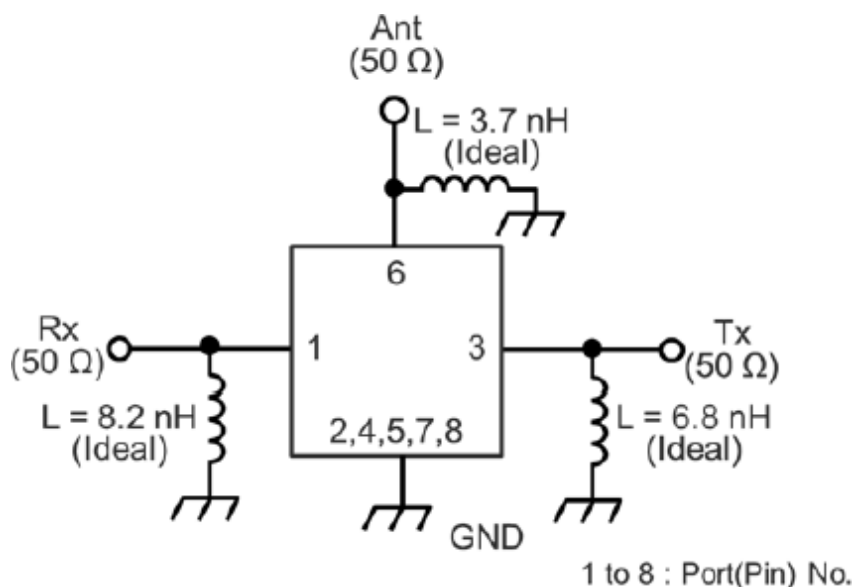
Item		Unit	Min	Typ	Max	Remarks	
Center frequency		MHz		1747.5			
Insertion Loss	1710.15-1784.85MHz	-	-	-	2.6		
		dB	-	1.6	2.2	25°C	
Amplitude Ripple	1710.15-1784.85MHz	dB	-	-	2.2		
		dB	-	1.1	1.8	25°C	
VSWR	Tx	1710.15-1784.85MHz	-	-	1.6	2.0	
	Ant	1710.15-1784.85MHz	-	-	1.5	2.0	
Attenuation	1559-1586 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	-	

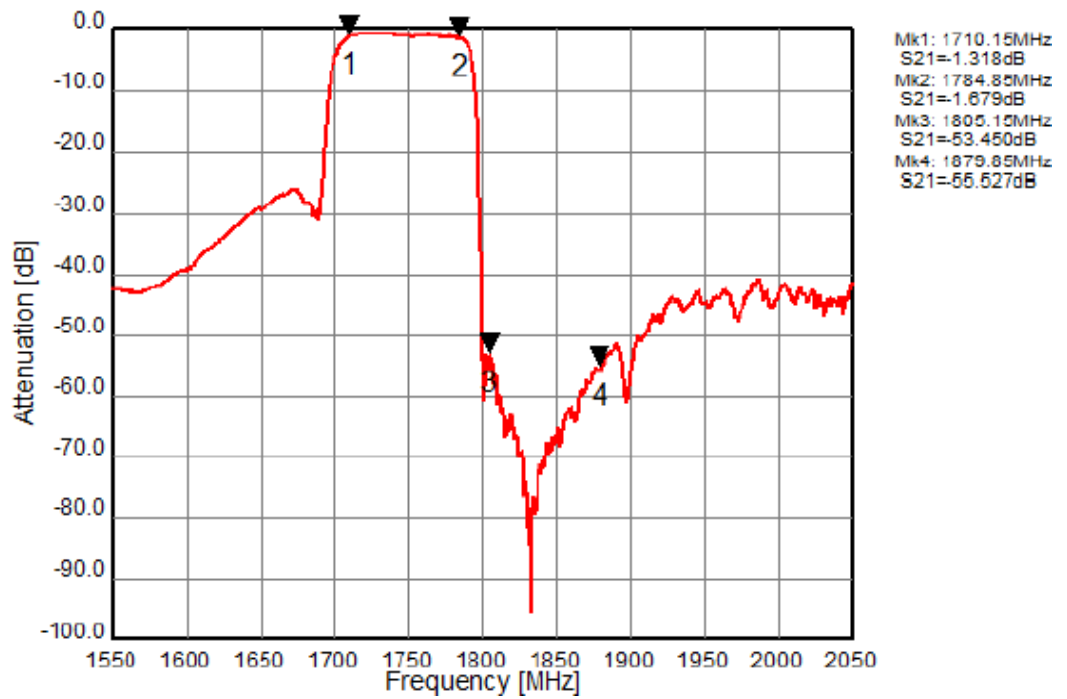
Item		Unit	Min	Typ	Max	Remarks
Tx to Rx	Isolation	1710.15-1784.85 MHz	dB	55	58	-
		1805.15-1879.85 MHz	dB	42	-	-
			dB	50	55	-
Terminating Impedance	Tx port	$\Omega$	50//6.8nH			
	Rx port	$\Omega$	50//8.2nH			
	Ant x port	$\Omega$	50//3.7nH			
DC Impedance to ground		M $\Omega$	100		Device only	

## Schematic

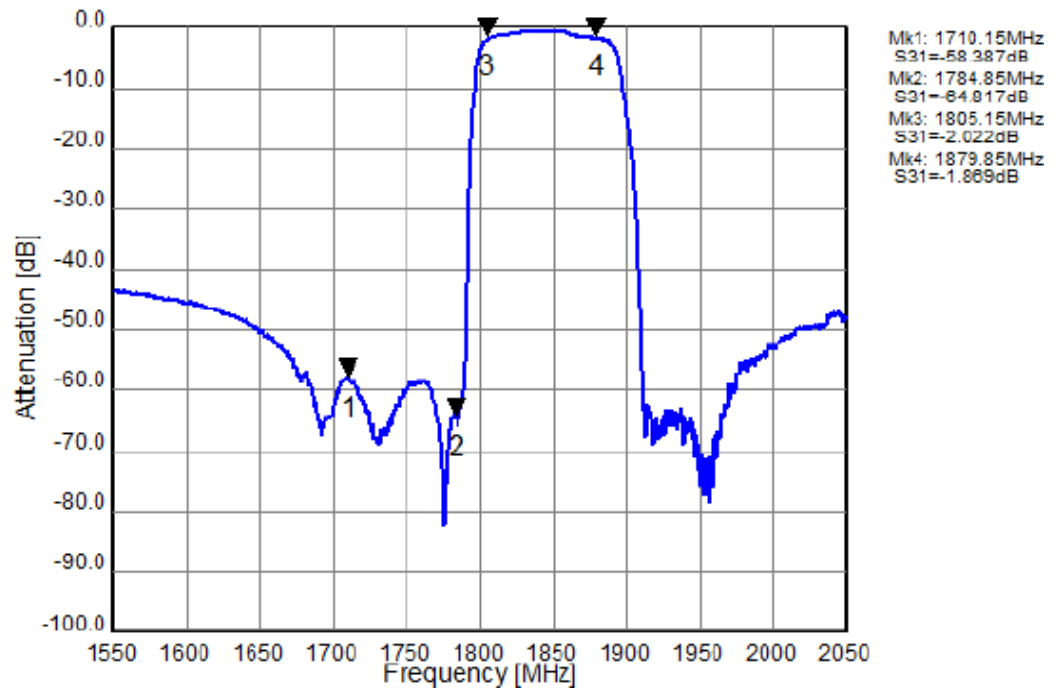


# Performance Plots

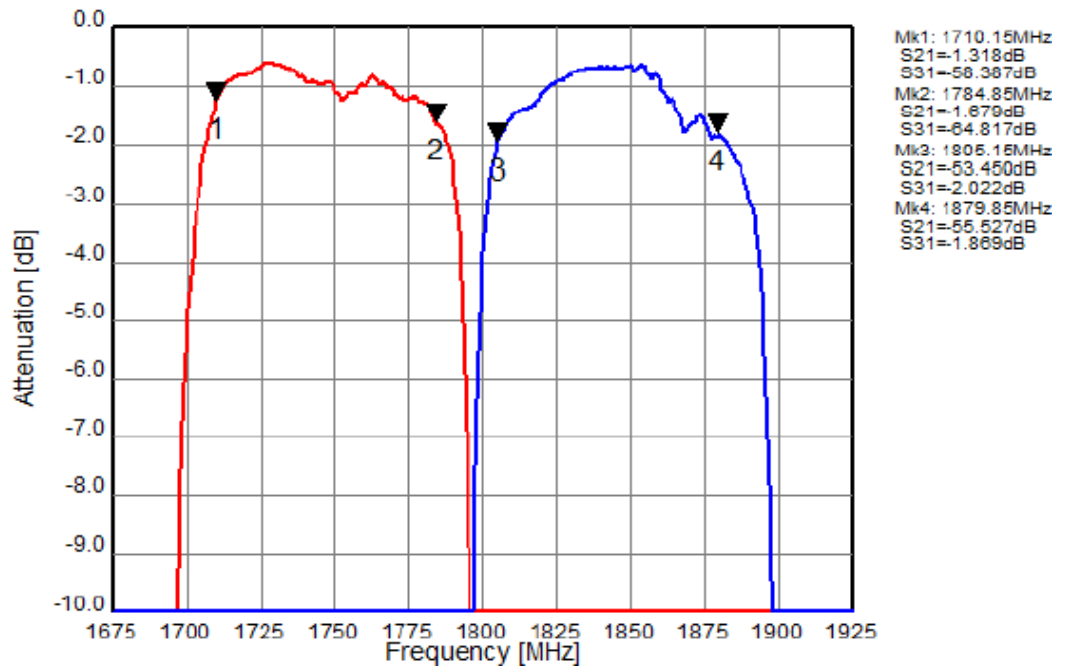
## Tx to Ant



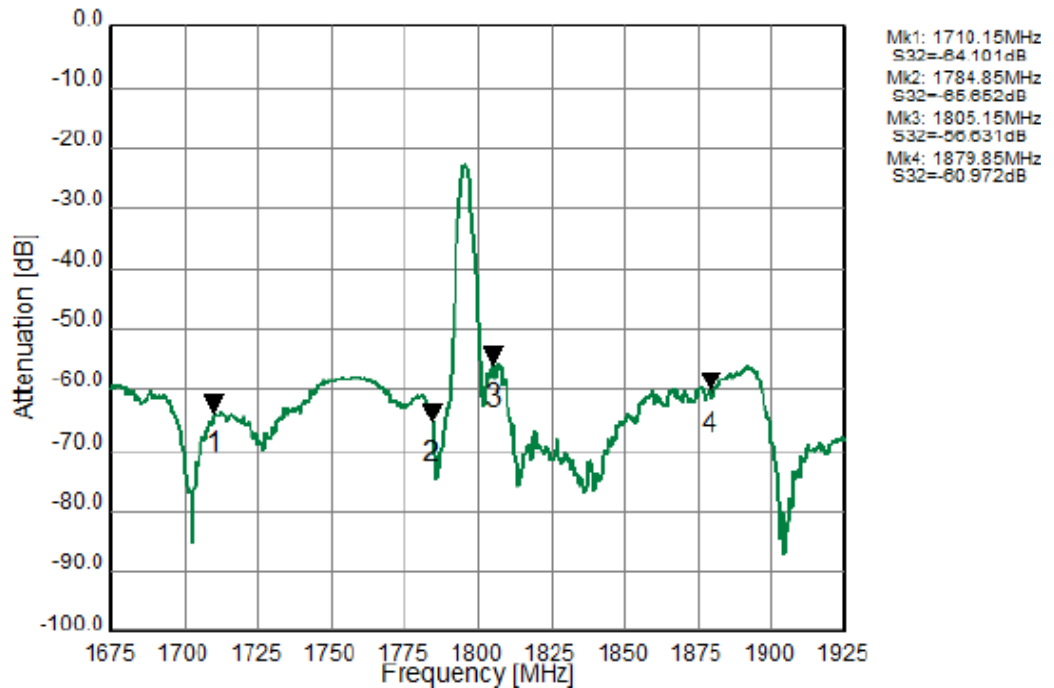
## Ant to Rx



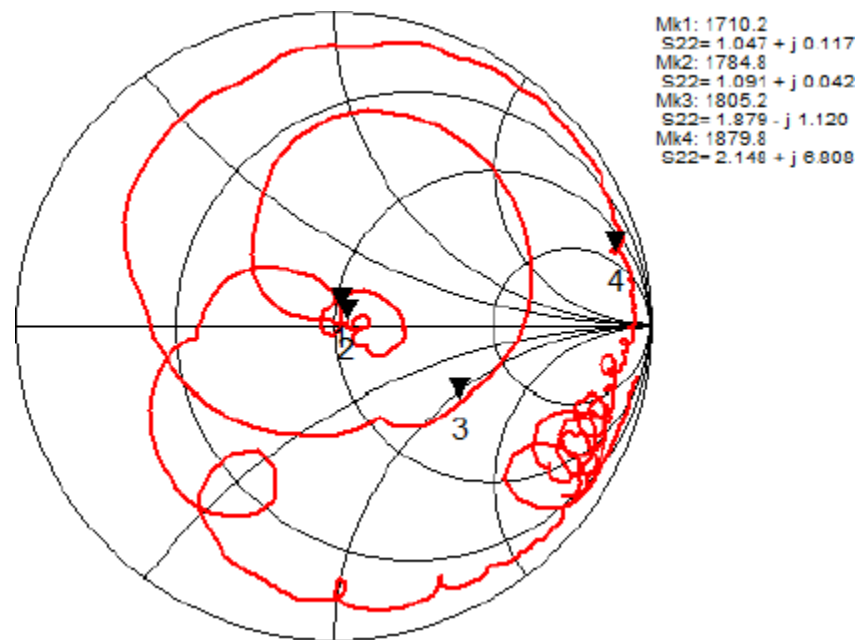
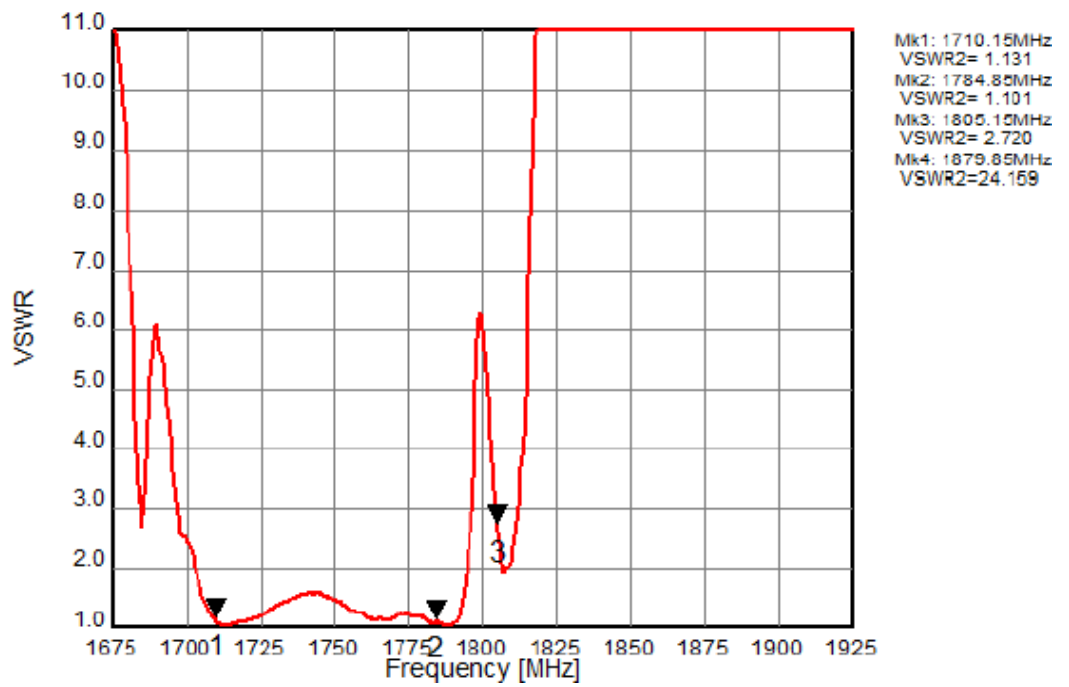
## Tx to Ant, Ant to Rx



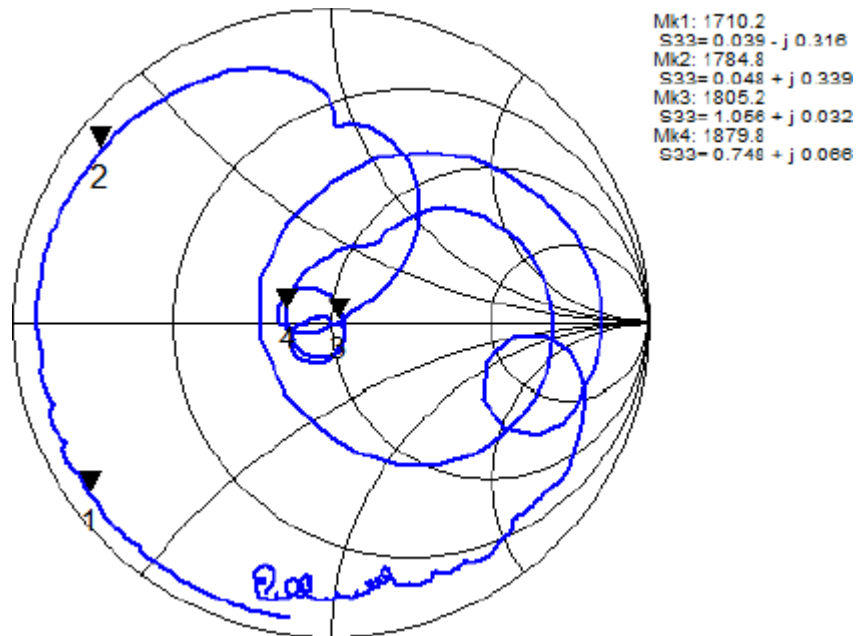
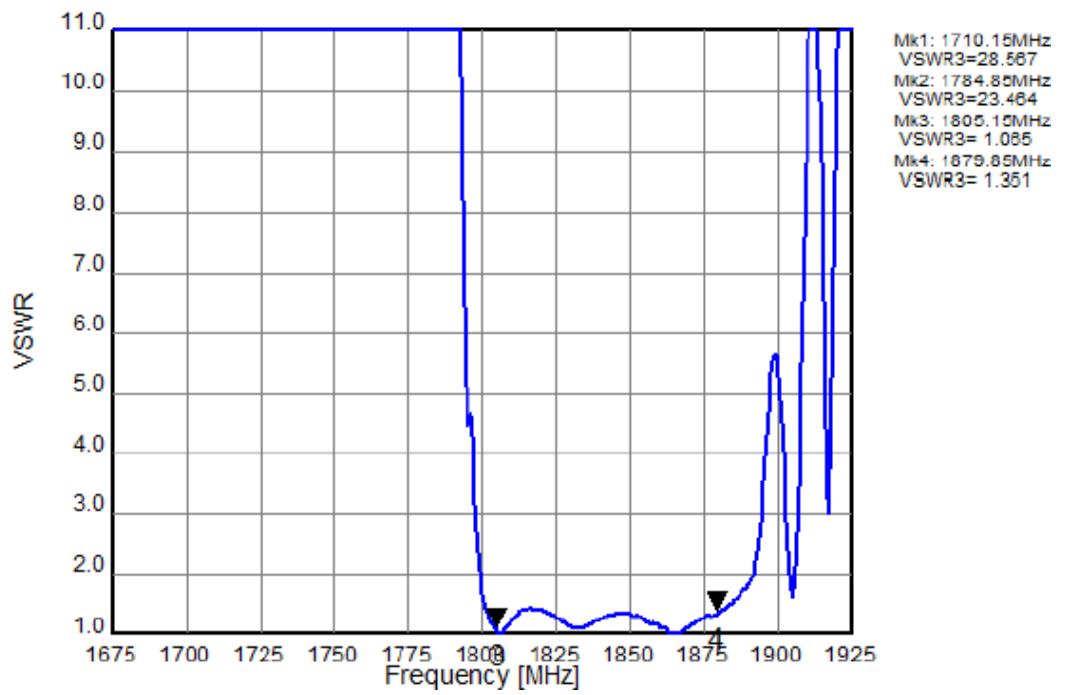
## Tx to Rx Isolation



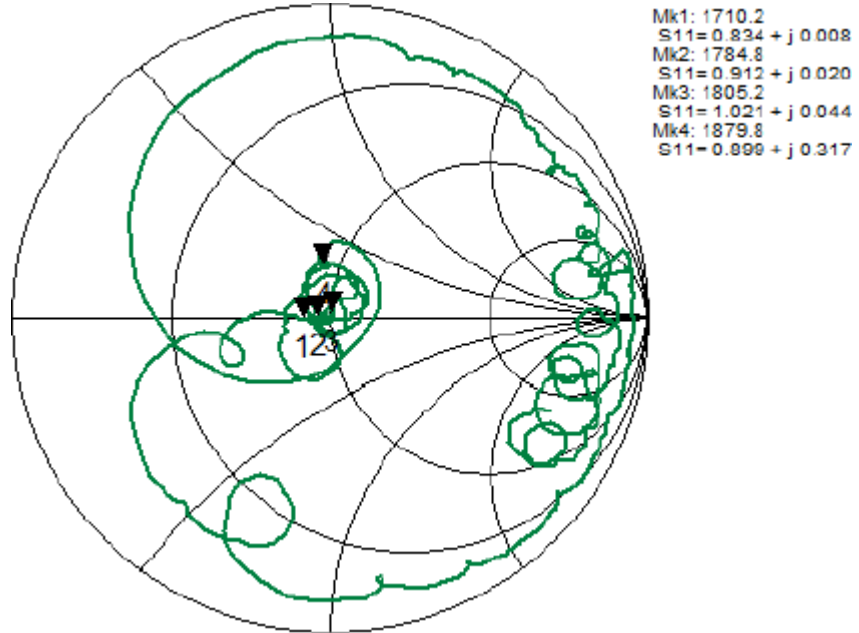
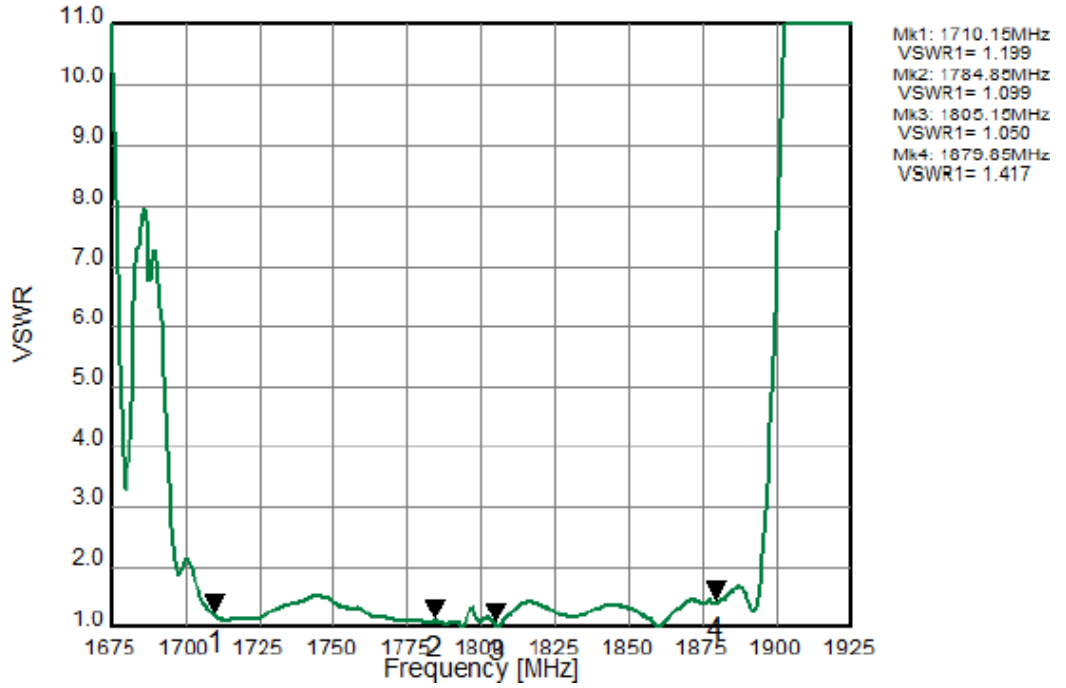
# Tx Port



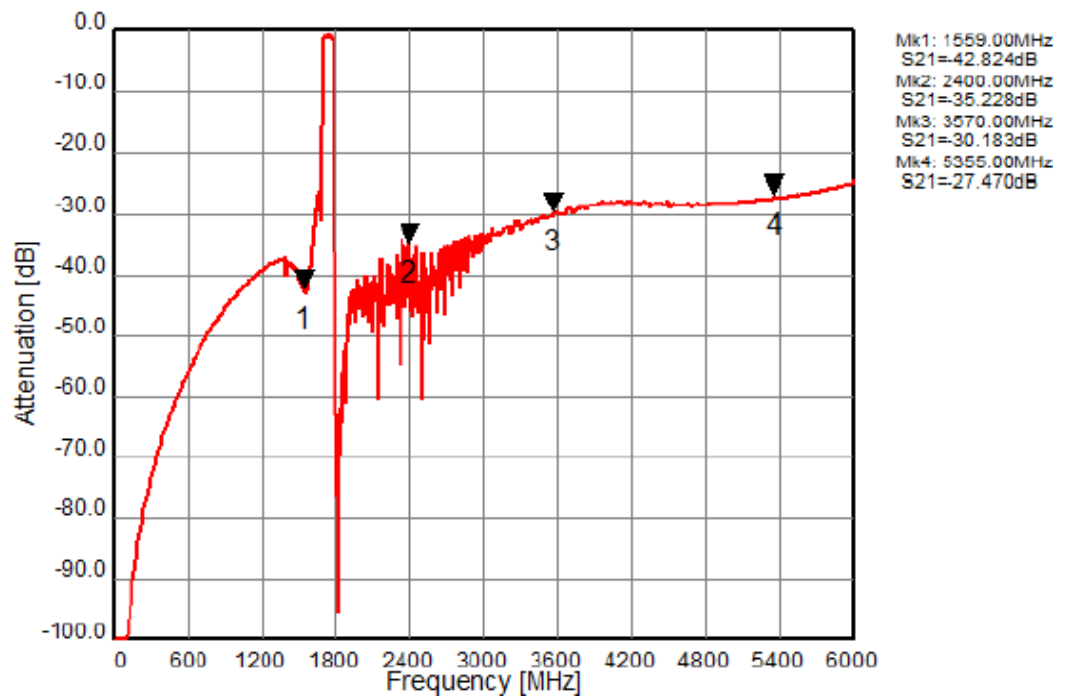
## Rx Port



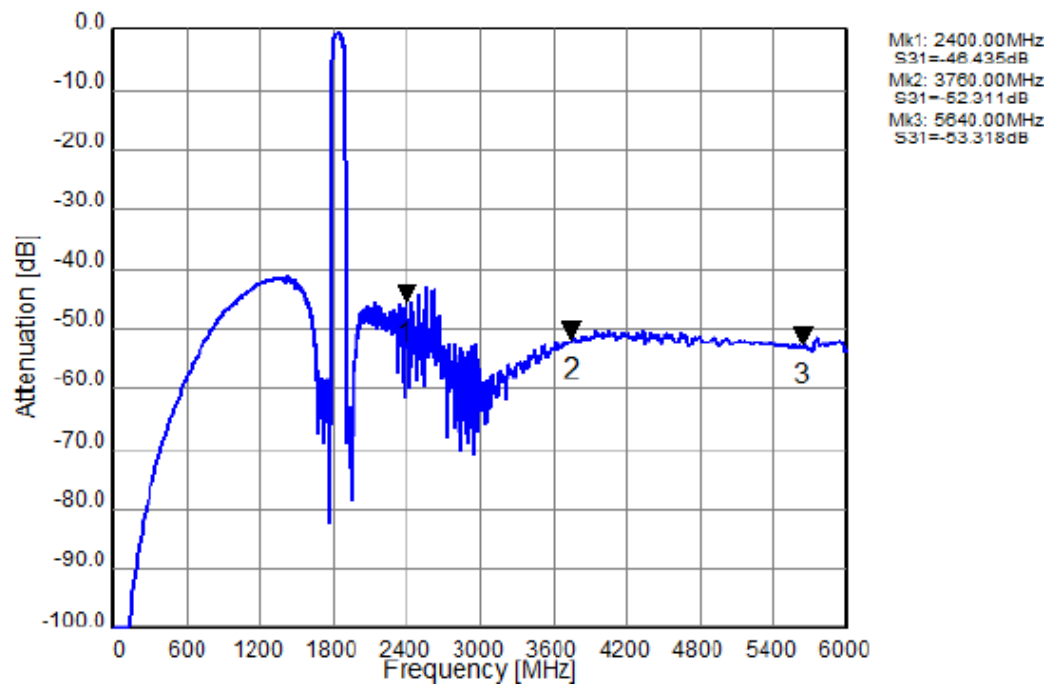
# Ant Port



### Tx to Ant(Wide span)

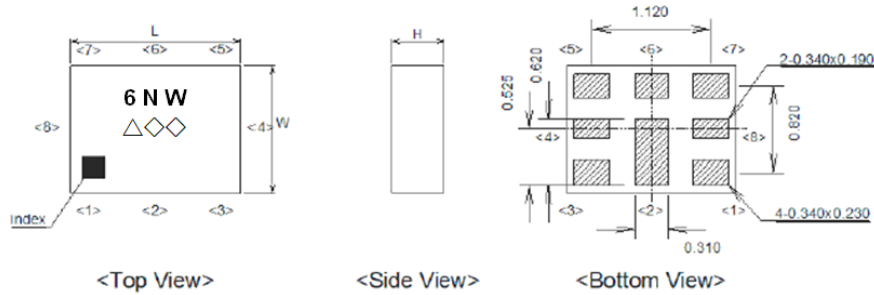


### Ant to Rx(Wide span)





# 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)

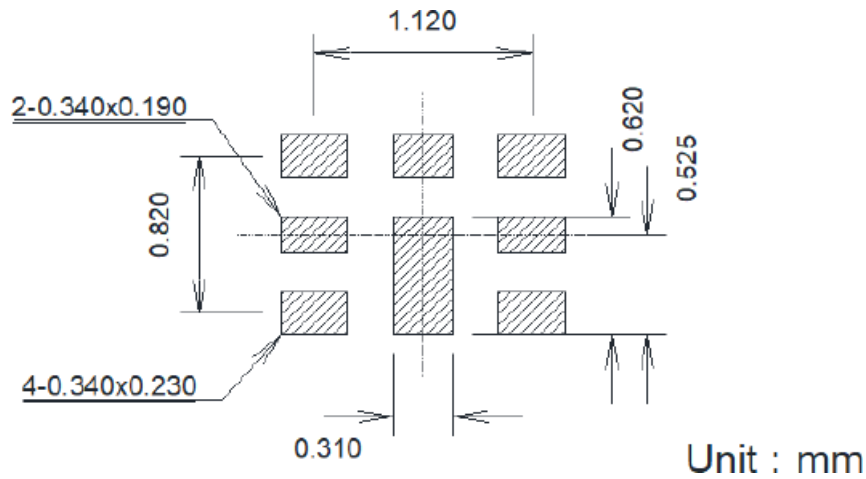
L = 1.6 +/- 0.1 mm

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

## PCB Mounting Pattern



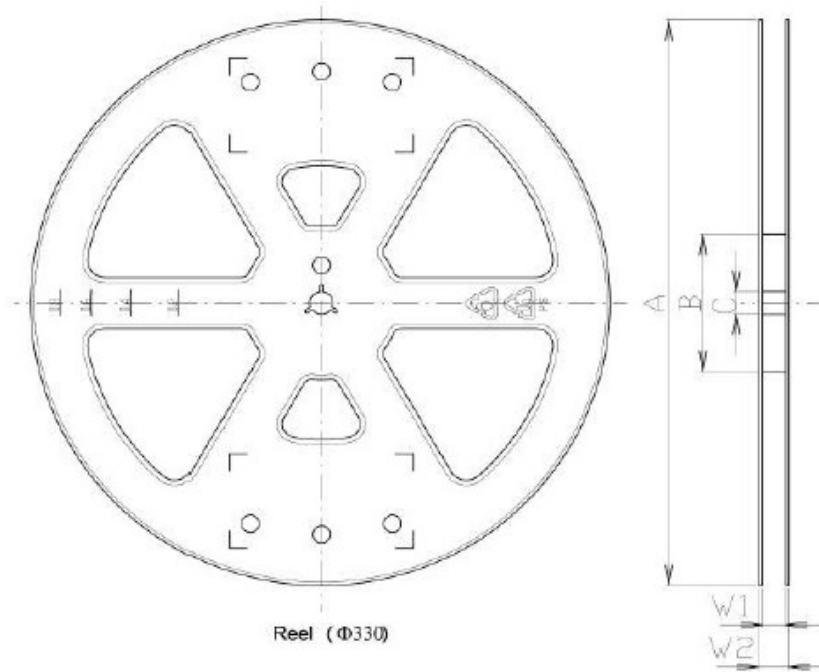
Unit : mm

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

# Reel Dimension



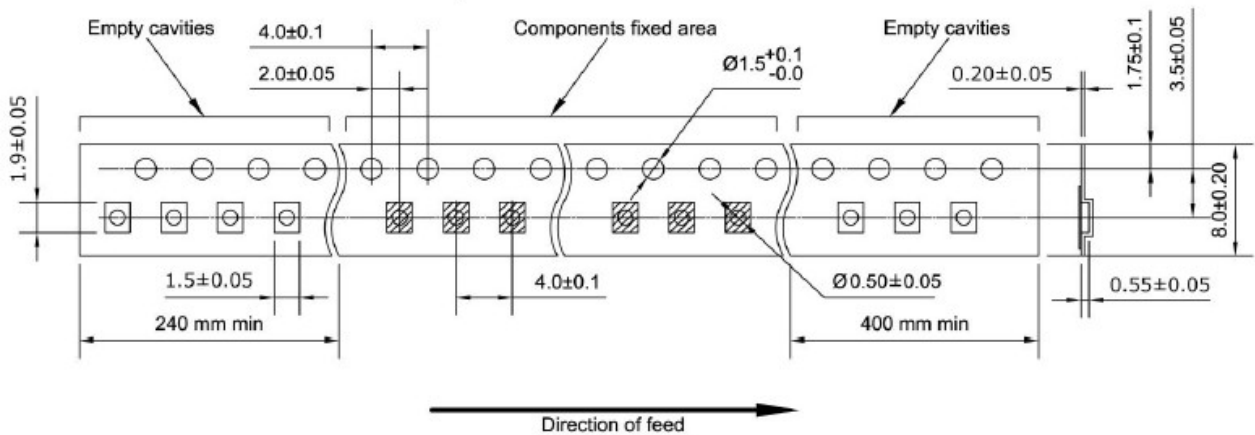
**Figure-6**

**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

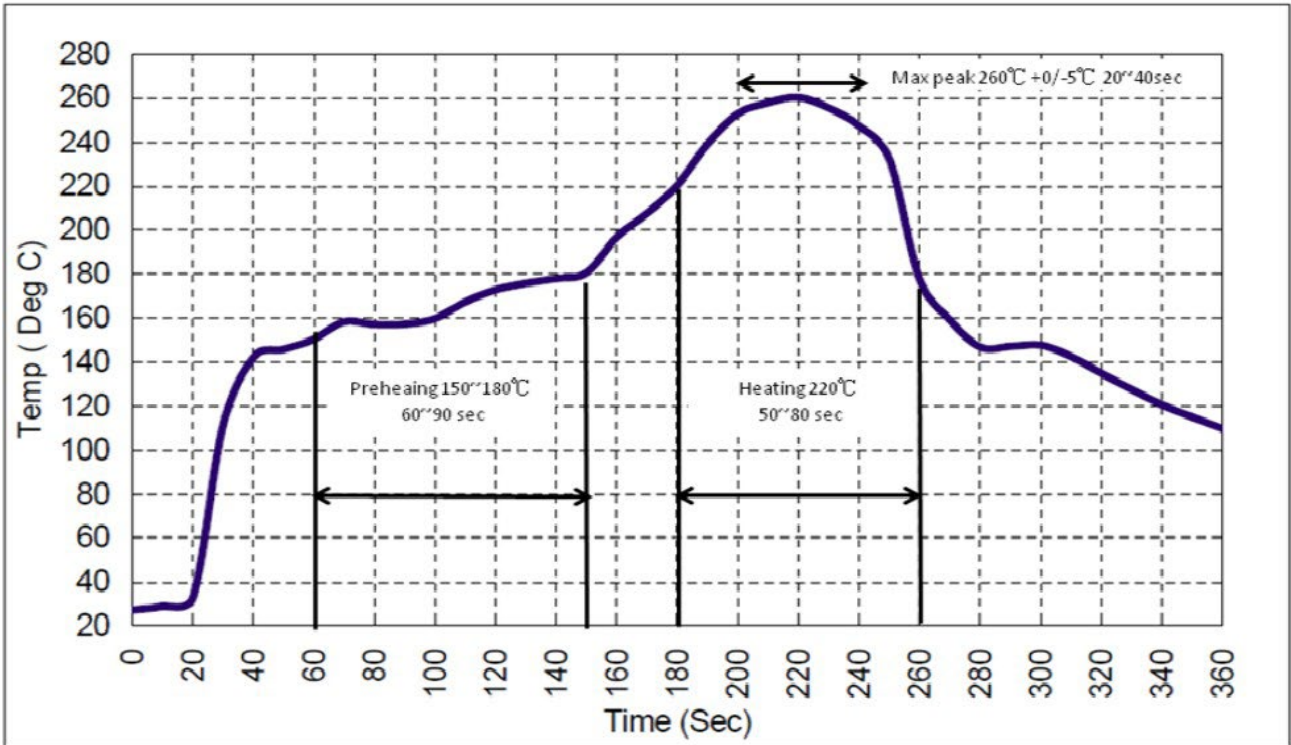
Unit:mm

## Dimensions of Tape (Standard)



## 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.



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. This component was always RoHS compliant from the first date of manufacture.