



# 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 1745 / 2155MHz 69.04/89.04MHz BW Band66 SMD1.8X1.4 mm

TST Parts No.: TF0167A

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

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

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

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

Date: \_\_\_\_\_ 07.08, 2019

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



# 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)

SAW DPX 1745/2155MHz 69.04/89.04MHz BW Band66 SMD1.8X1.4 mm  
MODEL NO.: TF0167A

REV. No.: 2.0

## A. MAXIMUM RATING:

1. Input power : 29dBm (Ta=+50deg C,5000h,CW )  
min 15dBm (CW @ 100000h and 85°C).
2. Maximum DC Voltage: +/-5 V
3. Operating temperature range: -30 °C to +85 °C
4. Storage temperature range: -30 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50 Ω//4.7nH (Ω) (Single-ended)

Terminating impedance(Rx Port): 50 Ω//3.6nH (Ω) (Single-ended)

Terminating impedance(Ant Port): 50//2.8nH (Ω) (Single-ended)

### Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	1710.48 ~ 1779.52 MHz	dB (*1)	-	2.0	2.8	
Ripple	1710.48 ~ 1779.52 MHz	dB	-	1.1	1.9	
VSWR	Tx ANT	1710.48 ~ 1779.52 MHz	-	1.7	2.1	
			-	1.6	2.1	
<b>Attenuation:</b>						
<b>1559 ~ 1606 MHz</b>		dB	38	44	-	-
<b>2110.48 ~ 2199.52 MHz</b>		dB	45	51	-	-
<b>2400 ~ 2500 MHz</b>		dB	40	47	-	-
<b>3420 ~ 3560 MHz</b>		dB	35	41	-	-
<b>5130 ~ 5340 MHz</b>		dB	28	39	-	-
<b>Temperature Coefficient of Frequency</b>		ppm/°C	-	-36	-	-

### ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	2110.48 ~ 2199.52 MHz	dB(*1)	-	2.0	2.9	
Ripple)	2110.48 ~ 2199.52 MHz	dB	-	0.7	1.7	
VSWR	ANT	2110.48 ~ 2199.52 MHz	-	-	1.5	2.3
	Rx		-	-	1.3	2.2
<b>Attenuation:</b>						
1710.48 ~ 1779.52 MHz		dB	45	53	-	
2400 ~ 2500 MHz		dB	33	40	-	
4220 ~ 4400 MHz		dB	33	48	-	
Temperature Coefficient of Frequency		ppm/°C	-	-36	-	-

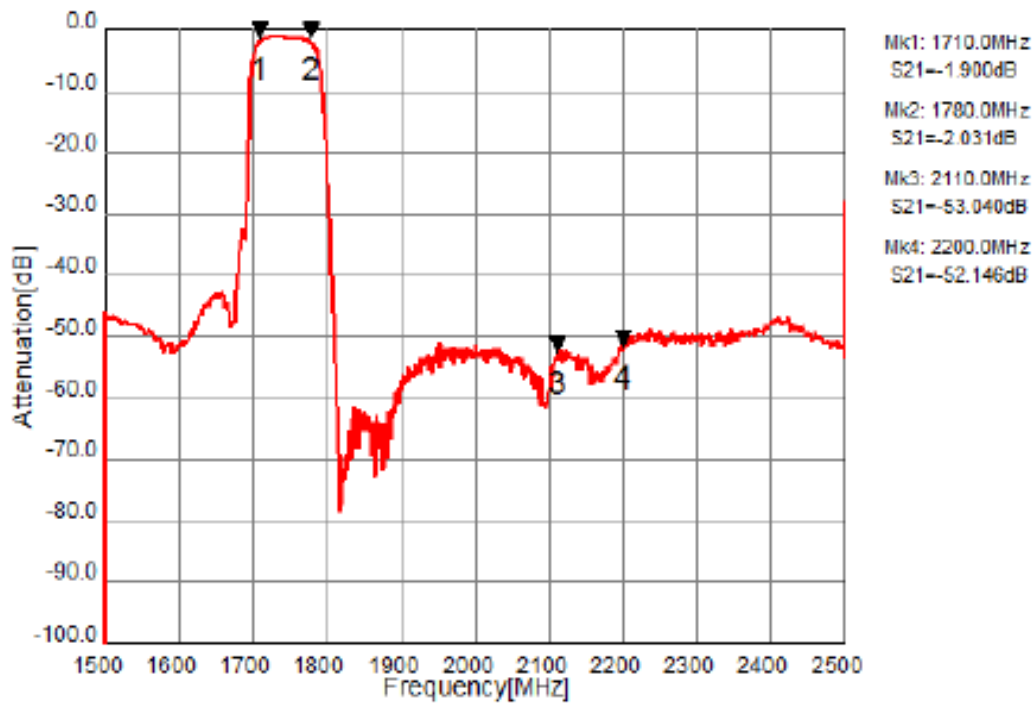
### Tx to Rx

Isolation	1710.48 ~ 1779.52 MHz	dB	53	57	-	
	2110.48 ~ 2199.52 MHz	dB	50	54	-	

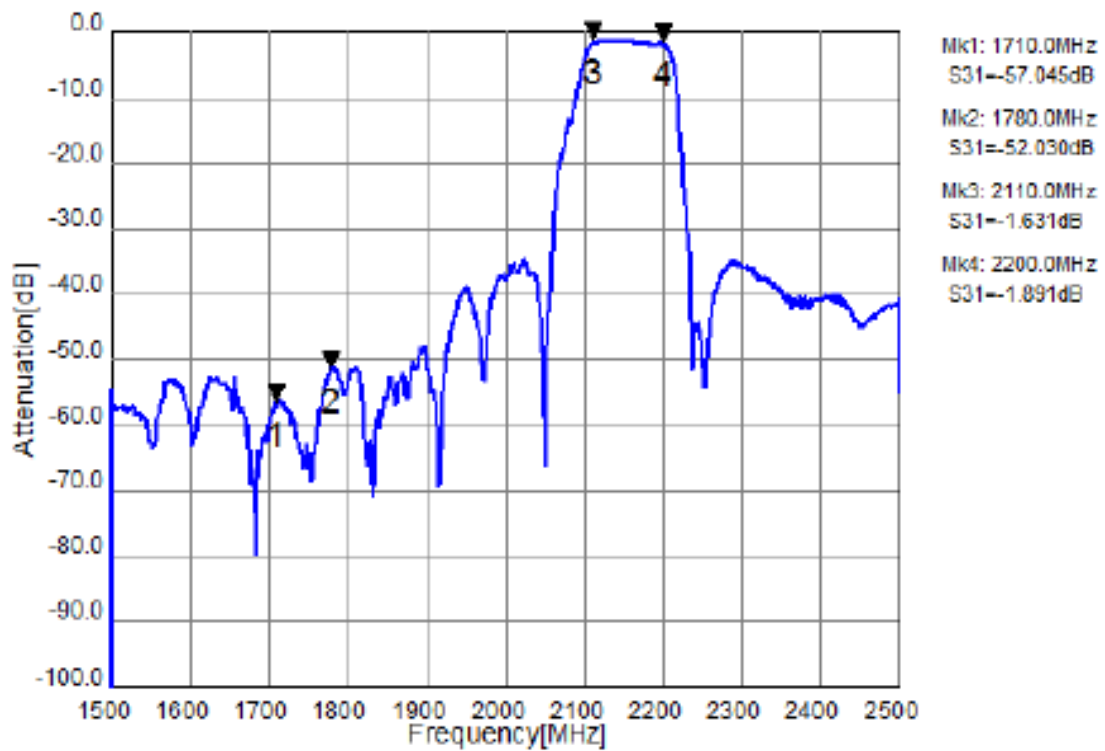
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C. FREQUENCY CHARACTERISTICS:

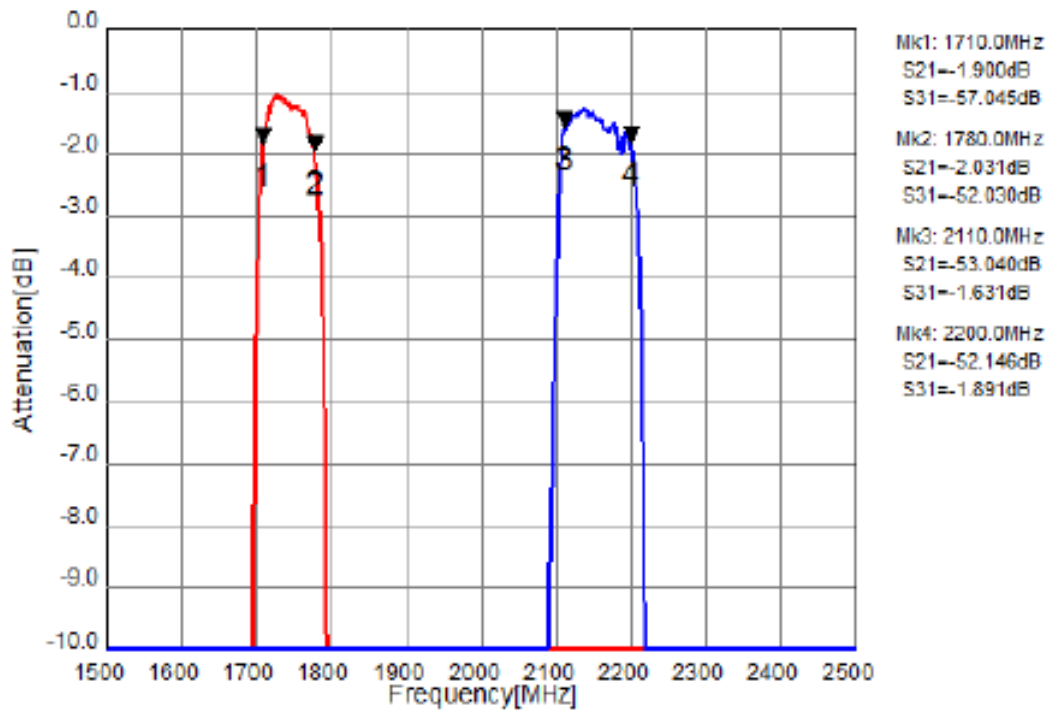
#### Tx to Ant



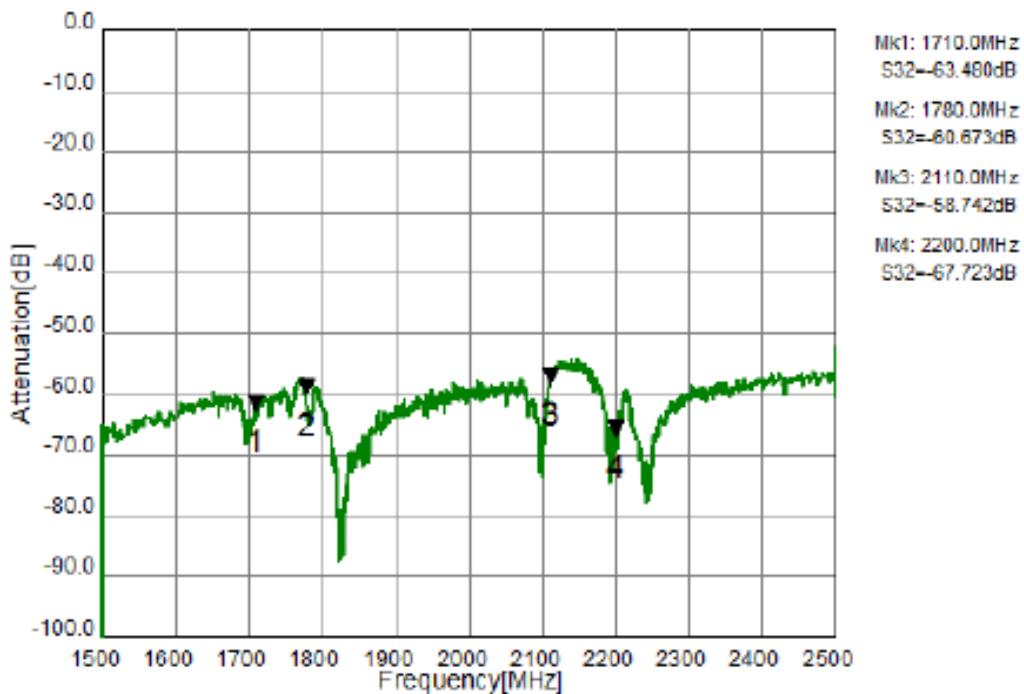
#### Ant to Rx



## Tx to Ant, Ant to Rx



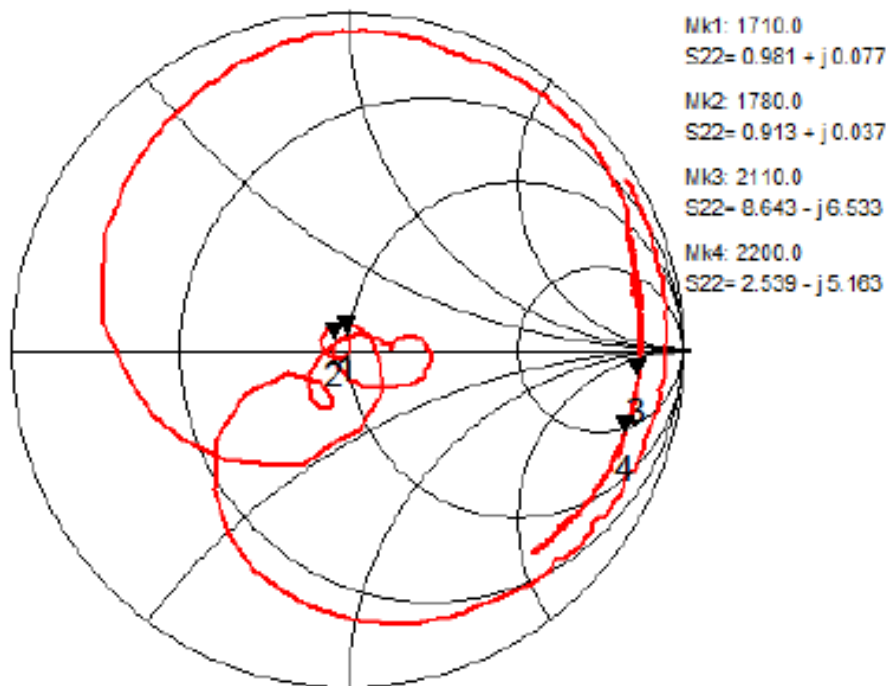
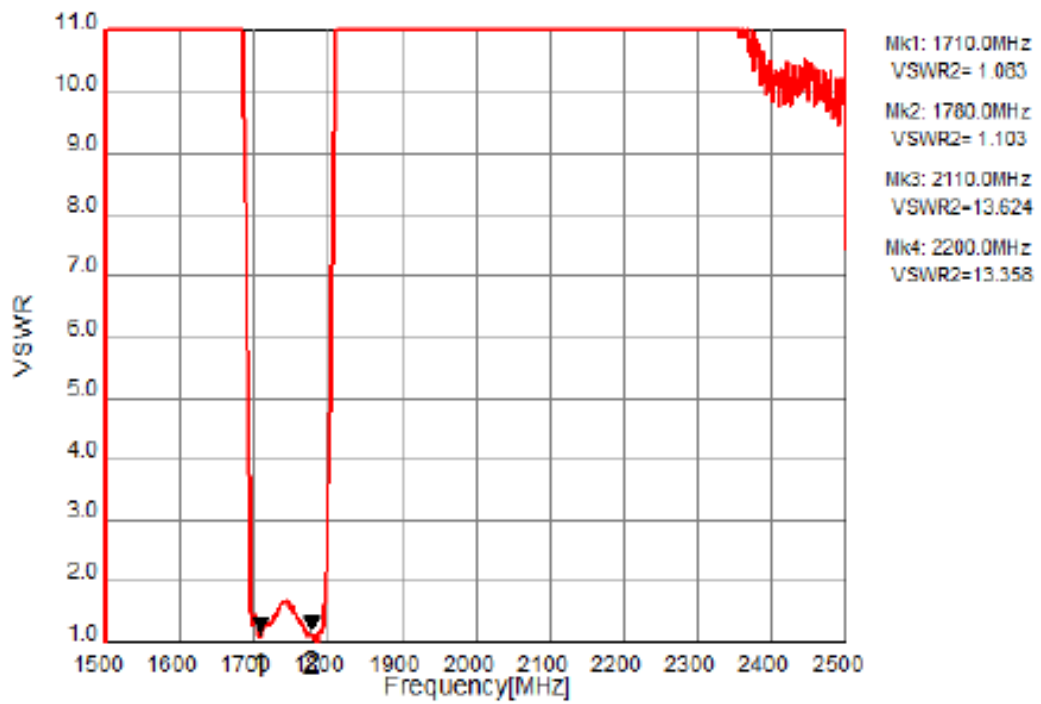
## Tx to Rx Isolation



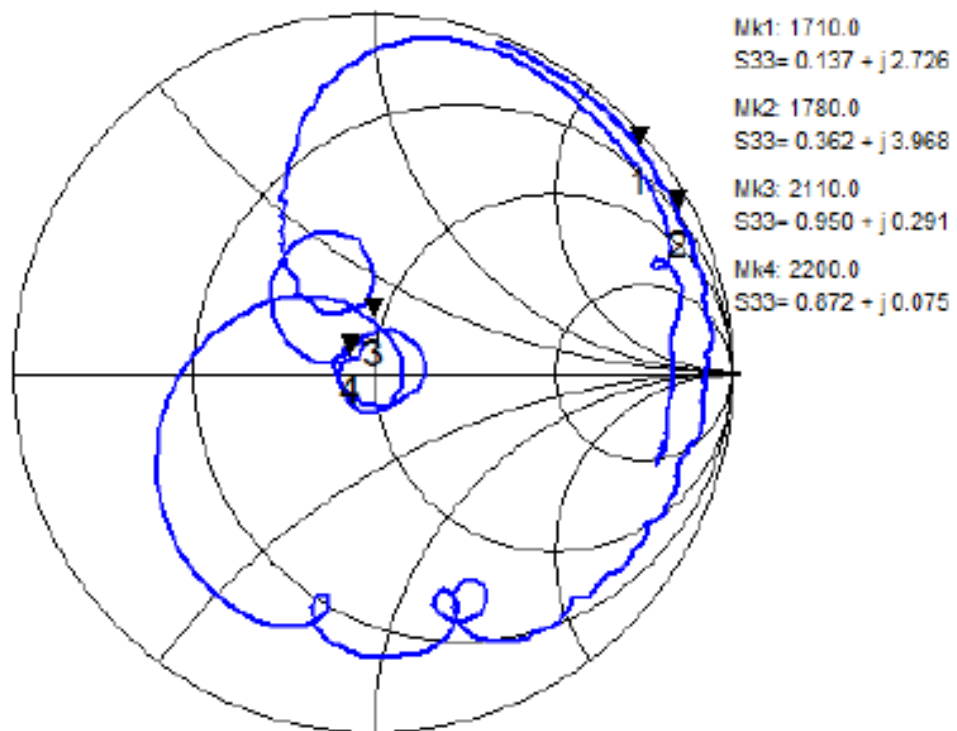
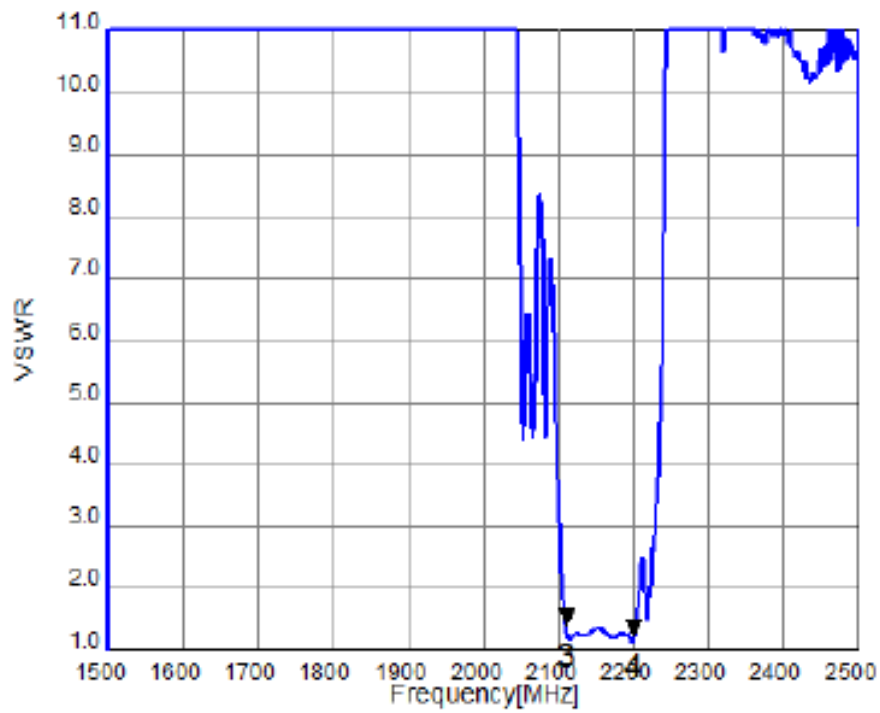
**Figure 3-2. Electrical Characteristics**

These data exclude loss that comes from the test board.

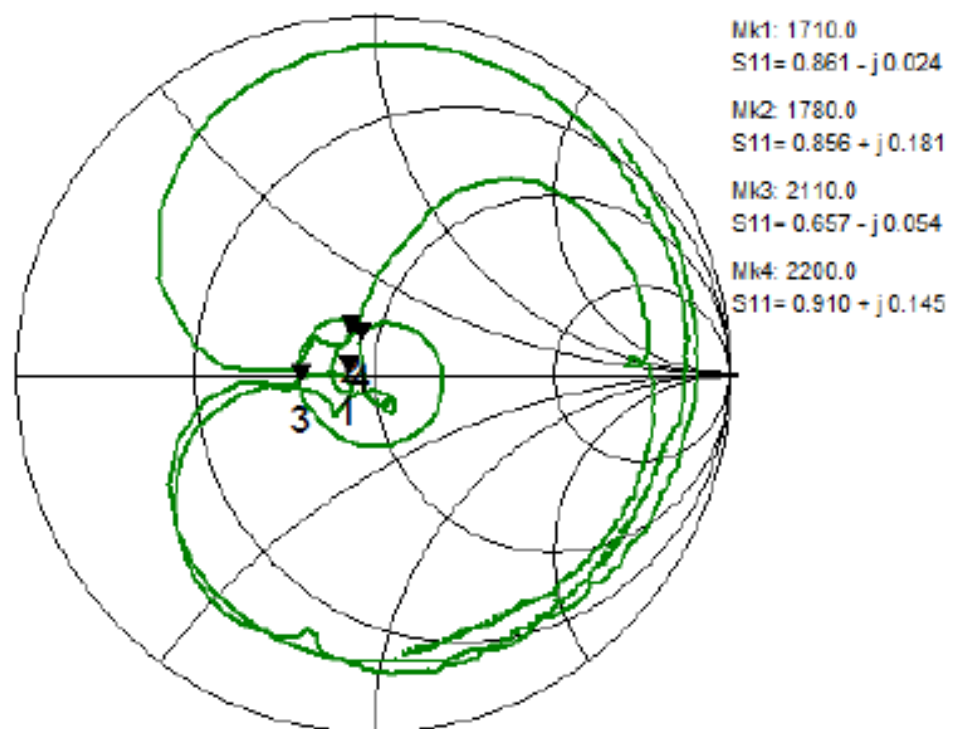
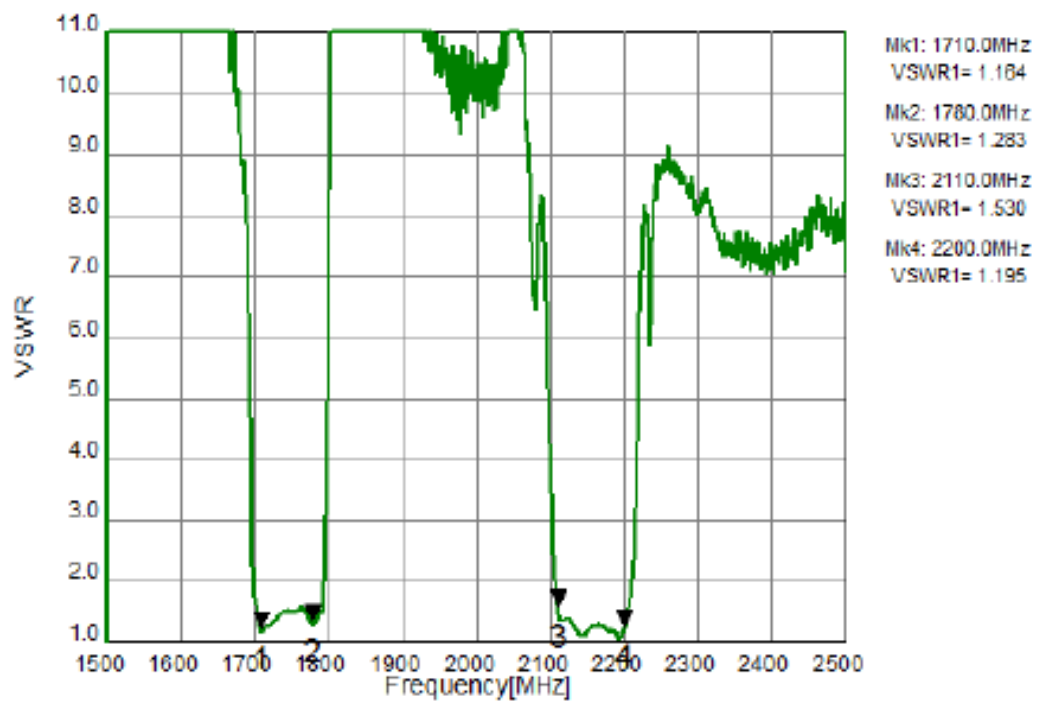
# Tx Port



## Rx Port

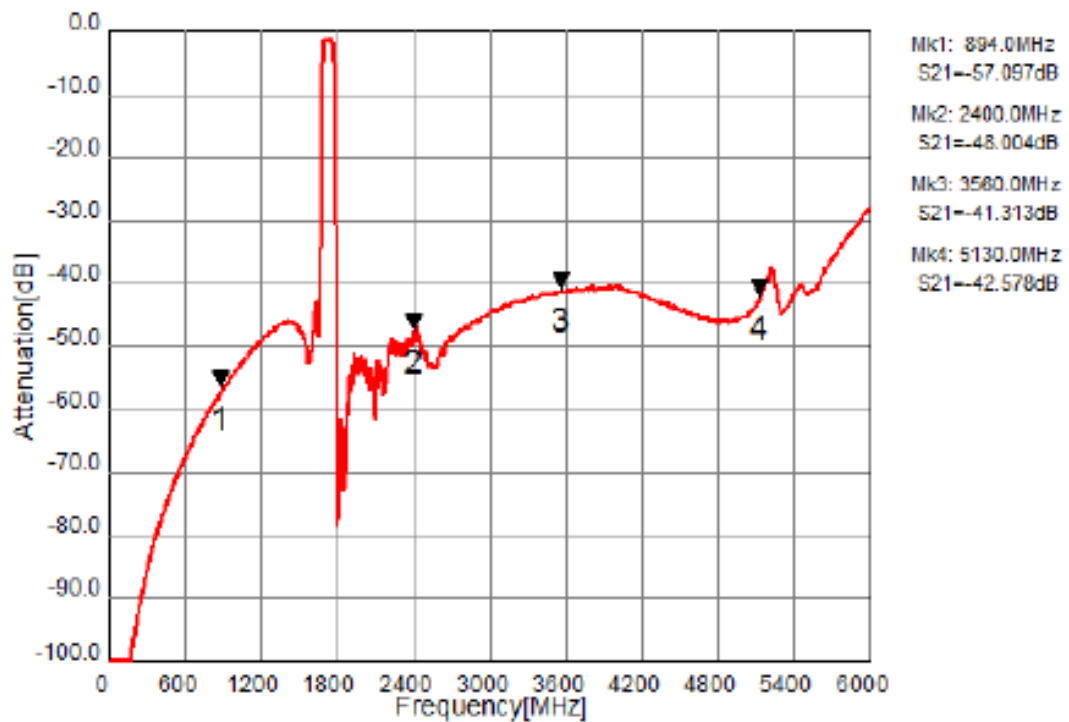


## Ant Port

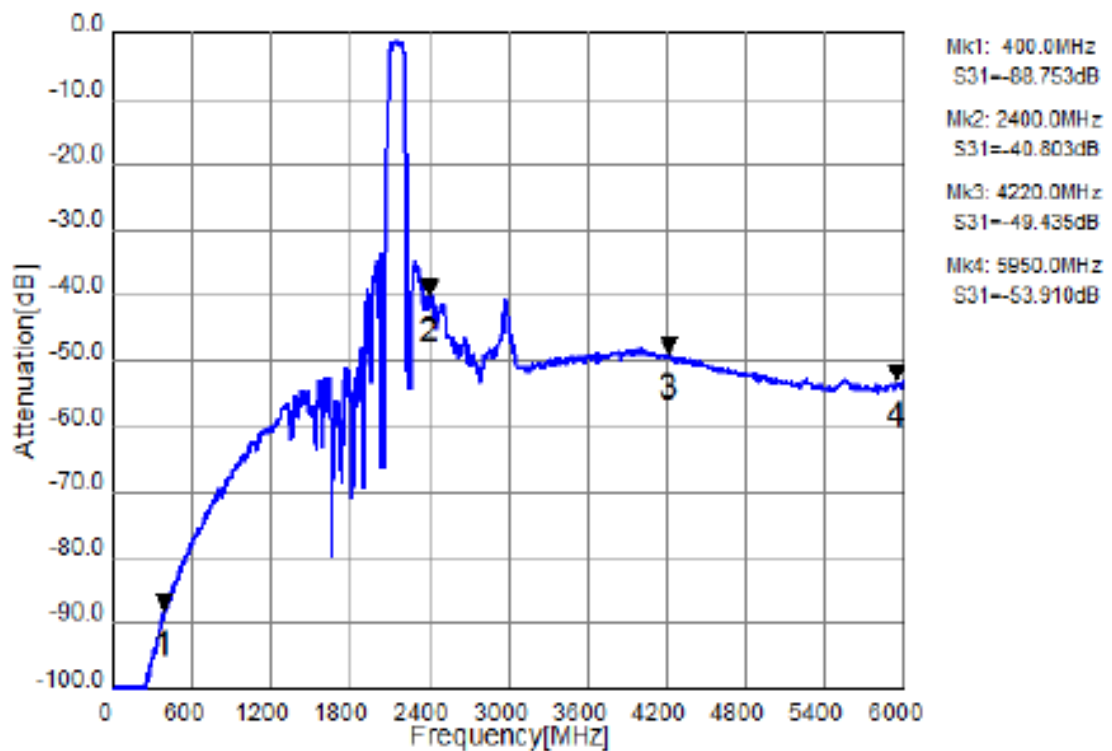




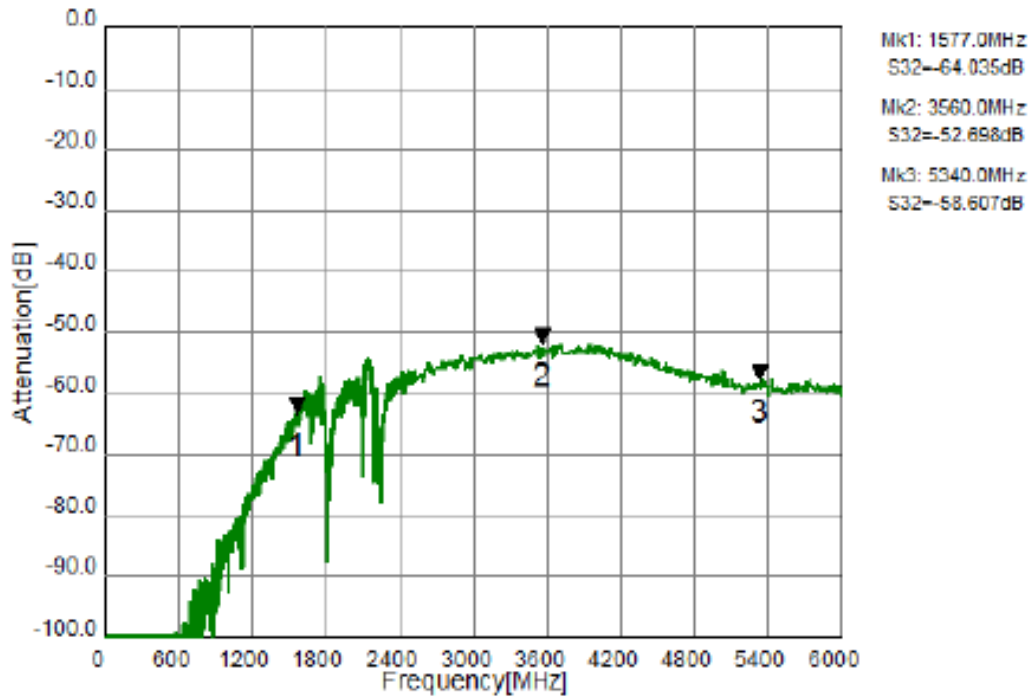
## Tx to Ant(Wide span)



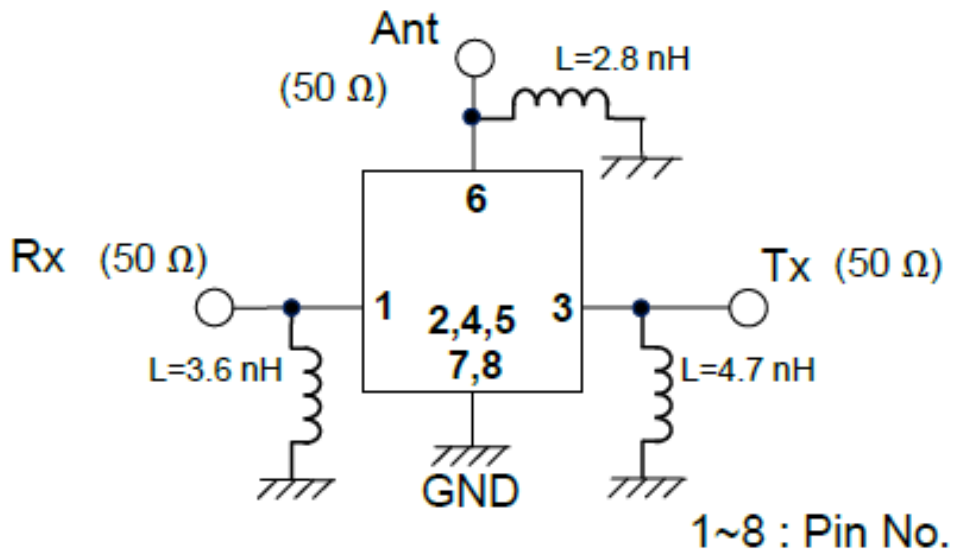
## Ant to Rx(Wide span)



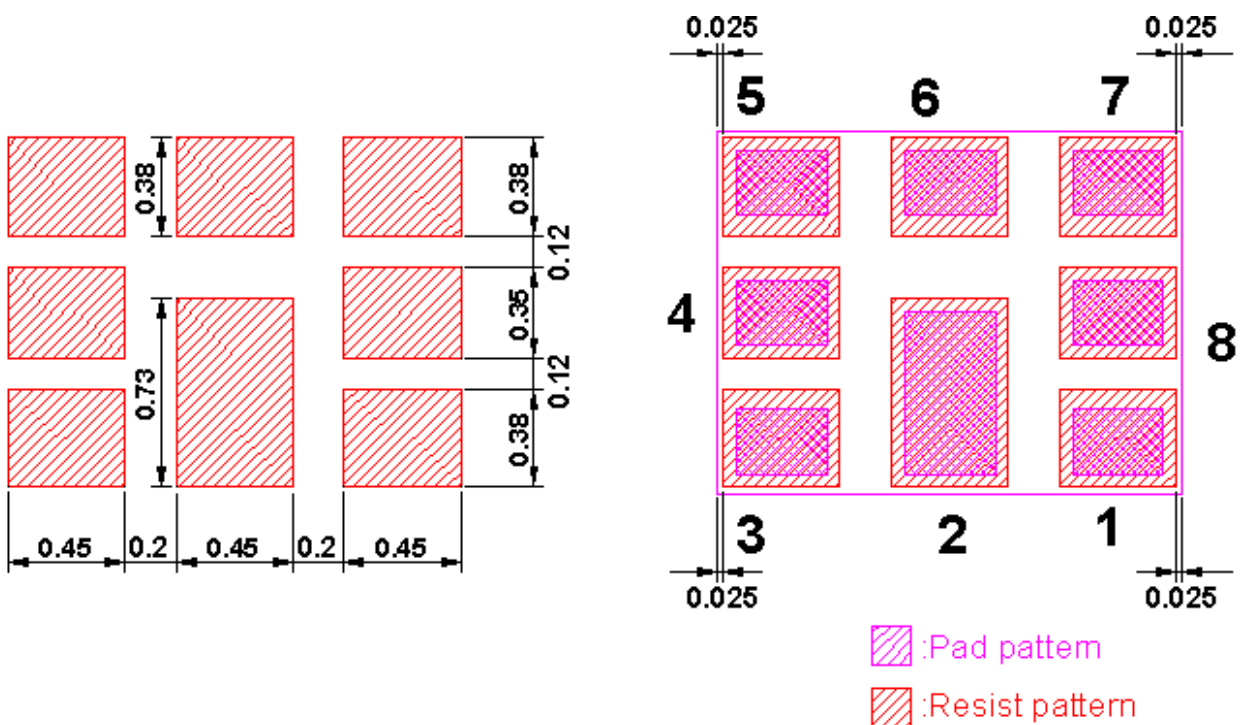
## Tx to Rx Isolation(Wide span)



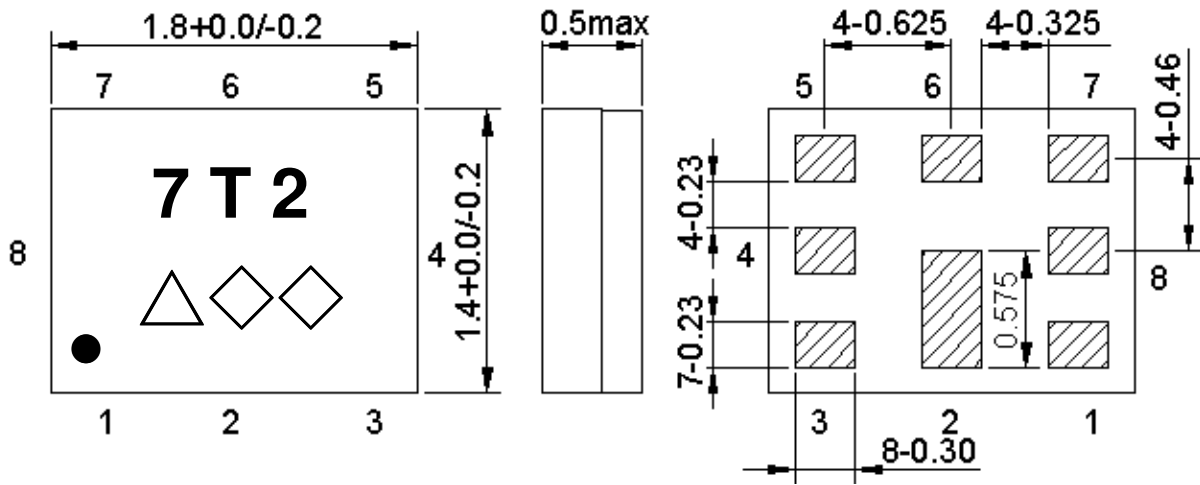
**D. MEASUREMENT CIRCUIT:**



**FOOTPRINT:**



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



Marking name : T2

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

◇◇: Lot Code.

Product Date Code. Follow below table.

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 assignment**

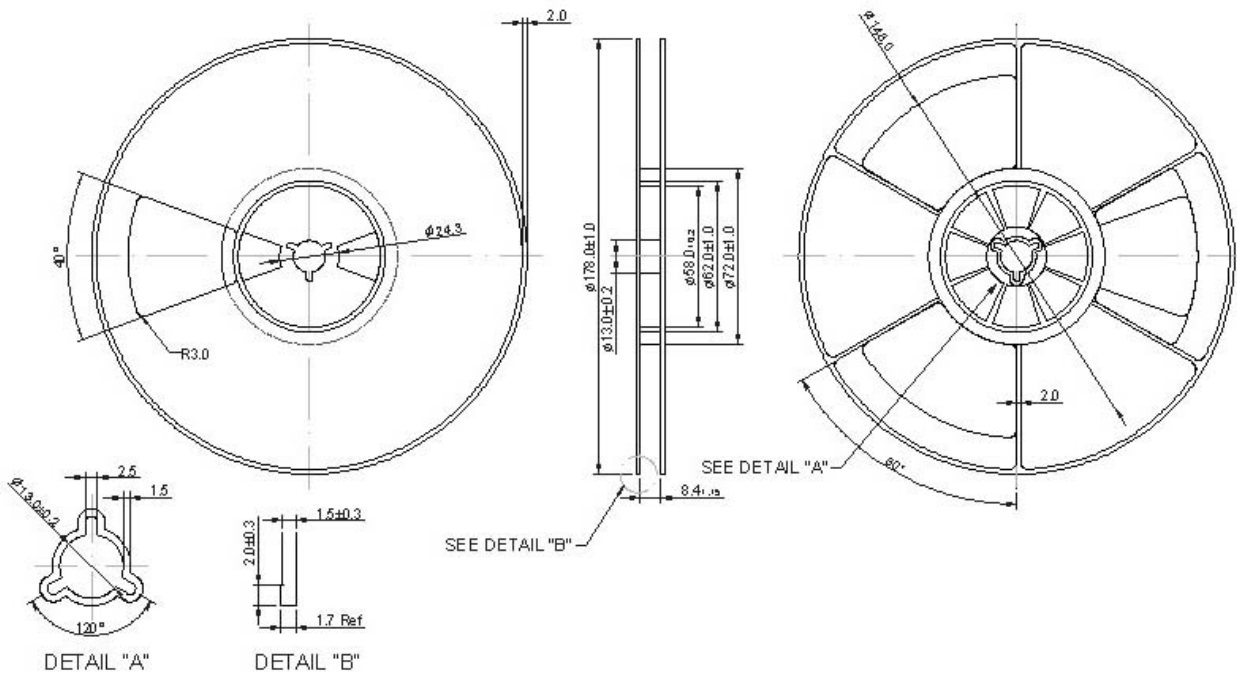
Pin No.	Pin name	Description
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

**Figure 1.Dimensions and Pin assignment**

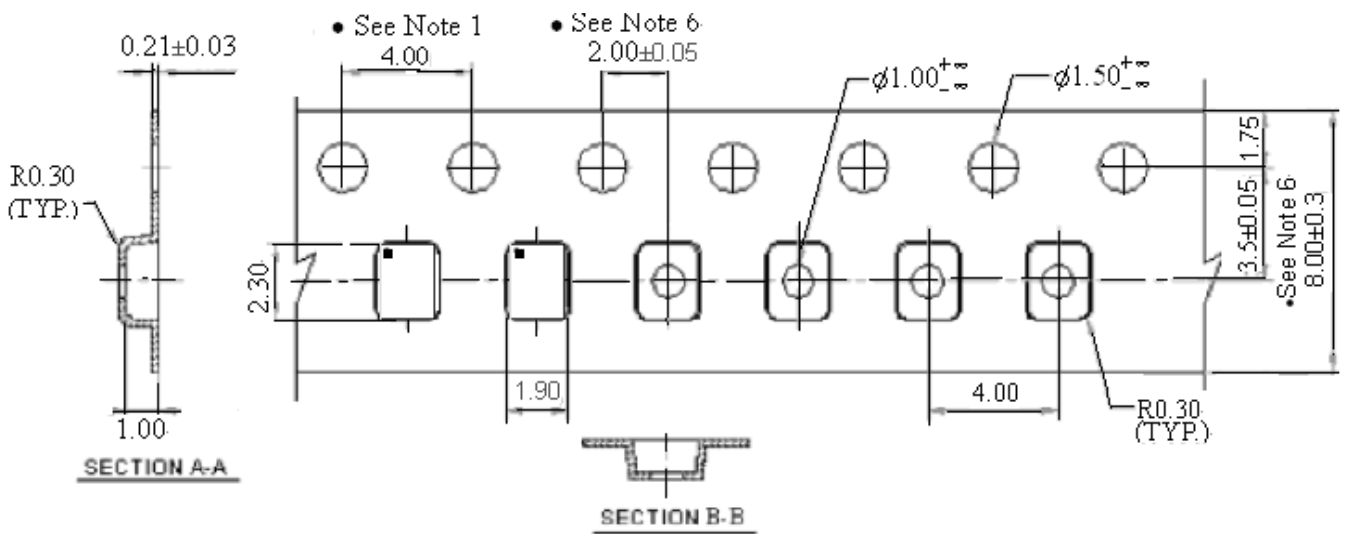
**F. PACKING:**

**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.

