



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Name: SAW DPX 782 / 751MHz 10/10MHz BW Band13 SMD1.8X1.4 mm

TST Parts No.: TF0169B(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 782/751MHz 10/10MHz BW Band13 SMD1.8X1.4 mm
MODEL NO.: TF0169B

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//12nH (Ω=∞) (Single-ended)

Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	777 ~ 787 MHz	Db(*1)	-	1.9	2.5	
Ripple	777 ~ 787 MHz	dB	-	0.8	1.6	
VSWR	Tx	-	-	1.6	2.0	
	ANT	-	-	1.6	2.0	
Attenuation:						
746 ~ 756 MHz		dB	44	51	-	-
758 ~ 768 MHz		dB	10	32	-	-
768 ~ 775 MHz		dB	1	2.5	-	-
1554 ~ 1565 MHz		dB	41	46	-	-
1565 ~ 1607 MHz		dB	41	46		-
2331 ~ 2361 MHz		dB	35	53		-
2400 ~ 2484 MHz		dB	40	50		-
3108 ~ 3148 MHz		dB	23	28		
4900 ~ 5950 MHz		dB	8	12		

ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	746 ~ 756 MHz	dB(*1)	-	1.7	2.3	
Ripple)	746 ~ 756 MHz	dB	-	0.4	1.0	
VSWR	ANT	-	-	1.4	2.0	
	Rx	-	-	1.5	2.0	
Attenuation:						
777 ~ 787 MHz		dB	50	62	-	
2400 ~ 2500 MHz		dB	40	45	-	
787 ~ 6000 MHz		dB	23	28	-	

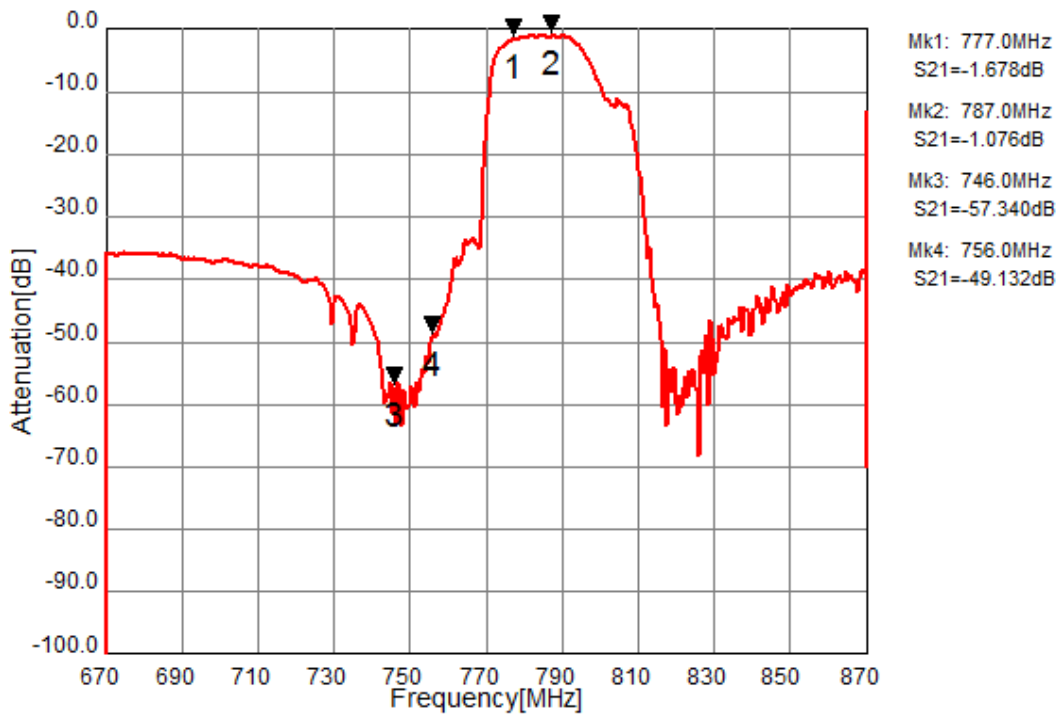
Tx to Rx

Isolation	746 ~ 756 MHz	dB	52	58	-	
	777 ~ 787 MHz	dB	56	61	-	

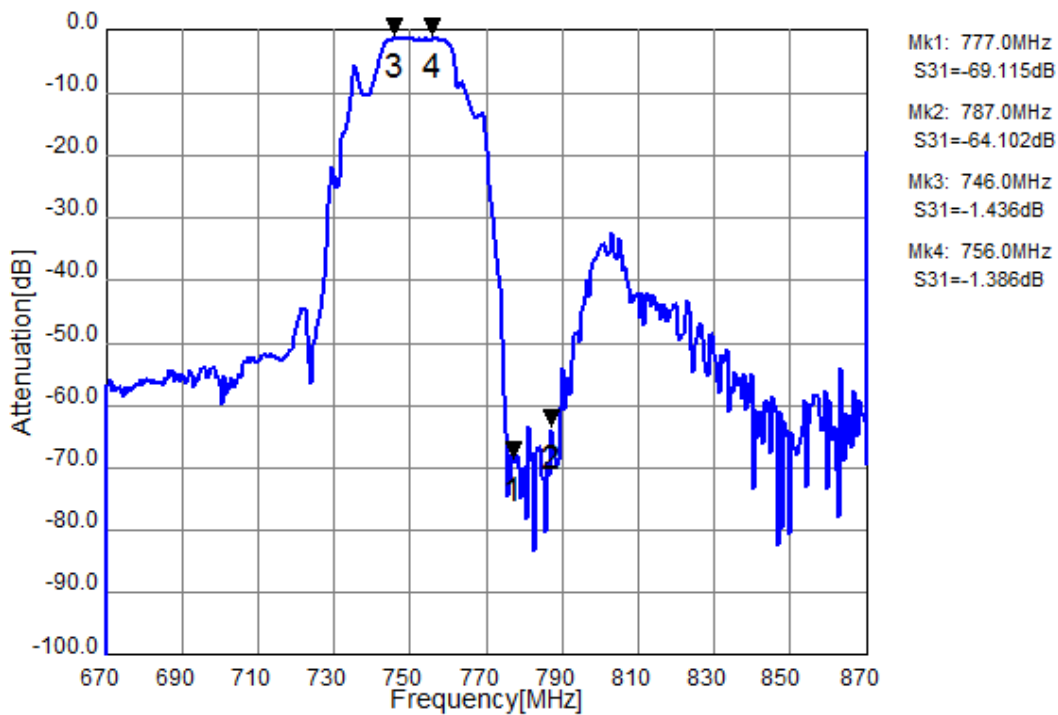
(*1) Specification of insertion loss excludes loss that comes from the test board.

C. Frequency Characteristics:

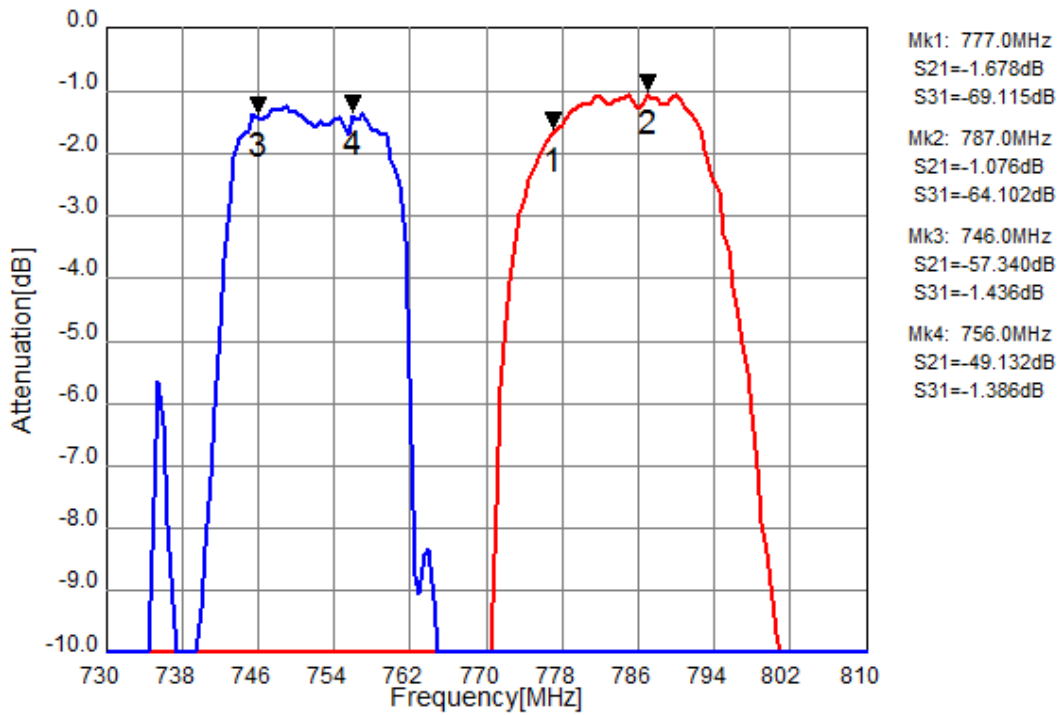
Tx to Ant



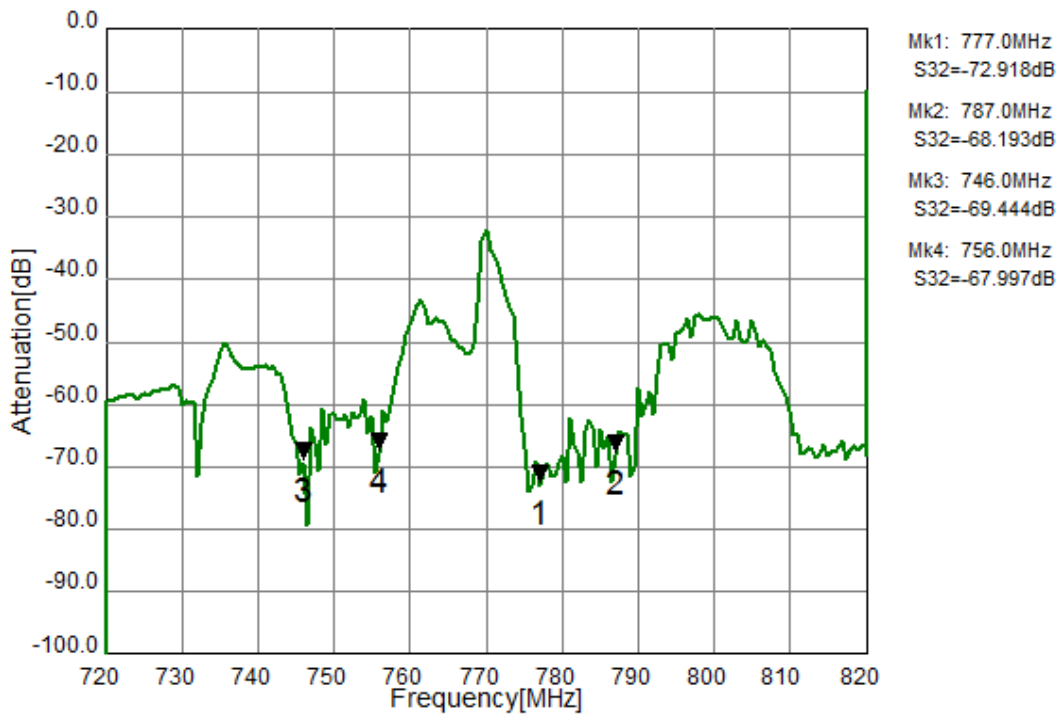
Ant to Rx



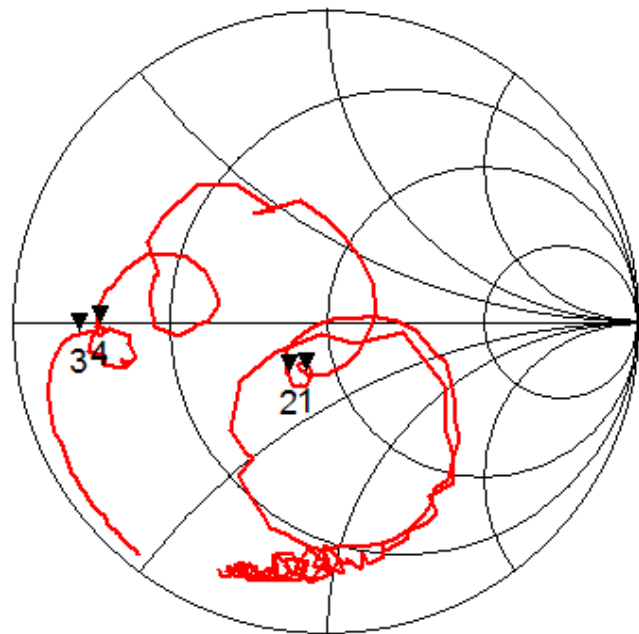
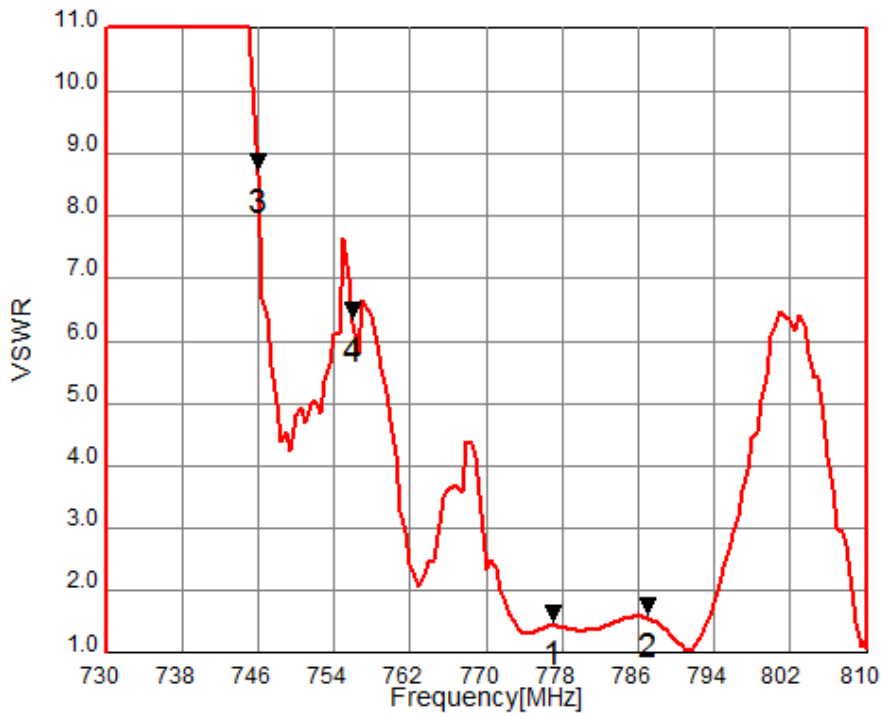
Tx to Ant, Ant to Rx



Tx to Rx Isolation



Tx Port



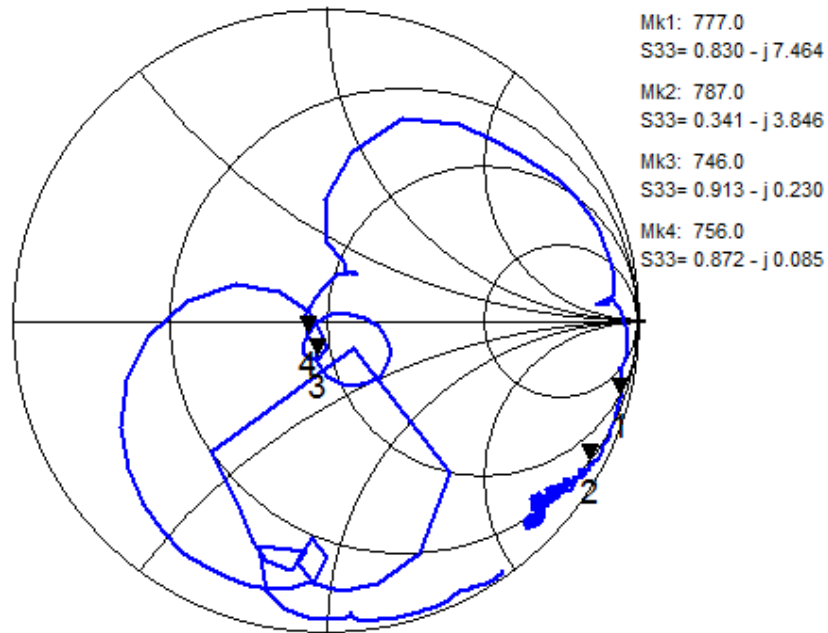
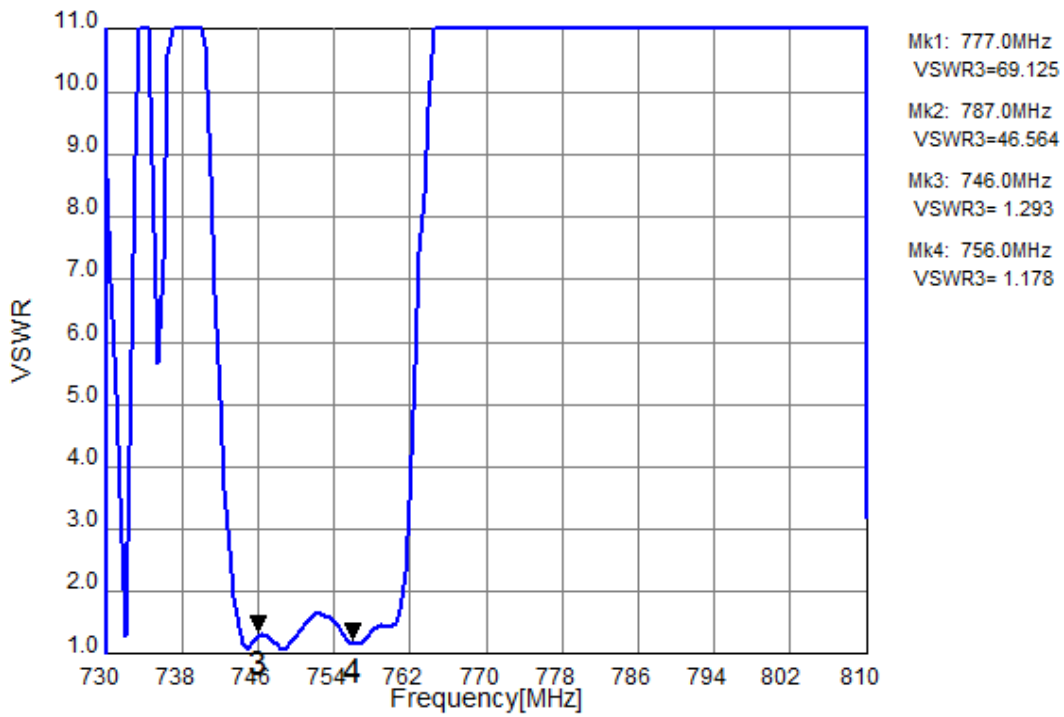
Mk1: 777.0
S22= 0.828 - j0.287

Mk2: 787.0
S22= 0.734 - j0.267

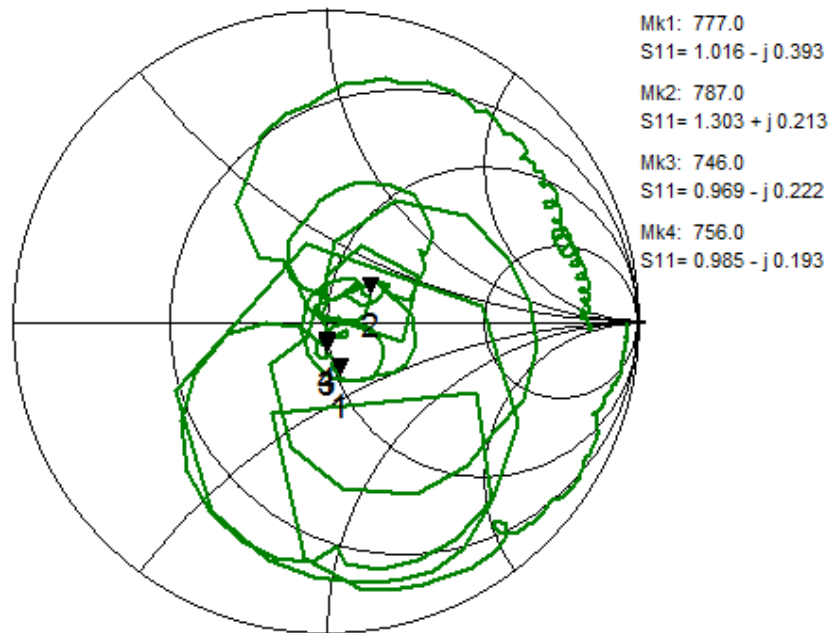
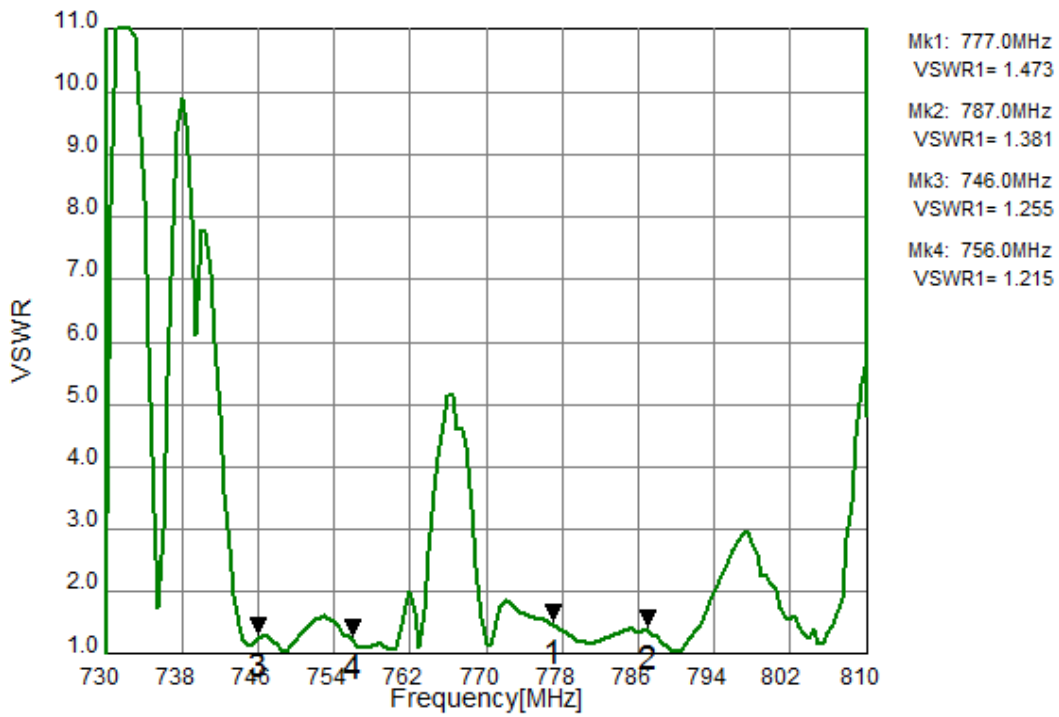
Mk3: 746.0
S22= 0.115 - j0.025

Mk4: 756.0
S22= 0.159 - j0.012

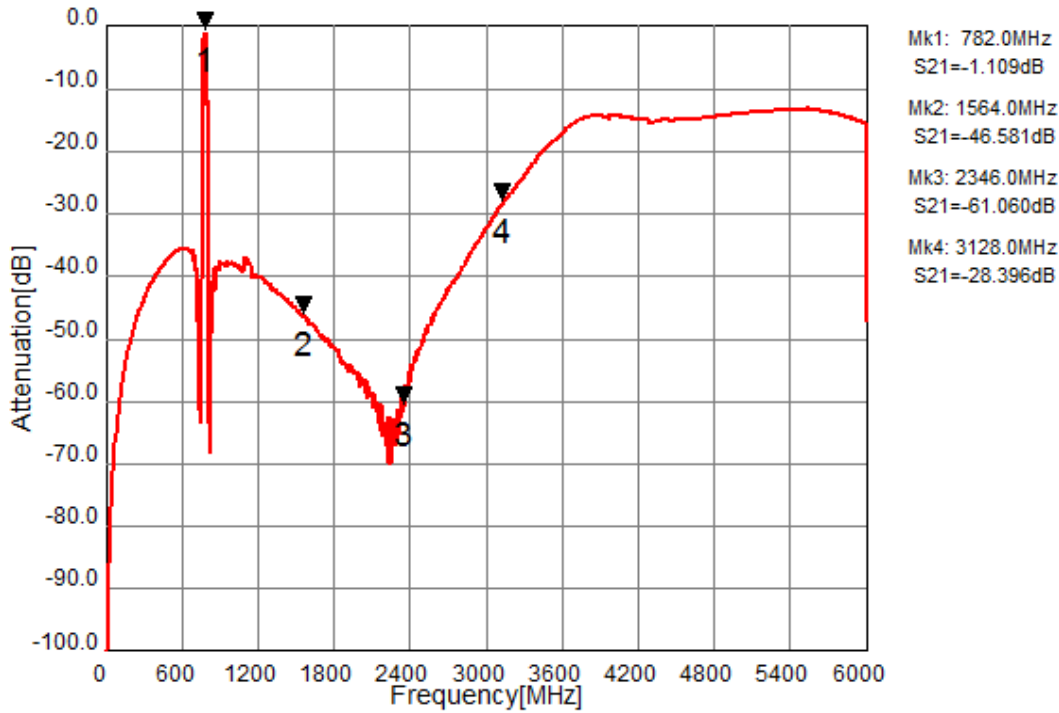
Rx Port



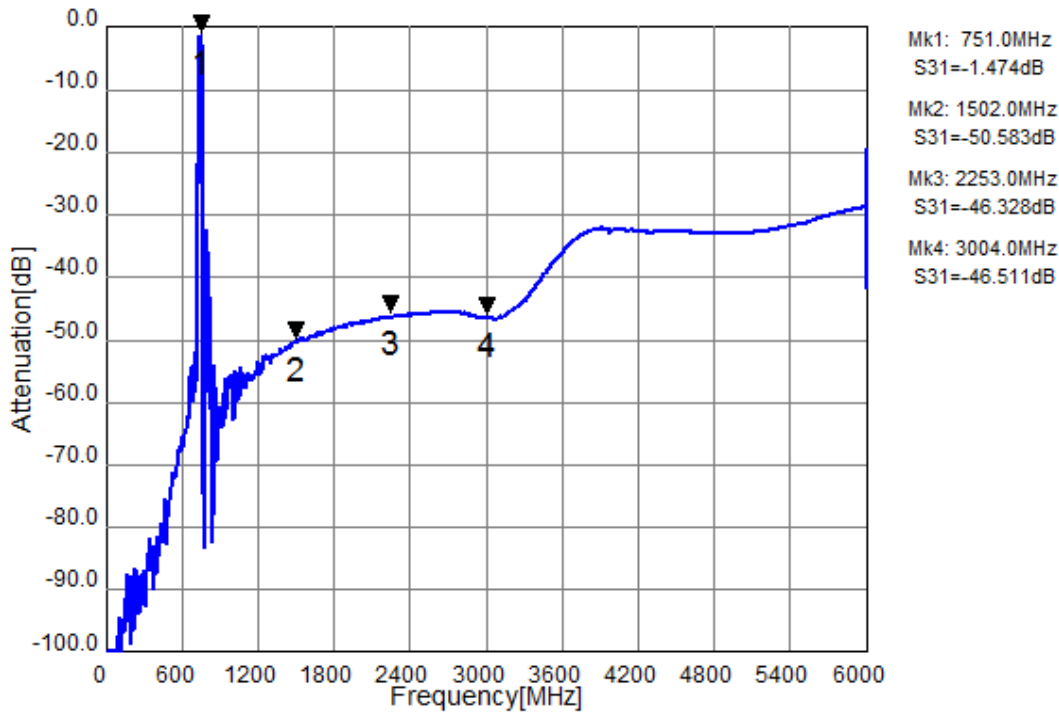
Ant Port



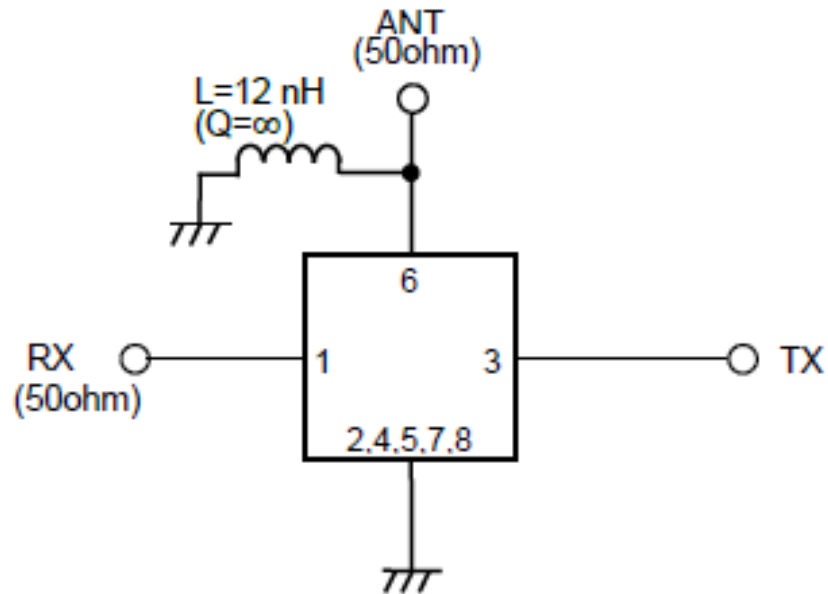
Tx to Ant (Wide span)



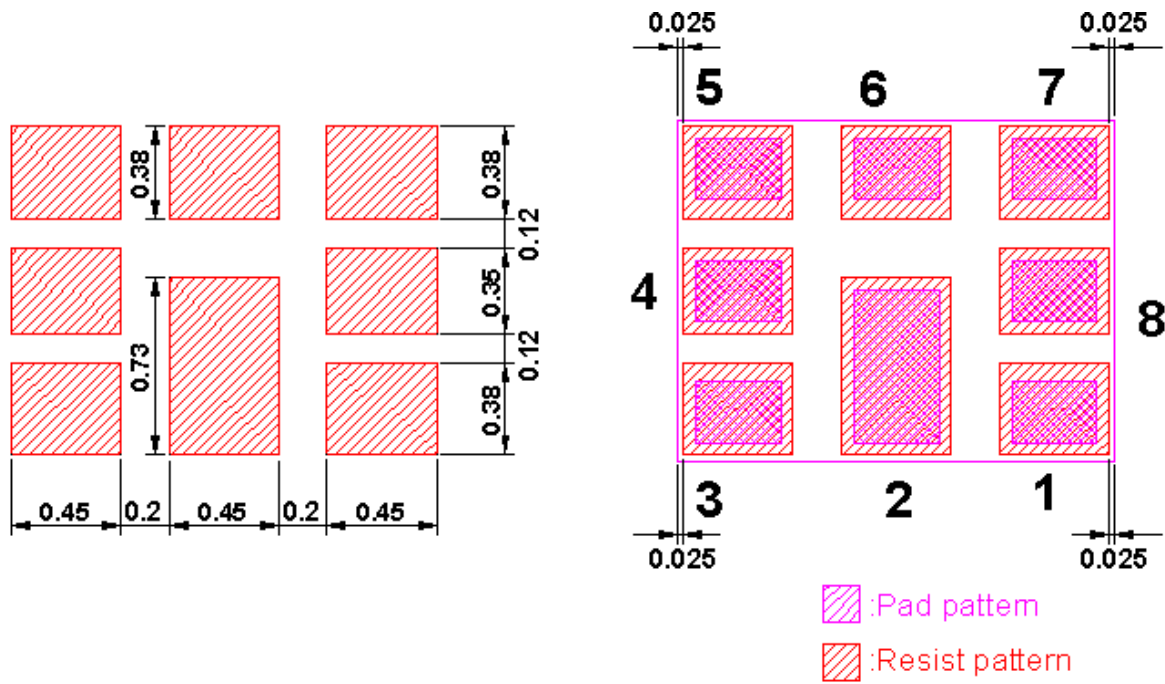
Ant to Rx (Wide span)



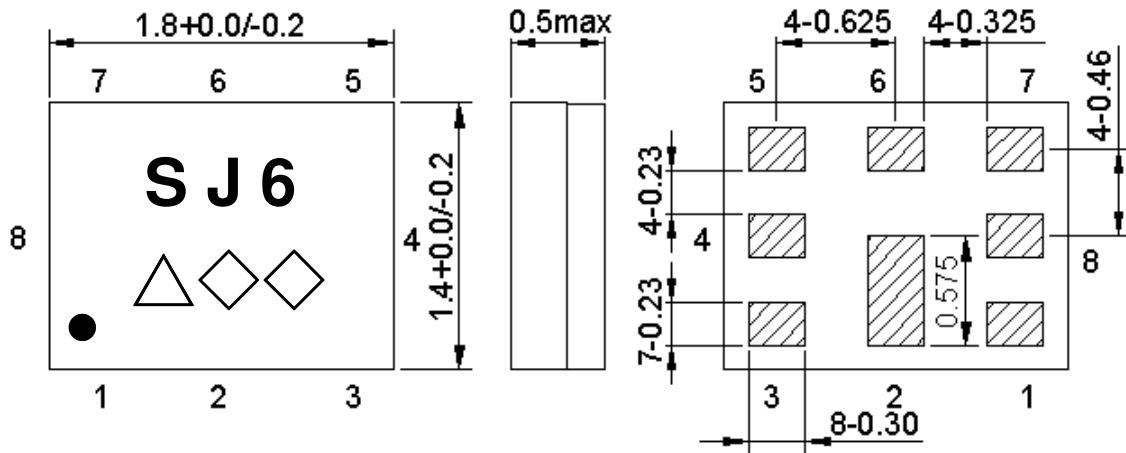
D. MEASUREMENT CIRCUIT:



E. FOOTPRINT:



F.OUTLINE DRAWING: (Mass Production)



Marking name : **J6**

△: 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 Configuration

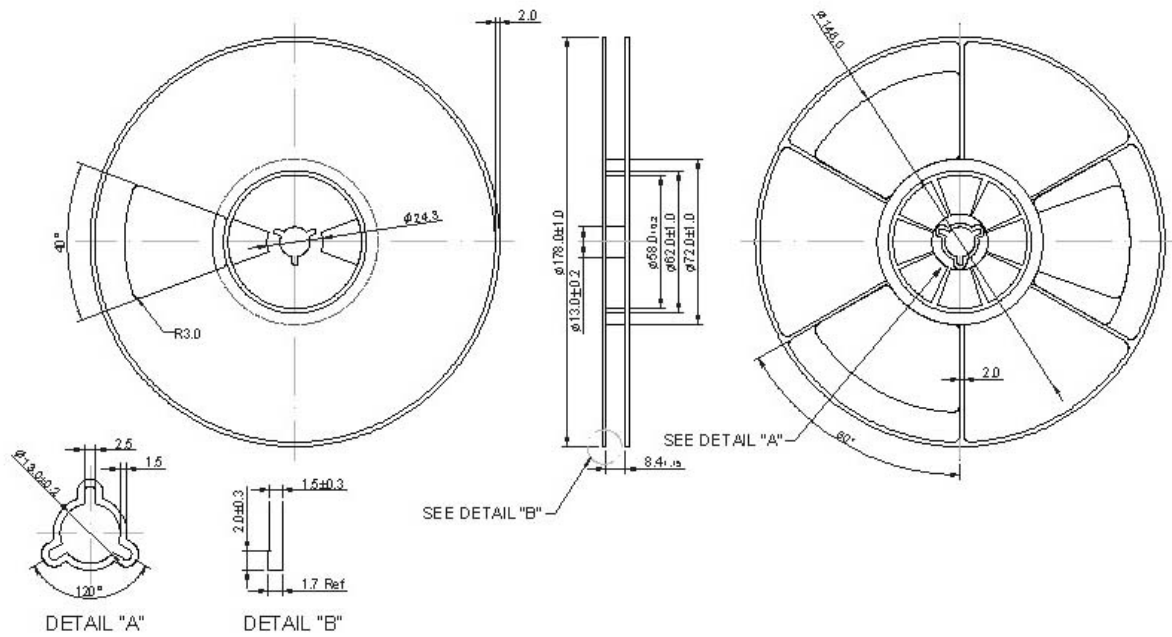
Pin No.	Pin name	Description
1	Rx	Receiver Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

Figure 1. Dimensions and Pin assignment

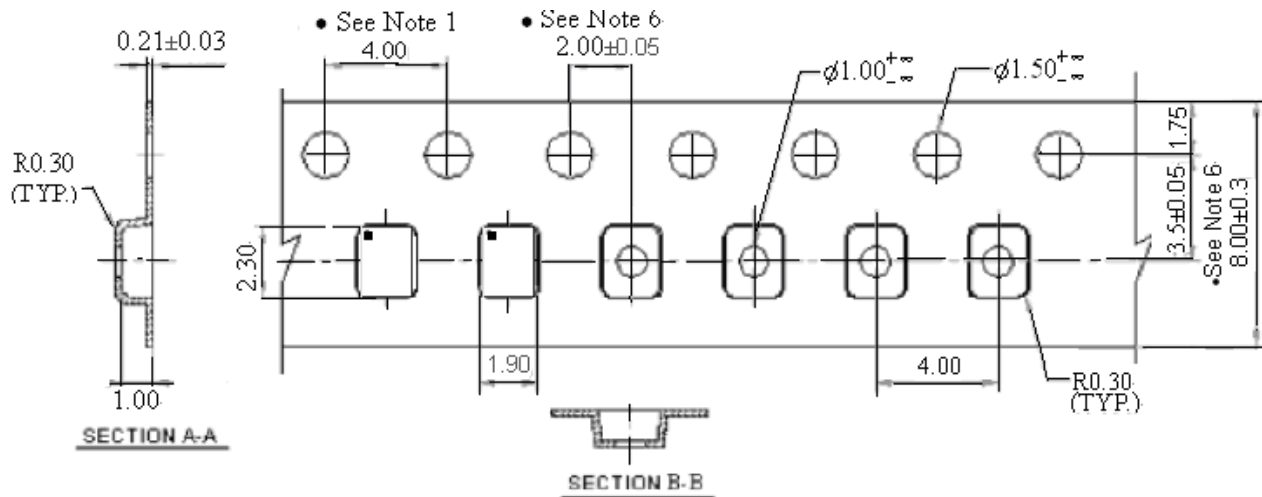
G. PACKING:

1. REEL DIMENSION

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



2. TAPE DIMENSION



H. 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.

