



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Name: SAW DPX 733 / 788MHz 30/30MHz BW Band28 B SMD1.8X1.4 mm

TST Parts No.: TF0159A

Customer Part No.: _____

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

Checked by: _____ Anne Chen *Anne Chen*

Approved by: _____ Andy Yu *Andy Yu*

Date: _____ 2018/04/20

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 733/788MHz 30/30MHz BW Band28 SMD1.8X1.4 mm
MODEL NO.: TF0159A

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: -30 °C to +85 °C
4. Storage temperature range: -30 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50//12nH Ω (Single-ended)

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

Terminating impedance(Ant Port): 50//8.2nH Ω (Single-ended)

Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	718 ~ 748 MHz	dB(*1)	-	1.8	2.8	
	718.25 ~ 747.75 MHz			1.7	2.6	
Ripple		dB	-	1.1	2.5	
VSWR	Tx	-	-	1.9	2.2	
	ANT	-	-	1.8	2.1	
Attenuation:						
10 ~ 698 MHz		dB	32	36	-	-
698 ~ 710 MHz		dB	16	26	-	-
758 ~ 773 MHz		dB	15	39	-	-
773 ~ 803 MHz		dB	50	55	-	Rx
1436 ~ 1496 MHz		dB	25	29	-	2fo
1565 ~ 1606 MHz		dB	22	25		GPS
2154 ~ 2244 MHz		dB	28	32		3fo
2400 ~ 2500 MHz		dB	30	38		ISM

ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	773 ~ 803 MHz	dB(*1)	-	1.9	2.5	
	773.25 ~ 802.75 MHz			1.8	2.3	
Ripple		dB	-	0.8	2.0	
VSWR	ANT	-	-	1.8	2.0	
	Rx	-	-	1.7	2.0	
Attenuation:						
718 ~ 748 MHz		dB	50	63	-	Tx-
2400 ~ 2500 MHz		dB	30	73	-	ISM

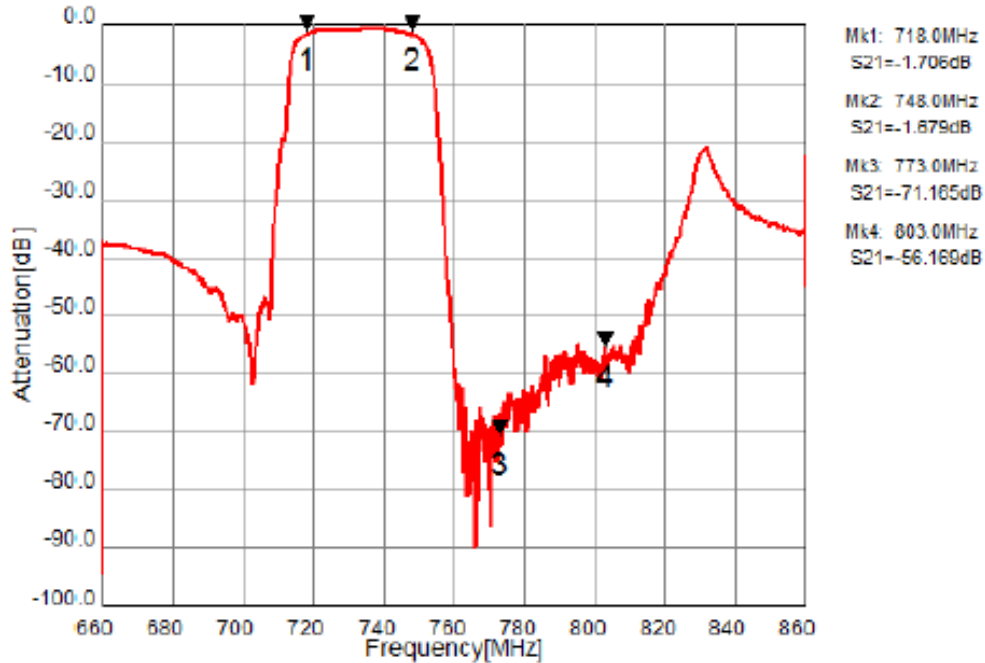
Tx to Rx

Isolation	718 ~ 748 MHz	dB	60	63	-	Tx
	773 ~ 803 MHz	dB	55	60	-	Rx

(*1) De-embedded test fixture.

C. Frequency Characteristics:

Tx to Ant



Ant to Rx

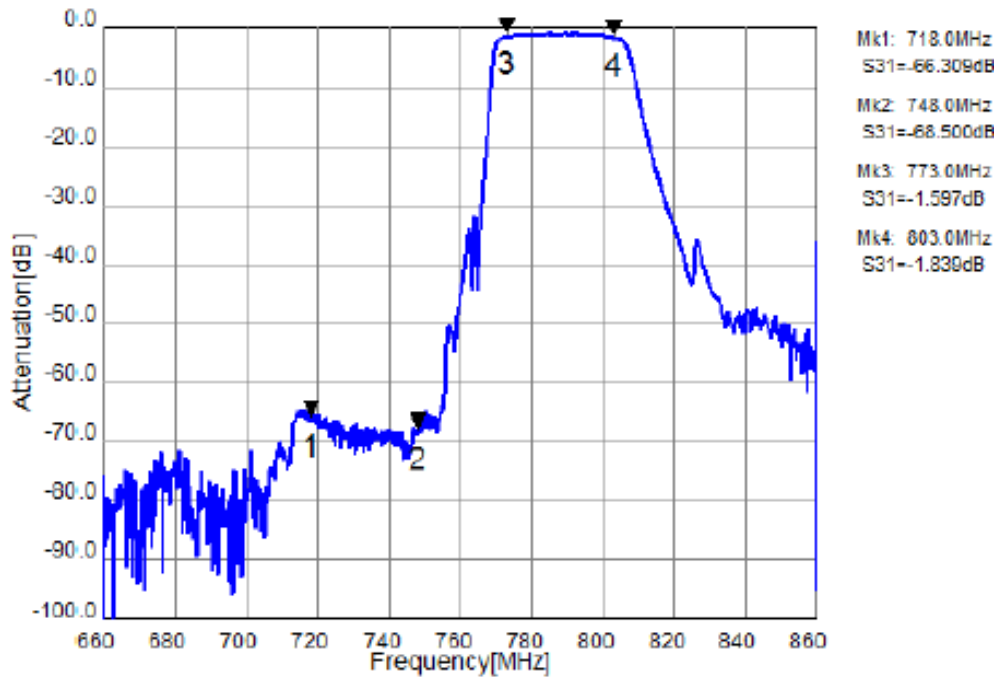
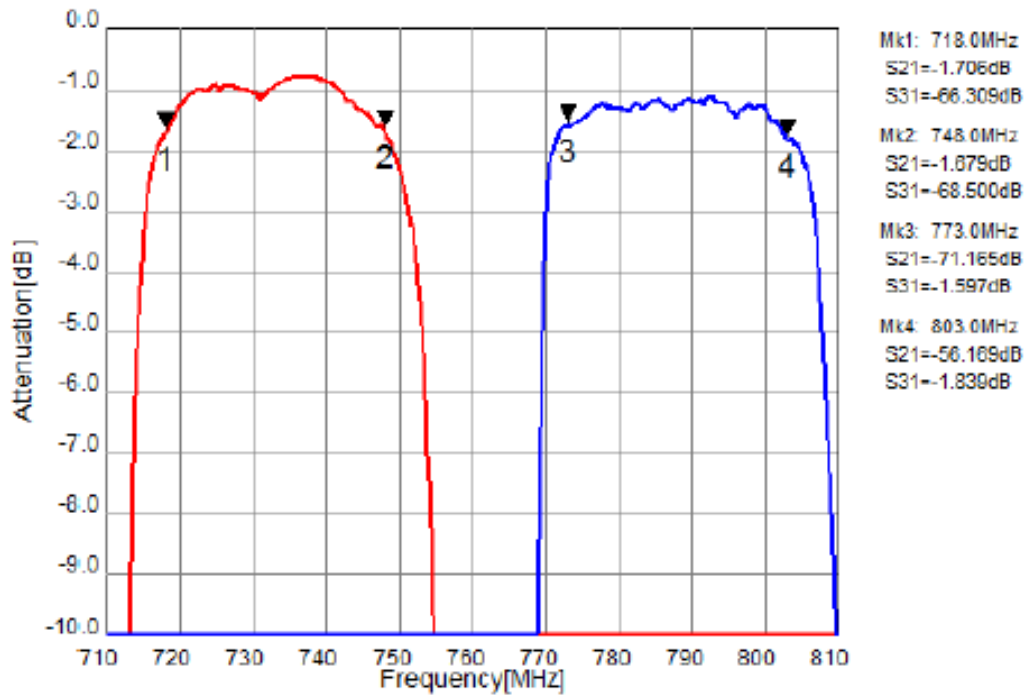


Figure 3-1. Electrical Characteristics

Tx to Ant, Ant to Rx



Tx to Rx Isolation

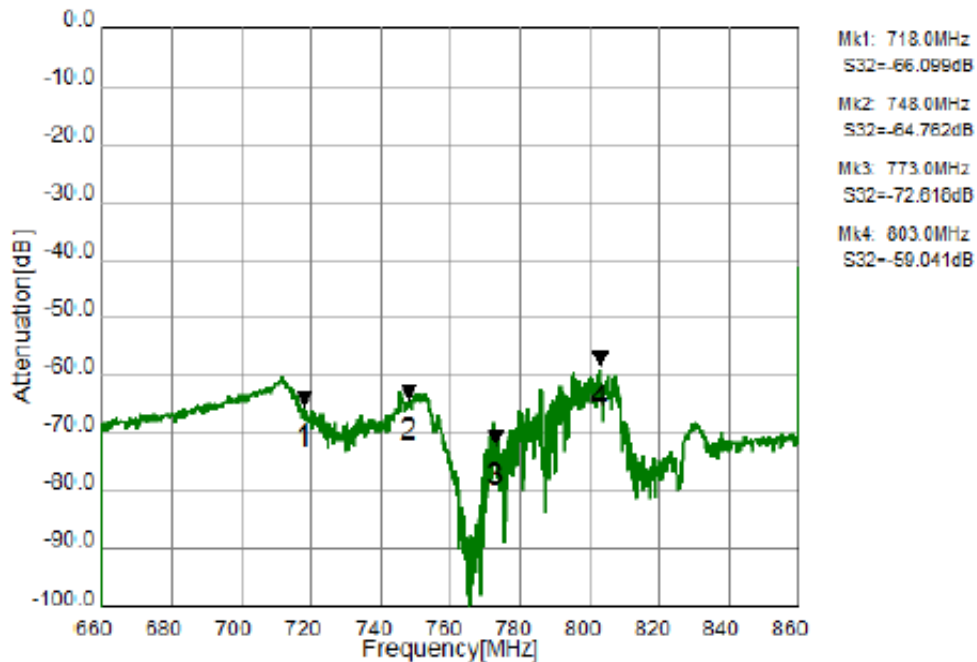


Figure 3-2. Electrical Characteristics

Tx Port

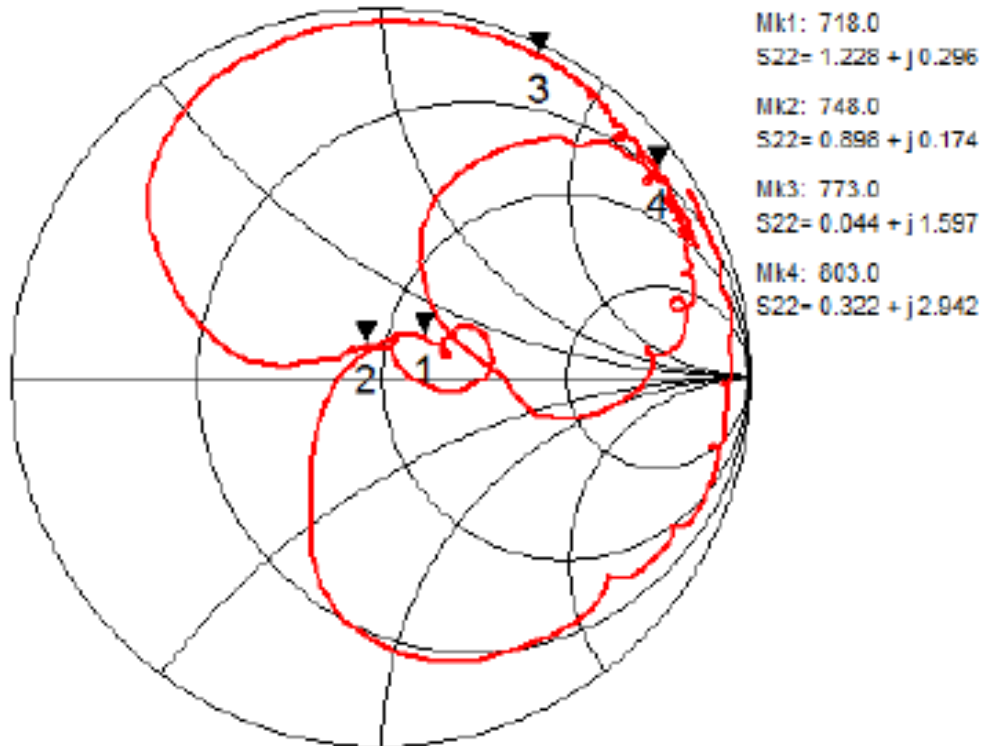
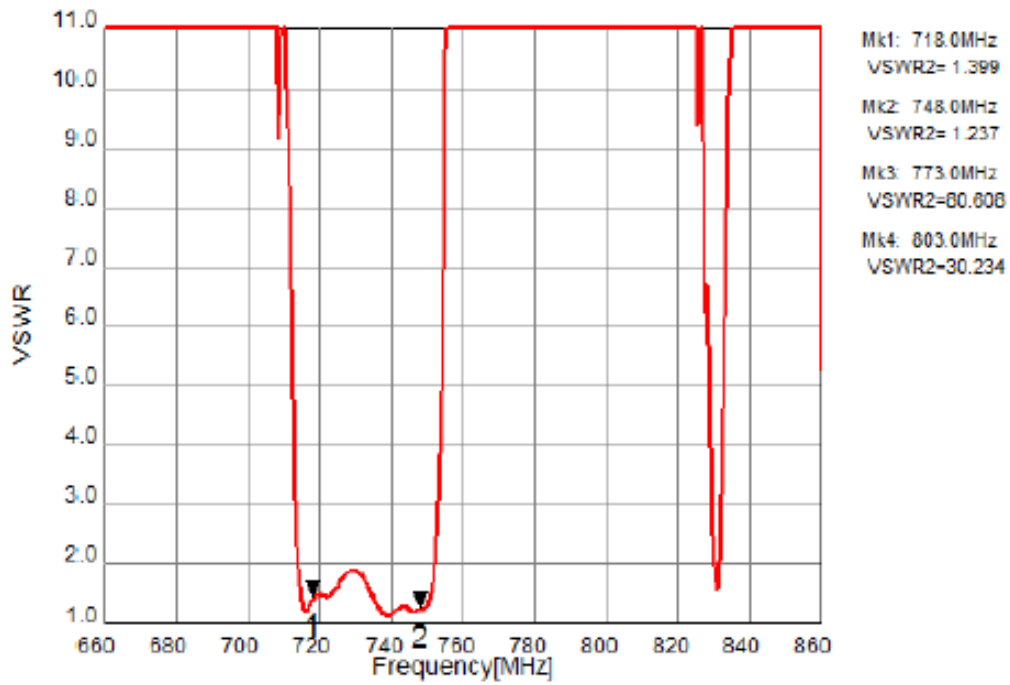


Figure 3-3. Electrical Characteristics

Rx Port

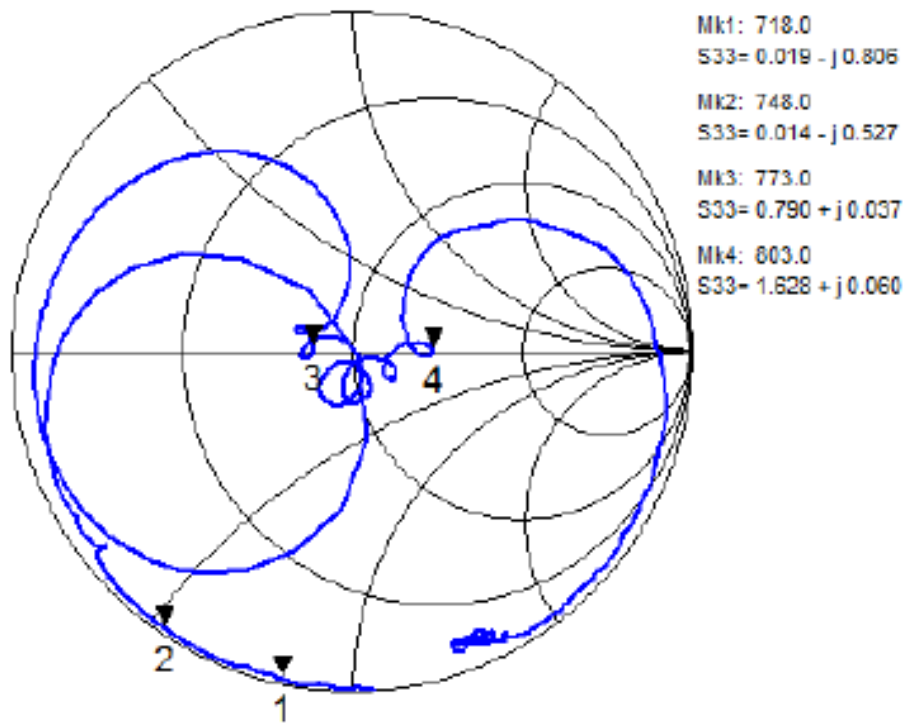
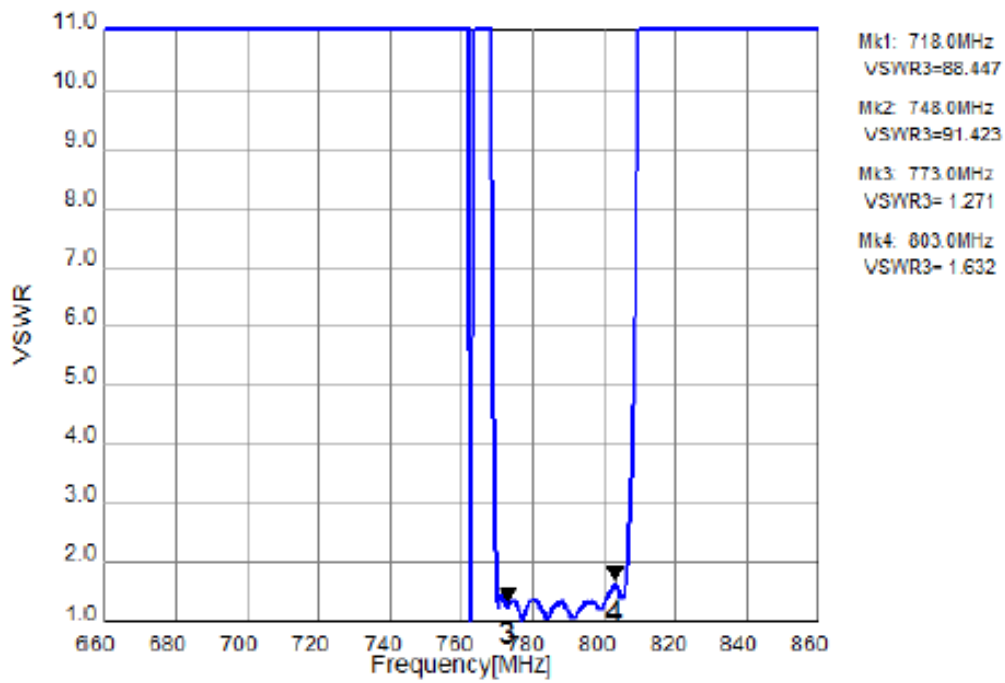


Figure 3-4. Electrical Characteristics

Ant Port

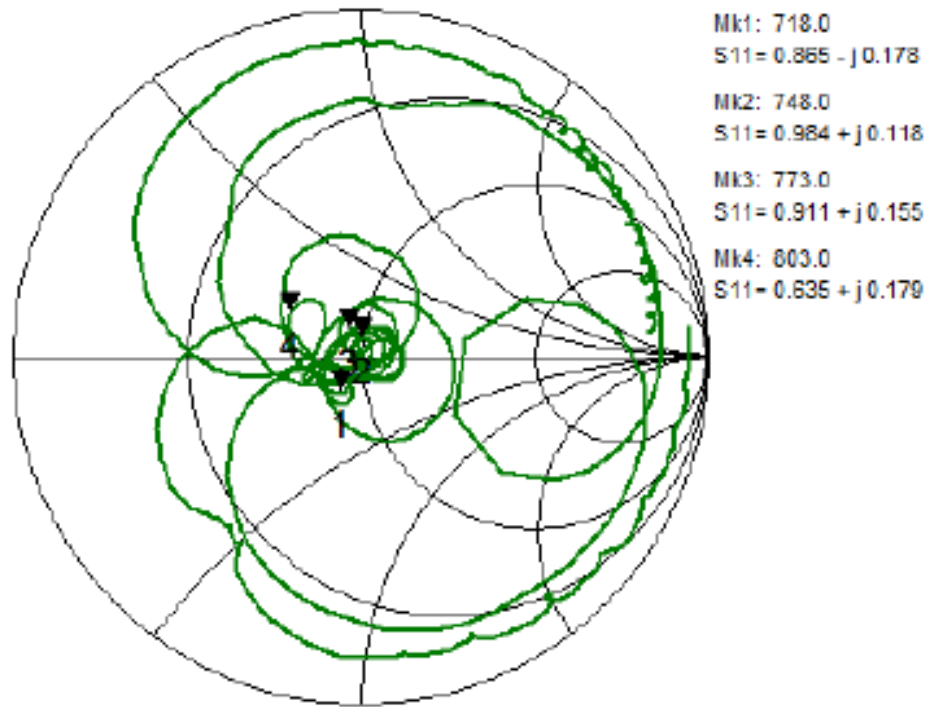
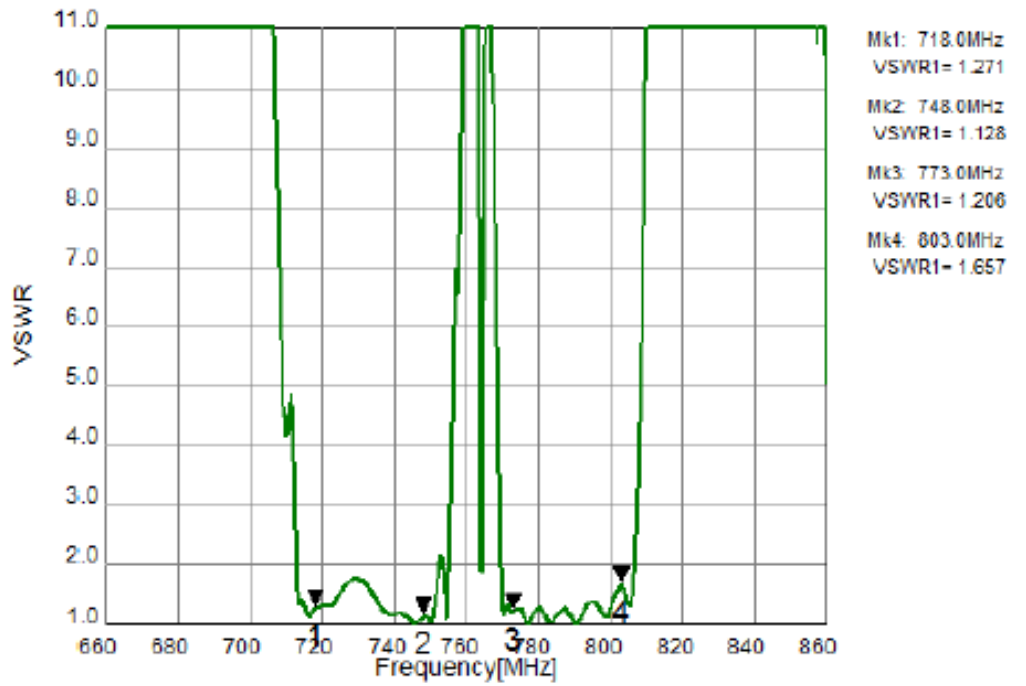
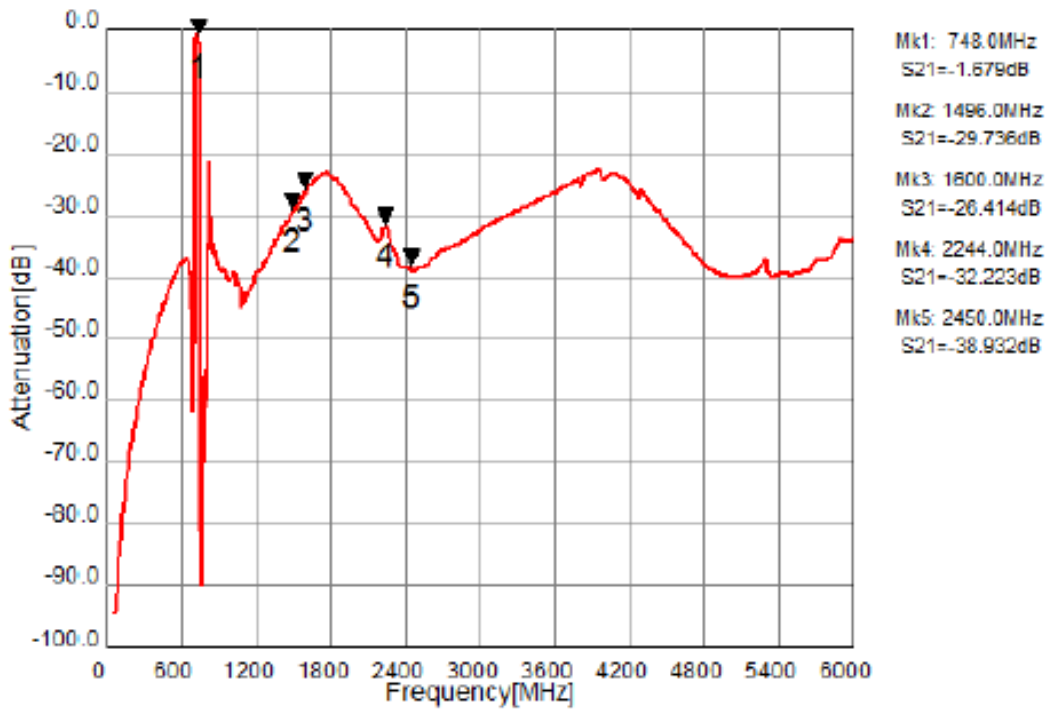


Figure 3-5. Electrical Characteristics

Tx to Ant (Wide span)



Ant to Rx (Wide span)

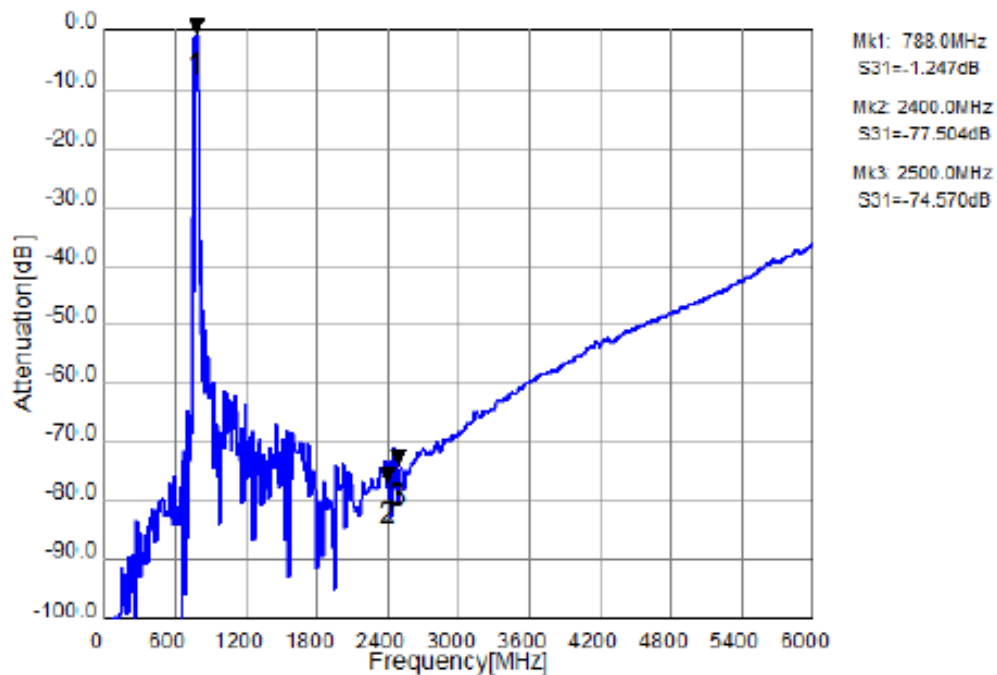
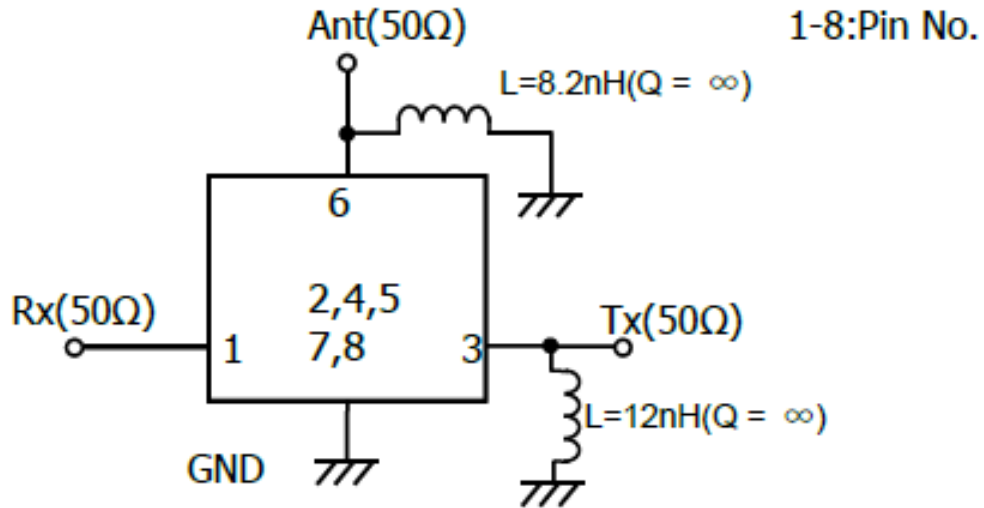


Figure 3-6. Electrical Characteristics

D. MEASUREMENT CIRCUIT:



Recommended foot print pattern

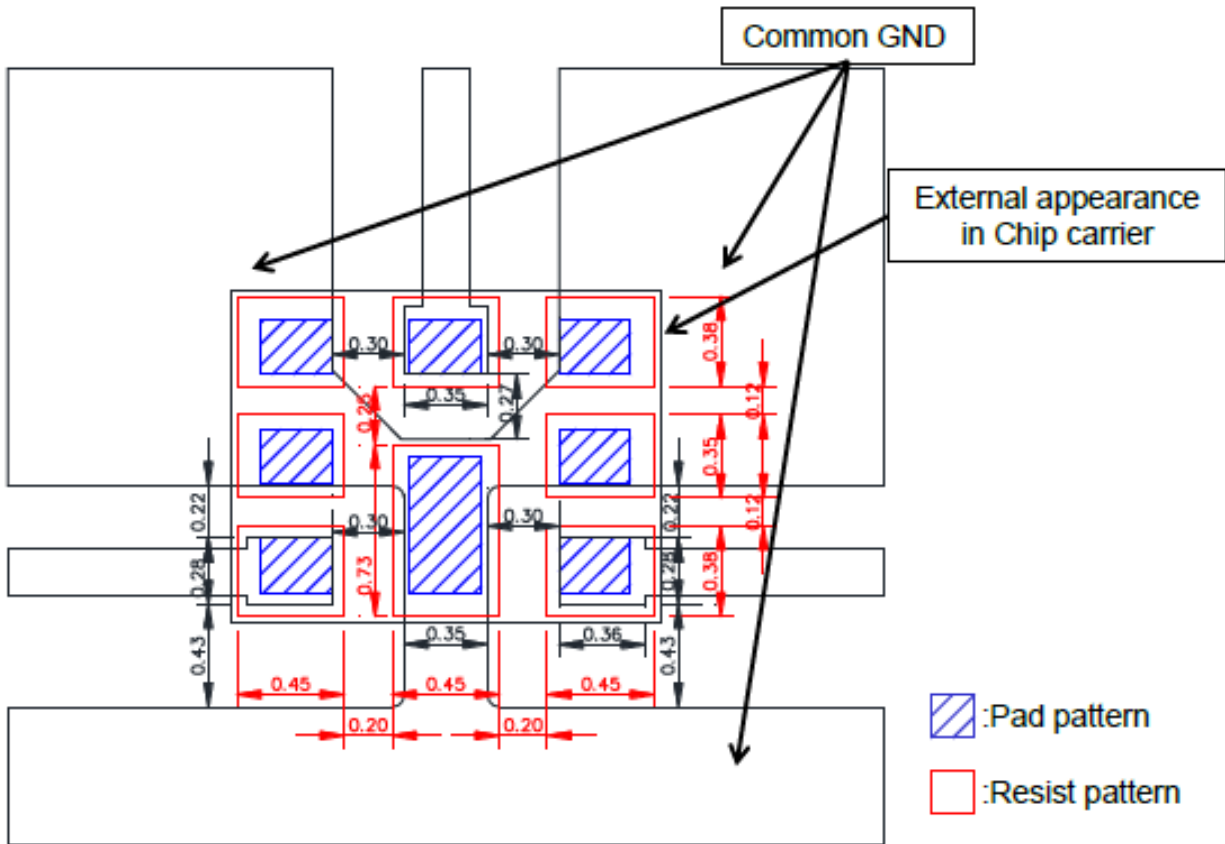
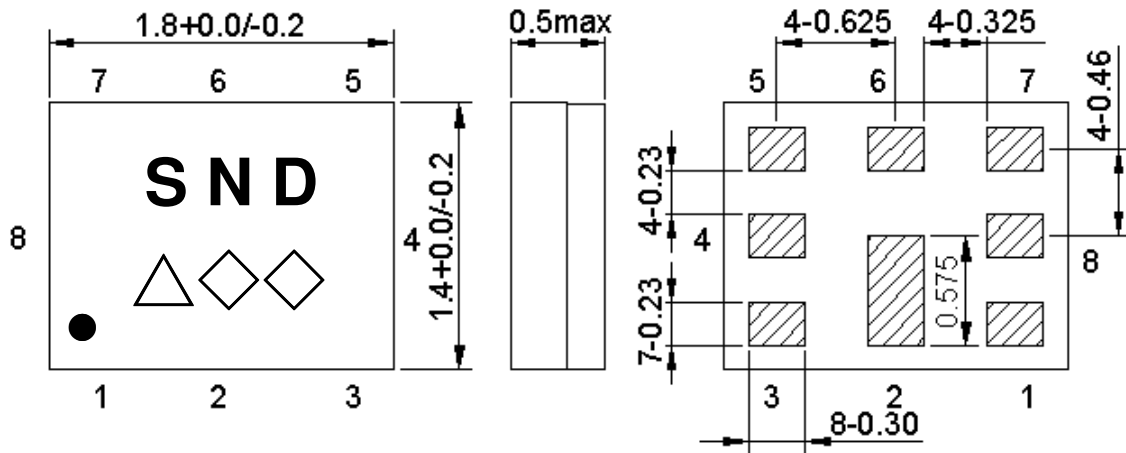


Figure 2. Recommended foot print pattern

E.OUTLINE DRAWING: (Mass Production)



Marking name : ND

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

◇◇: Lot Code.

Product Date Code. Follow below table.

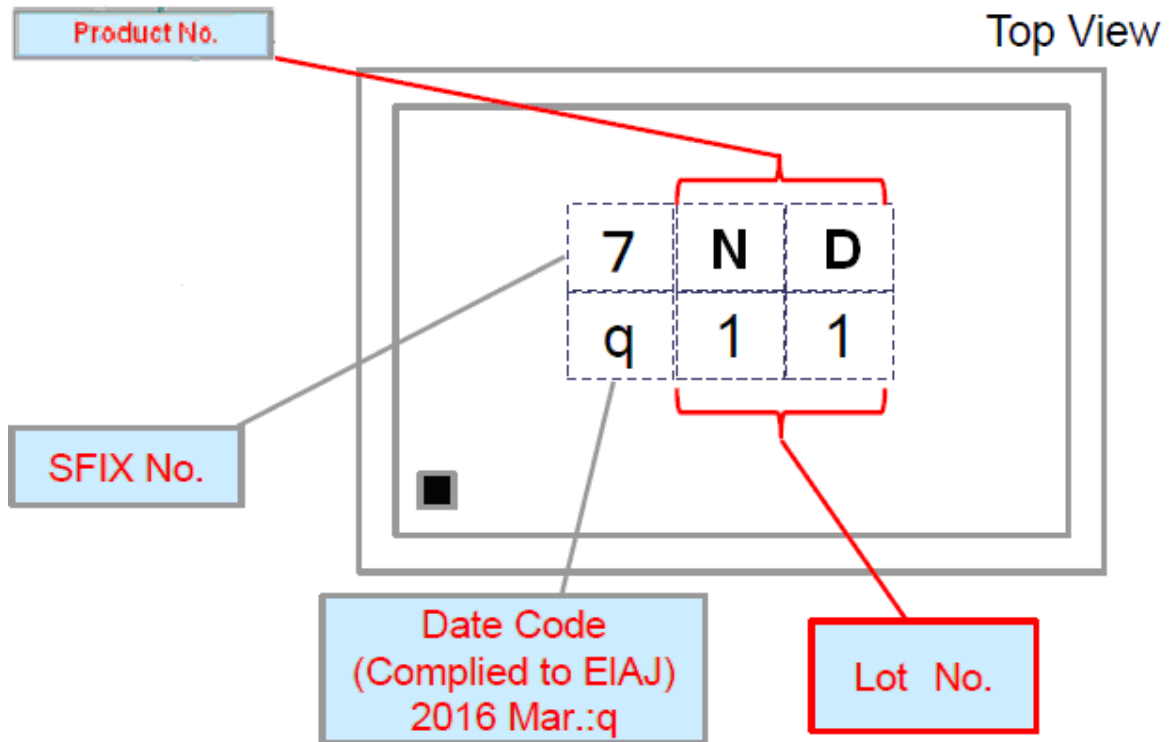
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

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

Top View (Sample Production):

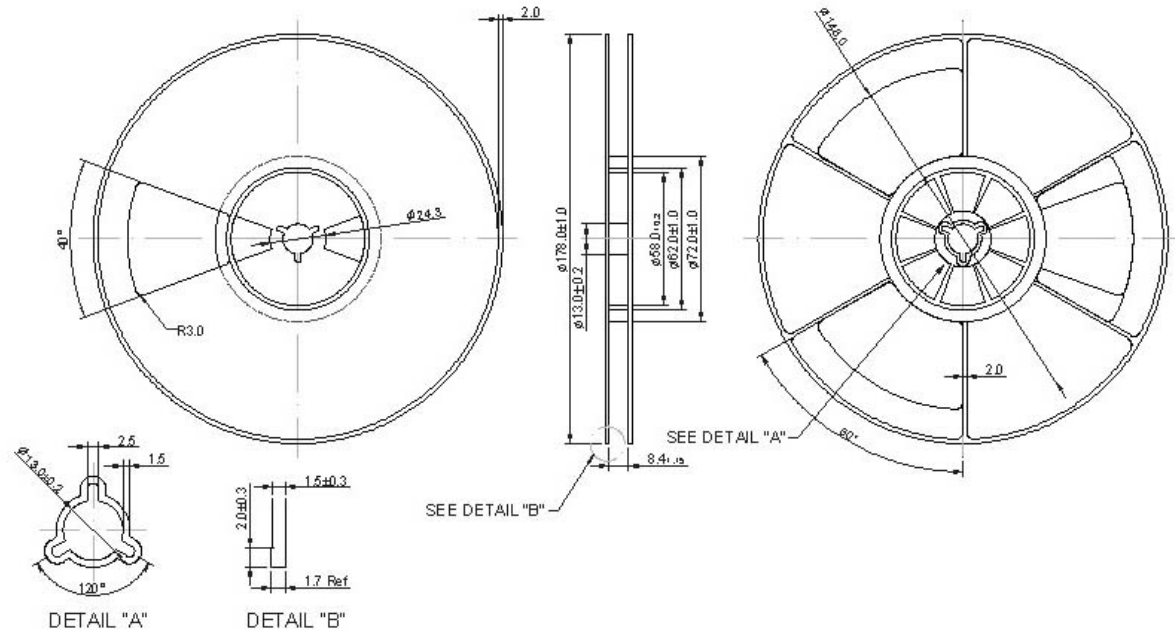


Lot No. is indicated by Arabic numerals 0 to 9 or characters A to Z and a to z (However, except I, O, l, I and o).

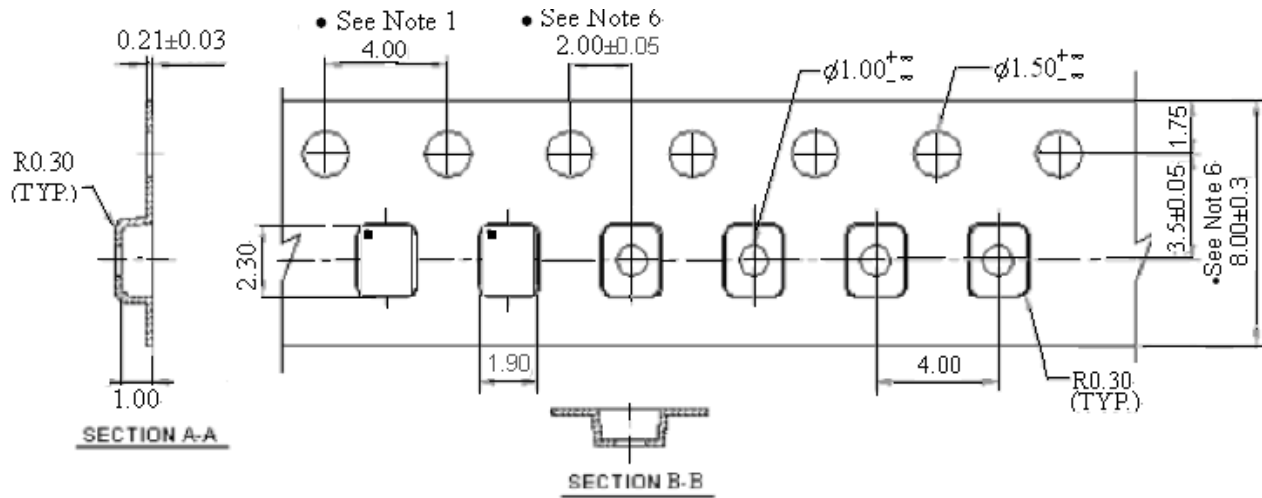
F. PACKING:

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.

