



# 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

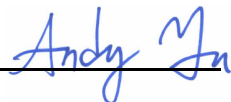
Product Name: SAW DPX 1745/2155MHz Band66 SMD1.8X1.4 mm (BW=69.04/89.04MHz)

TST Parts No.: TF0167C

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

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

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

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

Date: \_\_\_\_\_ 01 . 02 .2020

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 1745/2155MHz 69.04/89.04MHz BW Band66 un-bal SMD1.8X1.4 mm  
MODEL NO.: TF0167C

REV. No.: 1.0

## A. MAXIMUM RATING:

1. Input power : 29dBm (Ta=+50deg C,5000h,CW )
2. Maximum DC Voltage: +/-5 V
3. Operating temperature range: -40 °C to +85 °C
4. Storage temperature range: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant

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 Ω//2.8nH (Ω) (Single-ended)

### Tx to ANT (f<sub>T0</sub>=1745 MHz)

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	1710.48 ~ 1779.52 MHz	dB (*1)	-	2.0	3.4	
Ripple	1710.48 ~ 1779.52 MHz	dB	-	1.1	2.2	
VSWR	Tx	-	-	1.7	2.1	
	ANT	-	-	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	-	-

**ANT to Rx (f<sub>T0</sub>=2155 MHz)**

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	2110.48 ~ 2199.52 MHz	dB(*1)	-	2.0	3.4	
Ripple	2110.48 ~ 2199.52 MHz	dB	-	0.7	2.2	
VSWR	ANT	2110.48 ~ 2199.52 MHz	-	-	1.5	2.6
	Rx		-	-	1.3	2.5
<b>Attenuation:</b>						
<b>1710.48 ~ 1779.52 MHz</b>		dB	45	53	-	
<b>2400 ~ 2500 MHz</b>		dB	33	40	-	
<b>4220 ~ 4400 MHz</b>		dB	33	48	-	

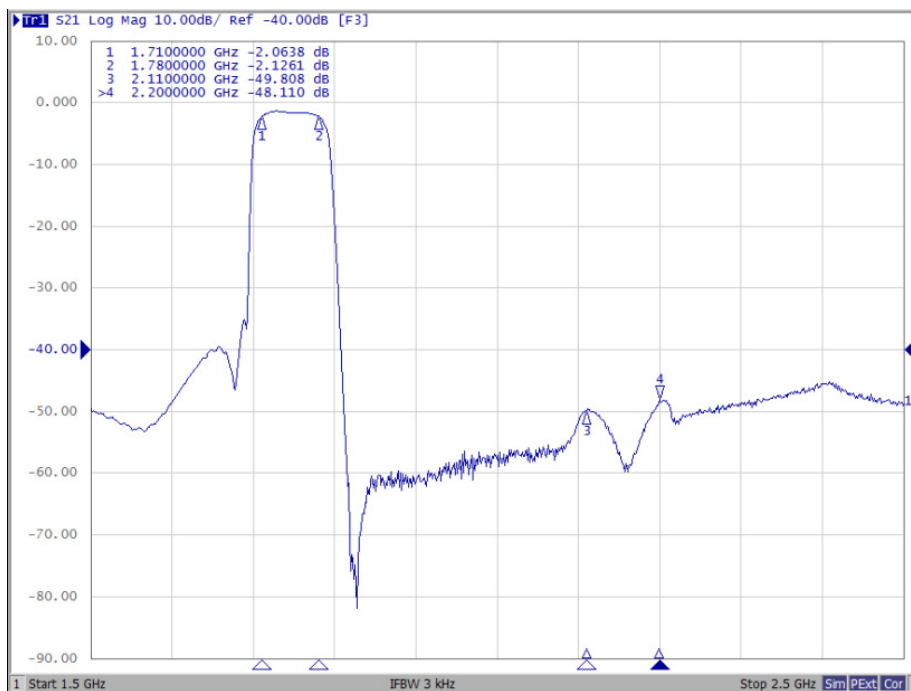
**Tx to Rx**

<b>Isolation</b>	1710.48 ~ 1779.52 MHz	dB	52	57	-	
	2110.48 ~ 2199.52 MHz	dB	50	54	-	

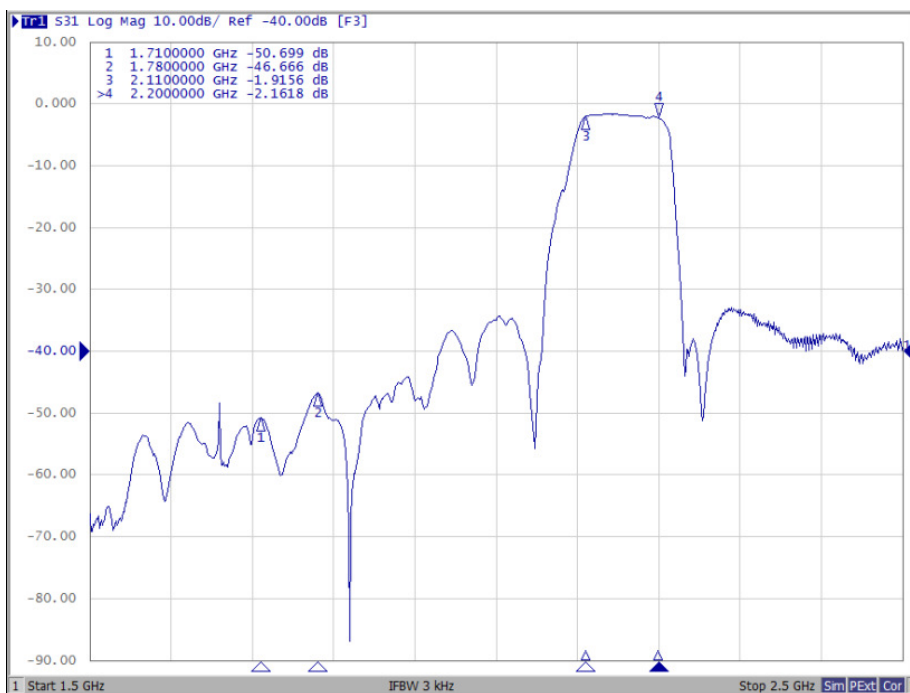
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C. FREQUENCY CHARACTERISTICS:

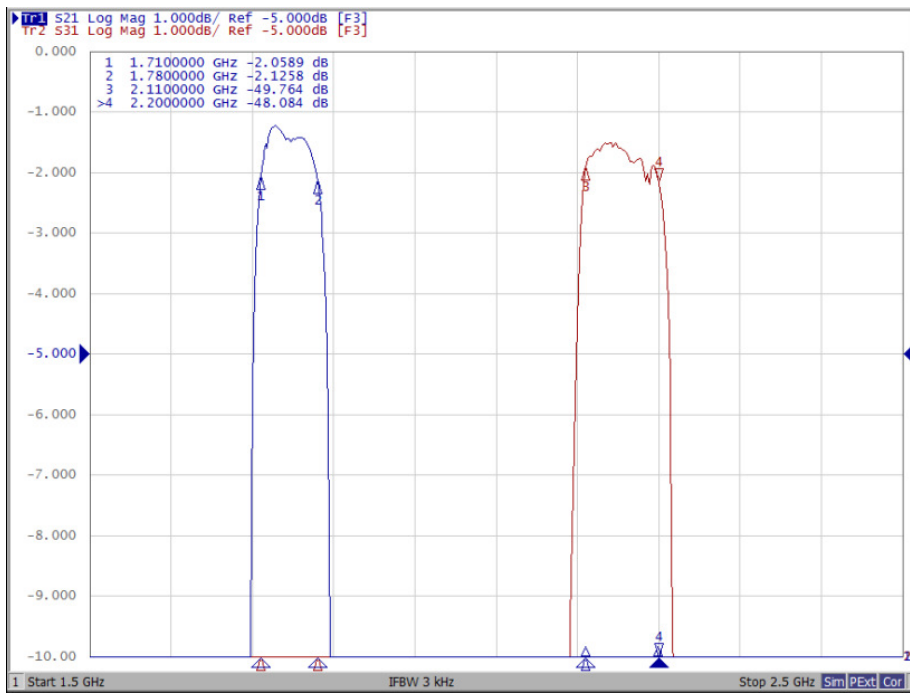
#### Tx to Ant



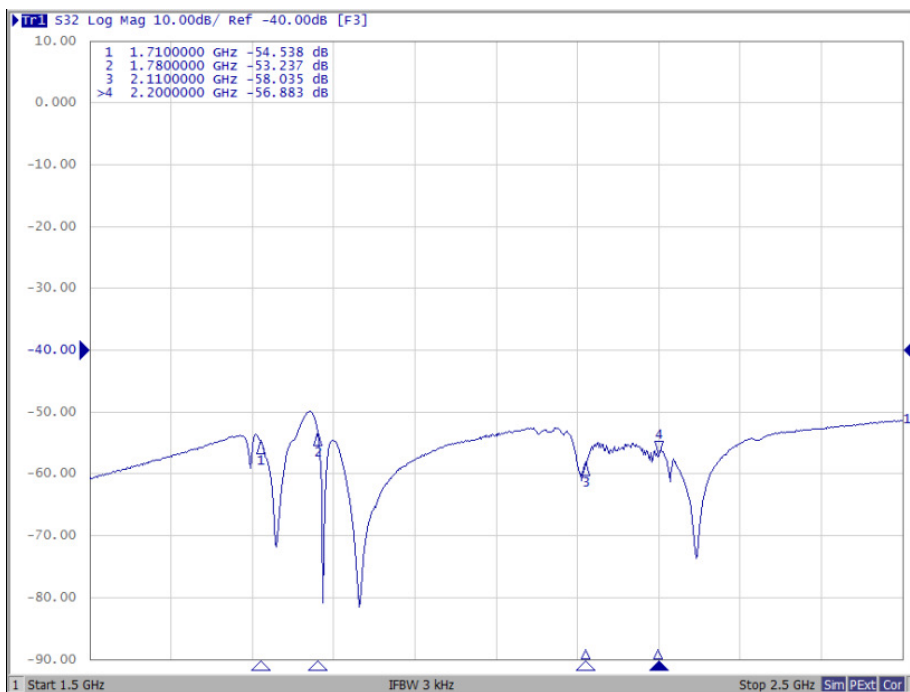
#### Ant to Rx



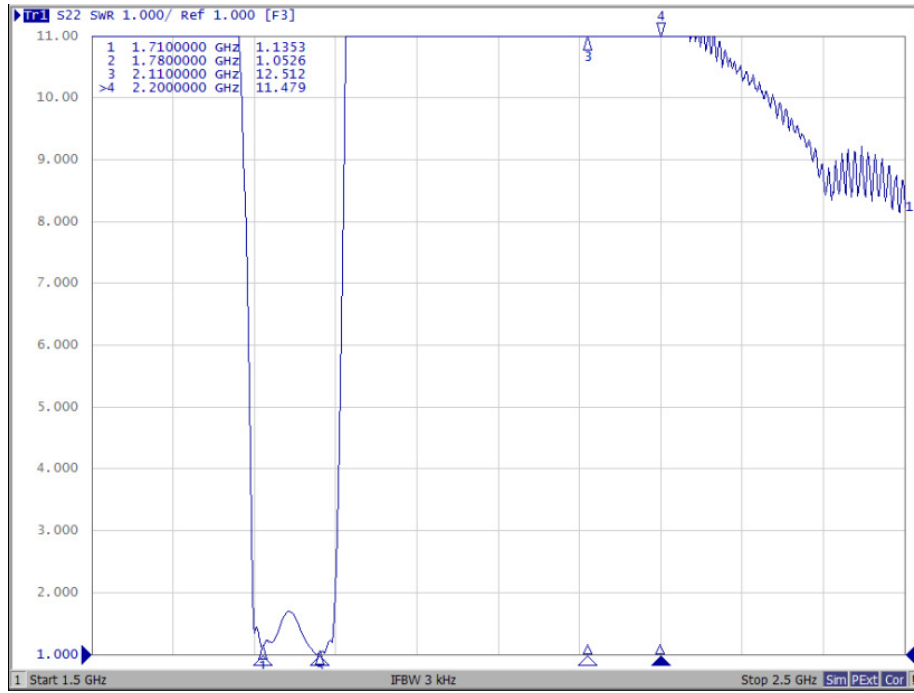
# Ripple Deviation



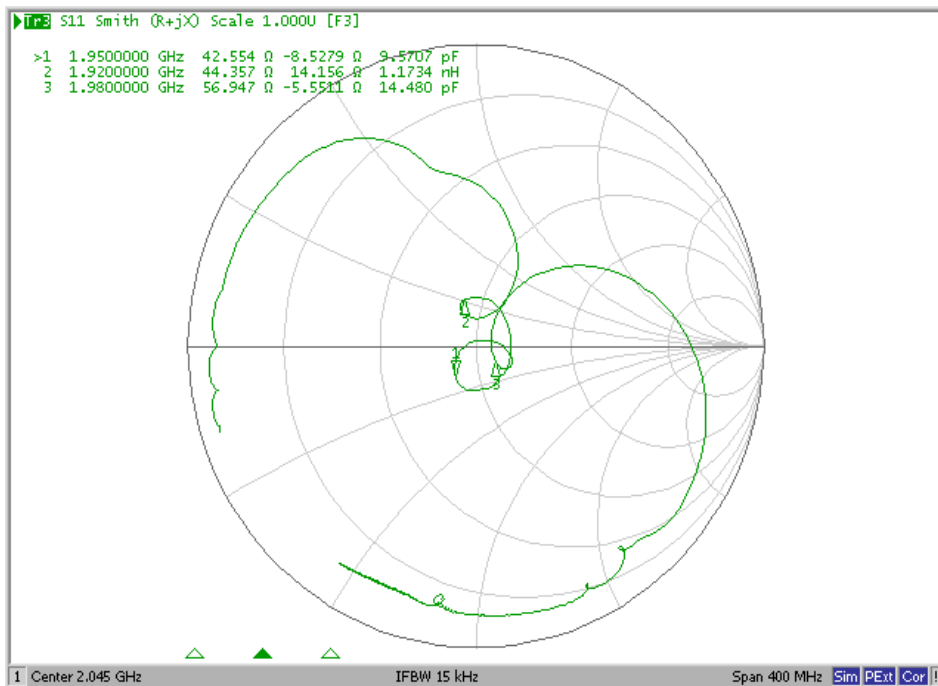
# Isolation



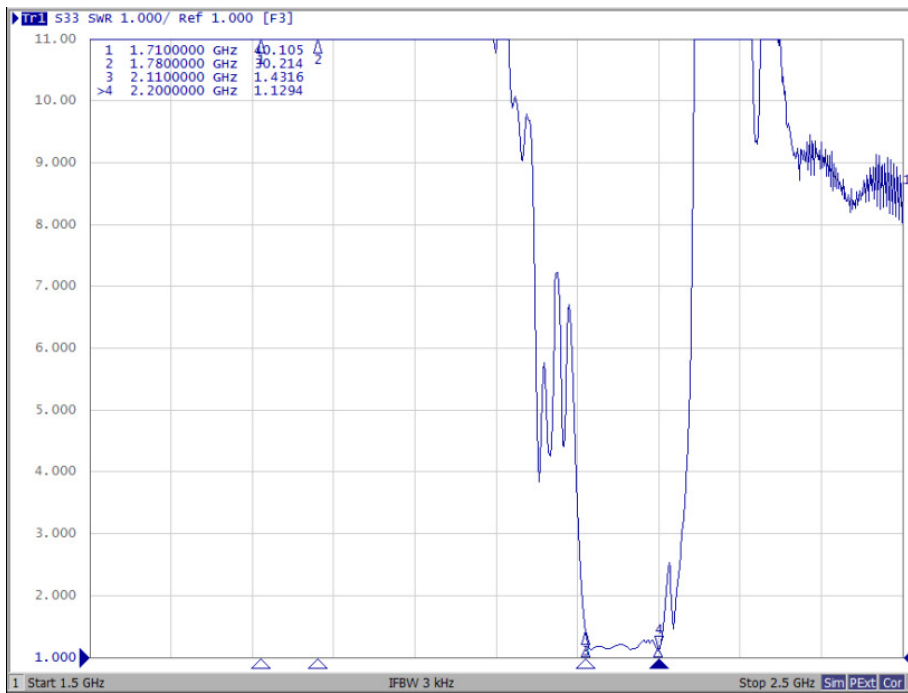
## VSWR (Tx Port)



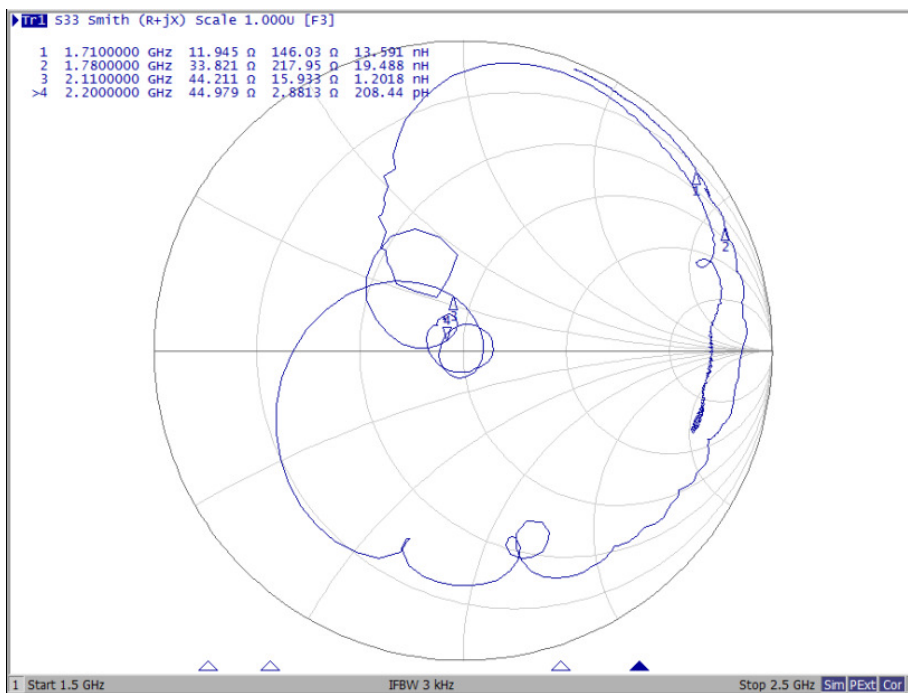
## Smith Chart (Tx Port)



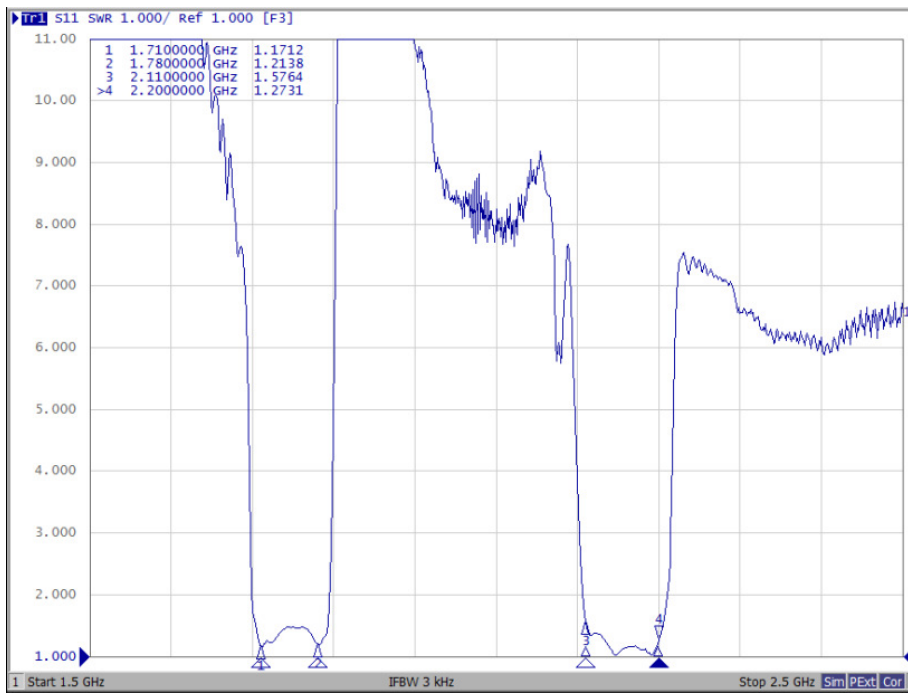
## VSWR (Rx Port)



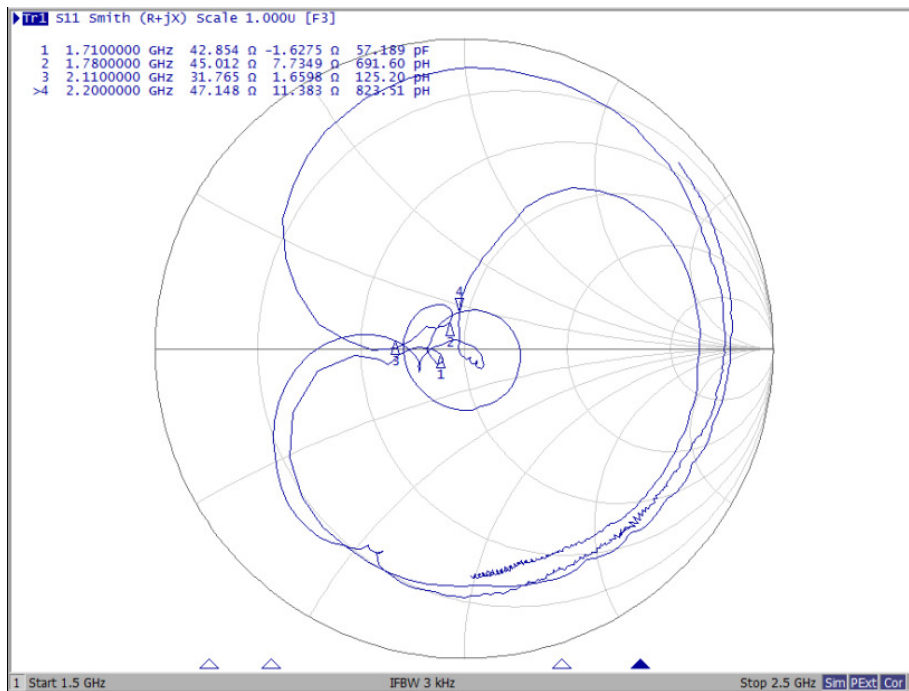
## Smith Chart (Rx Port)



## VSWR (ANT Port)

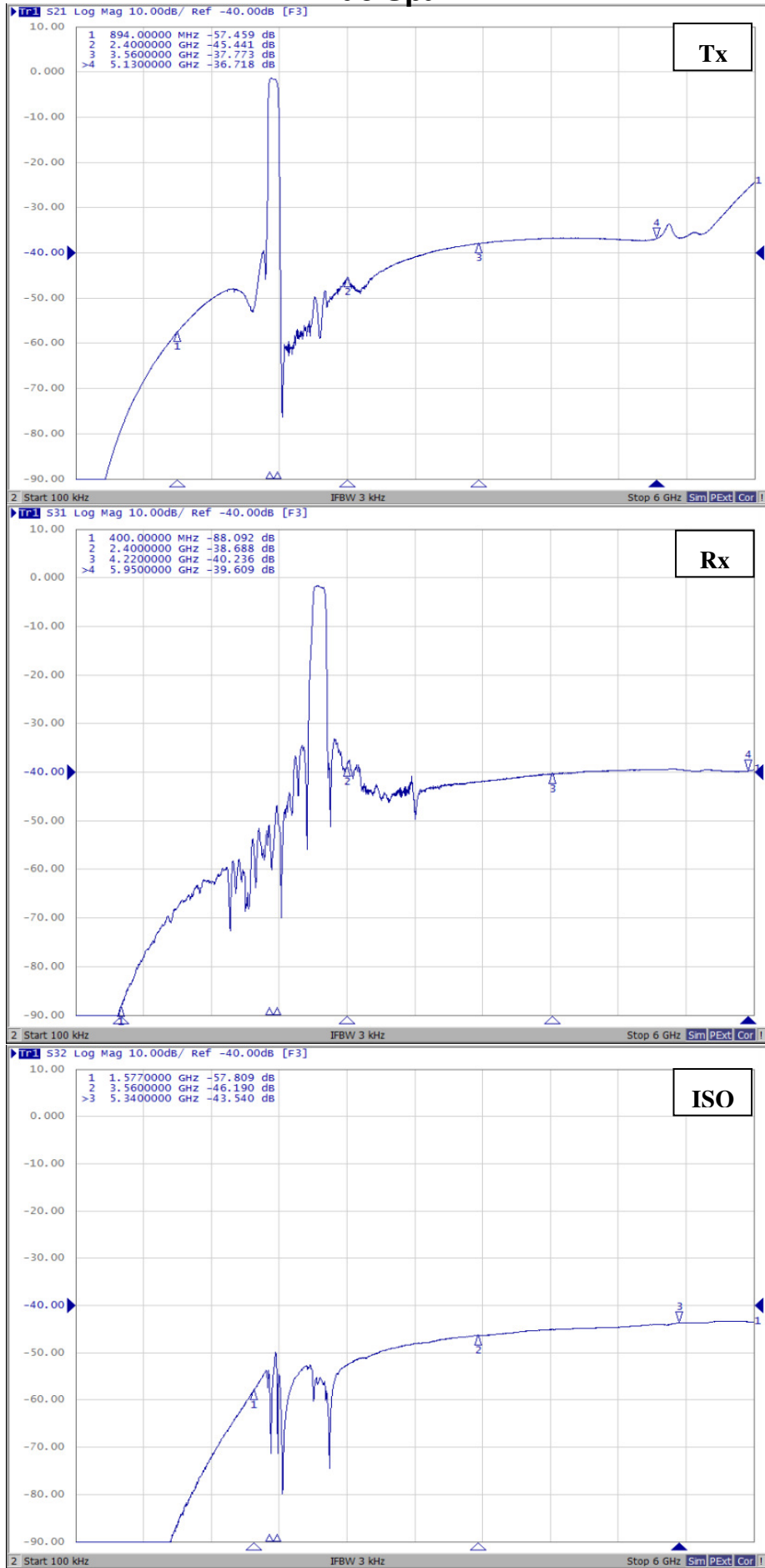


## Smith Chart (ANT Port)

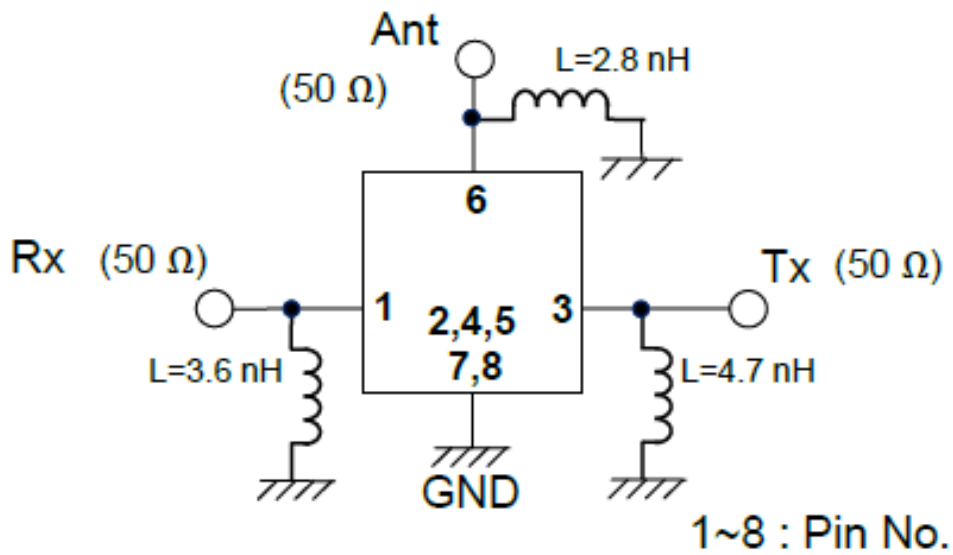




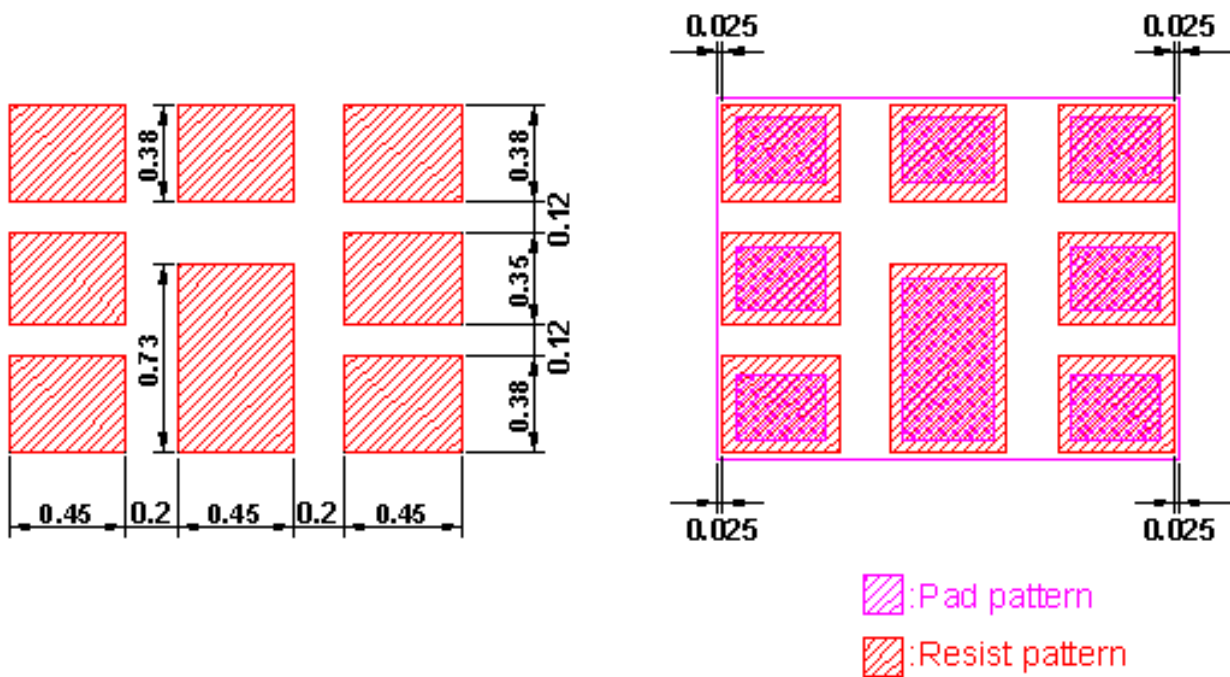
# Wide Span



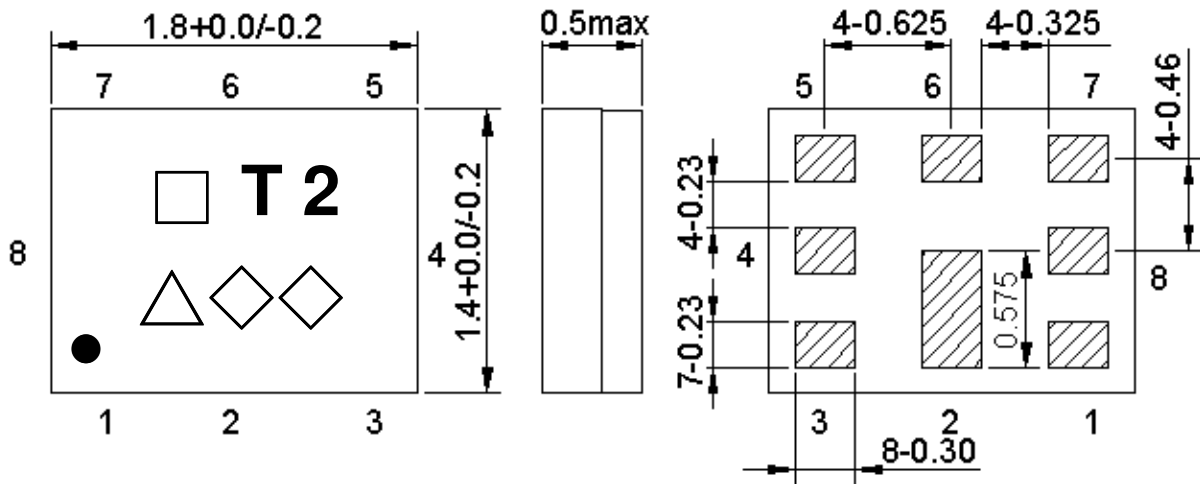
**D. MEASUREMENT CIRCUIT:**



**E. FOOTPRINT:**



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



Traceability code : ( □ : S or 7)

Marking name : **T2**

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

◇◇: Lot Code.

**Date Code:** Follow below table. (4-year cycle)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
2020 / 2024	n	p	q	r	s	t	u	v	w	x	y	z
2021 / 2025	A	B	C	D	E	F	G	H	J	K	L	M
2022 / 2026	N	P	Q	R	S	T	U	V	W	X	Y	Z

**Pin assignment**

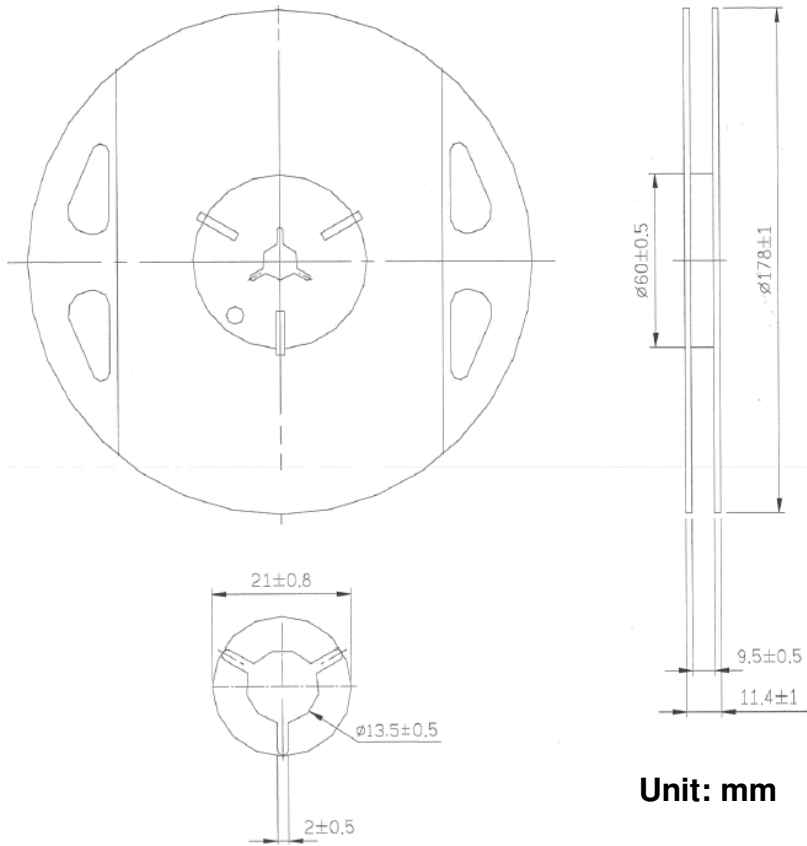
Pin No.	Pin name	Description
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

**Figure 1.Dimensions and Pin assignment**

**G . PACKING:**

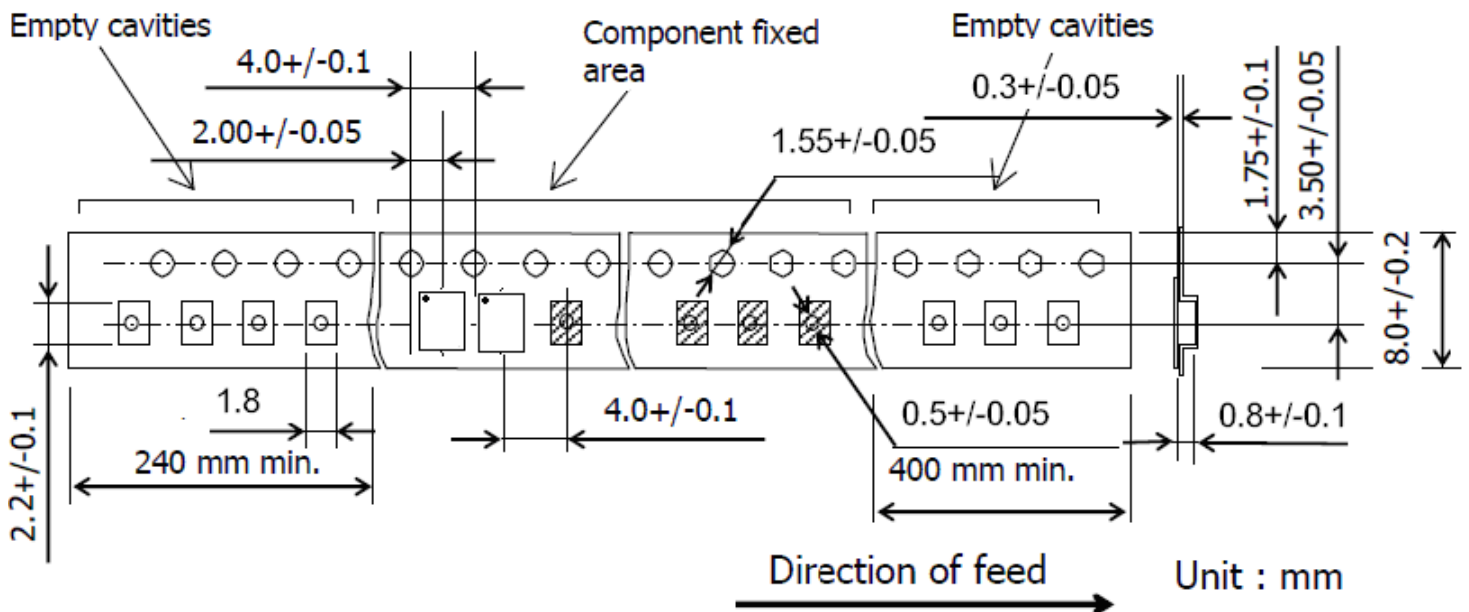
**1. REEL DIMENSION**

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



**Unit: mm**

**2.TAPE DIMENSION**



**Unit : mm**

## 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.

