



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Name: SAW DPX 710 / 740MHz 12/12MHz BW Band17 SMD1.8X1.4 mm

TST Parts No.: TF0190B(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: \_\_\_\_\_ 03, 24 .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 710/740MHz 12/12MHz BW Band17 SMD1.8X1.4 mm  
MODEL NO.: TF0190B

REV. No.: 2.0

## 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: -40 °C to +85 °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(*1)	704~ 716 MHz	dB	-	1.25	2.0	
Ripple	704~ 716 MHz	dB	-	0.4	1.1	
VSWR	Tx	-	-	1.7	2.0	
	ANT	-	-	1.5	2.0	
<b>Attenuation:</b>						
734 ~ 746 MHz		dB	48	58	-	-
746 ~ 768 MHz		dB	30	45	-	-
768 ~ 805 MHz		dB	25	36	-	-
869 ~ 894 MHz		dB	30	35	-	
1408 ~ 1432 MHz		dB	30	40	-	
1559 ~ 1606 MHz		dB	35	43		
2110 ~ 2155 MHz		dB	30	40		
2400 ~ 2484 MHz		dB	25	36		
2816 ~ 2864 MHz		dB	15	33		
4900 ~ 5850 MHz		dB	5	11		

**ANT to Rx**

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss(*1)	734 ~ 746 MHz	dB	-	1.65	2.8	
Ripple	734 ~ 746 MHz	dB	-	0.4	1.5	
VSWR	ANT	-	-	1.5	2.0	
	Rx	-	-	1.5	2.0	
<b>Attenuation:</b>						
704 ~ 716 MHz		dB	55	64	-	
776 ~ 805 MHz		dB	35	41	-	
814 ~ 960 MHz		dB	40	57		
1710 ~ 1755 MHz		dB	40	54		
1850 ~ 1920 MHz		dB	40	53		
2202 ~ 2238 MHz		dB	40	51		
2400 ~ 2500 MHz		dB	40	50		
4900 ~ 5950 MHz		dB	40	50		

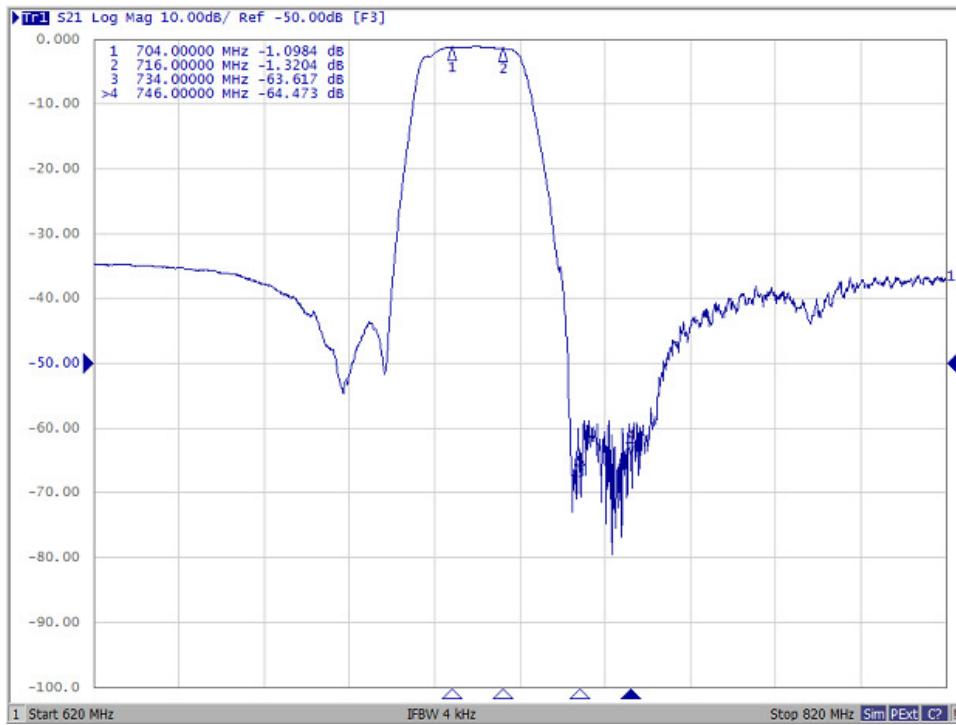
**Tx to Rx**

<b>Isolation</b>	704 ~ 716 MHz	dB	60	65	-	
	734 ~ 746 MHz	dB	50	60	-	

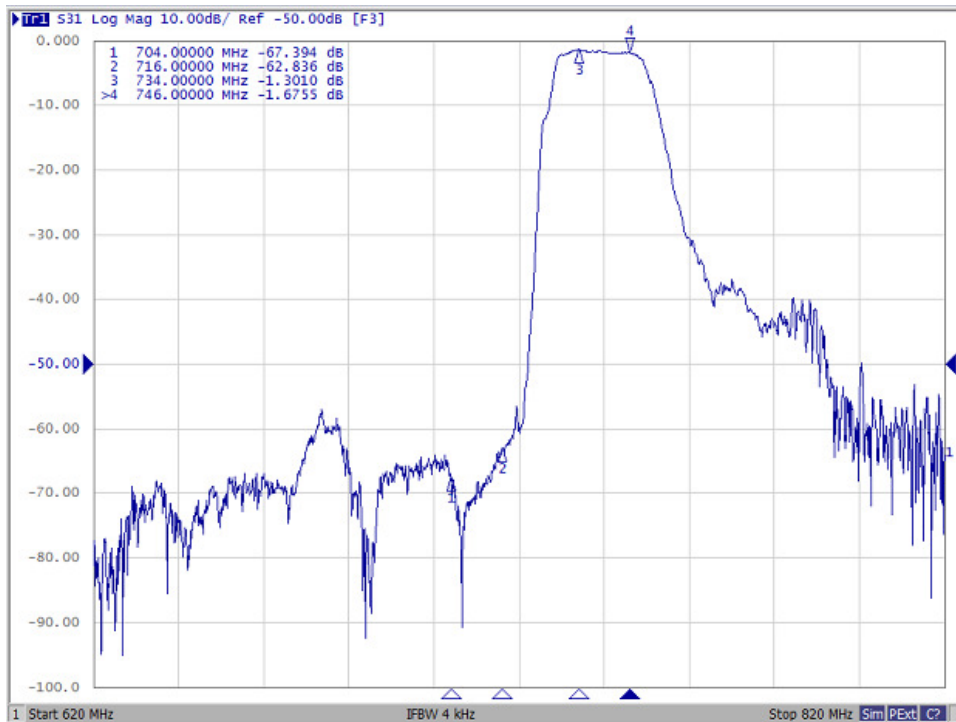
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C. Frequency Characteristics:

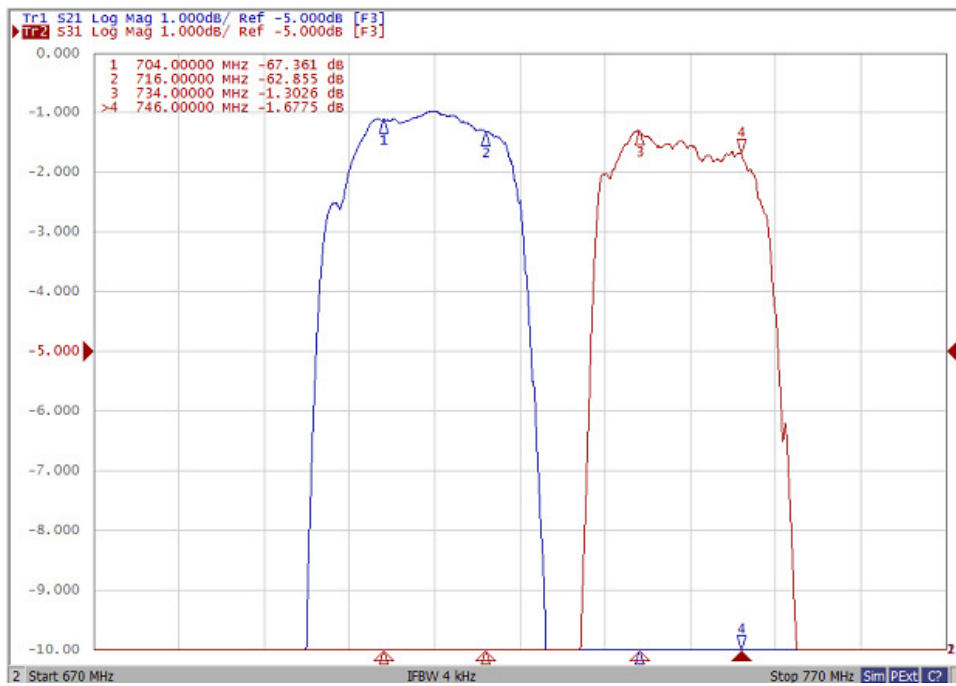
#### Tx to Ant



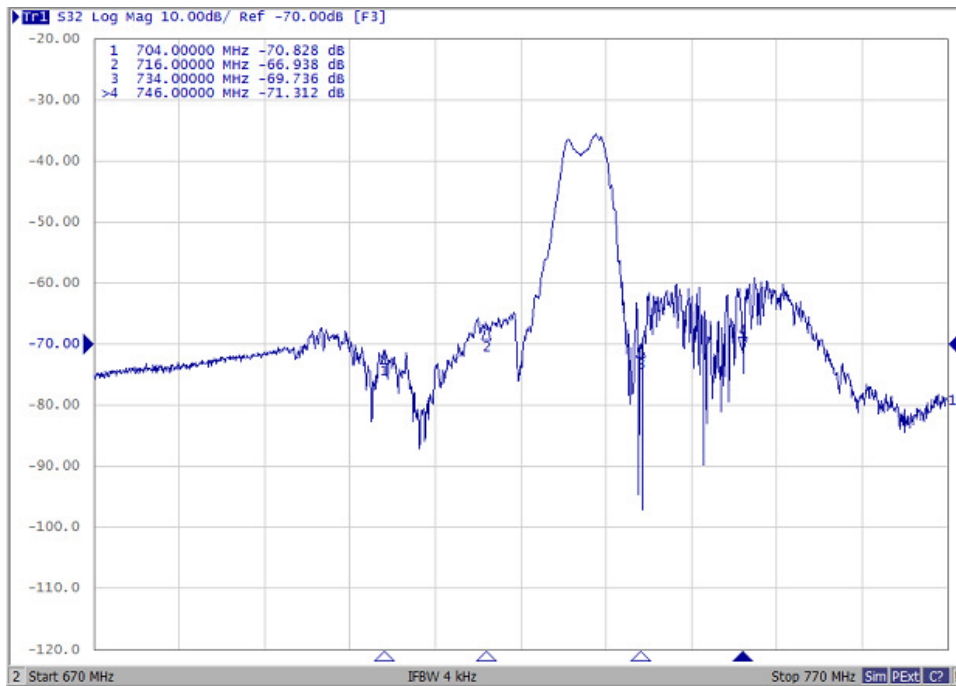
#### Ant to Rx



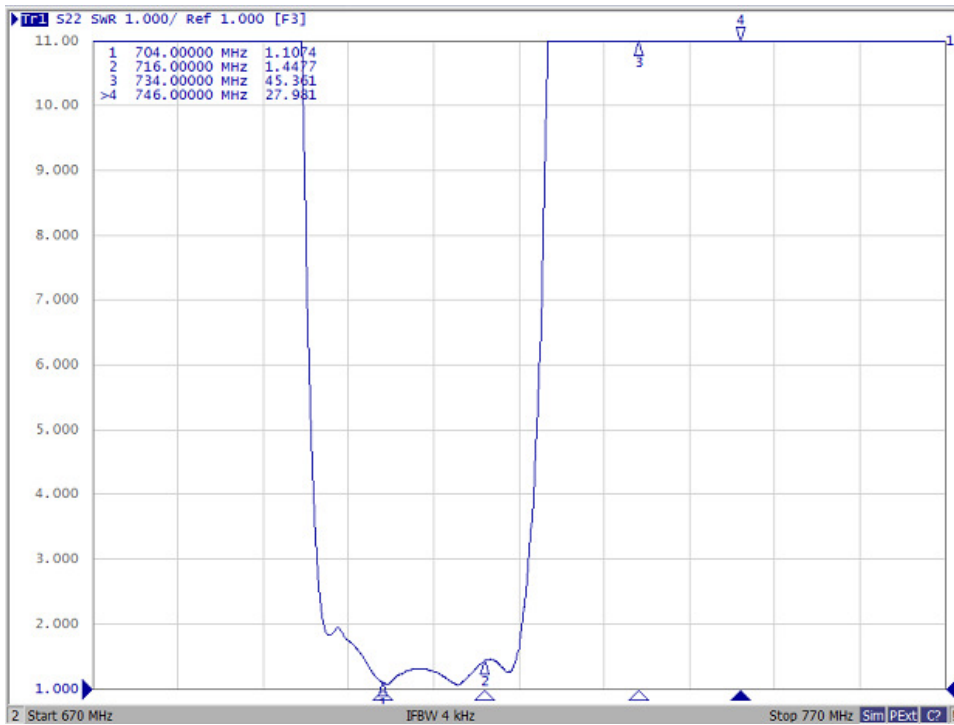
## Tx to Ant , Ant to Rx



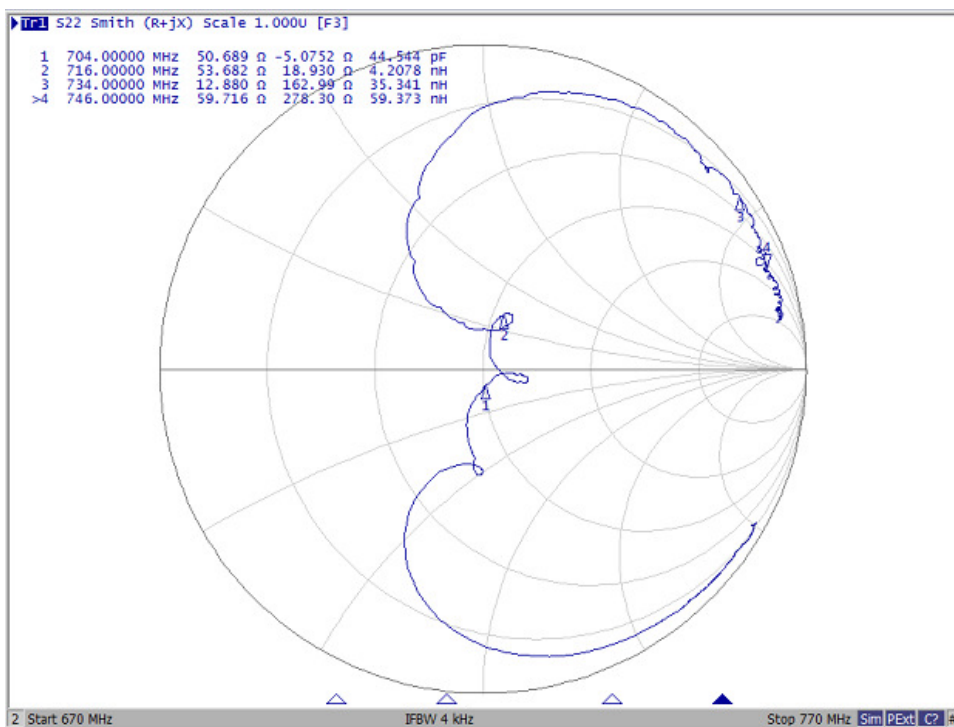
## Isolation



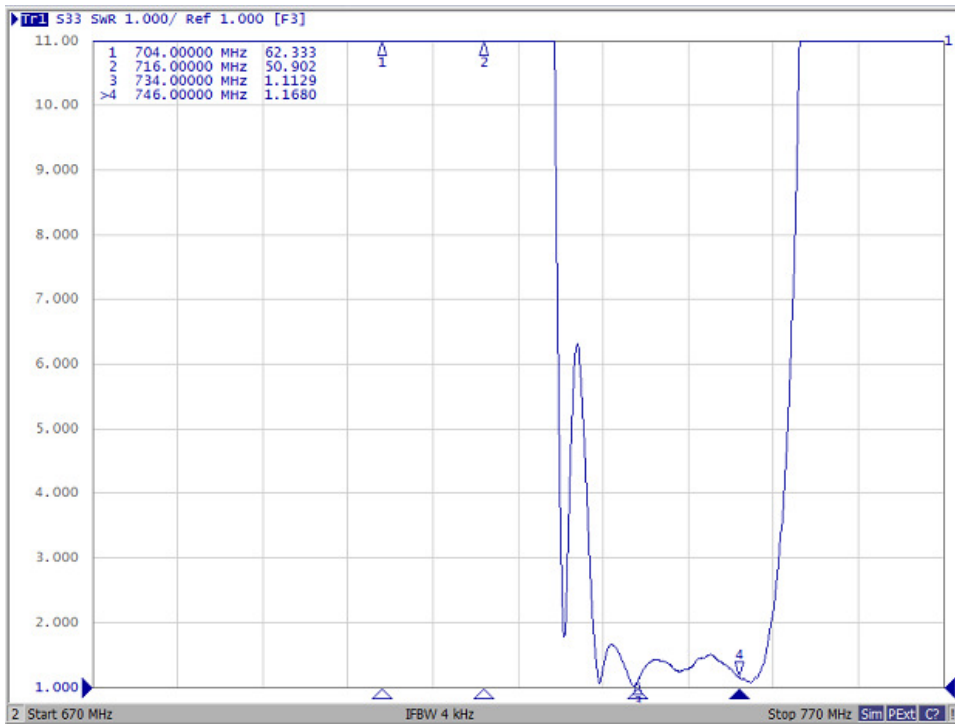
## VSWR (Tx Port)



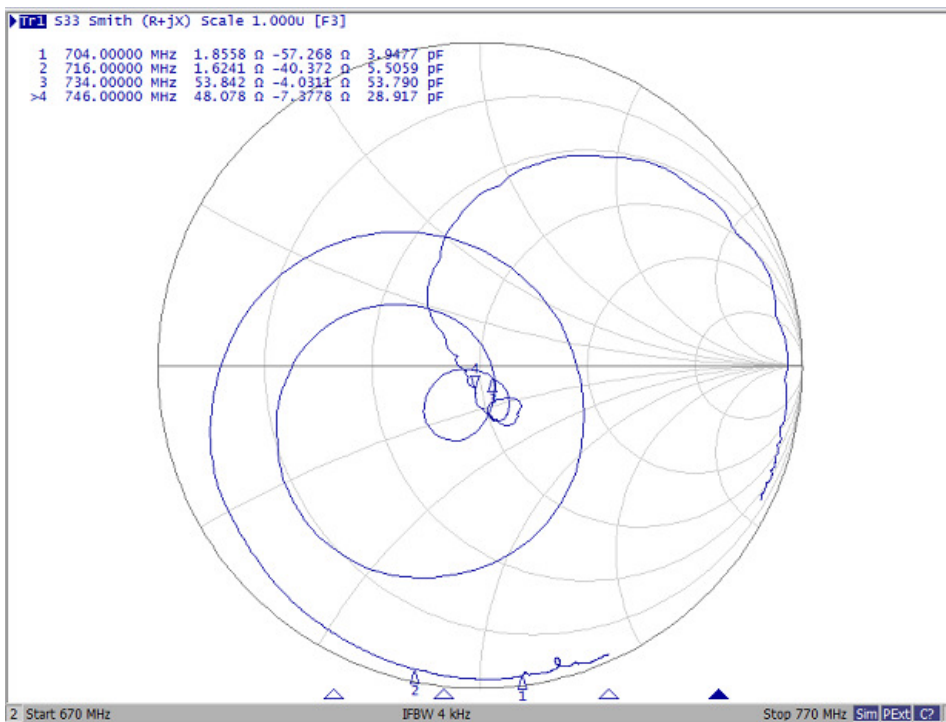
## Smith Chart (Tx Port)



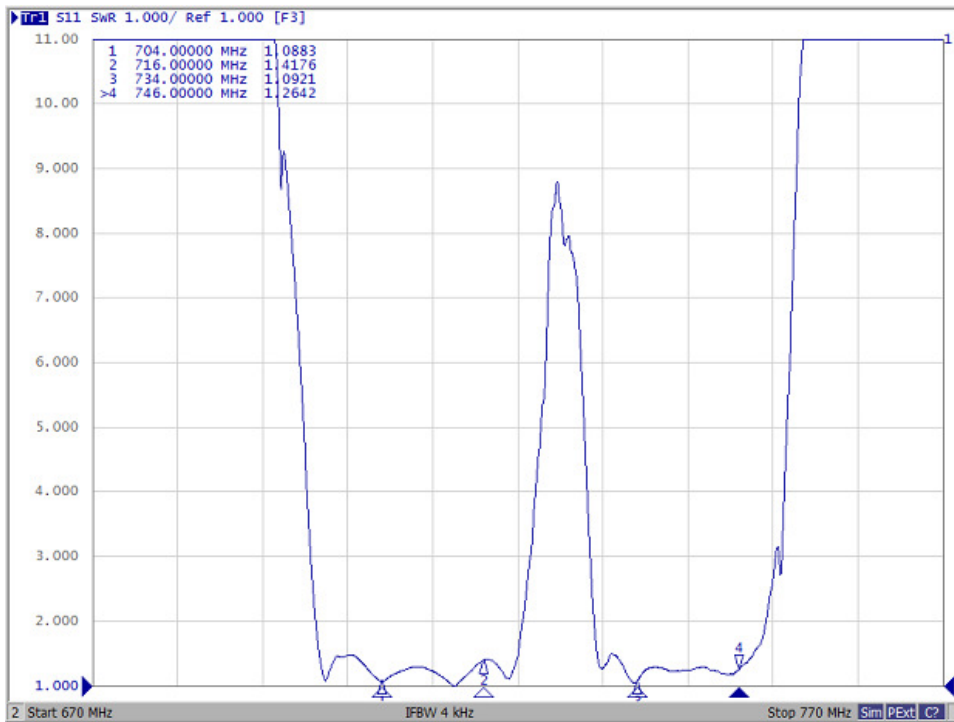
## VSWR (Rx Port)



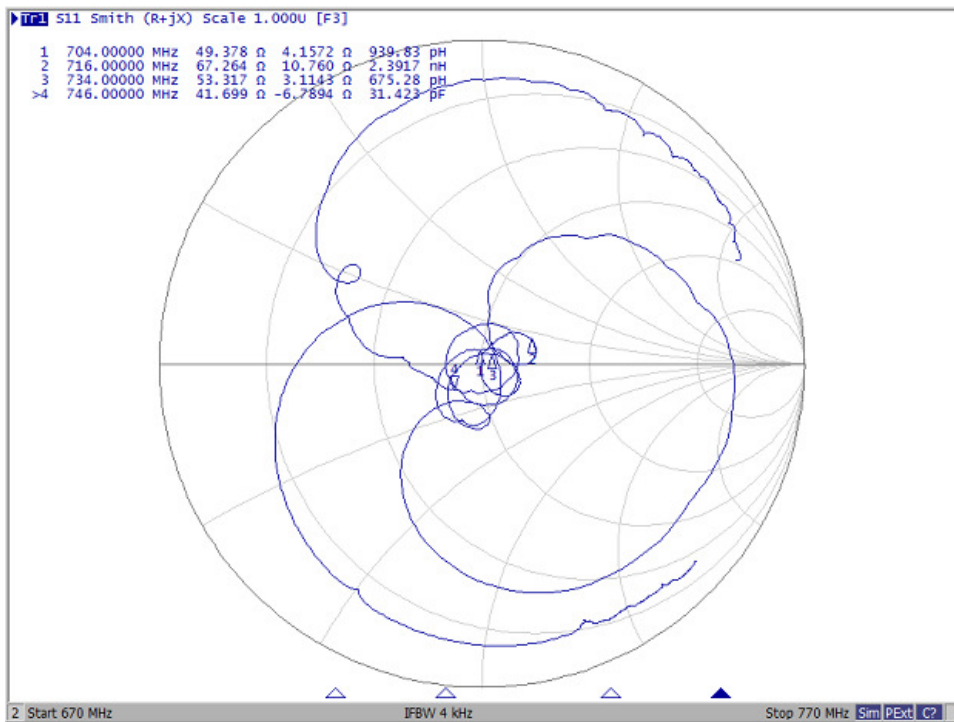
## Smith Chart (Rx Port)



## VSWR (ANT Port)

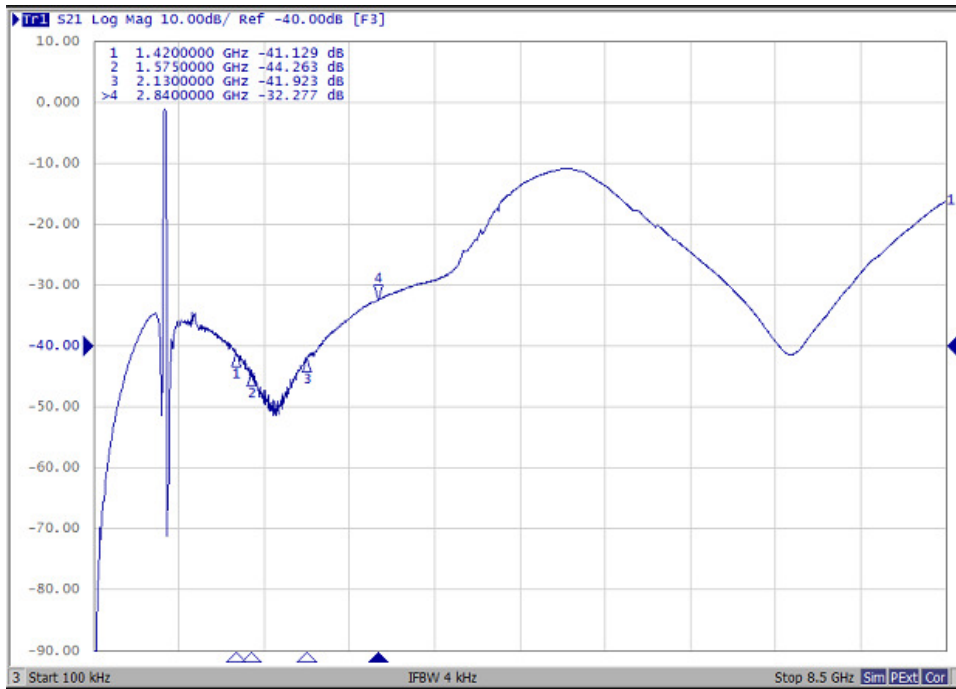


## Smith Chart (ANT Port)

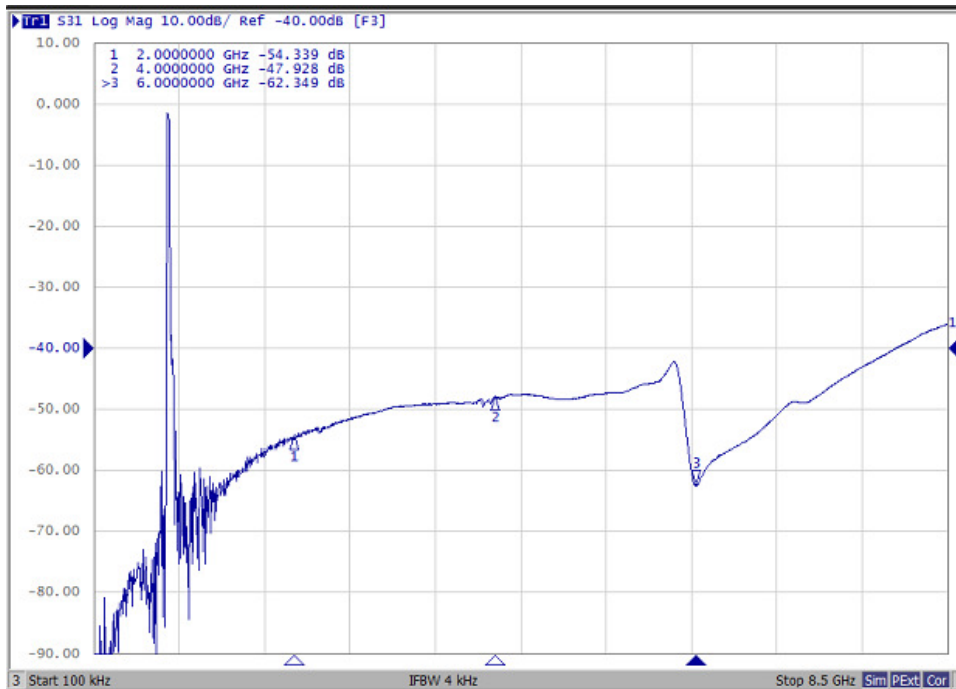




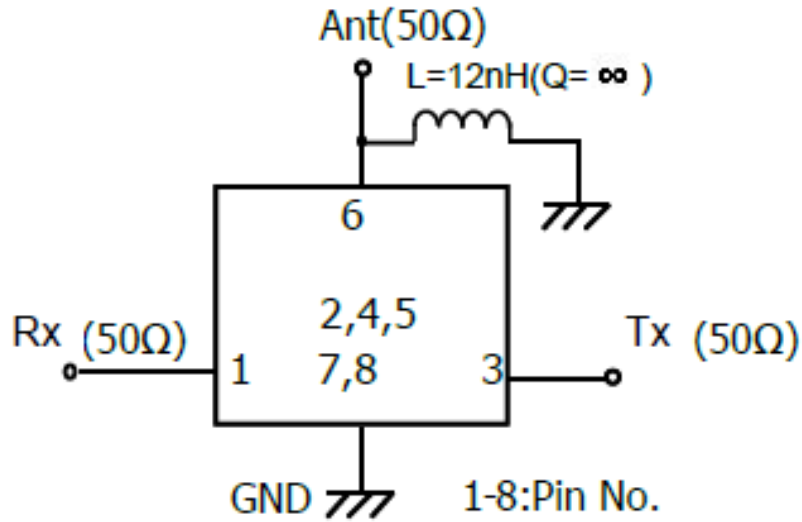
## Tx to Ant (Wide Span)



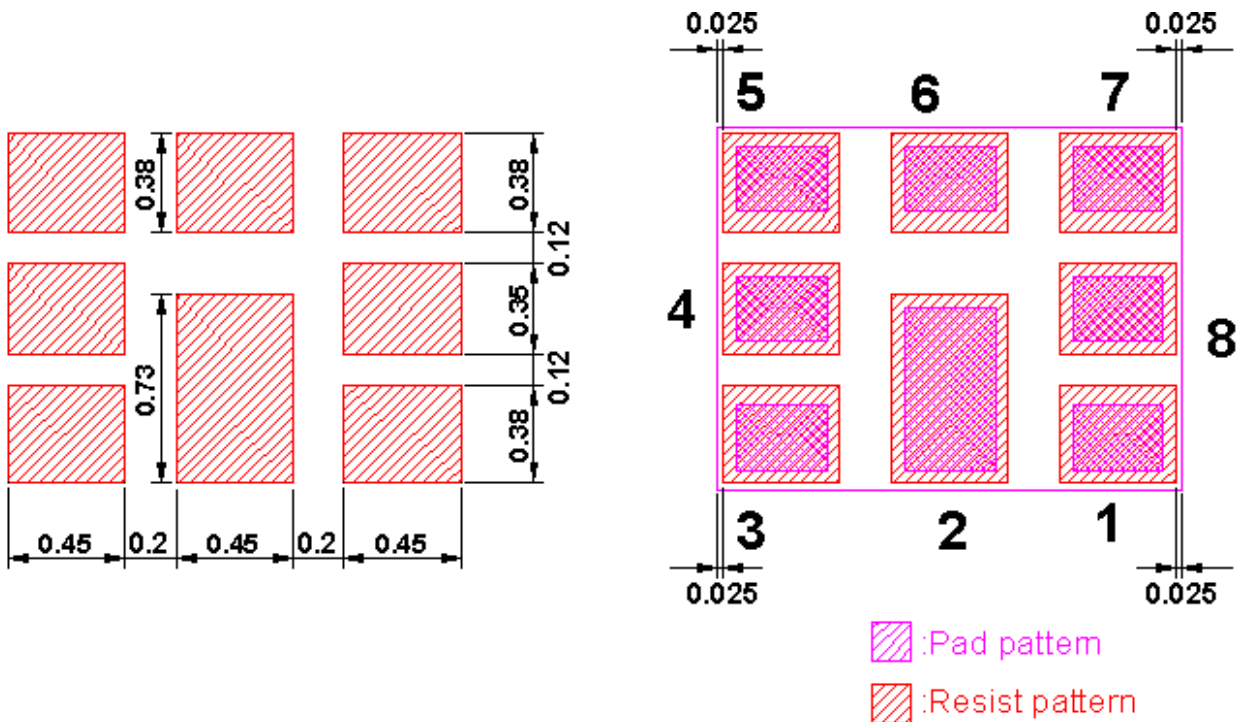
## Ant to Rx (Wide Span)



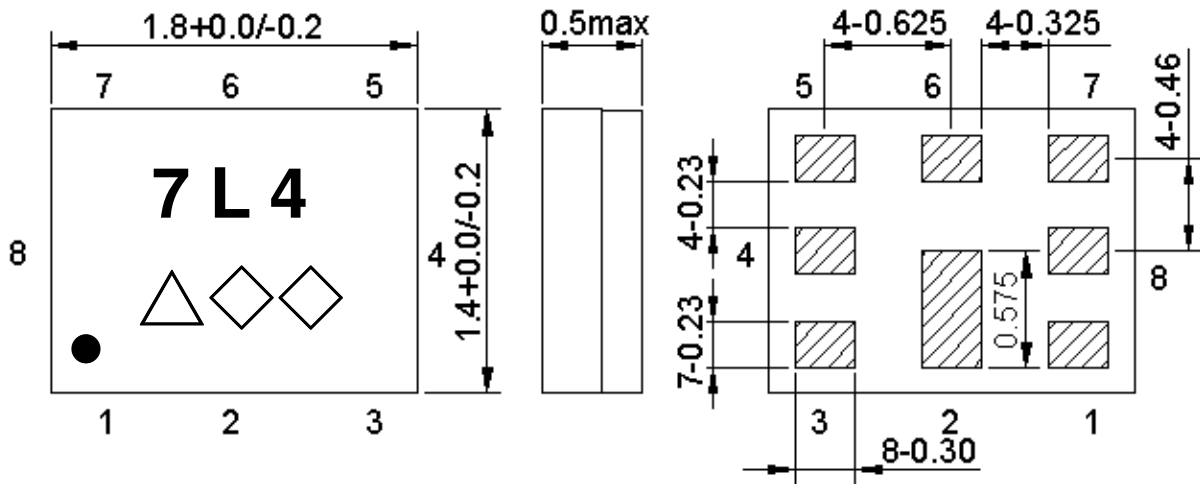
**D. MEASUREMENT CIRCUIT:**



**D. FOOTPRINT:**



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



Marking name : **7L4**

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

◇◇: Lot Code.

Not Specified Tolerance :  $\pm 0.05$  mm

Coplanarity :  $0.1$  mm max.

1 to 8 : Pin No.

Unit : mm

**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**

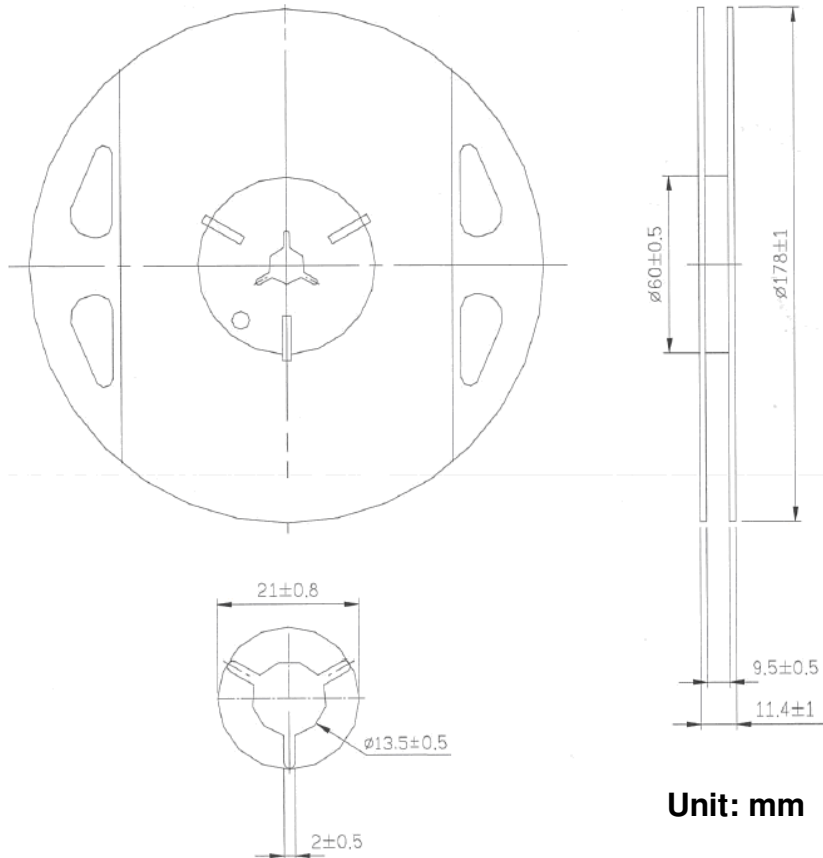
Pin No.	Pin name	Description
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

**Figure 1. Dimensions and Pin assignment**

**F. PACKING:**

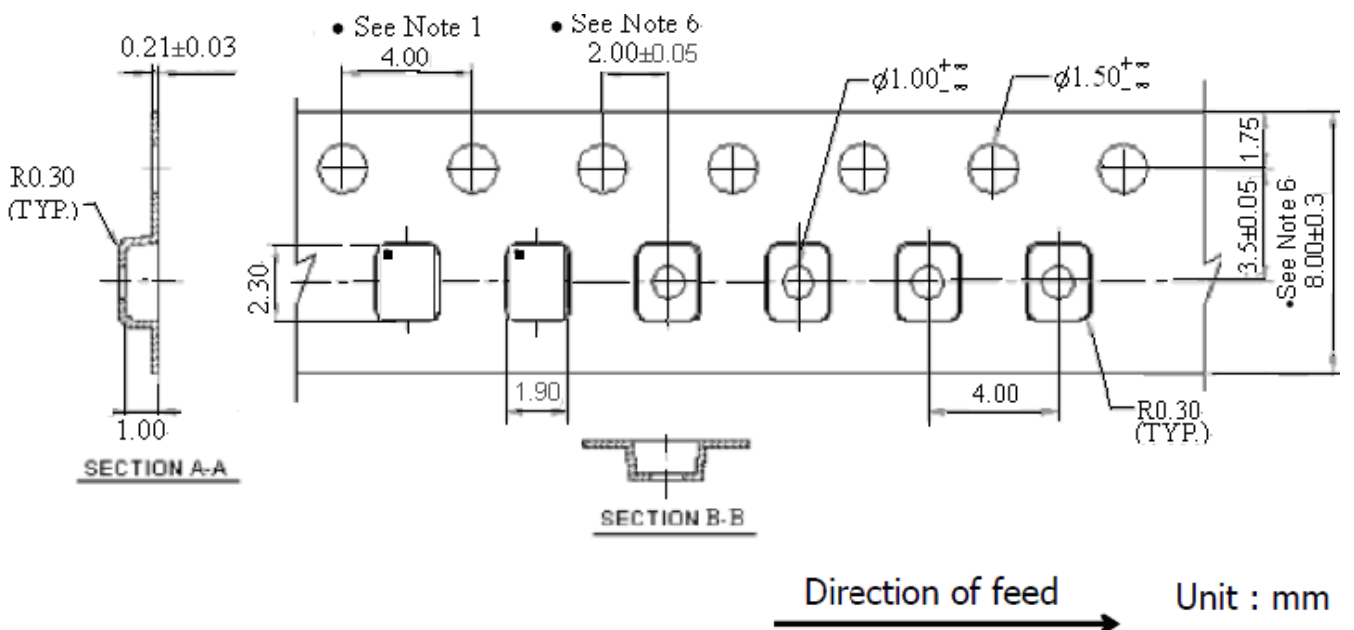
**1. REEL DIMENSION**

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



**Unit: mm**

**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.

