



# 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

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## Product Specifications Approval Sheet


Product Description: SAW DPX 836.5/881.5 MHz LTE Band 5 SMD 1814

TST Part No.: TF0123A

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

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

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

Approved by: \_\_\_\_\_ Bob Chau 

Date: \_\_\_\_\_ 2017, 04. 10

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 836.5/881.5 MHz LTE Band 5 SMD 1814 (25 MHz BW)

MODEL NO.:TF0123A

REV.No.:2

### A. MAXIMUM RATING:

1. Operating temperature range: -30 °C to +85 °C
2. Storage temperature range: -30 °C to +85 °C
3. Input power : 29dBm (Ta=+50deg C,50000h,CW )
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 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(Single-ended)

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

Terminating impedance (Ant Port): 50//6.8nH Ω (Single-ended)

#### Tx to ANT (f<sub>T0</sub>=836.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	824~849MHz	dB(*1)	-	1.4	1.9	
Amplitude ripple	824~849MHz	dB	-	0.3	1.2	
VSWR	ANT	-	-	1.6	2.0	
	Tx	-	-	1.9	2.2	
<b>Attenuation:</b>						
<b>DC~750 MHz</b>		dB	25	40	-	
<b>779~804 MHz</b>		dB	30	45	-	
<b>860~870 MHz</b>		dB	3	7	-	
<b>869~894 MHz</b>		dB	52	58	-	
<b>1574~1577 MHz</b>		dB	40	51	-	
<b>1648~1698 MHz</b>		dB	40	53		
<b>2472~2547 MHz</b>		dB	30	54		

### ANT to Rx ( $f_{T0}=881.5$ MHz)

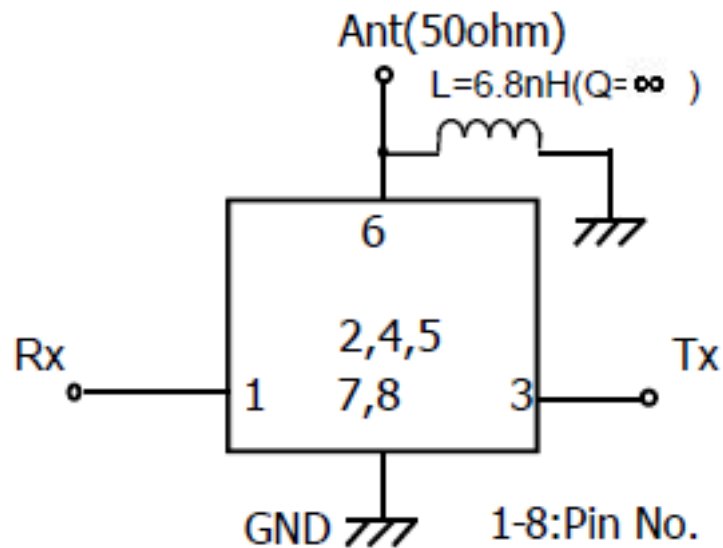
Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	869~894 MHz	dB(*1)	-	1.7	2.3	
Amplitude ripple	869~894 MHz	dB	-	0.4	1.3	
VSWR	ANT	-		1.7	2.0	
	Rx			1.7	2.0	
<b>Attenuation:</b>						
779~804 MHz		dB	50	57	-	
824~849 MHz		dB	50	60	-	

### Tx to Rx

Isolation	824~849 MHz	dB	55	58	-	
	869~894 MHz	dB	54	59	-	

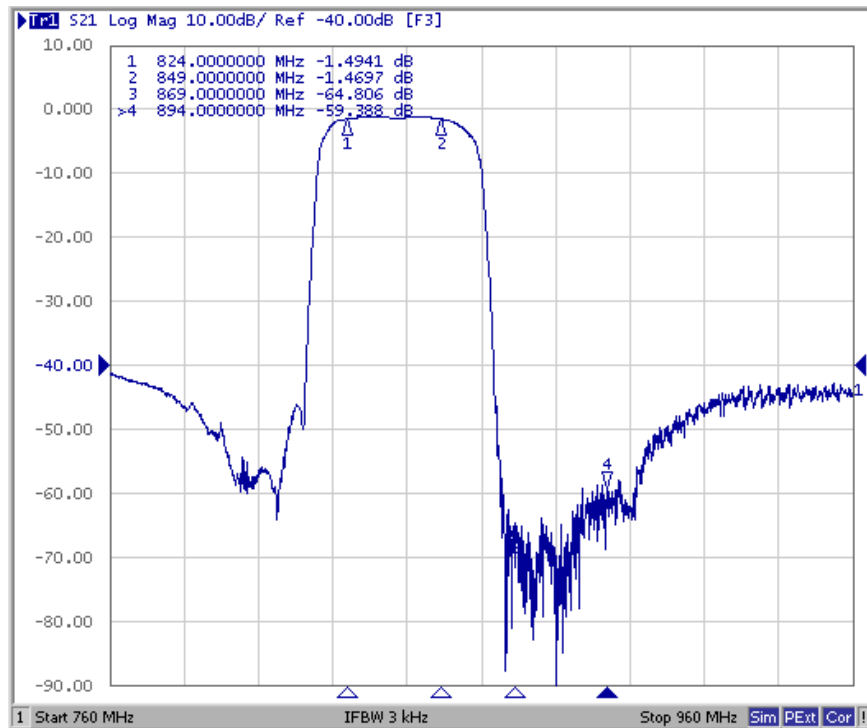
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C.Evaluation Circuit

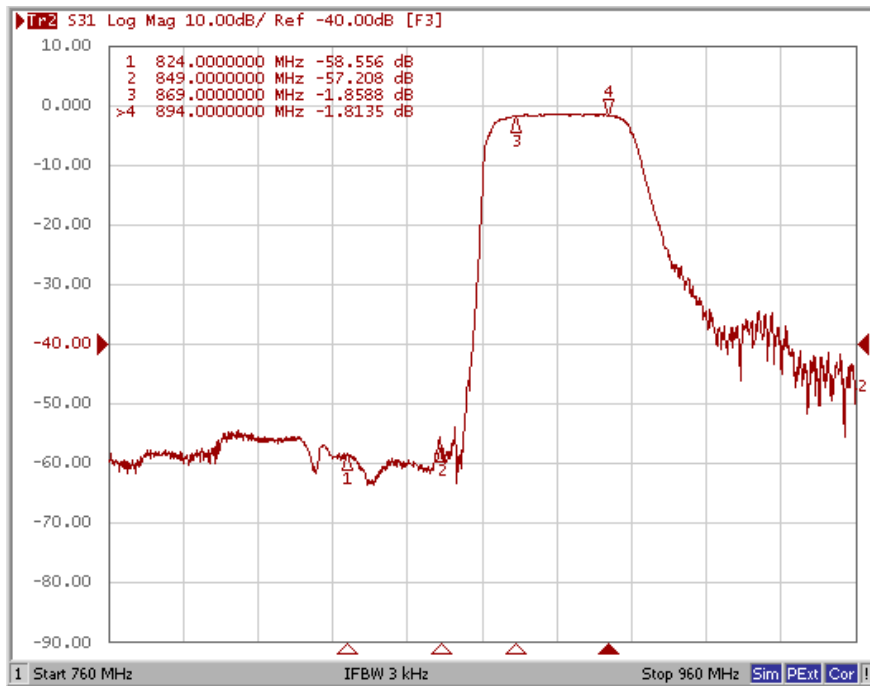


## D. FREQUENCY CHARACTERISTICS:

### Tx to Ant

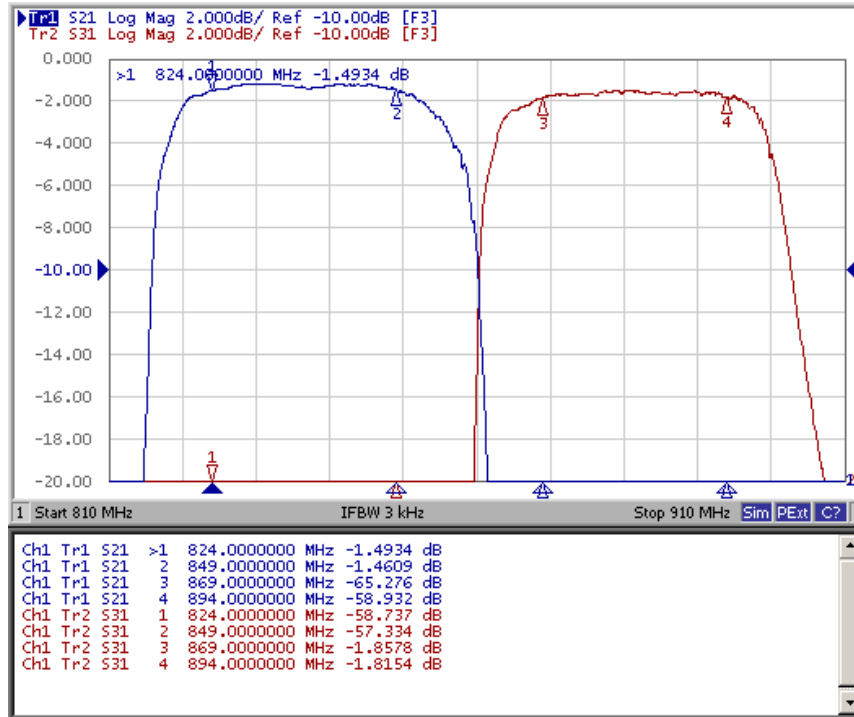


### Ant to Rx

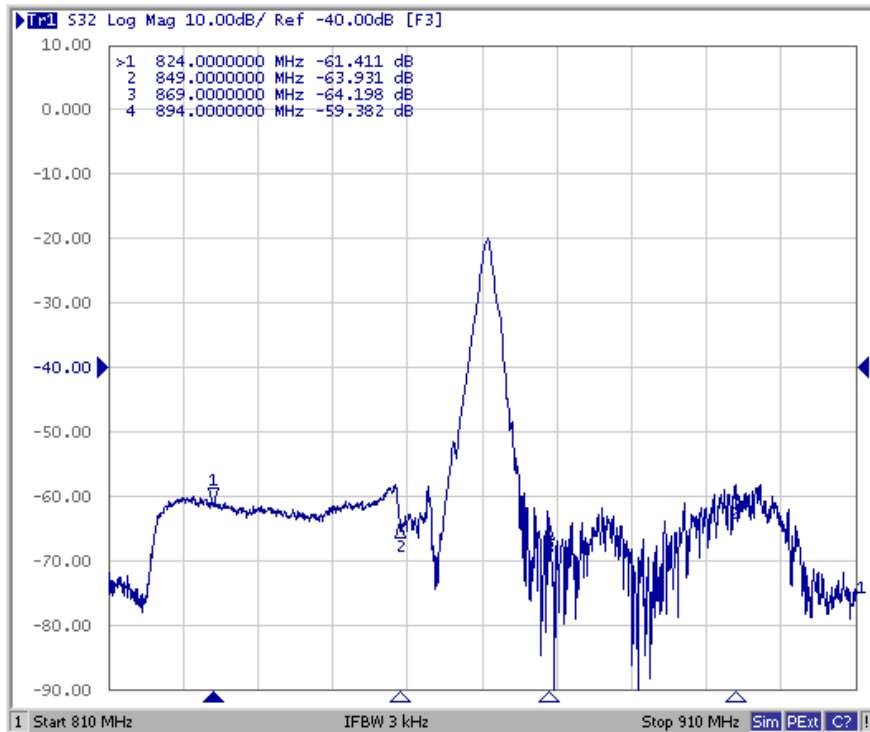


These data **exclude** loss that comes from the test board.

## Tx to Ant ,Ant to Rx

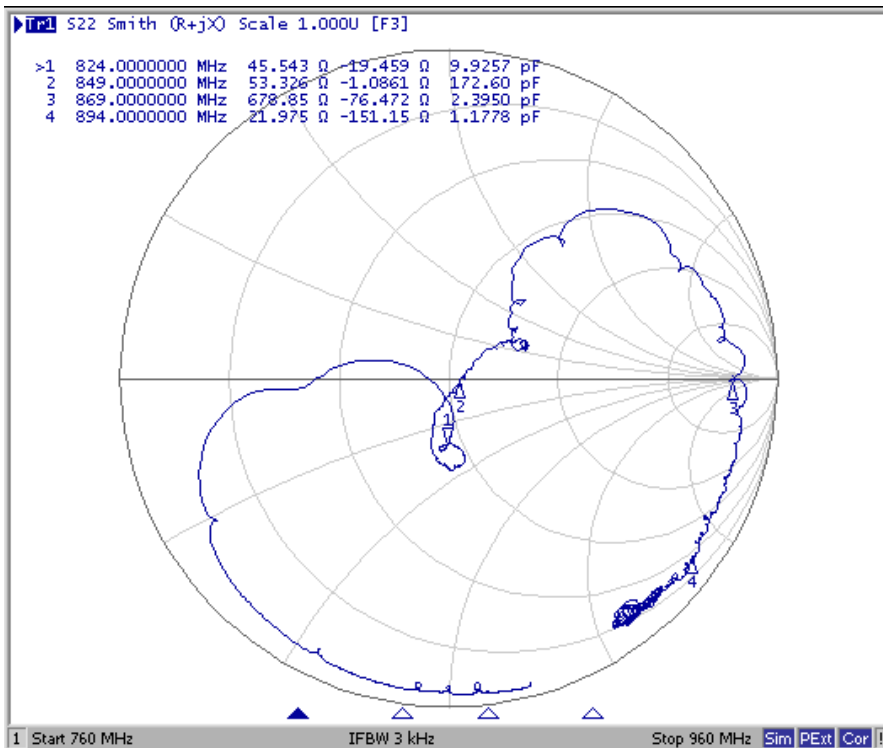
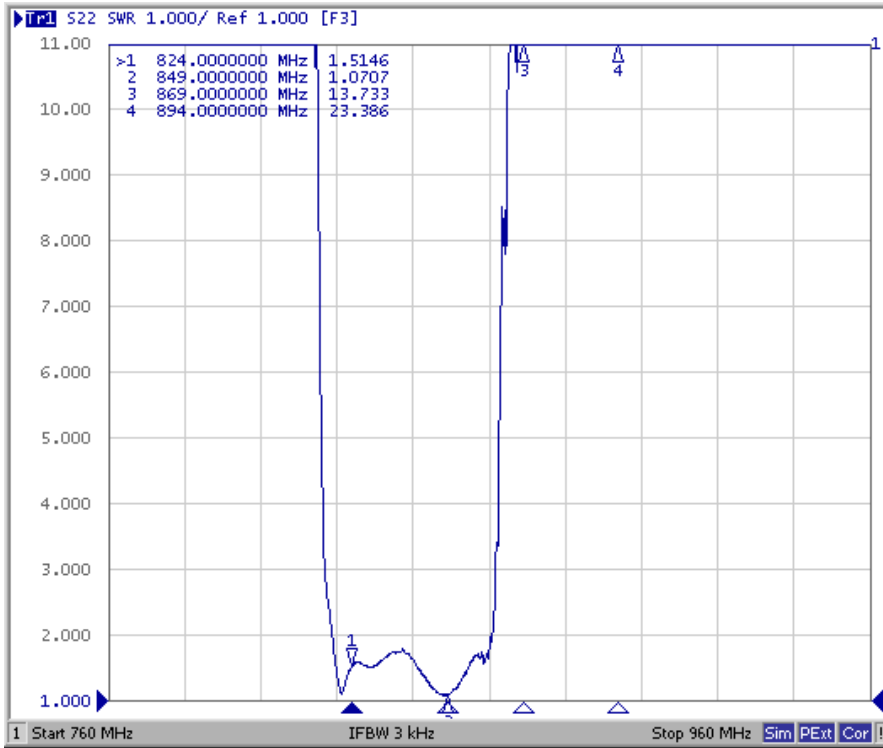


## Tx to Rx Isolation

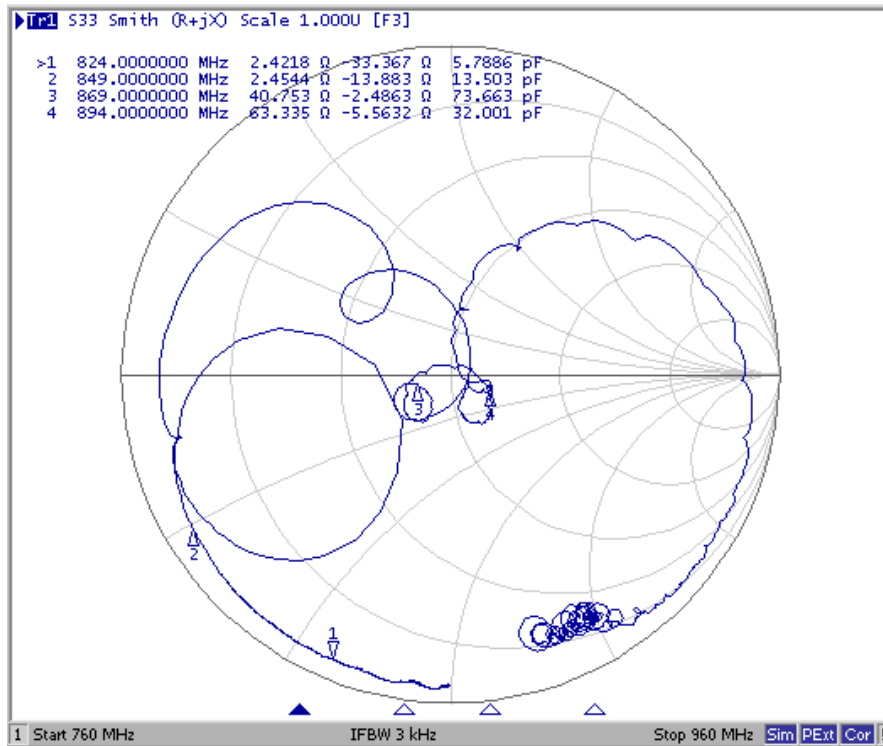
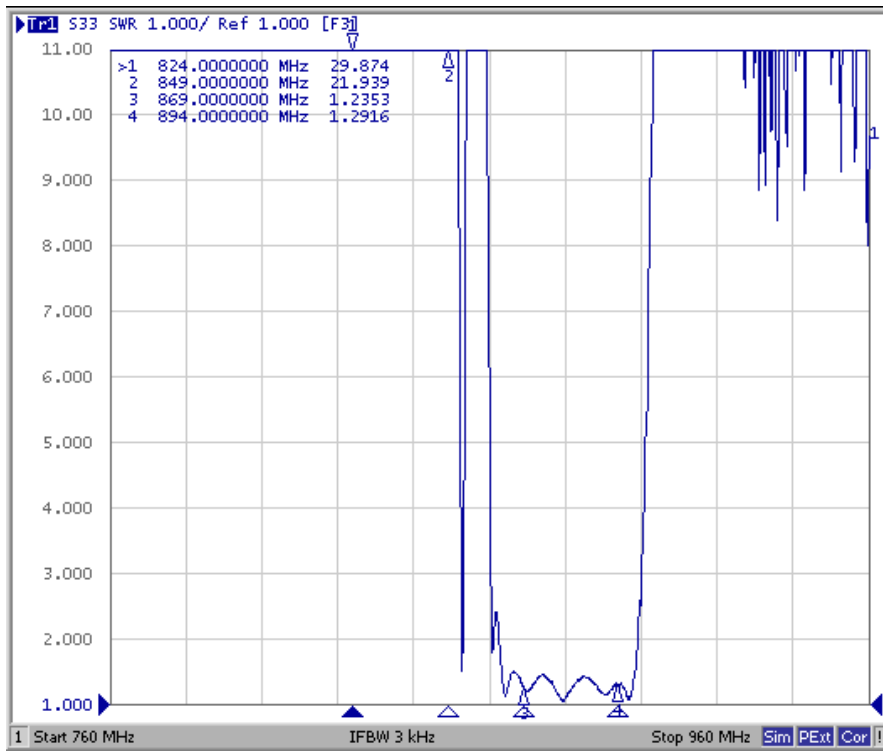


These data **exclude** loss that comes from the test board

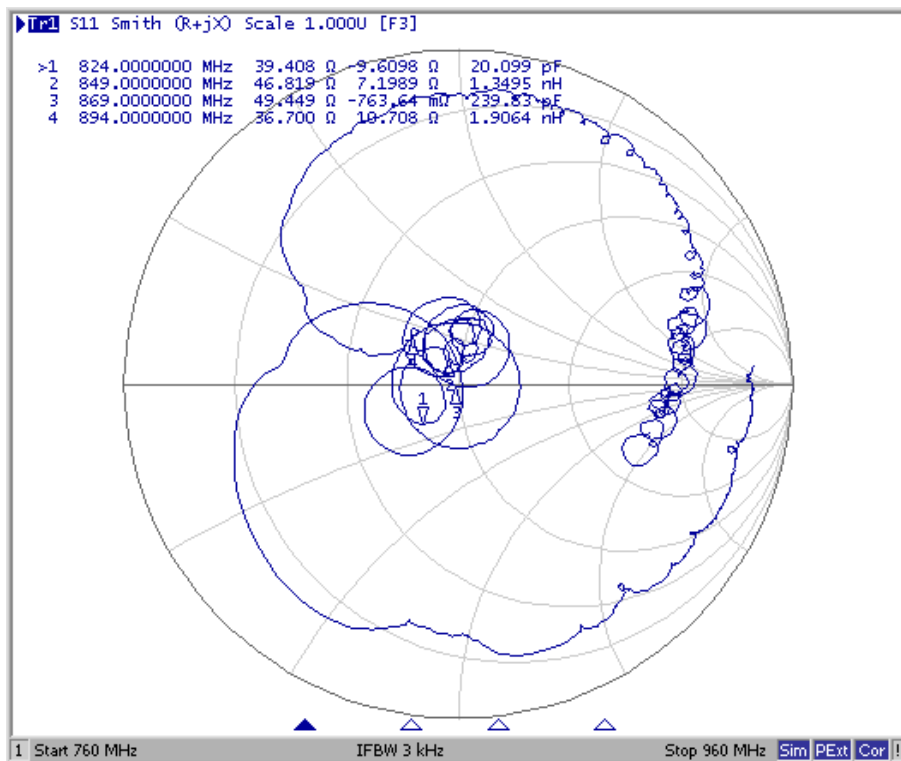
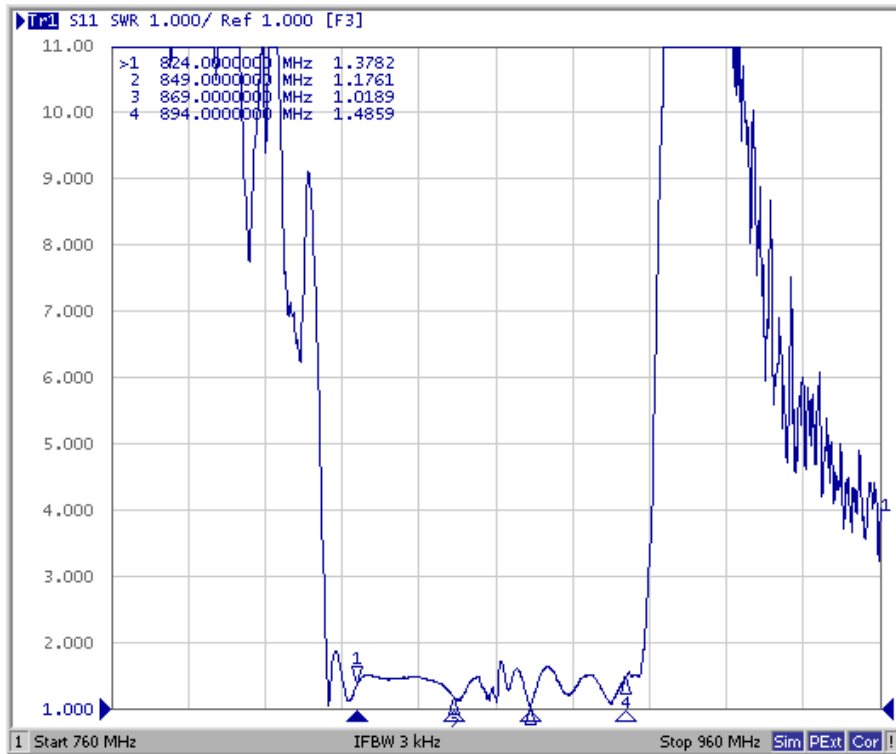
# Tx Port



# Rx Port

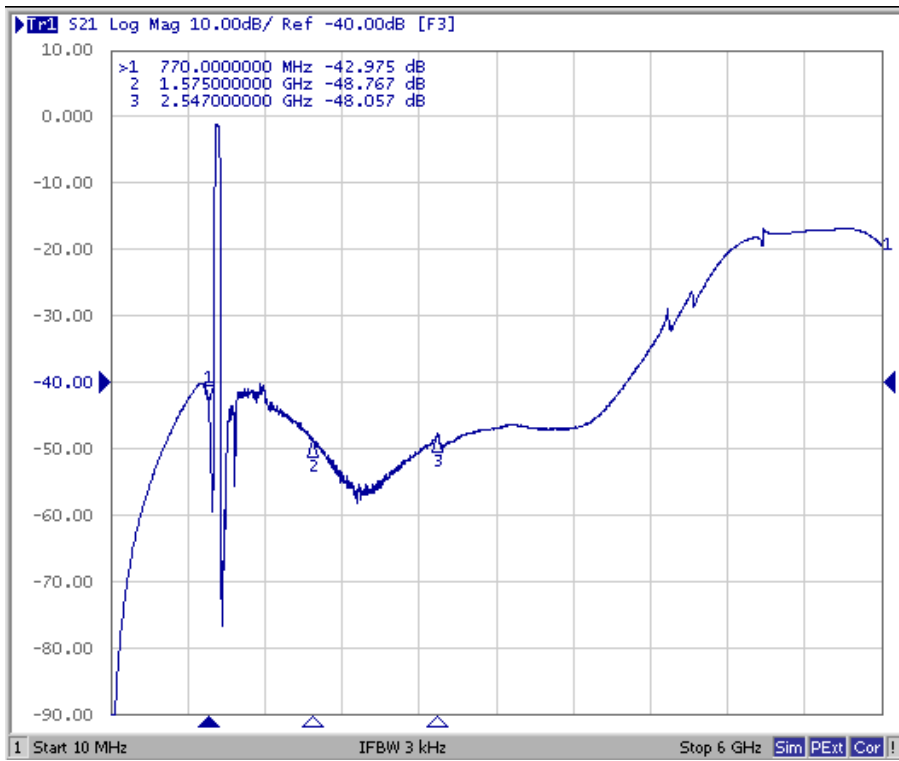


# Ant Port

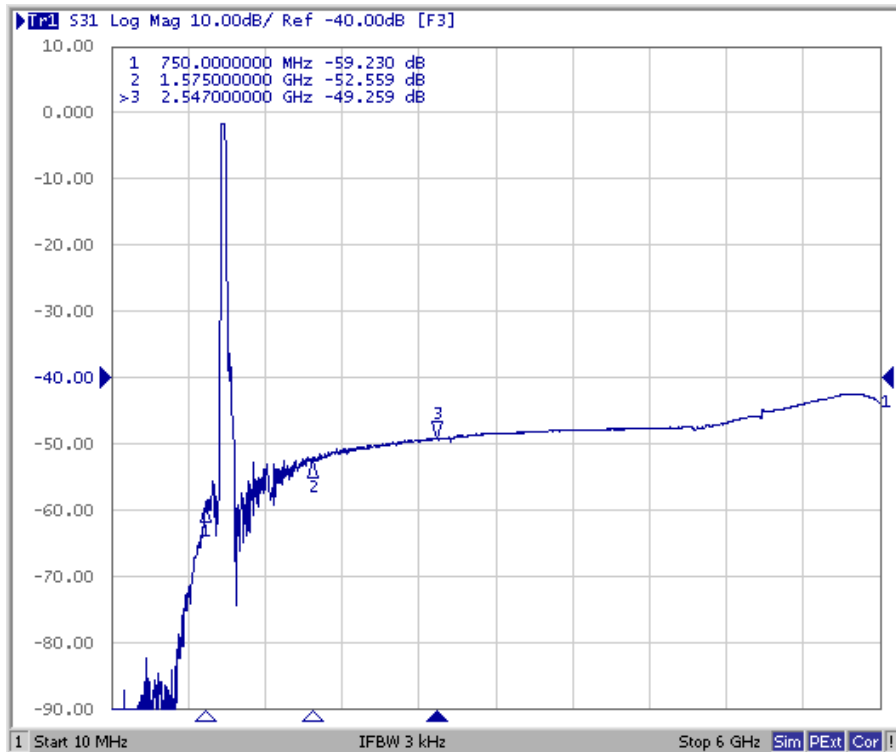




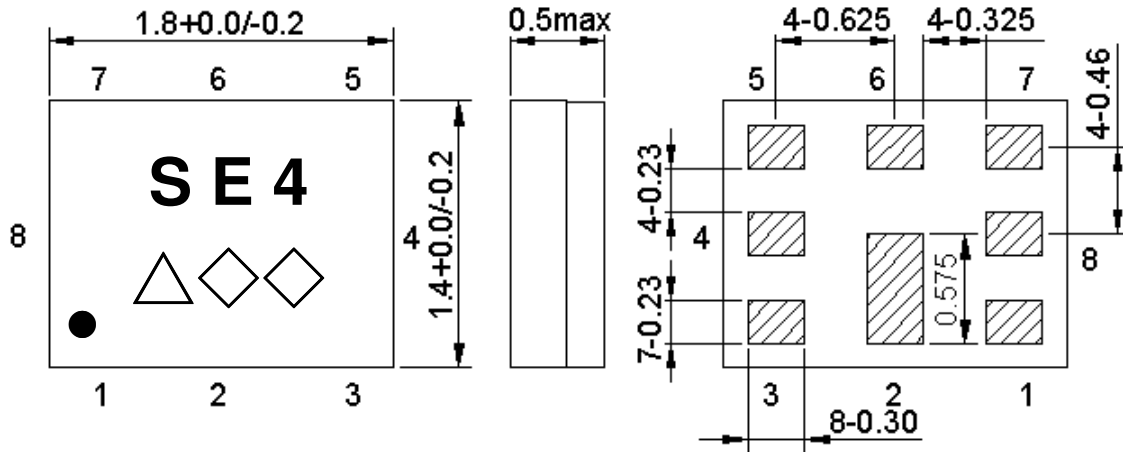
## Tx to Ant (Wide span)



## Ant to Rx (Wide span)



**E. OUTLINE DRAWIN:**



Marking name : **SE4**

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

◇◇: Lot Code.

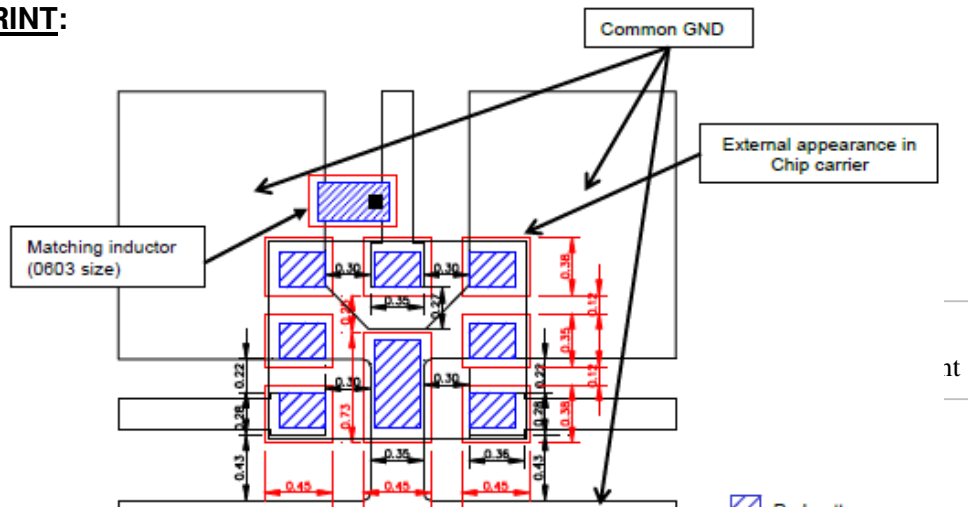
Product Date Code. Follow below table.

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 Configuration:**

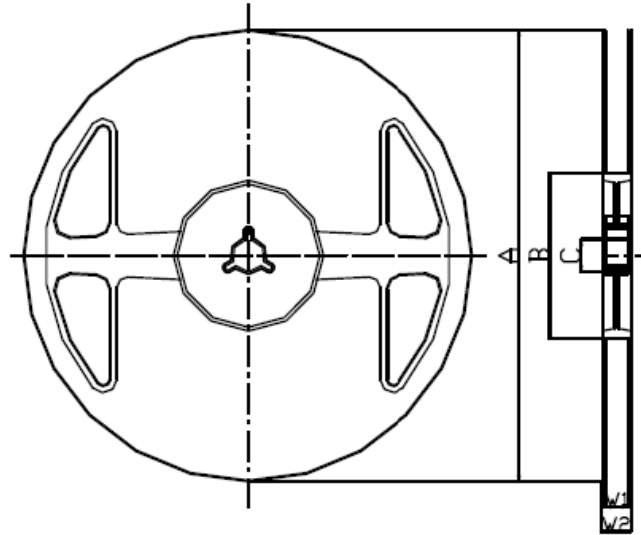
Pin No.	Pin Name	Description
1	Rx	Receive Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

**F. FOOTPRINT:**



**G. PACKING:**

**1. REEL DIMENSION**



**Materials of Reel**

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

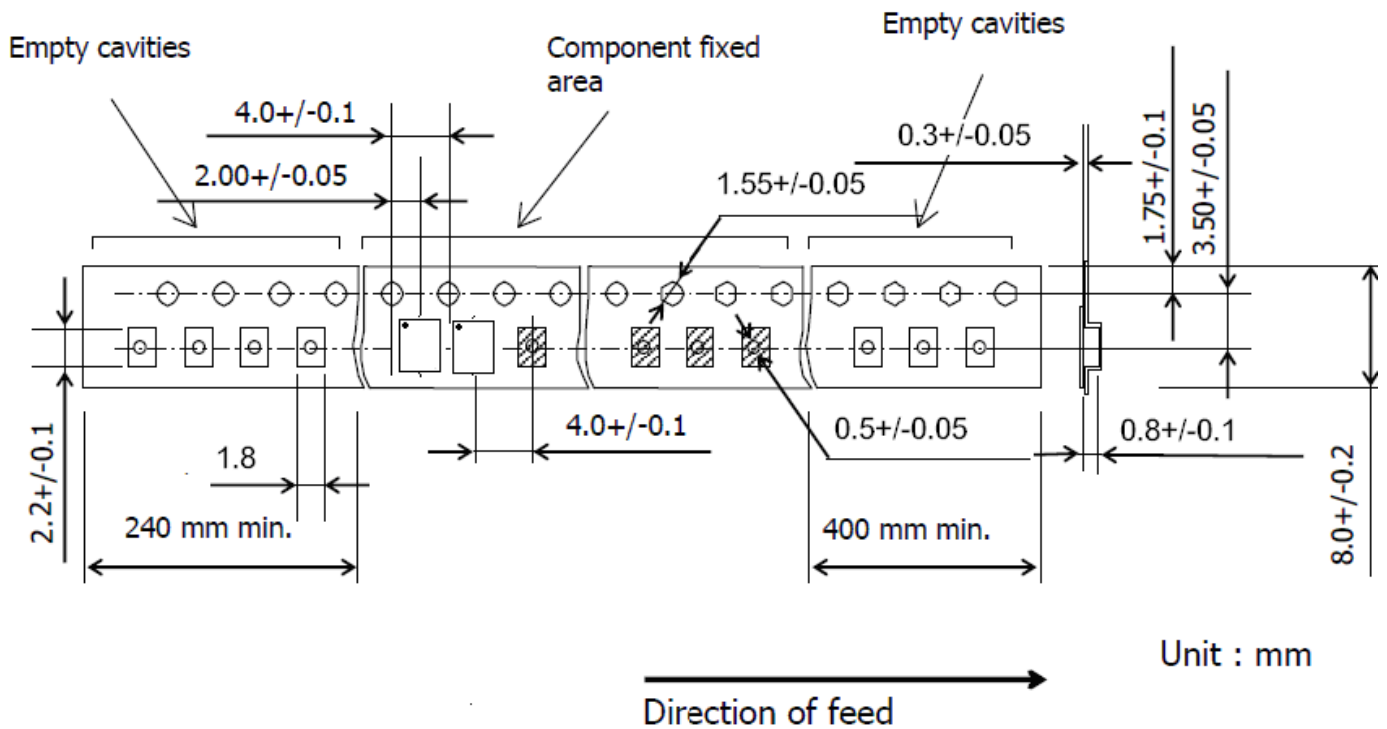
Color : Black

Surface resistance (reference value) :  $10^9 \Omega/\text{sq Max.}$

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 pcs	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

**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 245~260°C peak (min. 10sec).
4. Time : 2 times.

