



# 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 Description: SAW DPX 897.5 / 942.5 MHz Band 8 SMD 1.8X1.4 mm (BW=35 MHz)

TST Part No.: TF0125DA

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

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

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

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

Date: \_\_\_\_\_ 11 / 08 / 2017

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 897.5 / 942.5 MHz Band 8 SMD 1.8X1.4 mm (BW=35 MHz)

MODEL NO.:TF0125DA

REV.1.0

## A. MAXIMUM RATING:

1. Operating temperature range: -20 °C to +85 °C
2. Storage temperature range: -40 °C to +85 °C
3. Tx Input power : 29dBm (Ta=+50°C,50000h,CW)
- 3.1Rx Input power : 15dBm (Ta=+50°C, 50000h,CW )
4. Maximum DC Voltage: 0 V
5. Moisture Sensitivity Level: Level 3 (MSL 3)
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 Ω (Single-ended)

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

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

### Tx to ANT (f<sub>T0</sub>=897.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	880.48 ~ 914.52 MHz	dB	-	2.6	3.6	
	882.4 ~ 912.6 MHz	dB		2.3	2.7	
Amplitude ripple	880 ~ 915 MHz	dBp-p	-	1.8	2.7	
VSWR	ANT		-	2.0	2.5	
	Tx		-	2.0	2.3	

### Attenuation:

10 ~ 716 MHz	dB	30	44	-	
716 ~ 728 MHz	dB	33	46	-	
728 ~ 793 MHz	dB	33	46	-	
832 ~ 862 MHz	dB	28	32	-	
927 ~ 957.6 MHz	dB	45	50	-	
1559 ~ 1563 MHz	dB	35	40	-	
1565.42 ~ 1573.37 MHz	dB	35	40	-	
1573.37 ~ 1577.47 MHz	dB	35	40	-	
1577.47 ~ 1585.42 MHz	dB	35	40	-	
1597.55 ~ 1605.89 MHz	dB	35	40	-	
1710 ~ 1785 MHz	dB	30	37	-	
1760 ~ 1840 MHz	dB	30	37	-	
1840 ~ 1880 MHz	dB	30	37	-	
1920 ~ 1980 MHz	dB	30	36	-	

2110 ~ 2170 MHz	dB	28	35	-	
2400 ~ 2500 MHz	dB	25	33	-	
2434 ~ 2494 MHz	dB	25	33	-	
2620 ~ 2745 MHz	dB	25	33	-	
3520 ~ 3660 MHz	dB	15	29	-	
4000 ~ 4575 MHz	dB	5	23	-	
4900 ~ 5950 MHz	dB	5	21	-	
6160 ~ 6405 MHz	dB	15	35	-	
7040 ~ 7320 MHz	dB	15	32	-	

**ANT to Rx (f<sub>T0</sub>=942.5 MHz)**

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	925.48 ~ 959.52 MHz	dB	-	2.2	3.5	
	927.4 ~ 957.6 MHz	dB	-	2.1	2.6	
Amplitude ripple	925 ~ 960 MHz	dB <sub>p-p</sub>		1.5	2.2	
VSWR	ANT			1.8	2.3	
	Rx		-	1.9	2.3	
<b>Attenuation:</b>						
0.3~ 880 MHz		dB	32	36	-	
45 MHz		dB	50	80	-	
835 ~ 870 MHz		dB	31	35		
882.4 ~ 912.6 MHz		dB	45	52		
902.5 ~ 910 MHz		dB	45	61	-	
980 ~ 1045 MHz		dB	35	37	-	
1045 ~ 6000 MHz		dB	17	32		
1427 ~ 1448 MHz		dB	33	36		
1710 ~ 1785 MHz		dB	35	37		
1805 ~ 1980 MHz		dB	35	38		
2400 ~ 2500 MHz		dB	35	42		
2500 ~ 2570 MHz		dB	35	42		
2685 ~ 2790 MHz		dB	35	44		
2775 ~ 2880 MHz		dB	35	41		
2880 ~ 3700 MHz		dB	30	42		
3700 ~ 3840 MHz		dB	27	42		
4625 ~ 4800 MHz		dB	15	32		
4900 ~ 5950 MHz		dB	15	32		
6475 ~ 6720 MHz		dB	10	35		
7400 ~ 7680 MHz		dB	5	26		

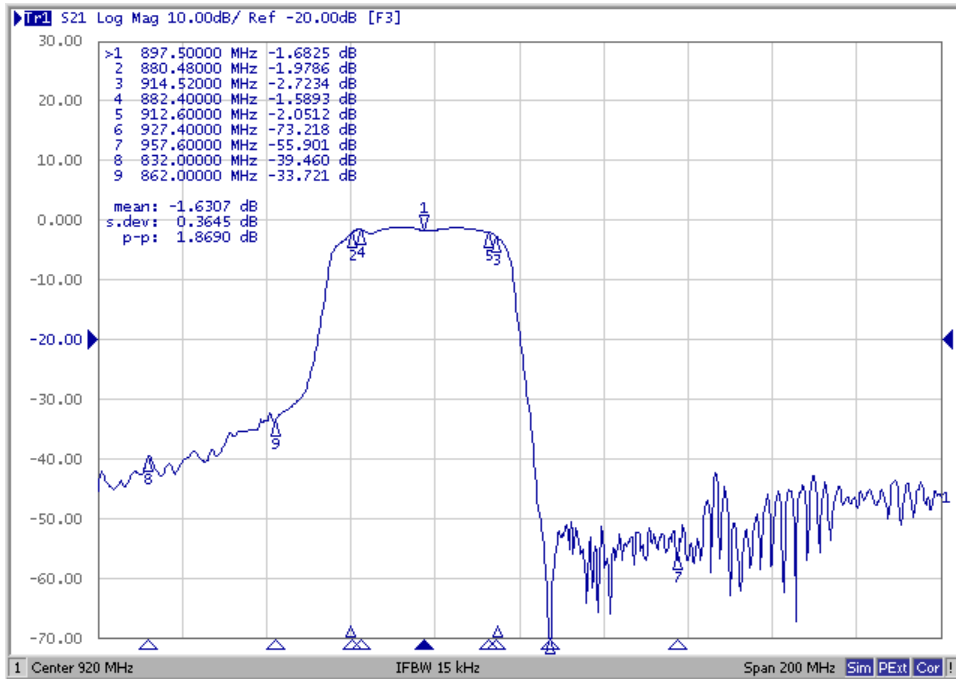
**Tx to Rx**

Isolation	882.4 ~ 912.6 MHz	dB	50	54	-	
	927.4 ~ 957.6 MHz	dB	50	55	-	

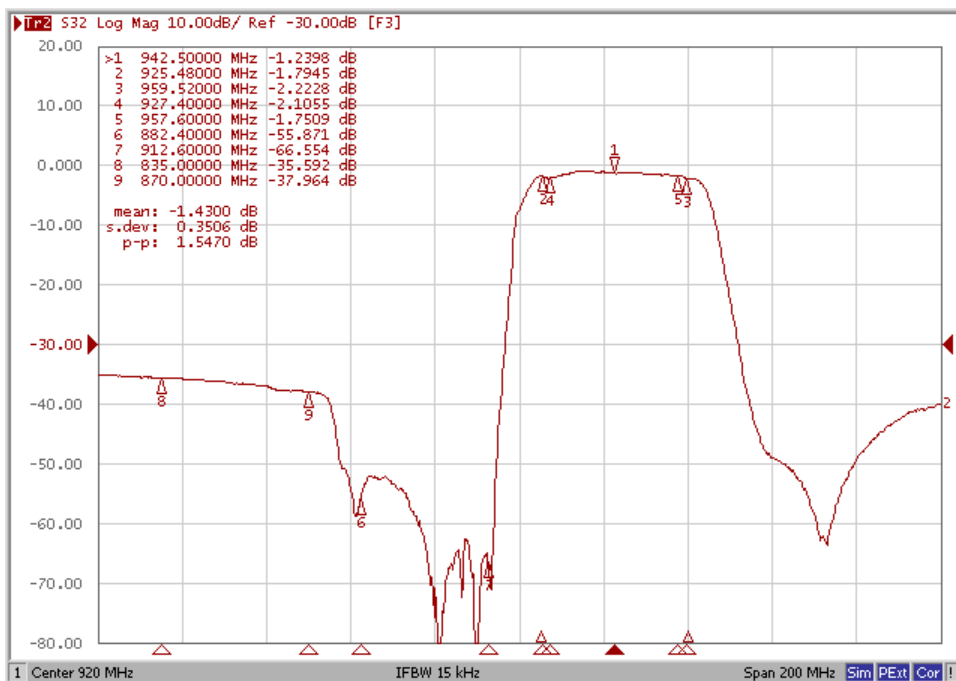
**Notes :** (1) With Matching Network

### C. FREQUENCY CHARACTERISTICS:

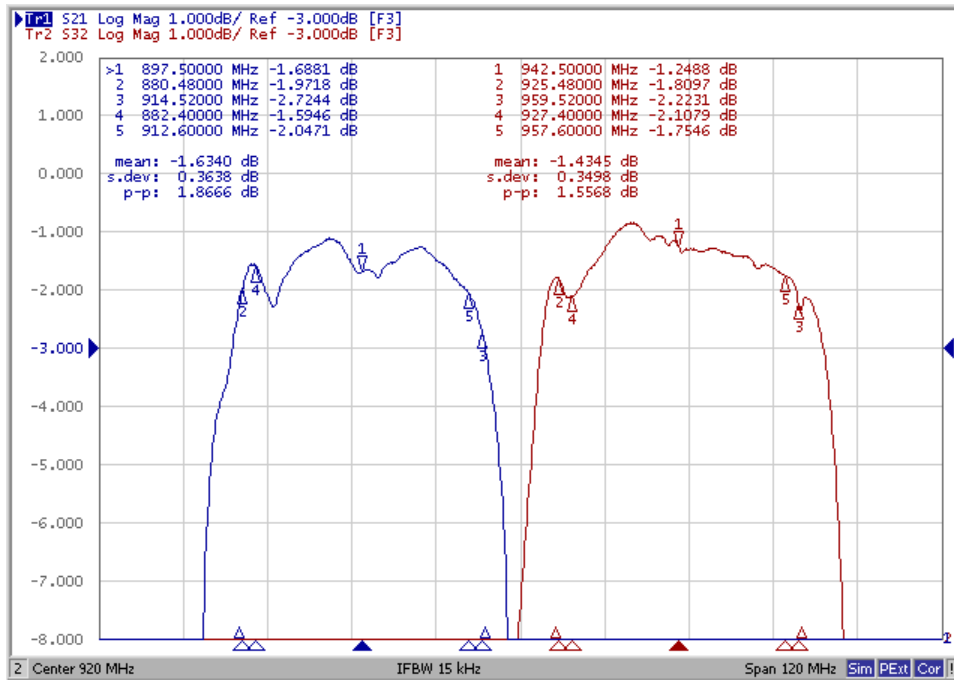
#### Tx to Ant



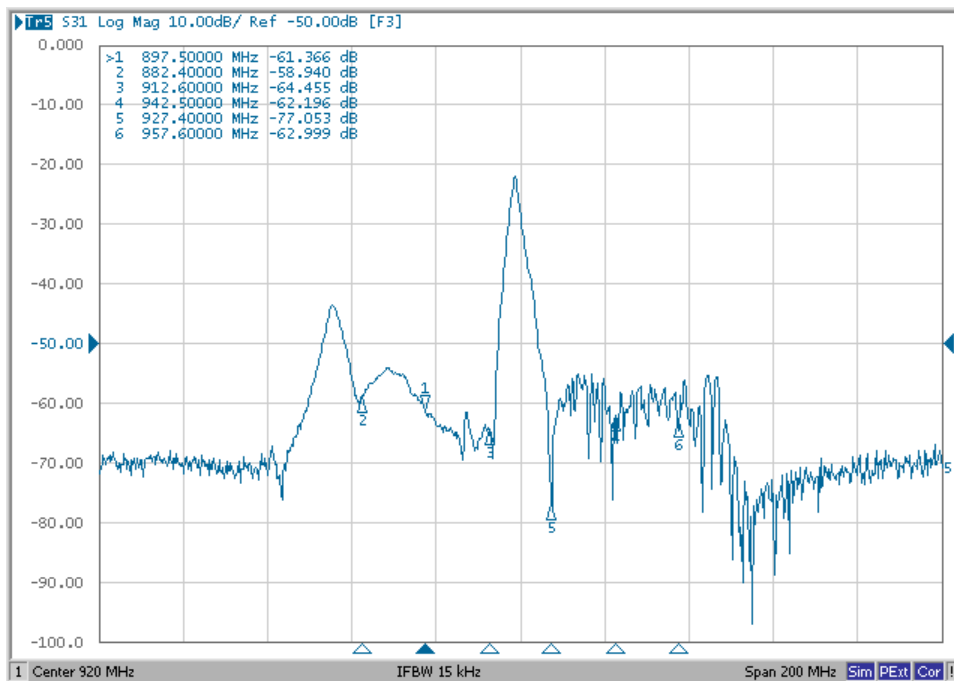
#### Ant to Rx



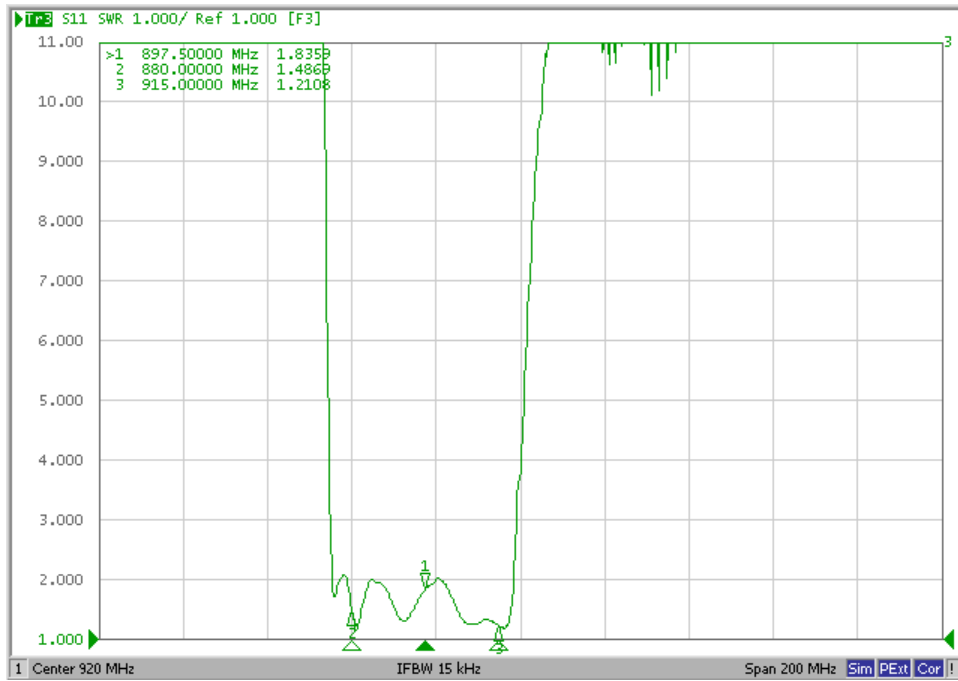
# Ripple Deviation



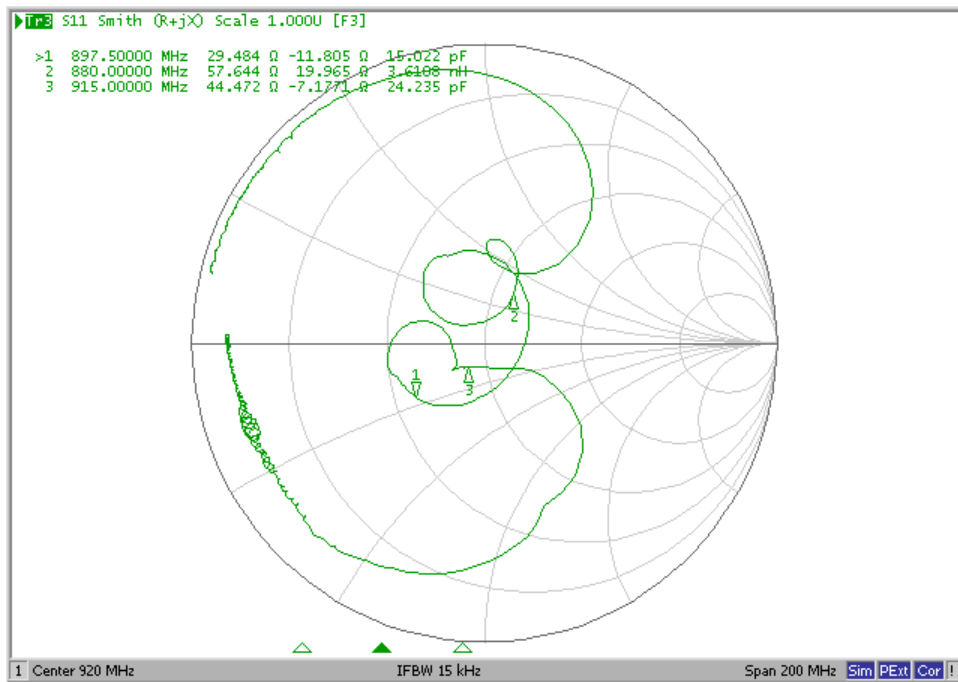
# Isolation



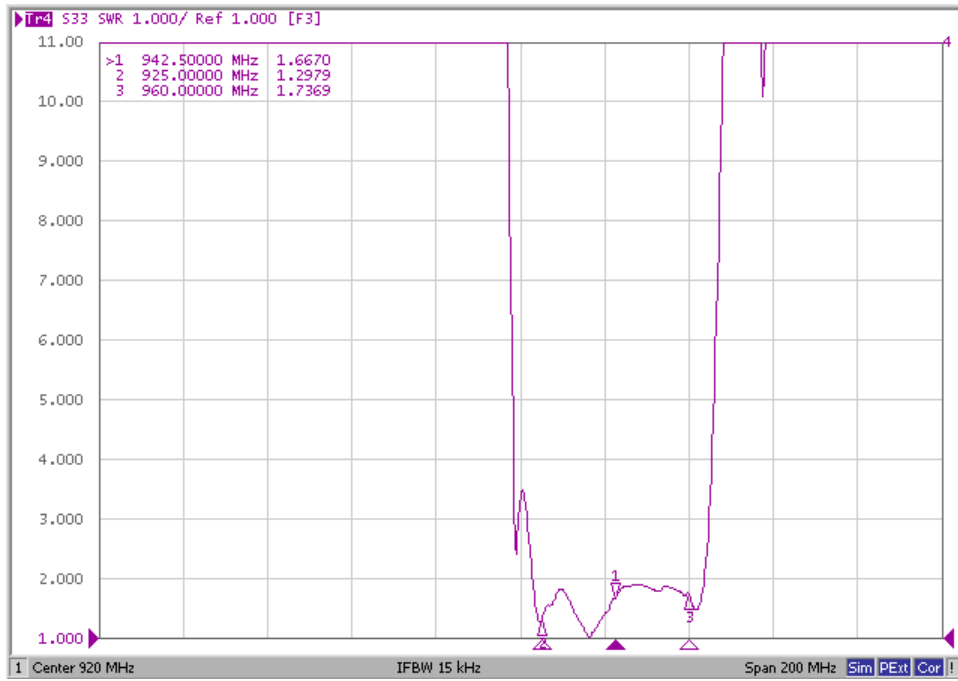
## VSWR (Tx Port)



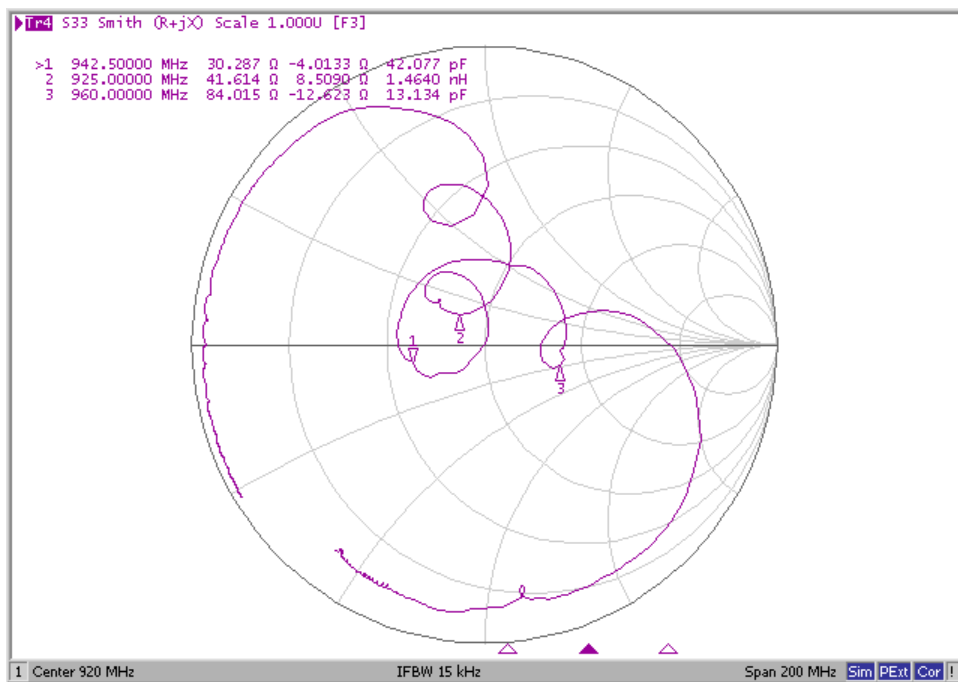
## Smith Chart (Tx Port)



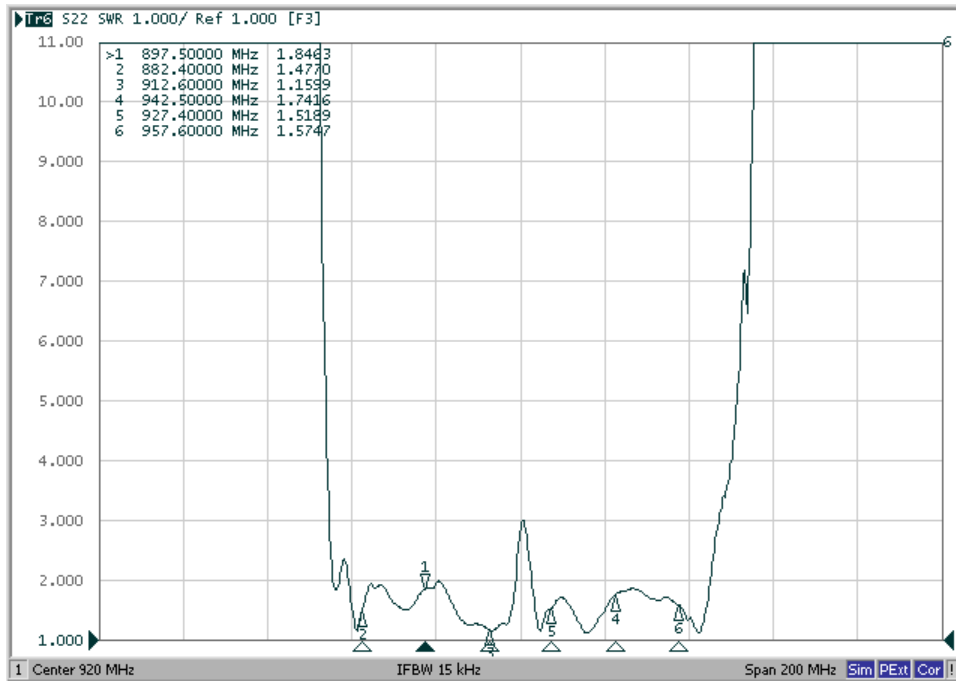
## VSWR (Rx Port)



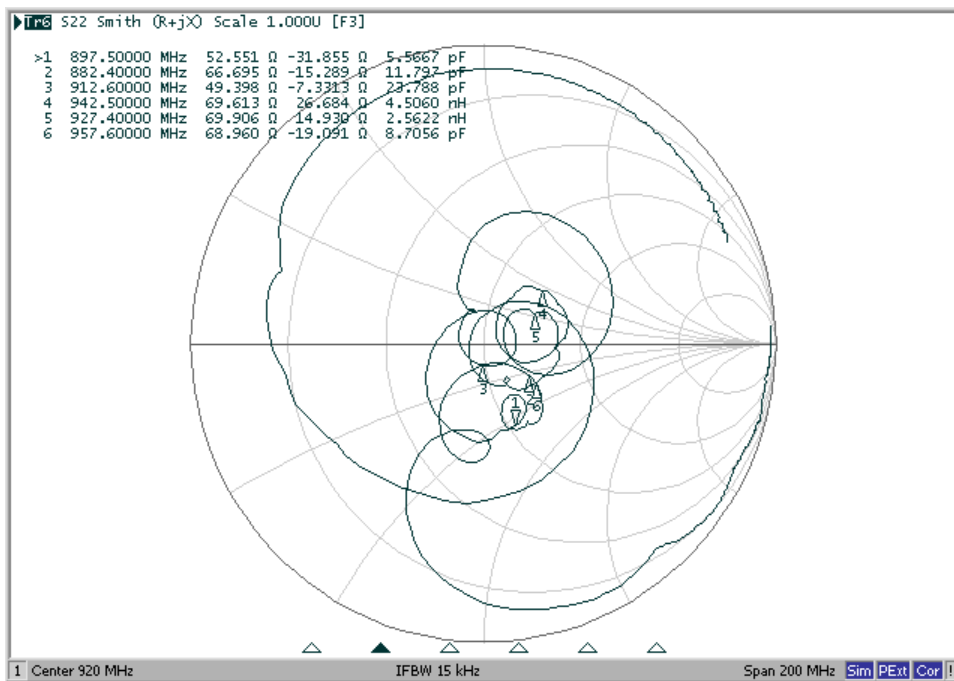
## Smith Chart (Rx Port)



# VSWR (ANT Port)

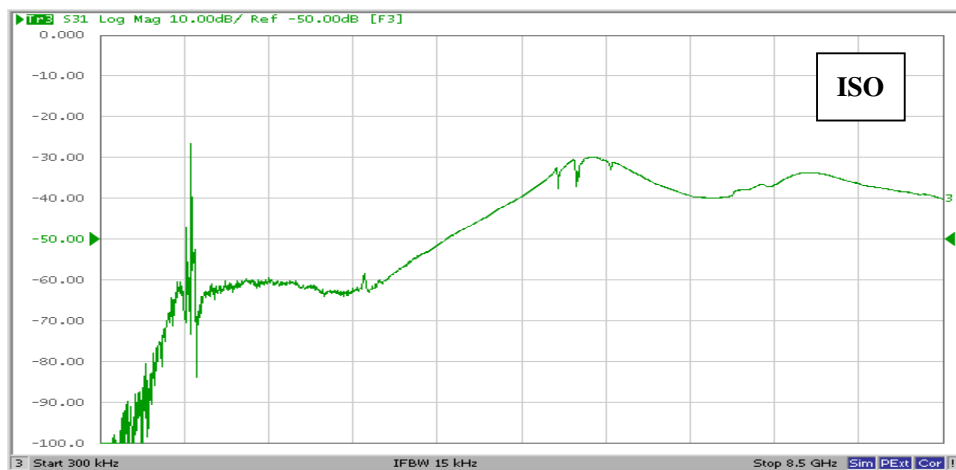
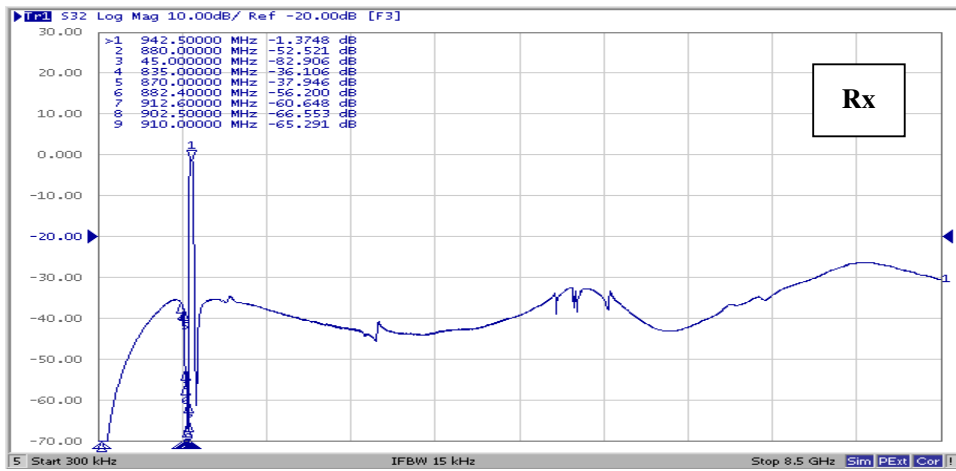
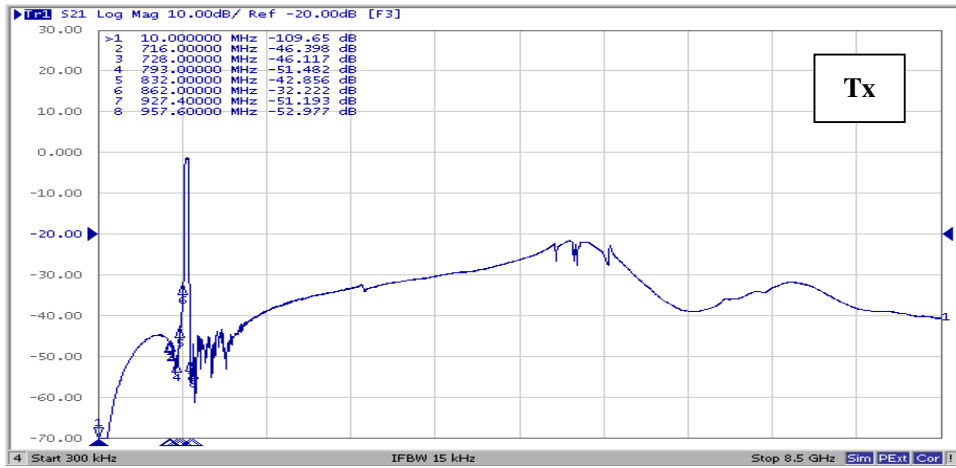


# Smith Chart (ANT Port)

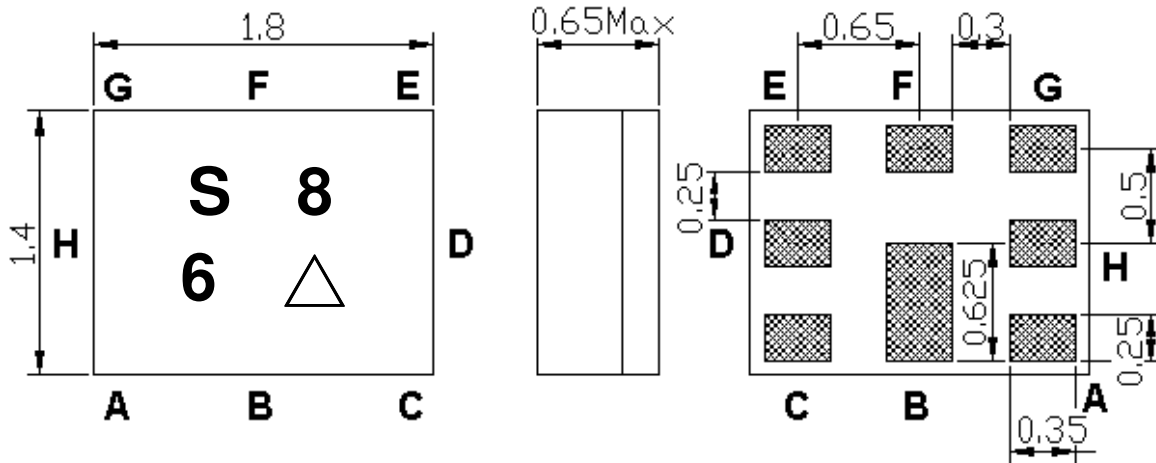




# Wide Span



**D.OUTLINE DRAWIN:**



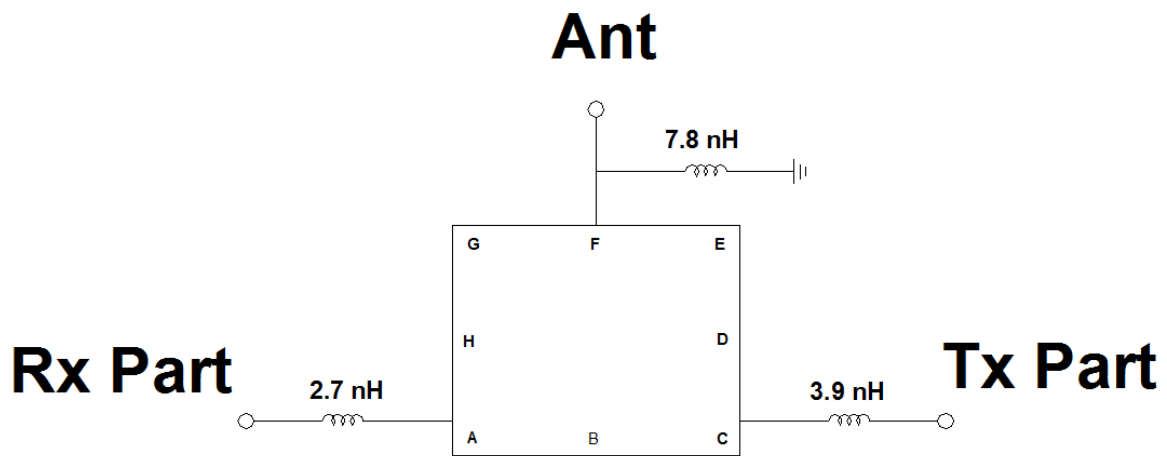
Marking Descriptions	
S	Marking name
8	Band Class
6	Series Number
△	Date Code(Year+Month)

Pin Description	
B,D,E,G,H	Ground
F	Ant
C	Tx (897.5MHz)
A	Rx (942.5MHz)

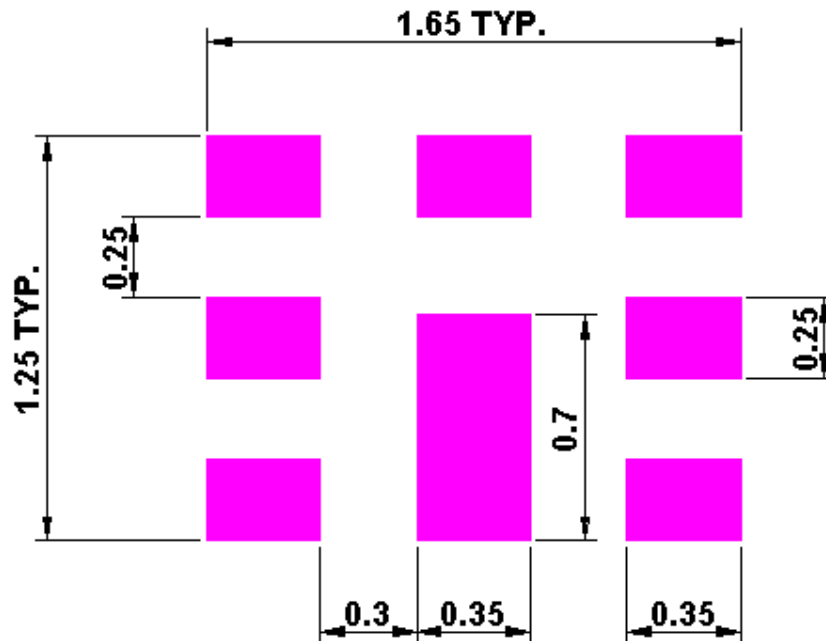
**Date Code ( year+month)**

Year	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	j	k	l	m
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>
2018	<u>N</u>	<u>P</u>	<u>Q</u>	<u>R</u>	<u>S</u>	<u>T</u>	<u>U</u>	<u>V</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>
2019	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>k</u>	<u>l</u>	<u>m</u>
2020	<u>n</u>	<u>p</u>	<u>q</u>	<u>r</u>	<u>s</u>	<u>t</u>	<u>u</u>	<u>v</u>	<u>w</u>	<u>x</u>	<u>y</u>	<u>z</u>

## E. Evaluation Circuit



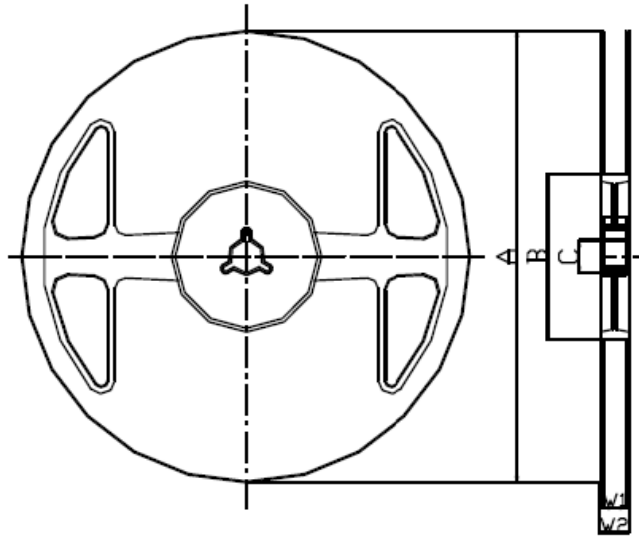
## F. FOOTPRINT:



**G. PACKING:**

**1. REEL DIMENSION**

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



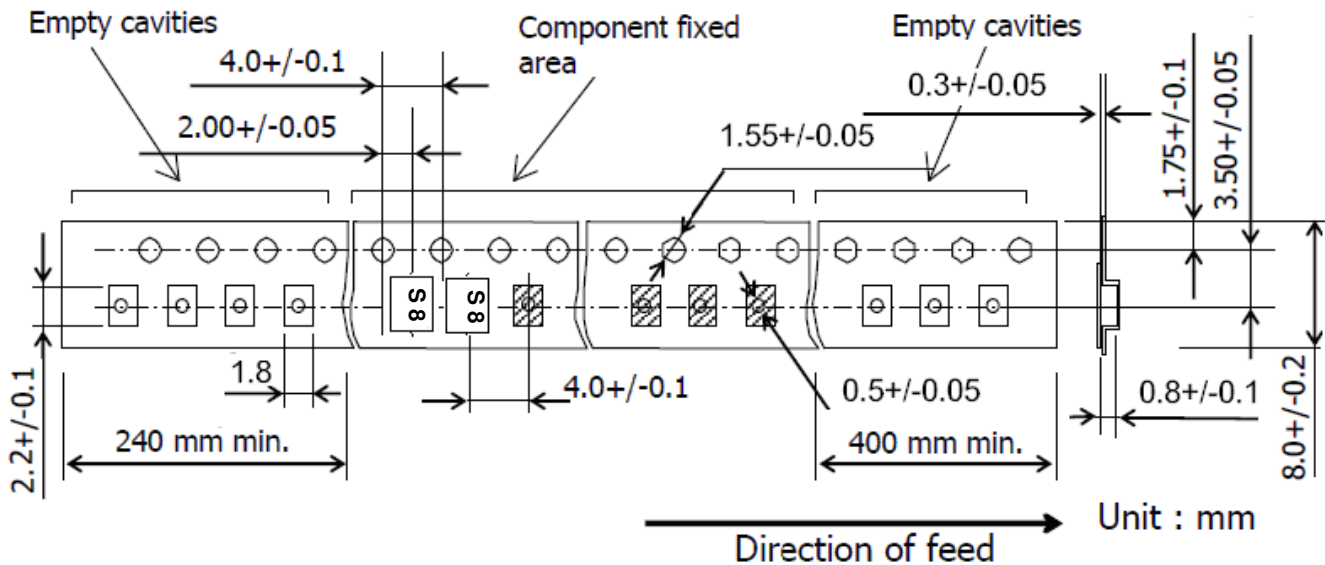
**Materials of Reel**

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.

