



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

TST Part No.: TF0125DB

Customer Part No.: _____

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

Checked by: _____ Nina Chen *Nina Chen*

Approved by: _____ Kazuma Lee *Kazuma Lee*

Date: _____ 2022/08/24

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.:TF0125DB

REV.2.0

A. MAXIMUM RATING:

1. Operating temperature range: -40 °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 Sensivity 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_{T0}=897.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	880.48 ~ 914.52 MHz	dB	-	2.7	4.2	
	882.4 ~ 912.6 MHz	dB		2.0	3.6	
Amplitude ripple	880 ~ 915 MHz	dBp-p	-	2.0	3.2	
VSWR	ANT	880 ~ 915 MHz	-	1.5	2.1	
	Tx	880 ~ 915 MHz	-	1.5	2.1	
Attenuation:						
10 ~ 716 MHz		dB	30	37	-	
716 ~ 728 MHz		dB	33	38	-	
728 ~ 793 MHz		dB	33	38	-	
832 ~ 862 MHz		dB	26	33	-	
927 ~ 957.6 MHz		dB	39	44	-	
1559 ~ 1563 MHz		dB	35	45	-	
1565.42 ~ 1573.37 MHz		dB	35	45	-	
1573.37 ~ 1577.47 MHz		dB	35	45	-	
1577.47 ~ 1585.42 MHz		dB	35	44	-	
1597.55 ~ 1605.89 MHz		dB	35	44	-	
1710 ~ 1785 MHz		dB	30	40	-	
1760 ~ 1840 MHz		dB	30	40	-	
1840 ~ 1880 MHz		dB	30	39	-	
1920 ~ 1980 MHz		dB	30	38	-	

2110 ~ 2170 MHz	dB	28	36	-	
2400 ~ 2500 MHz	dB	25	34	-	
2434 ~ 2494 MHz	dB	25	34	-	
2620 ~ 2745 MHz	dB	25	33	-	
3520 ~ 3660 MHz	dB	15	29	-	
4400 ~ 4575 MHz	dB	10	23	-	
4900 ~ 5950 MHz	dB	10	21	-	
6160 ~ 6405 MHz	dB	15	38	-	
7040 ~ 7320 MHz	dB	15	29	-	

ANT to Rx (f_{T0}=942.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	925.48 ~ 959.52 MHz	dB	-	2.6	4.2	
	927.4 ~ 957.6 MHz	dB	-	2.0	3.0	
Amplitude ripple	925 ~ 960 MHz	dBp-p		1.8	3.2	
VSWR	ANT			1.5	2.3	
	Rx	-		1.5	2.3	
Attenuation:						
0.3~ 880 MHz		dB	32	36	-	
45 MHz		dB	50	84	-	
835 ~ 870 MHz		dB	31	37		
882.4 ~ 912.6 MHz		dB	45	52		
902.5 ~ 910 MHz		dB	45	67	-	
980 ~ 1045 MHz		dB	32	38	-	
1045 ~ 6000 MHz		dB	17	29		
1427 ~ 1448 MHz		dB	30	37		
1710 ~ 1785 MHz		dB	30	38		
1805 ~ 1980 MHz		dB	30	39		
2400 ~ 2500 MHz		dB	30	41		
2500 ~ 2570 MHz		dB	30	41		
2685 ~ 2790 MHz		dB	30	41		
2775 ~ 2880 MHz		dB	30	41		
2880 ~ 3700 MHz		dB	30	39		
3700 ~ 3840 MHz		dB	30	39		
4625 ~ 4800 MHz		dB	15	30		
4900 ~ 5950 MHz		dB	15	29		
6475 ~ 6720 MHz		dB	10	30		
7400 ~ 7680 MHz		dB	5	23		

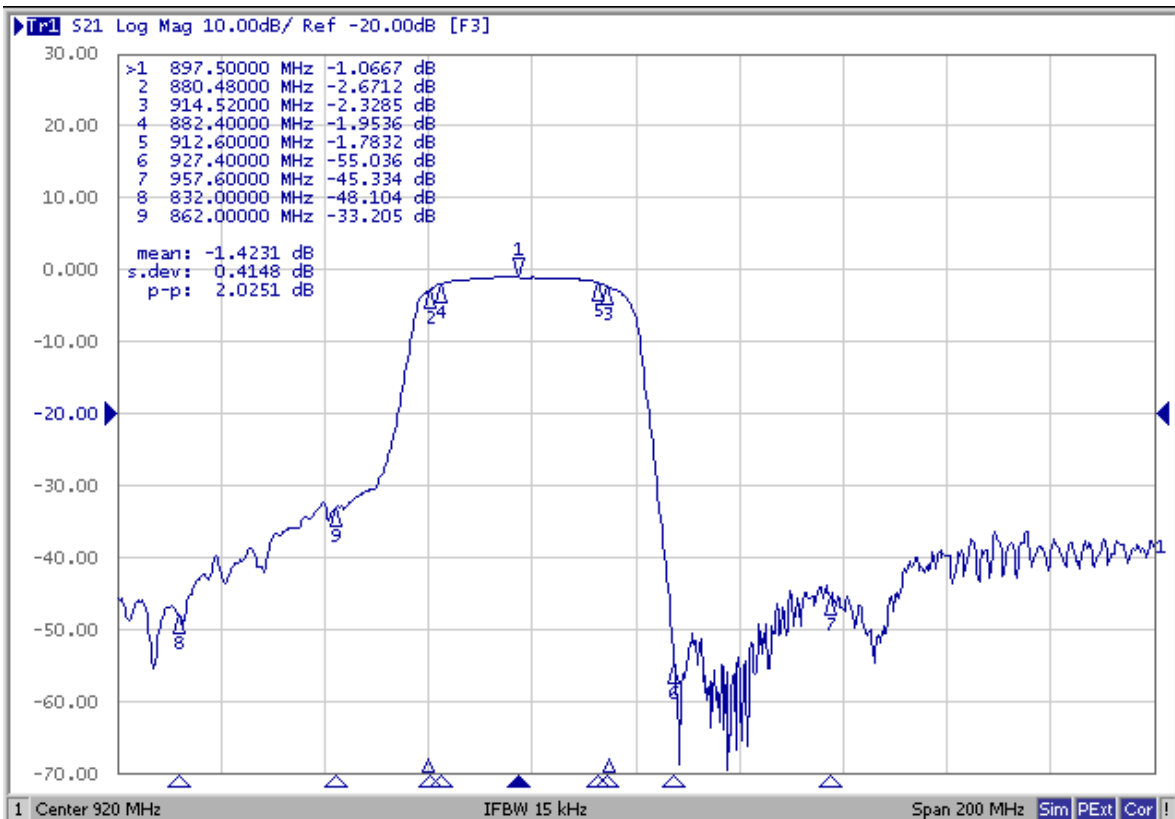
Tx to Rx

Isolation	882.4 ~ 912.6 MHz	dB	49	54	-	
	927.4 ~ 957.6 MHz	dB	43	47	-	

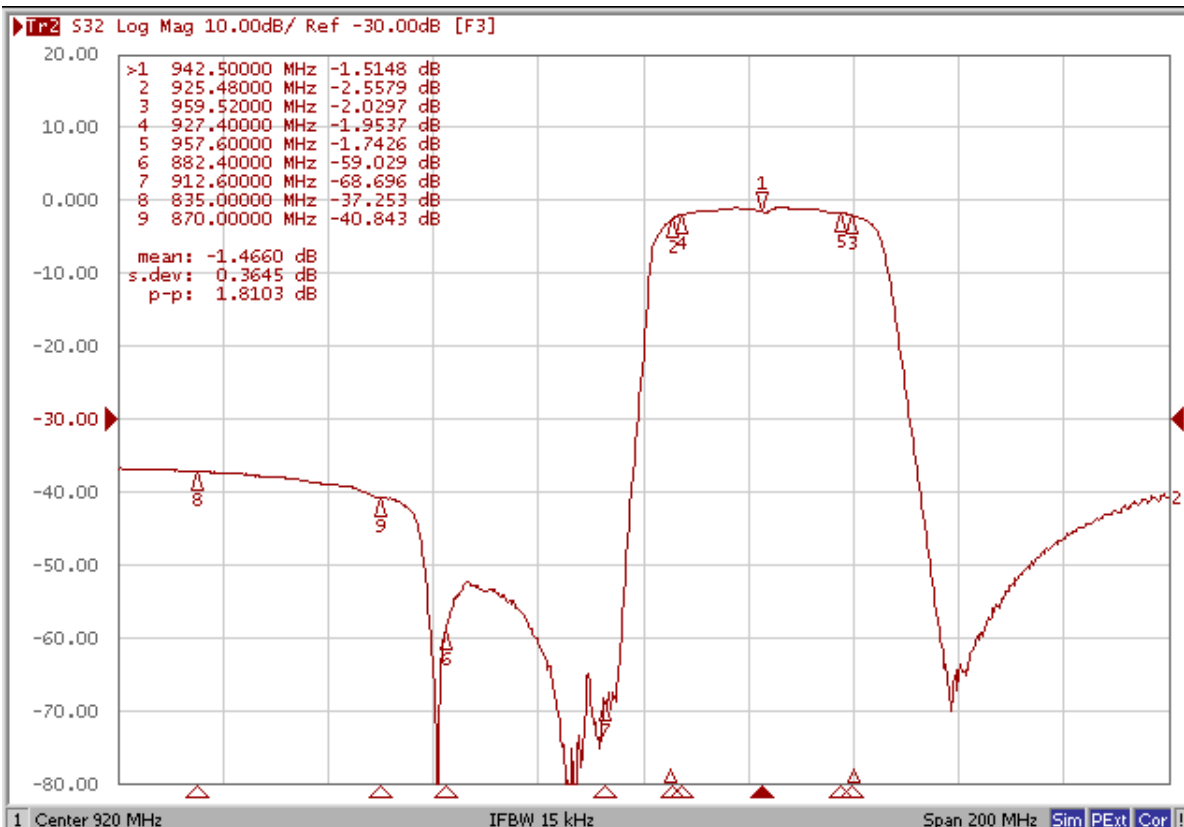
Notes : (1) With Matching Network

C. FREQUENCY CHARACTERISTICS:

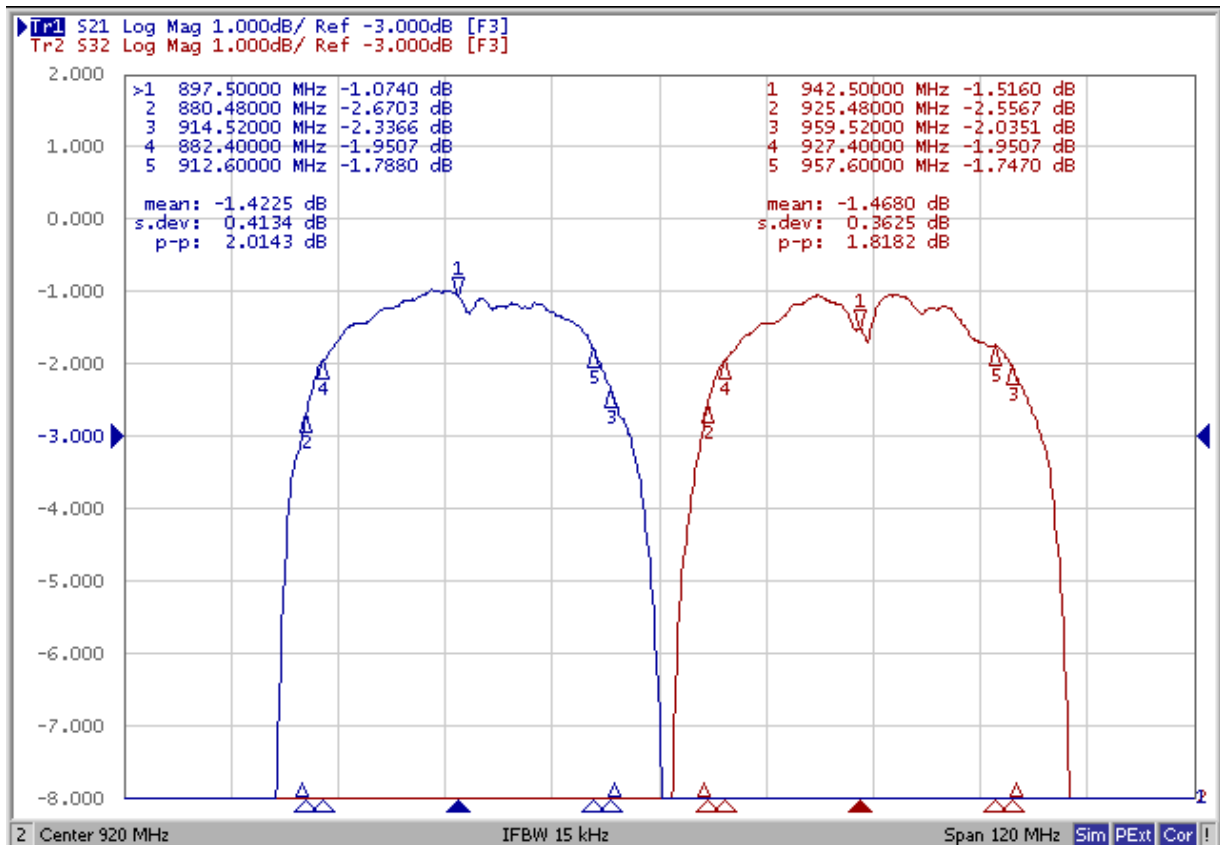
Tx to Ant



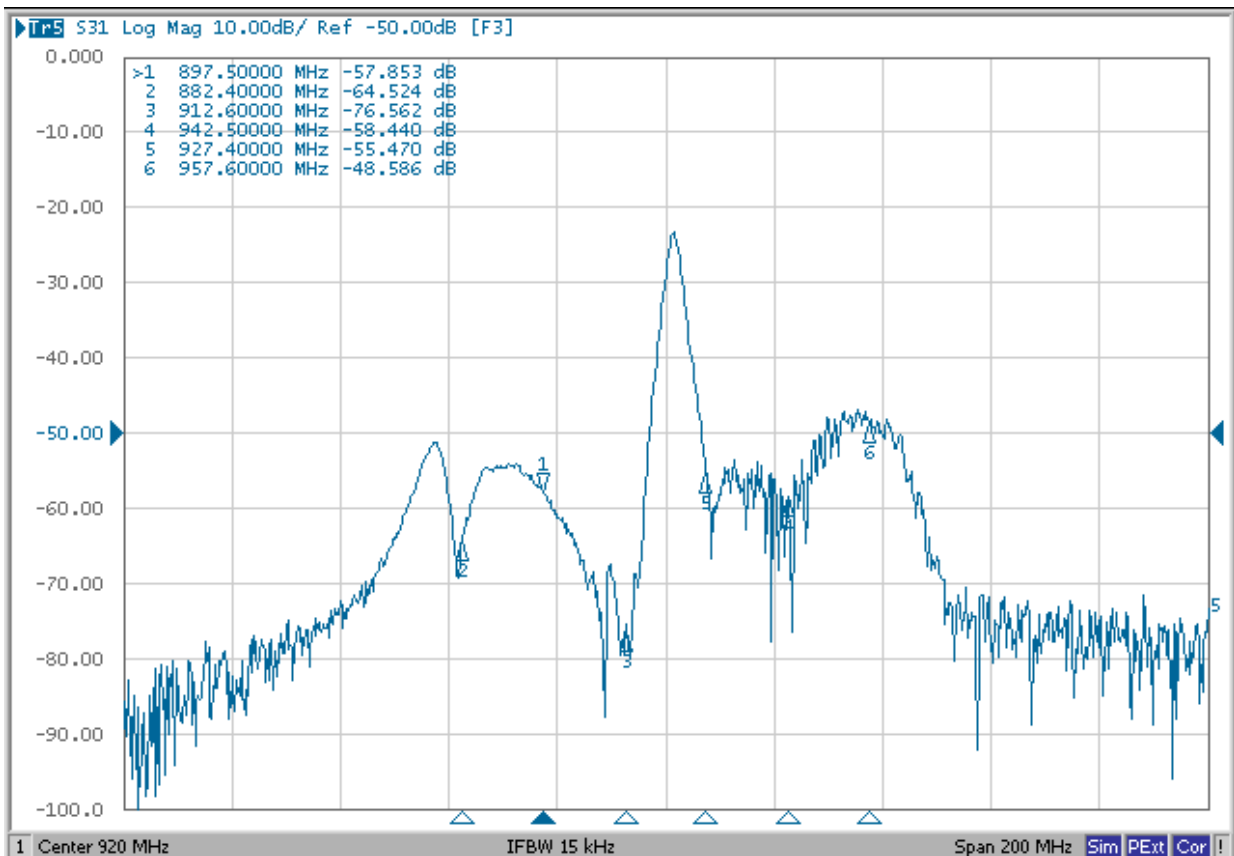
Ant to Rx



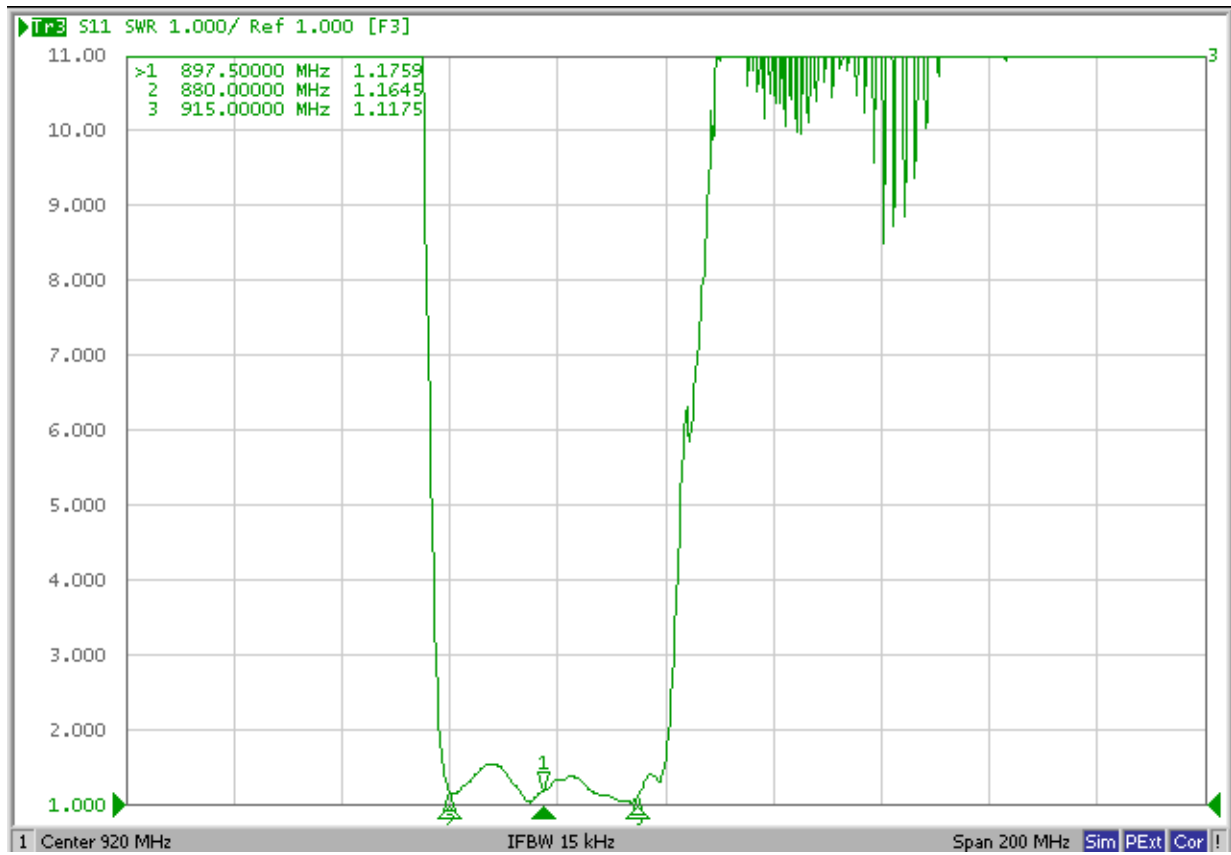
Ripple Deviation



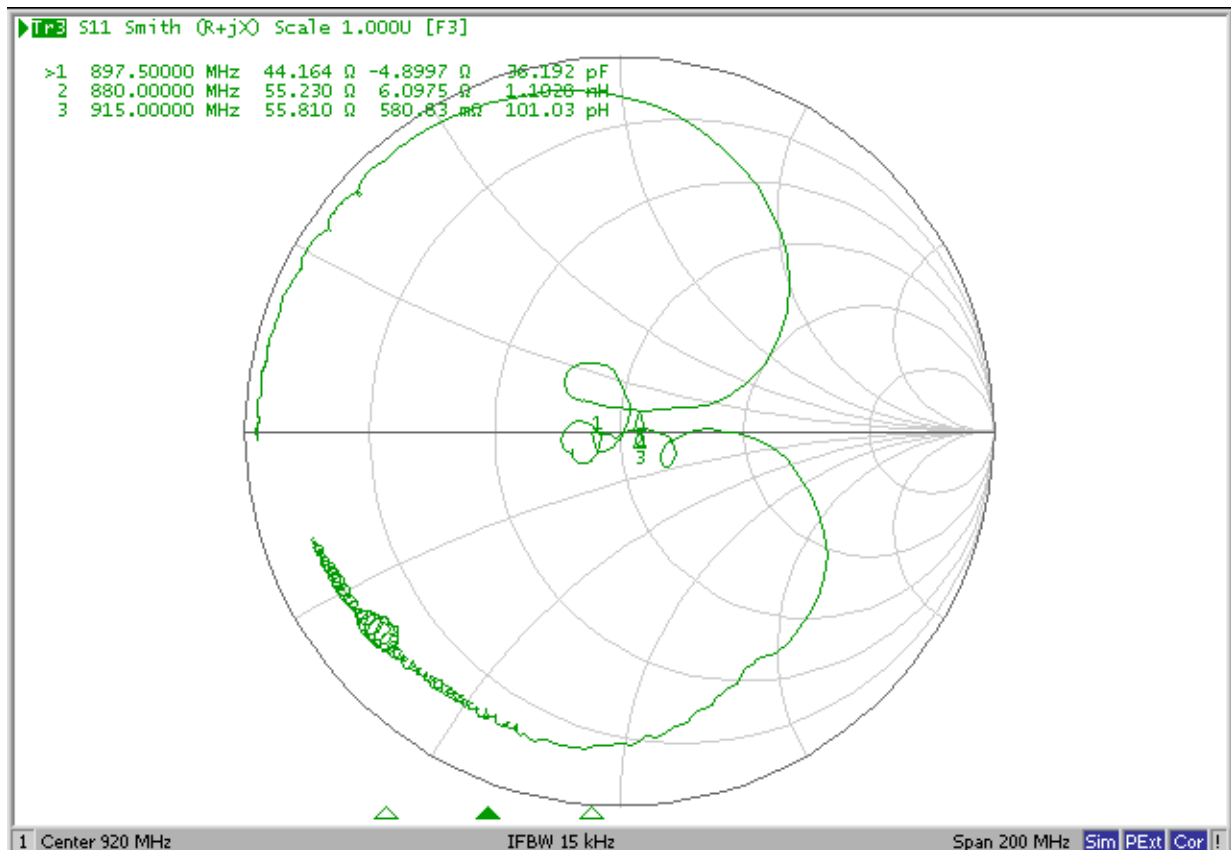
Isolation



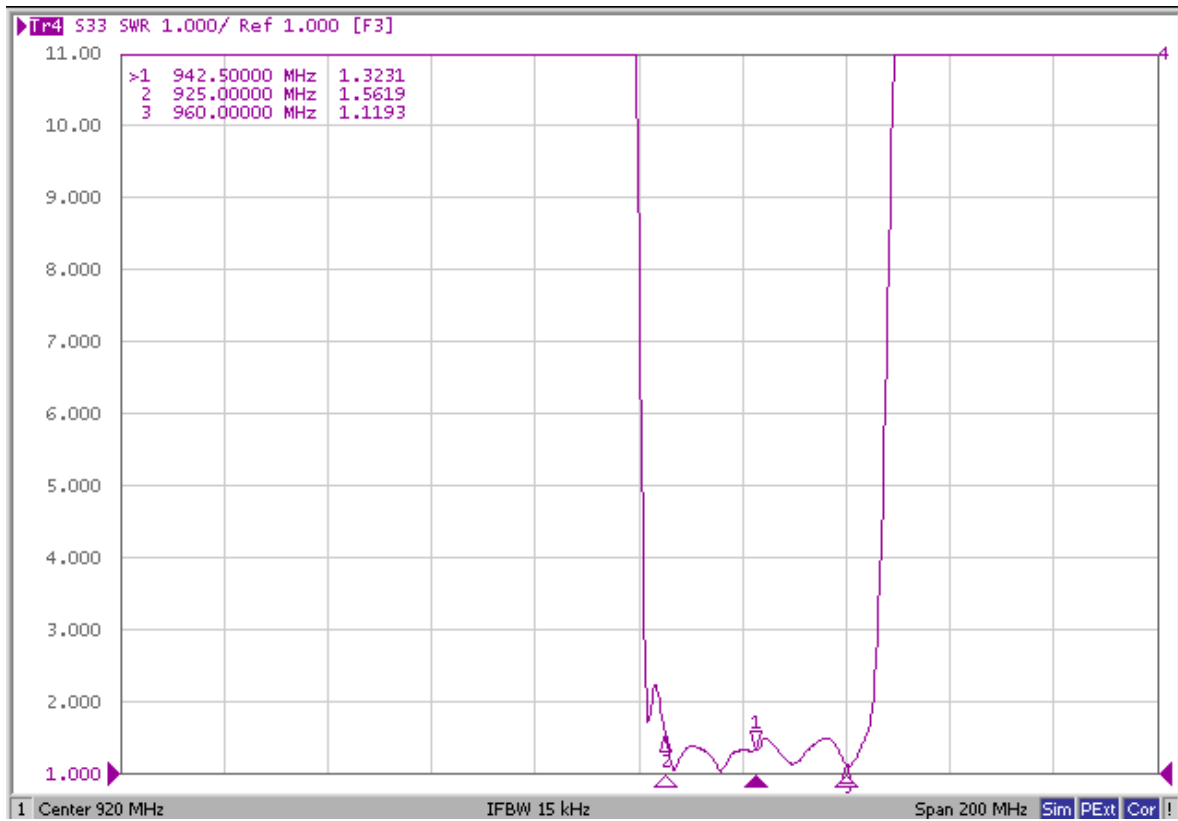
VSWR (Tx Port)



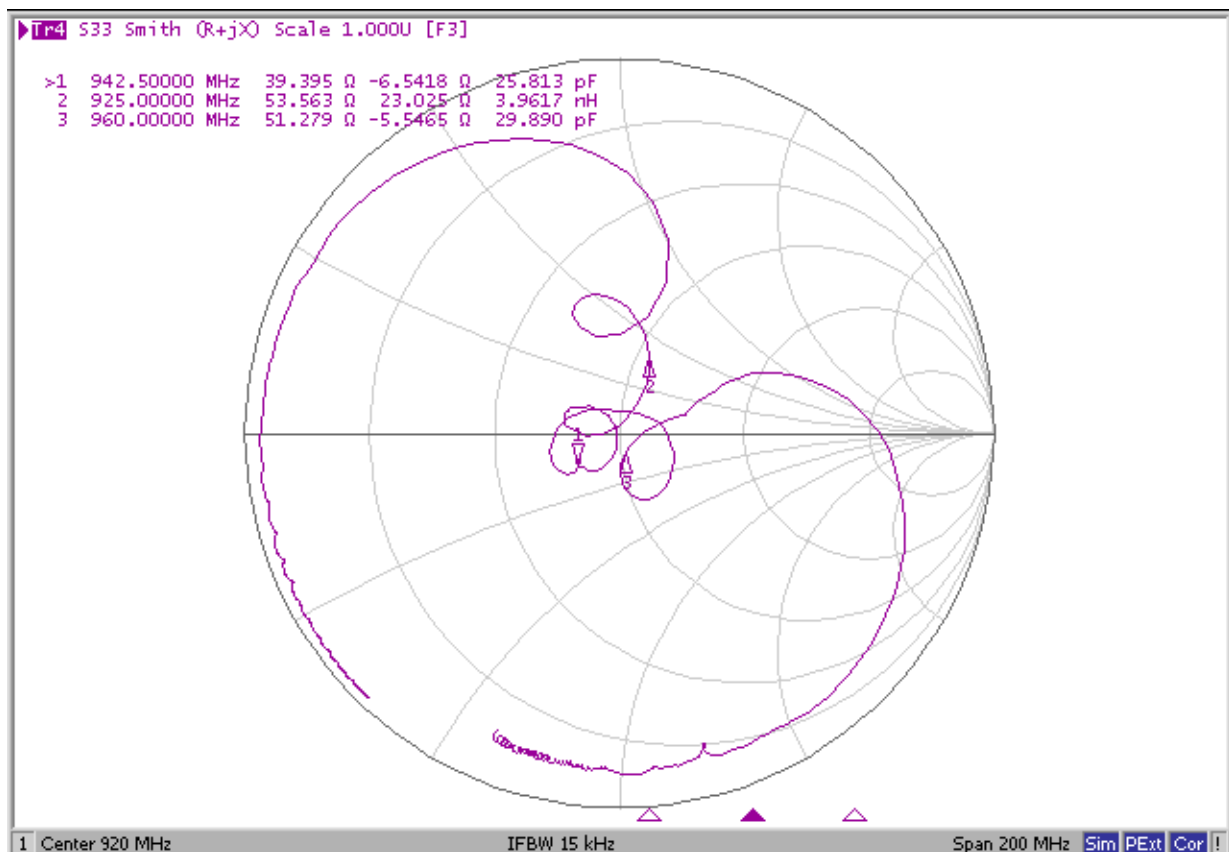
Smith Chart (Tx Port)



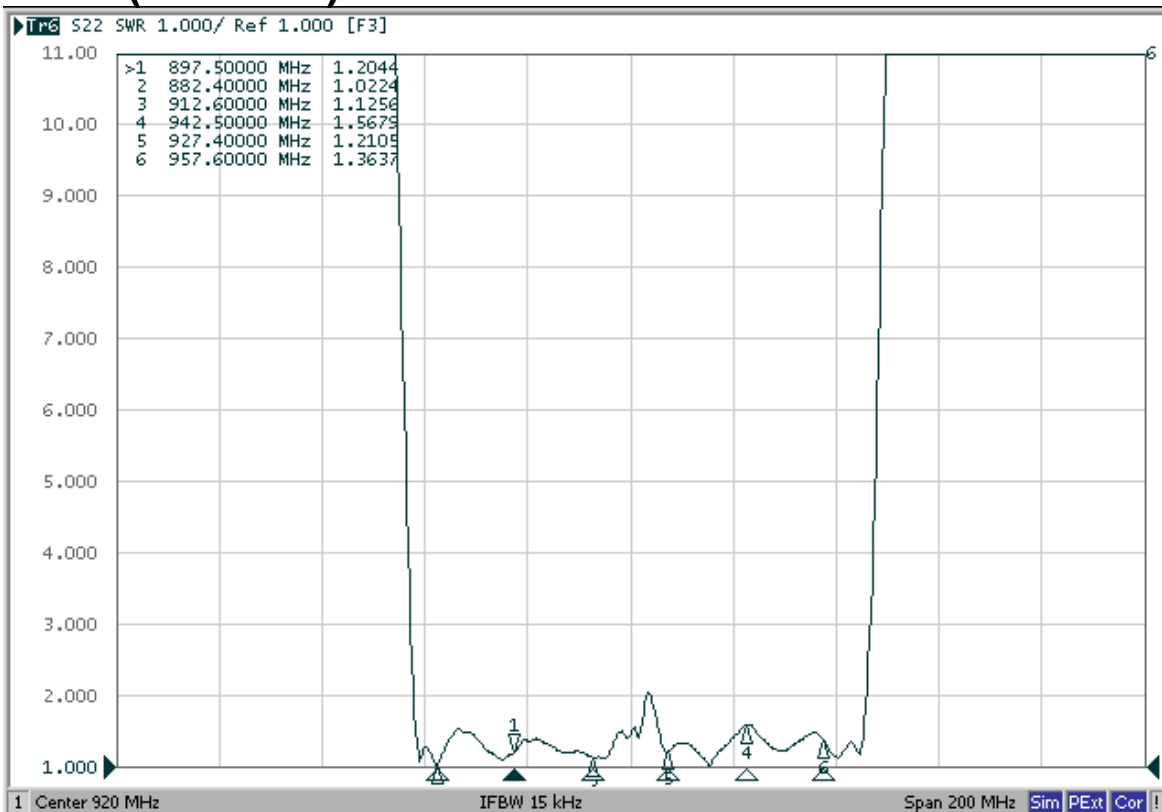
VSWR (Rx Port)



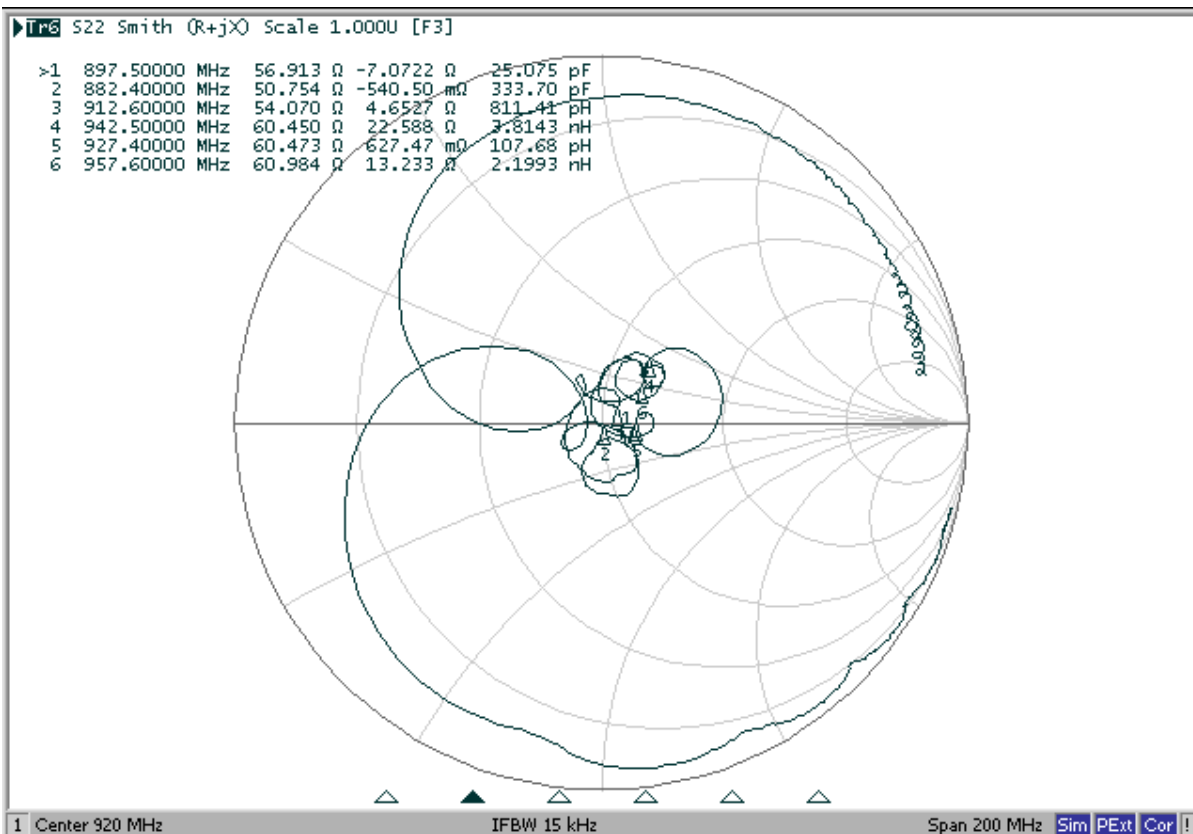
Smith Chart (Rx Port)



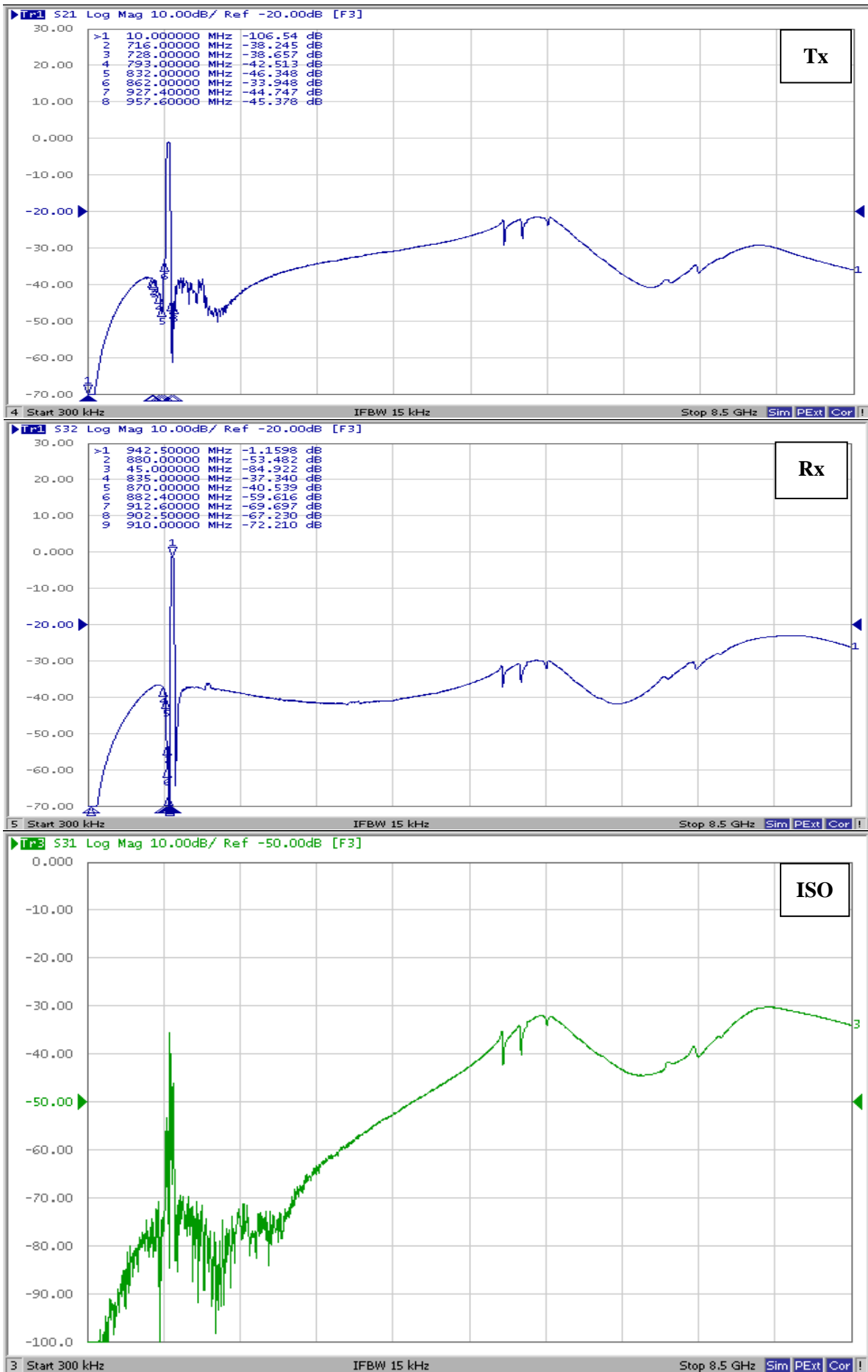
VSWR (ANT Port)



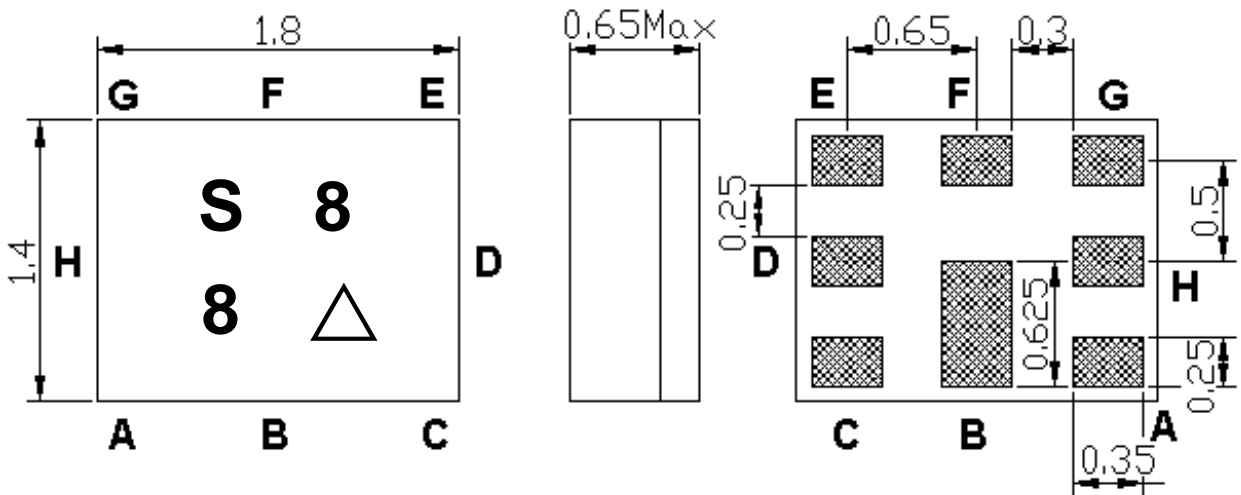
Smith Chart (ANT Port)



Wide Span



D.OUTLINE DRAWIN:



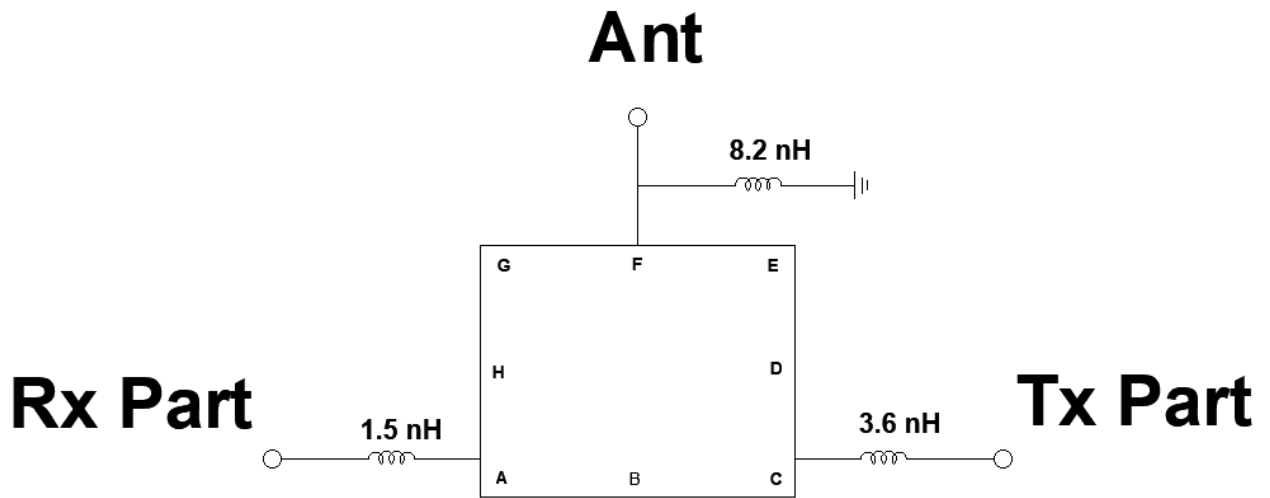
Marking Descriptions	
S	Marking name
8	Band Class
8	Series Number
△	Date Code(Year+Month)

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

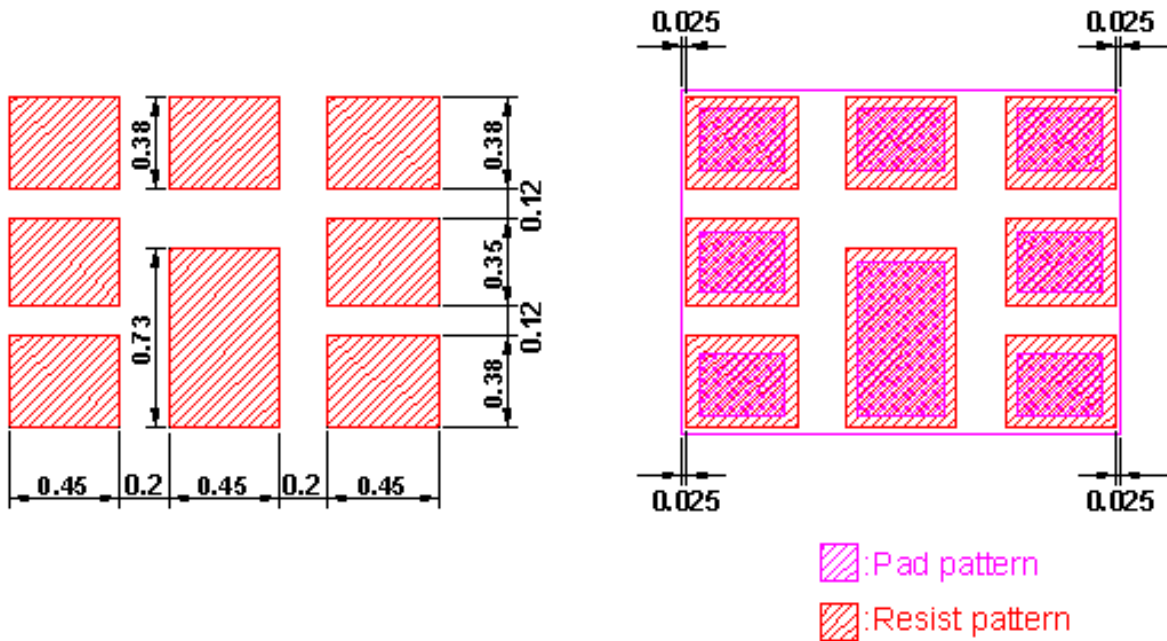
△ : Date Code(Year+Month) .Follow the table. (8-year cycle)

YEAR/Month	1	2	3	4	5	6	7	8	9	10	11	12
2013 / 2021	A	B	C	D	E	F	G	H	J	K	L	M
2014 / 2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
2016 / 2024	n	p	q	r	s	t	u	v	w	x	y	z
2017 / 2025	<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 / 2026	<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 / 2027	<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 / 2028	<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



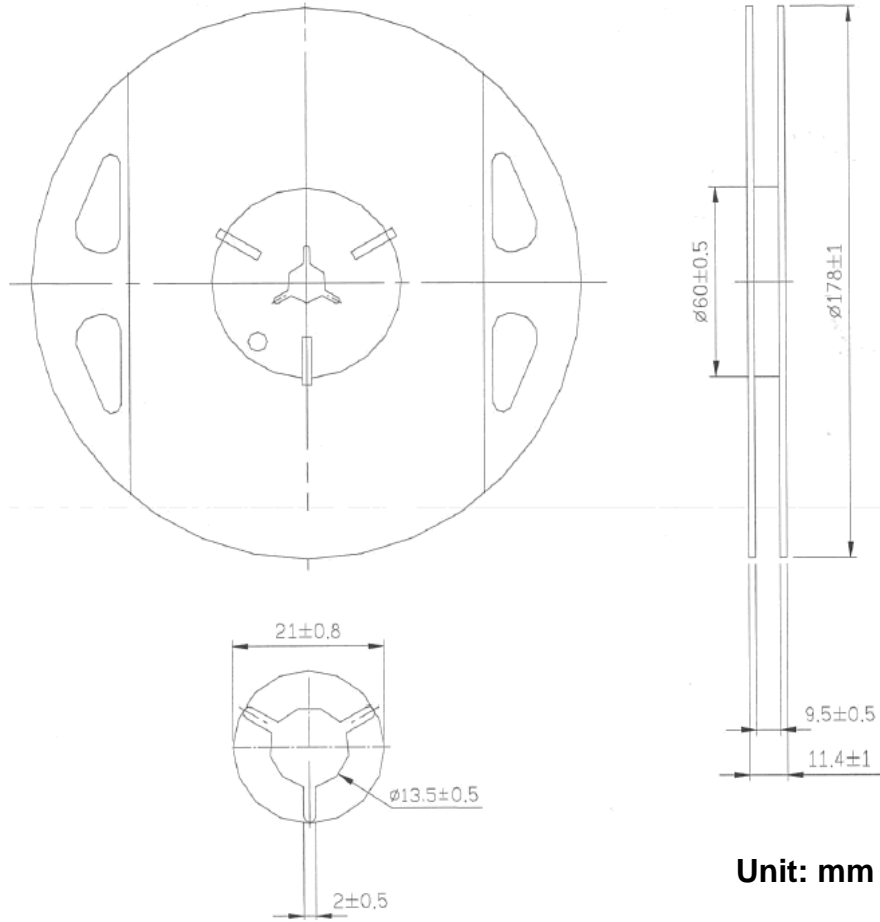
F. FOOTPRINT:



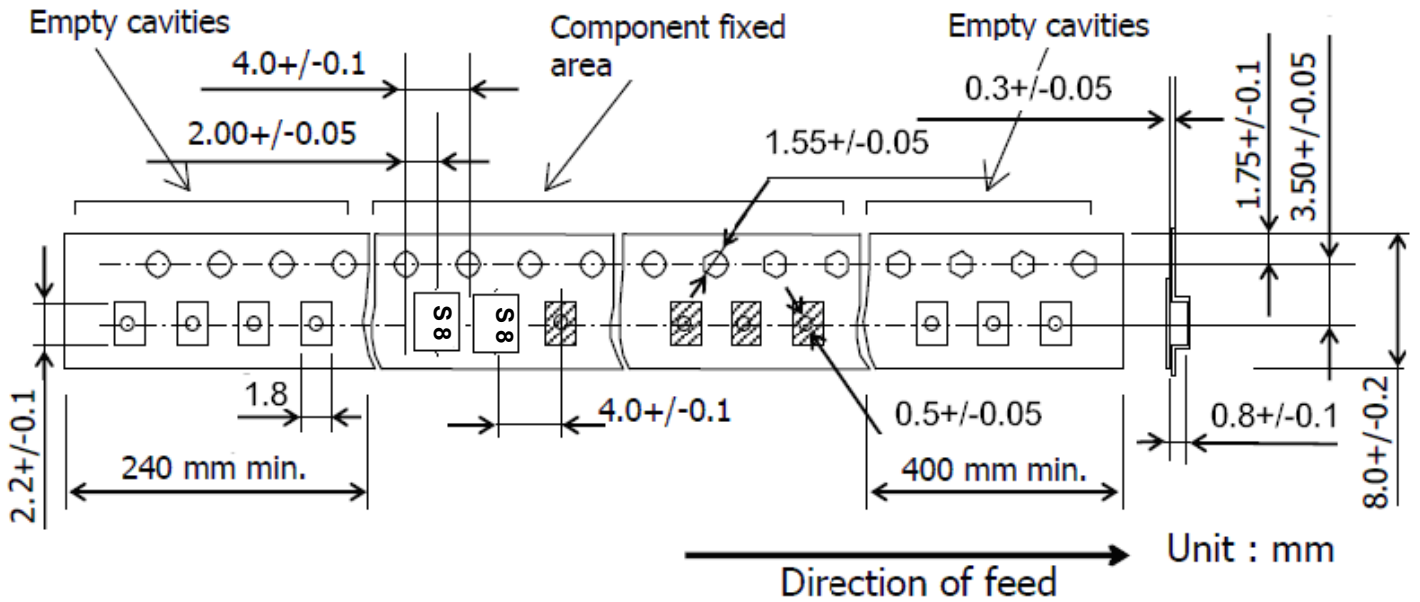
G. PACKING:

1. REEL DIMENSION

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



2. TAPE DIMENSION



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.

