

**SAW Duplexer 836.0 / 881.0MHz**  
**Part No: MP07410**

**Model: TF0129A**  
**Rev. No: 1**

**A. MAXIMUM RATING:**

Electrostatic Sensitive Device (ESD)

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: ±3V
5. Moisture Sensitivity Level: Level 1

**B. ELECTRICAL CHARACTERISTICS:**

1. Terminating impedance (Tx Port): 50Ω (Single-ended)
2. Terminating impedance (Rx Port): 100Ω (Differential)
3. Terminating impedance (Ant Port): 50 // 8.2nH Ω (Single-ended)

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

Parameters Description		Unit	Min	Typ	Max	Remarks	
Insertion Loss		824~849MHz	dB(*1)	-	1.4	1.9	
Amplitude ripple		824~849MHz	dB	-	0.5	1.2	
VSWR	ANT	824~849MHz	-	-	1.4	2.0	
	Tx		-	-	1.5	2.0	
Attenuation:							
779~804MHz			dB	30	38	-	
869~894MHz			dB	45	50	-	
1574~1577MHz			dB	43	46	-	
1648~1698MHz			dB	35	44	-	
2472~2547MHz			dB	24	30	-	

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**ANT to Rx (f<sub>T0</sub>=881.5MHz)**

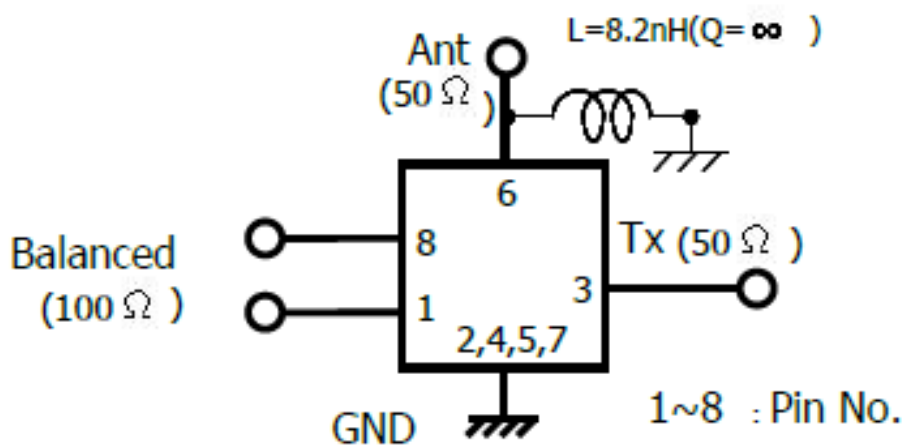
Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	869~894MHz	dB(*1)		1.7	2.2	
Amplitude ripple	869~894MHz	dB		0.4	1.2	
Phase balance	869~894MHz	Deg	-10	-1/+3	+10	
Amplitude balance	869~894MHz	dB	-1.0	-0.3/+0.2	+1.0	
VSWR	ANT	869~894MHz		1.4	2.0	
	Rx			1.5	2.0	
Attenuation:						
824~849MHz		dB	50	56		
1738~1788MHz		dB	40	51		
1850~1910MHz		dB	40	50		
1920~1980MHz		dB	40	50		
2400~2500MHz		dB	38	48		
3476~3576MHz		dB	35	44		

**Tx to Rx**

Isolation	824~849MHz	dB	55	58	-	
	869~894MHz	dB	49	52	-	

(\*1) Specification of insertion loss excludes loss that comes from the test board.  
 (Approximately 0.05dB).

**C. EVALUATION CIRCUIT:**



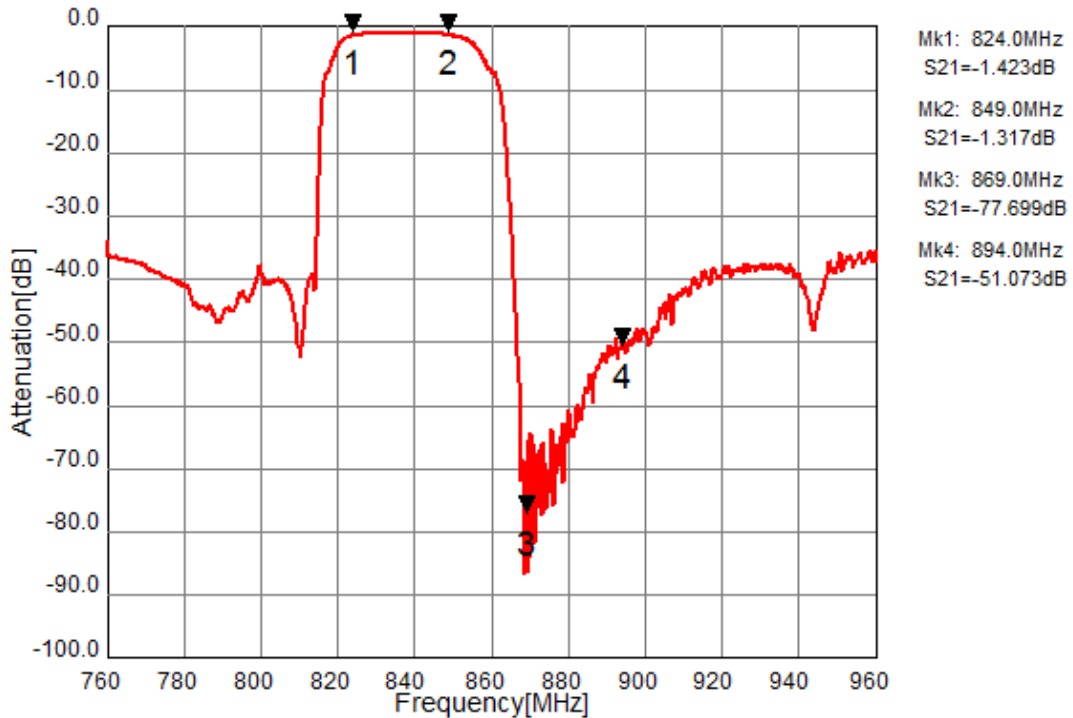
**Figure 2. Evaluation Circuit**

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**D. FREQUENCY CHARACTERISTICS:**

Tx to Ant



Ant to Rx

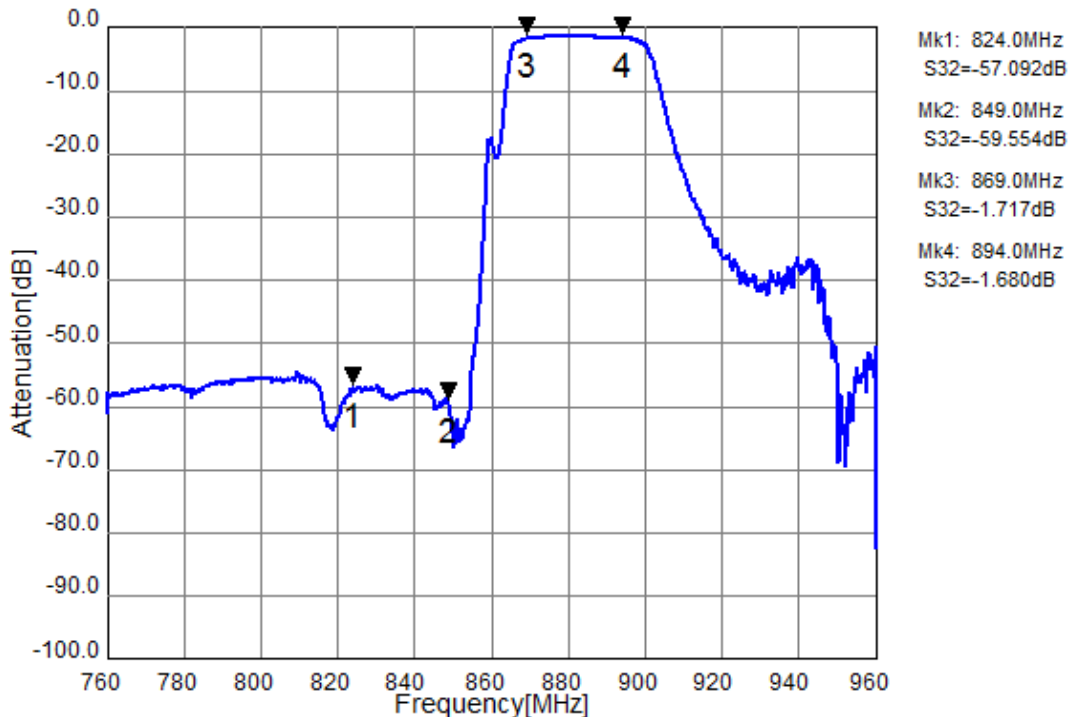
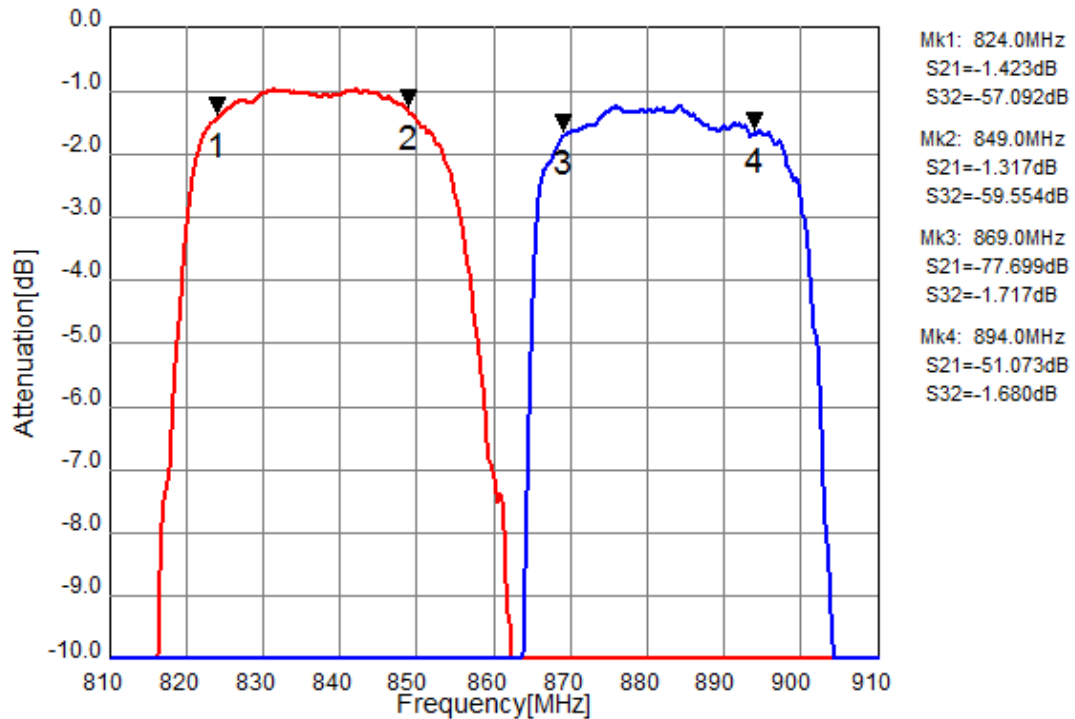


Figure 3-1. Electrical Characteristics. These data exclude loss that comes from the test board.

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Tx to Ant ,Ant to Rx



Tx to Rx Isolation

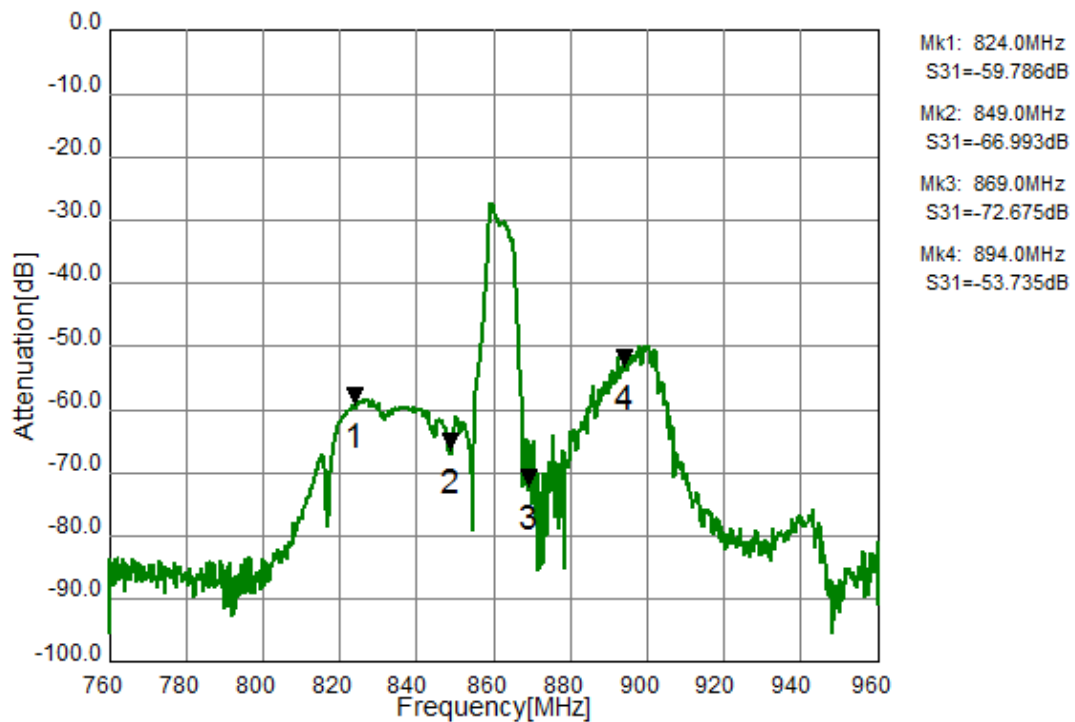


Figure 3-2. Electrical Characteristics. These data exclude loss that comes from the test board

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Tx Port

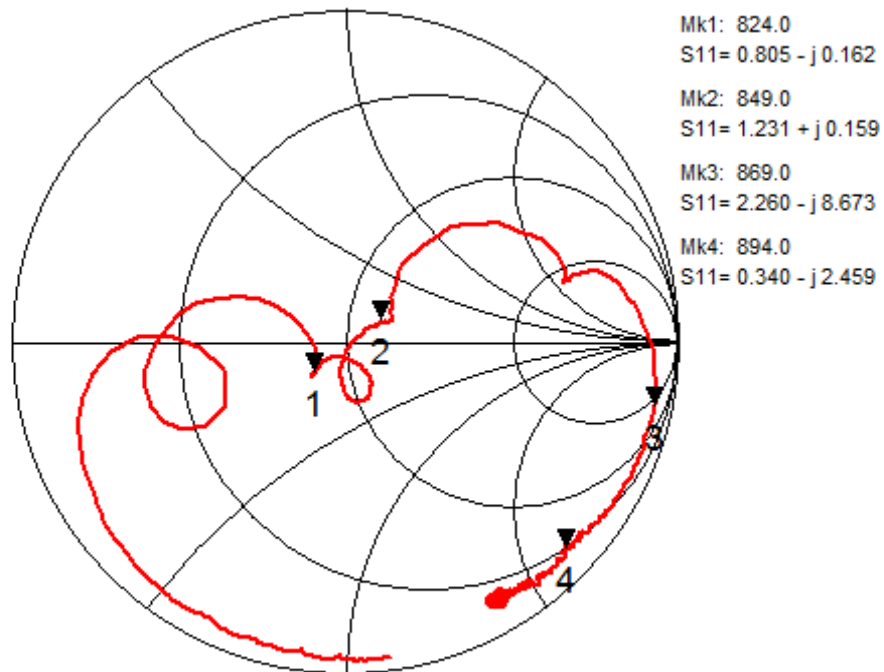
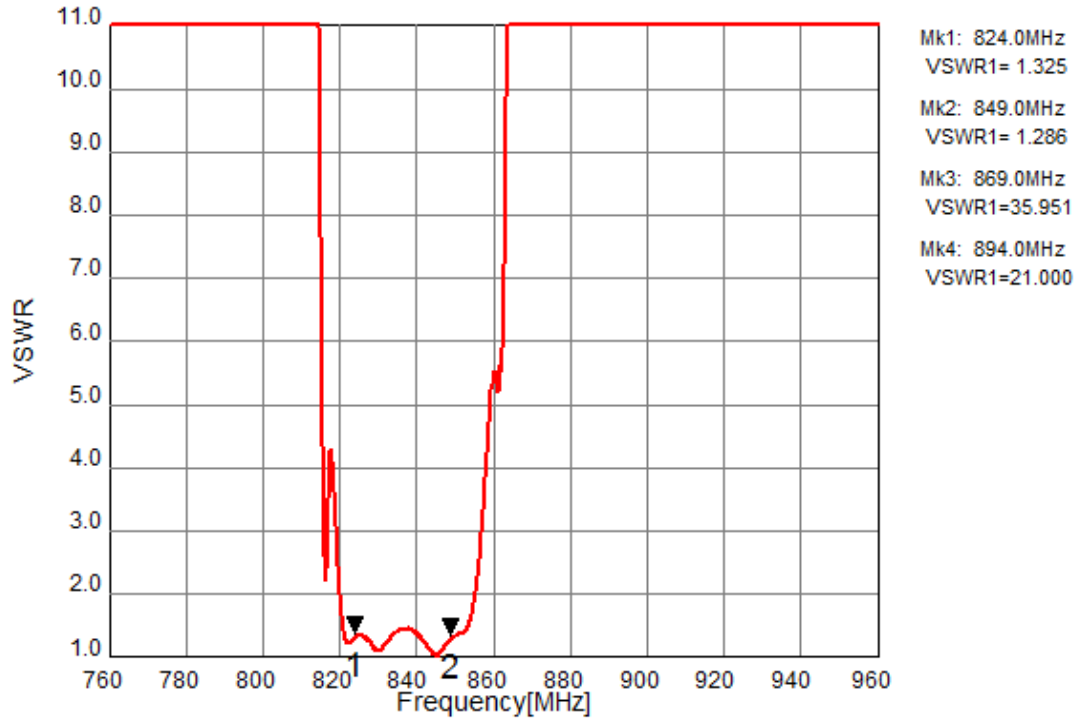


Figure 3-3. Electrical Characteristics.

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Rx Port

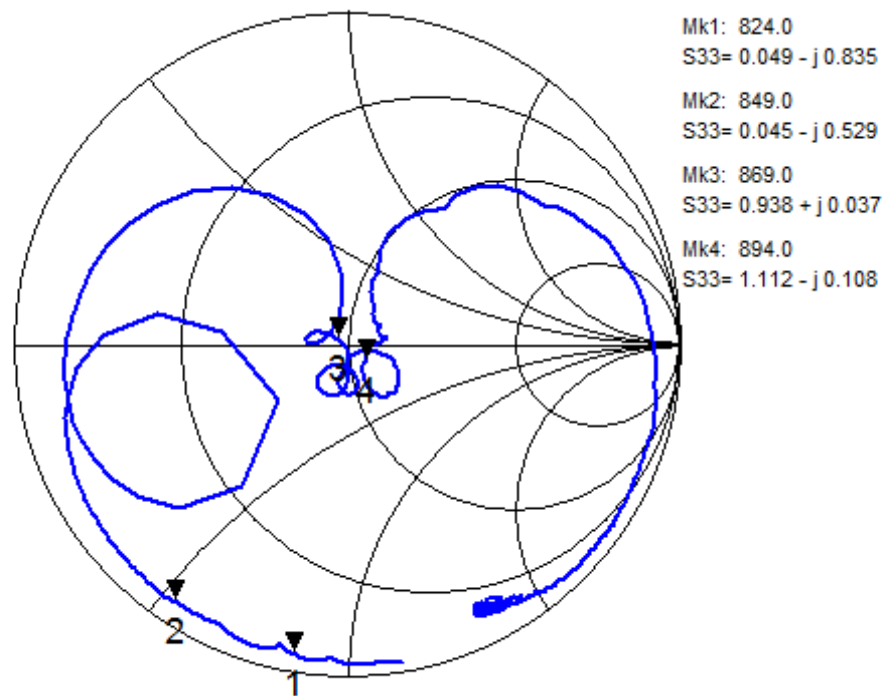
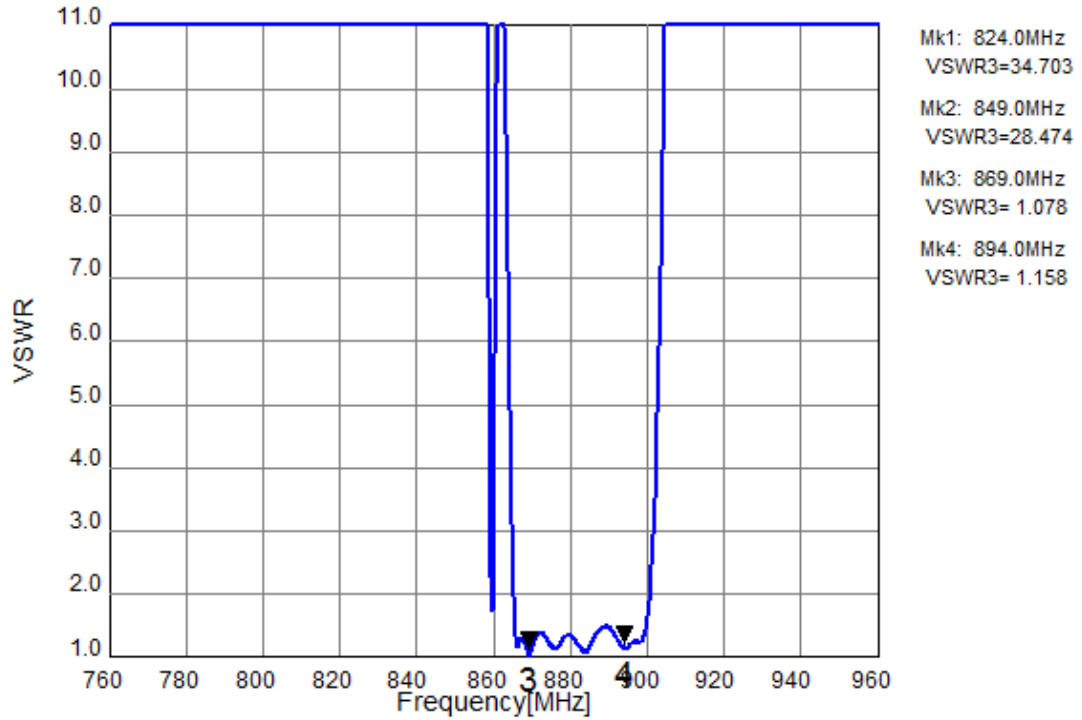


Figure 3-4. Electrical Characteristics.

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Ant Port

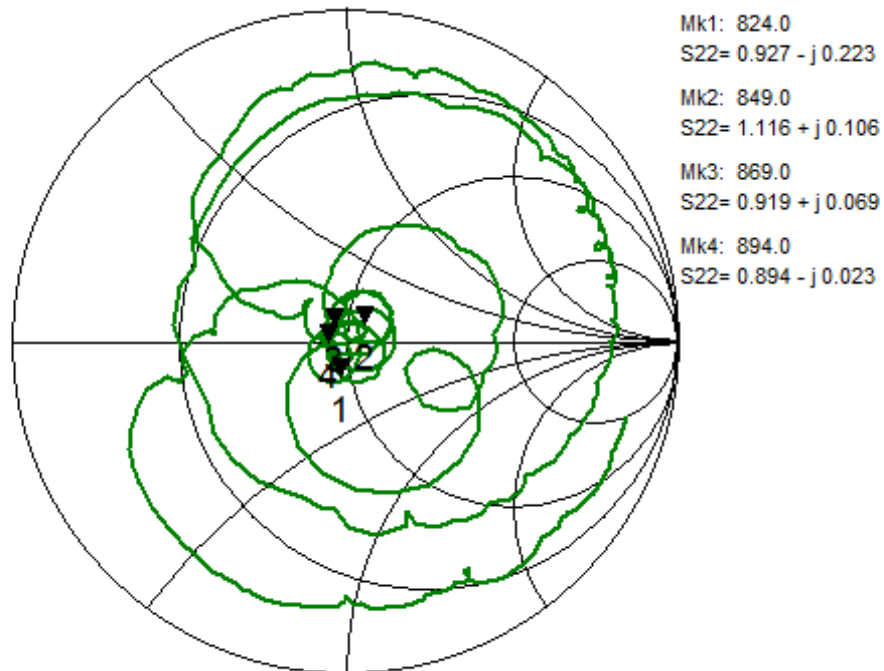
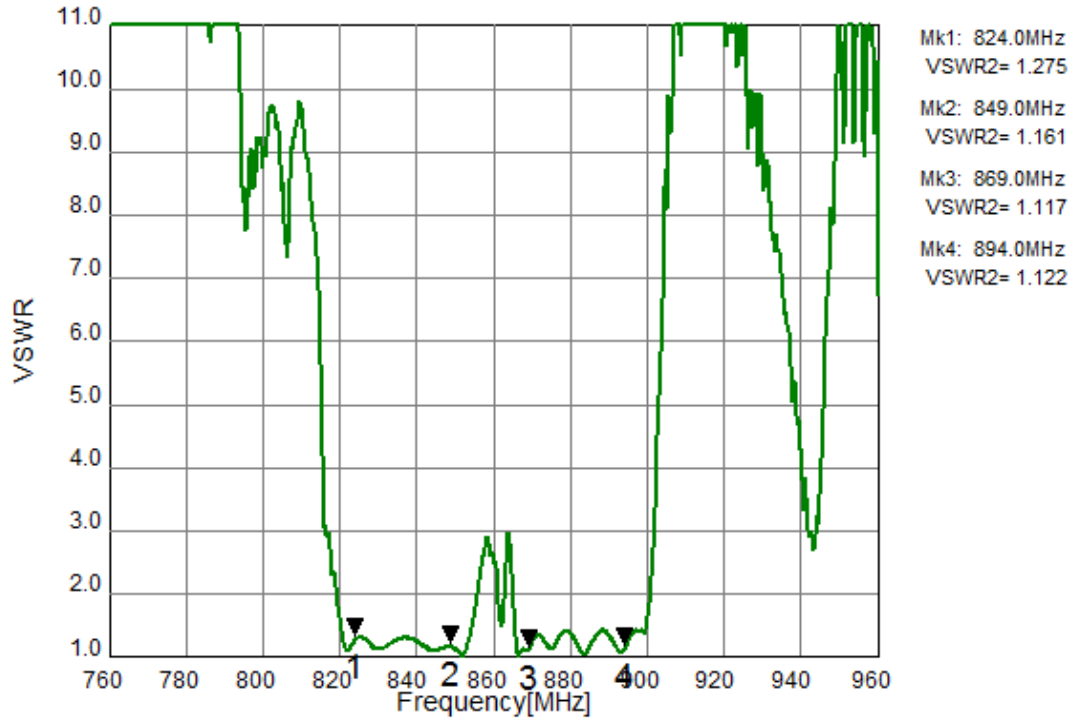
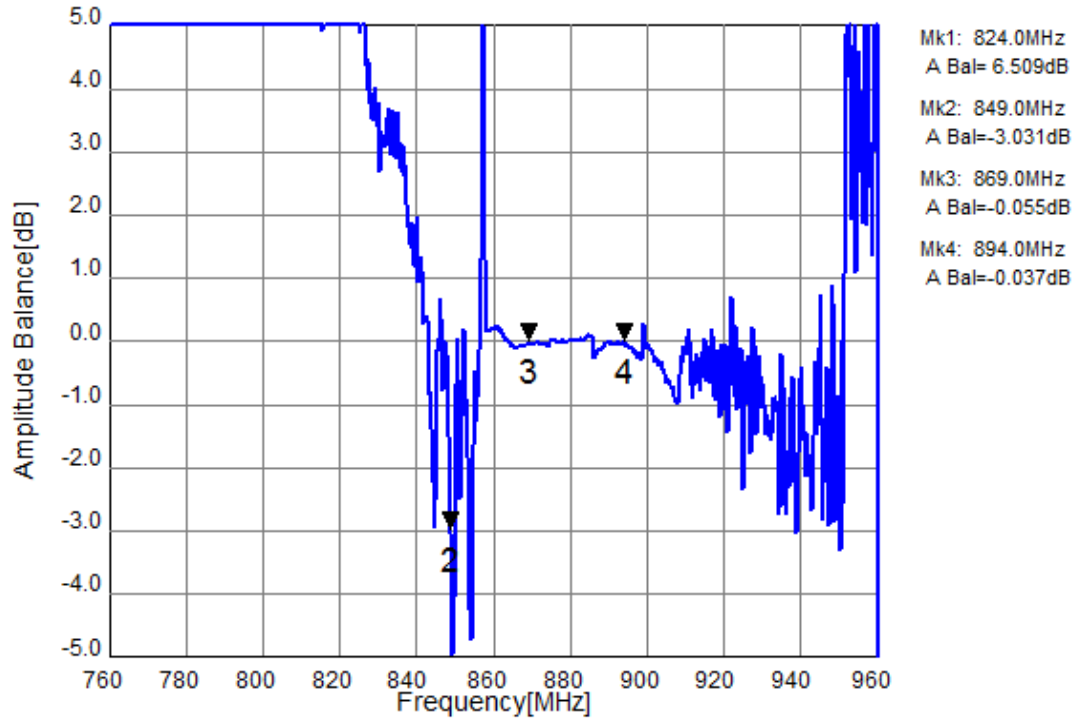


Figure 3-5. Electrical Characteristics.

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Ant to Rx (Amplitude balance)



Ant to Rx (Phase balance)

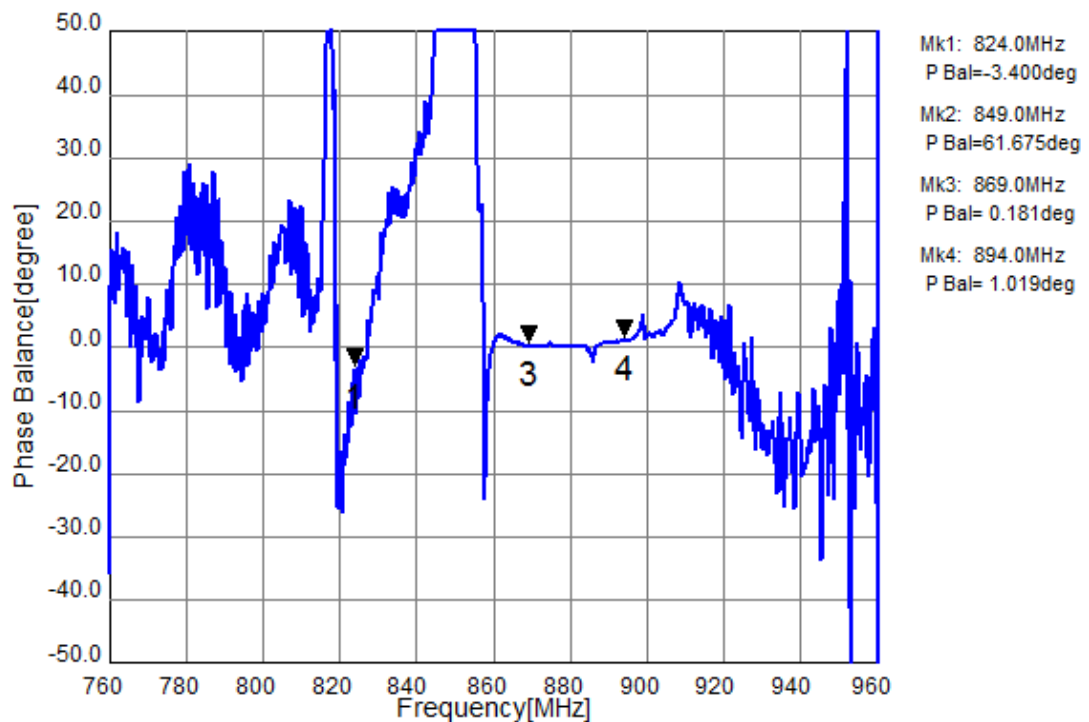


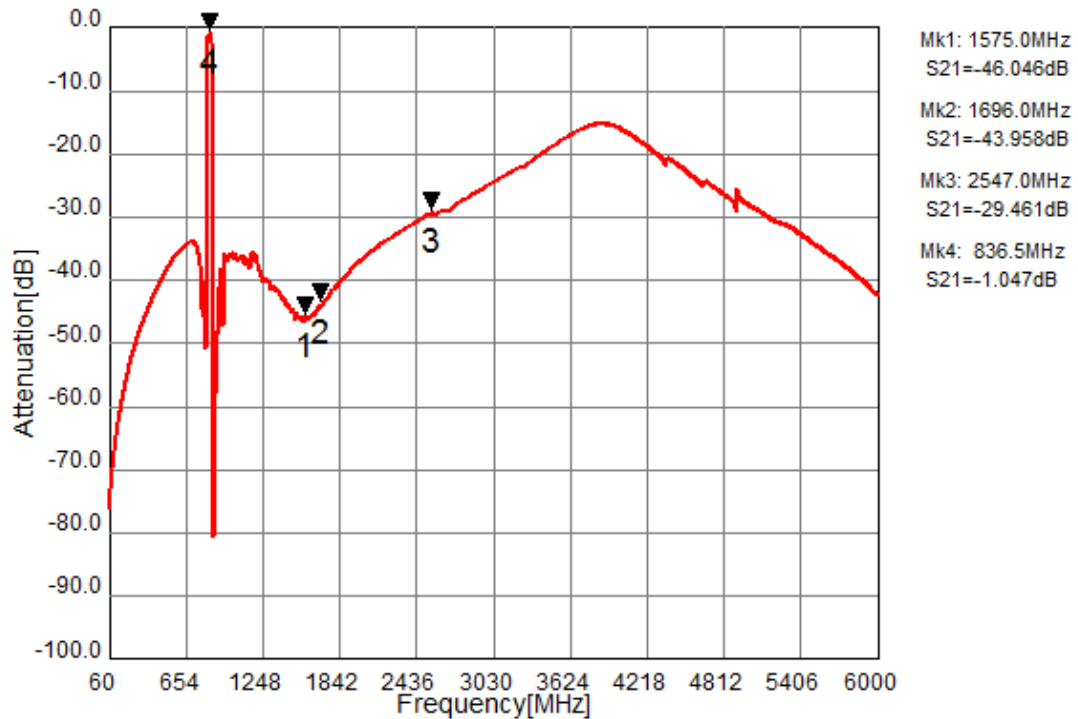
Figure 3-6. Electrical Characteristics.



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Tx to Ant (Wide span)



Ant to Rx (Wide span)

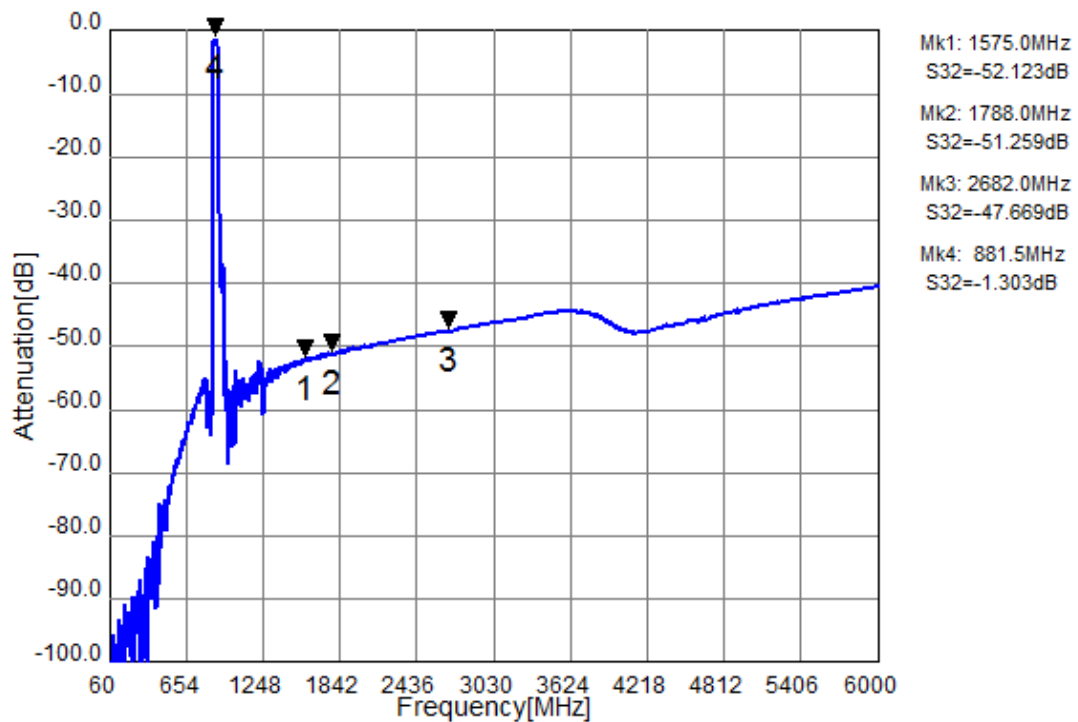


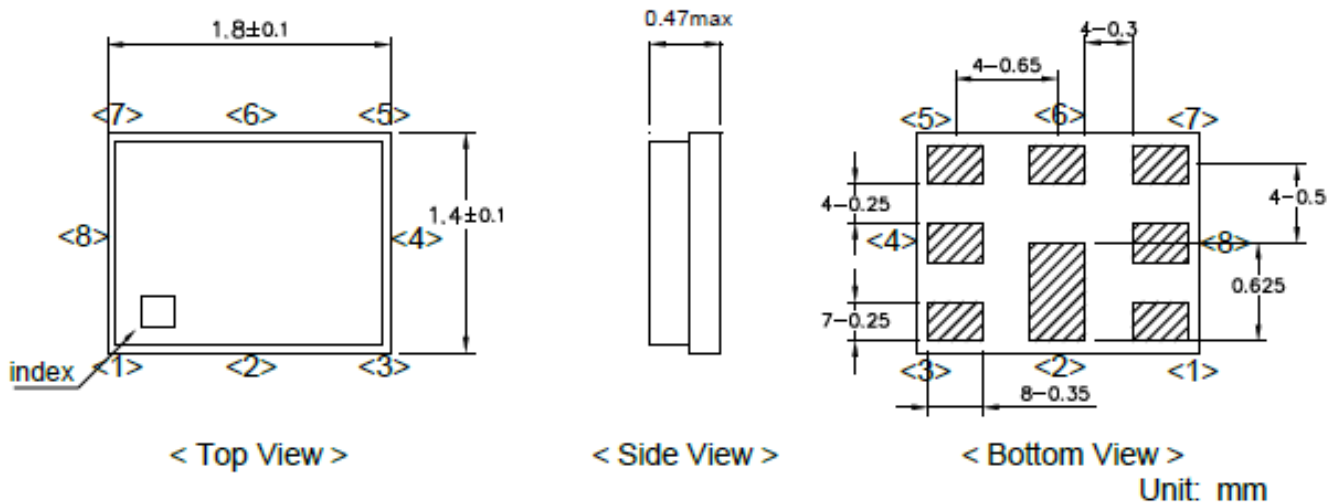
Figure 3-7. Electrical Characteristics.

**SAW Duplexer 836.0 / 881.0MHz**  
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**E. OUTLINE DRAWING:**

**Dimensions**



**Pin Configuration**

Pin No.	Pin name	Description
1	Rx	Receiver Pin (balanced)
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	Rx	Receiver Pin (balanced)

**Figure 1. Dimensions and Pin assignment**

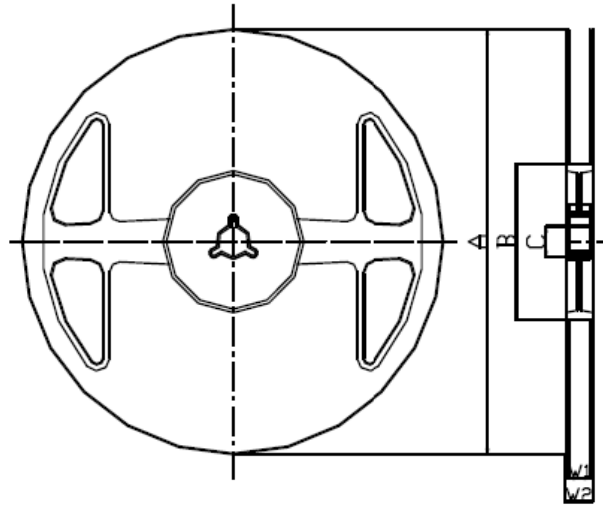


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**G. PACKING:**

1. Reel Dimension



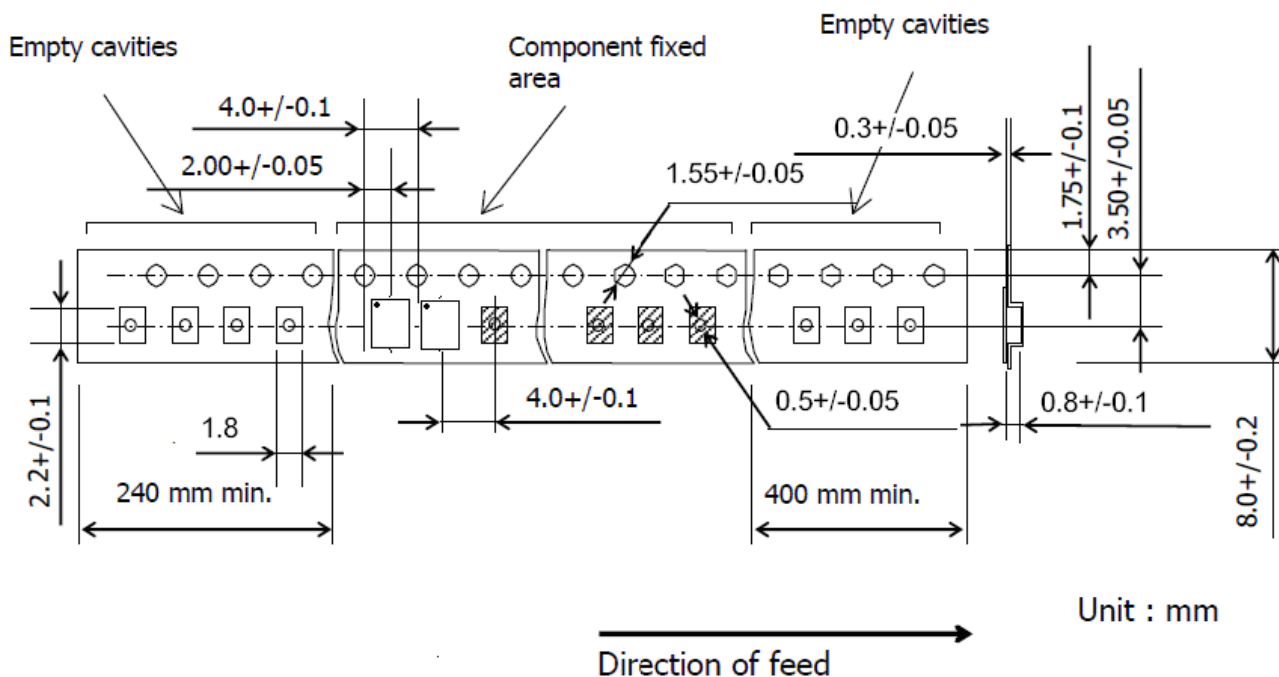
**Materials of Reel**

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

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**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. 10 sec).
4. Time: 2 times.

