

**SAW Duplexer 836.50 / 881.50MHz**  
**Part No: MP05790**

**Model: TF0089A**  
**Rev. No: 1**

**A. MAXIMUM RATING:**

1. Maximum Input Power: 29dBm
2. DC voltage: 0V
3. Operating Temperature: -30°C to +85°C
4. Storage Temperature: -40°C to +85°C

**B. ELECTRICAL CHARACTERISTICS:**

Tx to Ant		Specifications			
Parameters Description	Condition (MHz)	Unit	Min.	Typ.	Max.
<b>Insertion Loss</b>	824.0 ~ 849.0	dB	-	1.4	1.9
<b>Ripple</b>	824.0 ~ 849.0	dB <sub>p-p</sub>	-	0.4	1.0
<b>VSWR of Ant Port</b>	824.0 ~ 849.0	-	-	1.5	2.0
<b>VSWR of Tx Port</b>	824.0 ~ 849.0	-	-	1.6	2.0
<b>Attenuation</b>	779.0 ~ 804.0	dB	30	39	-
	869.0 ~ 894.0	dB	45	51	-
	1574.0 ~ 1577.0	dB	45	48	-
	1648.0 ~ 1698.0	dB	45	48	-
	2472.0 ~ 2547.0	dB	25	33	-

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Ant to Rx		Specifications			
Parameters Description	Condition (MHz)	Unit	Min.	Typ.	Max.
Insertion Loss	869.0 ~ 894.0	dB	-	1.7	2.2
Ripple	869.0 ~ 894.0	dB <sub>p-p</sub>	-	0.4	1.1
VSWR of Ant Port	869.0 ~ 894.0	-	-	1.6	2.0
VSWR of Rx Port	869.0 ~ 894.0	-	-	1.6	2.0
Attenuation	824.0 ~ 849.0	dB	51	58	-
	1738.0 ~ 1788.0	dB	40	54	-
	1850.0 ~ 1910.0	dB	40	54	-
	1920.0 ~ 1980.0	dB	40	53	-
	2400.0 ~ 2500.0	dB	40	52	-
	3476.0 ~ 3576.0	dB	40	49	-
Amplitude balance( S <sub>31</sub> /S <sub>41</sub>  )	869.0 ~ 894.0	dB	-1.0	-0.2/+0.2	+1.0
Phase balance $\Phi(S_{31})-\Phi(S_{41})+180^\circ$	869.0 ~ 894.0	deg	-10	-2/+2	+10

Tx to Rx		Specifications			
Parameters Description	Condition (MHz)	Unit	Min.	Typ.	Max.
Isolation in Tx Band	824.0 ~ 849.0	dB	57	59	-
Isolation in Rx Band	869.0 ~ 894.0	dB	49	52	-

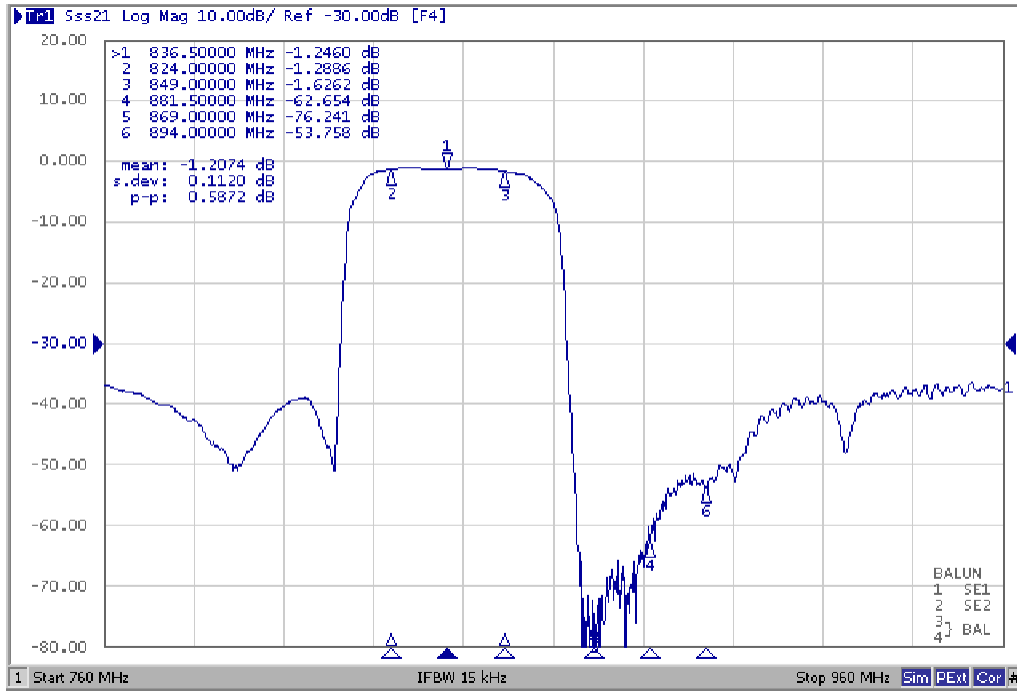
Note: With Matching Network.

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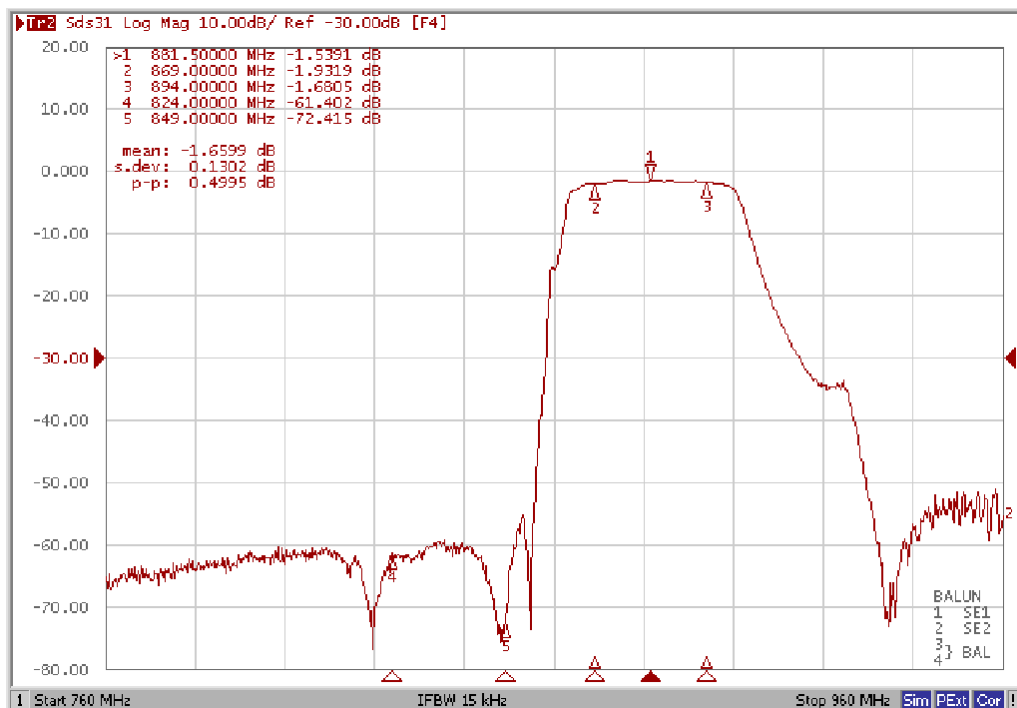
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**C. FREQUENCY CHARACTERISTICS:**

**Tx to Ant**



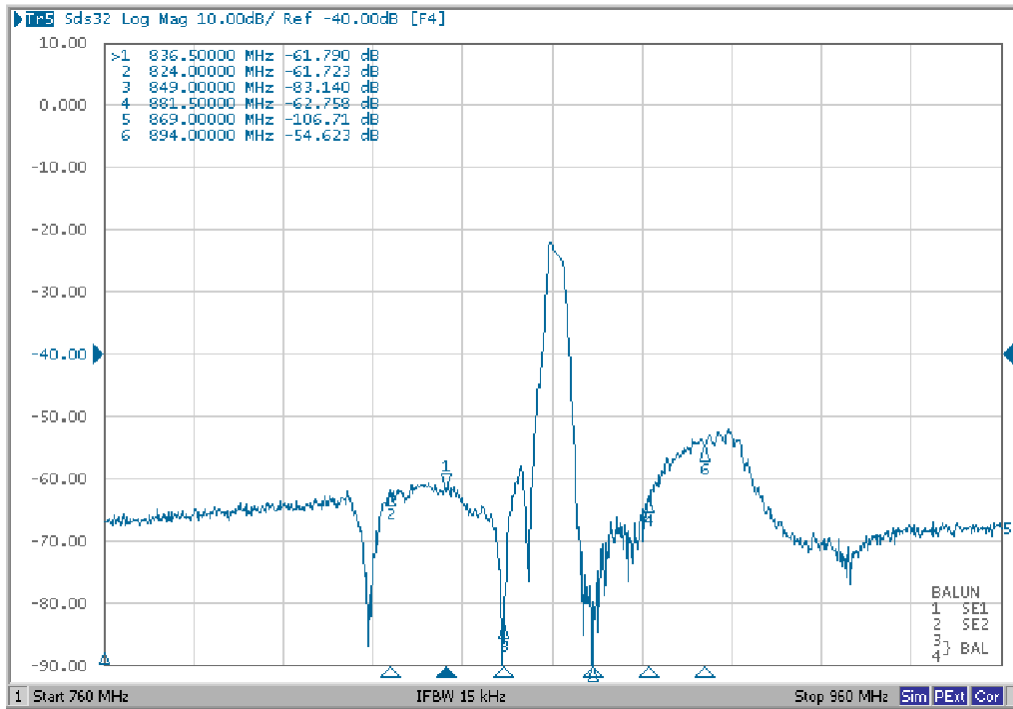
**Ant to Rx**



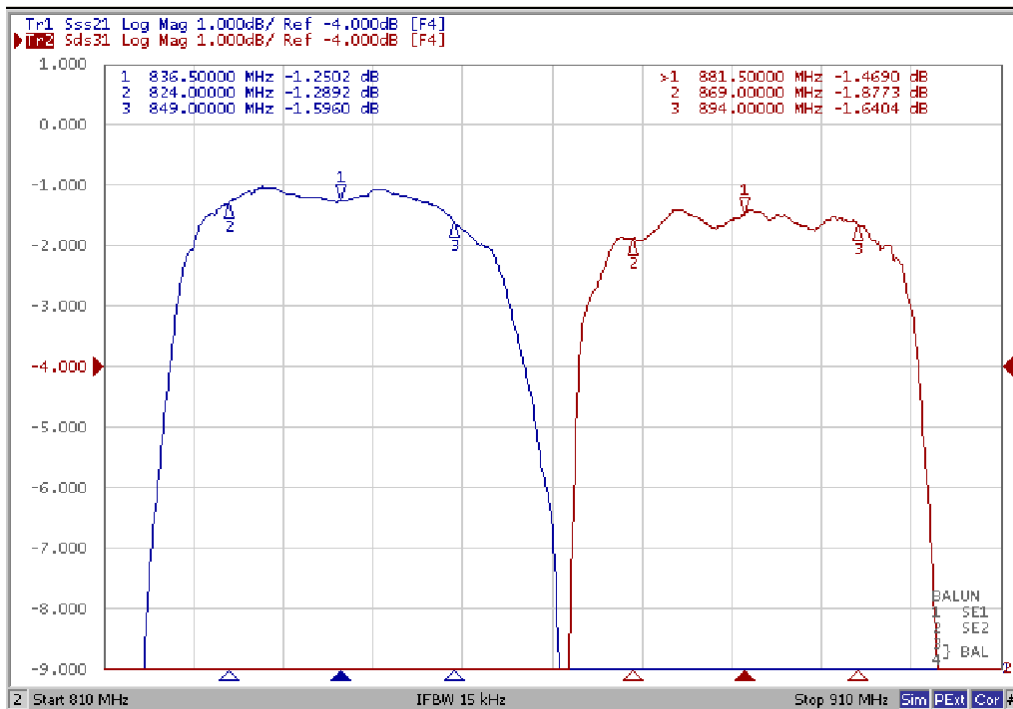
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**Isolation**



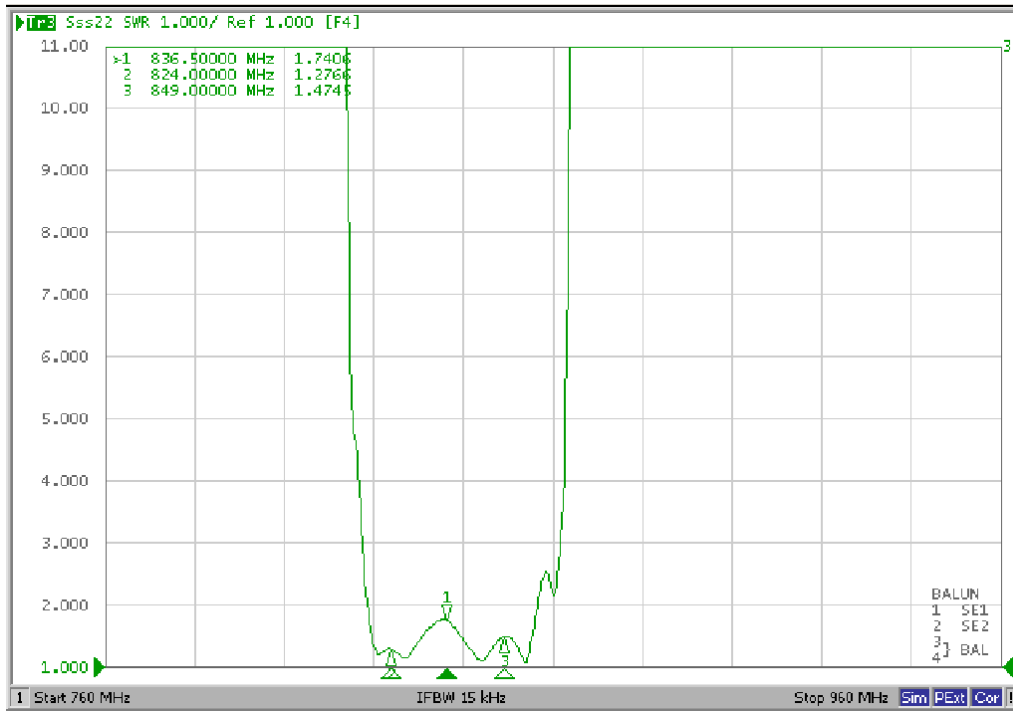
**Ripple**



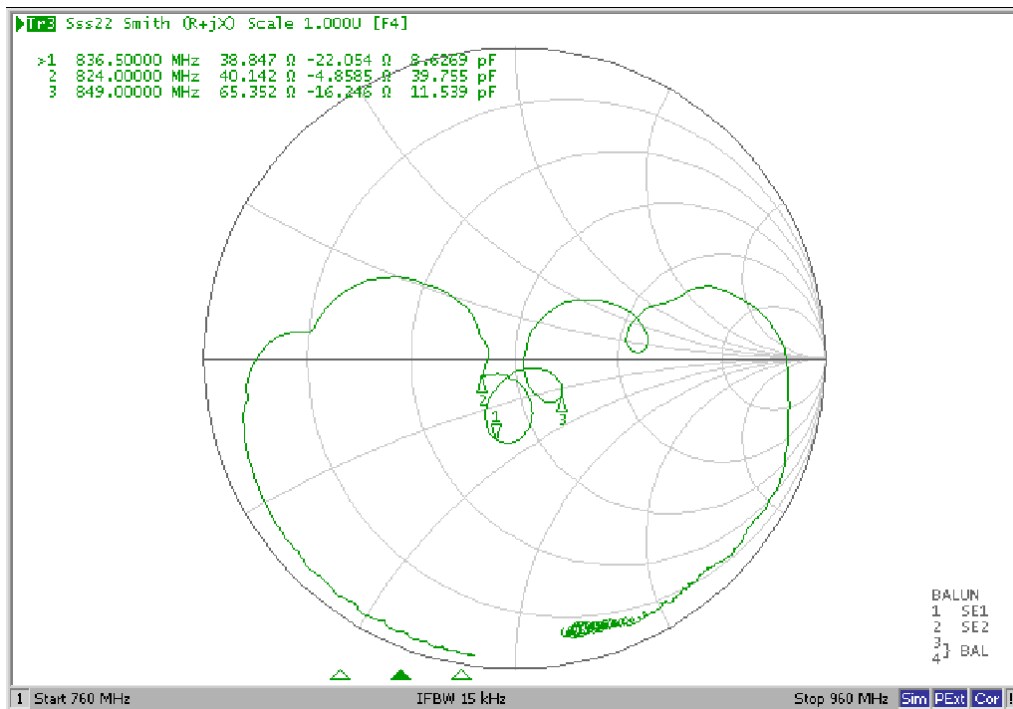
**SAW Duplexer 836.50 / 881.50MHz**  
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### VSWR (Tx Port)



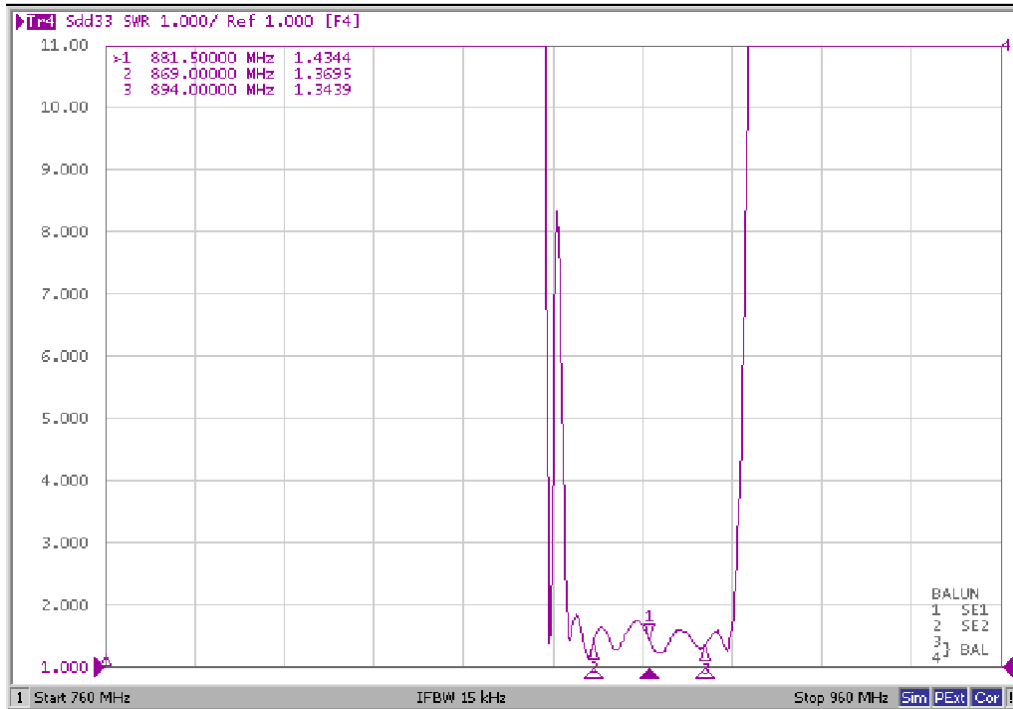
### Smith Chart (Tx Port)



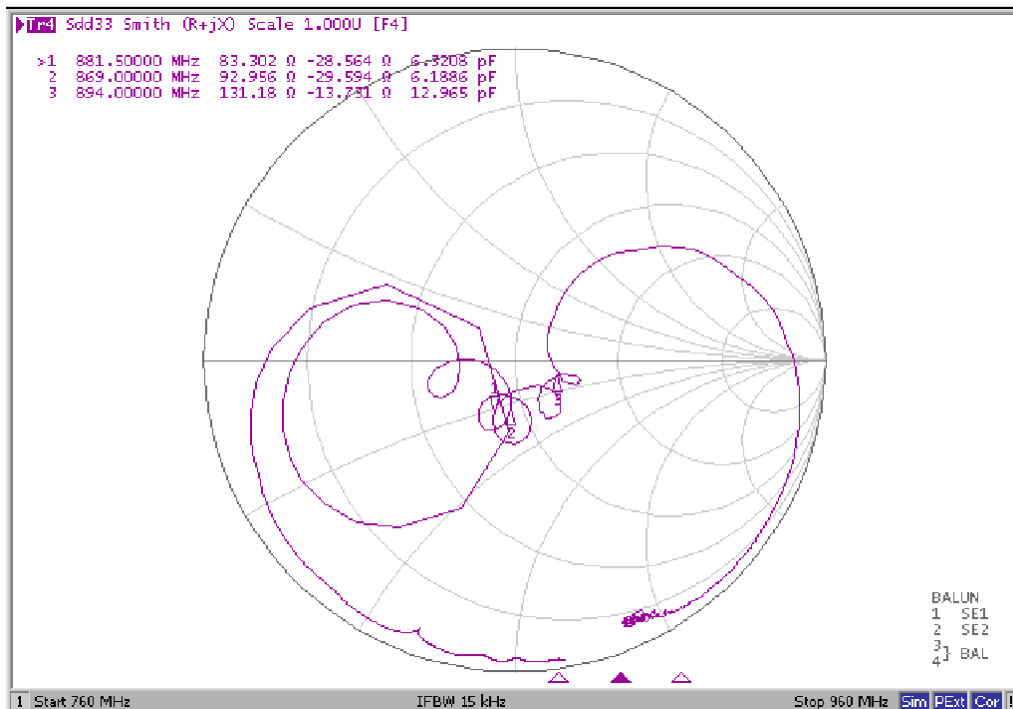
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### VSWR (Rx Port)



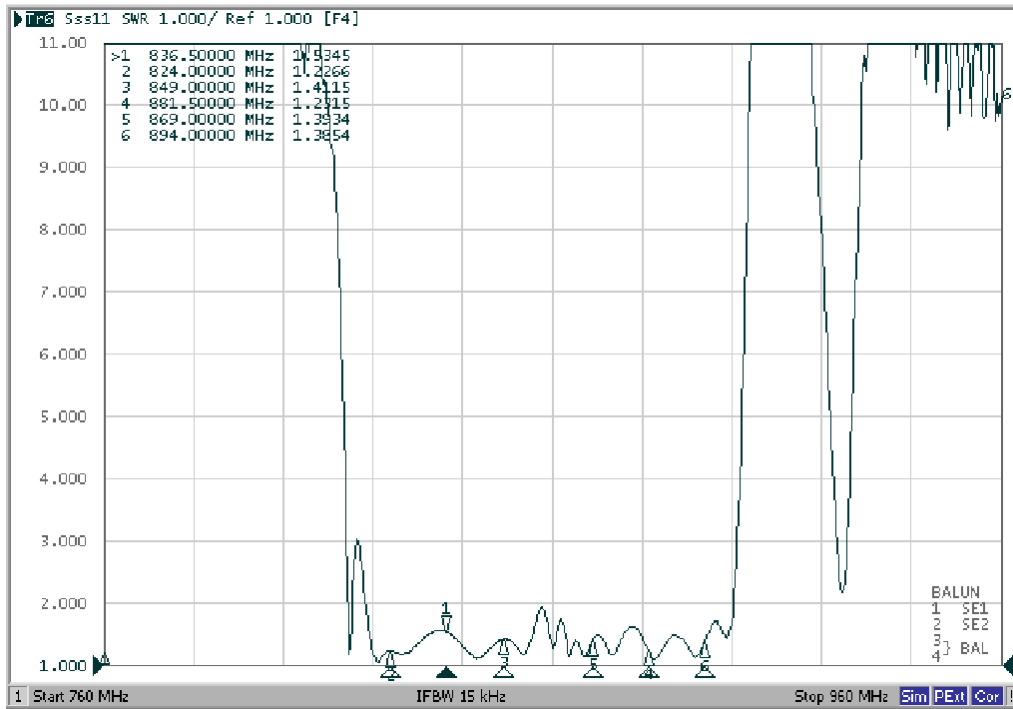
### Smith Chart (Rx Port)



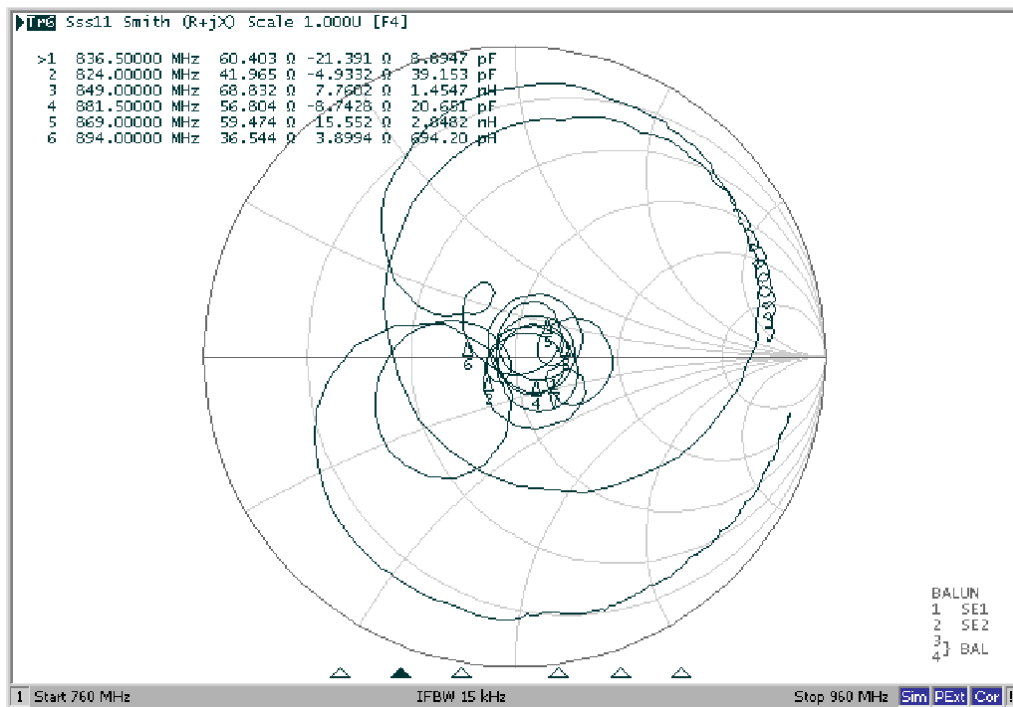
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**VSWR (ANT Port)**



**Smith Chart (ANT Port)**

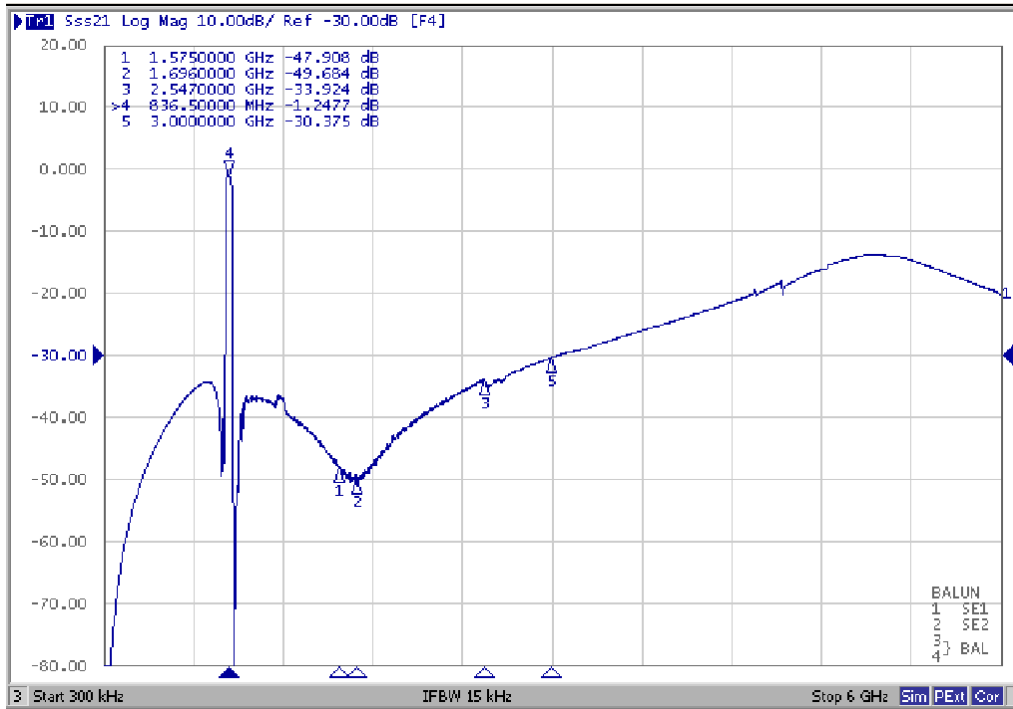


**SAW Duplexer 836.50 / 881.50MHz**  
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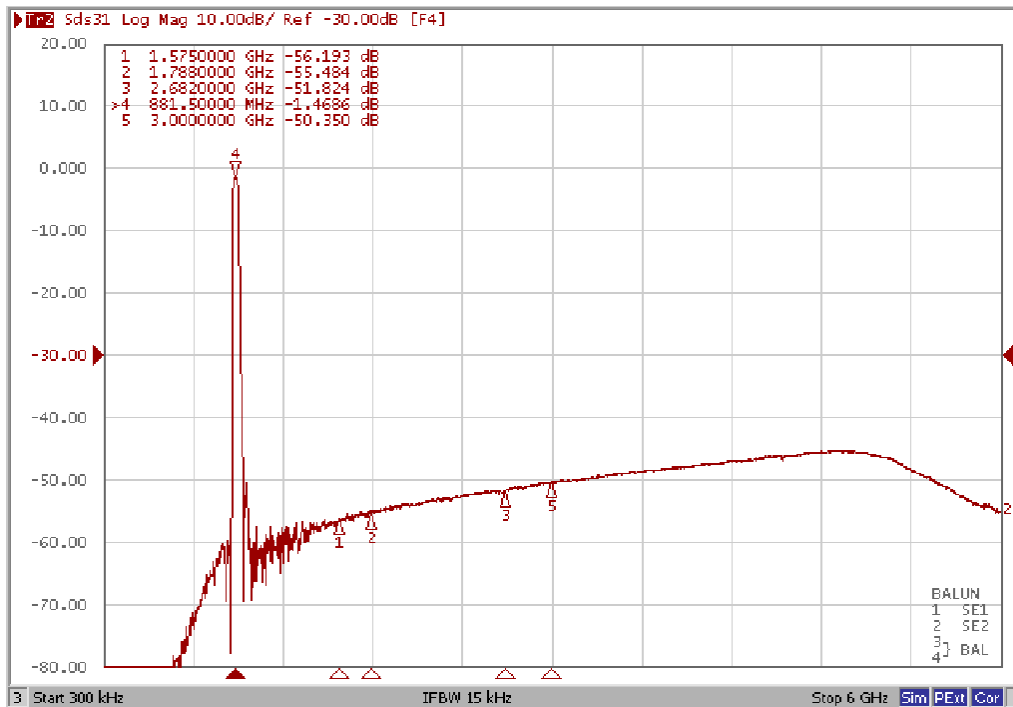
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**Wide Span**

1. Tx



2. Rx

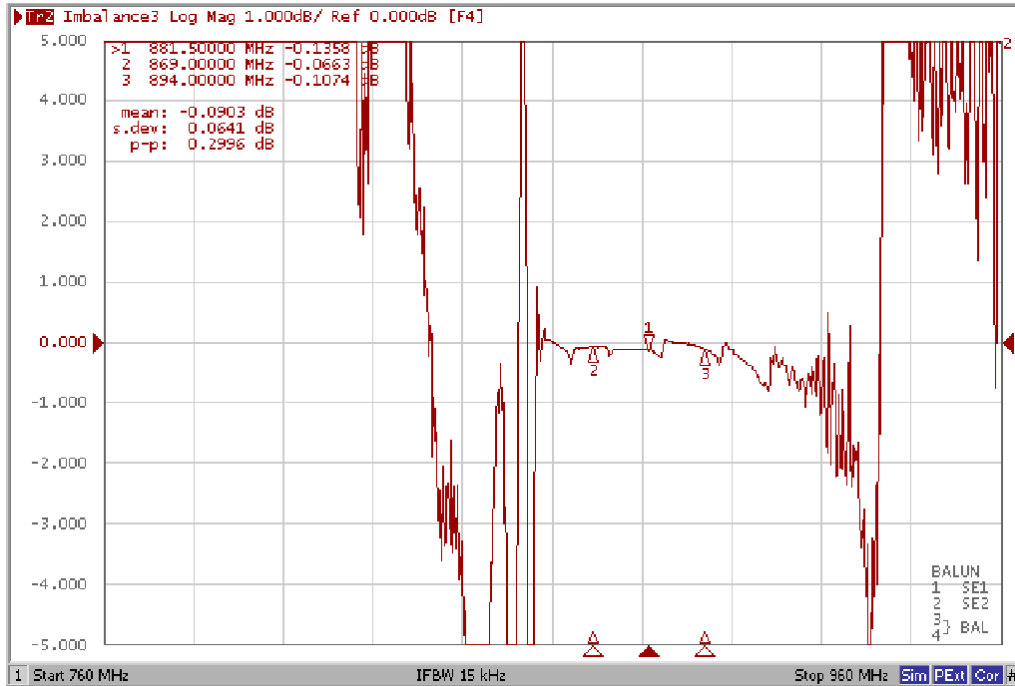




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**Amplitude balance of Ant to Rx+/Rx-**



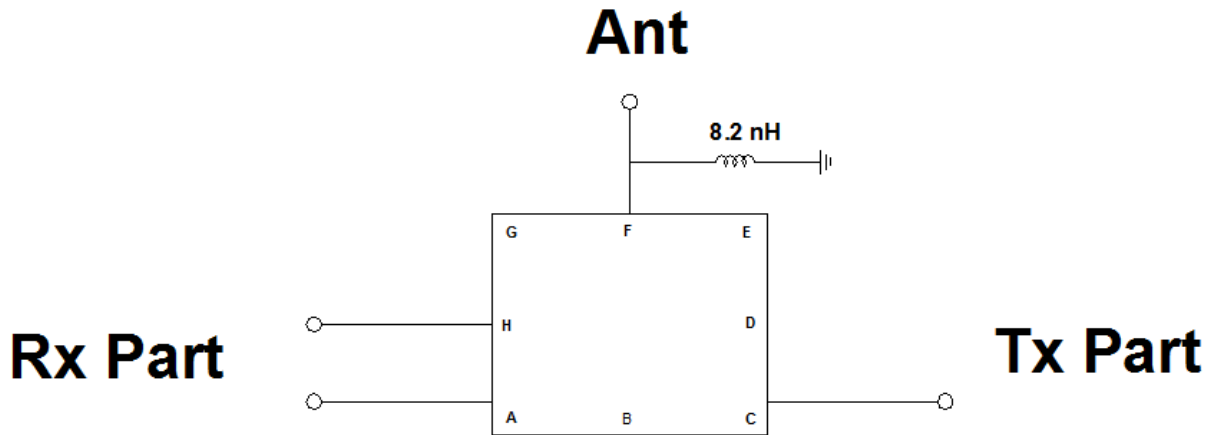
**Phase balance of Ant to Rx+/Rx-**



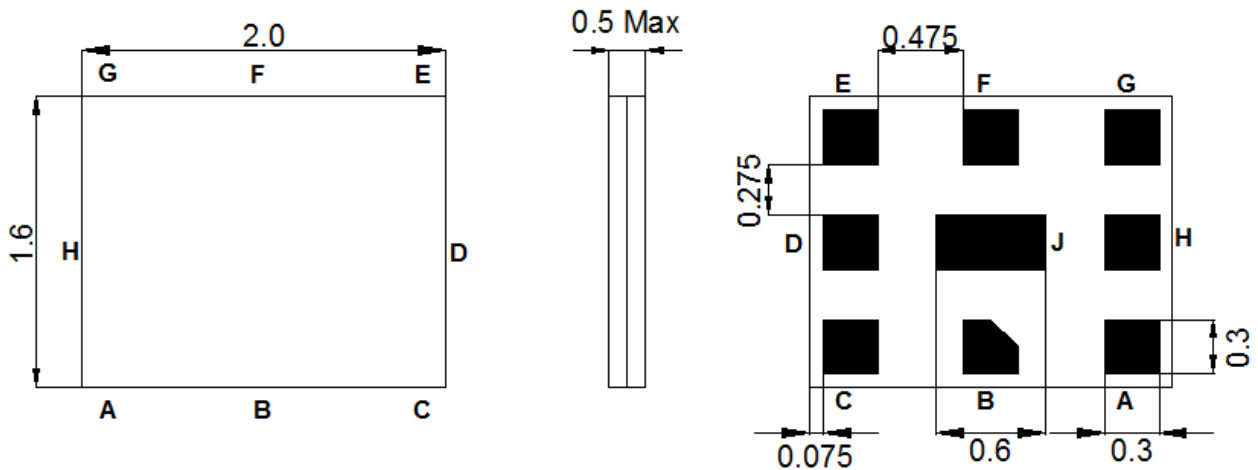
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**D. MEASUREMENT CIRCUIT:**



**E. OUTLINE DRAWING:**



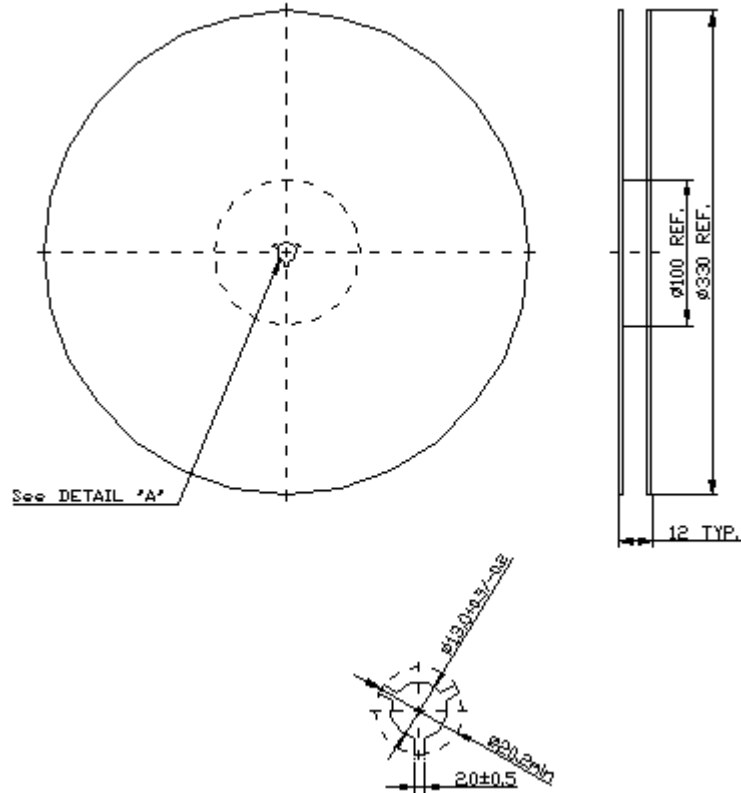
B, D, E, G, J: Ground  
F: Ant  
C: Tx (836.5MHz)  
A, H: Rx (881.5MHz)

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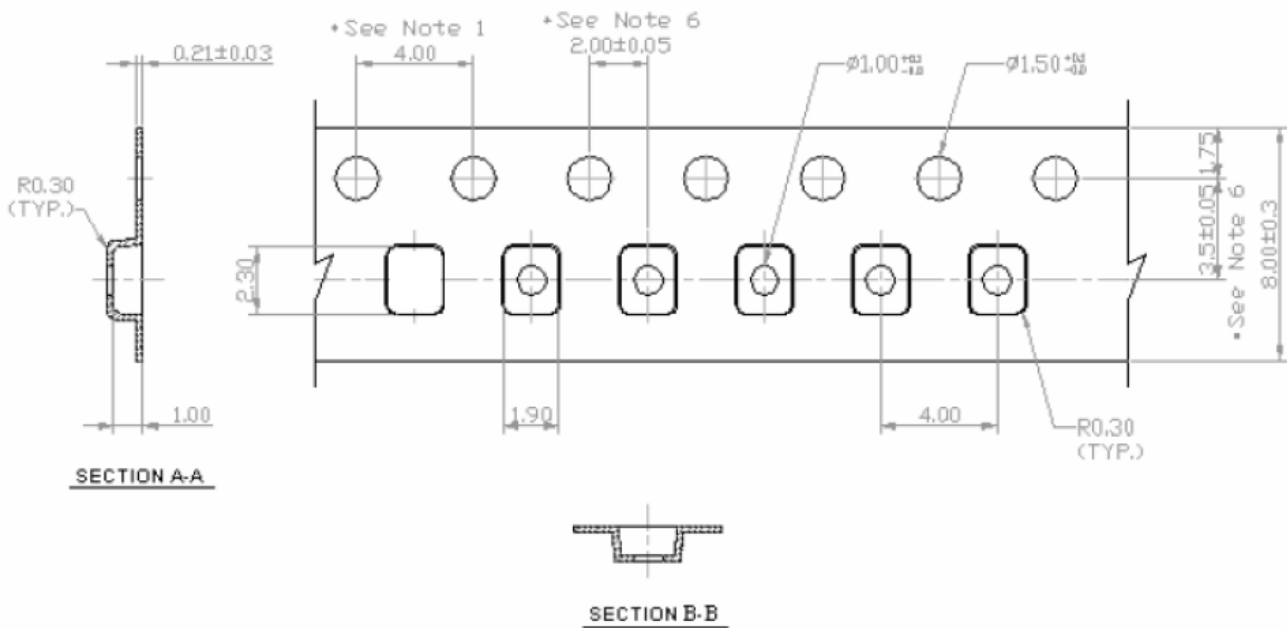
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**F. PACKING:**

1. Reel Dimension (Please refer to FR-75D10 for packing quantity)



2. Tape Dimension



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**G. RECOMMENDED REFLOW PROFILE:**

