

**SAW Duplexer 1950.0 / 2140.0MHz**  
**Part No: MP06455**

**Model: TF0104A**  
**Rev. No: 1**

**A. ELECTRICAL CHARACTERISTICS:**

Item	Condition (MHz)	Specification			Unit	Remarks	
		Min	Typ	Max			
Tx to ANT	Insertion loss	1920.48~1979.52	-	1.9	2.2	dB (*1)	
	Ripple	1920~1980	-	0.6	1.0	dB	
	VSWR	1920~1980	ANT	-	1.5	2.0	-
			Tx	-	1.5	2.0	-
	Absolute attenuation	420~494	44	60	-	dB	
		843~894	30	42	-	dB	
		1565.42~1573.374	38	43	-	dB	
		1573.374~1585.42	40	45	-	dB	
		1597.5515~1605.886	40	50	-	dB	
		1605.886~1805	25	40	-	dB	
		1805~1865	15	27	-	dB	
		1865~1880	10	20	-	dB	
		2010~2025	18	21	-	dB	+15~+85°C
		2110~2170	38	42	-	dB	
2400~2500	36	42	-	dB			
3840~3960	10	22	-	dB			
Input Power	1920~1980	29dBm(0.8W)			-	>5000h CW tone(Ta=50°C)	

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

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Item		Condition (MHz)	Specification			Unit	Remarks	
			Min	Typ	Max			
ANT to Rx	Insertion loss	2110~2170	-	1.9	2.5	dB (*)		
	Ripple	2110~2170	-	0.5	1.2	dB		
	VSWR	ANT Rx	2110~2170	-	1.5	2.0	-	
				-	1.7	2.1	-	
	Absolute attenuation		190	50	75	-	dB	
			814~849	40	65	-	dB	
			880~915	40	63	-	dB	
			1447~1463	40	49	-	dB	
			1730~1790	40	55	-	dB	
			1920~1980	45	50	-	dB	
			2015~2075	13	17	-	dB	
			2400~2500	40	46	-	dB	
			4030~4150	40	51	-	dB	
			4220~4340	40	51	-	dB	
			4340~6000	15	48	-	dB	
		4900~5950	40	47	-	dB		
		5950~6130	40	48	-	dB		
	6130~6330	35	48	-	dB			
	6330~6510	35	48	-	dB			
Tx to Rx	Isolation	1920~1980	53	56	-	dB		
		2110~2170	50	55	-	dB		
Terminating Impedance	Tx port		50 // 4.3nH			Ohm	Single-ended	
	Rx port		50 // 7.5nH			Ohm	Single-ended	
	Ant port		50 // 3.3nH			Ohm	Single-ended	
Operating Temperature			-30 to +85			°C		
Device size (LxWxH)			2.0 x 1.6 x 0.6 max			mm		

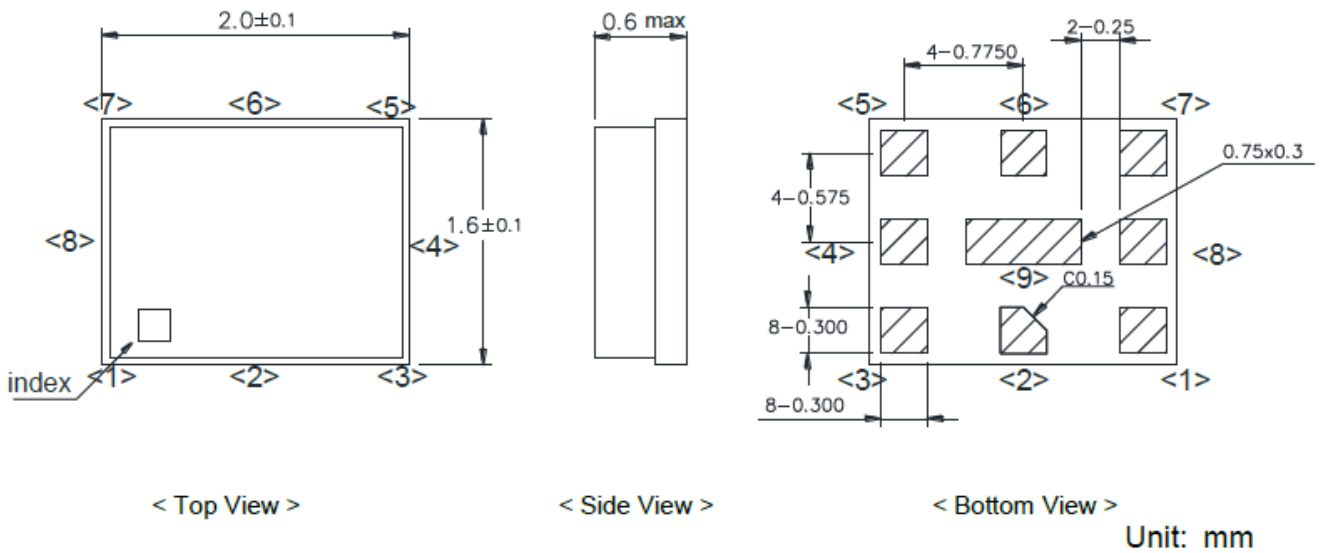
(\*) Specification of insertion loss excludes loss that comes from the test board.

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**B. OUTLINE DRAWING:**

**Dimensions**



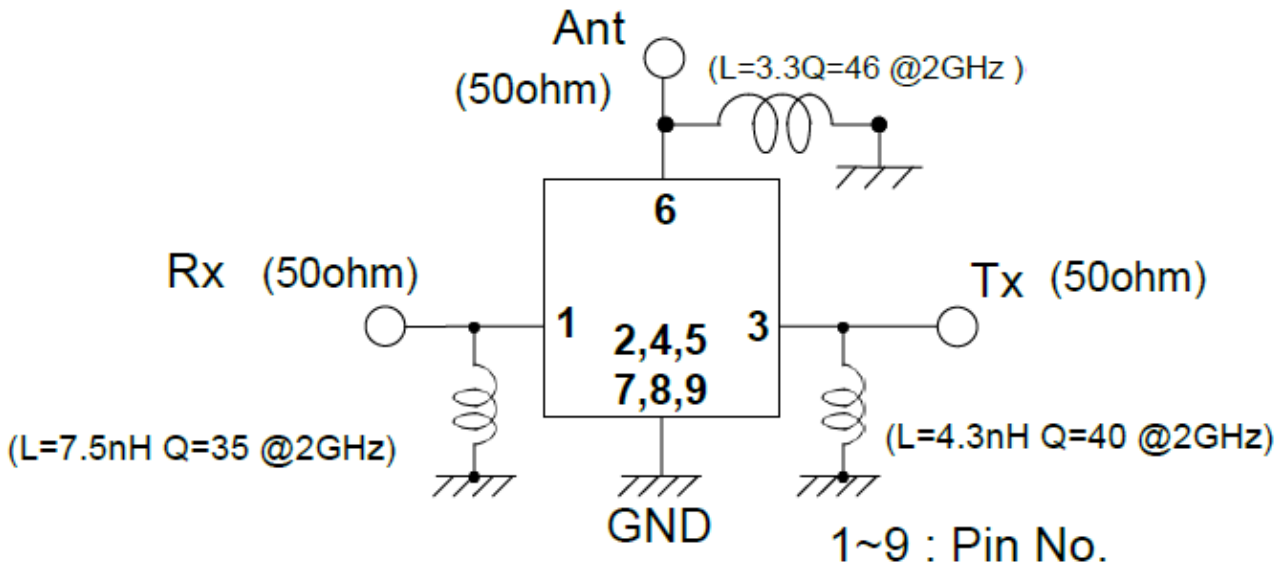
**Pin Configuration**

Pin No.	Pin name	Description
1	Rx	Receiver 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
9	GND	Ground Pin

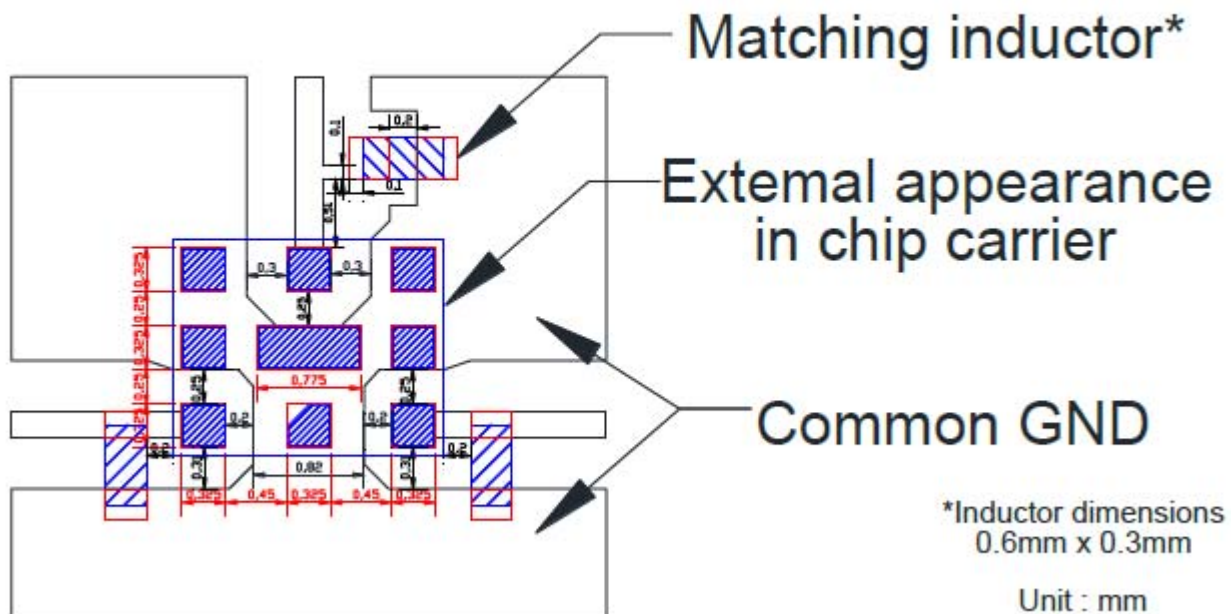
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**C. MEASUREMENT CIRCUIT:**



**D. FOOTPRINT:**



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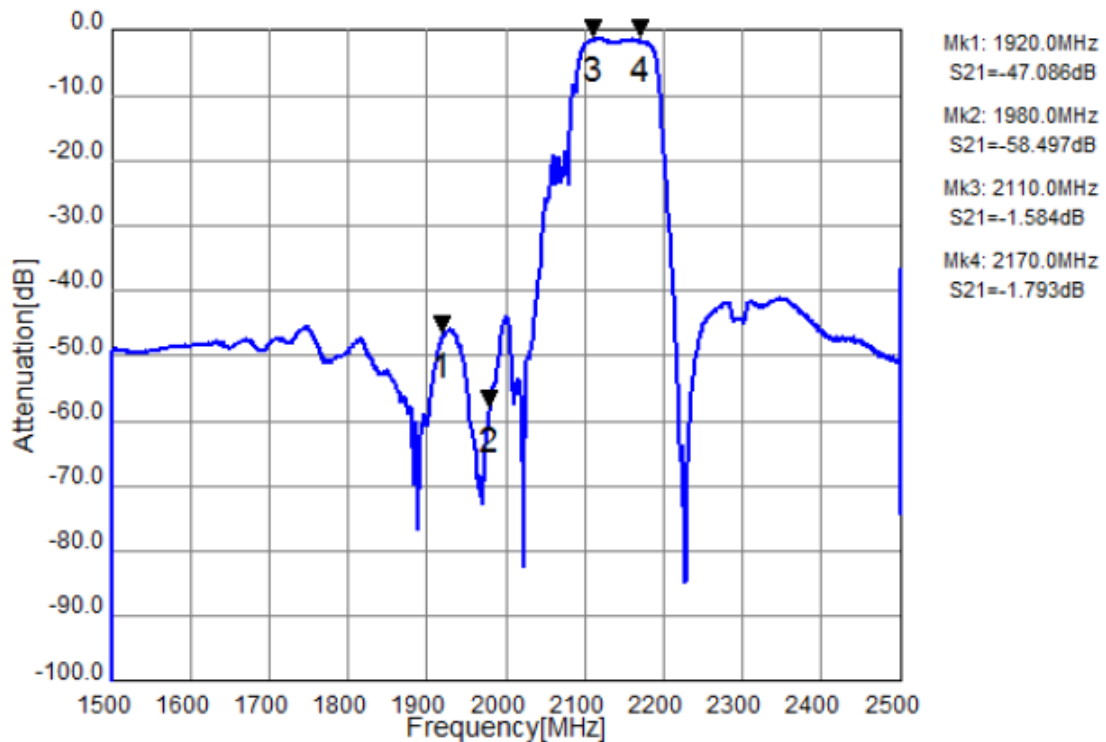
**Model: TF0104A**  
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**E. FREQUENCY CHARACTERISTICS:**

**Tx to Ant**



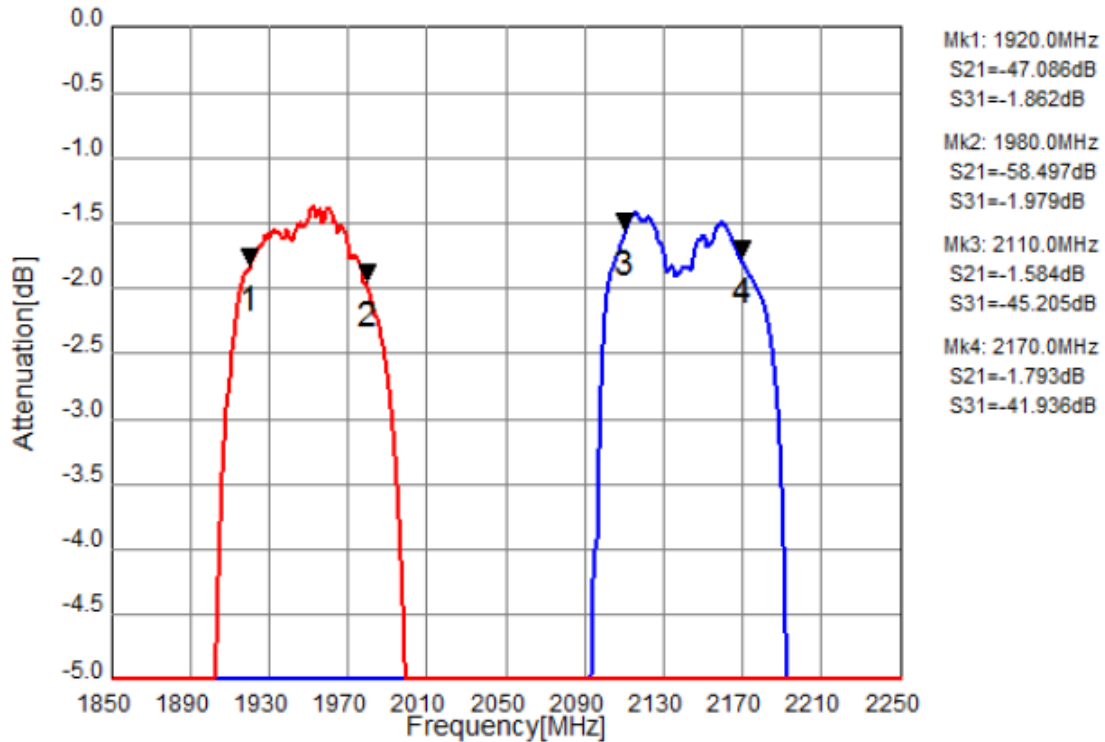
**Ant to Rx**



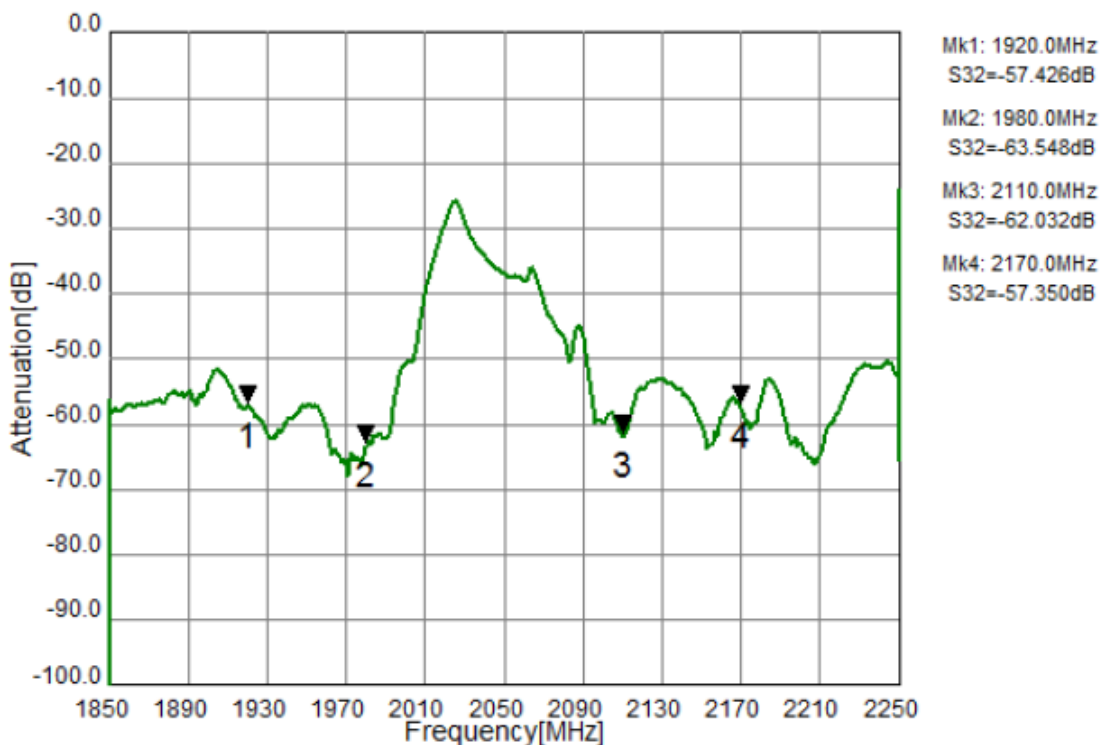
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### Tx to Ant, Ant to Rx



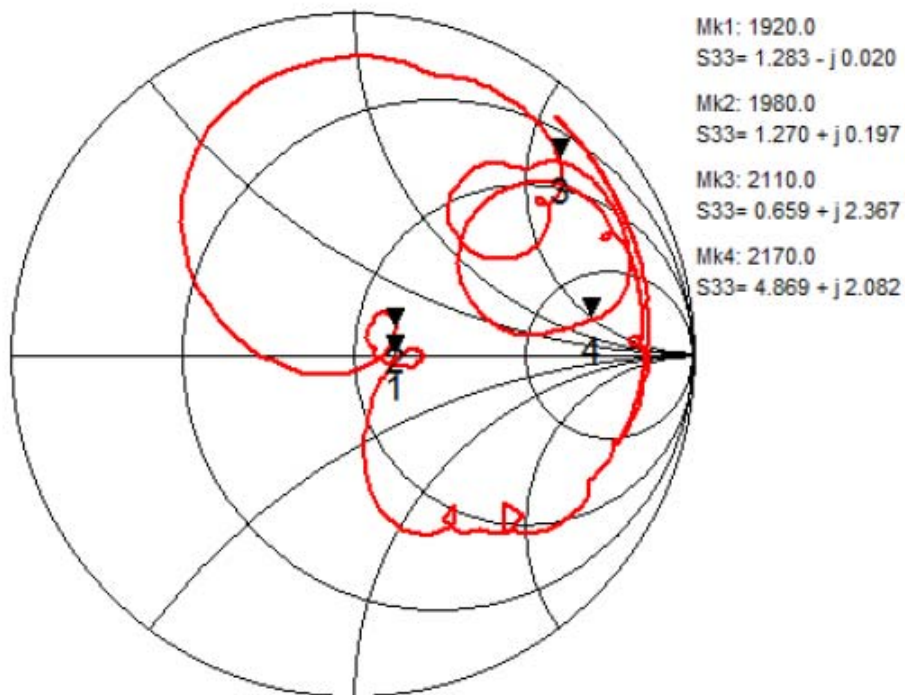
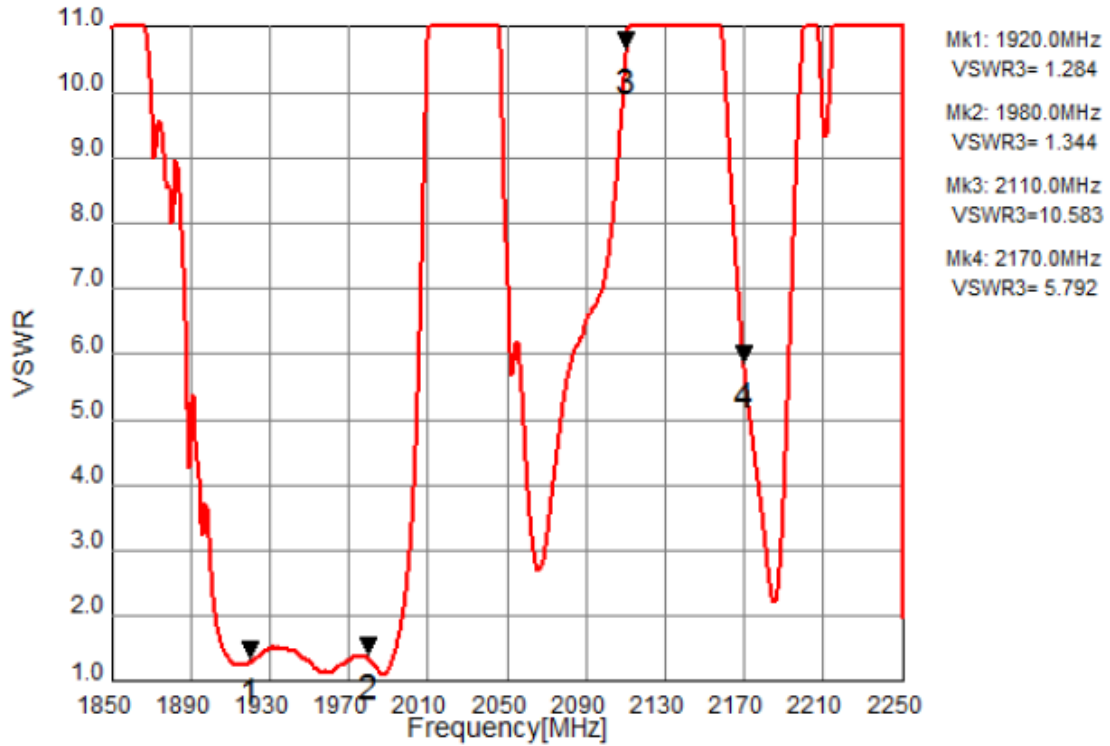
### Tx to Rx Isolation



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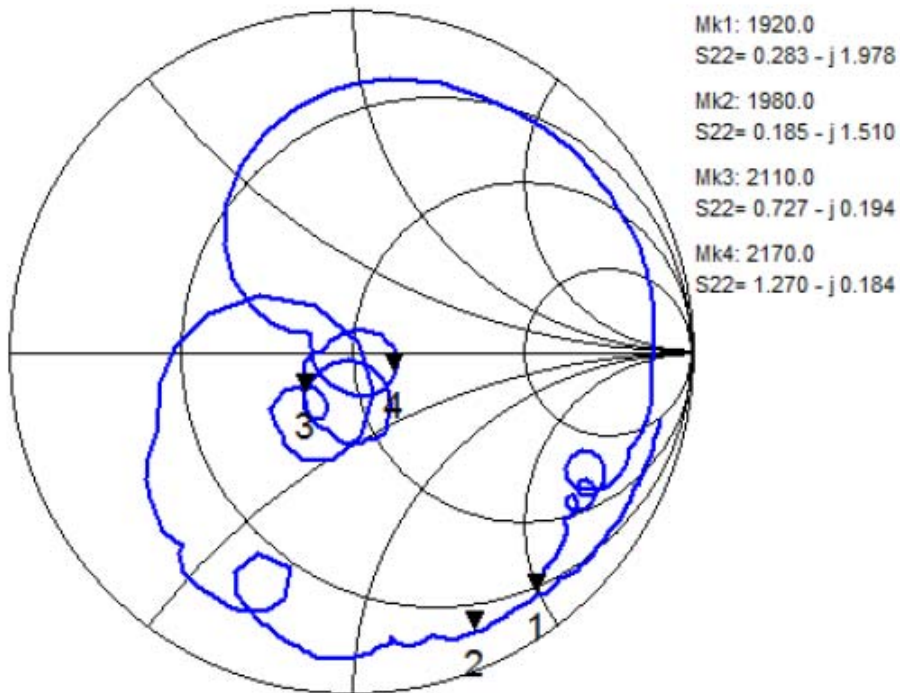
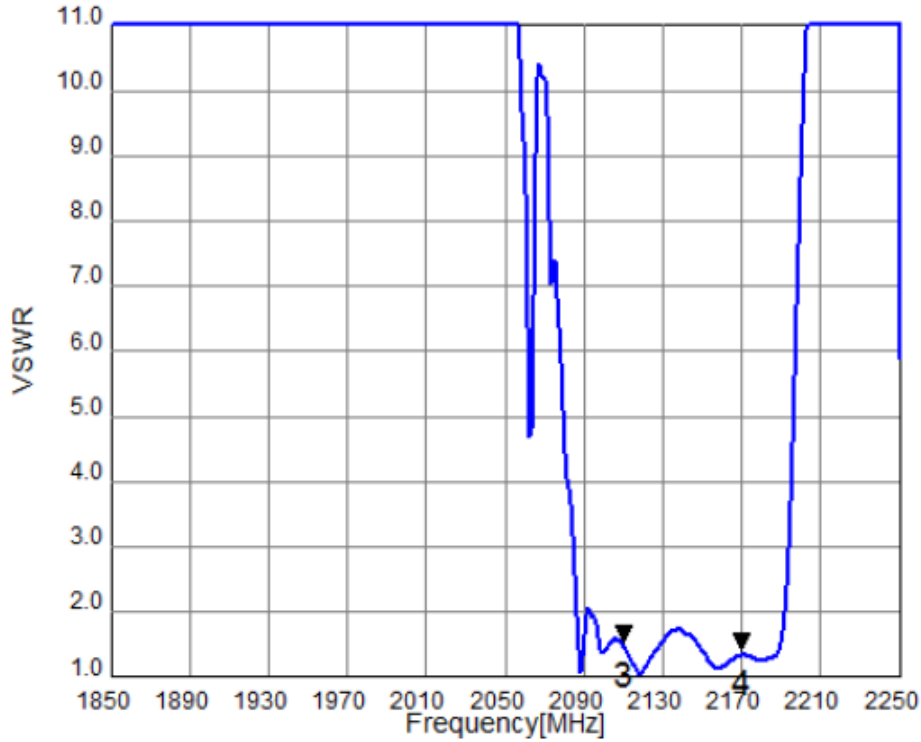
## Tx Port



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**Rx Port**

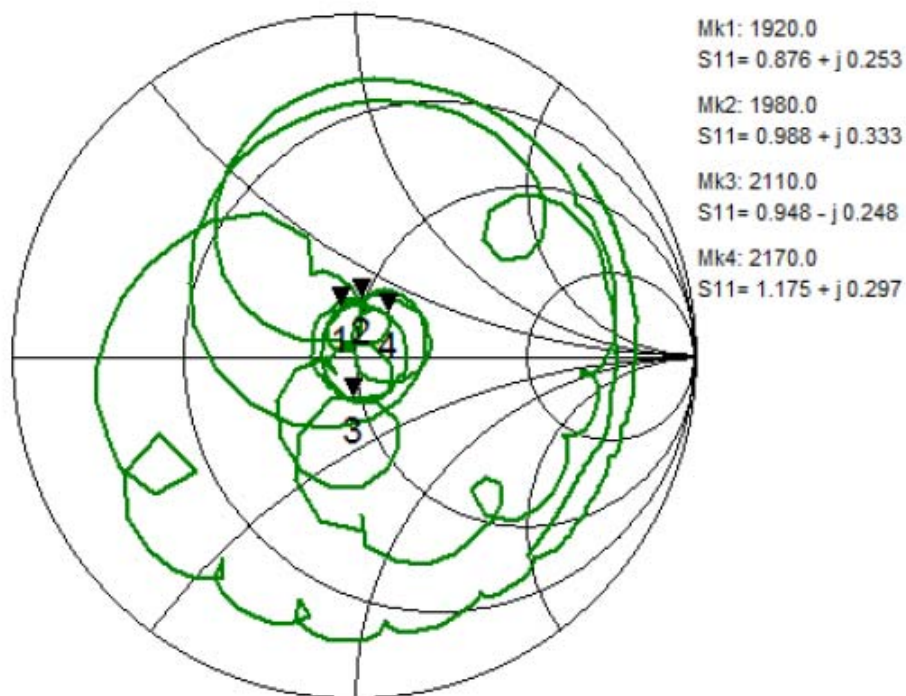
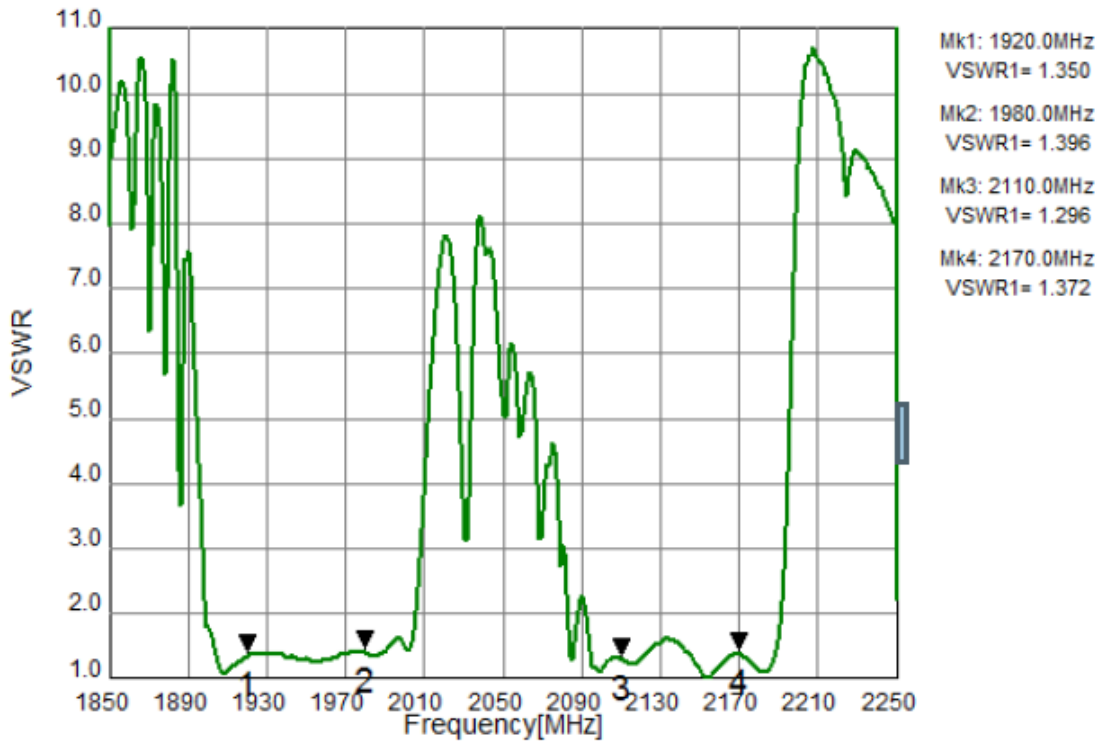




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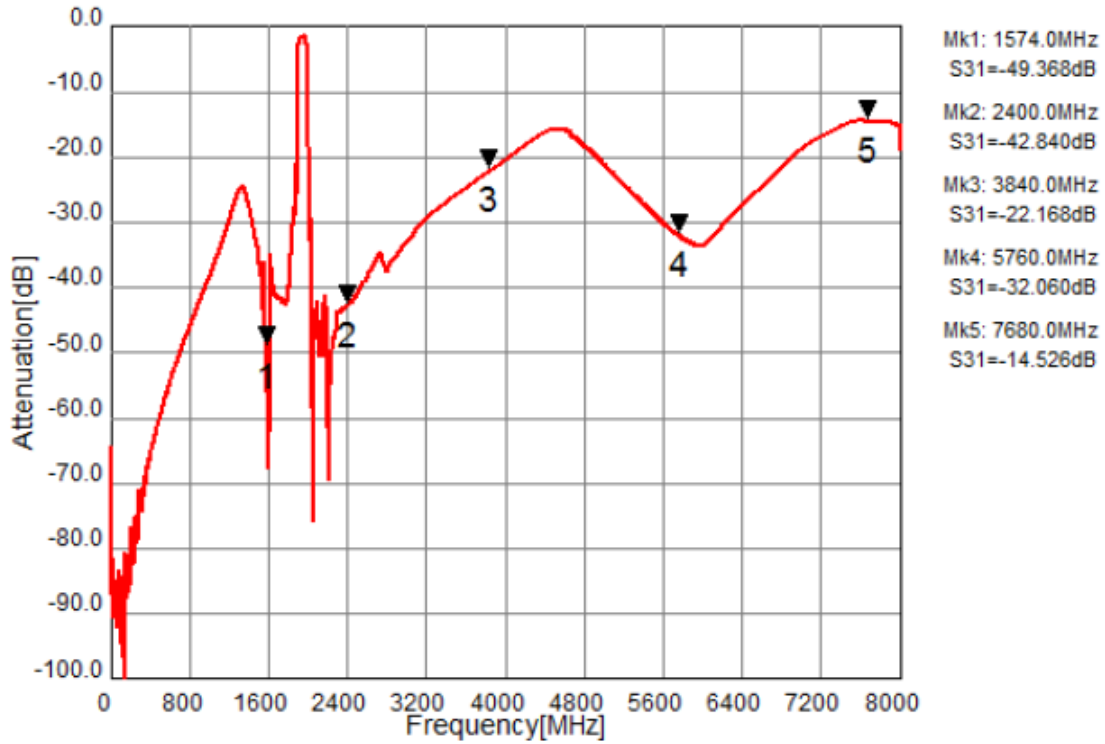
## Ant Port



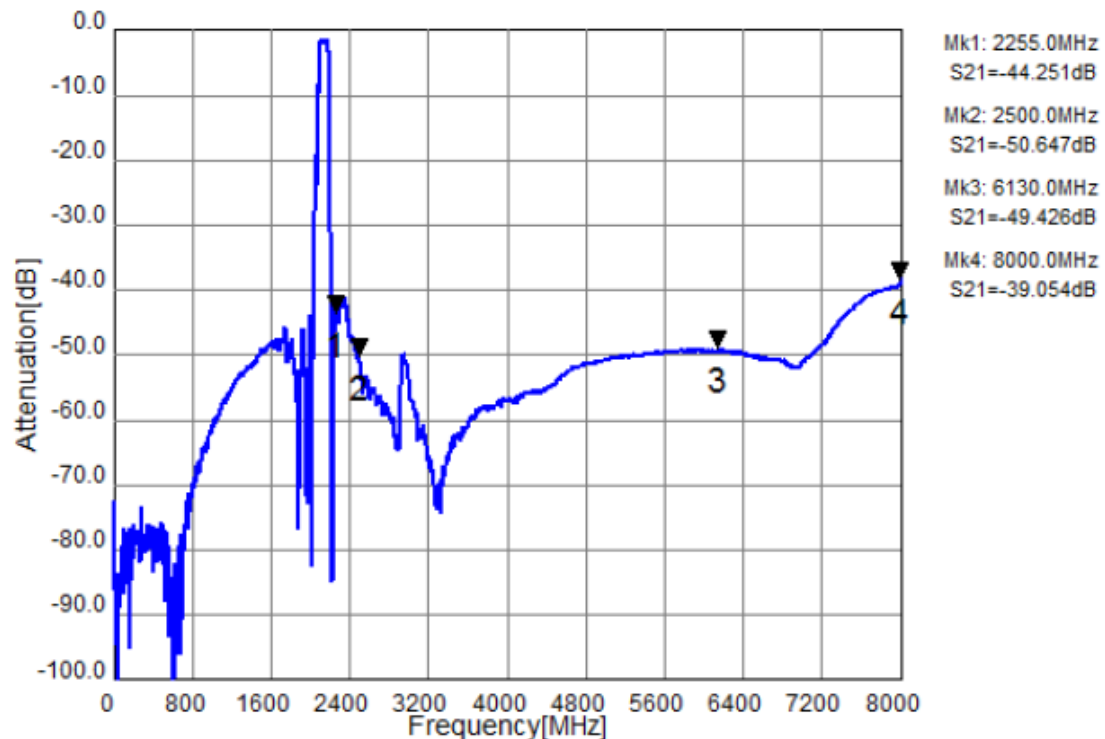
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**Tx to Ant (Wide span)**



**Ant to Rx (Wide span)**

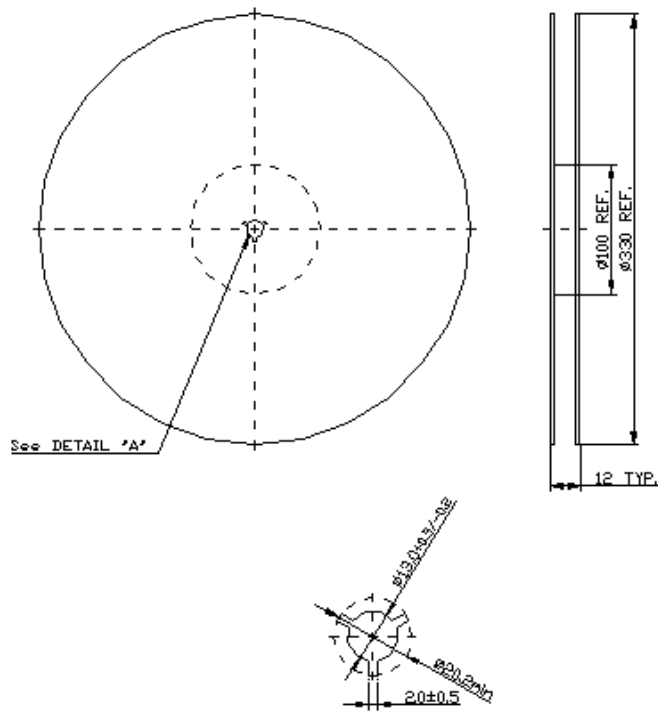


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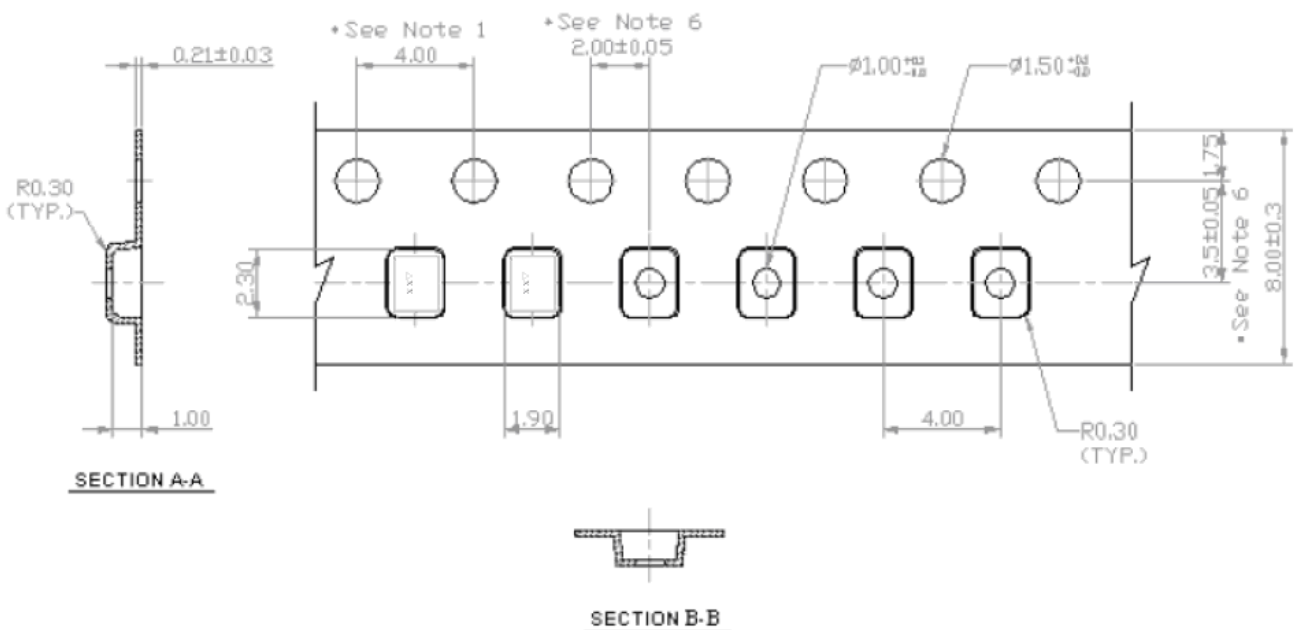
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**F. PACKING:**

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



2. Tape Dimension



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**G. RECOMMENDED REFLOW PROFILE:**

