

SAW Duplexer 1950.0 / 2140.0MHz

Model: TF0120A

Part No: MP07401

Rev. No: 2

A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

1. Operating temperature range: -20°C to +85°C
2. Storage temperature range: -20°C to +85°C
3. Input power: 29dBm (Ta = +50°C, 10kh, CW)
4. Maximum DC Voltage: ±3V
5. Moisture Sensitivity Level: Level 1
6. ESD 50V (MM), 100V (HBM)

B. ELECTRICAL CHARACTERISTICS:

1. Terminating impedance (Tx Port): 50Ω (Single-ended)
2. Terminating impedance (Rx Port): 50Ω (Single-ended)
3. Terminating impedance (Ant Port): 50 // 2.7nH Ω (Single-ended)

Tx to ANT (f_{T0}=1950MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	1920.48~1979.52MHz	dB(*1)	-	1.8	2.2	
Amplitude ripple	1920.48~1979.52MHz	dB	-	0.6	1.2	
VSWR	Tx	-	-	1.8	2.2	
	ANT	-	-	1.5	2.0	
Attenuation:						
1559~1563MHz		dB	38	41	-	
1565~1606MHz		dB	38	41	-	
1805~1880MHz		dB	10	25	-	
2110~2170MHz		dB	42	50	-	
2400~2500MHz		dB	33	37	-	
3840~3960MHz		dB	25	29	-	

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ANT to Rx (f_{T0}=2140MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	2110.48~2169.52MHz	dB(*1)	-	1.8	2.2	
Amplitude ripple	2110.48~2169.52MHz	dB	-	0.6	1.2	
VSWR	ANT	-		1.6	2.0	
	Rx	-		1.6	2.1	
Attenuation:						
190MHz		dB	50	81	-	Rx+Tx
1730~1790MHz		dB	40	46	-	2Tx-Rx
1920~1980MHz		dB	45	49	-	
1980~2015MHz		dB	15	49	-	
2015~2075MHz		dB	18	28	-	(Rx+Tx)/2
2400~2500MHz		dB	35	40		
4030~4150MHz		dB	35	44		Rx+Tx
5950~6130MHz		dB	33	41		Rx+2Tx

Tx to Rx

Isolation	1920.48~1979.52MHz	dB	53	56	-	
			53	57	-	
	2110.48~2169.52MHz	dB	49	51	-	
			51	55	-	

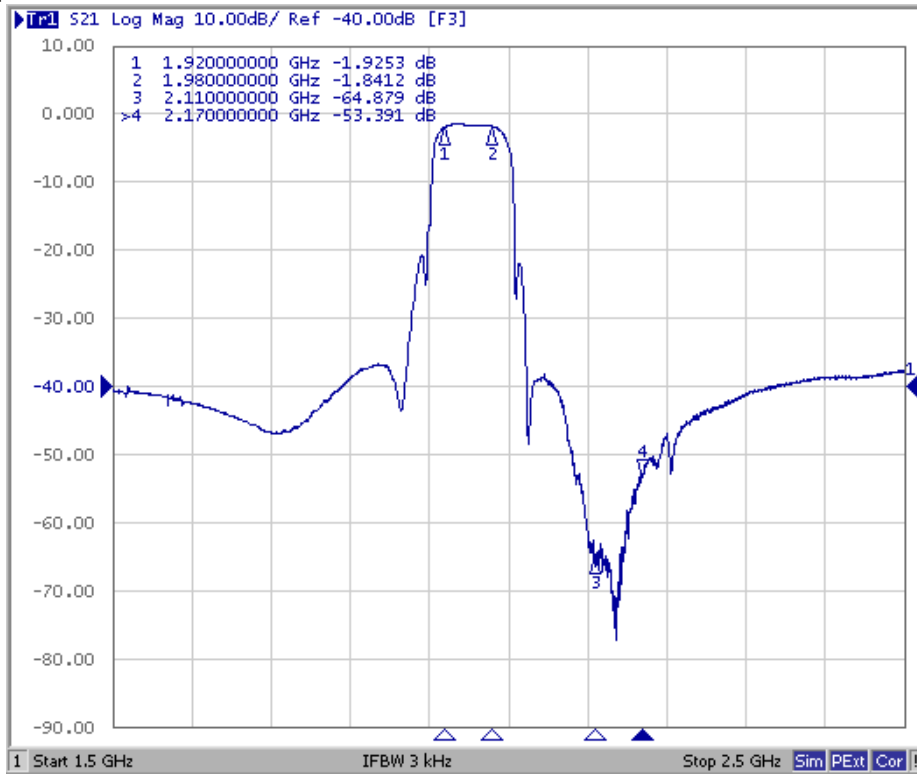
(*1) Specification of insertion loss excludes loss that comes from the test board.

SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

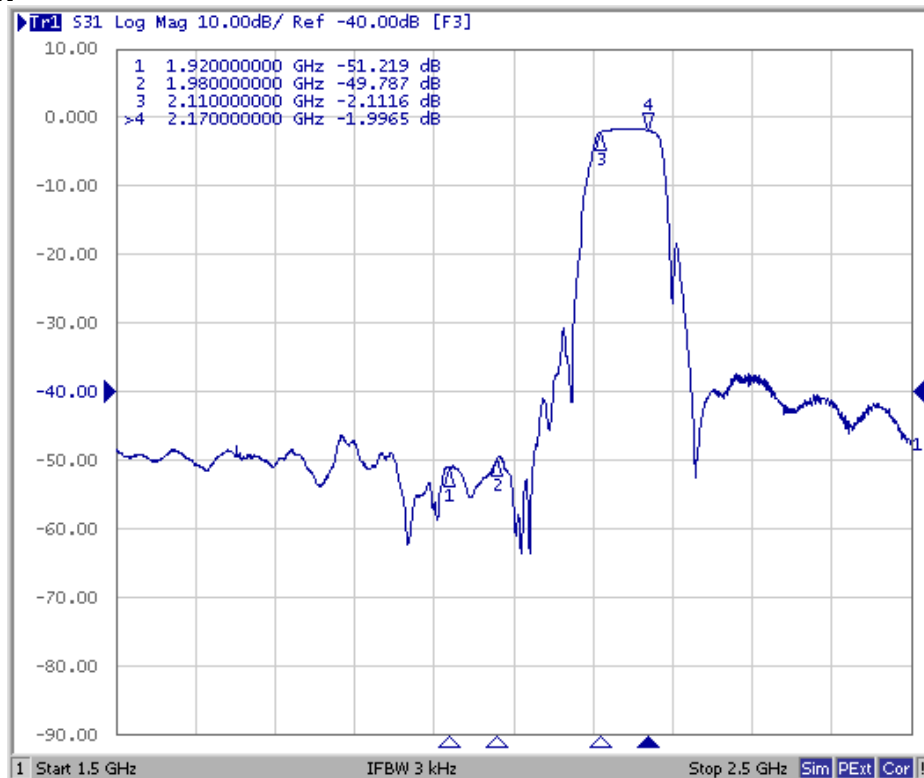
Model: TF0120A
Rev. No: 2

C. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

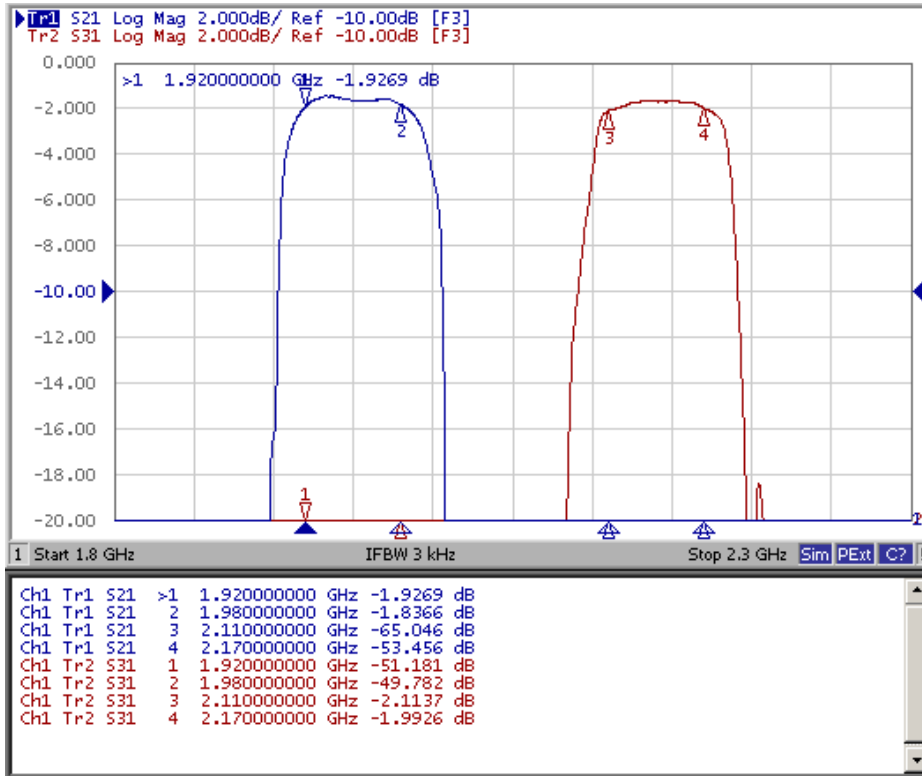


Data excludes loss that comes from the test board.

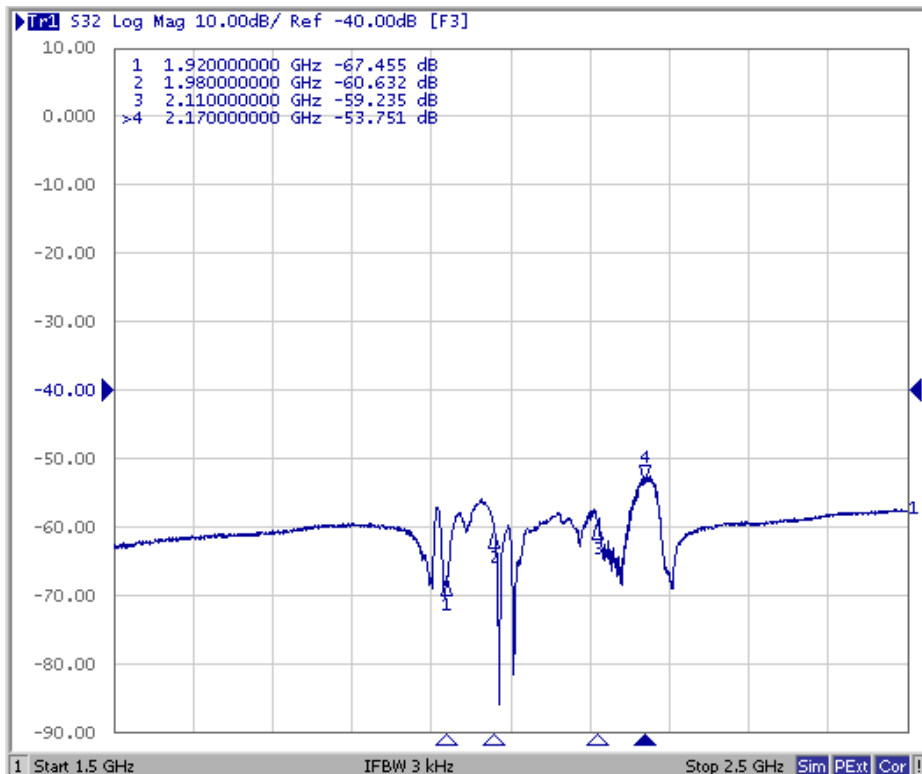
SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

Model: TF0120A
Rev. No: 2

Tx to Ant, Ant to Rx



Tx to Rx Isolation

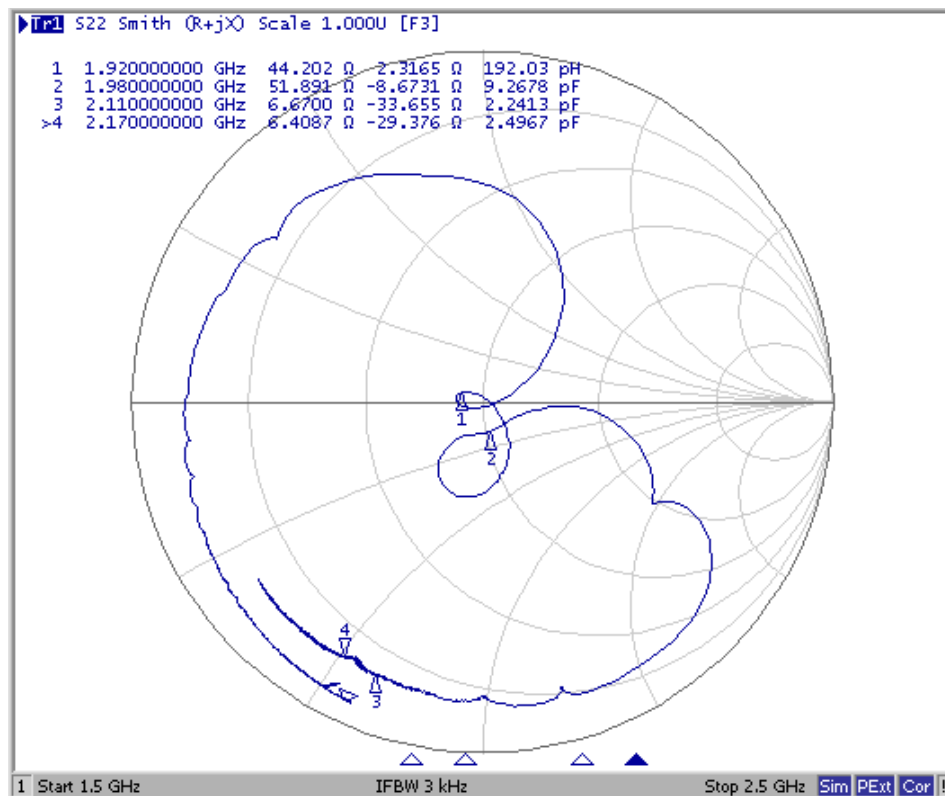
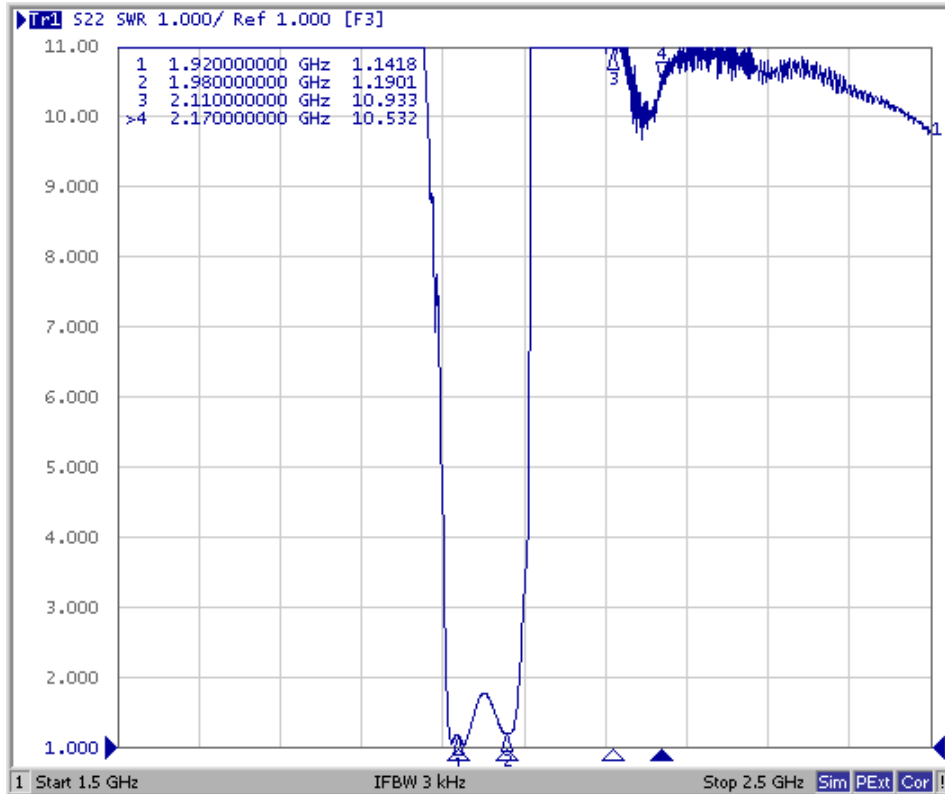


Data excludes loss that comes from the test board.

SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

Model: TF0120A
Rev. No: 2

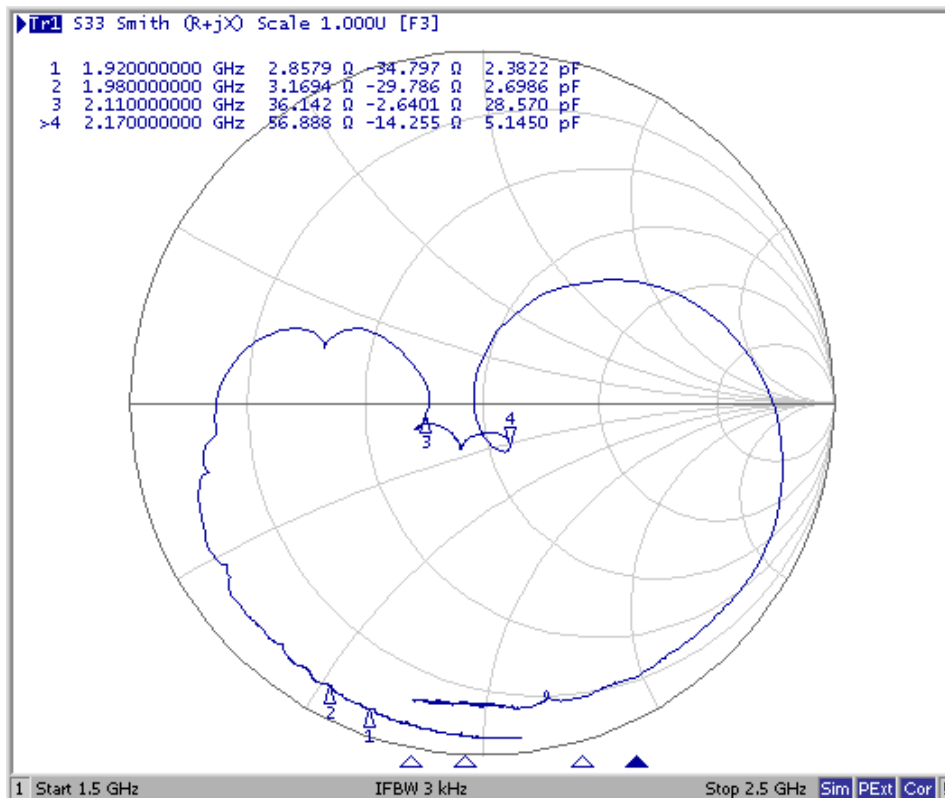
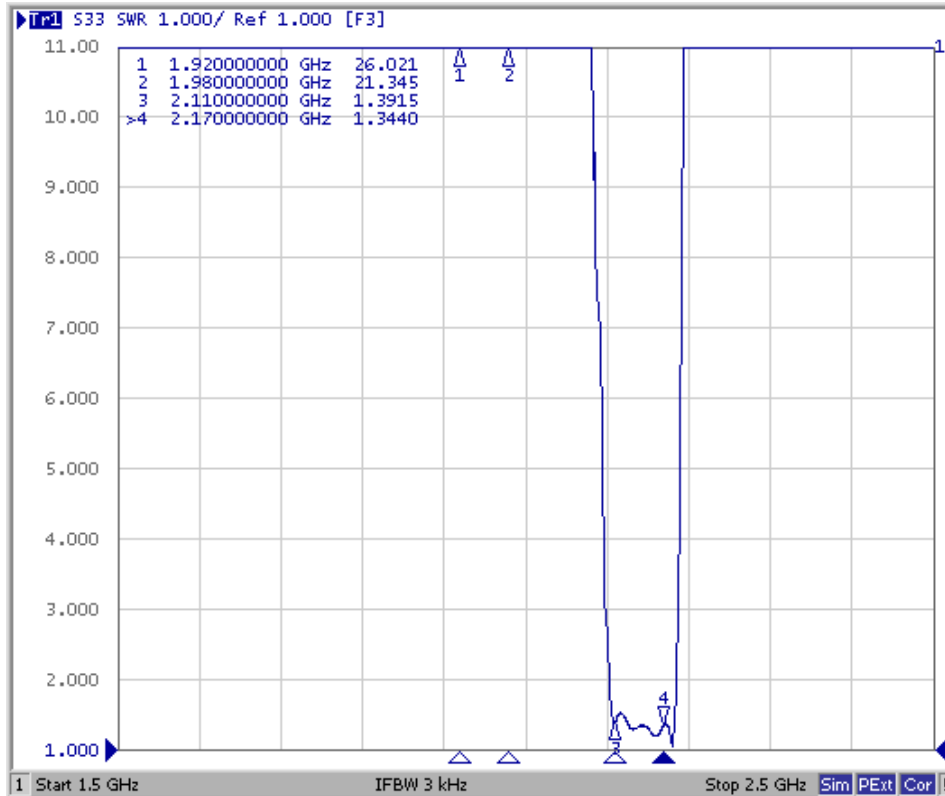
Tx Port



SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

Model: TF0120A
Rev. No: 2

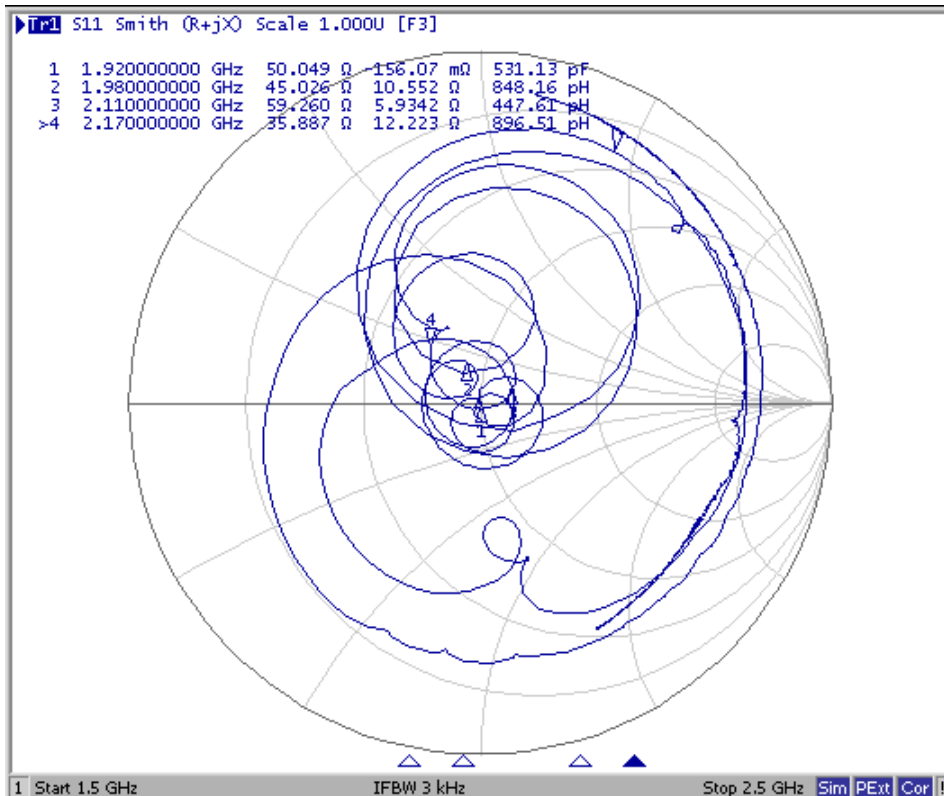
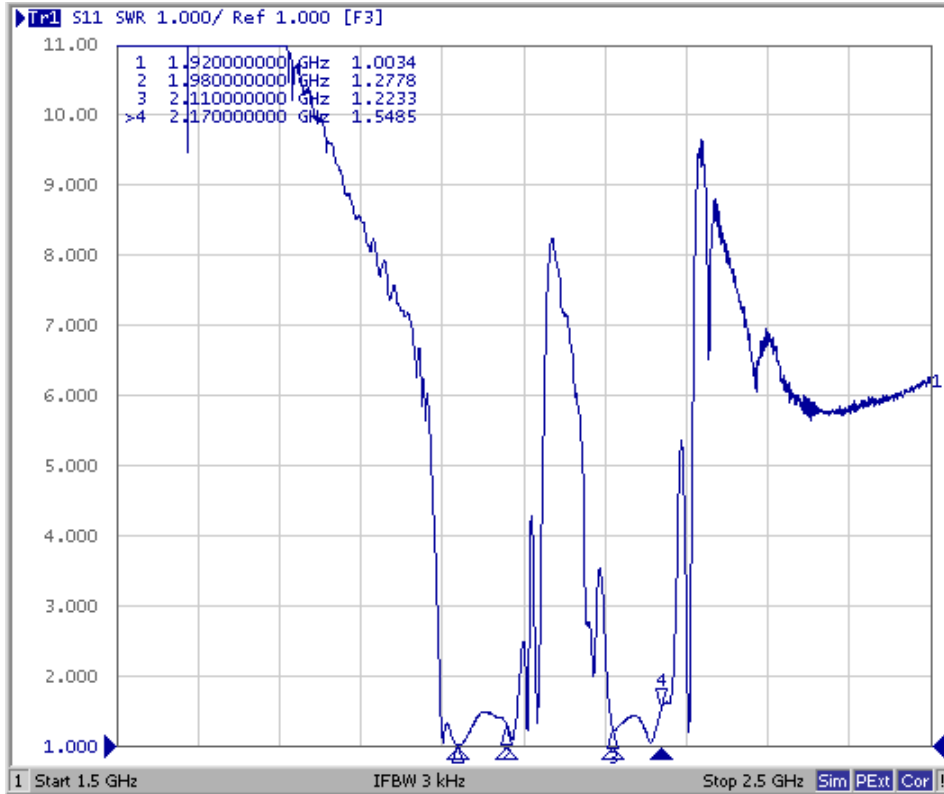
Rx Port



SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

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Rev. No: 2

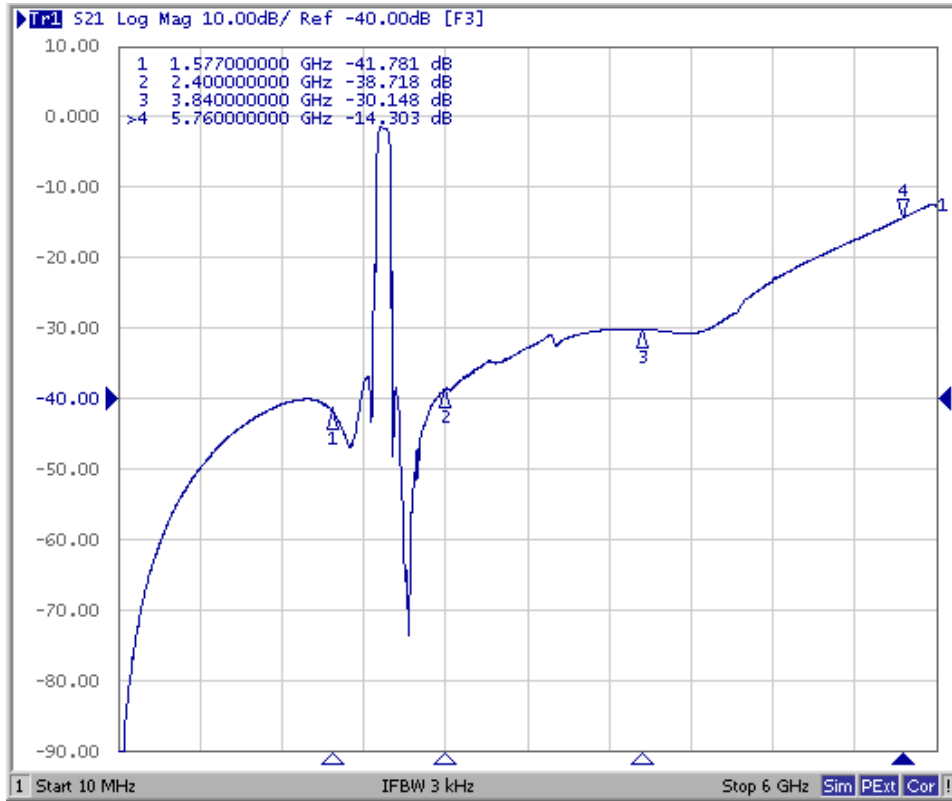
Ant Port



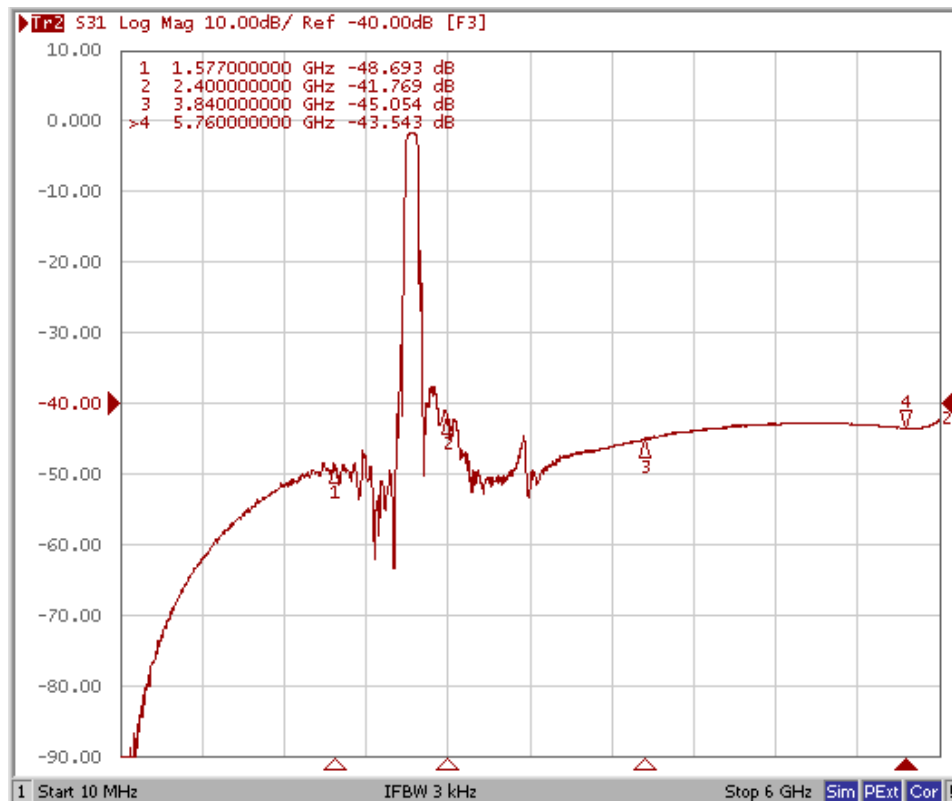
SAW Duplexer 1950.0 / 2140.0MHz
Part No: MP07401

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Rev. No: 2

Tx to Ant (Wide span)



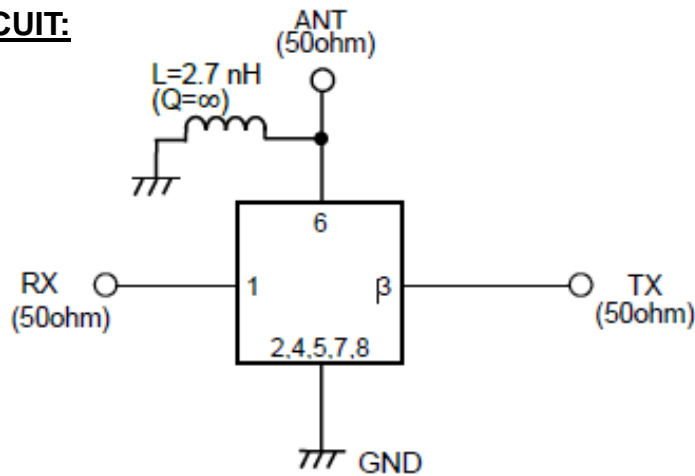
Ant to Rx (Wide span)



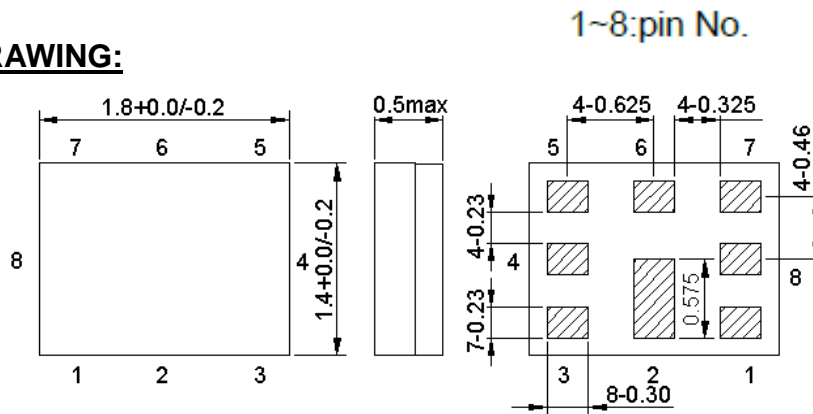
SAW Duplexer 1950.0 / 2140.0MHz
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D. EVALUATION CIRCUIT:



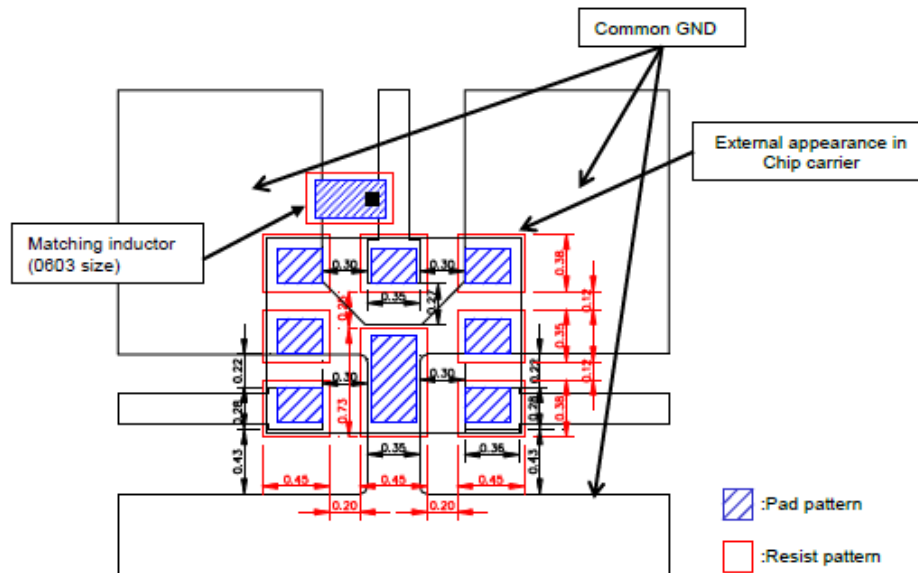
E. OUTLINE DRAWING:



Pin Configuration:

Pin No.	Pin Name	Description
1	Rx	Receive 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

F. FOOTPRINT:

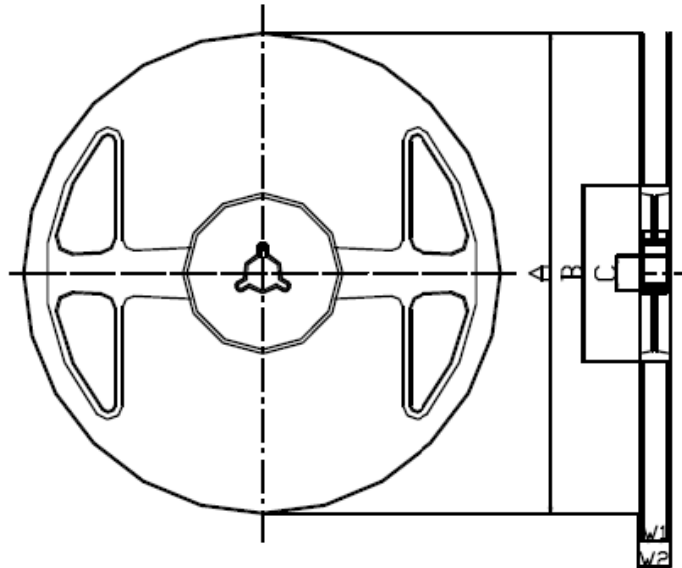


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G. PACKING:

1. Reel Dimension



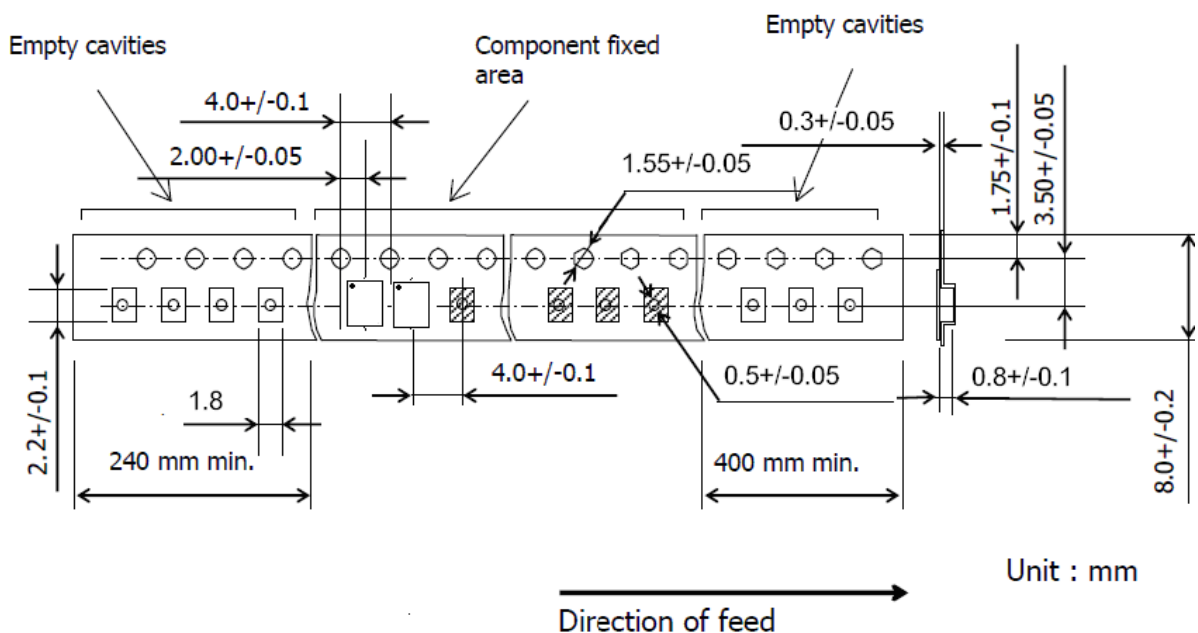
Materials of Reel

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.

