

SAW Duplexer 897.0 / 942.0MHz
Part No: MP07406

Model: TF0125A
Rev. No: 1

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, 10000h, WCDMA modulation)
4. Maximum DC Voltage: ±3V
5. Moisture Sensitivity Level: Level 1

B. ELECTRICAL CHARACTERISTICS:

1. Terminating impedance (Tx Port): 50//33nH Ω (Single-ended)
2. Terminating impedance (Rx Port): 50 Ω (Single-ended)
3. Terminating impedance (Ant Port): 50//8.2nH Ω (Single-ended)

Tx to ANT (f_{T0}=897.5MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	882.4~912.6MHz	dB(*1)	-	1.7	2.5(*2)	
	880.24~914.76MHz	dB(*1)		2.1	3.4	
Amplitude ripple	880~915MHz	dB	-	1.3	2.9	
VSWR	ANT	880~915MHz	-	-	1.6	2.2
	Tx	880~915MHz	-	-	1.5	2.2
Attenuation:						
927.4~957.6MHz		dB	48(*2)	60	-	
1573.3~1605.9MHz		dB	40	46	-	
1760~1830MHz		dB	40	47	-	
2640~2745MHz		dB	28	35	-	

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

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	927.4~957.6MHz	dB(*1)	-	1.8	2.5(*2)	
	925~960MHz	dB(*1)		2.0	3.1	
Amplitude ripple	925~960MHz	dB	-	0.9	2.3	
VSWR	ANT			1.8	2.3	
	Rx			1.7	2.2	
Attenuation:						
882.4~912.6MHz		dB	50(*2)	57	-	
2400~2500MHz		dB	40	51	-	

Tx to Rx

Isolation	882.4~912.6MHz	dB	55(*2)	58	-	
	927.4~957.6MHz	dB	55(*2)	59	-	0 to +85°C
		dB	53(*2)			-10 to 0°C
		dB	50(*2)			-20 to -10°C

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

(*2) Integrated over $\pm 1.92\text{MHz}$ around the WCDMA channel center frequency.

C. EVALUATION CIRCUIT:

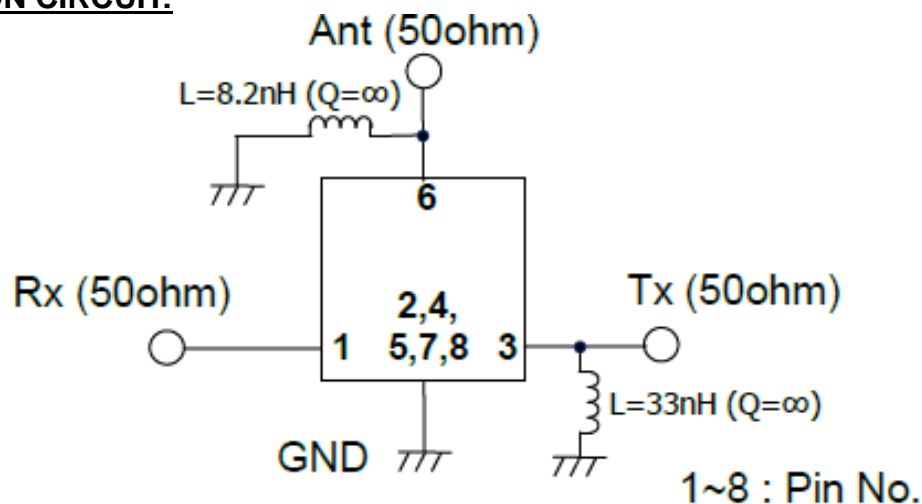


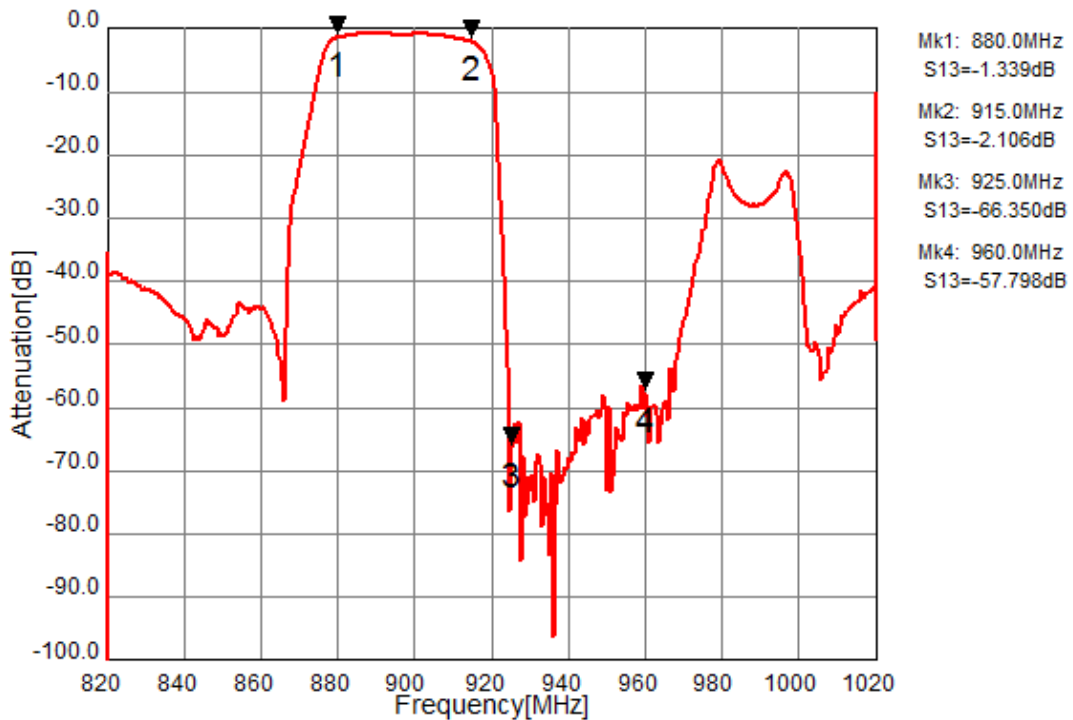
Figure 2. Evaluation Circuit

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D. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

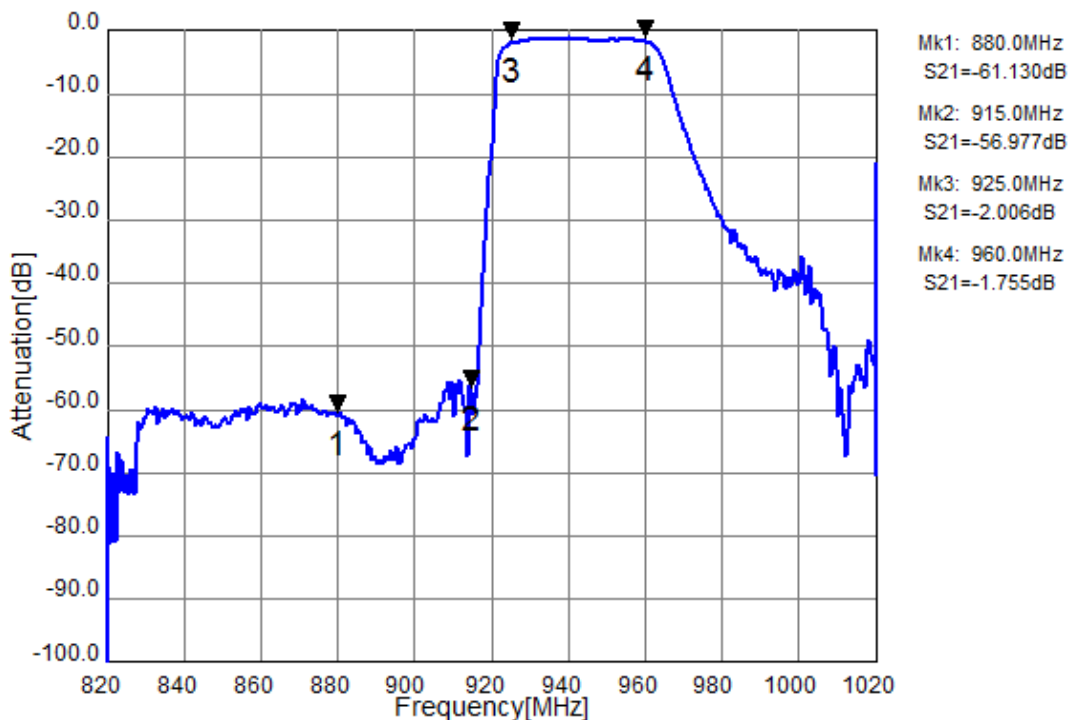
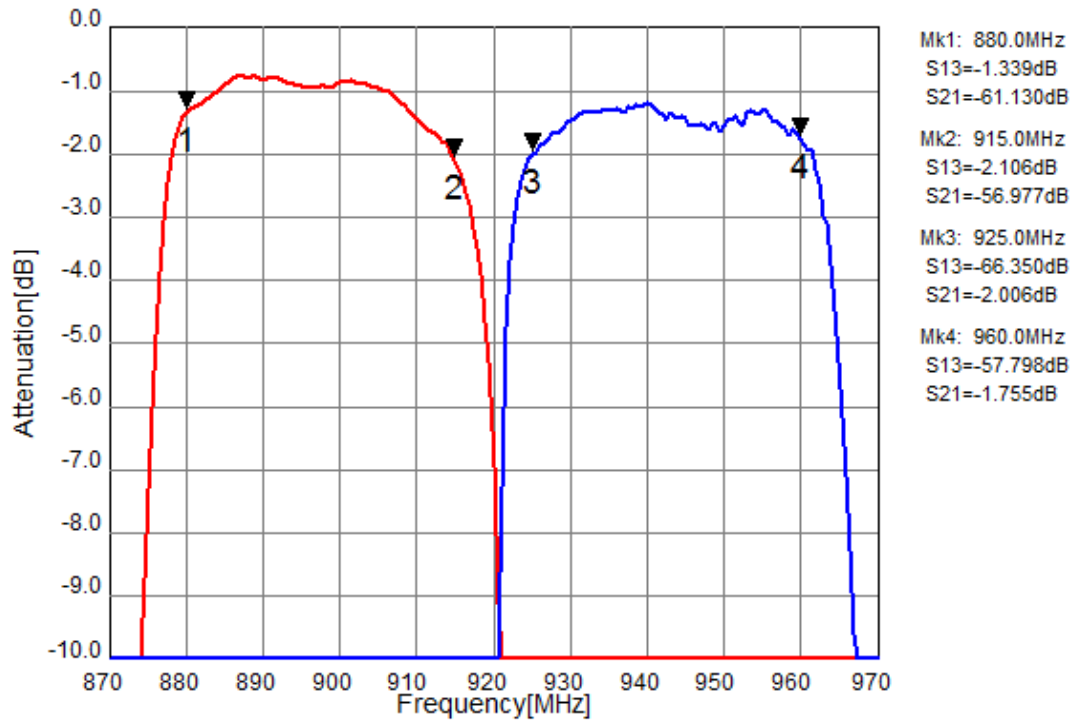


Figure 4 - 1. Electrical Characteristics. These data exclude loss that comes from the test board.

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Tx to Ant ,Ant to Rx



Tx to Rx Isolation

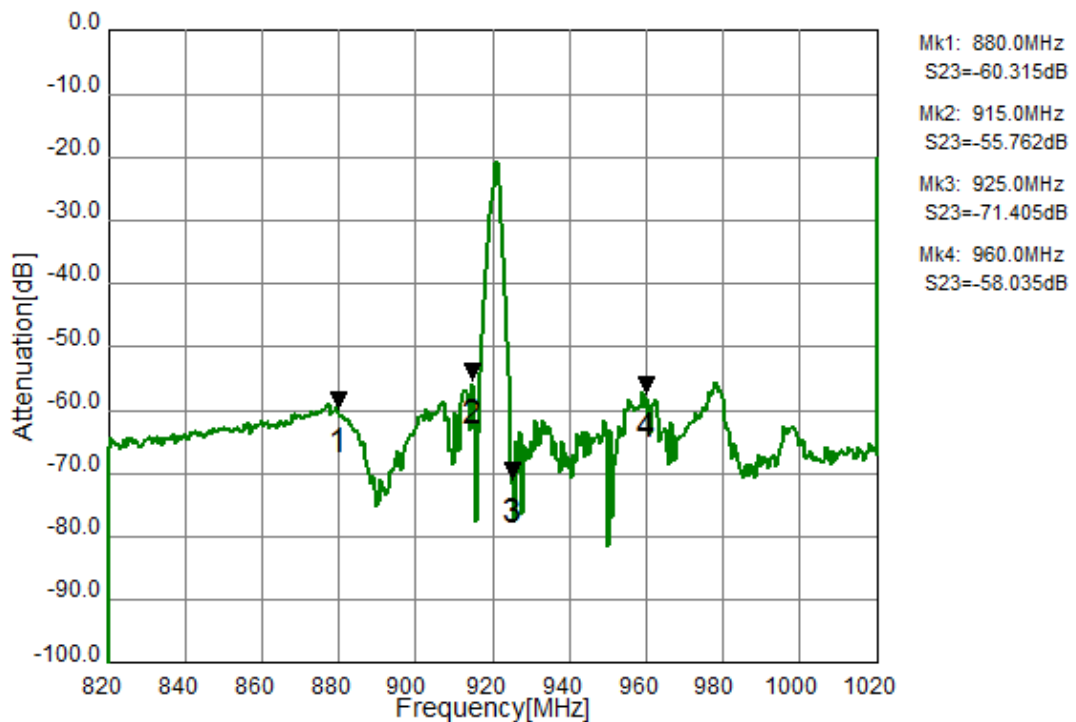


Figure 4 - 2. Electrical Characteristics. These data exclude loss that comes from the test board.

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Tx Port

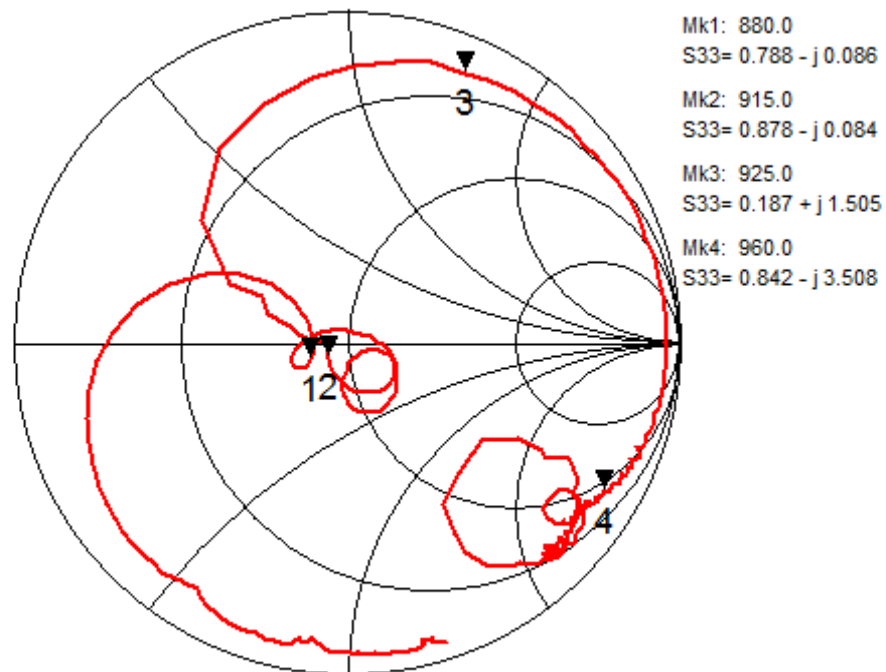
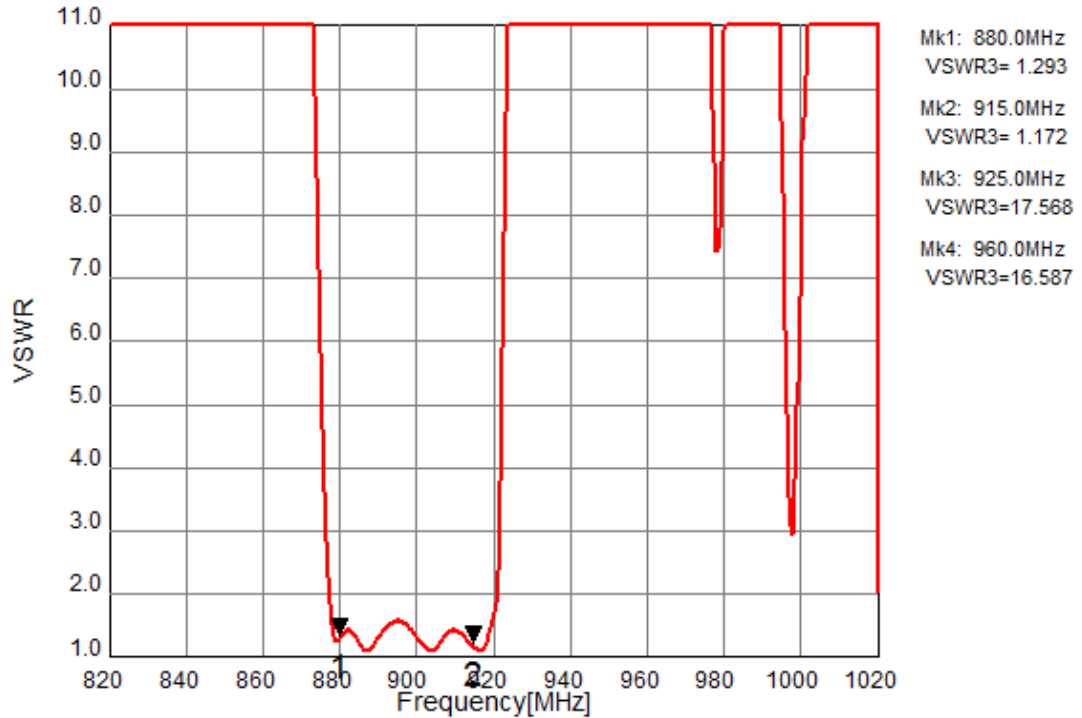


Figure 4 - 3. Electrical Characteristics.

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Rx Port

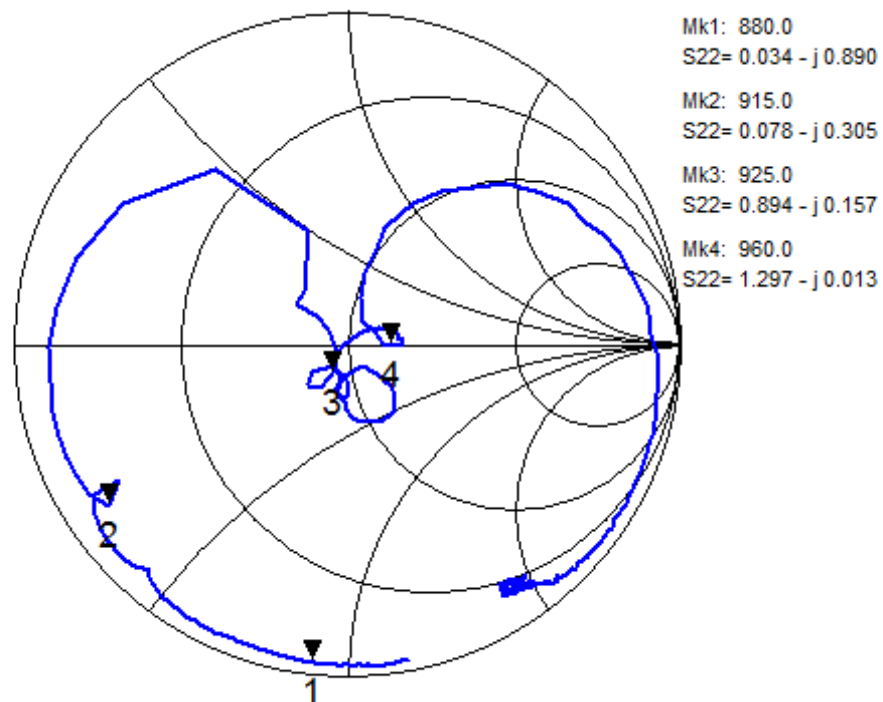
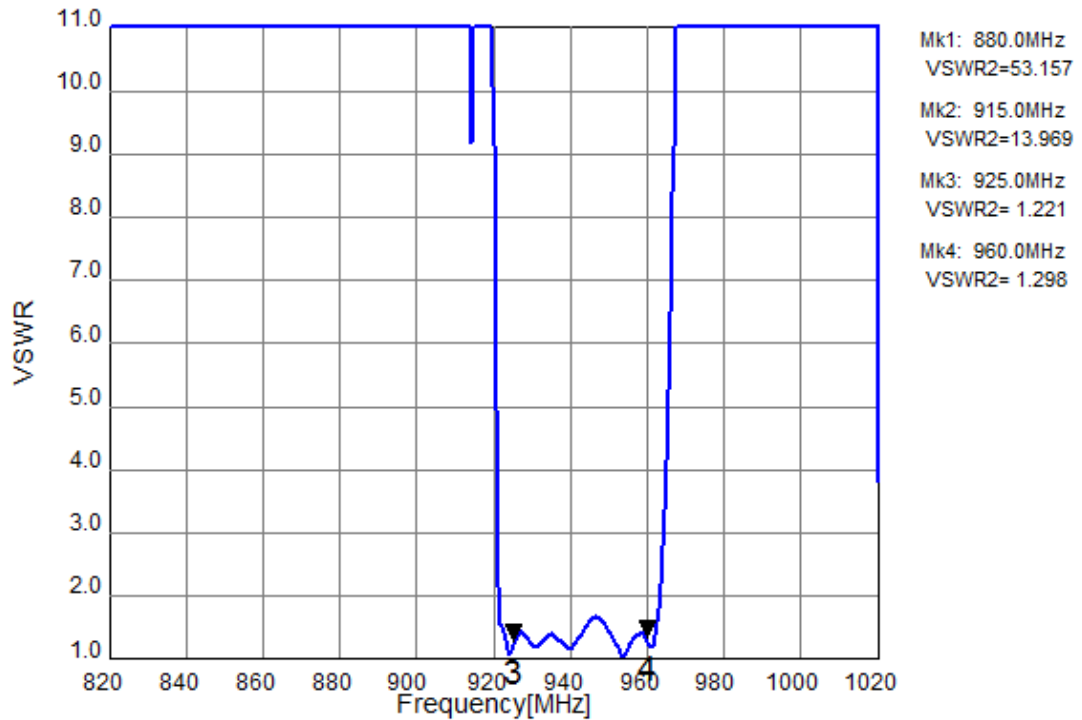


Figure 4 - 4. Electrical Characteristics.

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Ant Port

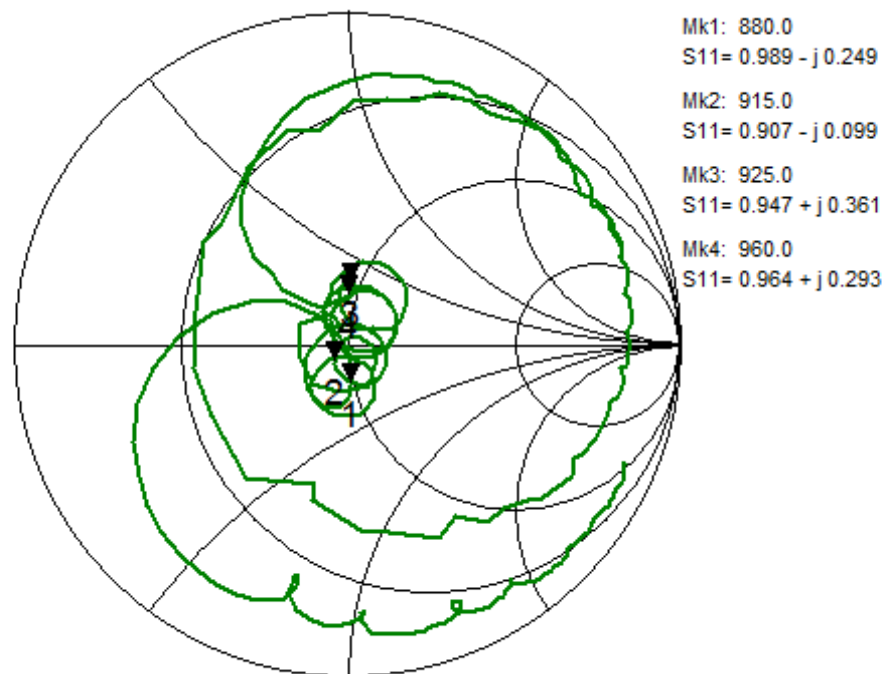
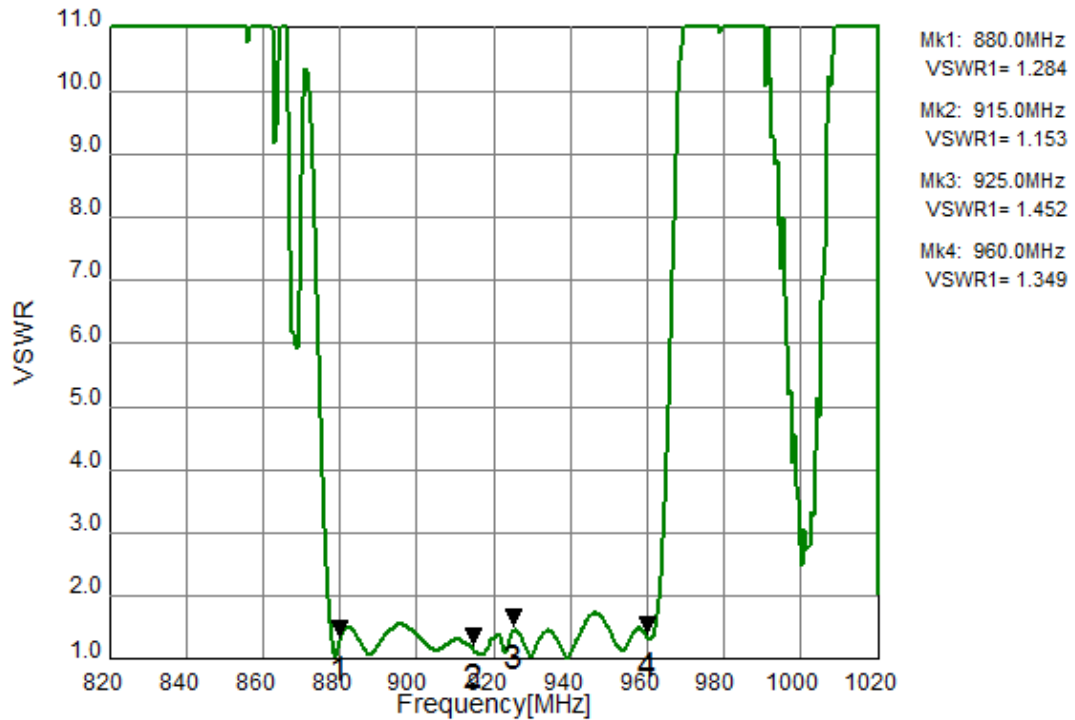
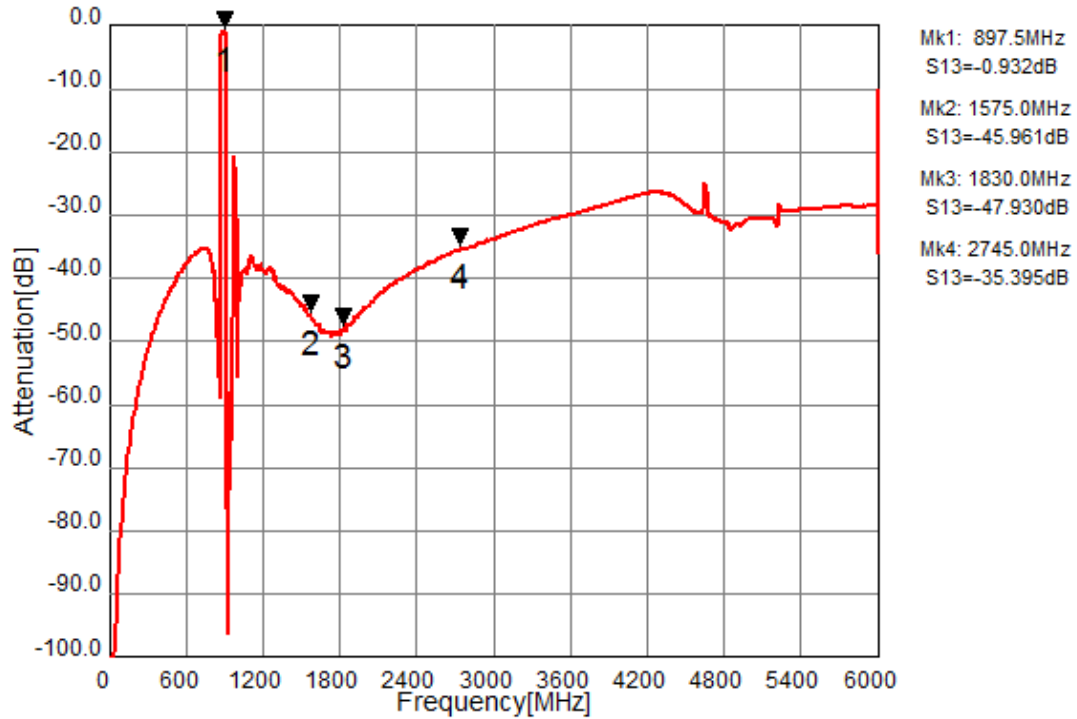


Figure 4 - 5. Electrical Characteristics.

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Tx to Ant (Wide span)



Ant to Rx (Wide span)

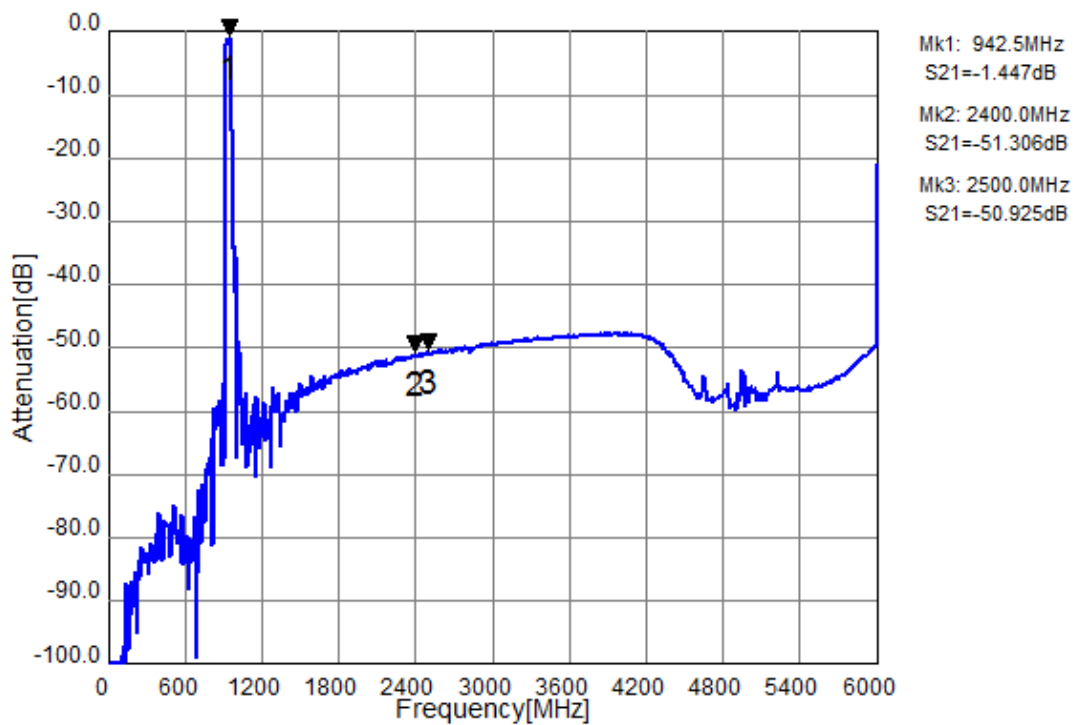
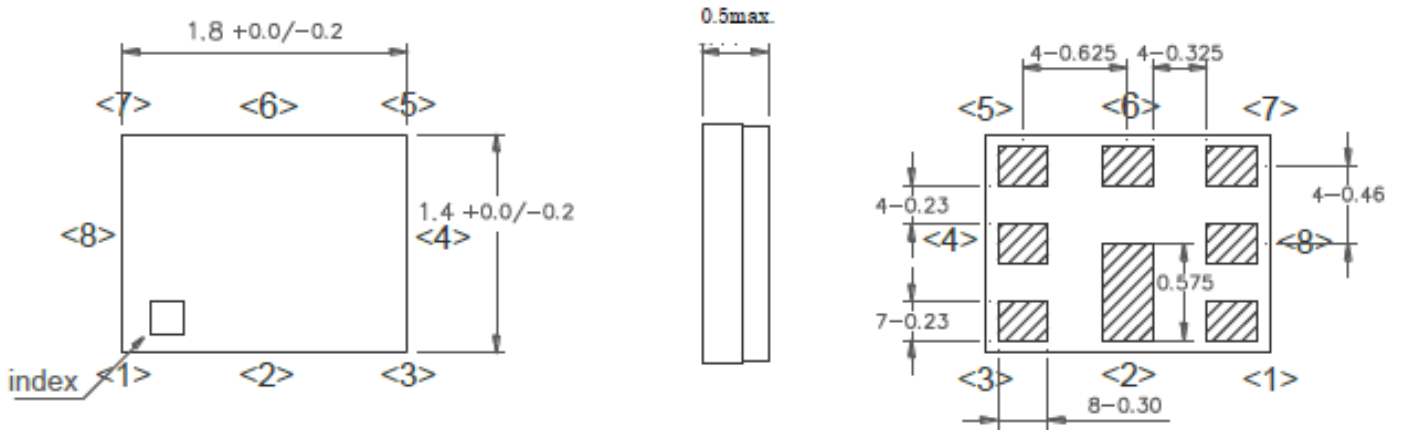


Figure 4 - 6. Electrical Characteristics.

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E. OUTLINE DRAWING:



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

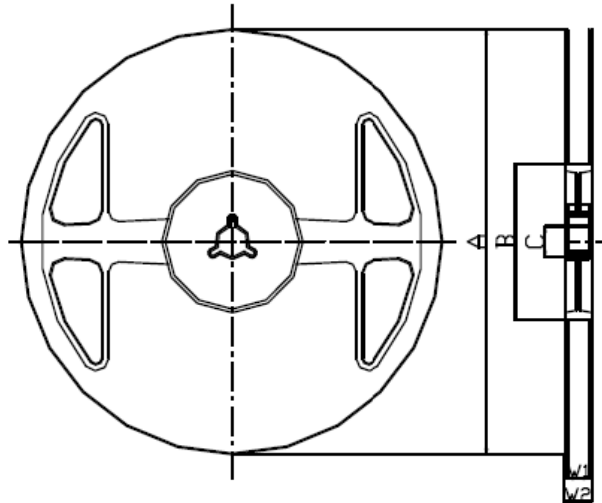
Figure 1. Dimensions and Pin assignment

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G. PACKING:

1. Reel Dimension



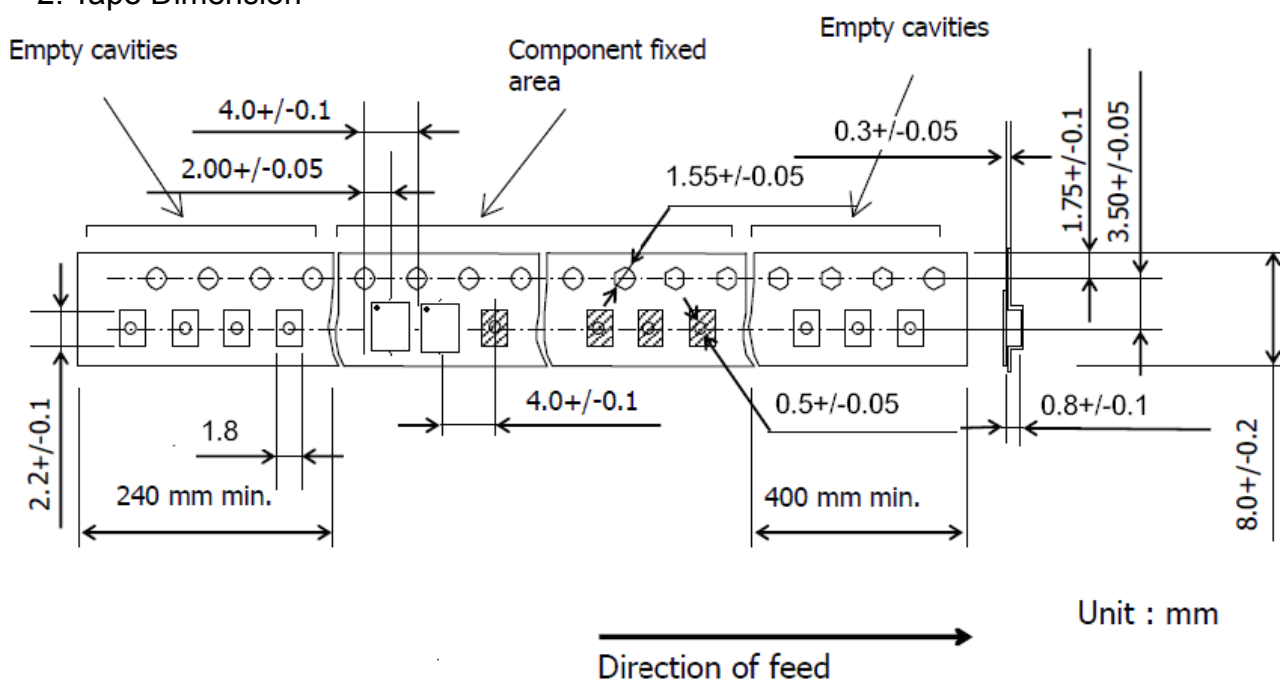
Materials of Reel

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.

