

SAW Duplexer 1732.0 / 2132.0MHz
Part No: MP07409

Model: TF0128A
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, 10kh, 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): 100 // 12nHΩ (Balanced)
3. Terminating impedance (Ant Port): 50 // 3.5nHΩ (Single-ended)

Tx to ANT (f_{T0}=1733MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss(*1)	1710~1755MHz	dB	-	1.6	2.2	
Amplitude ripple	1710~1755MHz	dB	-	0.5	1.3	
VSWR	ANT	-	-	1.5	2.0	
	Tx					
Attenuation:						
1559~1563MHz		dB	45	50	-	Compass
1565.42~1573.374MHz		dB	45	50	-	Wideband GPS, lower side-lobe
1573.374~1577.466MHz		dB	45	50	-	Regular GPS, main-lobe
1577.466~1585.42MHz		dB	45	50	-	Wideband GPS, upper side-lobe
1597.5515~1605.886MHz		dB	40	46	-	GLONASS
2110~2155MHz		dB	45	52		Rx
3420~3520MHz		dB	30	37		2fo
5130~5265MHz		dB	20	28		3fo

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ANT to Rx (f_{T0}=2133MHz)

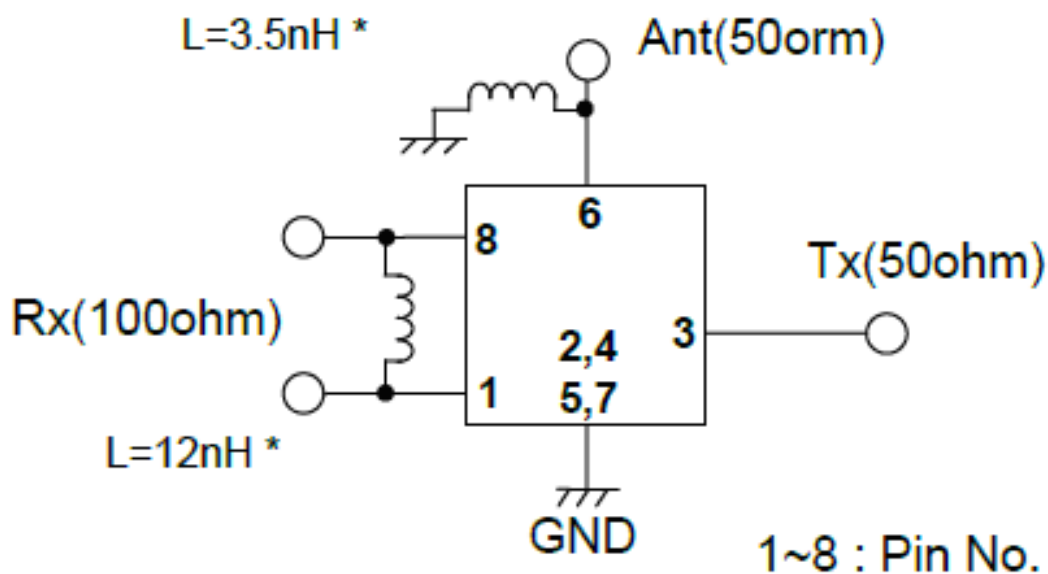
Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss(*1)	2110~2155MHz	dB		1.8	2.3	
Amplitude ripple	2110~2155MHz	dB		0.5	0.7	
Phase balance	2110~2155MHz	Deg	-10	-3/+1	+10	
Amplitude balance	2110~2155MHz	dB	-1.0	-0.4/0	+1.0	
VSWR	ANT	2110~2155MHz		1.5	2.0	
	Rx			1.4	2.0	
Attenuation:						
1~1710MHz		dB	45	59		
1710~1755MHz		dB	45	63		Tx
2400~2500MHz		dB	43	48		IMS 2.4G
4220~4310MHz		dB	45	54		2x LO
6330~6465MHz		dB	45	54		3x LO

Tx to Rx

Isolation	1710~1755MHz	dB	55	62	-	
	2110~2155MHz	dB	50	54	-	

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

C. EVALUATION CIRCUIT:

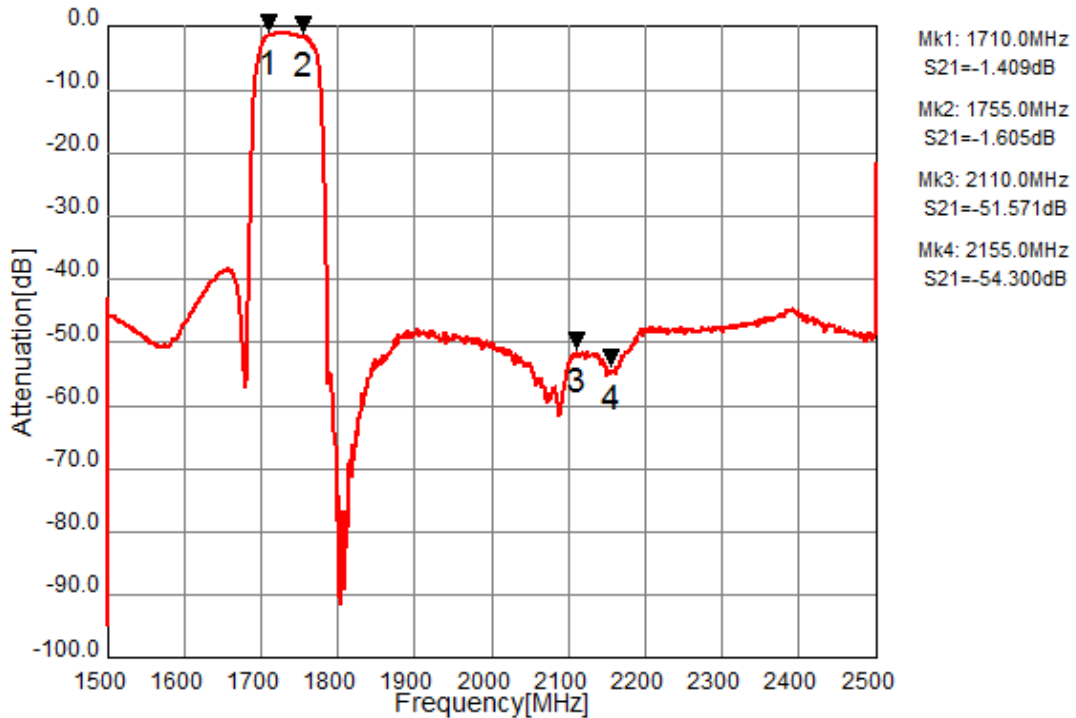


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D. FREQUENCY CHARACTERISTICS:

Tx to Ant



Ant to Rx

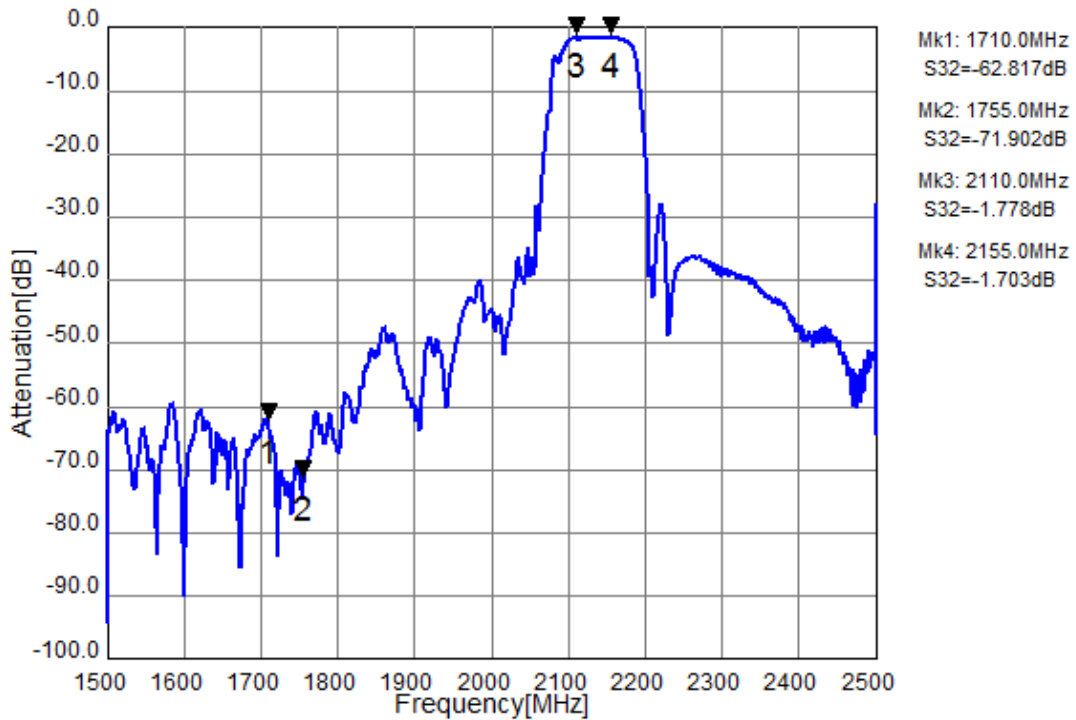
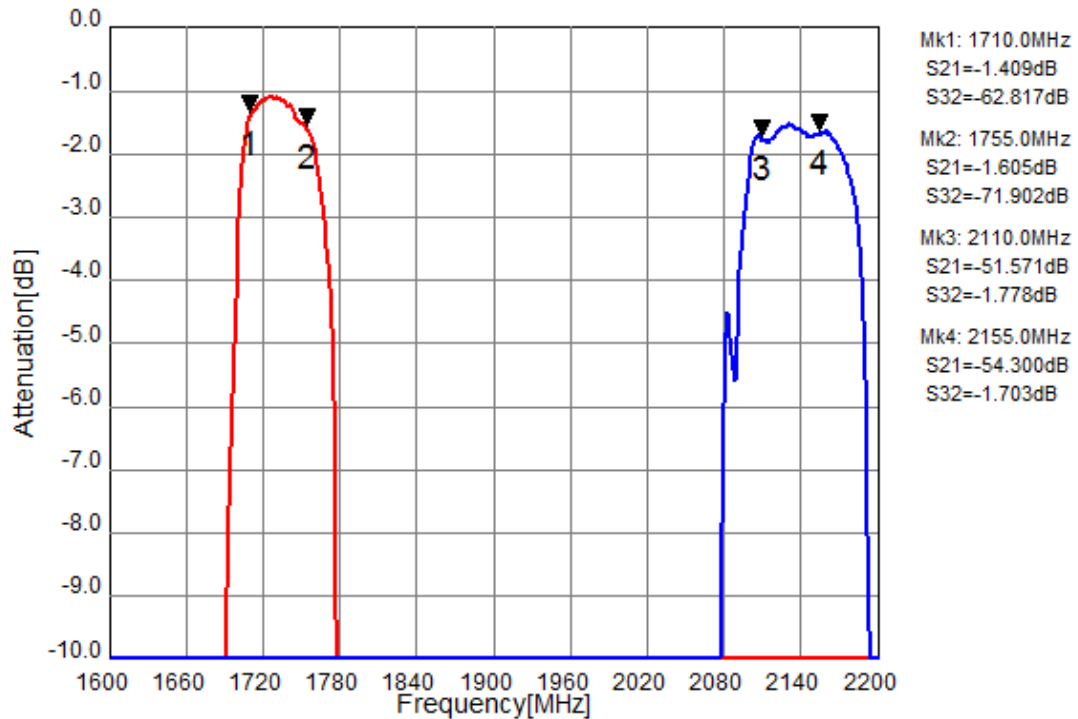


Figure 3 - 1. Electrical Characteristics. These data exclude loss that comes from the test board.

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Tx to Ant ,Ant to Rx



Tx to Rx Isolation

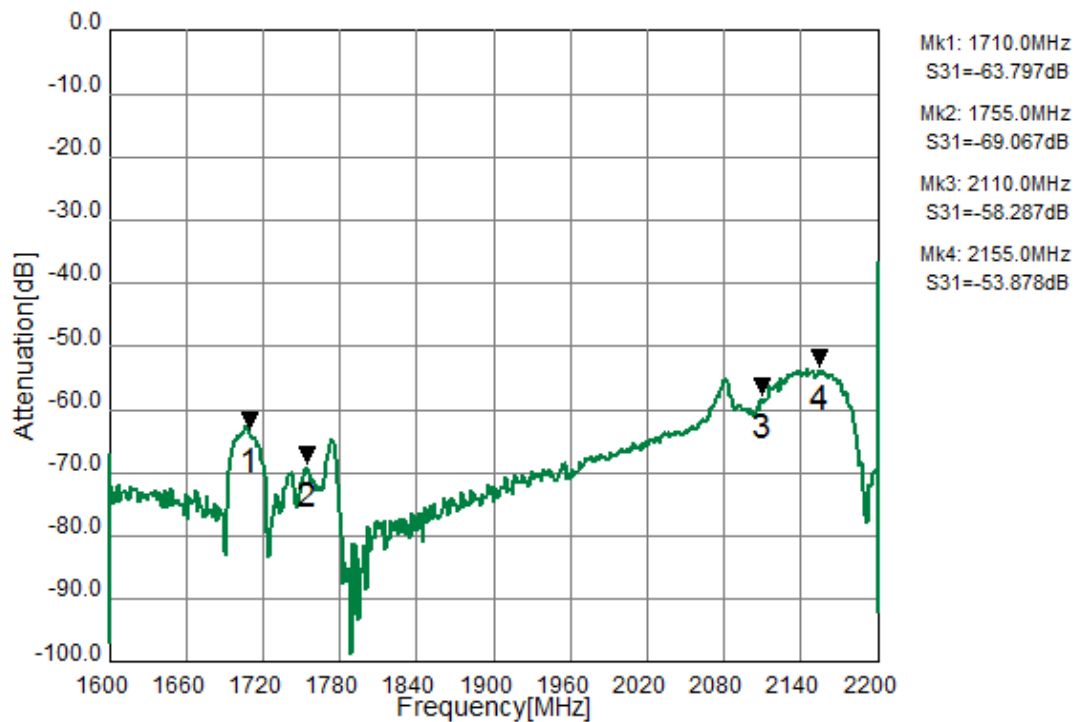


Figure 3 - 2. Electrical Characteristics. These data exclude loss that comes from the test board.

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Tx Port

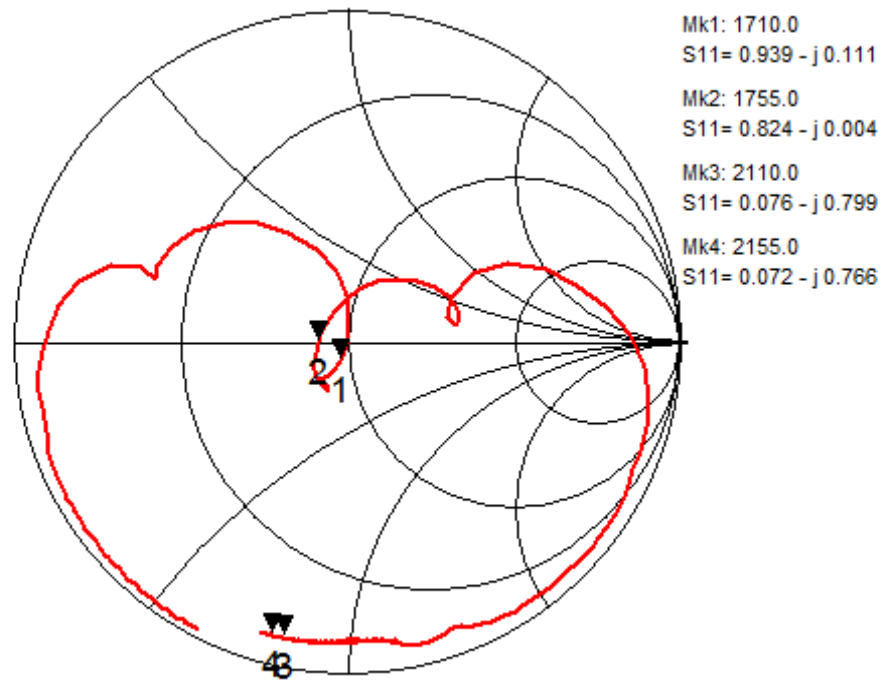
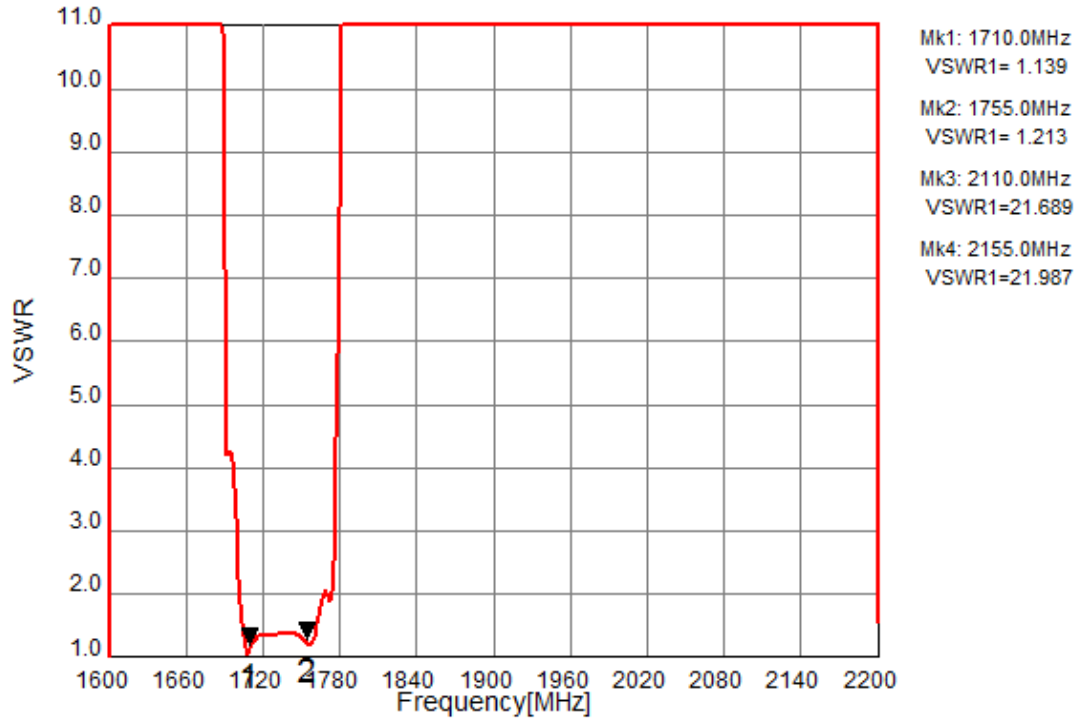


Figure 3 - 3. Electrical Characteristics.

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Rx Port

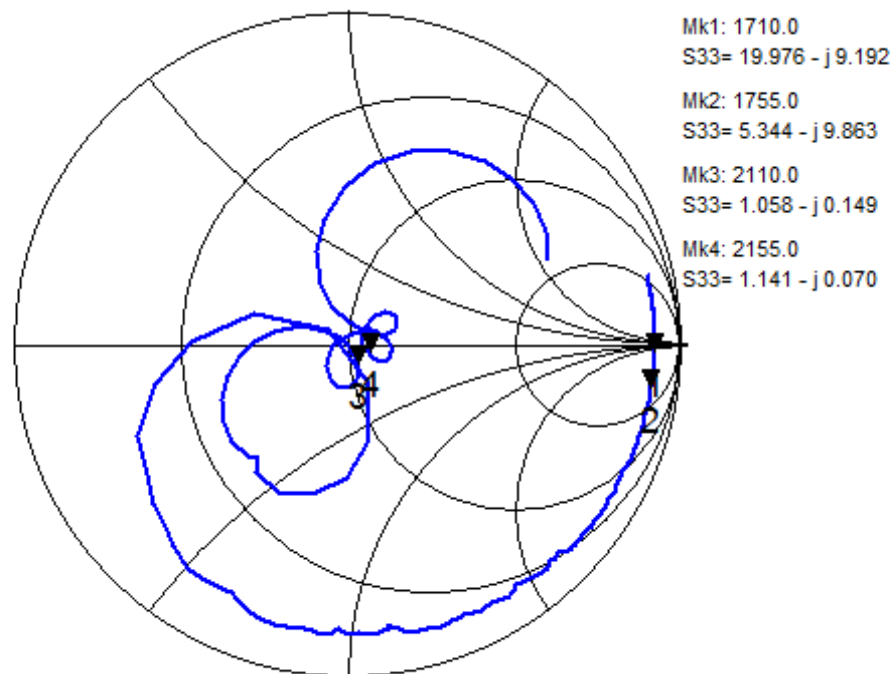
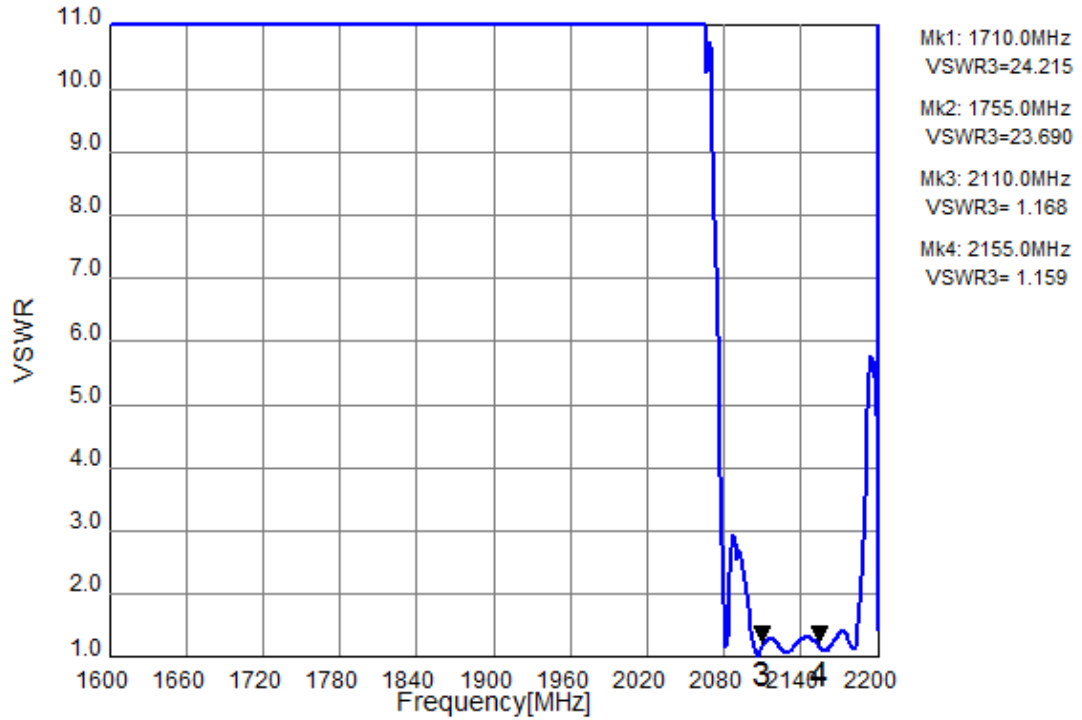


Figure 3-4. Electrical Characteristics.

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Ant Port

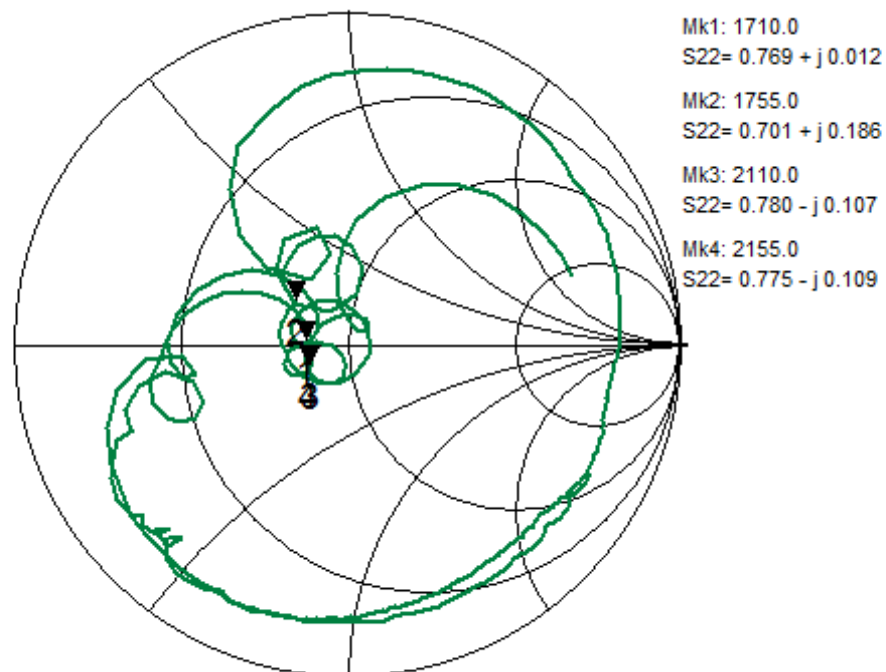
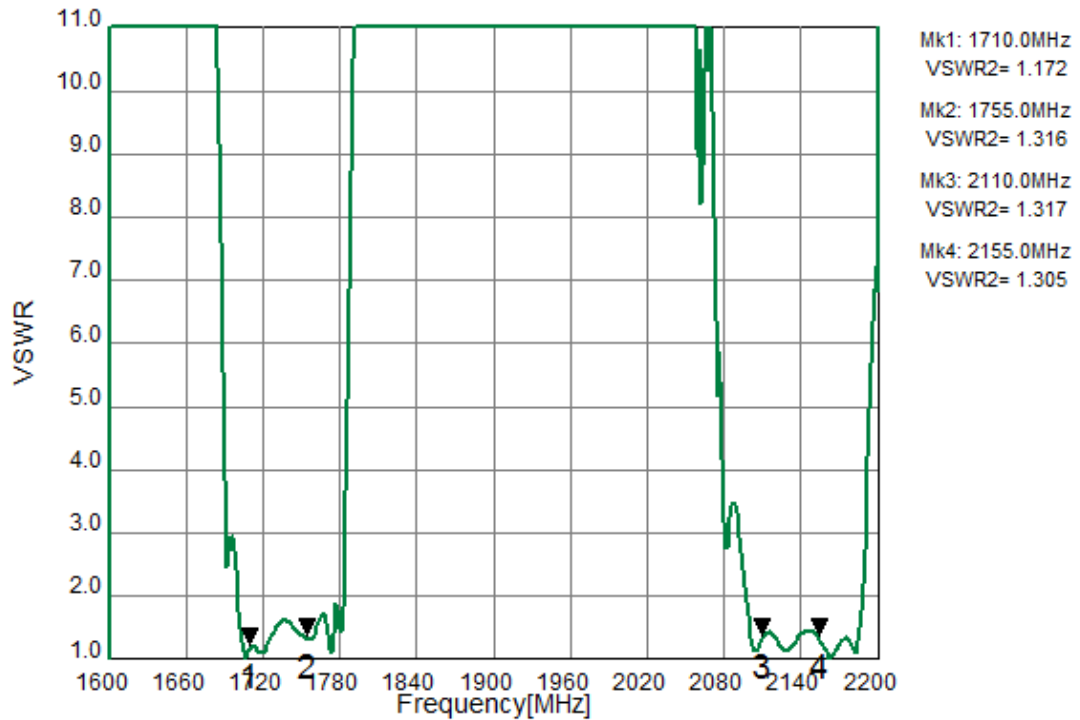
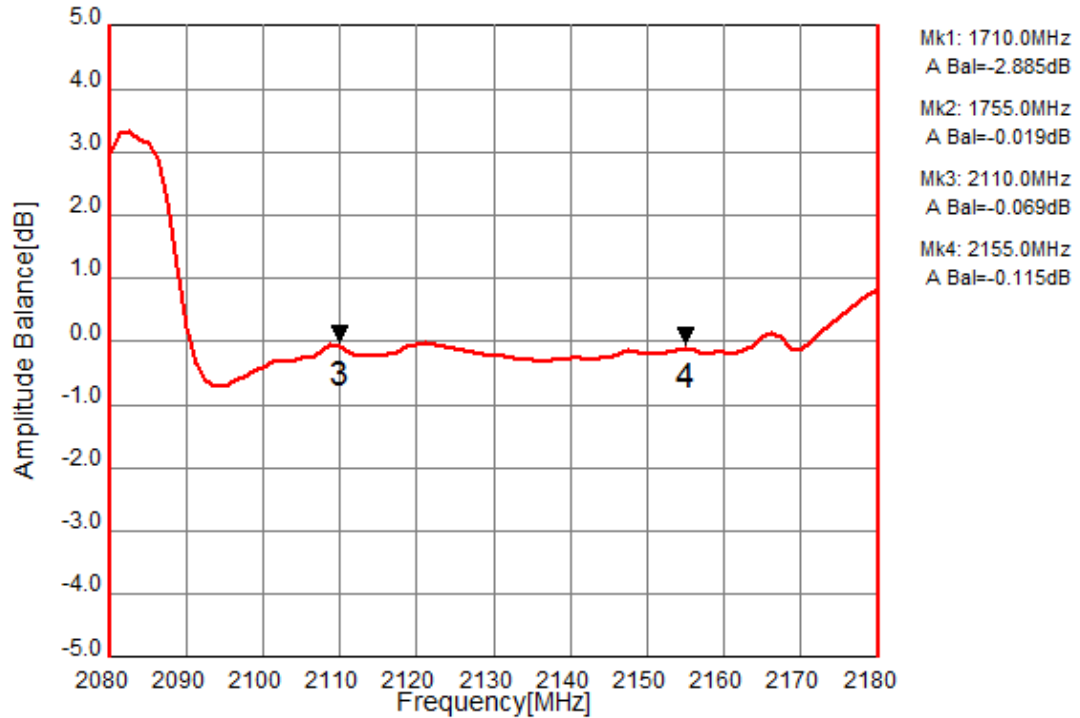


Figure 3-5. Electrical Characteristics.

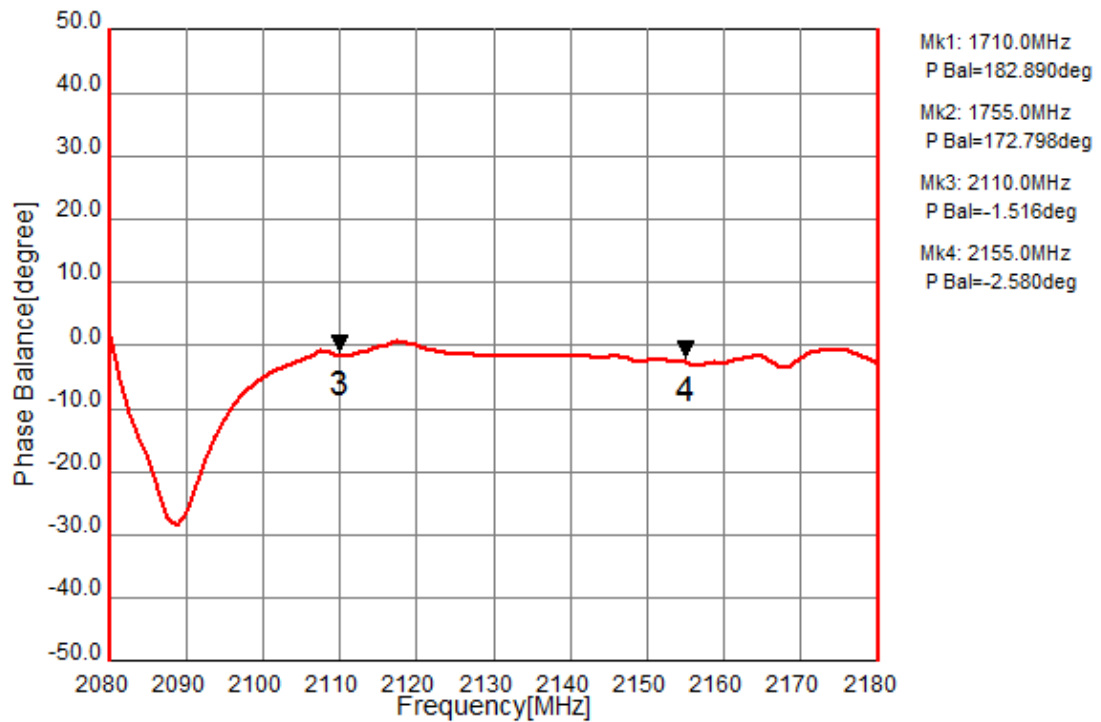
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Ant to Rx (Amplitude balance)



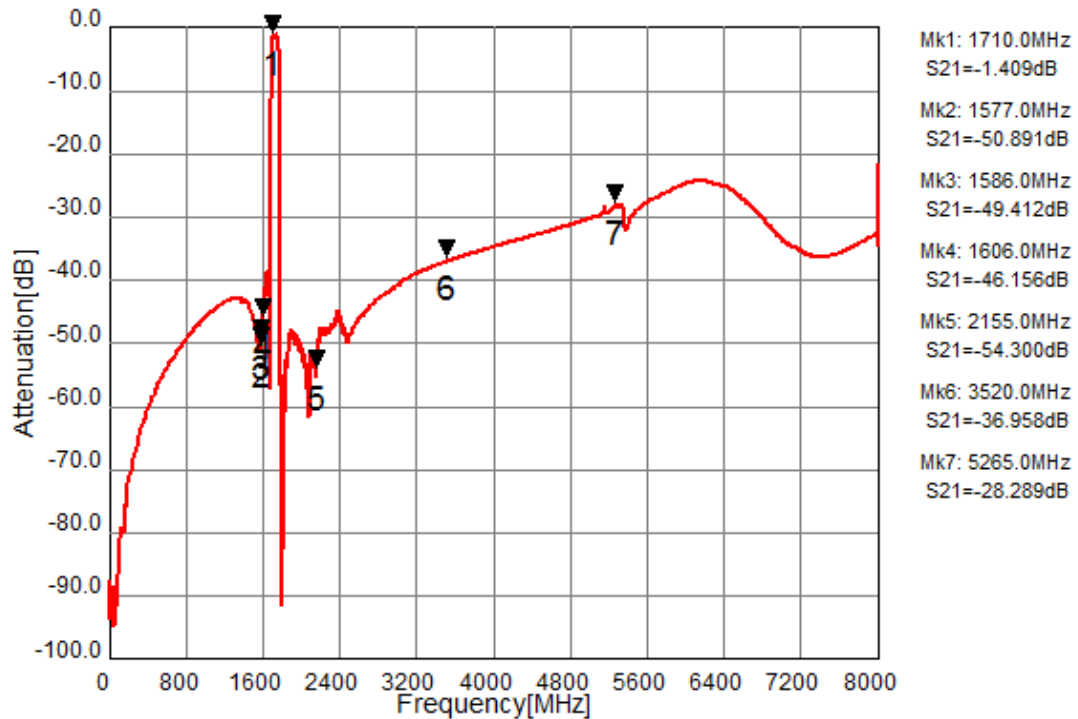
Ant to Rx (Phase balance)



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Tx to Ant (Wide span)



Ant to Rx (Wide span)

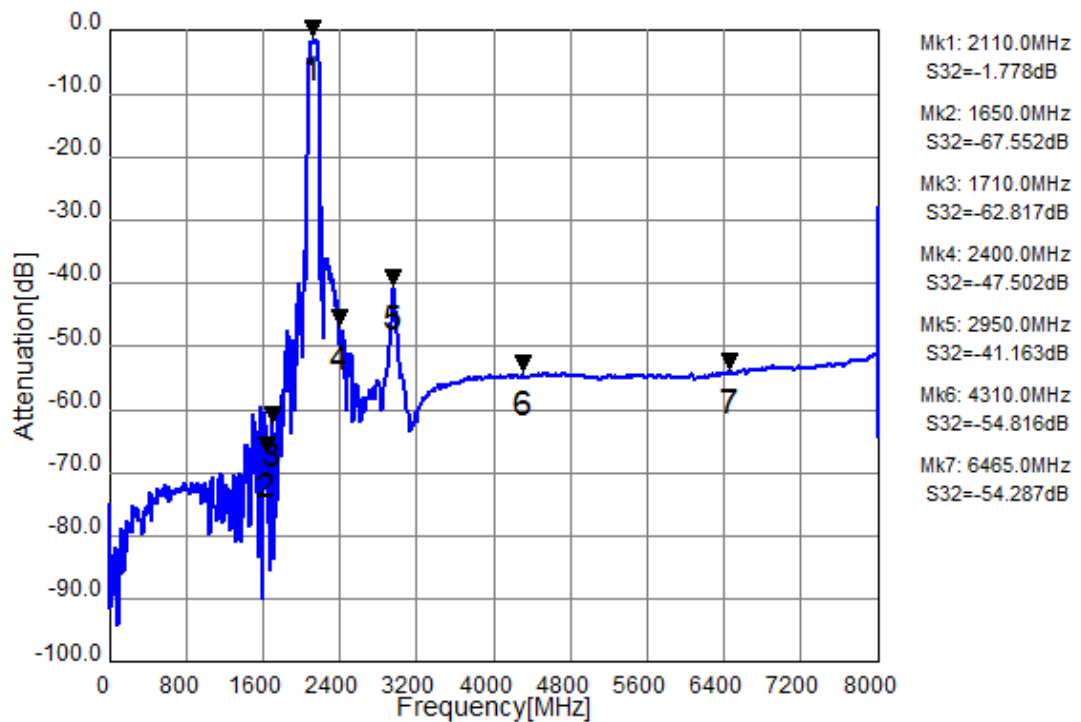


Figure 3-6. Electrical Characteristics.

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Tx to Rx Isolation(Wide span)

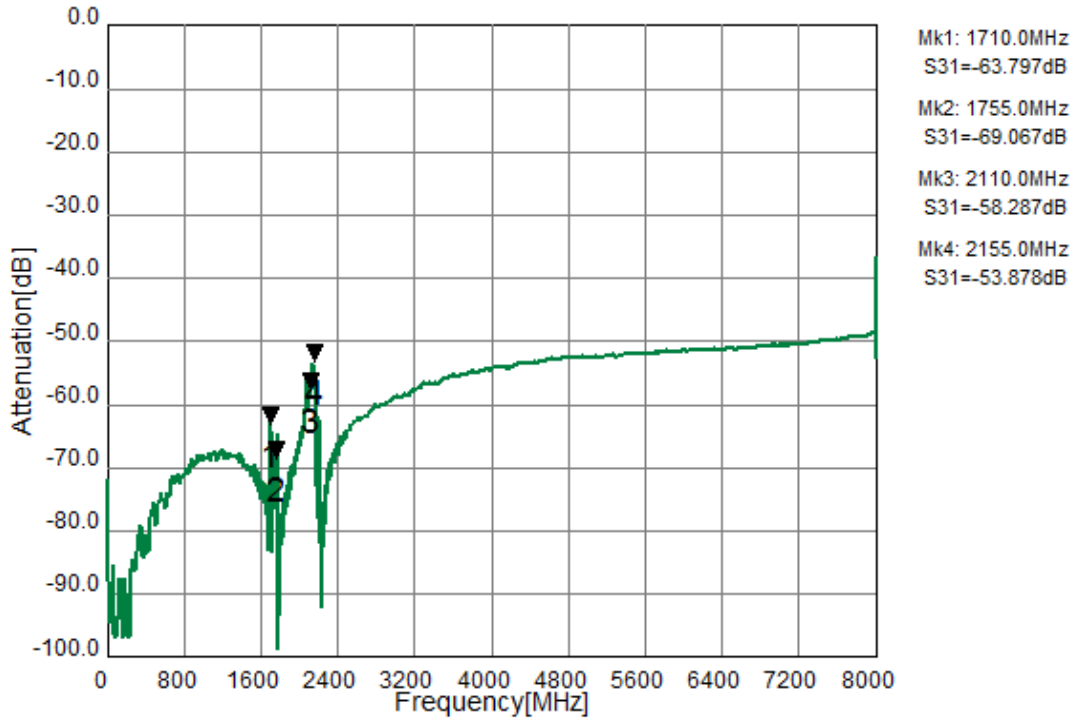


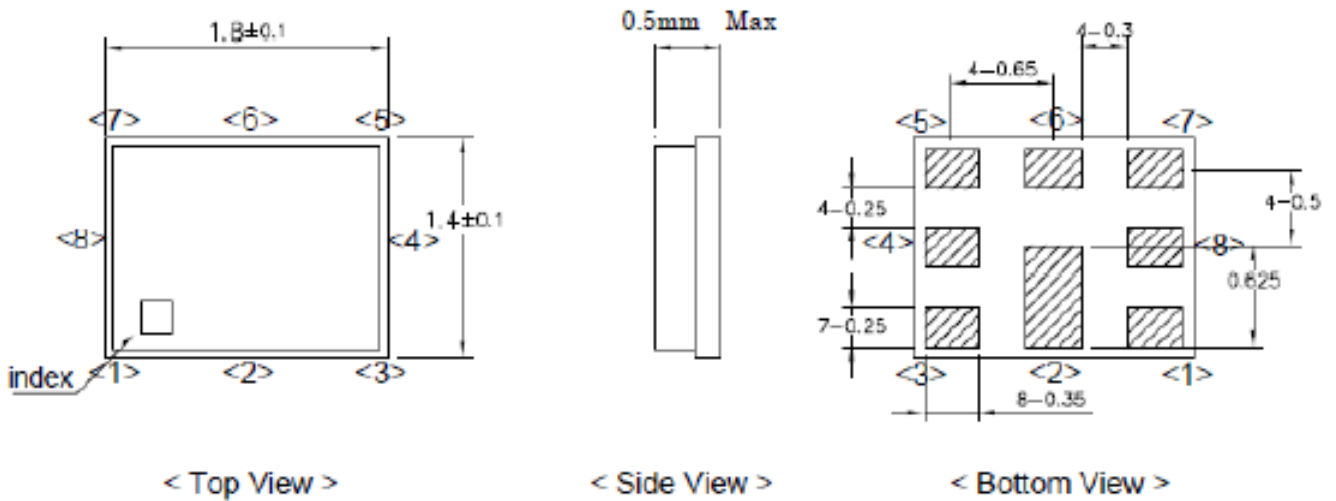
Figure 3-7. Electrical Characteristics.

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E. OUTLINE DRAWING:

Dimensions



Pin Configuration

Unit: mm

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	Rx	Receiver Pin

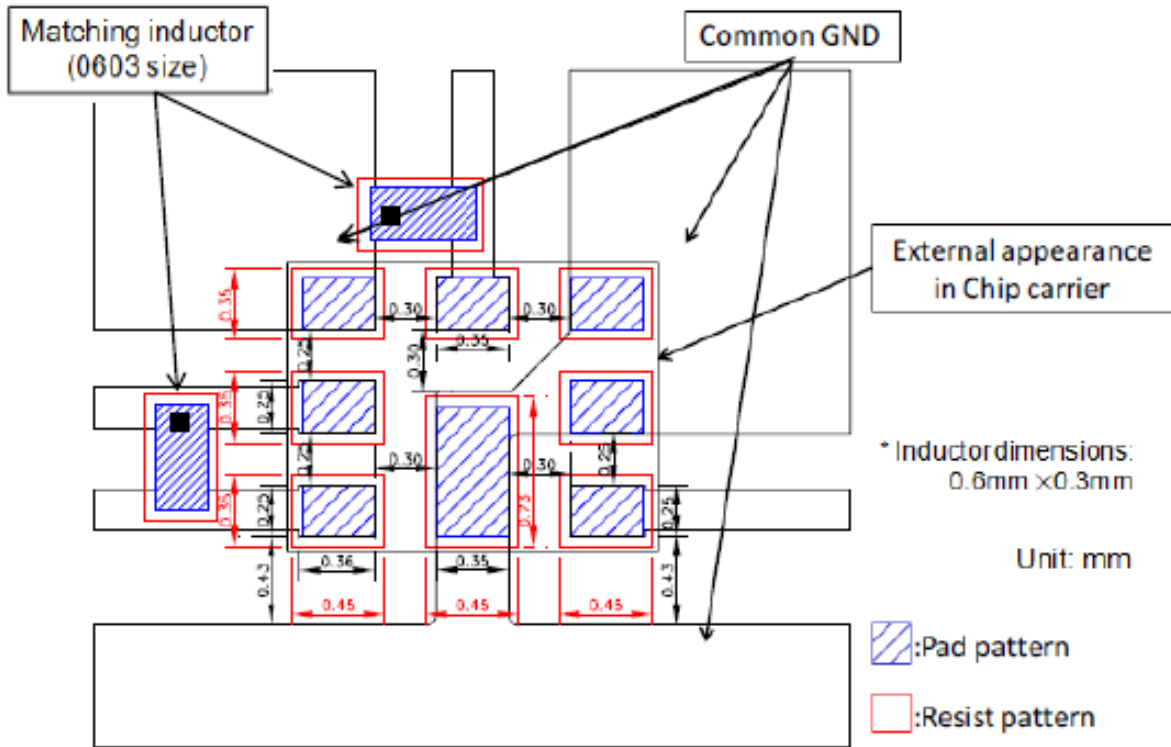
Figure 1. Dimensions and Pin assignment

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F. FOOTPRINT:

Recommended foot print pattern

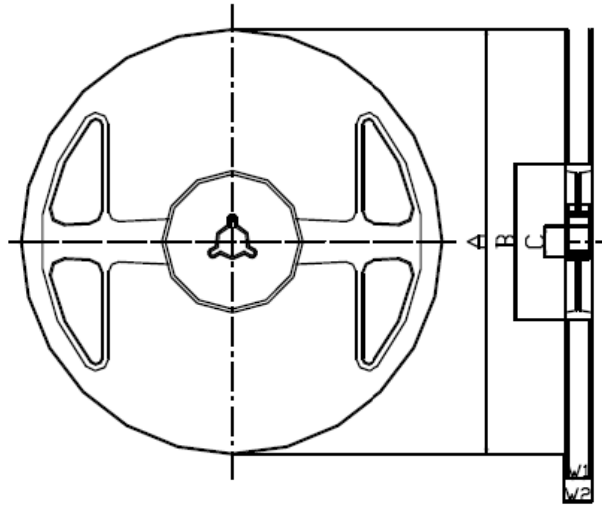


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G. PACKING:

1. Reel Dimension



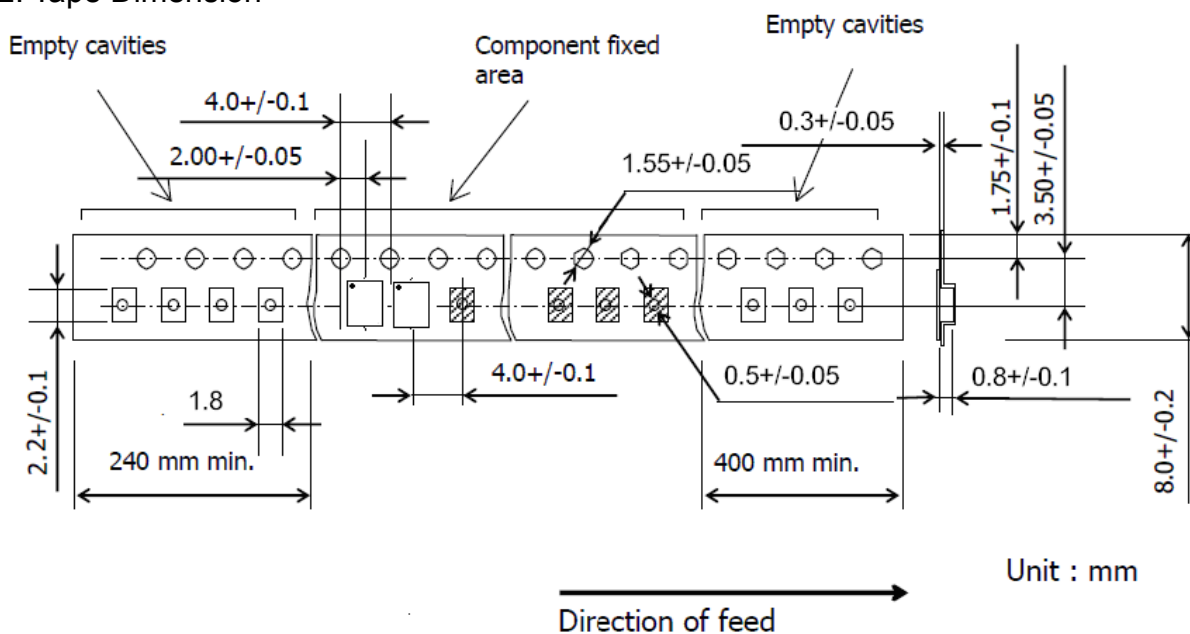
Materials of Reel

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



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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.

