



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Name: SAW DPX Rx Balanced 455 / 465MHz SMD5.0x5.0 mm (BW=5 MHz)

TST Parts No.: TF0189A

Customer Part No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Anne Chen *Anne Chen*

Approved by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2018, 12, 25

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the change



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SAW DPX 455 / 465MHz SMD5.0X5.0 mm (BW=5 MHz)

MODEL NO.: TF0189A

REV. No.: 1.0

## A. MAXIMUM RATING:

1. Input power : 29dBm (Ta=+55deg C,50000h,CW )
2. Maximum DC Voltage: 0 V
3. Operating temperature range: -30 °C to +85 °C
4. Storage temperature range: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50 Ω (Single-ended)

Terminating impedance(Rx Port): 100 Ω (balanced-ended)

Terminating impedance(Ant Port): 50 Ω (Single-ended)

### Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum
Insertion Loss	452.5 ~ 457.5 MHz	dB	-	2.2	3.2
Return Loss	452.5 ~ 457.5 MHz	dB	9	12	-
<b>Attenuation:</b>					
<b>462.5 ~ 467.5 MHz</b>		dB	45	55	-
<b>1574.0 MHz</b>		dB	25	38	
<b>480 ~ 1200 MHz</b>		dB	25	28	
<b>1200 ~ 2100 MHz</b>		dB	15	20	

**ANT to Rx**

Parameters Description		Unit	Minimum	Typical	Maximum
Insertion Loss	462.5 ~ 467.5 MHz	dB	-	3.2	3.8
Amplitude Imbalance	462.5 ~ 467.5 MHz	dB	-1.0	-0.45/0.40	1.0
Phase Imbalance	462.5 ~ 467.5 MHz	deg	-15	8.0/10.0	15
Return Loss	462.5 ~ 467.5 MHz	dB	9	12	
<b>Attenuation:</b>					
452.5 ~ 457.5 MHz		dB	45	52	-
477.0 ~ 480.0 MHz		dB	30	35	-
480.0 ~ 1200.0 MHz		dB	30	38	-
1200.0 ~ 2100.0 MHz		dB	20	30	

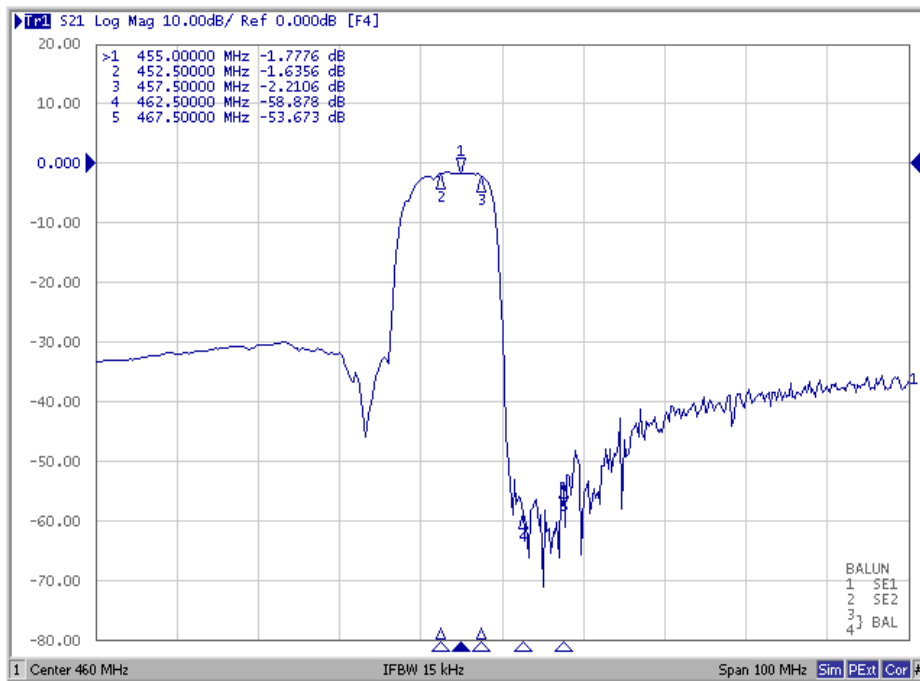
**Tx to Rx**

Isolation	452.5 ~ 457.5 MHz	dB	52	63	-
	462.5 ~ 467.5 MHz	dB	52	65	-

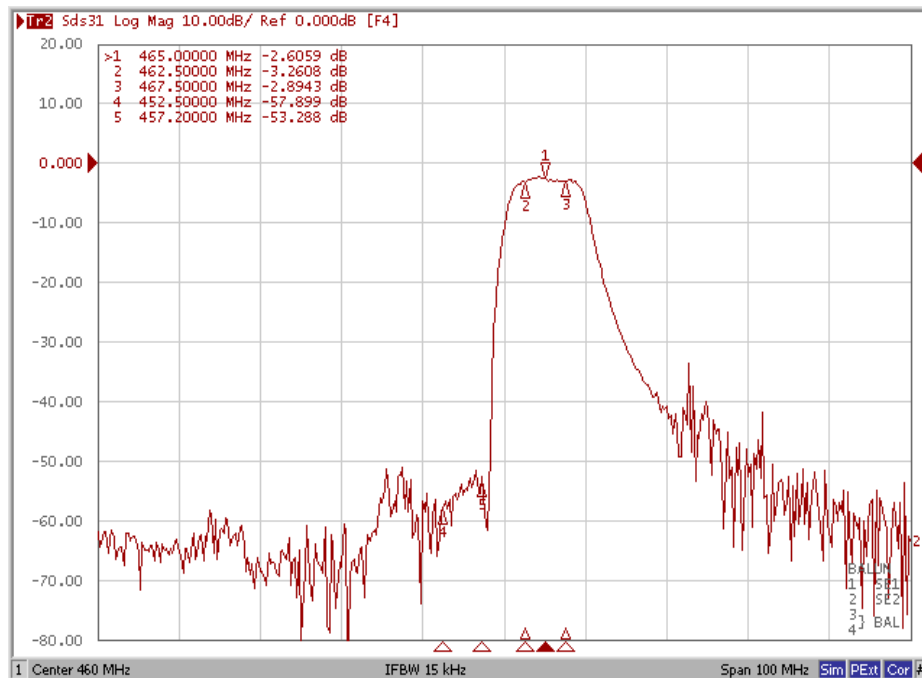
(1) No Matching Network

## C. Frequency Characteristics:

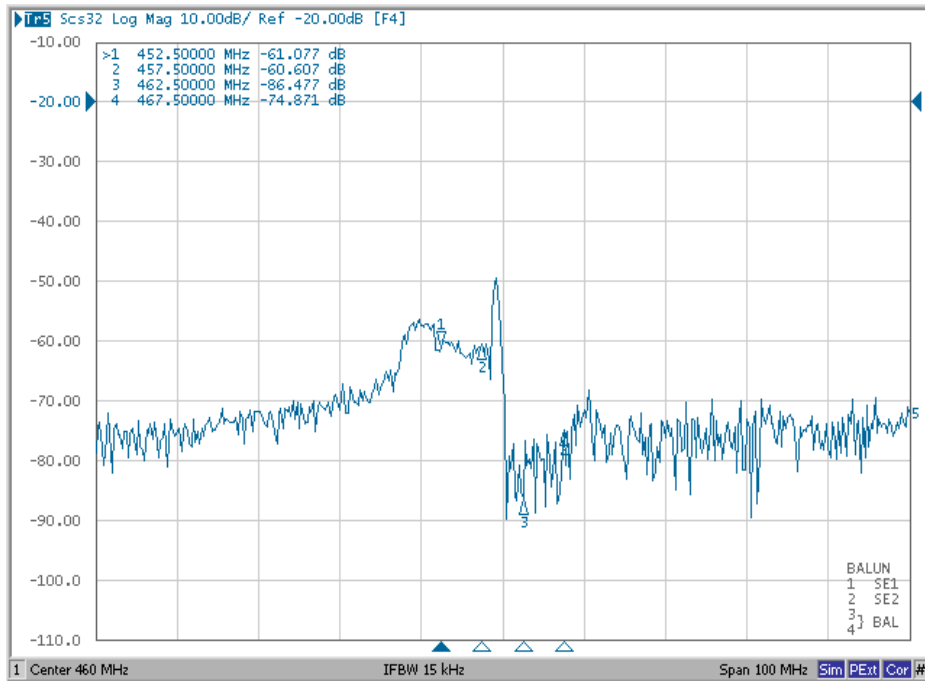
### Tx to Ant



### Ant to Rx

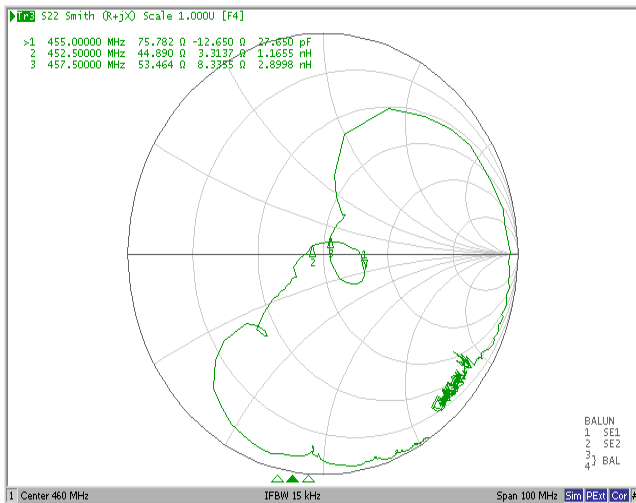


# Isolation

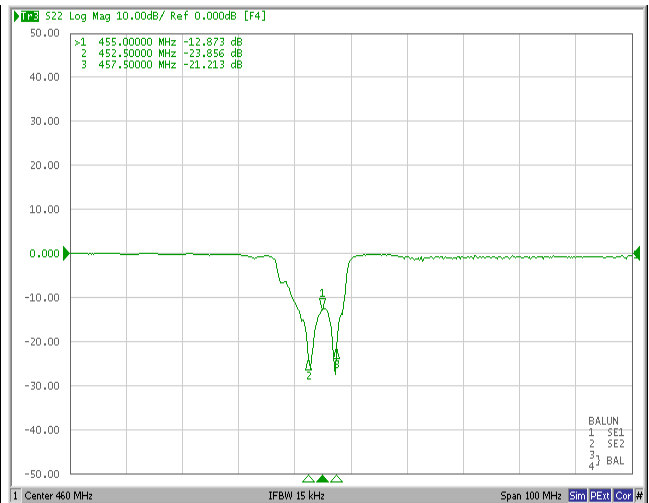


## Tx Port

### Smith Chart

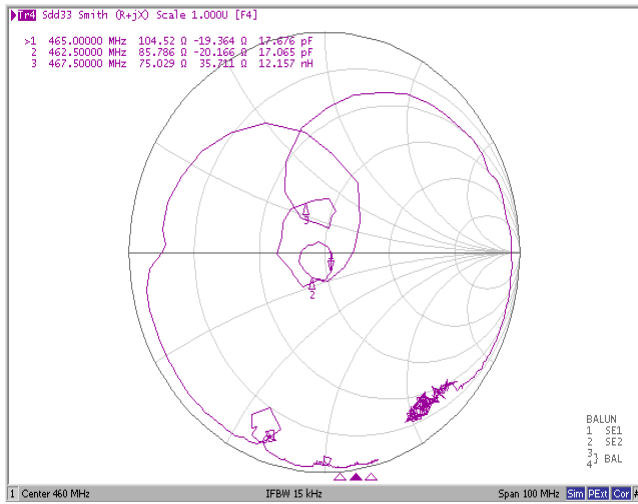


### Return Loss

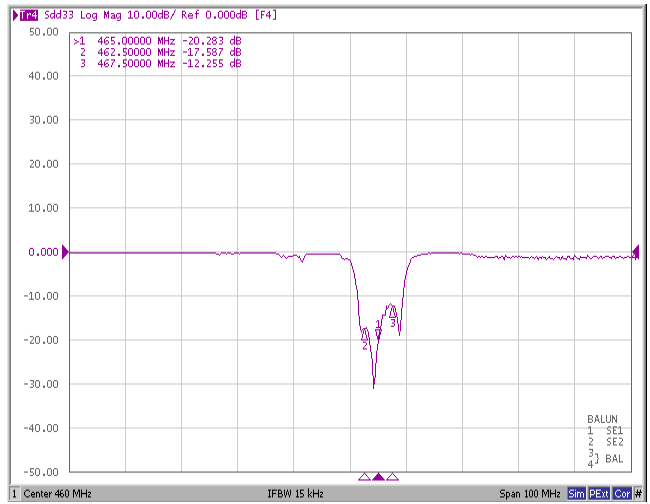


## Rx Port

### Smith Chart

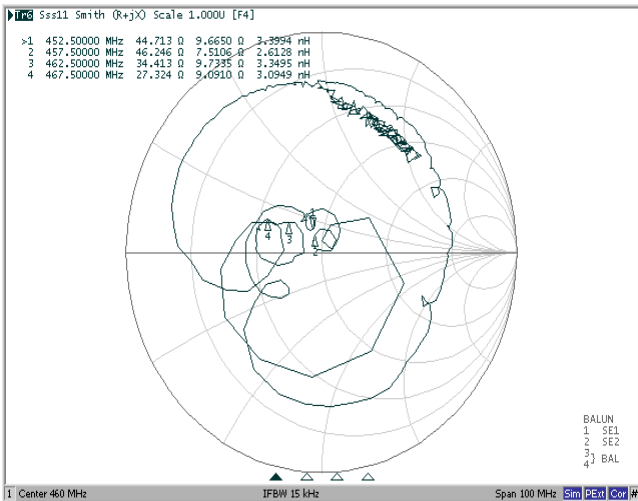


### Return Loss

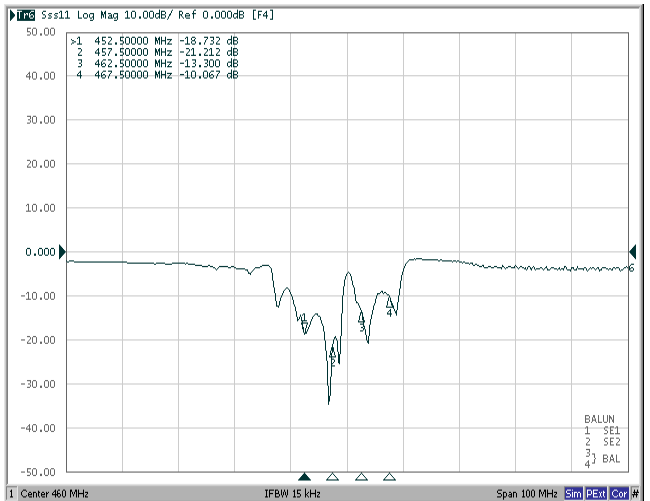


## Ant Port

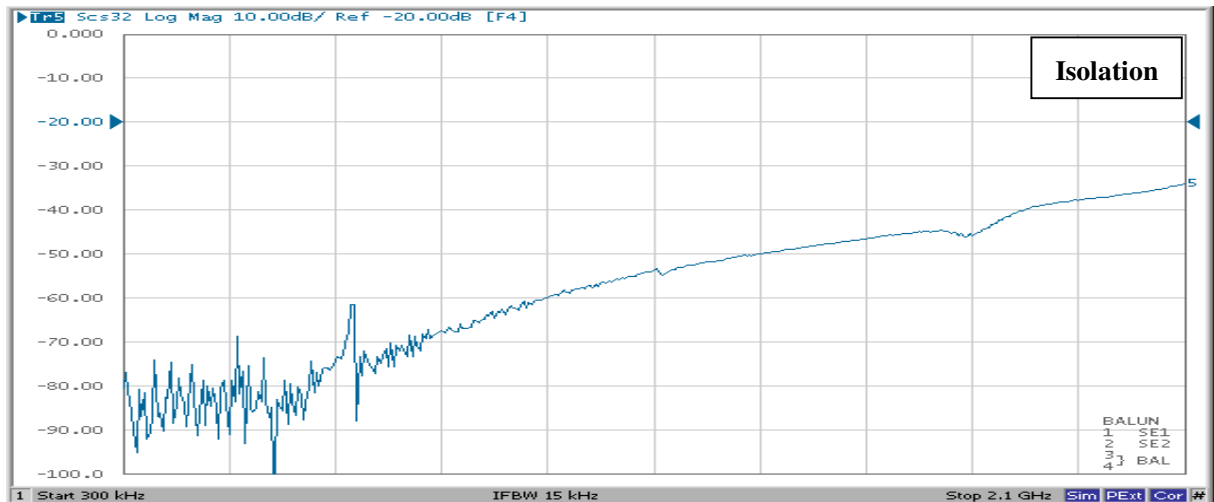
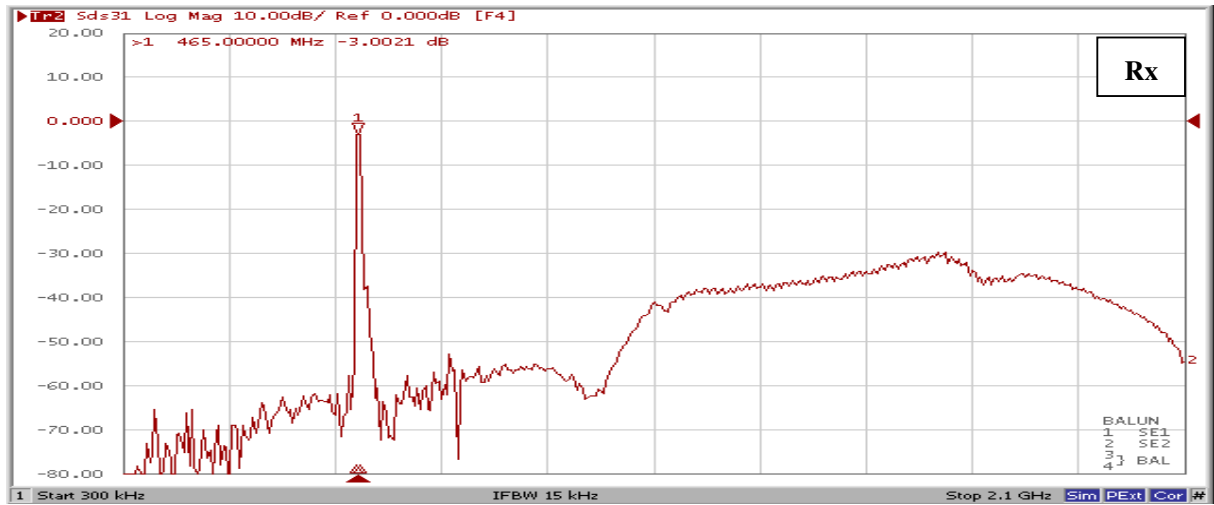
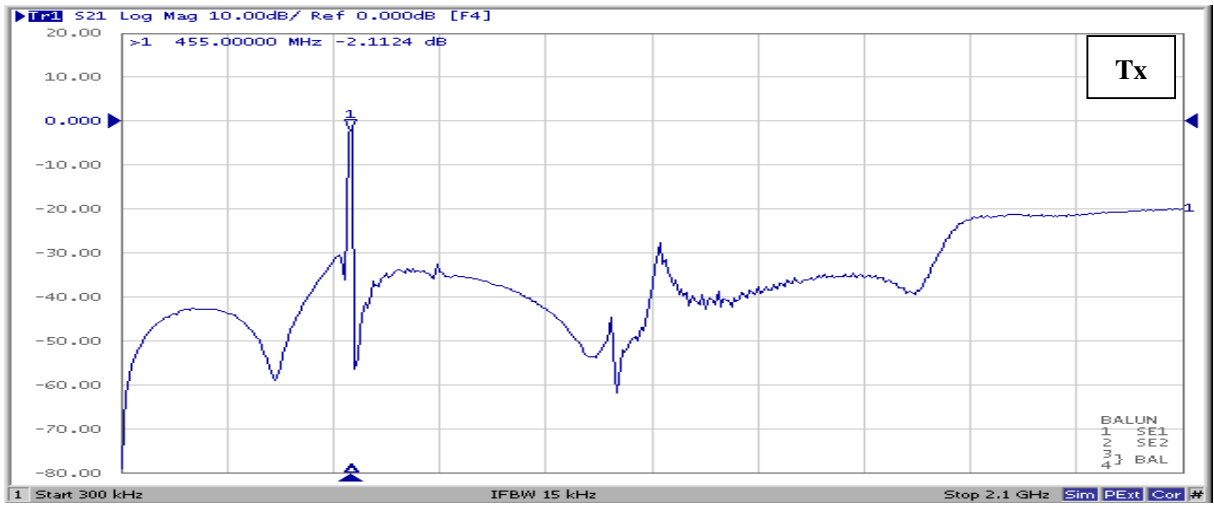
### Smith Chart



### Return Loss



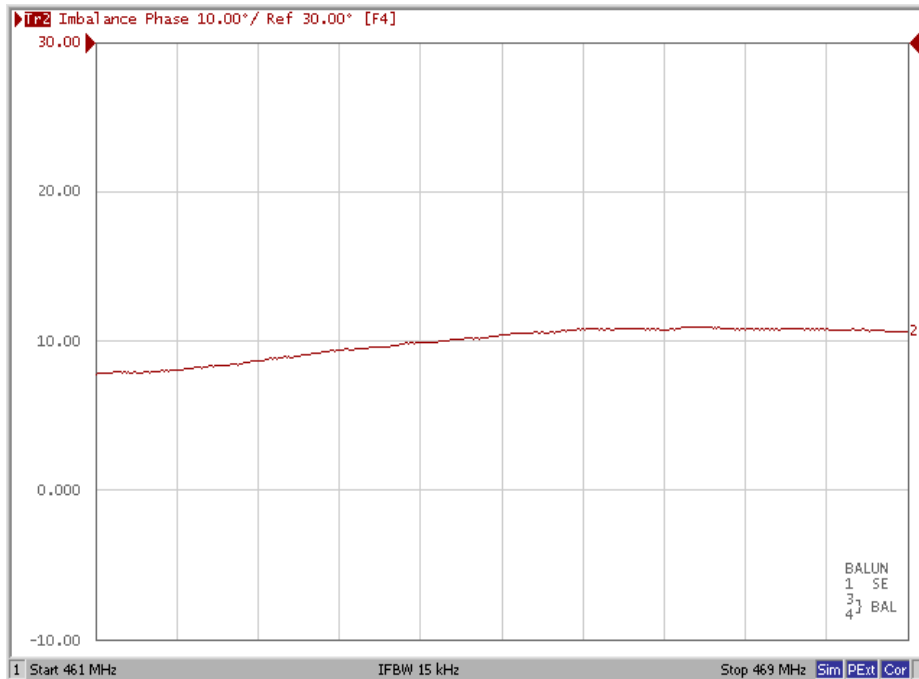
## Wide Span



## Amplitude Imbalance

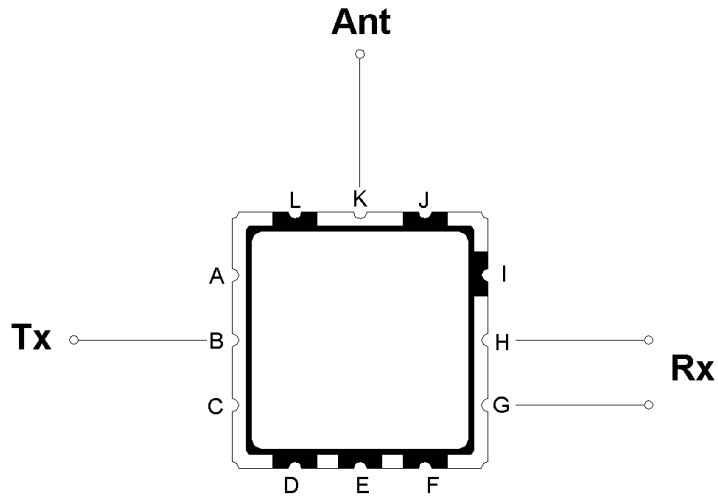


## Phase Imbalance

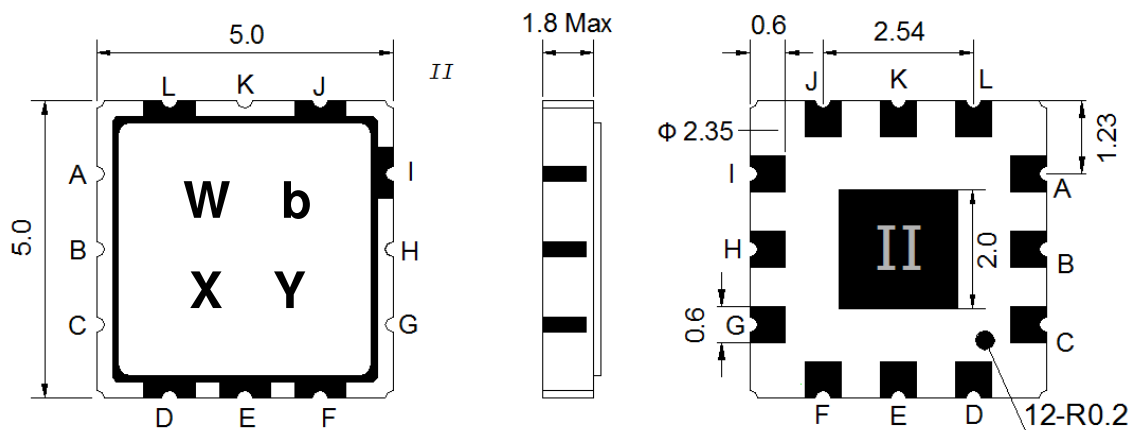




**D. MEASUREMENT CIRCUIT:**



**E. OUTLINE DRAWING:**



Marking Descriptions	
W	CDMA450 Application
b	Series Number
X	Date Code(Year)
Y	Date Code(Month)

Pin Description	
A, C, D, E, F, I, J, L	Ground
K	Antenna
B	Tx
G, H	Rx Balanced

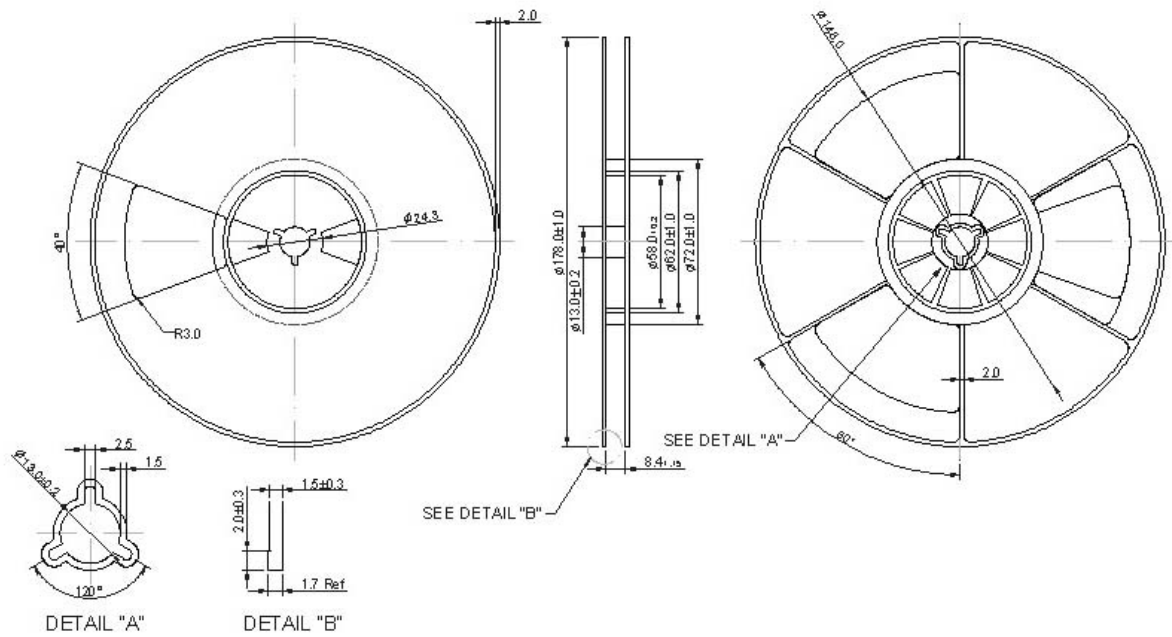
**Date Code**

X (Year)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	B	C	D	E	F	G	H	J	K	L	M	N
Y (Moth)	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
	1	2	3	4	5	6	7	8	9	A	B	C

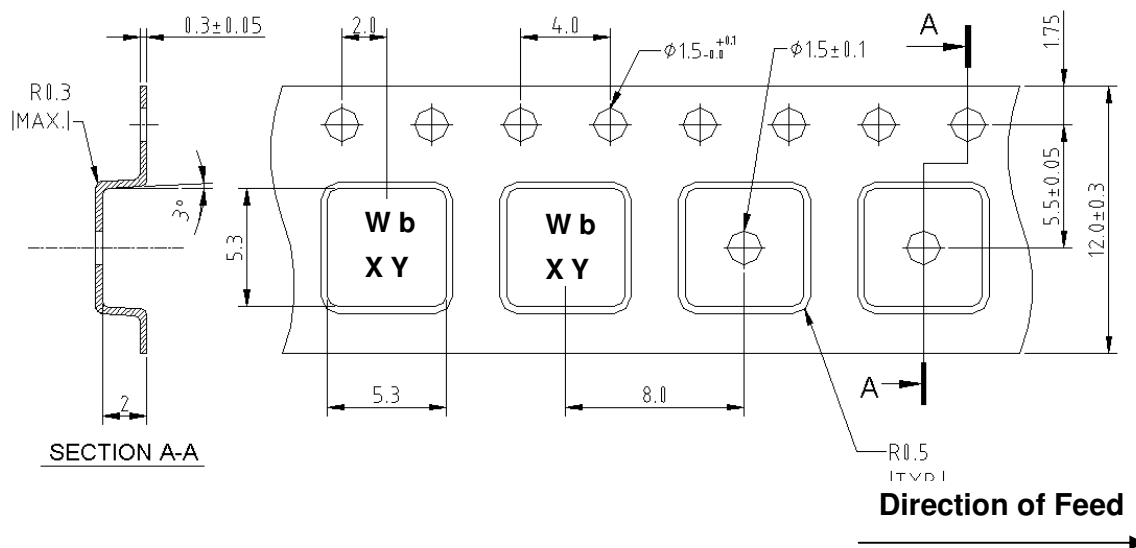
## F. PACKING:

### 1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



### 2. TAPE DIMENSION



## G. 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 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

