



TAI-SAW TECHNOLOGY CO., LTD.

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

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com


Product Specifications Approval Sheet


Product Name: SAW DPX 836.5/881.5MHz LTE Band 5 SMD 2016

TST Parts No.: TF0089A

Customer Part No.: _____

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

Checked by: _____ Andy Yu 

Approved by: _____ Bob Chau 

Date: _____ 2017/04/26

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 changes



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SAW DPX836.5/881.5MHz LTE Band 5 SMD 2016(25MHz BW)

MODEL NO.: TF0089A

REV. No.: 3.0

A. MAXIMUM RATING:

1. Maximum Input Power: 29 dBm
2. DC voltage: 0 V
3. Operating Temperature: -30 °C to +85 °C
4. Storage Temperature: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 1
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

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/8.2nH (Single-ended)

Tx to Ant

Parameters Description		Condition [MHz]	Unit	Mini.	Typ.	Max.
Insertion Loss		824.0 ~ 849.0	dB	-	1.4	1.9
Ripple		824.0 ~ 849.0	dB _{p-p}	-	0.4	1.0
VSWR	Ant	824.0 ~ 849.0	-	-	1.5	2.0
	Tx	824.0 ~ 849.0	-	-	1.6	2.0
Attenuation:						
779.0 ~ 804.0			dB	30	39	-
869.0 ~ 894.0			dB	45	51	-
1574.0 ~ 1577.0			dB	45	48	-
1648.0 ~ 1698.0			dB	45	48	-
2472.0 ~ 2547.0			dB	25	33	-

Ant to Rx

Parameters Description		Condition [MHz]	Unit	Mini.	Typ.	Max.
Insertion Loss		869.0 ~ 894.0	dB	-	1.7	2.2
Ripple		869.0 ~ 894.0	dB _{p-p}	-	0.4	1.1
VSWR	Ant	869.0 ~ 894.0	-	-	1.6	2.0
	Rx	869.0 ~ 894.0	-	-	1.6	2.0
Attenuation						
824.0 ~ 849.0			dB	51	58	-
1738.0 ~ 1788.0			dB	40	54	-
1850.0 ~ 1910.0			dB	40	54	-
1920.0 ~ 1980.0			dB	40	53	-
2400.0 ~ 2500.0			dB	40	52	-
3476.0 ~ 3576.0			dB	40	49	-
Amplitude balance(S ₃₁ /S ₄₁)		869.0 ~ 894.0	dB	-1.0	-0.2/+0.2	+1.0
Phase balance $\Phi(S_{31})-\Phi(S_{41})+180^\circ$		869.0 ~ 894.0	deg	-10	-2/+2	+10

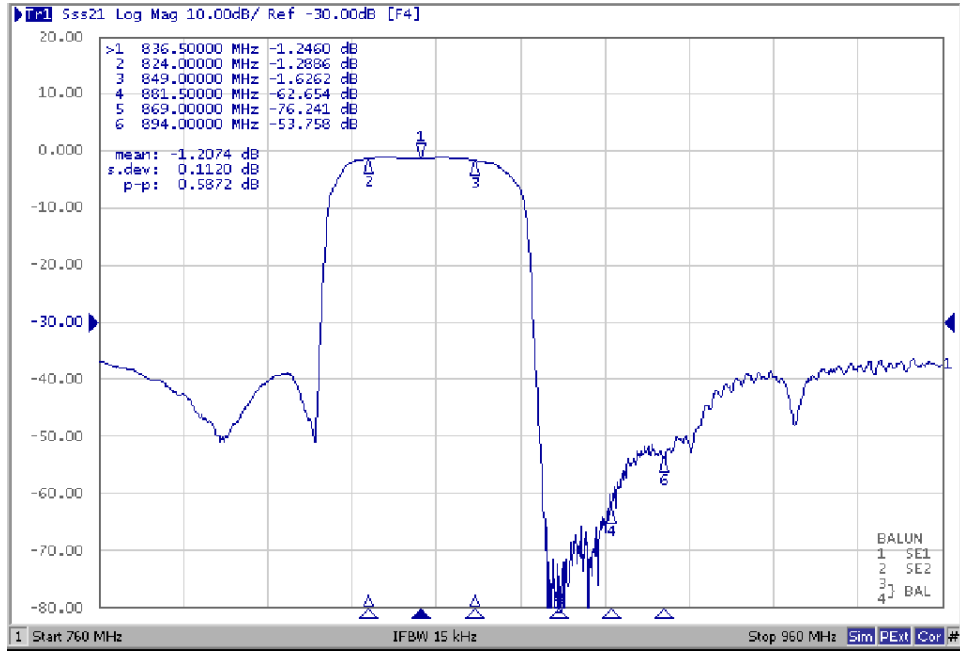
Tx to Rx

Parameters Description	Condition [MHz]	Unit	Mini.	Typical	Max.
Isolation in Tx Band	824.0 ~ 849.0	dB	57	59	-
Isolation in Rx Band	869.0 ~ 894.0	dB	49	52	-

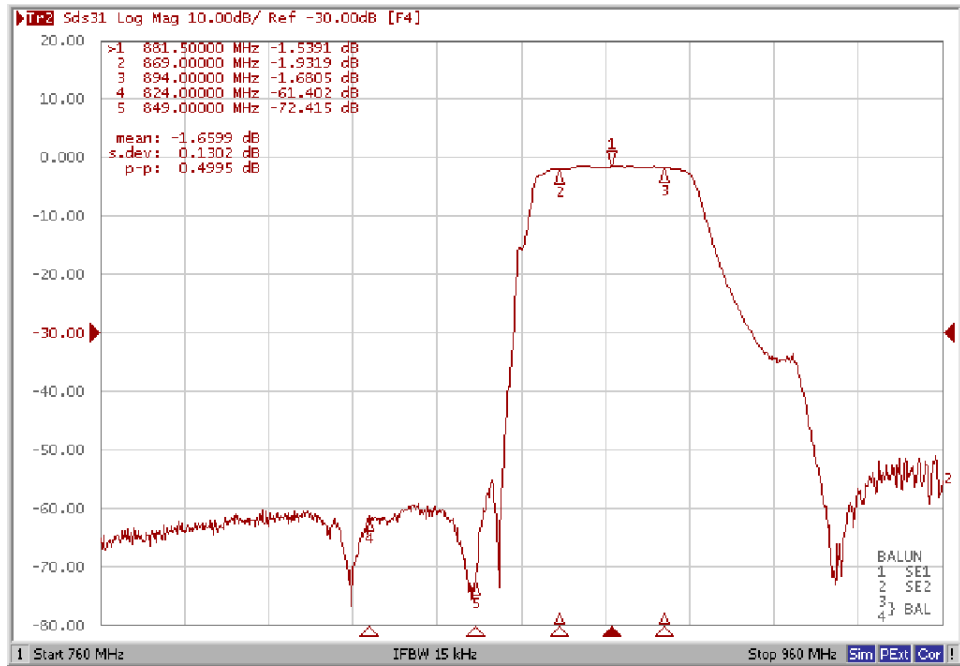
Notes : (1) With Matching Network .

C. Frequency Characteristics:

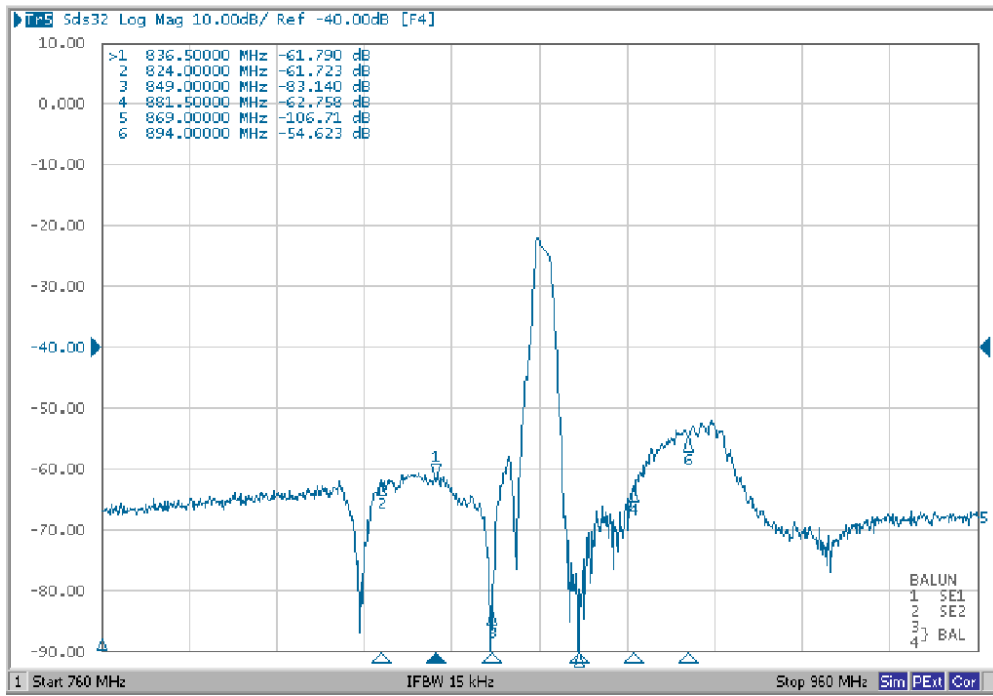
Tx to Ant



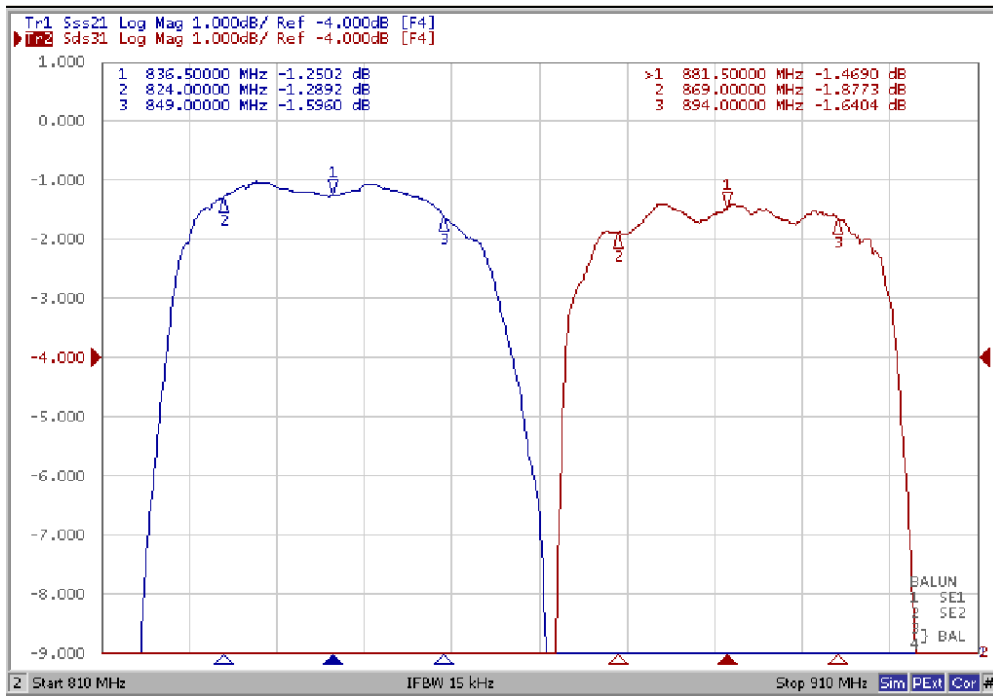
Ant to Rx



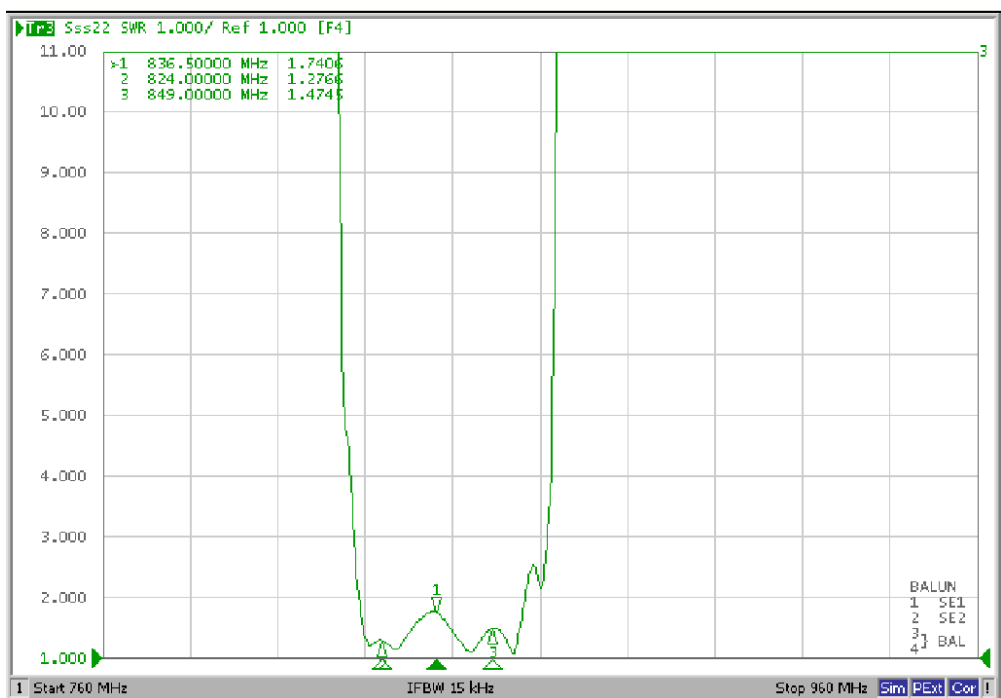
Isolation



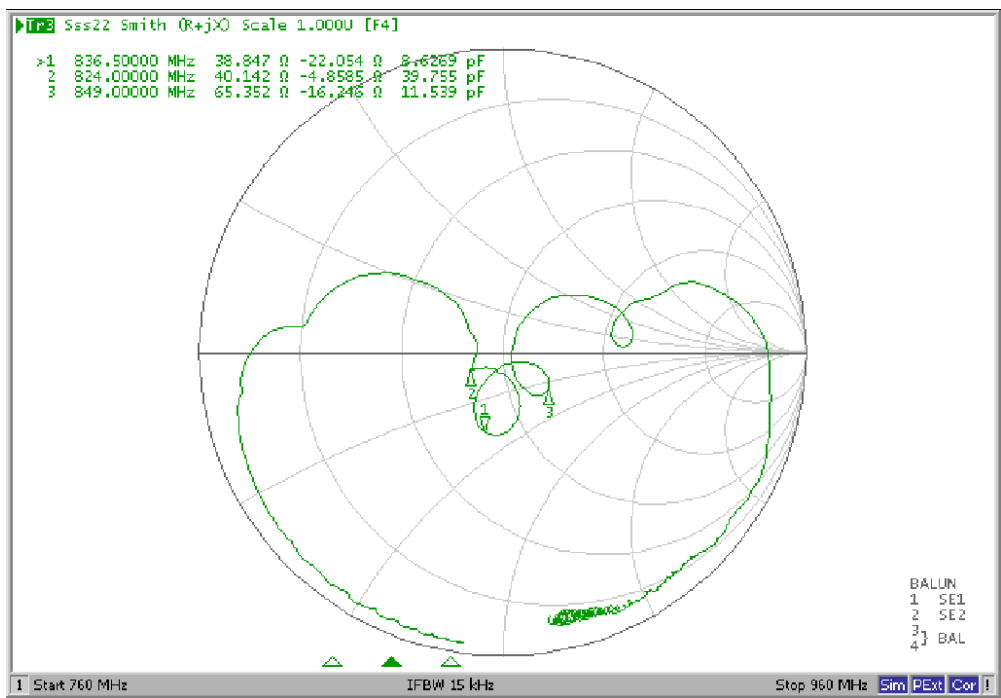
Ripple



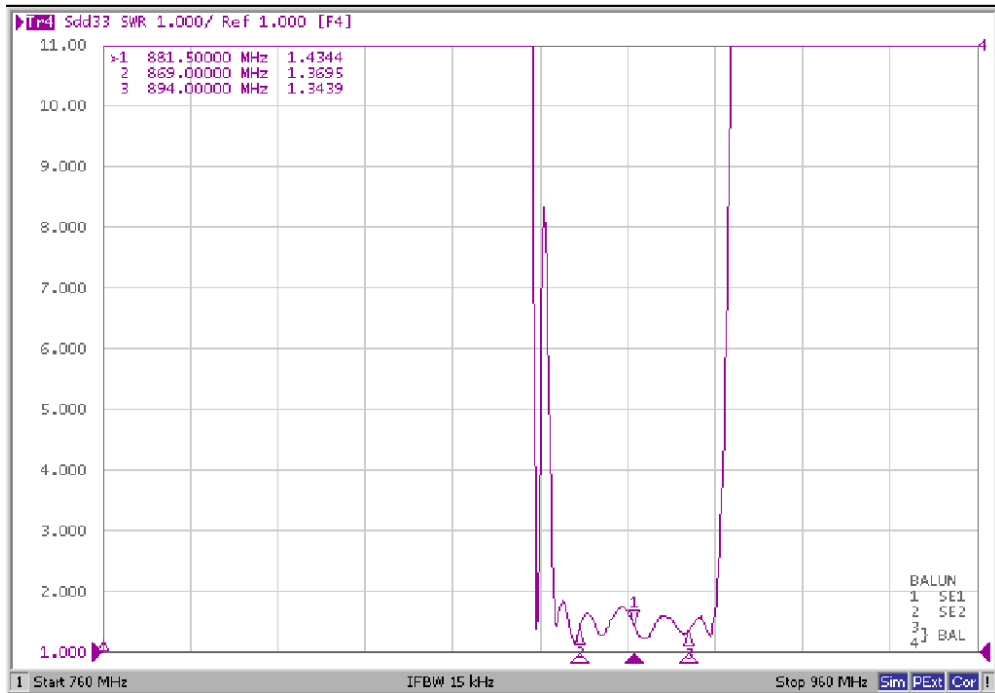
VSWR (Tx Port)



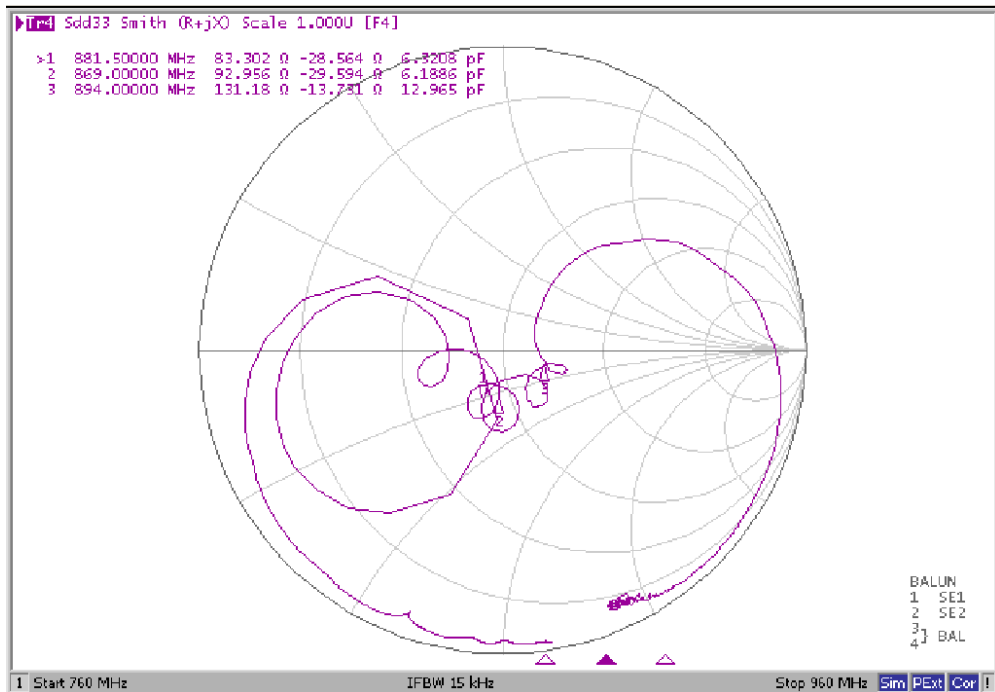
Smith Chart (Tx Port)



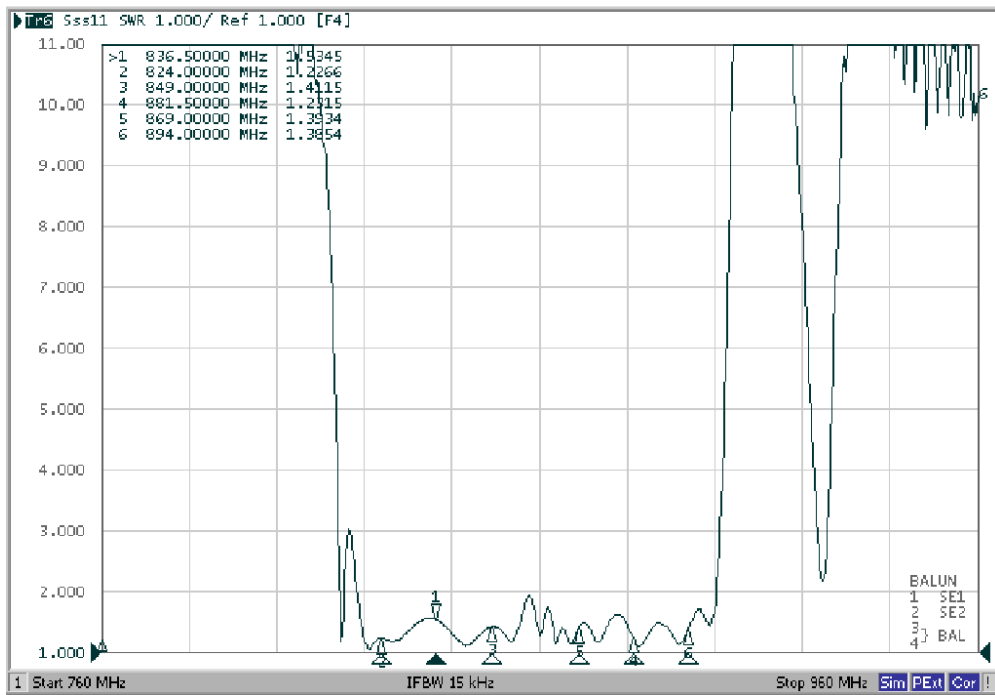
VSWR (Rx Port)



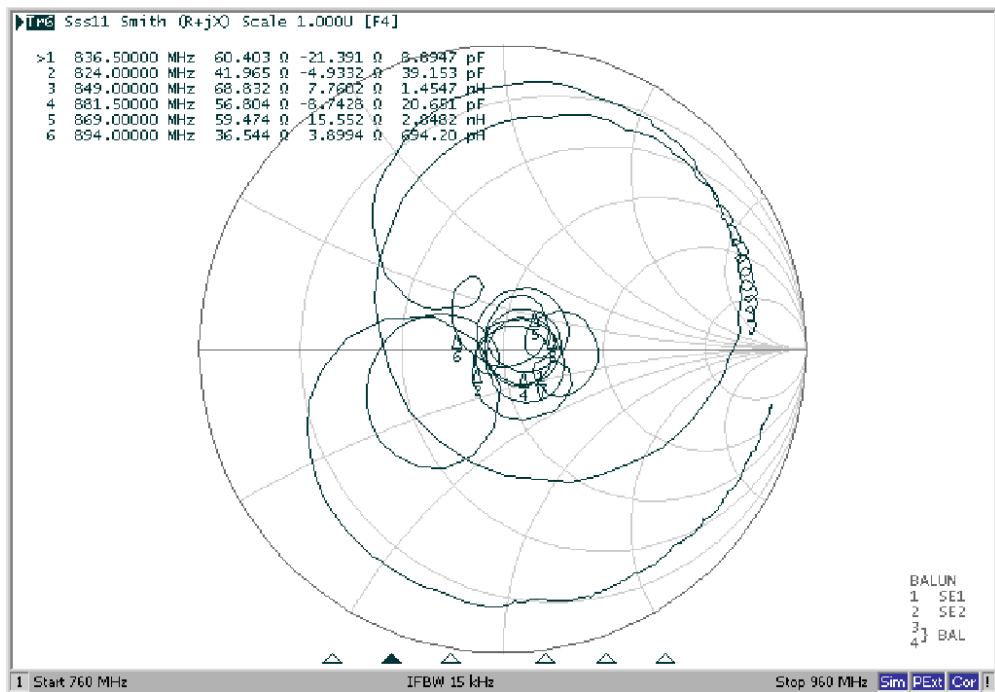
Smith Chart (Rx Port)



VSWR (ANT Port)

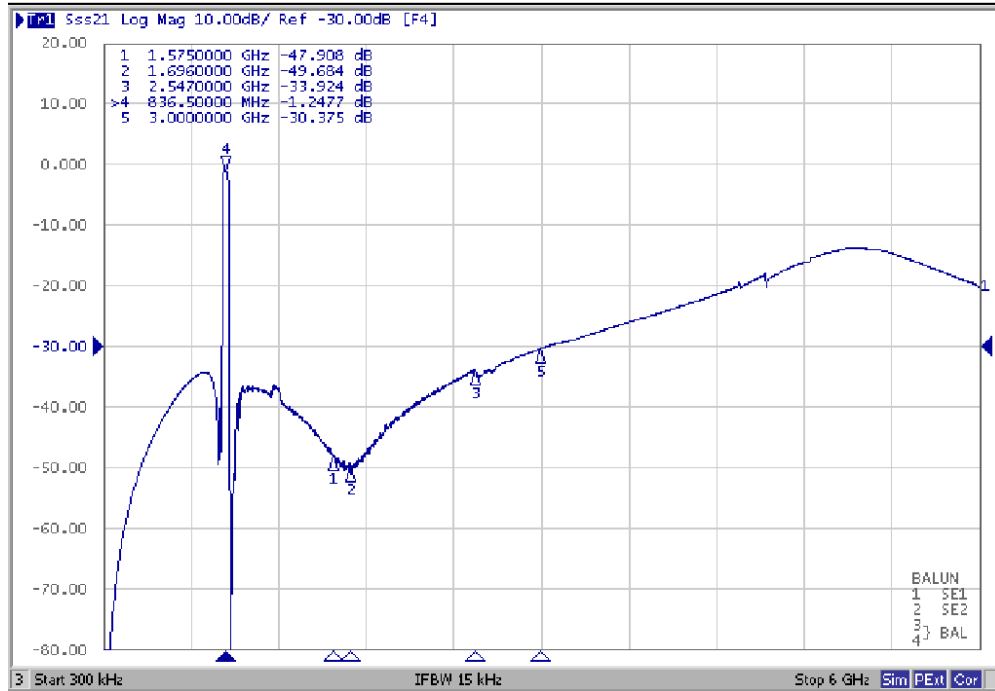


Smith Chart (ANT Port)

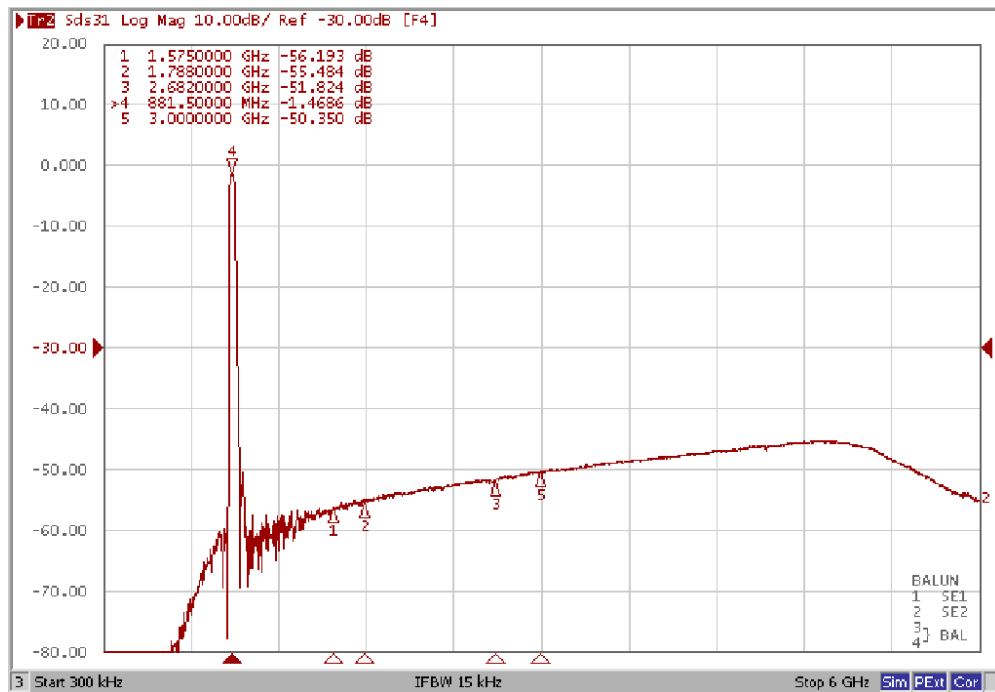


Wide Span

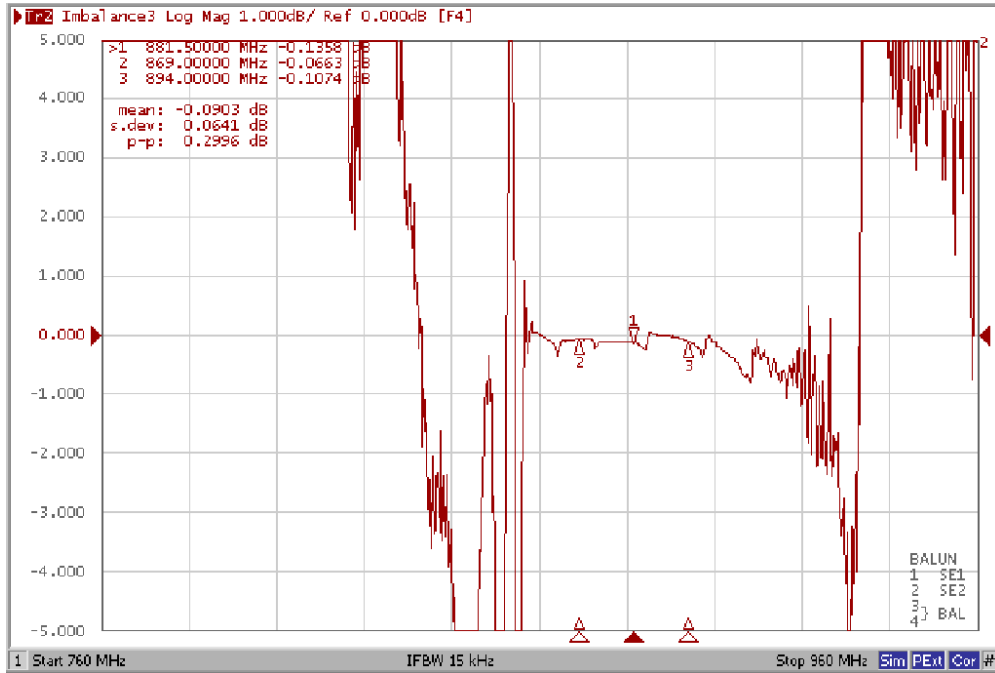
Tx:



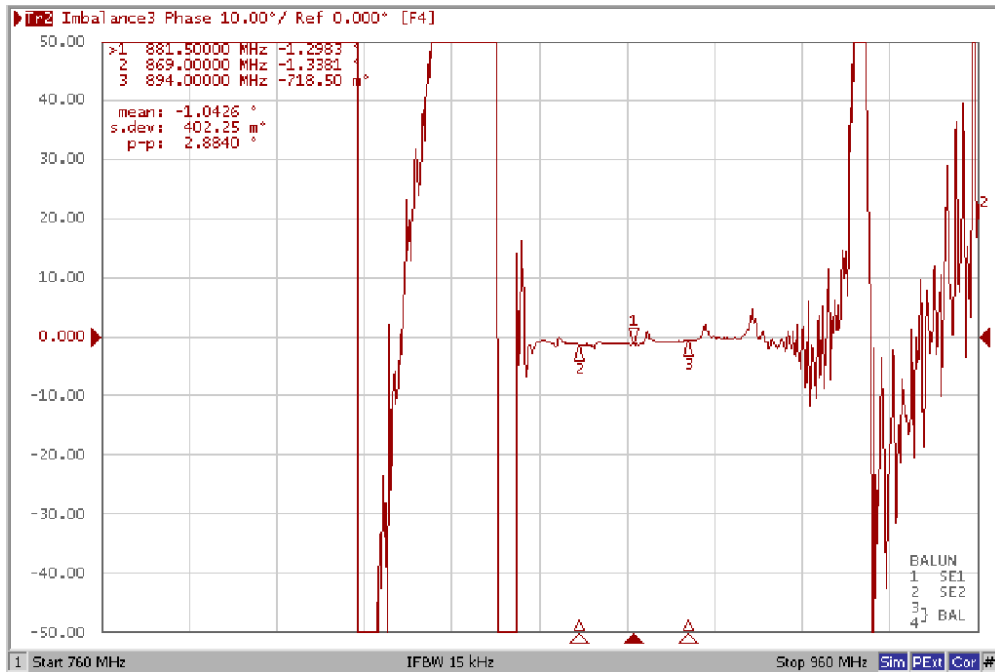
Rx:



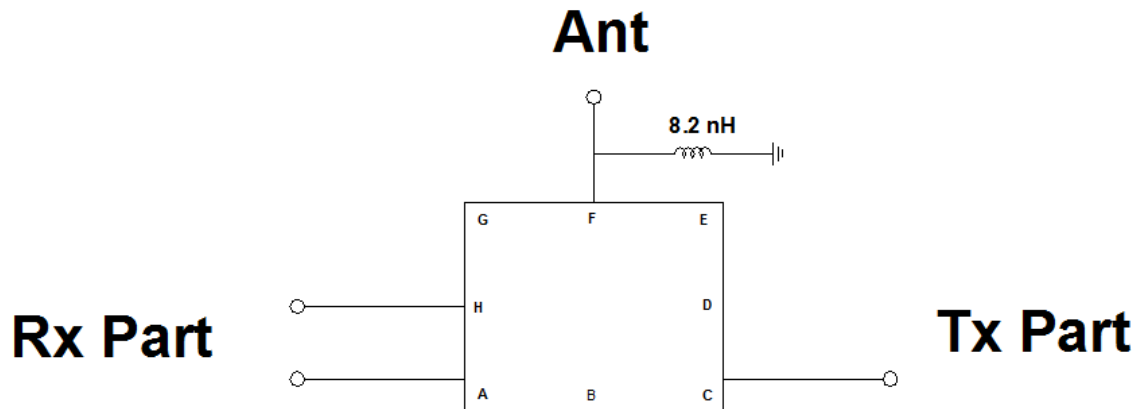
Amplitude balance of Ant to Rx+/Rx-



Phase balance of Ant to Rx+/Rx-

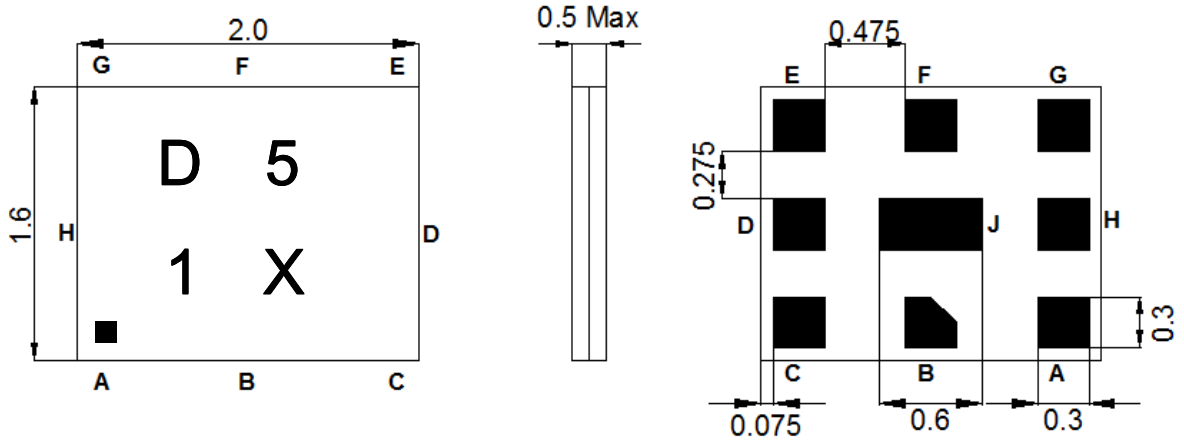


D. MEASUREMENT CIRCUIT:



E. OUTLINE DRAWING:

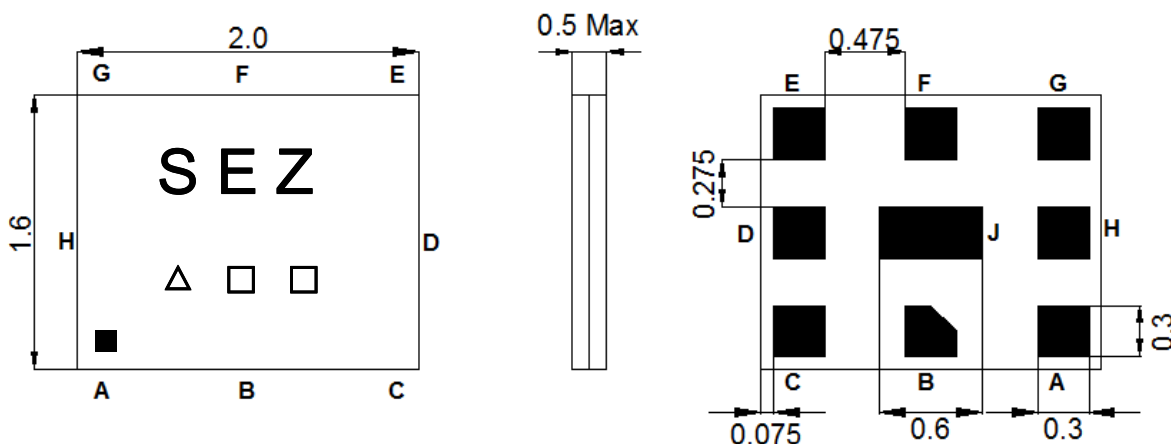
Marking 1:



Marking Descriptions	
D	Duplexer Application
5	Band Class
1	Series Number
X	Date Code(Year+Month)

Pin Description	
B,D,E,G,J	Ground
F	Ant
C	Tx (836.5MHz)
A,H	Rx (881.5MHz)

Marking 2:



Pin Description	
B,D,E,G,J	Ground
F	Ant
C	Tx (836.5MHz)
A,H	Rx (881.5MHz)

Marking name : **SEZ**

△: Date code(2016 May → s ,....., 2019 Dec→m.)

□□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

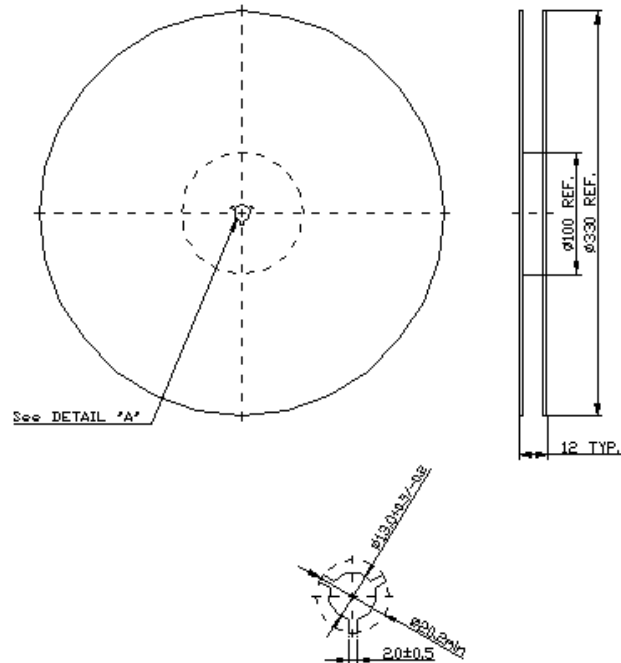
Product Date Code. Follow below table.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

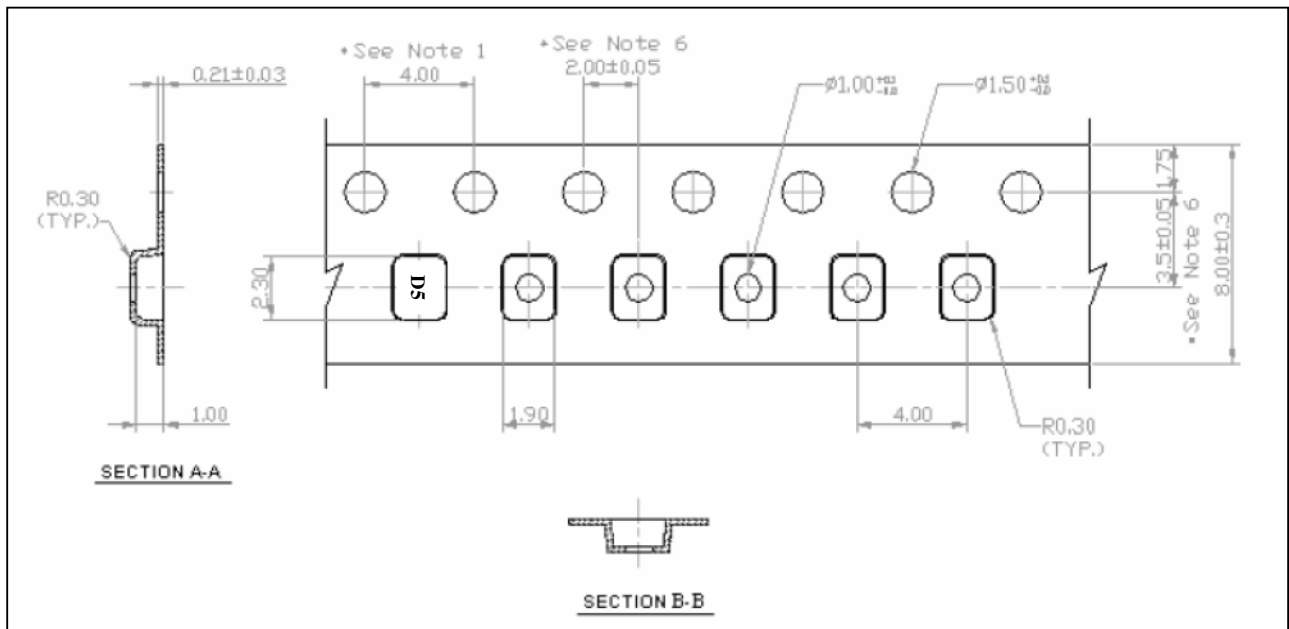
E. PACKING:

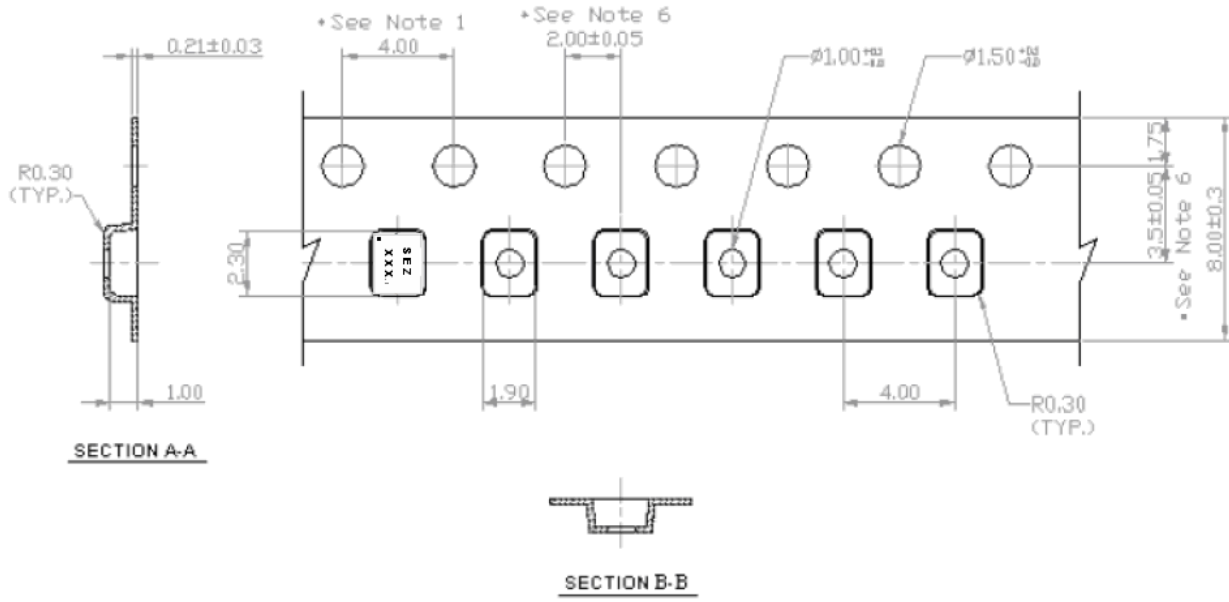
1. REEL DIMENSION

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



2. TAPE DIMENSION





F. 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.

