



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Name: SAW DPX 1950/2140 MHz LTE Band 1 SMD 2016

TST Parts No.: TF0088A

Customer Part No.: _____

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

Checked by: _____ Hayley Chou *Hayley Chou*

Approved by: _____ Andy Yu *Andy Yu*

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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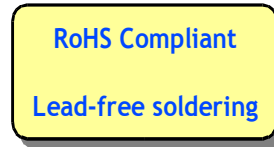
SAW DPX 1950/2140 MHz LTE Band 1 SMD 2016 (60 MHz BW)

MODEL NO.: TF0088A

REV. No.: 5.0

A. MAXIMUM RATING:

1. Maximum Input Power: 29 dBm
2. DC voltage: 0 V
3. Operating Temperature: -20 °C to +85 °C
4. Storage Temperature: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 1
6. ESD 50V(MM) 100V(HBM)



Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

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

Terminating impedance (Rx Port): 100 Ω//12nH (Balanced-ended)

Terminating impedance (Ant Port): 50 Ω//2.7nH (Single-ended)

Tx to ANT

Parameters Description		Unit	Mini.	Typical	Max.
Insertion Loss	1920~ 1980 MHz	dB	-	1.5	1.8
Amplitude Ripple	1920~ 1980 MHz	dB _{p-p}	-	0.4	1.0
VSWR	ANT	1920~ 1980 MHz	-	1.7	2.0
	Tx		-	1.8	2.1
Attenuation:					
1574 ~ 1577 MHz		dB	30	36	-
2110 ~ 2170 MHz		dB	38	41	-
2400 ~ 2500 MHz		dB	25	29	-
3840 ~ 3960 MHz		dB	10	14	-

Notes: (1) With Matching Network.

ANT to Rx

Parameters Description		Unit	Mini.	Typical	Max.
Insertion Loss	2110 ~ 2170 MHz	dB	-	1.6	2.2
Amplitude Ripple	2110 ~ 2170 MHz	dB _{p-p}	-	0.5	1.0
Phase balanced	2110 ~ 2170 MHz	deg	-10	-5	+10
VSWR	ANT	2110 ~ 2170 MHz	-	1.5	2.0
	Rx		-	1.5	2.0
Attenuation:					
1920~ 1980 MHz		dB	40	47	-
1980 ~ 2025 MHz		dB	48	51	-
2400 ~ 2500 MHz		dB	30	41	-

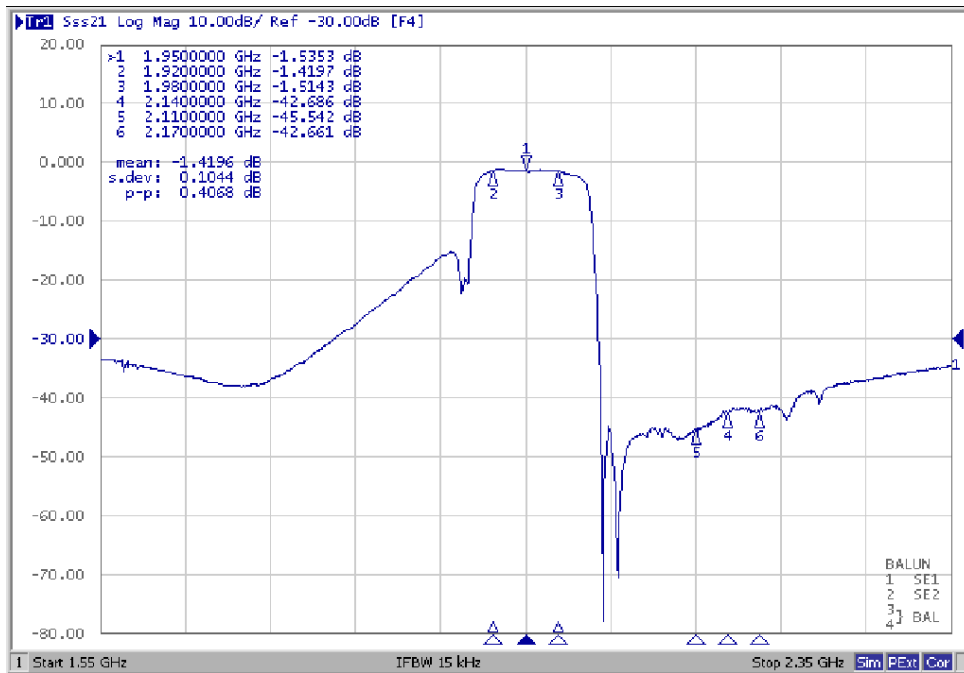
Rx to Tx

Parameters Description		Unit	Mini.	Typical	Max.
Isolation	1920~ 1980 MHz	dB	55	59	-
	2110 ~ 2170 MHz	dB	44	47	-

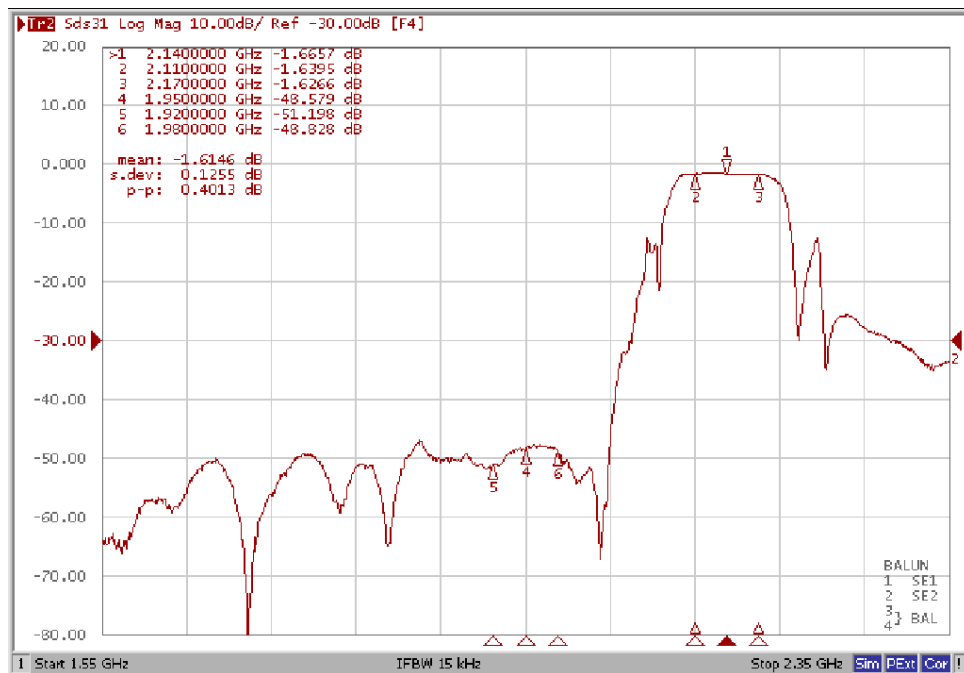
Notes: (1) With Matching Network.

C. FREQUENCY CHARACTERISTICS:

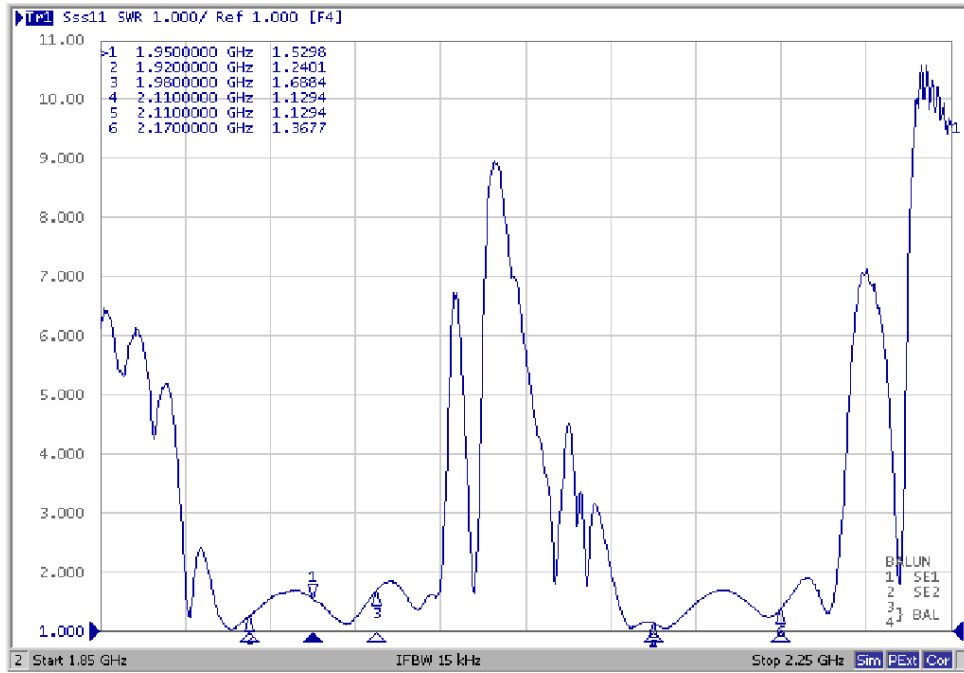
Tx to Ant



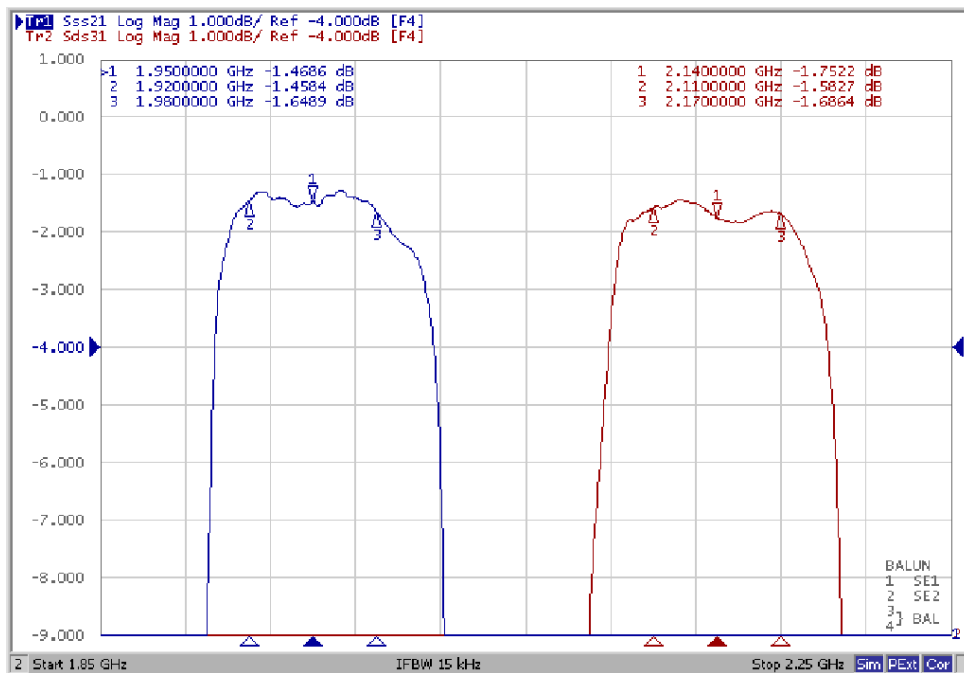
Ant to Rx



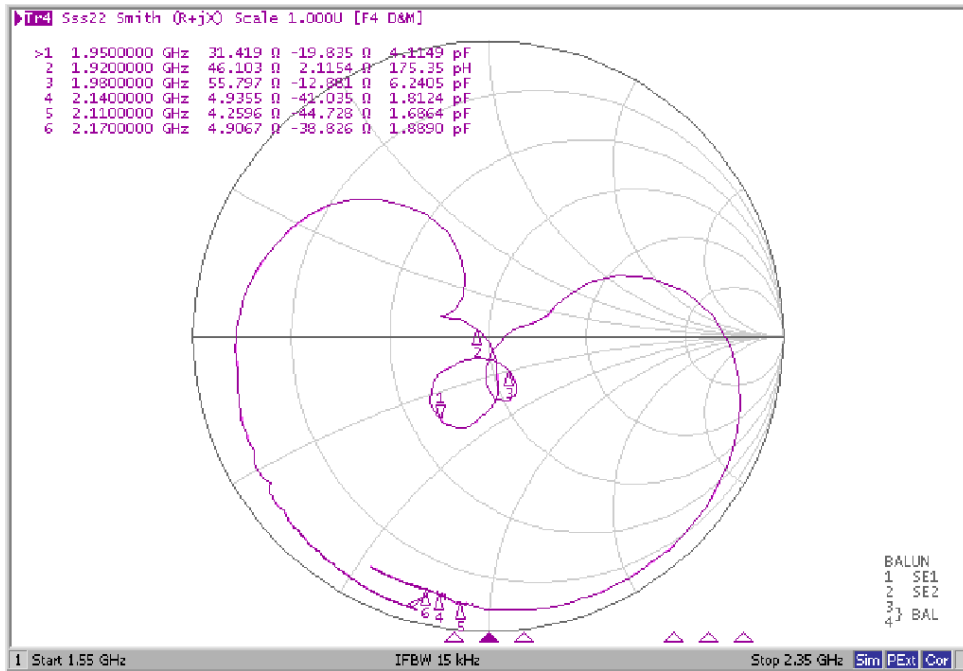
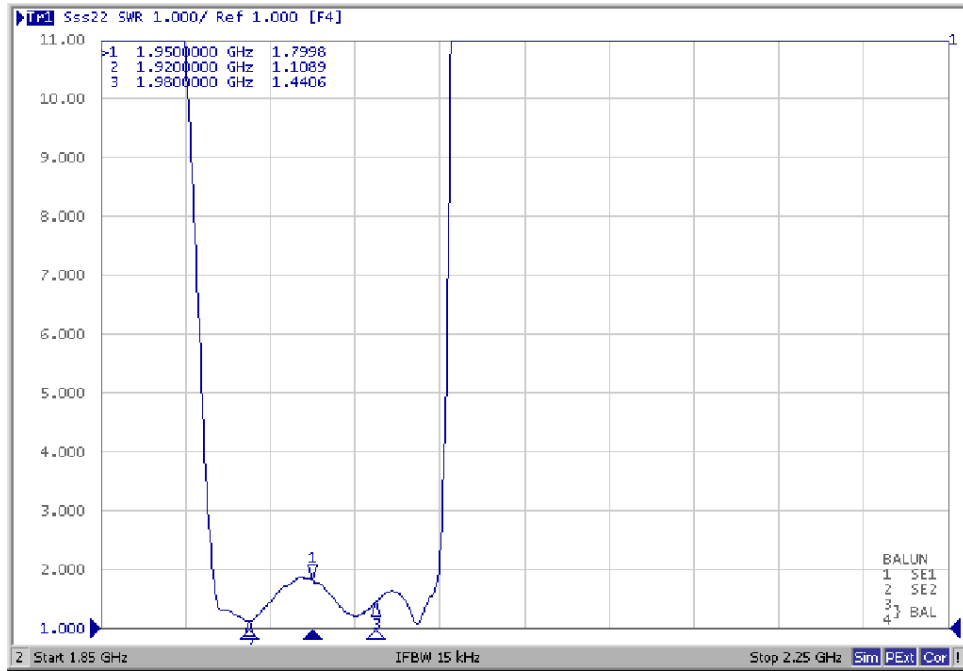
Isolation



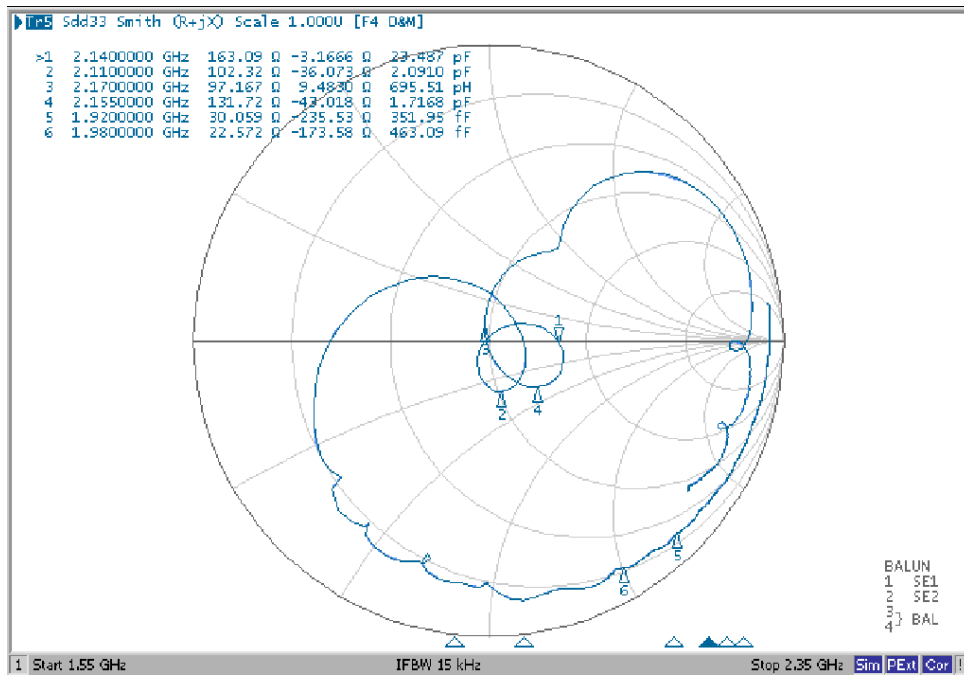
Ripple



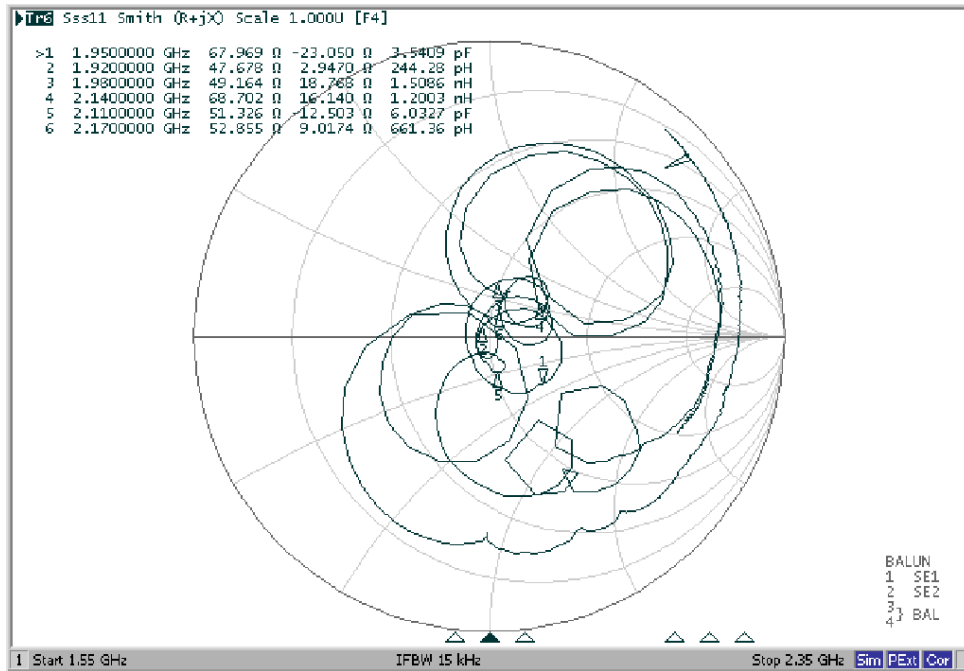
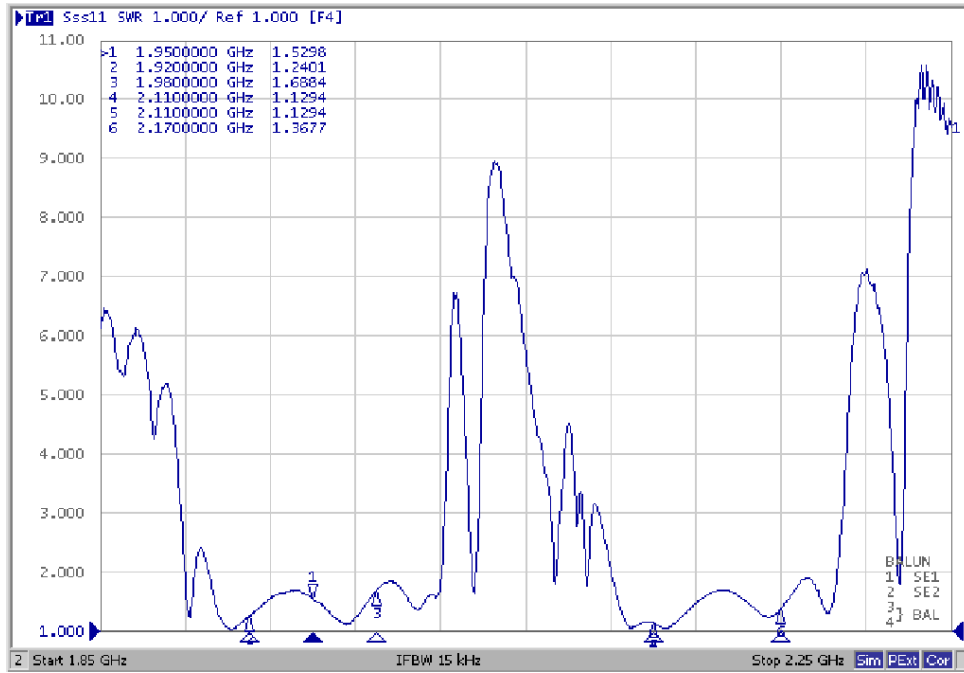
VSWR & Smith chart(Tx Port)



VSWR & Smith chart (Rx Port)

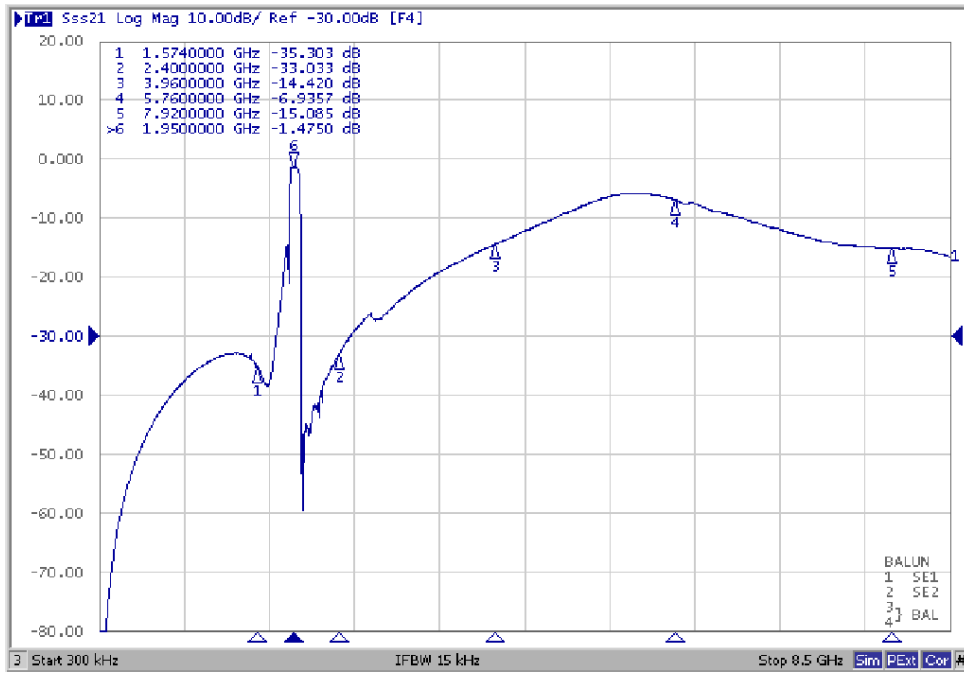


VSWR & Smith chart (ANT Port)

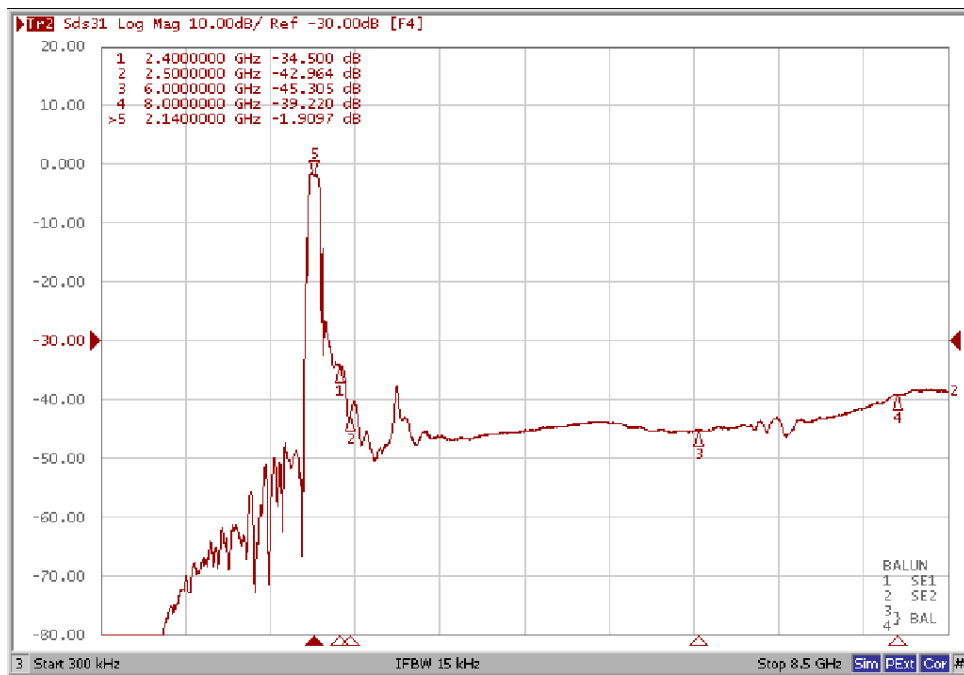


Wide Span

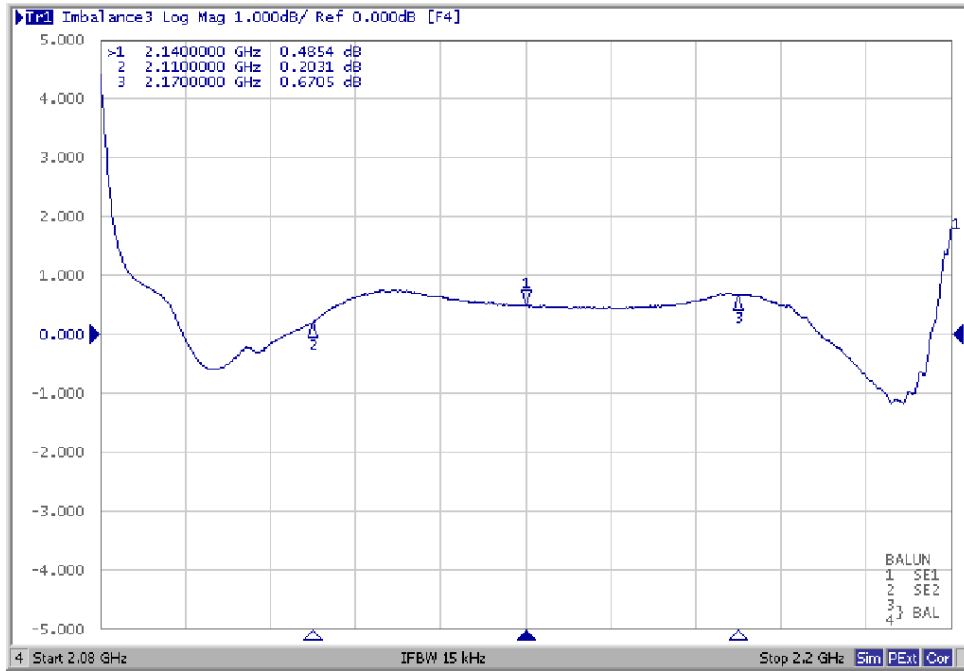
Tx



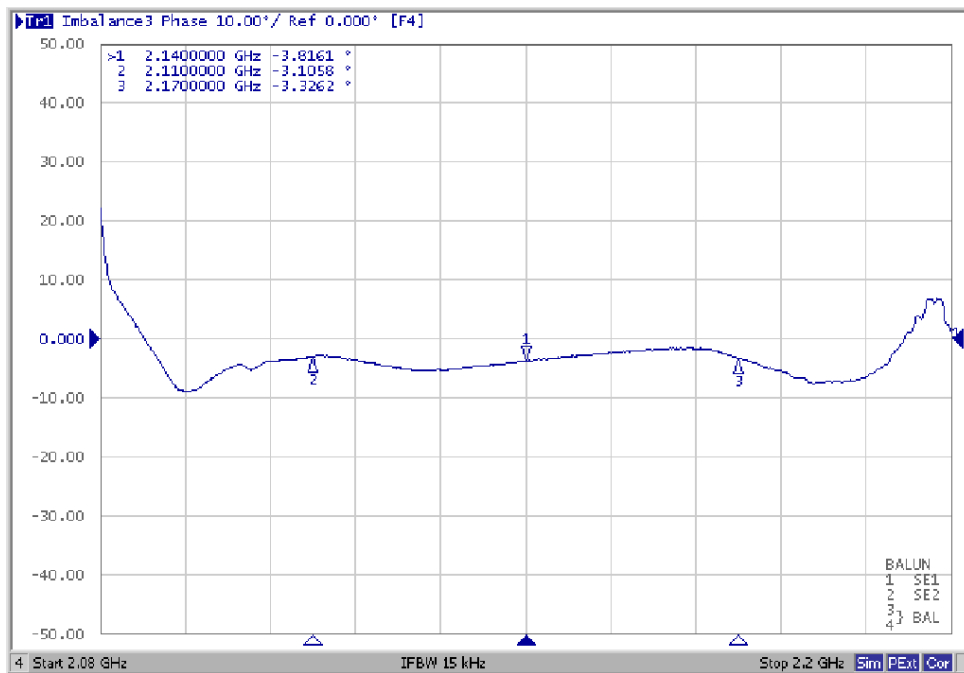
Rx



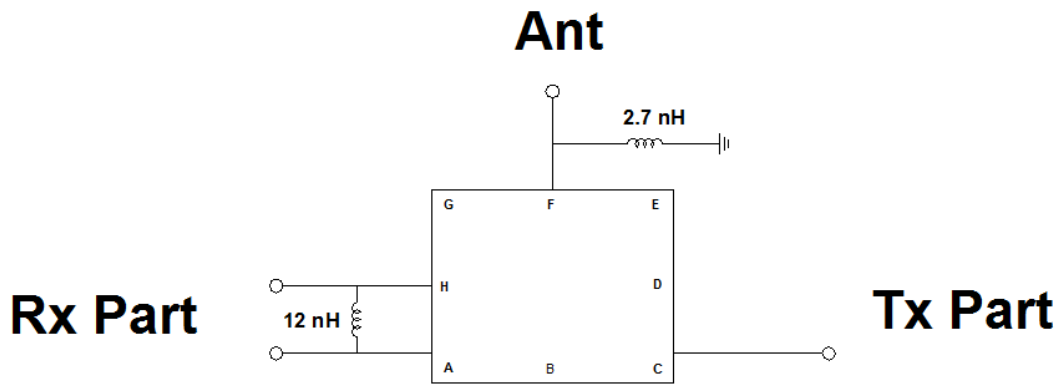
Amplitude balance of Ant to Rx+/Rx-



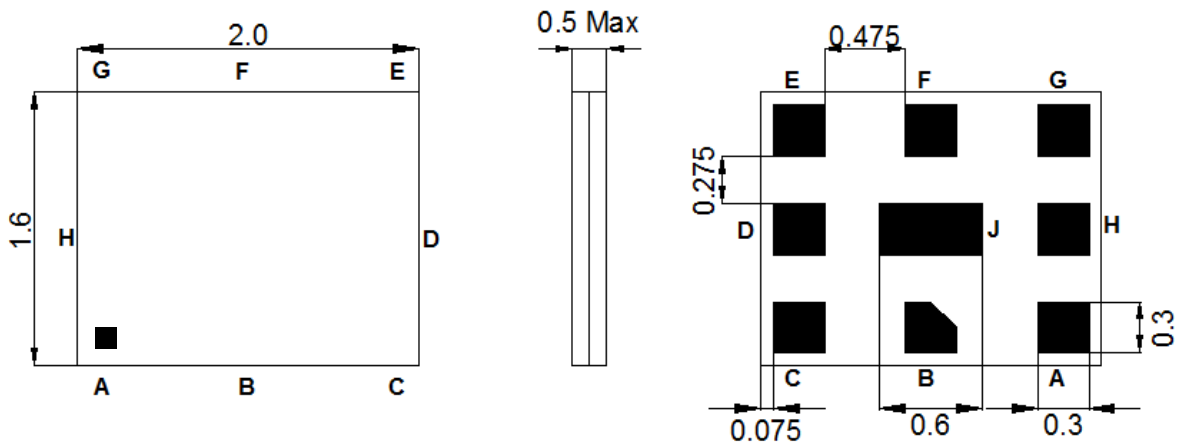
Phase balance of Ant to Rx+/Rx-



D. MEASUREMENT CIRCUIT:

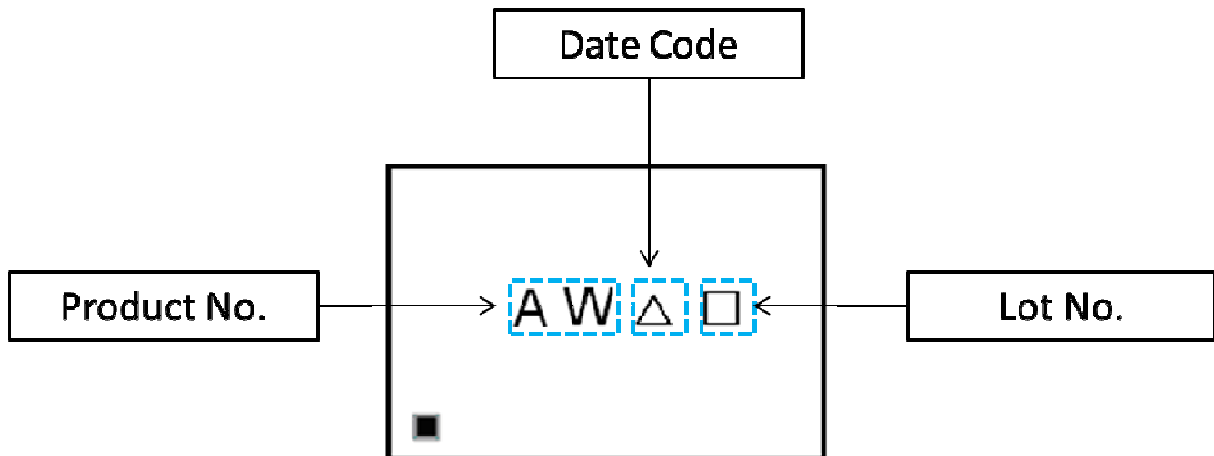


E. OUTLINE DRAWING:

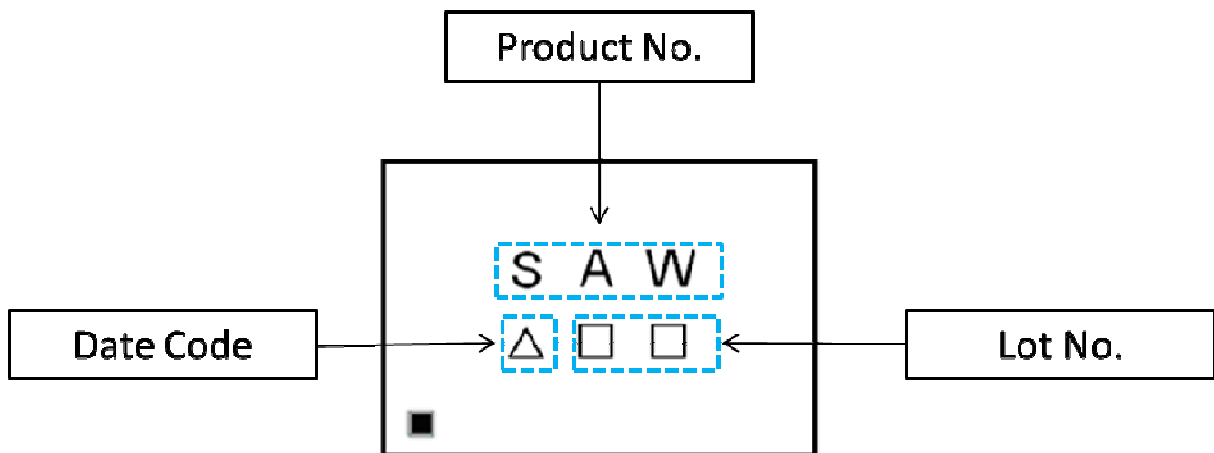


Pin Description	
B,D,E,G,J	Ground
F	Ant
C	Tx (1950.0MHz)
A,H	Rx (2140.0MHz)

Top View (Sample Production):



Top View (Mass Production):



Marking name : **SAW**

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

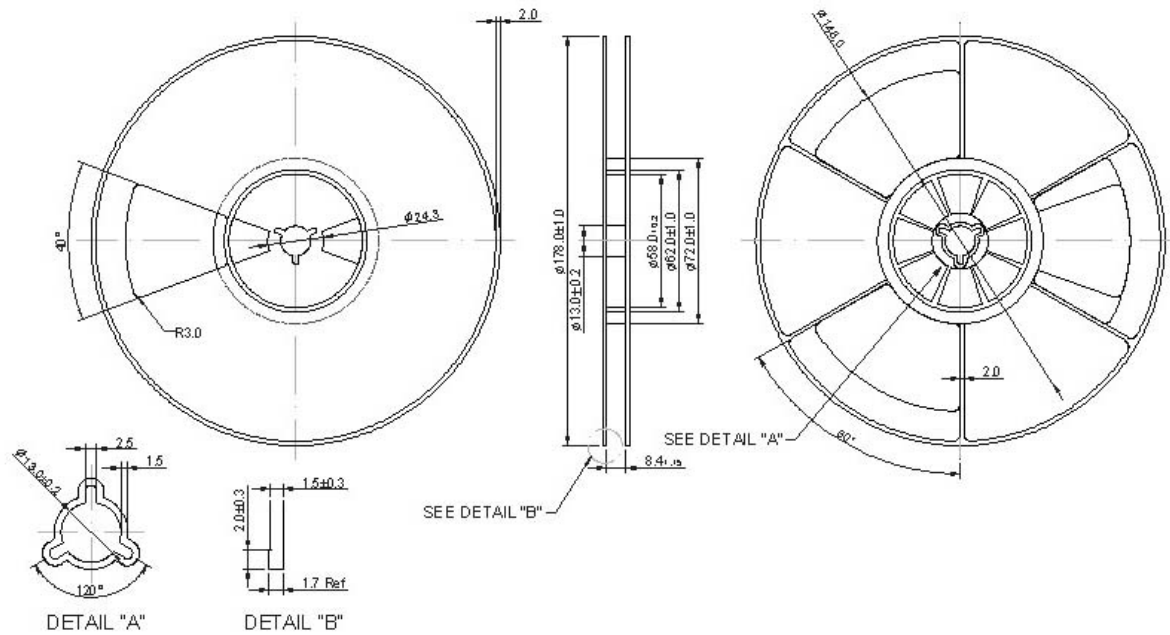
□□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except l, O, i, o and l)

Product Date Code. Follow below table.

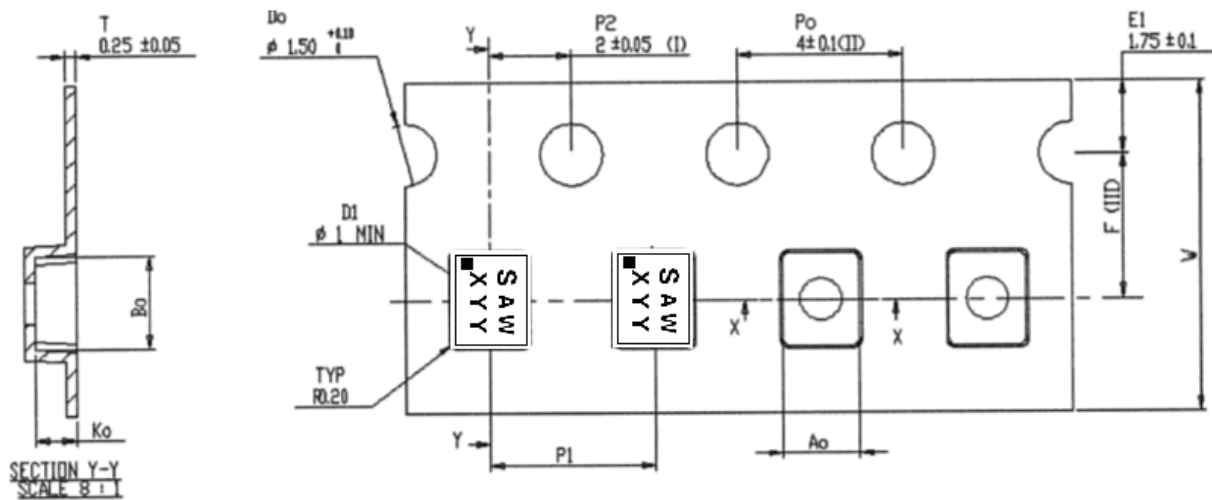
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

E. PACKING:

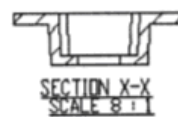
1. REEL DIMENSION



2. TAPE DIMENSION



A_0	1.85	± 0.1
B_0	2.25	± 0.1
K_0	1.00	± 0.1
F	3.50	± 0.05
P_1	4.00	± 0.1
W	8.00	± 0.3



F. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at $150\sim 180^{\circ}\text{C}$ 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 $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ peak (20~40sec).
4. Time: 2 times.

