

SAW DPX 847/806MHz 29.5/29.5MHz BW Single type SMD 1.8X1.4 mm

MODEL NO.: TF0168B

REV. No.: 1.0

A. MAXIMUM RATING:

1. Input power : 29dBm (Ta=+50deg C,50000h,CW)
2. Maximum DC Voltage: +/-5 V
3. Operating temperature range: -40 °C to +85 °C
4. Storage temperature range: -55 °C to +125 °C
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

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

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

Terminating impedance(Ant Port): 50//10nH Ω (Single-ended)

Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	832.25~ 861.75 MHz	dB(*1)	-	1.8	2.5	
Ripple	832~ 862 MHz	dB	-	1.0	1.8	
VSWR	ANT	-	-	1.6	2.0	
	Tx	-	-	1.7	2.0	
Attenuation:						
791.25 ~ 820.75 MHz		dB	45	54	-	-
1565 ~ 1606 MHz		dB	45	57	-	-
1664 ~ 1724 MHz		dB	40	55	-	-
2400 ~ 2586 MHz		dB	35	44	-	-

ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	791.25 ~ 820.75 MHz	dB(*1)	-	1.8	3.0	
Ripple)	791~ 821 MHz	dB	-	0.9	2.3	
VSWR	ANT	-	-	1.7	2.3	
	Rx	-	-	1.8	2.2	
Attenuation:						
832.25 ~ 861.75 MHz		dB	45	53	-	-
1623 ~ 1683 MHz		dB	35	47	-	-
2400 ~ 2545 MHz		dB	30	43		

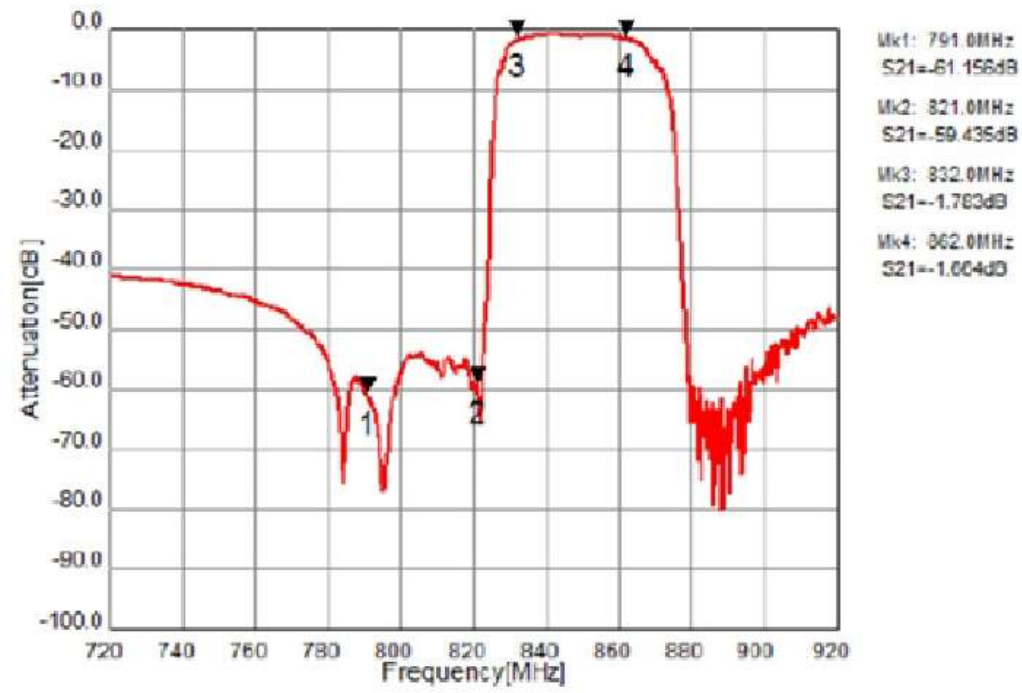
Tx to Rx

Isolation	832.25 ~ 861.75 MHz	dB	50	55	-	
	791.25 ~ 820.75 MHz	dB	53	56	-	

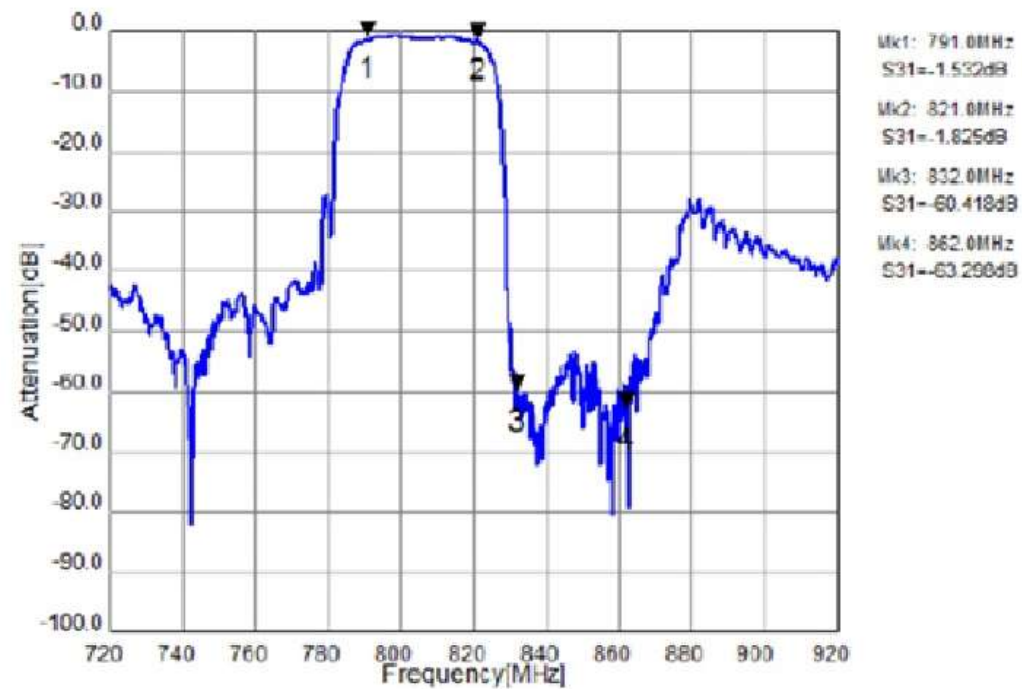
(*1) Specification of insertion loss excludes loss that comes from the test board.

C. Frequency Characteristics:

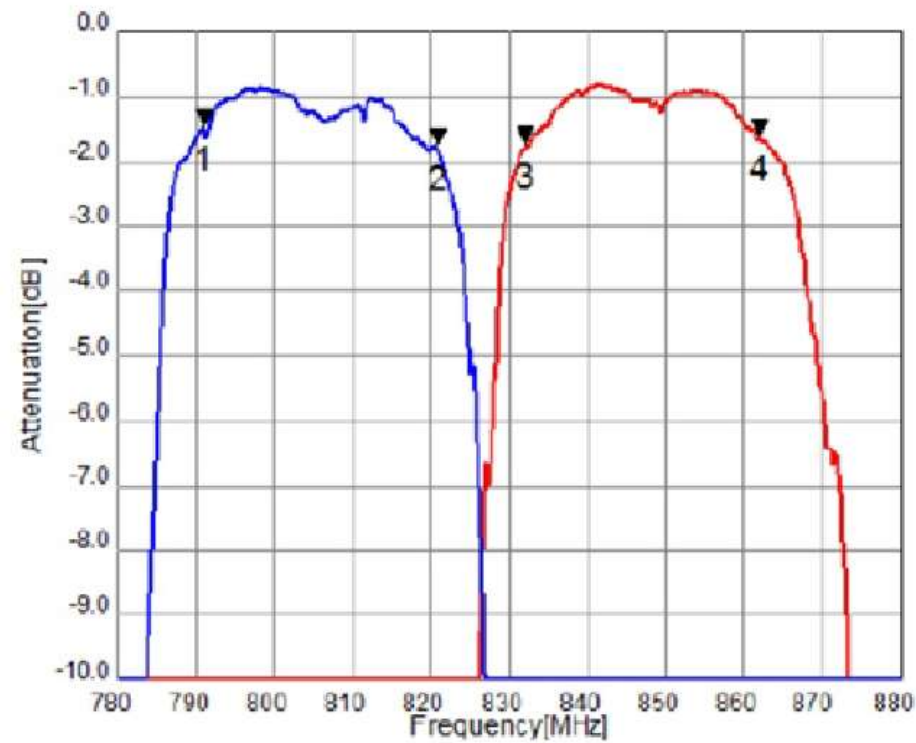
Tx to Ant



Ant to Rx



Ant to Rx, Tx to Ant



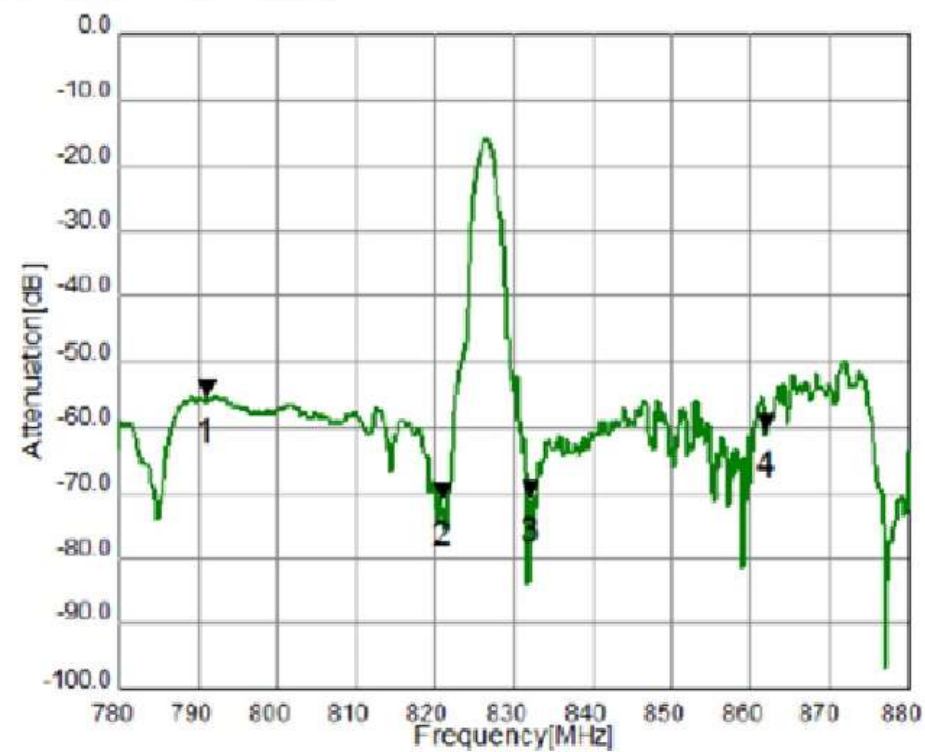
Mk1: 791.0MHz
S21=-61.156dB
S31=-1.532dB

Mk2: 821.0MHz
S21=-59.435dB
S31=-1.825dB

Mk3: 832.0MHz
S21=-1.783dB
S31=-60.418dB

Mk4: 862.0MHz
S21=-1.664dB
S31=-63.290dB

Tx to Rx Isolation



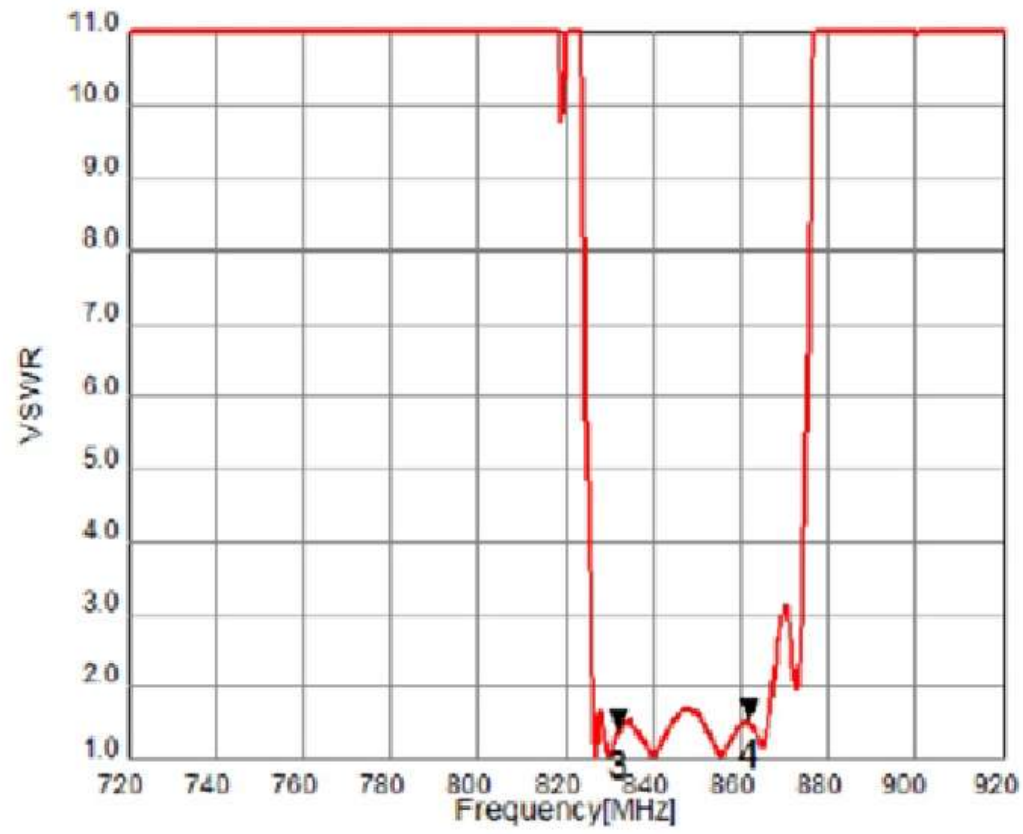
Mk1: 791.0MHz
S32=-56.082dB

Mk2: 821.0MHz
S32=-71.971dB

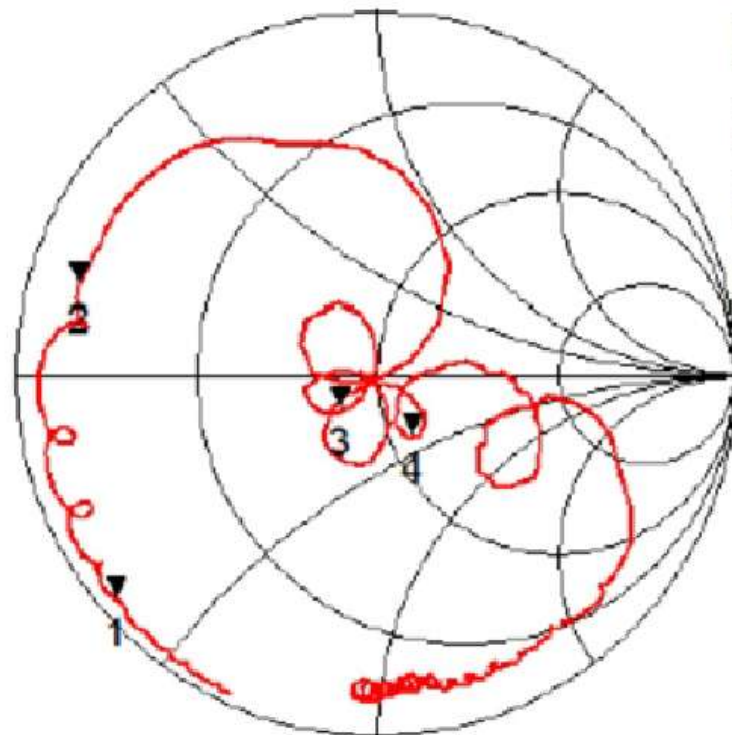
Mk3: 832.0MHz
S32=-71.359dB

Mk4: 862.0MHz
S32=-61.152dB

Tx Port

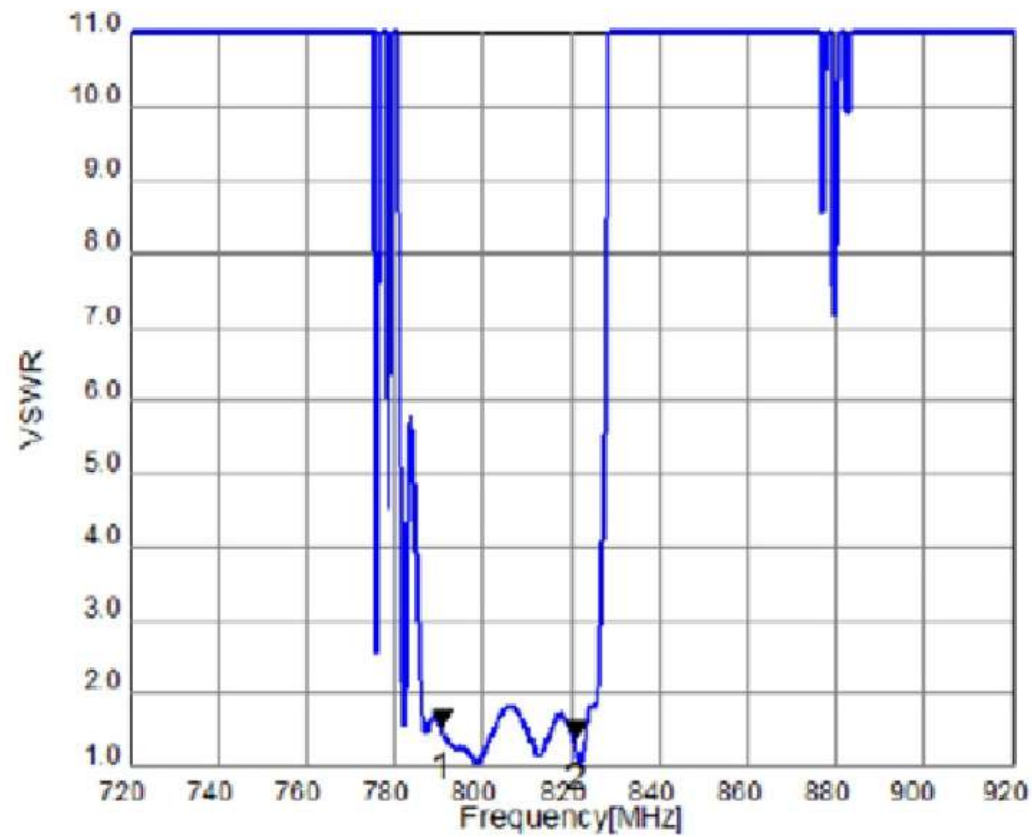


Mk1: 791.0MHz
VSWR2=42.548
Mk2: 821.0MHz
VSWR2=13.596
Mk3: 832.0MHz
VSWR2= 1.337
Mk4: 862.0MHz
VSWR2= 1.400

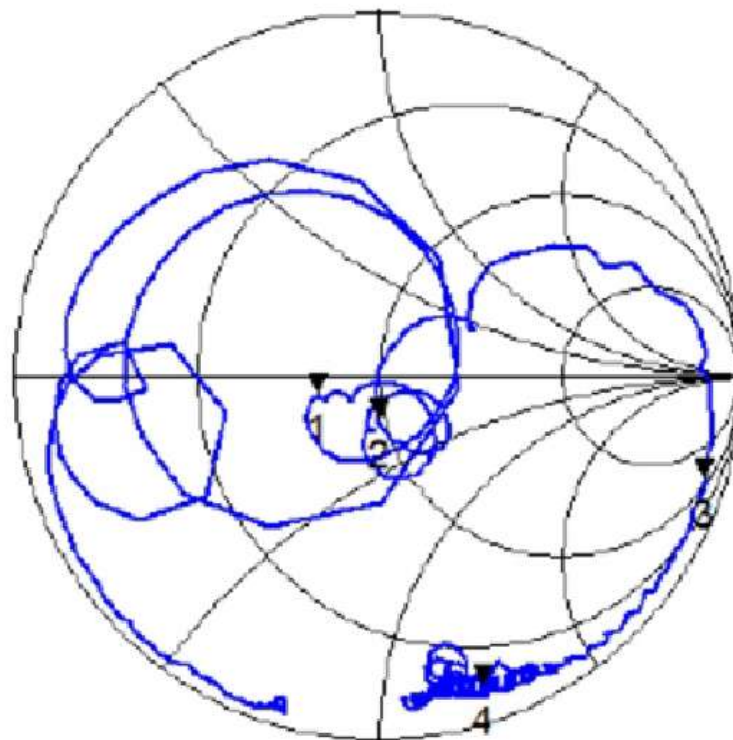


Mk1: 791.0
S22= 0.027 -j0.371
Mk2: 821.0
S22= 0.075 +j0.144
Mk3: 832.0
S22= 0.795 -j0.159
Mk4: 862.0
S22= 1.148 -j0.411

Rx Port

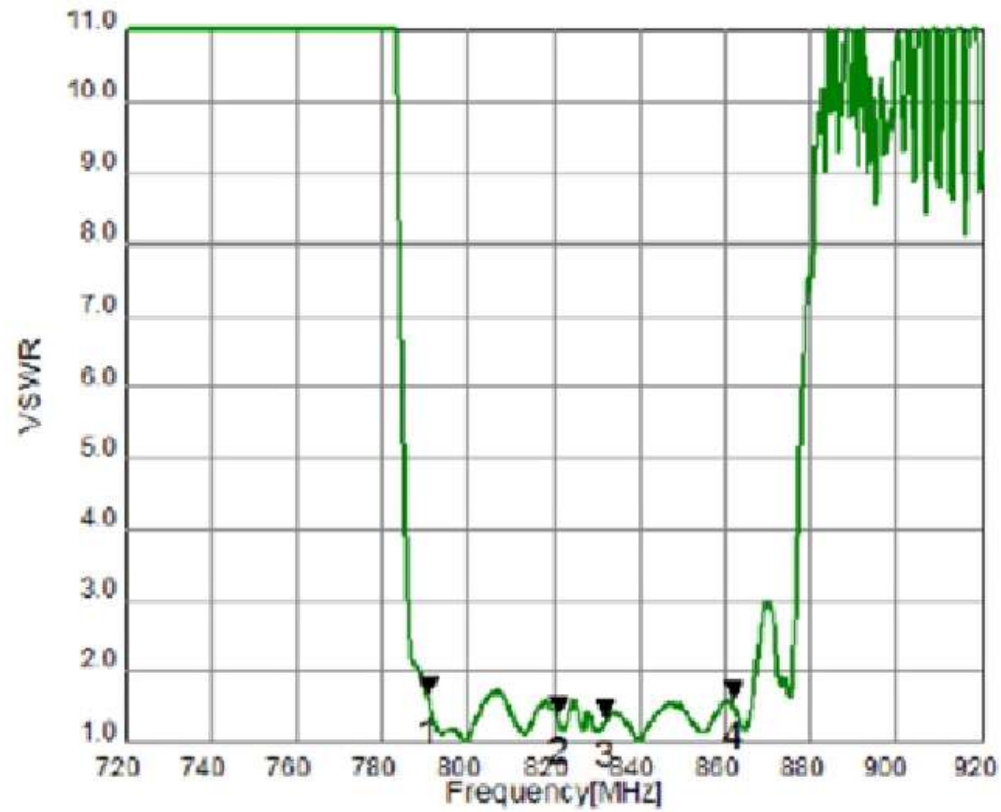


Mk1: 791.0MHz
VSWR3= 1.434
Mk2: 821.0MHz
VSWR3= 1.291
Mk3: 832.0MHz
VSWR3=33.569
Mk4: 862.0MHz
VSWR3=20.314

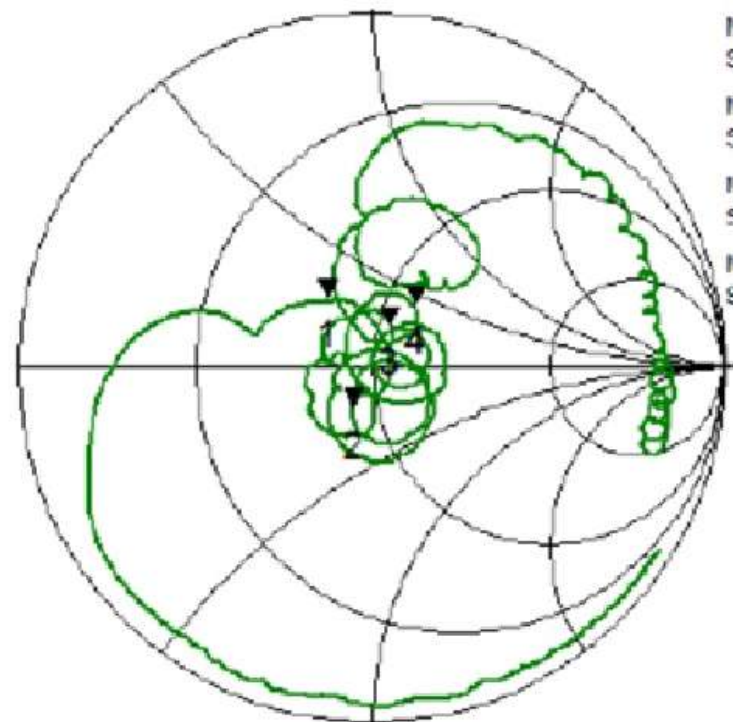


Mk1: 791.0
S33= 0.706 - j0.079
Mk2: 821.0
S33= 0.979 - j0.252
Mk3: 832.0
S33= 1.164 - j6.063
Mk4: 862.0
S33= 0.144 - j1.379

Ant Port

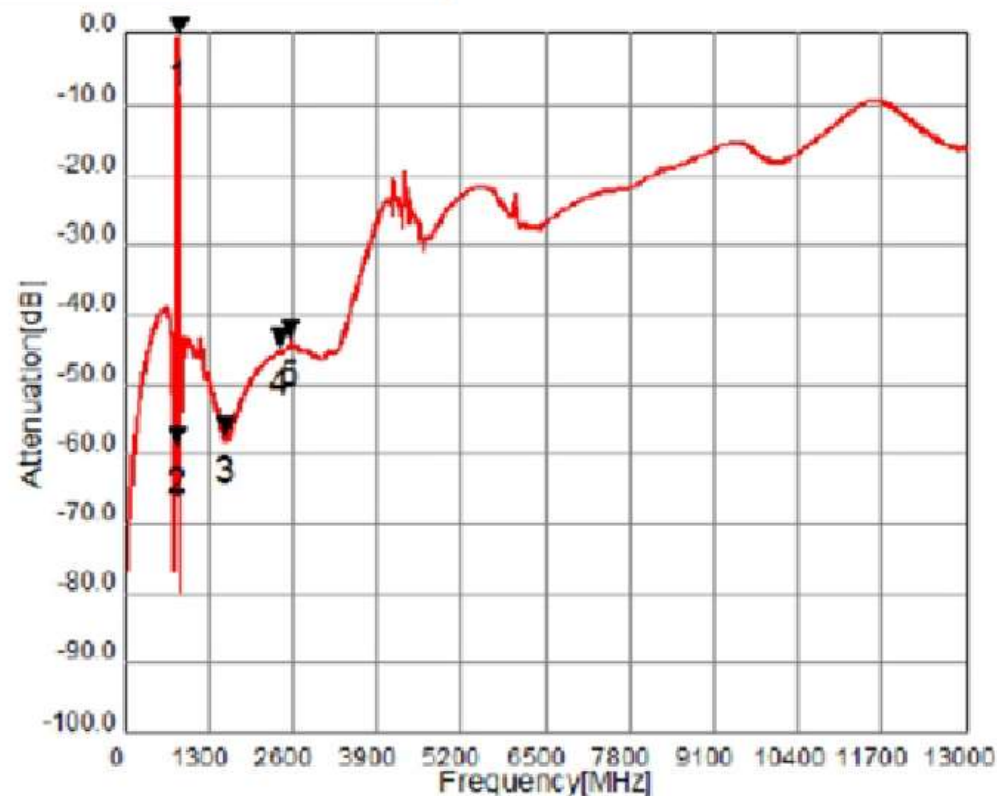


Mk1: 791.0MHz
VSWR1= 1.579
Mk2: 821.0MHz
VSWR1= 1.322
Mk3: 832.0MHz
VSWR1= 1.265
Mk4: 862.0MHz
VSWR1= 1.510



Mk1: 791.0
S11= 0.726 + j0.282
Mk2: 821.0
S11= 0.667 - j0.224
Mk3: 832.0
S11= 1.083 + j0.230
Mk4: 862.0
S11= 1.209 + j0.413

Tx to Ant (Wide span)



Mk1: 847.0MHz
M1 S21--1.076dB

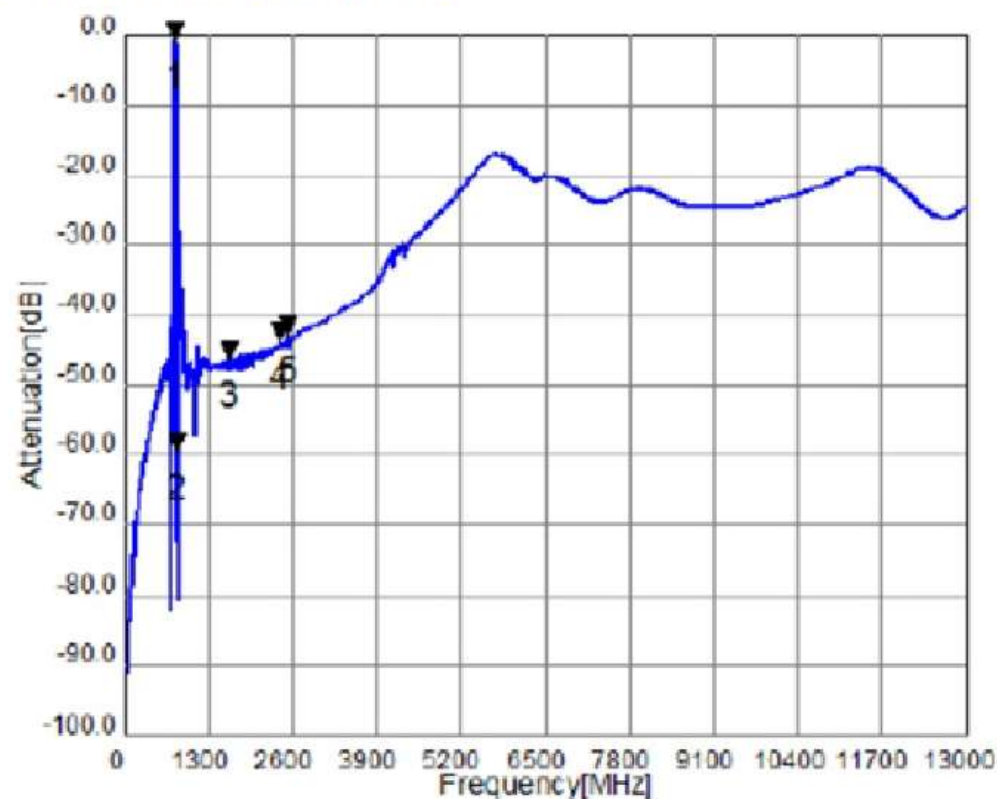
Mk2: 821.0MHz
M1 S21--58.435dB

Mk3: 1575.0MHz
M1 S21--57.995dB

Mk4: 2400.0MHz
M1 S21--45.450dB

Mk5: 2506.0MHz
M1 S21--44.230dB

Ant to Rx (Wide span)



Mk1: 805.0MHz
M1 S31--1.349dB

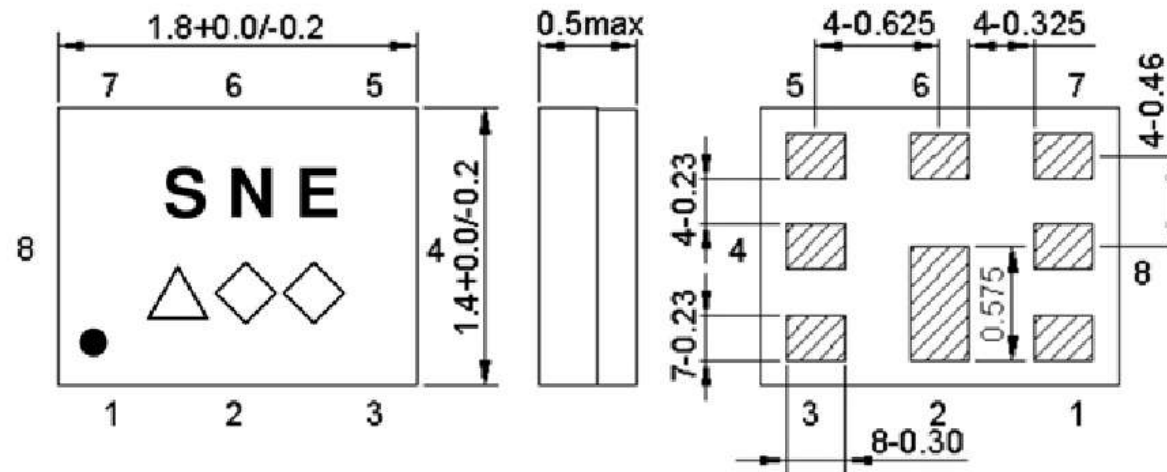
Mk2: 832.0MHz
M1 S31--60.410dB

Mk3: 1623.0MHz
M1 S31--47.054dB

Mk4: 2400.0MHz
M1 S31--44.588dB

Mk5: 2545.0MHz
M1 S31--43.394dB

E. OUTLINE DRAWING: (Mass Production)



Marking name : **SNE**

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

◇◇: Lot Code.

Product Date Code. Follow below table.

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Not Specified Tolerance : ± 0.05 mm

Coplanarity : 0.1 mm max.

1 to 8 : Pin No.

Unit : mm

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
2020	n	p	q	r	s	t	u	v	w	x	y	z
2021	A	B	C	D	E	F	G	H	J	K	L	M

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

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.

