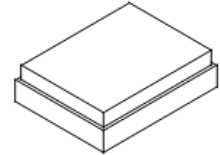


MAXIMUM RATING:

- Input power : 29dBm (Ta=+50deg C,50000h,CW)
min 15dBm (CW @ 100000h and 85°C).
- Maximum DC Voltage: +/-3 V
- Operating temperature range: -10 °C to +85 °C
- Storage temperature range: -10 °C to +85 °C
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 50V(MM) 150V(HBM)
- AEC-Q200 Qualified

**1882.5/1962.5 MHz
Filter Duplexer**



SM1814

ELECTRICAL CHARACTERISTICS:

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

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

Terminating impedance(Ant Port): 50//3.9nH Ω (Single-ended)

Tx to ANT

Parameters		Description	Unit	Minimum	Typical	Maximum	Note
Insertion Loss		1850~ 1915 MHz	dB(*1)	-	2.4	3.8	-10°C~+85°C
		1850~ 1915 MHz			2.4	4.2	
		1850.48~ 1909.52 MHz	dB(*2)		1.9	2.7	-10°C~+85°C
		1850.48~ 1909.52 MHz			1.9	3.2	
		1850.625~1909.375 MHz	dB(*3)		2.0	3.0	-10°C~+85°C
		1850.625~1909.375 MHz			2.0	3.4	
Ripple(any 5MHz)		1850 ~ 1915 MHz	dB	-	0.5	2.4	-10°C~+85°C
					0.5	2.8	
VSWR	ANT	1850 ~ 1915 MHz	-	-	1.6	2.1	-10°C~+85°C
					1.6	2.5	
	Tx				1.6	2.2	-10°C~+85°C
					-	1.6	
Attenuation:							
1559 ~1563 MHz			dB	31	34	-	-
1565.4 ~ 1573.4 MHz			dB	31	34	-	-
1573.4 ~ 1577.5 MHz			dB	31	34	-	-
1577.5 ~ 1585.4 MHz			dB	31	34	-	-
1597.6 ~ 1605.9 MHz			dB	31	34	-	-10°C~+85°C
1597.6 ~ 1605.9 MHz			dB	26	34		

1930 ~ 1995 MHz	dB	35	50	-	-10~25°C
1930 ~ 1995 MHz	dB	45	50	-	+25~85°C
2400 ~ 2500 MHz	dB	22	36		
3700 ~ 3830 MHz	dB	28	38		
5550 ~ 5745 MHz	dB	20	30		

ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note	
Insertion Loss	1930.48 ~1994.52 MHz	dB(*1)	-	2.7	3.8	-10~25°C	
					3.6	+25~85°C	
Ripple(any 5MHz)	1930.48 ~1994.52 MHz	dB	-	0.8	2.5	-10°C~+85°C	
Ripple(any 5MHz)	1930.48 ~1994.52 MHz	dB		0.8	2.8		
VSWR	ANT	1930.48 ~ 1994.52 MHz	-	-	1.7	2.2	-10°C~+85°C
					1.7	2.6	
					1.8	2.3	-10°C~+85°C
					-	-	1.8
Attenuation:							
1850 ~ 1915 MHz		dB	40	57	-	-	
2400 ~ 2500 MHz		dB	40	49	-	-	
3860 ~ 3990 MHz		dB	40	63			
5790 ~ 5985 MHz		dB	40	65			

Tx to Rx

Isolation	1850.25 ~ 1914.75 MHz	dB	53	57	-	-10~60°C-
		dB	50	57	-	+60~85°C
	1930.25 ~ 1994.75 MHz	dB	45	52	-	(*3) -10~25°C
		dB	48	52		(*3)+25~85°C

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

(*2) The integrated isolation over channel band width (+/- 1.92MHz)

(*3) The integrated isolation over channel band width (+/- 0.625MHz)



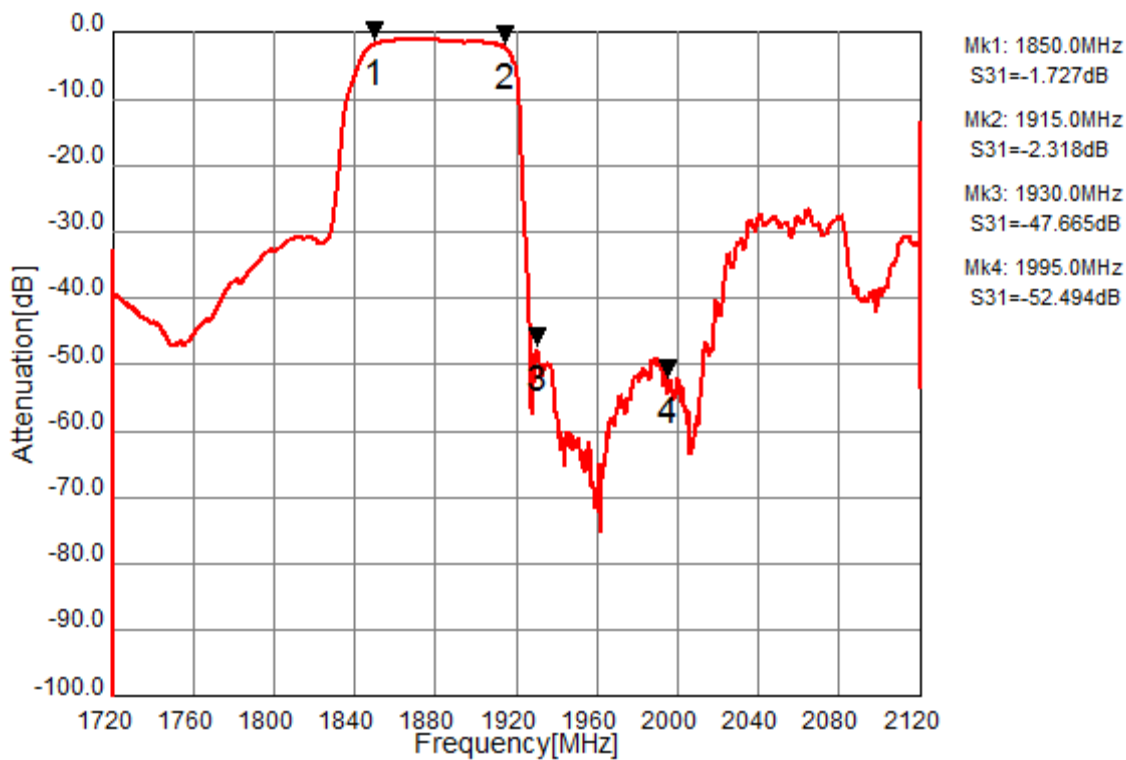
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

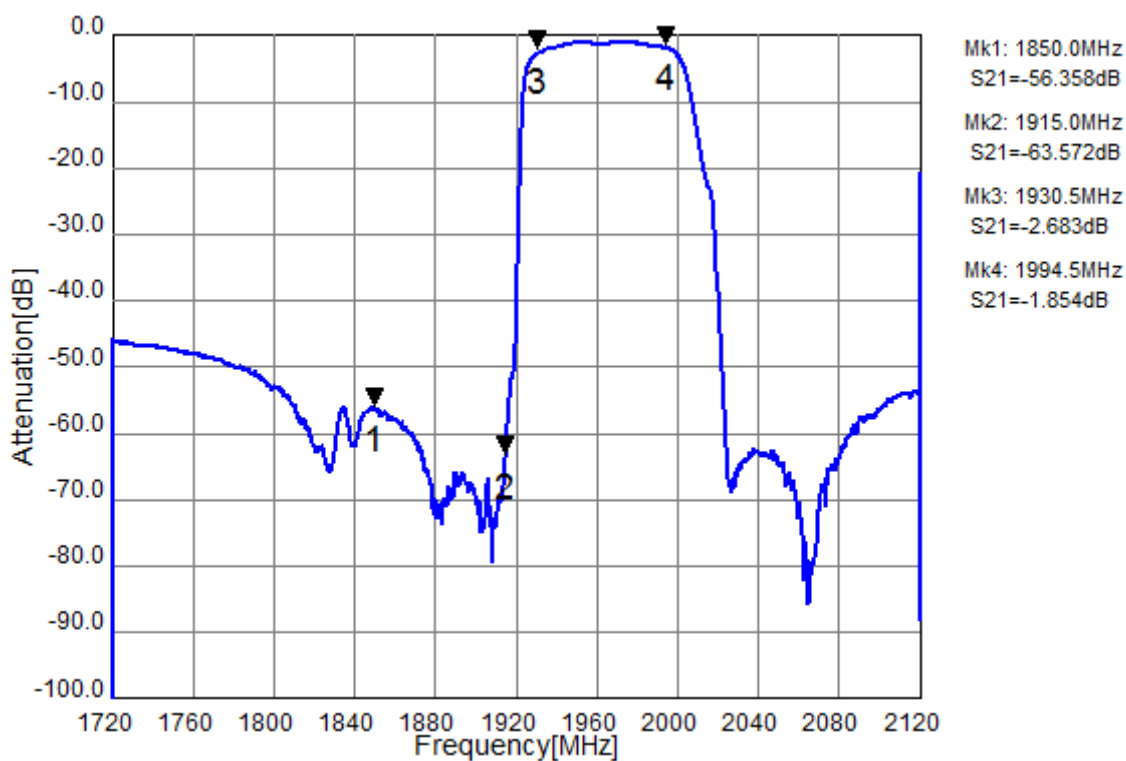
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Frequency Characteristics:

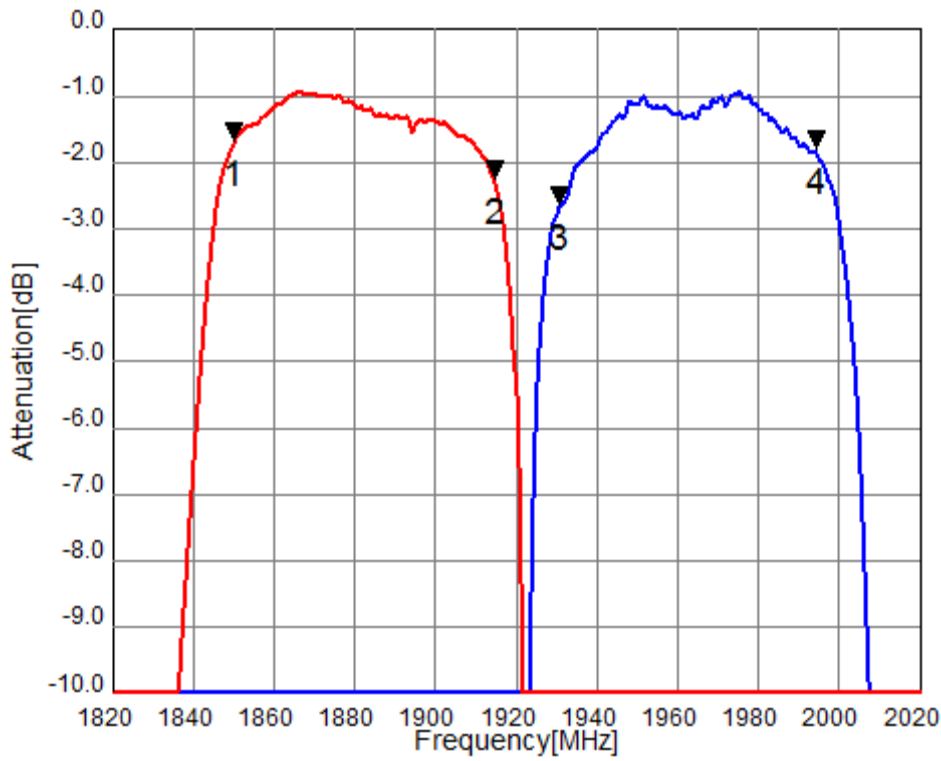
Tx to Ant



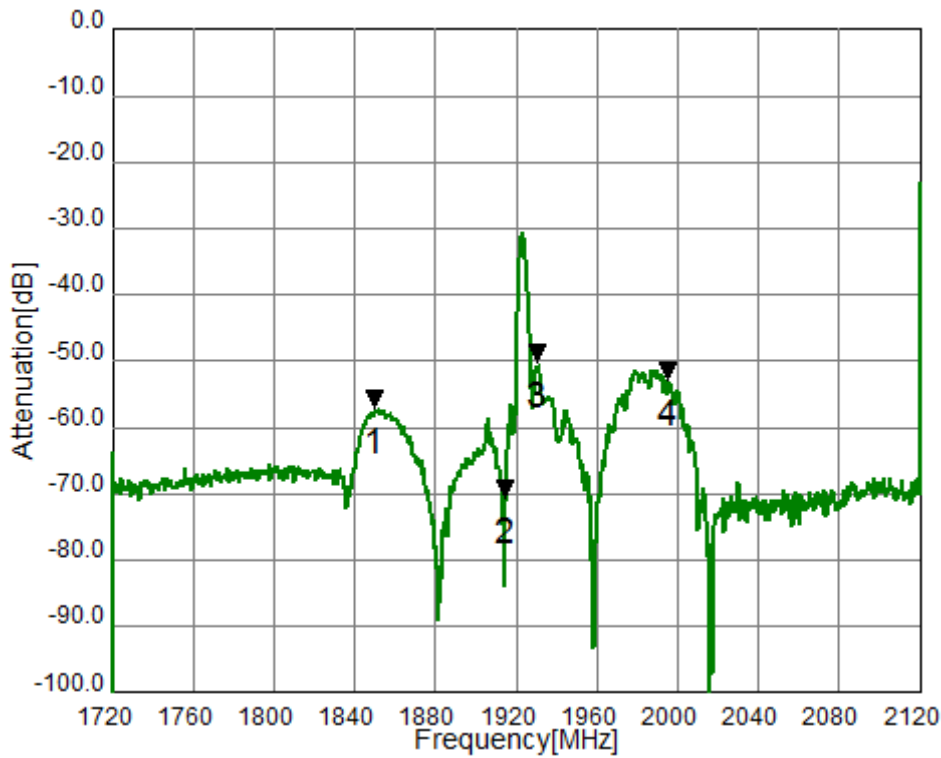
Ant to Rx



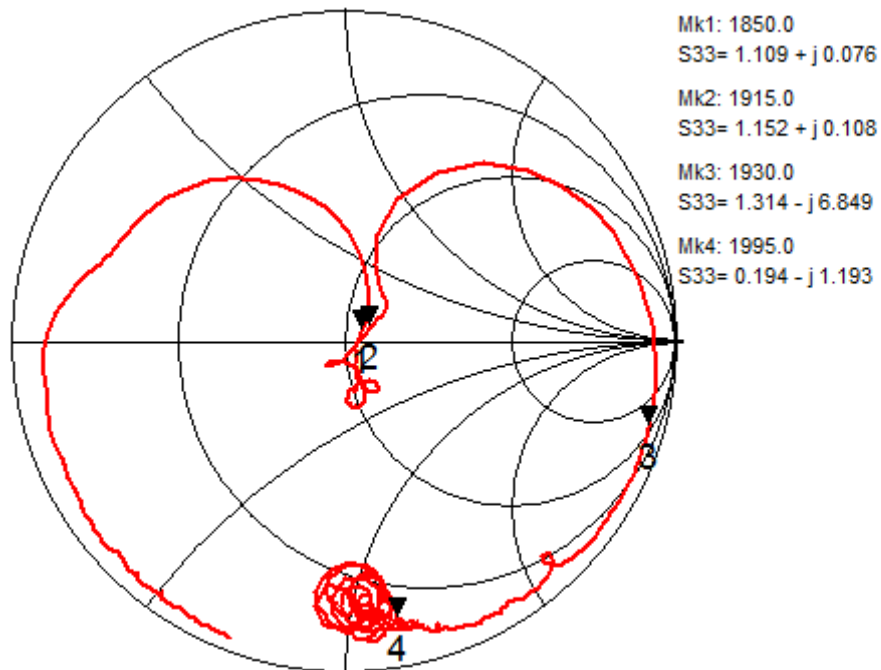
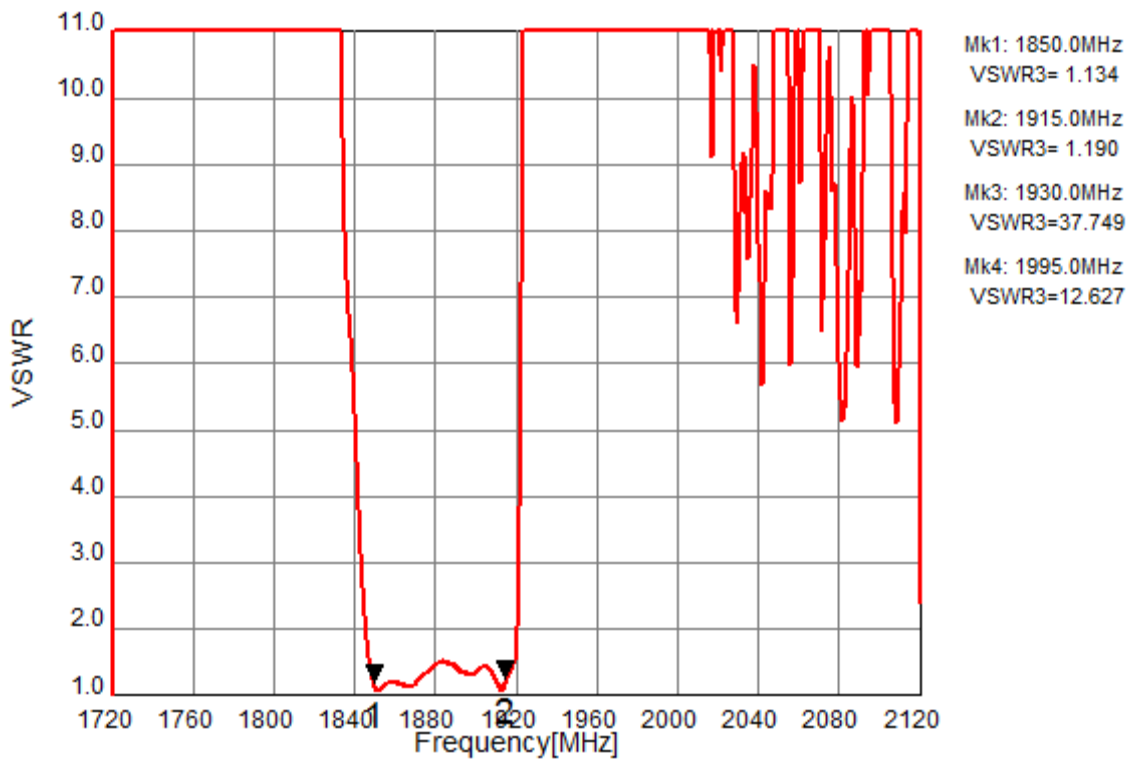
Tx to Ant, Ant to Rx



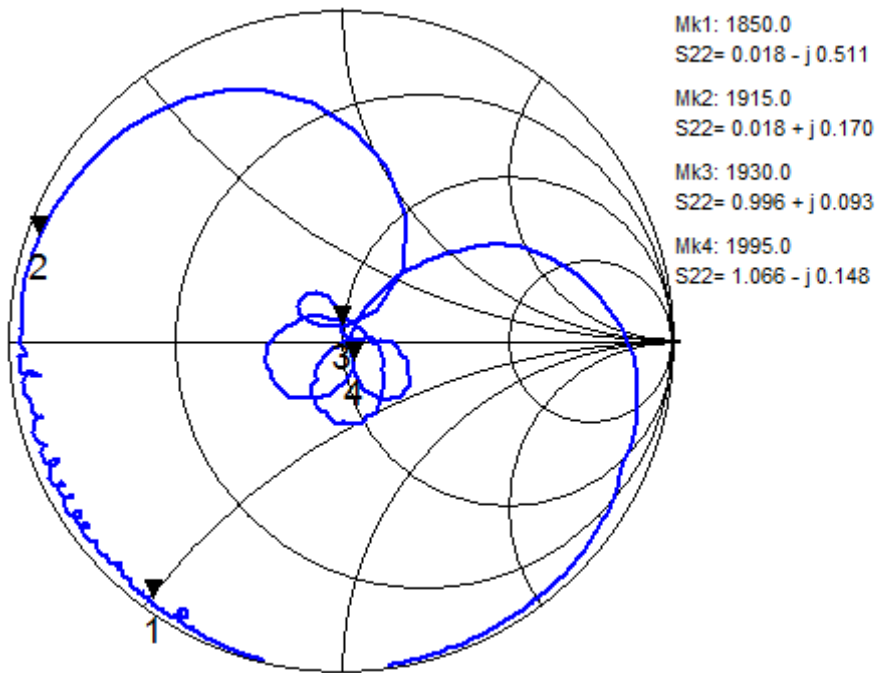
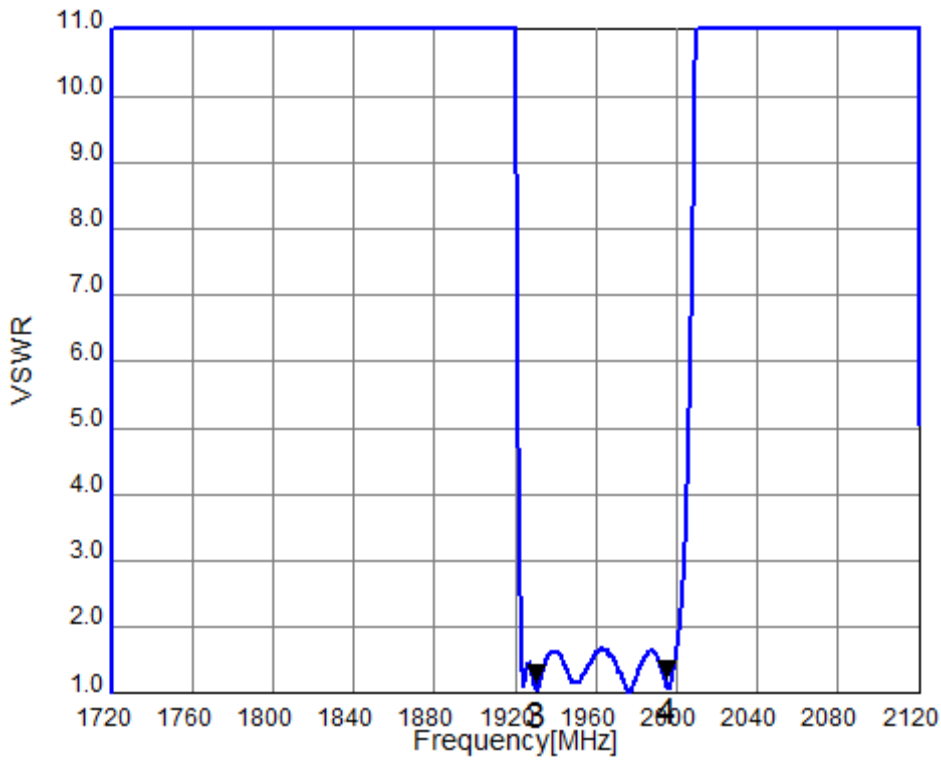
Tx to Rx Isolation



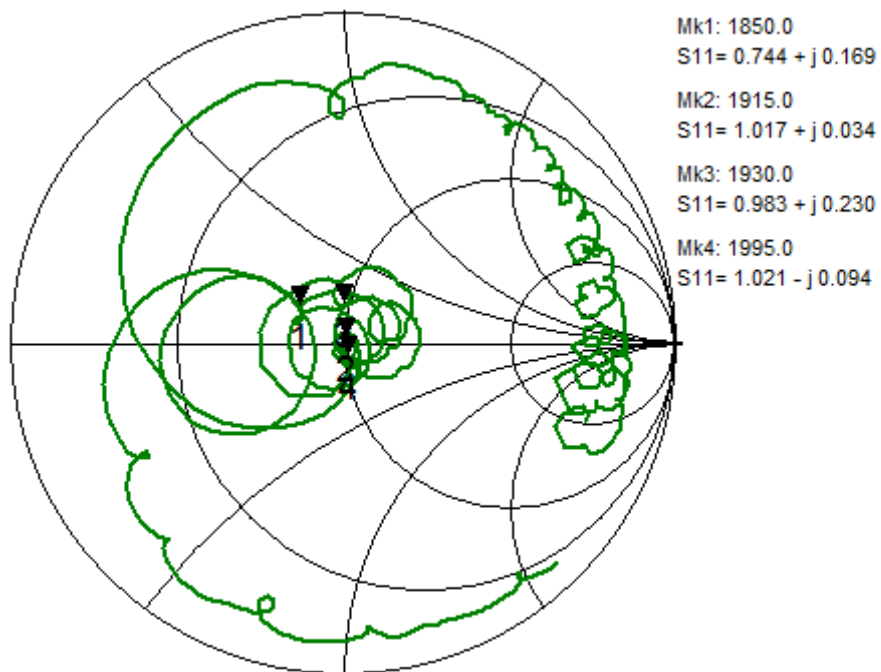
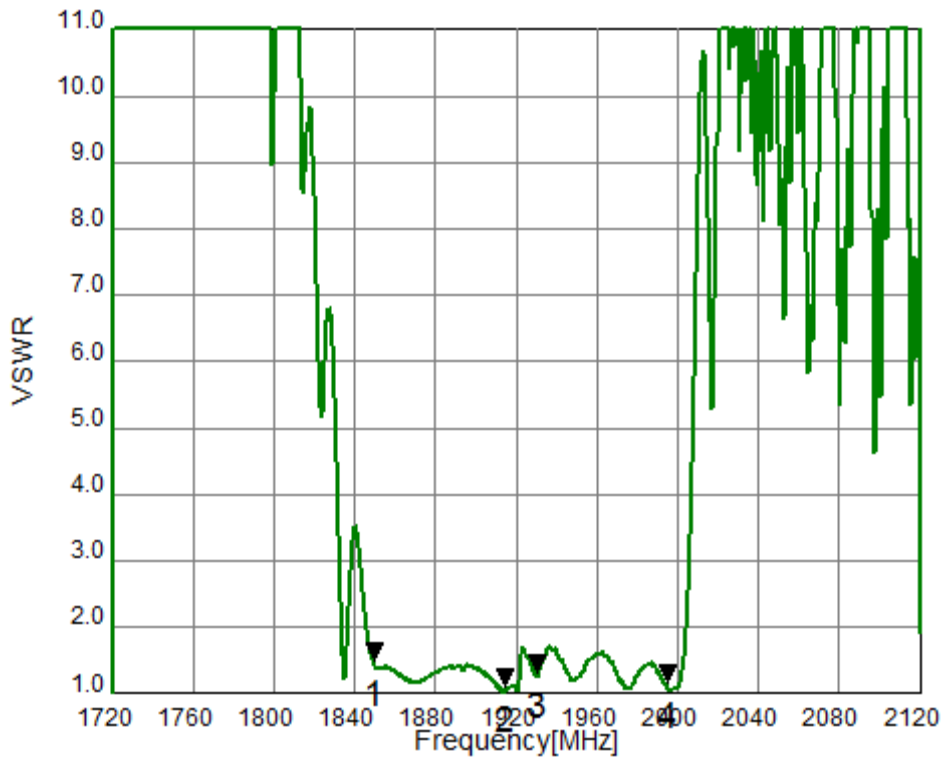
Tx Port



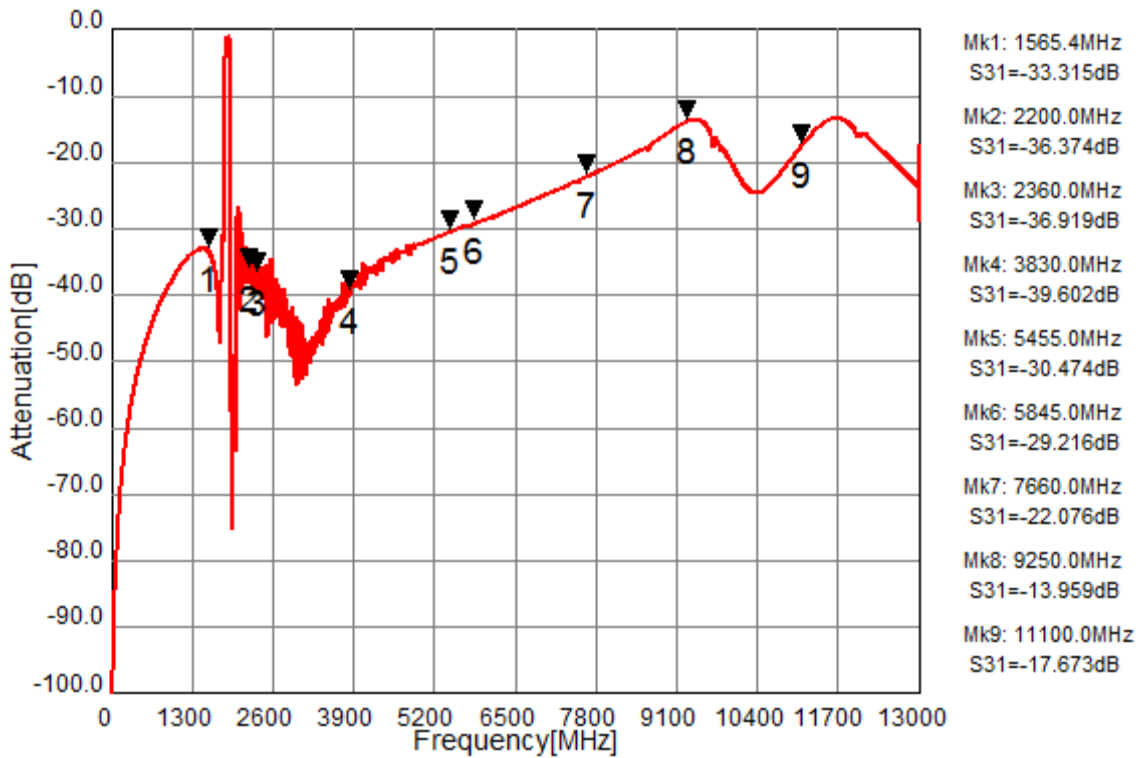
Rx Port



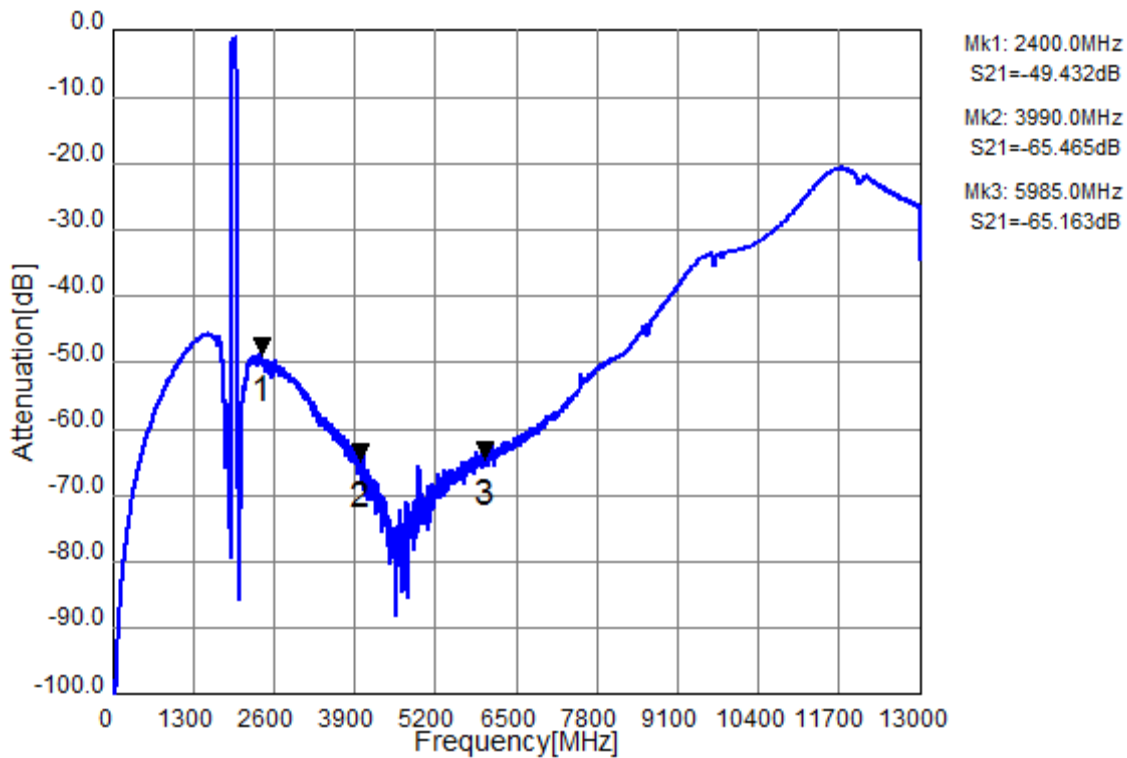
Ant Port



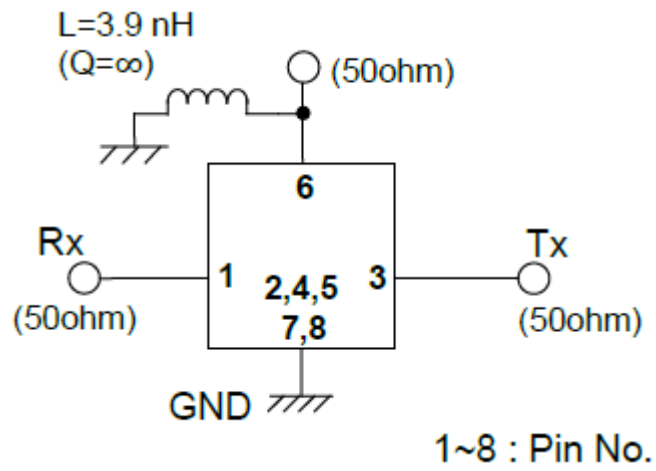
Tx to Ant (Wide span)



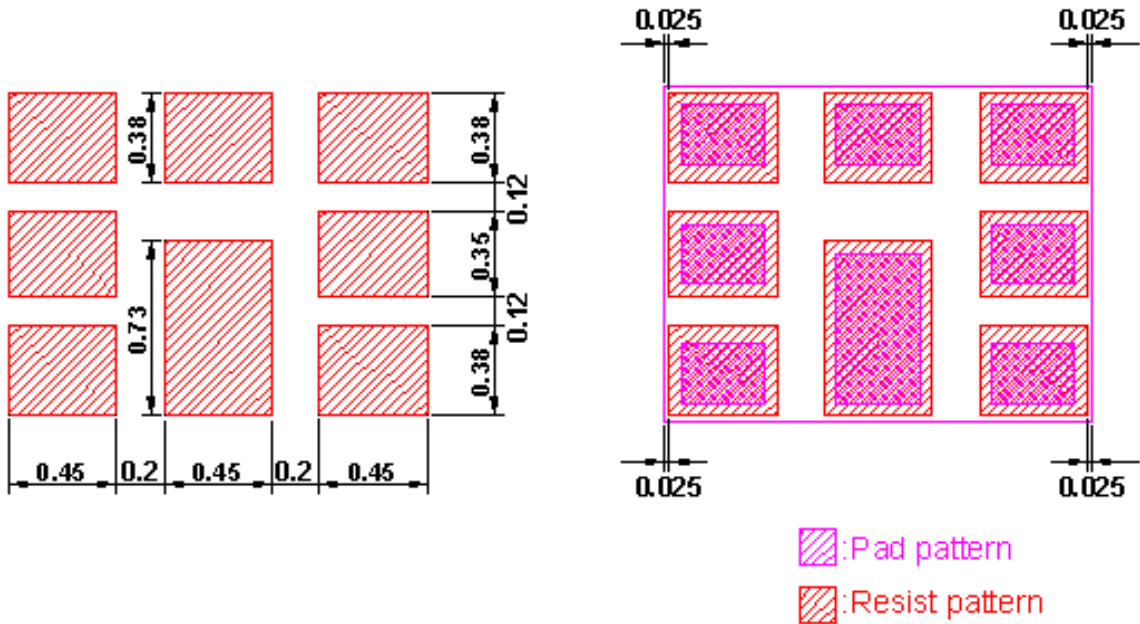
Ant to Rx (Wide span)



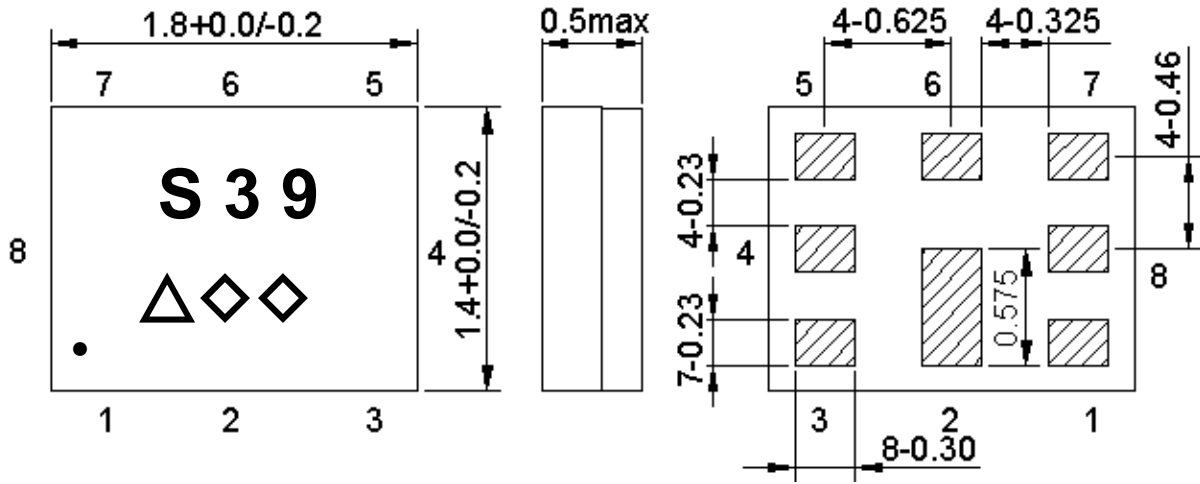
MEASUREMENT CIRCUIT:



PCB Footprint:



OUTLINE DRAWING: (Mass Production)



Marking name : 39

△: Date code(2016 May → s ,....., 2020 Dec→m.)

◇◇: Lot Code.

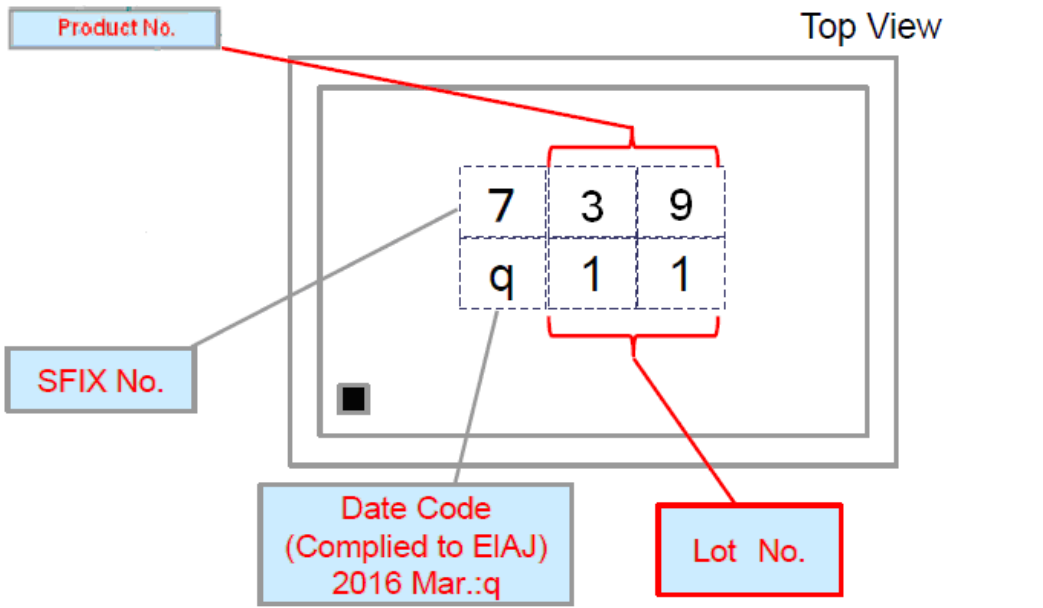
Product Date Code. Follow below table.

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
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
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z

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

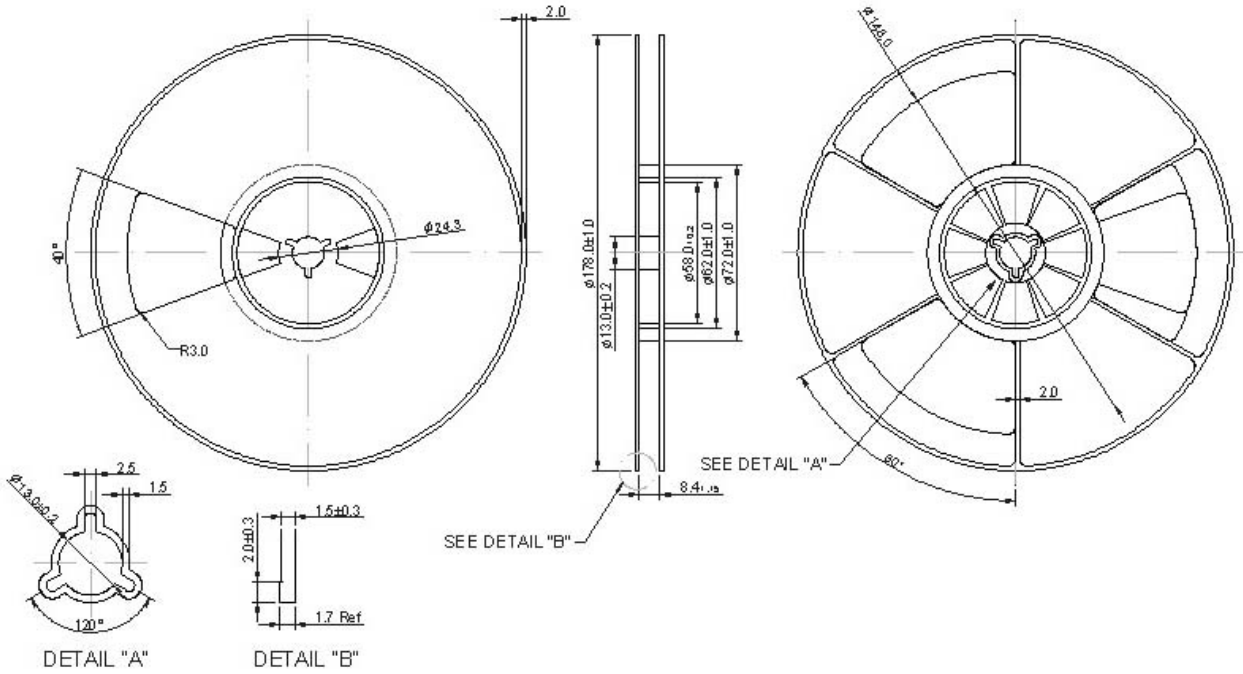
Top View (Sample Production):



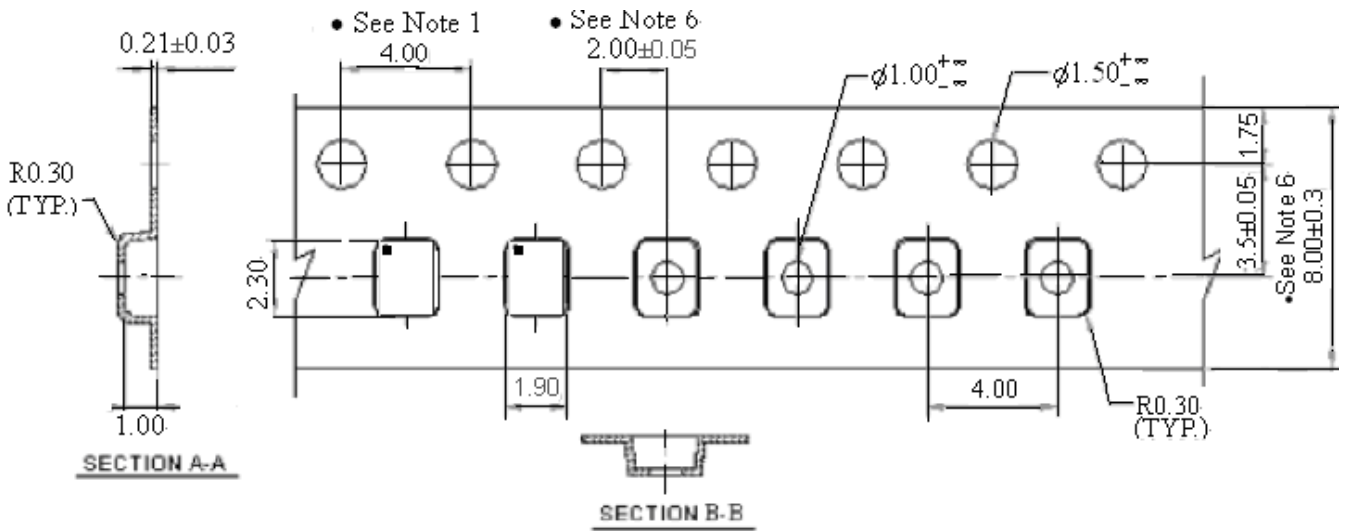
Lot No. is indicated by Arabic numerals 0 to 9 or characters A to Z and a to z (However, except l, O, I, l and o).

Reel Count:
 7" = 3000
 13" = 10,000

**PACKING:
 REEL DIMENSION**



TAPE DIMENSION



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.

