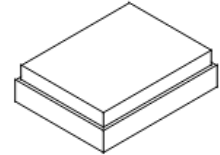


SF2597NA

**763/793 MHz
Filter Duplexer**



SM1814

MAXIMUM RATING:

- Input power : 30dBm (Ta=+50deg C,50000h,CW)
- Maximum DC Voltage: +/-5 V
- Operating temperature range: -30 °C to +85 °C
- Storage temperature range: -30 °C to +85 °C
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 100V(MM) 200V(HBM)
- AEC-Q200 Qualified

ELECTRICAL CHARACTERISTICS:

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

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

Terminating impedance(Ant Port): 50 //12nH Ω (Single-ended)

Tx to ANT

Parameters Description		Unit	Minimum	Typical	Maximum	Note	
Insertion Loss	788 ~ 798 MHz	dB(*1)	-	1.2	1.5	-30°C~+85°C	
				1.2	1.8		
Ripple	788 ~ 798 MHz	dB	-	0.3	0.7	-30°C~+85°C	
				0.3	0.9		
VSWR	Tx	788 ~ 798 MHz	-	-	1.3	-30°C~+85°C	
				-	1.3		2.0
				-	1.3		2.1
				-	1.4		2.0
ANT			-	1.4	2.0	-30°C~+85°C	
				1.4	2.1		

Attenuation:

758 ~ 768 MHz	dB	49	58	-	-
769 ~ 775 MHz	dB	17		-	45°C~+85°C
	dB	20	36	-	-30°C~+45°C
799 ~ 805 MHz	dB	0.7	1.1	-	
869 ~ 894 MHz	dB	40	44	-	
1554 ~ 1565 MHz	dB	42	47		
1565 ~ 1606 MHz	dB	44	47		
1800 ~ 1880 MHz	dB	44	50		
1930 ~ 2000 MHz	dB	46	52		
2364 ~ 2394 MHz	dB	33	52		

2400 ~ 2500 MHz	dB	32	50		
3152 ~ 3192 MHz	dB	27	42		
4900 ~ 5950 MHz	dB	10	17		

ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note	
Insertion Loss	758.25 ~ 767.75 MHz	dB(*1)	-	2.2	3.2	-30°C~+85°C	
		dB(*1)		2.2	3.5		
	758 ~ 768 MHz	dB		2.3	3.3	-30°C~+85°C	
		dB		2.3	3.6		
Ripple	758 ~ 768 MHz	dB	-	0.7	2.0	-30°C~+85°C	
		dB		0.7	2.3		
VSWR	Tx	758 ~ 768 MHz	-	-	1.6	2.0	-30°C~+85°C
					1.6	2.2	
	ANT	758 ~ 768 MHz			1.6	2.0	-30°C~+85°C
			-	-	1.6	2.2	

Attenuation:

10 ~ 698 MHz	dB	45	55	-	-
698 ~ 716 MHz	dB	43	56		
716 ~ 728 MHz	dB	27	39		
776 ~ 777.34 MHz	dB	22		-	-30°C ~ 0°C
	dB	35	41	-	0°C ~ +85°C
777.34 ~ 780 MHz	dB	35	40	-	
780 ~ 787 MHz	dB	35	41	-	
788 ~ 798 MHz	dB	50	61		
798 ~ 6000 MHz	dB	30	36		
1546 ~ 1566 MHz	dB	46	53		
1710 ~ 1980 MHz	dB	42	52		
2334 ~ 2364 MHz	dB	38	50		
2400 ~ 2690 MHz	dB	40	50		

Tx to Rx

Isolation	788 ~ 798 MHz	dB	59	63	-	
	758 ~ 768 MHz	dB	54	57	-	

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



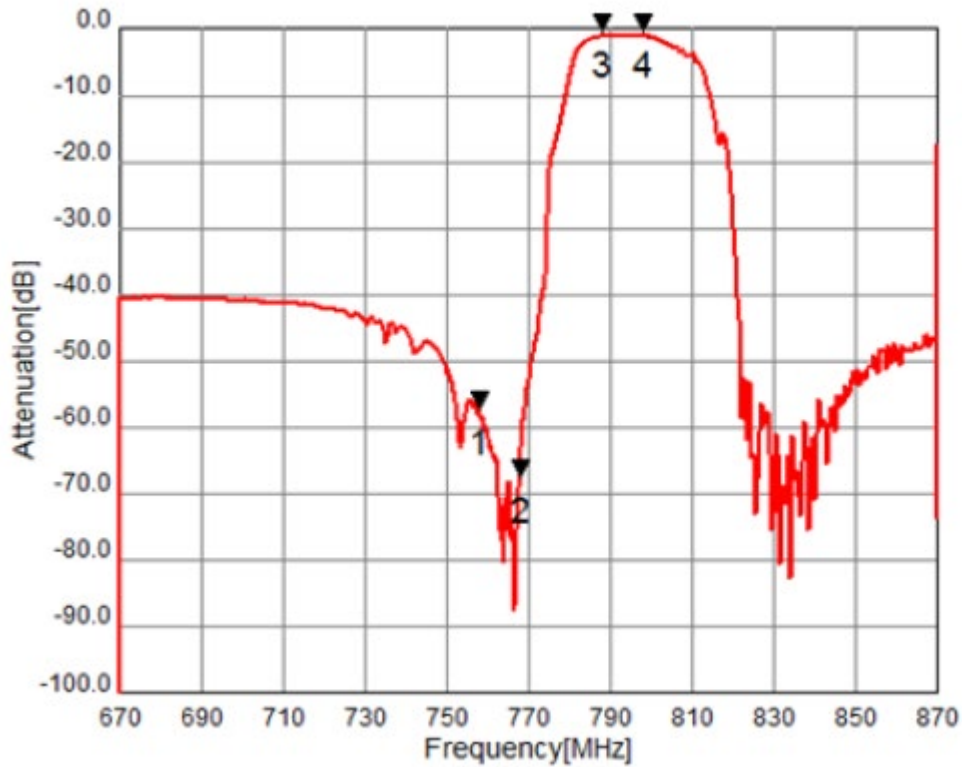
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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



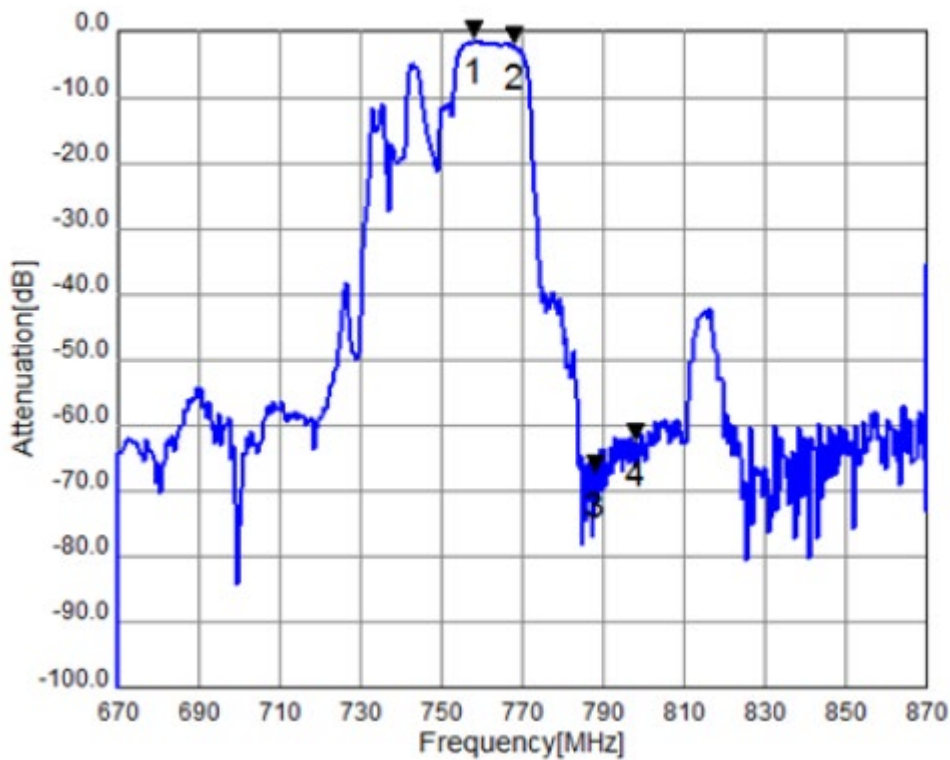
Mk1: 758.0MHz
S21=-57.801dB

Mk2: 768.0MHz
S21=-68.173dB

Mk3: 788.0MHz
S21=-1.113dB

Mk4: 798.0MHz
S21=-1.022dB

Ant to Rx



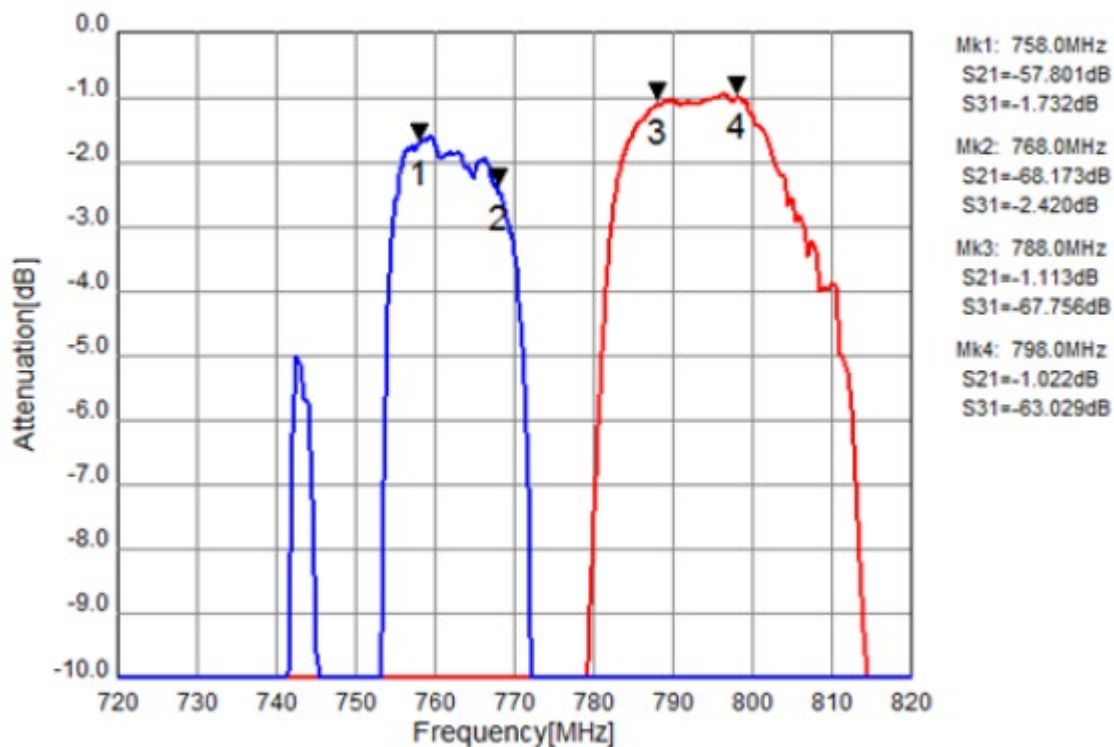
Mk1: 758.0MHz
S31=-1.732dB

Mk2: 768.0MHz
S31=-2.420dB

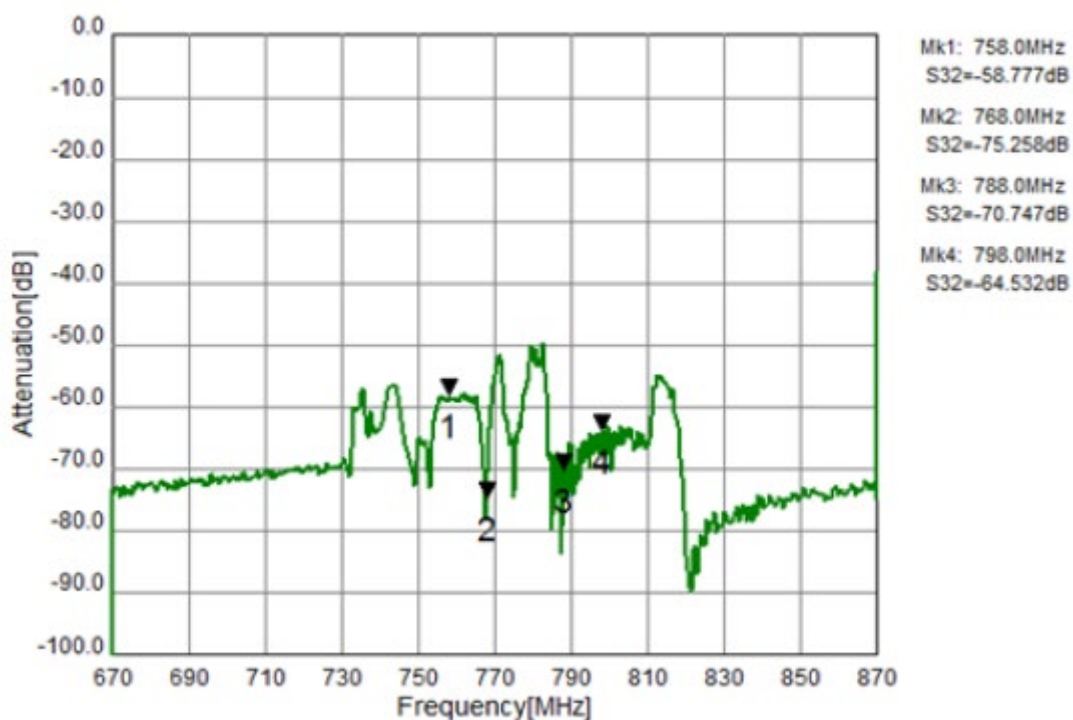
Mk3: 788.0MHz
S31=-67.756dB

Mk4: 798.0MHz
S31=-63.029dB

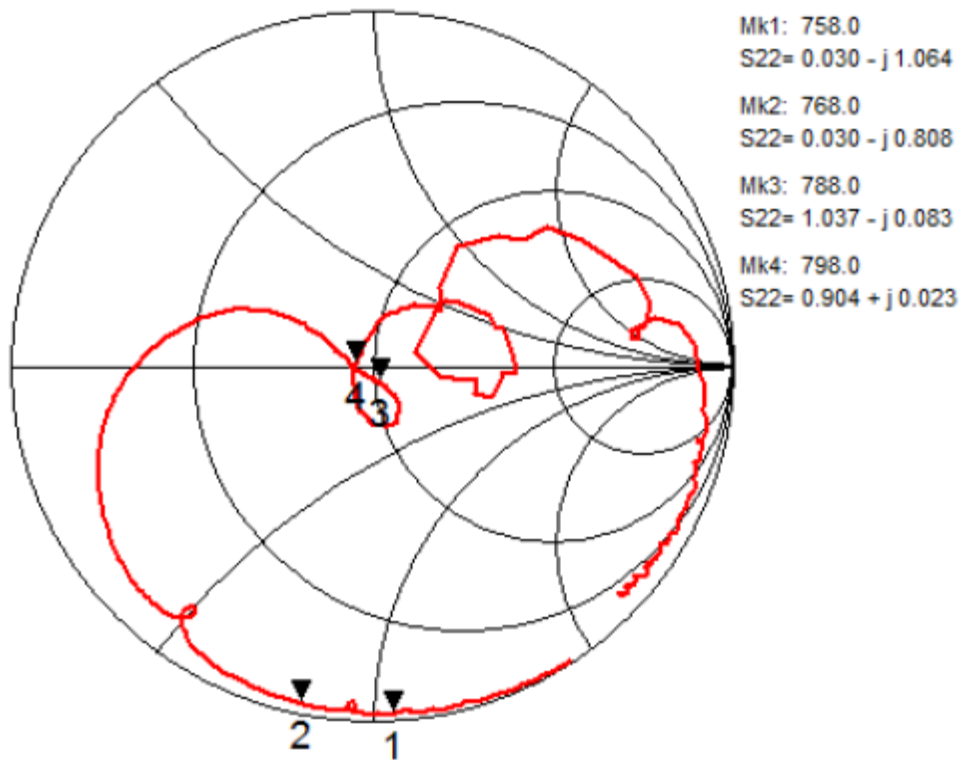
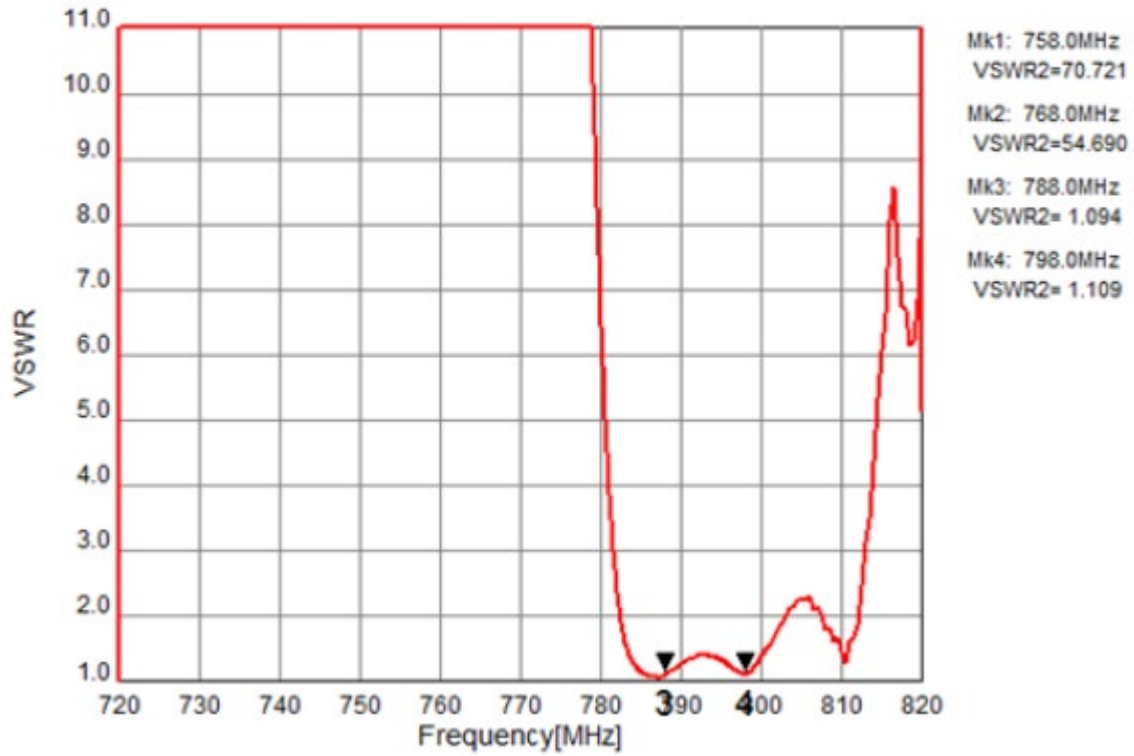
Tx to Ant, Ant to Rx



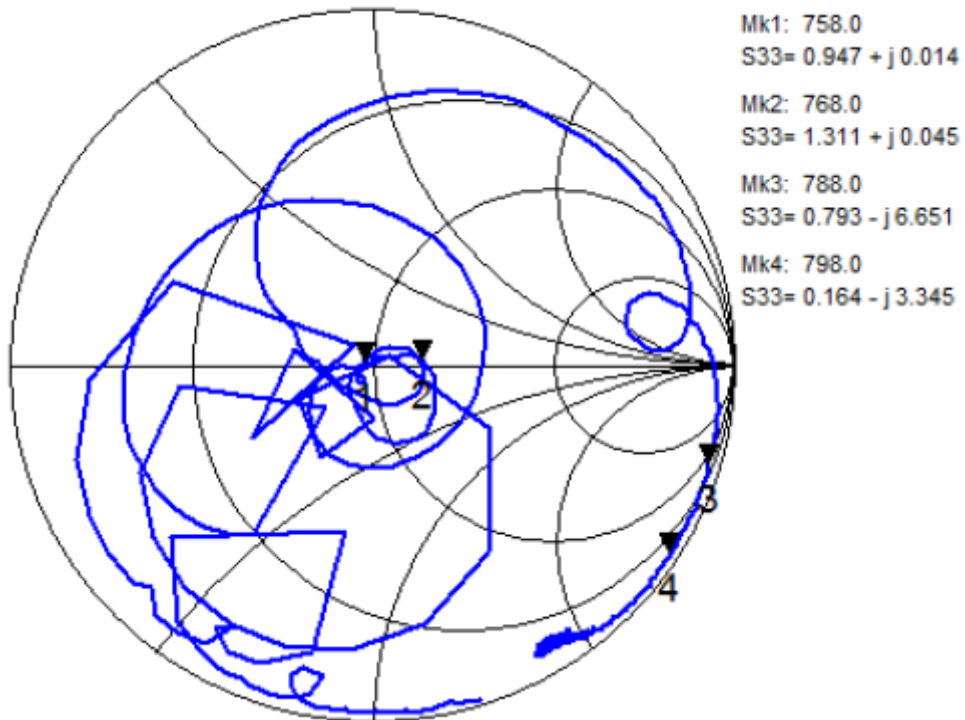
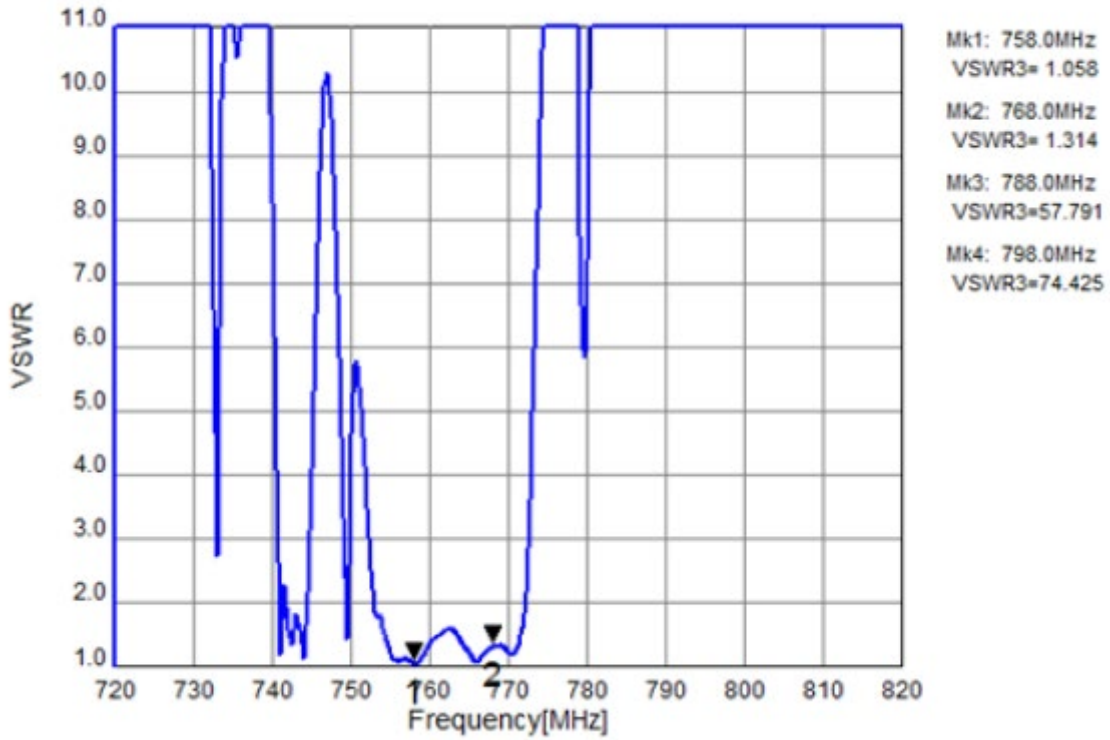
Tx to Rx Isolation



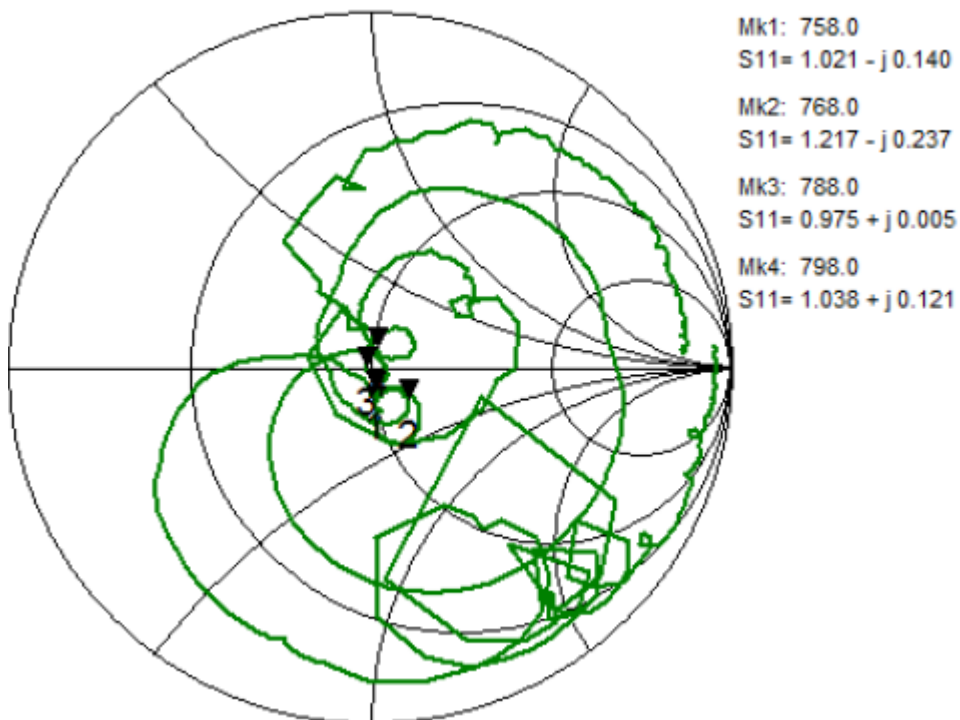
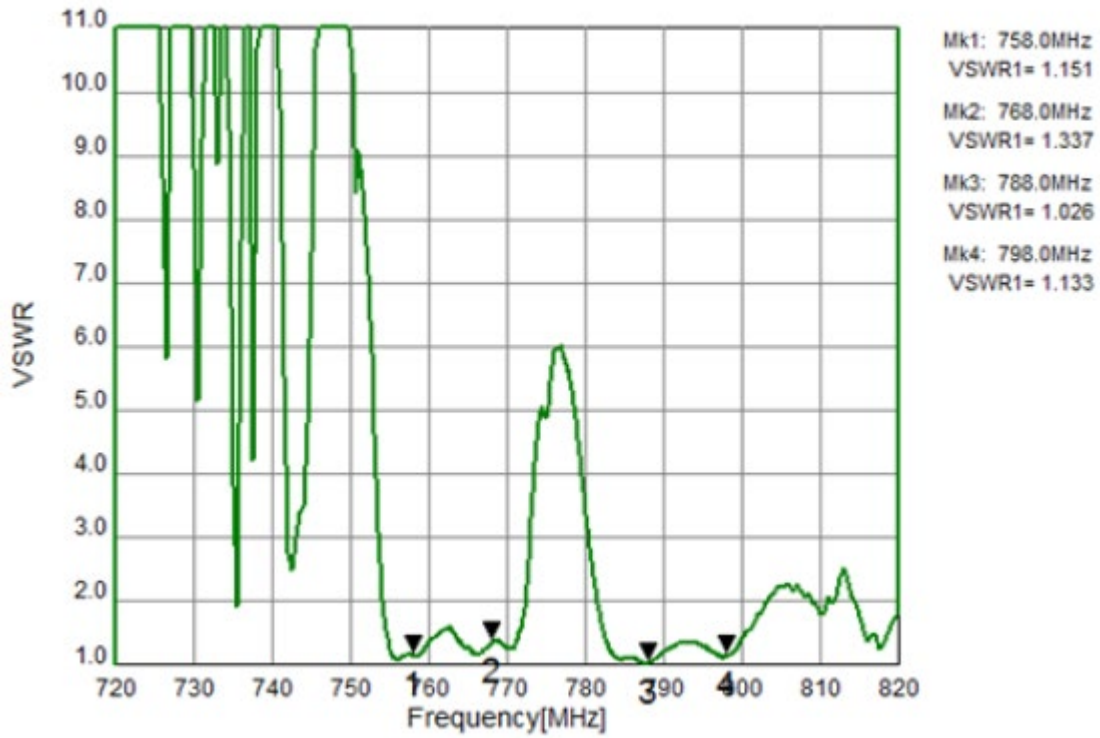
Tx Port



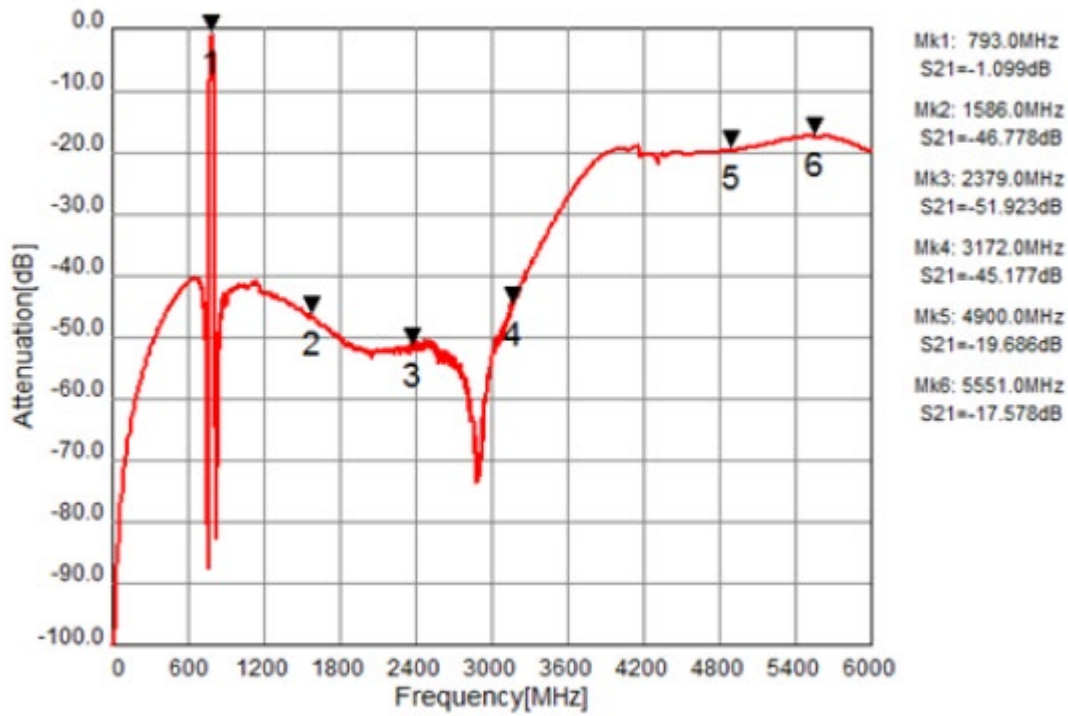
Rx Port



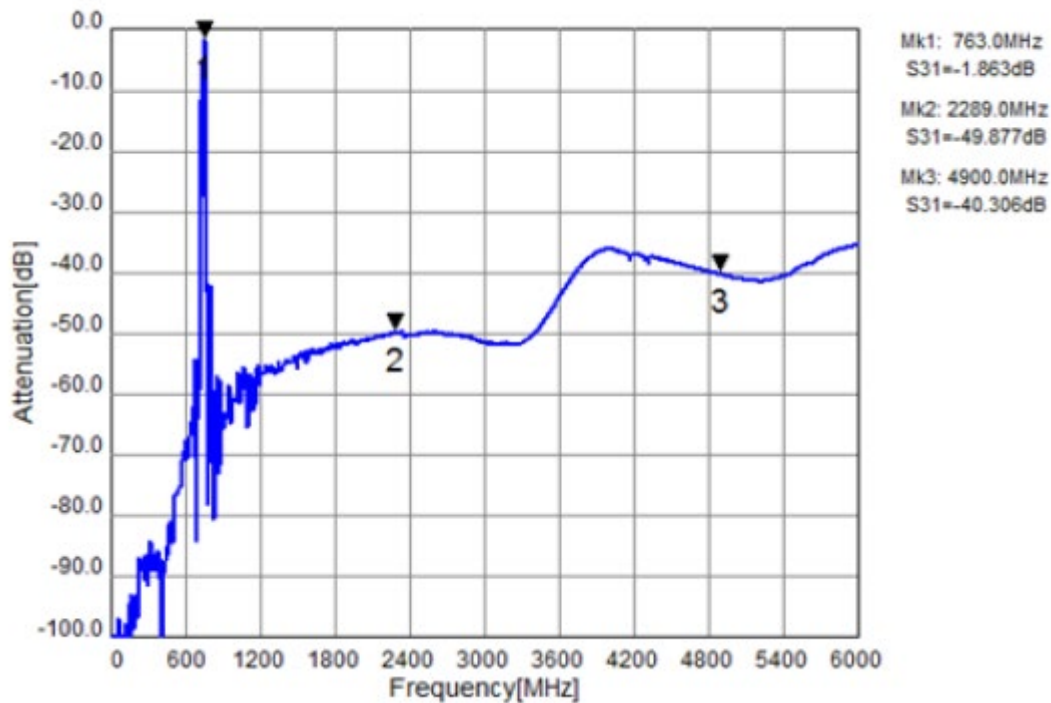
Ant Port



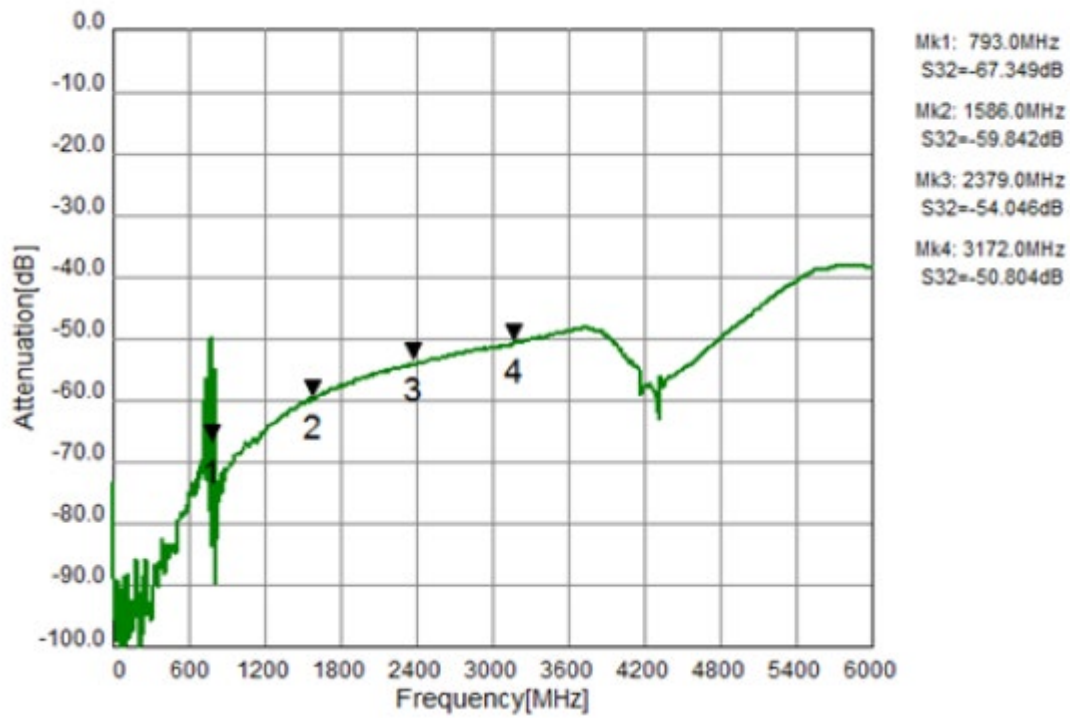
Tx to Ant (Wide span)



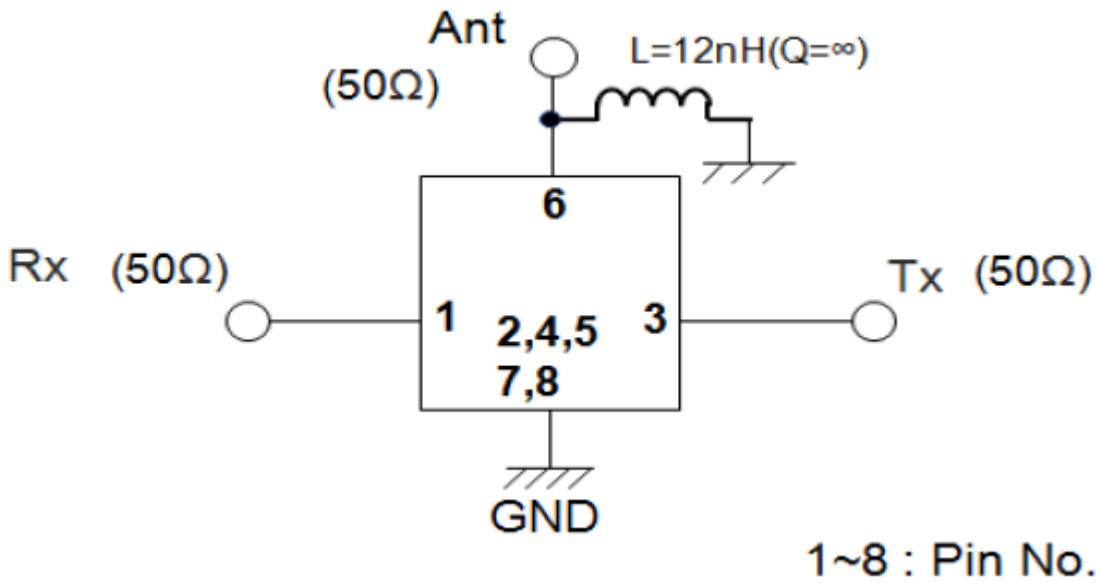
Ant to Rx (Wide span)



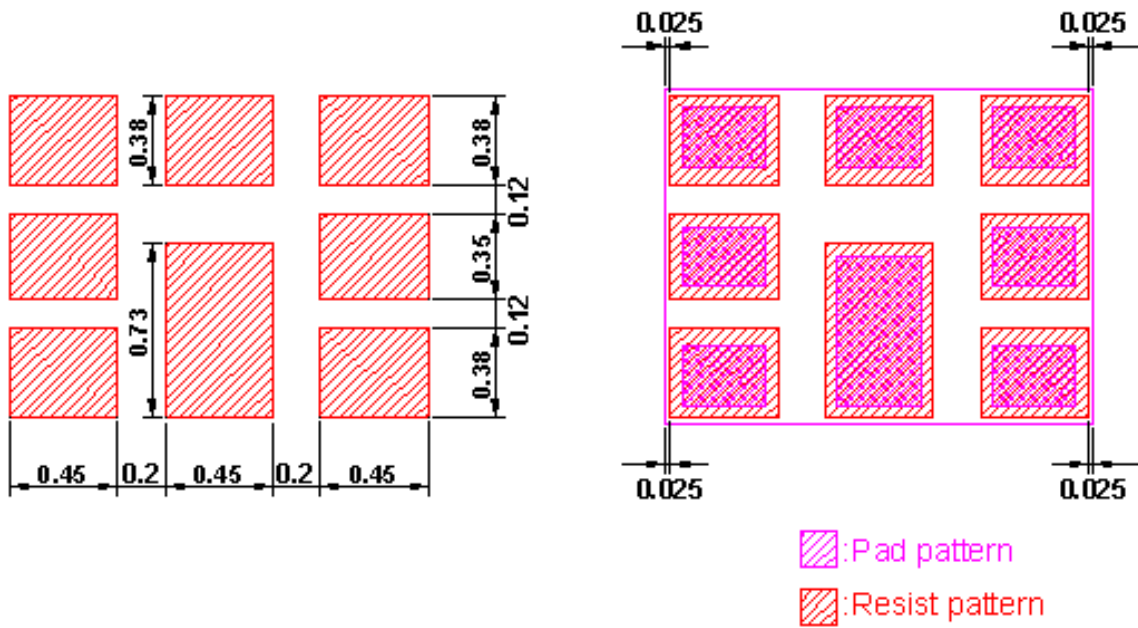
Tx to Rx Isolation (Wide span)



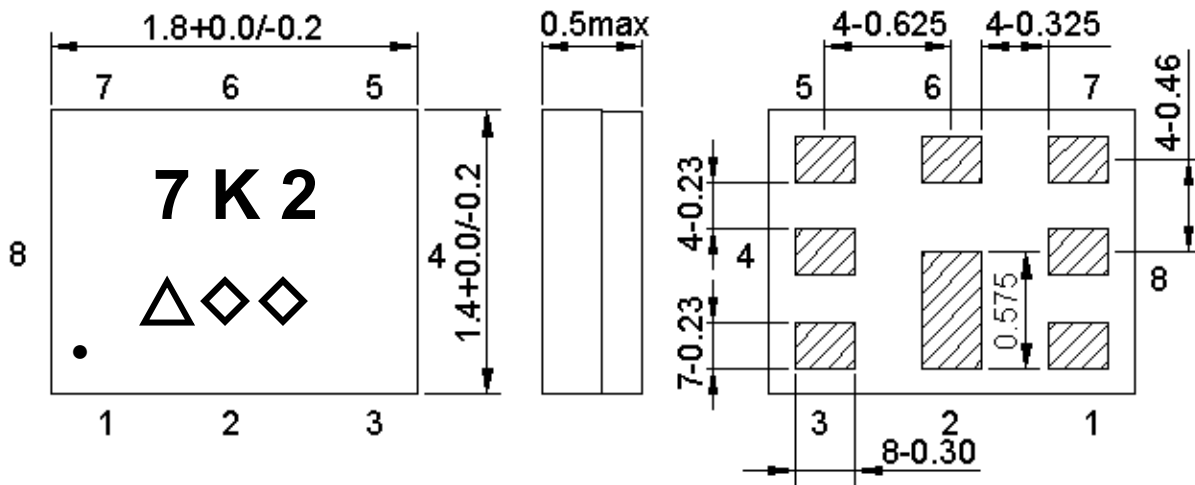
MEASUREMENT CIRCUIT:



PCB Footprint:



OUTLINE DRAWING: (Mass Production)



Marking name : **7K2**

△: 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

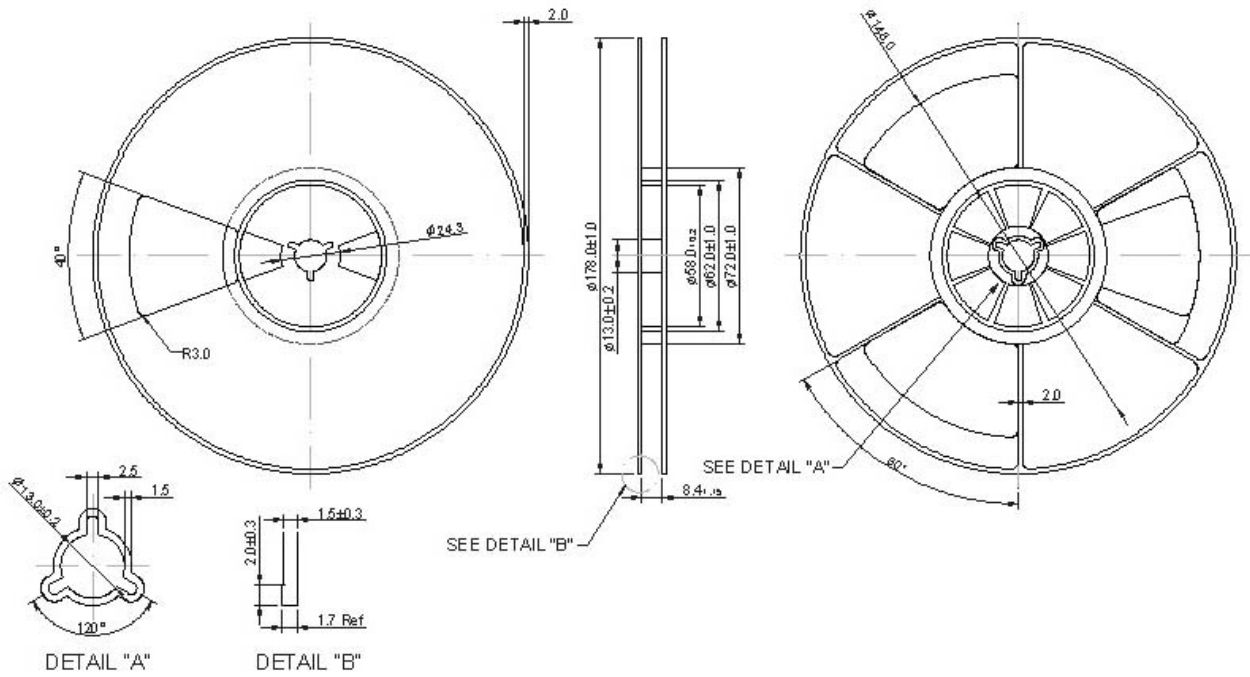
Pin assignment

Pin No.	Pin name	Description
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

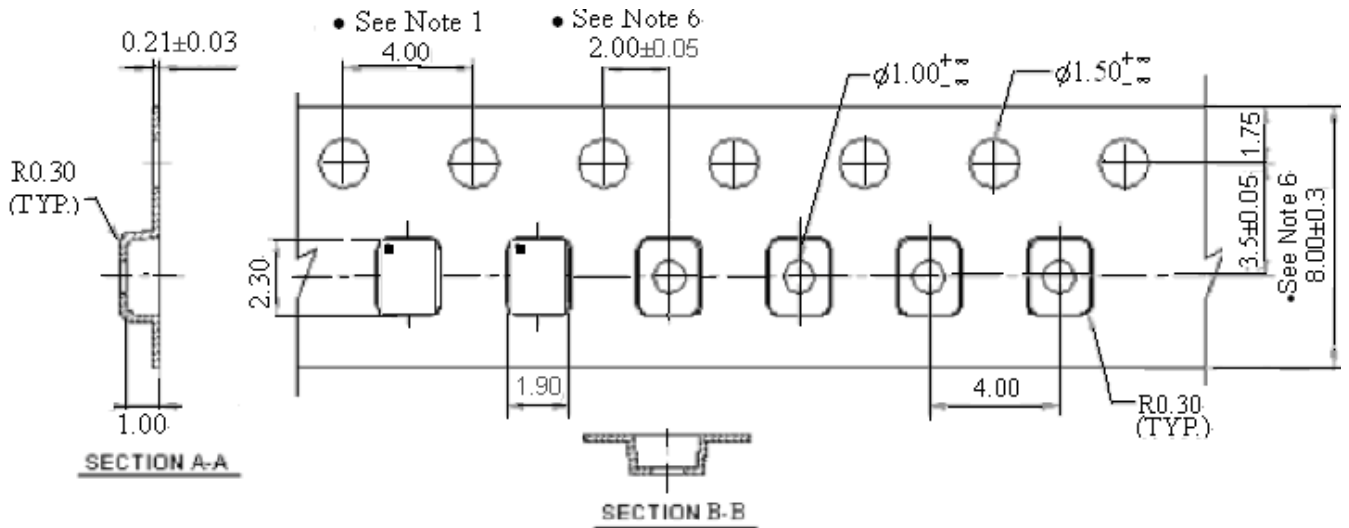
Figure 1. Dimensions and Pin assignment

PACKING:
REEL DIMENSION

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



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.

