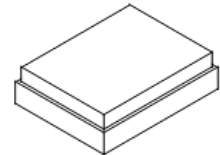


MAXIMUM RATING:

**1747.5/1842.5 MHz
Filter Duplexer**

- Input power :
@ input port(1710.15~1784.85MHz):29.5dBm (CW , +50°C,50000h)
@ input port(1710.15~1784.85MHz):29.5 dBm(LTE 1.4MHz
1RB ,+50°C,50000h)
- Maximum DC Voltage: +/-5 V
- Operating temperature range: -40 °C to +85 °C
- Storage temperature range: -40 °C to +100 °C
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 50V(MM) 100V(HBM)
- AEC-Q200 Qualified



SM1814

ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50Ω//10nH(Q=∞) (Single-ended)

Terminating impedance(Rx Port): 50Ω//8.2nH(Q=∞) (Single-ended)

Terminating impedance(Ant Port): 50Ω//3.4nH(Q=∞) (Single-ended)

Tx to ANT (f_{T0}=1747.5 MHz)

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	1710.15 ~ 1784.85 MHz	dB(*1)	-	1.8	3.0	
Ripple	1710.15 ~ 1784.85 MHz	dB	-	1.2	2.6	
VSWR	Tx	-	-	1.4	2.0	
	ANT	-	-	1.4	2.0	
Attenuation:						
1559 ~ 1586 MHz		dB	38	41	-	-
1597 ~ 1606 MHz		dB	36	39		
1805 ~ 1880 MHz		dB	33		-	-40°C~ -20°C
		dB	44	52	-	-20°C~+85°C
2400 ~ 2500 MHz		dB	28	37	-	
3420 ~ 3570 MHz		dB	25	31	-	
5130 ~ 5355 MHz		dB	17	29		

 **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.

ANT to Rx (f_{T0}=1842.5 MHz)

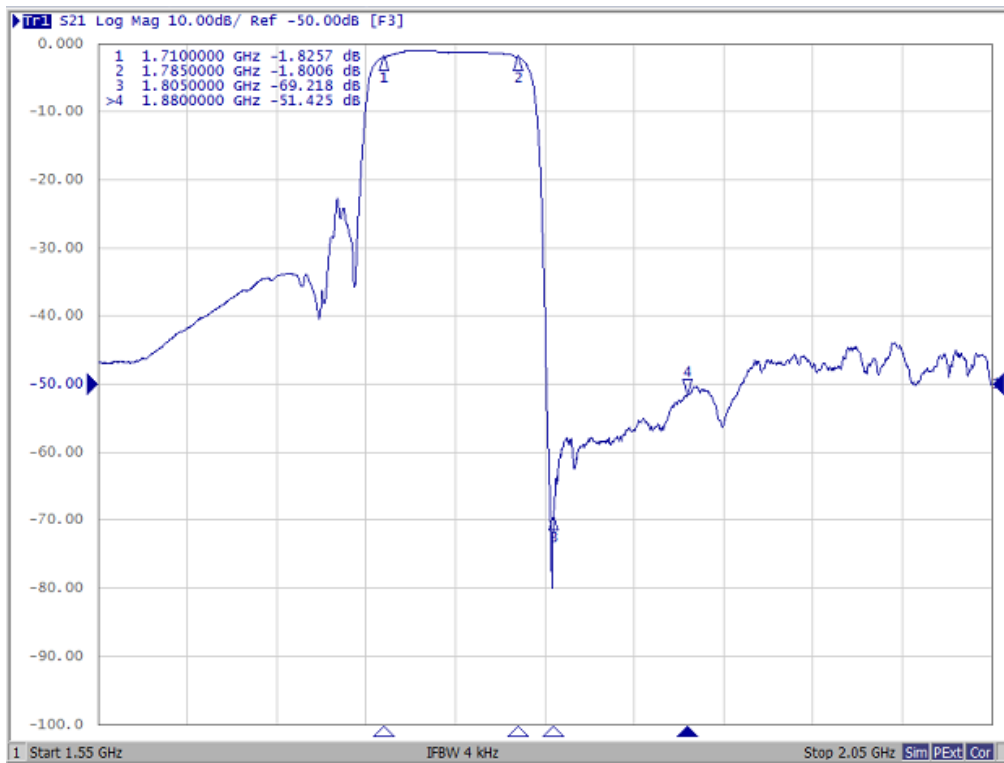
Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	1805.15~ 1879.85MHz	dB(*1)	-	1.9	3.6	
Ripple	1805.15~ 1879.85MHz	dB	-	1.1	3.0	
VSWR	Tx	-	-	1.6	2.0	
	ANT	-	-	1.6	2.0	
Attenuation:						
1710 ~ 1785 MHz		dB	45	57	-	-
2400 ~ 2500 MHz		dB	37	44		
3610 ~ 3760 MHz		dB	40	56		
5415 ~ 5640 MHz		dB	46	56	-	

Tx to Rx

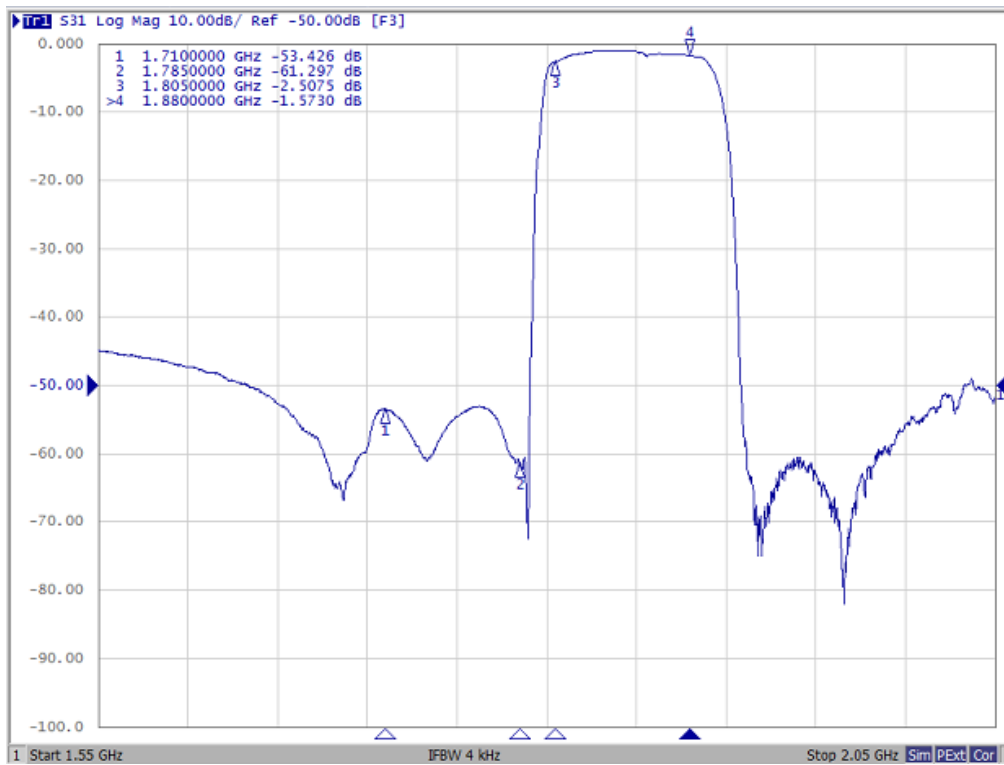
Isolation	1710.15 ~ 1784.85 MHz	dB	55	60	-	
	1805.15~ 1879.85MHz	dB	38		-	-40°C~ -20°C
		dB	50	56		-20°C~+85°C

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

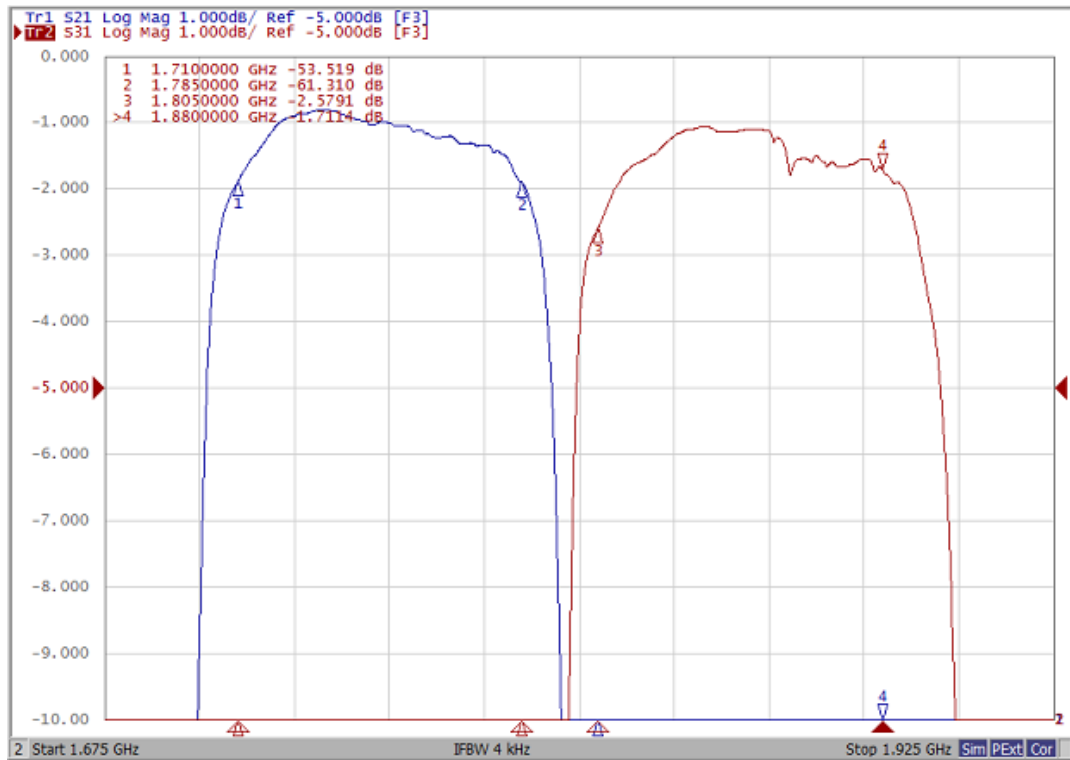
Frequency Characteristics: TX to Ant



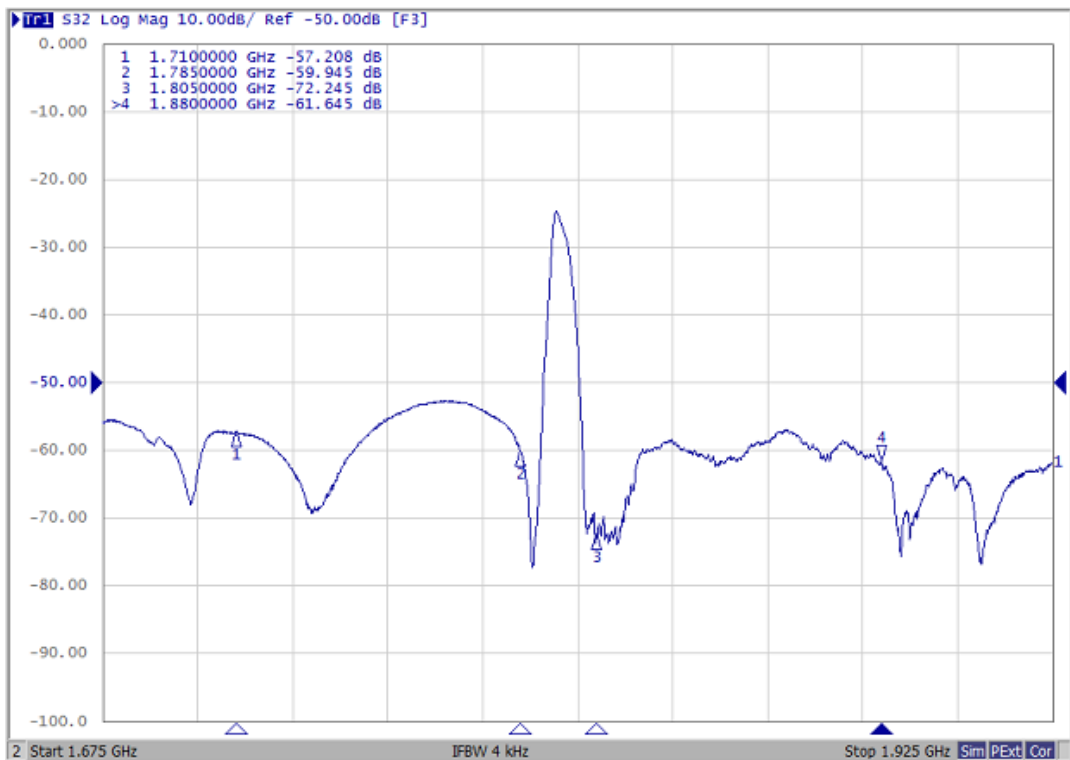
Ant to Rx



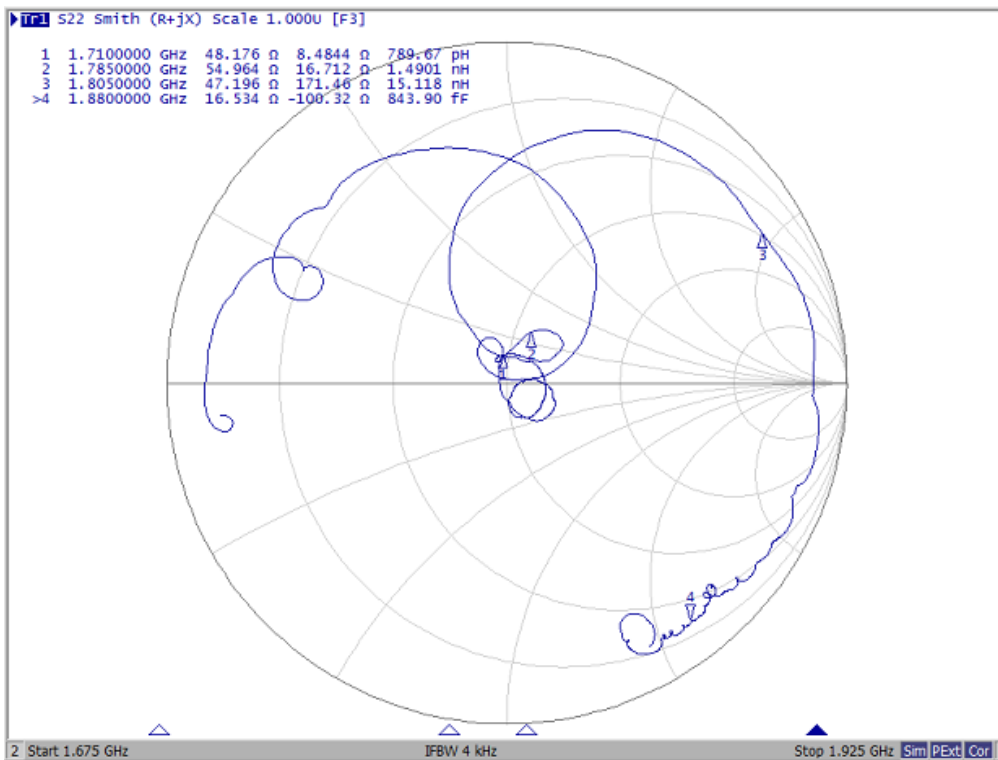
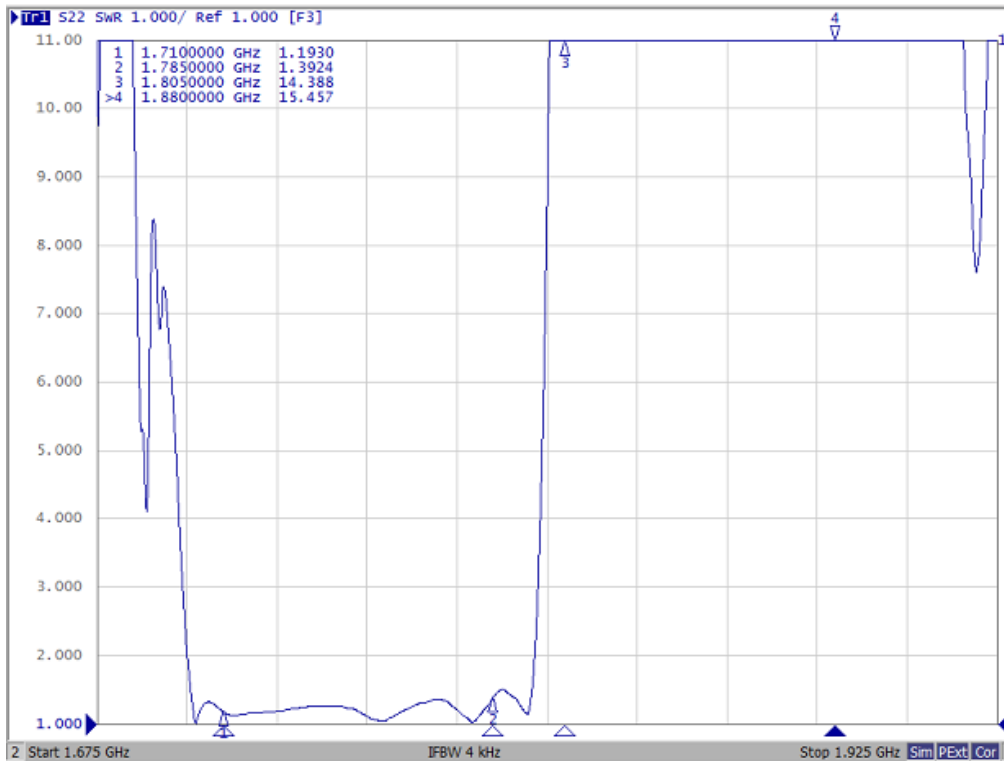
TX to Ant , Ant to Rx



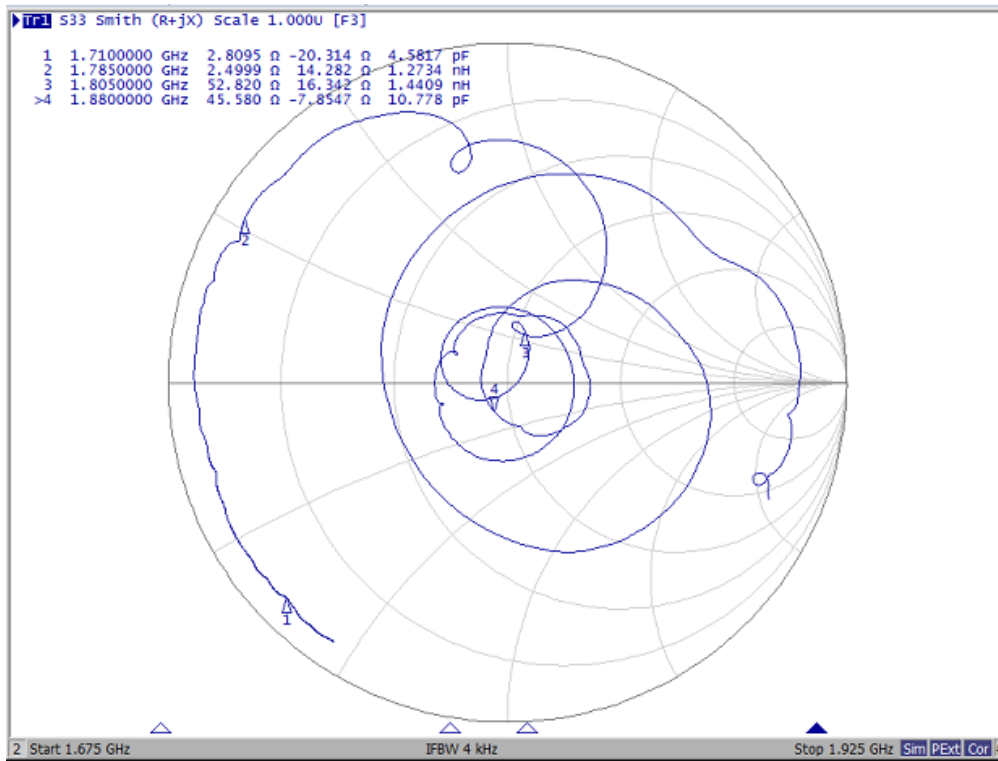
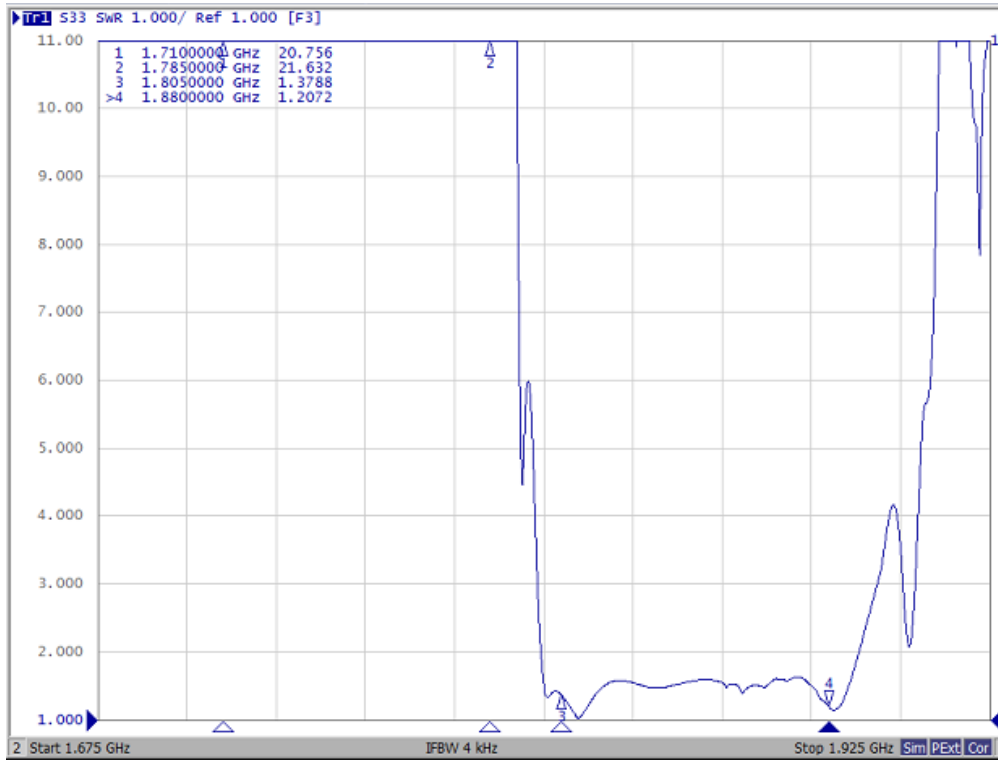
TX to Rx Isolation



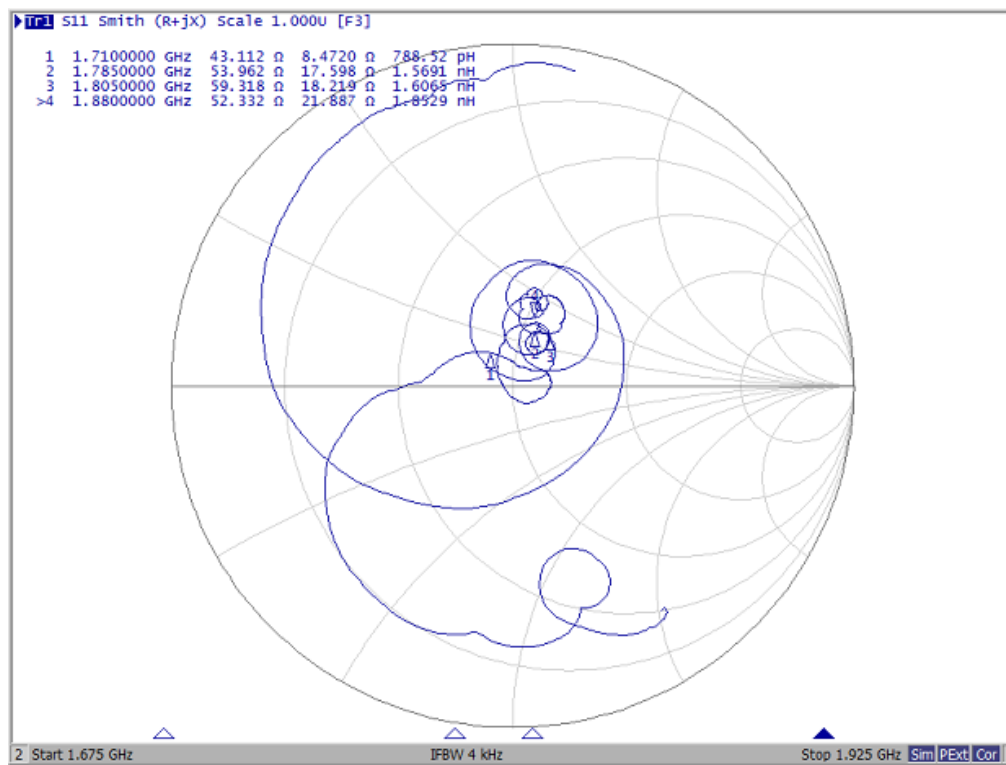
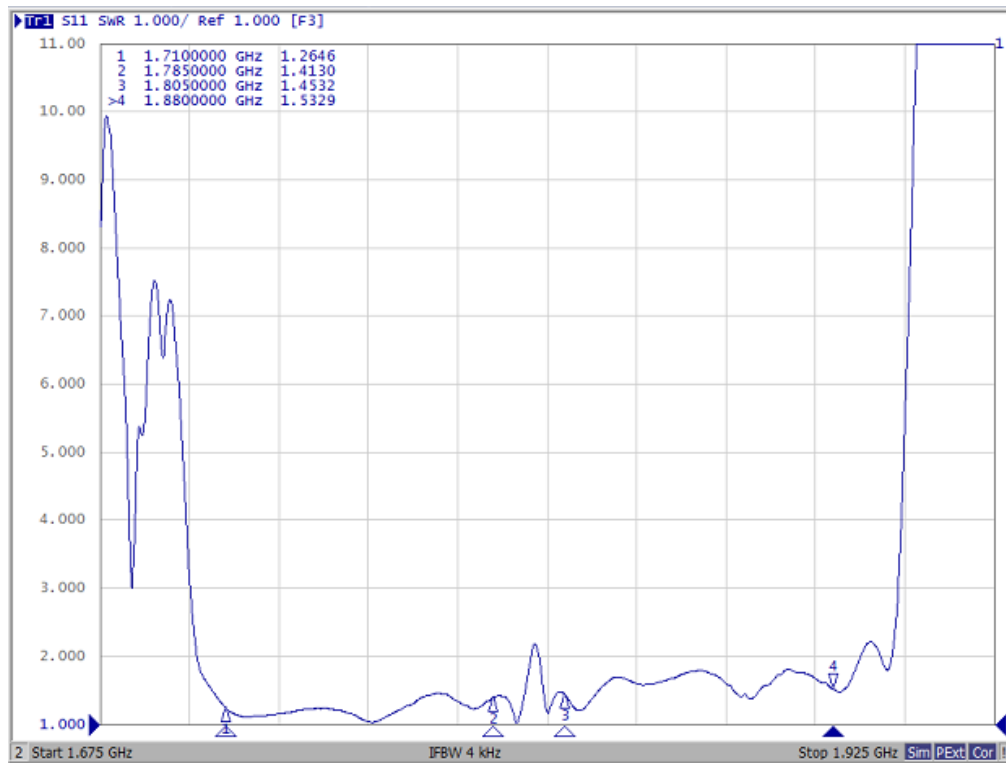
Tx Port



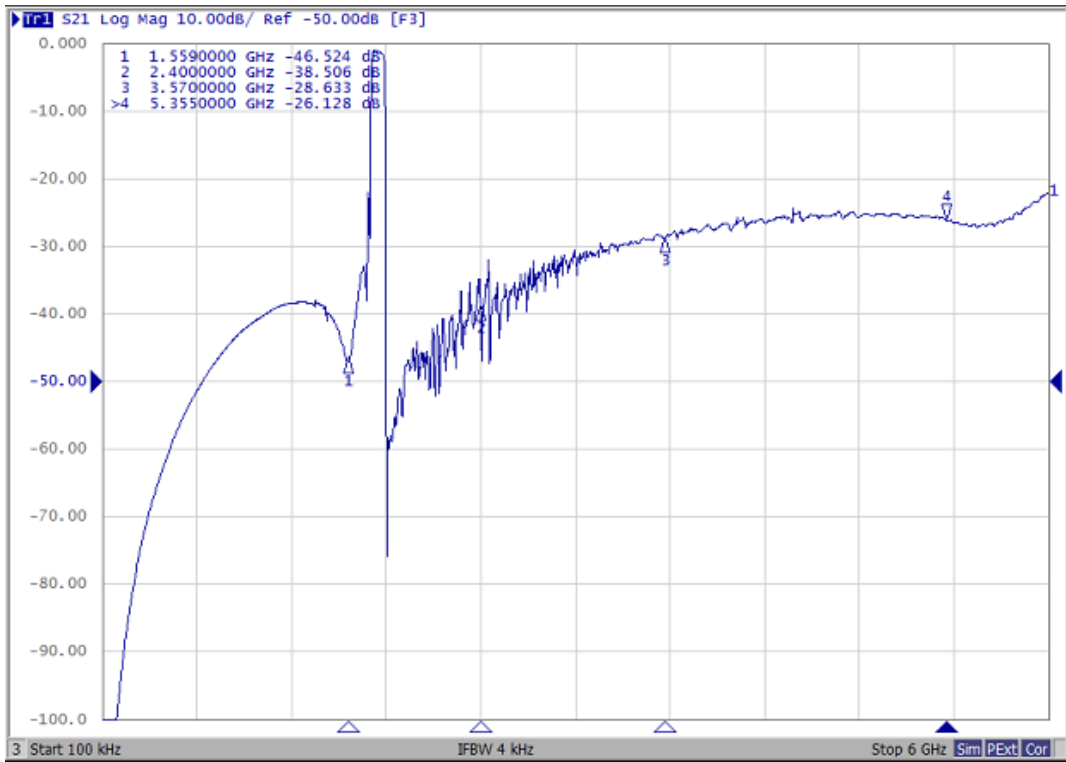
Rx Port



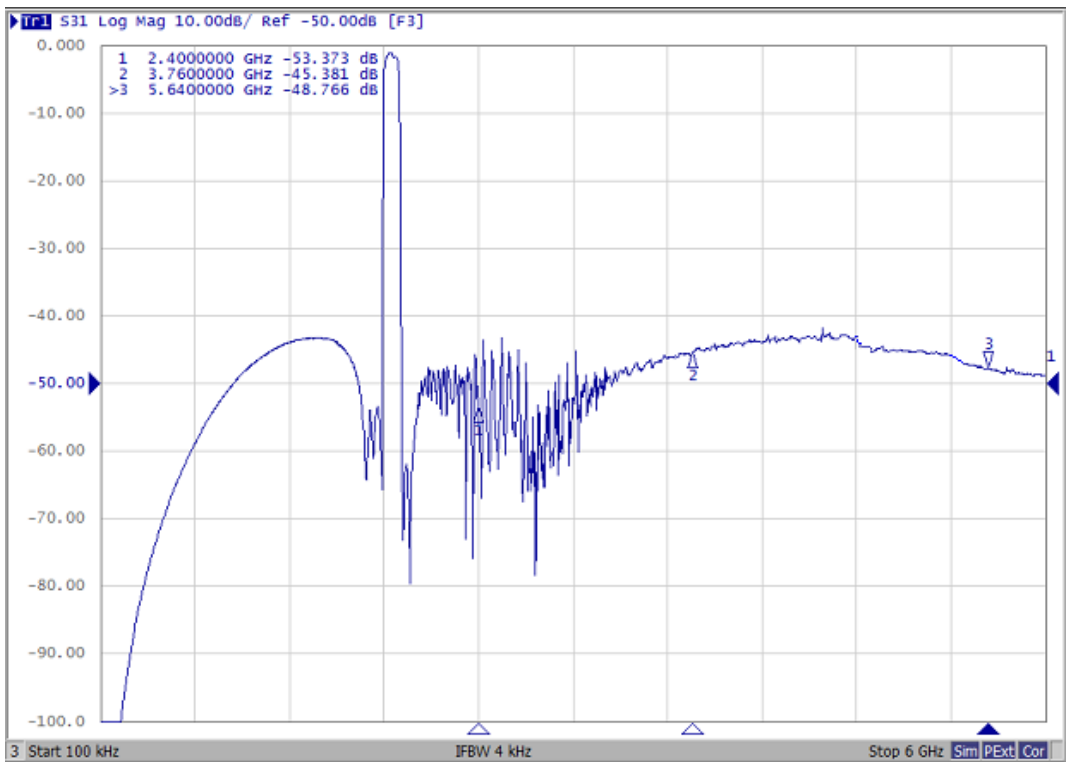
Ant Port



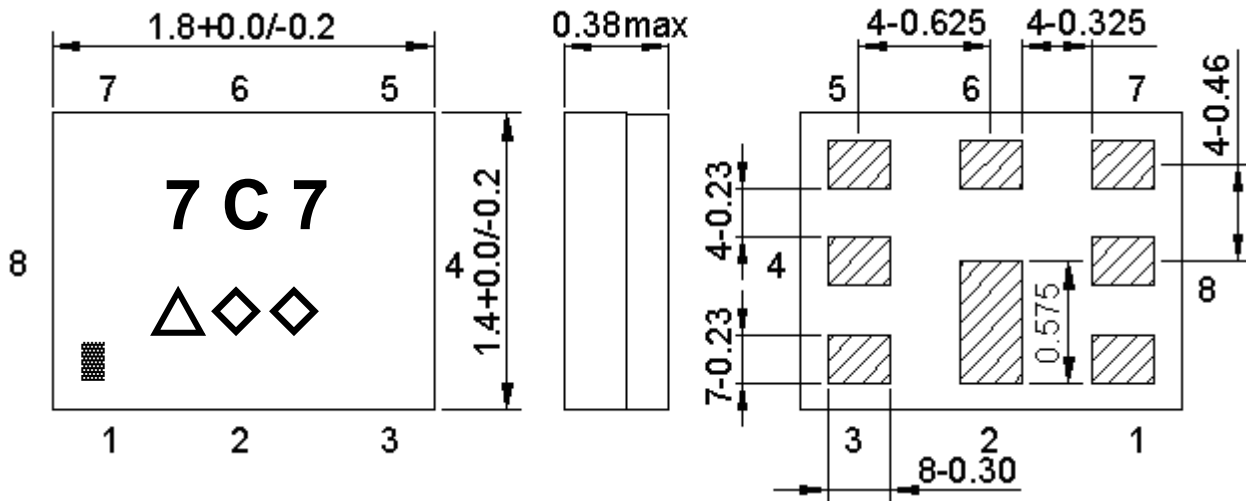
Tx to Ant (Wide span)



Ant to Rx (Wide span)



OUTLINE DRAWING:



Not Specified Tolerance : +/-0.1 mm

Marking name :7C7

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

◇◇: Lot Code.

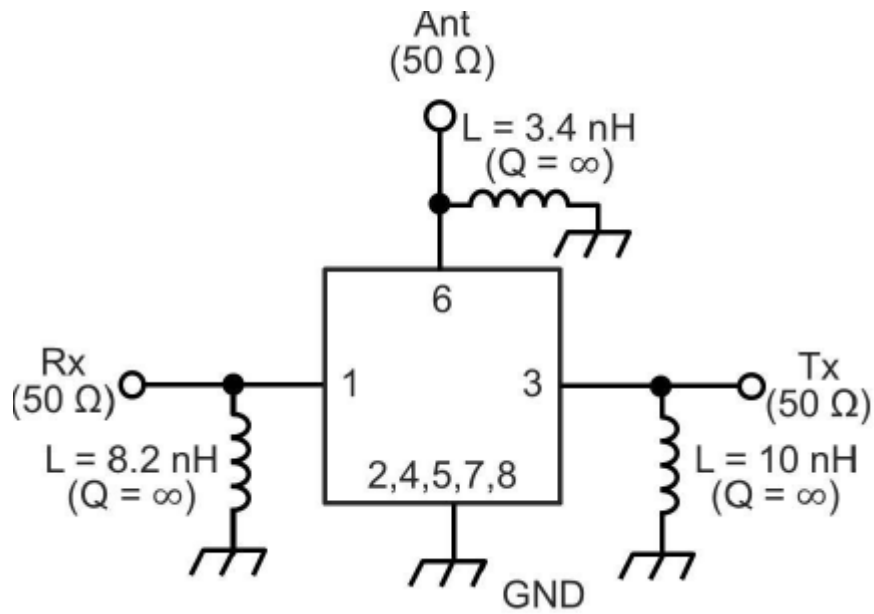
Product Date Code. Follow below table. (4-year cycle)

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

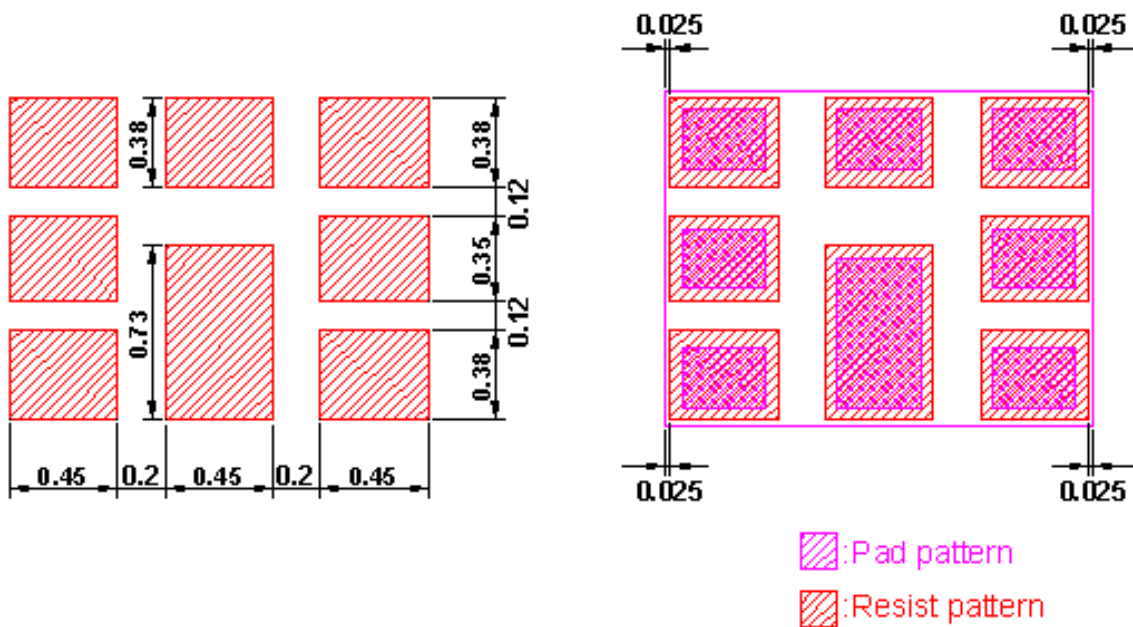
Pin configuration

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

MEASUREMENT CIRCUIT:



PCB Footprint:



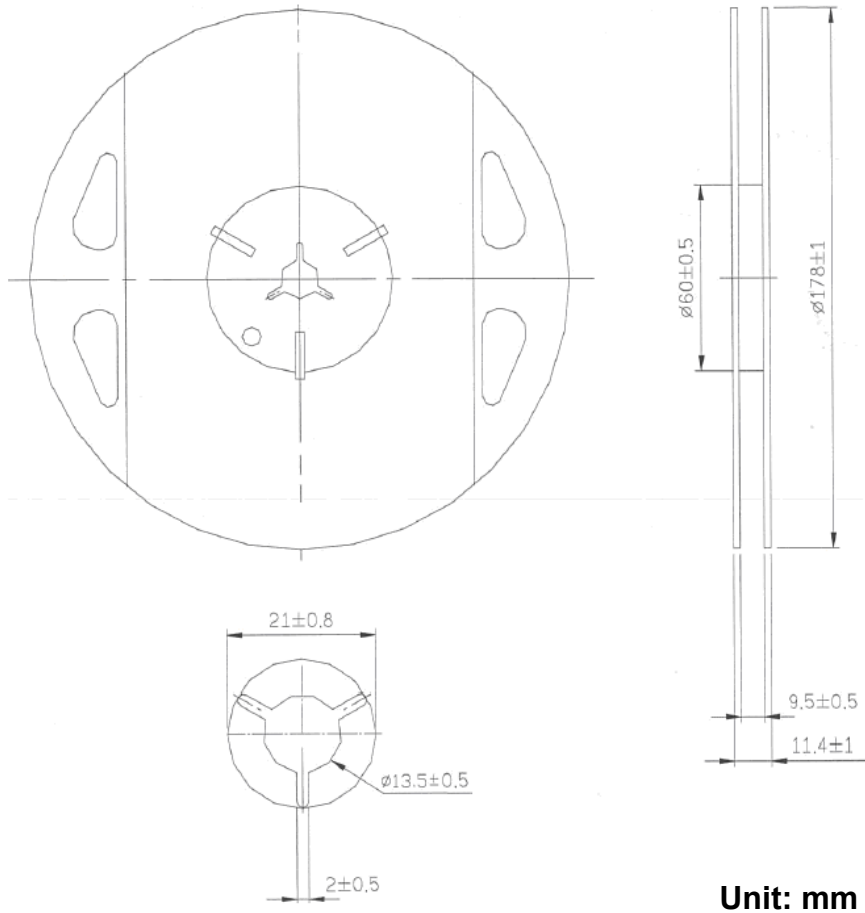
PACKING:

REEL DIMENSION

Reel Count:

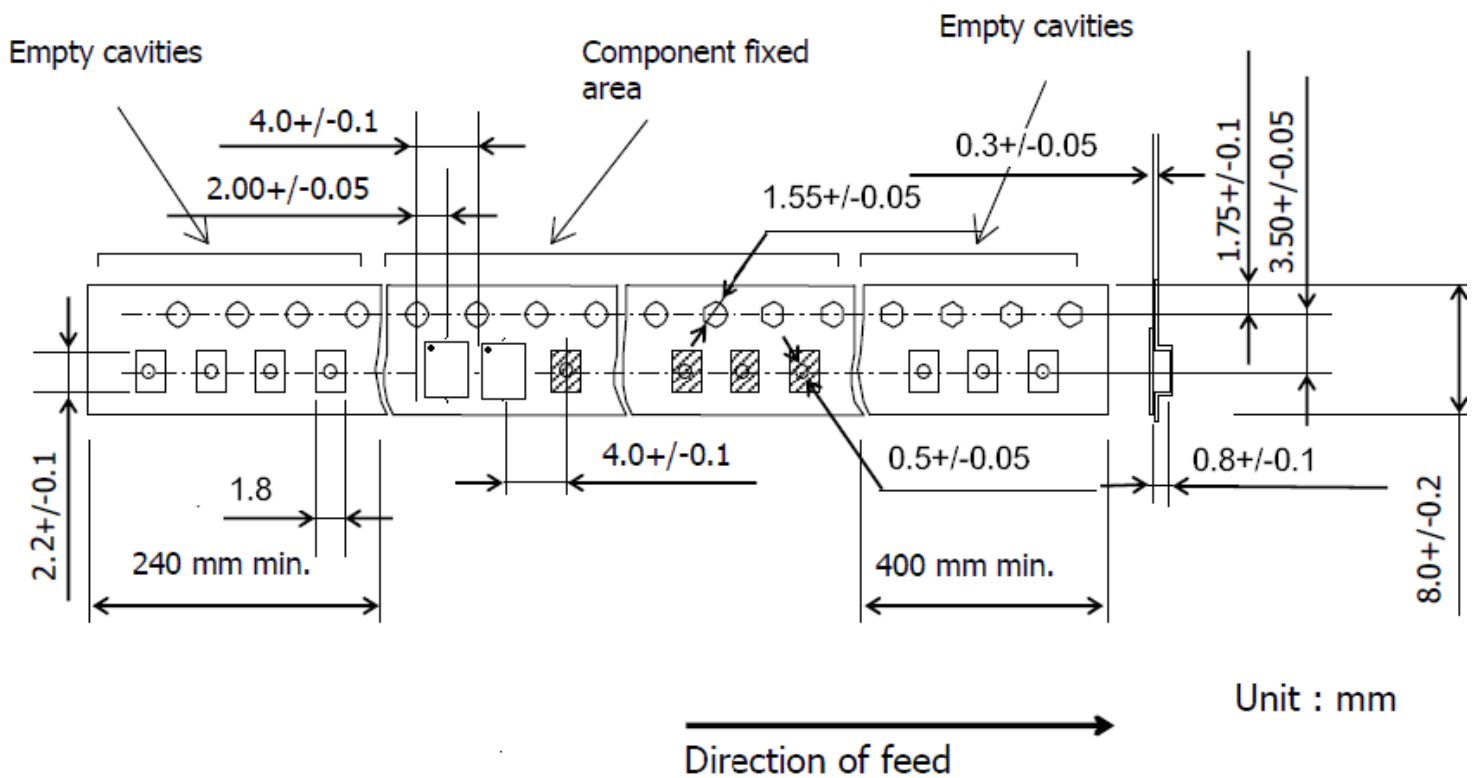
7" = 3000

13" = 10,000



Unit: mm

TAPE DIMENSION



Unit : mm

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.

