

**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: -40 °C to +85 °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//12nH Ω (Single-ended)

**Tx to ANT**

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss(*1)	704~ 716 MHz	dB	-	1.25	2.0	
Ripple	704~ 716 MHz	dB	-	0.4	1.1	
VSWR	Tx	-	-	1.7	2.0	
	ANT	-	-	1.5	2.0	
<b>Attenuation:</b>						
734 ~ 746 MHz		dB	48	58	-	-
746 ~ 768 MHz		dB	30	45	-	-
768 ~ 805 MHz		dB	25	36	-	-
869 ~ 894 MHz		dB	30	35	-	
1408 ~ 1432 MHz		dB	30	40	-	
1559 ~ 1606 MHz		dB	35	43		
2110 ~ 2155 MHz		dB	30	40		
2400 ~ 2484 MHz		dB	25	36		
2816 ~ 2864 MHz		dB	15	33		
4900 ~ 5850 MHz		dB	5	11		

## ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note	
Insertion Loss(*1)	734 ~ 746 MHz	dB	-	1.65	2.8		
Ripple	734 ~ 746 MHz	dB	-	0.4	1.5		
VSWR	ANT	734 ~ 746 MHz	-	-	1.5	2.0	
	Rx		-	-	1.5	2.0	
<b>Attenuation:</b>							
704 ~ 716 MHz		dB	55	64	-		
776 ~ 805 MHz		dB	35	41	-		
814 ~ 960 MHz		dB	40	57			
1710 ~ 1755 MHz		dB	40	54			
1850 ~ 1920 MHz		dB	40	53			
2202 ~ 2238 MHz		dB	40	51			
2400 ~ 2500 MHz		dB	40	50			
4900 ~ 5950 MHz		dB	40	50			

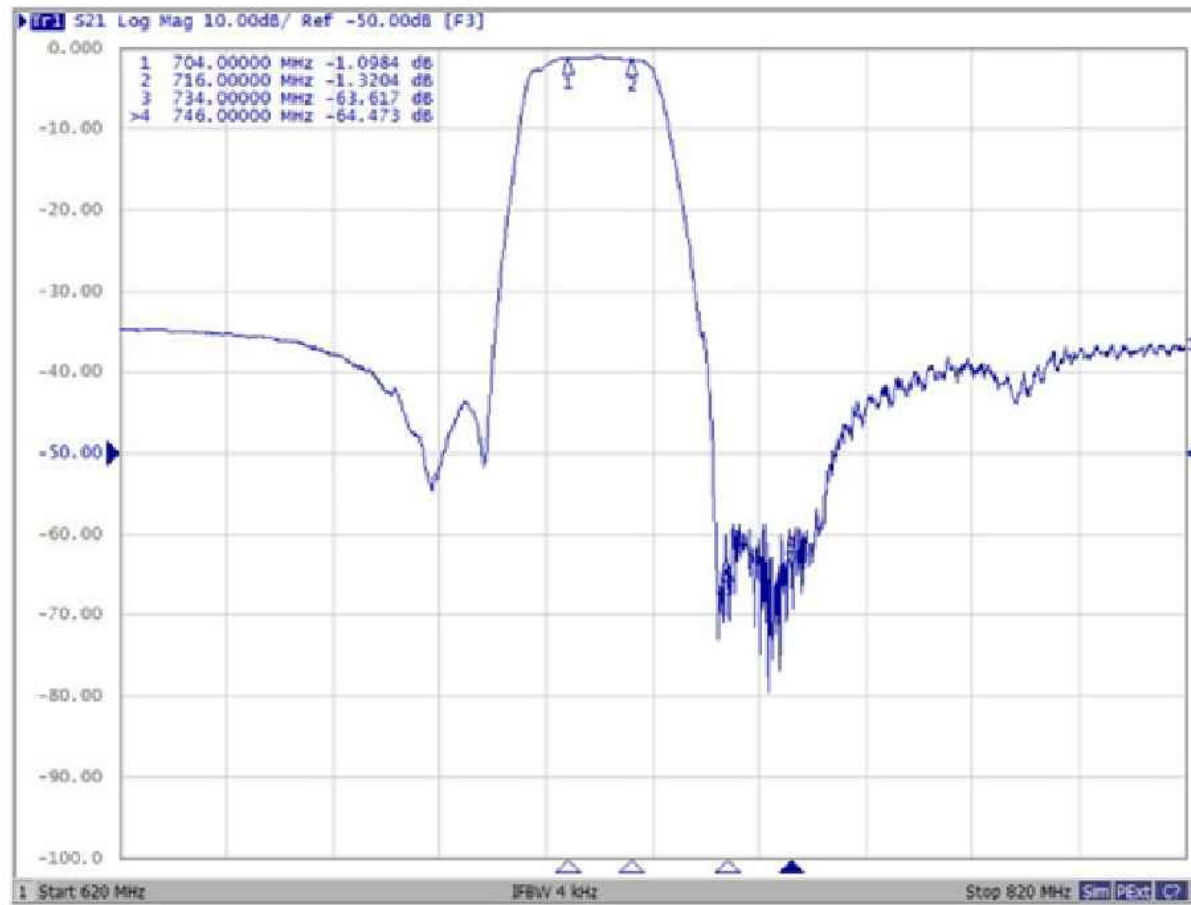
## Tx to Rx

Isolation	704 ~ 716 MHz	dB	60	65	-	
	734 ~ 746 MHz	dB	50	60	-	

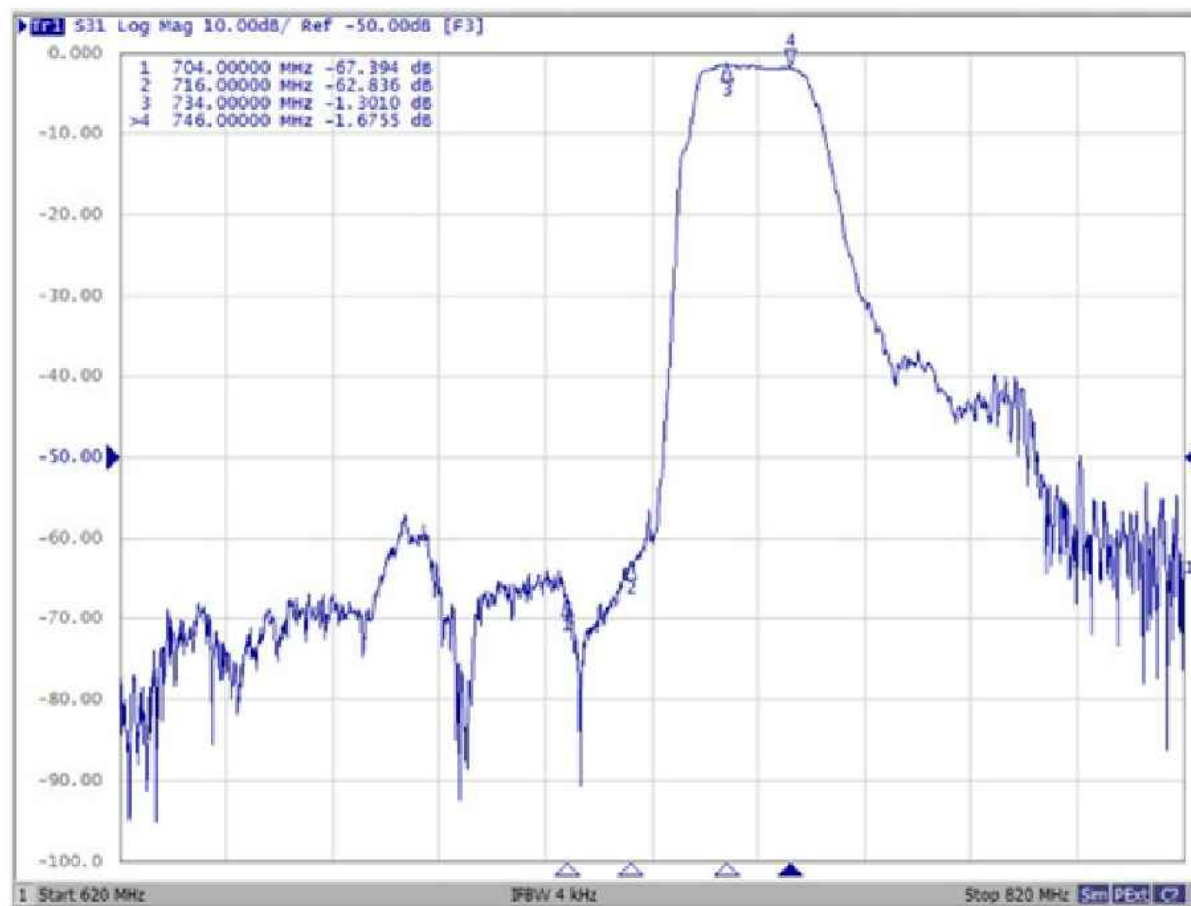
(\*1) Specification of insertion loss excludes loss that comes from the test board.

### C. Frequency Characteristics:

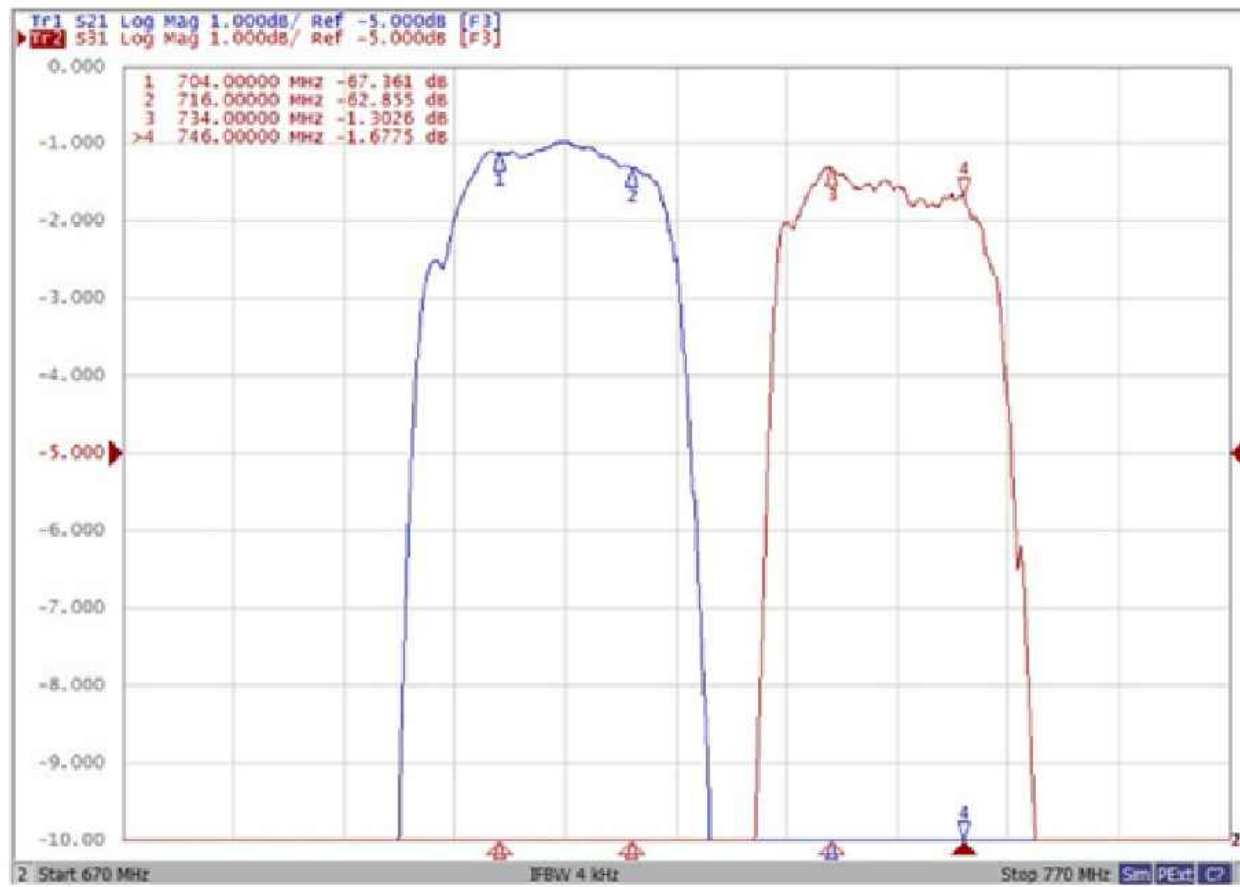
#### Tx to Ant



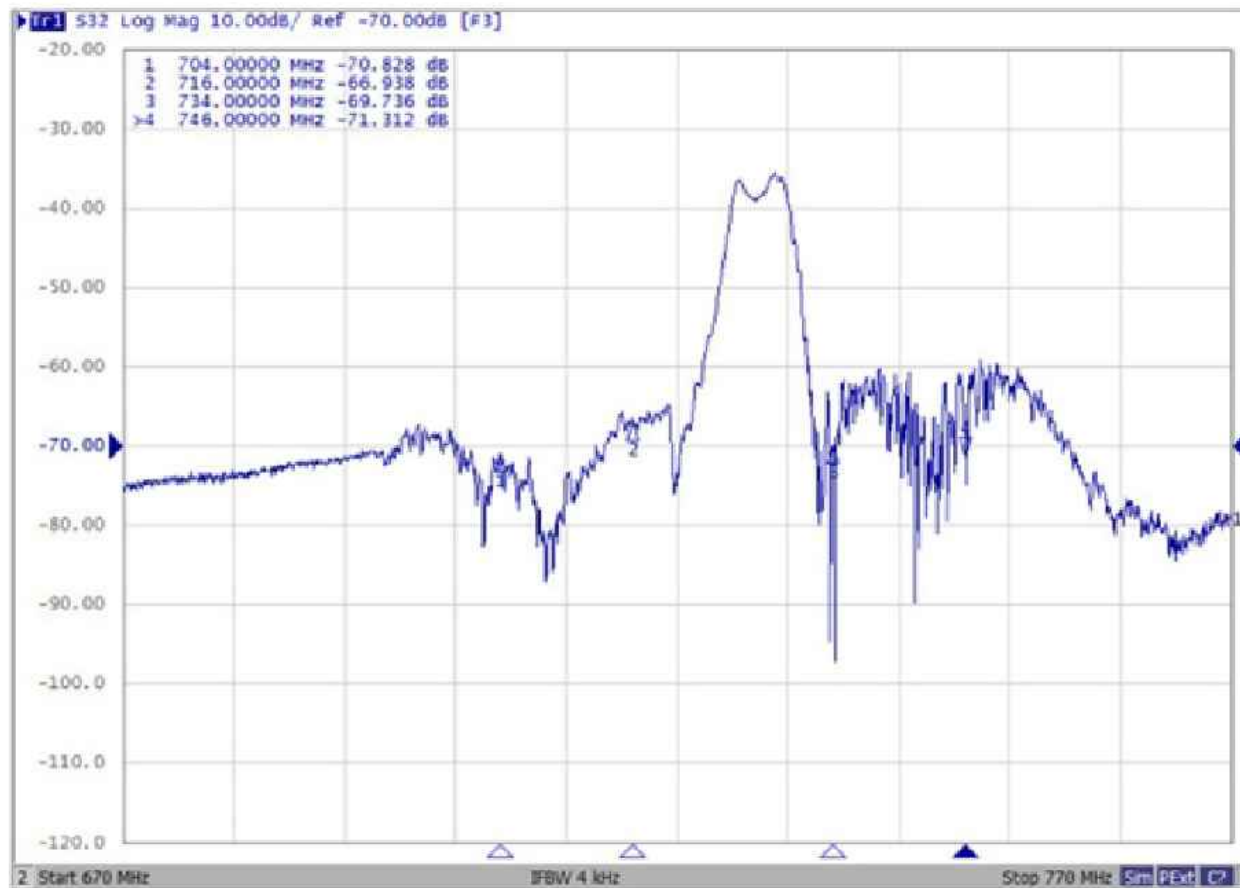
#### Ant to Rx



## Tx to Ant , Ant to Rx

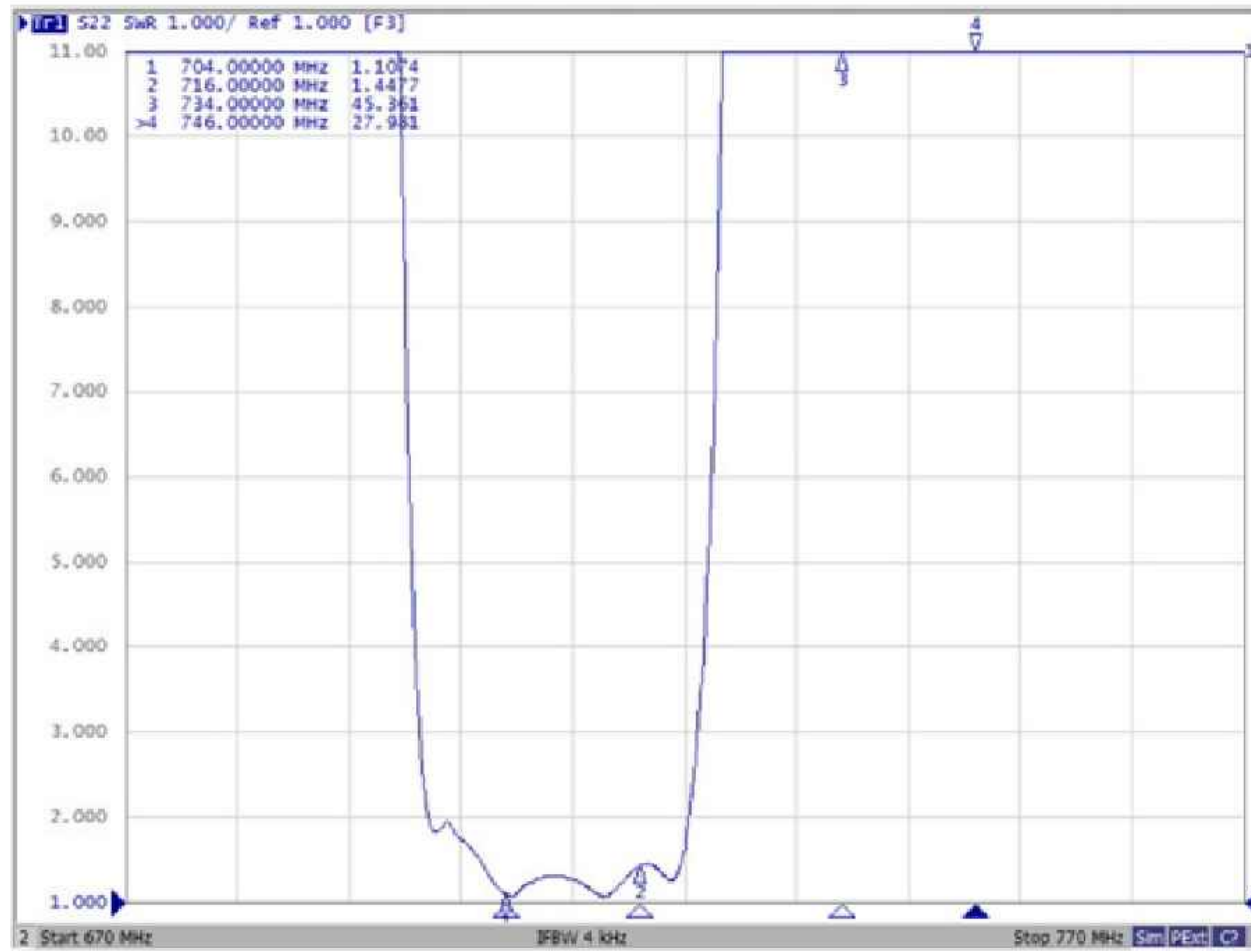


## Isolation

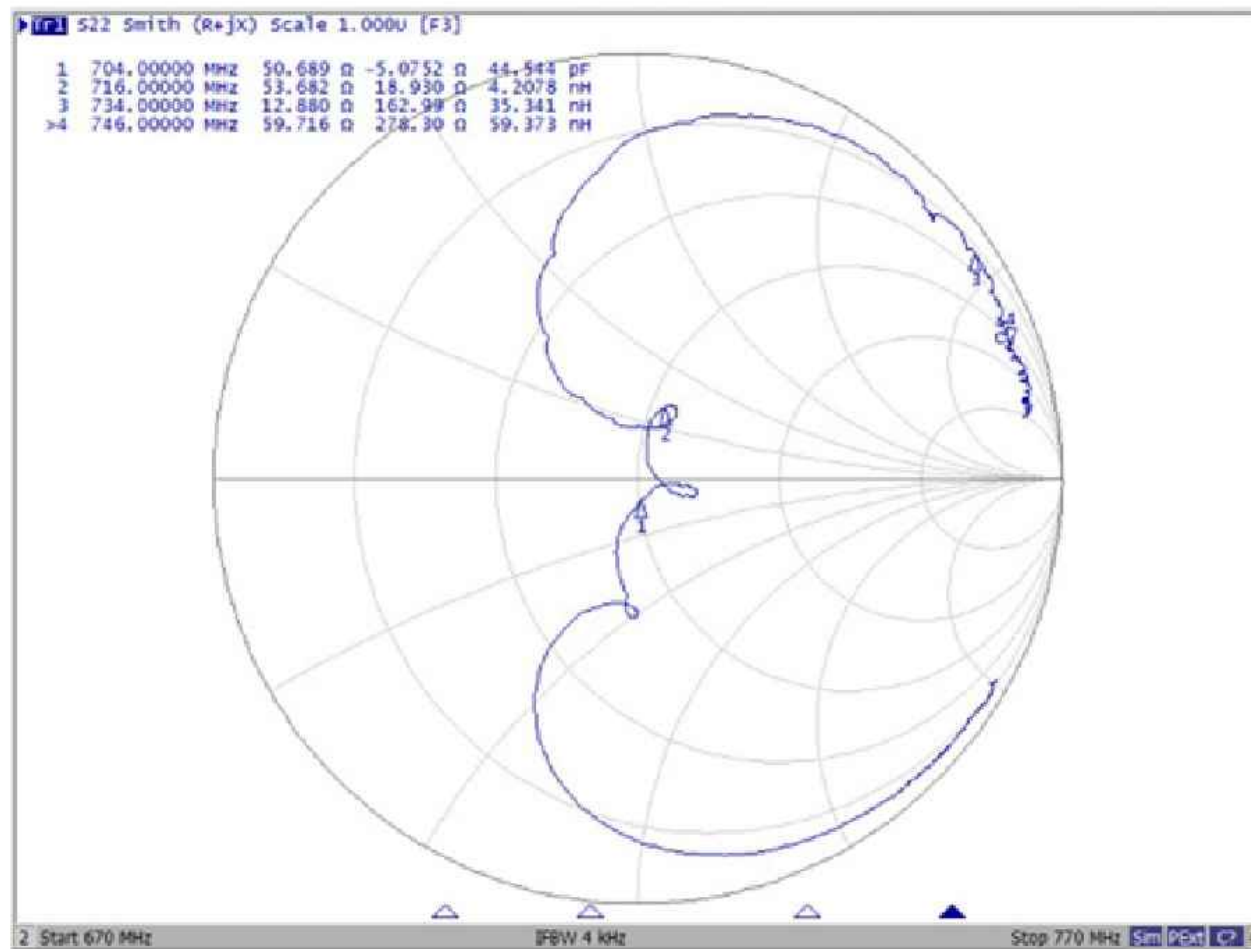




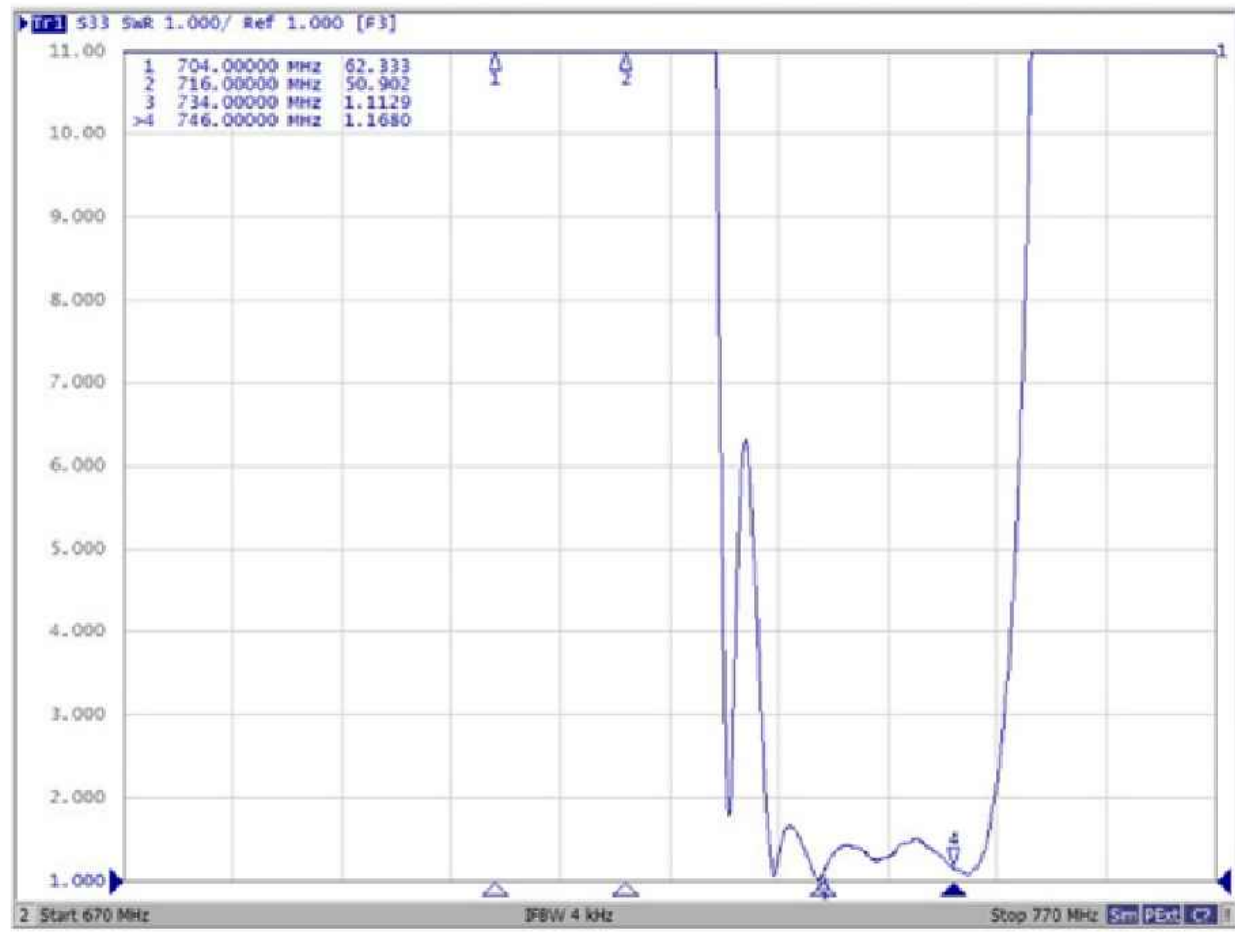
## VSWR (Tx Port)



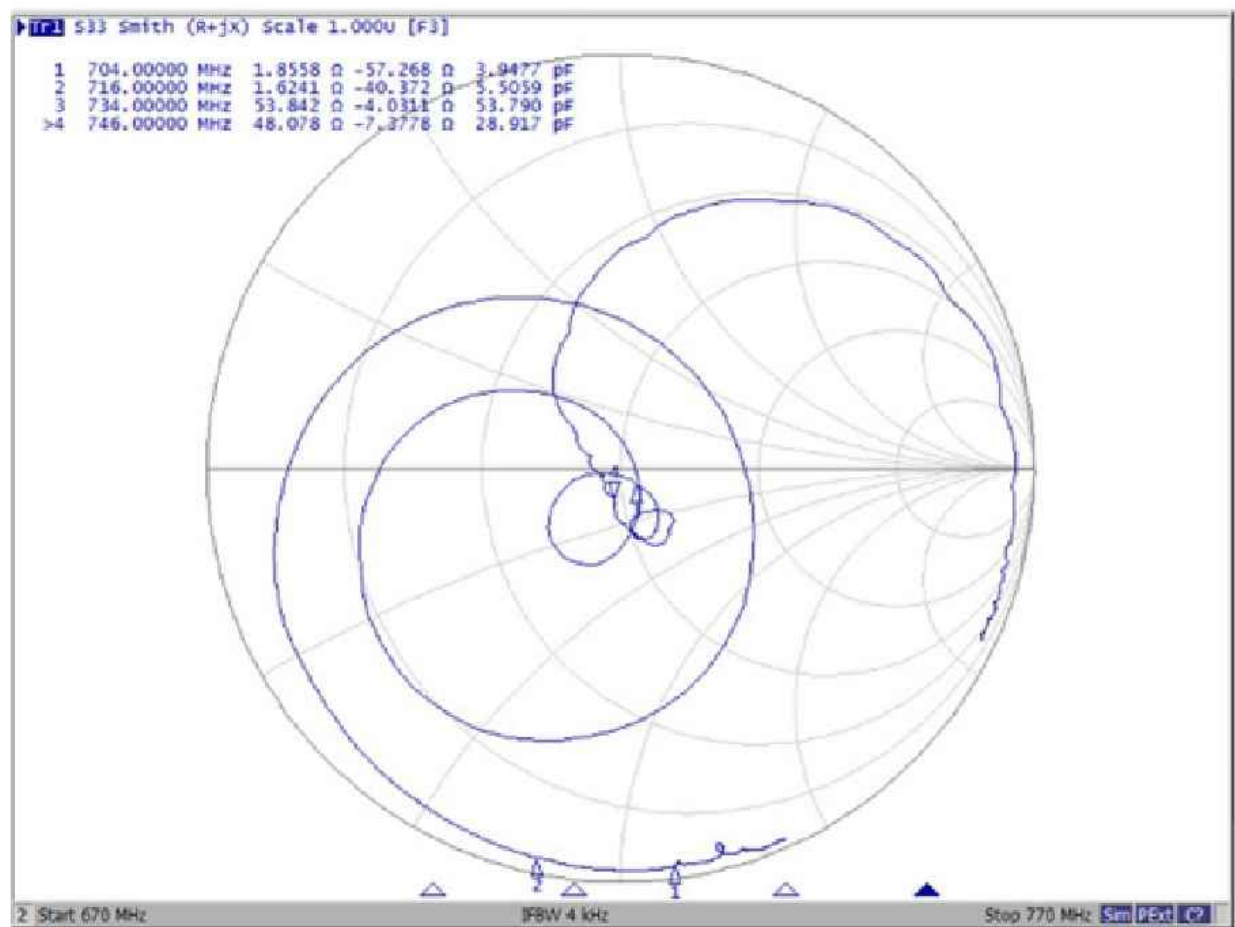
## Smith Chart (Tx Port)



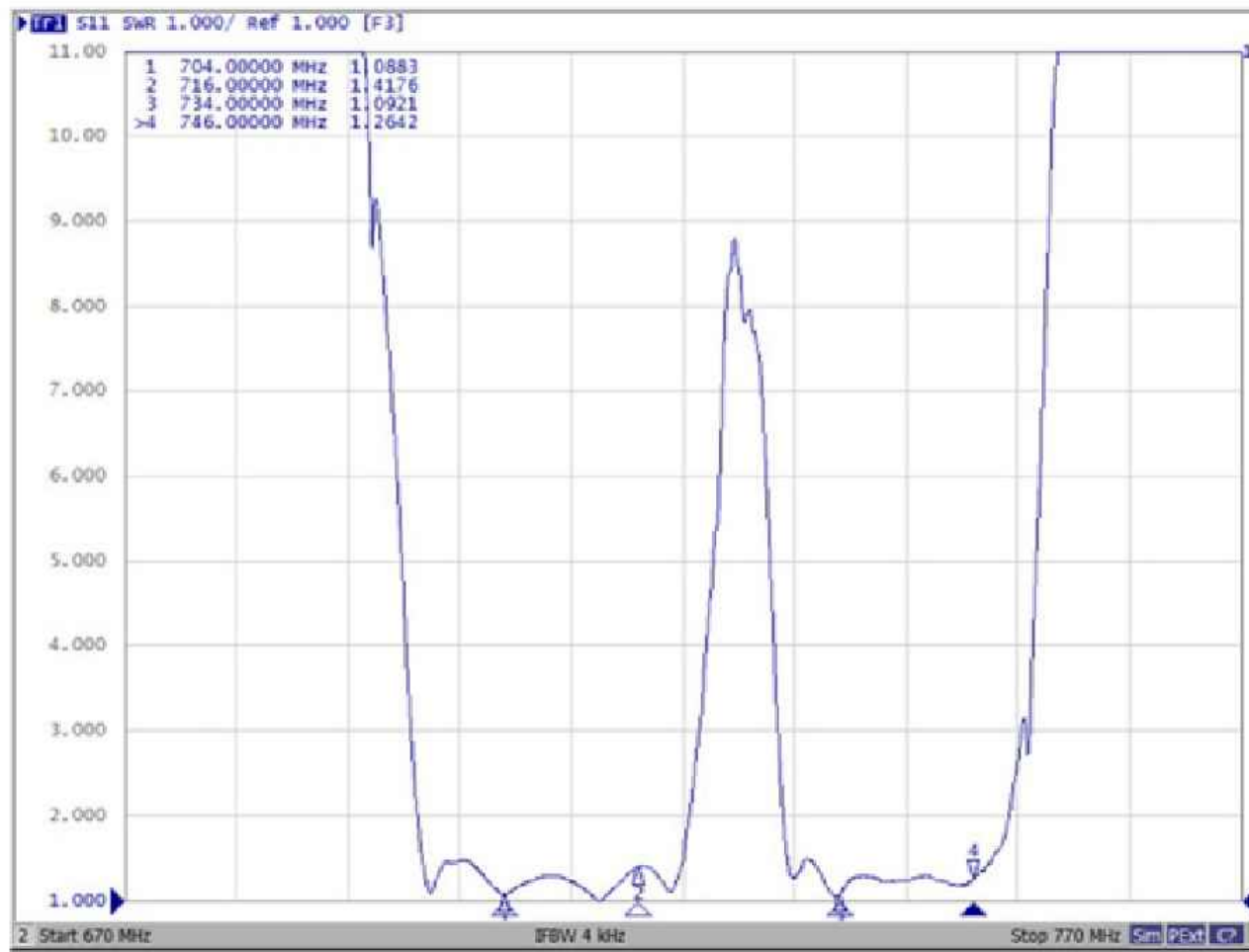
## VSWR (Rx Port)



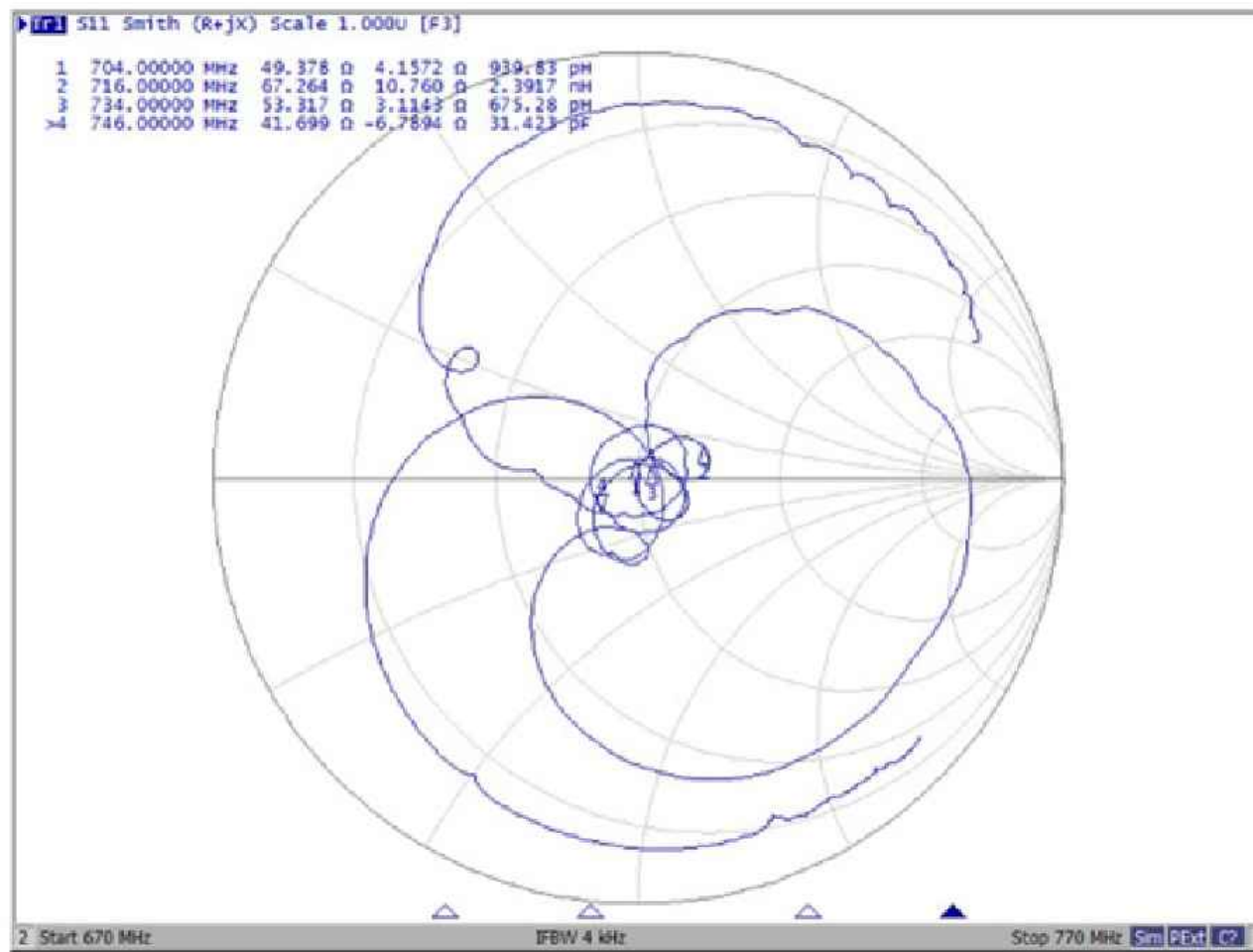
## Smith Chart (Rx Port)



## VSWR (ANT Port)



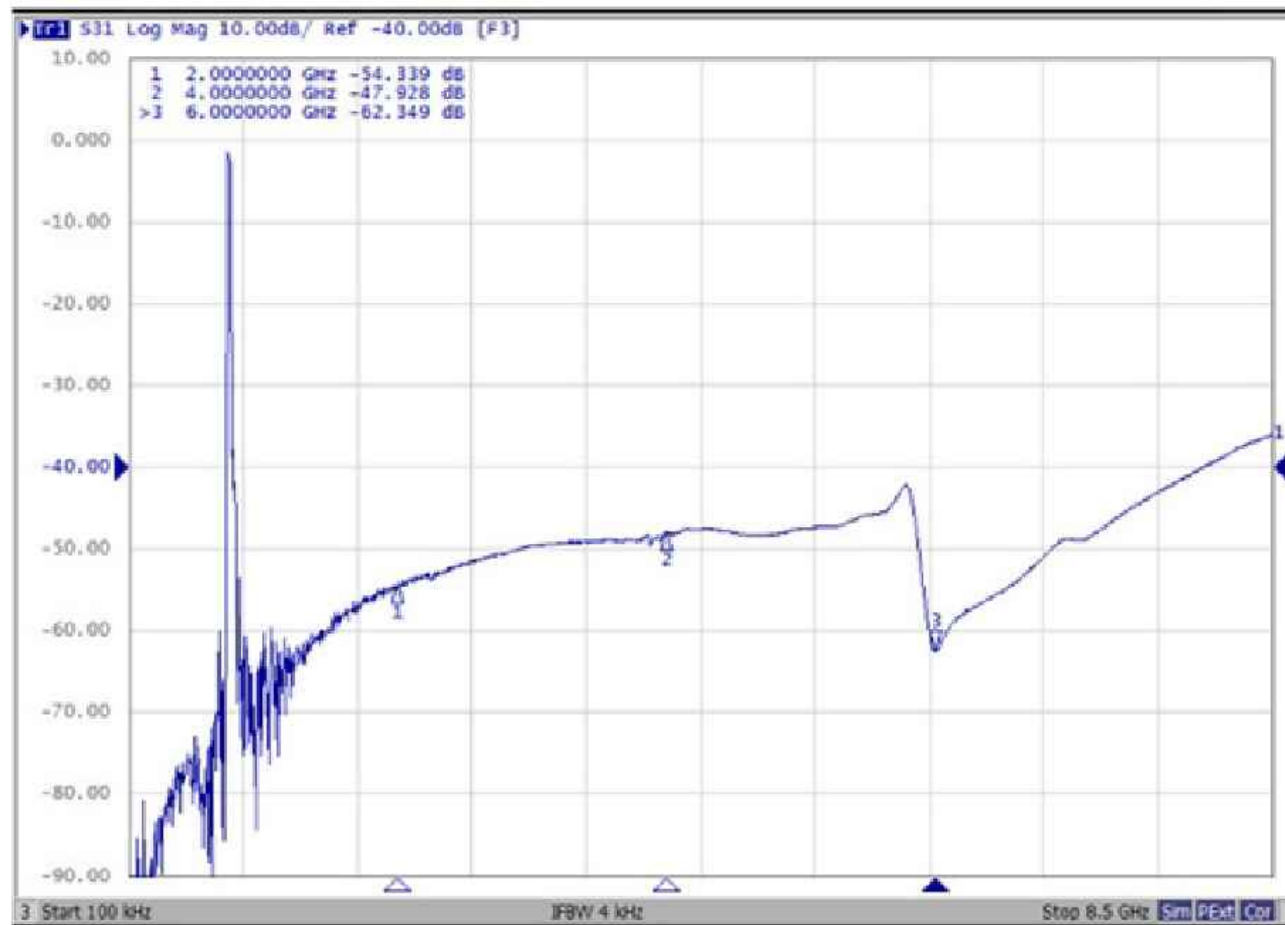
## Smith Chart (ANT Port)



## Tx to Ant (Wide Span)

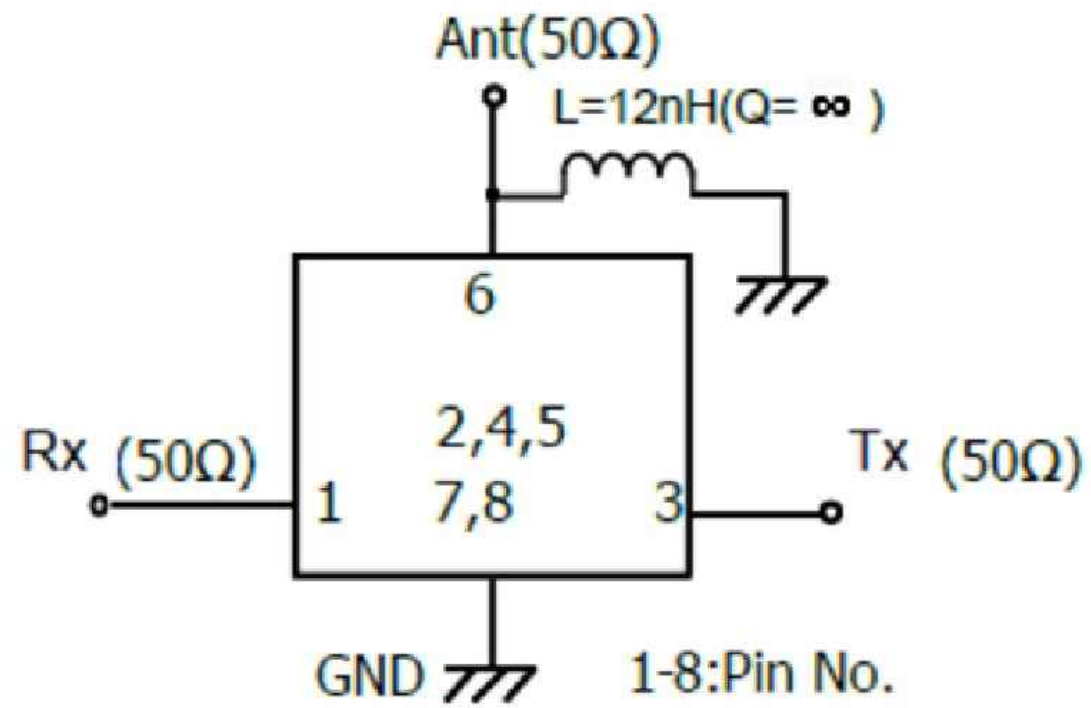


## Ant to Rx (Wide Span)

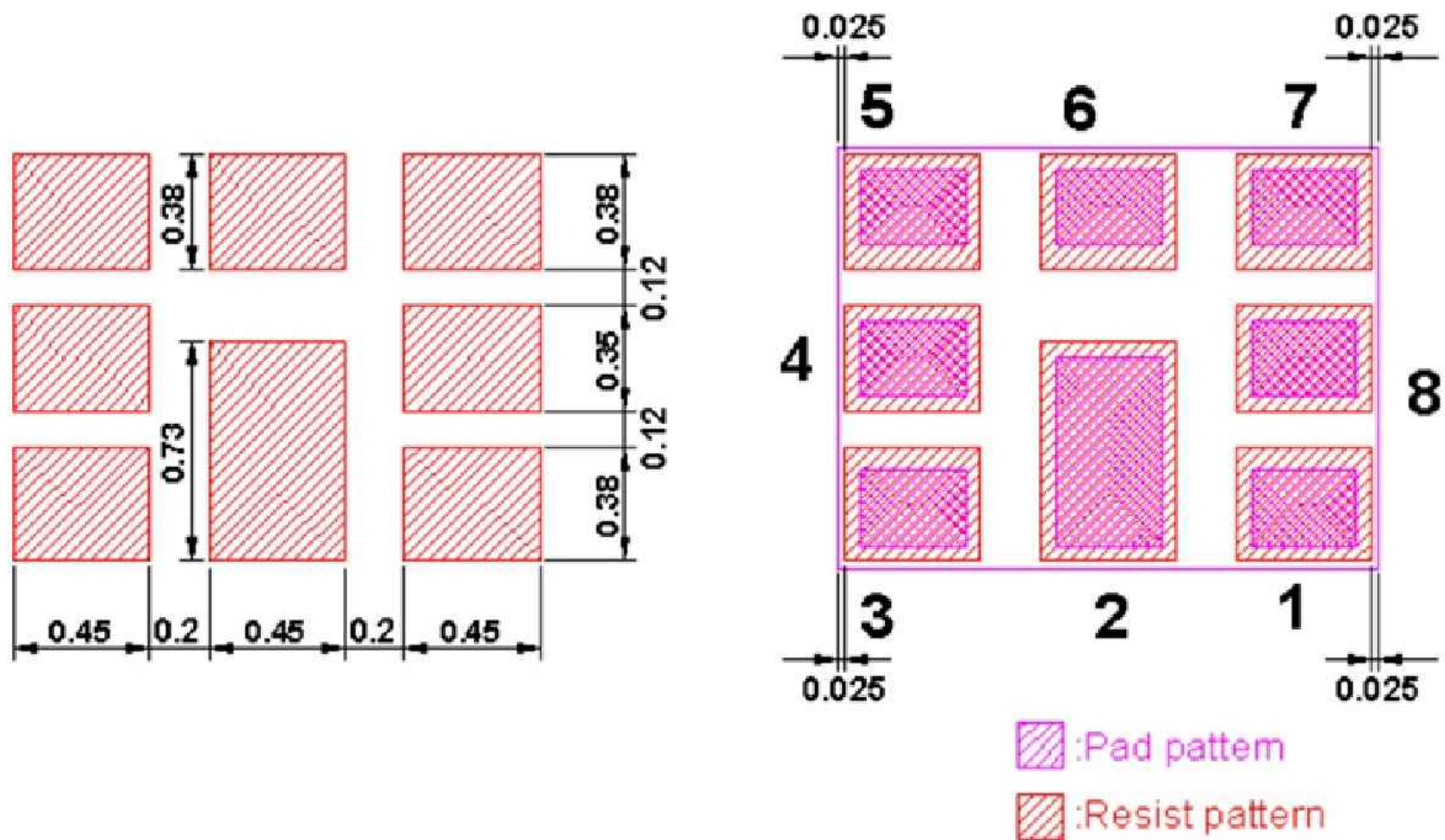




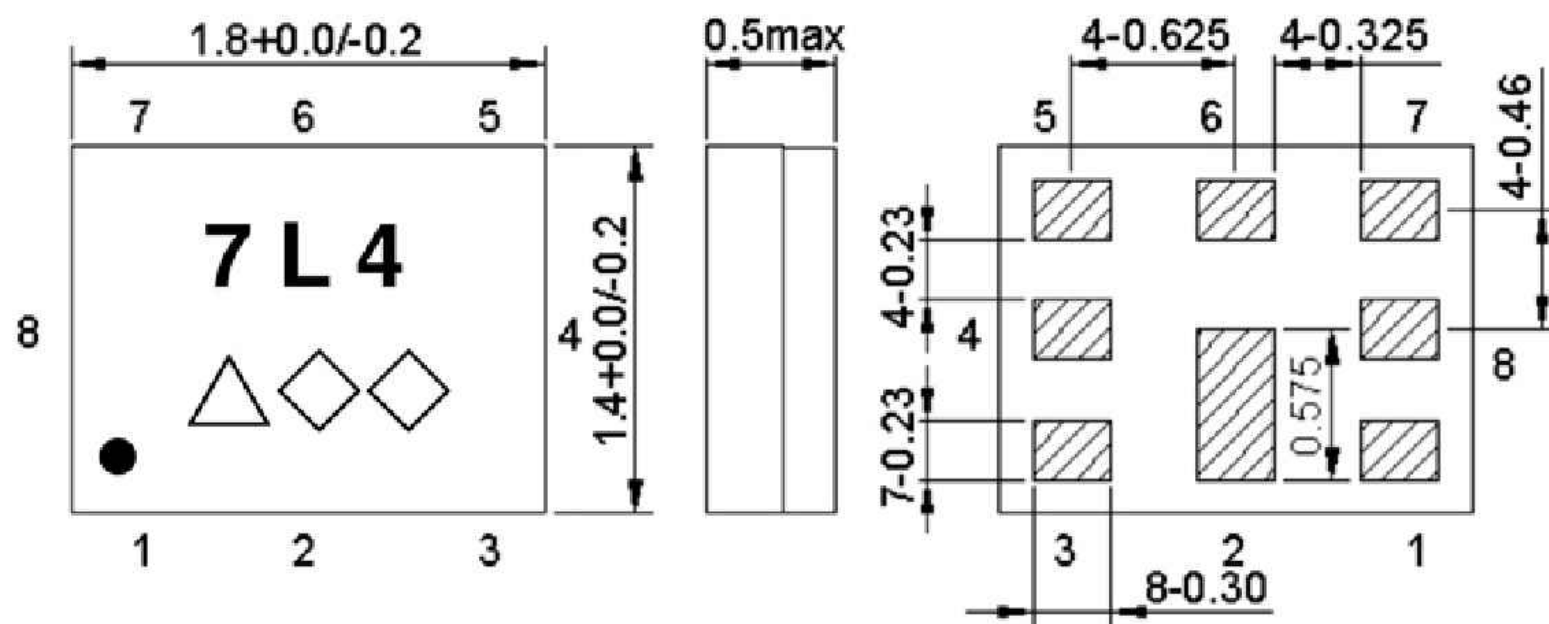
#### D. MEASUREMENT CIRCUIT:



#### D. FOOTPRINT:



## E. OUTLINE DRAWING: (Mass Production)



Marking name : 7L4

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

◇◇: Lot Code.

Not Specified Tolerance : +/-0.05 mm

Coplanarity : 0.1 mm max.

1 to 8 : Pin No.

Unit : mm

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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
2020 / 2024	n	p	q	r	s	t	u	v	w	x	y	z
2021 / 2025	A	B	C	D	E	F	G	H	J	K	L	M
2022 / 2026	N	P	Q	R	S	T	U	V	W	X	Y	Z

### Pin assignment

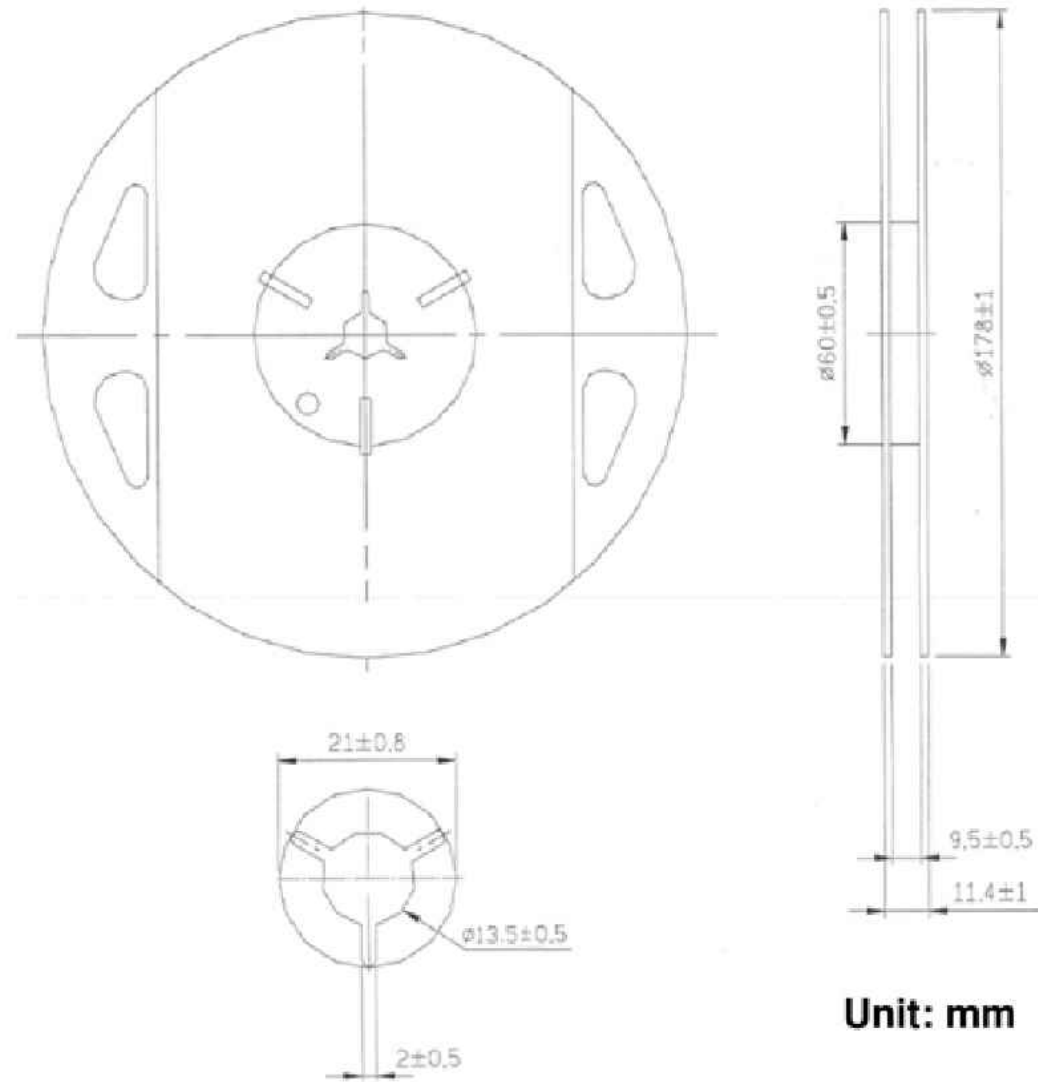
Pin No.	Pin name	Description
1	Rx	Receiver
2	GND	Ground
3	Tx	Transmitter
4	GND	Ground
5	GND	Ground
6	Ant	Antenna
7	GND	Ground
8	GND	Ground

**Figure 1. Dimensions and Pin assignment**

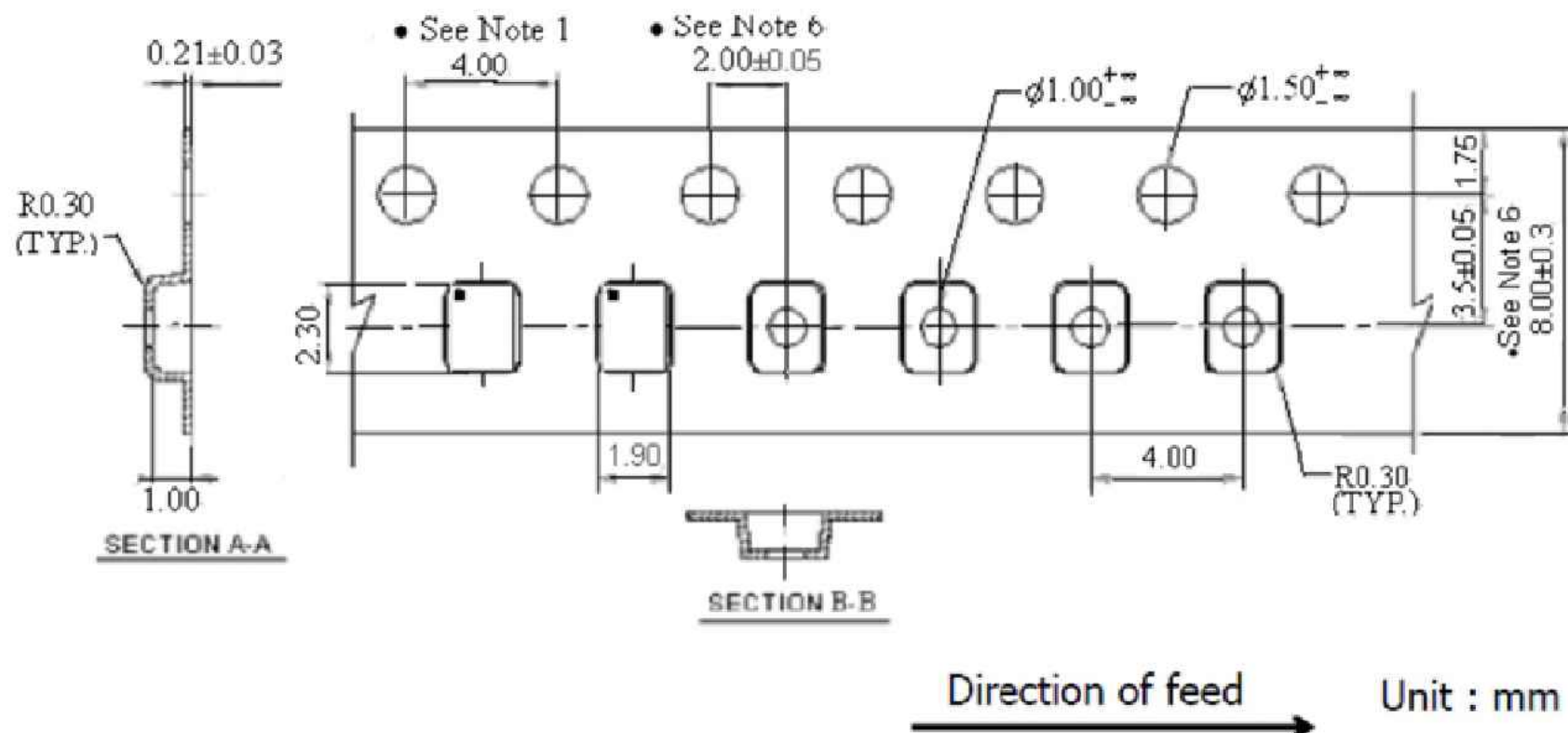
## F. PACKING:

### 1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



### 2. TAPE DIMENSION





## G. 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  $150^{\circ}\text{C}$  shall be 30 seconds min.
3. Heating shall be fixed at  $220^{\circ}\text{C}$  for 50~80 seconds and at  $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$  peak (20~40sec).
4. Time: 2 times.

