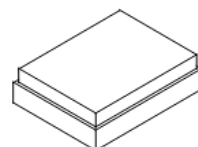


## MAXIMUM RATING:

- Operating temperature range: -40 °C to +85 °C
- Storage temperature range: -55 °C to +125 °C
- Input power : 29dBm (Ta=+50deg C, 10kh, CW )
- Maximum DC Voltage: +/-3 V
- Moisture Sensitivity Level: Level 3
- ESD 50V(MM) 100V(HBM)

**SF2535N**

**1950/2140 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//2.7nH Ω (Single-ended)

### Tx to ANT (f<sub>T0</sub>=1950 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	1920.48~1979.52MHz	dB(*1)	-	1.8	2.2	
Amplitude ripple	1920.48~1979.52MHz	dB	-	0.6	1.2	
VSWR	Tx	-	-	1.8	2.2	
	ANT	-	-	1.5	2.0	
<b>Attenuation:</b>						
<b>1559~1563 MHz</b>		dB	38	41	-	
<b>1565~1606 MHz</b>		dB	38	41	-	
<b>1805~1880 MHz</b>		dB	10	25	-	
<b>2110~2170 MHz</b>		dB	42	50	-	
<b>2400~2500 MHz</b>		dB	33	37	-	
<b>3840~3960 MHz</b>		dB	25	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<sub>T0</sub>=2140 MHz)**

Parameters Description		Unit	Min	Typ	Max	Remarks	
Insertion Loss		2110.48~2169.52MHz	dB(*1)	-	1.8	2.2	
Amplitude ripple		2110.48~2169.52MHz	dB	-	0.6	1.2	
VSWR	ANT	2110.48~2169.52MHz	-		1.6	2.0	
	Rx		-		1.6	2.1	
Attenuation:							
190 MHz		dB	50	81	-		
1730~1790 MHz		dB	40	46	-		
1920~1980 MHz		dB	45	49	-		
1980~2015 MHz		dB	15	49	-		
2015~2075 MHz		dB	18	28	-		
2400~2500 MHz		dB	35	40			
4030~4150 MHz		dB	35	44			
5950~6130 MHz		dB	33	41			

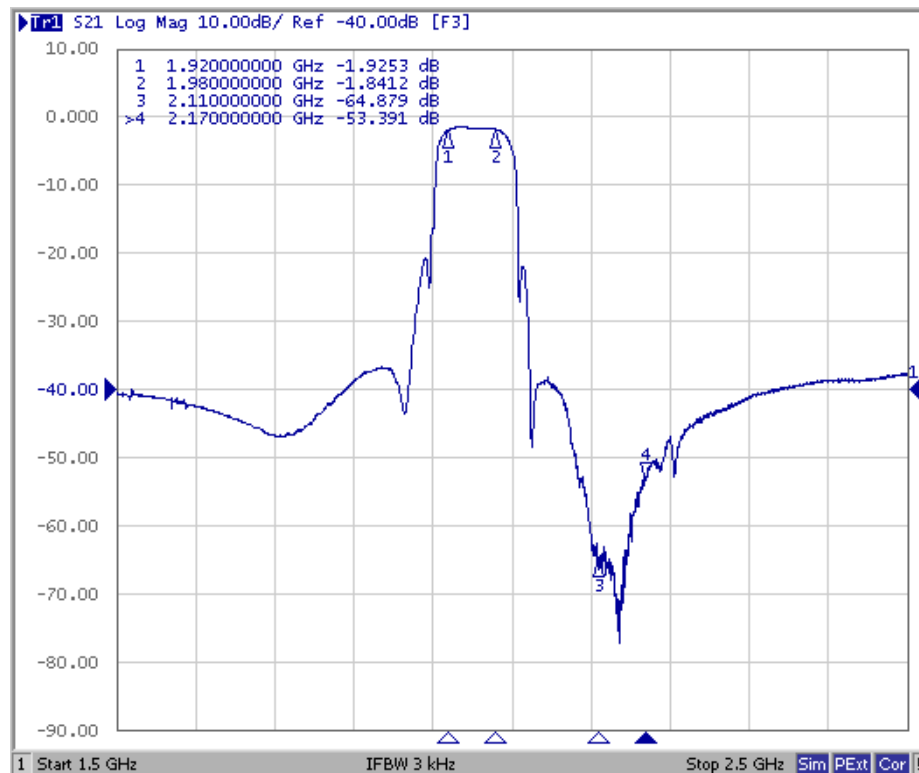
**Tx to Rx**

Isolation	1920.48~1979.52 MHz	dB	53	56	-	
			53	57	-	
	2110.48~2169.52 MHz	dB	49	51	-	
			51	55	-	

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

## FREQUENCY CHARACTERISTICS:

### Tx to Ant

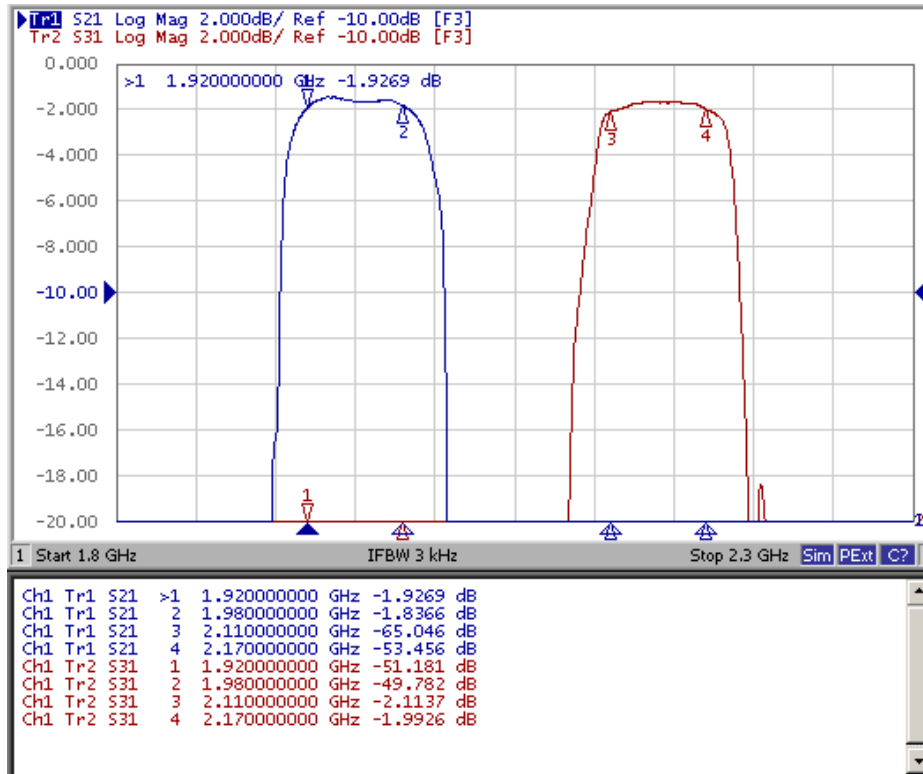


### Ant to Rx

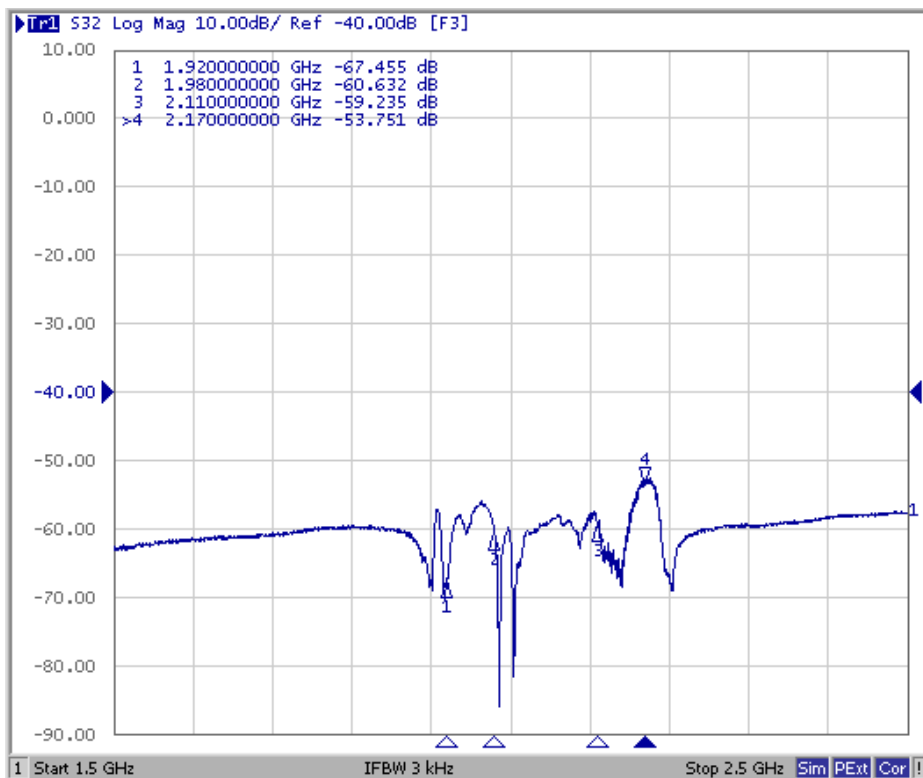


These data **exclude** loss that comes from the test board.

## Tx to Ant ,Ant to Rx

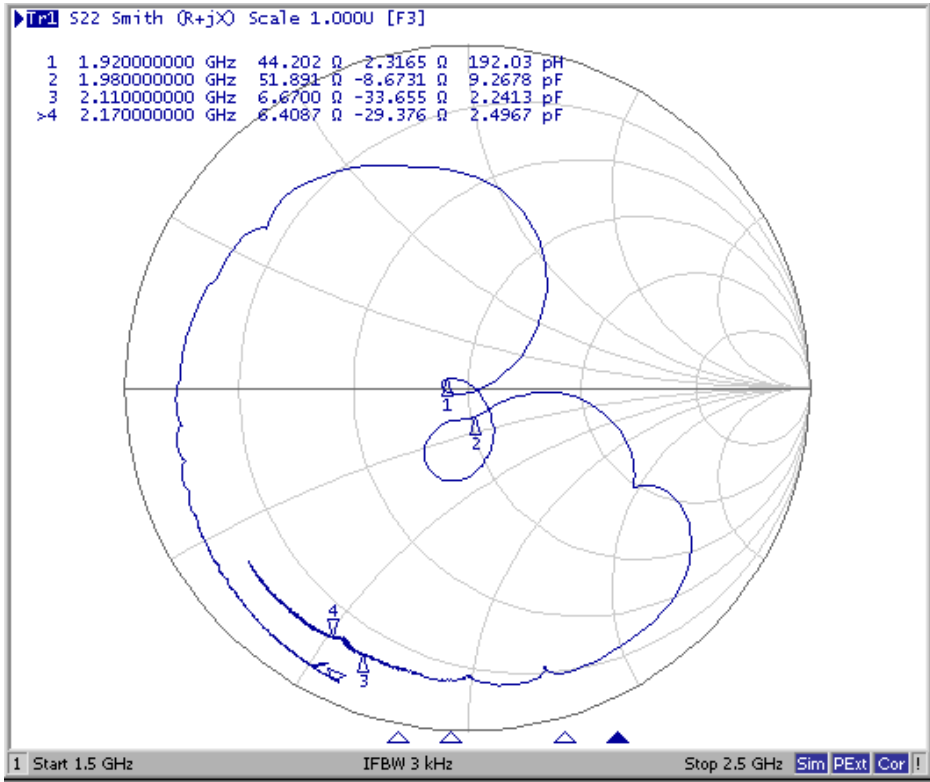
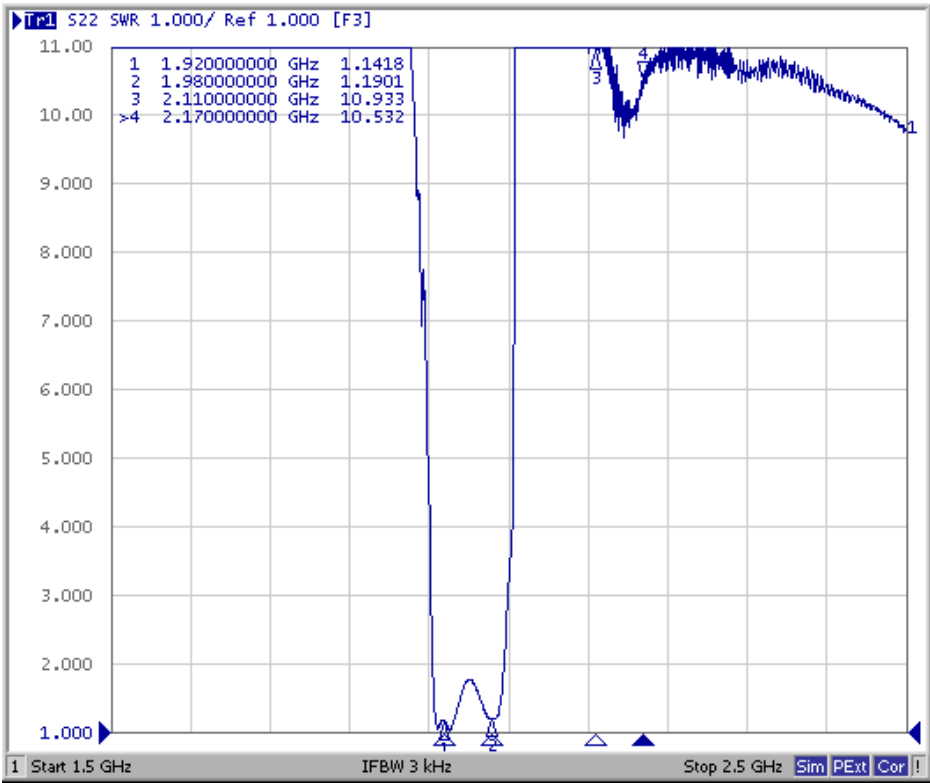


## Tx to Rx Isolation

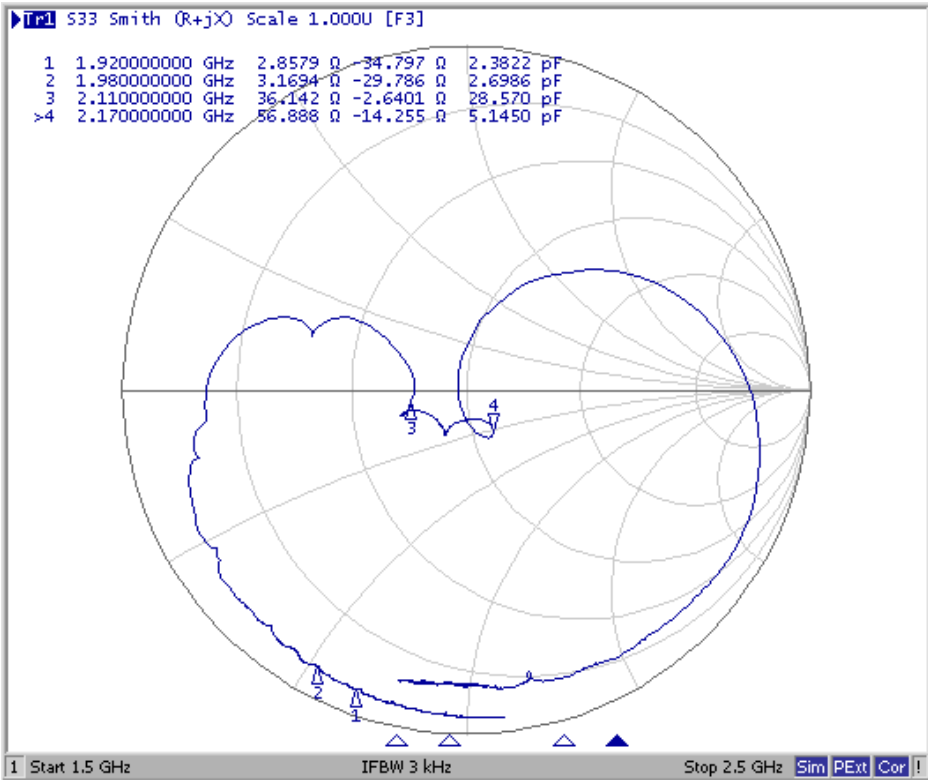
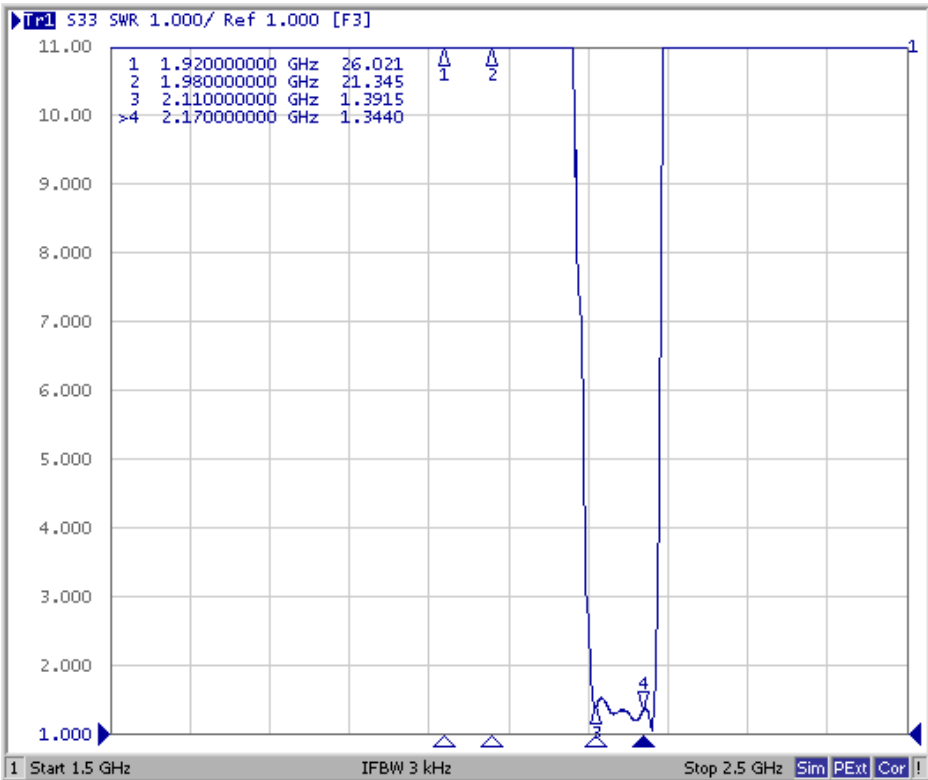


These data **exclude** loss that comes from the test board.

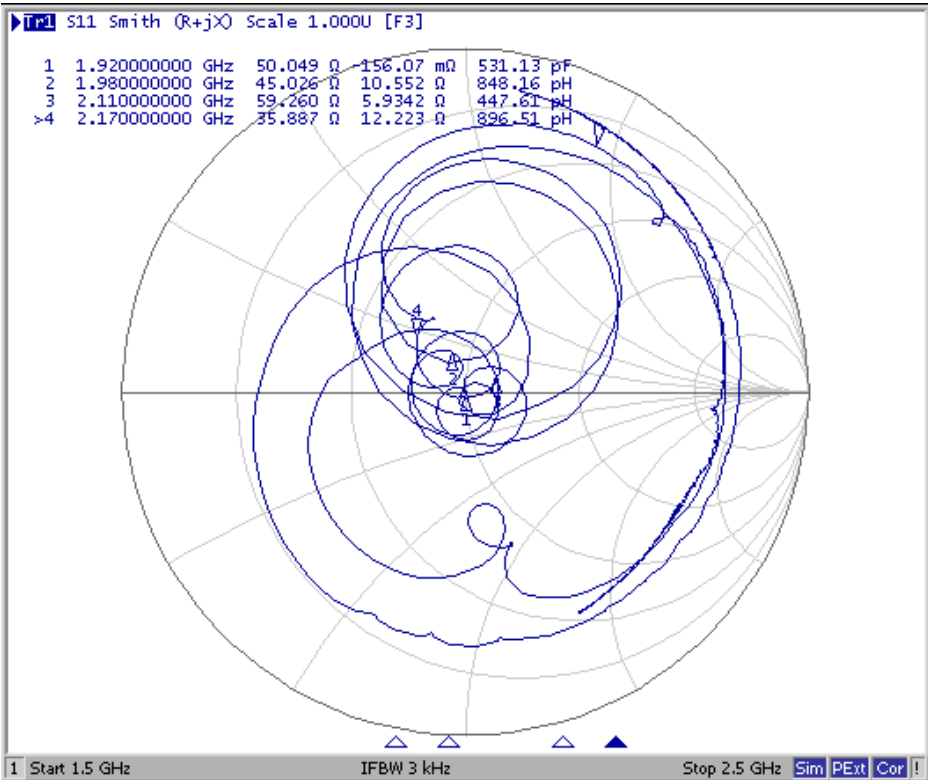
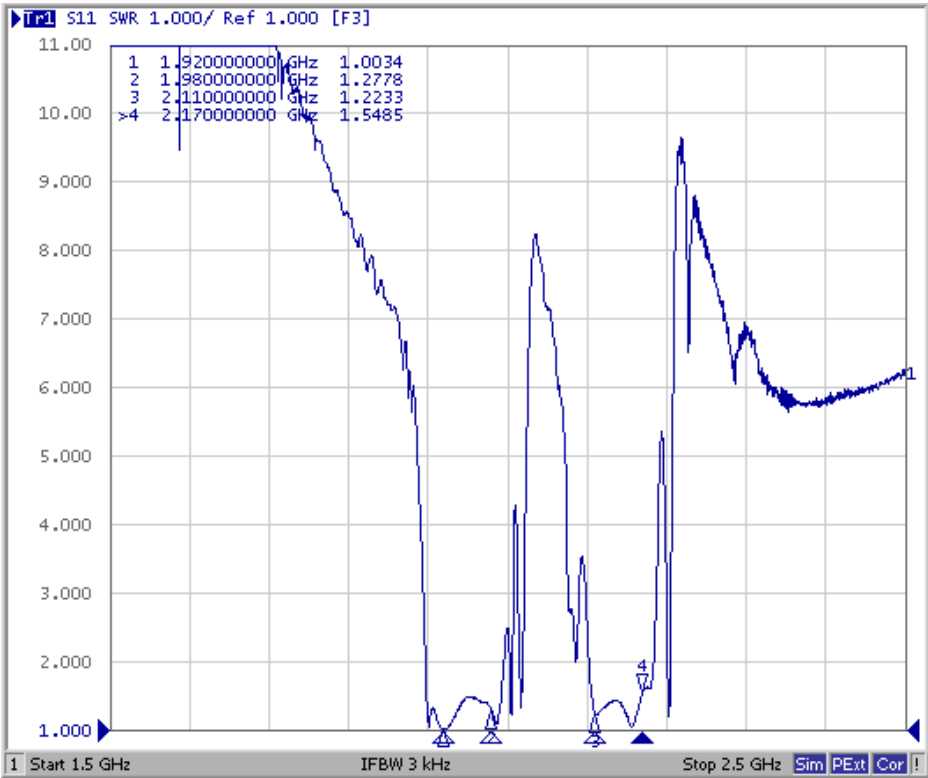
Tx Port



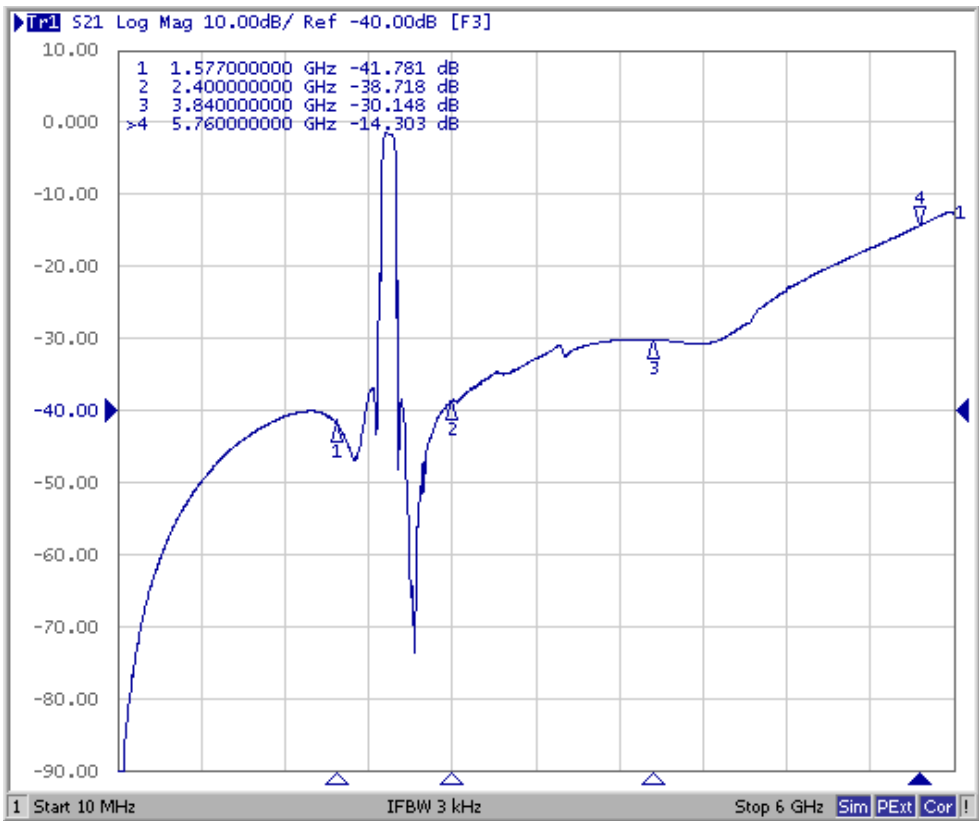
# Rx Port



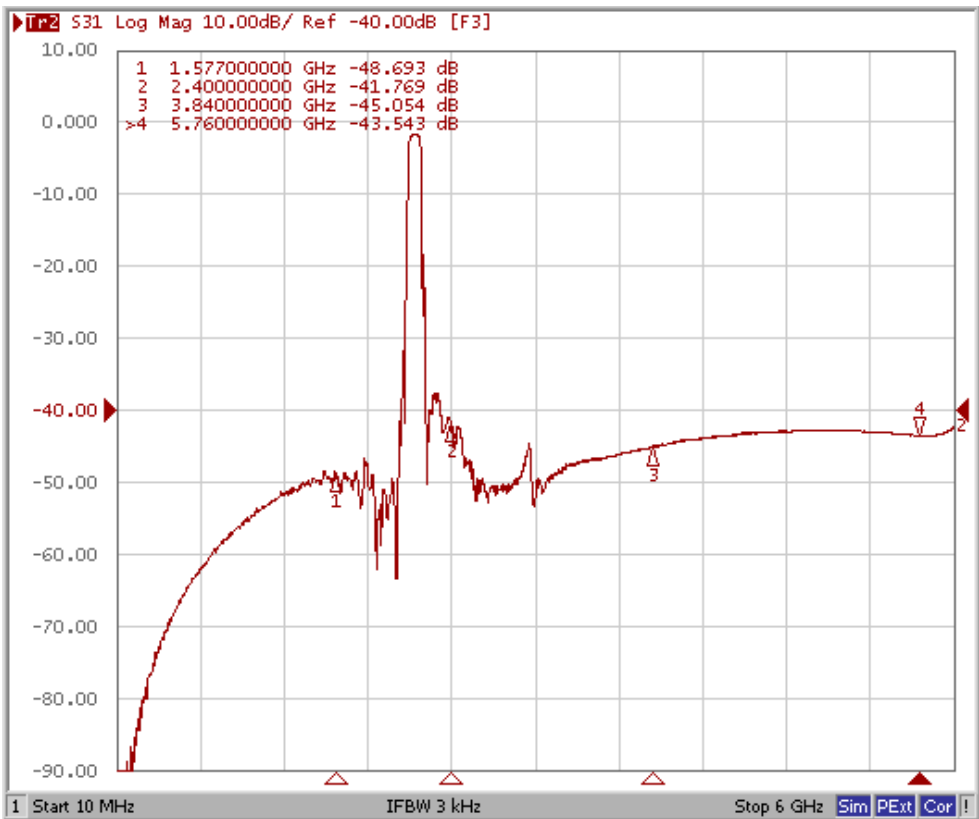
# Ant Port



# Tx to Ant (Wide span)

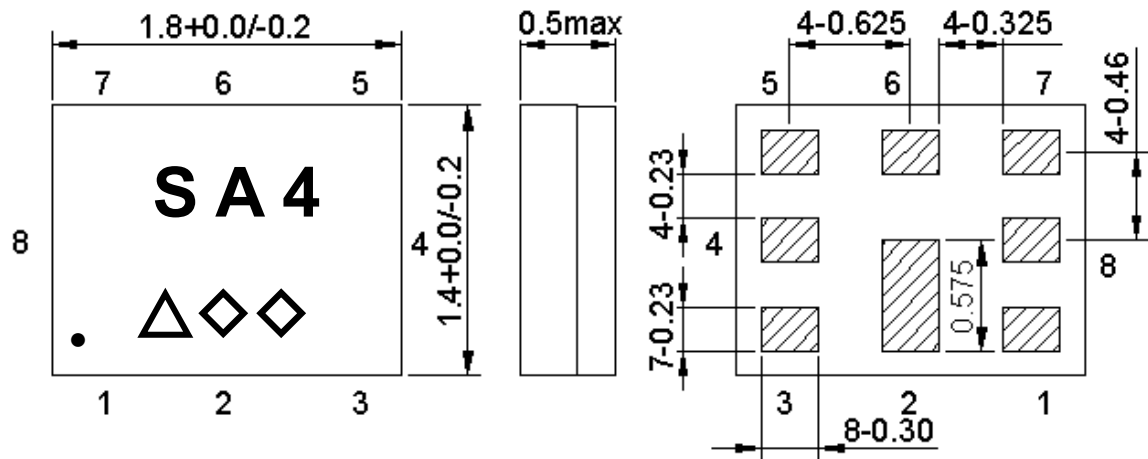


# Ant to Rx (Wide span)





## OUTLINE DRAWING:



Marking name : **SA4**

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

◇◇: Lot Code.

Not Specified Tolerance :  $\pm 0.05$  mm

Coplanarity :  $0.1$  mm max.

1 to 8 : Pin No.

Unit : mm

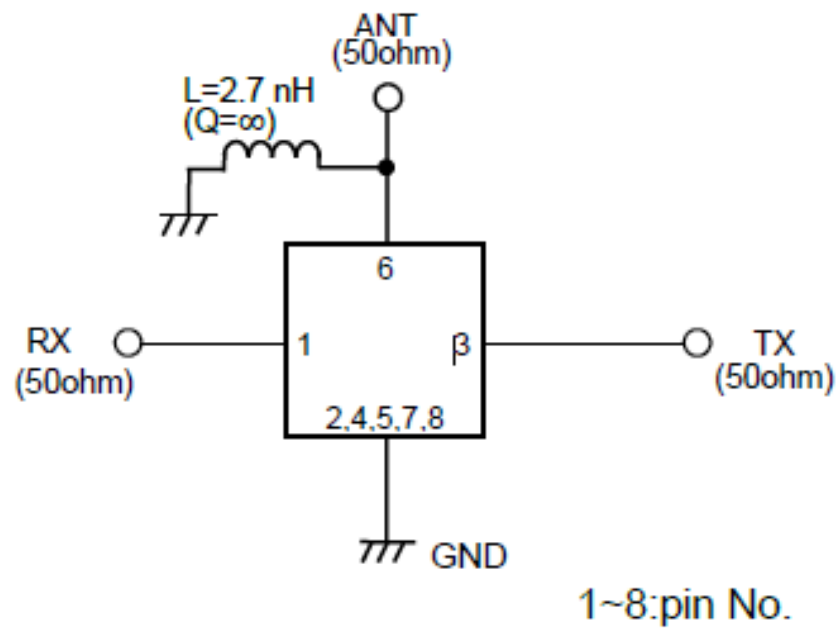
Product Date Code. Follow below table.

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

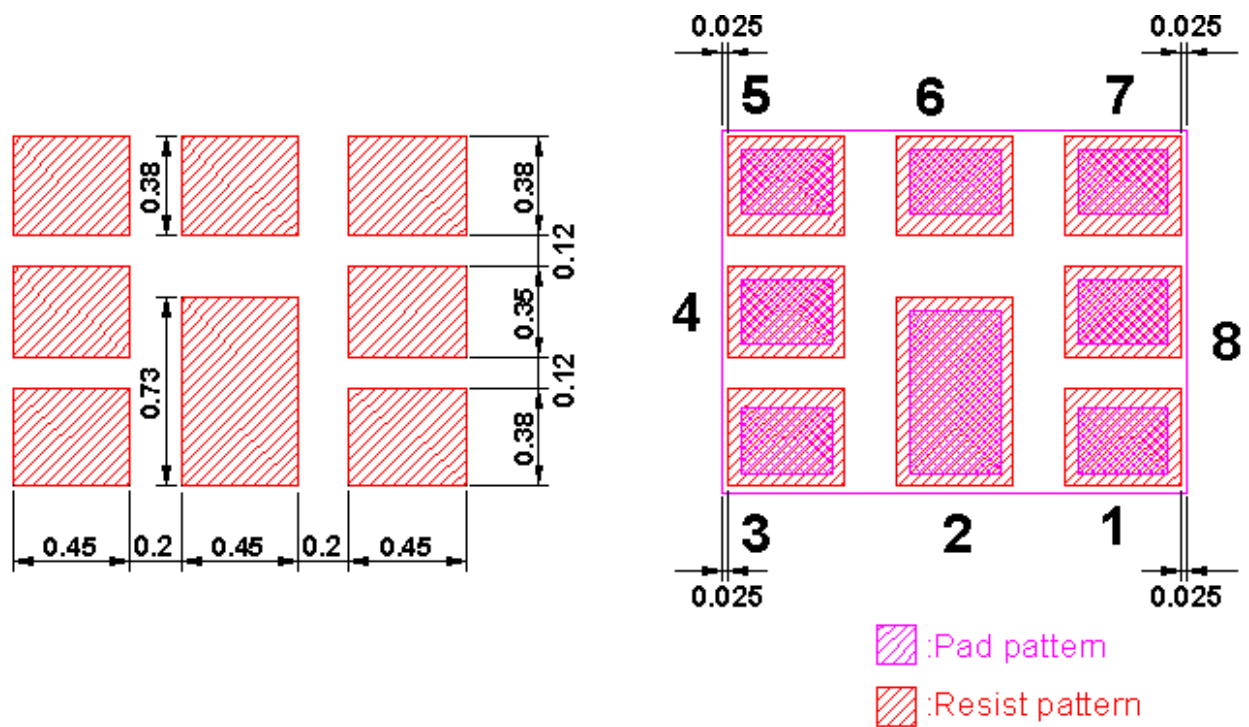
## Pin Configuration:

Pin No.	Pin Name	Description
1	Rx	Receive 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

## Evaluation Circuit

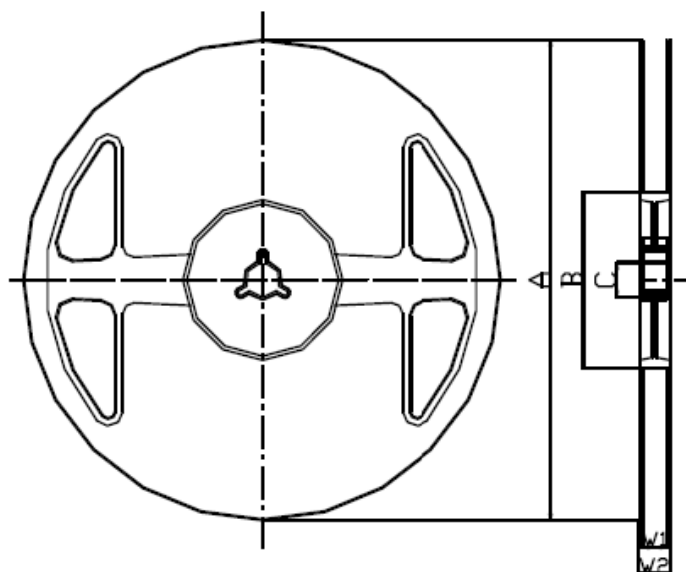


## FOOTPRINT:



**PACKING:**  
REEL DIMENSION

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



**Materials of Reel**

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

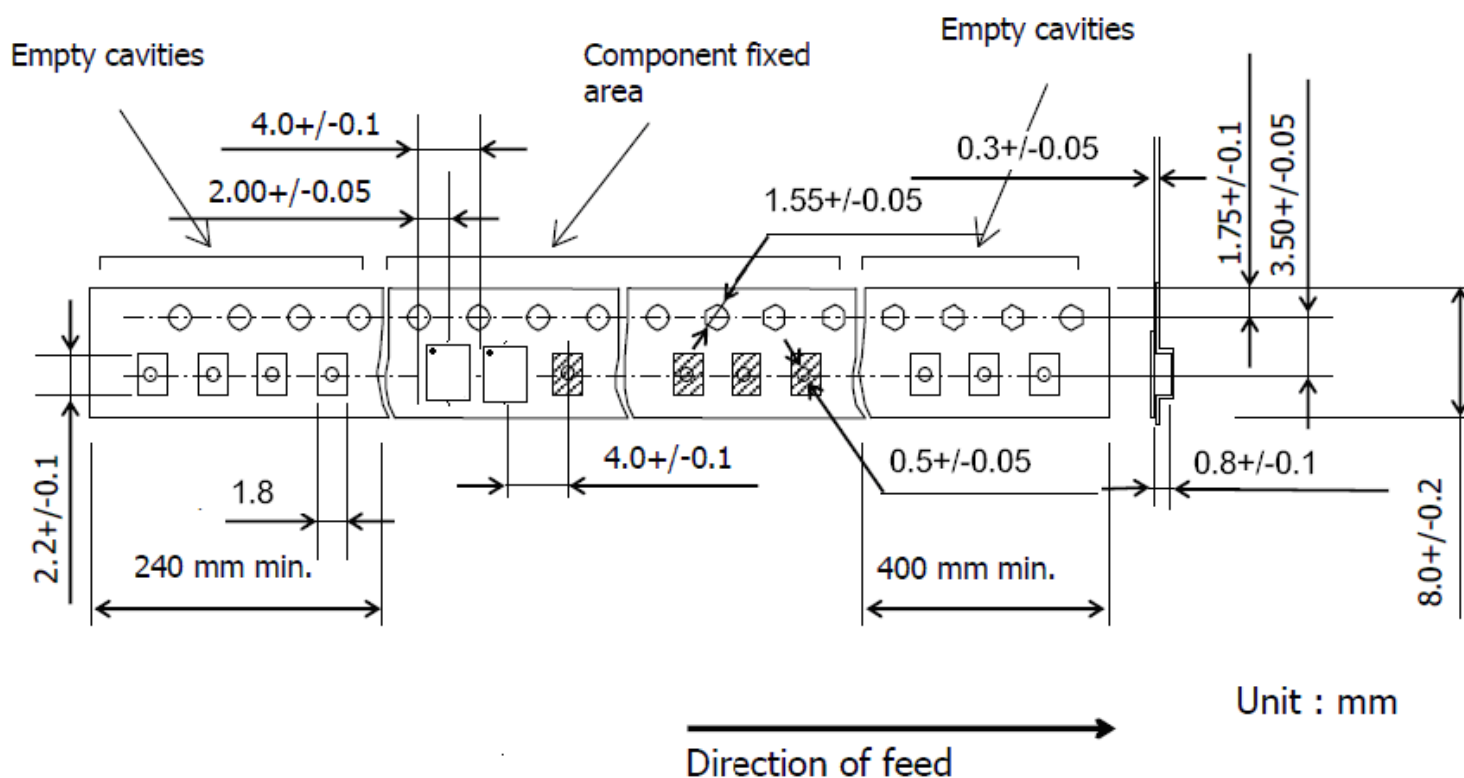
Color : Black

Surface resistance (reference value) :  $10^9 \Omega/\text{sq}$  Max.

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 pcs	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

**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 245~260°C peak (min. 10sec).
4. Time : 3 times.

