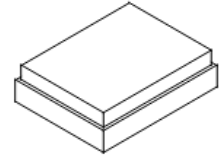


SF2587NM

**1732.5/2132.5 MHz
Filter Duplexer**



SM1814

MAXIMUM RATING:

- Operating temperature range: -20 °C to +85 °C
- Storage temperature range: -20 °C to +85 °C
- Tx Input power : 29dBm (Ta=+50°C,10kh,CW)
- 3.1 Rx Input power : 15dBm (Ta=+50°C,10kh,CW)
- Maximum DC Voltage: +/-3 V
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 50V(MM) 150V(HBM)

ELECTRICAL CHARACTERISTICS:

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

Terminating impedance (Rx Port): 100//12nH Ω (Balanced)

Terminating impedance (Ant Port): 50//3.5nH Ω (Single-ended)

Tx to ANT (f_{T0}=1732.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss(*1)	1710~1755 MHz	dB	-	1.6	2.2	
Amplitude ripple	1710~1755 MHz	dB	-	0.5	1.3	
VSWR	ANT	-	-	1.5	2.0	
	Tx	-	-	1.5	2.0	
Attenuation:						
1559~1563 MHz		dB	45	50	-	Compass
1565.42~1573.374 MHz		dB	45	50	-	Wideband GPS, lower side-lobe
1573.374~1577.466 MHz		dB	45	50	-	Regular GPS, main-lobe
1577.466~1585.42 MHz		dB	45	50	-	Wideband GPS, upper side-lobe
1597.5515~1605.886 MHz		dB	40	46	-	GLONASS
2110~2155 MHz		dB	45	52		Rx
3420~3520 MHz		dB	30	37		2fo
5130~5265 MHz		dB	20	28		3fo



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}=2132.5 MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss(*1)	2110~2155MHz	dB		1.8	2.3	
Amplitude ripple	2110~2155MHz	dB		0.5	0.7	
Phase balance	2110~2155MHz	Deg	-10	-3/+1	+10	
Amplitude balance	2110~2155MHz	dB	-1.0	-0.4/0	+1.0	
VSWR	ANT	2110~2155MHz		1.5	2.0	
	Rx			1.4	2.0	

Attenuation:

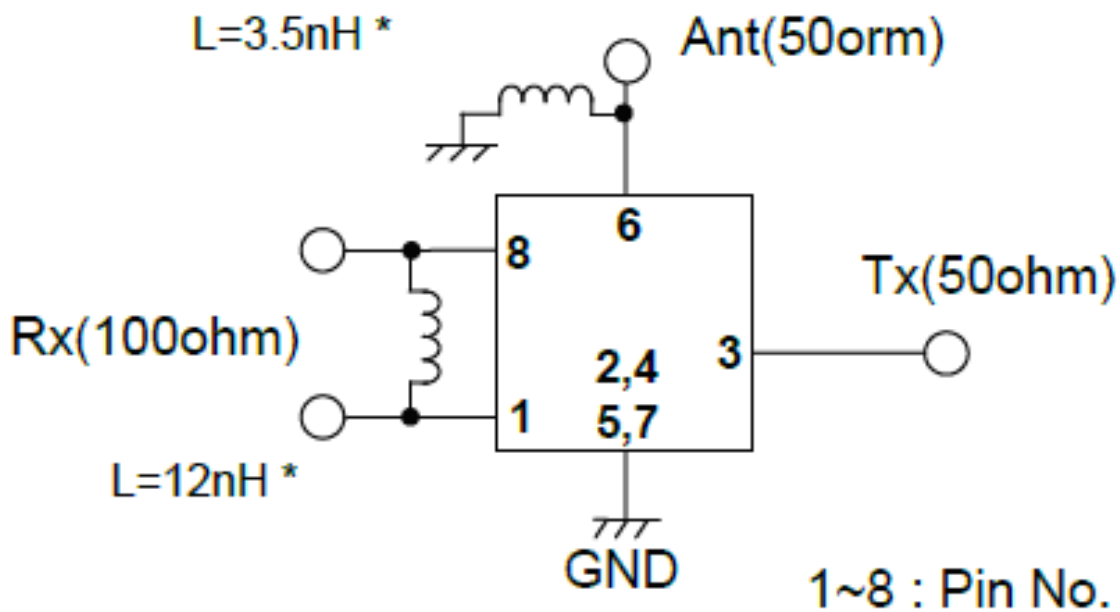
1~1710 MHz	dB	45	59		
1710~1755 MHz	dB	45	63		Tx
2400~2500 MHz	dB	43	48		IMS 2.4G
4220~4310 MHz	dB	45	54		2x LO
6330~6465 MHz	dB	45	54		3x LO

Tx to Rx

Isolation	1710~1755 MHz	dB	55	62	-	
	2110~2155 MHz	dB	50	54	-	

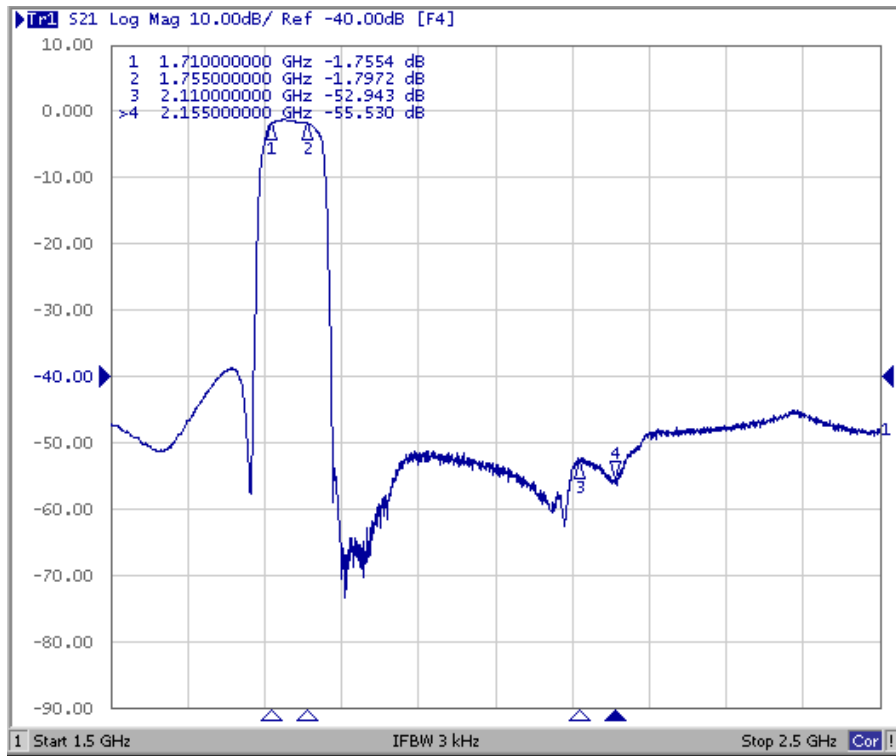
(*1) Specification of insertion loss excludes loss that comes from the test board.

Evaluation Circuit

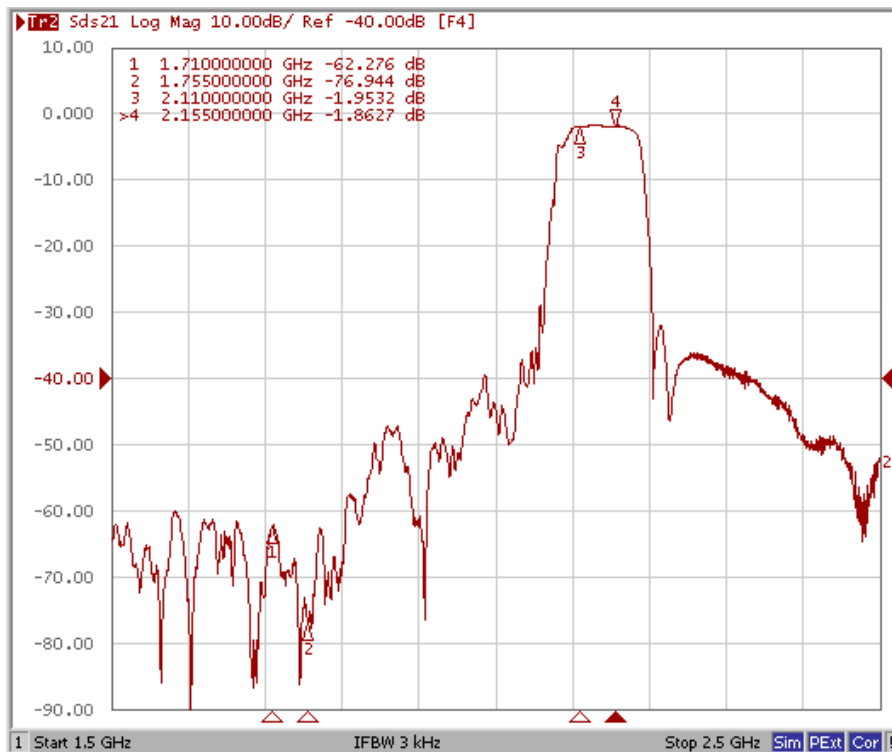


FREQUENCY CHARACTERISTICS:

Tx to Ant

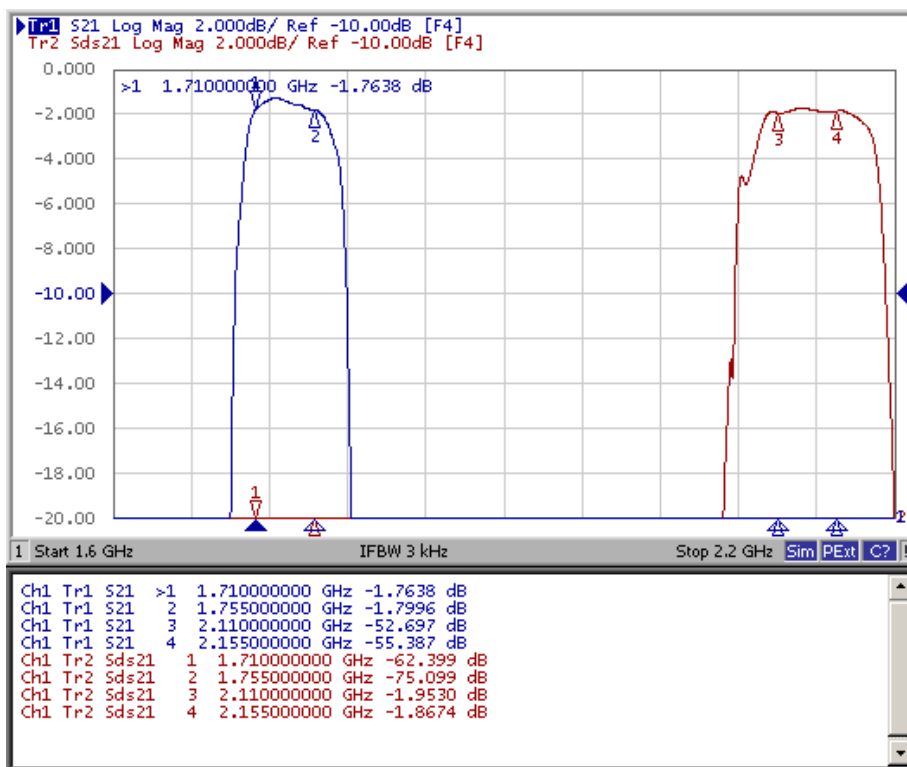


Ant to Rx

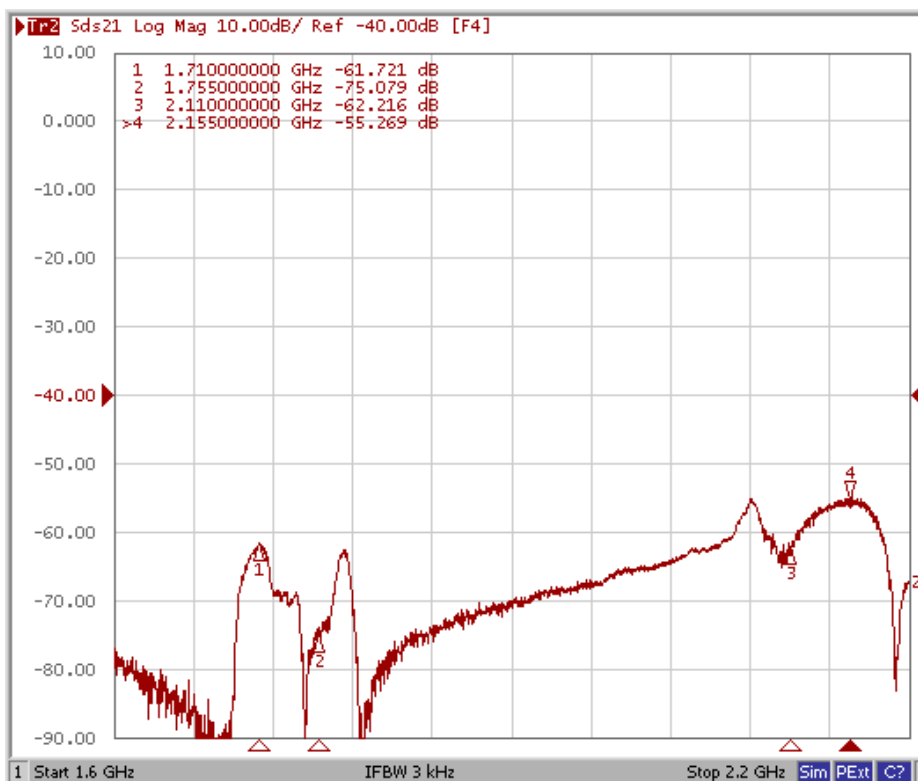


These data exclude loss that comes from the test board.

Tx to Ant ,Ant to Rx

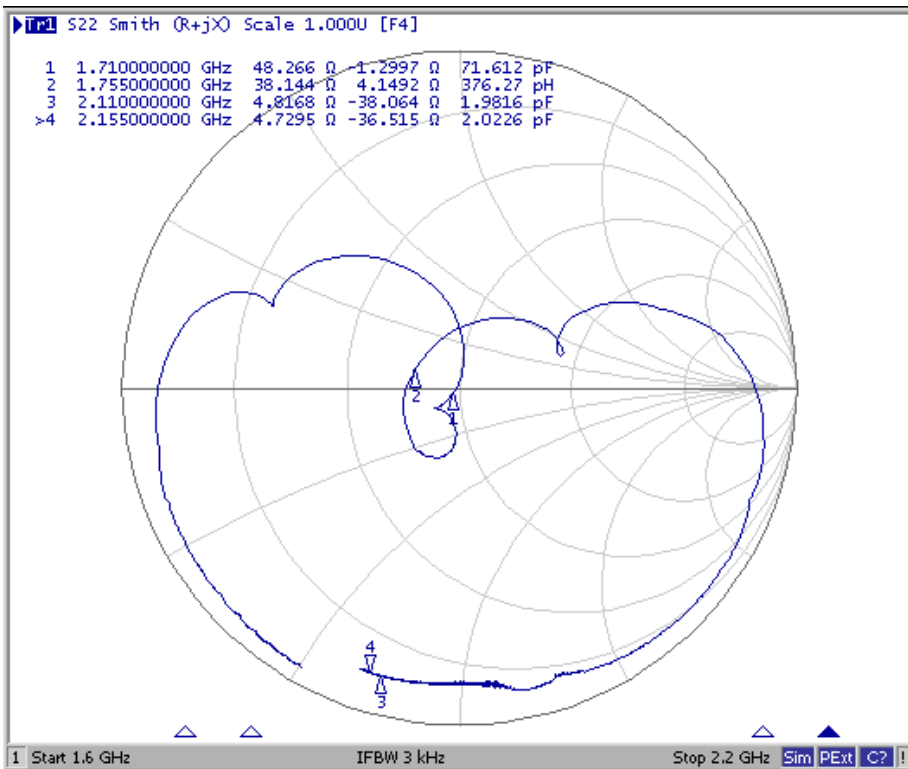
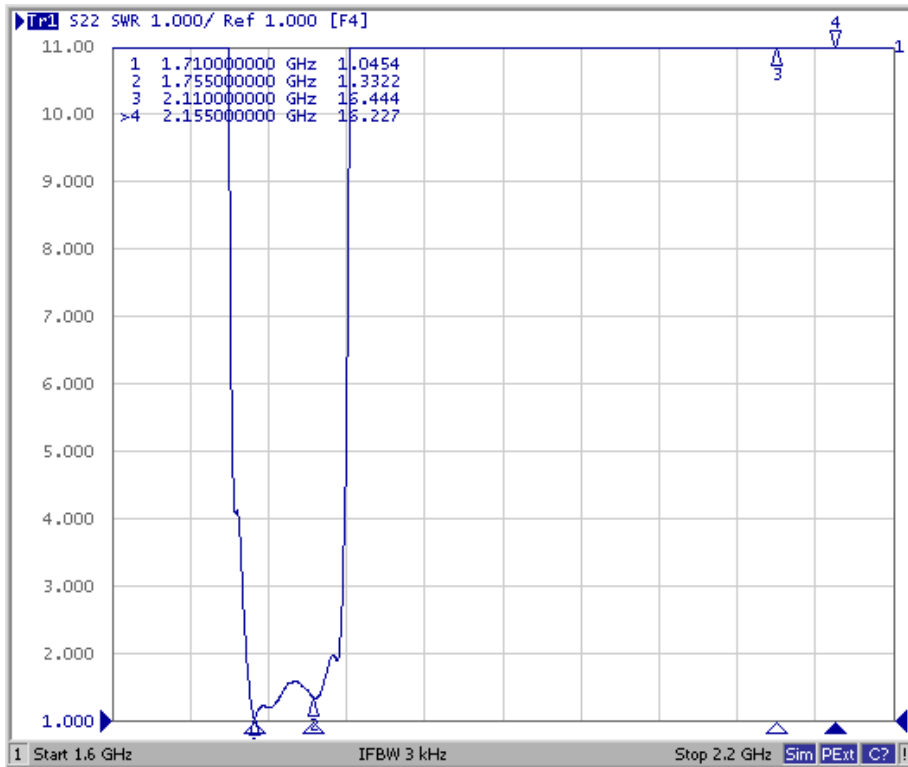


Tx to Rx Isolation

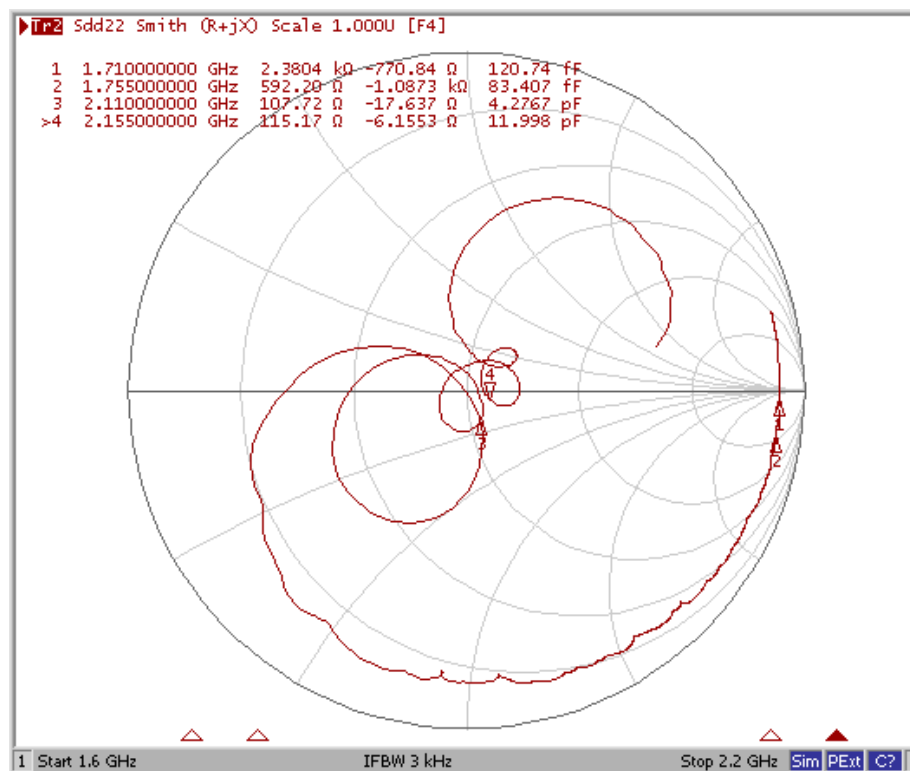
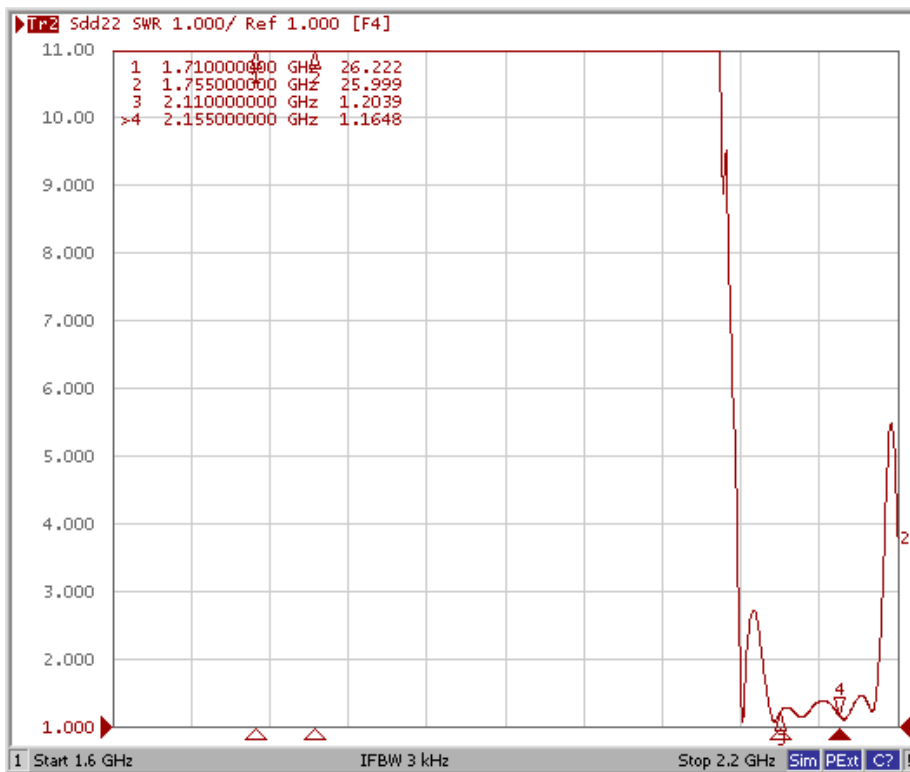


These data exclude loss that comes from the test board

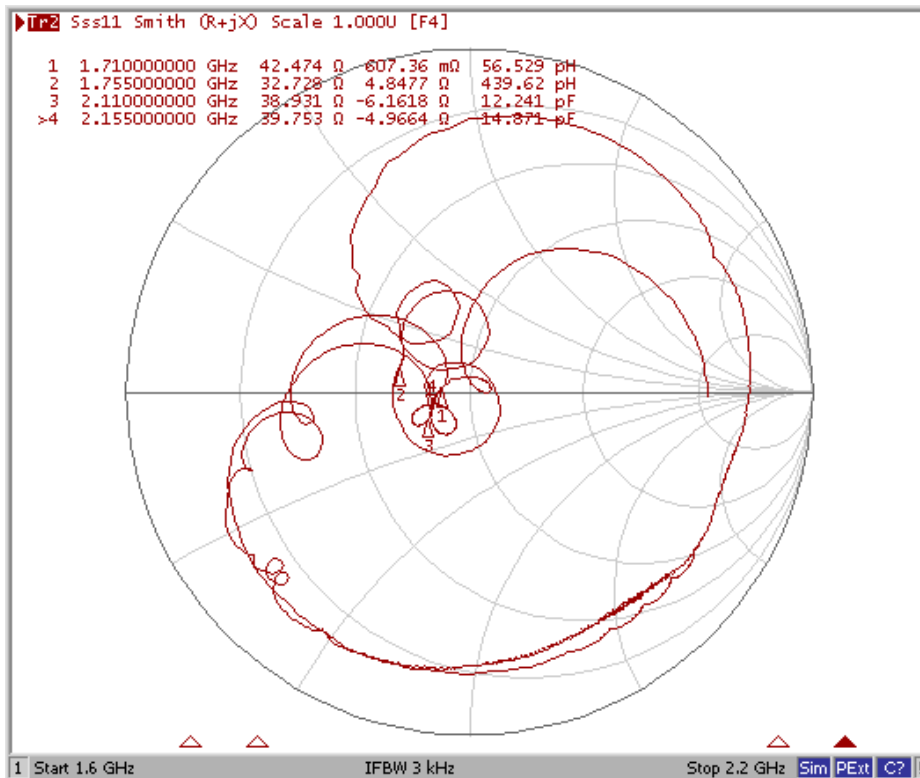
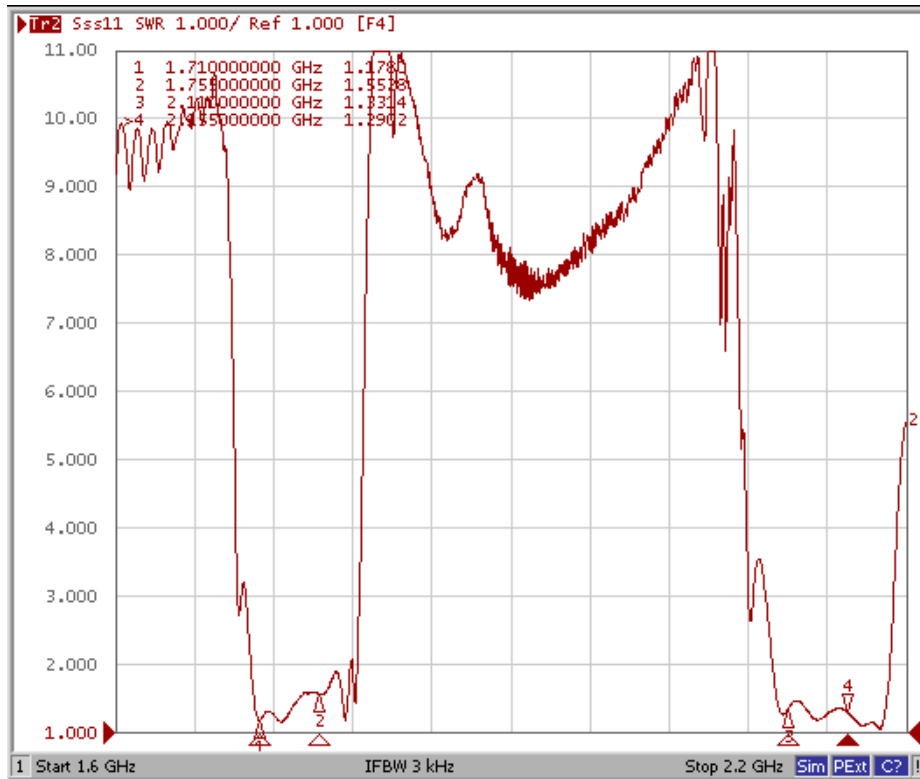
Tx Port



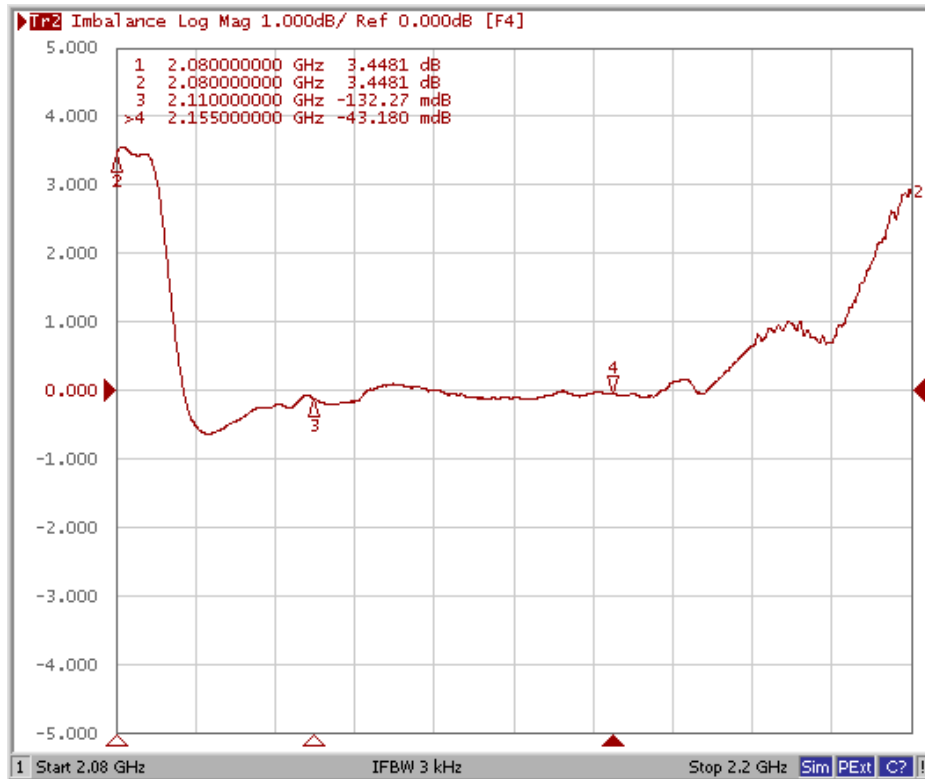
Rx Port



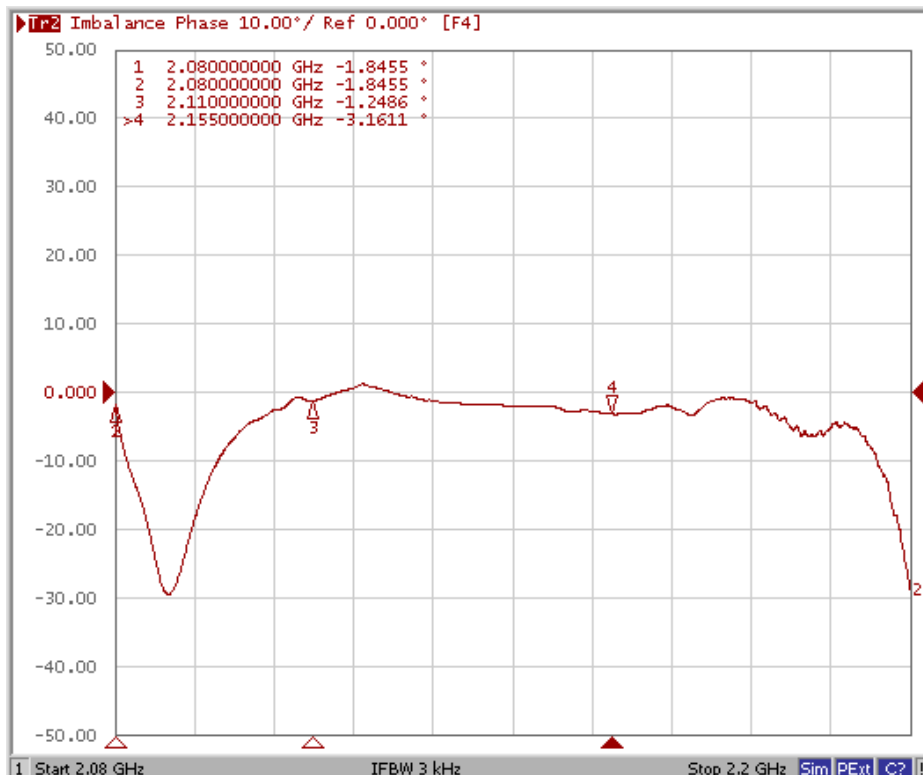
Ant Port



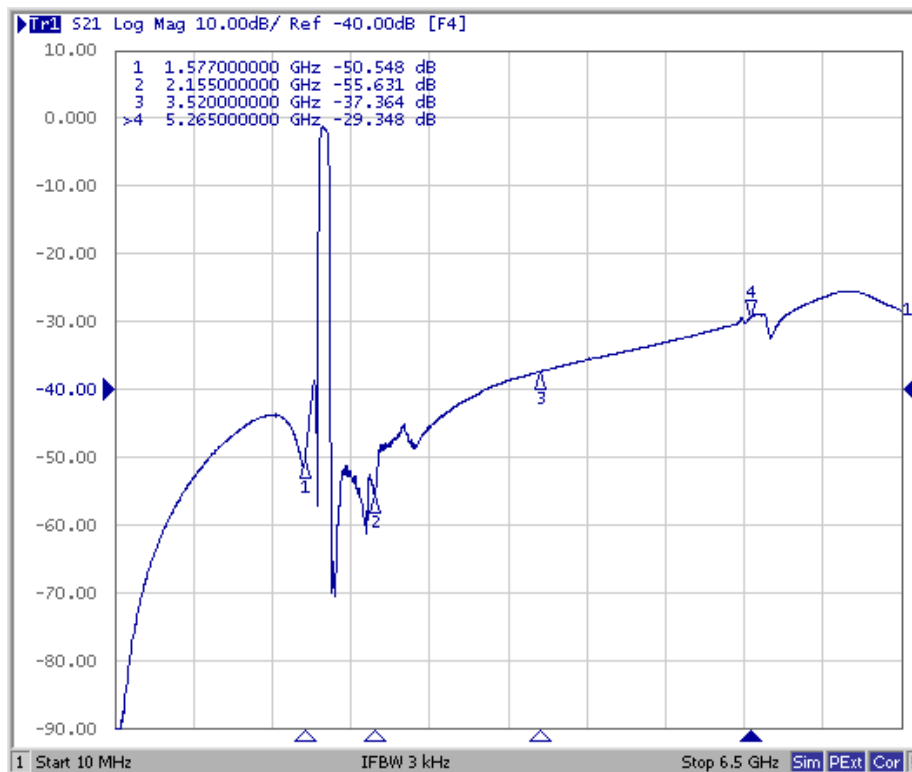
Ant to Rx (Amplitude balance)



Ant to Rx (Phase balance)



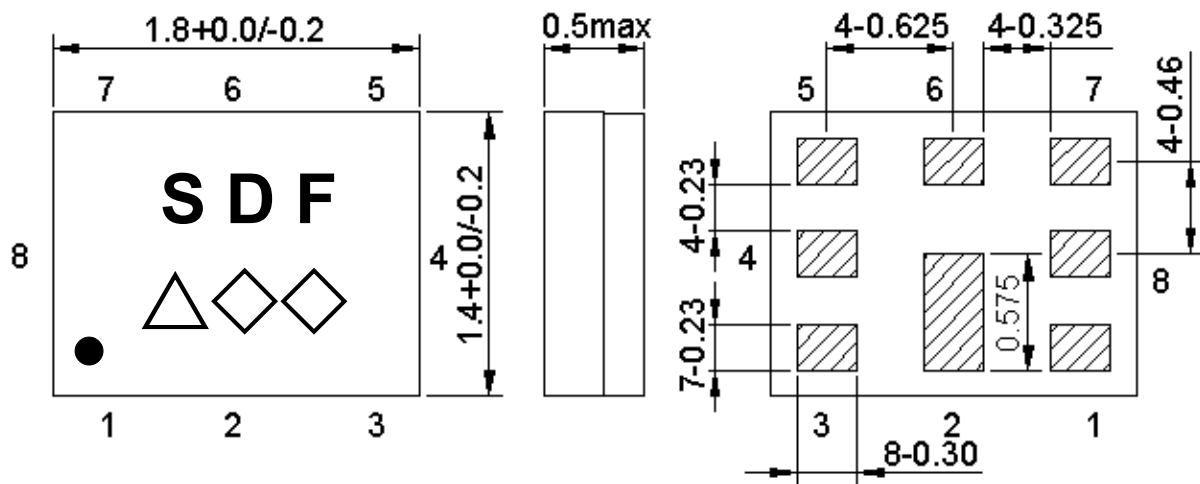
Tx to Ant (Wide span)



Ant to Rx (Wide span)



OUTLINE DRAWING:
(Mass Production):



Marking name : SDF

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

◇◇: Lot Code.

Product Date Code. Follow below table.

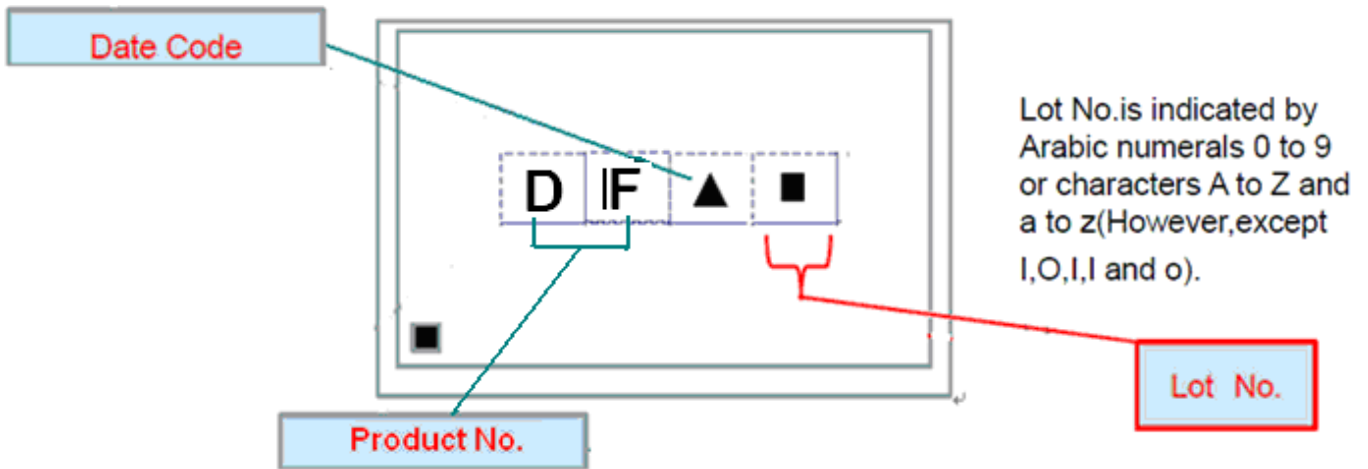
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

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	Rx	Receiver Pin

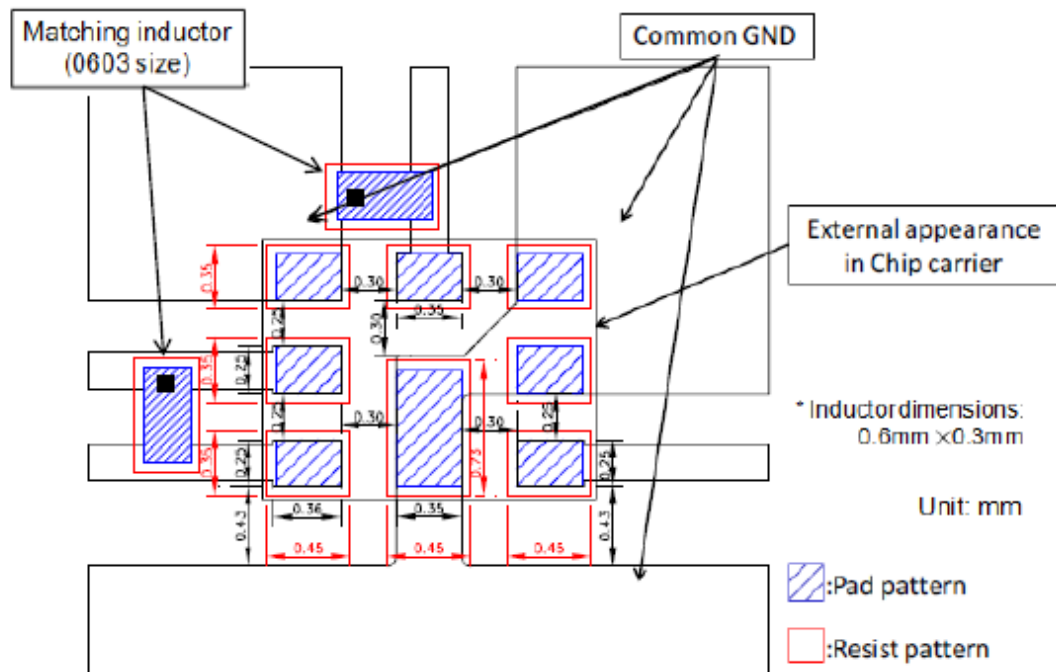
Figure 1. Dimensions and Pin assignment

Top View (Sample Production):



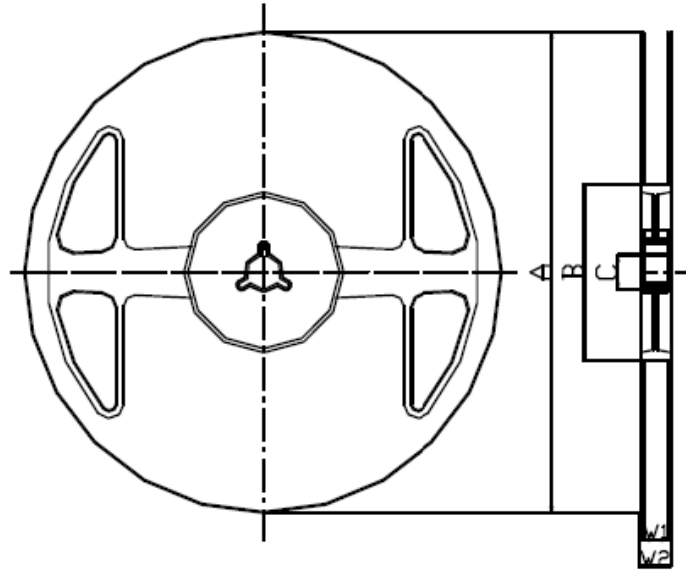
FOOTPRINT:

Recommended foot print pattern



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

1. REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

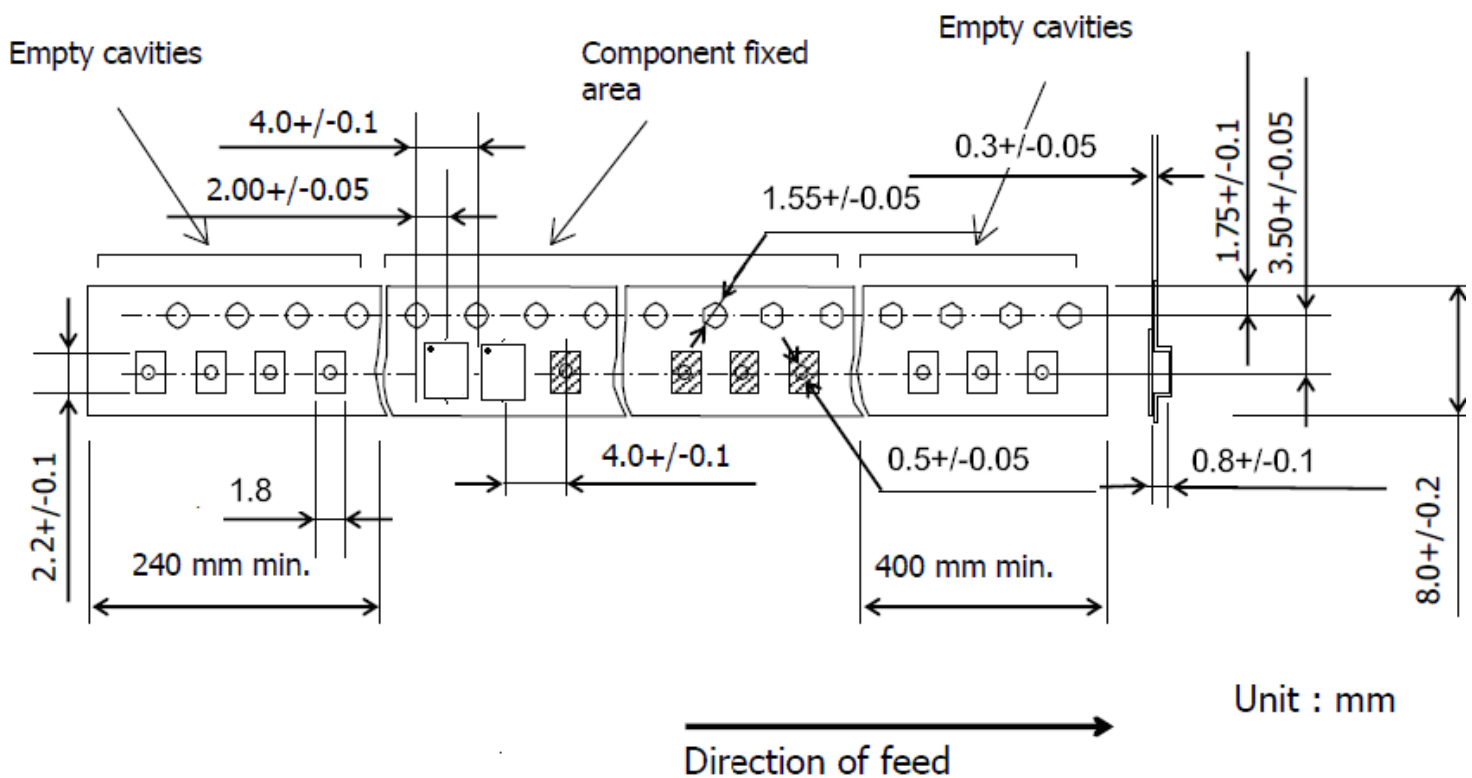
Color : Black

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

Unit : mm

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

2. 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 245~260°C peak (min. 10sec).
4. Time : 2 times.

