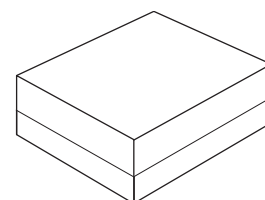


SF2755J

**1231.5/1568 MHz
SAW Diplexer**



SM1511-6

MAXIMUM RATING:

- Input Power Level: 25 dBm
- DC Voltage : 5 V
- Operating Temperature: -40°C to +105°
- C Storage Temperature: -40°C to +105°
- C ESD Machine Mode : 50V
- ESD Human Body Mode : 100V
- Sensitive Level (MSL): Level 1
- AEC-Q200 Qualified

ELECTRICAL CHARACTERISTICS:

Terminating source impedance : $Z_s = 50 \Omega // 3.6nH$

Terminating load impedance : $Z_L = L5: 50 \Omega // 5.6nH / L1: 50 \Omega // 7.5nH$

Item		Unit	Min	Typ	Max	Note
GPS L2/L5 (L6) band						
Center Frequency		MHz		1176.45		
Insertion Loss	(1164.45 ~ 1188.45 MHz)	dB		1.3	2.6	IRNSS L5
	(1196.91 ~ 1217.37 MHz)	dB		0.9	1.7	B2b/E5b
	(1217.37 ~ 1237.83 MHz)	dB		0.8	1.7	L2-P
	(1237.83 ~ 1299 MHz)	dB		1.5	2.6	L6
Ripple (1164.45 ~ 1299 MHz)		dB		1.0	2.0	L5L2L6
VSWR (1164.45 ~ 1299 MHz) In / Out				1.7	2.0	L5L2L6
Group Delay Ripple	(1164.45 ~ 1188.45 MHz)	dB		22	28	IRNSS L5
	(1196.91 ~ 1217.37 MHz)	dB		3.0	5.0	B2b/E5b
	(1217.37 ~ 1237.83 MHz)	dB		5.0	8.0	L2-P
	(1237.83 ~ 1299 MHz)	dB		32	42	L6

GPS L5L2(L6) band	Unit	Min	Typ	Max	Note
Attenuation (Reference level from 0 dB)					
100 – 885 MHz	dB	30	44		
885 – 1100 MHz	dB	25	32		
1100 – 1125 MHz	dB	15	28		
1325 – 1462.9 MHz	dB	27	30		
1525 – 1610.485 MHz	dB	27	31		
1660 – 1680 MHz	dB	27	35		
1680 – 2400 MHz	dB	27	33		
2400 – 2700 MHz	dB	23	33		
2700 – 3300 MHz	dB	25	31		
3300 – 4200 MHz	dB	24	29		
4200 – 5000 MHz	dB	23	29		
5000 – 5925 MHz	dB	20	28		
5925 – 7125 MHz	dB	15	23		

Item		Unit	Min	Typ	Max	Note
GPS L1 band						
Center Frequency		MHz		1542		
Insertion Loss	(1525 ~ 1559 MHz)	dB		1.3	2.0	L
	(1559.052 ~ 1563.144 MHz)	dB		1.0	1.9	B1
	(1565.19 ~ 1585.65 MHz)	dB		0.9	1.8	L1
	(1592.953 ~ 1610.485 MHz)	dB		1.0	2.0	G1
Ripple (1525 ~ 1610.485 MHz)		dB		0.7	2.0	
VSWR (1525 ~ 1610.485 MHz) In / Out				1.4	2.0	
Group Delay Ripple	(1525 ~ 1559 MHz)	dB		10	16	L
	(1559.052 ~ 1563.144 MHz)	dB		3.0	7.0	B1
	(1565.19 ~ 1585.65 MHz)	dB		2.0	5.0	L1
	(1592.953 ~ 1610.485 MHz)	dB		6.0	10	G1

GPS L1 band	Unit	Min	Typ	Max	Note
Attenuation (Reference level from 0 dB)					
100 – 885 MHz	dB	30	50		
885 – 1100 MHz	dB	30	37		
1100 – 1125 MHz	dB	30	35		
1164.45 – 1299 MHz	dB	30	33		
1325 – 1462.9 MHz	dB	27	31		
1660 – 1680 MHz	dB	15	20		
1680 – 2400 MHz	dB	19	24		
2400 – 2700 MHz	dB	23	28		
2700 – 3300 MHz	dB	25	31		
3300 – 4200 MHz	dB	24	29		
4200 – 5000 MHz	dB	23	30		
5000 – 5925 MHz	dB	20	30		
5925 – 7125 MHz	dB	15	26		

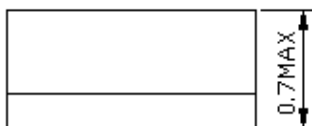
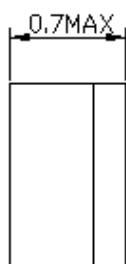
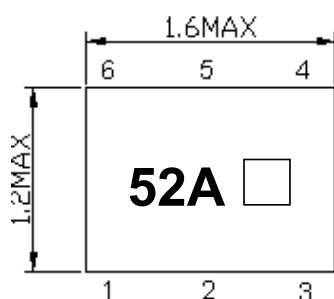


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

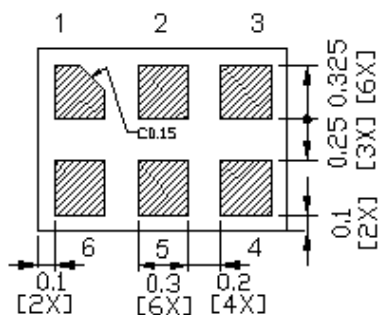
NOTES:

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.

OUTLINE DRAWING:



All tolerances are ± 0.05 mm unless otherwise specified
Coplanarity : 0.1 mm max.
1 to 6 : Pin No.
Unit : mm

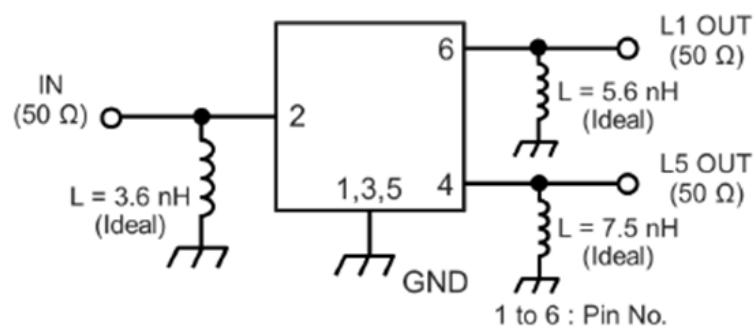


Pin No.	Symbol	Function
1	GND	Ground
2	IN	Input
3	GND	Ground
4	L5	Output
5	GND	Ground
6	L1	Output

☐ : Year/Month Code (Follow the table)

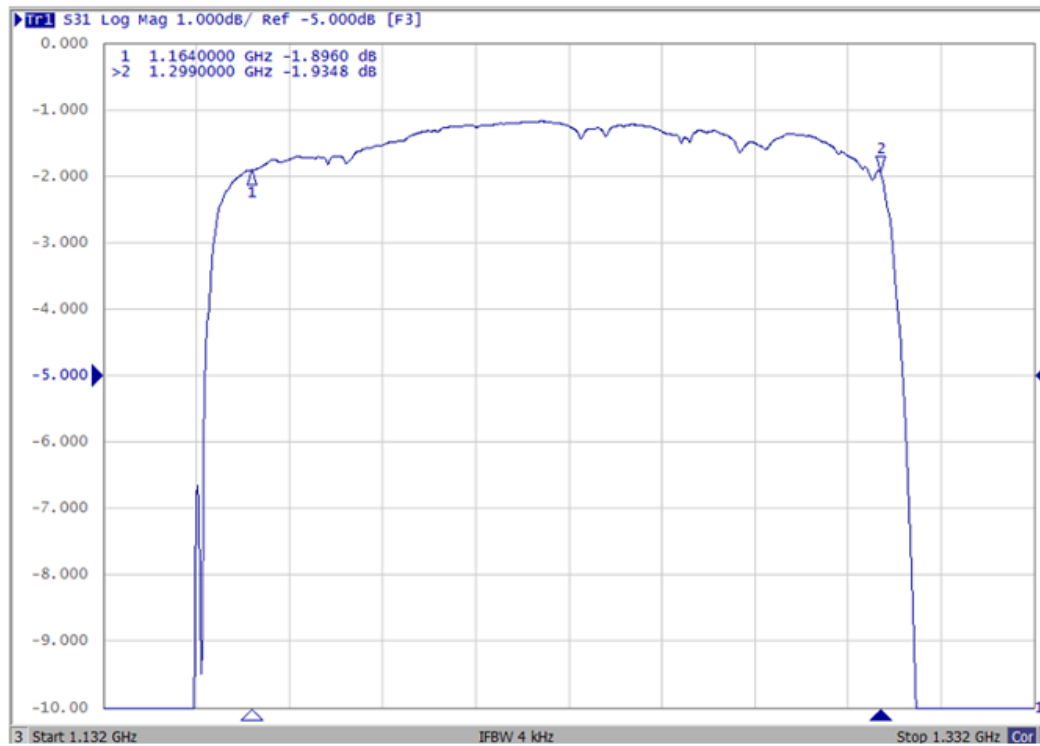
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021/ 2025/ 2029	A	B	C	D	E	F	G	H	J	K	L	M
2022/ 2026/ 2030	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023/ 2027/ 2031	a	b	c	d	e	f	g	h	j	k	l	m
2024/ 2028/ 2032	n	p	q	r	s	t	u	v	w	x	y	z

MEASUREMENT CIRCUIT:

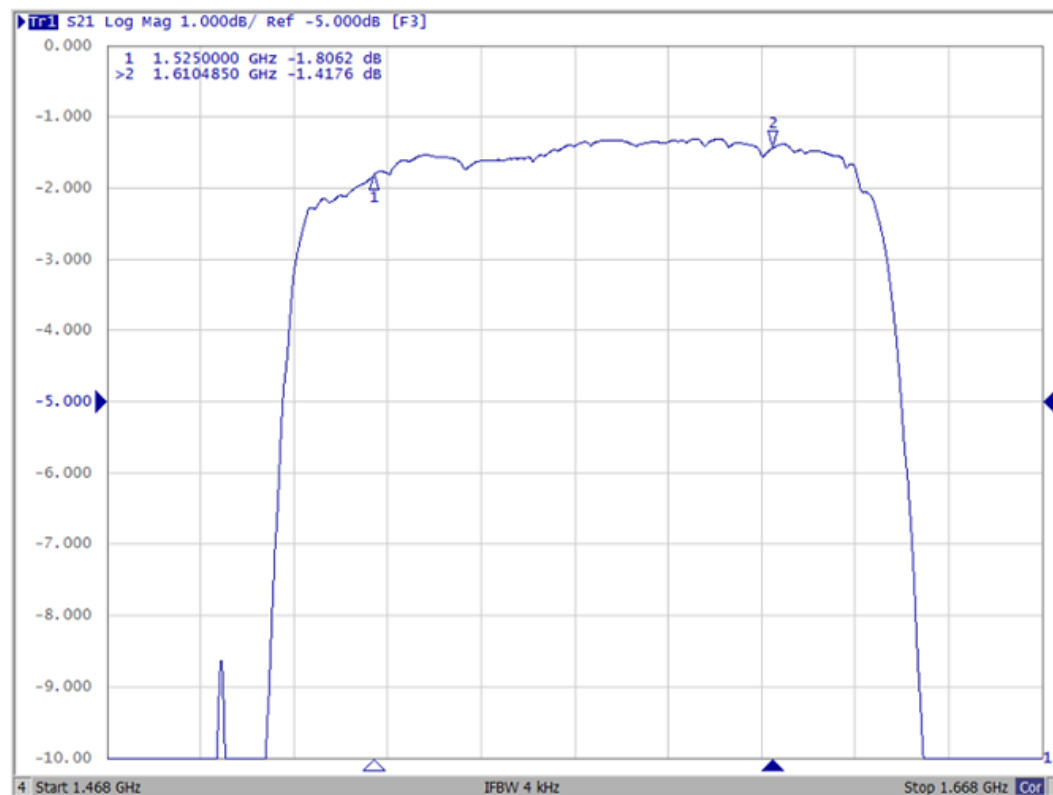


Frequency Characteristics:

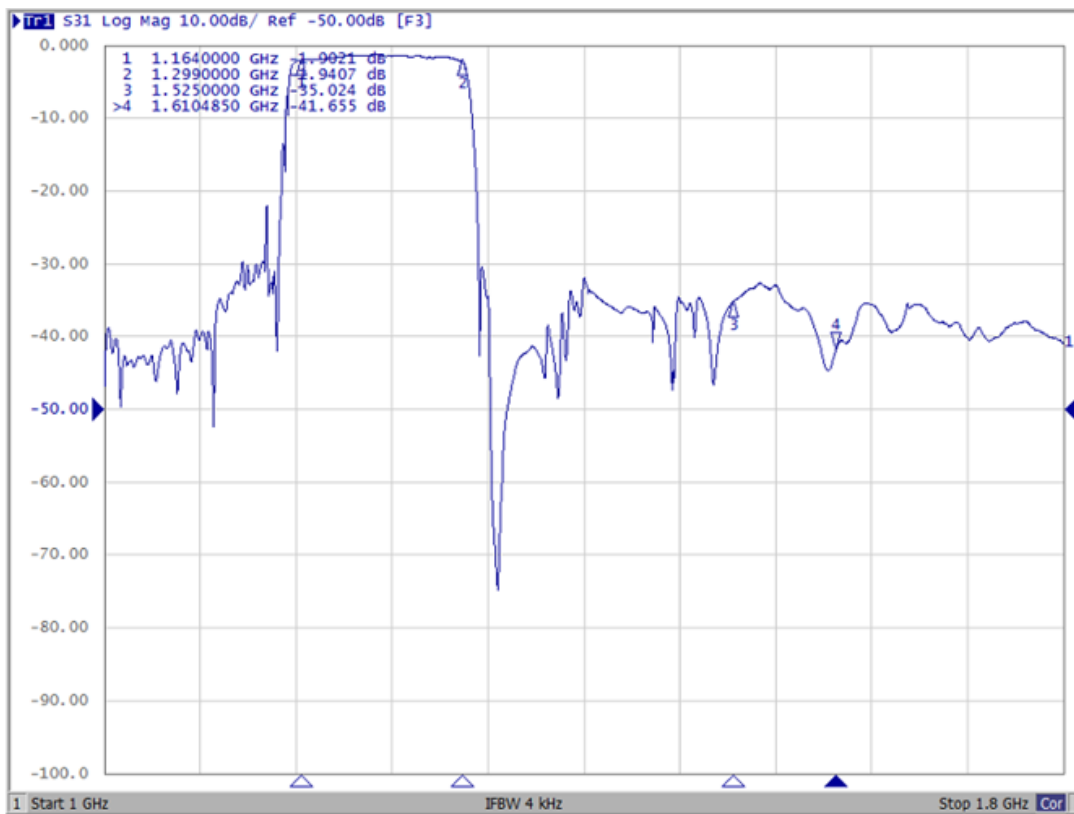
L2 + L5 + L6 Pass Band



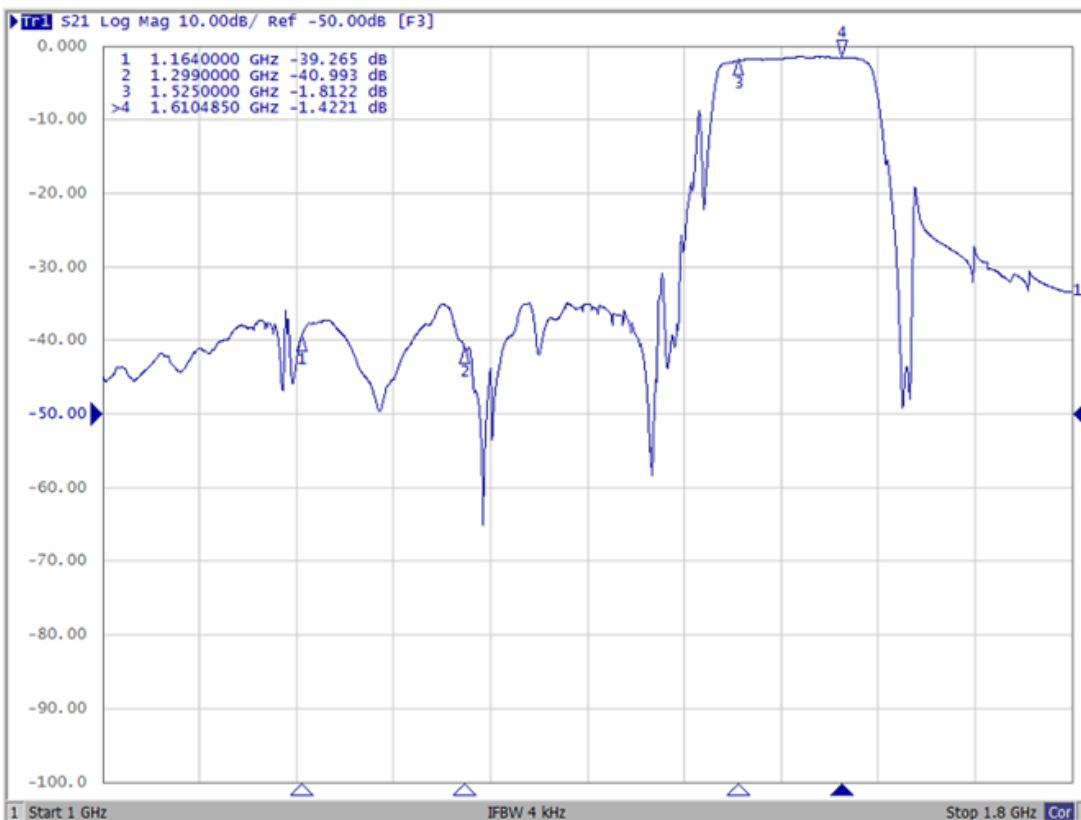
L1 Pass Band



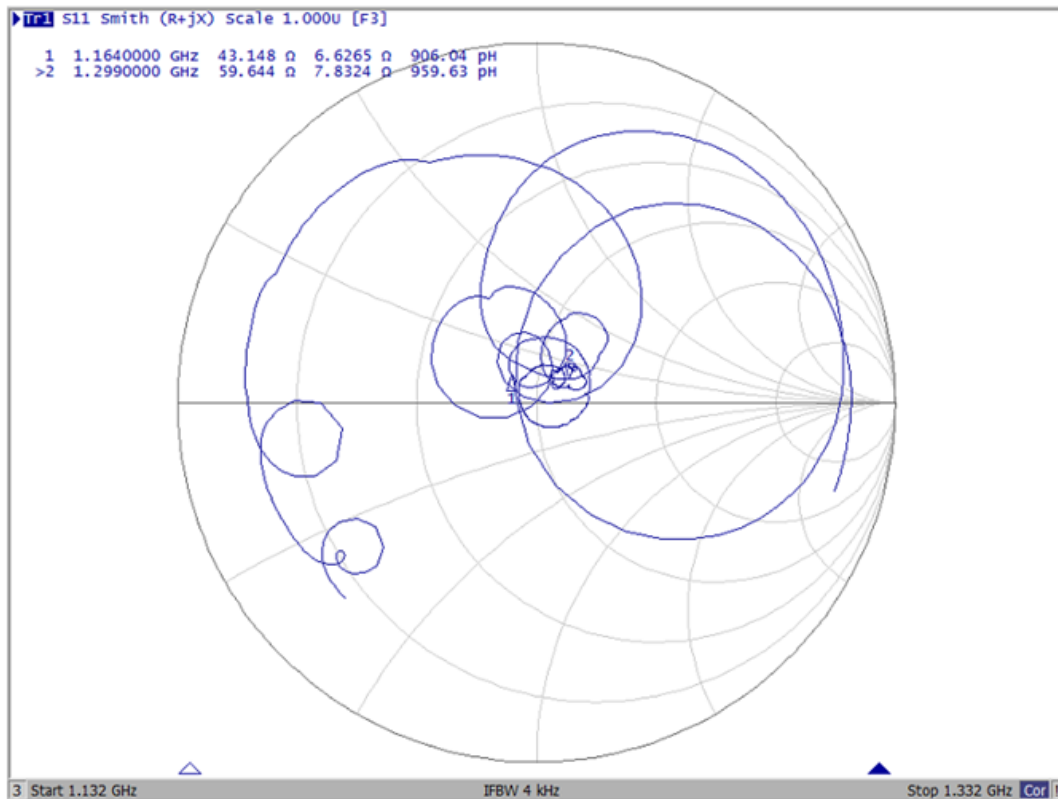
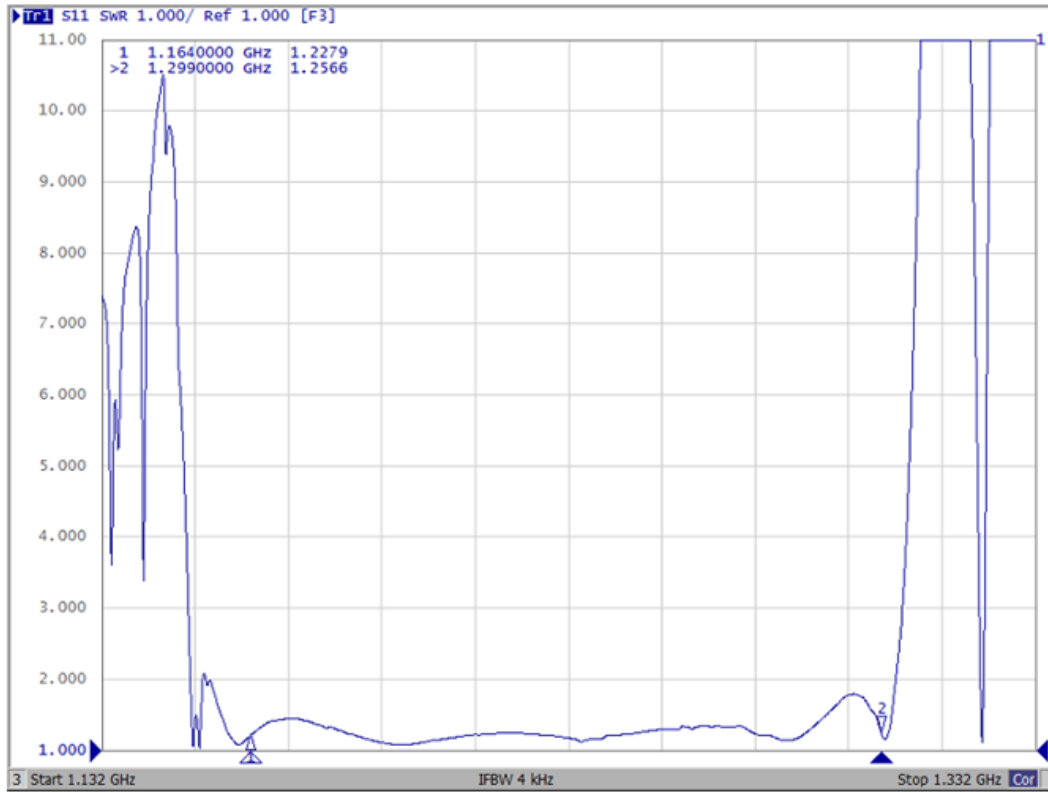
Frequency Characteristics: L5 + L2 + L6 Inband



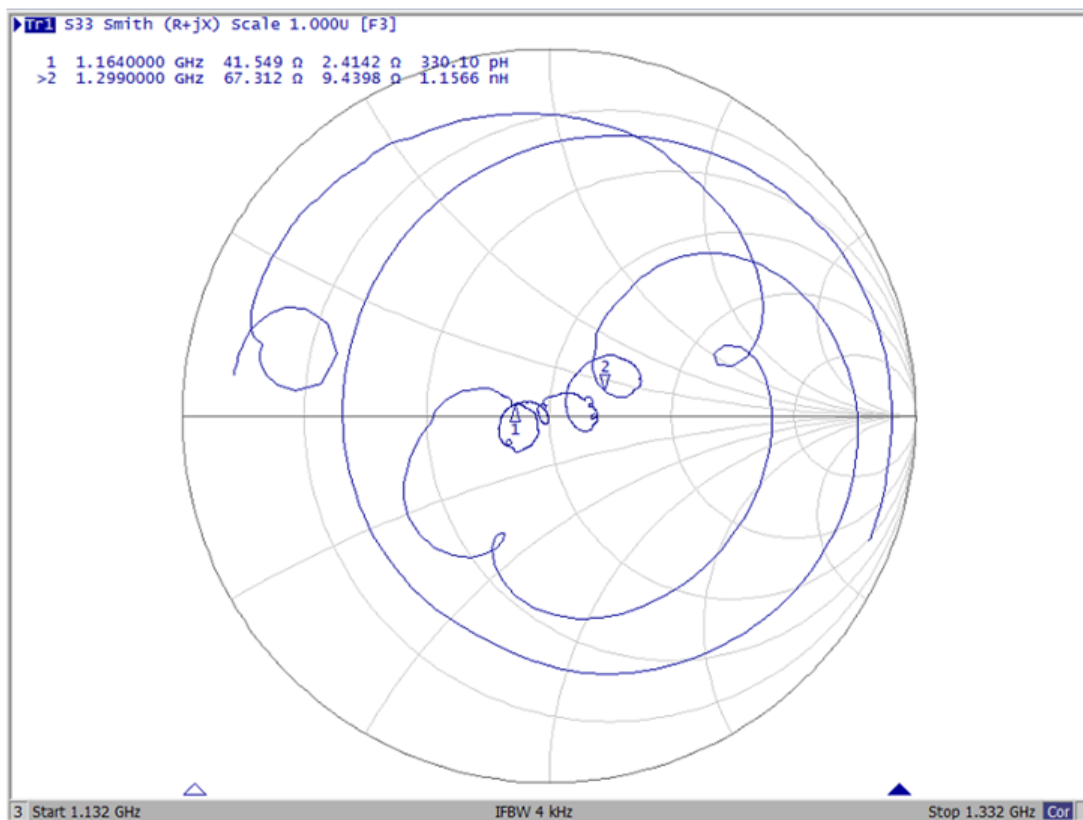
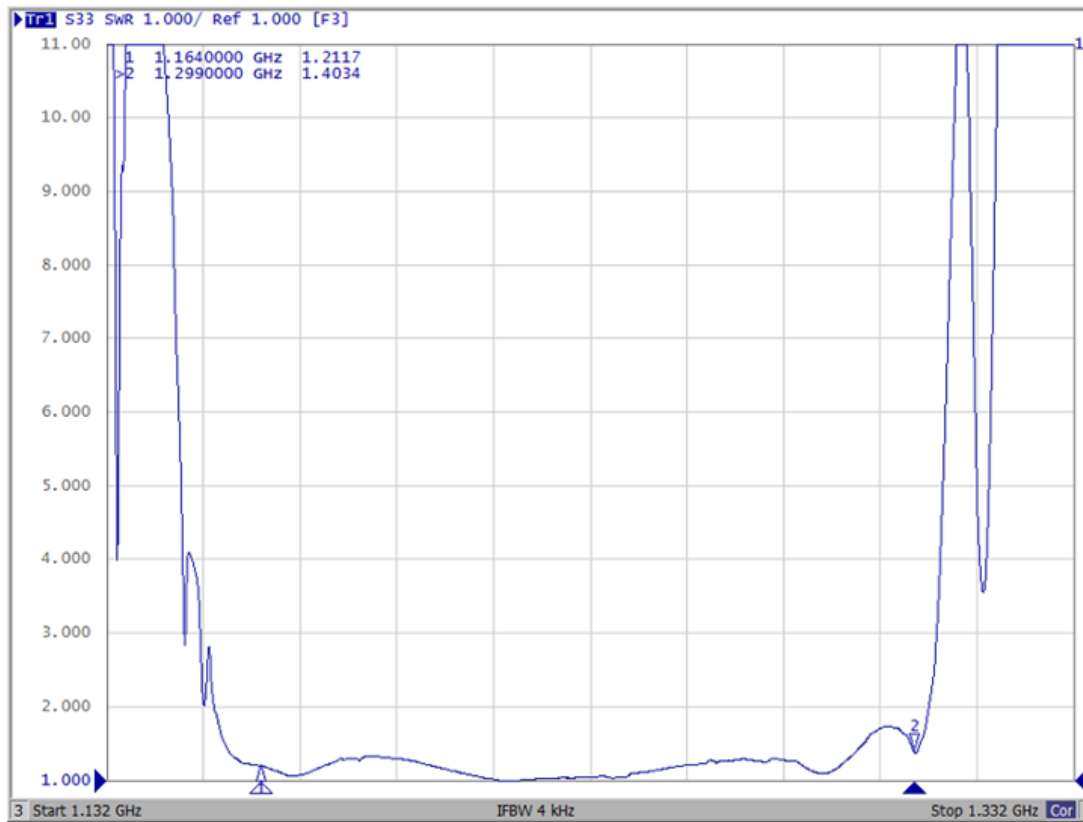
L1 Inband



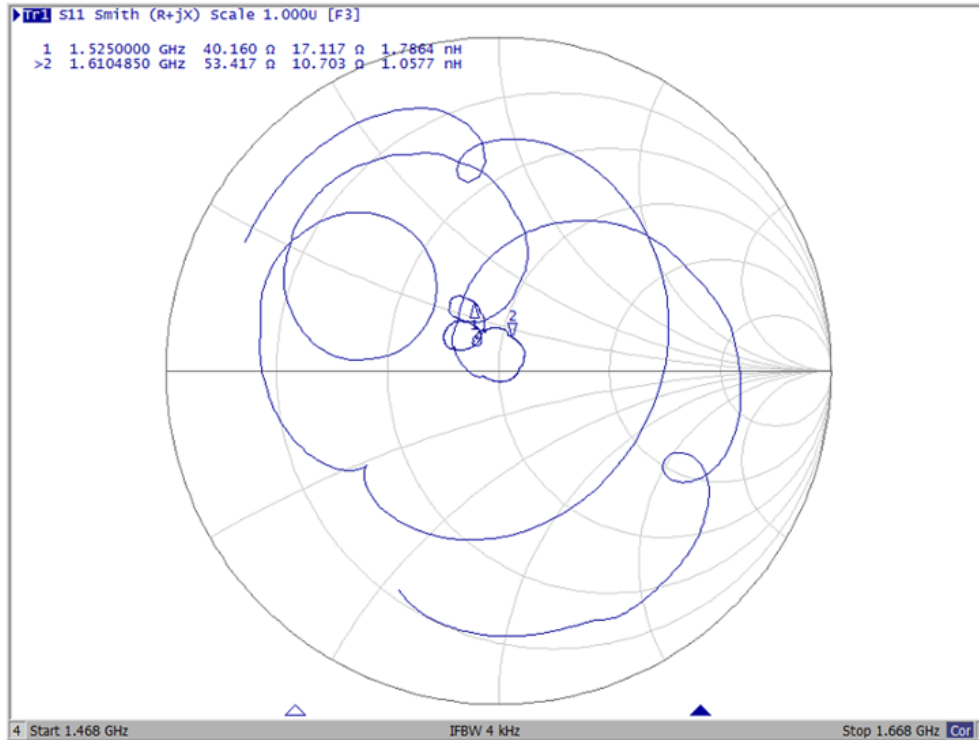
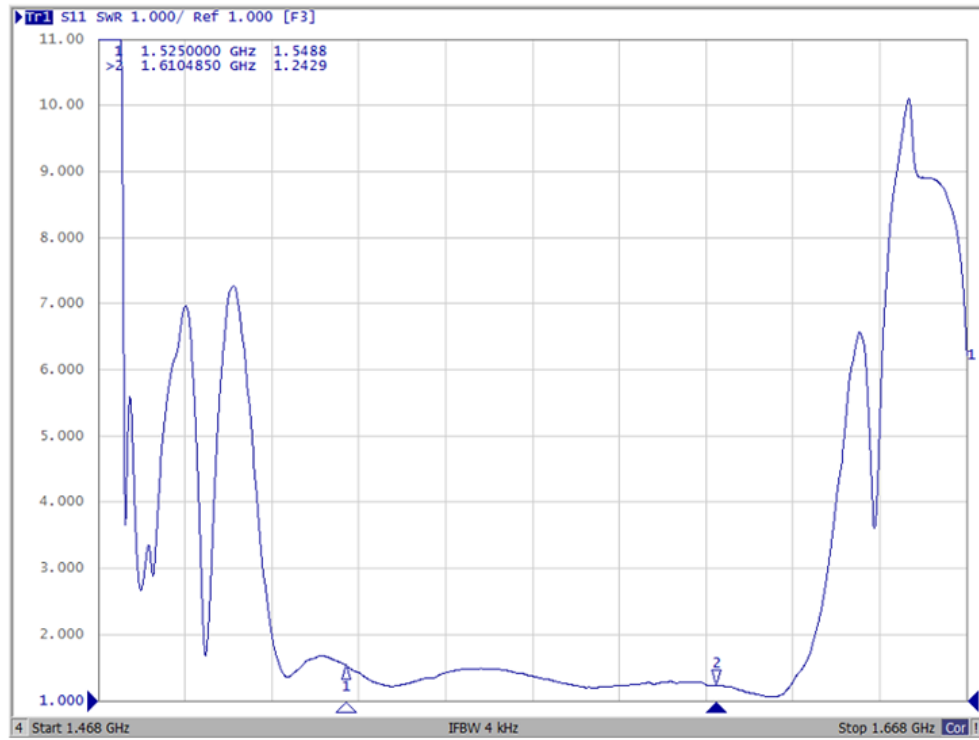
L5 + L2 + L6 Input VSWR



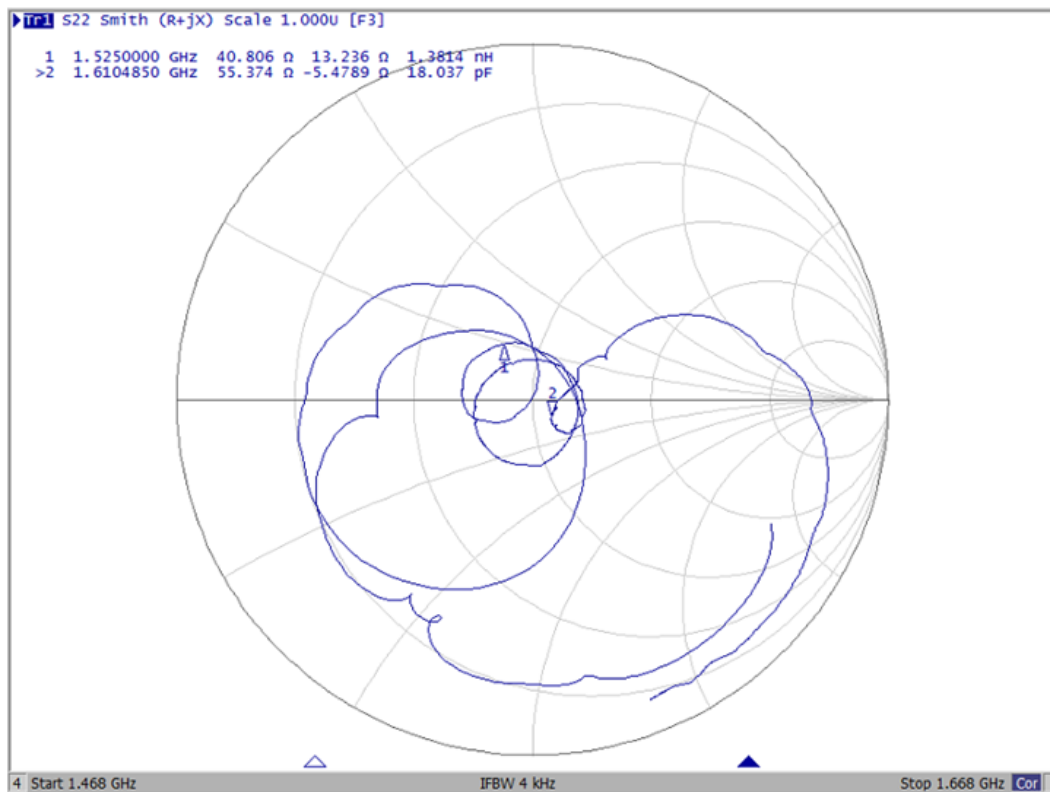
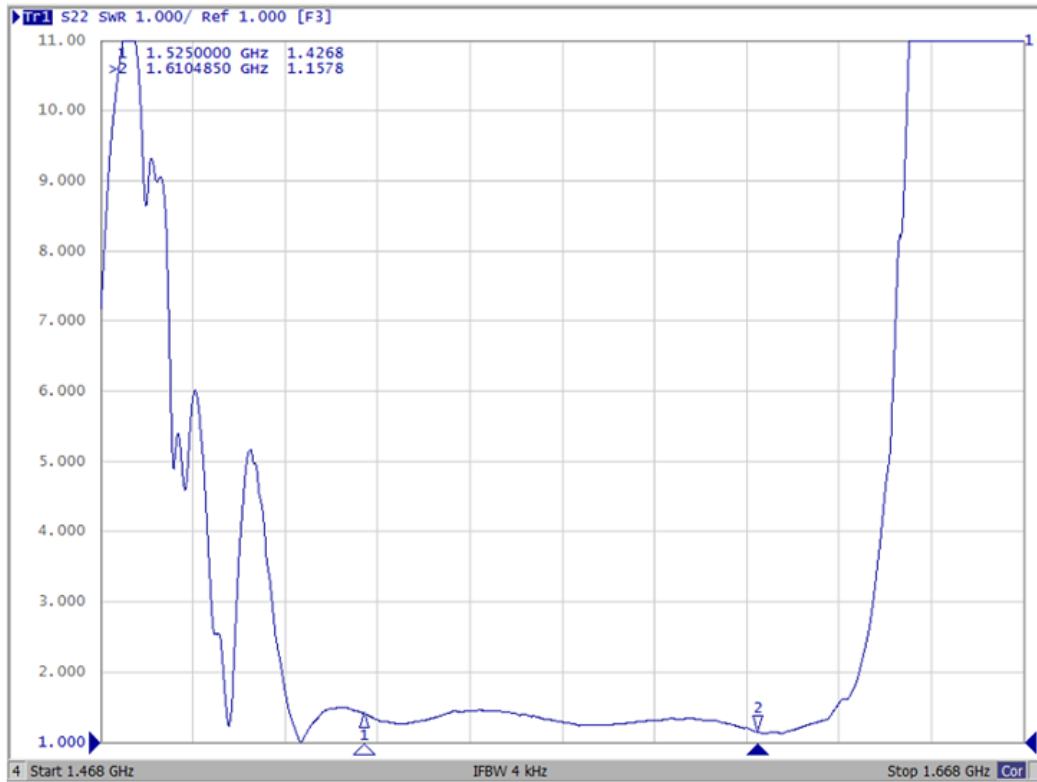
L5 + L2 + L6 Output VSWR



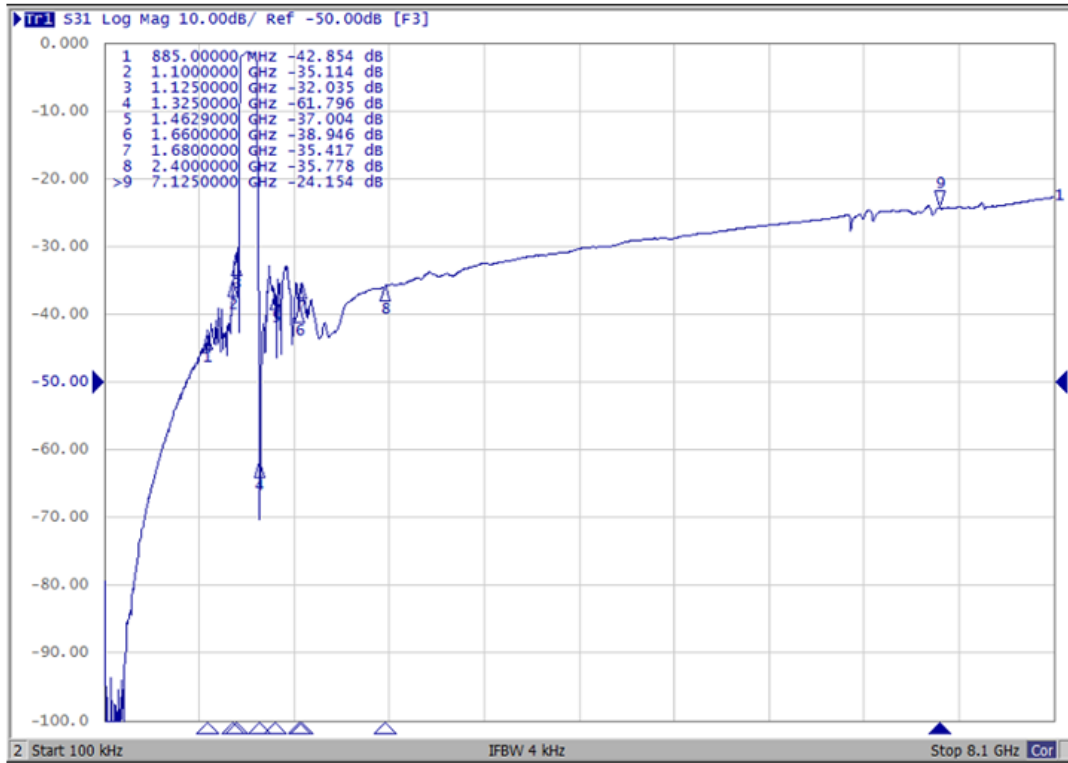
L1 Input VSWR



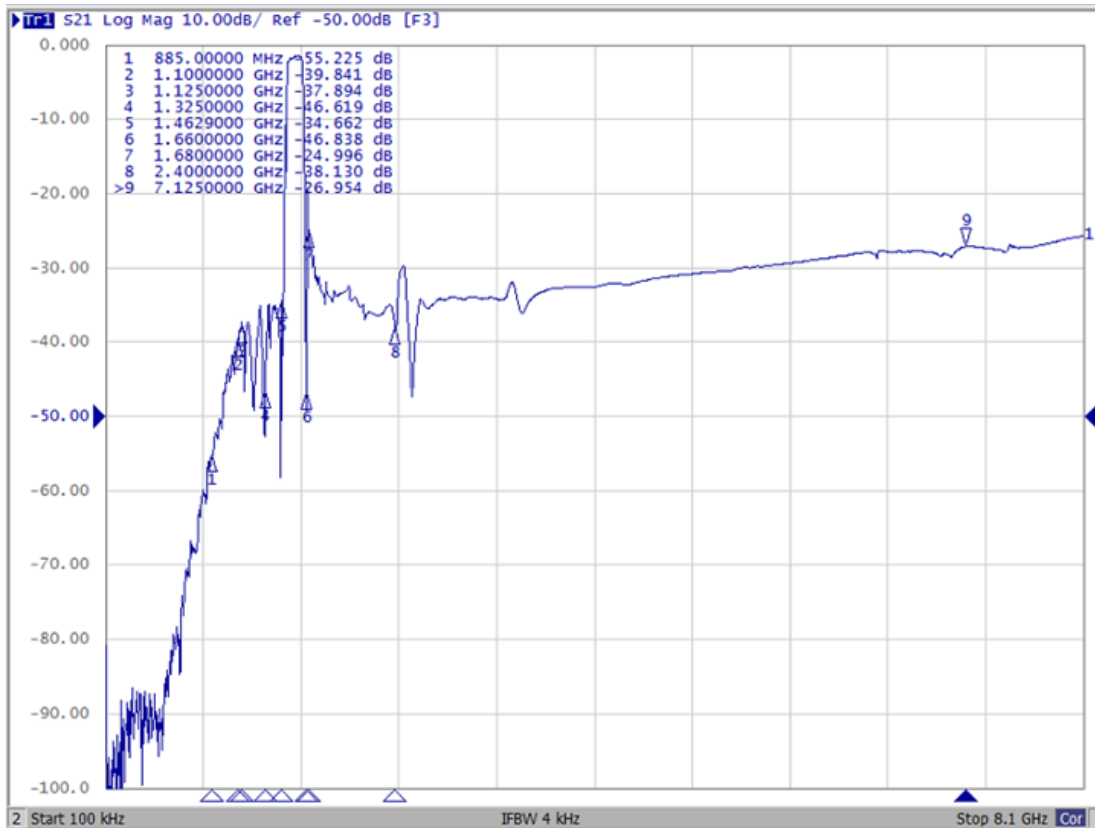
L1 Output VSWR



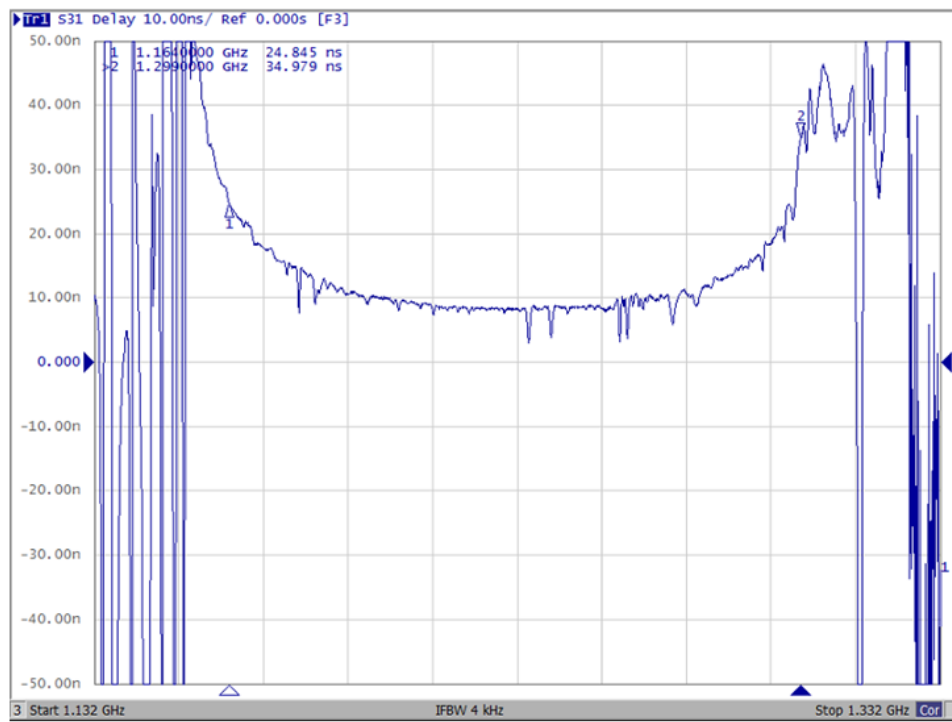
L5 + L2 + L6 Wideband



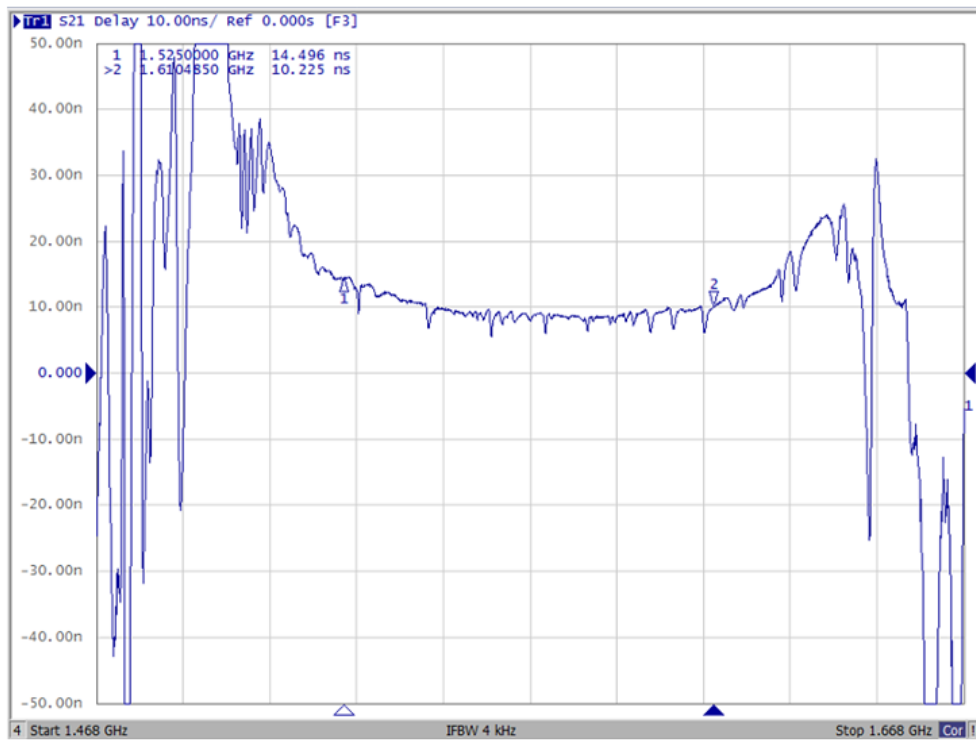
L1 Wideband

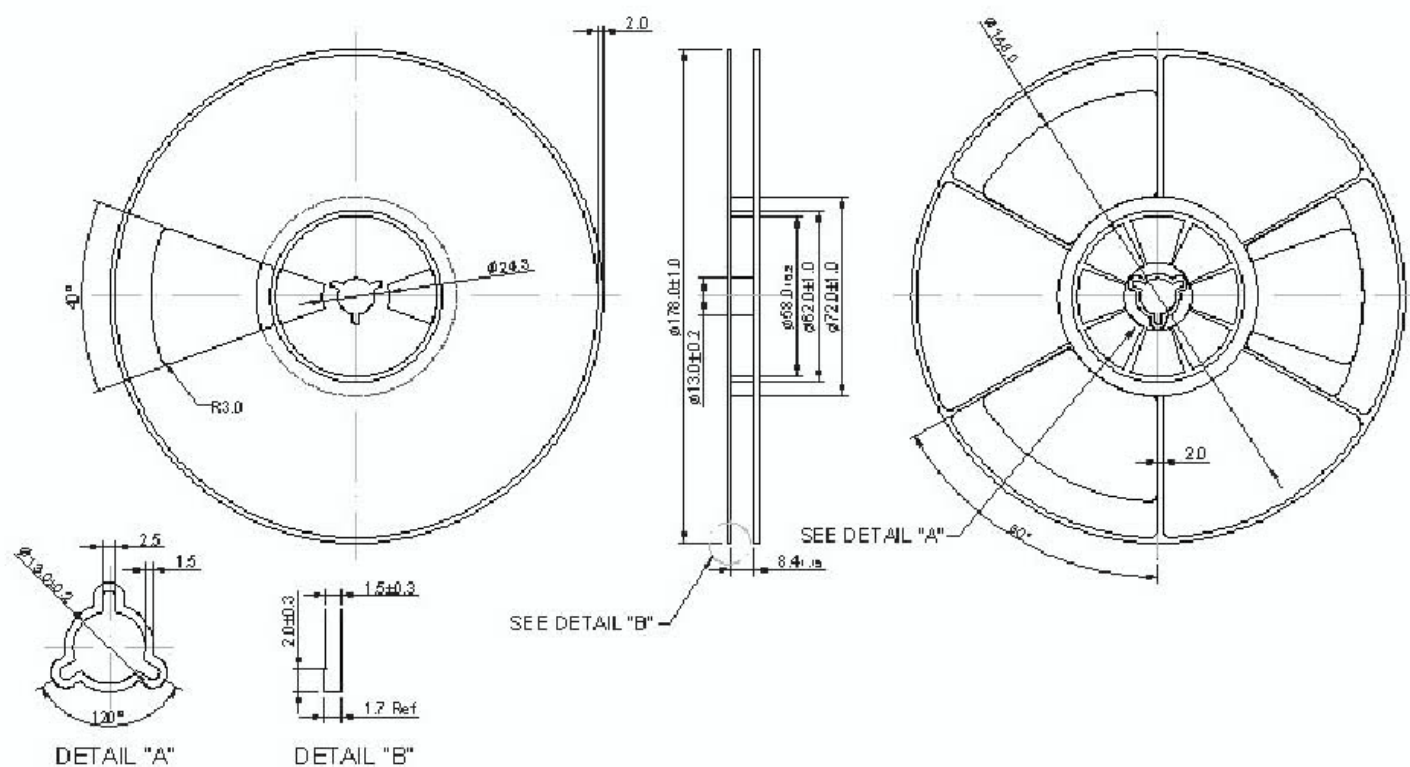


L5 + L2 + L6 Group Delay

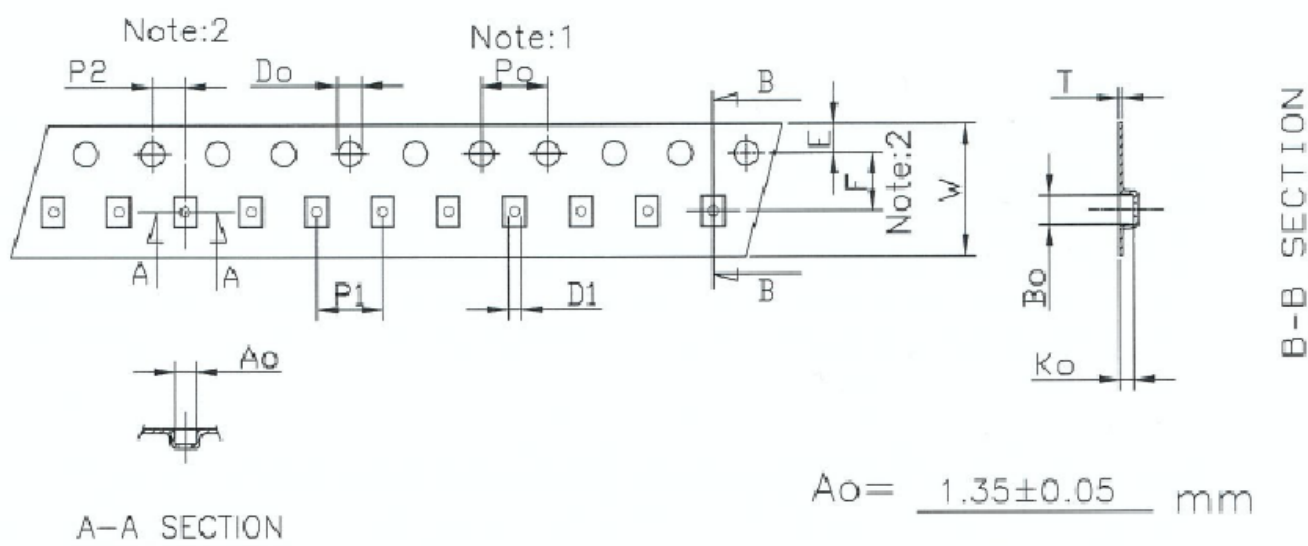


L1 Group Delay



Reel Dimension:

Tape Dimension:



$$\begin{aligned} A_o &= \underline{1.35 \pm 0.05} \text{ mm} \\ B_o &= \underline{1.75 \pm 0.05} \text{ mm} \\ K_o &= \underline{0.72 \pm 0.05} \text{ mm} \end{aligned}$$

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 (20 - 40sec).
4. Time : 2 times.

