



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.

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Product Specifications Approval Sheet

Product Description: SAW Diplexer 1176.45/1585.47 MHz BW 20.46/52.84

SMD 1.5x1.1 mm

TST Parts No.: TE0149BA1524

Customer Parts No.: _____

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Hong Pu Lin *Hong Pu Lin*

Approval by: _____ Andy Yu *Andy Yu*

Date: _____ 2021/06/11

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes.



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SAW Diplexer 1176.45/1585.47 MHz BW 20.46/52.84 SMD 1.5x1.1 mm

MODEL NO.: TE0149BA1524

REV. NO.:2.0

A. MAXIMUM RATING:

1. Input Power Level: 15 dBm
2. DC Voltage : 0 V
3. Operating Temperature: -40°C to +105°C
4. Storage Temperature: -40°C to +105°C
5. Moisture Sensitive Level: MSL 3



Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance (single) : $Z_s = 50 \Omega$

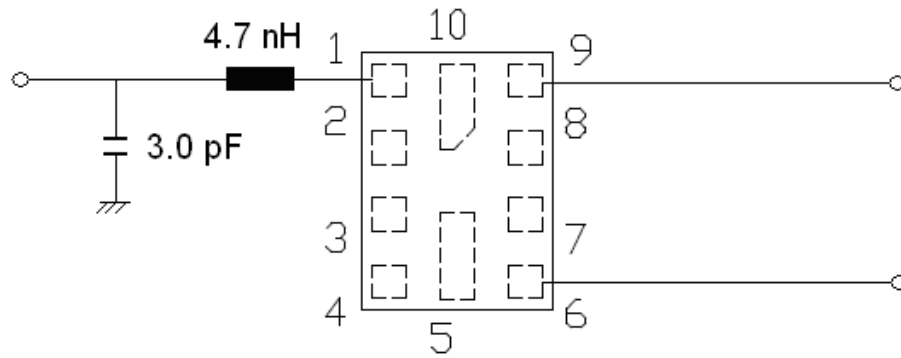
Terminating load impedance (single) : $Z_L = 50 \Omega$

Item (L5 Band to Antenna)	Unit	Min.	Typ.	Max.
Center frequency	MHz	-	1176.45	-
Insertion Loss (1166.22 ~ 1186.68 MHz)	dB	-	2.0	3.5
Group Delay Ripple (1166.22 ~ 1186.68 MHz)	ns	-	8	15
VSWR (1166.22 ~ 1186.68 MHz)	-		2.4	2.8
Attenuation (reference level from 0 dB)				
850 ~ 980 MHz	dB	30	40	-
980 ~ 1010 MHz	dB	30	40	-
1010 ~ 1100 MHz	dB	30	36	-
1100 ~ 1130 MHz	dB	30	35	-
1220 ~ 1250 MHz	dB	20	27	-
1260 ~ 1427 MHz	dB	25	33	-
Temperature Coefficient of Frequency	ppm/K	-	-36	-

Item (L1 Band + GLONASS to Antenna)	Unit	Min.	Typ.	Max.
Center frequency	MHz	-	1585.47	-
Insertion Loss (1559.05 ~ 1611.89 MHz)	dB	-	2.5	3.5
Group Delay Ripple (1559.05 ~ 1611.89 MHz)	ns	-	13	20
VSWR (1559.05 ~ 1611.89 MHz)	-		2.3	2.8
Attenuation (reference level from 0 dB)				
10 ~ 960 MHz	dB	35	45	-
960 ~ 1463 MHz	dB	35	42	-
1710 ~ 1785 MHz	dB	30	36	-
1785 ~ 1990 MHz	dB	35	39	-
1990 ~ 2280 MHz	dB	35	44	-
2280 ~ 3000 MHz	dB	30	50	
3000 ~ 6000 MHz	dB	30	50	
Temperature Coefficient of Frequency	ppm/K	-	-36	-

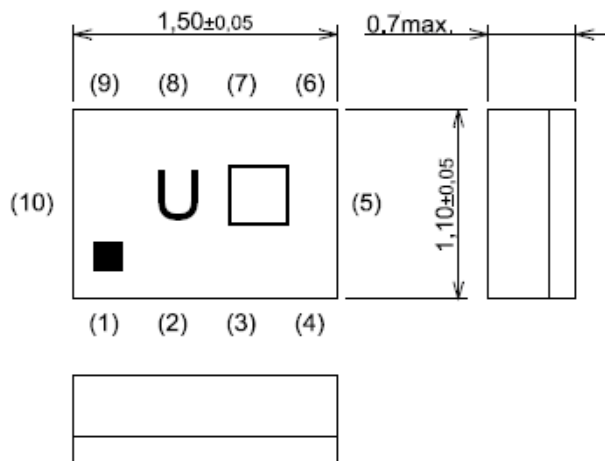
Item (Isolation)	Unit	Min.	Typ.	Max.
Attenuation (reference level from 0 dB)				
1166.22 ~ 1186.68 MHz	dB	35	48	-
1559.05 ~ 1605.89 MHz	dB	35	40	-

C. TEST CIRCUIT:

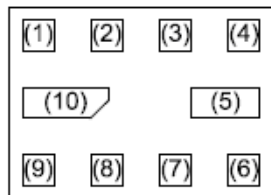


Pin #	Function
(1)	Antenna
(2)	Ground
(3)	Ground
(4)	Ground
(5)	Ground
(6)	L1 Band
(7)	Ground
(8)	Ground
(9)	L5 Band
(10)	Ground

D. OUTLINE DRAWING:



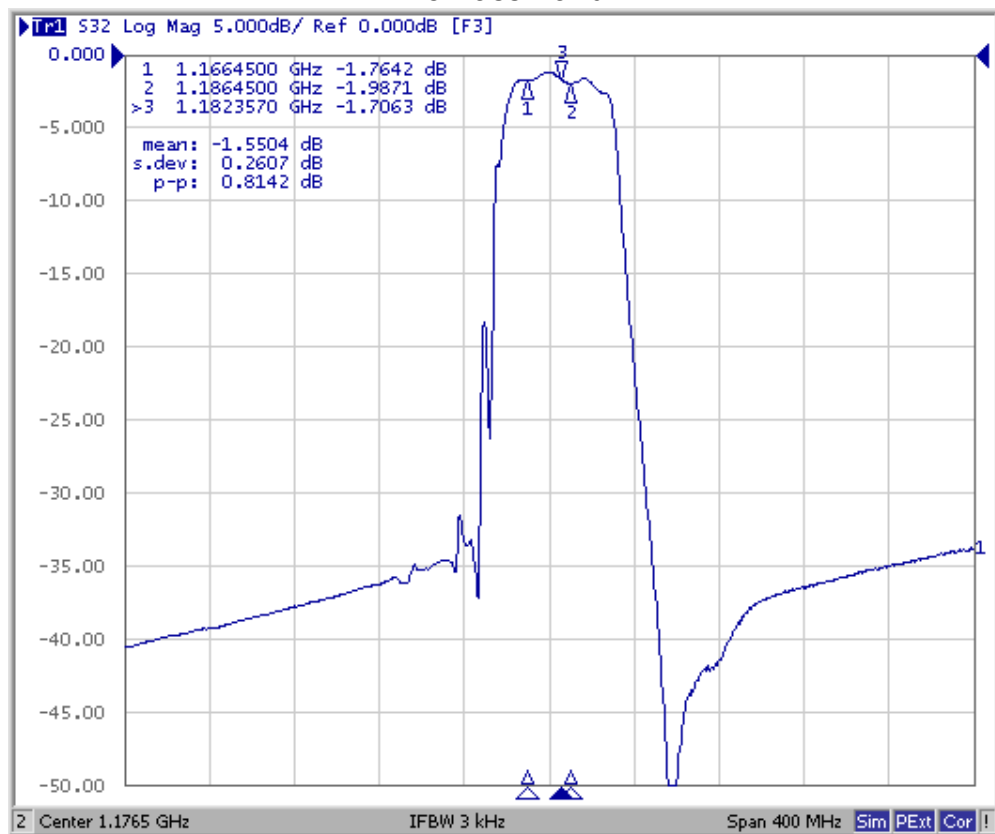
Pin #	Function
(1)	Antenna
(2)	Ground
(3)	Ground
(4)	Ground
(5)	Ground
(6)	L1 Band
(7)	Ground
(8)	Ground
(9)	L5 Band
(10)	Ground



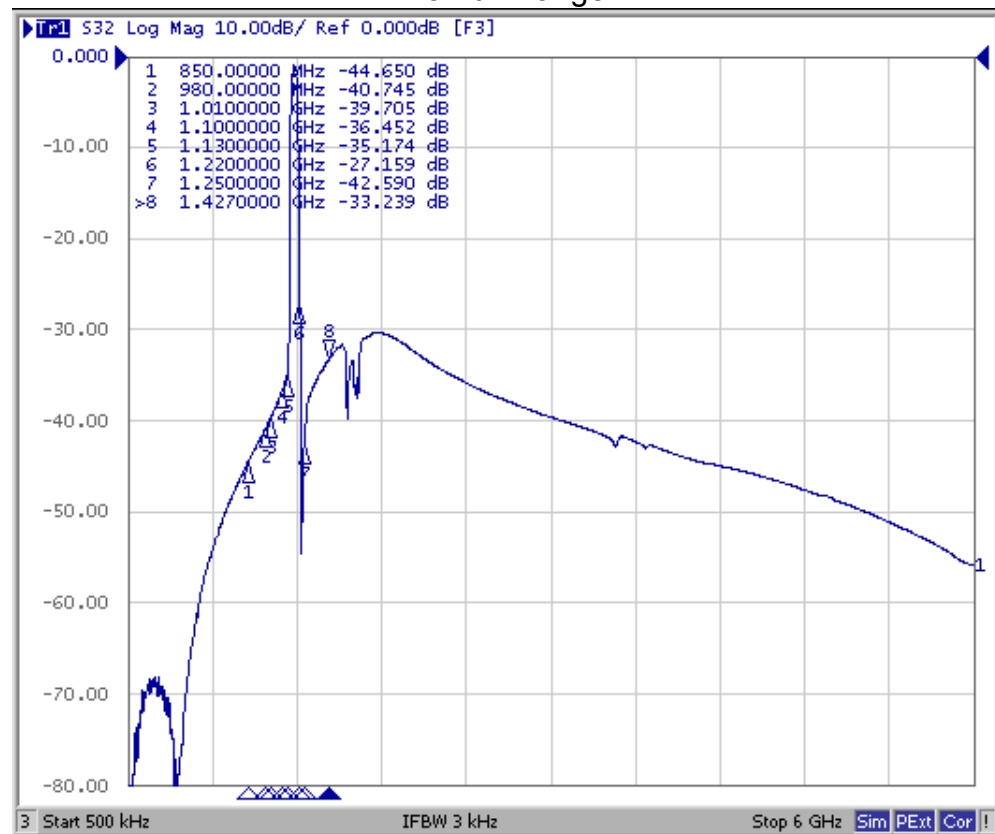
Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2017	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>
2018	<u>N</u>	<u>P</u>	<u>Q</u>	<u>R</u>	<u>S</u>	<u>T</u>	<u>U</u>	<u>V</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>
2019	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i</u>	<u>k</u>	<u>l</u>	<u>m</u>
2020	<u>n</u>	<u>p</u>	<u>q</u>	<u>r</u>	<u>s</u>	<u>t</u>	<u>u</u>	<u>v</u>	<u>w</u>	<u>x</u>	<u>y</u>	<u>z</u>
2021	A	B	C	D	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	a	b	c	d	e	f	g	h	j	k	l	m
2024	n	p	q	r	s	t	u	v	w	x	y	z

E. Frequency Characteristics:

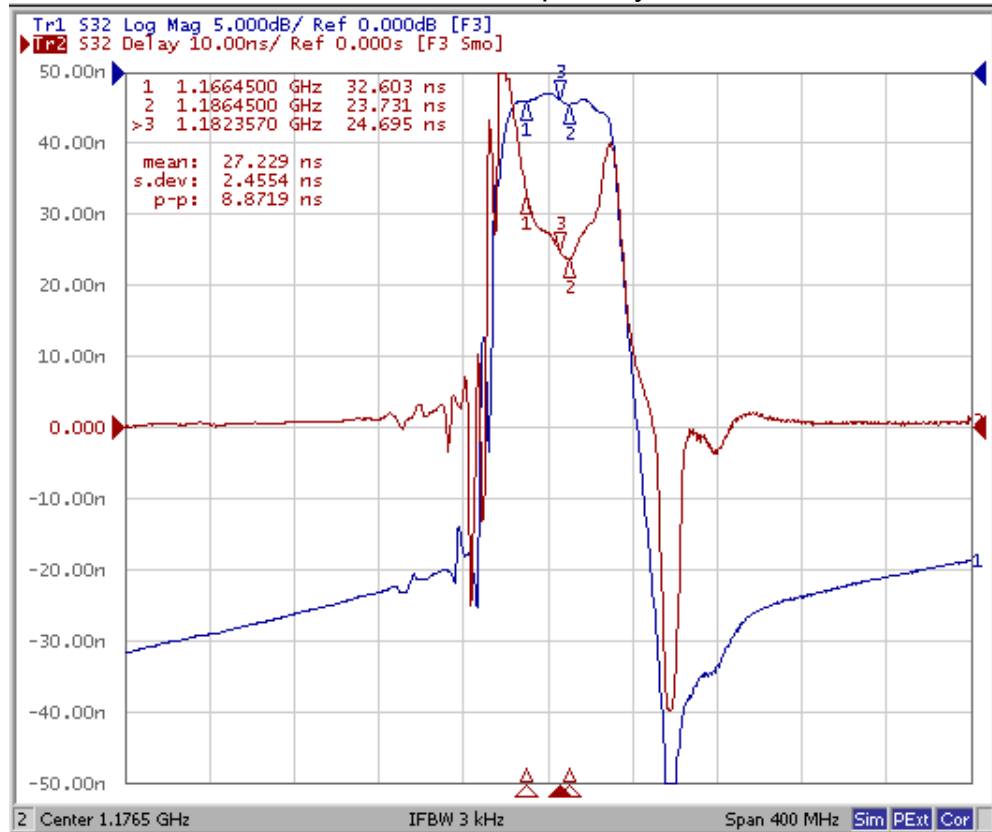
L5 Pass Band



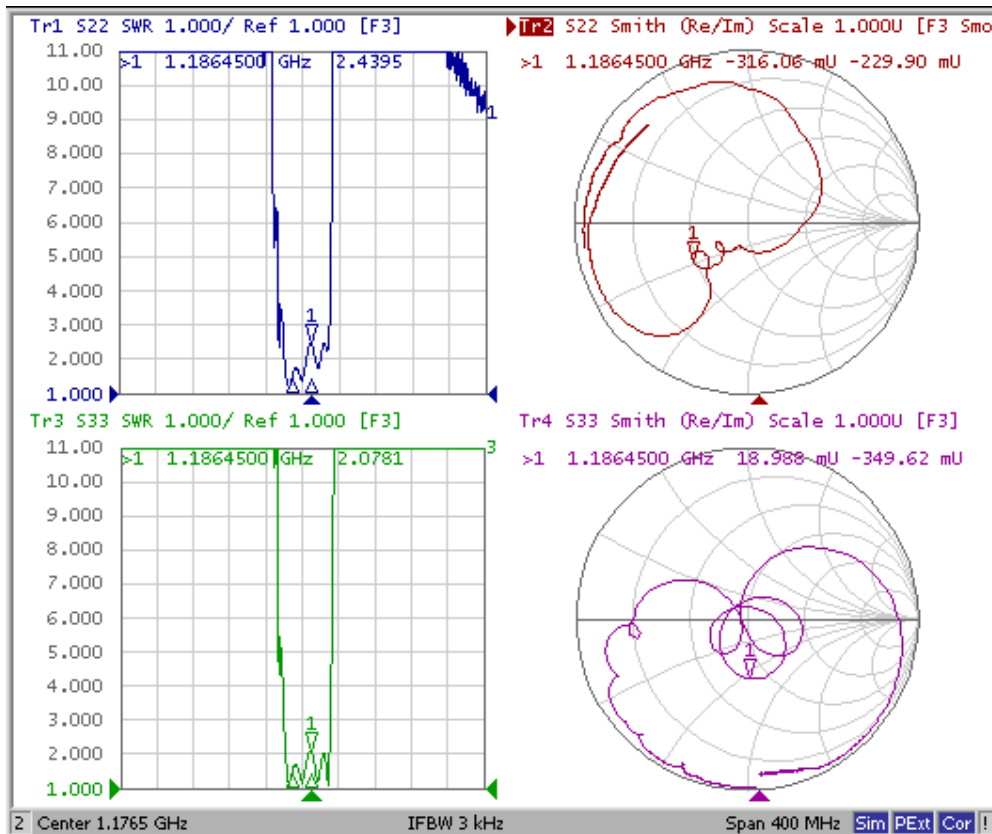
L5 Full Range



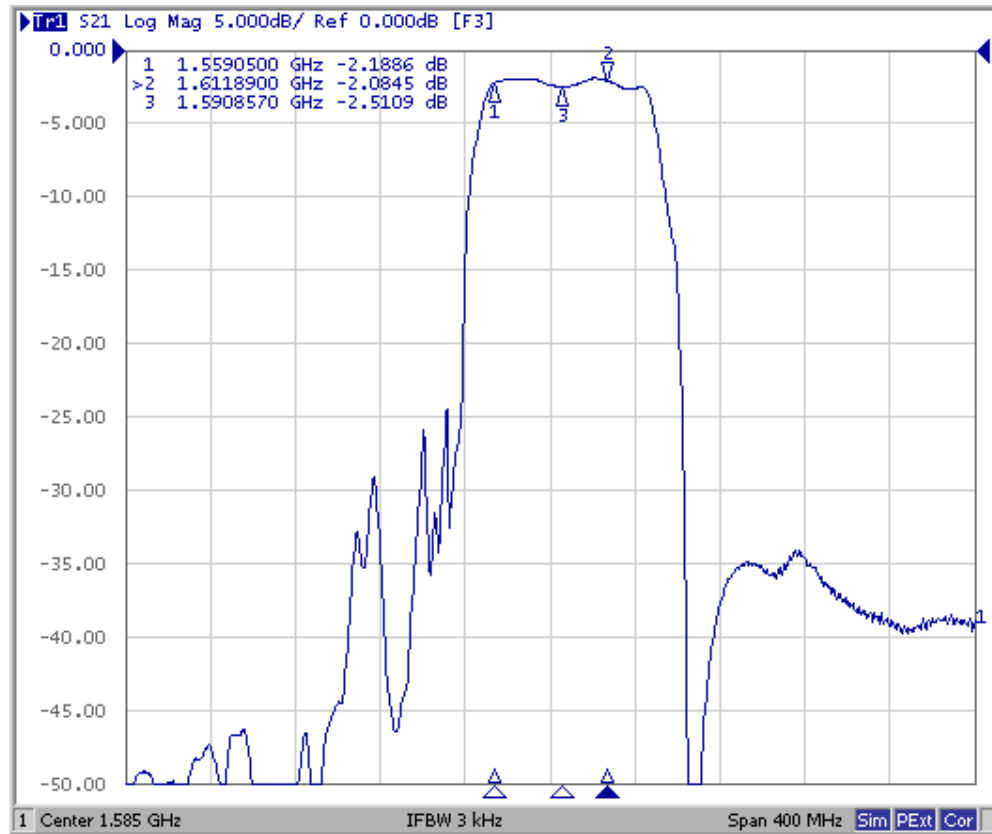
L5 Group Delay



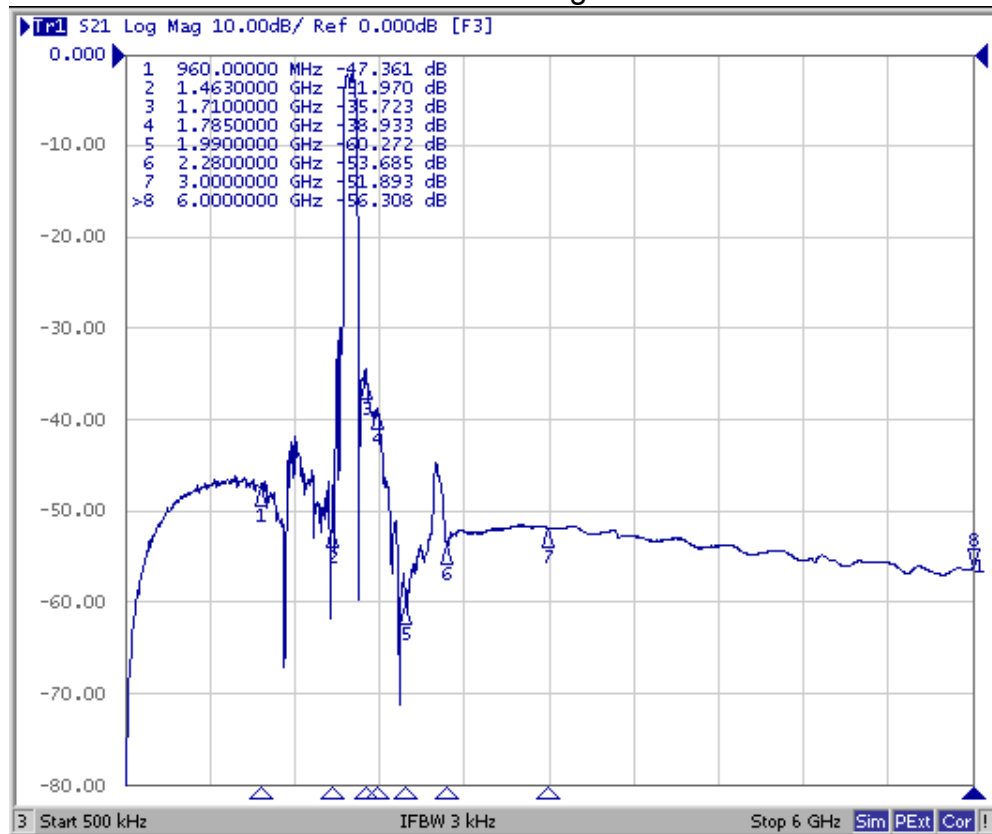
L5 Reflective Characteristic



L1 Pass Band



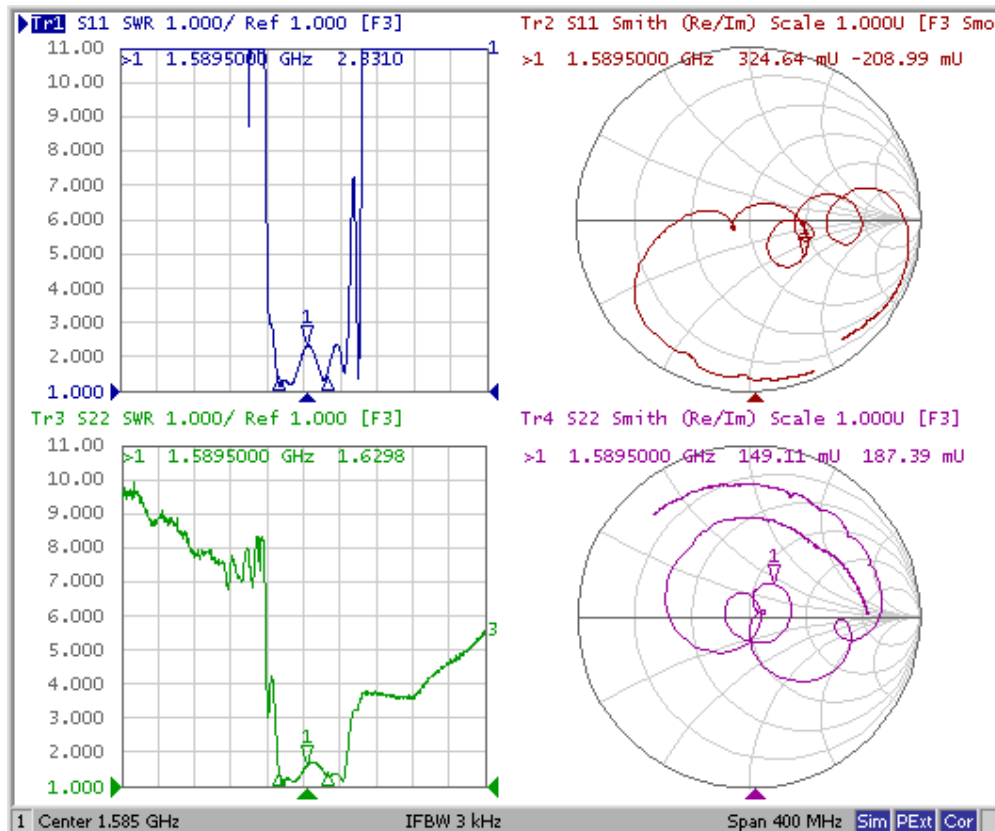
L1 Full Range



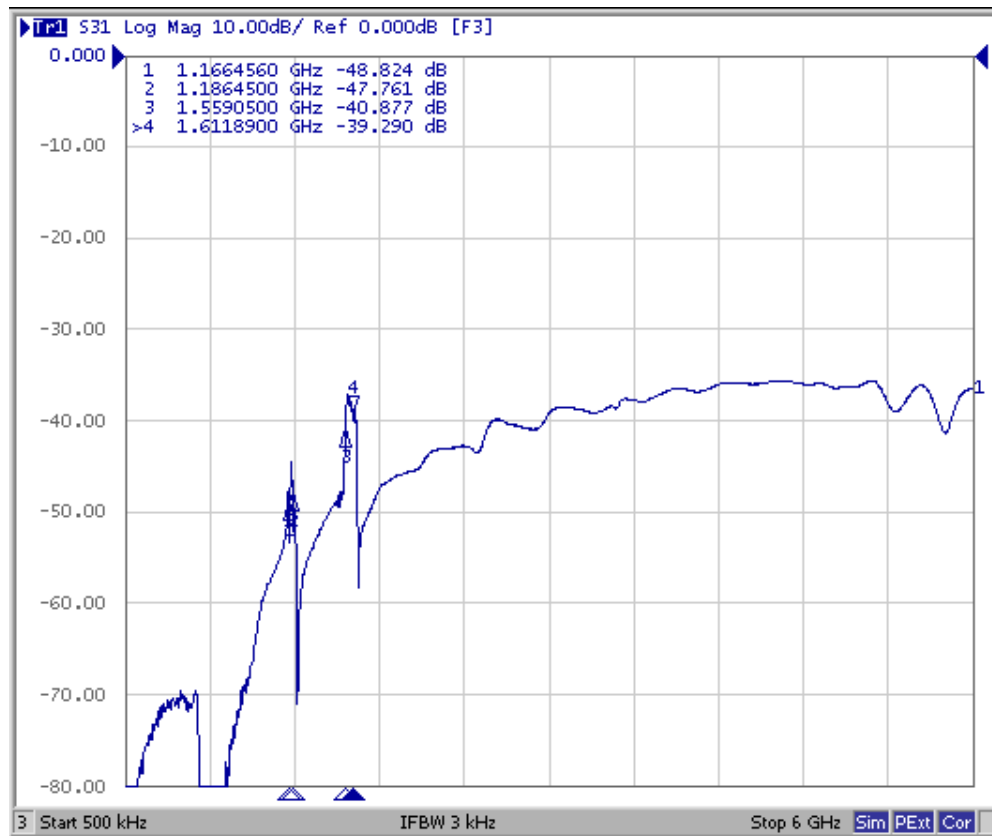
L1 Group Delay



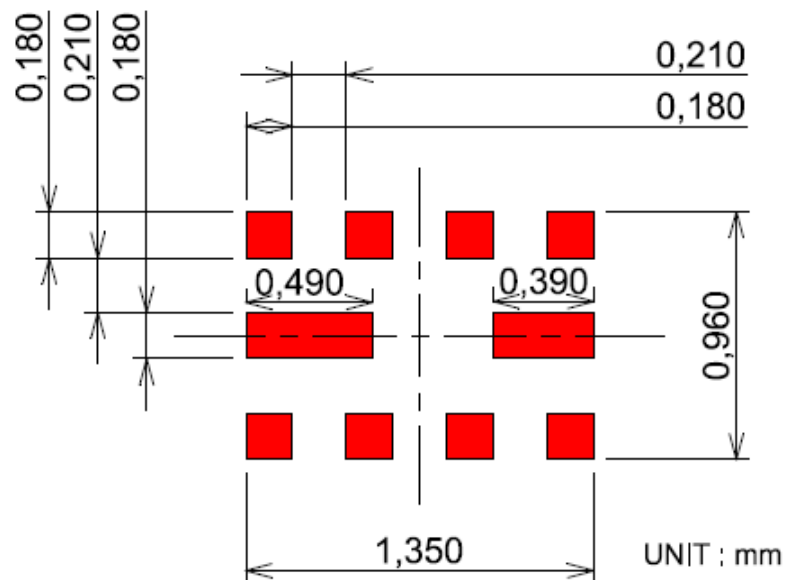
L1 Reflective Characteristic



Isolation



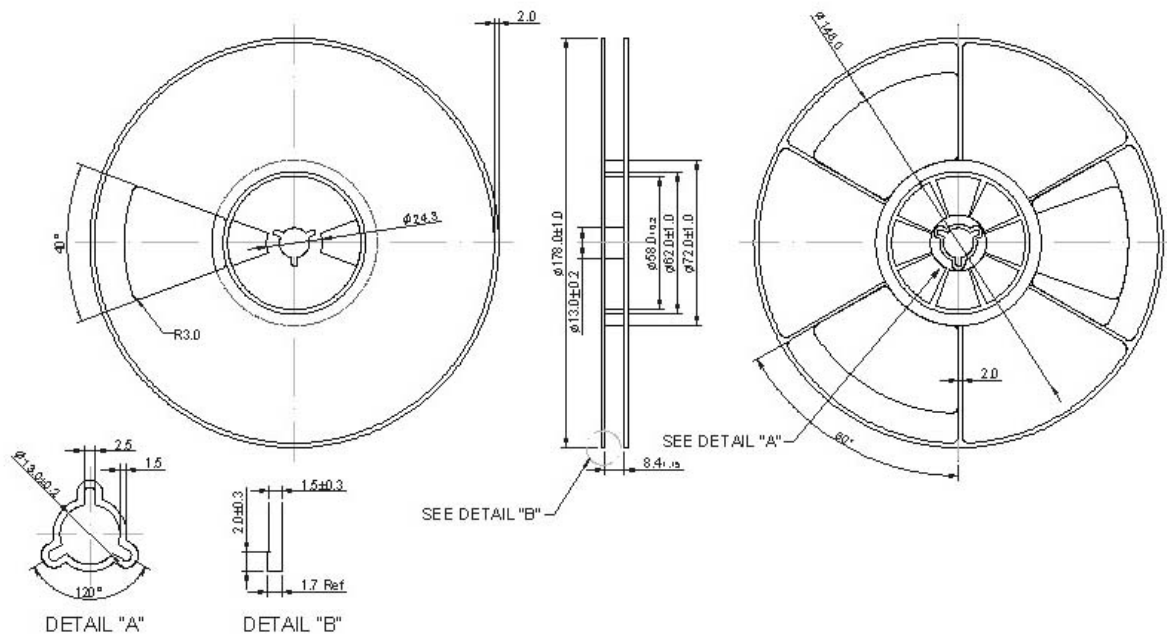
F. PCB FOOTPRINT:



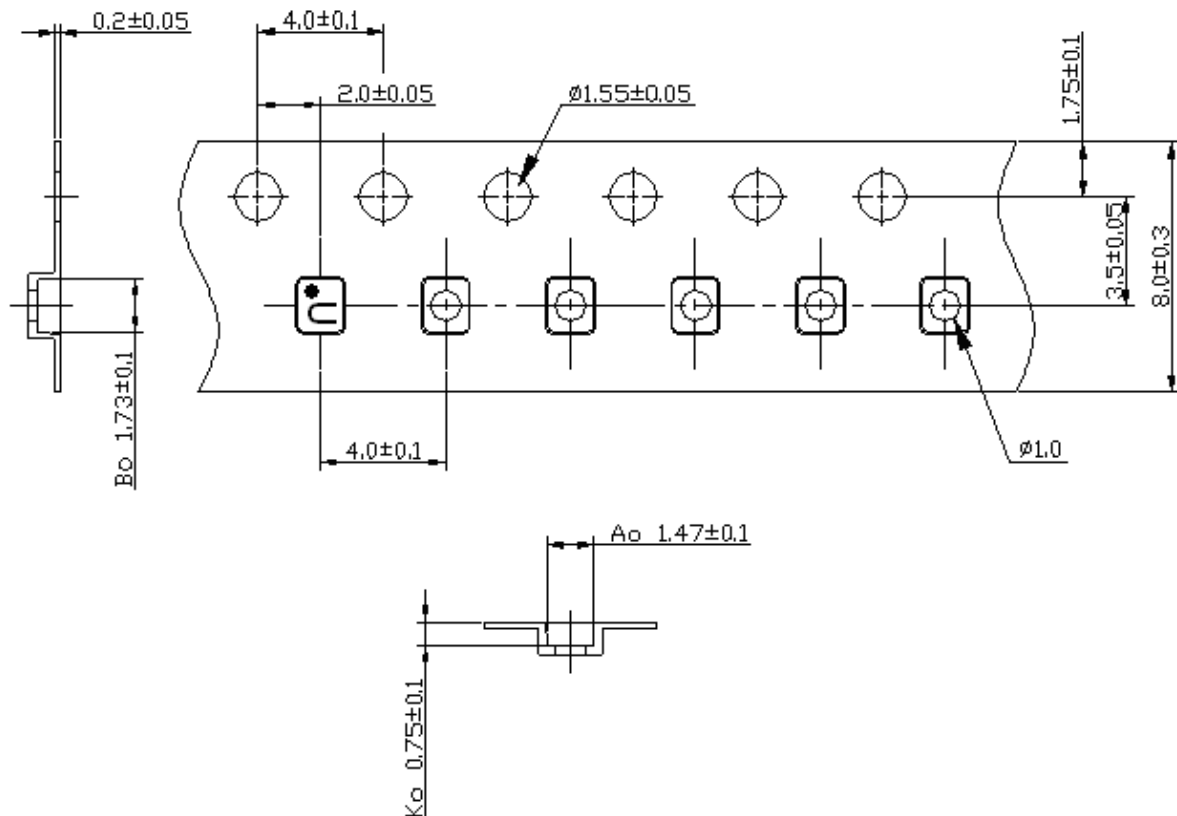
G. PACKING:

1. REEL DIMENSION

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



2. TAPE DIMENSION



H. 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.

