TAI-SAW TECHNOLOGY CO., LTD.
No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.
TEL: 886-3-4690038 FAX: 886-3-4697532
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

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

SMD 1.5x1.1 mm

TST Parts No.: TE0149A

Customer Parts No.:_____

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by: Hong Pu Lin Hong Pu Lin

Approval by: Kazuma Lee Kazuma Lee

Date: 2023/03/24

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.: TE0149A 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

RoHS Compliant
Lead-free soldering

Electrostatic **S**ensitive **D**evice (**ESD**)

B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance (single) : Zs = 50 Ω

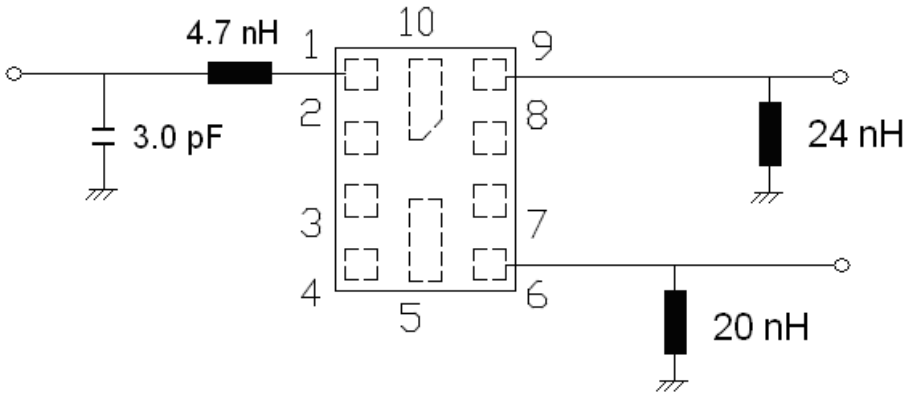
Terminating load impedance (single) : Z_L = 50 Ω

Item (L5 Band to Antenna)	Unit	Min.	Typ.	Max.
Center frequency	MHz	-	1176.45	-
Insertion Loss (1166.22 ~ 1186.68 MHz)	dB	-	2.2	3.5
Group Delay Ripple (1166.22 ~ 1186.68 MHz)	ns	-	8	15
VSWR (1166.22 ~ 1186.68 MHz)	-		2.0	2.8
Attenuation (reference level from 0 dB)				
850 ~ 980 MHz	dB	30	48	-
980 ~ 1010 MHz	dB	30	46	-
1010 ~ 1100 MHz	dB	30	40	-
1100 ~ 1130 MHz	dB	30	38	-
1220 ~ 1250 MHz	dB	20	34	-
1260 ~ 1427 MHz	dB	25	45	
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	-	2.1	3.5
Group Delay Ripple (1559.05 ~ 1611.89 MHz)	ns	-	15	20
VSWR (1559.05 ~ 1611.89 MHz)	-		1.8	2.8
Attenuation (reference level from 0 dB)				
10 ~ 960 MHz	dB	30	38	-
960 ~ 1463 MHz	dB	30	36	-
1710 ~ 1785 MHz	dB	20	25	-
1785 ~ 1990 MHz	dB	20	30	-
1990 ~ 2280 MHz	dB	30	38	-
2280 ~ 3000 MHz	dB	30	45	
3000 ~ 6000 MHz	dB	30	45	
Temperature Coefficient of Frequency	ppm/K	-	-36	-

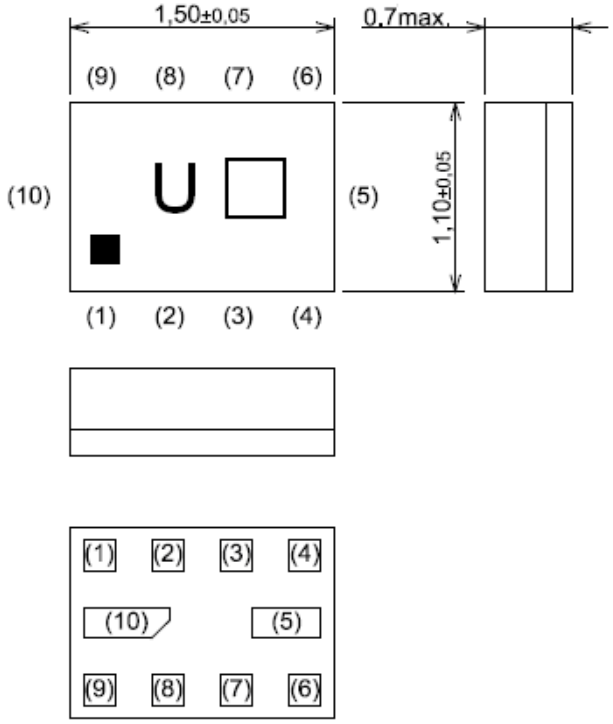
Item (Isolation)	Unit	Min.	Typ.	Max.
Attenuation (reference level from 0 dB)				
1166.22 ~ 1186.68 MHz	dB	35	40	-
1559.05 ~ 1605.89 MHz	dB	35	42	-

C. TEST CIRCUIT: Simulation Matching



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:

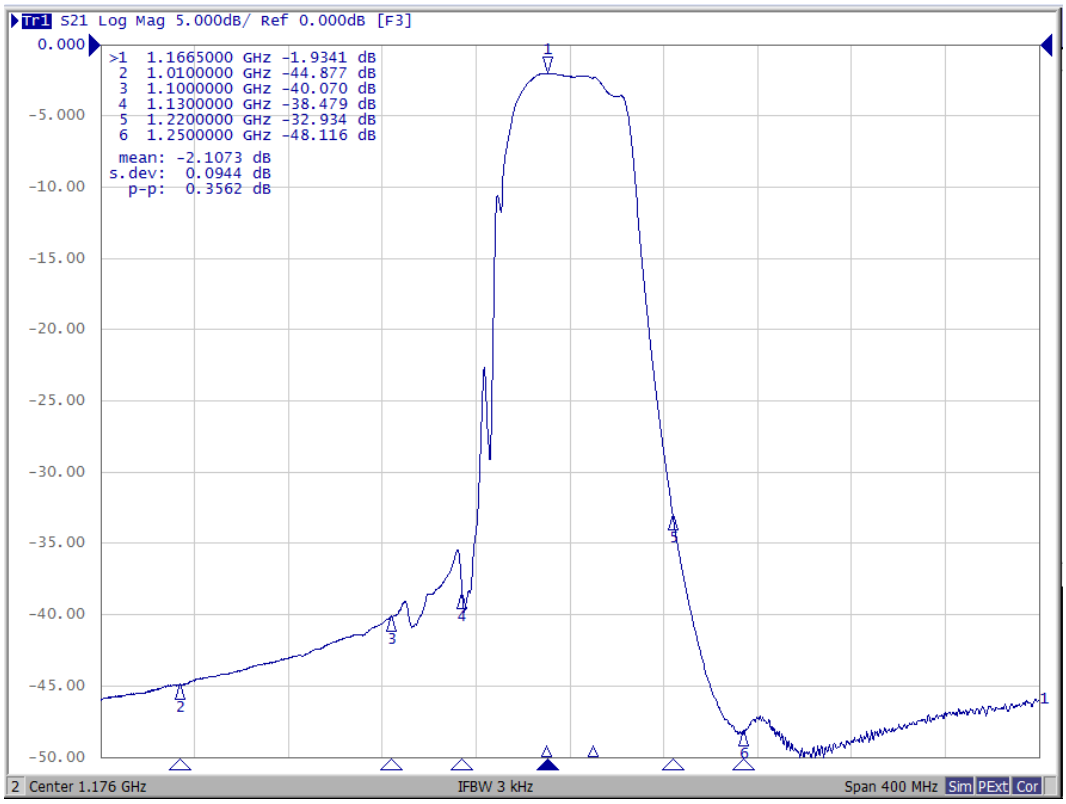


Pin #	Function
(1)	Antenna
(2)	Ground
(3)	Ground
(4)	Ground
(5)	Ground
(6)	L1 Band
(7)	Ground
(8)	Ground
(9)	L5 Band
(10)	Ground

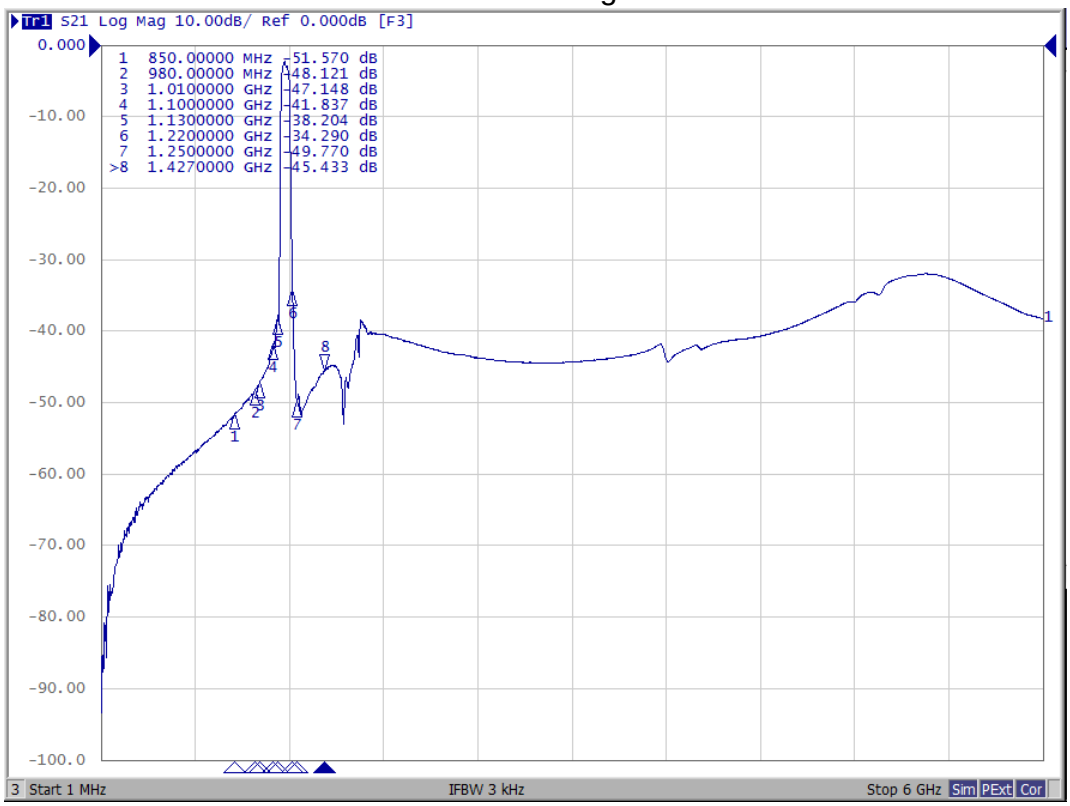
Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z
2021	A	B	C	D	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	a	b	c	d	e	f	g	h	j	k	l	m
2024	n	p	q	r	s	t	u	v	w	x	y	z

E. Frequency Characteristics:

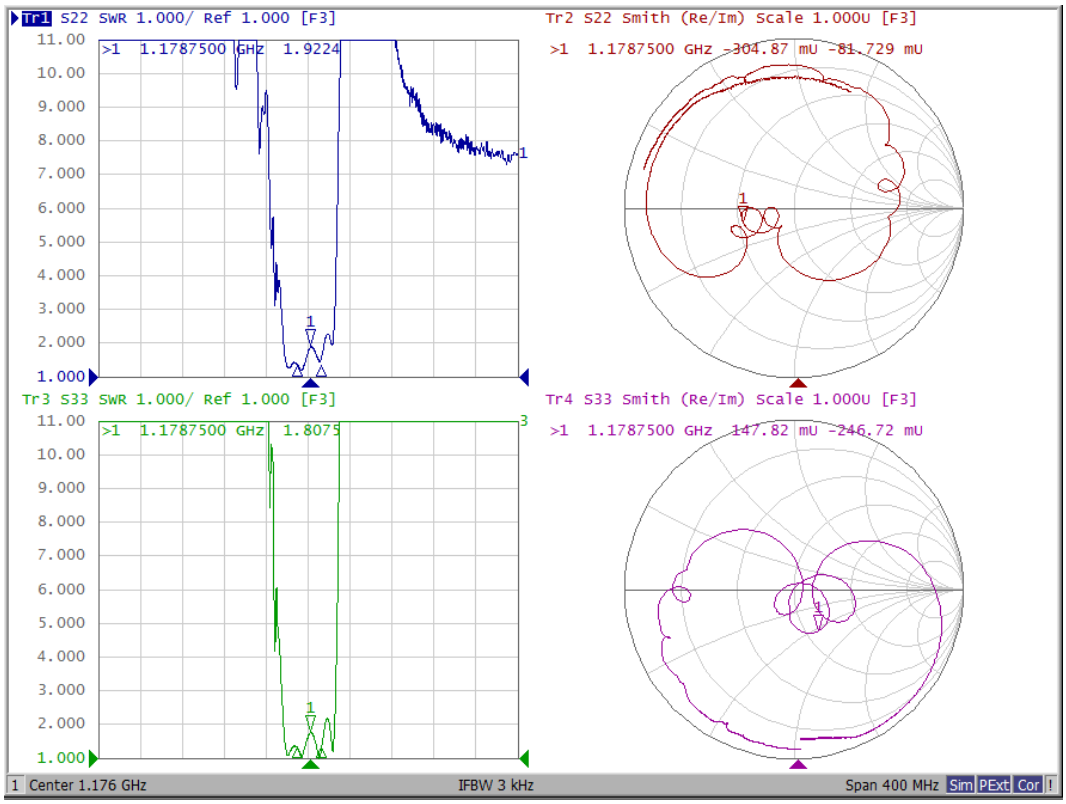
L5 Pass Band



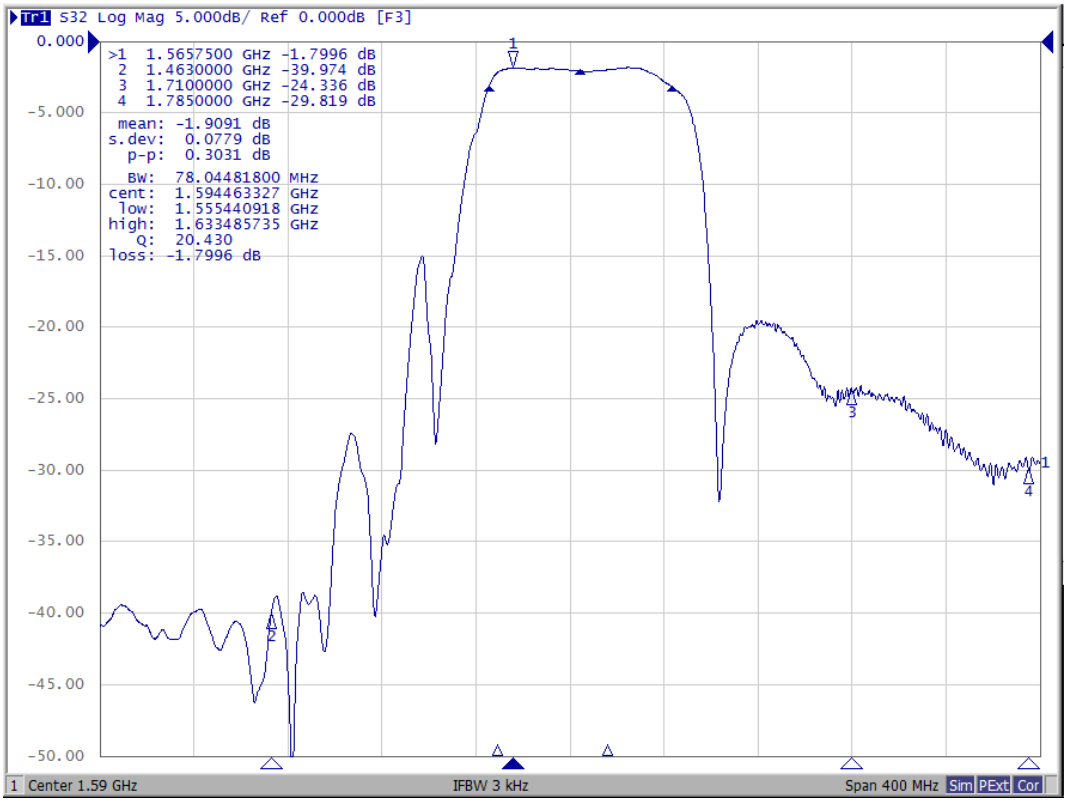
L5 Full Range



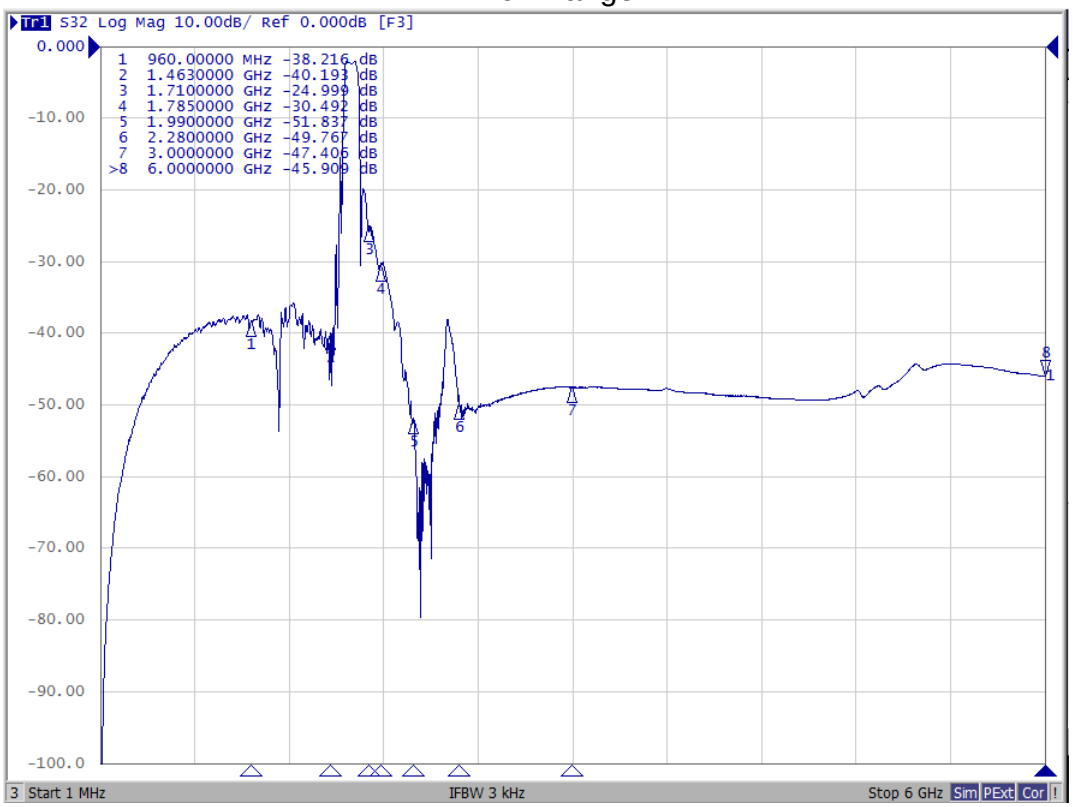
L5 Reflective Characteristic



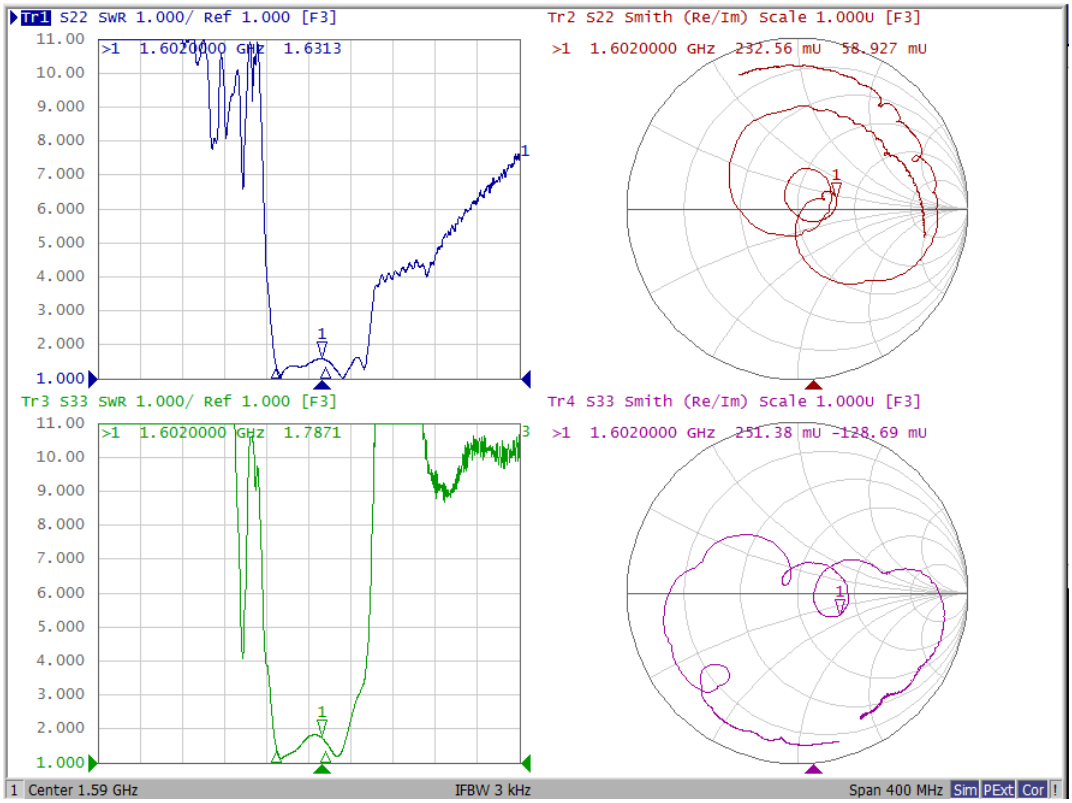
L1 Pass Band



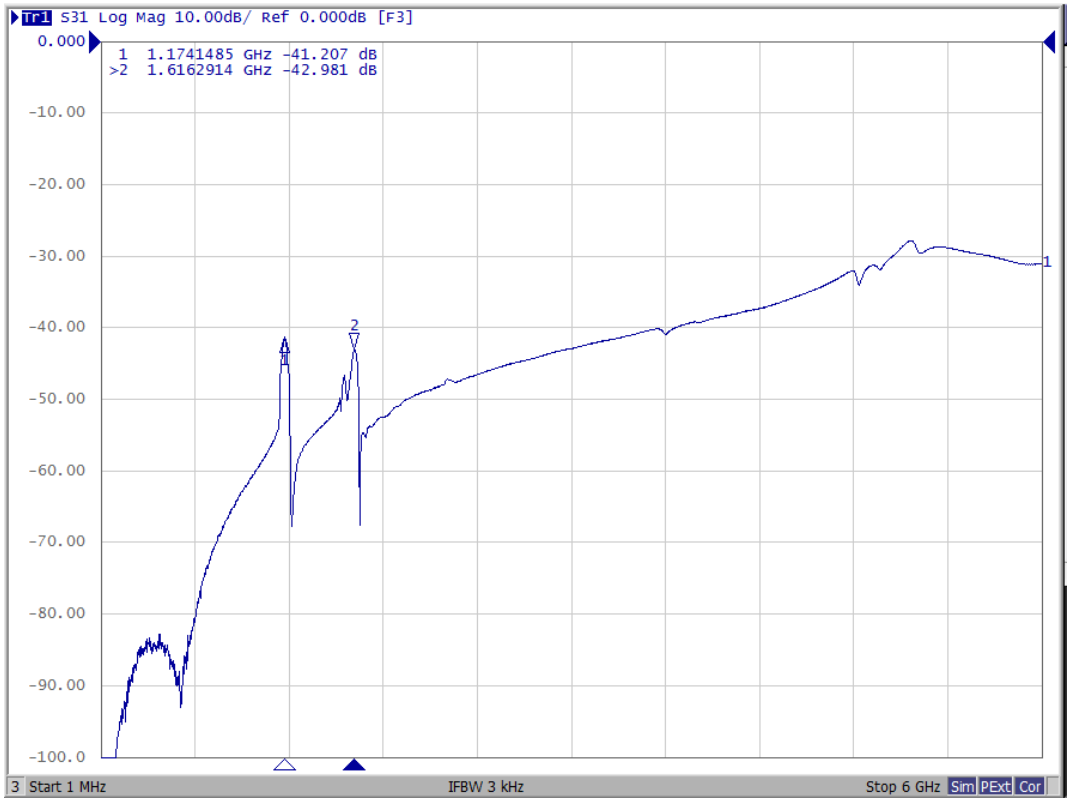
L1 Full Range



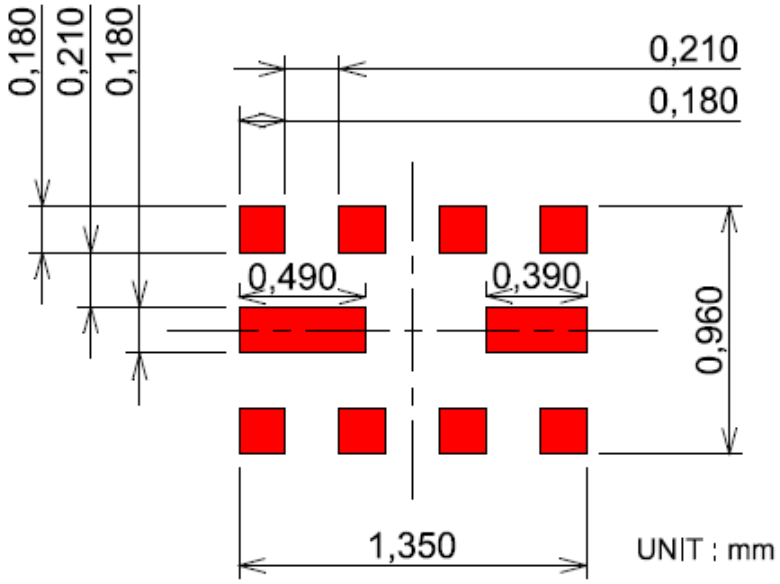
L1 Reflective Characteristic



Isolation



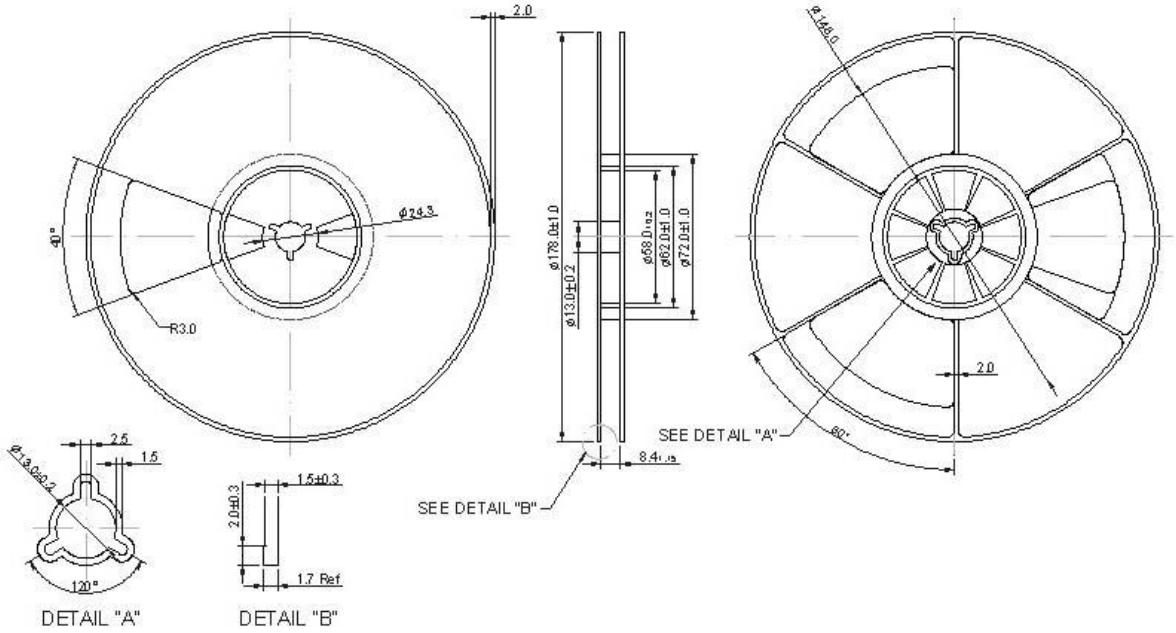
F. PCB FOOTPRINT:



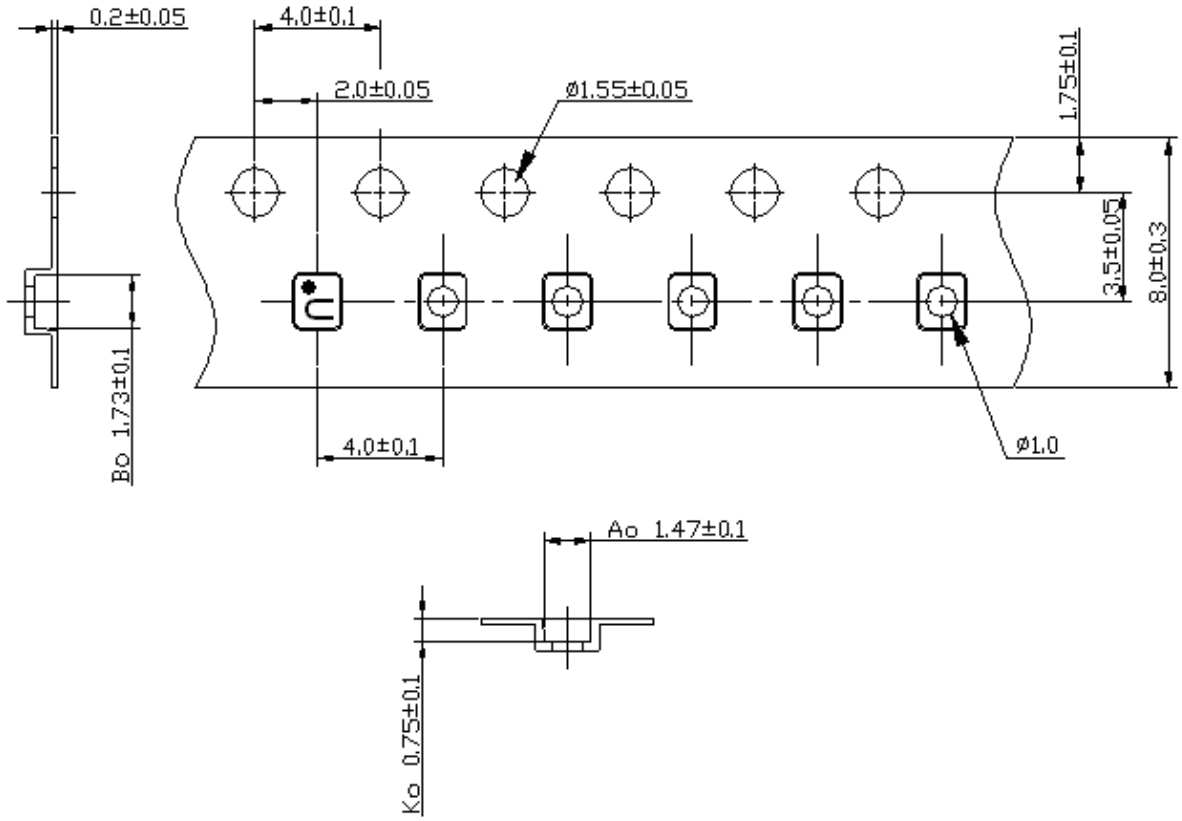
G. PACKING:

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℃ for 60~90 seconds.
2. Ascending time to preheating temperature 150℃ shall be 30 seconds min.
3. Heating shall be fixed at 220℃ for 50~80 seconds and at 260℃+0/-5℃ peak (20~40sec).
4. Time: 2 times.