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 Band2 DPX 1880 / 1960MHz SMD1.8X1.4 mm(BW=59.04/59.04MHz)

TST Parts No.: TF0203A

Customer Part No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Anne Chen _____

Approved by:_____ Andy Yu _____

Date:_____ 04/01/2020 _____

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 change

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SAW Band2 DPX 1880/1960MHz SMD1.8X1.4 mm (BW=59.04 MHz)

MODEL NO.: TF0203A REV. No.: 1.0

A. MAXIMUM RATING:

1. Input power : 29dBm (CW , Ta=+50deg C,50000h)
2. Maximum DC Voltage: 0 V
3. Operating temperature range: -20 ℃ to +85 ℃
4. Storage temperature range: -40 ℃ to +85 ℃
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant

Lead-free soldering

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

B. ELECTRICAL CHARACTERISTICS:

Terminating impedance(Tx Port): 50 //15nH Ω(Single-ended)
Terminating impedance(Rx Port): 50 //4.7nH Ω(Single-ended)
Terminating impedance(Ant Port): 50 //5.6nH Ω (Single-ended)

Tx to ANT (f_{T0}=1880 MHz)

Parameters Description			Unit	Minimum	Typical	Maximum	Note
Insertion Loss		1850.48 ~ 1909.52 MHz	dB	-	2.1	3.0	
Ripple		1850.48 ~ 1909.52 MHz	dBp-p	-	1.2	2.0	
VSWR	Tx	1850.48 ~ 1909.52 MHz	-	-	1.8	2.2	
	ANT		-	-	1.7	2.0	
Attenuation:							
10 ~ 728 MHz			dB	33	41	-	-
704 ~ 716 MHz			dB	33	42		
728 ~ 764 MHz			dB	33	40	-	
777 ~ 787 MHz			dB	33	40	-	
869 ~ 894 MHz			dB	31	38	-	
1226 ~ 1250 MHz			dB	25	34	-	
1559 ~ 1563 MHz			dB	30	38		
1565.42 ~ 1573.37 MHz			dB	30	38		
1573.37 ~ 1577.47 MHz			dB	30	38		
1577.47 ~ 1585.42 MHz			dB	30	39		
1597.55 ~ 1605.88 MHz			dB	30	40		
1605.88 ~ 1680 MHz			dB	30	40		
1930.48 ~ 1989.52 MHz			dB	40	45		
2010 ~ 2025 MHz			dB	30	41		

2110 ~ 2155 MHz			dB	30	40		
2350 ~ 2360MHz			dB	30	42		
2400 ~ 2500 MHz			dB	30	38		
3700 ~ 3820 MHz			dB	15	24		
4900 ~ 5850 MHz			dB	8	18		
5254 ~ 5455 MHz			dB	8	18		
5520 ~ 5845 MHz			dB	8	18		
5540 ~ 5950 MHz			dB	8	18		
7390 ~ 7650 MHz			dB	3	10		

ANT to Rx (f_{T0}=1960 MHz)

Parameters Description			**Unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Insertion Loss		1930.48 ~ 1989.52MHz	dB	-	2.2	3.0	
Ripple		1930.48 ~ 1989.52MHz	dB_{p-p}	-	1.0	2.0	
VSWR	Tx	1930.48 ~ 1989.52MHz	-	-	1.6	2.0	
	ANT		-	-	1.8	2.3	
Attenuation:							
10 ~ 1850 MHz			dB	30	37	-	-
80 MHz			dB	80	105	-	-
699 ~ 716 MHz			dB	35	50	-	-
777 ~ 787 MHz			dB	35	47	-	-
824 ~ 849 MHz			dB	35	44	-	-
1770 ~ 1830 MHz			dB	35	48	-	-
1850.48 ~ 1909.52 MHz			dB	40	54	-	-
1910 ~ 1915 MHz			dB	10	25	-	-
2005 ~ 2050 MHz			dB	2	6	-	-
2050 ~ 2075 MHz			dB	35	56	-	-
2075 ~ 6000 MHz			dB	35	45	-	-
2305 ~ 2315 MHz			dB	35	45	-	-
2400 ~ 2500 MHz			dB	35	46	-	-
3780 ~ 3900 MHz			dB	40	51	-	-
3860 ~ 3980 MHz			dB	40	50	-	-
4900 ~ 5950 MHz			dB	40	51	-	-
5610 ~ 5845 MHz			dB	40	56	-	-
5630 ~ 5810 MHz			dB	40	56	-	-
5790 ~ 5970 MHz			dB	40	56	-	-
5970 ~ 7720 MHz			dB	40	35	-	-
7720 ~ 7960 MHz			dB	20	37	-	-

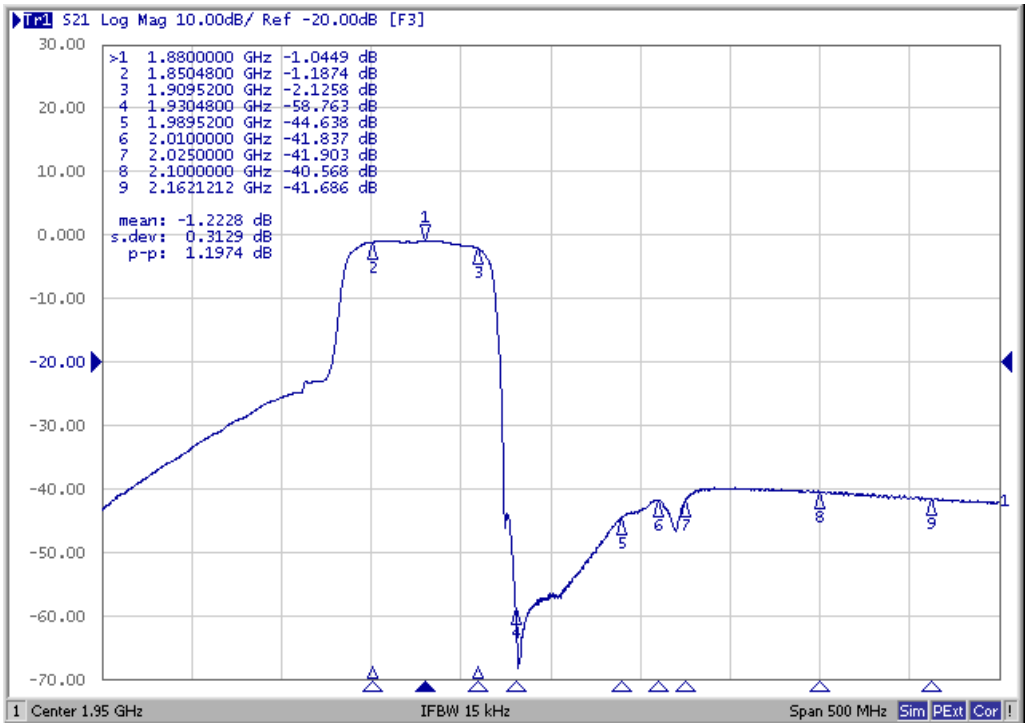
Tx to Rx

Isolation	1574 ~ 1577 MHz	dB	45	52	-	
	1850.48 ~ 1909.52MHz	dB	50	55	-	
	1930.48 ~ 1989.52MHz	dB	50	56		
	3700 ~ 3820 MHz	dB	35	44		
	5550 ~ 5850 MHz	dB	37	48		

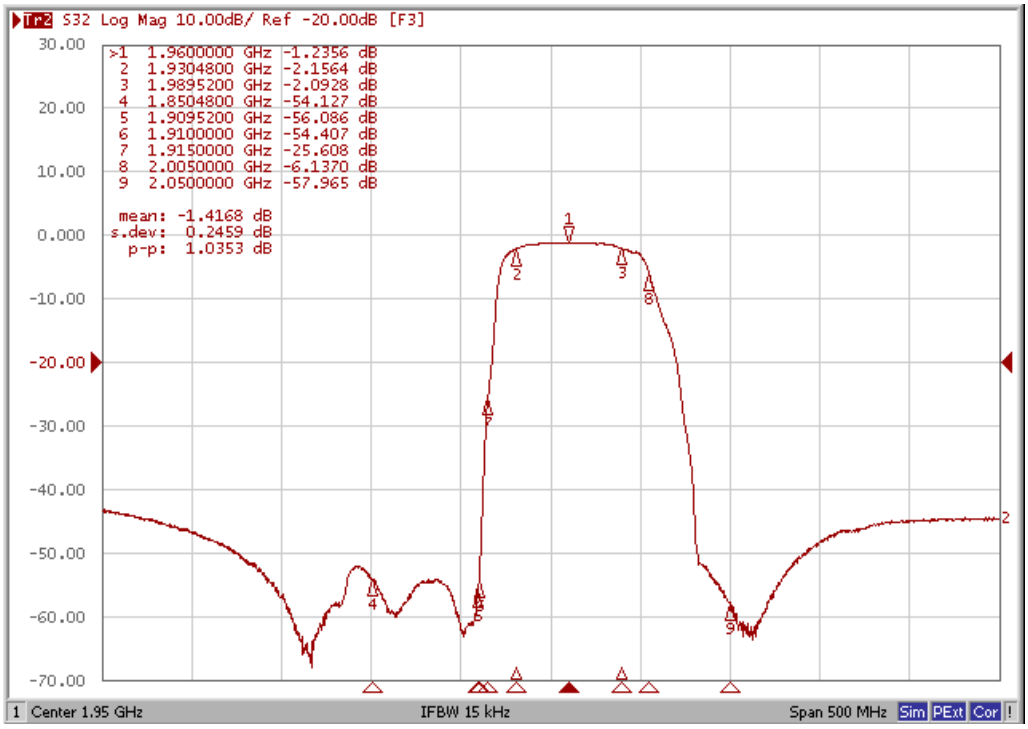
Notes : (1) With Matching Network .

C. Frequency Characteristics:

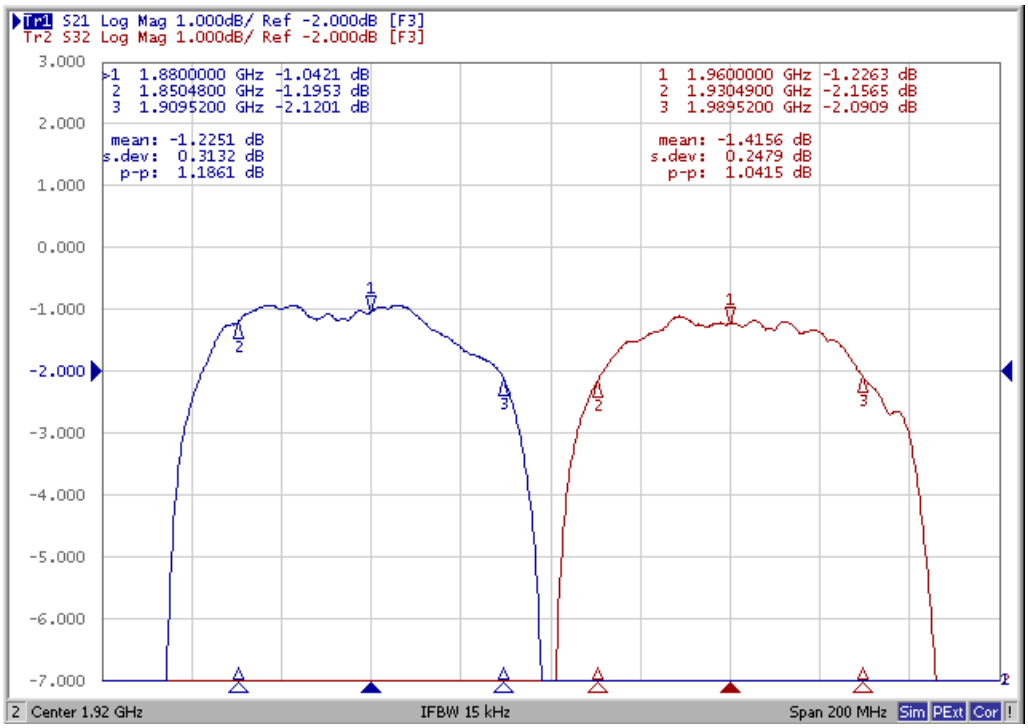
Tx to Ant



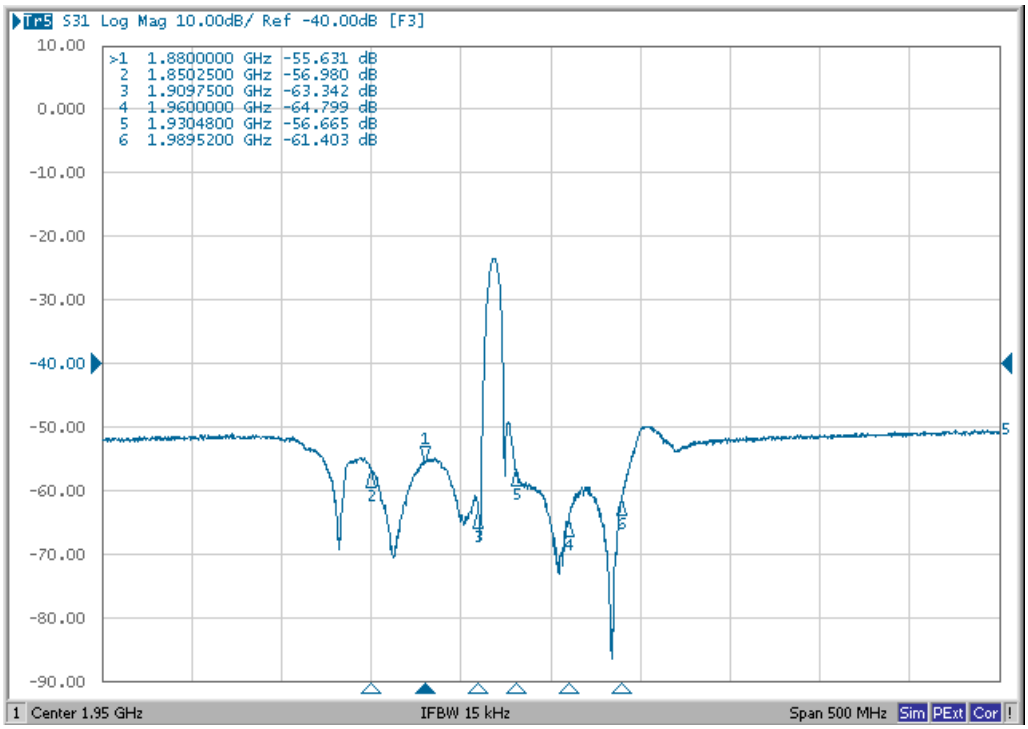
Ant to Rx



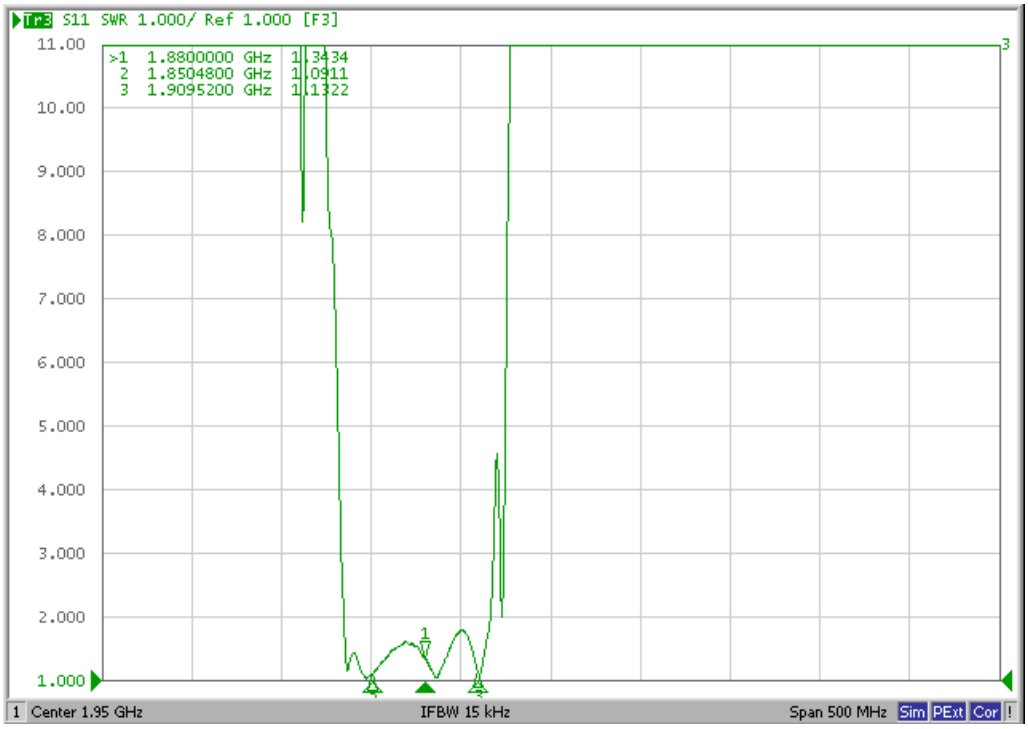
Ripple Deviation



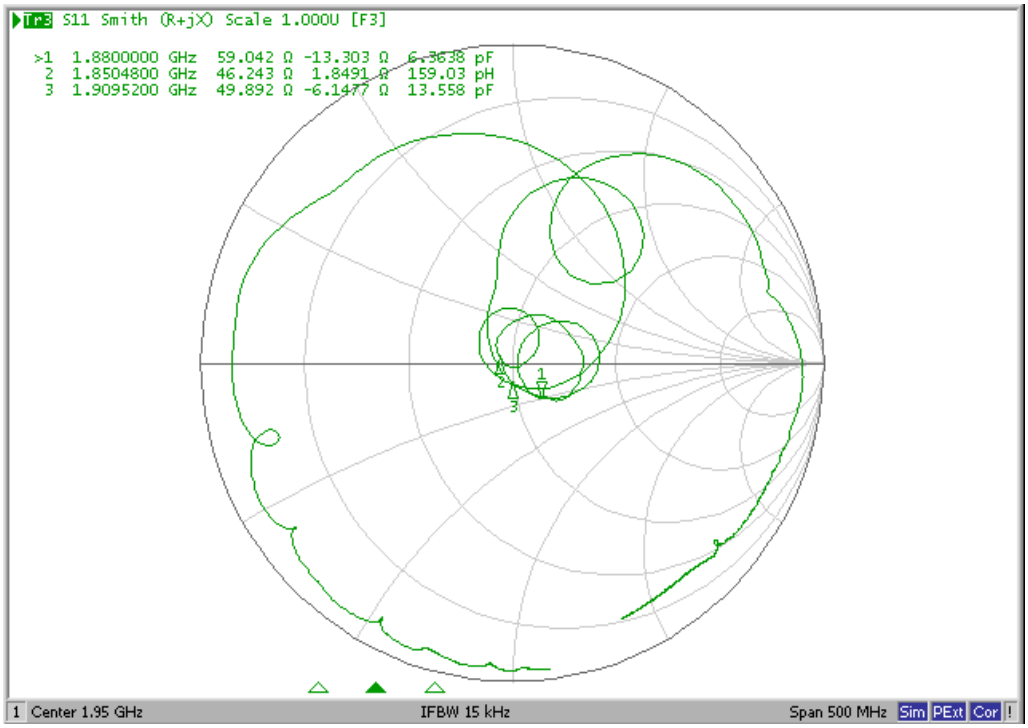
Isolation



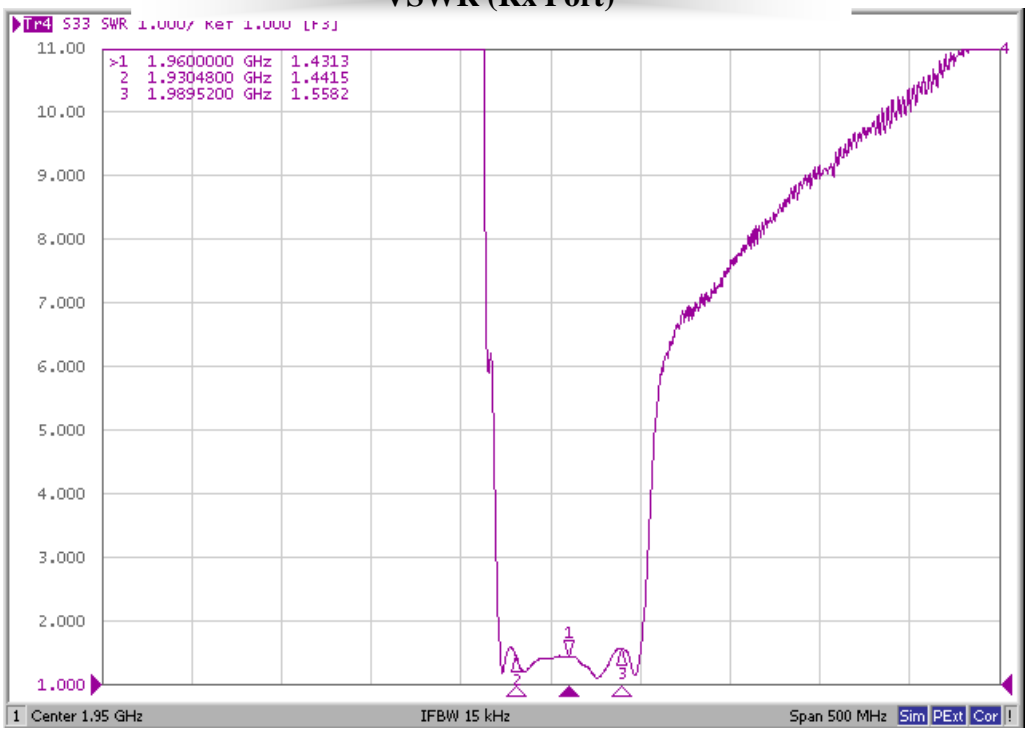
VSWR (Tx Port)



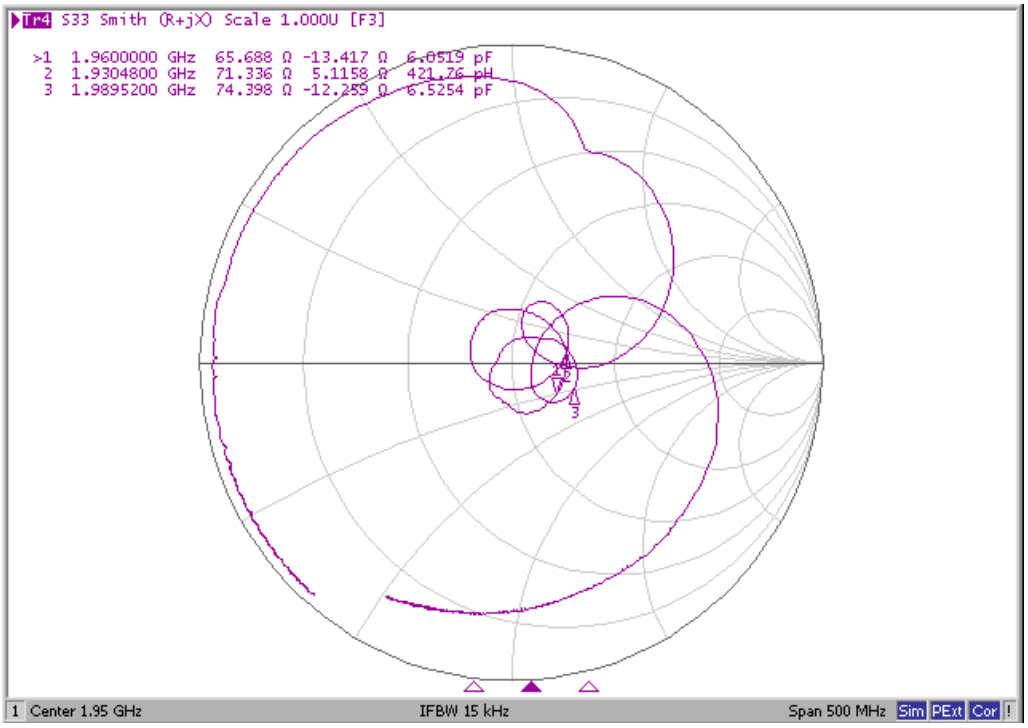
Smith Chart (Tx Port)



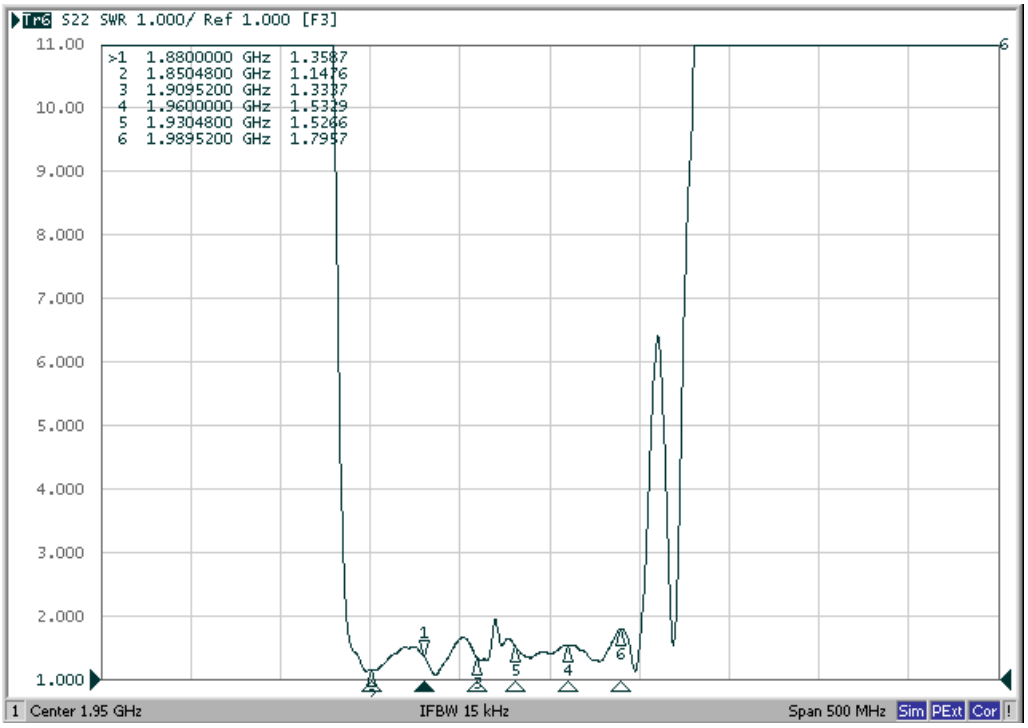
VSWR (Rx Port)



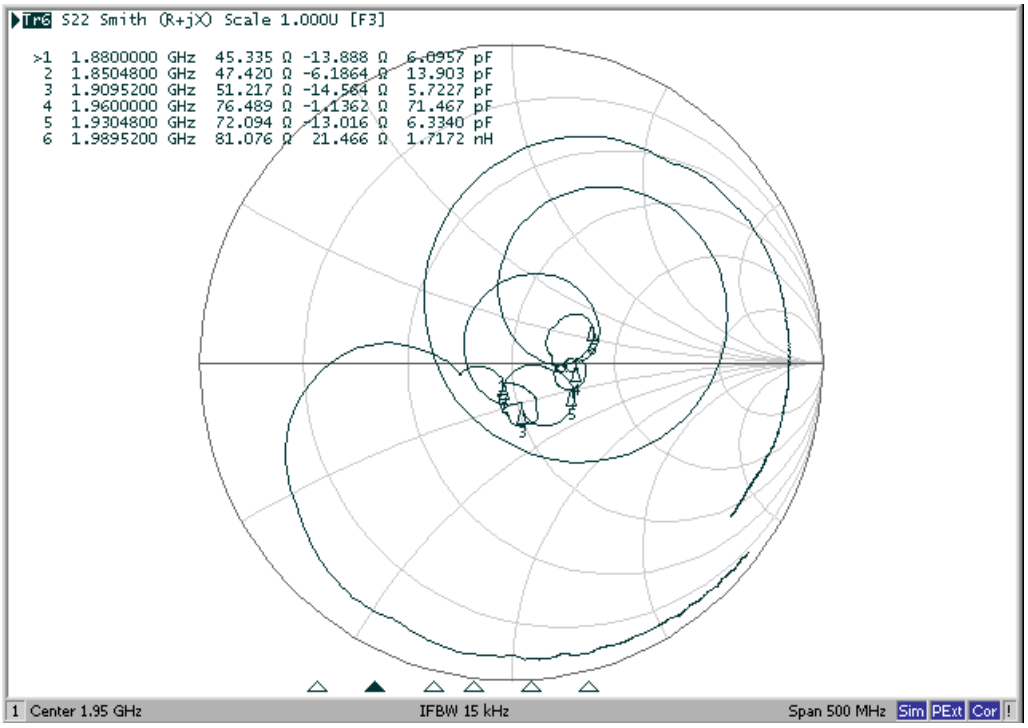
Smith Chart (Rx Port)



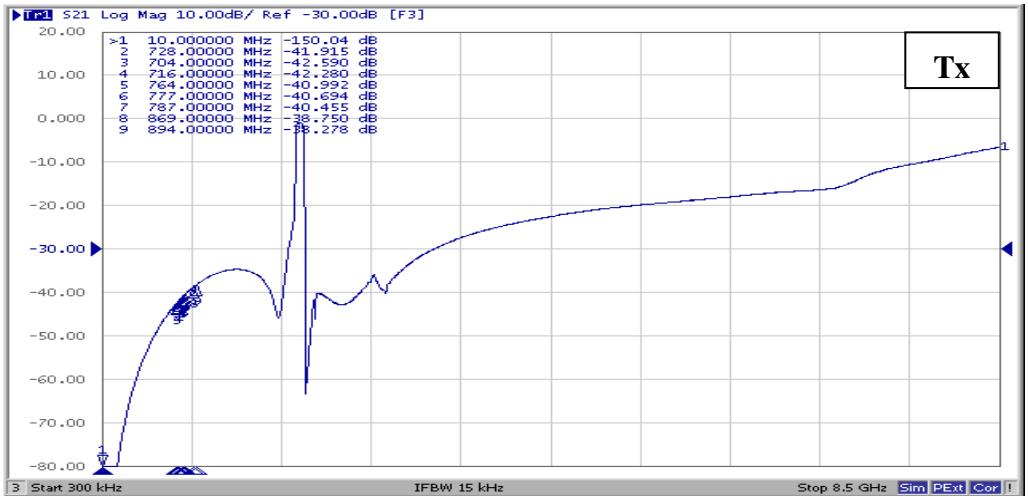
VSWR (ANT Port)

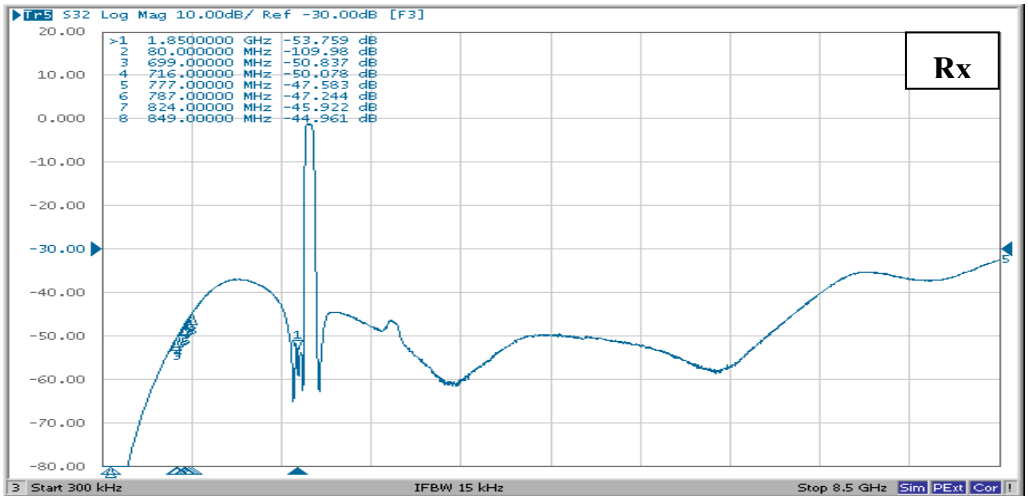


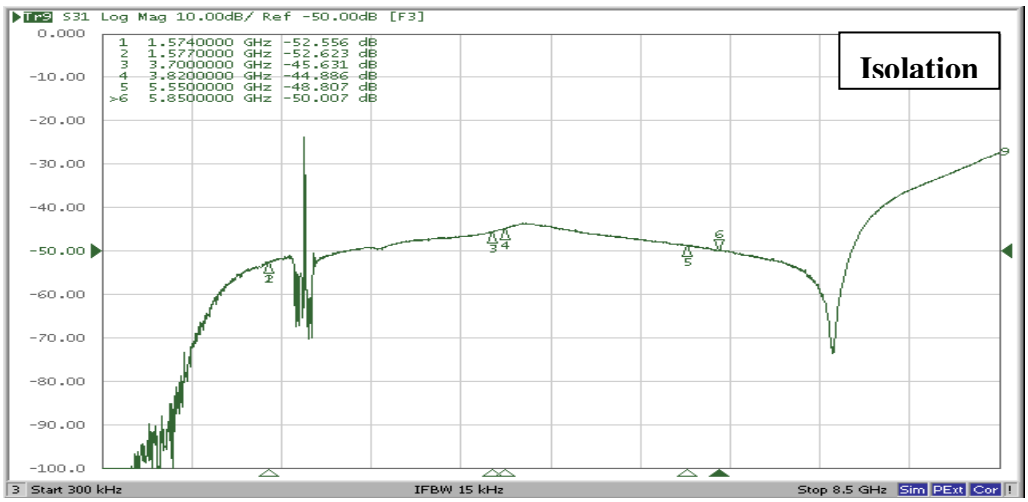
Smith Chart (ANT Port)



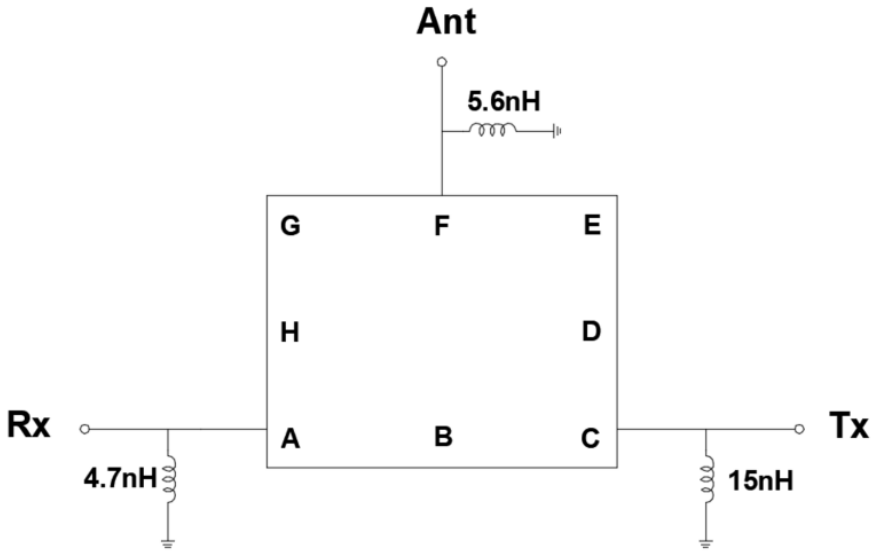
Wide Span


Tr1 S21 Log Mag 10.00dB/ Ref -30.00dB [F3]
>1 10.000000 MHz -150.04 dB
2 728.00000 MHz -41.915 dB
3 704.00000 MHz -42.590 dB
4 716.00000 MHz -42.280 dB
5 764.00000 MHz -40.992 dB
6 777.00000 MHz -40.694 dB
7 787.00000 MHz -40.455 dB
8 869.00000 MHz -38.750 dB
9 894.00000 MHz -38.278 dB
Tx
Start 300 kHz
IFBW 15 kHz
Stop 8.5 GHz

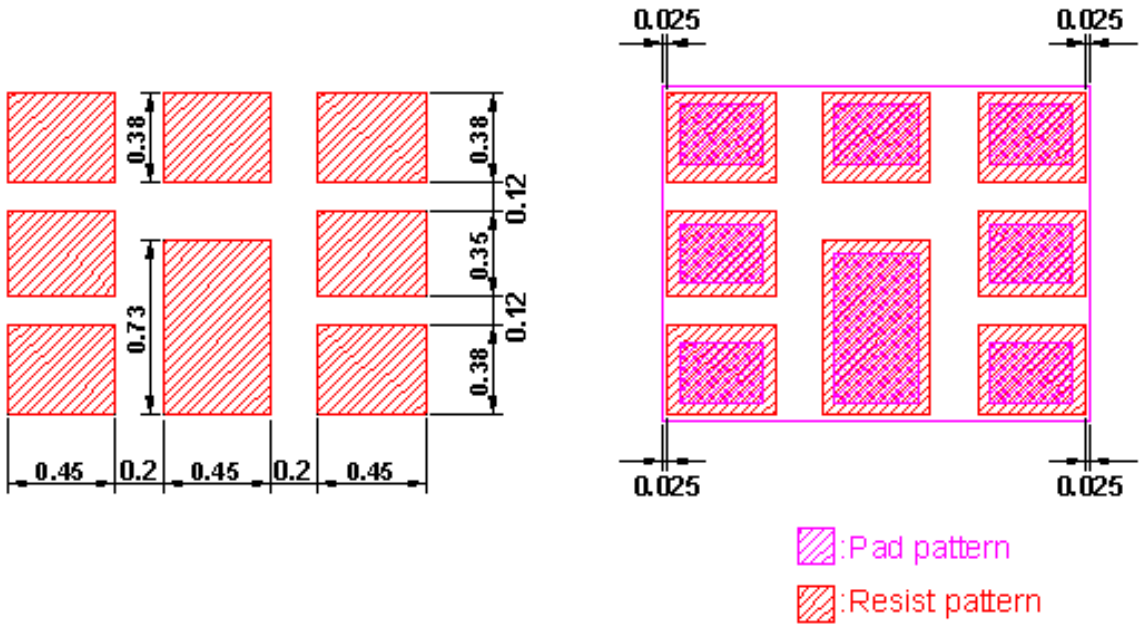

Tr5 S32 Log Mag 10.00dB/ Ref -30.00dB [F3]
>1 1.8500000 GHz -53.759 dB
2 80.000000 MHz -109.98 dB
3 699.00000 MHz -50.837 dB
4 716.00000 MHz -50.078 dB
5 777.00000 MHz -47.583 dB
6 787.00000 MHz -47.244 dB
7 824.00000 MHz -45.922 dB
8 849.00000 MHz -44.961 dB
Rx
Start 300 kHz
IFBW 15 kHz
Stop 8.5 GHz


Tr3 S31 Log Mag 10.00dB/ Ref -50.00dB [F3]
1 1.5740000 GHz -52.556 dB
2 1.5770000 GHz -52.623 dB
3 3.7000000 GHz -45.631 dB
4 3.8200000 GHz -44.886 dB
5 5.5500000 GHz -48.807 dB
>6 5.8500000 GHz -50.007 dB
Isolation
Start 300 kHz
IFBW 15 kHz
Stop 8.5 GHz

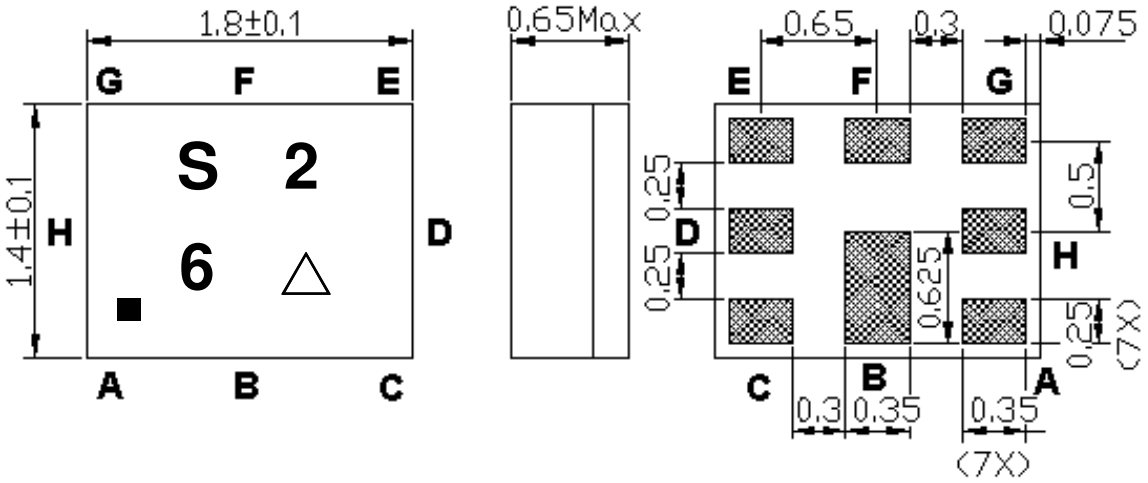
D. MEASUREMENT CIRCUIT:



E. PCB Footprint:



F.OUTLINE DRAWING:



Marking Descriptions	
S	Marking name
2	Band Class
6	Series Number
△	Date Code(Year+Month)

Pin Description	
B,D,E,G,H	Ground
F	Ant
C	Tx (1880.0MHz)
A	Rx (1960.0MHz)

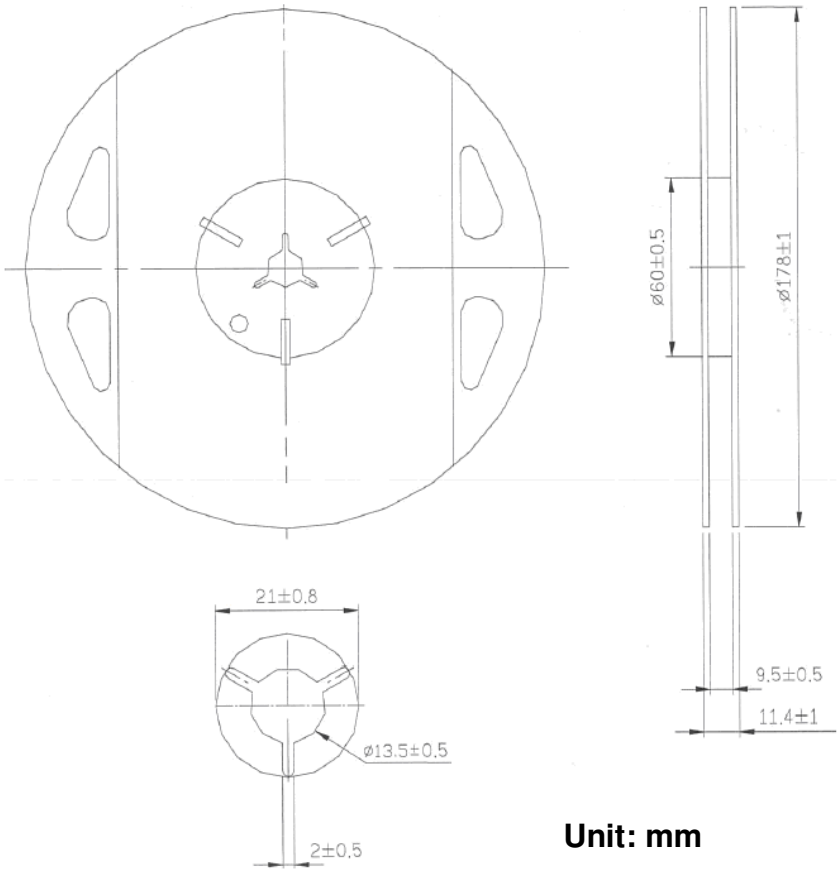
Date Code (year+month)

Year	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	j	k	l	m
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

G. PACKING:

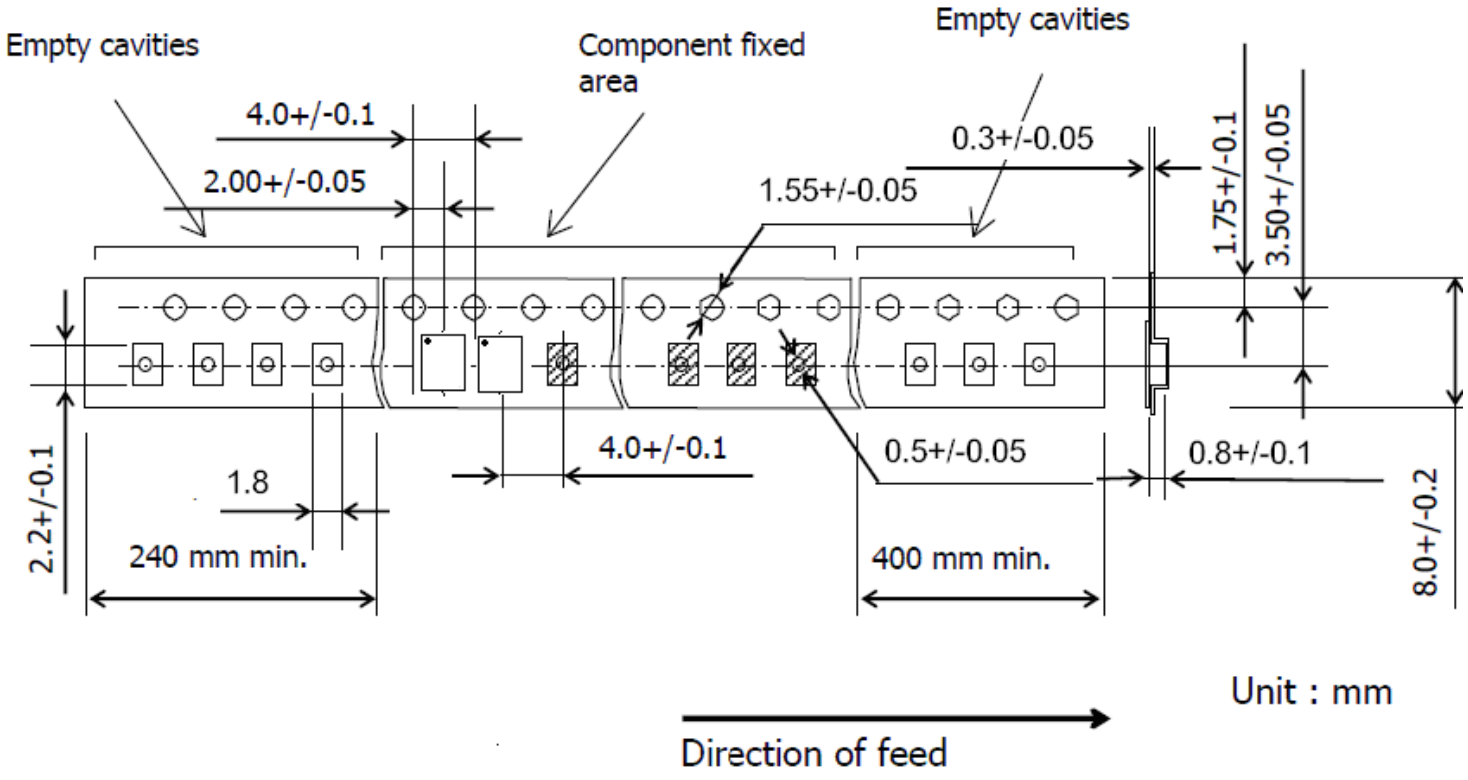
1. REEL DIMENSION

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



Unit: mm

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.