



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Description: SAW Rx Filter 1960MHz LTE Band 2 SMD 1109

TST Part No.: TA1950D

Customer Part No.: _____

Customer signature required

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Jun-Mao Chang 

Approved by: _____ Andy Yu 

Date: _____ 2019, 01. 16

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 Rx Filter 1960MHz LTE Band 2 SMD 1109 (60MHz BW)

MODEL NO.: TA1950D

REV. NO.:3

A. MAXIMUM RATING:

1. Input Power Level: 10 dBm
2. DC voltage: 0 V
3. Operating Temperature: -20°C to +85°C
4. Storage Temperature: -40°C to +85°C
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant
Lead free
Lead-free soldering

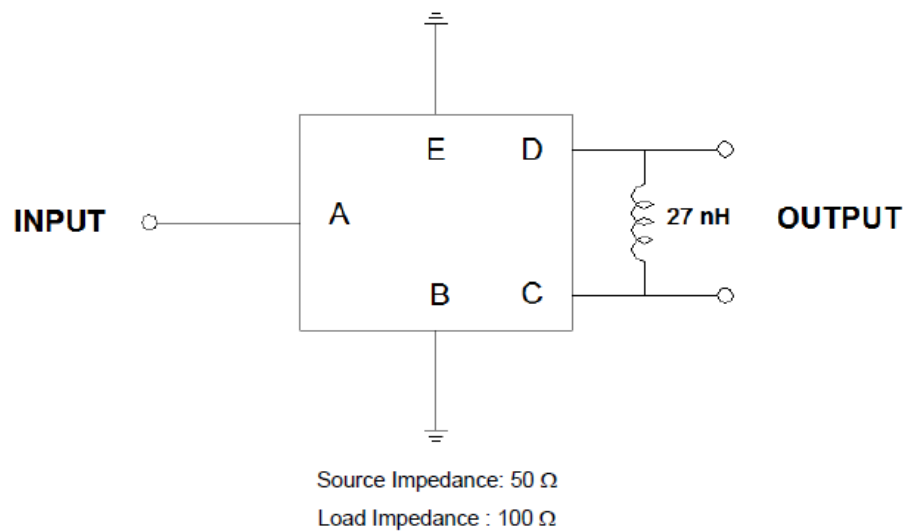
Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS(25°C):

Parameters Description	Unit	Min.	Typ.	Max.
Center Frequency (Fo)	MHz	-	1960	-
Insertion Loss within 1930 ~ 1990 MHz	dB	-	2.8	4
1930.6 ~ 1989.4 MHz	dB	-	2.8	3.7
Amplitude Ripple within 1930 ~ 1990 MHz	dBp-p	-	1.1	2.6
1930.6 ~ 1989.4 MHz	dBp-p	-	1.1	2.3
Input VSWR within 1930~1990 MHz	-	-	2	2.2
Output VSWR within 1930~1990 MHz	-	-	2	2.3
Amplitude balance within 1930.0 ~ 1990.0 MHz	dB	-1.8	-0.9/+1	+1.8
Phase balance within 1930.0 ~ 1990.0 MHz	deg.	-15	-4.6/+8.5	+15
Attenuation:				
10 ~ 1850 MHz	dB	40	54	-
824 ~ 849 MHz	dB	50	62	-
1850 ~ 1910 MHz	dB	35	46	-
2020 ~ 2070 MHz	dB	15	22	-
2070 ~ 6000 MHz	dB	25	32	-

※With Matching Network.

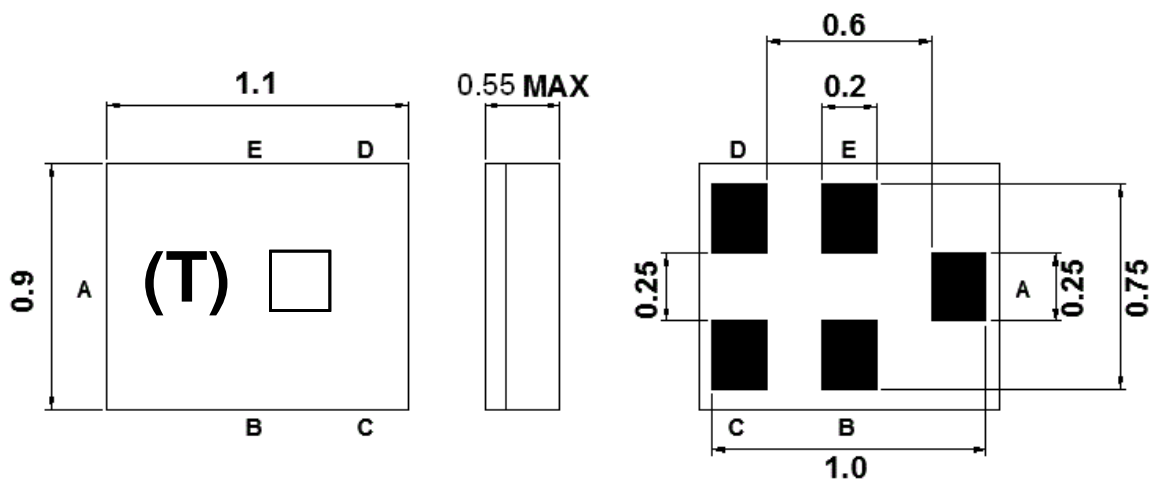
C. MEASUREMENT CIRCUIT:



Pin Description

B, E	Ground
A	Input
D, C	Balance Output

D. OUTLINE DRAWING:



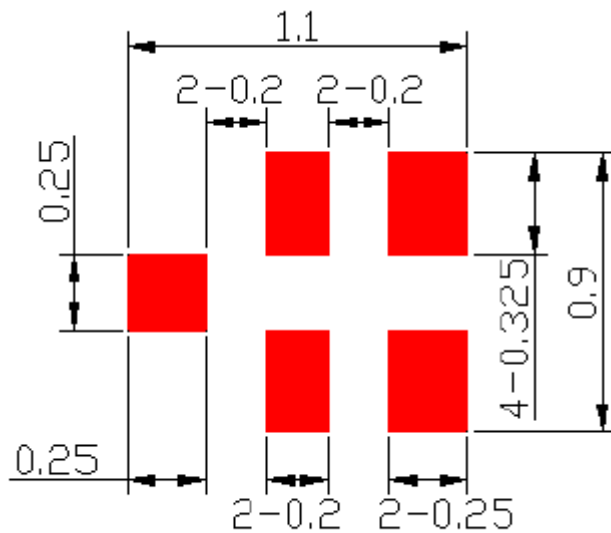
(T): Series Number

□: Date Code(Year+Month)

Date Code Table:

YEAR/Month	1	2	3	4	5	6	7	8	9	10	11	12
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	<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>j</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>

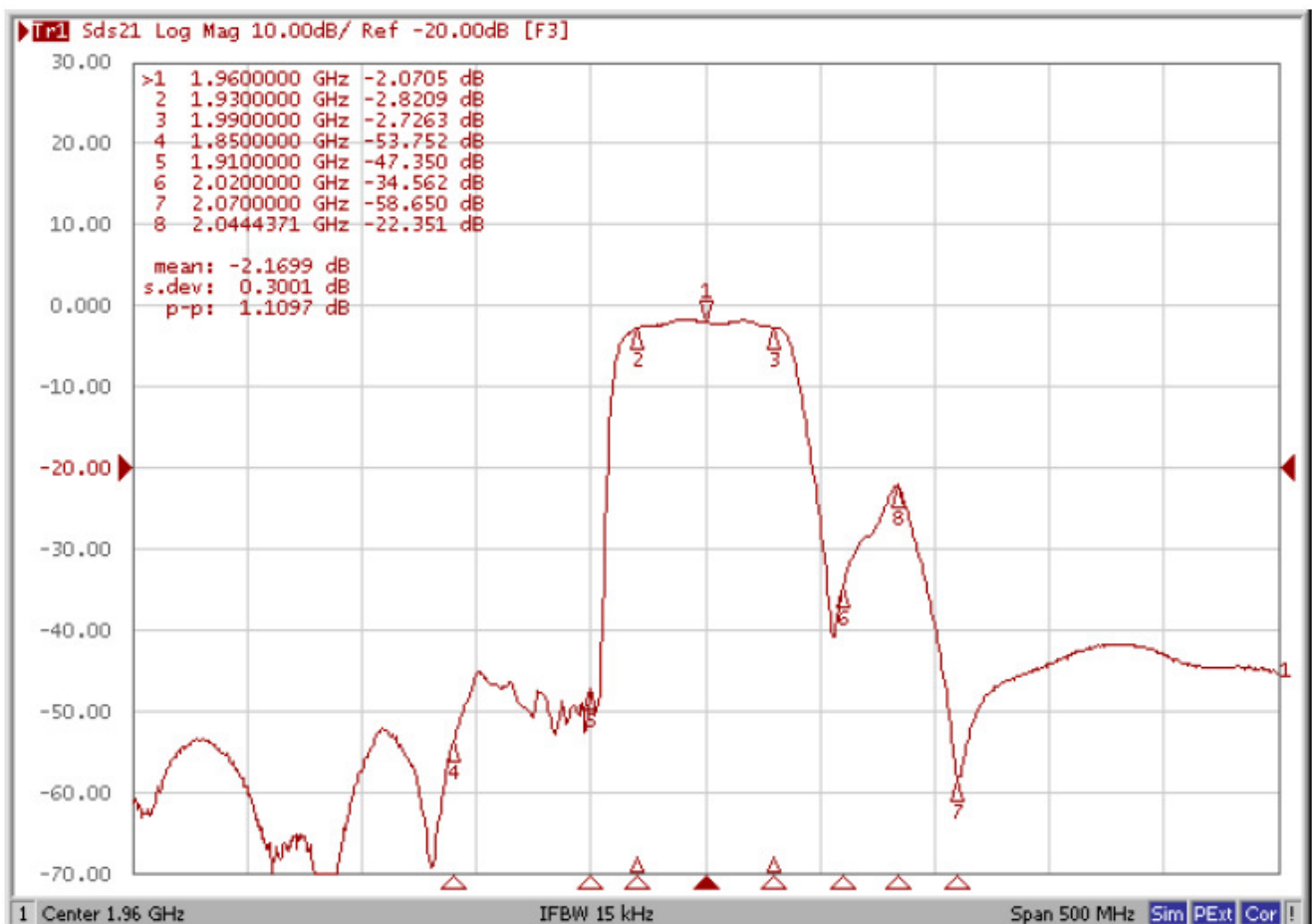
E. PCB Footprint:

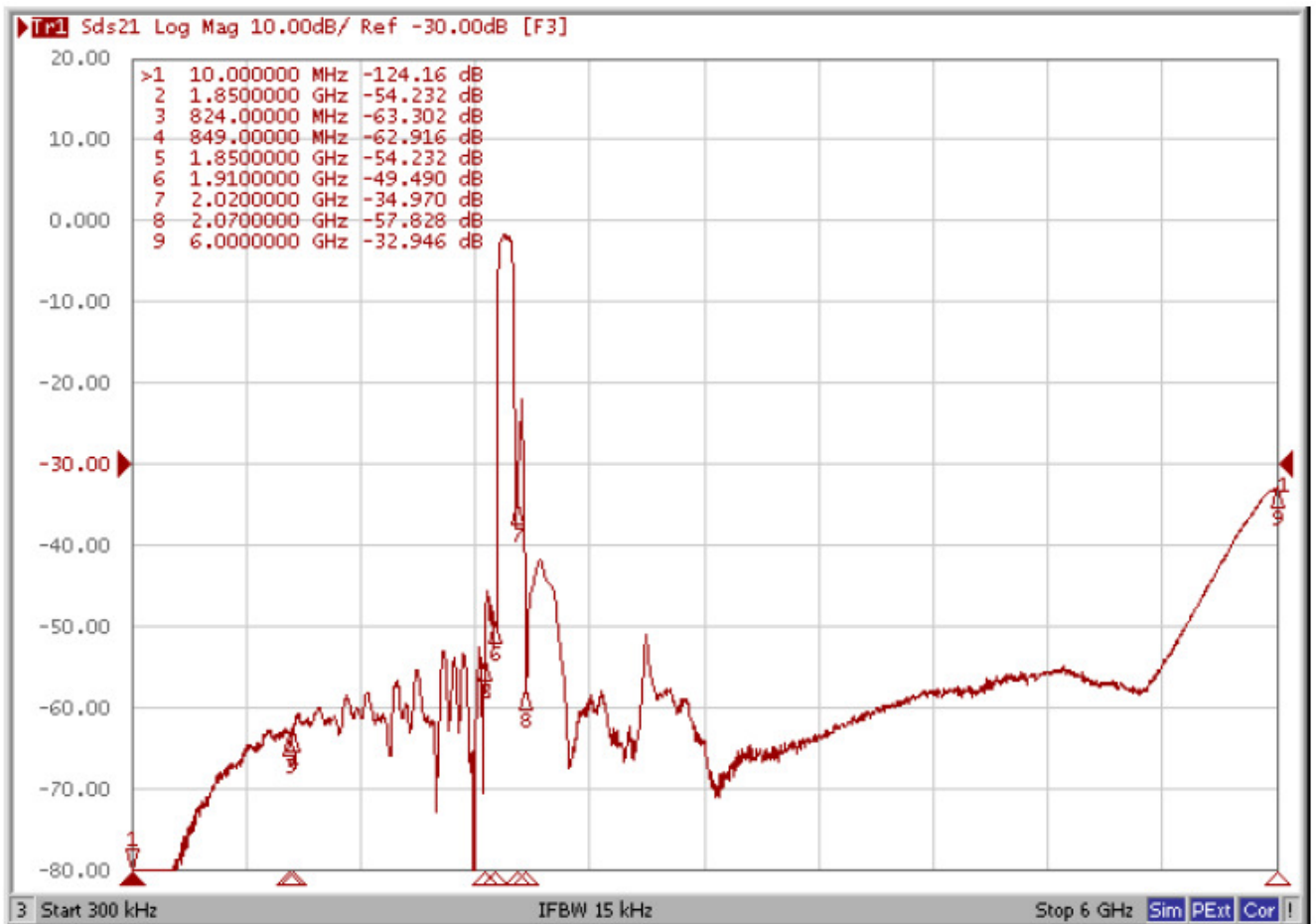


: Land Pattern

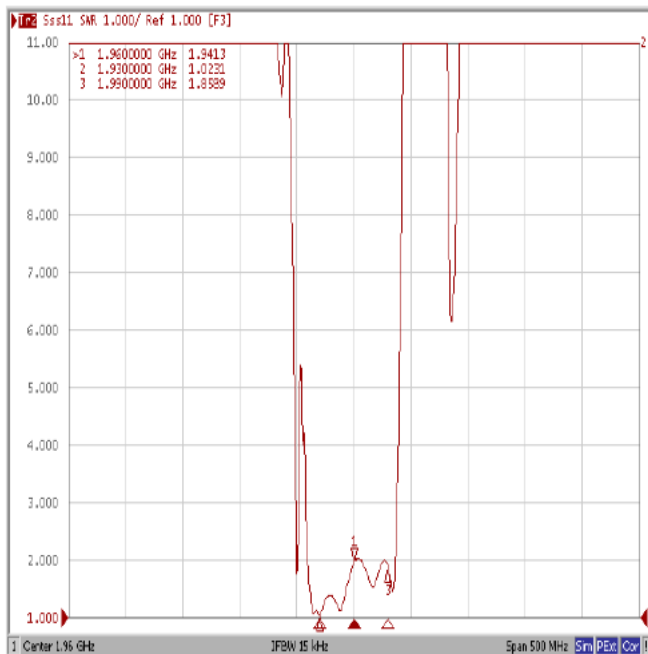
Unit: mm

F. Frequency Characteristics:

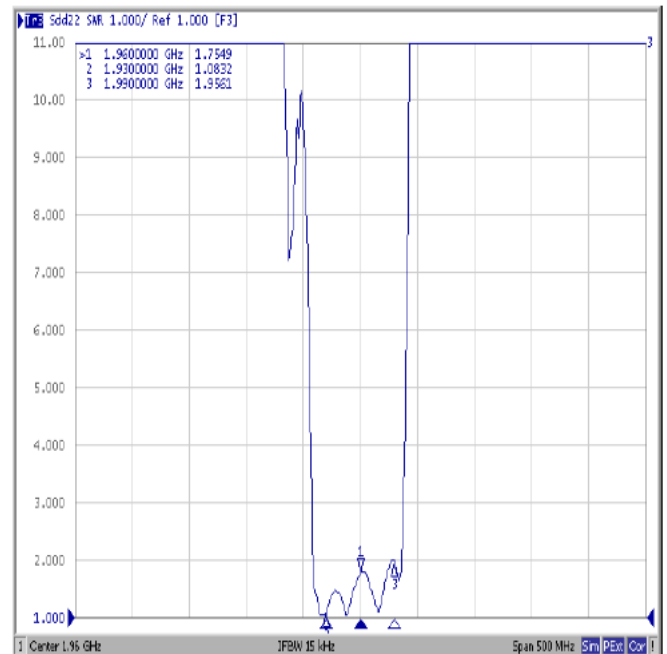




S11 SWR

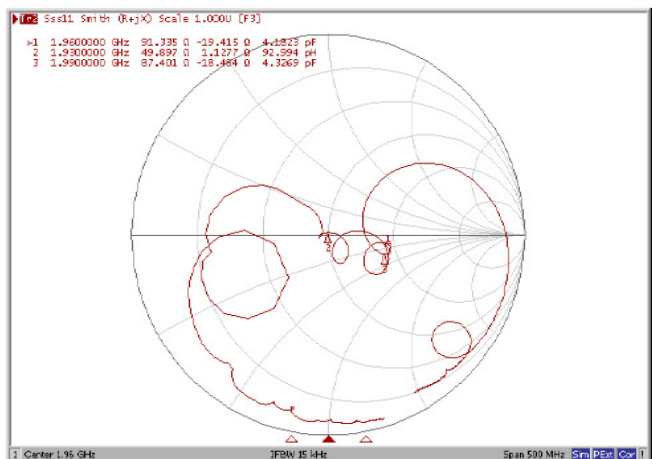


S22 SWR

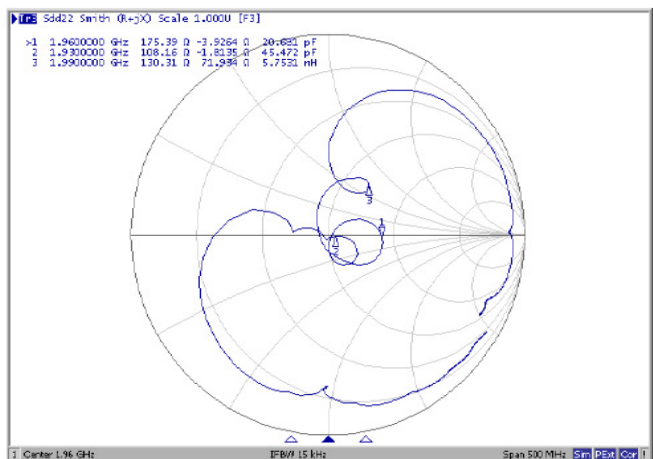


Smith chart

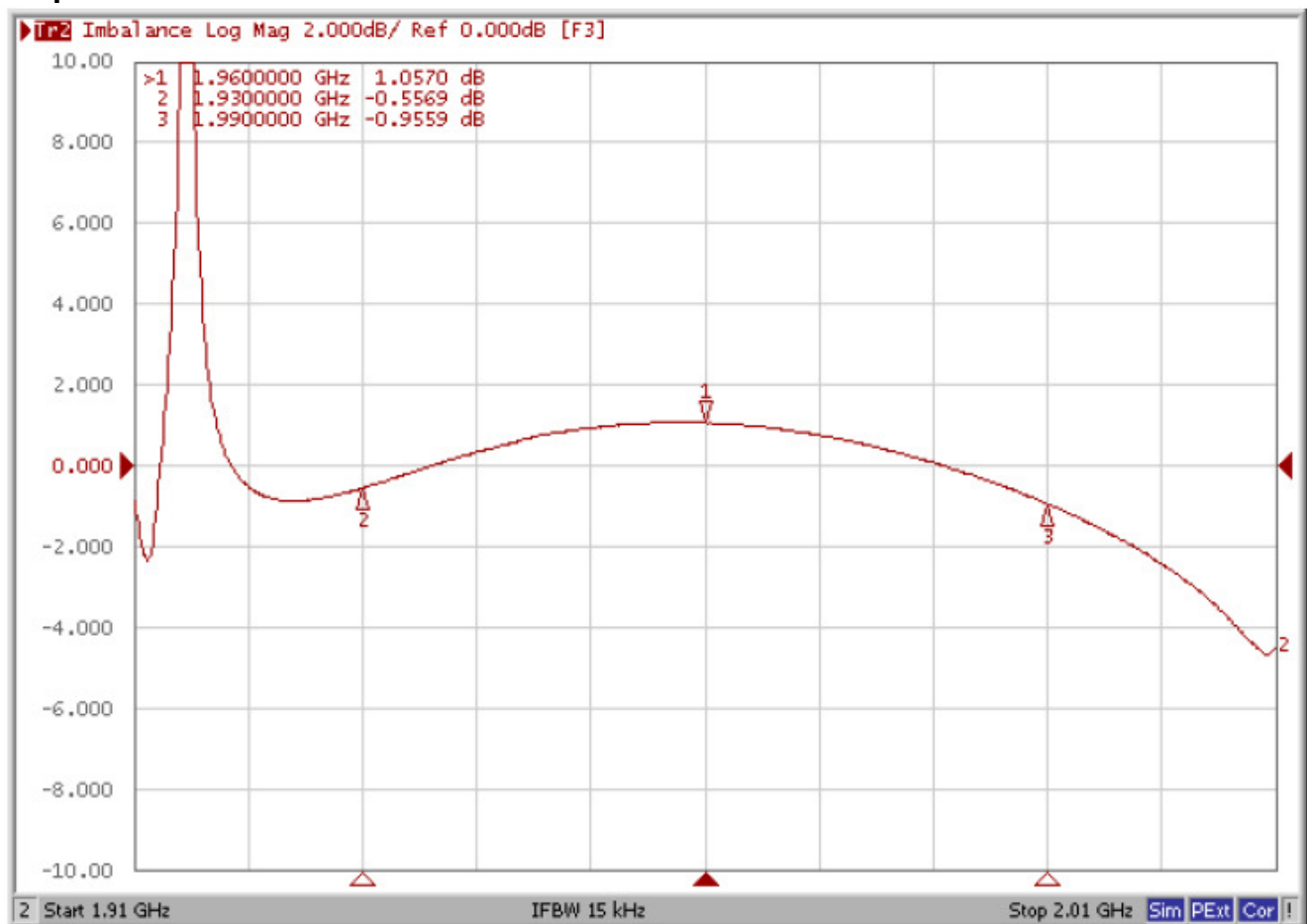
S11



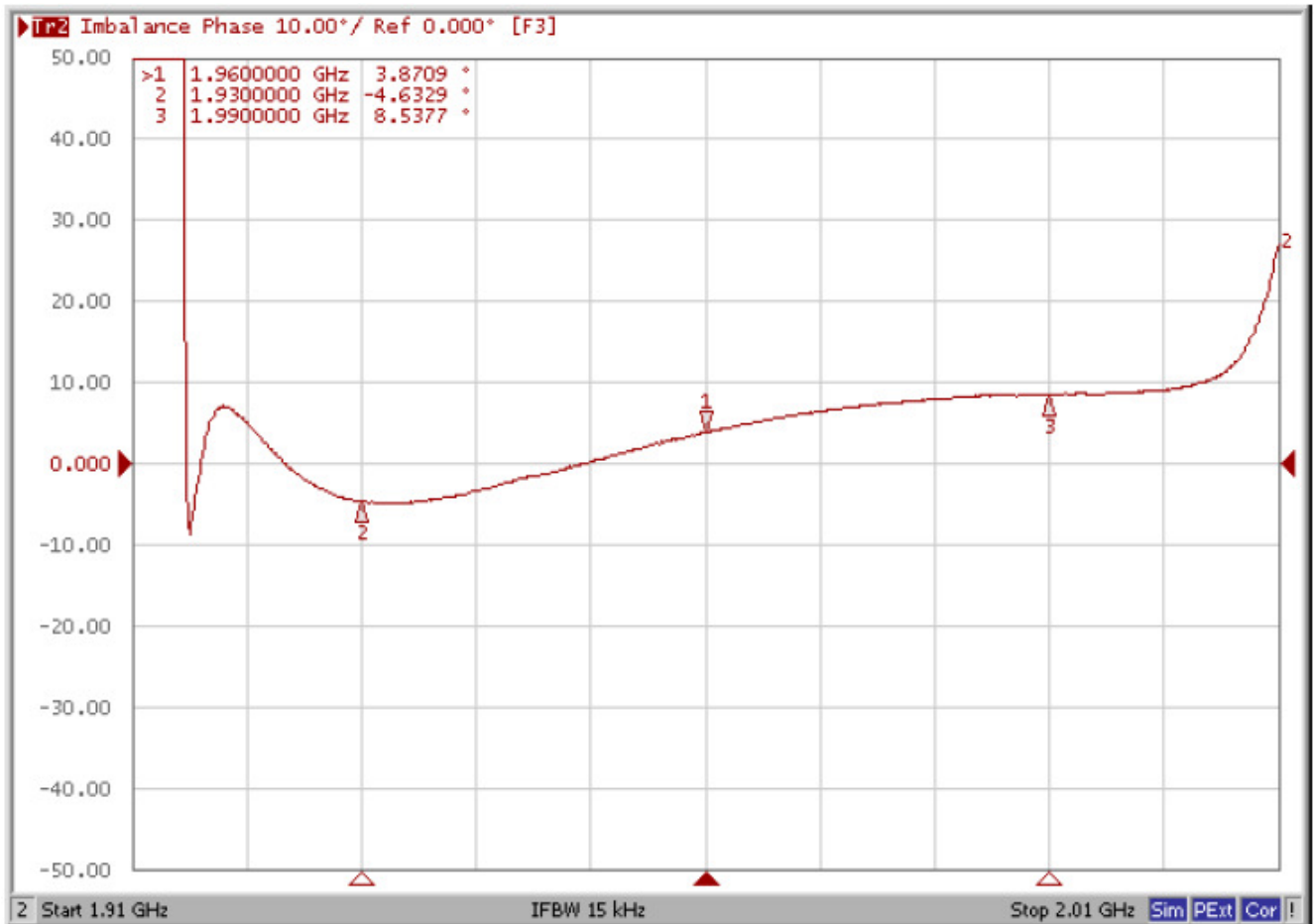
S22



Amplitude balance



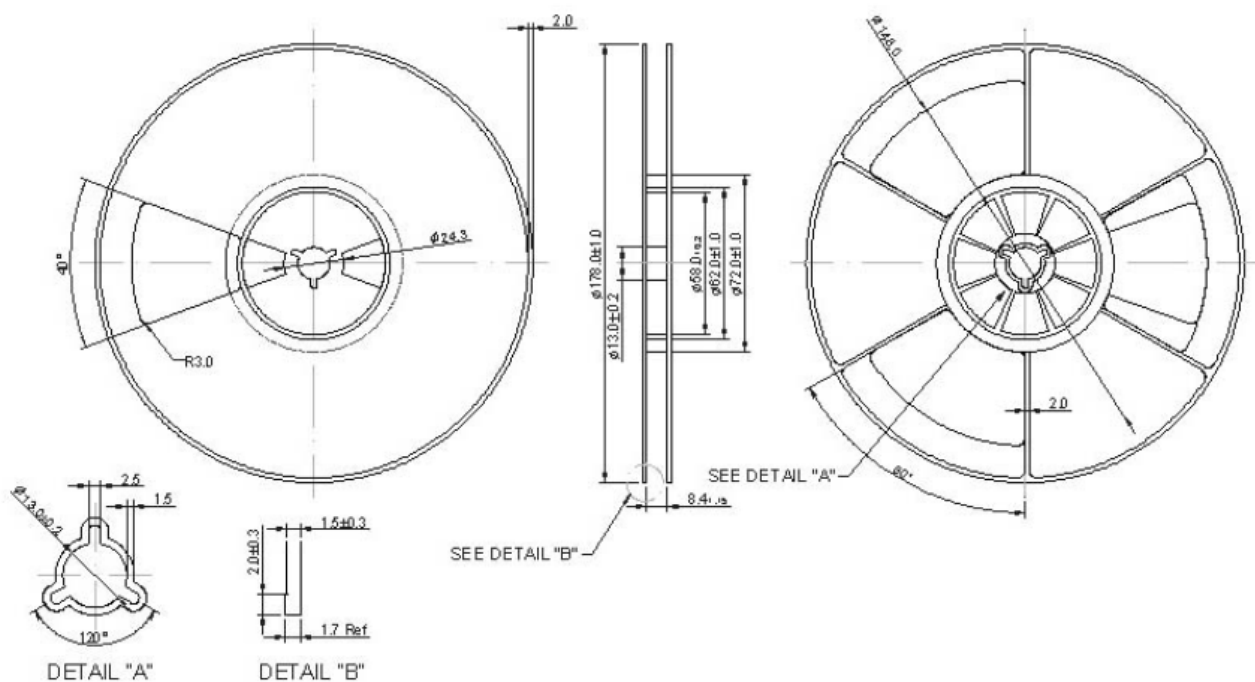
Phase balance



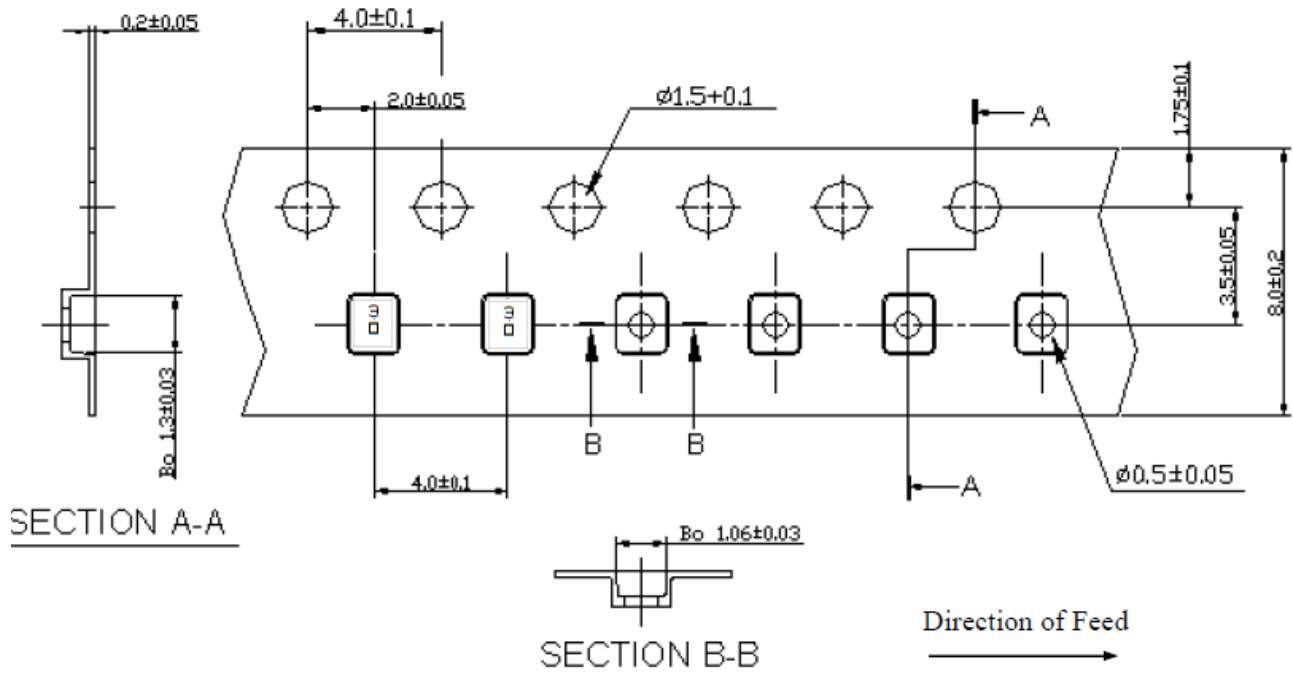
G. PACKING:

1. REEL DIMENSION

7" / 5000pcs



2. TAPE DIMENSION



H. Recommended Reflow Profile:

1. Preheating shall be fixed at $150 \sim 180^{\circ}\text{C}$ 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 $260^{\circ}\text{C} + 0/-5^{\circ}\text{C}$ peak (20~40sec).
4. Time: 2 times.

