SAW Filter 1880 MHz

MODEL NO.: TA1871B REV. No.: 1.0

A. MAXIMUM RATING:

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

RoHS Compliant

Lead-free soldering

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

B. ELECTRICAL CHARACTERISTICS:

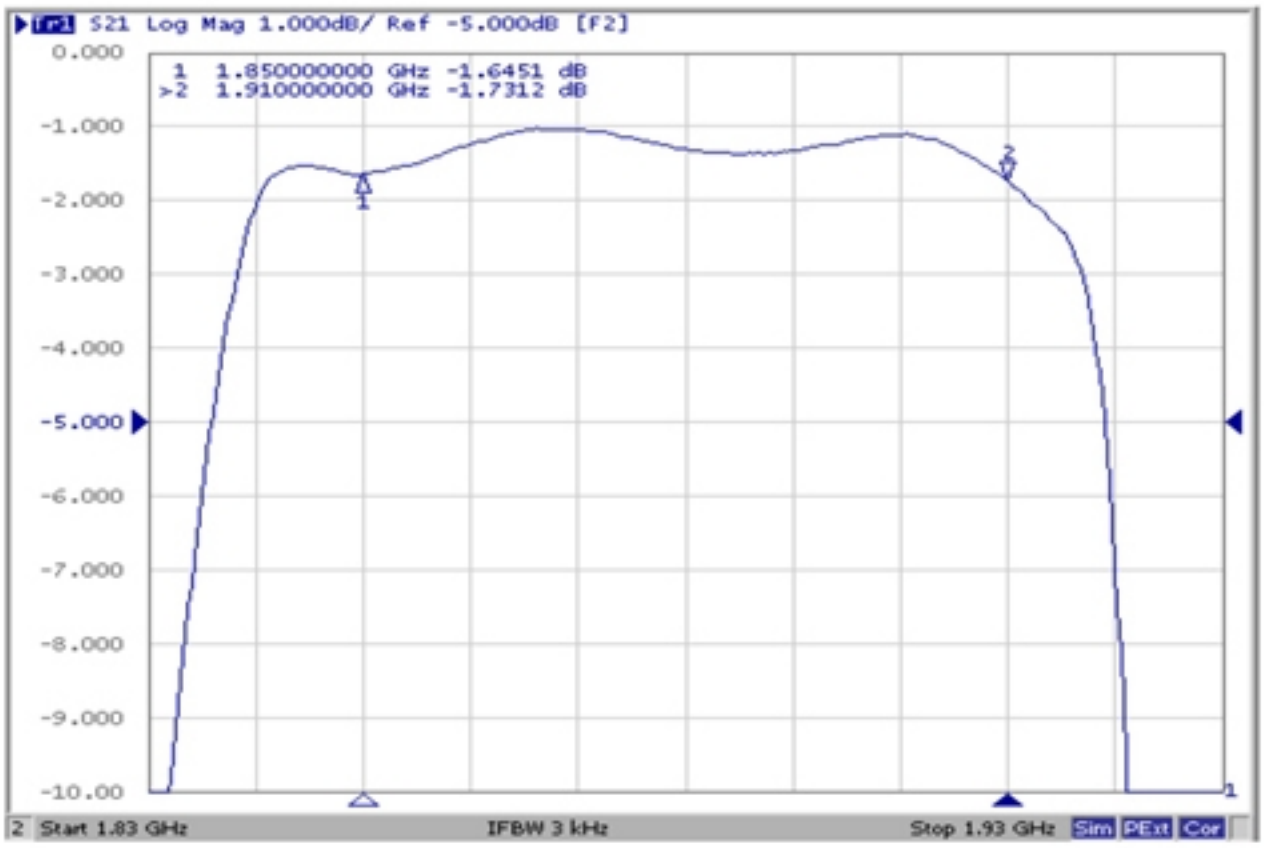
Terminating source impedance: Zs = 50 Ω (Single-ended)

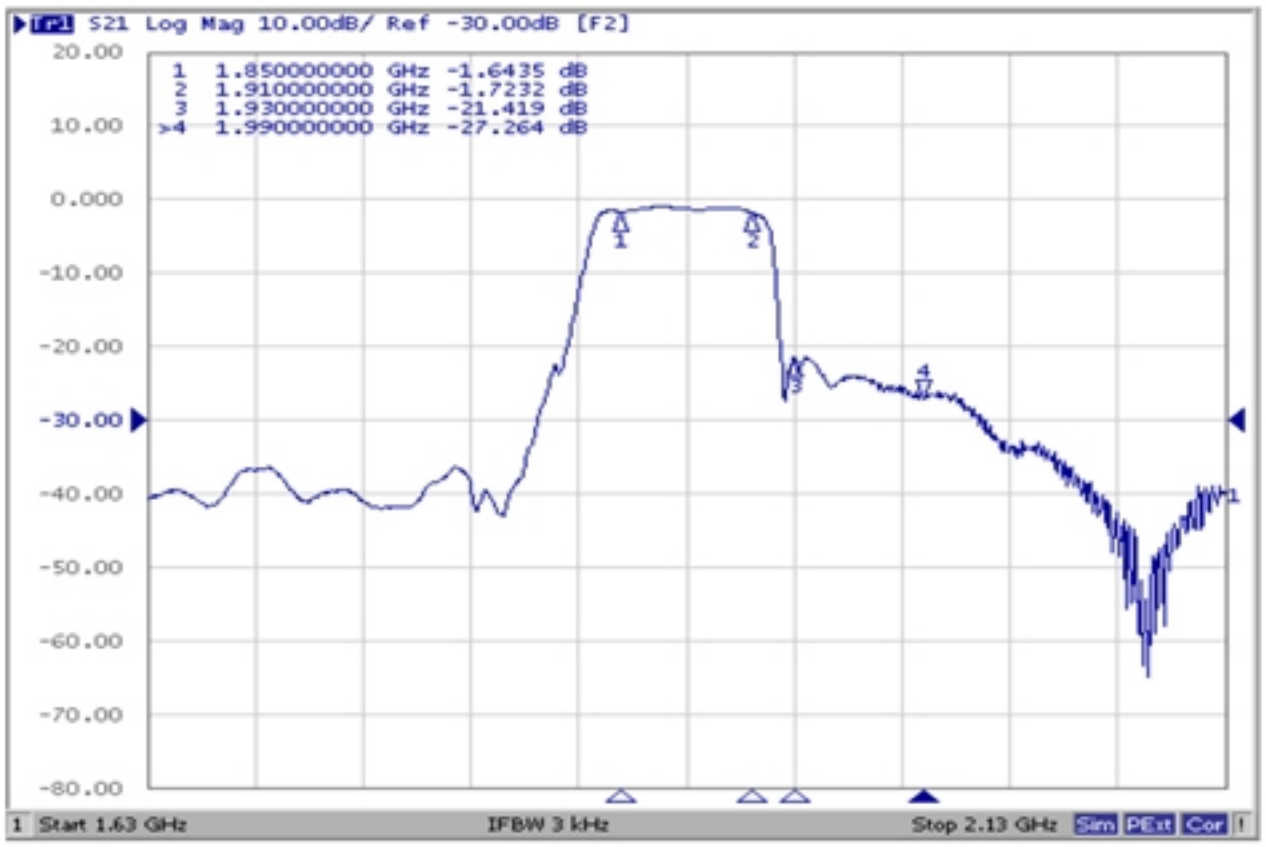
Terminating load impedance: Z_L = 50//10nH Ω (Single-ended)

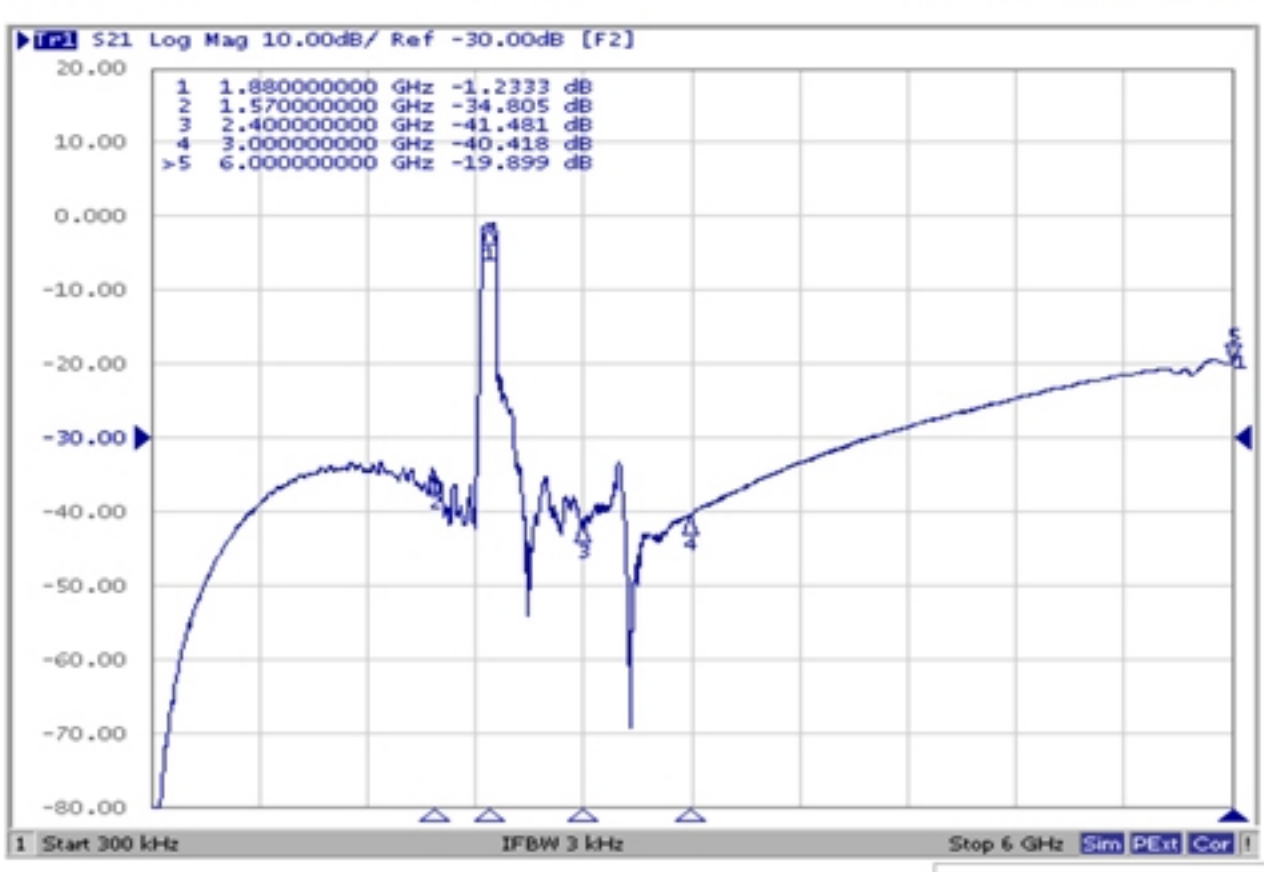
Parameters Description		Unit	Min.	Typ.	Max.	Remarks
Center Frequency	**Fc**	MHz	-	1880	-	-
Insertion Loss (1850~1910 MHz)	**IL**	dB(*1)	-	1.7	2.0	at 25℃
			-	-	2.9	-
Amplitude Ripple (1850~1910 MHz)		dB_{p-p}	-	0.7	1.1	at 25℃
			-	-	2.0	-
VSWR (1850~1910 MHz)		-	-	1.8	2.2	-
Attenuation (Reference level from 0 dB)						
DC ~ 1570 MHz		dB	20	32	-	-
1570 ~ 1580 MHz		dB	20	34	-	-
1930 ~ 1990 MHz		dB	15	20	-	-
1990 ~ 2400 MHz		dB	20	26	-	-
2400 ~ 3000 MHz		dB	20	31	-	-
3000 ~ 4000 MHz		dB	15	30	-	-
4000 ~ 5550 MHz		dB	10	24	-	-
5550 ~ 5730 MHz		dB	10	24	-	-
5730 ~ 6000 MHz		dB	10	23	-	-

(*1) Specification of insertion loss includes loss that comes from the test board. (Value: 0.15dB)

C. FREQUENCY CHARACTERISTIC:

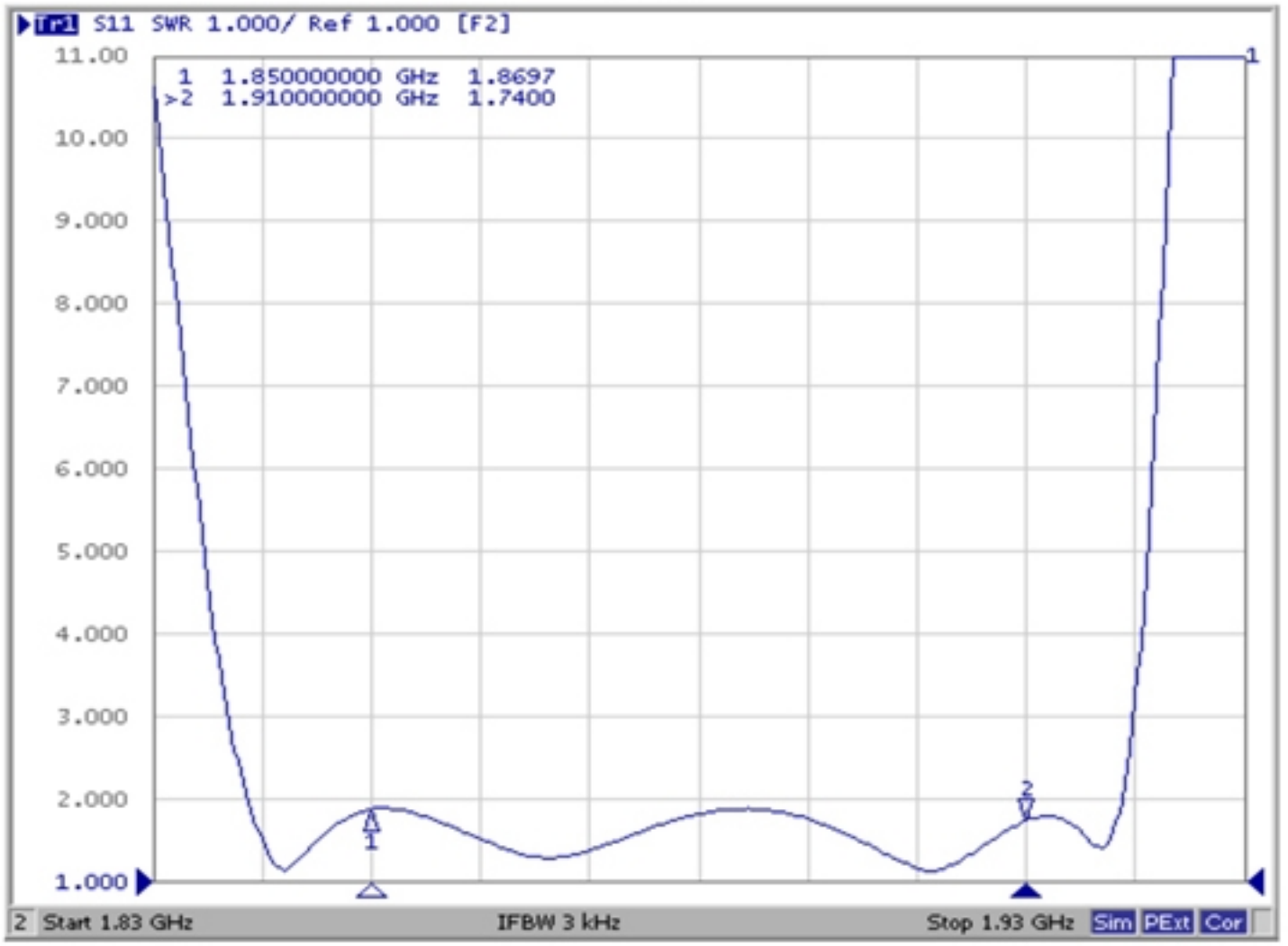


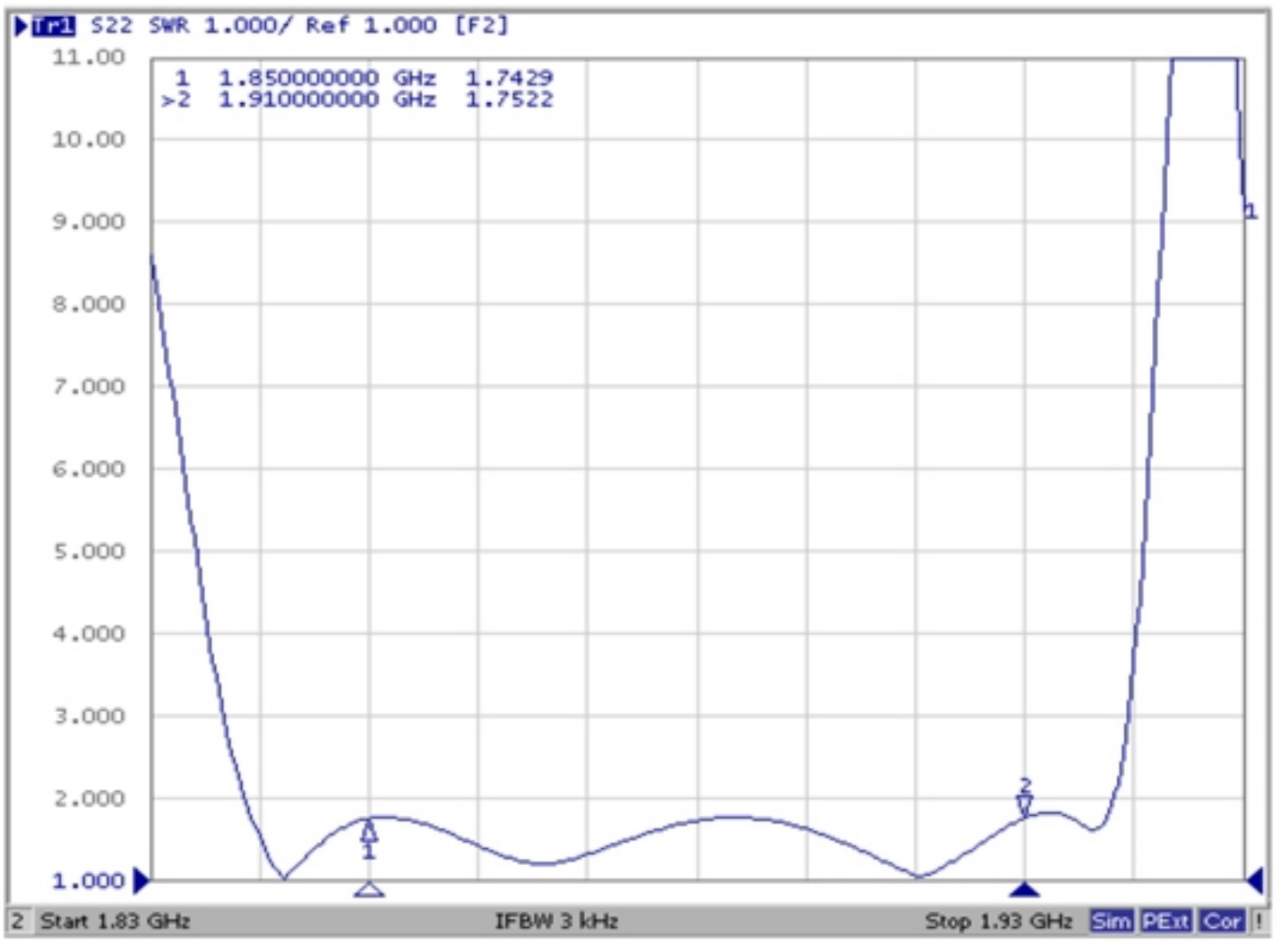




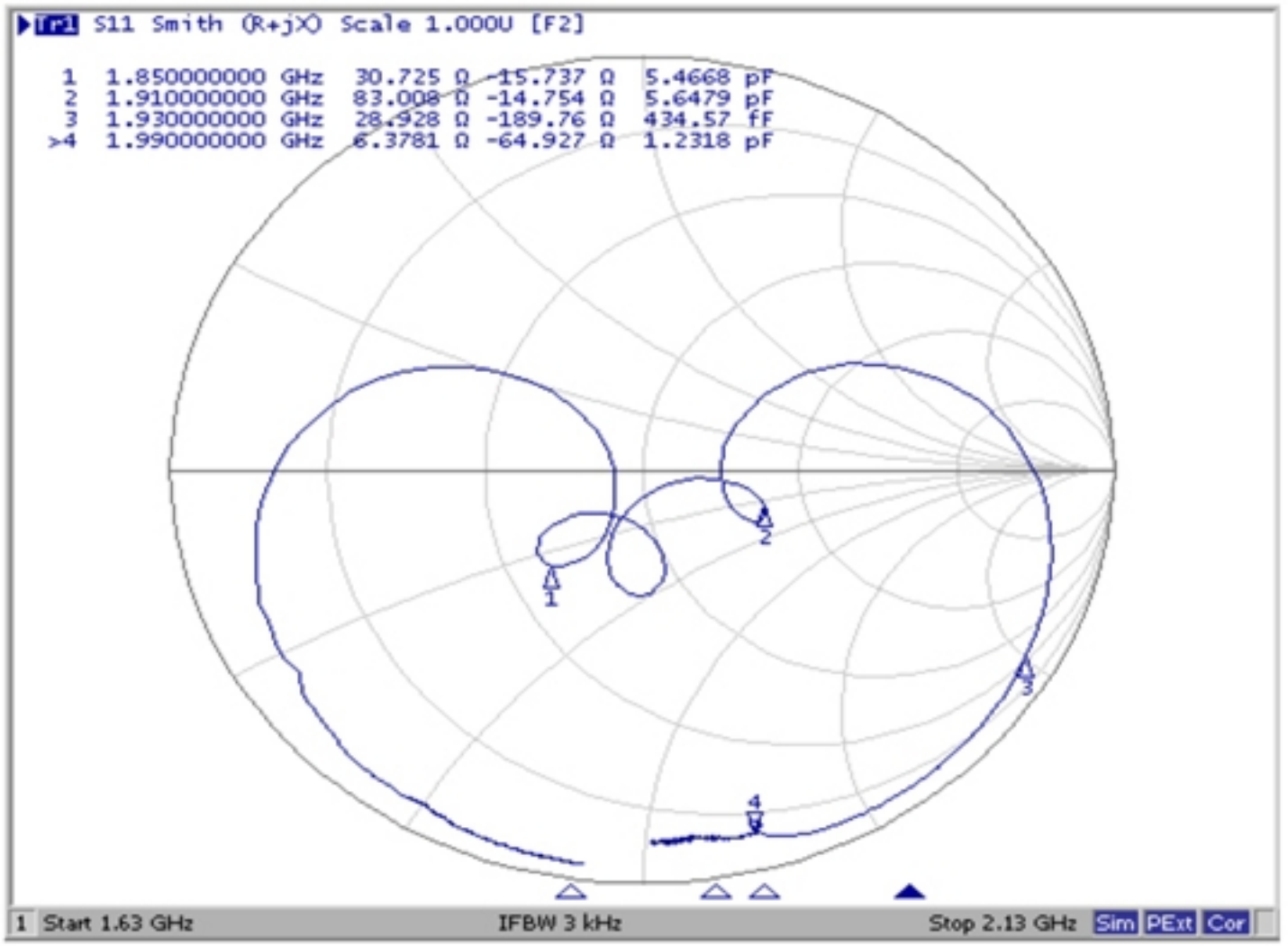
Reflection Functions:

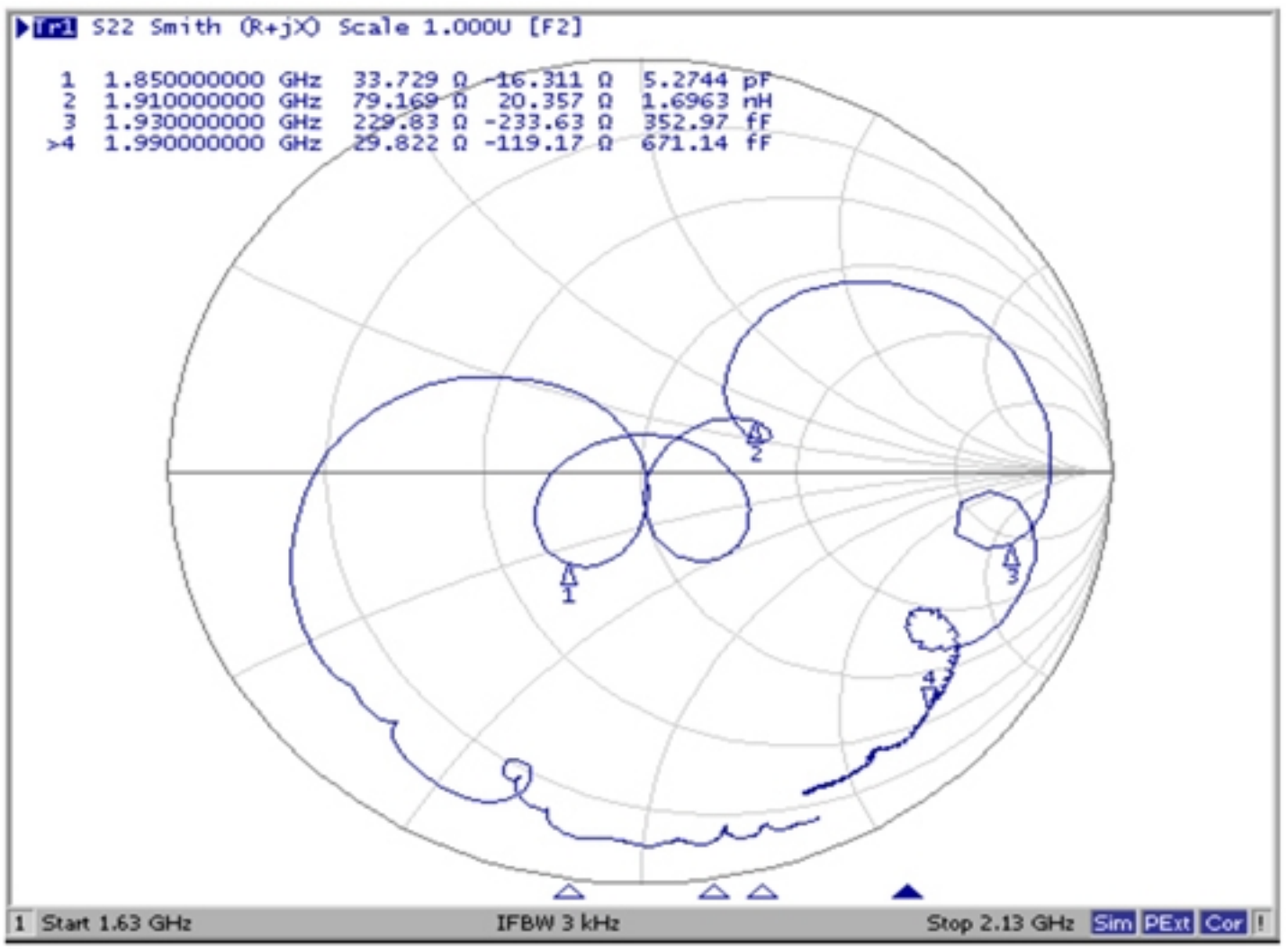
VSWR



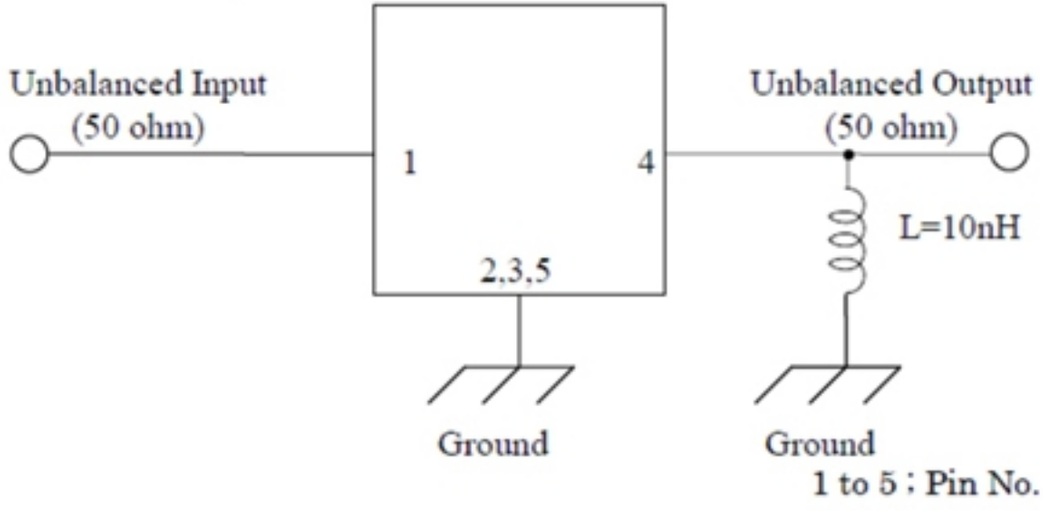


Smith Chart

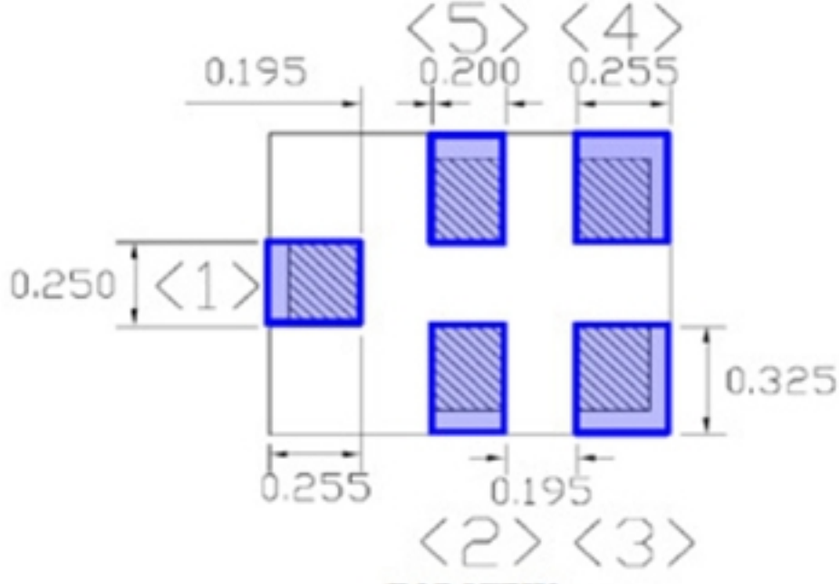

Tr1 S11 Smith (R+jX) Scale 1.000U [F2]
1 1.850000000 GHz 30.725 Ω -15.737 Ω 5.4668 pF
2 1.910000000 GHz 83.008 Ω -14.754 Ω 5.6479 pF
3 1.930000000 GHz 28.928 Ω -189.76 Ω 434.57 fF
>4 1.990000000 GHz 6.3781 Ω -64.927 Ω 1.2318 pF
1 Start 1.63 GHz
IFBW 3 kHz
Stop 2.13 GHz
Sim
PExt
Cor


Tr1 S22 Smith (R+jX) Scale 1.000U [F2]
1 1.850000000 GHz 33.729 Ω -16.311 Ω 5.2744 pF
2 1.910000000 GHz 79.169 Ω 20.357 Ω 1.6963 nH
3 1.930000000 GHz 229.83 Ω -233.63 Ω 352.97 fF
>4 1.990000000 GHz 29.822 Ω -119.17 Ω 671.14 fF
1 Start 1.63 GHz
IFBW 3 kHz
Stop 2.13 GHz
Sim
PExt
Cor

D. MEASUREMENT CIRCUIT:



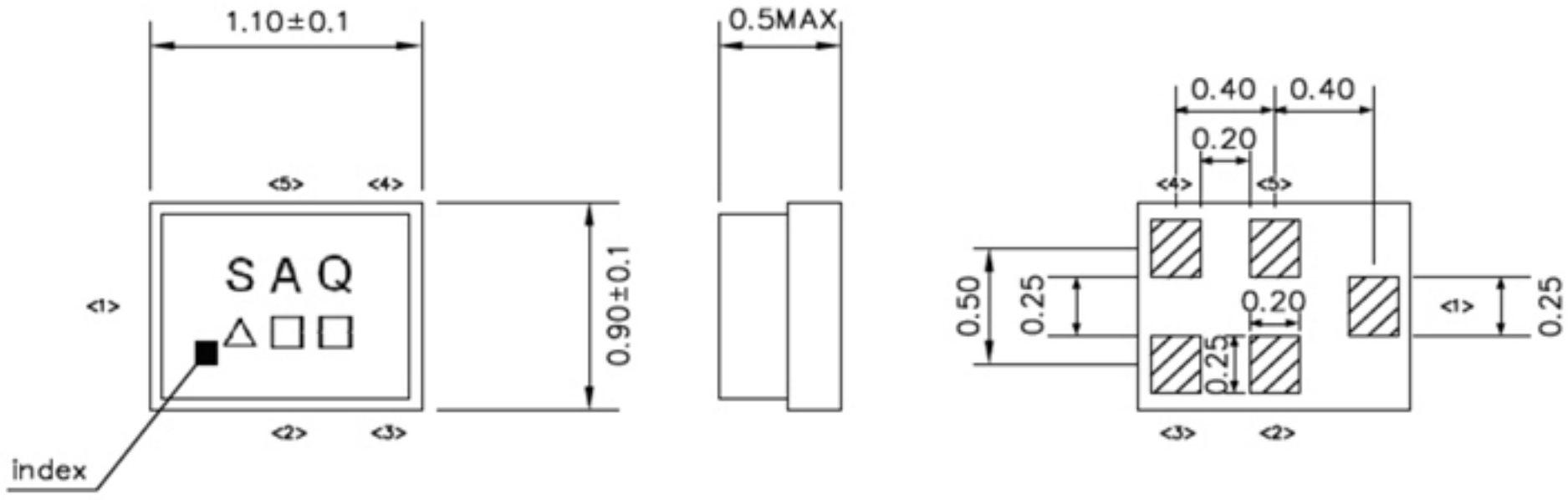
E. PCB Footprint:



(TOP VIEW)

F OUTLINE DRAWING (Mass Production):

Device size: 1.1typ. x 0.9typ. x 0.5max.



Unit : mm

Pin Configuration

Pin No.	Symbol	Function
1	IN	Unbalanced pin
2	GND	Ground
3	GND	Ground
4	OUT	Unbalanced pin
5	GND	Ground

△ : Date Code

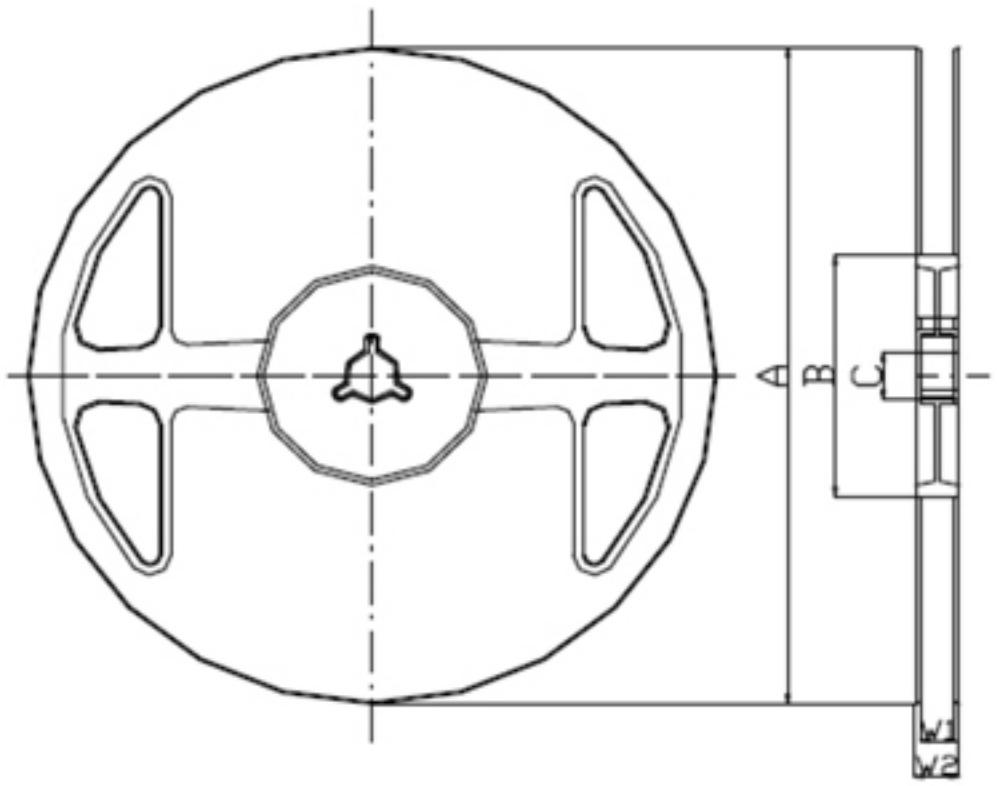
□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

Date Code:

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
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. <u>PACKING</u>: (Ref: WI-75M03)

1. REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

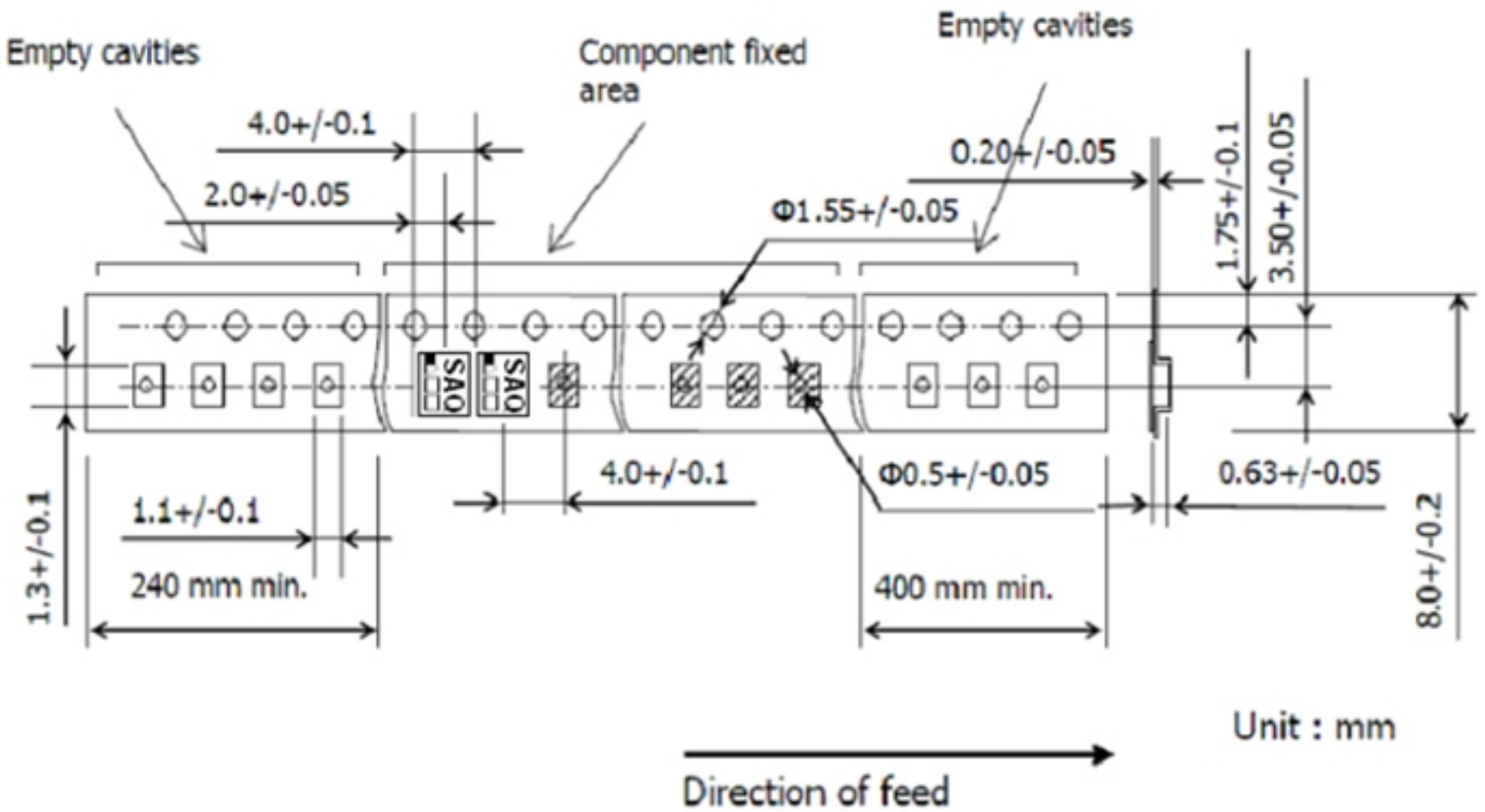
Color : Black

Surface resistance (reference value) : $10^9\Omega$/sq Max.

Unit : mm

Code	Quantity	A	B	C	W1	W2
J	5,000 pcs	ϕ 180.0 +0.0/-1.5	ϕ 66.0 +/-0.5	ϕ 13.0 +/-0.2	9.0 +1.0/-0.0	11.4 +/-1.0

2. TAPE DIMENSION



H. <u>Recommended Reflow Profile</u>:

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.