

# SAW Filter 1842.5 MHz

MODEL NO.:TA1857A

REV. NO.:3.0

## A. MAXIMUM RATING:

1. Input Power Level: 10 dBm (in passband)
2. DC Voltage : +/-5 V
3. Operating Temperature: -30 °C to +85 °C
4. Storage Temperature: -40 °C to +100 °C
5. Moisture Sensitive Level: Level 1 (MSL1)
6. ESD: 50 V(MM), 100 V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

## B. ELECTRICAL CHARACTERISTICS:

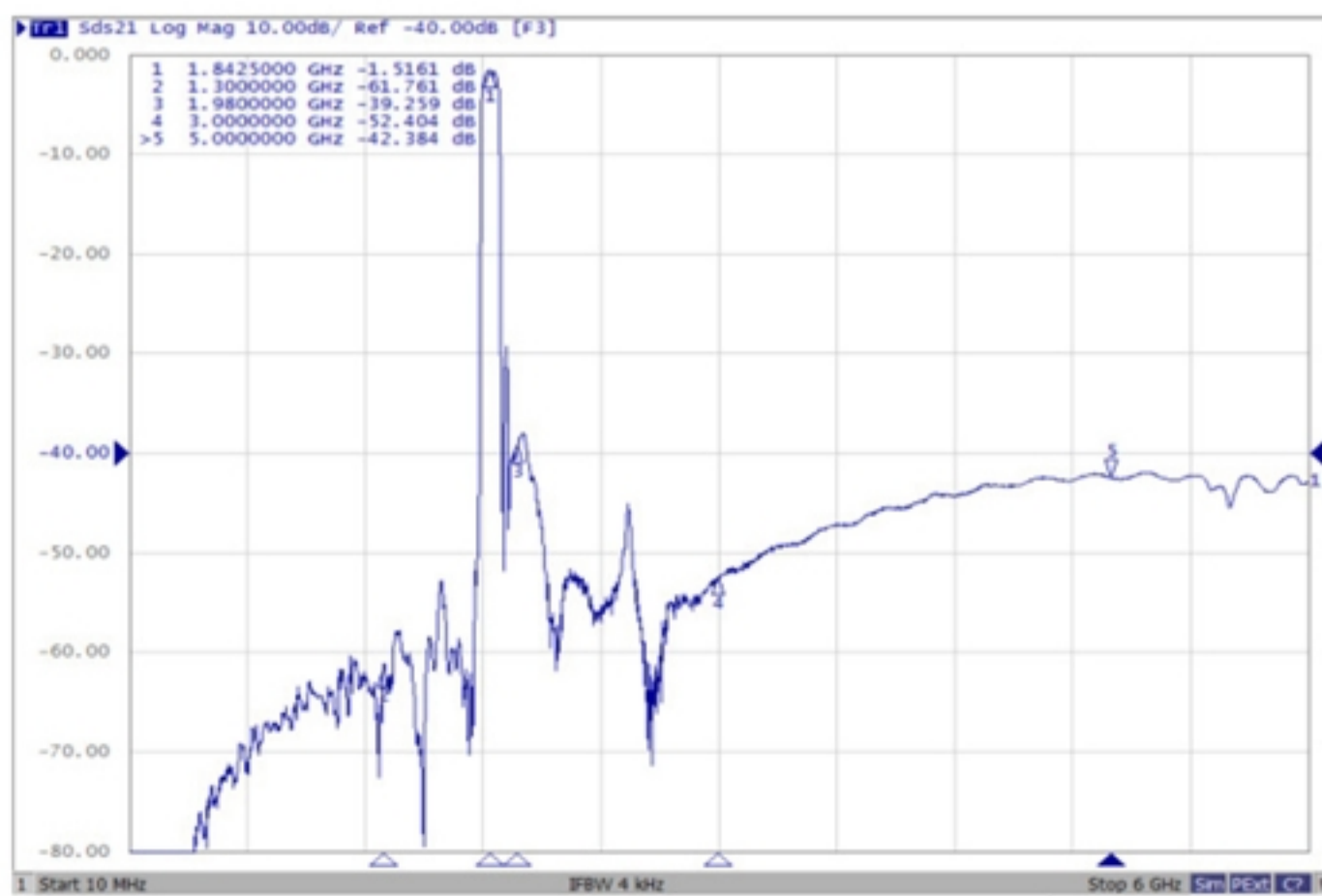
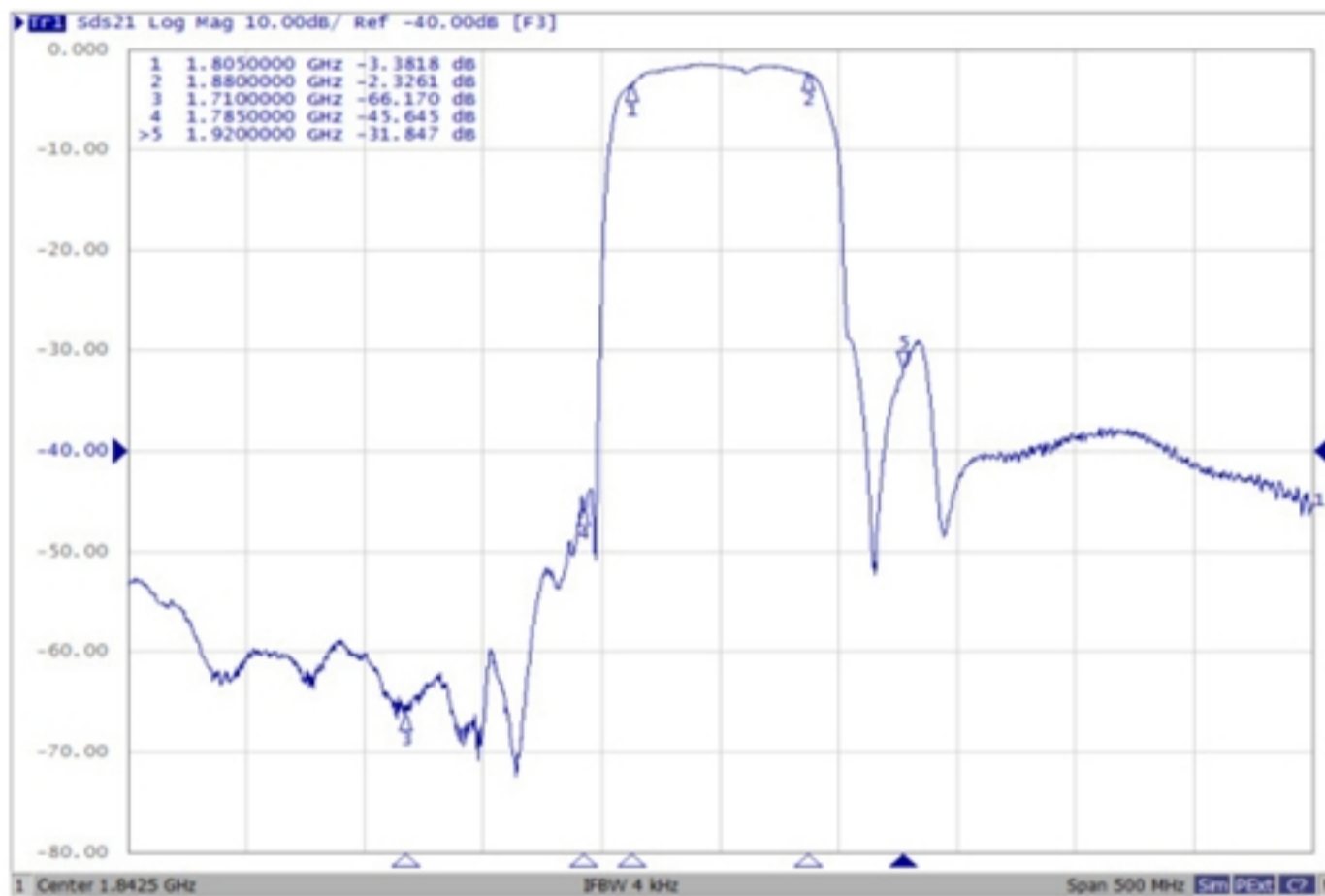
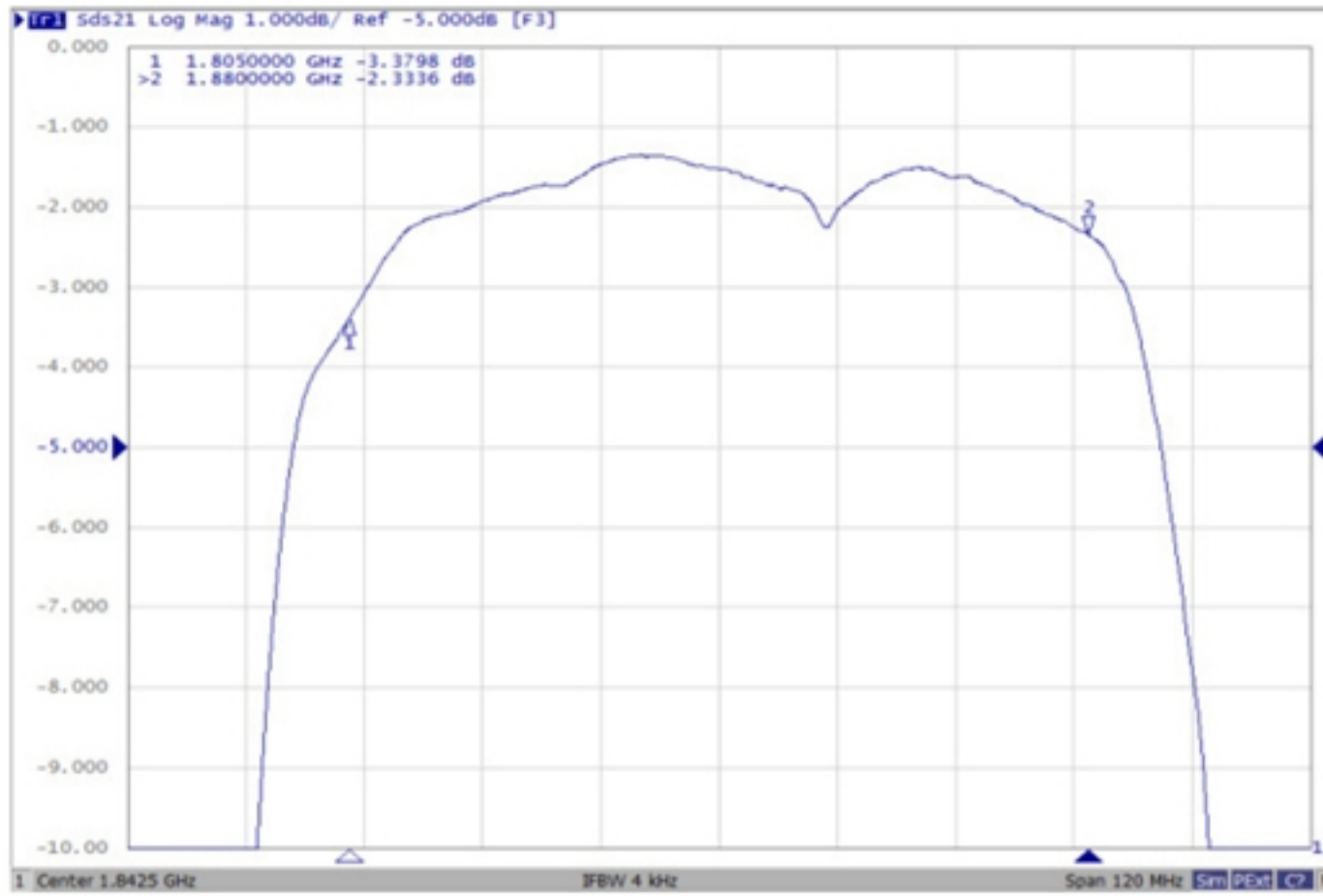
Terminating source impedance:  $Z_s = 50 \Omega$

Terminating load impedance:  $Z_L = 100//18nH \Omega$  (Balanced)

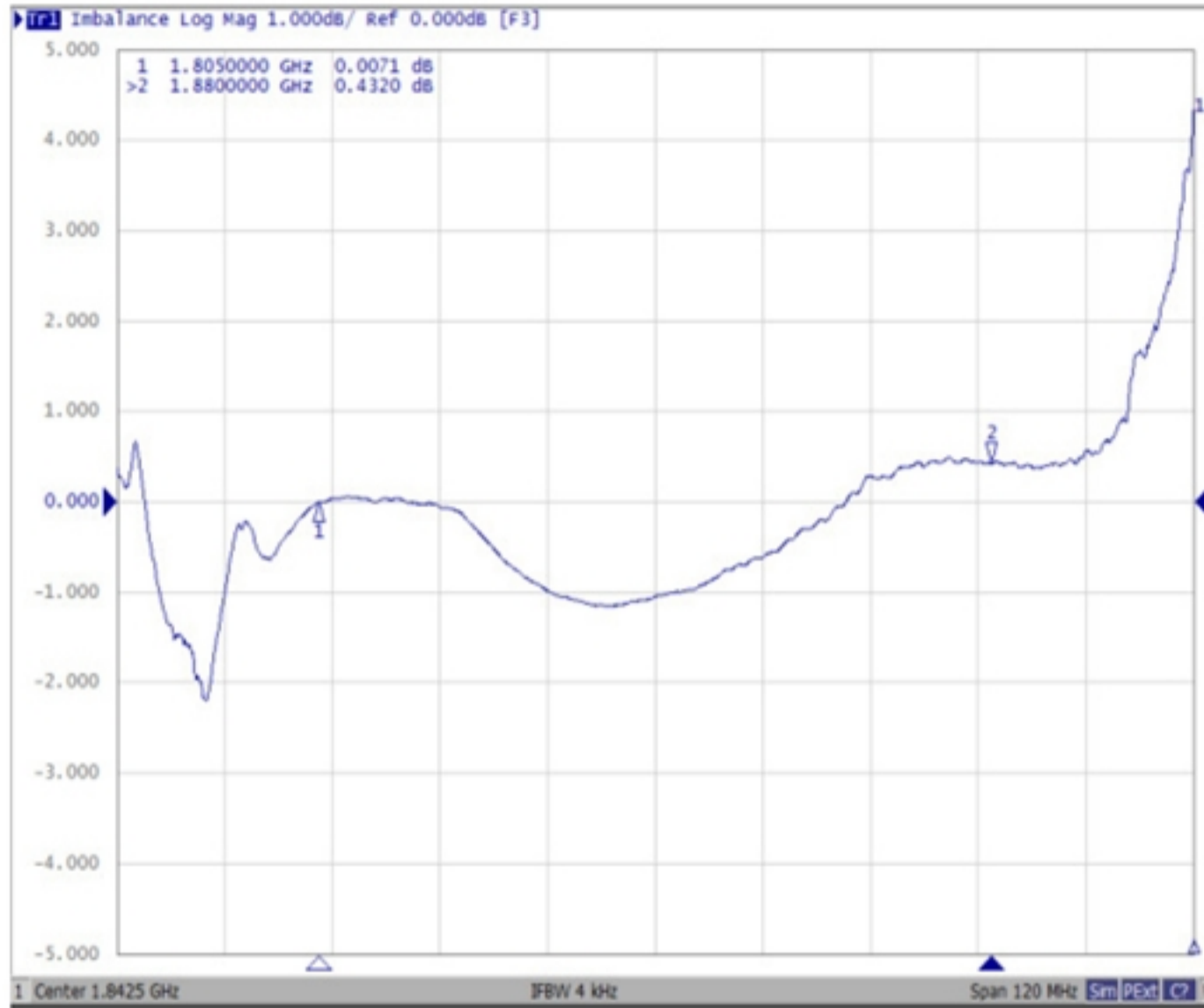
Item	Unit	Min.	Typ.	Max.
Center Frequency <b>Fc</b>	MHz	-	1842.5	-
Insertion Loss (1805~1880 MHz) <b>IL</b>	dB(*1)	-	3.2	4.5
Amplitude Ripple (1805~1880 MHz)	dB	-	1.9	3.3
Input VSWR (1805~1880 MHz)	-	-	1.8	2.3
Output VSWR (1805~1880 MHz)	-	-	2.0	2.3
Amplitude Balance( S21 / S31 ) (1805~1880 MHz)	dB	-1.3	+0.8/-0.5	+1.3
Phase Balance(( $\Phi S21 - \Phi S31$ )+180) (1805~1880 MHz)	deg	+12	+3/-3	-12
<b>Attenuation</b> (Reference level from 0 dB)				
10 ~ 1300 MHz	dB	40	63	-
1300 ~ 1705 MHz	dB	40	53	-
1705 ~ 1785 MHz	dB	41	45	-
1920 ~ 1980 MHz	dB	24	28	-
1980 ~ 3000 MHz	dB	30	38	-
3000 ~ 5000 MHz	dB	30	50	-
5000 ~ 6000 MHz	dB	30	48	-

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

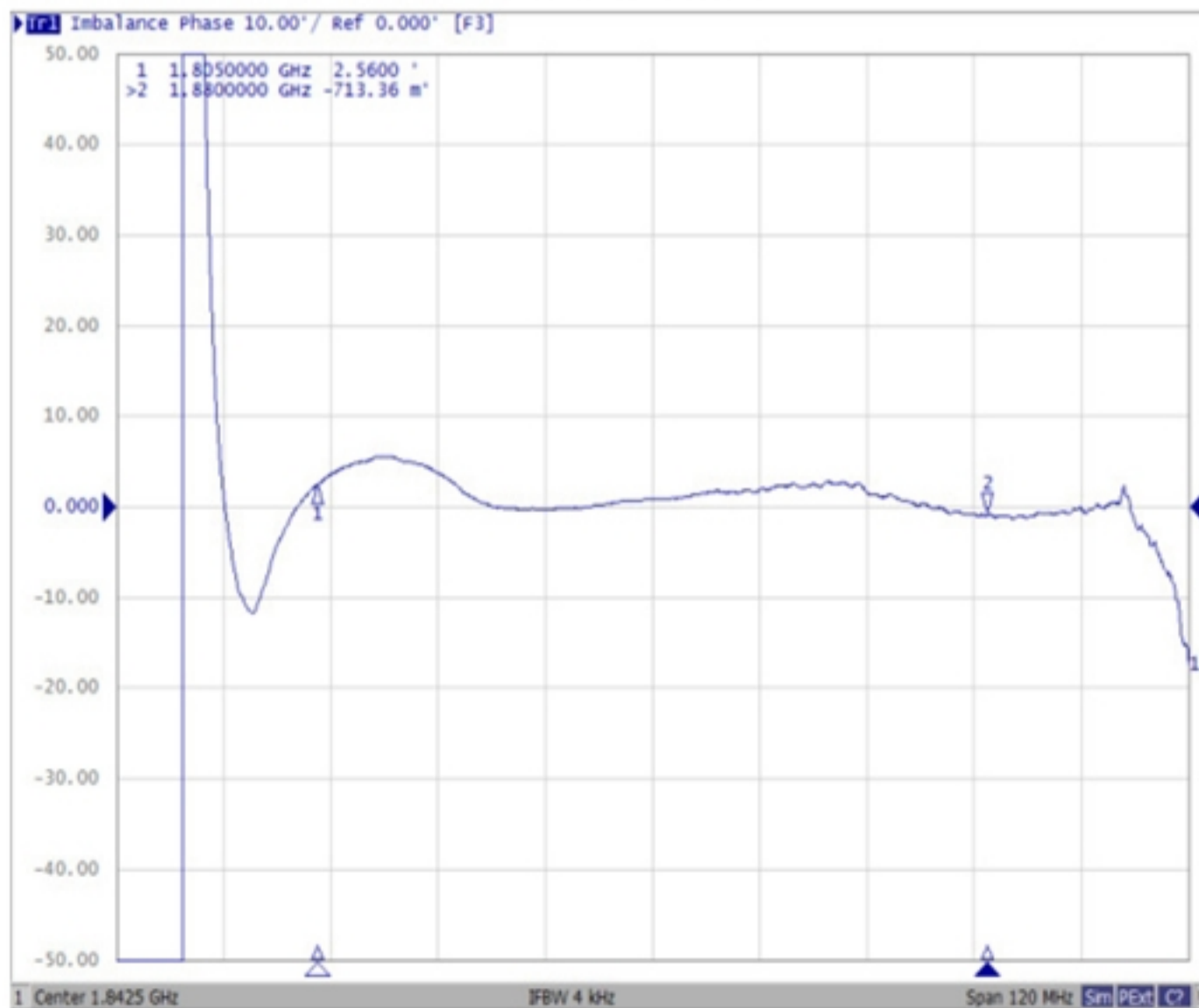
### C. FREQUENCY CHARACTERISTICS:



## Amplitude Balance

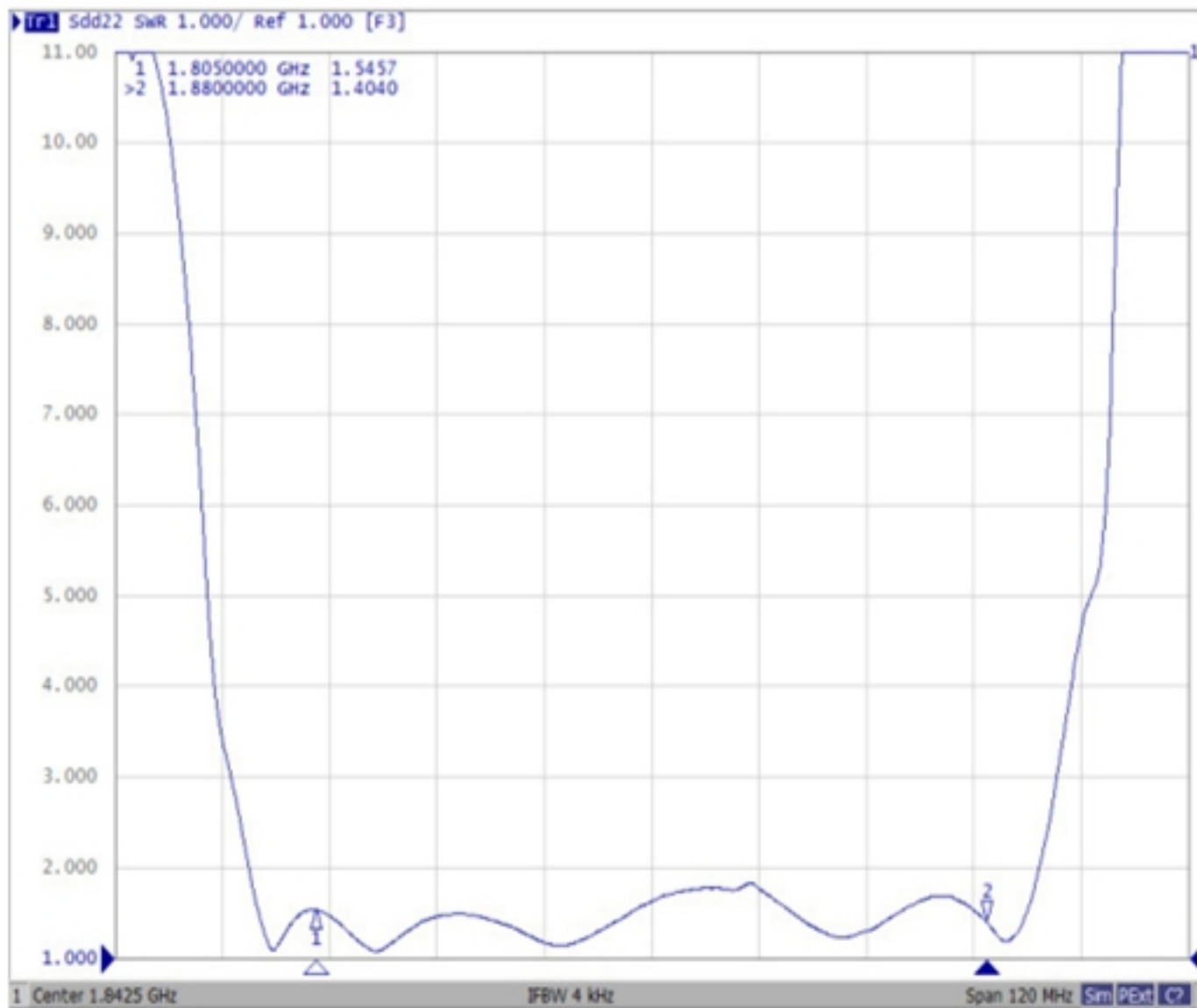
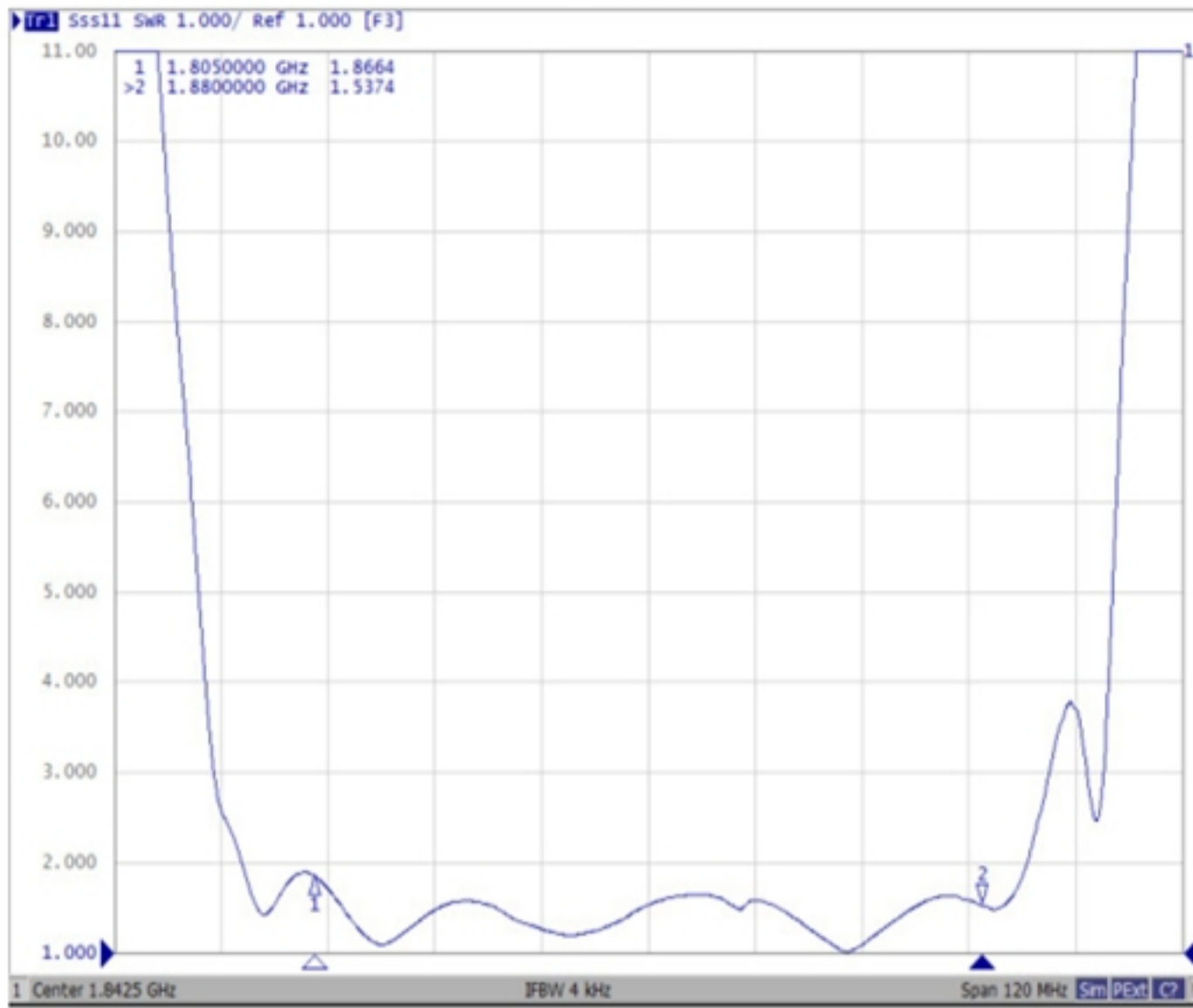


## Phase Balance

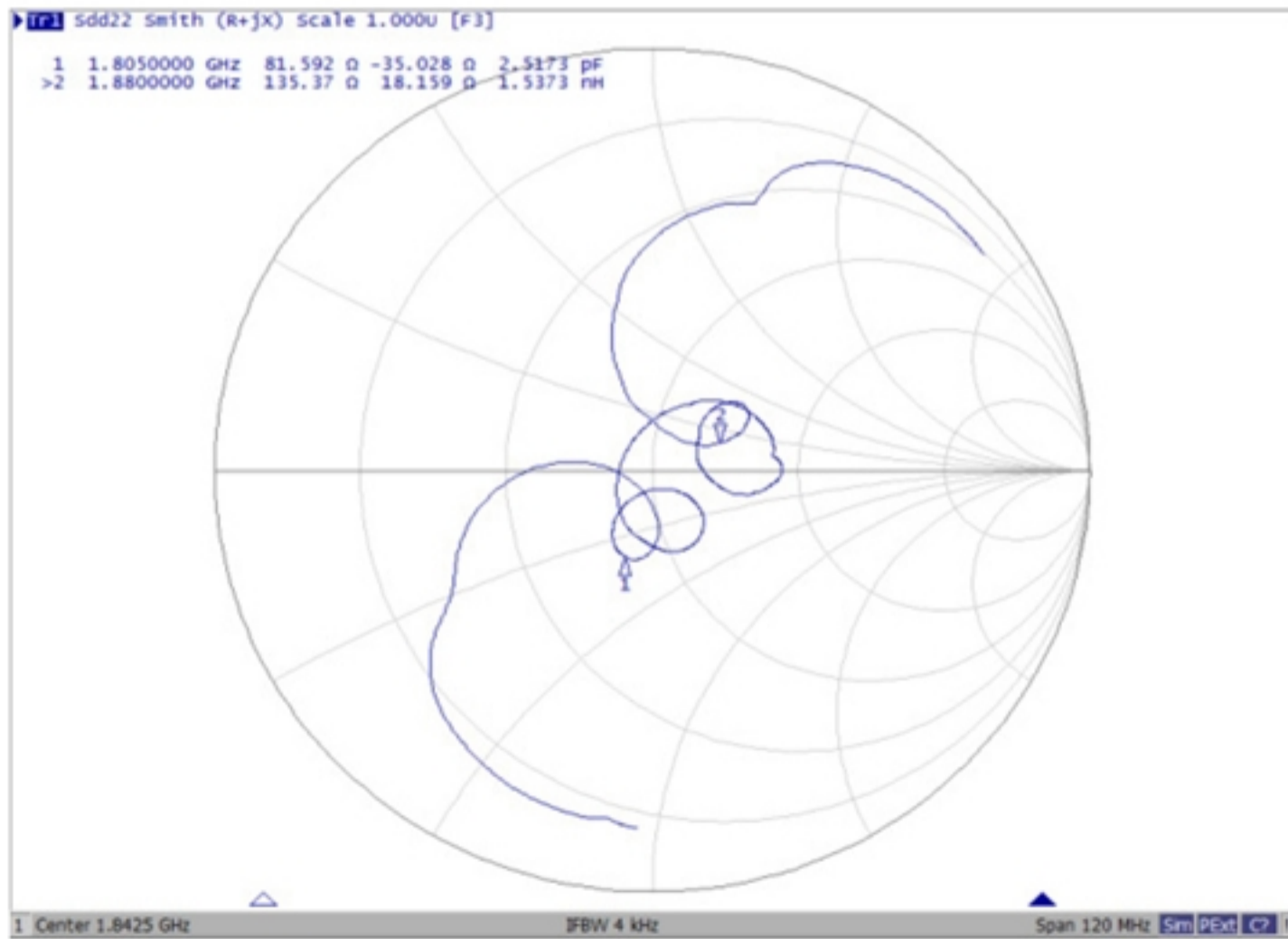
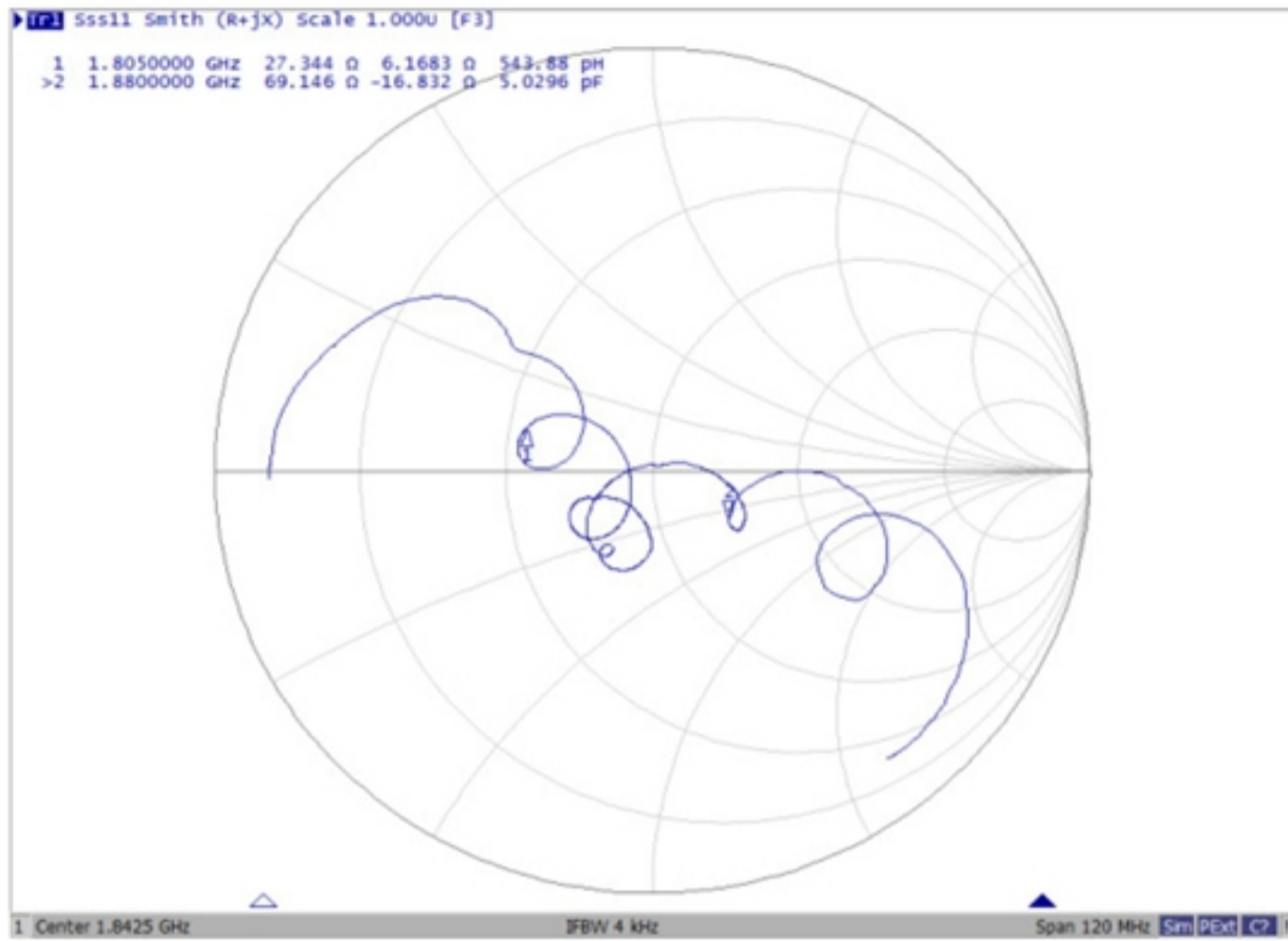


# Reflection Functions:

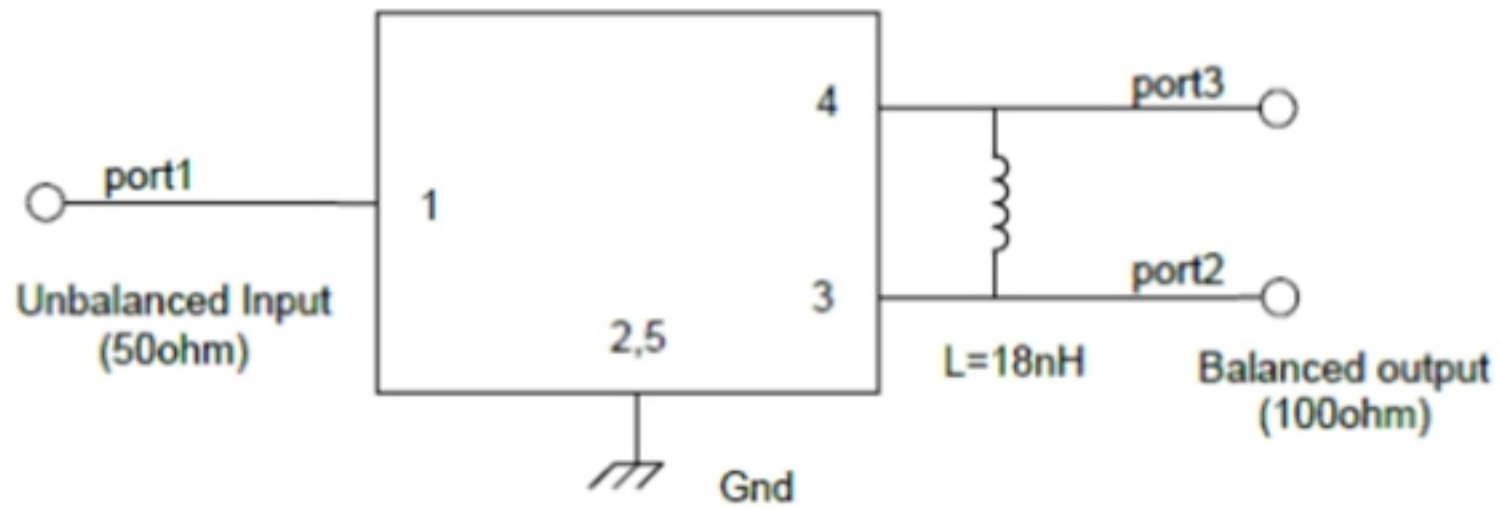
## VSWR



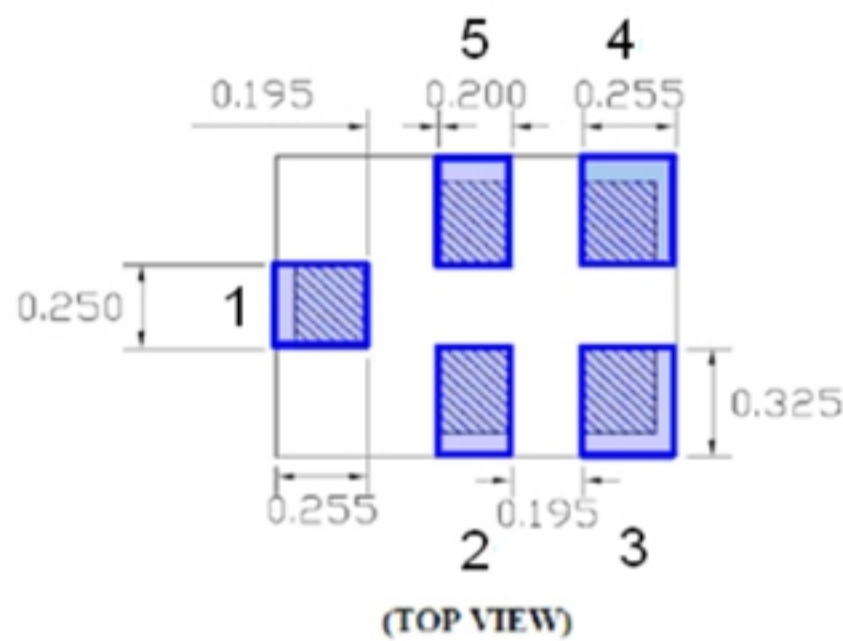
# Smith Chart



**D. MEASUREMENT CIRCUIT:**

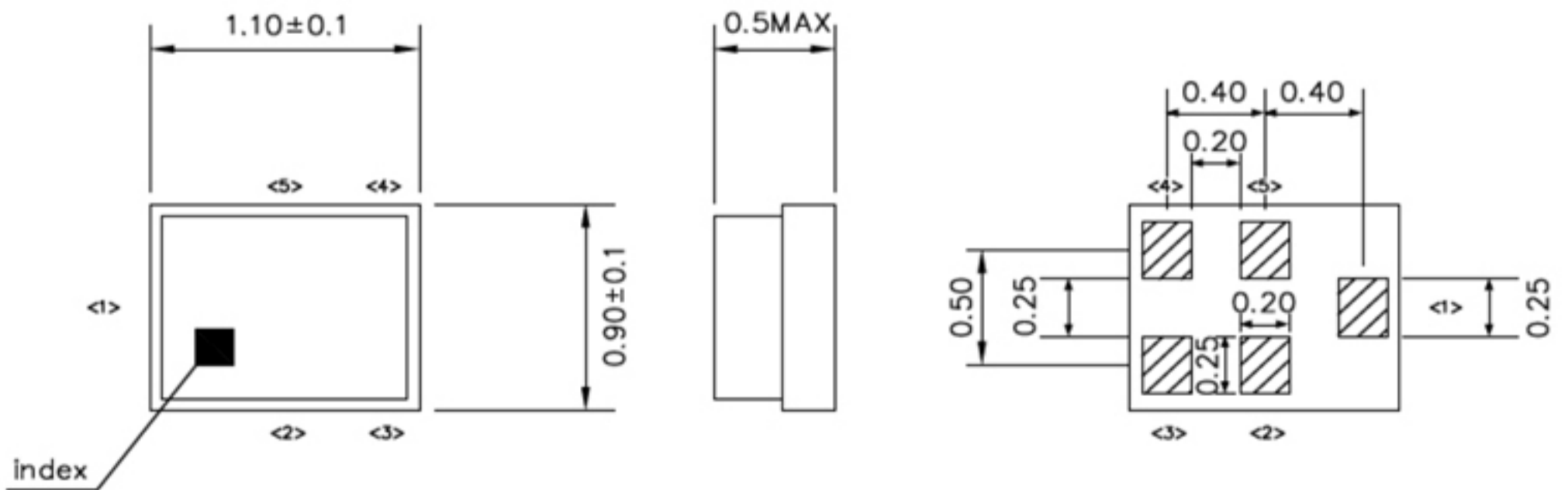


**E. PCB Footprint:**



**F. OUTLINE DRAWING:**

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



Unit : mm

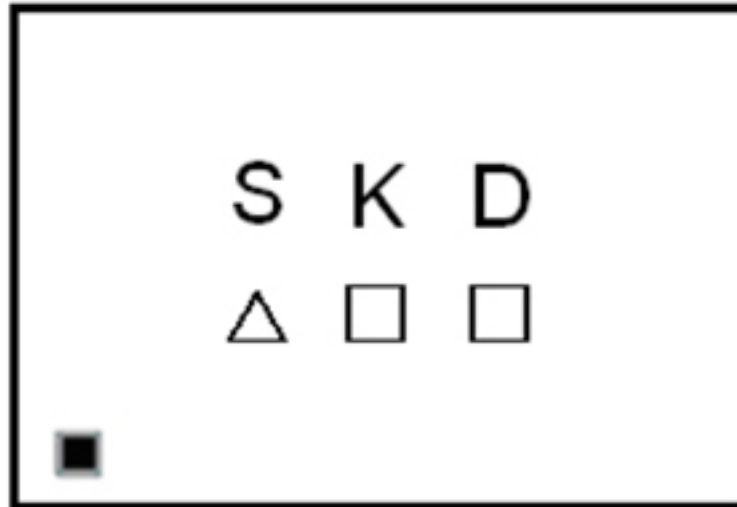
**Pin Configuration**

Pin No.	Symbol	Function
1	IN	Unbalanced input
2	GND	Ground
3	OUT	Balanced Output
4	OUT	Balanced Output
5	GND	Ground

**Top View (Sample Production):**



**Top View (Mass Production):**



△ : **Date Code**

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

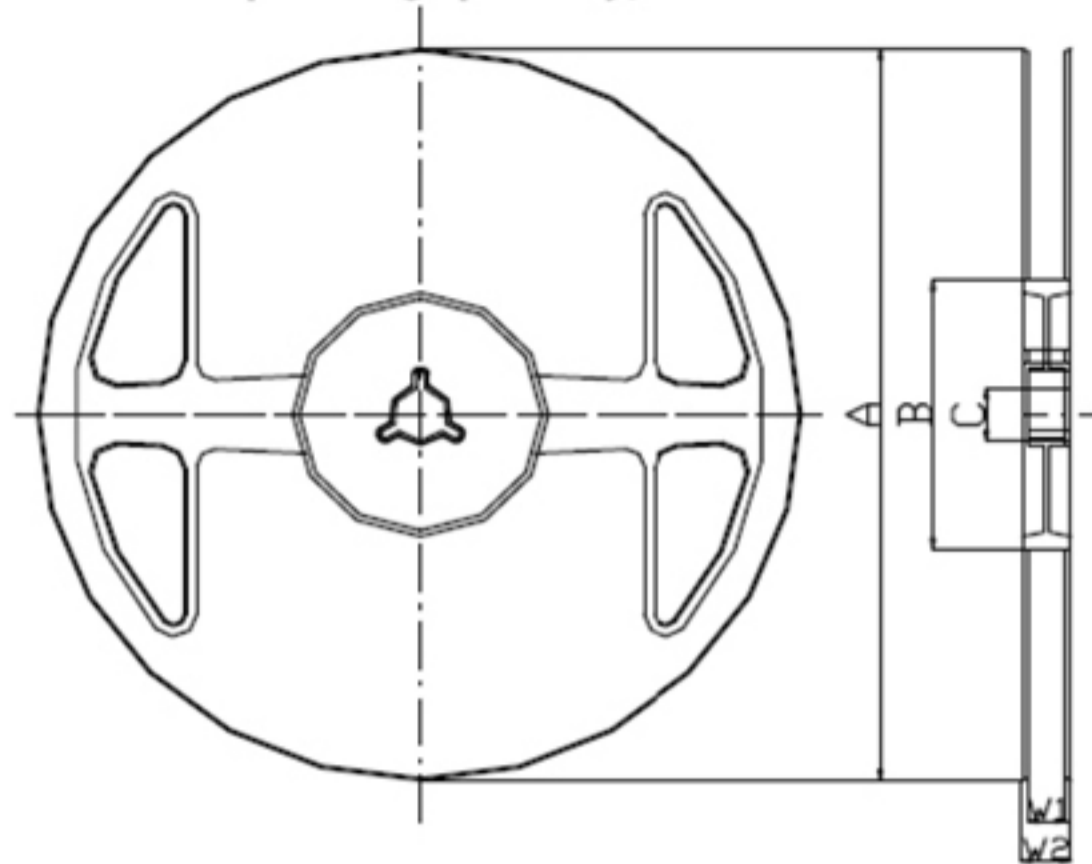
**Date Code:**

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017	A	B	C	Ð	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	∇	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:** (Ref: WI-75M03)

1. REEL DIMENSION

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



**Materials of Reel**

Material : Polystyrene + Carbon

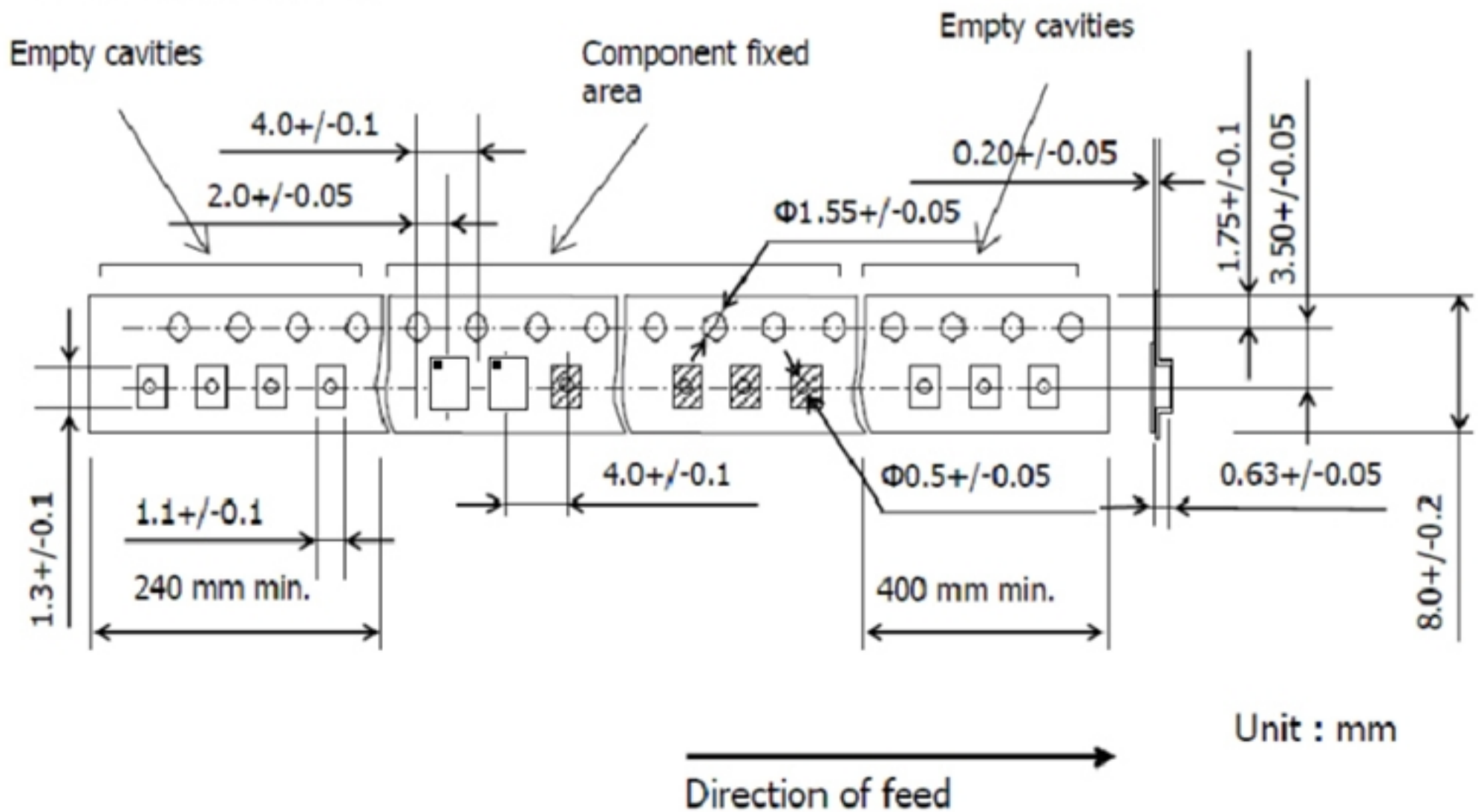
Color : Black

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

Unit : mm

A	B	C	W1	W2
$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

2. TAPE DIMENSION



Unit : mm



### 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  $150^{\circ}\text{C}$  shall be 30 seconds min.
3. Heating shall be fixed at  $220^{\circ}\text{C}$  for 50~80 seconds and at  $260^{\circ}\text{C} +0/-5^{\circ}\text{C}$  peak (20~40sec).
4. Time: 2 times.

