

SAW Filter 1747.5 MHz

MODEL NO.: TA1885B

REV. No.: 1.0

A. MAXIMUM RATING:

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

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

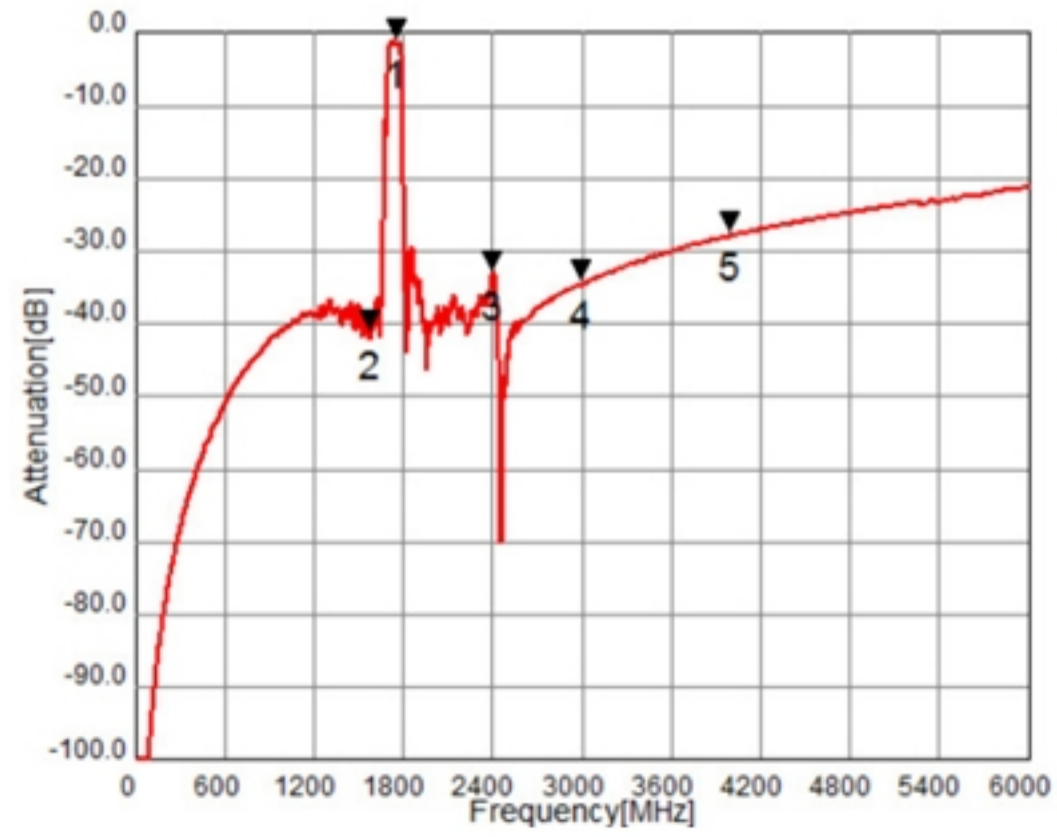
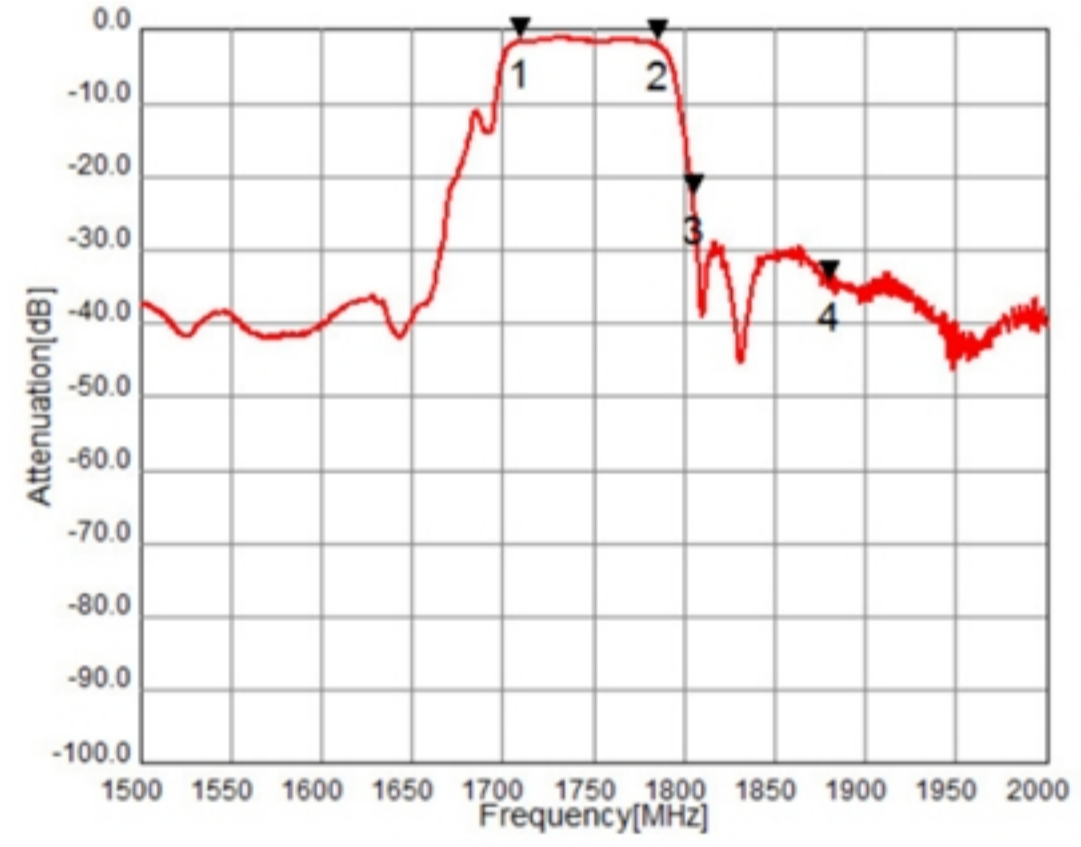
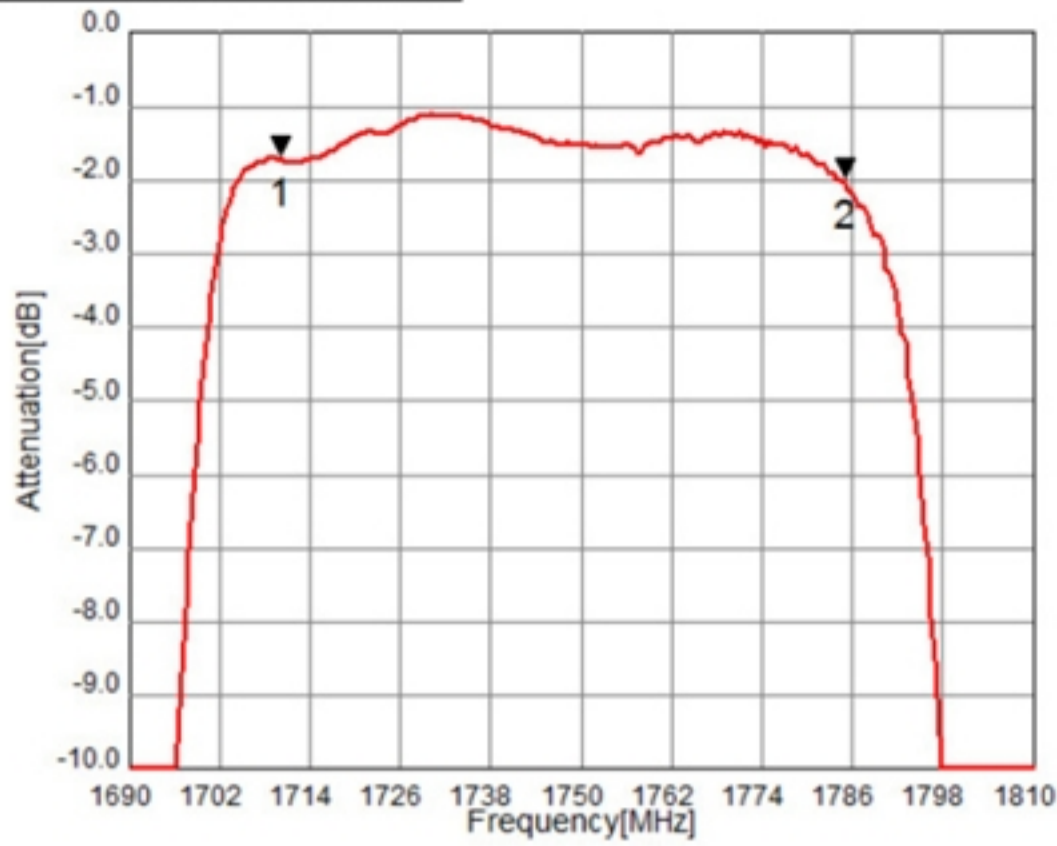
Terminating source impedance: $Z_s = 50//7.5nH \Omega$ (Single-ended)

Terminating load impedance: $Z_L = 50//6.8nH \Omega$ (Single-ended)

Parameters Description	Unit	Min.	Typ.	Max.	Remarks	
Center Frequency	Fc	MHz	-	1747.5	-	
Insertion Loss (1710~1785 MHz)	IL	dB(*1)	-	2.1	2.4	at 25°C
			-	-	3.0	-
Amplitude Ripple (1710~1785 MHz)	dB _{p-p}	-	1.0	1.5	at 25°C	
		-	-	2.0	-	
VSWR (1710~1785 MHz)	-	-	1.8	2.2	-	
Attenuation (Reference level from 0 dB)						
DC ~ 1570 MHz	dB	25	36	-	-	
1570 ~ 1580 MHz	dB	35	41	-	-	
1805 ~ 1880 MHz	dB	15	22	-	at 25°C	
		8	-	-	-	
1930 ~ 2400 MHz	dB	25	34	-	-	
2400 ~ 3000 MHz	dB	15	32	-	-	
3000 ~ 4000 MHz	dB	10	27	-	-	
4000 ~ 6000 MHz	dB	5	21	-	-	

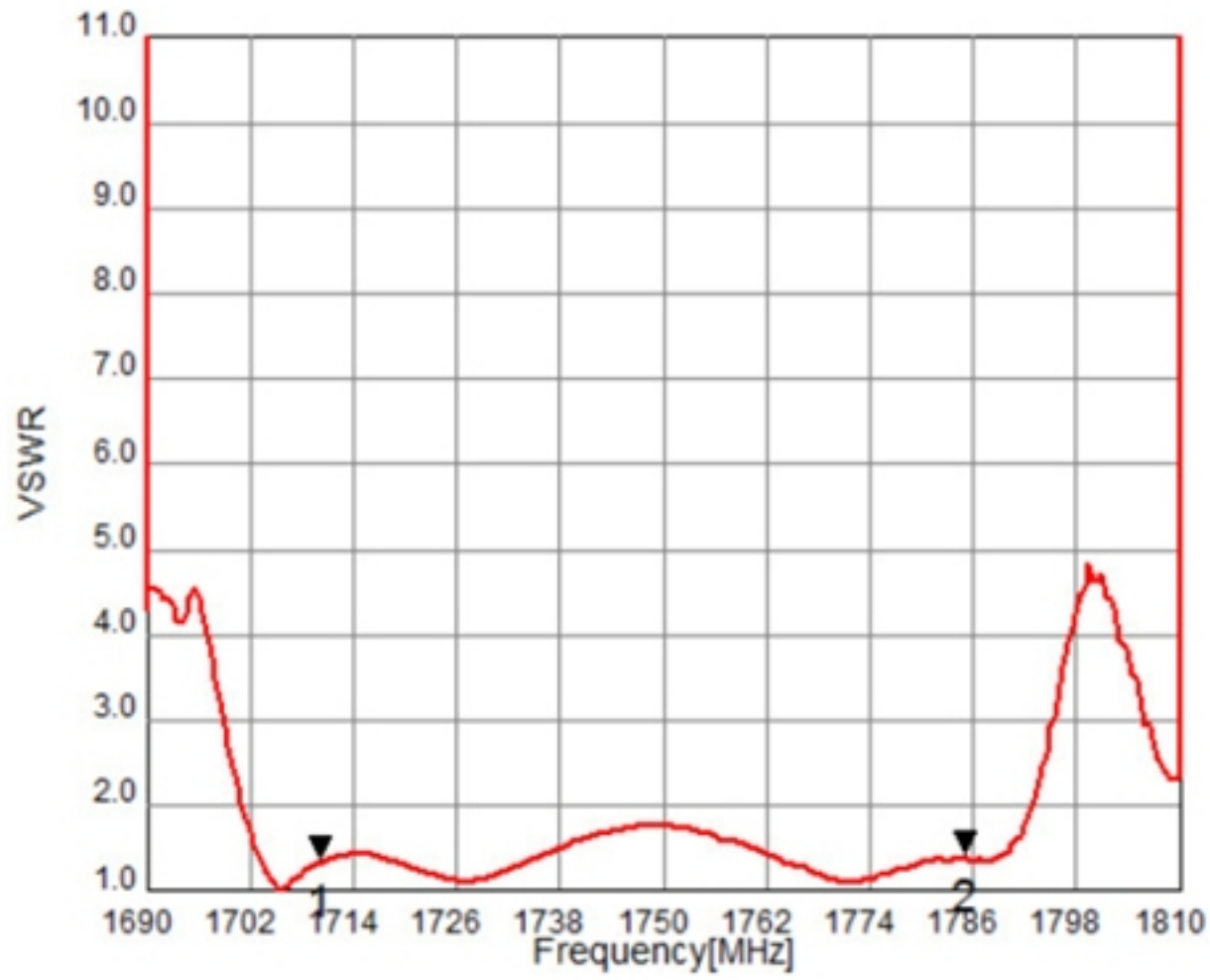
(*1) Specification of insertion loss includes loss that comes from the test board. (Value: 0.15 dB)

C. FREQUENCY CHARACTERISTIC:



Reflection Functions:

VSWR S11



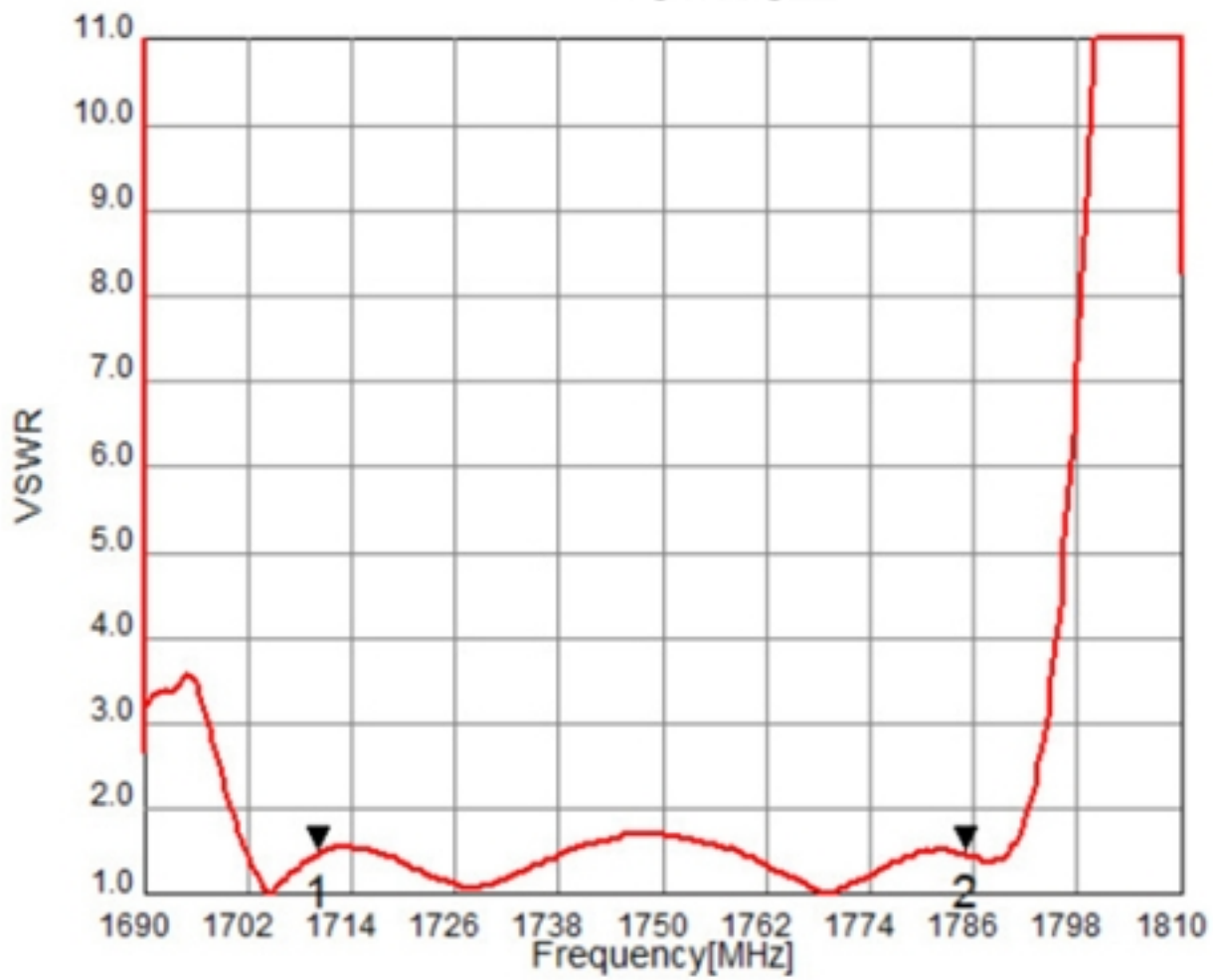
Mk1: 1710.0MHz

VSWR1= 1.327

Mk2: 1785.0MHz

VSWR1= 1.362

VSWR S22



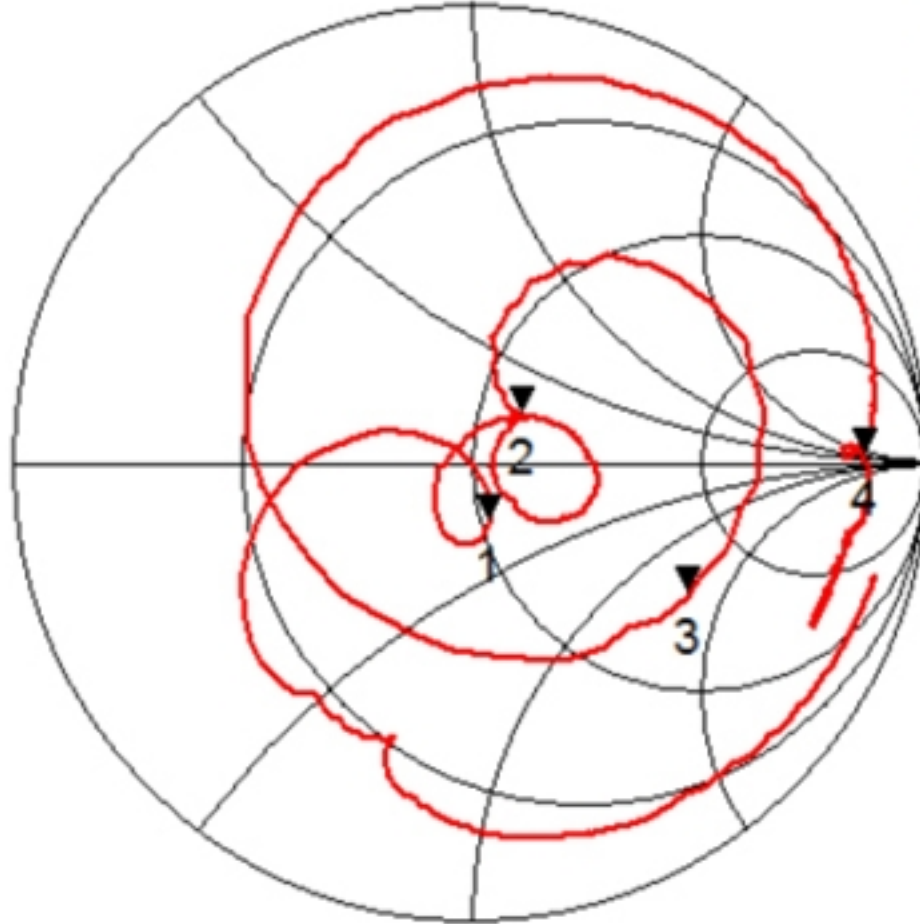
Mk1: 1710.0MHz

VSWR2= 1.469

Mk2: 1785.0MHz

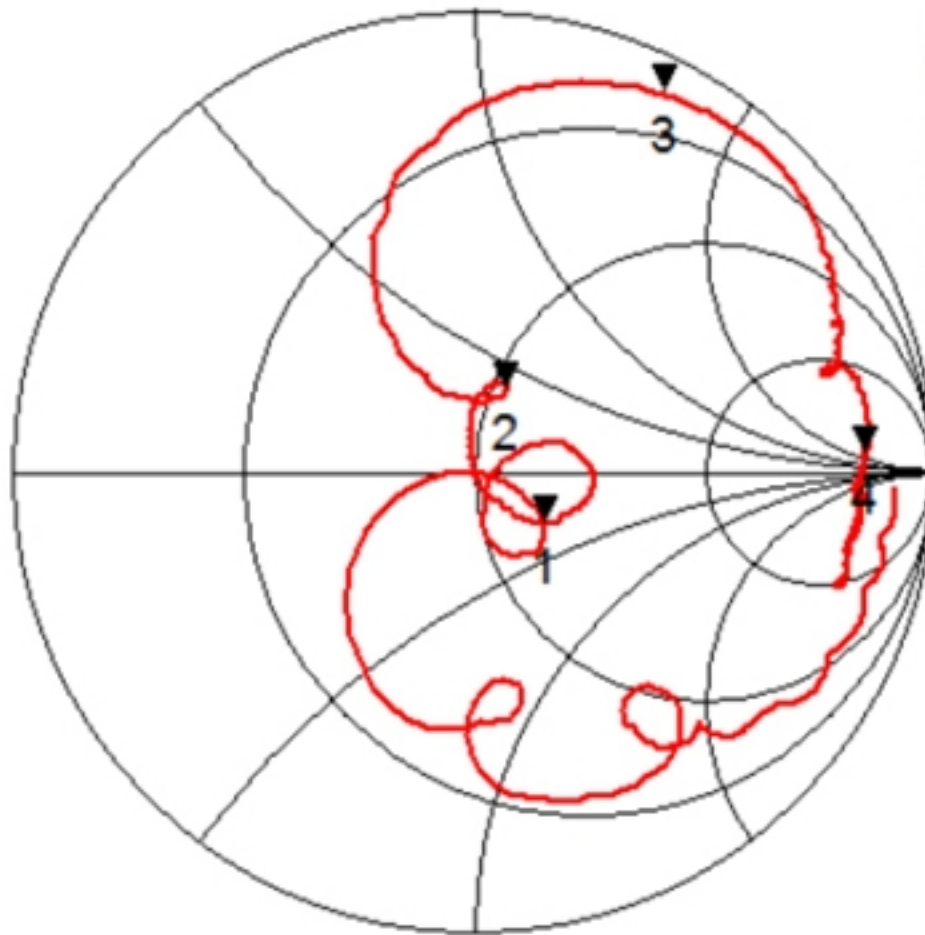
VSWR2= 1.464

Smith Chart S11



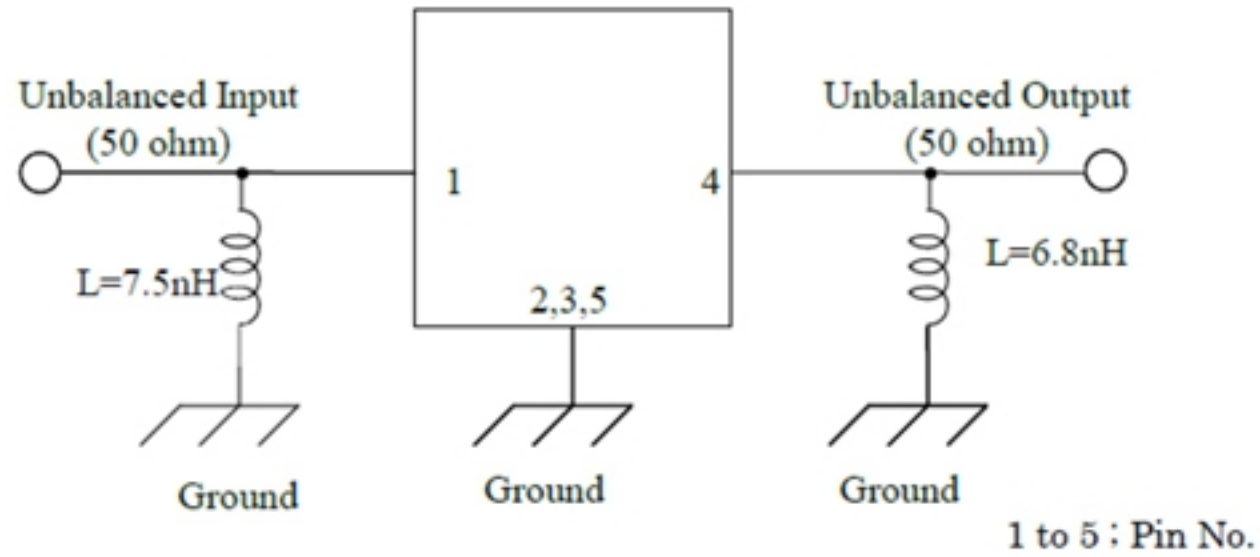
Mk1: 1710.0
S11= 1.043 - j0.287
Mk2: 1785.0
S11= 1.219 + j0.263
Mk3: 1805.0
S11= 1.906 - j1.594
Mk4: 1880.0
S11= 13.194 + j1.837

Smith Chart S22

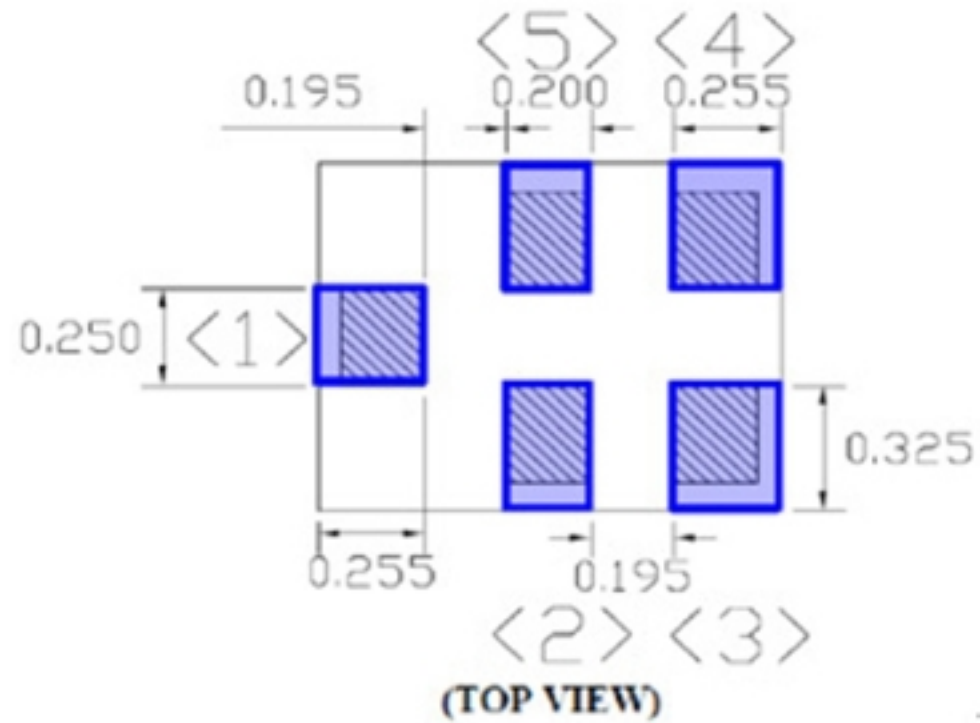


Mk1: 1710.0
S22= 1.314 - j0.313
Mk2: 1785.0
S22= 1.076 + j0.390
Mk3: 1805.0
S22= 0.153 + j1.607
Mk4: 1880.0
S22= 11.495 + j2.986

D. MEASUREMENT CIRCUIT:

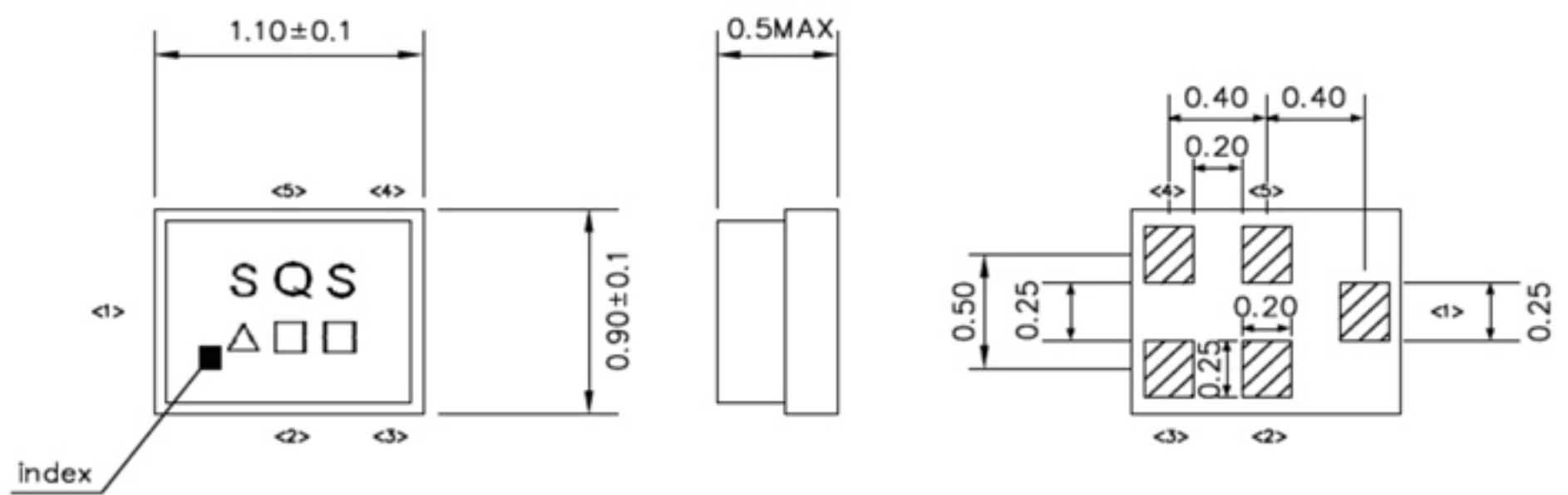


E. PCB Footprint:



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

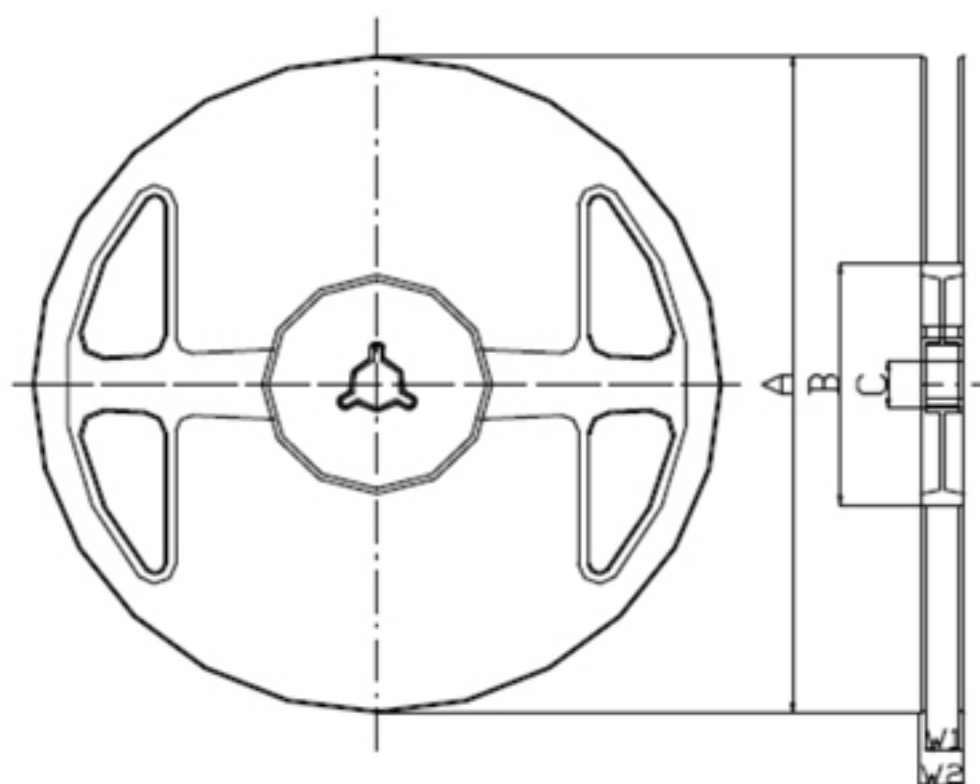
□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

Date Code:

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017	A	B	C	Đ	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: (Ref: WI-75M03)

1. REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

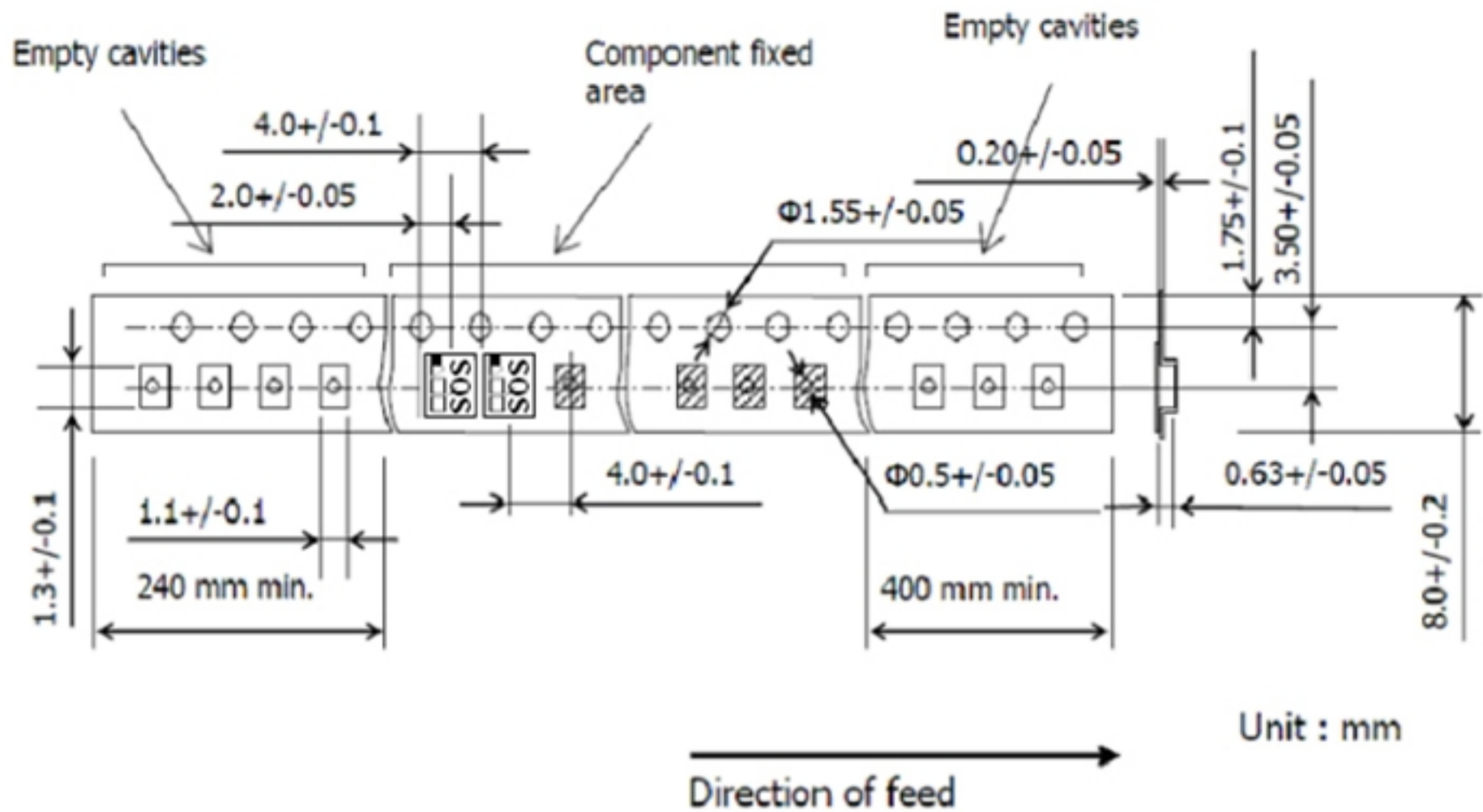
Color : Black

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

Unit : mm

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

2. TAPE DIMENSION



H. Recommended Reflow Profile:

1. Preheating shall be fixed at 150~180°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°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

