

**A. MAXIMUM RATING:**

1. Input Power Level :

@ Input power at Tx Port : 29dBm (Ta=+50deg C,50000h,CW )

2. Maximum DC Voltage: 3 V

3. Operating temperature range: -20 °C to +85 °C

4. Storage temperature range: -40 °C to +85 °C

5. Moisture Sensitivity Level: Level 3 (MSL 3)

6. ESD 100V(MM) 200V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

**B. ELECTRICAL CHARACTERISTICS:**Terminating impedance(Tx Port): 50 // 33nH  $\Omega$  (Single-ended)Terminating impedance(Rx Port): 50  $\Omega$  (Single-ended)Terminating impedance(Ant Port): 50 // 9.1nH  $\Omega$  (Single-ended)**Tx to ANT**

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	880.48 ~ 914.52 MHz	dB	-	2.0	3.4	
	882.4 ~ 912.6 MHz	dB	-	1.7	2.5	
Ripple	880 ~ 915 MHz	dBp-p	-	1.4	2.9	
VSWR	Tx	-	-	1.6	2.2	
	ANT	-	-	1.6	2.2	
<b>Attenuation:</b>						
10.0 ~ 716.0 MHz		dB	30	35	-	
716.0 ~ 728.0 MHz		dB	30	35	-	
728.0 ~ 793.0 MHz		dB	30	35	-	
832.0 ~ 862.0 MHz		dB	30	41	-	
927.4 ~ 957.6 MHz		dB	48	54	-	
1559.0 ~ 1563.0 MHz		dB	35	42	-	
1565.42 ~ 1573.37 MHz		dB	35	42	-	
1573.37 ~ 1577.47 MHz		dB	35	42	-	
1577.47 ~ 1585.42 MHz		dB	35	43	-	
1597.55 ~ 1605.89 MHz		dB	35	43	-	
1710.0 ~ 1785.0 MHz		dB	35	46	-	
1760.0 ~ 1840.0 MHz		dB	40	47	-	

1840.0 ~ 1880.0 MHz	dB	40	48	-	
1920.0 ~ 1980.0 MHz	dB	35	46	-	
2110.0 ~ 2170.0 MHz	dB	35	42	-	
2400.0 ~ 2500.0 MHz	dB	30	37	-	
2434.0 ~ 2494.0 MHz	dB	30	37	-	
2620.0 ~ 2745.0 MHz	dB	28	35	-	
3520.0 ~ 3660.0 MHz	dB	20	29	-	
4400.0 ~ 4575.0 MHz	dB	15	27	-	
4900.0 ~ 5950.0 MHz	dB	15	25	-	
6160.0 ~ 6405.0 MHz	dB	15	27	-	
7040.0 ~ 7320.0 MHz	dB	5	12		

### ANT to Rx

Parameters Description		Unit	Minimum	Typical	Maximum	Note
Insertion Loss	925.48 ~ 959.52 MHz	dB	-	1.9	3.1	
	927.4 ~ 957.6 MHz	dB		1.9	2.5	
Ripple	925 ~ 960 MHz	dBp-p	-	0.9	2.3	
VSWR	Tx	-	-	1.9	2.3	
	ANT	-	-	1.9	2.2	

### Attenuation:

0.3~ 880.0 MHz	dB	50	63	-	
45.0 MHz	dB	50	108	-	
835.0 ~ 870.0 MHz	dB	50	62	-	
882.4 ~ 912.6 MHz	dB	50	57	-	
902.5 ~ 910.0 MHz	dB	47	57	-	
980.0 ~ 1045.0 MHz	dB	20	30	-	
1045.0 ~ 6000.0 MHz	dB	25	44	-	
1427.0 ~ 1448.0 MHz	dB	45	62	-	
1710.0 ~ 1785.0 MHz	dB	40	56	-	
1805.0 ~ 1980.0 MHz	dB	40	54	-	
2400.0 ~ 2500.0 MHz	dB	40	50	-	
2500.0 ~ 2570.0 MHz	dB	40	50	-	
2685.0 ~ 2790.0 MHz	dB	40	49	-	
2775.0 ~ 2880.0 MHz	dB	40	49	-	
2880.0 ~ 3700.0 MHz	dB	35	47	-	
3700.0 ~ 3840.0 MHz	dB	35	47	-	
4625.0 ~ 4800.0 MHz	dB	30	46	-	
4900.0 ~ 5950.0 MHz	dB	30	44	-	
6475.0 ~ 6720.0 MHz	dB	30	49	-	
7400.0 ~ 7680.0 MHz	dB	30	47	-	

## Tx to Rx

Isolation	882.4 ~ 912.6 MHz	dB	55	63	-	
	927.4 ~ 957.6 MHz	dB	50	57	-	

Notes:(1) With Matching Network

## C. Frequency Characteristics:

### Tx to Ant



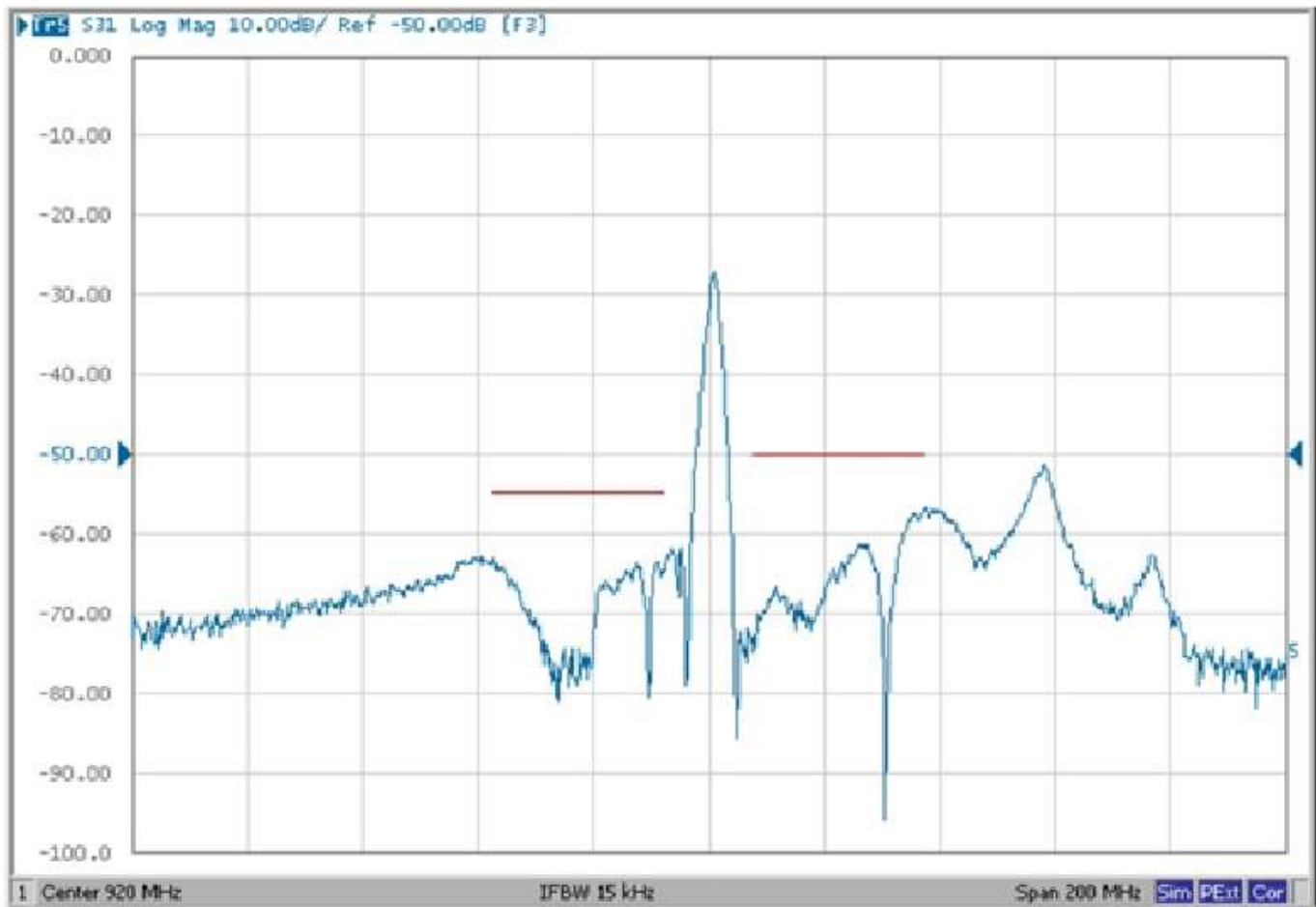
### Ant to Rx



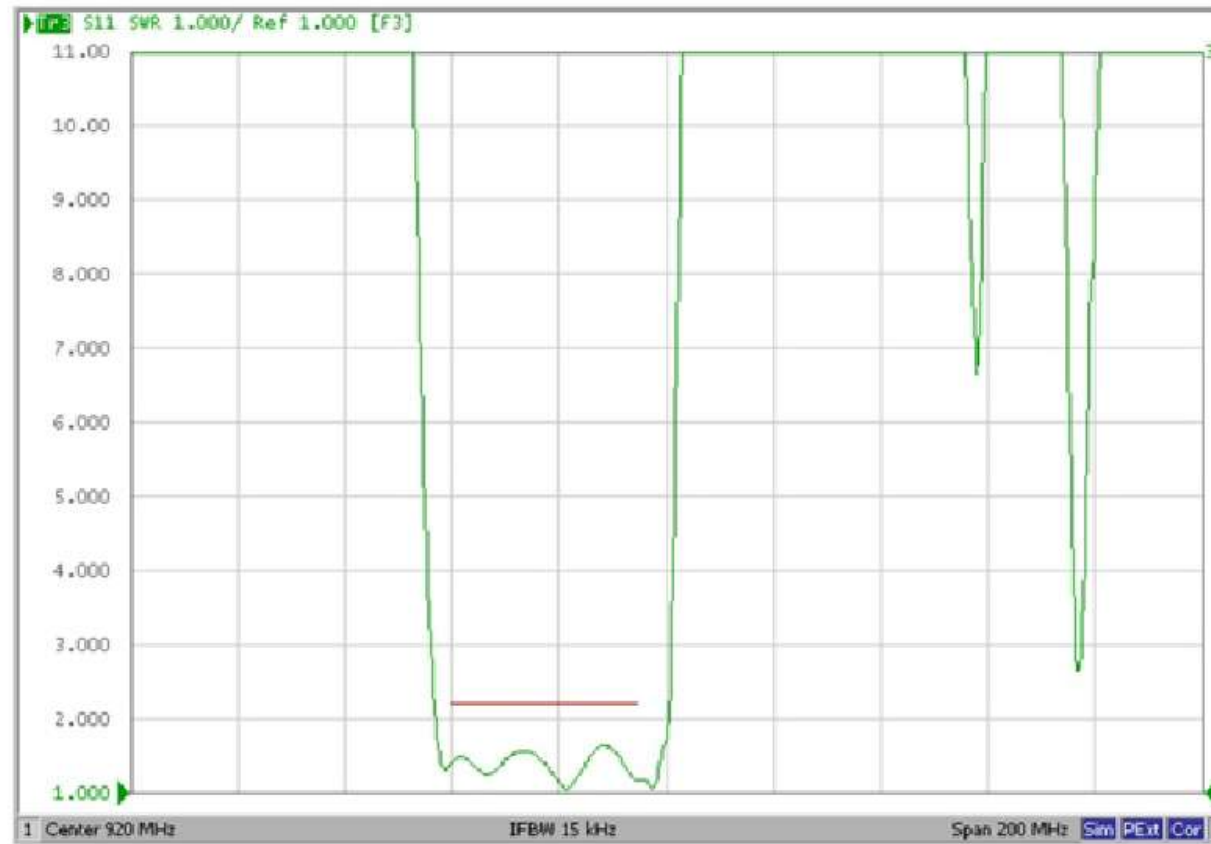
# Ripple Deviation



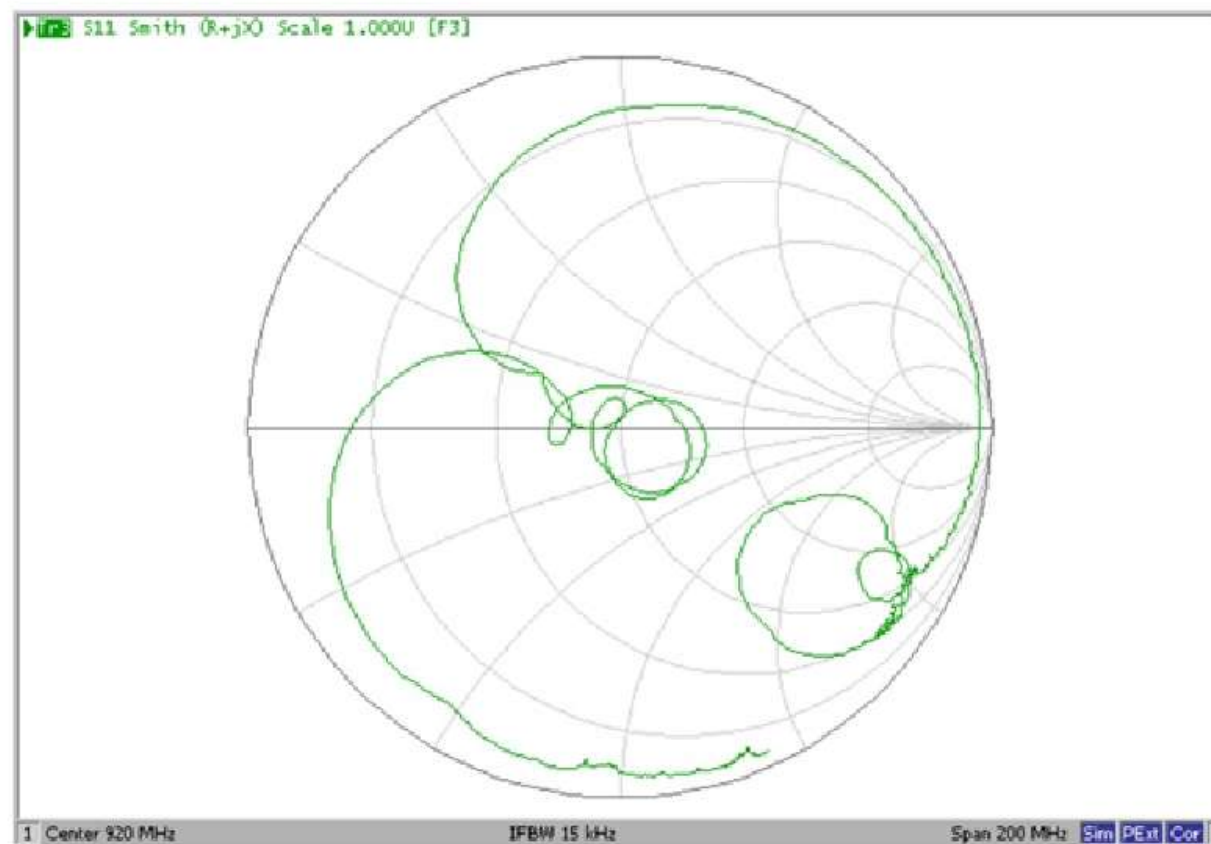
# Isolation



## VSWR (Tx Port)



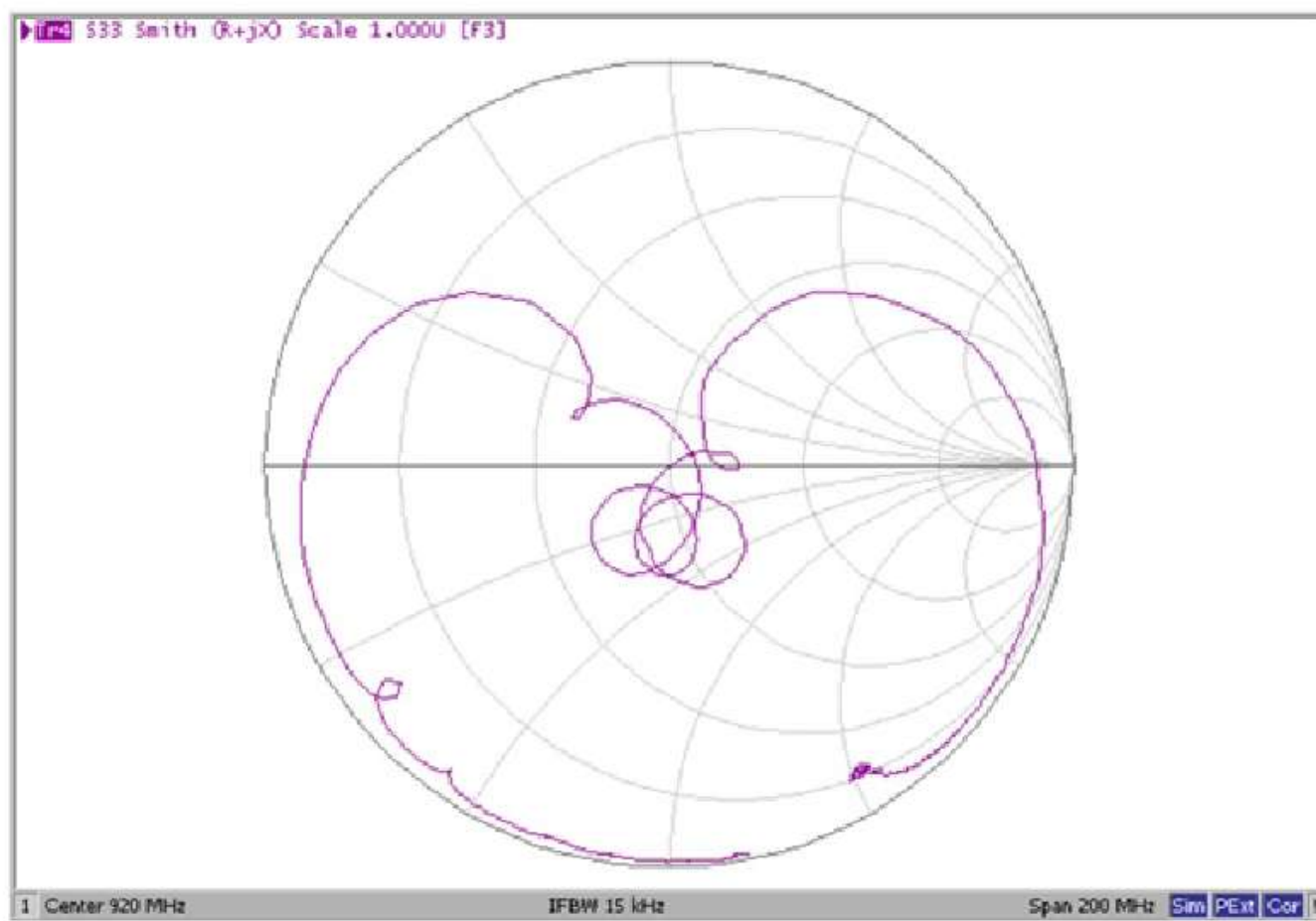
## Smith Chart (TxPort)



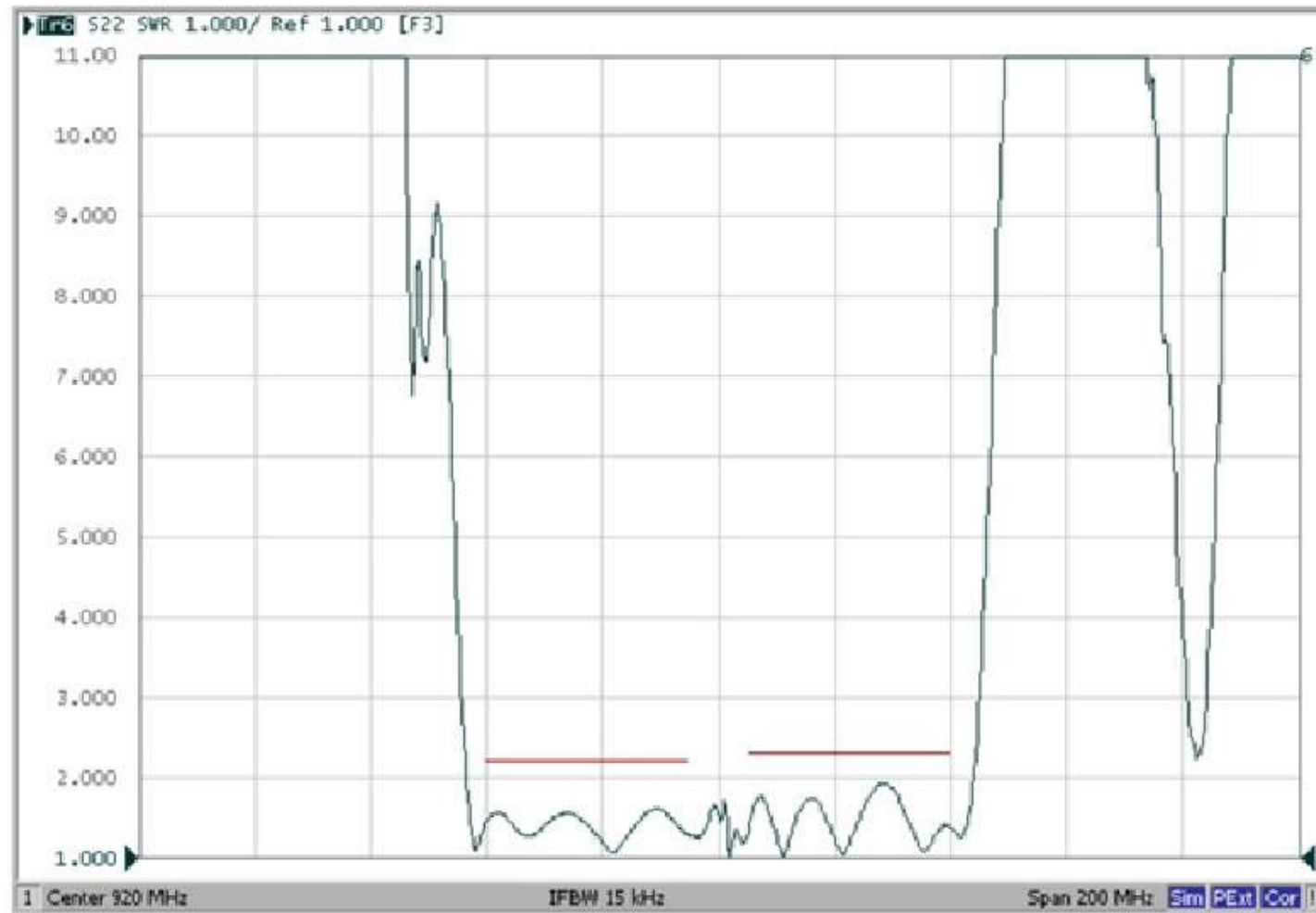
## VSWR (Rx Port)



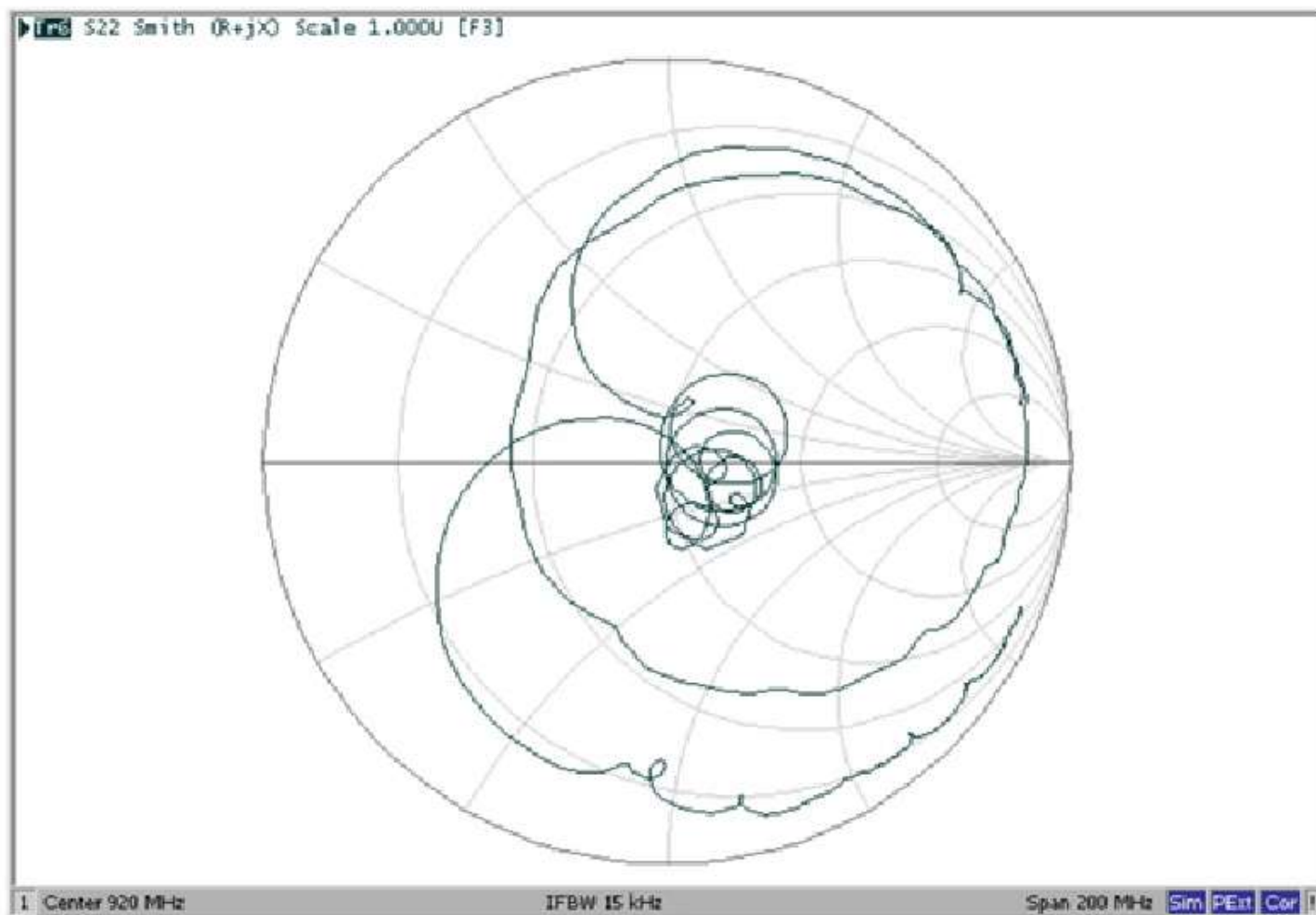
## SmithChart (RxPort)



## VSWR (ANTPort)



## Smith Chart (ANTPort)

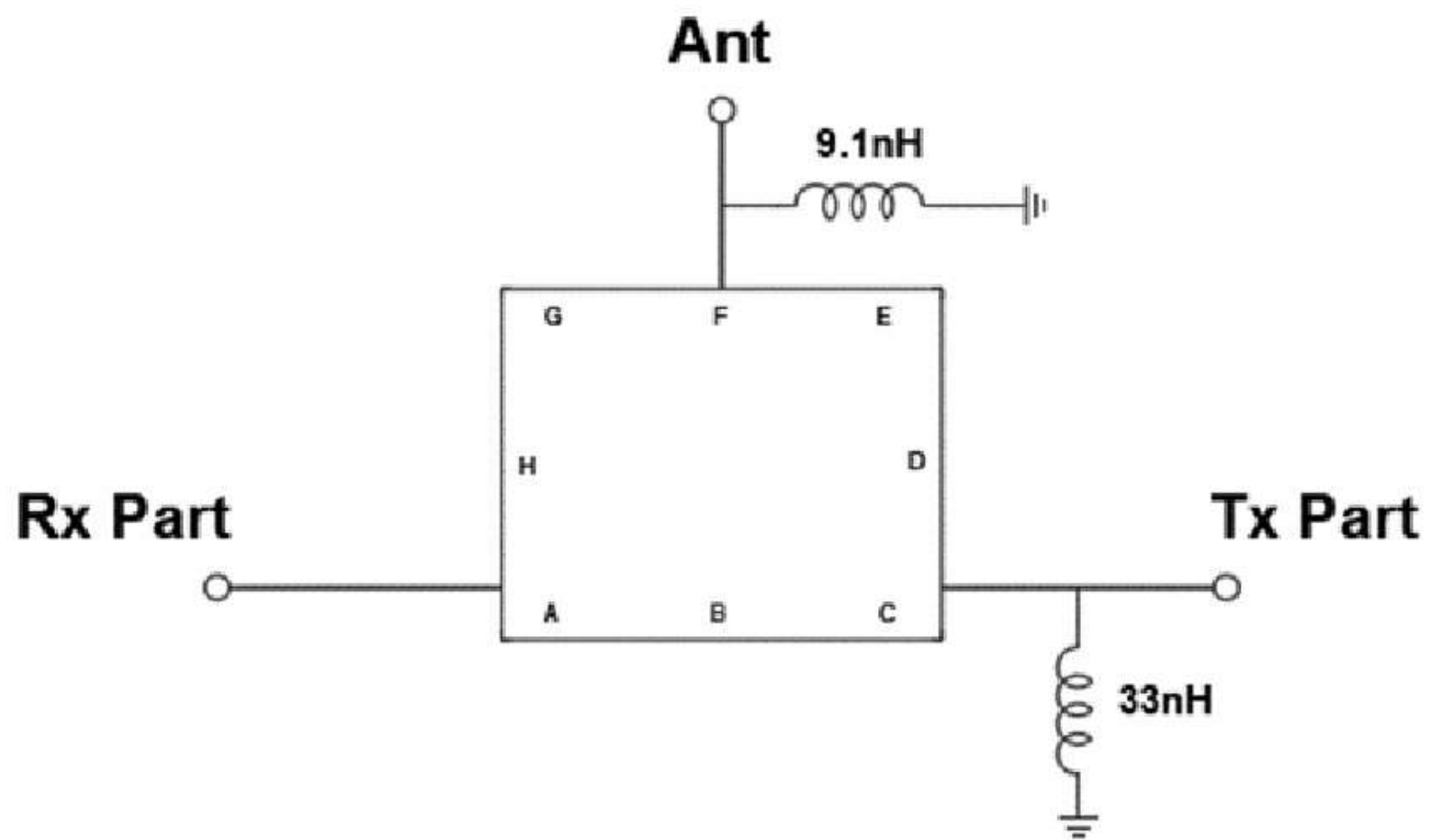


# Wide Span

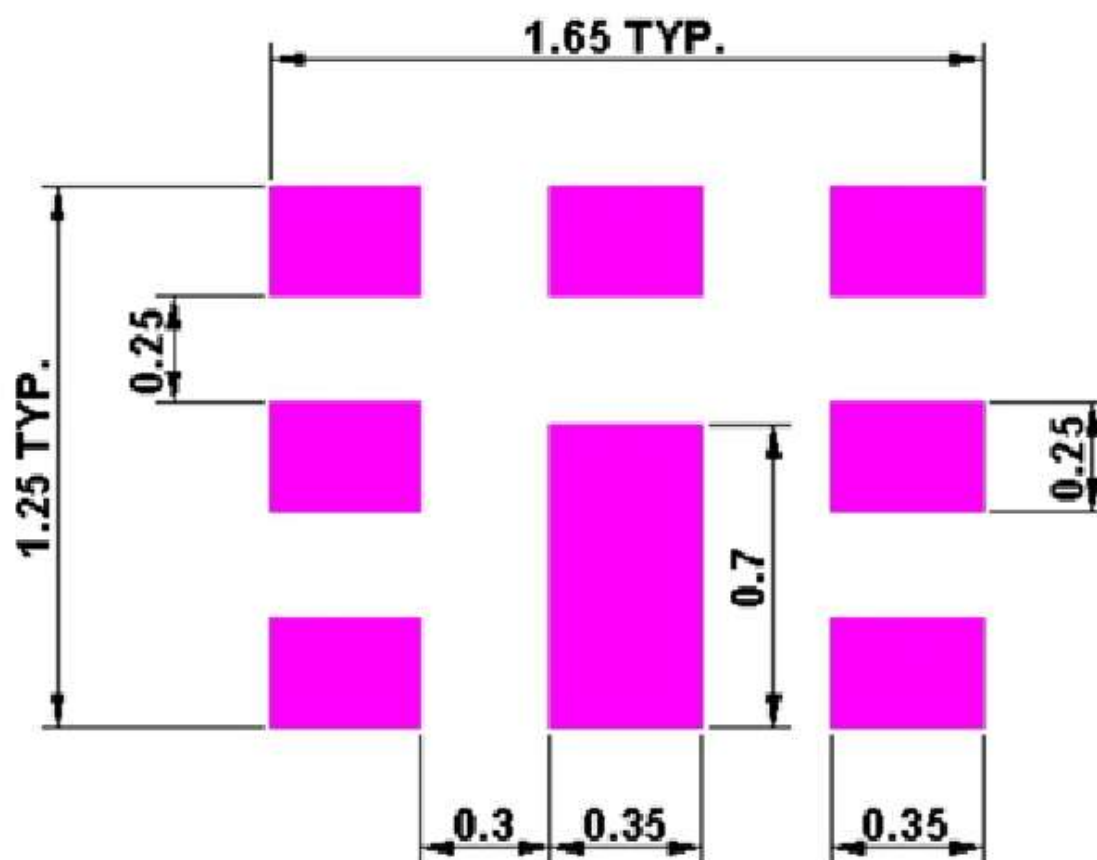




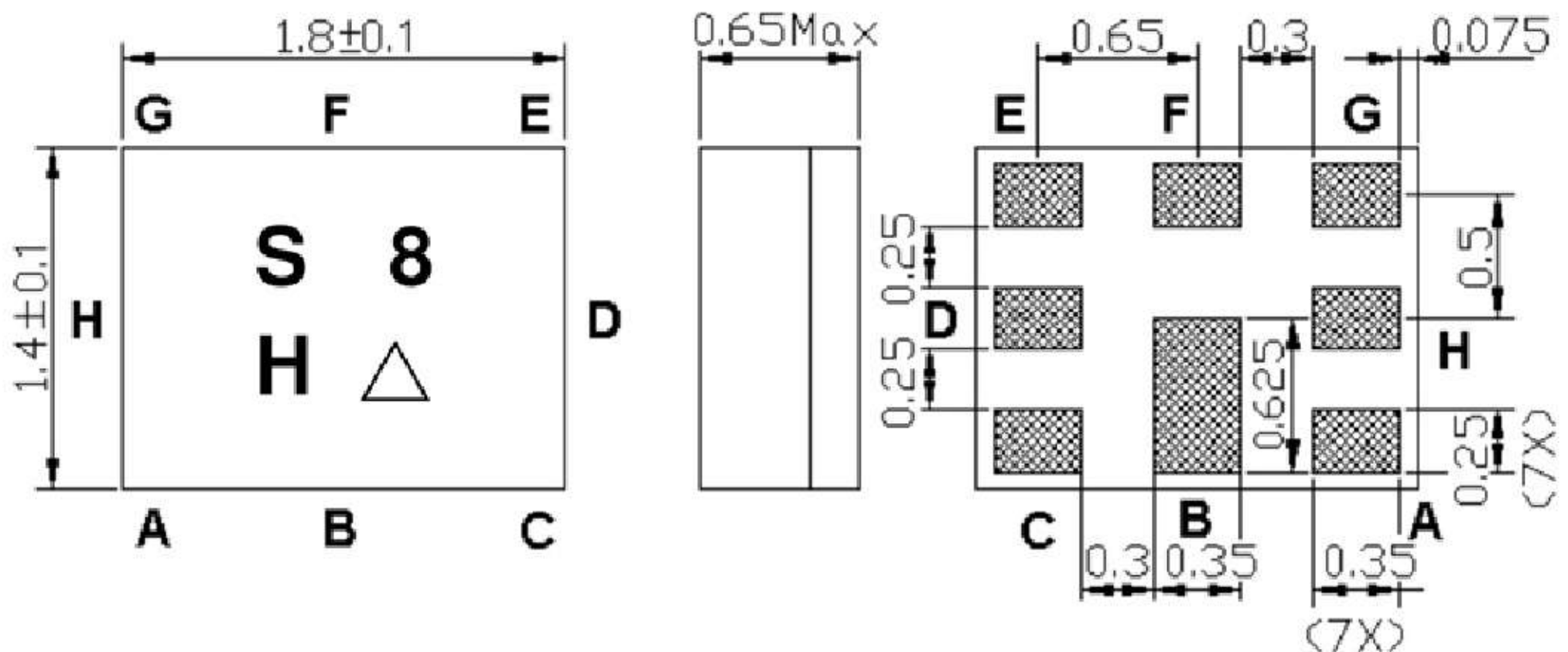
**D. MEASUREMENT CIRCUIT:**



**E. PCB Footprint:**



**F.OUTLINE DRAWING: (Mass Production)**



Not Specified Tolerance :  $\pm 0.07$  mm  
Unit : mm

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

Pin Description	
B,D,E,G,H	Ground
F	Ant
C	Tx (897.5 MHz)
A	Rx (942.5 MHz)

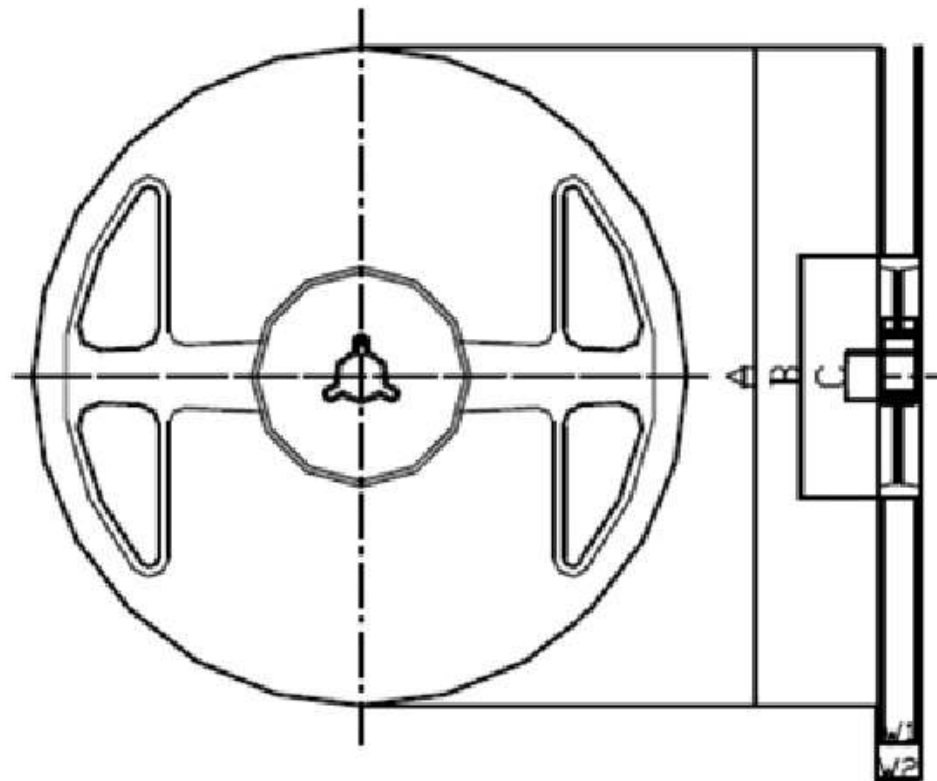
**Date Code:** Follow below table. (8-year cycle)

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	<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>i</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>

**G. PACKING:**

**1. REEL DIMENSION**

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



**Materials of Reel**

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

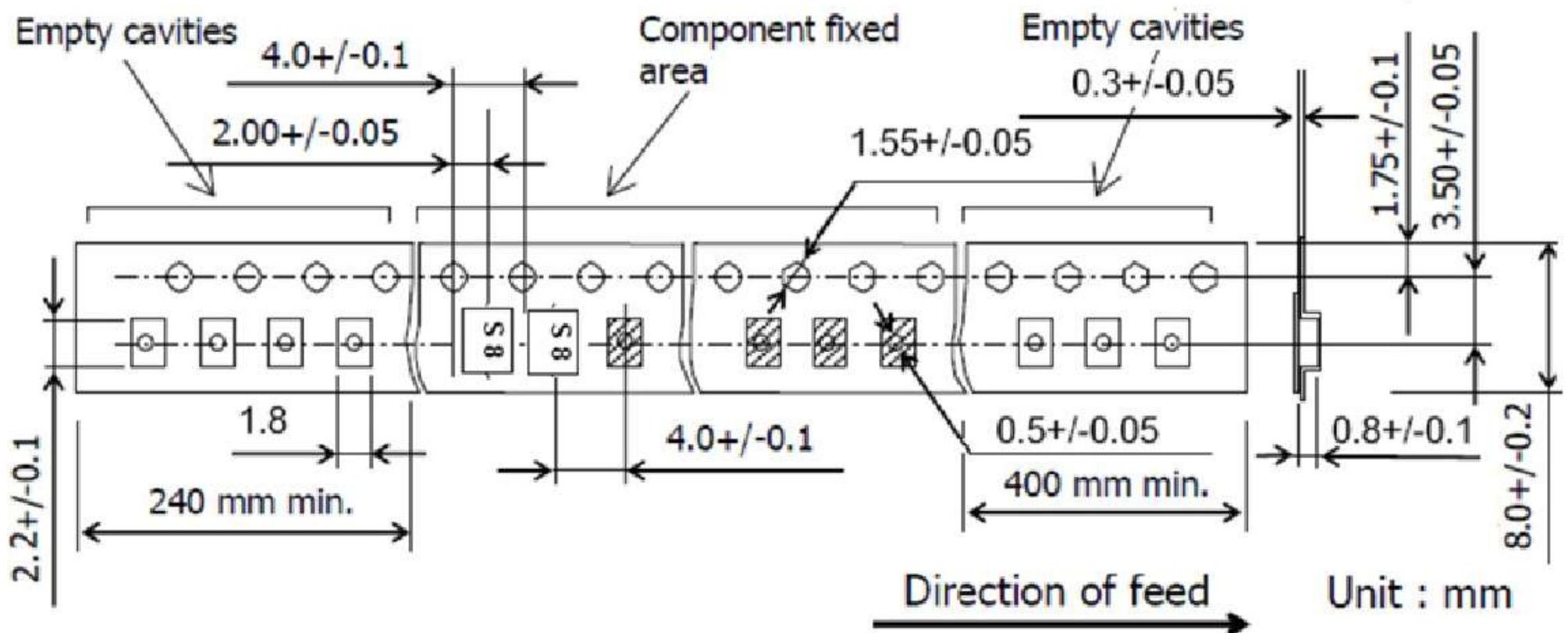
Color : Black

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

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 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**



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  $245\sim 260^{\circ}\text{C}$  peak (min. 10sec).
4. Time : 2 times.

