SAW DPX 836.5/881.5 MHz Band 5 SMD 1.8X1.4 mm (BW=25 MHz)

MODEL NO.:TF0123D REV.2.0

A. MAXIMUM RATING:

1. Operating temperature range: -20 ℃ to +85 ℃
2. Storage temperature range: -40 ℃ to +85 ℃
3. Tx Input power : 29dBm (Ta=+50℃,50000h,CW)
4. Maximum DC Voltage: 0 V
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 Ω (Single-ended)

Terminating impedance (Rx Port): 50 Ω (Single-ended)

Terminating impedance (Ant Port): 50 Ω (Single-ended)

Tx to ANT (f_{T0}=836.5 MHz)

Parameters Description			Unit	Min	Typ	Max	Remarks
Insertion Loss		824 ~ 849 MHz	dB	-	1.8	2.5	
Amplitude ripple		824 ~ 849 MHz	dB	-	0.6	1.5	
VSWR	ANT	824 ~ 849 MHz	-	-	1.6	2.0	
	Tx	824 ~ 849 MHz	-	-	1.65	2.0	
Attenuation:							
10 ~ 420 MHz			dB	35	40	-	
420 ~ 494 MHz			dB	35	39	-	
494 ~ 701 MHz			dB	35	39	-	
699 ~ 716 MHz			dB	35	43	-	
701 ~ 728 MHz			dB	35	43		
704 ~ 716 MHz			dB	35	43	-	
728 ~ 764 MHz			dB	35	41	-	
764 ~ 804 MHz			dB	25	31	-	
860 ~ 869 MHz			dB	5	22	-	
869 ~ 894 MHz			dB	44	49		
1559 ~ 1563 MHz			dB	33	38		
1565.42 ~ 1573.37 MHz			dB	33	38		
1573.37 ~ 1577.47 MHz			dB	33	38		
1577.47 ~ 1585.42 MHz			dB	33	38		
1597.55 ~ 1605.89 MHz			dB	33	37		
1683 ~ 1708 MHz			dB	30	36		
1710 ~ 1785 MHz			dB	30	35		
1844.9 ~ 1879.9 MHz			dB	30	35		
1844.5 ~ 1919.6 MHz			dB	28	34		
1920 ~ 1980 MHz			dB	28	34		
2110 ~ 2170 MHz			dB	25	32		
2400 ~ 2494 MHz			dB	25	30		
3286 ~ 3406 MHz			dB	15	26		
4110 ~ 4255 MHz			dB	12	18		
4900 ~ 5950 MHz			dB	10	17		
6582 ~ 6802 MHz			dB	15	28		
7406 ~ 7651 MHz			dB	15	29		

ANT to Rx (f_{T0}=881.5 MHz)

Parameters Description			Unit	Min	Typ	Max	Remarks
Insertion Loss		869 ~ 894 MHz	dB	-	1.9	2.5	
Amplitude ripple		869 ~ 894 MHz	dB	-	0.8	1.5	
VSWR	ANT	869 ~ 894 MHz	-		1.6	2.0	
	Rx		-		1.65	2.0	
Attenuation:							
10 ~ 477 MHz			dB	35	41	-	
45 MHz			dB	50	80	-	
447 ~ 824 MHz			dB	32	37		
779 ~ 804 MHz			dB	35	38		
824 ~ 849 MHz			dB	47	53	-	
1693 ~ 1743 MHz			dB	35	40	-	
1710 ~ 1785 MHz			dB	35	40		
1788 ~ 1788 MHz			dB	35	40		
1850 ~ 1920 MHz			dB	35	40		
1920 ~ 1980 MHz			dB	35	41		
1980 ~ 2400 MHz			dB	35	41		
2305 ~ 2315 MHz			dB	35	41		
2400 ~ 2500 MHz			dB	35	42		
2467 ~ 2494 MHz			dB	35	42		
2517 ~ 2592 MHz			dB	35	42		
2607 ~ 2682 MHz			dB	35	42		
3476 ~ 3576 MHz			dB	30	38		
4345 ~ 4470 MHz			dB	25	30		
4900 ~ 5950 MHz			dB	20	33		
5214 ~ 5364 MHz			dB	25	38		
6083 ~ 6258 MHz			dB	20	32		
6952 ~ 7152 MHz			dB	15	24		

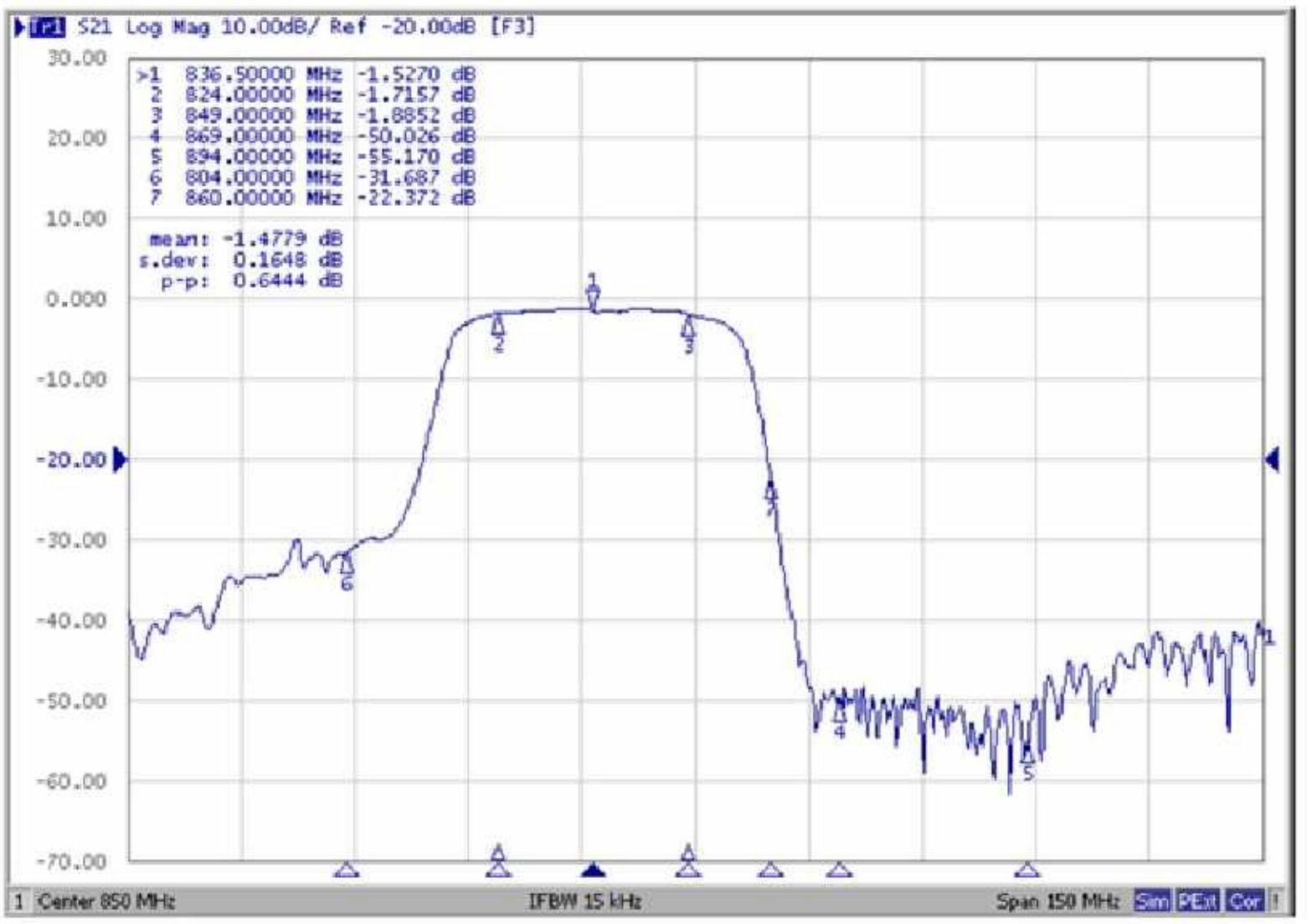
Tx to Rx

Isolation	824 ~ 849 MHz		dB	50	55	-	
	869 ~ 894 MHz		dB	48	52	-	
	1574 ~ 1577 MHz		dB	40	62		
	1683 ~ 1708 MHz		dB	20	62		
	2462 ~ 2557 MHz		dB	20	66		

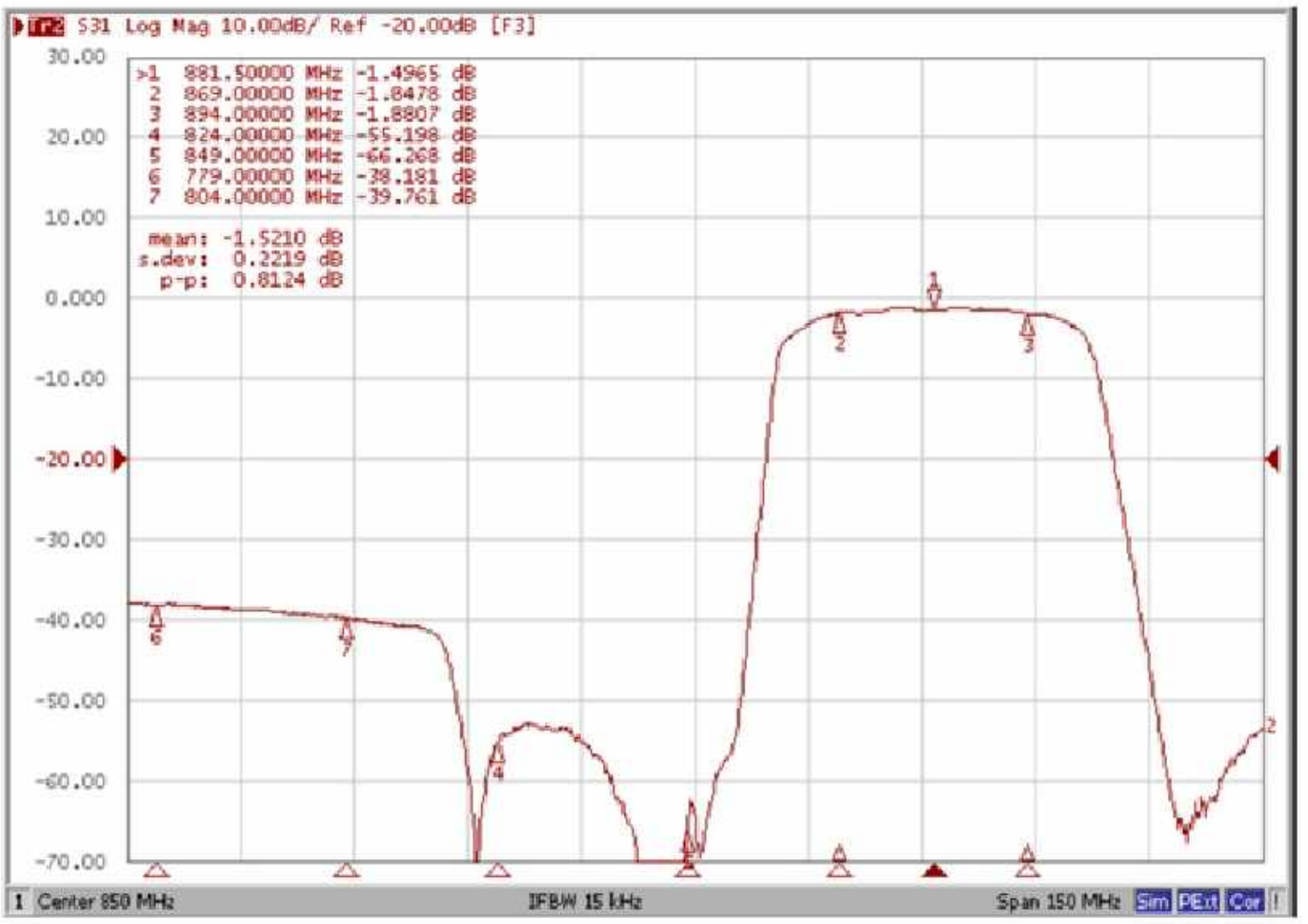
Notes : (1) With Matching Network

C. FREQUENCY CHARACTERISTICS:

Tx to Ant

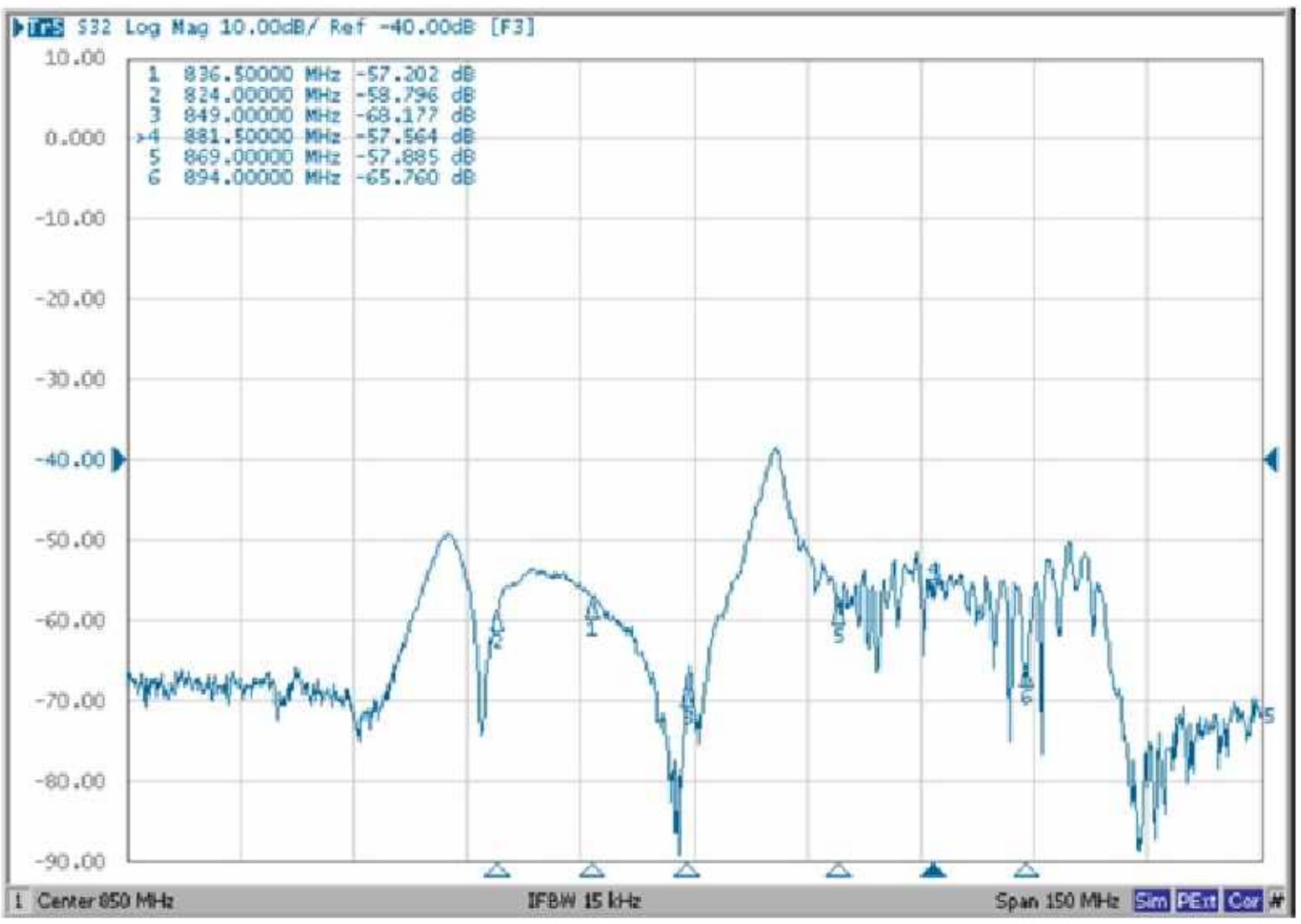


Ant to Rx

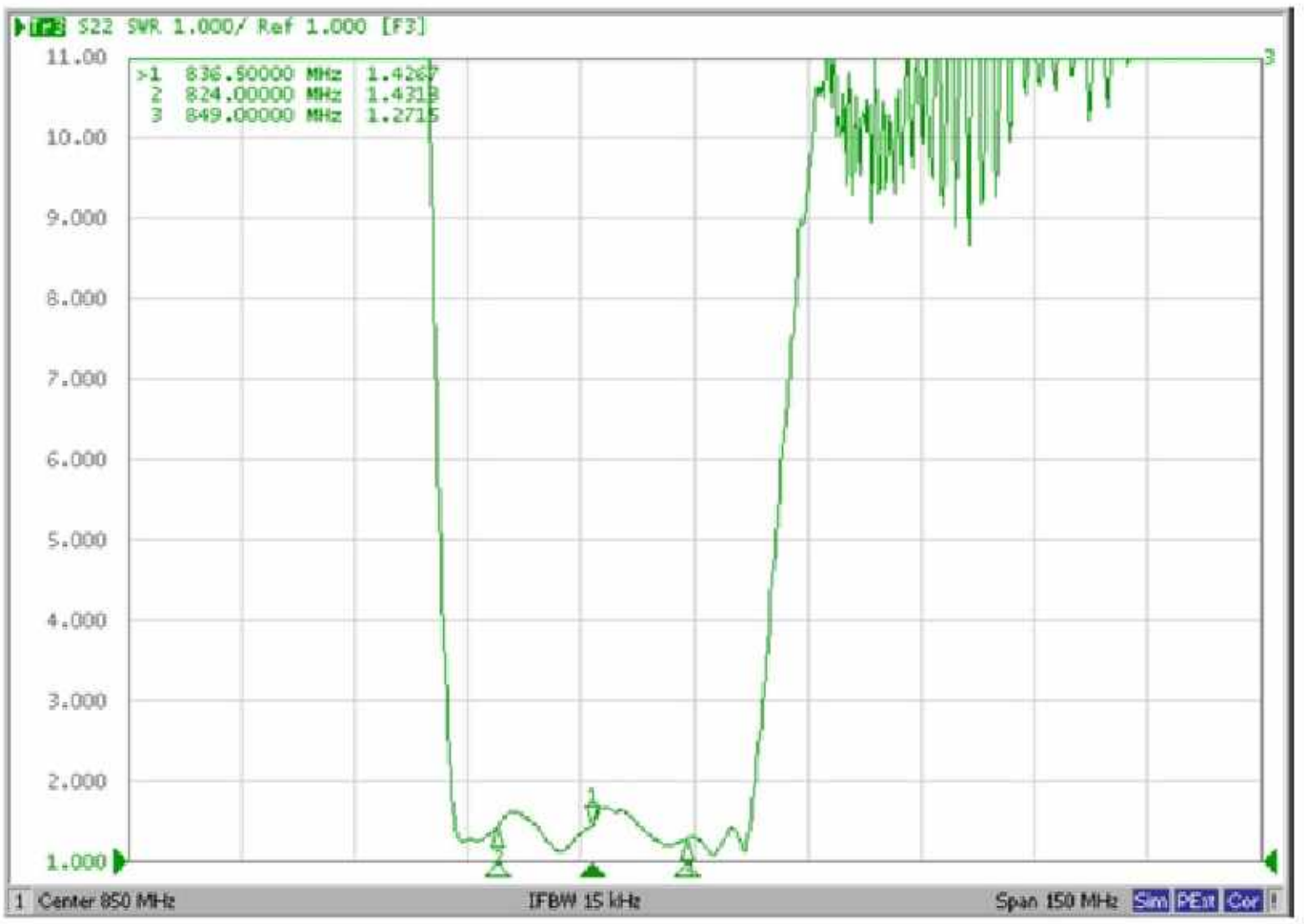


Ripple Deviation

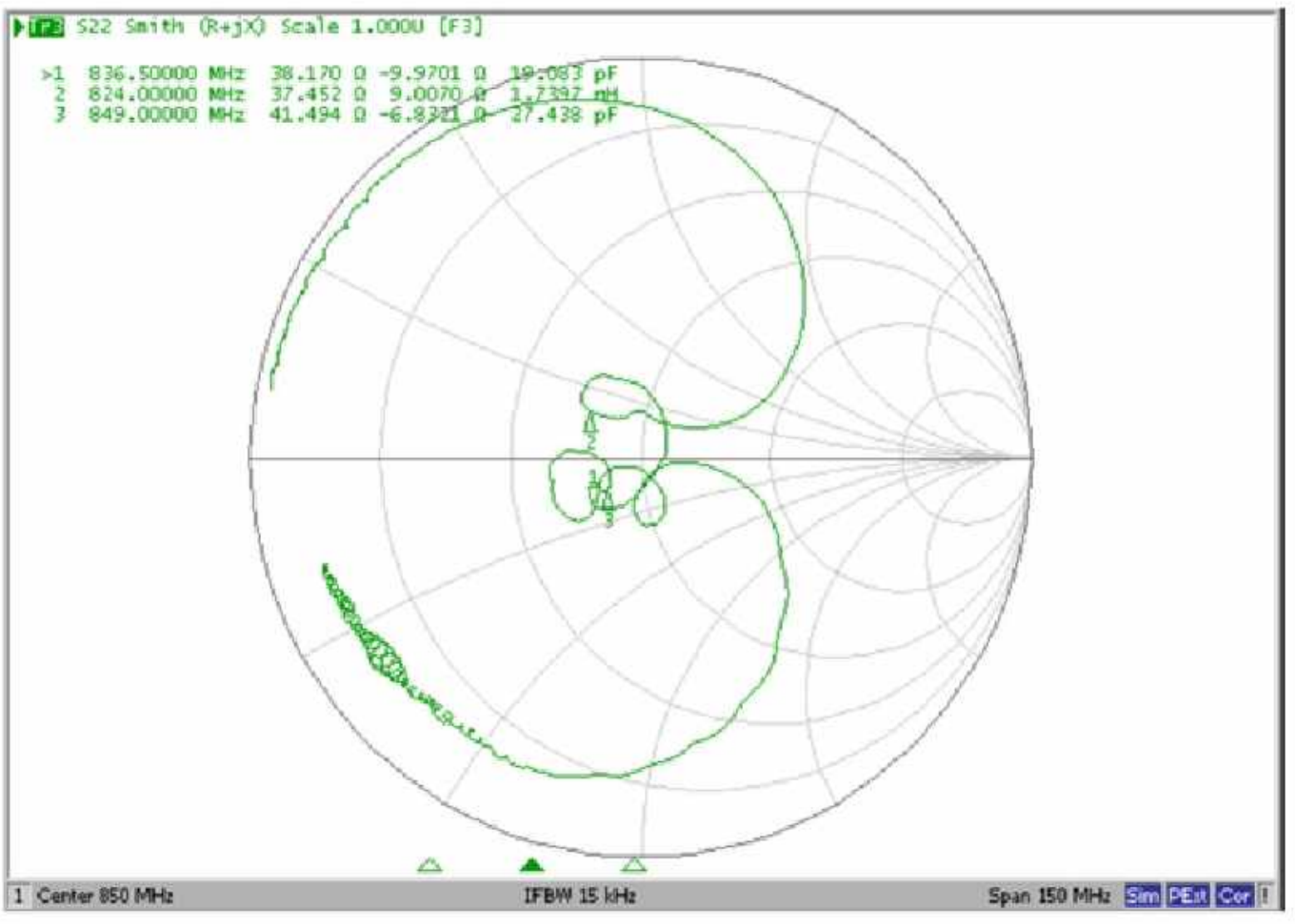
Isolation



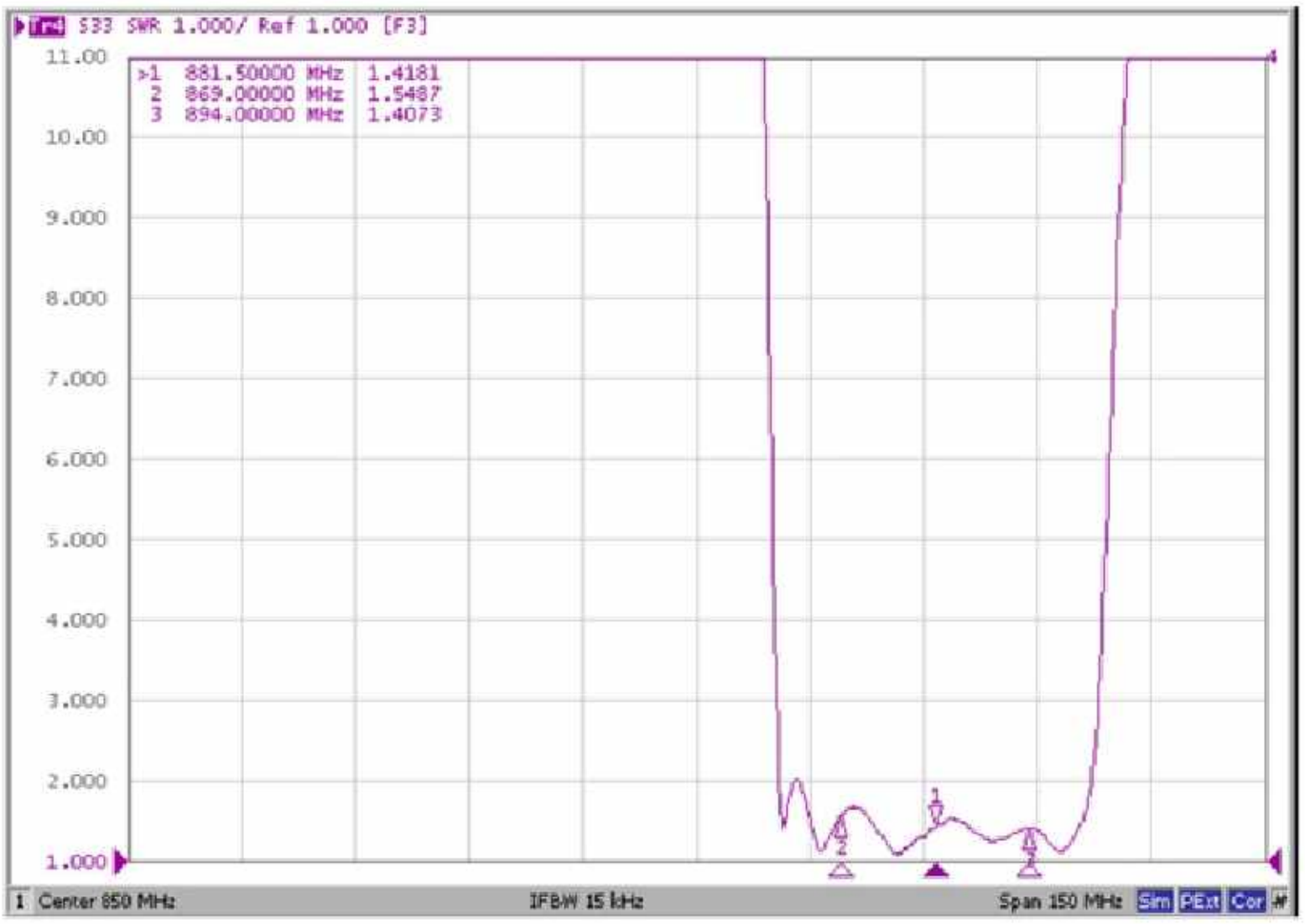
VSWR (Tx Port)



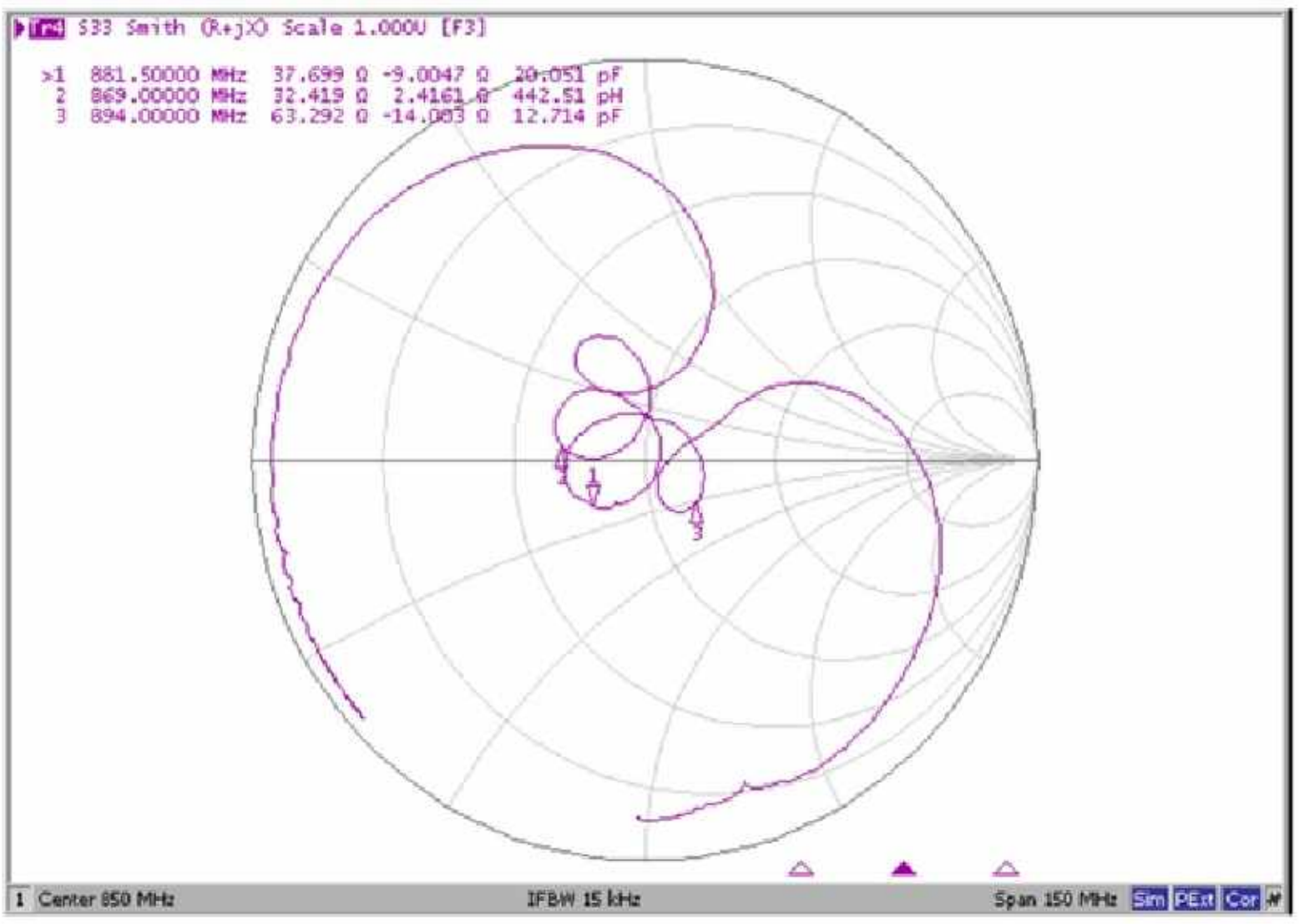
Smith Chart (Tx Port)



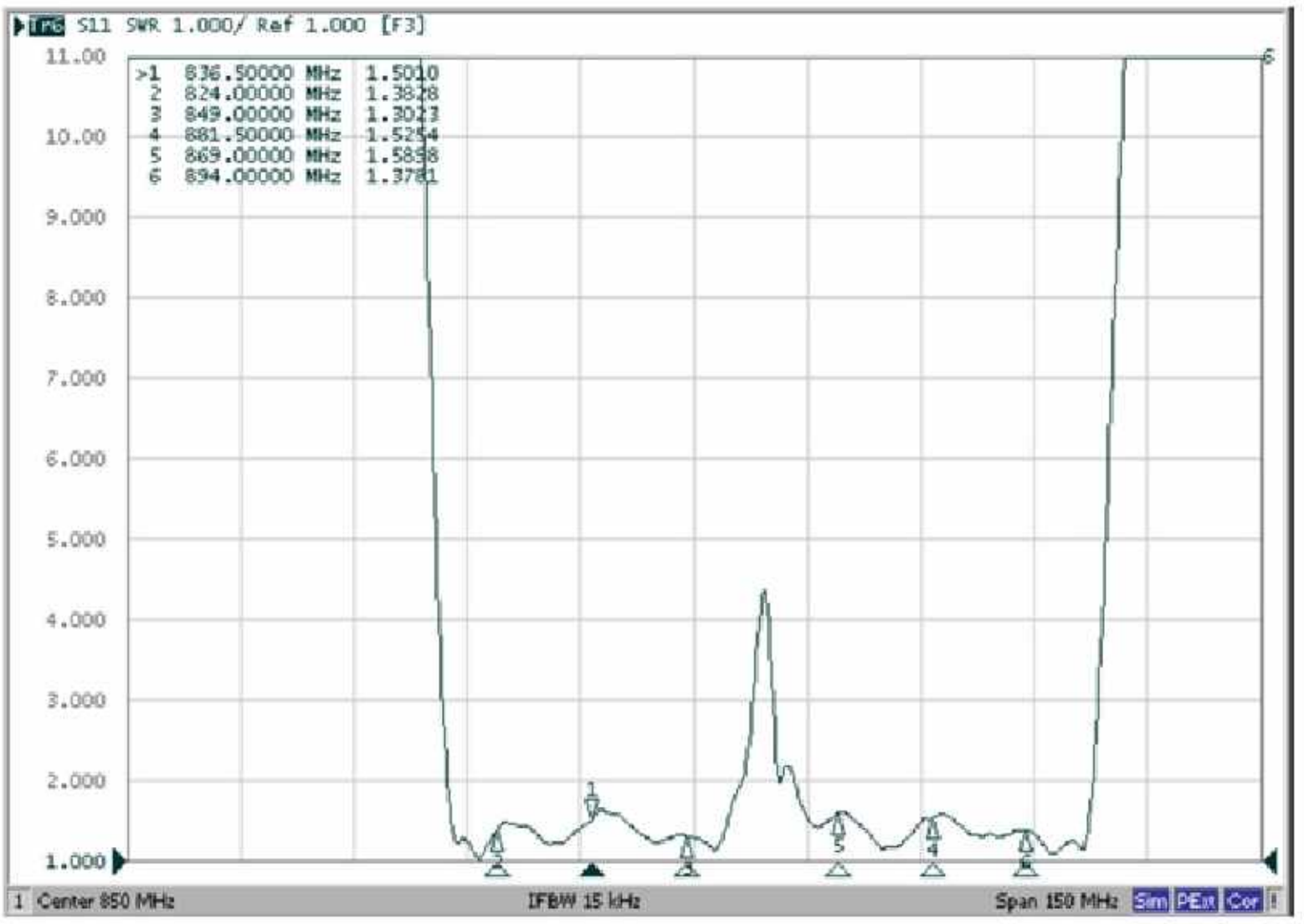
VSWR (Rx Port)



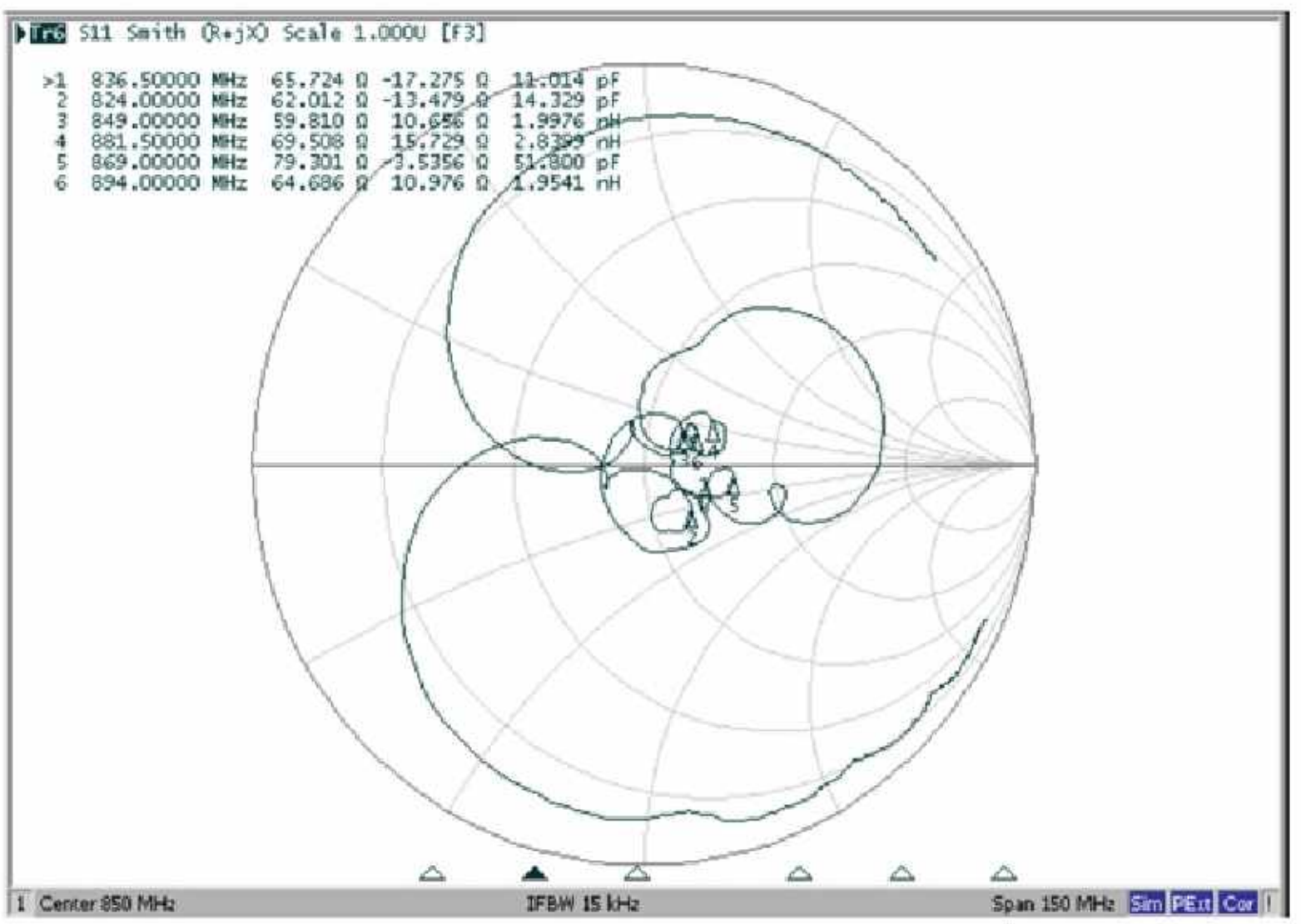
Smith Chart (Rx Port)



VSWR (ANT Port)

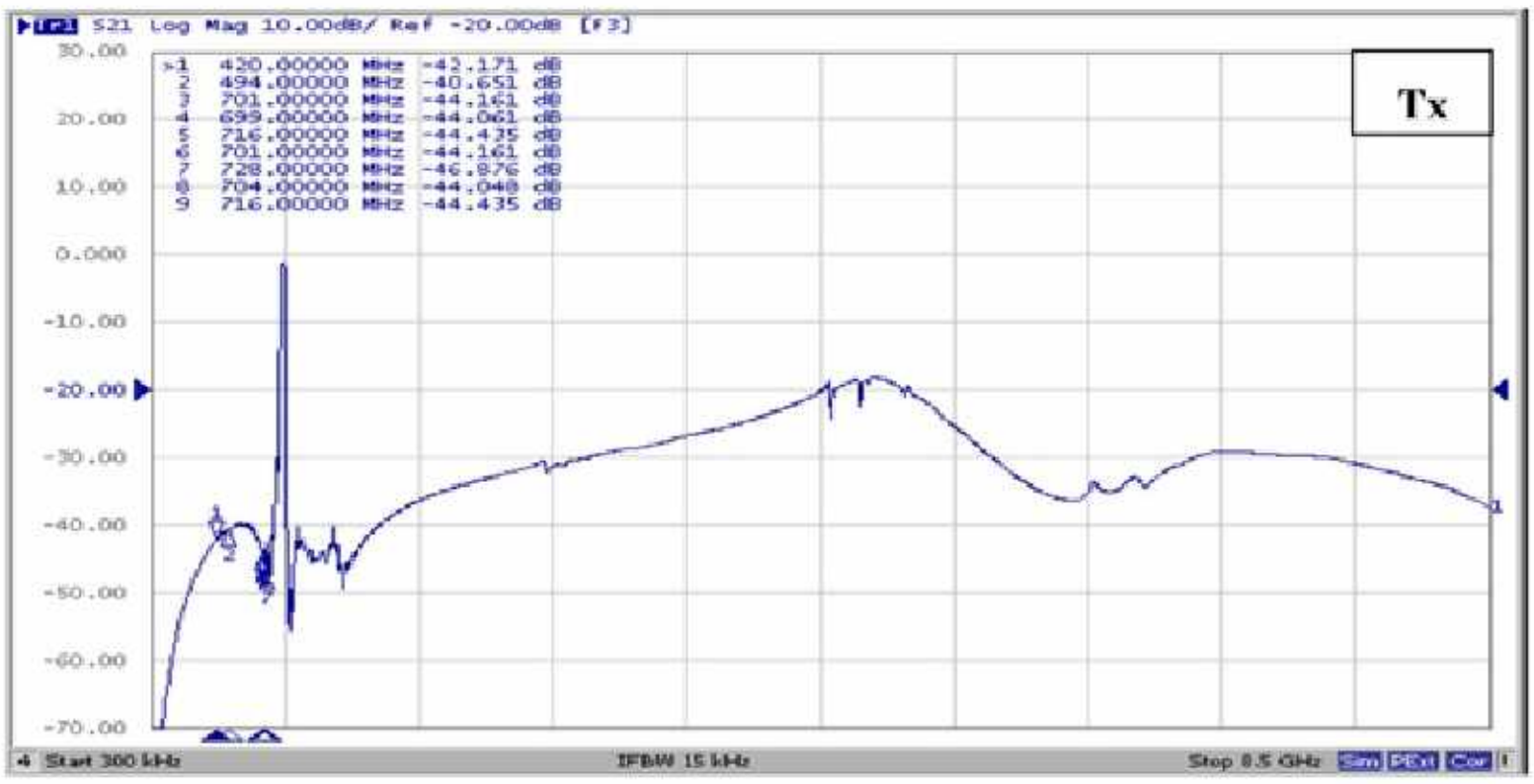


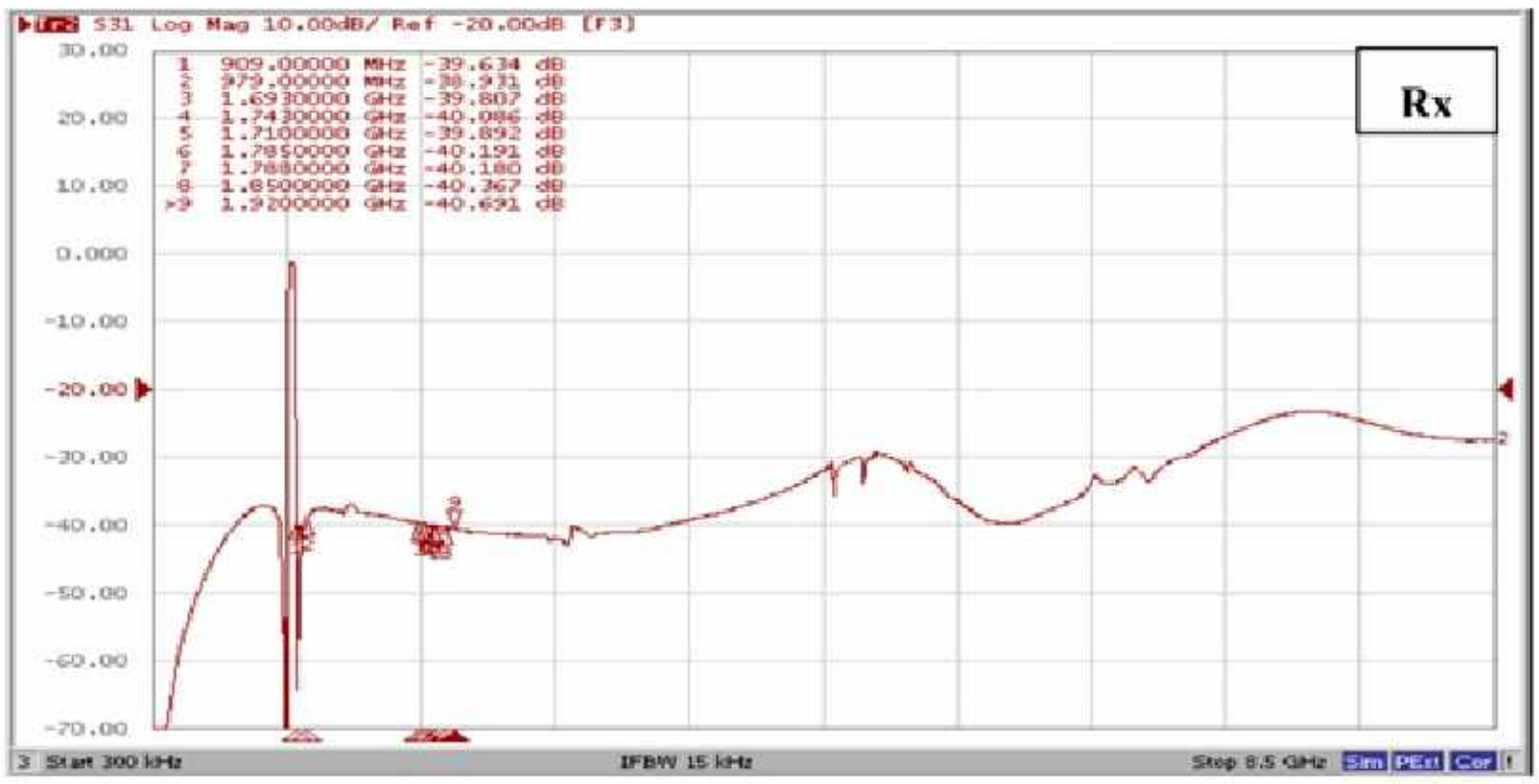
Smith Chart (ANT Port)

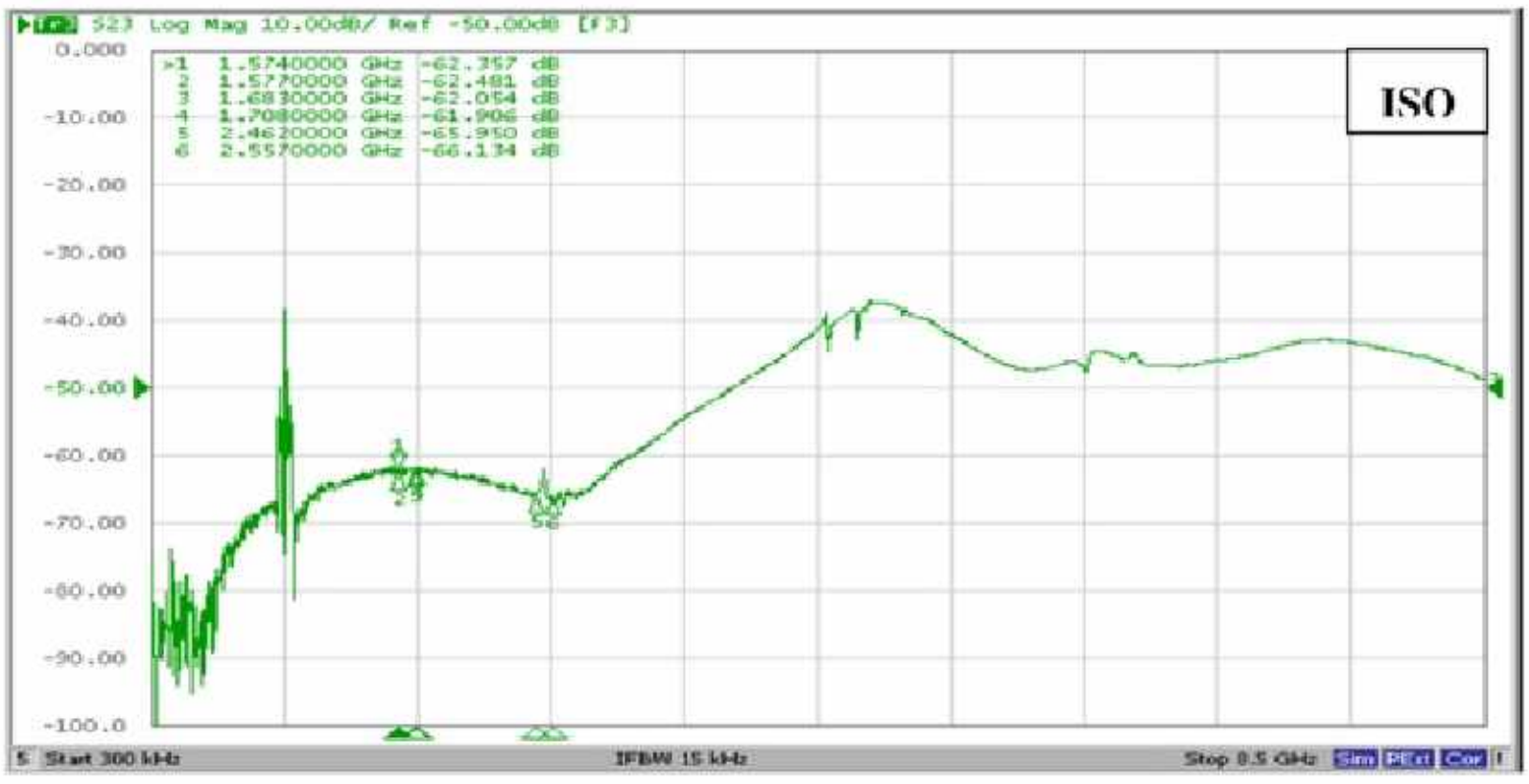


Wide Span

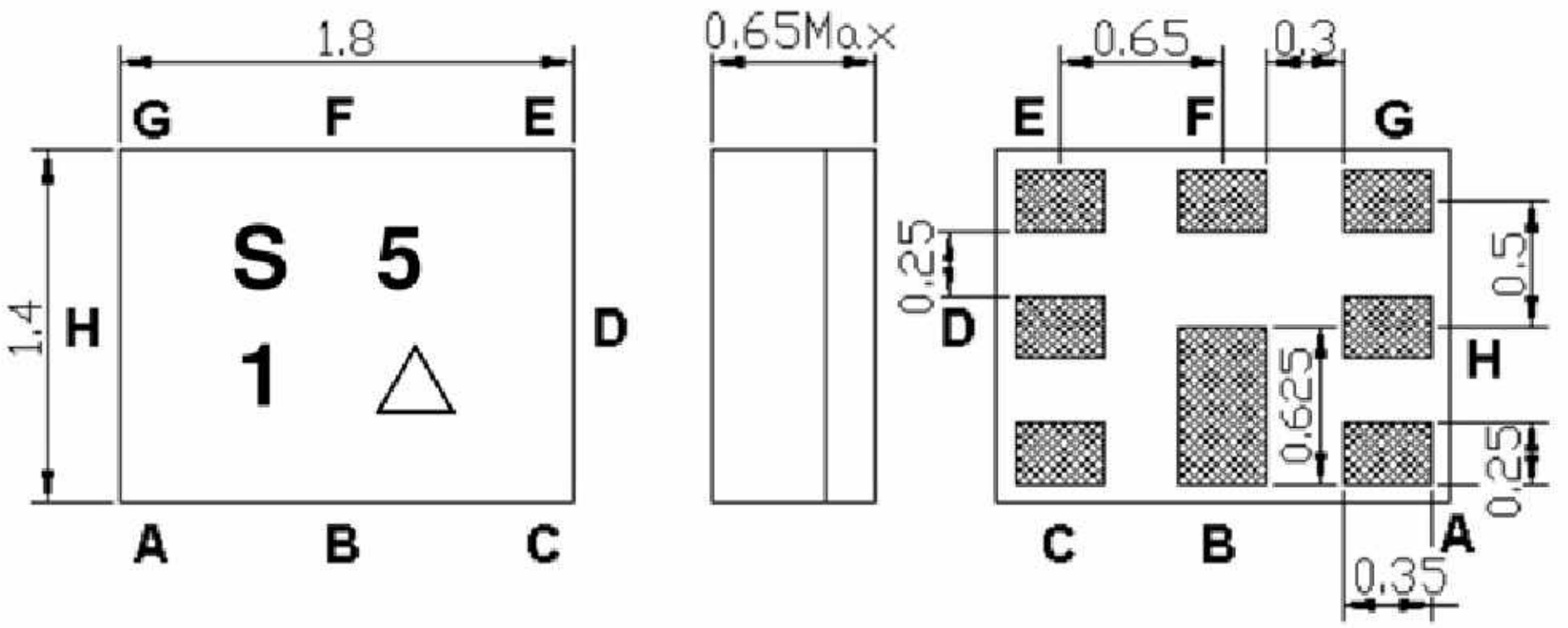
Wide Span







D.OUTLINE DRAWIN:



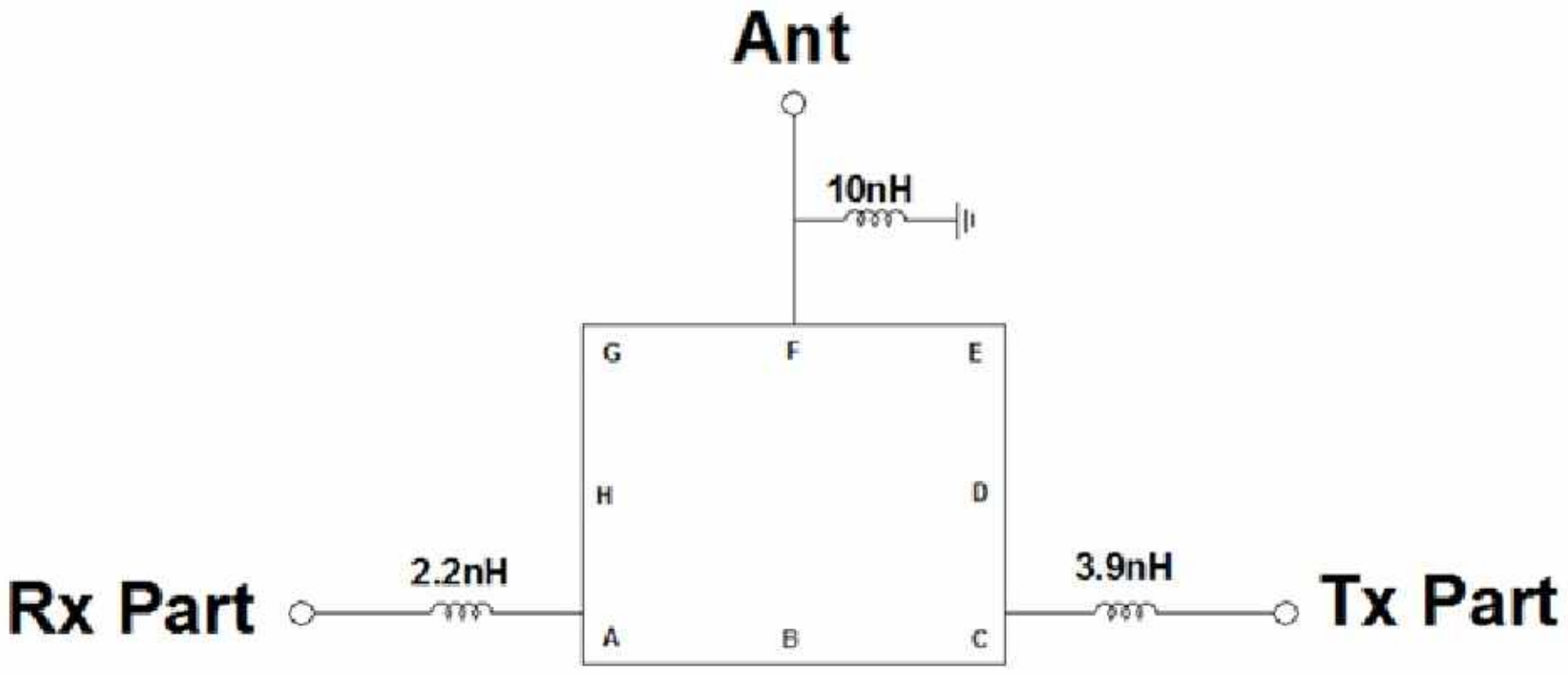
Marking Descriptions	
S	Marking name
5	Band Class
1	Series Number
△	Date Code(Year+Month)

Pin Description	
B,D,E,G,H	Ground
F	Ant
C	Tx (836.5MHz)
A	Rx (881.5MHz)

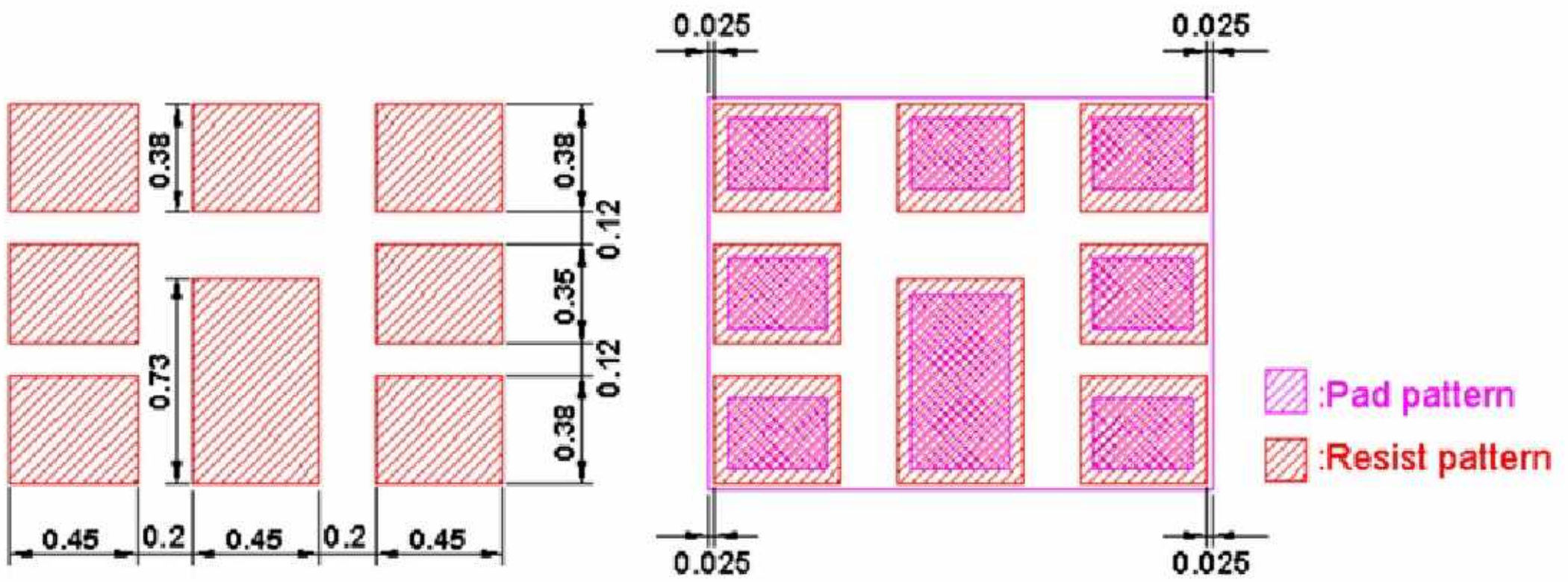
Date Code (year+month)

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	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

E.Evaluation Circuit



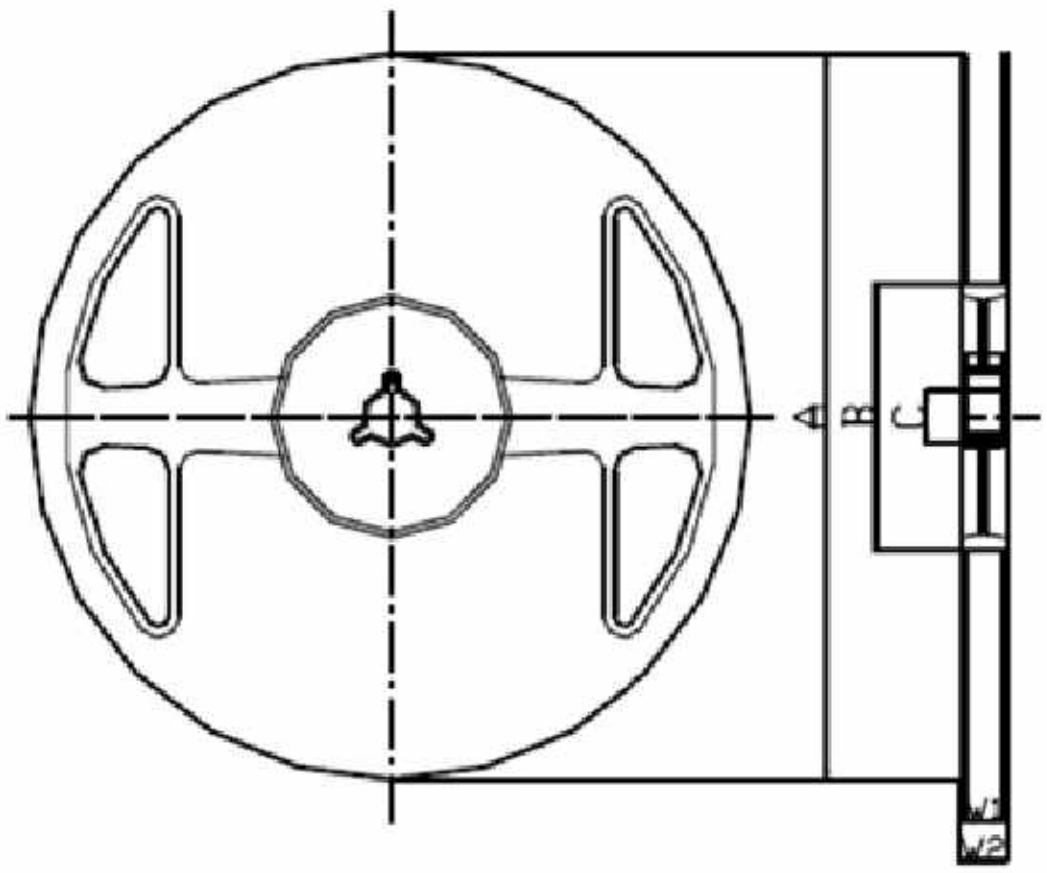
F. FOOTPRINT:



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

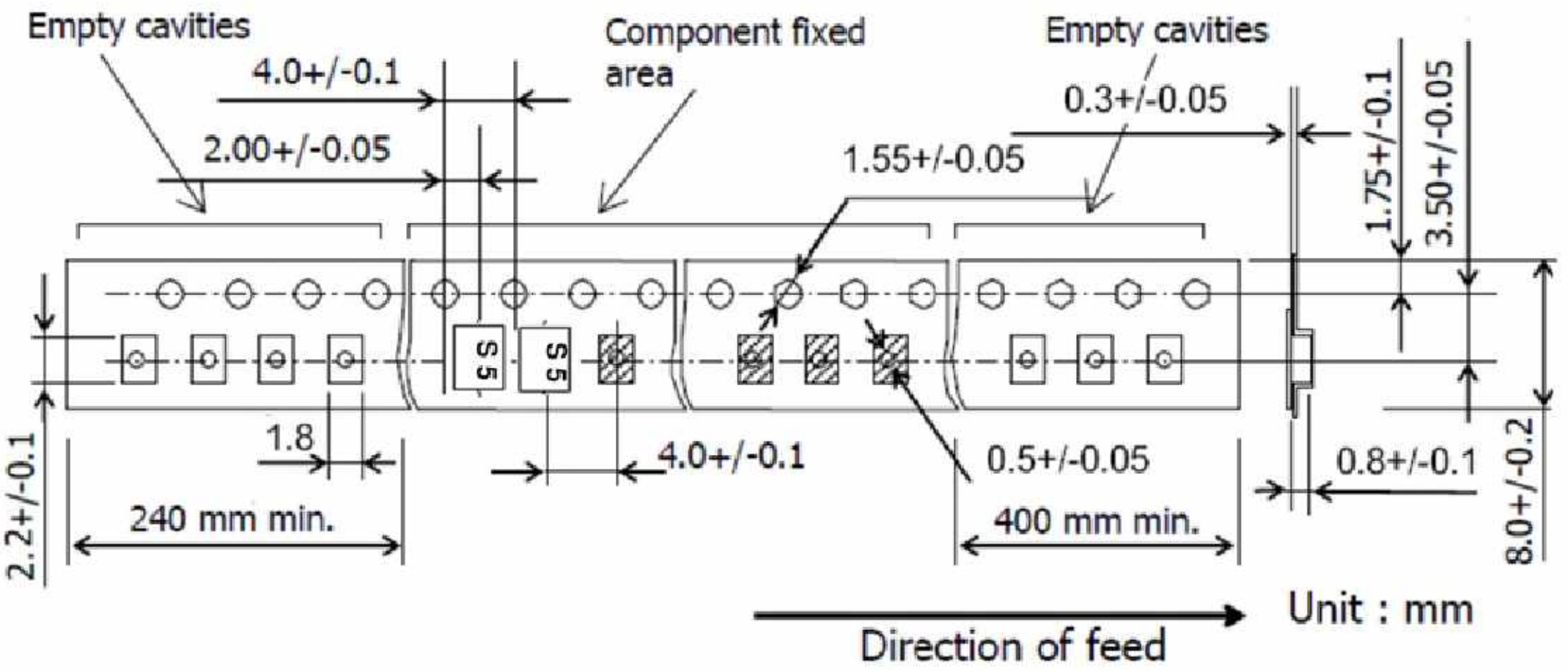
Color : Black

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

Unit : mm

Code	Quantity	A	B	C	W1	W2
Z	3,000 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. RECOMMENDED REFLOW PROFILE :

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 245~260℃ peak (min. 10sec).
4. Time : 2 times.