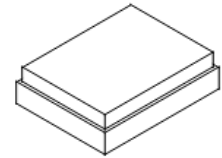


**SF2592NM**

**897.5/942.5 MHz  
Filter Duplexer**



SM1814

**MAXIMUM RATING:**

- Operating temperature range: -30 °C to +85 °C
- Storage temperature range: -30 °C to +85 °C
- Input power : 29dB (Ta=+50°C,10000h,WCDMA modulation )
- Maximum DC Voltage: +/-3 V
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 100V(MM) 200V(HBM)

**ELECTRICAL CHARACTERISTICS:**

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

Terminating impedance (Rx Port): 100 Ω (Differential)

Terminating impedance (Ant Port): 50//7.5nH Ω (Q=∞) (Single-ended)

**Tx to ANT (f<sub>T0</sub>=897.5 MHz)**

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	882.4~912.6MHz	dB(*1)	-	1.5	2.4(*2)	
	880~915MHz	dB(*1)		1.9	3.4	
Amplitude ripple	882.4~912.6MHz	dB	-	0.6	1.9	
	880~915MHz	v		1.0	2.9	
VSWR	ANT		-	2.0	2.6	
	Tx		-	1.8	2.4	
<b>Attenuation:</b>						
<b>927.4~957.6 MHz</b>		dB	42(*2)	47	-	
<b>1573.3~1605.9 MHz</b>		dB	40	45	-	
<b>1760~1830 MHz</b>		dB	40	45	-	
<b>2640~2745 MHz</b>		dB	25	32	-	



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

**ANT to Rx (f<sub>T0</sub>=942.5 MHz)**

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	927.4~957.6 MHz	dB(*1)	-	1.9	2.4(*2)	
	925~960 MHz	dB(*1)		2.1	3.1	
Amplitude ripple	927.4~957.6 MHz	dB	-	0.7	1.6	
	925~960 MHz	dB		0.9	2.3	
Amplitude balance	925~960 MHz	dB	-0.7	-0.1/+0.3	+0.7	
Phase balance	925~960 MHz	dB	-7	-1/+3	+7	
VSWR	ANT		-	1.9	2.3	
	Rx	925~960 MHz	-	2.0	2.4	

**Attenuation:**

<b>882.4~912.6 MHz</b>	dB	48 (*2)	54	-	
<b>2400~2500 MHz</b>	dB	40	49	-	

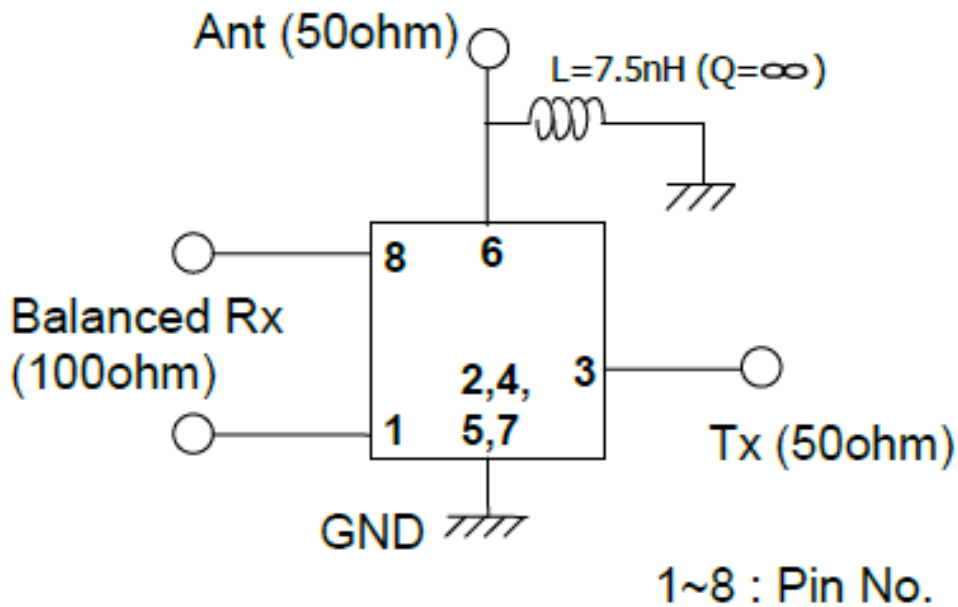
**Tx to Rx**

Isolation	882.4~912.6MHz	dB	52(*2)	56	-	
	927.4~957.6 MHz	dB	47 (*2)	51	-	

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

(\*2) Integrated over +/-1.92MHz around the WCDMA channel center frequency

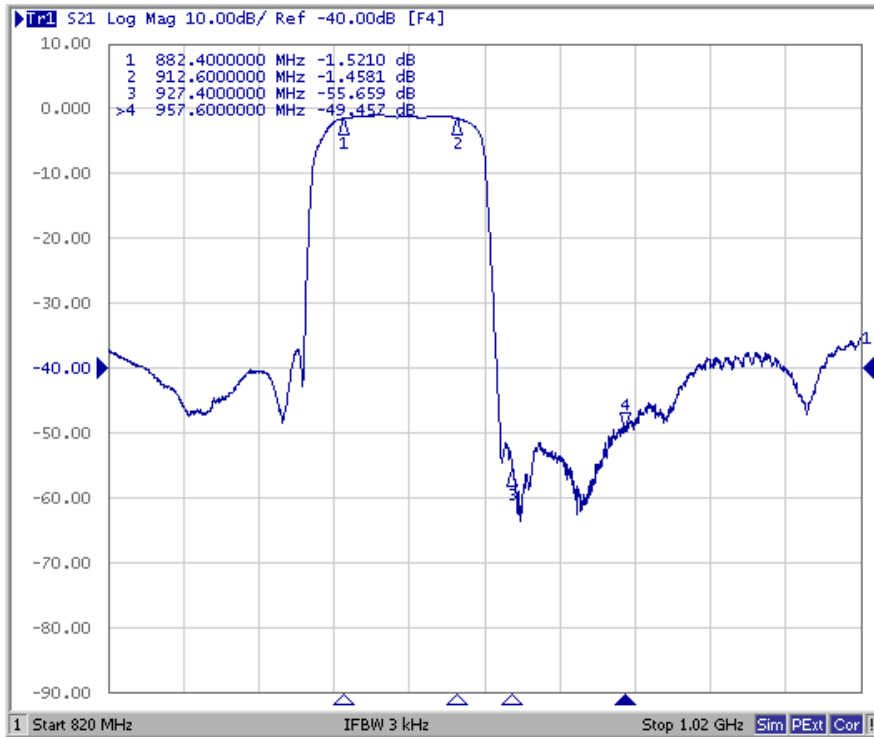
**Evaluation Circuit**



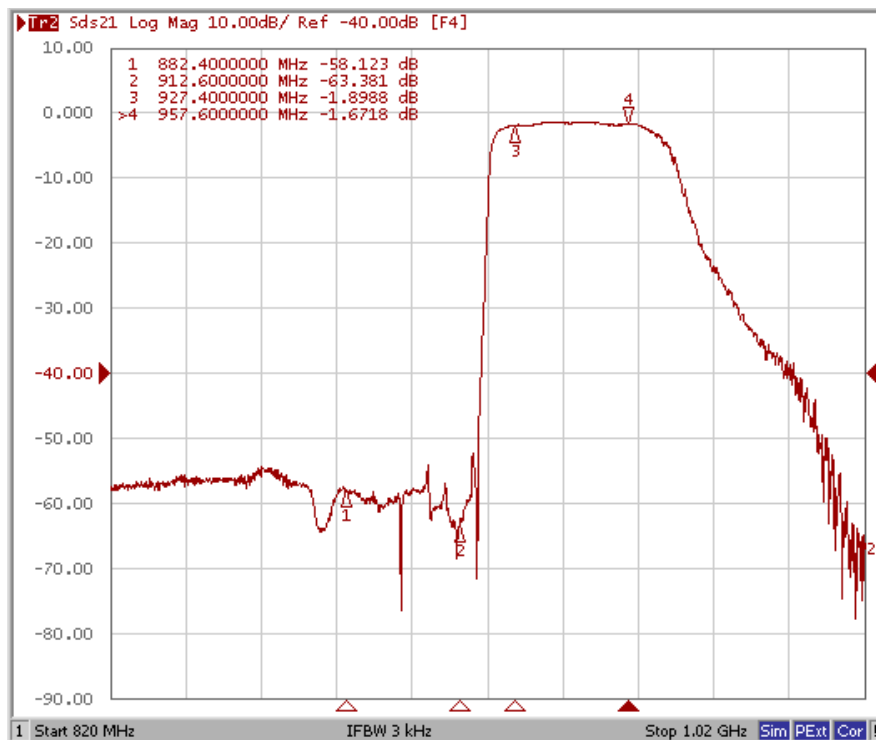
**Figure 2. Evaluation Circuit**

## FREQUENCY CHARACTERISTICS:

### Tx to Ant

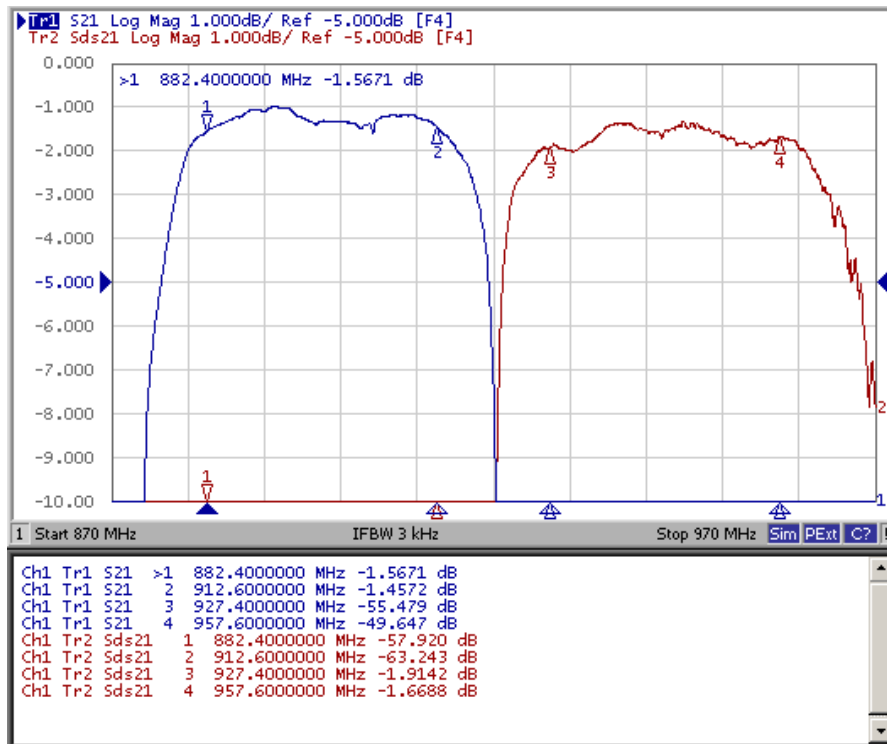


### Ant to Rx

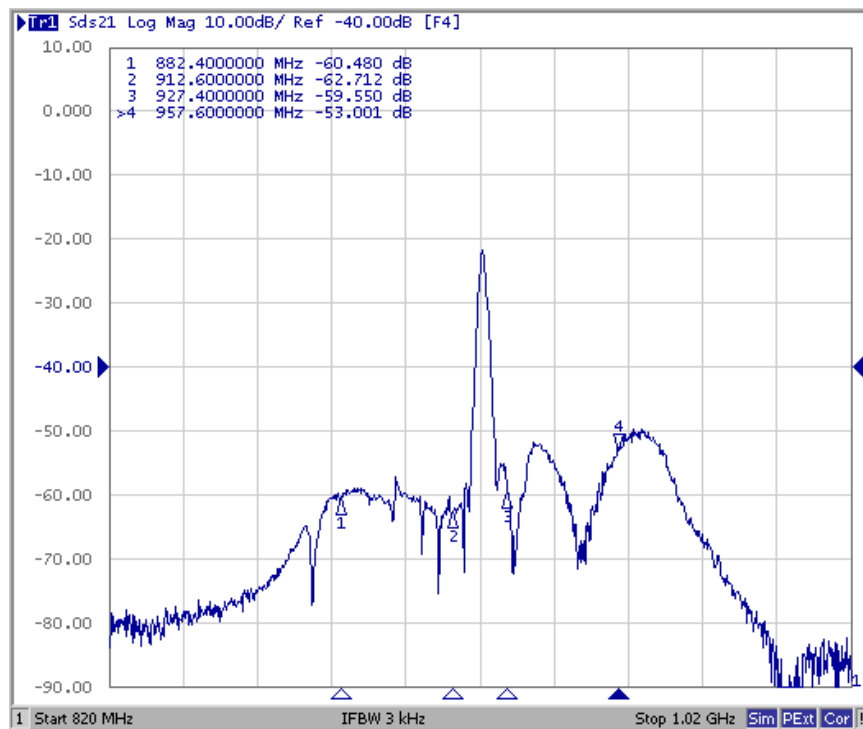


These data **exclude** loss that comes from the test board.

## Tx to Ant ,Ant to Rx

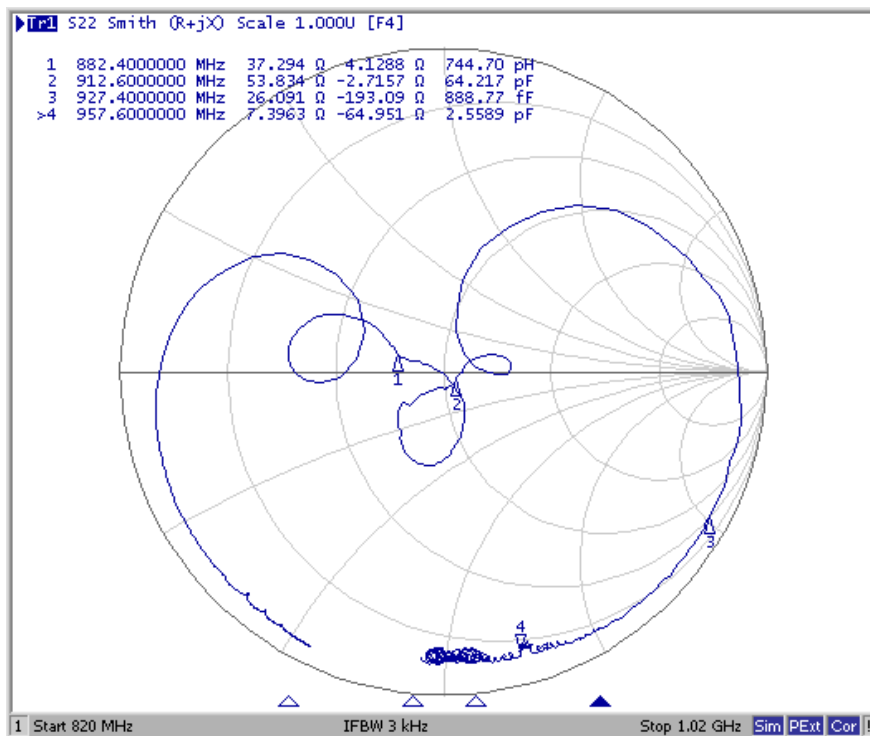
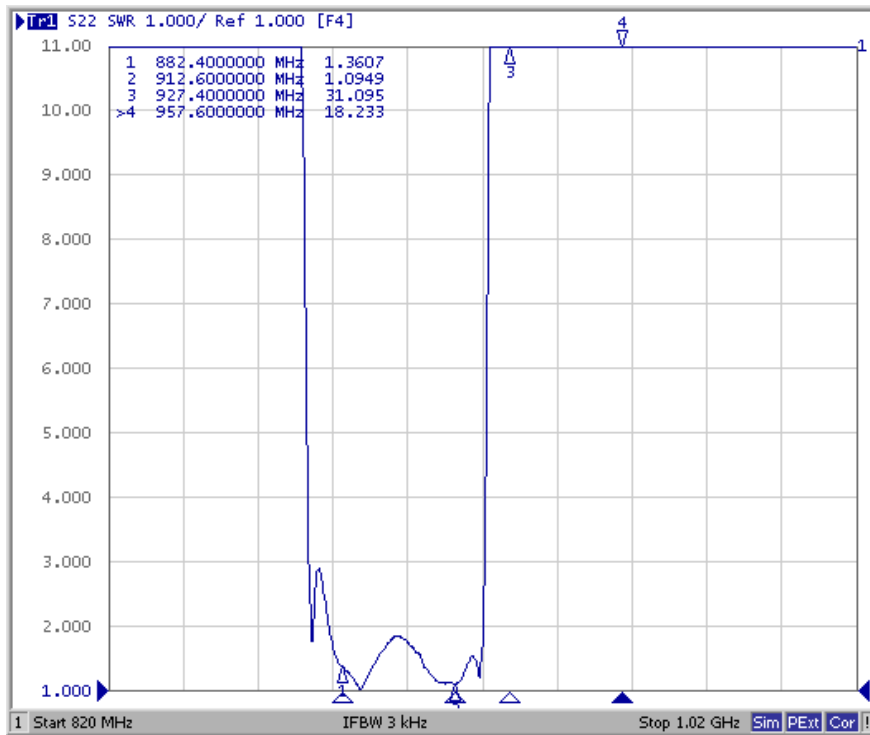


## Tx to Rx Isolation

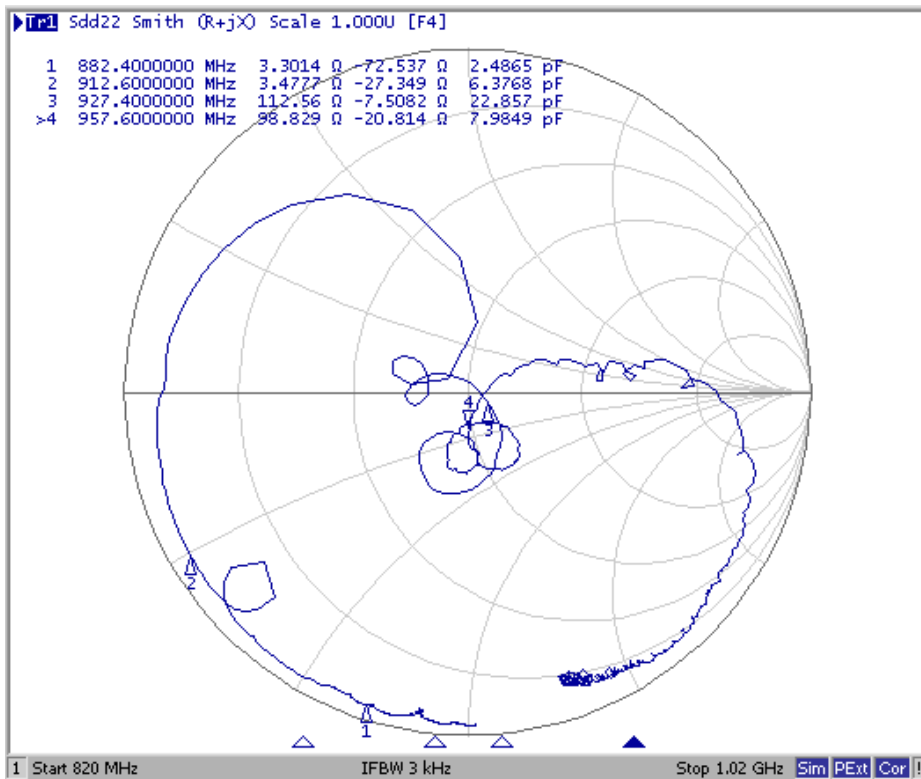
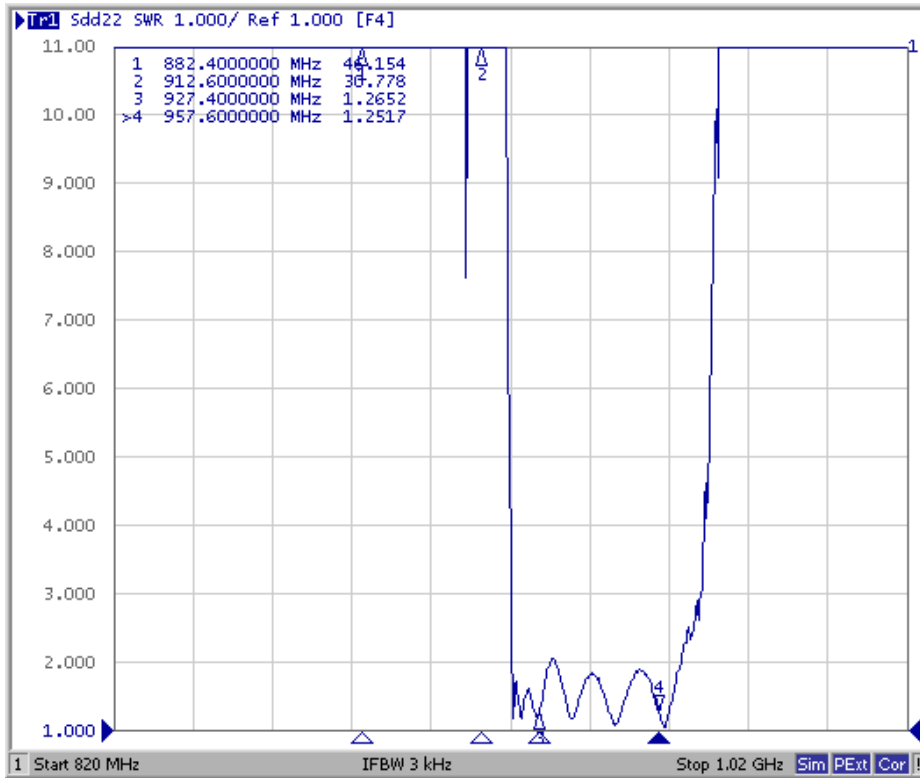


These data **exclude** loss that comes from the test board

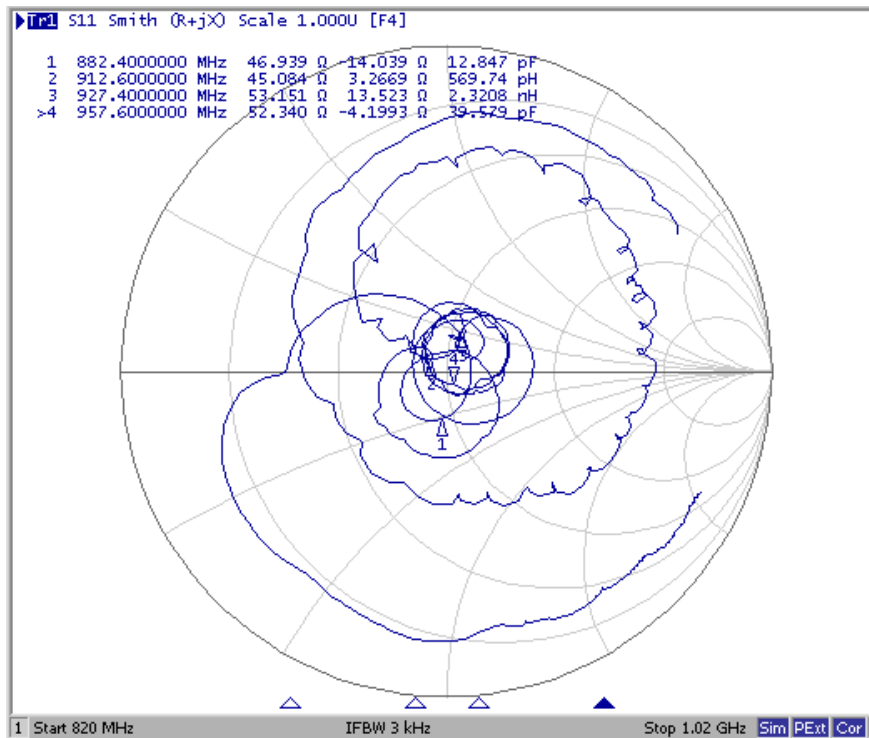
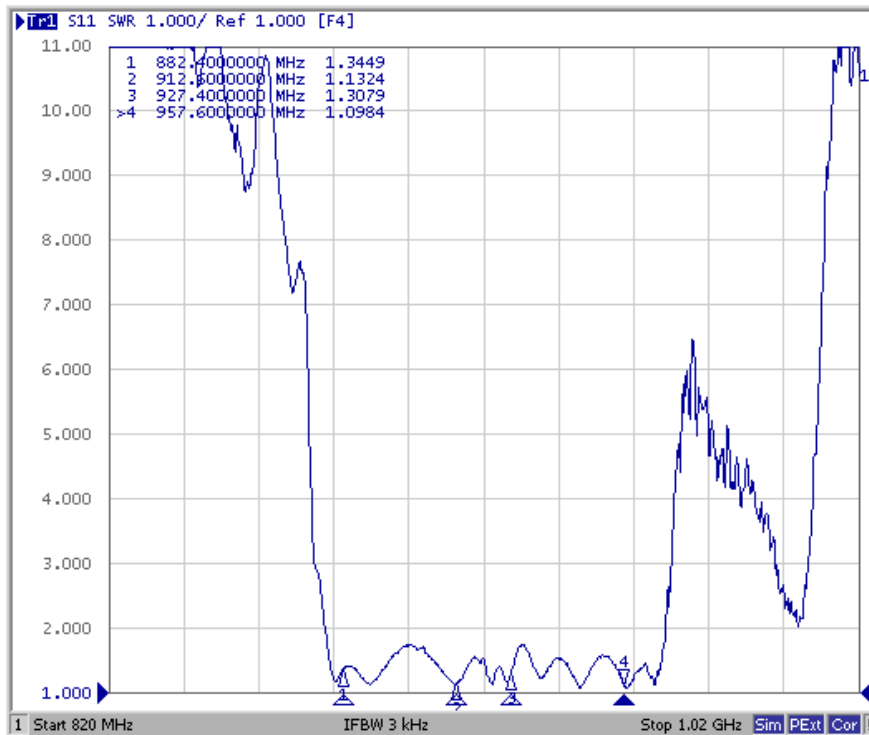
# Tx Port



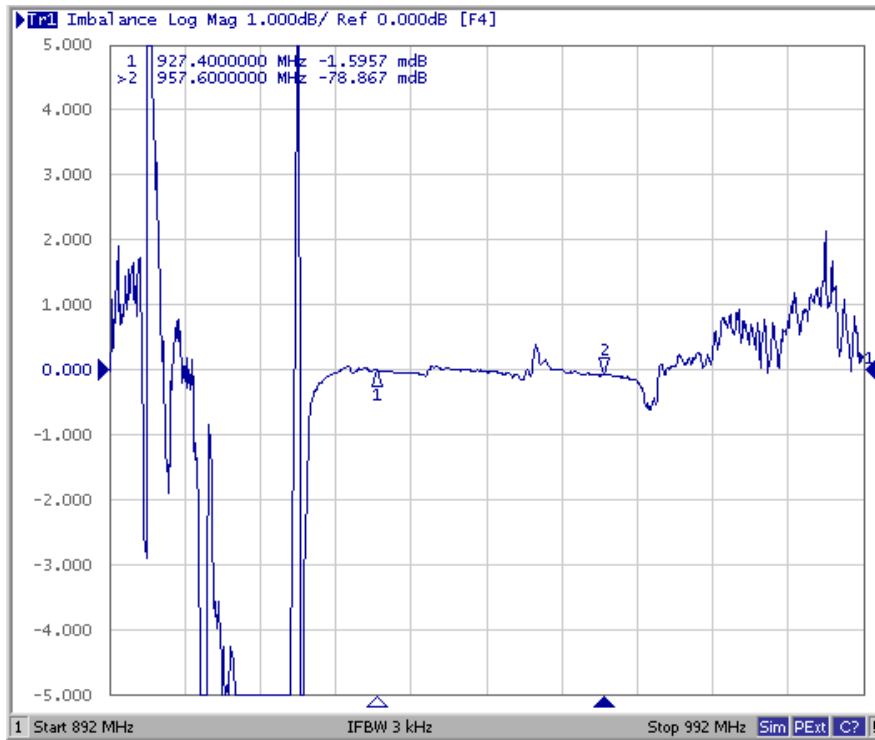
# Rx Port



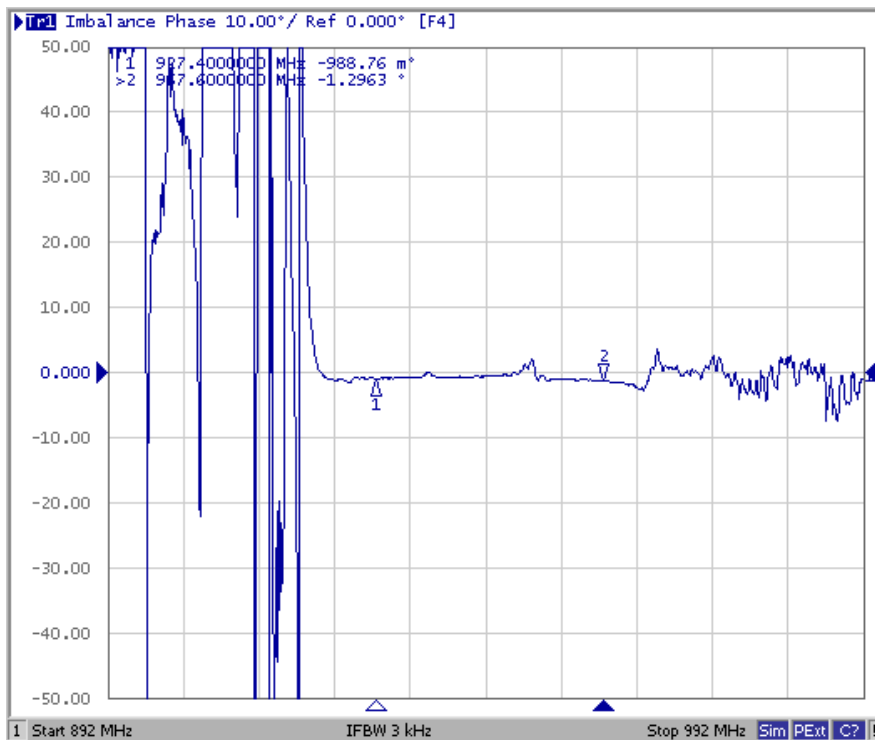
# Ant Port



## Ant to Rx (Amplitude balance)

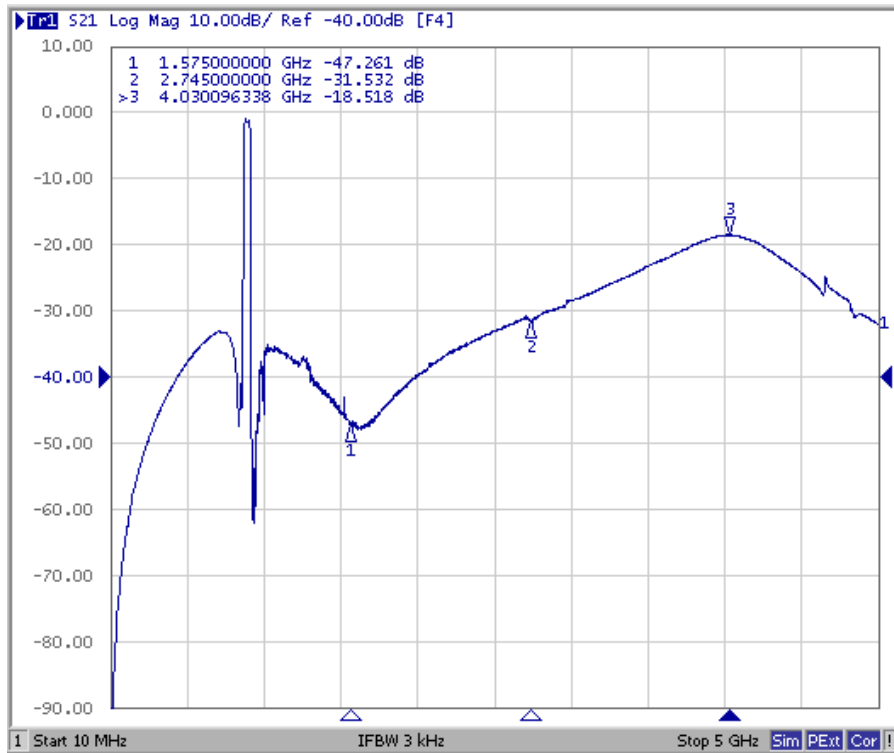


## Ant to Rx (Phase balance)

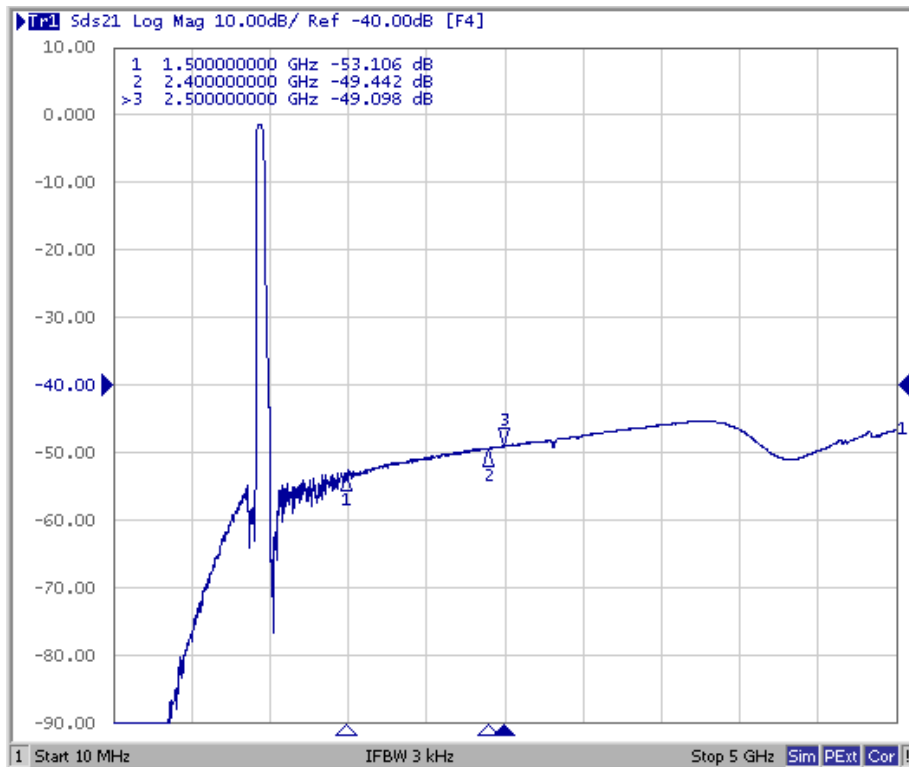




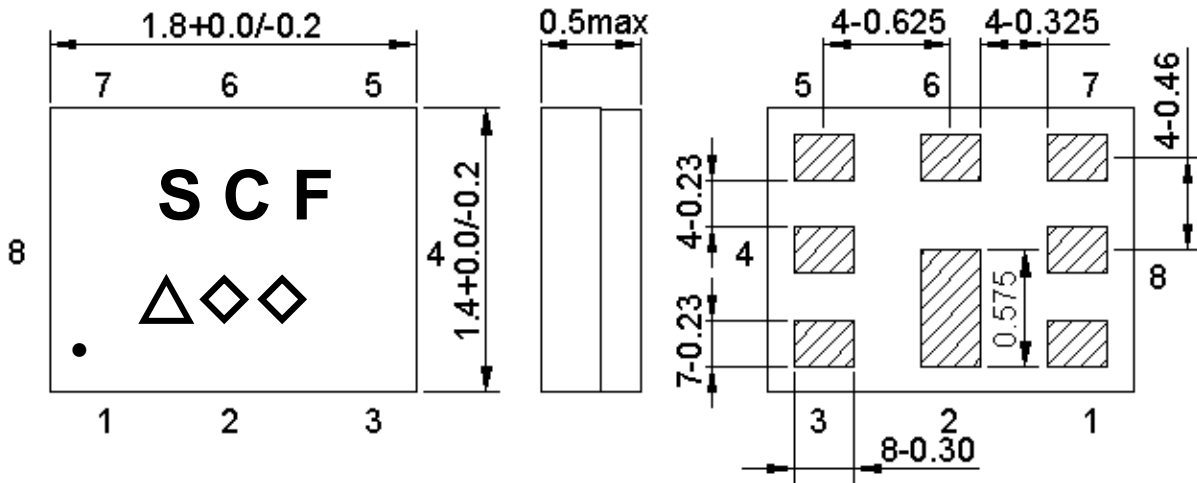
## Tx to Ant (Wide span)



## Ant to Rx (Wide span)



**OUTLINE DRAWING:  
(Mass Production)**



Marking name : SCF

△: Date code( 2016 May → s ,....., 2019 Dec→m.)

◇◇: Lot Code.

Product Date Code. Follow below table.

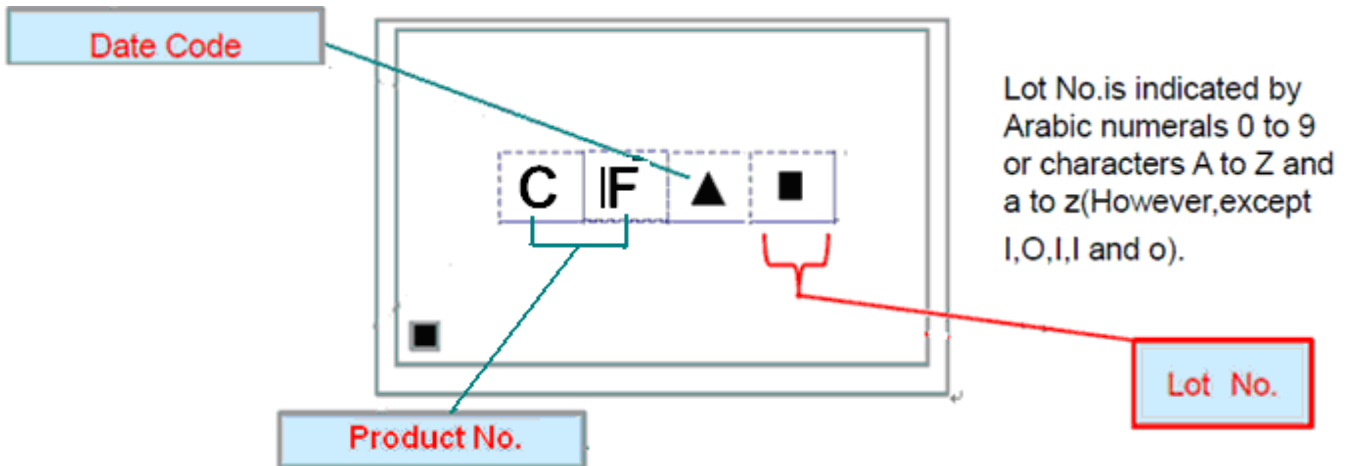
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

**Pin Configuration**

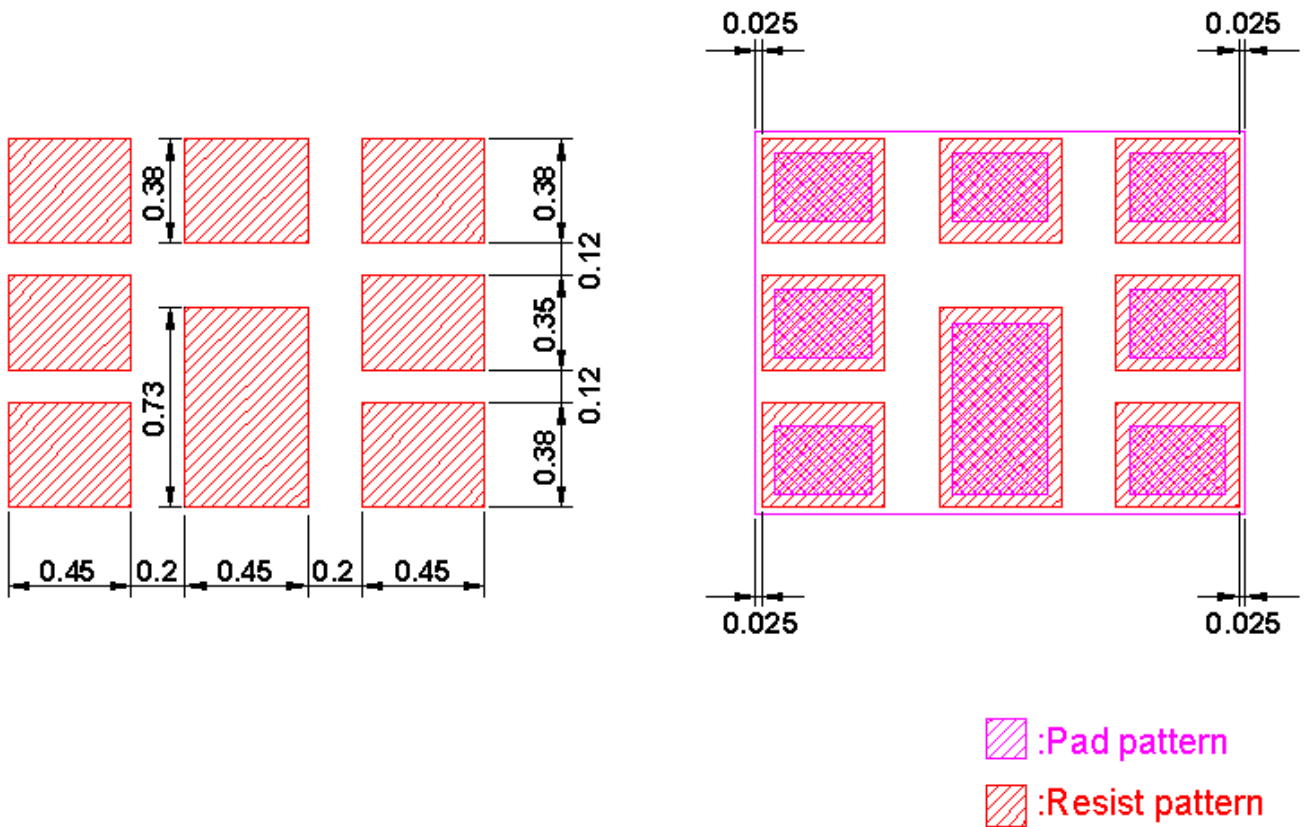
Pin No.	Pin name	Description
1	Rx	Receiver Pin (balanced)
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	Rx	Receiver Pin (balanced)

**Figure 1. Dimensions and Pin assignment**

**Top View (Sample Production):**



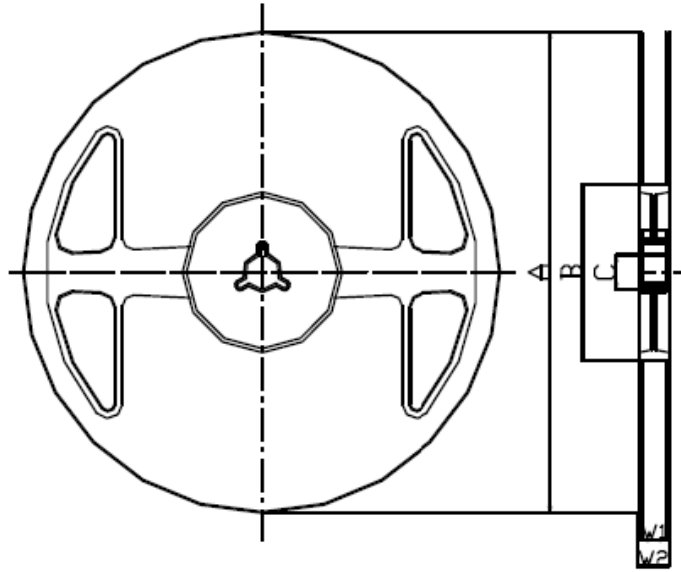
**FOOTPRINT:**



**PACKING:**

**REEL DIMENSION**

Reel Count"  
 7" = 3000  
 13" = 10,000



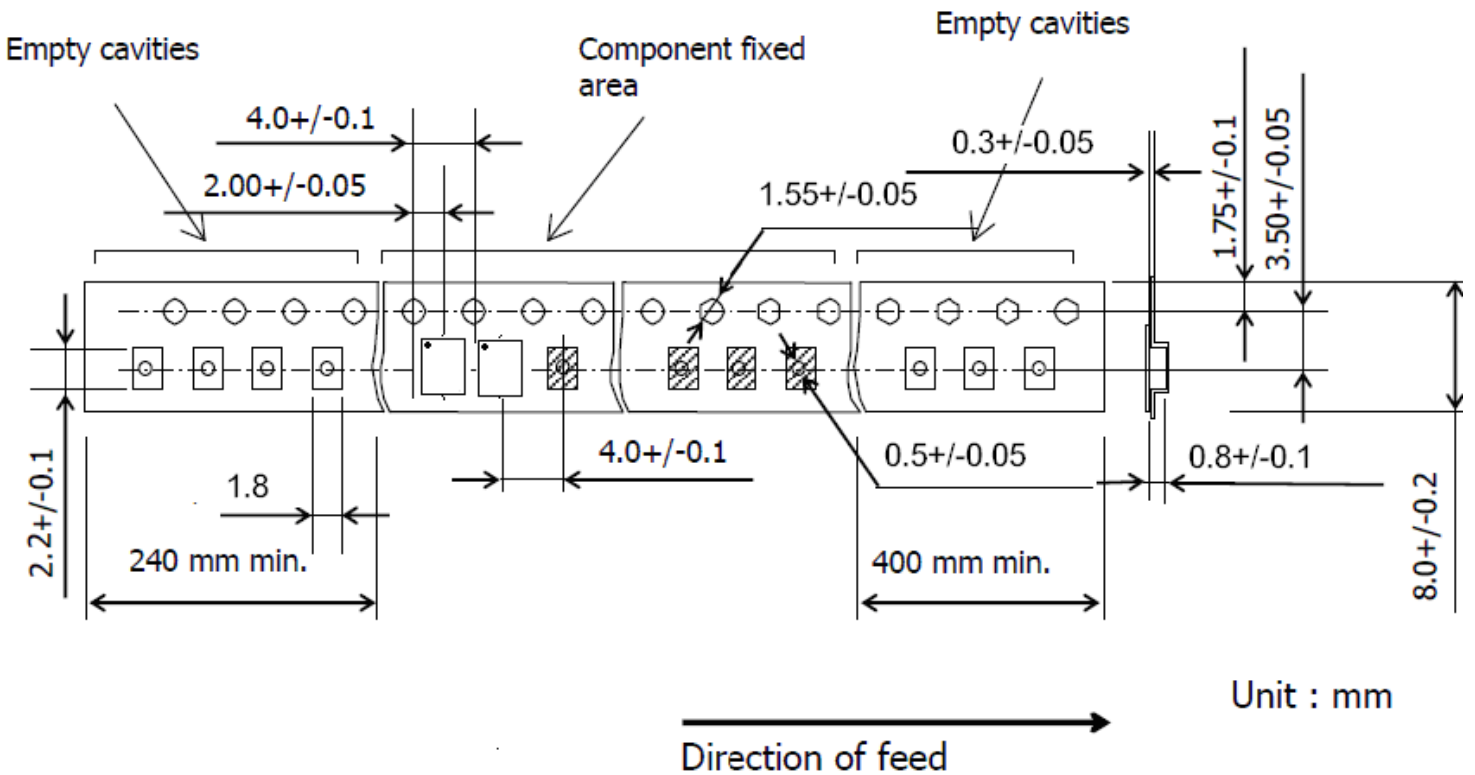
**Materials of Reel**

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	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/-0.5$	$\phi 13.0 +/-0.2$	$9.0 +1.0/-0.0$	$11.4 +/-1.0$

**TAPE DIMENSION**



Unit : mm

## 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 245~260°C peak (min. 10sec).
4. Time : 2 times.

