

SAW DPX 897.5/942.5 MHz Band 8 SMD 1.8X1.4 mm (BW=30.2 MHz)

MODEL NO.:TF0130C

REV.1.0

A. MAXIMUM RATING:

1. Operating temperature range: -40 °C to +85 °C
2. Storage temperature range: -40 °C to +85 °C
3. Input power : 29dB (Ta=+50 °C,10000h,WCDMA modulation)
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)



Electrostatic Sensitive Device (ESD)

B. 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_{T0}=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	3.8	
Amplitude ripple	882.4~912.6MHz	dB	-	0.6	1.9	
	880~915MHz	v		1.0	3.0	
VSWR	ANT 880~915MHz	-	-	2.0	2.8	
	Tx 880~915MHz	-	-	1.8	2.5	

Attenuation:

927.4~957.6 MHz	dB	42(*2)	47	-	
1573.3~1605.9 MHz	dB	40	45	-	
1760~1830 MHz	dB	40	45	-	
2640~2745 MHz	dB	25	32	-	

ANT to Rx ($f_{T0}=942.5$ MHz)

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	927.4~957.6 MHz	dB(*1)	-	1.9	3.0(*2)	
	925~960 MHz	dB(*1)		2.1	4.0	
Amplitude ripple	927.4~957.6 MHz	dB	-	0.7	1.8	
	925~960 MHz	dB		0.9	2.7	
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	2.7	
	Rx	925~960 MHz	-	2.0	2.8	
Attenuation:						
882.4~912.6 MHz		dB	44 (*2)	54	-	
2400~2500 MHz		dB	38	49	-	

Tx to Rx

Isolation	882.4~912.6MHz	dB	50(*2)	56	-	
	927.4~957.6 MHz	dB	32 (*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

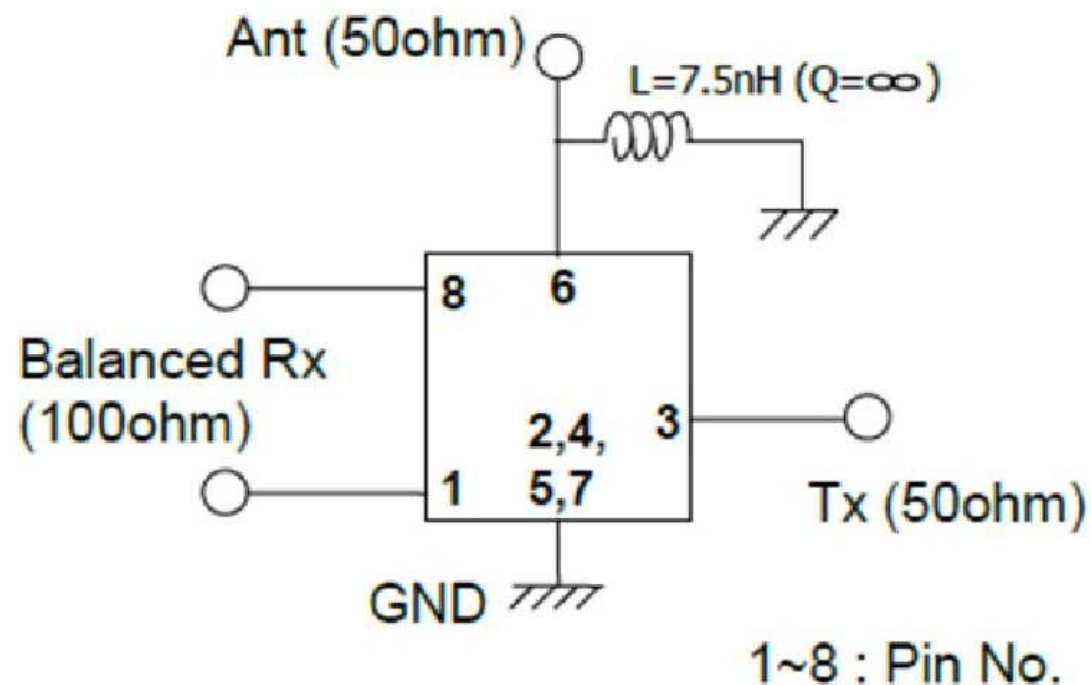
C.Evaluation Circuit

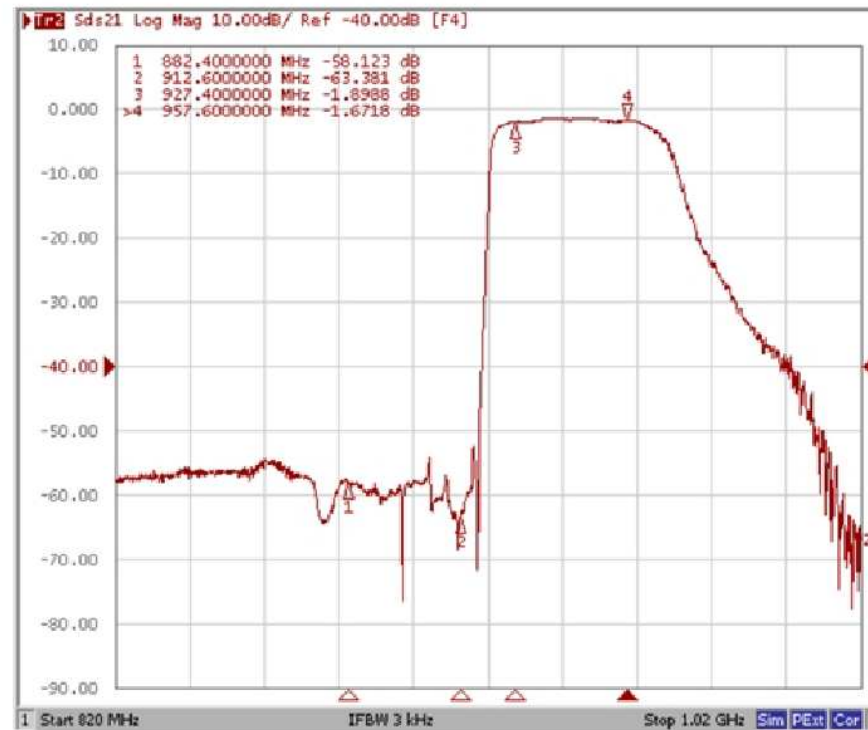
Figure 2. Evaluation Circuit

D. FREQUENCY CHARACTERISTICS:

Tx to Ant

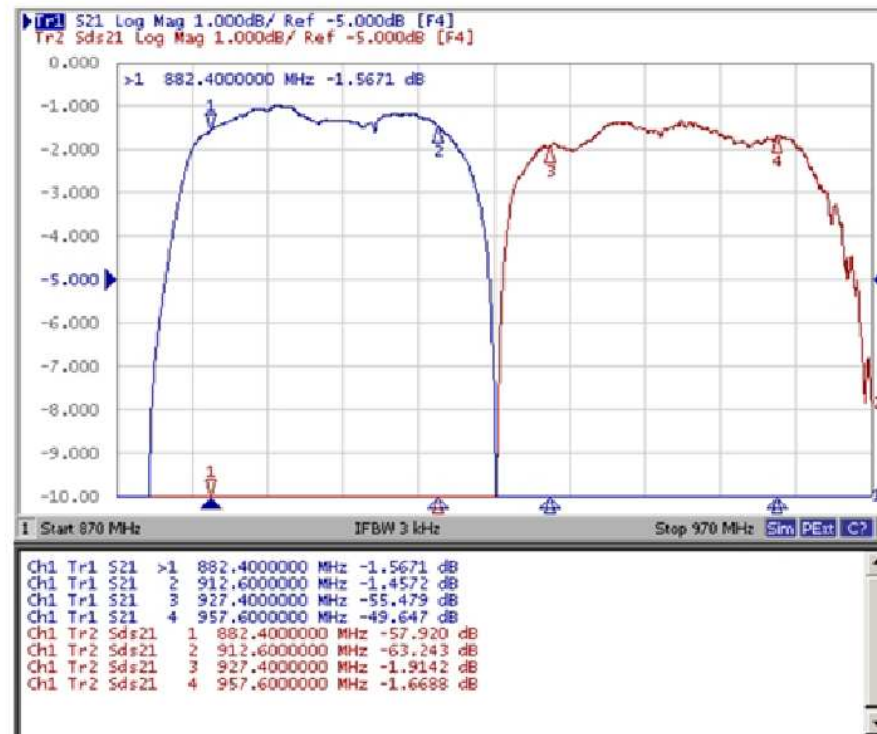


Ant to Rx

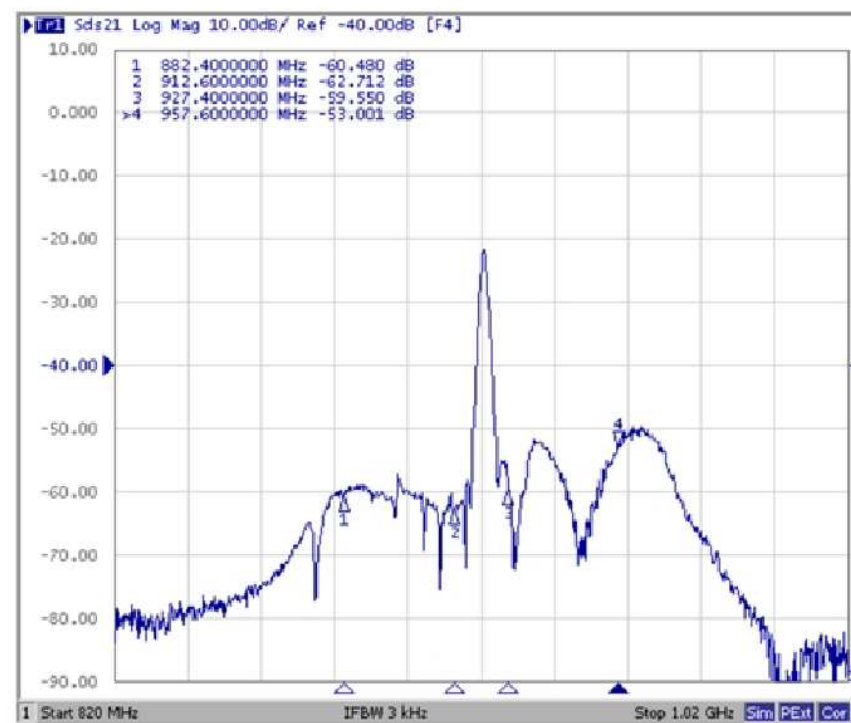


These data **exclude** loss that comes from the test board.

Tx to Ant ,Ant to Rx

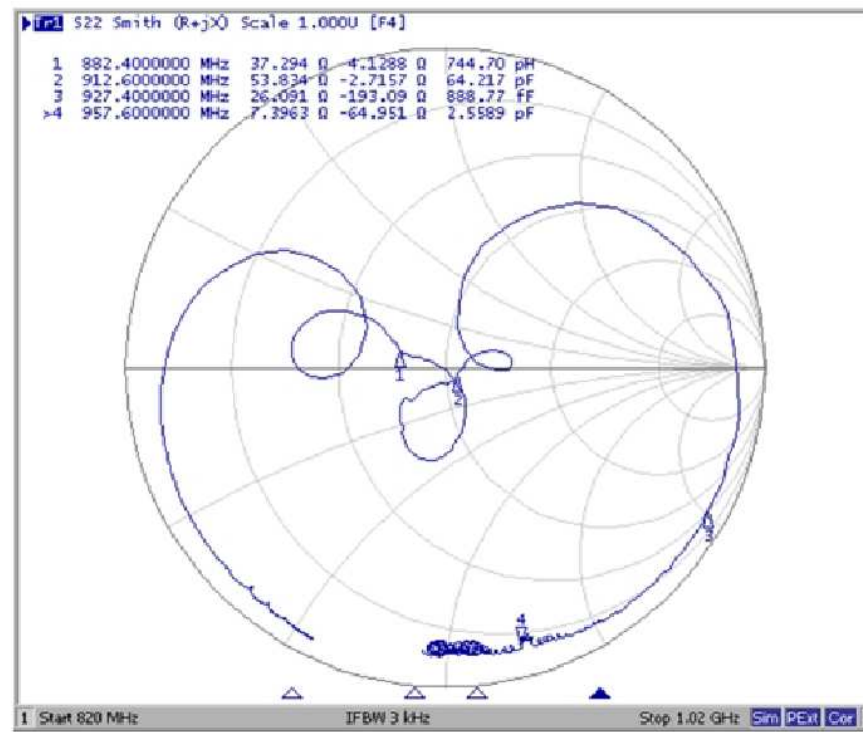
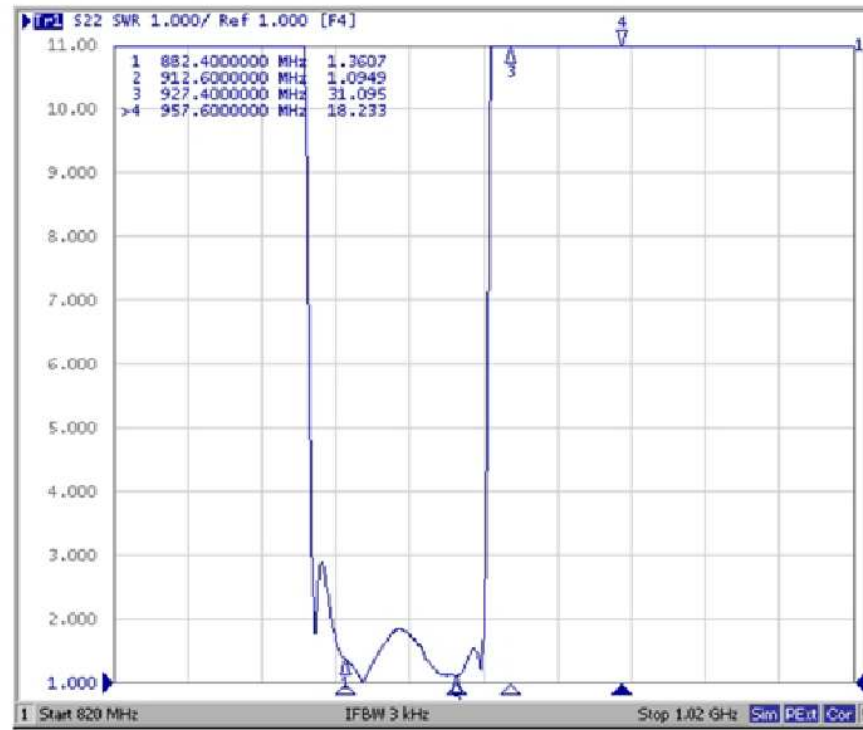


Tx to Rx Isolation

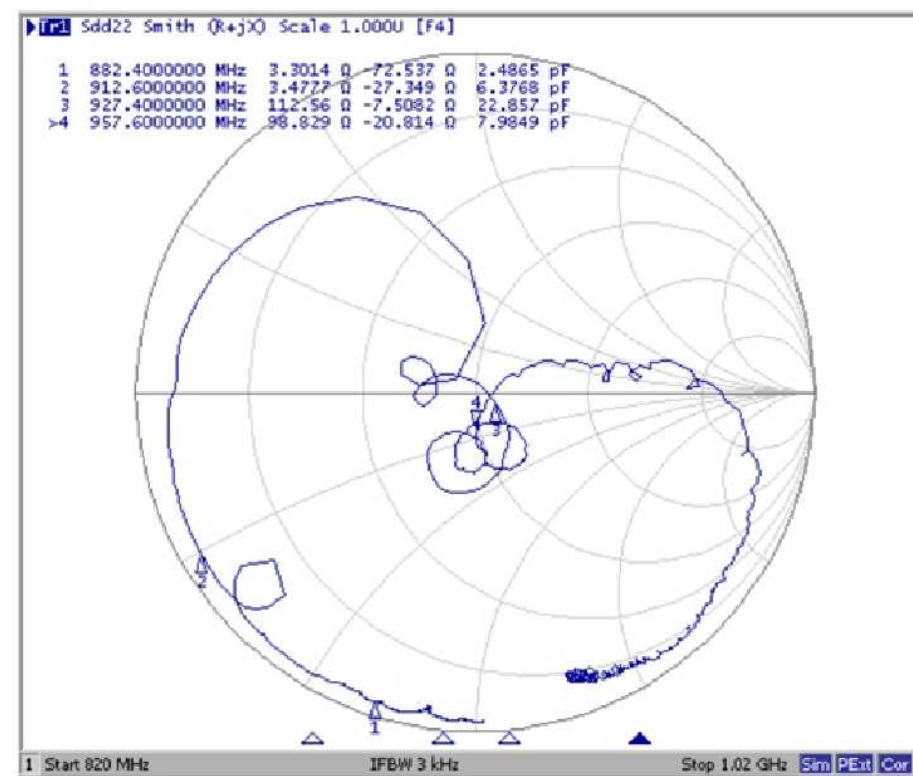


These data **exclude** loss that comes from the test board

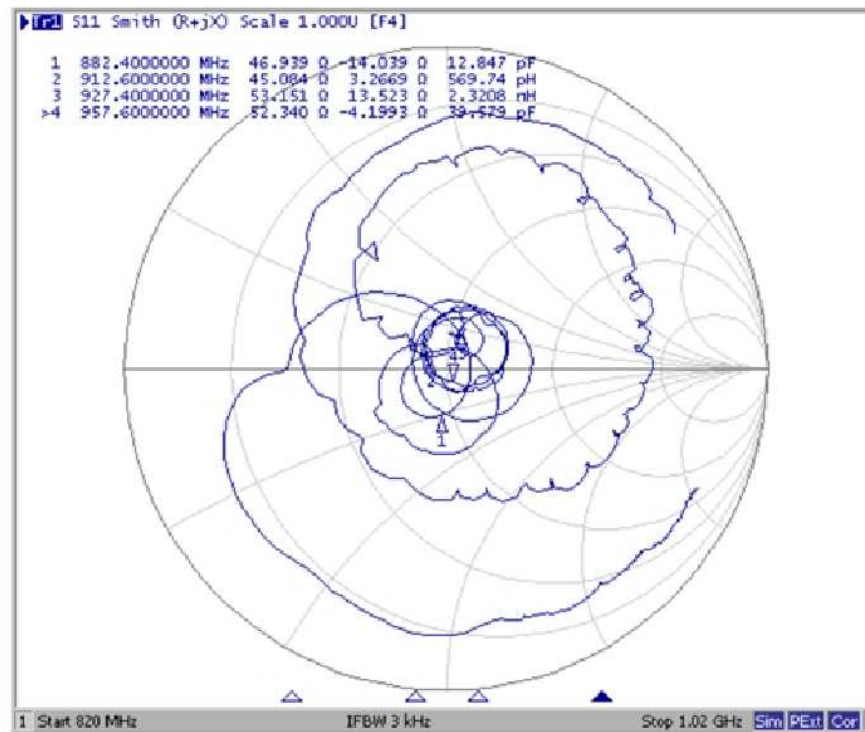
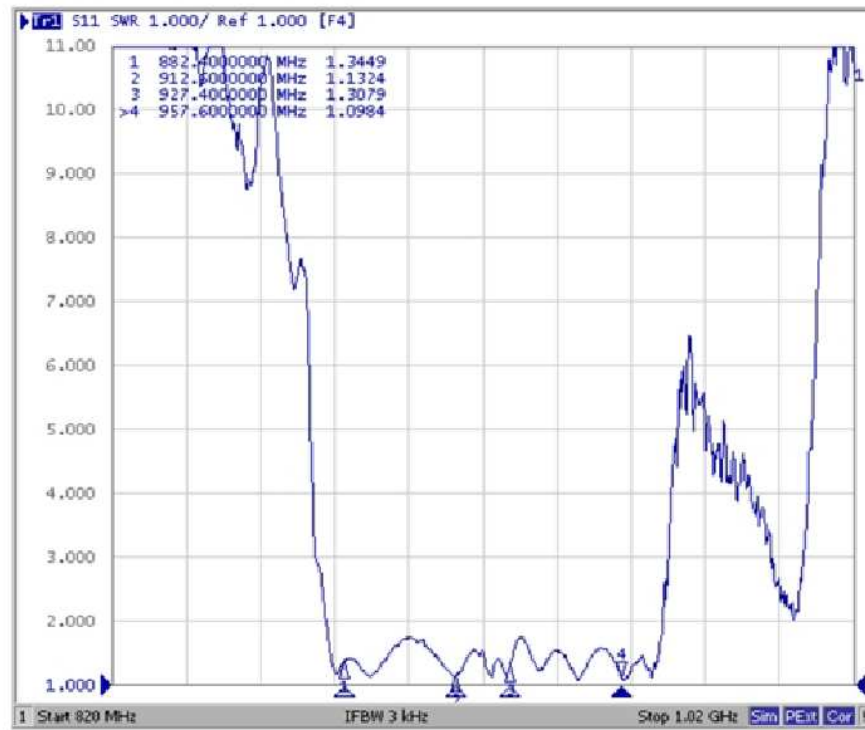
Tx Port



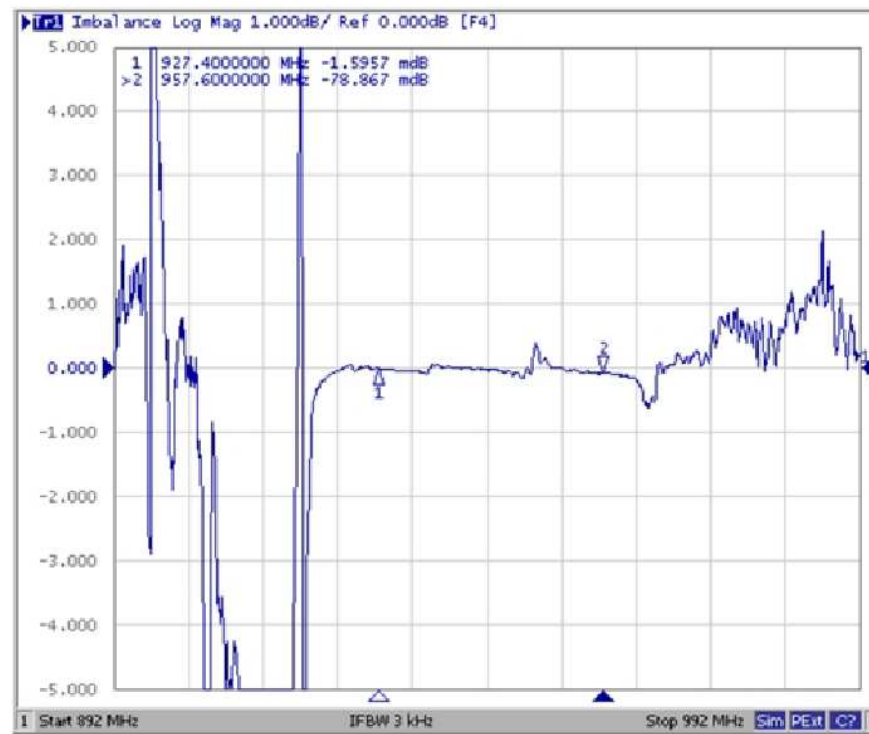
Rx Port



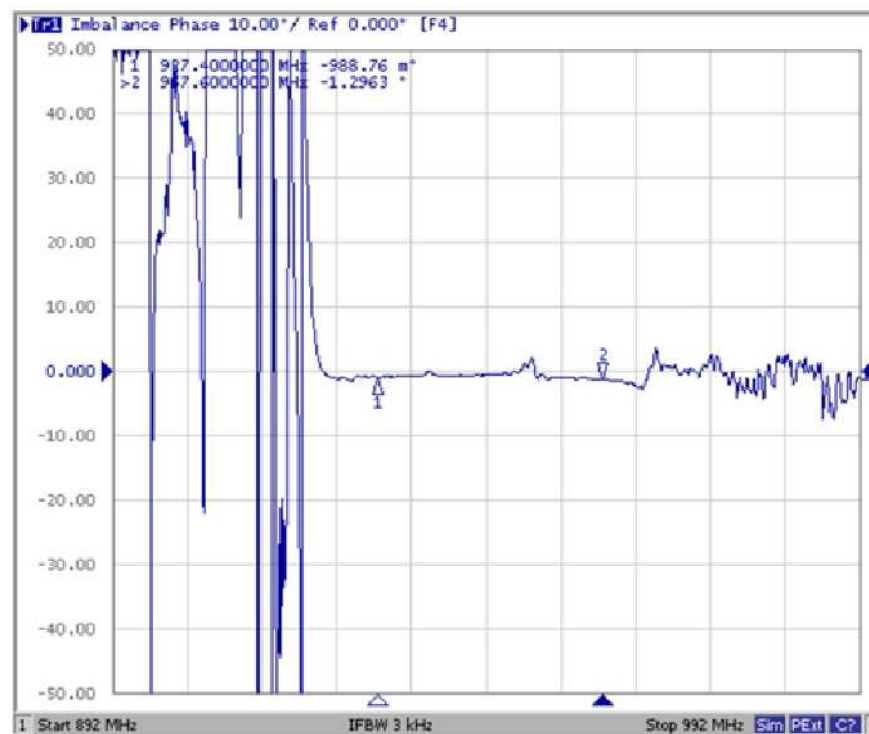
Ant Port



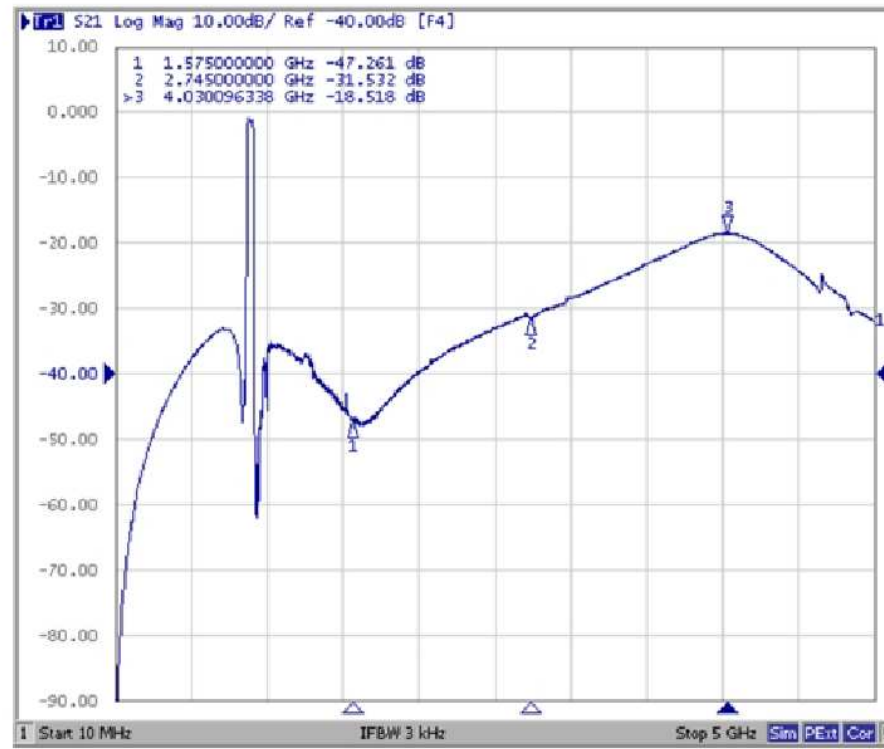
Ant to Rx (Amplitude balance)



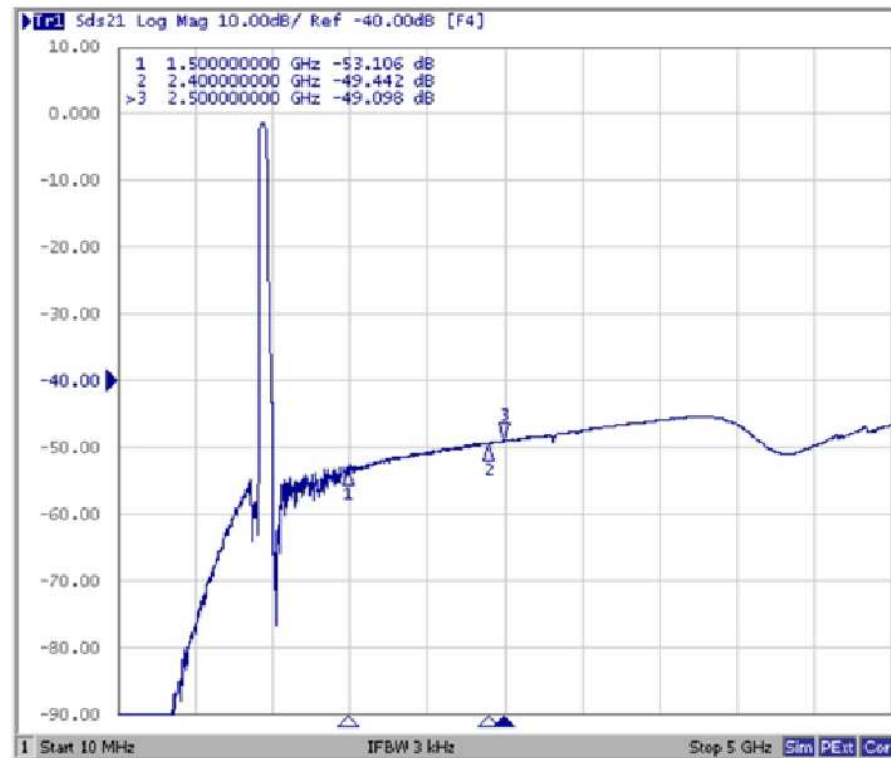
Ant to Rx (Phase balance)



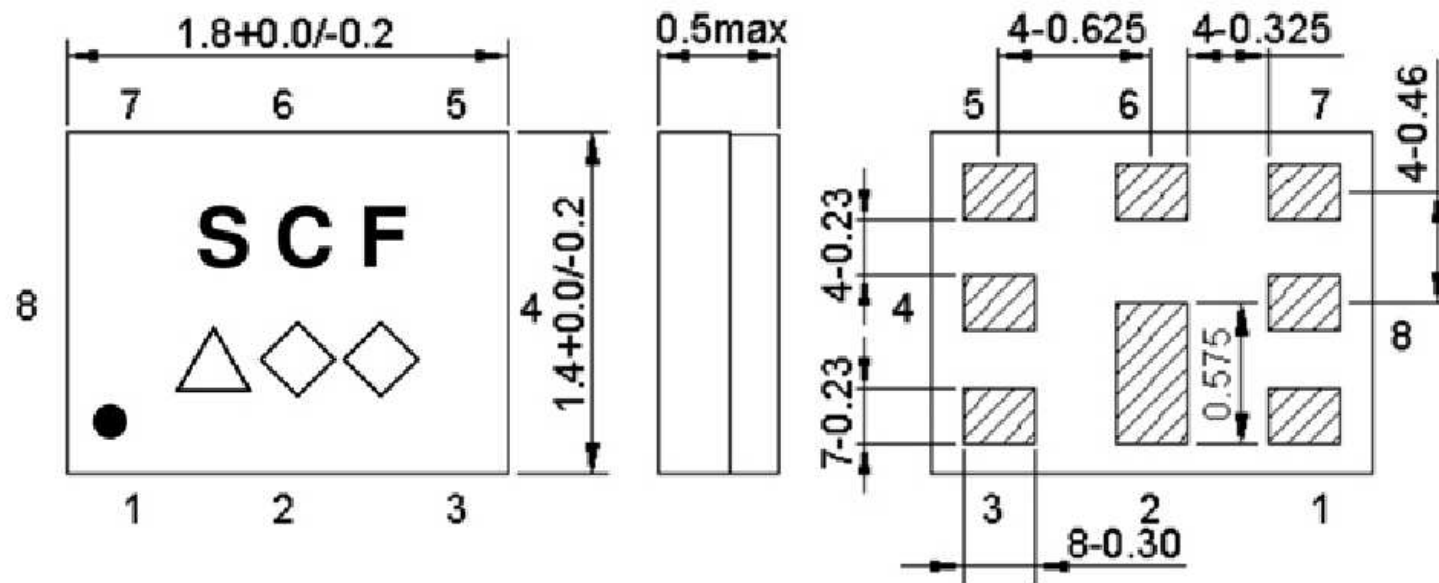
Tx to Ant (Wide span)



Ant to Rx (Wide span)



**E.OUTLINE DRAWIN:
(Mass Production)**



Marking name : SCF

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

◇◇: Lot Code.

Product Date Code. Follow below table.

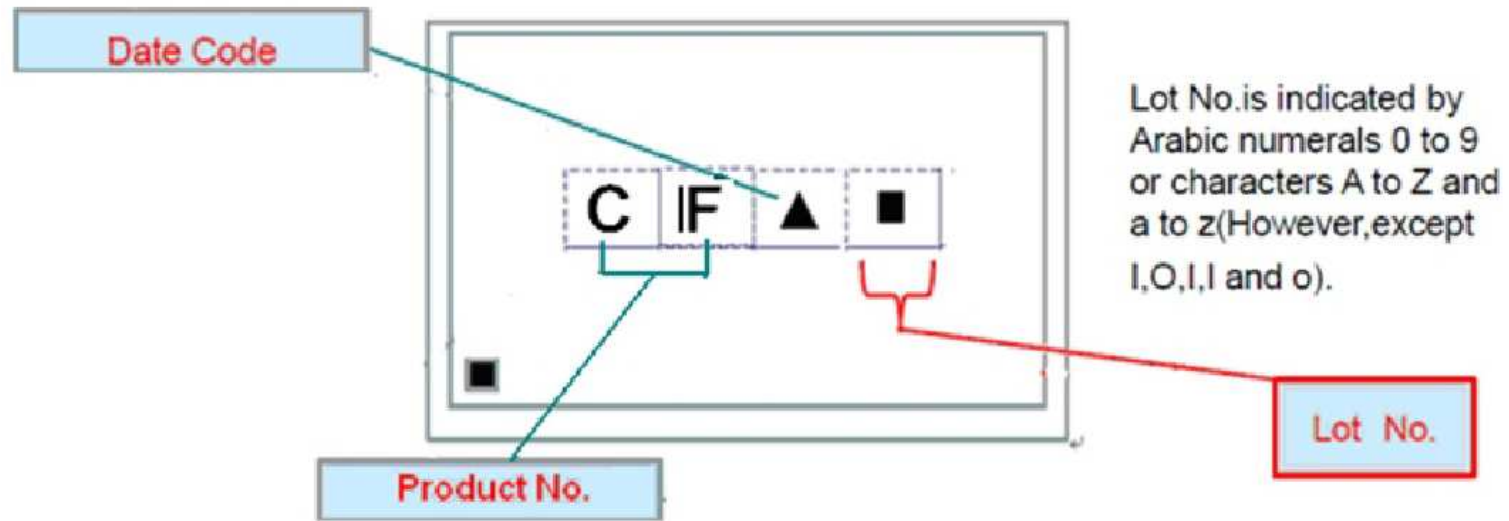
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	n	p	q	r	s	t	u	v	w	x	y	z
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

Pin Configuration

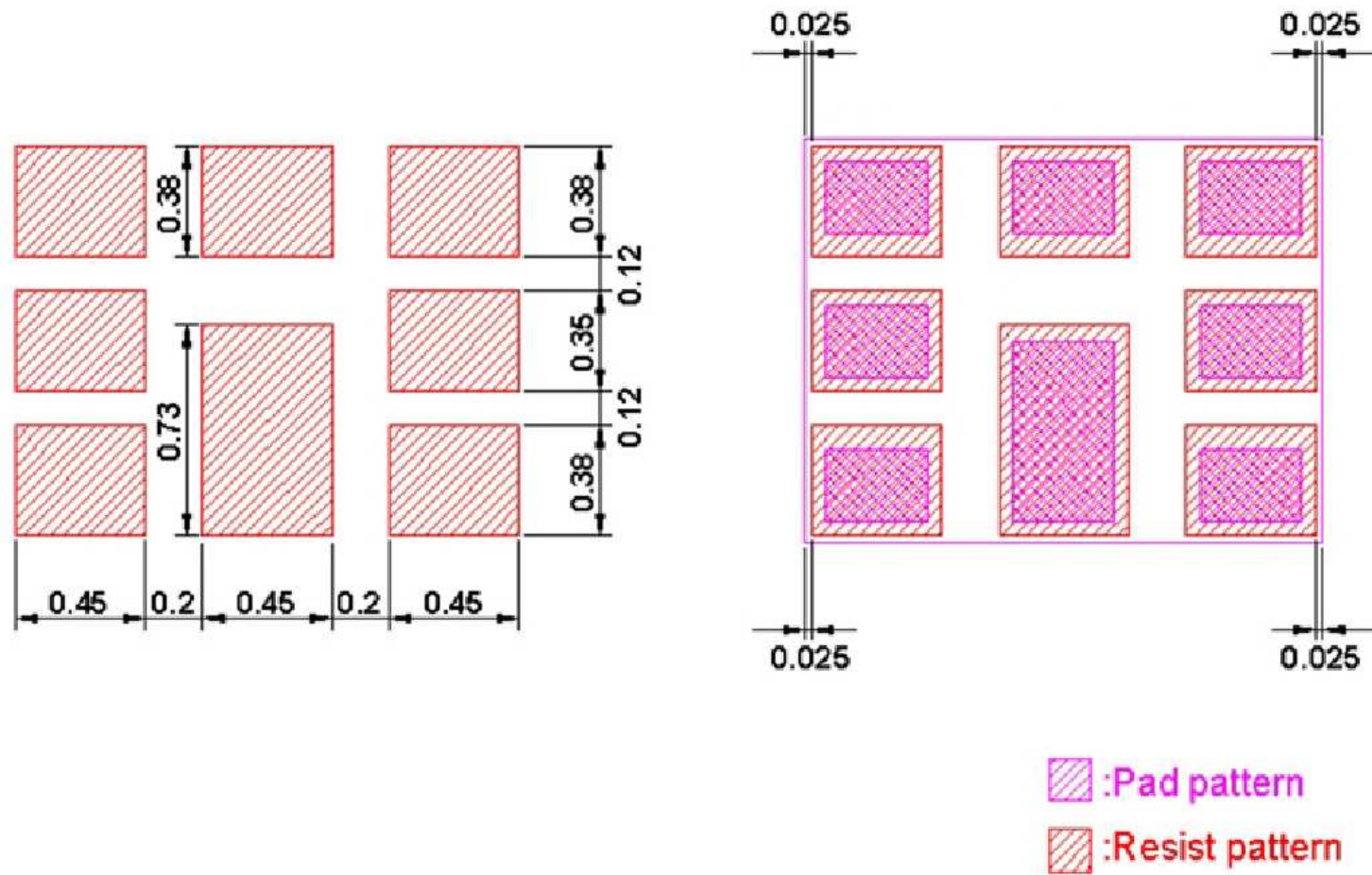
Pin No.	Pin name	Description
1	Rx	Receiver Pin (balanced)
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	Rx	Receiver Pin (balanced)

Figure 1. Dimensions and Pin assignment

Top View (Sample Production):

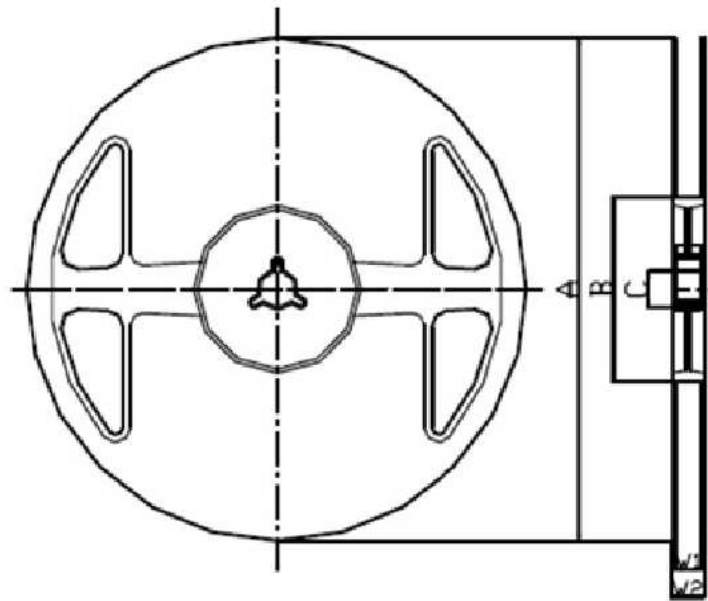


F. FOOTPRINT:



G. PACKING:

1. REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

Characteristics : Conforms to EIAJ-ET-7200A

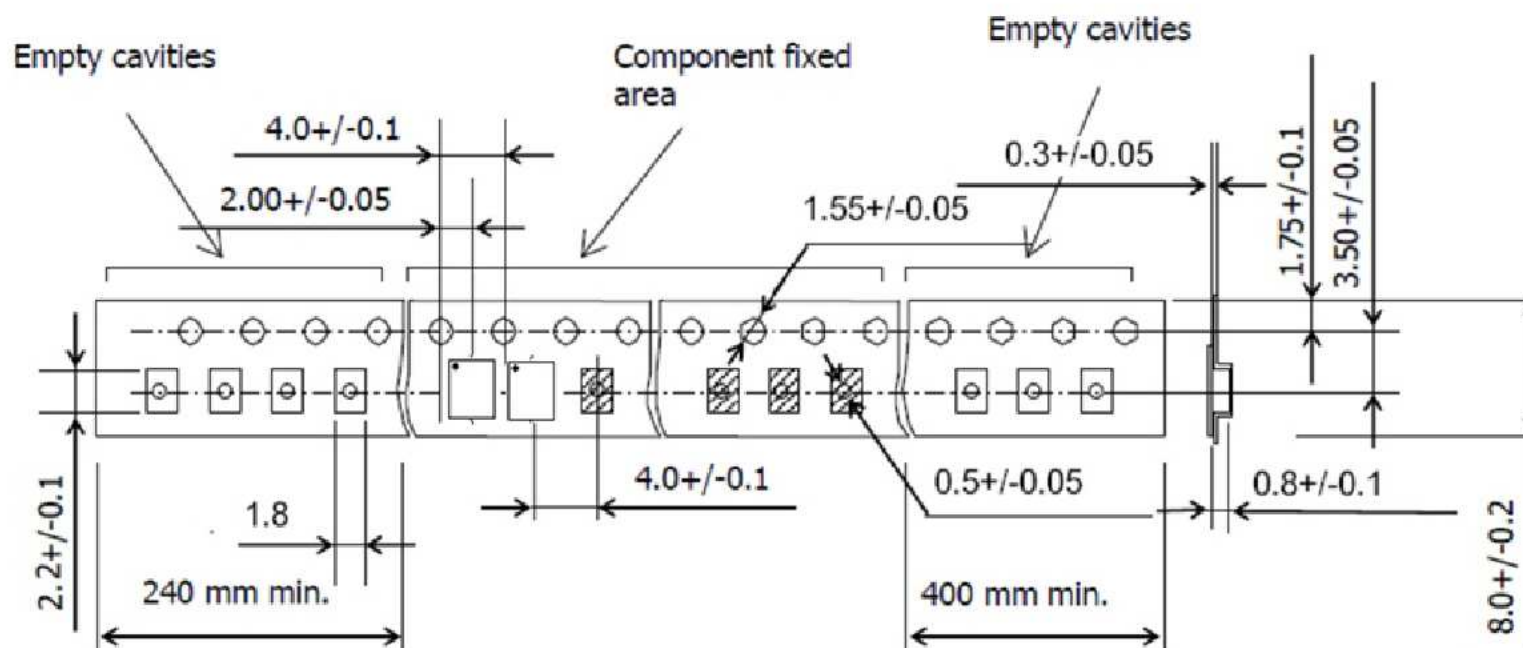
Color : Black

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°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at $245\sim 260^{\circ}\text{C}$ peak (min. 10sec).
4. Time : 2 times.

