TAI-SAW TECHNOLOGY CO., LTD.
No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
Taoyuan, 324, Taiwan, R.O.C.
TEL: 886-3-4690038 FAX: 886-3-4697532
E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: SAW DPX 897.5/942.5 MHz LTE Band 8 SMD 1814

TST Part No.: TF0130A

Customer Part No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Anne Chen 陳秀宜

Approved by:_____ Bob Chau

Date:_____ 2017, 04. 10

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the change

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SAW DPX 897.5/942.5 MHz LTE Band 8 SMD 1814 (30.2 MHz BW)

MODEL NO.:TF0130A REV.No.:2

A. MAXIMUM RATING:

1. Operating temperature range: -20 ℃ to +85 ℃
2. Storage temperature range: -20 ℃ to +85 ℃
3. Input power : 29dB (Ta=+50℃,10000h,WCDMA modulation)
4. Maximum DC Voltage: +/-3 V
5. Moisture Sensitivity Level: Level 1
6. ESD 50V(MM) 100V(HBM)

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic **S**ensitive **D**evice (**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	3.4	
Amplitude ripple		882.4~912.6MHz	dB	-	0.6	1.9	
		880~915MHz	v		1.0	2.9	
VSWR	ANT	880~915MHz	-	-	2.0	2.6	
	Tx	880~915MHz	-	-	1.8	2.4	
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	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	925~960 MHz	-		1.9	2.3	
	Rx		-		2.0	2.4	
Attenuation:							
882.4~912.6 MHz			dB	48 (*2)	54	-	
2400~2500 MHz			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

C.Evaluation Circuit

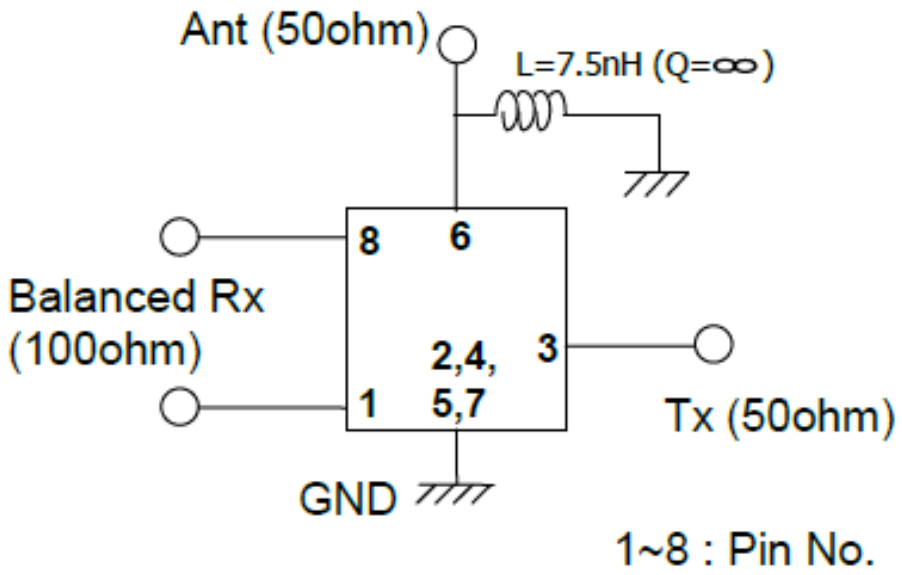
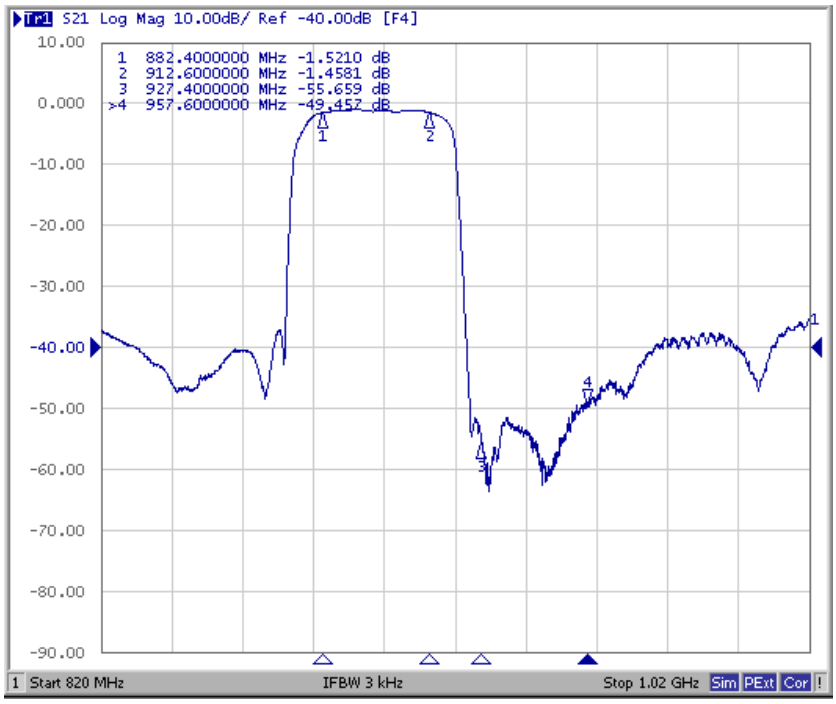


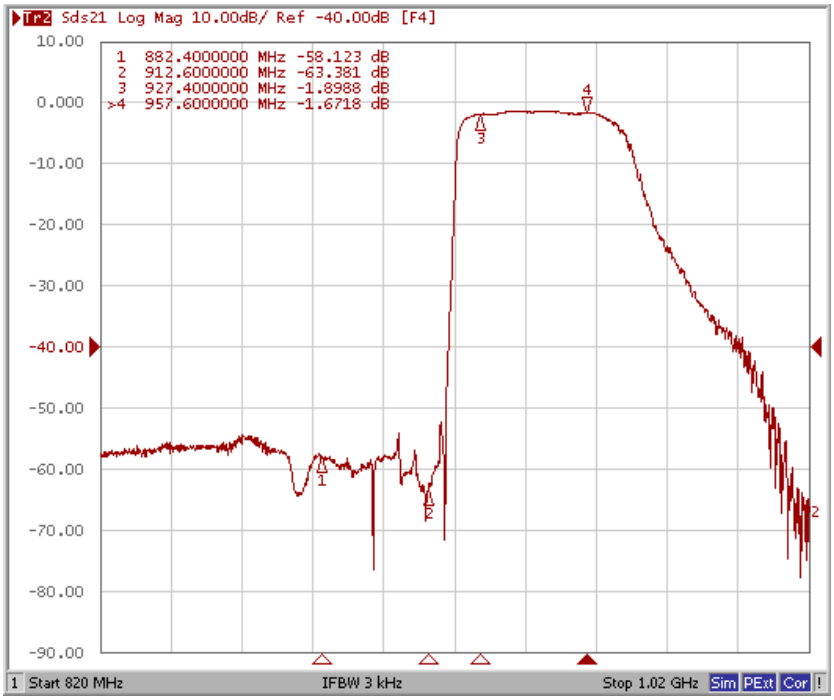
Figure 2. Evaluation Circuit

D. FREQUENCY CHARACTERISTICS:

Tx to Ant

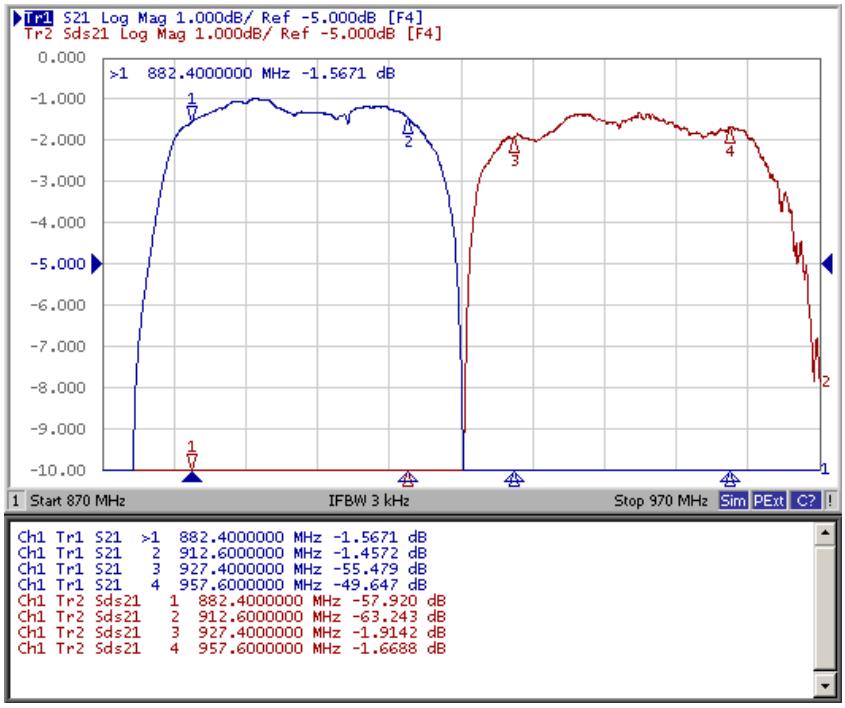


Ant to Rx

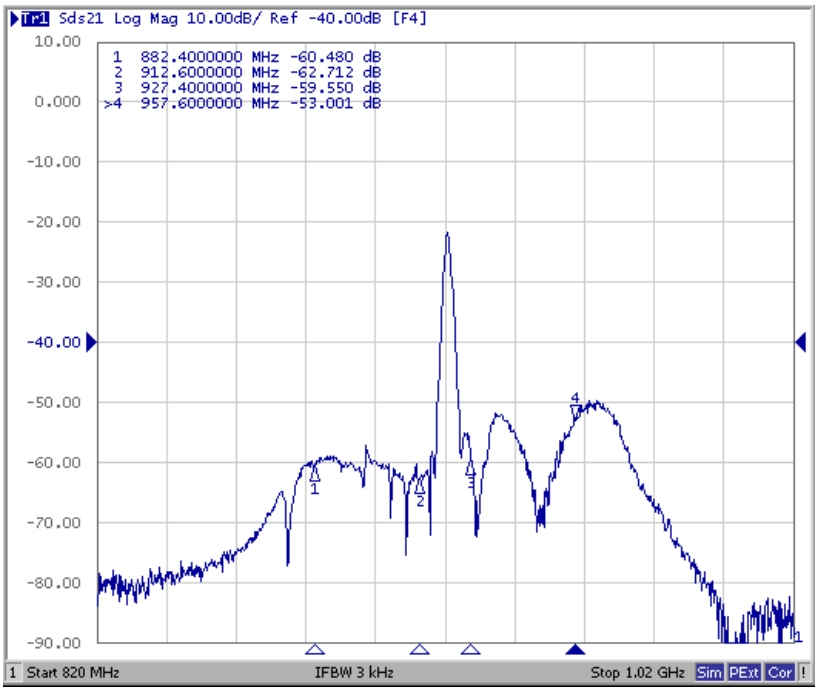


These data **exclude** loss that comes from the test board.

Tx to Ant ,Ant to Rx

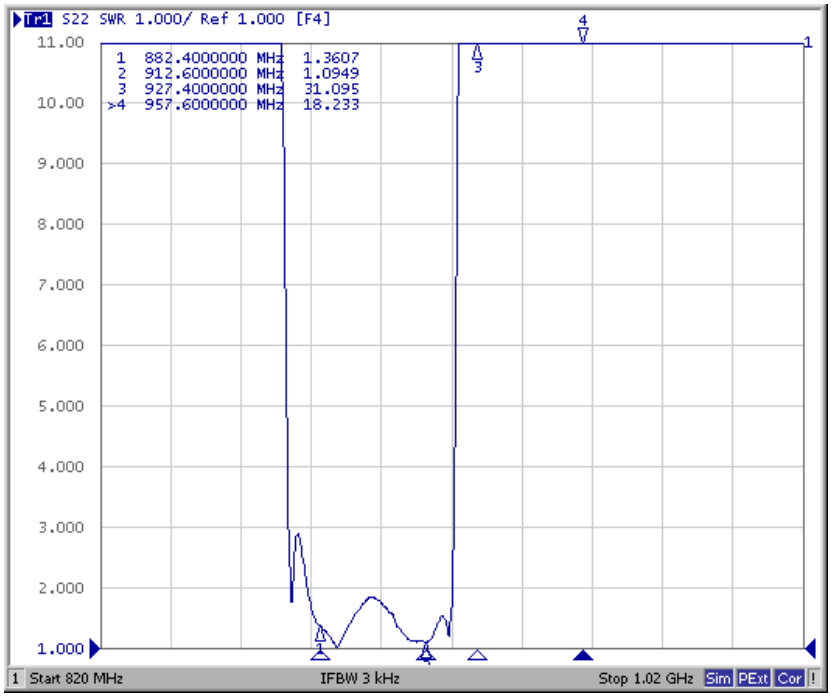


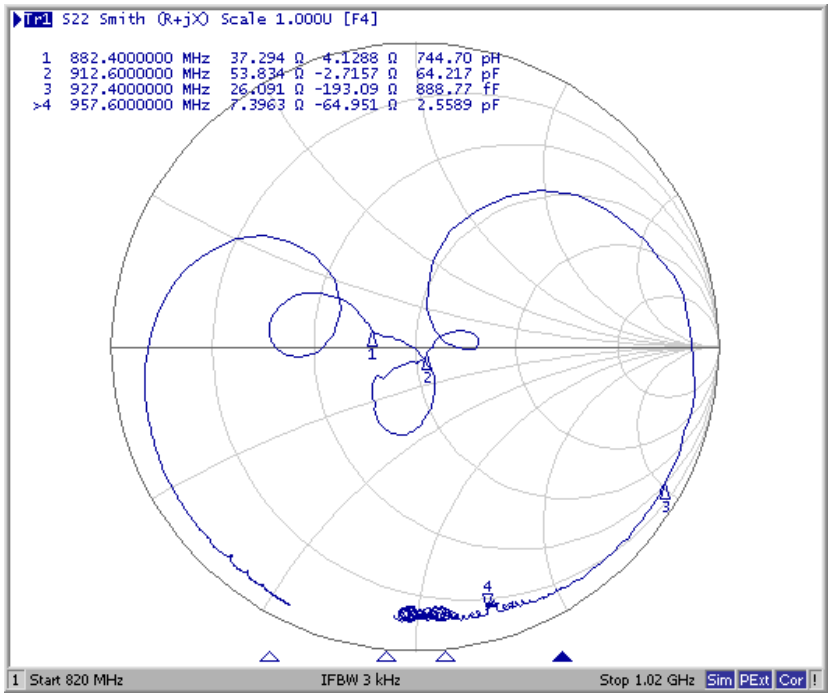
Tx to Rx Isolation



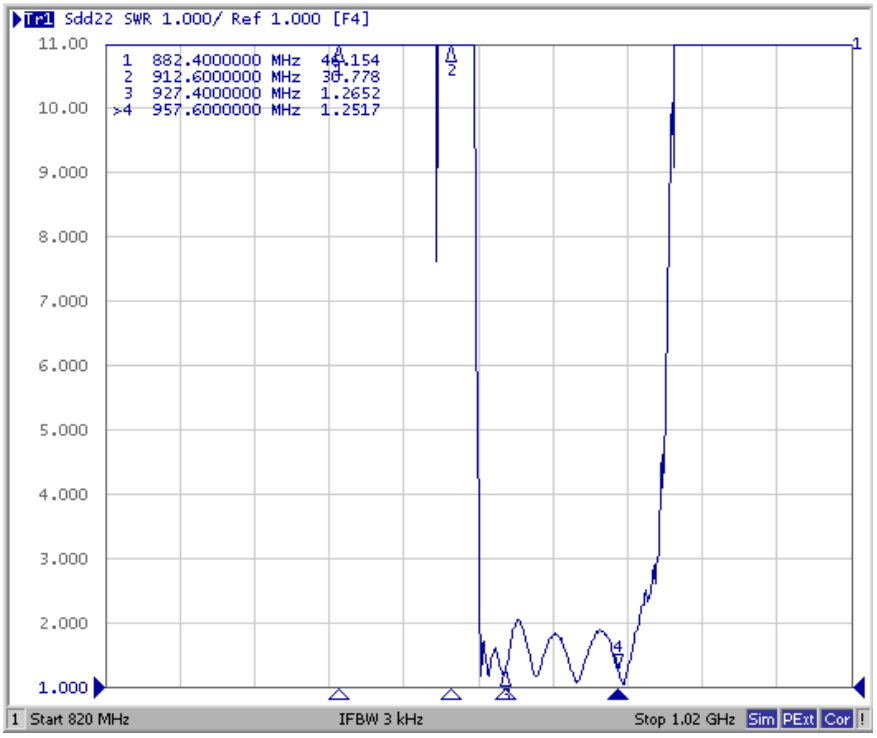
These data **exclude** loss that comes from the test board

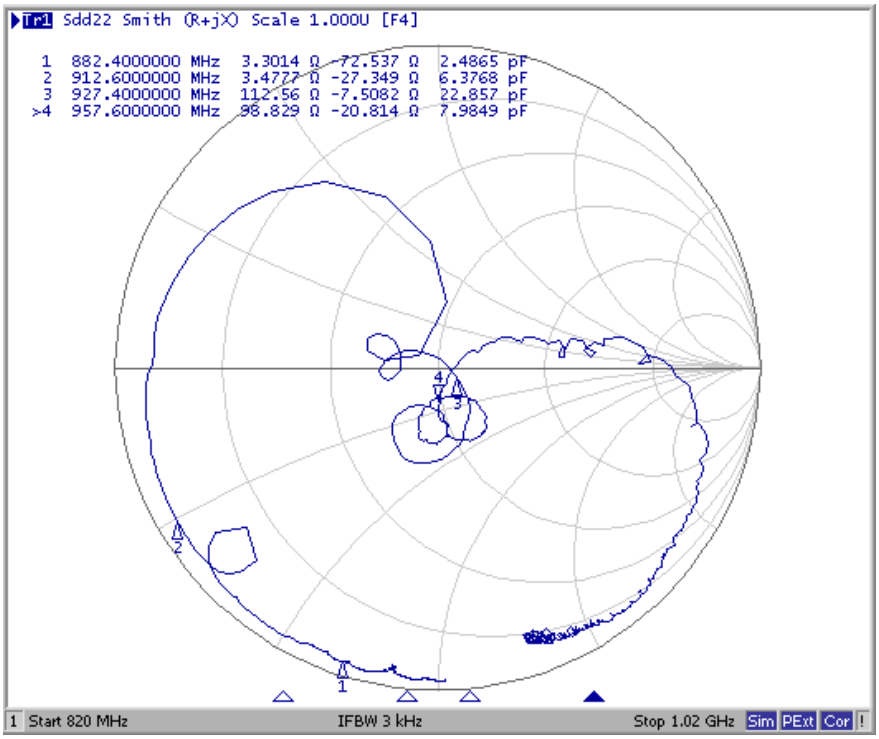
Tx Port


Tr1 S22 SWR 1.000/ Ref 1.000 [F4]
1 882.4000000 MHz 1.3607
2 912.6000000 MHz 1.0949
3 927.4000000 MHz 31.095
>4 957.6000000 MHz 18.233
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor


Tr1 S22 Smith (R+jX) Scale 1.000U [F4]
1 882.4000000 MHz 37.294 Ω 4.1288 Ω 744.70 pH
2 912.6000000 MHz 53.834 Ω -2.7157 Ω 64.217 pF
3 927.4000000 MHz 26.091 Ω -193.09 Ω 888.77 fF
>4 957.6000000 MHz 7.3963 Ω -64.951 Ω 2.5589 pF
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor

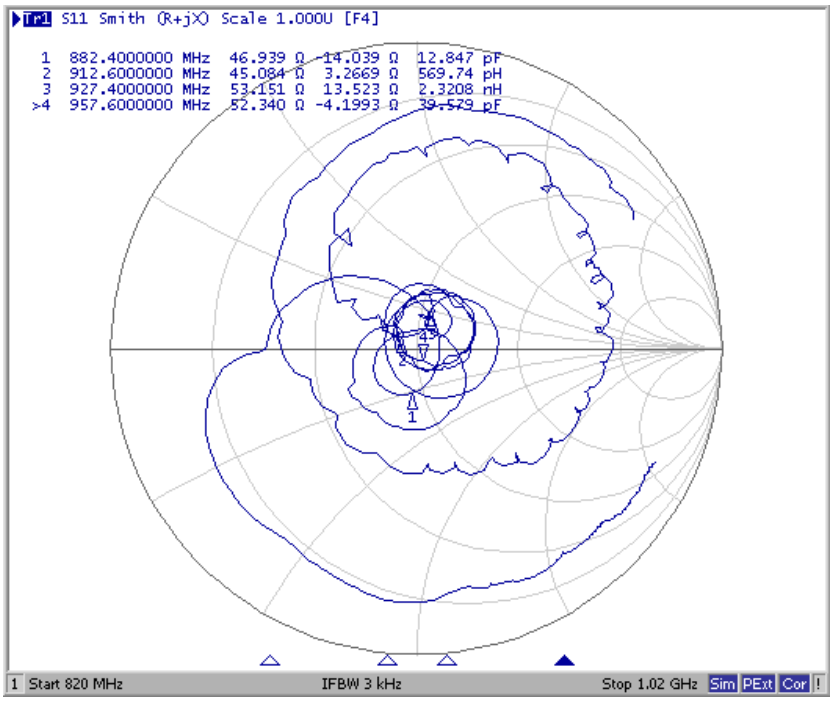
Rx Port


Tr1 Sdd22 SWR 1.000/ Ref 1.000 [F4]
1 882.4000000 MHz 46.154
2 912.6000000 MHz 30.778
3 927.4000000 MHz 1.2652
>4 957.6000000 MHz 1.2517
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor

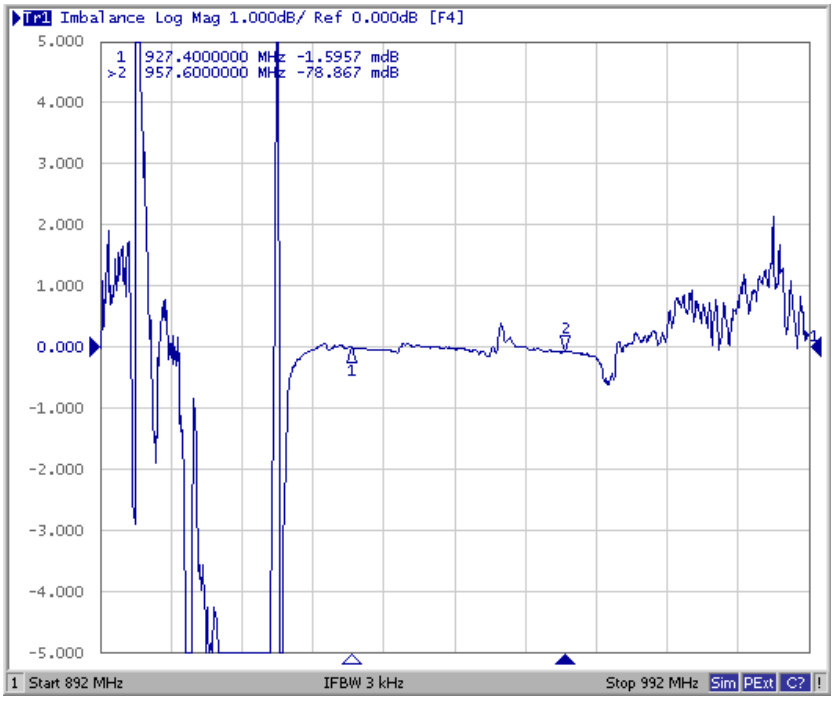

Tr1 Sdd22 Smith (R+jX) Scale 1.000U [F4]
1 882.4000000 MHz 3.3014 Ω -72.537 Ω 2.4865 pF
2 912.6000000 MHz 3.4727 Ω -27.349 Ω 6.3768 pF
3 927.4000000 MHz 112.56 Ω -7.5082 Ω 22.857 pF
>4 957.6000000 MHz 98.829 Ω -20.814 Ω 7.9849 pF
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor

Ant Port

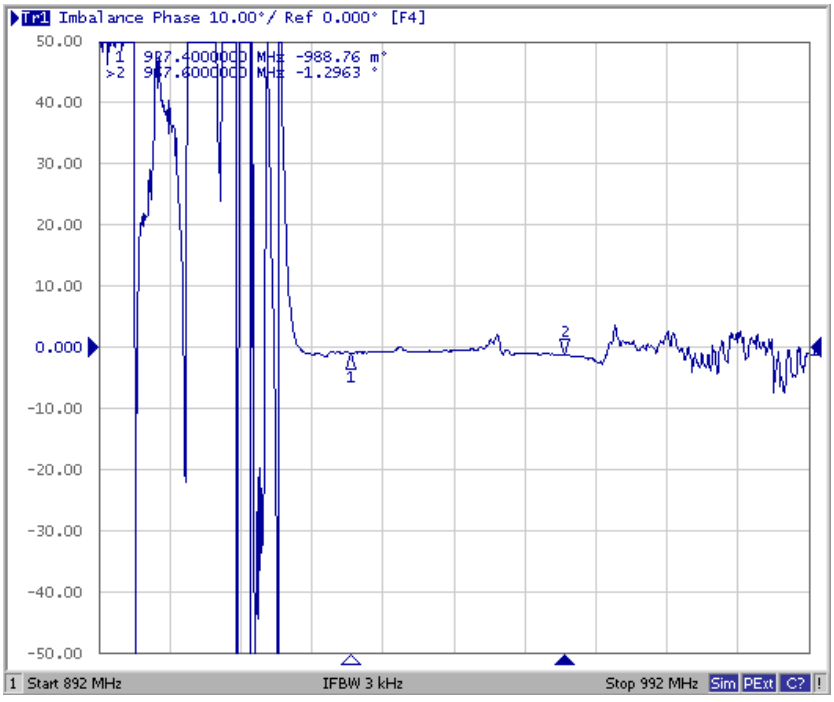

Tr1 S11 SWR 1.000/ Ref 1.000 [F4]
1 882.4000000 MHz 1.3449
2 912.6000000 MHz 1.1324
3 927.4000000 MHz 1.3079
>4 957.6000000 MHz 1.0984
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor


Tr1 S11 Smith (R+jX) Scale 1.000U [F4]
1 882.4000000 MHz 46.939 Ω -14.039 Ω 12.847 pF
2 912.6000000 MHz 45.084 Ω 3.2669 Ω 569.74 pH
3 927.4000000 MHz 53.151 Ω 13.523 Ω 2.3208 nH
>4 957.6000000 MHz 52.340 Ω -4.1993 Ω -39.579 pF
1 Start 820 MHz
IFBW 3 kHz
Stop 1.02 GHz
Sim PExt Cor

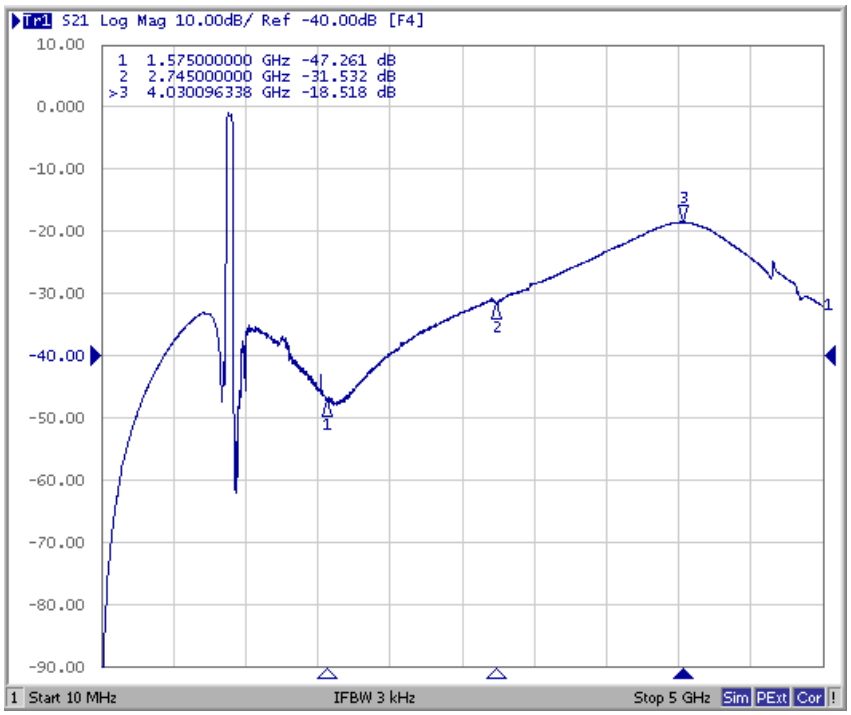
Ant to Rx (Amplitude balance)



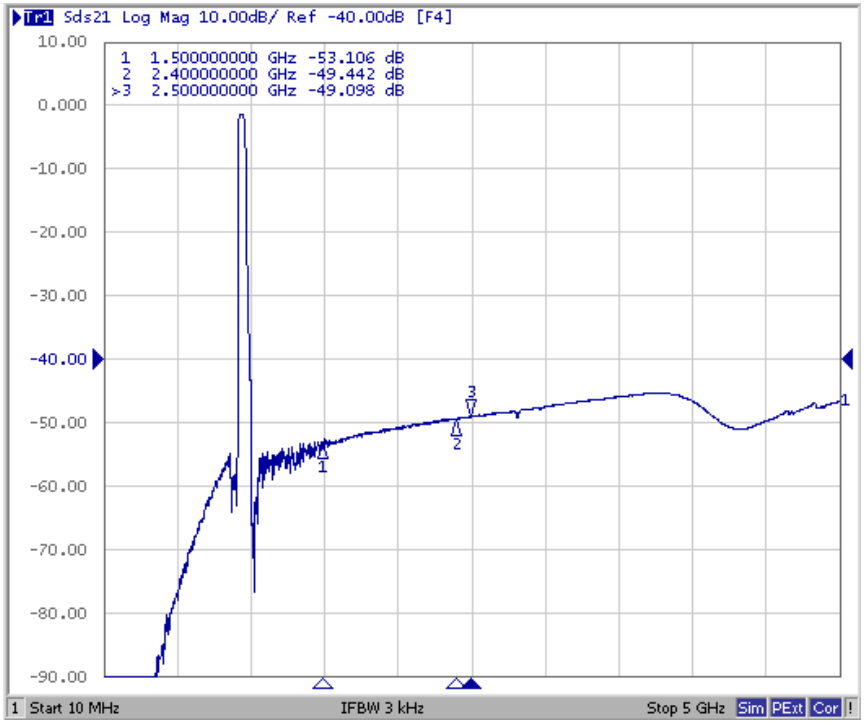
Ant to Rx (Phase balance)



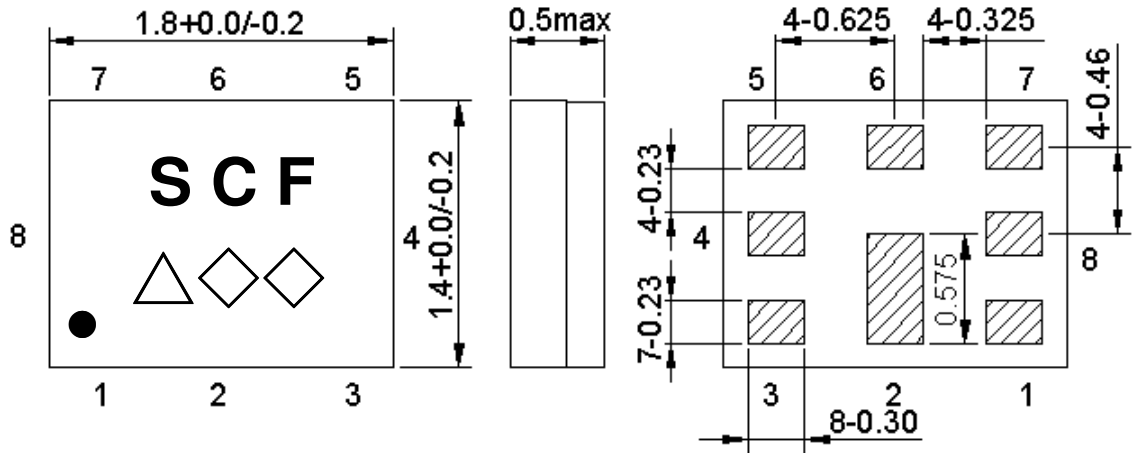
Tx to Ant (Wide span)



Ant to Rx (Wide span)



E.OUTLINE DRAWIN:



Marking name : **SCF**

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

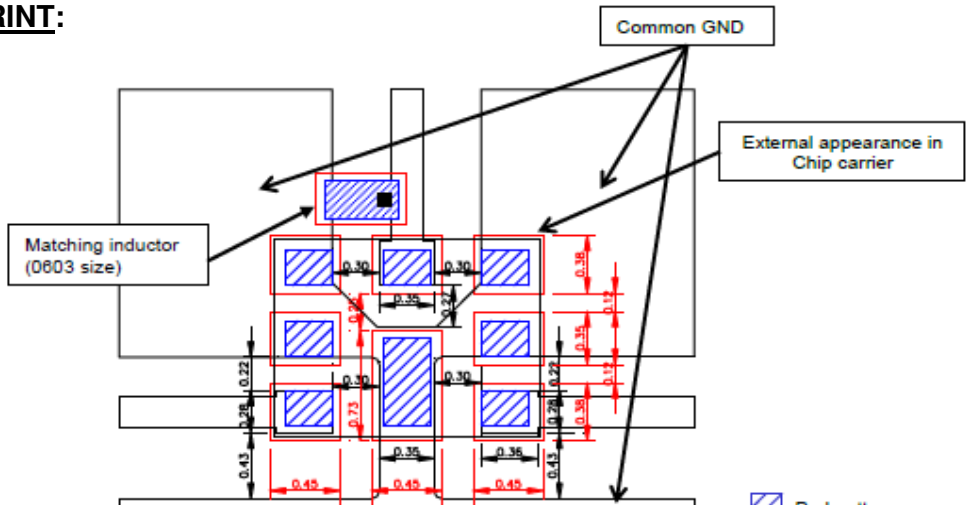
◇◇: Lot Code.
Product Date Code. Follow below table.

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	∇	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m

Pin Configuration:

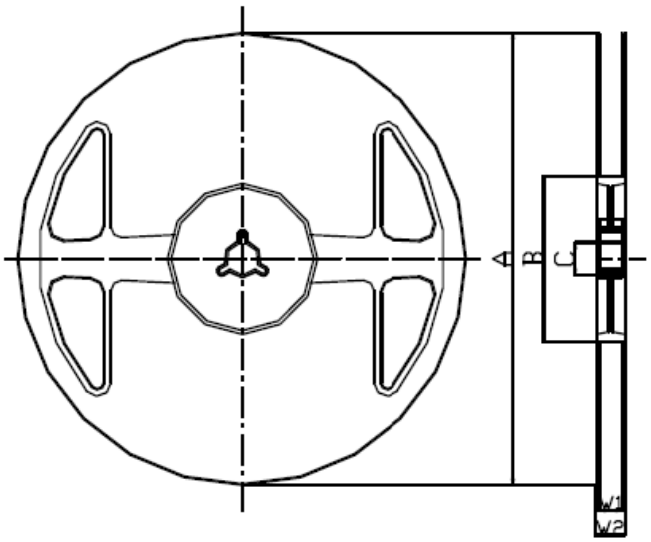
Pin No.	Pin Name	Description
1	Rx	Receive Pin
2	GND	Ground Pin
3	Tx	Transmitter Pin
4	GND	Ground Pin
5	GND	Ground Pin
6	ANT	Antenna Pin
7	GND	Ground Pin
8	GND	Ground Pin

F. FOOTPRINT:



G. PACKING:

1. REEL DIMENSION



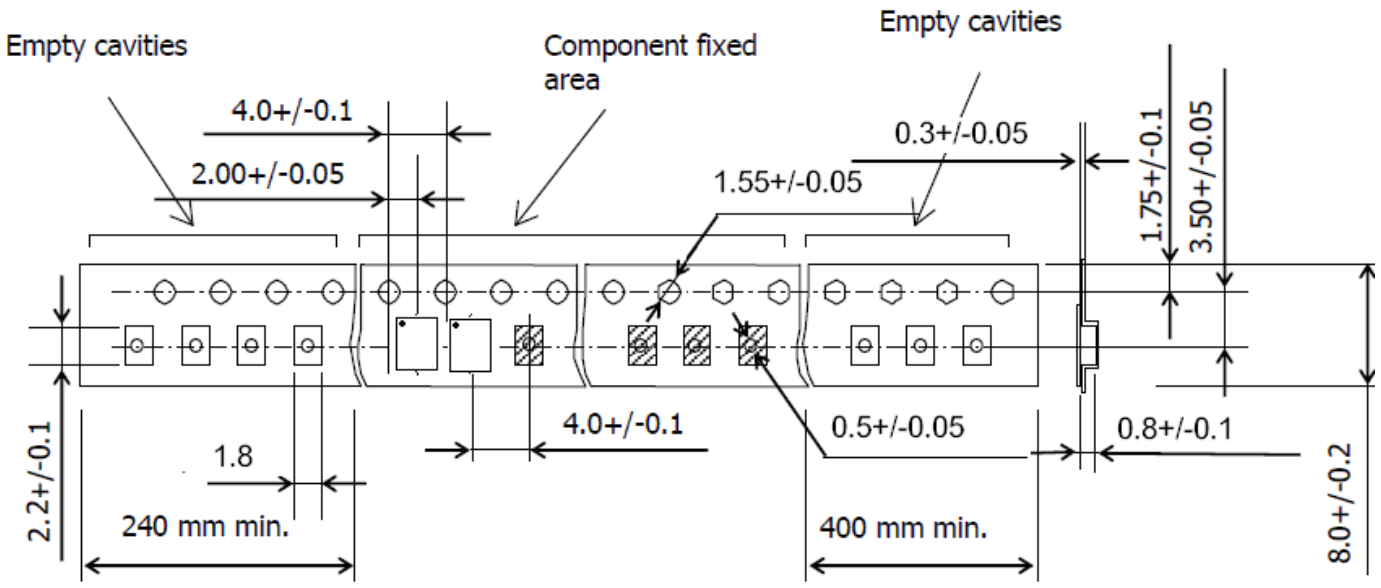
Materials of Reel

Material : Polystyrene + Carbon
Characteristics : Conforms to EIAJ-ET-7200A
Color : Black
Surface resistance (reference value) : $10^9\Omega$/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



Unit : mm

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.