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 Rx Filter 1842.5MHz LTE Band 3 SMD 1109

TST Part No.: TA1857D

Customer Part No.:_____

Customer signature required

Company:_____

Division: _____

Approved by : _____

Date: _____

Checked by:_____ David Chang _____

Approved by:_____ Bob Chau _____

Date:_____ 2017/04/26 _____

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 Rx Filter 1842.5MHz LTE Band 3 SMD 1109 (75MHz BW)

MODEL NO.: TA1857D REV. NO.:2.0

A. MAXIMUM RATING:

RoHS Compliant
Lead free
Lead-free soldering

1. Maximum Input Power: 15 dBm
2. DC voltage: 0 V
3. Operating Temperature: -30℃ to +85℃
4. Storage Temperature: -40℃ to +85℃
5. Moisture Sensitivity Level: Level 3
6. ESD 50V(MM) 100V(HBM)

Electrostatic **S**ensitive **D**evice (**ESD**)

B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance: Zs = 50 Ω (Unbalanced)

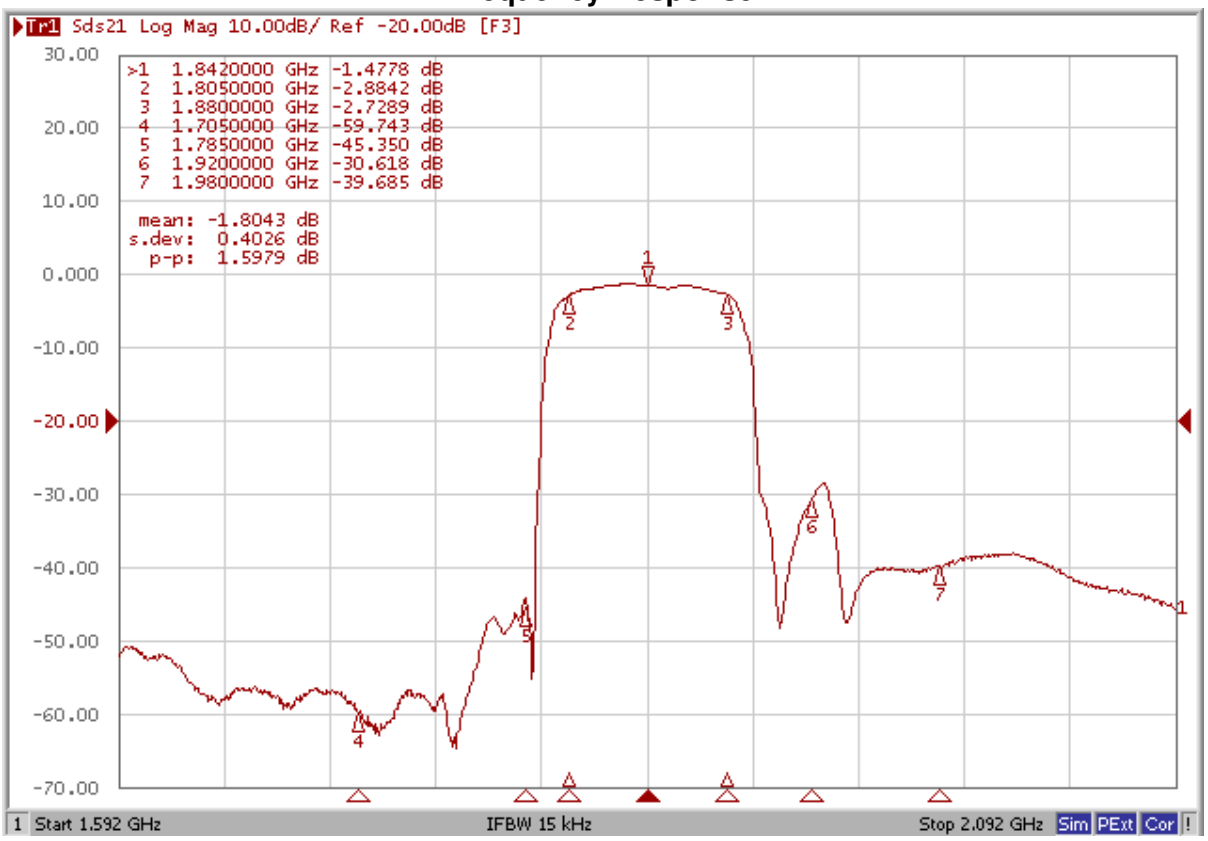
Terminating load impedance: ZL = 100//18nH Ω (Balanced / differential)

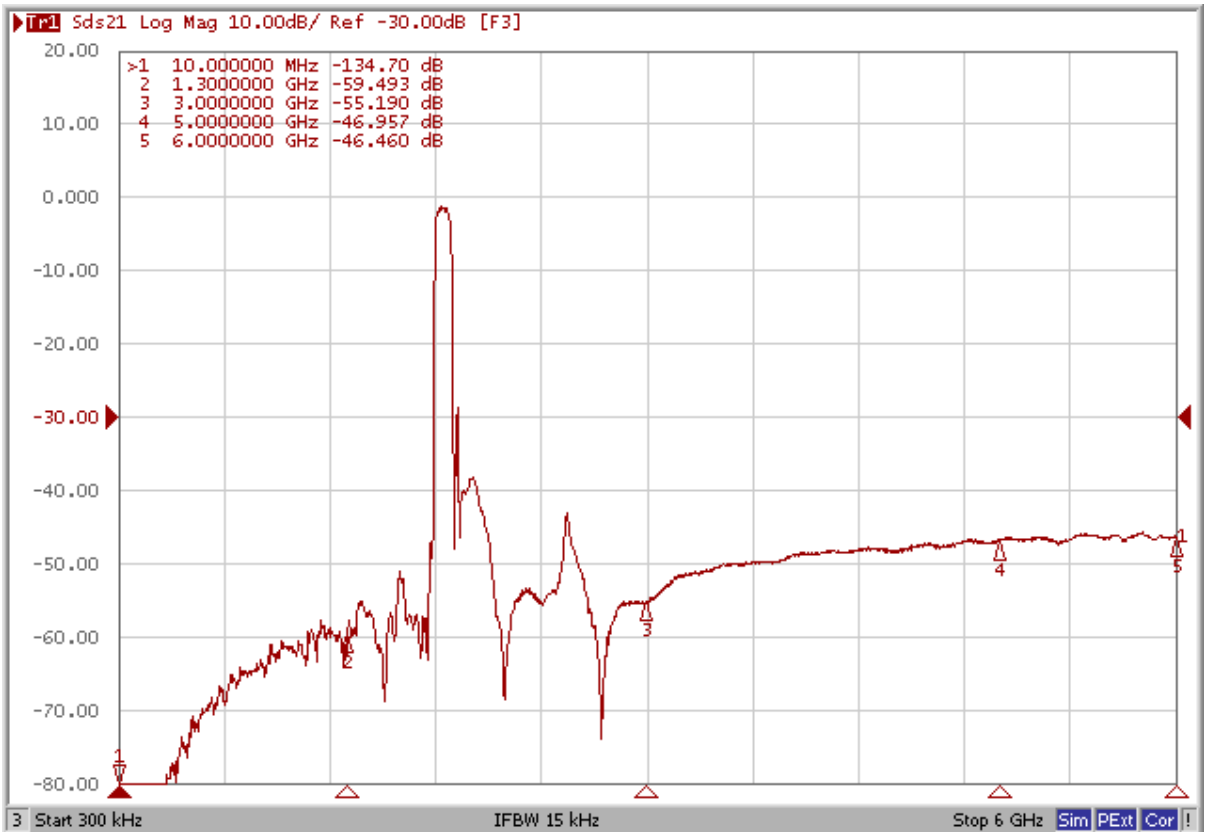
Parameters Description		Unit	Minimum	Typical	Maximum
Center Frequency		MHz	-	1842.5	-
Insertion Loss	1805~1880 MHz	dB	-	2.9	4.5
Amplitude Ripple	1805~1880 MHz	dB	-	1.6	3.3
VSWR(Input)	1805~1880 MHz	-	-	2.1	2.5
VSWR(Output)	1805~1880 MHz	-	-	2.1	2.3
Amplitude Balance (|S21|/|S31|)	1805~1880 MHz	dB	-1.3	-0.6 /+1.0	+1.3
Phase Balance ((ΦS21-ΦS31)+180)	1805~1880 MHz	deg.	-12	-3 /+3	+12
Attenuation:					
10~1300 MHz		dB	40	58	-
1300~1705 MHz		dB	40	53	-
1705~1785 MHz		dB	38	45	-
1920~1980 MHz		dB	24	28	-
1980~3000 MHz		dB	30	38	-
3000~5000 MHz		dB	30	58	-
5000~6000 MHz		dB	30	46	-

Notes : (1) With Matching Network (Ref. Testing Environment Circuit as shown below).

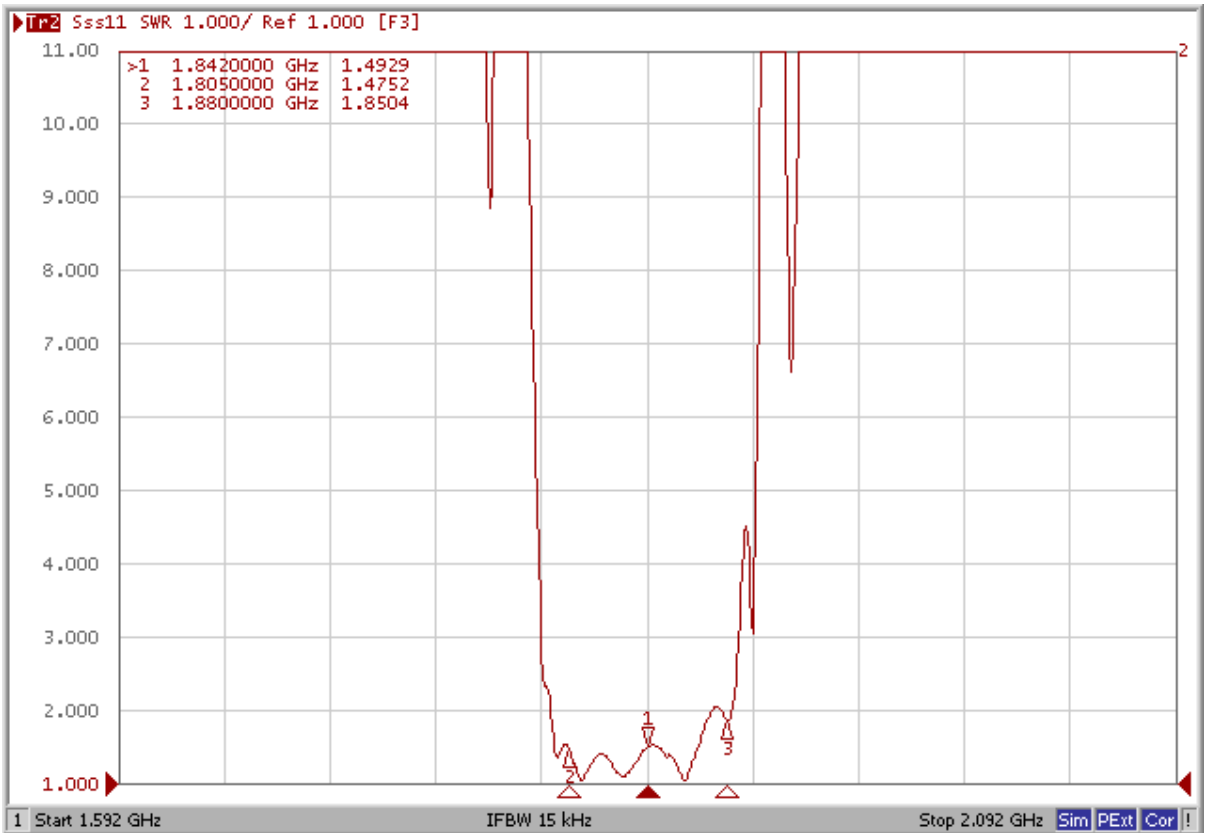
C. FREQUENCY CHARACTERISTICS:

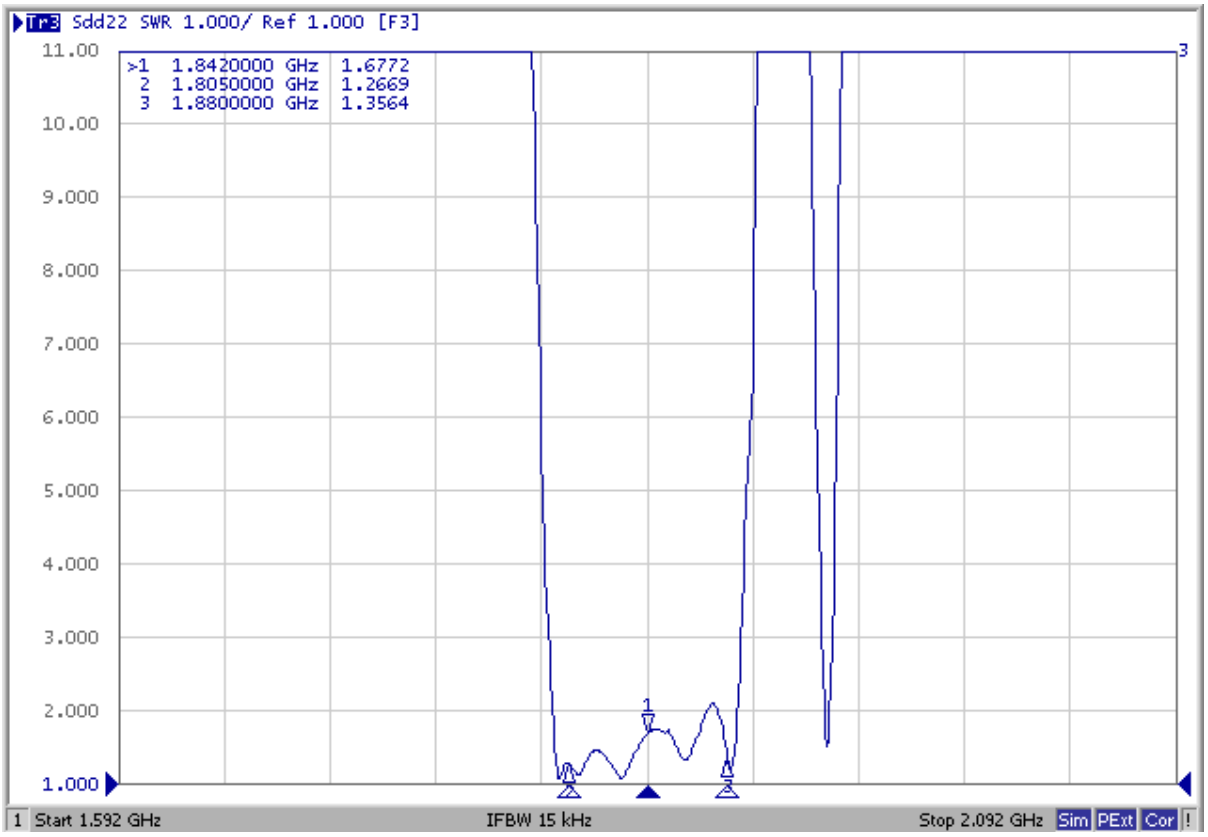
Frequency Response



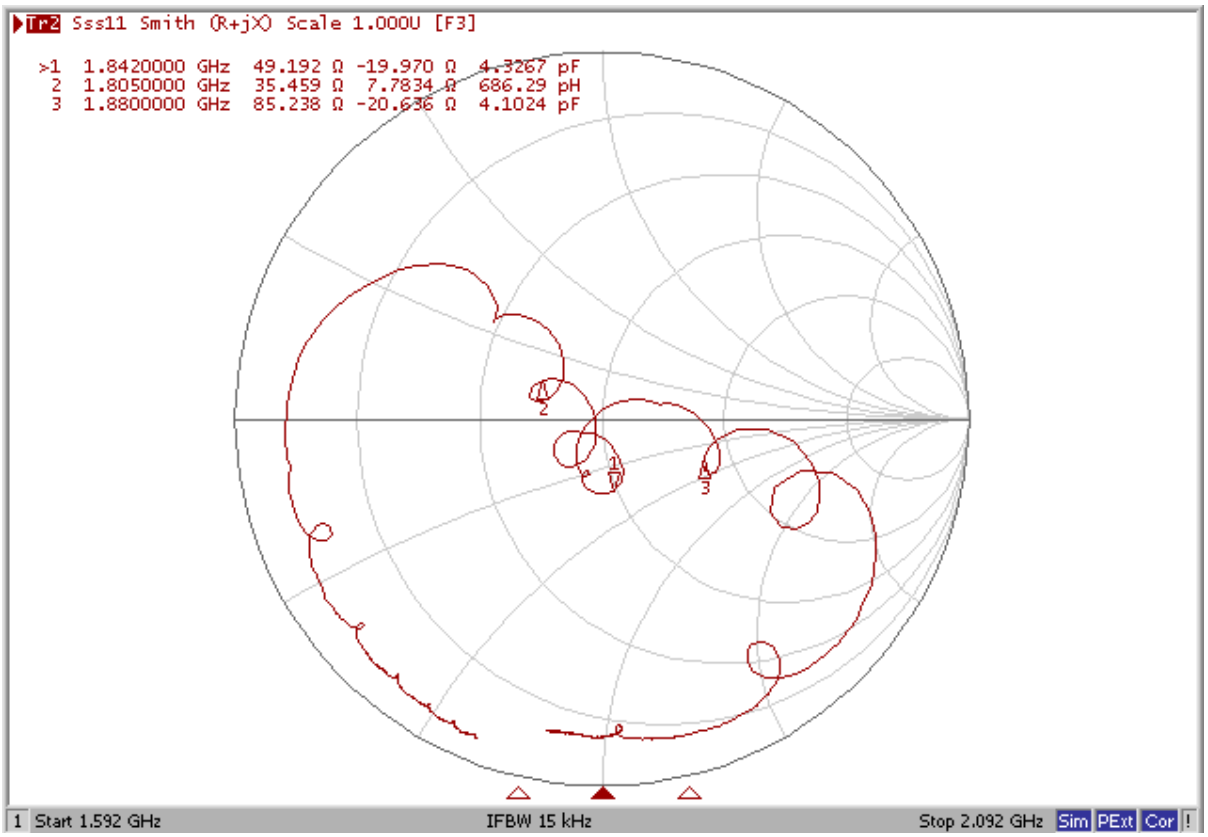


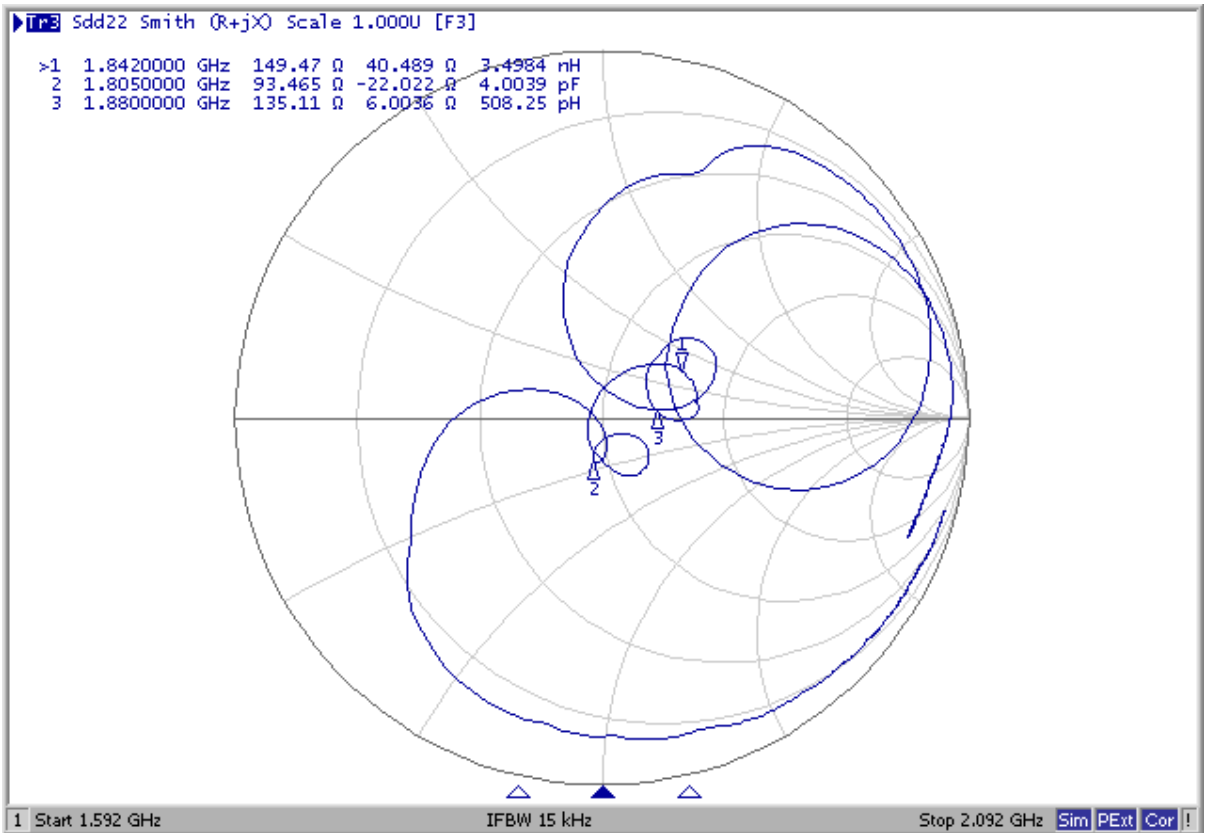
VSWR


Tr2 Sss11 SWR 1.000/ Ref 1.000 [F3]
>1 1.8420000 GHz 1.4929
2 1.8050000 GHz 1.4752
3 1.8800000 GHz 1.8504
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 1.592 GHz
IFBW 15 kHz
Stop 2.092 GHz
Sim PExt Cor

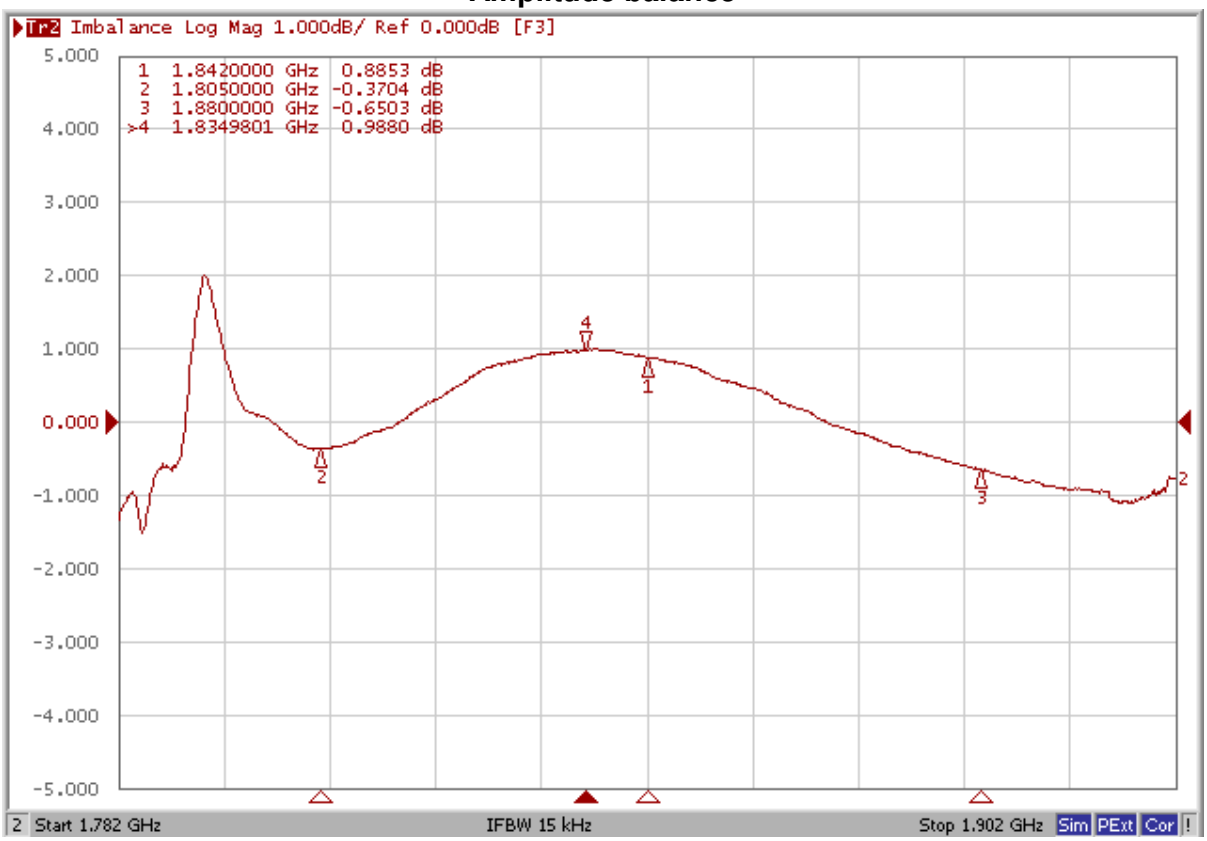

Tr3 Sdd22 SWR 1.000/ Ref 1.000 [F3]
>1 1.8420000 GHz 1.6772
2 1.8050000 GHz 1.2669
3 1.8800000 GHz 1.3564
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 1.592 GHz
IFBW 15 kHz
Stop 2.092 GHz
Sim PExt Cor

Smith Chart

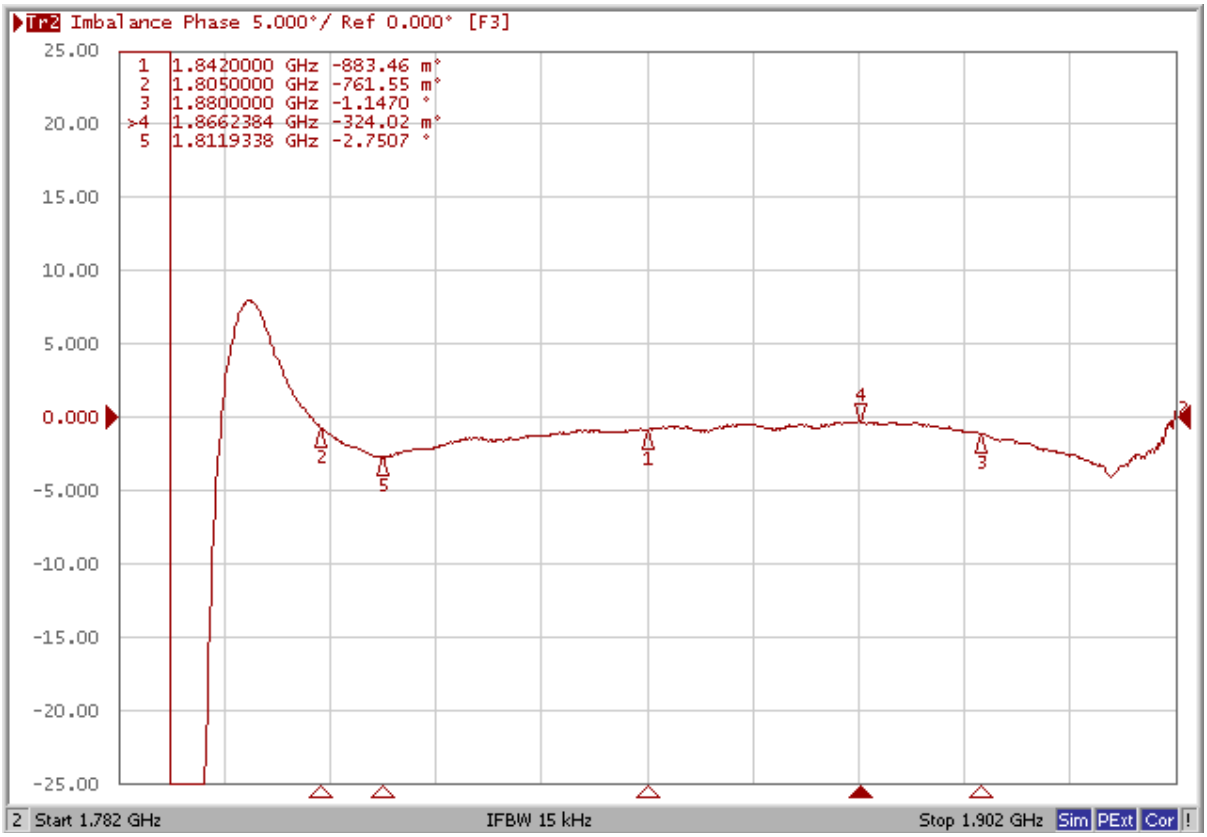

Tr2 Sss11 Smith (R+jX) Scale 1.000U [F3]
>1 1.8420000 GHz 49.192 Ω -19.970 Ω 4.3267 pF
2 1.8050000 GHz 35.459 Ω 7.7834 Ω 686.29 pH
3 1.8800000 GHz 85.238 Ω -20.636 Ω 4.1024 pF
1 Start 1.592 GHz
IFBW 15 kHz
Stop 2.092 GHz
Sim PExt Cor


Tr3 Sdd22 Smith (R+jX) Scale 1.000U [F3]
>1 1.8420000 GHz 149.47 Ω 40.489 Ω 3.4984 nH
2 1.8050000 GHz 93.465 Ω -22.022 Ω 4.0039 pF
3 1.8800000 GHz 135.11 Ω 6.0036 Ω 508.25 pH
1 Start 1.592 GHz
IFBW 15 kHz
Stop 2.092 GHz
Sim PExt Cor

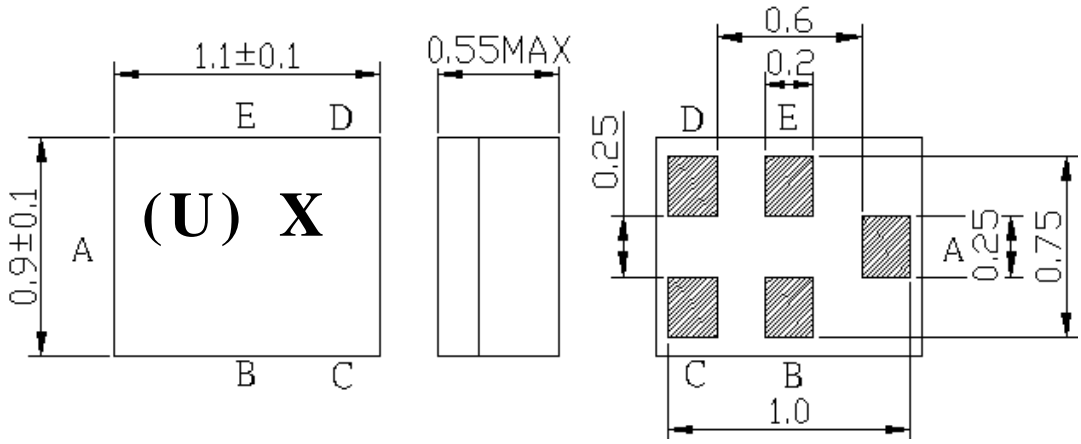
Amplitude balance



Phase balance



D. OUTLINE DRAWING:



Pin Description	
B , E	Ground
A	Input
C , D	Balanced Output

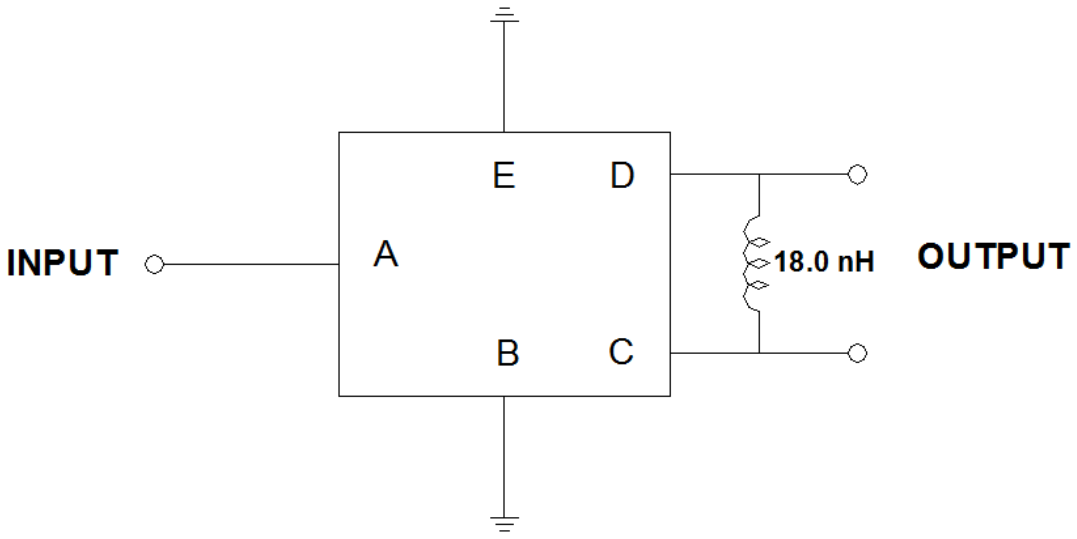
Marking Descriptions:

(U) : Series Number

☐ **: Year/Month Code (Follow the table)**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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

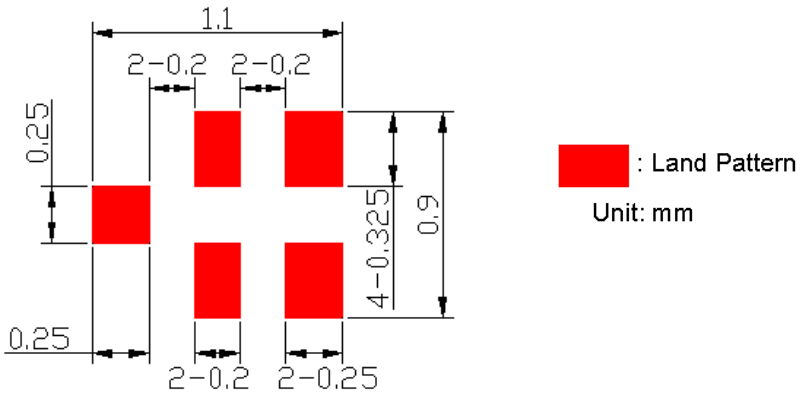
E. MEASUREMENT CIRCUIT:



Source Impedance : 50

Load Impedance : 100

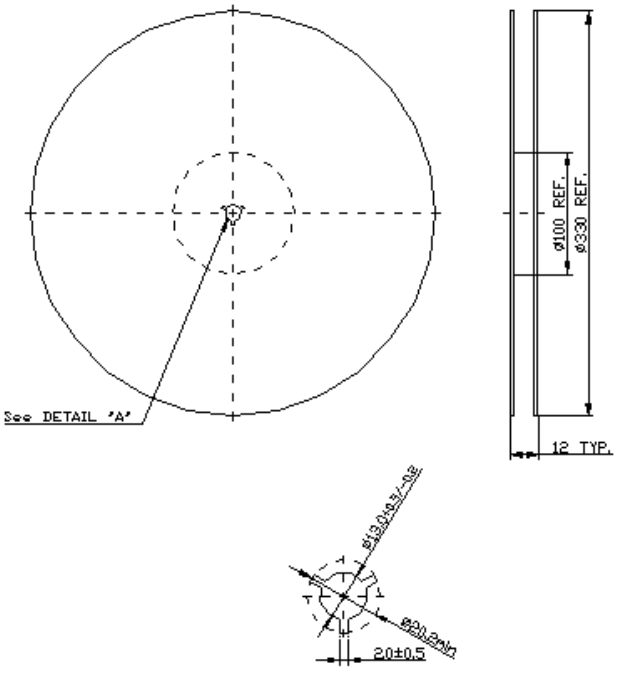
F. PCB Footprint：



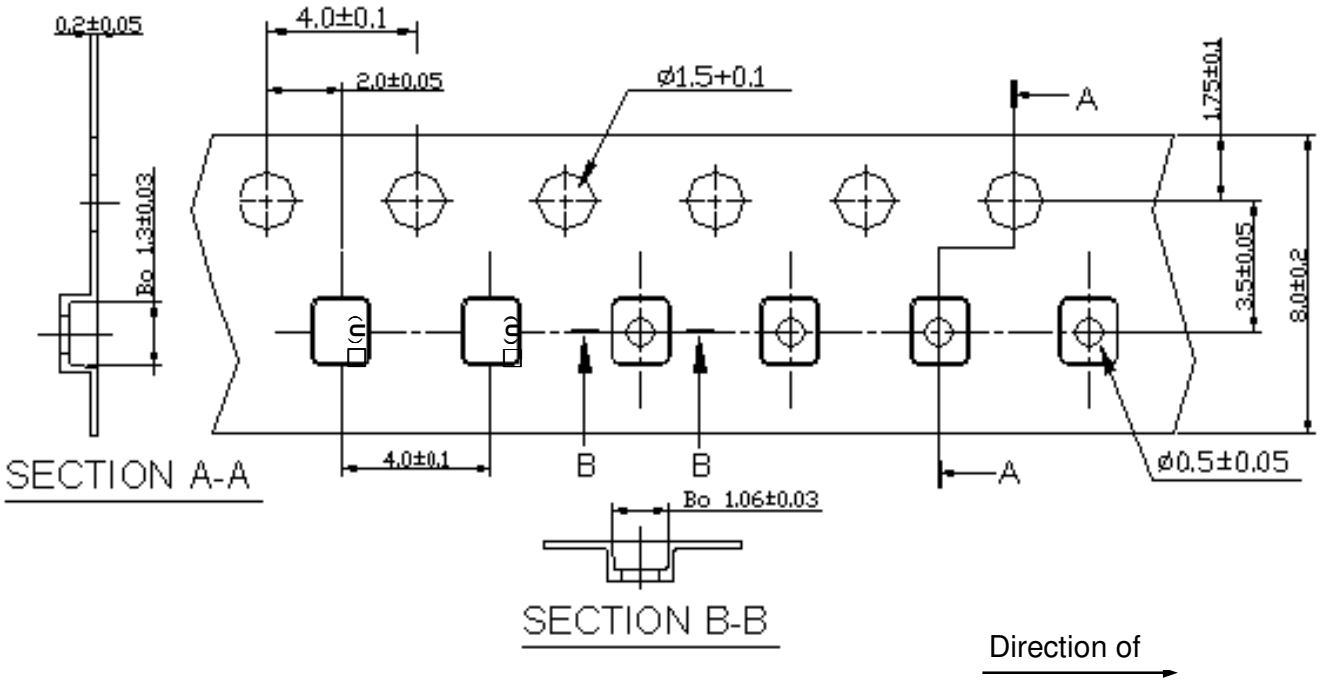
G. PACKING:

1. REEL DIMENSION

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



2.TAPE DIMENSION



H. <u>RECOMMENDED REFLOW PROFILE</u>:

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 260℃+0/-5℃ peak (20~40sec).
4. Time: 2 times.