



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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Product Specifications Approval Sheet

Product Name: SAW Tx Filter 897.5 MHz LTE Band 8 SMD 1.1x0.9 mm (BW=34.2 MHz)

TST Parts No.: TA1814B (This part is compliant by AEC-Q200)

Customer Part No.: _____

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: _____ Hayley Chou *Hayley Chou*

Approved by: _____ Andy Yu *Andy Yu*

Date: _____ 2018/07/23

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 changes



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SAW Filter 897.5 MHz

MODEL NO.: TA1814B

REV. No.: 1.0

A. MAXIMUM RATING:

1. Maximum Input Power: 13 dBm
2. DC voltage: 0 V
3. Operating Temperature: -40 °C to +85 °C
4. Storage Temperature: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD: 100 V(MM), 200 V(HBM)

RoHS Compliant

Lead-free soldering

Electrostatic Sensitive Device (ESD)

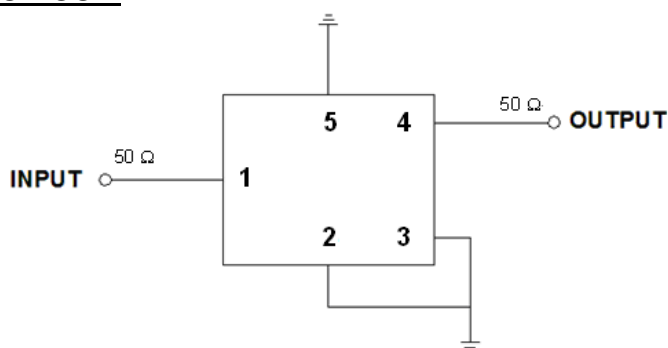
B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance: $Z_s = 50 \Omega$ (Single-ended)

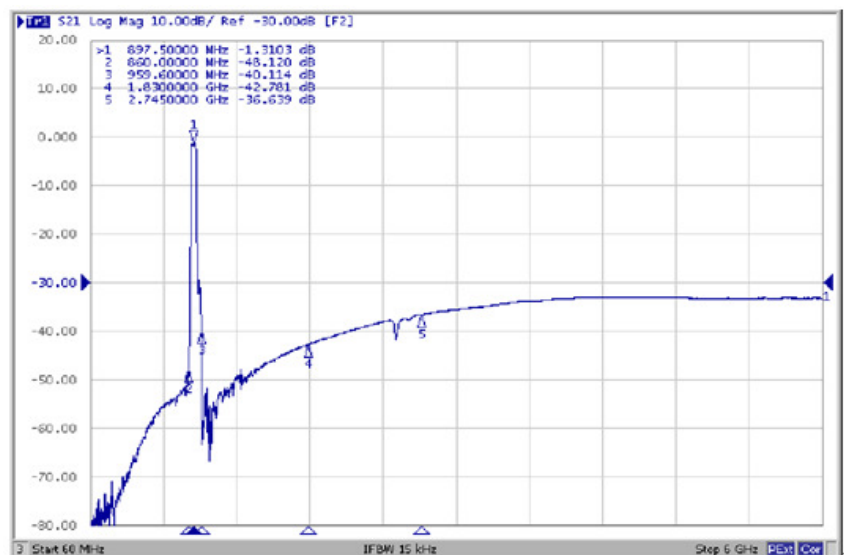
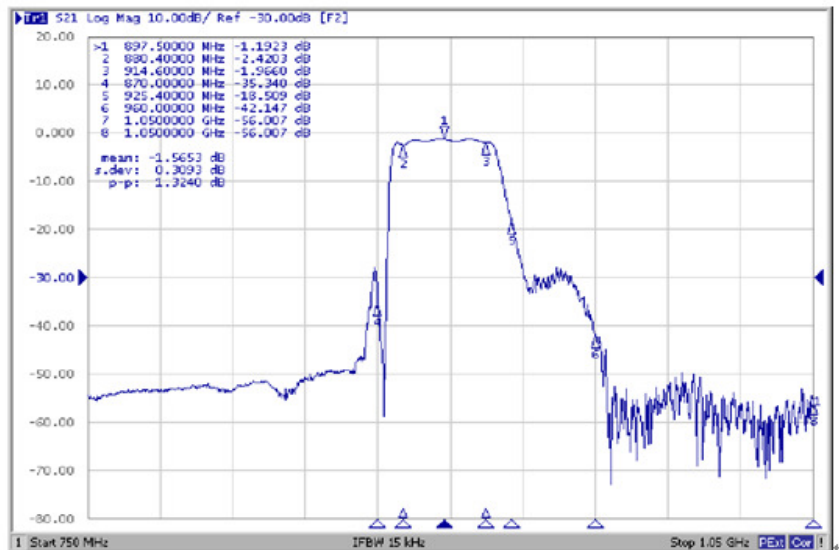
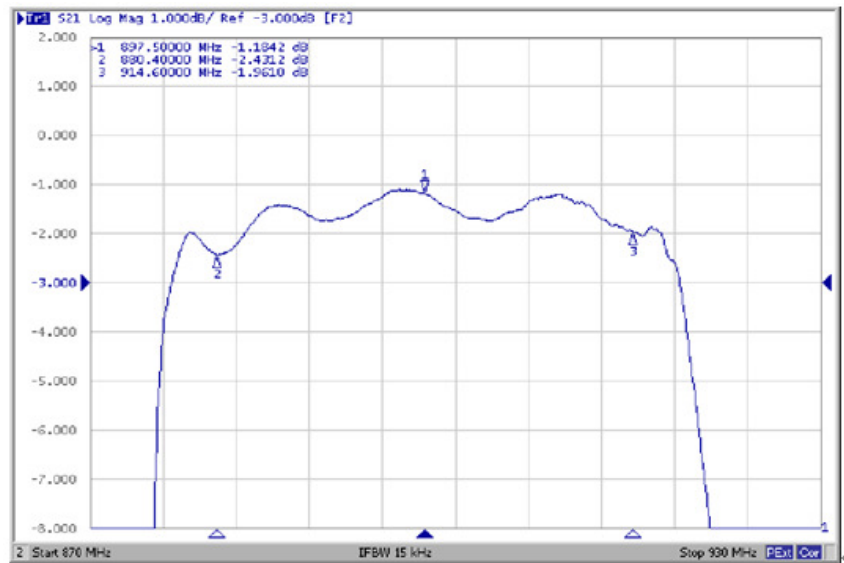
Terminating load impedance: $Z_L = 50 \Omega$ (Single-ended)

Parameters Description	Unit	Min.	Typ.	Max.
Center Frequency Fc	MHz	-	897.5	-
Insertion Loss (880.4~914.6 MHz) IL	dB	-	2.3	2.9
Amplitude Ripple (880.4~914.6 MHz)	dB _{p-p}	-	0.8	1.7
VSWR (880.4~914.6 MHz)	-	-	2.1	2.5
Attenuation (Reference level from 0 dB)				
DC ~ 860 MHz	dB	30	50	-
860 ~ 870 MHz	dB	18	28	-
925.4 ~ 935 MHz	dB	8	18	-
935 ~ 959.4 MHz	dB	24	28	-
1760 ~ 1830 MHz	dB	34	44	-
2640 ~ 2745 MHz	dB	30	39	-

C. MEASUREMENT CIRCUIT:

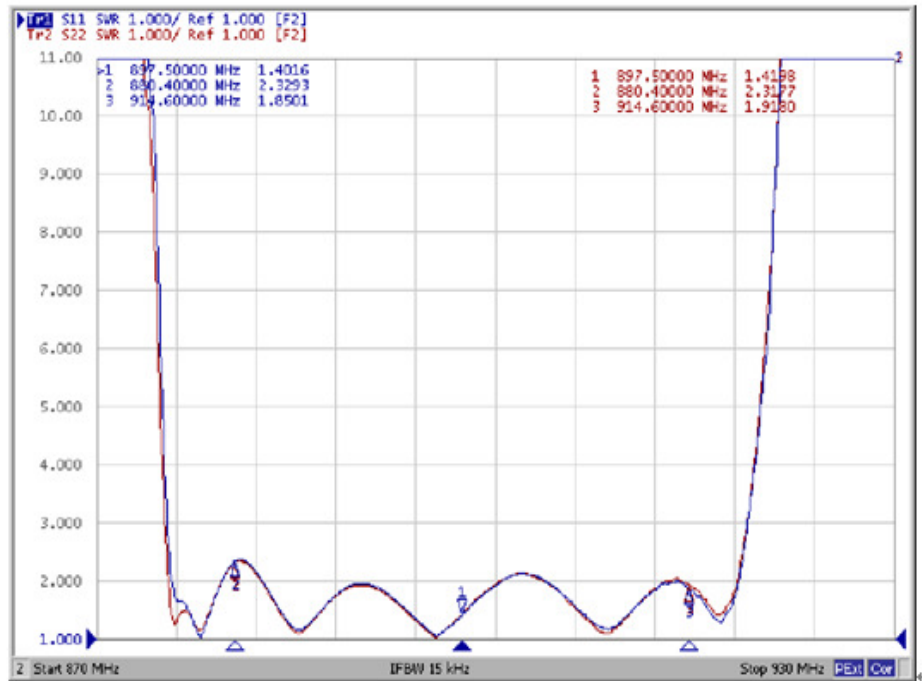


D. FREQUENCY CHARACTERISTIC:

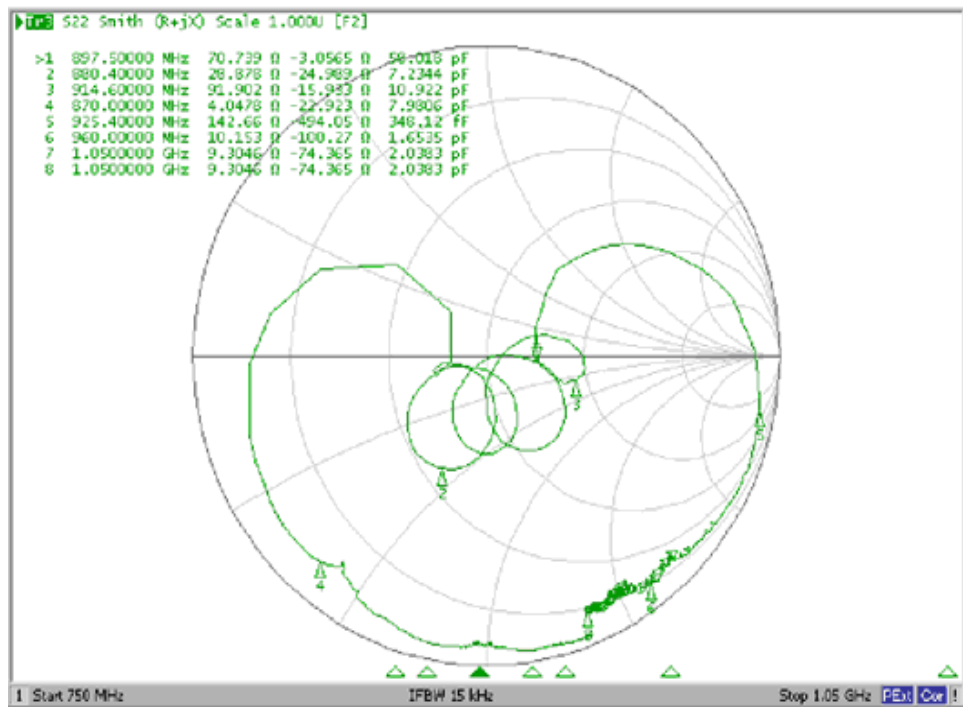
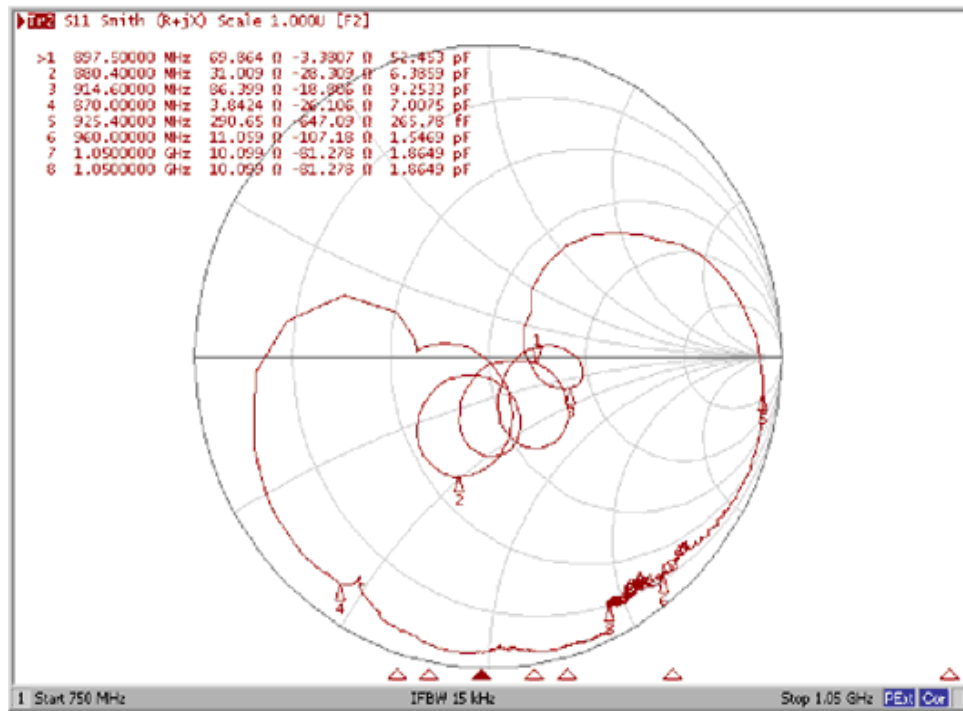


Reflection Functions:

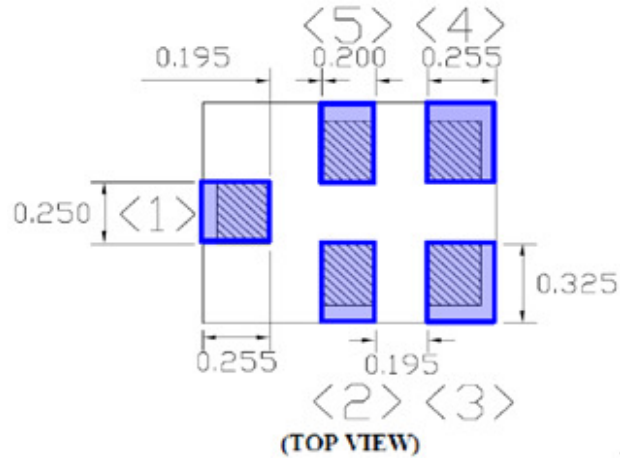
VSWR



Smith Chart

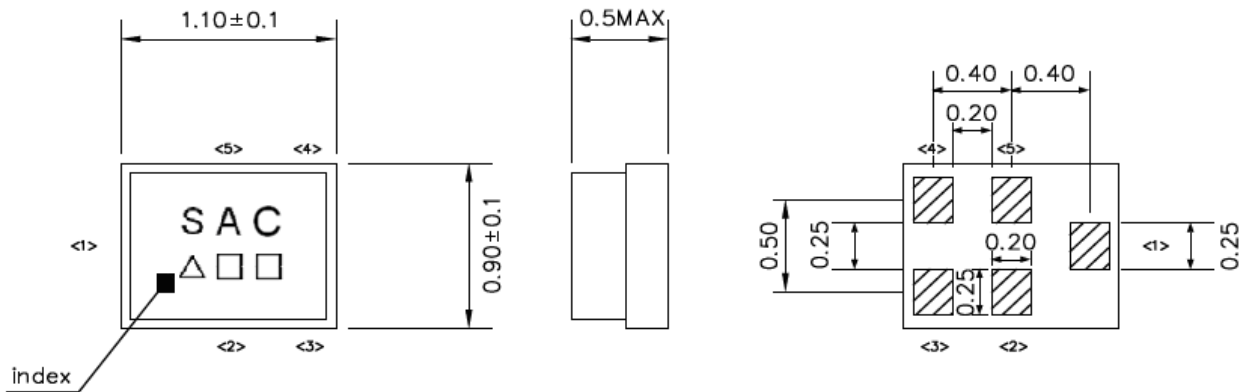


E. PCB Footprint:



F OUTLINE DRAWING (Mass Production):

Device size: 1.1typ. x 0.9typ. x 0.5max.



Unit : mm

Pin Configuration

Pin No.	Symbol	Function
1	IN	Unbalanced pin
2	GND	Ground
3	GND	Ground
4	OUT	Unbalanced pin
5	GND	Ground

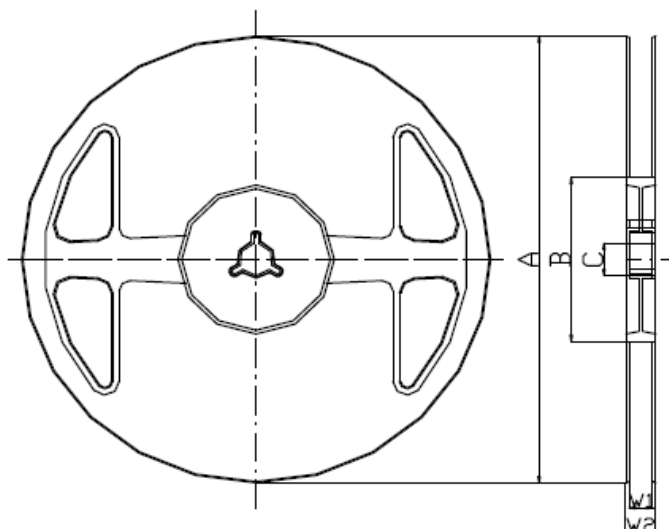
△ : Date Code

□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

Date Code:

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

1. REEL DIMENSION



Material : Polystyrene + Carbon

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

Unit : mm

Code	Quantity	A	B	C	W1	W2
J	5,000 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

Technical drawing of a 3D printed part showing dimensions and tolerances. The drawing includes the following specifications:

- Empty cavities:** Indicated by arrows pointing to the hollow sections of the part.
- Component fixed area:** Indicated by an arrow pointing to the central section of the part.
- Dimensions and Tolerances:**
 - Top horizontal dimensions: 4.0 ± 0.1 , 2.0 ± 0.05 , 0.20 ± 0.05 , 1.75 ± 0.1 , 3.50 ± 0.05 .
 - Bottom horizontal dimensions: 1.1 ± 0.1 , 4.0 ± 0.1 , 0.63 ± 0.05 , 8.0 ± 0.2 .
 - Vertical dimensions: 1.3 ± 0.1 , 240 mm min. , 400 mm min. , 8.0 ± 0.2 .
 - Internal features: $\Phi 1.55 \pm 0.05$ and $\Phi 0.5 \pm 0.05$.
 - Other features: SAC (Support Area Cavity), hatched areas, and a dashed line.
- Unit:** mm
- Direction of feed:** Indicated by an arrow pointing to the right.

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 $260^{\circ}\text{C}+0/-5^{\circ}\text{C}$ peak (20~40sec).
4. Time: 2 times.

