



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Name: SAW Filter 434.42 MHz (BW 1.07MHz) SMD 3X3 mm

TST Parts No.: TA1789A (This part is is compliant with AEC-Q200)

Customer Parts No.: \_\_\_\_\_

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

Checked by: \_\_\_\_\_ Michael Yang *Michael*

Approval by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2018/01/08

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 434.42MHz

MODEL NO.:TA1789A

REV. NO.:2.0

### A. MAXIMUM RATING:

1. Input Power Level: 13 dBm
2. DC Voltage : 0V
3. Operating Temperature: -40°C to +105°C
4. Storage Temperature: -40°C to +105°C
5. Moisture Sensitive Level (MSL): Level 1

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device (ESD)

### B. ELECTRICAL CHARACTERISTICS:

Terminating source impedance (single) :  $Z_s = 50 \Omega$

Terminating load impedance(single) :  $Z_L = 50 \Omega$

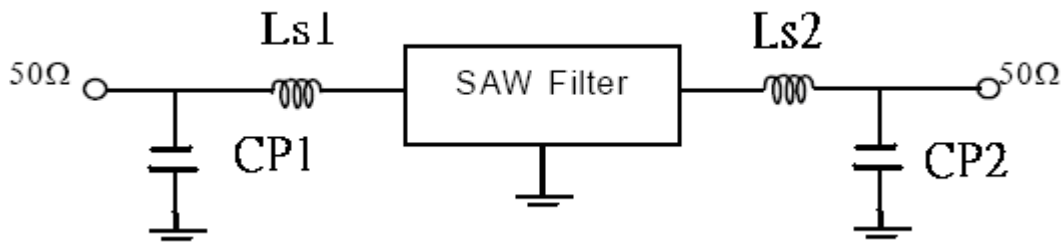
Item	Unit	Min	Type.	Max
<b>Center Frequency</b> $F_c$	MHz	-	434.42	-
<b>Minimum Insertion Loss</b> $\alpha_{min}$				
<b>Incl. Loss in matching elements</b> (433.885 ~ 434.955 MHz)	dB		2.2	2.9
<b>Excl. Loss in matching elements</b> (433.585 ~ 434.955 MHz)	dB		1.4	2.1
<b>Pass Band</b> (Relative to $\alpha_{min}$ )				
<b>433.885 ~ 434.955 MHz</b> <sup>1</sup>			1.1	2.5
<b>433.87 ~ 434.97 MHz</b> <sup>2</sup>			1.3	3.0
<b>Relative Attenuation</b> (Relative to $\alpha_{min}$ ) $\alpha_{rel}$				
10 ~ 350 MHz	dB	50	55	
350 ~ 414 MHz	dB	30	35	
414 ~ 425 MHz	dB	30	35	
425 ~ 432.72 MHz	dB	13	17	
436.42 ~ 437.3 MHz	dB	13	17	
437.3 ~ 438 MHz	dB	22	27	
438 ~ 446 MHz	dB	25	30	
446 ~ 455 MHz	dB	25	30	
455 ~ 480 MHz	dB	28	33	
480 ~ 800 MHz	dB	40	45	
800 ~ 1700 MHz	dB	52	57	
1700 ~ 2500 MHz	dB	42	47	
<b>Package size</b>	mm	SMD 3x3		

<b>Impedance</b> for pass band matching)				
Input: $Z_{IN} = Ls1/Cp1$	nH		82/8.2	
Output: $Z_{OUT} = Ls2/Cp2$	nH		68/1	

- 1) 433.885 ... 434.90 MHz for extended temperature range  $-40\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$ .
- 2) 433.870 ... 434.915 MHz for extended temperature range  $-40\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$ .

**C.. TEST CIRCUIT:**

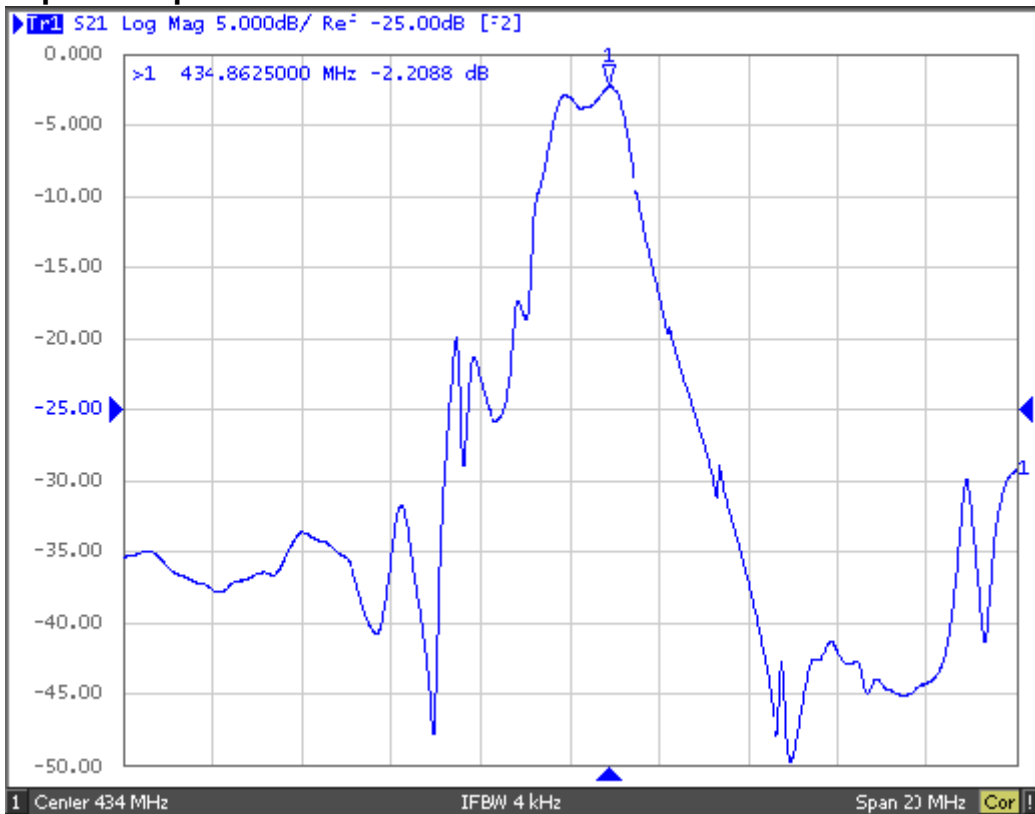
The matching circuit is



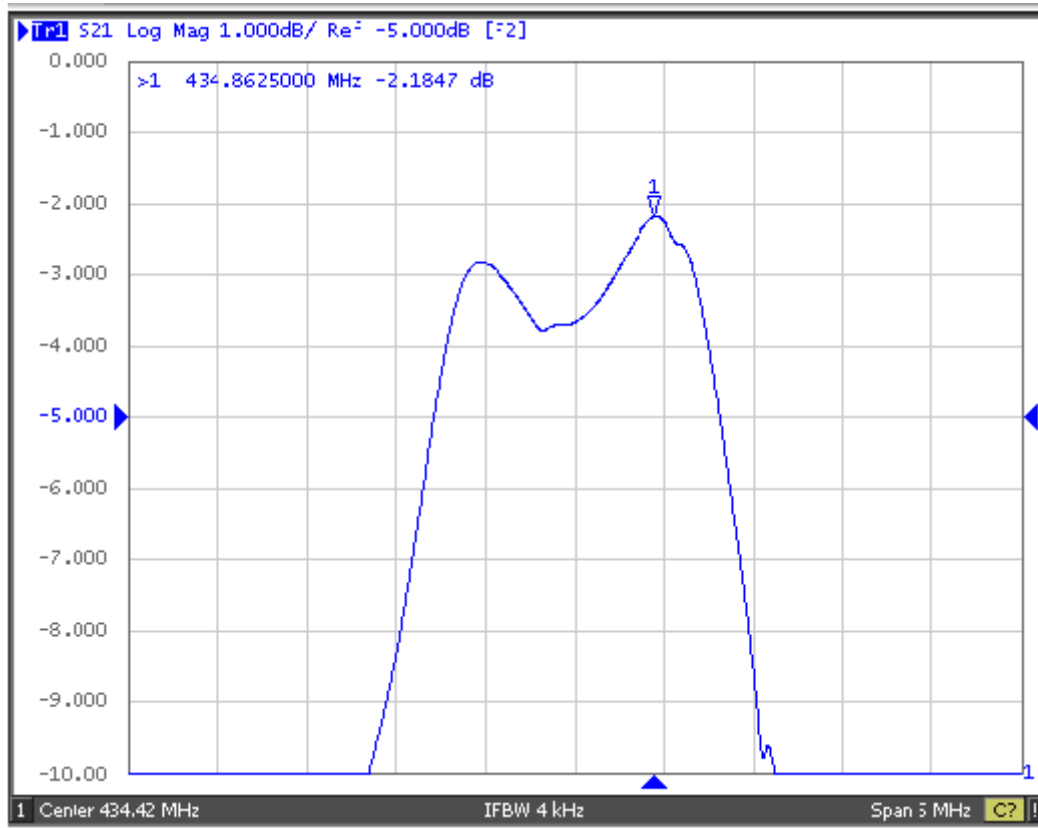
**Ls1=82nH ; Ls2=68nH;Cp1=8.2 pF ; Cp2=1pF**

**D. Frequency Characteristics:**

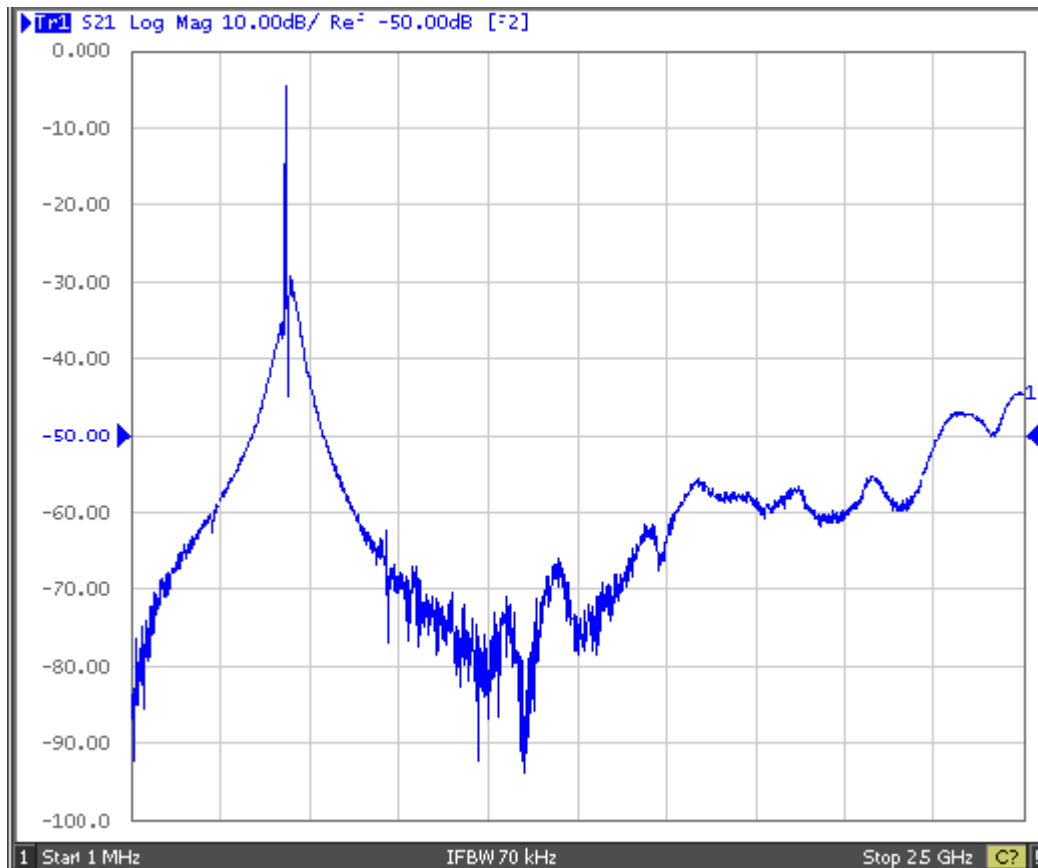
**S21 response: span 20MHz**



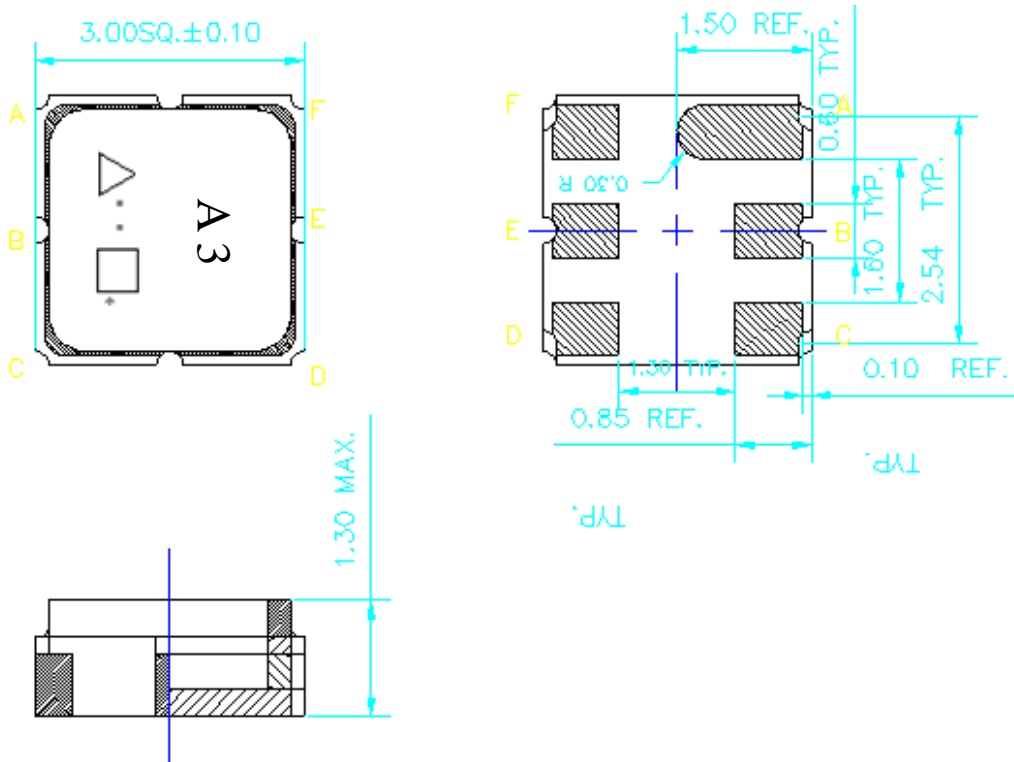
### S21 response: span 5MHz



### S21 response: 1MHz ~ 2.5GHz



**E.OUTLINE DRAWING:**



- #A: Input or input ground
- #B: Input or input ground
- #D: Output or output ground
- #E: Output or output ground
- #C.F Ground
- △: Year code(ex 2008-> 8
- : Date code
- Unit:mm

Data code : See the table

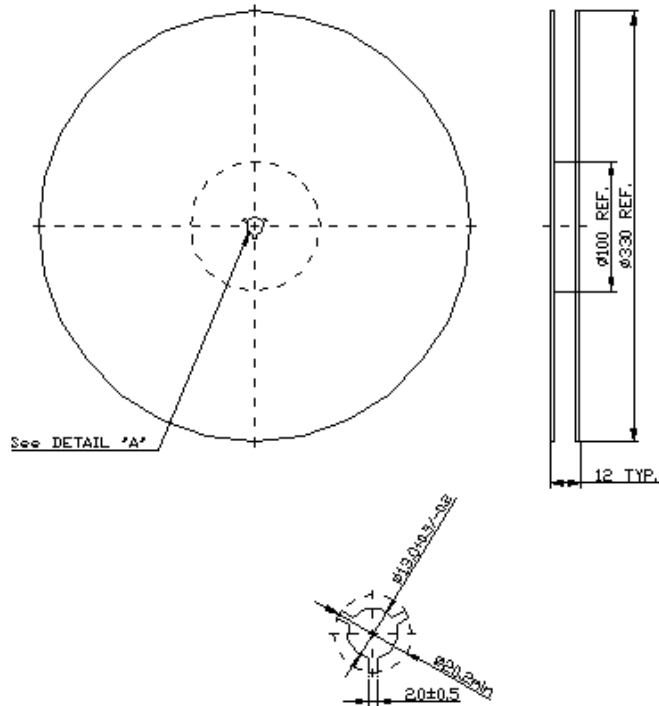
<b>WK</b>	01	02	...	26	27	28	...	52
<b>Code</b>	A	B	...	Z	a	b	...	z

△ Year code : See the table

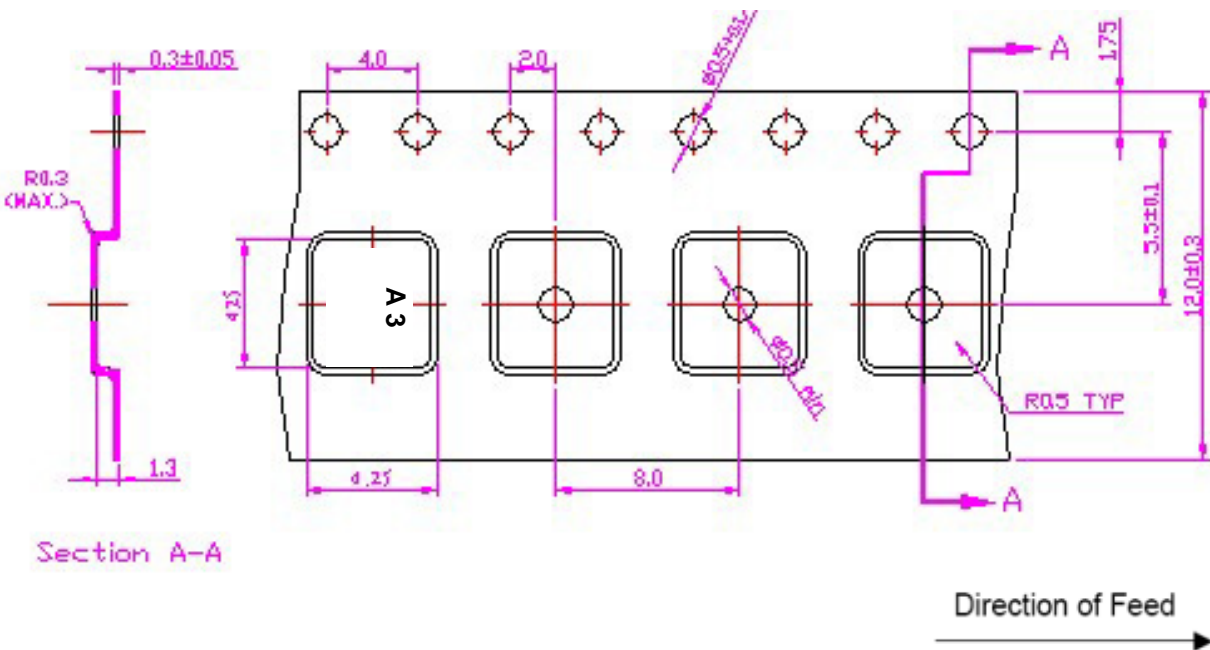
<b>Year</b>	2008	2009	2010	2011	...	2019	2020
<b>Code</b>	8	9	0	1	...	9	0

**F. PACKING:**

**1. REEL DIMENSION**



**2. TAPE DIMENSION**



**G. 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 260°C+0/-5°C peak (20~40sec).
4. Time: 2 times.

