

NDK CONFIDENTIAL



## Specification review result of 1590MHz SAW filter

CUSTOMER: ELTECH A/S

DESCRIPTION: Specification review result of 1590MHz SAW filter

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REVIEW DATE: 6-May-2022

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CHECKED BY: -----

APPROVED BY: T.Tsuda

**ENGINEERING DEPT.**  
**NDK SAW devices Co., Ltd.**

Gentleman:

This is a specification review result of 1590MHz SAW filter.  
Please confirm their contents.

## Specifications

### Maximum ratings

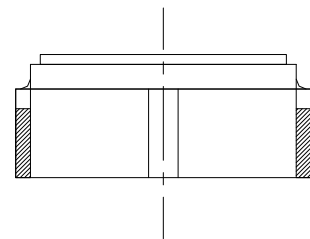
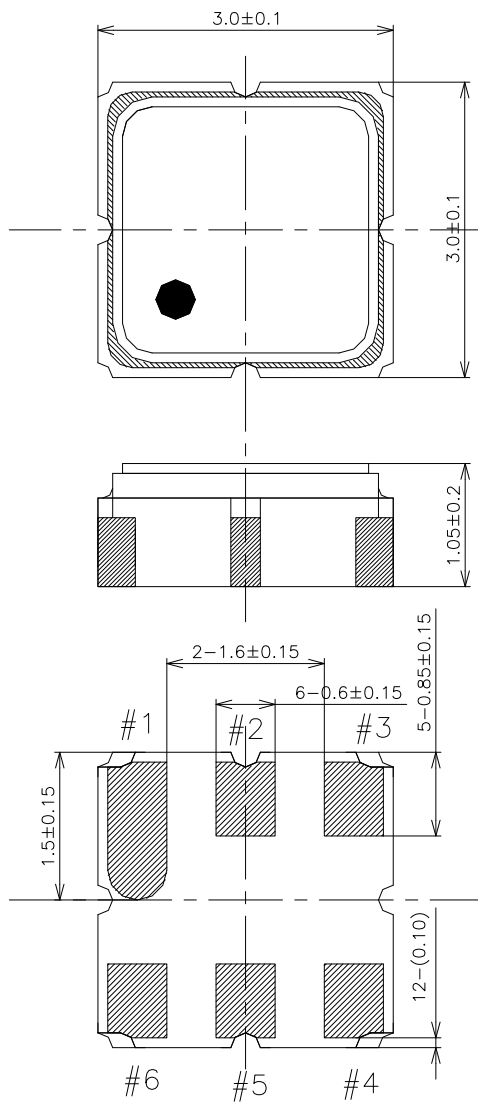
Parameter	Unit	Your request			Our proposal		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Operating temperature	degC	-40	-	+85	-40	-	+85
Storage temperature	degC	-40	-	+125	-40	-	+85
Input power level (CW +55degC 50,000h)	dBm	-	-	+10	-	-	+10
TCf	ppm/K	-	-70	-	-	-45	-
Package SIZE	mm	3.0 x 3.0			3.0 x 3.0 x 1.05		
Terminating impedance	ohm	50			50		

### Electrical Characteristics

Parameter	Unit	Your request			Our proposal (*1)			
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Model Name	-	-			-			
Center Frequency (Fn)	MHz	1590			1590			
Maximum Insertion Loss (within 1566 MHz to 1614 MHz)	dB	-	3.2	4.0		2.2	3.2	
Amplitude Ripple (within 1566 MHz to 1614 MHz)	dB	-	0.8	1.6	-	1.0	2.0	
Group Delay Variation (within 1566 MHz to 1614 MHz)	ns	-	7	10	-	9.6	25	
Attenuation (Relative 0dB)								
1	1 MHz to 1515 MHz	dB	30	32	-	30	34	-
2	1658 MHz to 1685 MHz	dB	25	40	-	25	47	-
3	1685 MHz to 2000 MHz	dB	30	33	-	30	36	-
4	2000 MHz to 3000 MHz	dB	20	24	-	20	24	-
5	3000 MHz to 5000 MHz	dB	10	18	-	TBD	TBD	-

Note : (\*1) Our proposal is based on simulation values. These values may be changed after trial production.

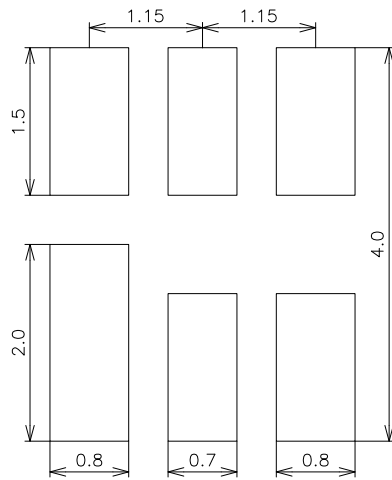
**Package dimensions and pin connections**



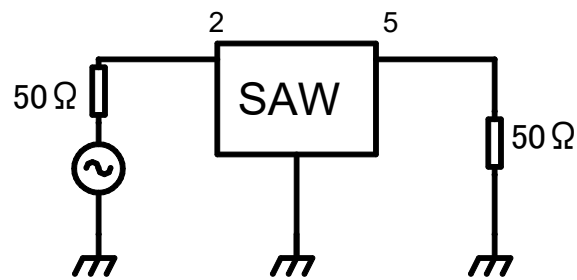
Terminal land connection	
2	INPUT
5	OUTPUT
1,3,4,6	GND

Unit [mm]  
Tolerance  $\pm 0.2$ mm

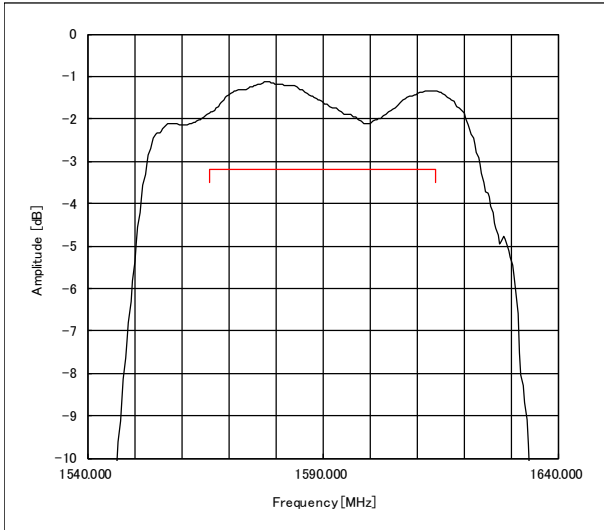
**Land pattern (recommended)**



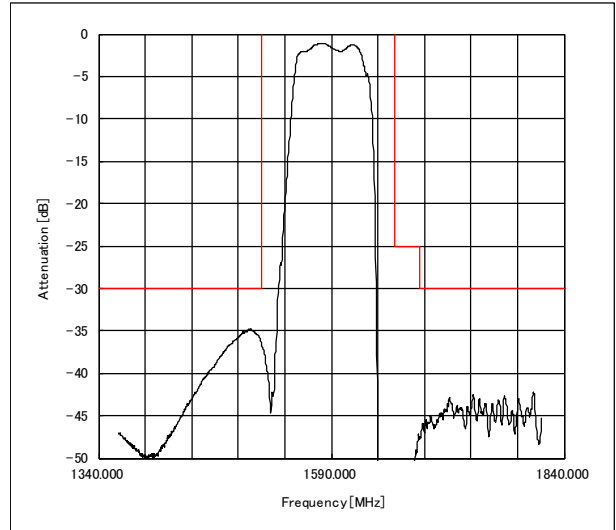
**Matching networks**



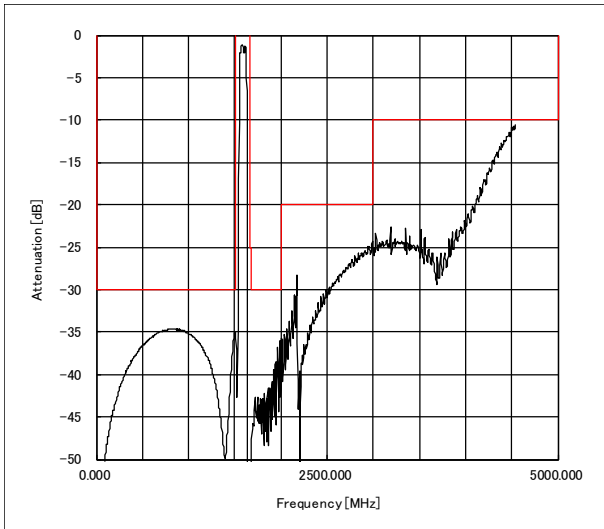
**Filter characteristics ( Simulation result )**



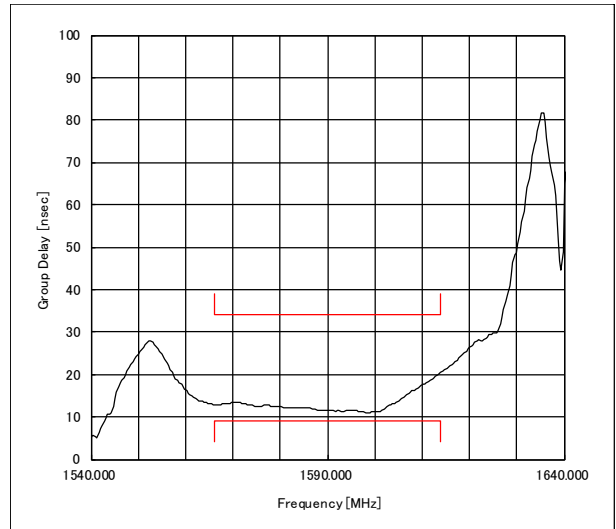
Pass band characteristics (Amplitude)  
Center : 1590 MHz    Span : 100 MHz  
0.5dB/div



Out-of-band characteristics (Amplitude)  
Center : 1590 MHz    Span : 500MHz  
5dB/div



Out-of-band characteristics (Amplitude)  
Center : 2500 MHz    Span : 5000MHz  
5dB/div



Pass band characteristics (Group delay)  
Center : 1590 MHz    Span : 100 MHz  
10ns/div

\* Red Line : Our Proposal