



*Total Solution Provider in Saw Device*

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# SA14309AD1

143.0 MHz IF SAW Filter  
9.80 MHz Bandwidth  
Revision 0: 27. July. 2011



- Electrical Characteristics
  - Package Dimensions
  - Testing Environment
  - Frequency Characteristics
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## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-30	-	+80
Storage Temperature Range	°C	-40	-	+85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	D1			
Length x Width	mm <sup>2</sup>	-	20.0 x 9.8	-
Height	mm	-	-	1.8

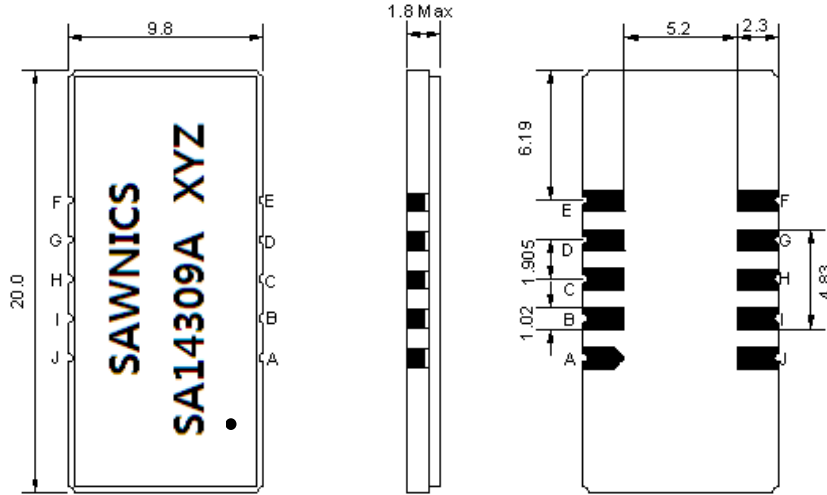
### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	143.0	-
Insertion Loss at Fo	dB	-	24.80	27.0
Group Delay Variation (Fo±4.42MHz)	nsec	-	30	70
Absolute Delay at Fo	usec	-	3.0	3.15
Passband Ripple Variation(Fo±4.42MHz)	dB	-	0.4	1.0
Bandwidth at -1dB	MHz	9.60	9.80	-
Bandwidth at -3dB	MHz	-	10.11	-
Bandwidth at -40dB	MHz	-	11.40	11.60
Out Band Rejection (Fo±5.0MHz)	dB	50	55	-
Temperature Coefficient	ppm/°C	-	-20	-

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

Those impedances could be modified with different impedance values and/or structures, if necessary.

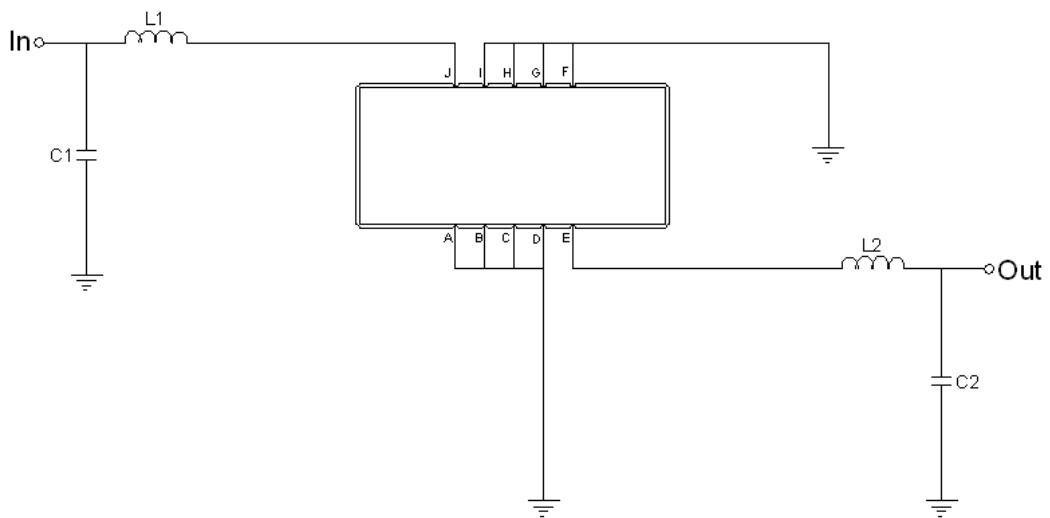
### Package Dimensions



- ① SAWNICS: Brand
- ② SA14309A: Model Name
- ③ X : Date Code (Year)
- ④ Y : Date Code (Month)
- ⑤ Z : Date Code (Date)
- : Index Dot

Pin Description	
A, B, C, D, F, G, H, I	Ground
J	Input
E	Output

### Testing Environment



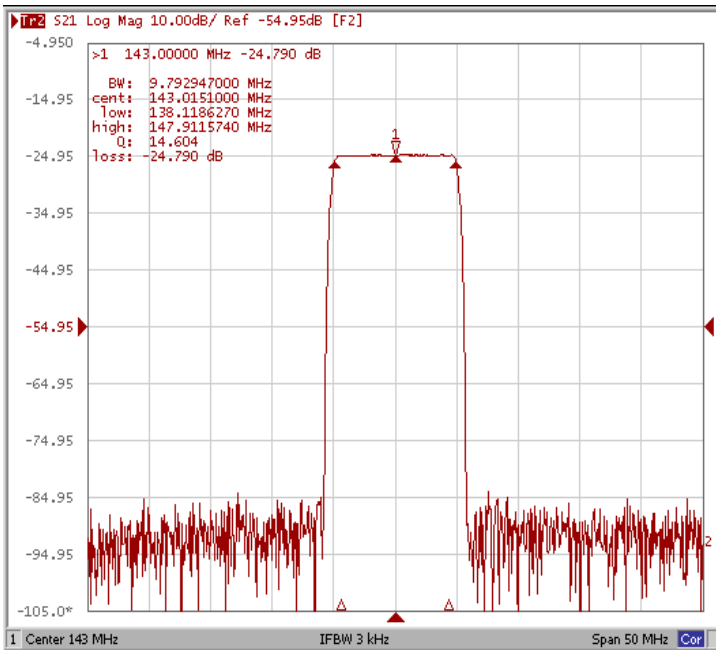
Test Fixture & Values	
Input	L1 = 47 nH, C1 = 36 pF
Output	L2 = 39 nH, C2 = 36 pF
Source/Load Impedance	50 Ω



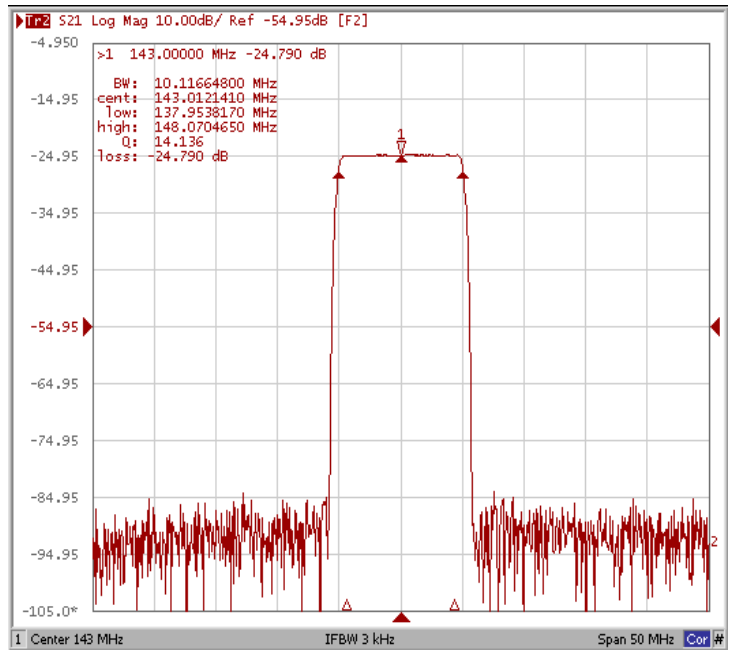
## Frequency Characteristics

### Frequency Response

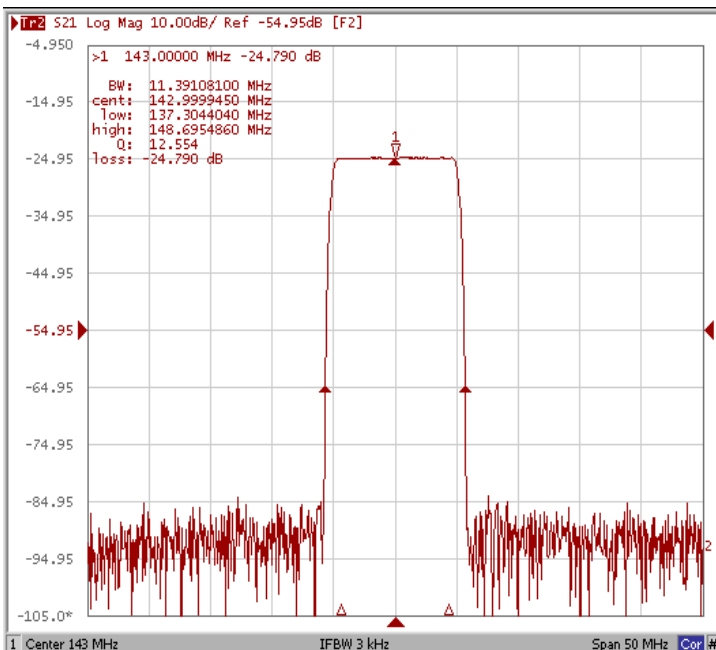
Bandwidth at -1.0 dB



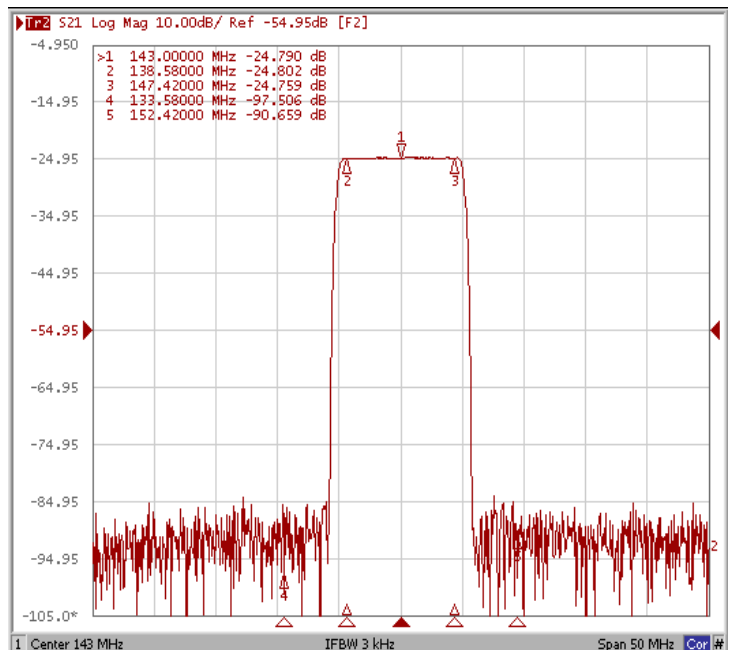
Bandwidth at -3.0 dB



Bandwidth at -40.0 dB



Out Band Rejection Fo±5.0MHz

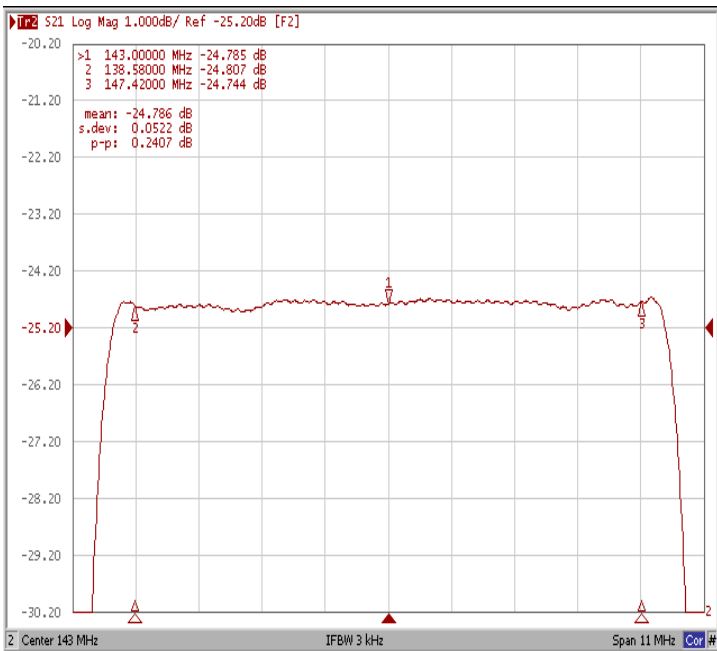




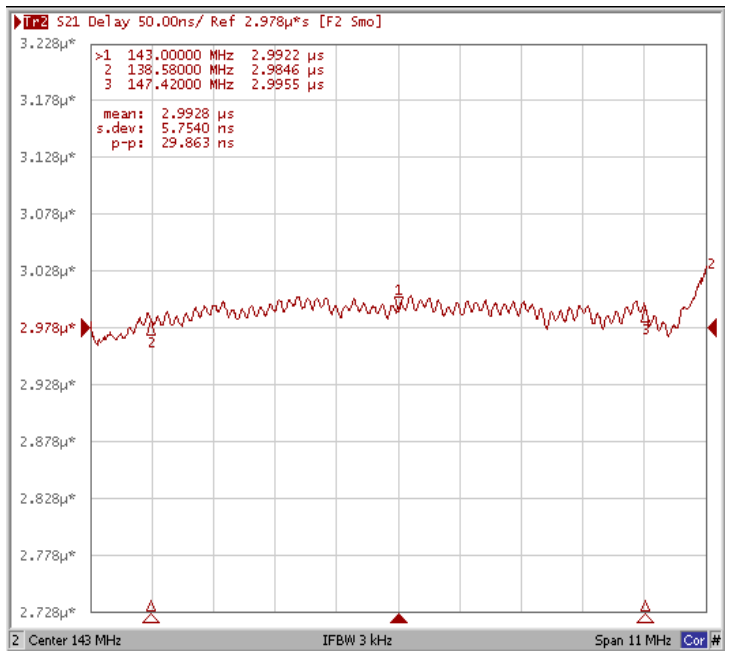
**Frequency Characteristics**

**Frequency Response**

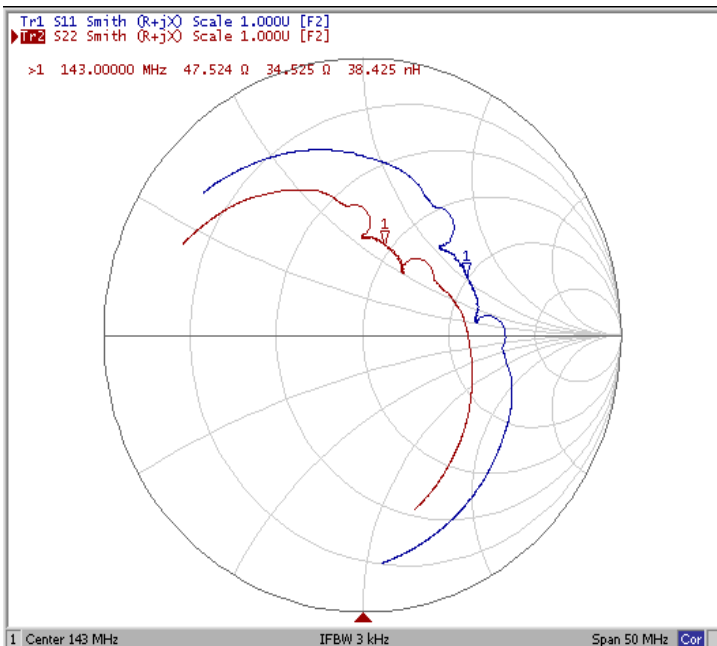
**Ripple Variation Fo±4.42MHz**



**Group Delay Variation Fo±4.42MHz**



**Smith Chart**



**VSWR**

