

# TL15337AV

153.6 MHz IF SAW Filter  
37.85 MHz Bandwidth  
Revision 0: 19. Mar. 2010



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

***Transko Electronics, Inc.***

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## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-10	-	+80
Operable Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-30	-	+85
Maximum Input Power	dBm	-	-	5
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	V			
Length x Width	mm <sup>2</sup>	-	13.3 x 6.5	-
Height	mm	-	-	1.8

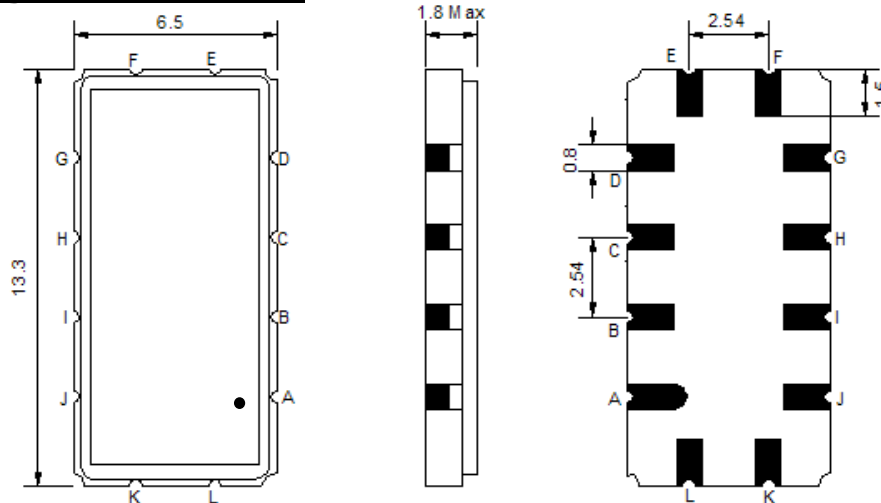
### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	153.40	153.60	153.80
Insertion Loss at Fo	dB	-	12.3	15.00
Group Delay Variation at Fo ± 16.00 MHz	nsec	-	22	60
Absolute Delay at Fo	usec	-	0.35	0.50
Passband Ripple Variation at Fo ± 16.00 MHz	dB	-	0.40	1.00
Phase ripple <rms> (Fo +/-16MHz)	deg	-	1.2	1.5
Phase ripple <p-p> (Fo +/-16MHz)	deg	-	5.5	10
Bandwidth at -1dB	MHz	36.00	37.85	-
Bandwidth at -40dB	MHz	-	53.65	56.00
<b>Relative Attenuation</b>				
70MHz ~ 115MHz	dB	40	52	-
115MHz ~ 125MHz	dB	40	50	-
275MHz ~ 350MHz	dB	40	50	-
400MHz ~ 1000MHz	dB	40	50	-
1000MHz ~ 2000MHz	dB	40	55	-
Input / Output Return loss	dB	-	6.2 / 5.1	-
Temperature Coefficient	ppm/°C	-	-86	-

**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.

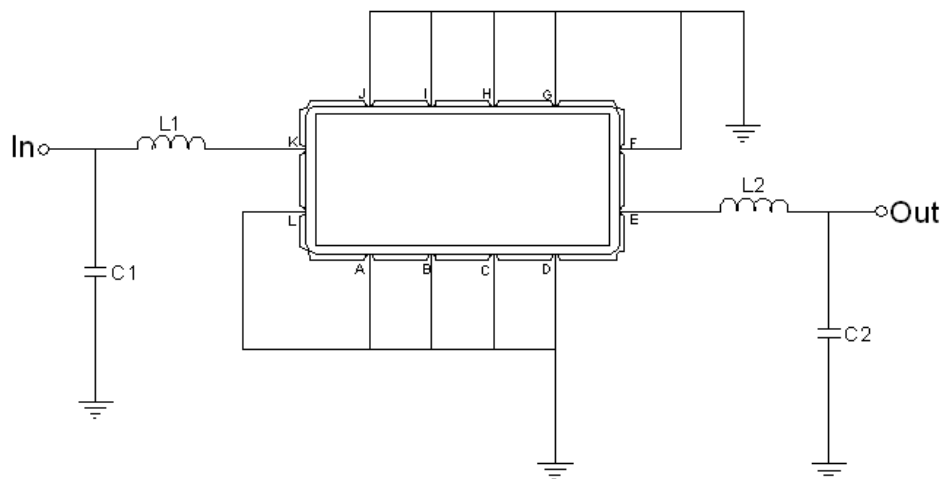
### Package Dimensions



- ① TRANSKO: Brand
- ② TSL15337A: 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, J, L	Ground
K	Input
E	Output

### Testing Environment

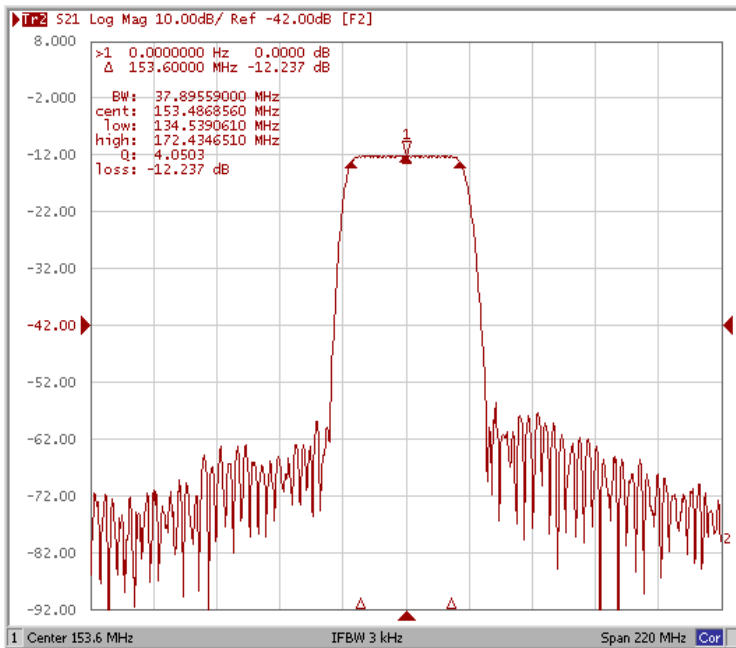


Test Fixture & Values	
Input	L1 = 82 nH, C1 = 12 pF
Output	L2 = 68 nH, C2 = 15 pF
Source/Load Impedance	50 $\Omega$

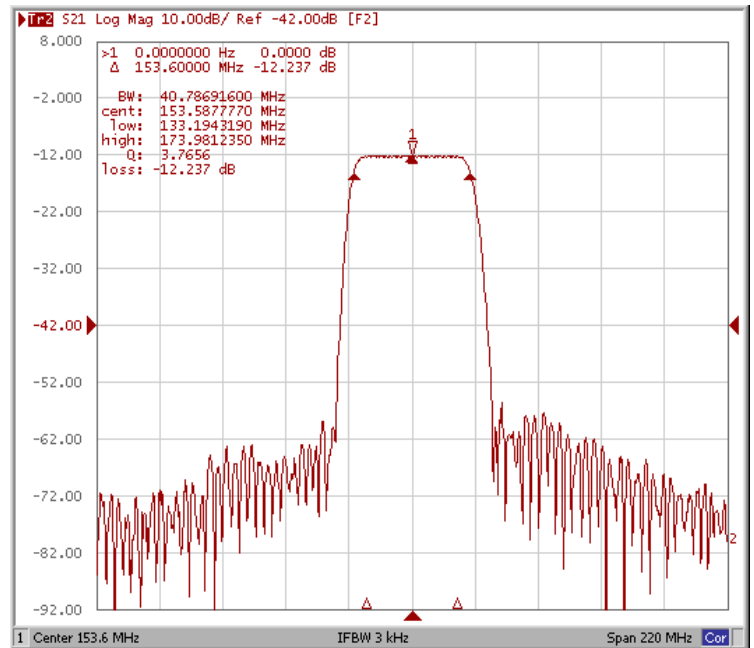
### Frequency Characteristics

#### Frequency Response

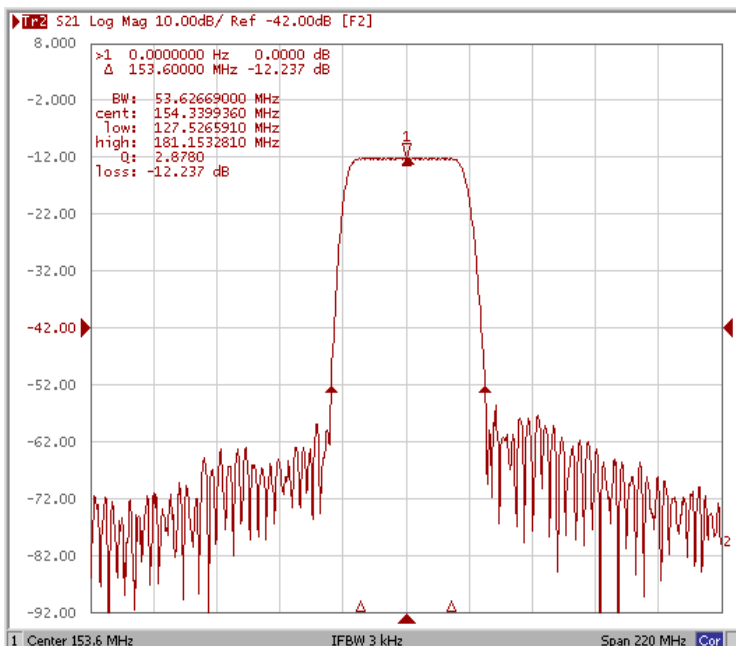
Bandwidth at -1.0 dB



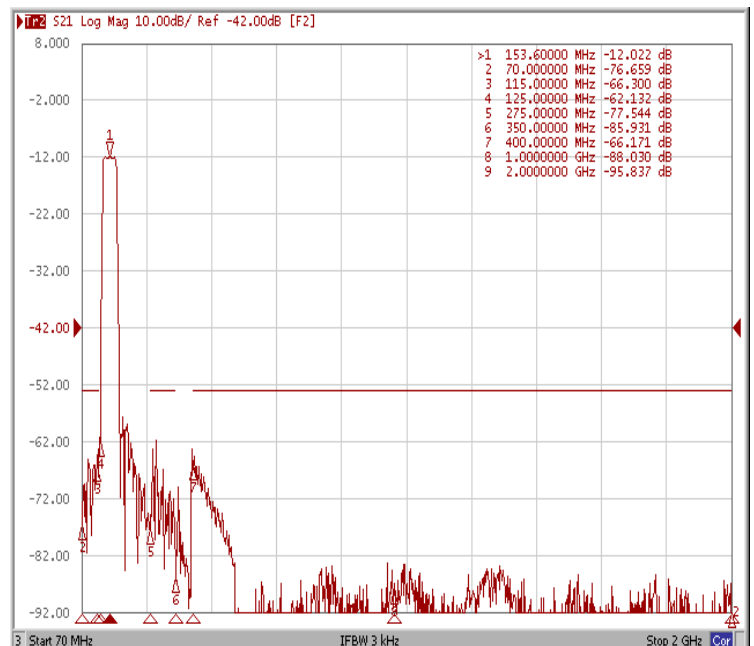
Bandwidth at -3.0 dB



Bandwidth at -40 dB



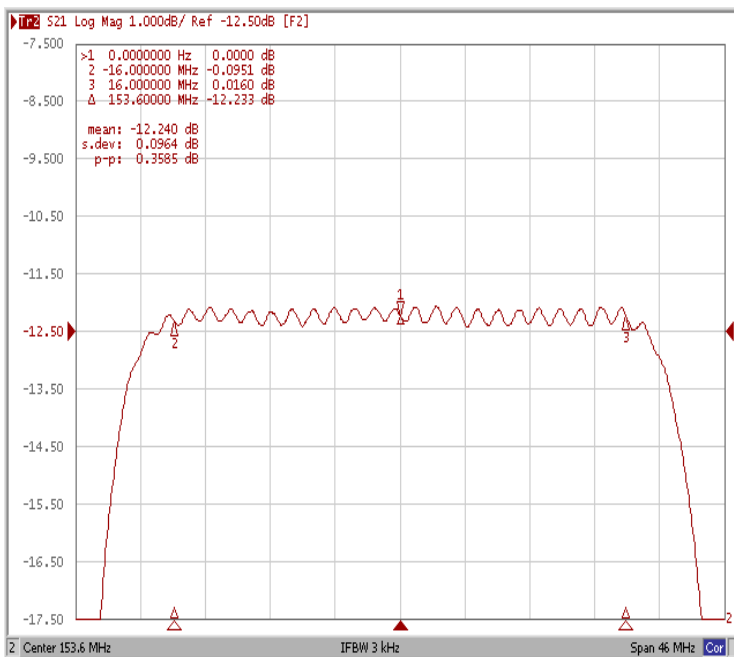
Relative Attenuation



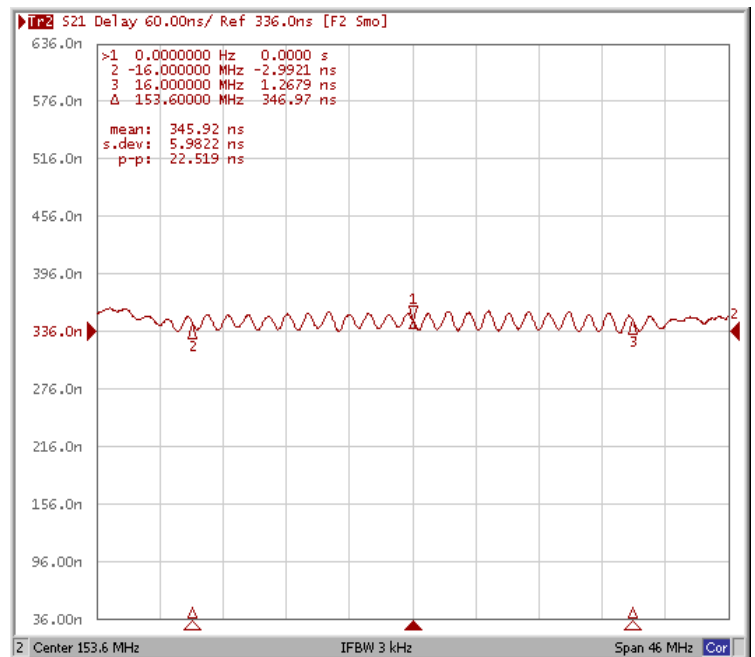
### Frequency Characteristics

#### Frequency Response

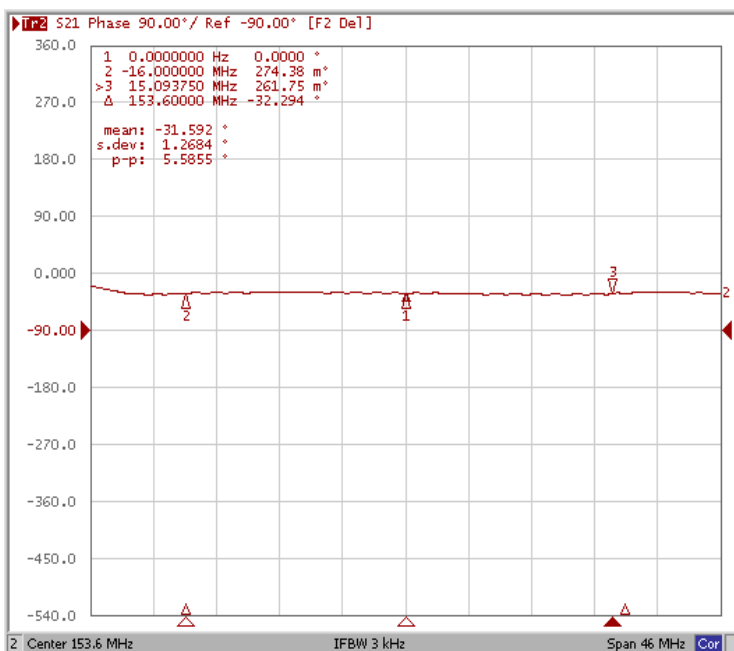
Ripple Variation  $Fo \pm 16.00\text{MHz}$



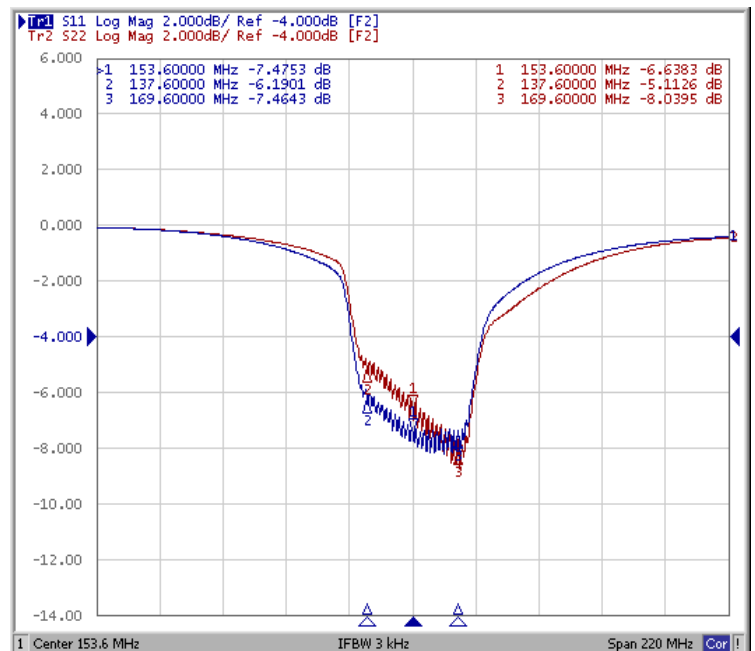
Group Delay Variation  $Fo \pm 16.00\text{MHz}$



Phase ripple  $Fo \pm 16.00\text{MHz}$



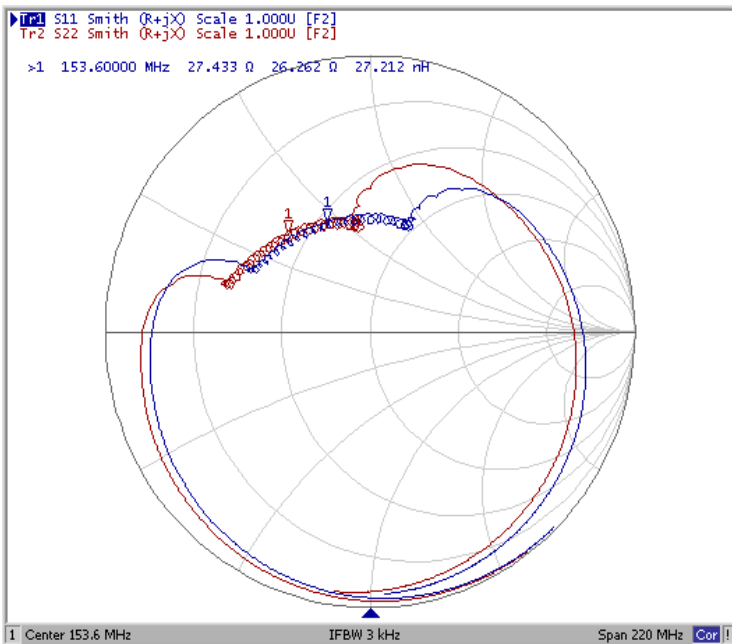
Return loss



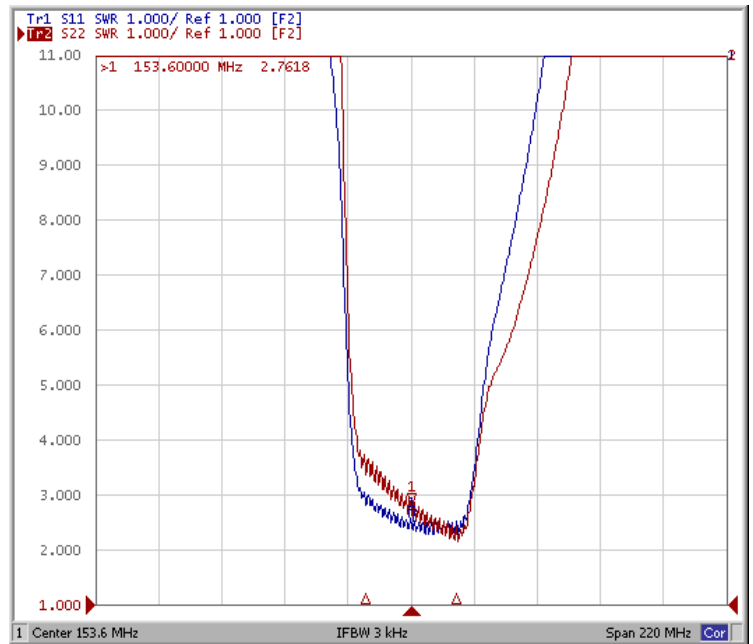
### □ Frequency Characteristics

#### Frequency Response

Smith Chart



VSWR



## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-10	-	+80
Operable Temperature Range	°C	-30	-	+85
Storage Temperature Range	°C	-30	-	+85
Maximum Input Power	dBm	-	-	5
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	V			
Length x Width	mm <sup>2</sup>	-	13.3 x 6.5	-
Height	mm	-	-	1.8

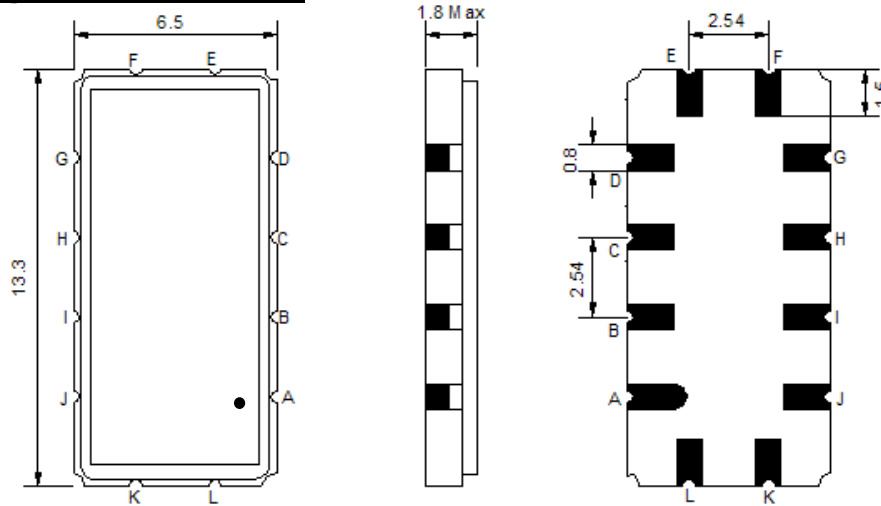
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<b>Relative Attenuation</b>				
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115MHz ~ 125MHz	dB	40	50	-
275MHz ~ 350MHz	dB	40	50	-
400MHz ~ 1000MHz	dB	40	50	-
1000MHz ~ 2000MHz	dB	40	55	-
Input / Output Return loss	dB	6.0	6.8 / 6.7	-
Temperature Coefficient	ppm/°C	-	-86	-

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

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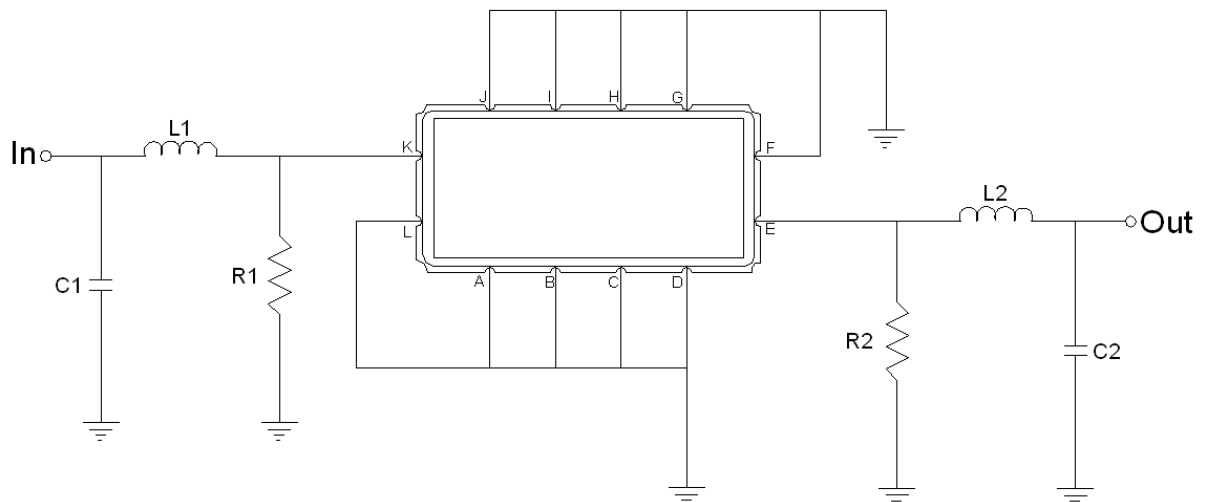
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K	Input
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### Testing Environment



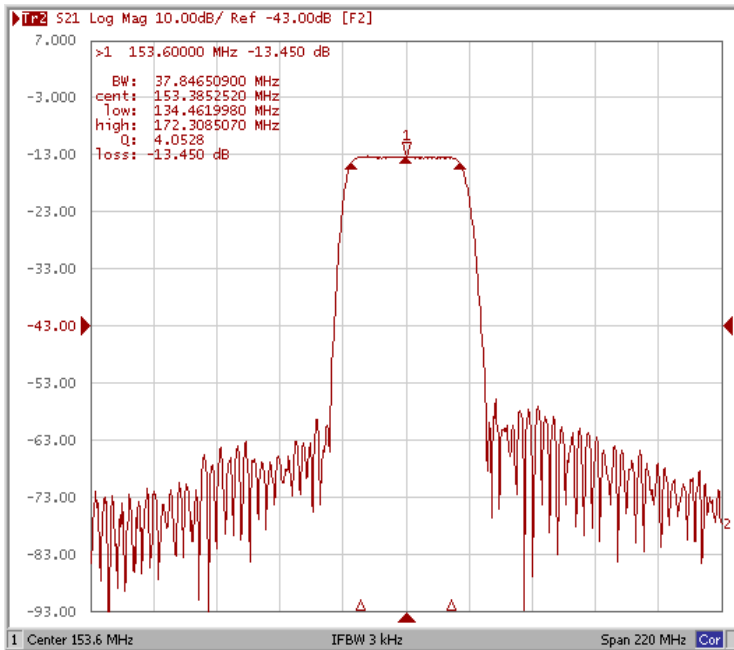
Test Fixture & Values	
Input	L1 = 82 nH, C1 = 13 pF, R1 = 2 K $\Omega$
Output	L2 = 68 nH, C2 = 13 pF, R2 = 680 $\Omega$
Source/Load Impedance	50 $\Omega$



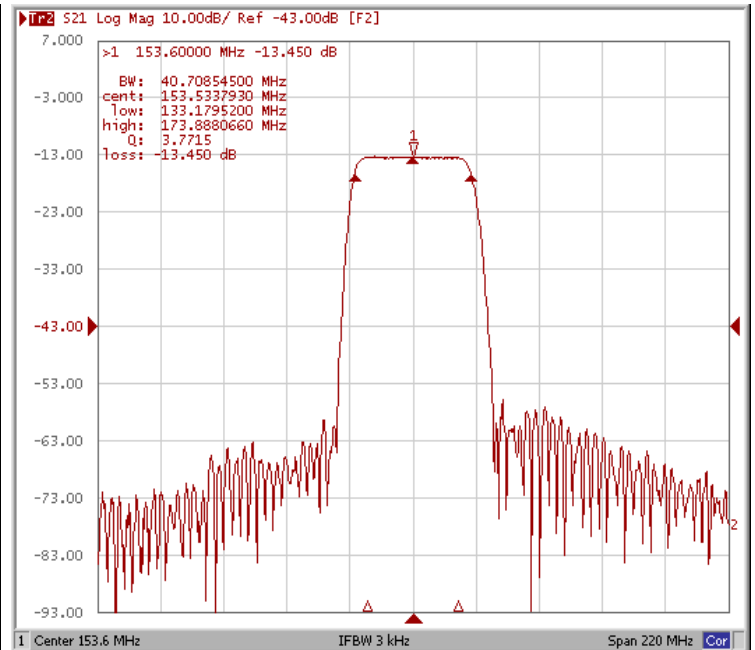
### Frequency Characteristics

#### Frequency Response

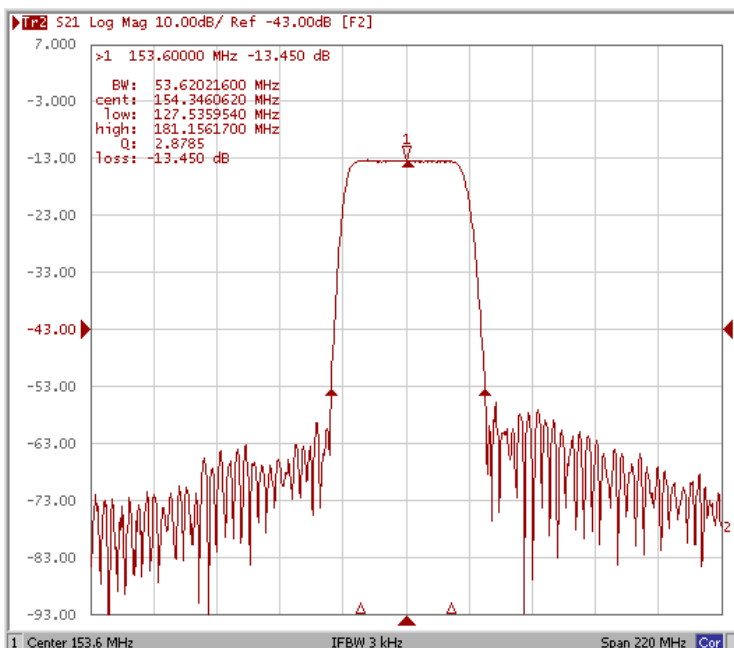
Bandwidth at -1.0 dB



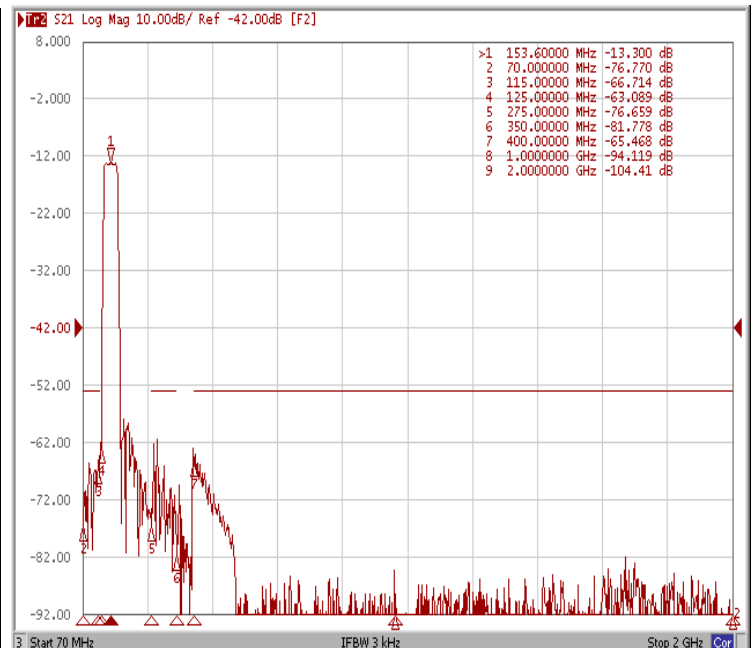
Bandwidth at -3.0 dB



Bandwidth at -40 dB



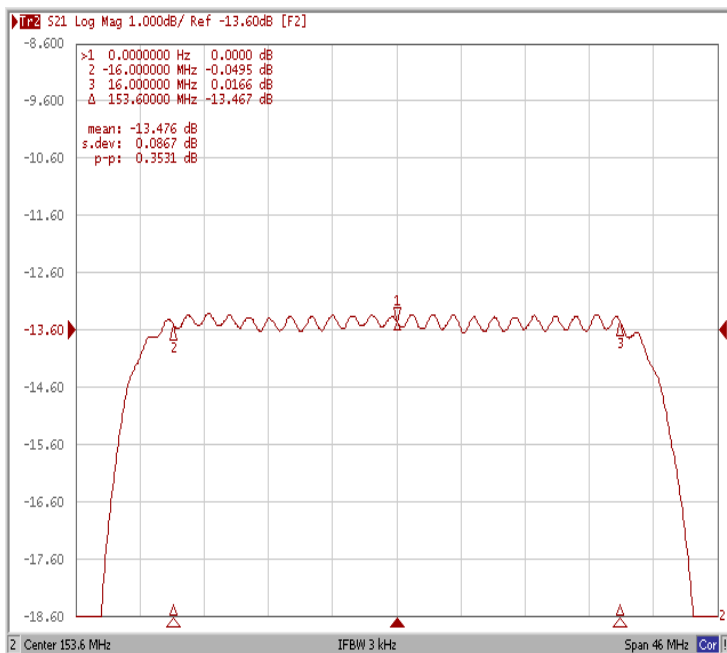
Relative Attenuation



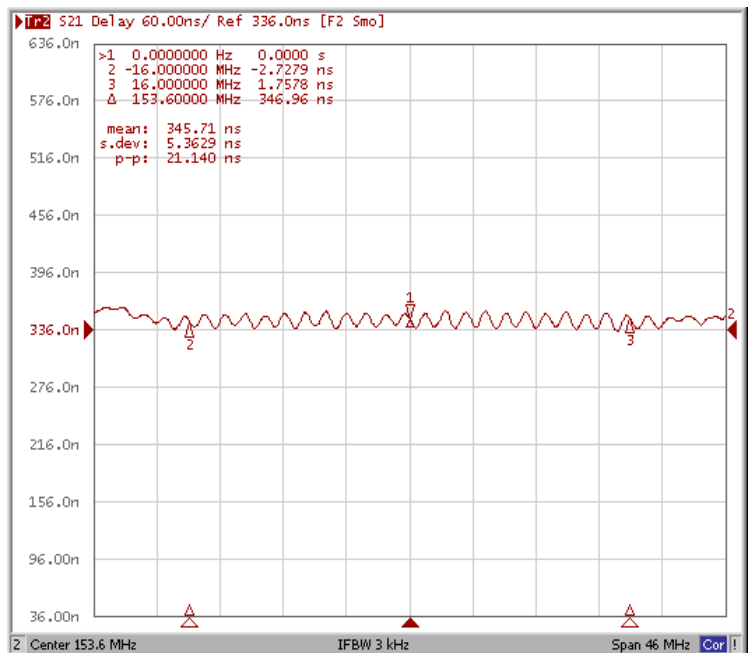
### Frequency Characteristics

#### Frequency Response

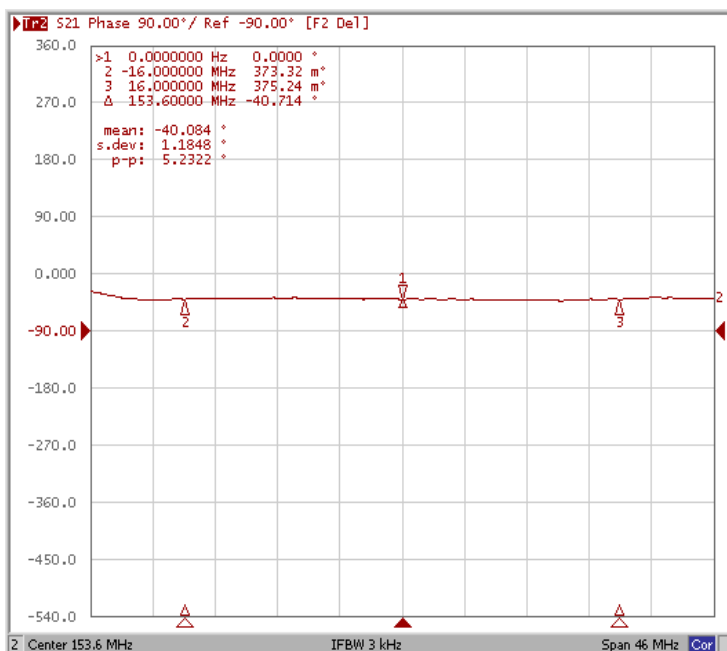
Ripple Variation  $Fo \pm 16.00\text{MHz}$



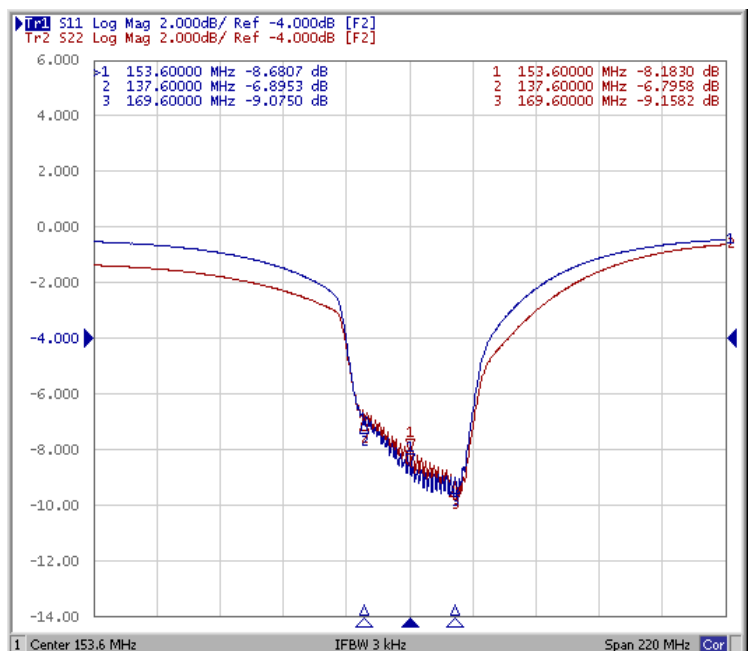
Group Delay Variation  $Fo \pm 16.00\text{MHz}$



Phase ripple  $Fo \pm 16.00\text{MHz}$



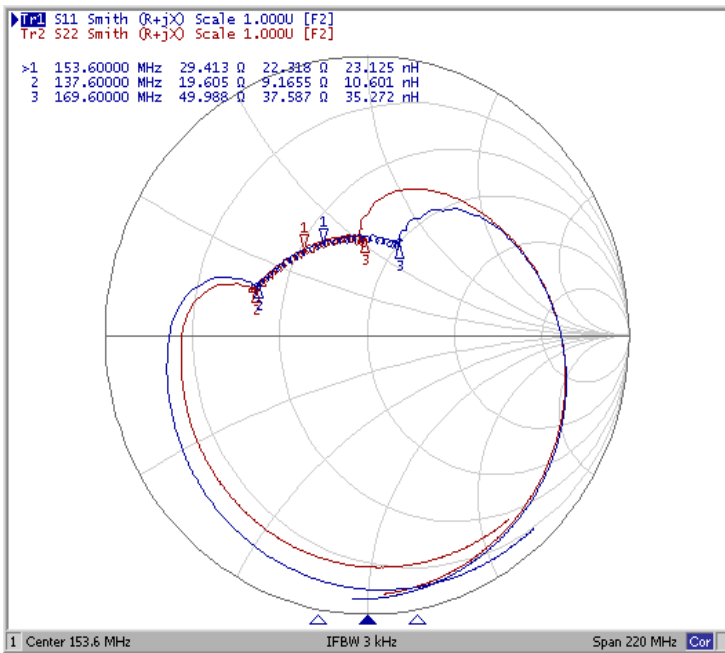
Return loss



### □ Frequency Characteristics

#### Frequency Response

Smith Chart



VSWR

