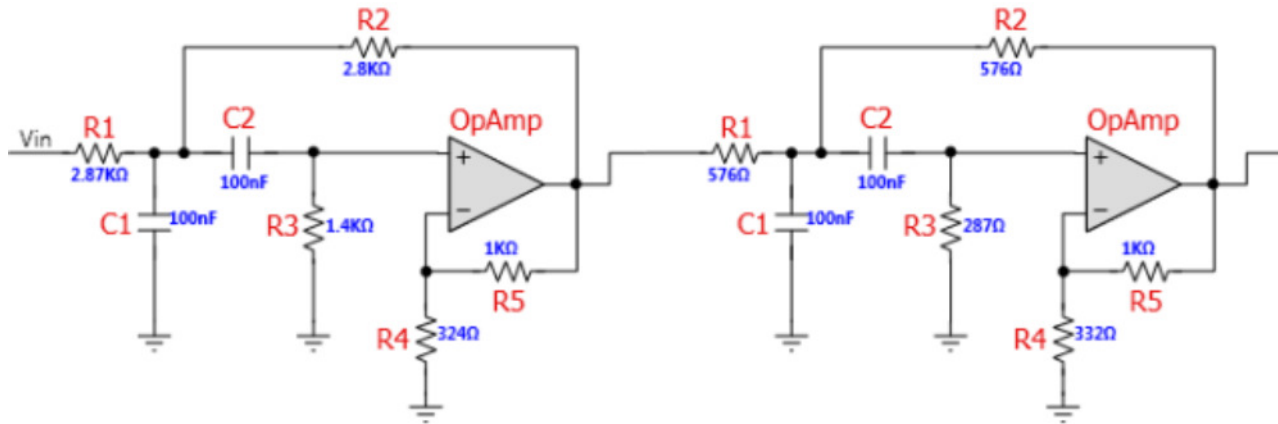


# FilterPro Design Report

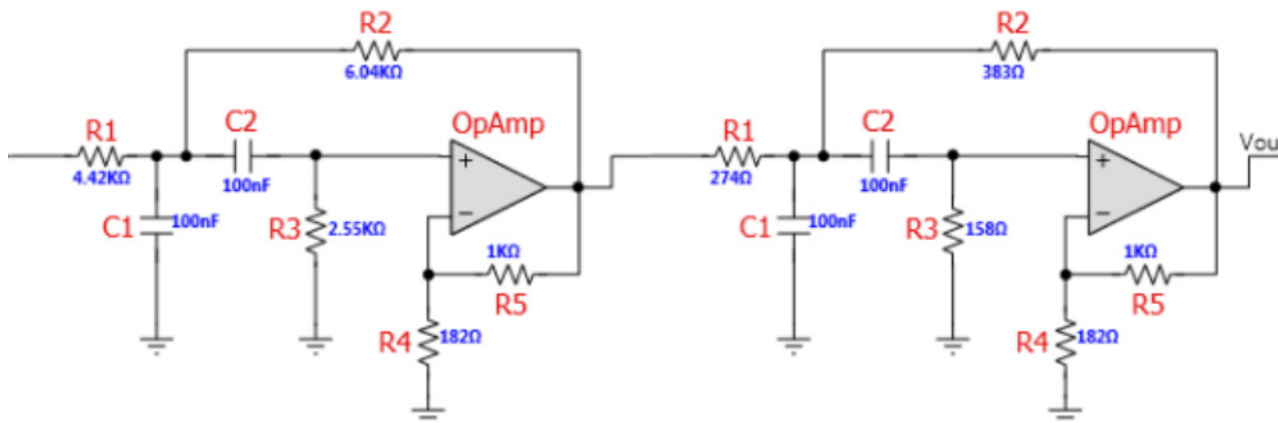
## Schematic

**Design Name:** Bandpass, Sallen Key, Chebyshev 1 dB    **Part:** Ideal Opamp    **Order:** 8 Stages: 4  
**Gain:** 1 V/V (0 dB)    **Allowable PassBand Ripple:** 1 dB    **Center Frequency:** 2.5 kHz  
**Corner Frequency Attenuation:** 0 dB    **Passband Bandwidth:** 9.5 kHz



Filter Stage: 1  
Passband Gain(Ao) : 1  
Center Frequency (fo): 1.1283 kHz  
QualityFactor (Q): 1.042  
Passband BW. (BW): 1.0831 kHz  
Filter Response: Chebyshev1dB  
Circuit Topology: SallenKey  
Min GBW reqd.: 117.5703 kHz

Filter Stage: 2  
Passband Gain(Ao) : 1  
Center Frequency (fo): 5.5392 kHz  
QualityFactor (Q): 1.042  
Passband BW. (BW): 5.3174 kHz  
Filter Response: Chebyshev1dB  
Circuit Topology: SallenKey  
Min GBW reqd.: 577.1888 kHz



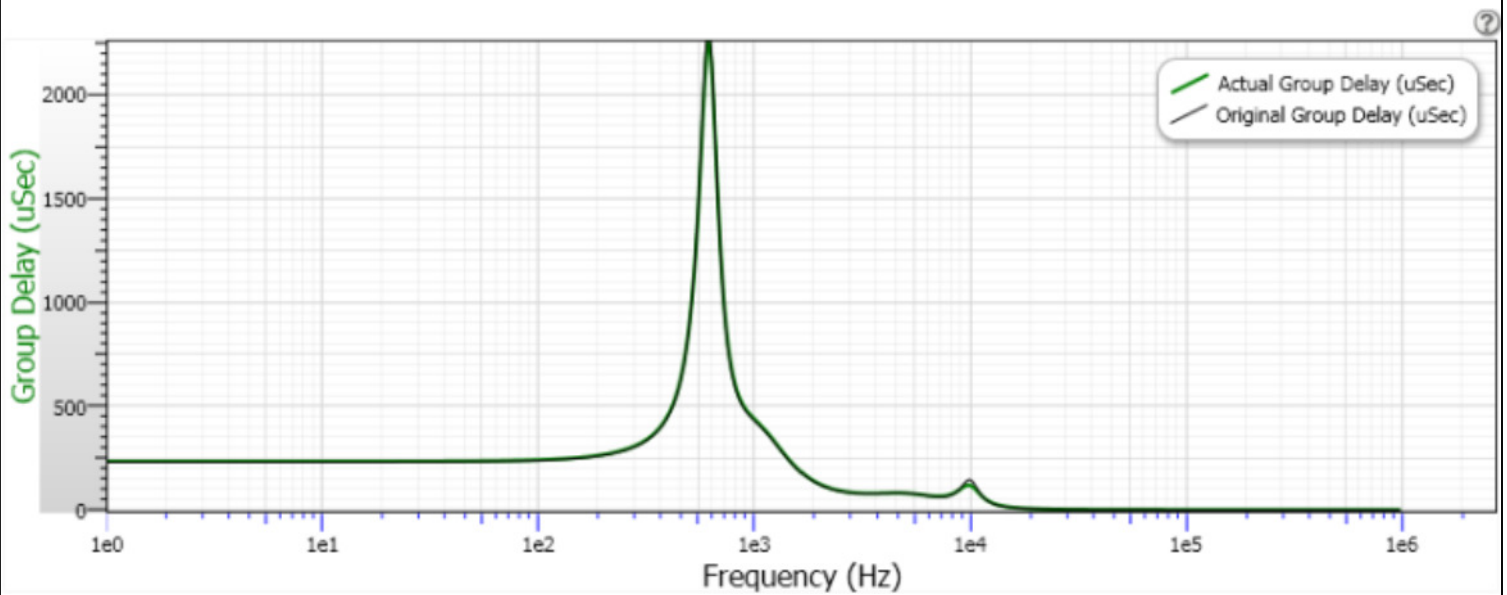
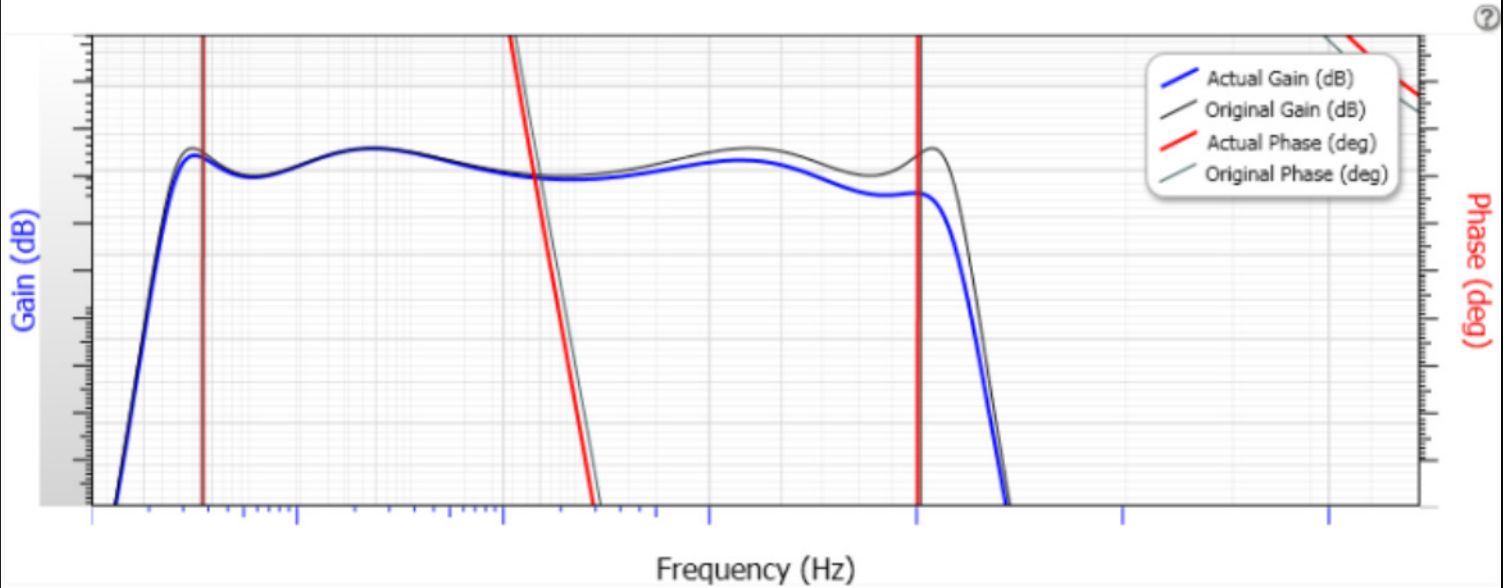
Filter Stage: 3  
Passband Gain(Ao) : 1  
Center Frequency (fo): 622.645 Hz  
QualityFactor (Q): 4.021  
Passband BW. (BW): 154.848 Hz  
Filter Response: Chebyshev1dB  
Circuit Topology: SallenKey  
Min GBW reqd.: 250.3656 kHz

Filter Stage: 4  
Passband Gain(Ao) : 1  
Center Frequency (fo): 10.0378 kHz  
QualityFactor (Q): 4.021  
Passband BW. (BW): 2.4963 kHz  
Filter Response: Chebyshev1dB  
Circuit Topology: SallenKey  
Min GBW reqd.: 4.0362 MHz

# FilterPro Design Report

## Frequency and Phase Responses

**Design Name:** Bandpass, Sallen Key, Chebyshev 1 dB    **Part:** Ideal Opamp    **Order:** 8 Stages: 4  
**Gain:** 1 V/V (0 dB)    **Allowable PassBand Ripple:** 1 dB    **Center Frequency:** 2.5 kHz  
**Corner Frequency Attenuation:** 0 dB    **Passband Bandwidth:** 9.5 kHz



## FilterPro Design Report

### Bill of Materials

**Design Name:** Bandpass, Sallen Key, Chebyshev 1 dB    **Part:** Ideal Opamp **Order:** 8 **Stages:** 4  
**Gain:** 1 V/V ( 0 dB)    **Allowable PassBand Ripple:** 1 dB    **Center Frequency:** 2.5 kHz  
**Corner Frequency Attenuation:** 0 dB    **Passband Bandwidth:** 9.5 kHz

Element ID	Quantity	Part Number	Value	Tolerance	Description	Manufacturer
R1 (Stage 1)	1	Standard	2.87K $\Omega$	E96: 1%	Resistor	
R2 (Stage 1)	1	Standard	2.8K $\Omega$	E96: 1%	Resistor	
R3 (Stage 1)	1	Standard	1.4K $\Omega$	E96: 1%	Resistor	
C1 (Stage 1)	1	Standard	100nF	E96: 1%	Capacitor	
C2 (Stage 1)	1	Standard	100nF	E96: 1%	Capacitor	
R4 (Stage 1)	1	Standard	324 $\Omega$	E96: 1%	Resistor	
R5 (Stage 1)	1	Standard	1K $\Omega$	E96: 1%	Resistor	
OpAmp (Stage 1)	1	Standard			Ideal OpAmp	
R1 (Stage 2)	1	Standard	576 $\Omega$	E96: 1%	Resistor	
R2 (Stage 2)	1	Standard	576 $\Omega$	E96: 1%	Resistor	
R3 (Stage 2)	1	Standard	287 $\Omega$	E96: 1%	Resistor	
C1 (Stage 2)	1	Standard	100nF	E96: 1%	Capacitor	
C2 (Stage 2)	1	Standard	100nF	E96: 1%	Capacitor	
R4 (Stage 2)	1	Standard	332 $\Omega$	E96: 1%	Resistor	
R5 (Stage 2)	1	Standard	1K $\Omega$	E96: 1%	Resistor	
OpAmp (Stage 2)	1	Standard			Ideal OpAmp	
R1 (Stage 3)	1	Standard	4.42K $\Omega$	E96: 1%	Resistor	
R2 (Stage 3)	1	Standard	6.04K $\Omega$	E96: 1%	Resistor	
R3 (Stage 3)	1	Standard	2.55K $\Omega$	E96: 1%	Resistor	
C1 (Stage 3)	1	Standard	100nF	E96: 1%	Capacitor	
C2 (Stage 3)	1	Standard	100nF	E96: 1%	Capacitor	
R4 (Stage 3)	1	Standard	182 $\Omega$	E96: 1%	Resistor	
R5 (Stage 3)	1	Standard	1K $\Omega$	E96: 1%	Resistor	
OpAmp (Stage 3)	1	Standard			Ideal OpAmp	
R1 (Stage 4)	1	Standard	274 $\Omega$	E96: 1%	Resistor	
R2 (Stage 4)	1	Standard	383 $\Omega$	E96: 1%	Resistor	
R3 (Stage 4)	1	Standard	158 $\Omega$	E96: 1%	Resistor	
C1 (Stage 4)	1	Standard	100nF	E96: 1%	Capacitor	
C2 (Stage 4)	1	Standard	100nF	E96: 1%	Capacitor	
R4 (Stage 4)	1	Standard	182 $\Omega$	E96: 1%	Resistor	
R5 (Stage 4)	1	Standard	1K $\Omega$	E96: 1%	Resistor	
OpAmp (Stage 4)	1	Standard			Ideal OpAmp	

## FilterPro Design Report

### Design Notes

**Design Name:** Bandpass, Sallen Key, Chebyshev 1 dB    **Part:** Ideal Opamp **Order:** 8 **Stages:** 4  
**Gain:** 1 V/V (0 dB)    **Allowable PassBand Ripple:** 1 dB    **Center Frequency:** 2.5 kHz  
**Corner Frequency Attenuation:** 0 dB    **Passband Bandwidth:** 9.5 kHz