

# Ultra Narrow-band Notch Filters



Ondax's SureBlock™ ultra narrow-band notch filters are the ideal solution for highly selective wavelength applications like low frequency/THz-Raman spectroscopy. With laser line attenuation greater than 99.99% (optical density: OD 4) and spectral transition width of  $<10\text{ cm}^{-1}$ , SureBlock™ filters can dramatically improve the ability of any Raman system to resolve low frequency Raman scattering. High transmittance on both sides of the notch enables both Stokes and anti-Stokes Raman spectra to be observed simultaneously.

Available at standard Raman wavelengths: 488, 514, 532, 633, 78Xnm. Custom wavelengths are available on demand.

## Features:

- Ultra narrow rejection bandwidth
- Highly repeatable performance
- Environmentally stable at high temperature and humidity
- No degradation over time, even under high power illumination conditions

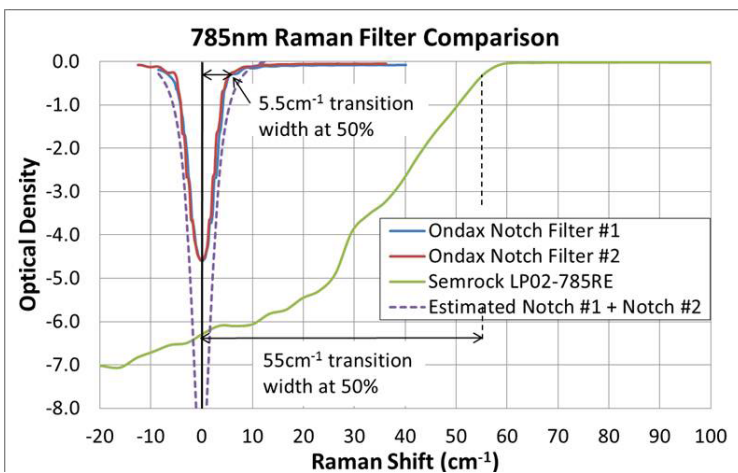
## Specifications:

Parameter	488nm	514nm	532nm	633nm	78Xnm
Spectral Transition Width (center to 50% transmission)	$<10\text{cm}^{-1}$	$<10\text{cm}^{-1}$	$<10\text{cm}^{-1}$	$<10\text{cm}^{-1}$	$<10\text{cm}^{-1}$
Optical Density at Laser Line (each filter)	$> 4$	$>4$	$> 4$	$> 4$	$> 4$
Typical Transmission Efficiency (each filter)	60%	65%	70%	80%	90%
Free Space Aperture Diameter	Standard: 9 mm in 1" mount, Custom sizes available				

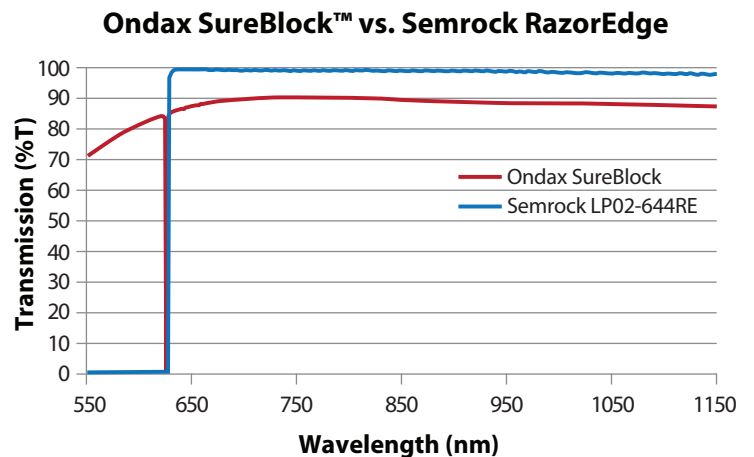
## Applications:

- Low Frequency /THz-Raman Spectroscopy
- Structural Studies of Nanomaterials
- Biomedical and Solid State Laser Systems
- Wide-band Notch Filter Replacement

### Ultra Narrow Notch Transition to 50% Transmission



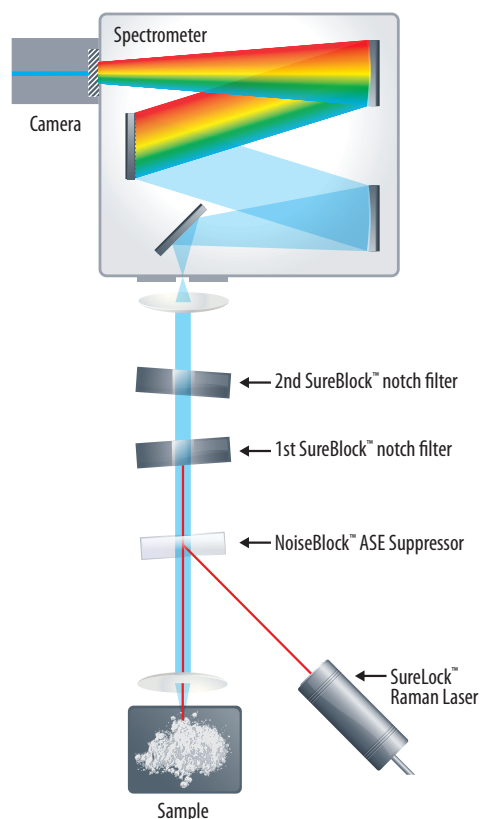
### High Transmission on Both Sides of Notch Wavelength



# Ultra Narrow-band Notch Filters

## Ultra-Low Frequency Raman Spectroscopy

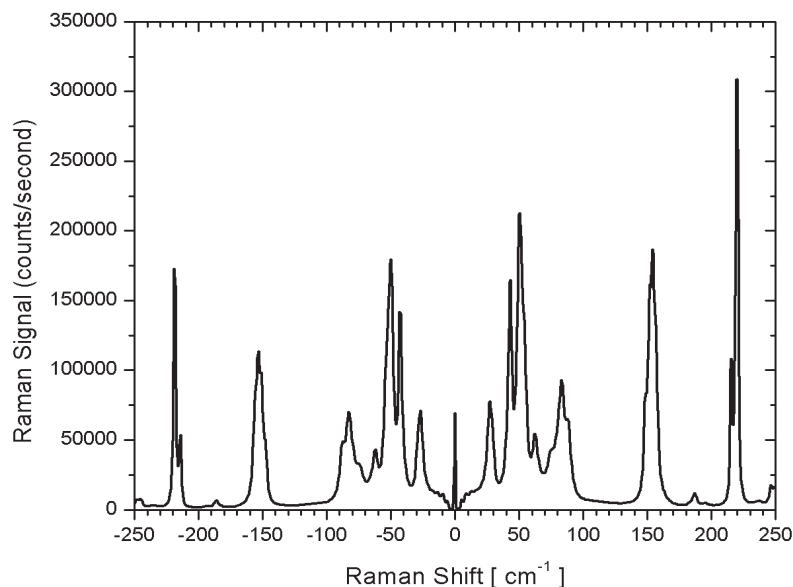
Combine Ondax's NoiseBlock™ ASE Suppressor and two SureBlock™ Notch Filters or replace your existing large bandwidth filters to create a compact, ultra-low frequency Raman spectroscopy system.



Ondax SureBlock™ Notch filters are reflective volume holographic gratings (VHG), produced in a proprietary glass designed for long lifetime, high efficiency and excellent transmission. Ondax's fabrication process is highly stabilized to ensure excellent part-to-part repeatability.

## Captured Raman Spectra

Sulfur spectra (below) clearly showing both Stokes and anti-Stokes shifts with strong suppression of amplified spontaneous emission (ASE) noise near the excitation wavelength.



Superior low-frequency Raman scattering can also be observed. Sharp, identifiable spectra near 10cm⁻¹ are visible in a measurement of L-Cystine (below).

