

# 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 Raman spectroscopy. With laser line attenuation of up to 99.9999% (optical density: OD 6) and transition width of  $\sim 10 \text{ cm}^{-1}$ , 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

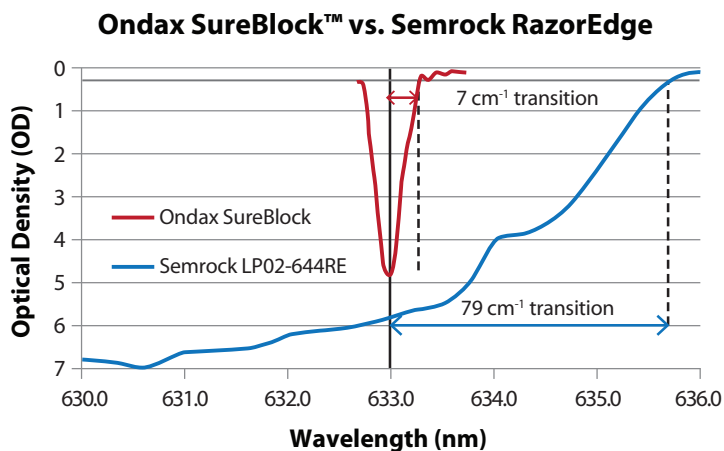
## Applications:

- Low Frequency Raman Spectroscopy
- Biomedical and Solid State Laser Systems
- Wide-band Notch Filter Replacement

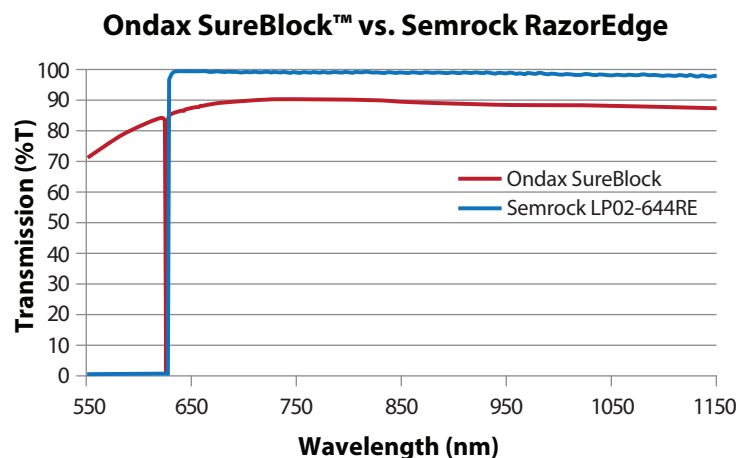
## Specifications:

| Parameter                 | SureBlock™ Filter Performance Table Header             |
|---------------------------|--|
| Attenuation               | Typical: OD 4-5; up to OD 6 available                  |
| Transmission Efficiency   | >70% from 550-1200+ nm                                 |
| Spectral Transition Width | $\sim 10 \text{ cm}^{-1}$ (center to 50% transmission) |
| Center Wavelength Range   | 400-2000+ nm   |
| Aperture Size             | 9.5mm in 1" mount. Custom sizes available              |
| Incident Angles           | 2-3 degrees  |

### Ultra Narrow Notch Transition to 50% Transmission



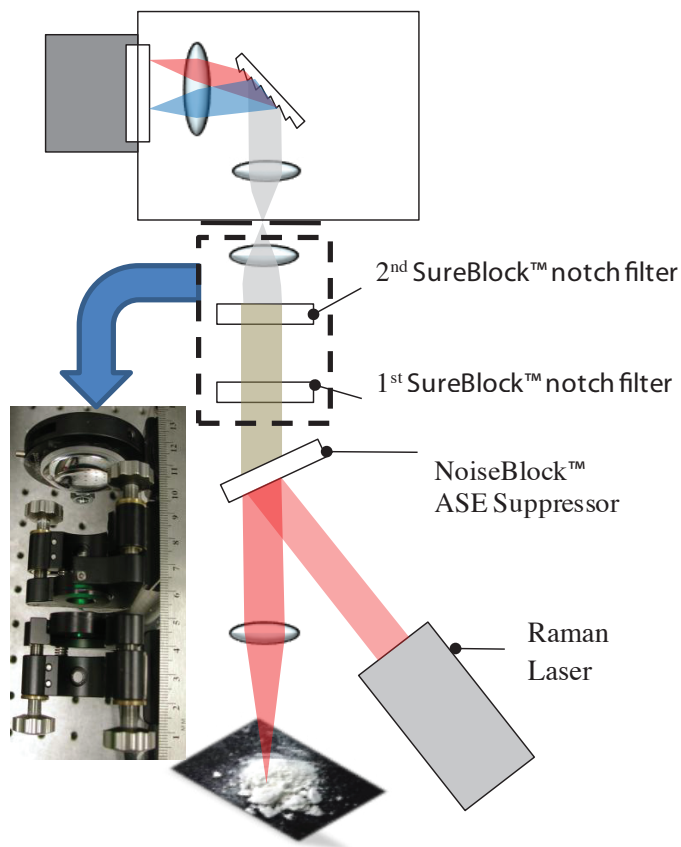
### High Transmission on Both Sides of Notch Wavelength



# Ultra Narrow-band Notch Filters

## Ultra-Low Frequency Raman Spectroscopy

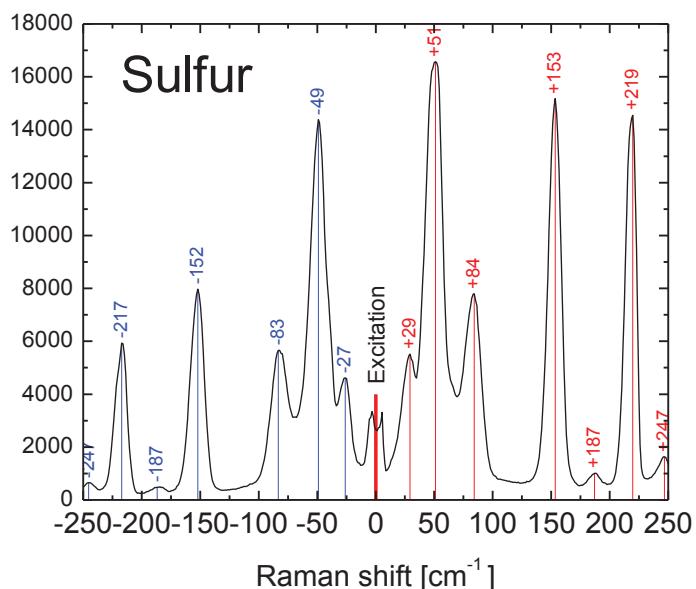
Combine Ondax's NoiseBlock™ ASE Suppressor and two SureBlock™ Notch Filters or replace your existing large bandwidth filters to create a compact, ultra-low frequency Raman spectroscopy system.



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



Superior low-frequency Raman scattering can be observed. Sharp, identifiable spectra near 10 cm<sup>-1</sup> are visible in a comparison of Tylenol and Advil.

