



NanoQuest Spectral Sensor



World's Widest-range, MEMS-based NIR Device

NanoQuest is a MEMS-based FT-IR device that provides extended NIR spectral range and exceptional performance in a compact, affordable package. Its patented micro-electro-mechanical systems (MEMS) technology allows for a continuous-wave Michelson interferometer to be created monolithically on a MEMS chip. This enables detection of all wavelengths simultaneously across the 1350-2500 nm range, using the single-photodetector design to reduce instrument footprint and maintain low-noise, high-stability performance.



At a Glance

Wavelength range: 1350-2500 nm

Wavenumber range: 7400-4000 cm^{-1}

Optical resolution: 8 nm or 16 nm (FWHM)

Signal-to-noise ratio: >3000:1 transmission @
2 second scan time

>1000:1 reflection @ 2 second scan time

Scan (integration) time: Fixed integration time
with averages; 2 seconds recommended

Input fiber connector: FC/PC

Optical design: MEMS Michelson
interferometer

Dimensions: 70 mm x 50 mm x 25 mm

Weight: 120 g

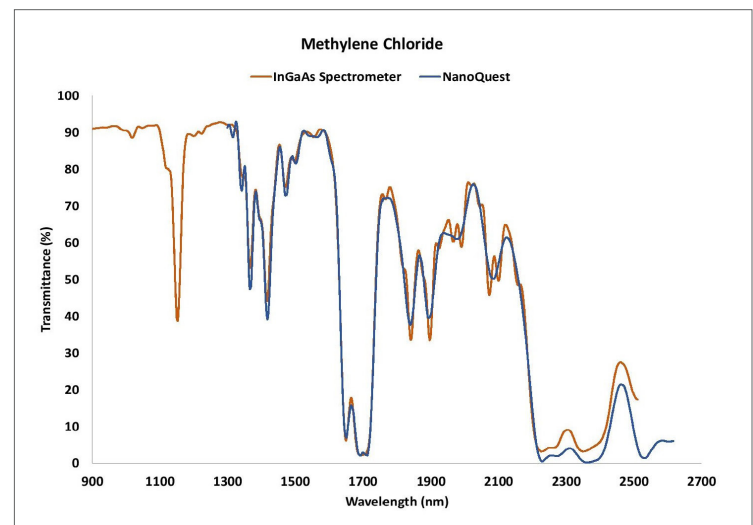


About NanoQuest

Each NanoQuest comes with an optical fiber and operating software, and can be coupled to Ocean Insight light sources and accessories to configure systems for absorbance/transmission or reflectance measurements.

NanoQuest Advantages

- Wide spectral range in compact footprint
- Selectable optical resolution and scan time
- Single photodetector detects all wavelengths simultaneously
- Low power consumption
- Great tolerance to motion effects
- Scalable for industrial and integration applications



As these overlaid spectra demonstrate, NanoQuest performs comparably to NIR InGaAs-array spectrometers from 1350-2500 nm

Example Applications

- **Authentication**
 - o Identification of counterfeit textiles
 - o Identification of polymers
- **Food & Agriculture**
 - o Nutrient monitoring in soil, feed and leaves
 - o Raw milk analysis
 - o Soybean screening
 - o Sugar content in cereals
- **Life Sciences & Biomedical**
 - o Bodily fluids analysis
 - o Hair analysis