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

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**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

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**Example Applications**

- **Authentication**
  - Identification of counterfeit textiles
  - Identification of polymers

- **Food & Agriculture**
  - Nutrient monitoring in soil, feed and leaves
  - Raw milk analysis
  - Soybean screening
  - Sugar content in cereals

- **Life Sciences & Biomedical**
  - Bodily fluids analysis
  - Hair analysis

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_As these overlayed spectra demonstrate, NanoQuest performs comparably to NIR InGaAs-array spectrometers from 1350-2500 nm_