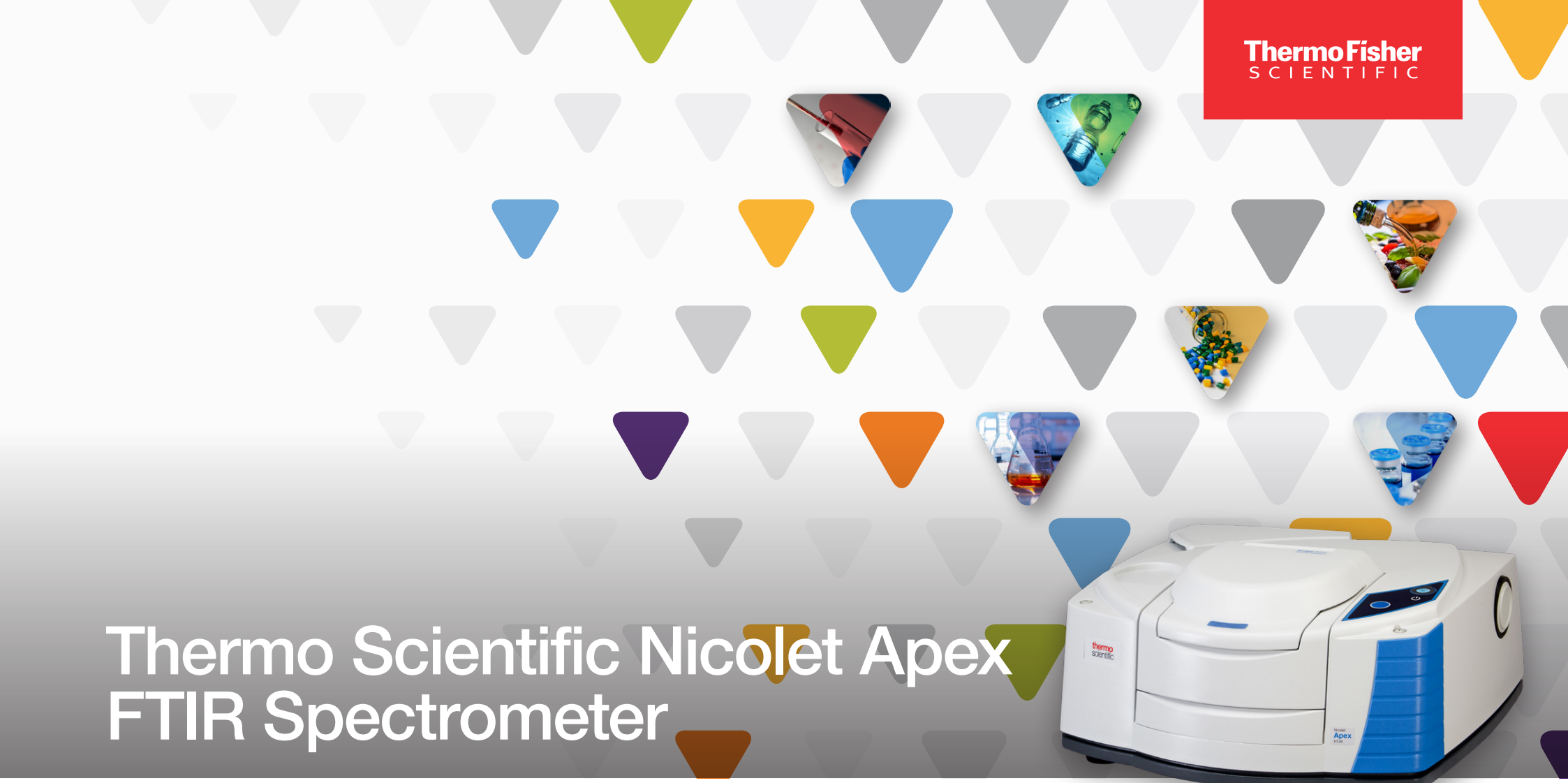
ThermoFisher SCIENTIFIC



Thermo Scientific Nicolet Apex FTIR Spectrometer

Maximize efficiency, ensure accuracy, achieve compliance—Unleash the power of Apex FTIR

thermo scientific

Over 50 years of innovation, and still going strong

Welcome to the world of cutting-edge FTIR spectroscopy with the Thermo Scientific™ Nicolet™ Apex FTIR Spectrometer. Designed for both routine analysis and research applications, the Apex offers unparalleled performance and versatility.

- From routine quality control to research and development, Apex is built to innovate.
- Nicolet Apex FTIR helps increase productivity, improve precision, and comply with extensive regulations.
- FTIR spectroscopy for any expertise level with simple and intuitive Thermo Scientific™ OMNIC™ Paradigm Software.
- Analyze data anywhere on any device with access to the best cloud-based software Thermo Scientific™ OMNIC™ Anywhere.
- Empowering research and seamless instrument health monitoring: Gain peace of mind as our technical experts keep an eye on your hardware components.

What started as one instrument at the Nicolet Instrument Corporation in 1971 in Madison, WI, USA—a small but forward-looking company named in honor of the area's intrepid adventurer of yore—has grown into a wide array of vibrational spectroscopy instruments under the Thermo Scientific brand. In 1977 the company introduced its very first Fourier transform infrared (FTIR) spectrometer, the Nicolet 7199. Today, we offer a portfolio of powerful and versatile FTIR spectrometers that are still proudly manufactured in Madison, WI, USA.

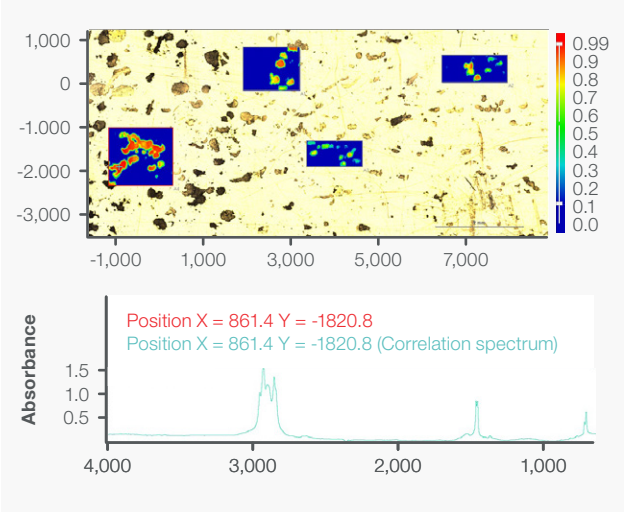
Now, with the Nicolet Apex FTIR Spectrometer, we help your analysis reach even higher levels.

Our partnership with you is built on trust, quality, and expertise, and our team of expert service engineers, application scientists, and sales professionals are here to support you from day one, ensuring that your Nicolet FTIR instrument is operating at its highest performance level.

Advanced technology for trustworthy analysis and increased productivity

Performance and productivity

- Get best-in-class performance with a superb signal-to-noise ratio and top-notch resolution to tackle any experimental need.
- Enhance your productivity by cutting analysis time to 50% using our bold patented smart background feature.
- Improve your efficiency with a multi-sample compartment and multi-detector feature that allows for multiple accessories to be mounted and switched, thereby saving time and minimizing labor in the laboratory setting.



Automated multi-region mapping analysis of microparticles collected from air on a gold coated slide.

Flexibility, configurability and automation

- *Configure your FTIR to match the needs of your lab environment and the spectral range required. Apex KBr, Apex ZnSe, Apex XT-KBr.*

- Upgrade your failure analysis capabilities by utilizing the advanced technology of the Nicolet Apex FTIR Spectrometer, which effortlessly integrates with our range of FTIR microscopes, TGA-IR systems, and various other accessories to facilitate defect analysis of small particles or characterize drug formulations.
- Achieve automation and high throughput capabilities using a TE-MCT detector and a range of accessories.

Thermo Scientific Nicolet Apex FTIR Spectrometer (left) and Thermo Scientific Nicolet RaptIR+ FTIR Microscope (right).

Software and connectivity

- Powered by **OMNIC Paradigm Software** (the next generation of OMNIC Software) for your FTIR analysis.
- The **OMNIC Paradigm Software** streamlines FTIR spectroscopy and data analysis, thereby augmenting the process of scientific discovery.
- Equipped with a user-friendly interface, customizable workflows, and seamless integration capabilities, the software empowers researchers to extract valuable insights and make well-informed decisions.
- OMNIC Anywhere cloud-based software allows you real-time analysis and collaboration from any location with any device. It is a must for next generation collaborative research.
- Remote instrument health monitoring services allows real-time monitoring of various parameters like source, laser and interferometer proactively by Thermo Fisher Scientific technical team, so you can stay focused on your research, while your instruments top-notched performance is monitored by our technical team.

Thermo Scientific OMNIC Paradigm Software.

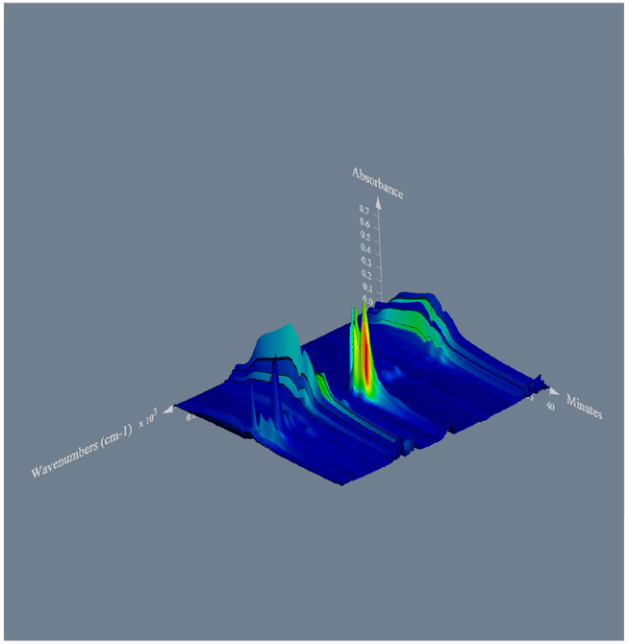
Elite performance with peace of mind

Answers at LightDrive speed

At the heart of the Nicolet Apex FTIR Spectrometer is the LightDrive optical engine. Developed from years of optical design expertise, innovation, and creativity, LightDrive technology enhances spectral performance for answers you can trust. A 10-year warranty on the interferometer, laser, and IR source adds another level of unmatched reliability.

The perfect fit for any challenge

- Need to conduct a kinetics analysis for a polymer curing process? Equip your Nicolet Apex FTIR Spectrometer with a high-speed MCT detector.
- Want to analyze gaseous components with ease? The best-in-class spectral resolution will show you details you've never seen before.
- When complex problems enter your lab, you want an instrument on hand that is capable. You can be confident the Apex is up to the challenge, whatever it may be.



3D displays allow you to quickly and efficiently extract useful information from TGA-IR (thermogravimetric infrared) and other time-based experiments.

LightDrive optical engine technology

Interferometer produces market-leading precision

See the hidden details with high-resolution spectroscopy. The modern Michelson interferometer design delivers high spectral resolution for superior optical quality to uncover answers from difficult samples.

Detector yields definitive answers

Achieve accurate identification and quantification results with the fast-recovery DLaTGS detector.

Infrared source delivers unmatched consistency

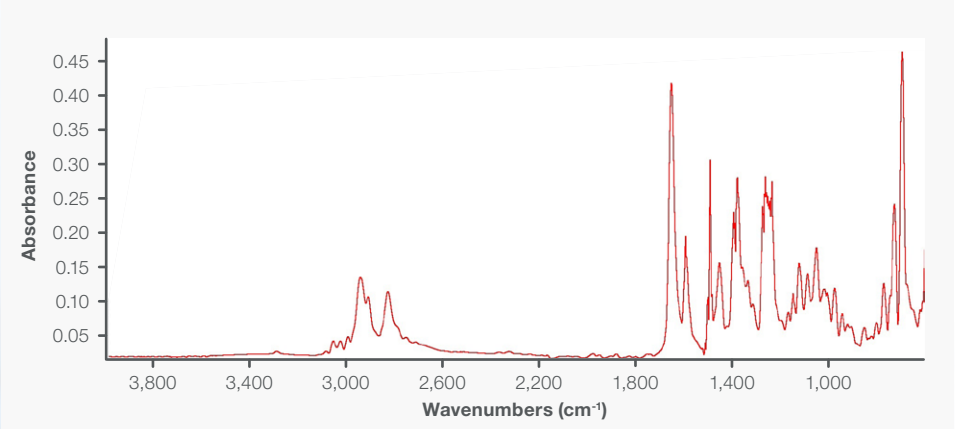
Our state-of-the-art infrared light source provides more consistent identification and quantification results. Peak shapes and signal-to-noise ratios are exceptional thanks to a stable hotspot location and energy intensity.

Laser supplies maximum accuracy

Eliminate future maintenance costs with a solid-state diode laser. The long-lifetime, temperature-stabilized design guarantees accurate and precise data acquisitions, scan after scan, day after day.

Top-level performance, security, and support for pharmaceutical and forensics industries

Unlocking efficiency and elevating user experience with multi-sample compartments



Fentanyl FTIR spectrum.

Pharma and forensics investigators can leverage numerous benefits of the Nicolet Apex FTIR Spectrometer with attenuated total reflectance (ATR):

- Fully automated validation wheel with 1.5-MIL (38-micron) serialized NIST traceable polystyrene film, and NG-11 Schott glass
- Fully automated ASTM E-1421 method for FTIR spectrometer testing, including printouts of reports for reference purposes
- Performance verification software for spectrometer, sampling accessory, method performance verification, and system suitability testing for ASTM, Ph. Eur., USP, JP, and CP instrument validation
- Documentation and protocols for Design Qualification (DQ), Operational Qualification (OQ), Performance Qualification (PQ), Installation Qualification (IQ)

Provide security and compliance in a highly regulated sector with OMNIC Paradigm Software:

- Digital signature and electronic data security compliance with 21 CFR Part 11 using server-based security administration
- Audit manager software program that provides streamlined audit preparation, supporting data integrity traceability
- OMNIC Paradigm's unsurpassed database architecture for data storage

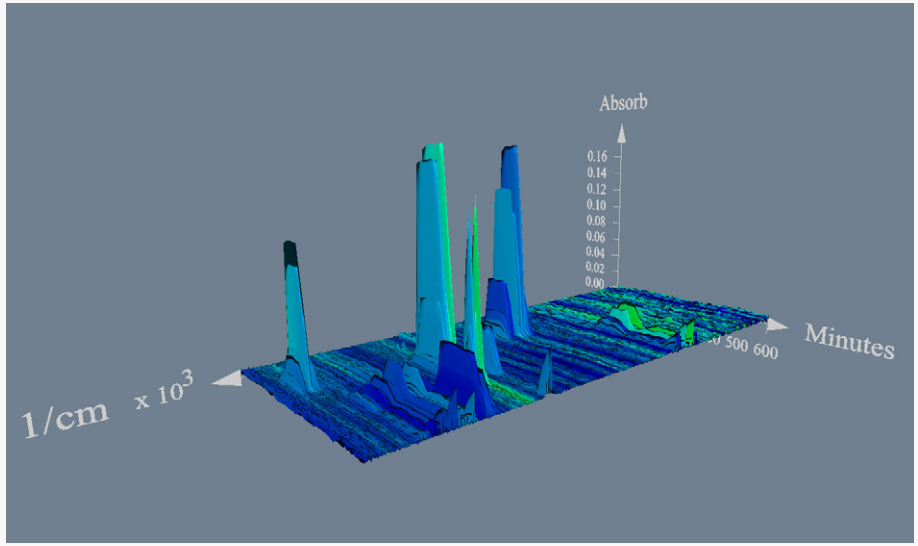
Nicolet Apex FTIR Spectrometer (left), featuring an XY autosampler for transmission and reflection analysis, coupled with an external sample compartment iZ10 (right), equipped with an ATR, providing comprehensive analytical capabilities for enhanced research and analysis.

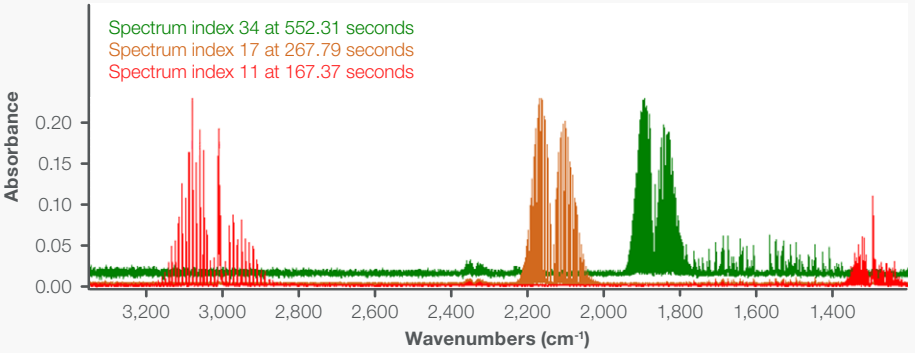
Critical information for your polymer and chemical analysis

The Nicolet Apex FTIR Spectrometer is compatible with hundreds of commercially available accessories, allowing you to expand your capabilities as needed for immediate projects or future objectives. Whether you are analyzing plastics, petroleum compounds, or other polymers, the versatility and adaptability of the Apex assures that you will be able to gather the information you desire.

- Excel at contaminant and failure analysis by combining the spectrometer with the Thermo Scientific™ Nicolet™ iN5 FTIR Microscope (manual microscope).
- Conduct root cause analysis by connecting with the Thermo Scientific™ Nicolet™ RaptIR+™ FTIR Microscope (fully automated).
- Accelerate your QA/QC analysis with automated accessories like autosampler for diverse sample applications.
- Supercharge your gas analysis capabilities with an additional sample compartment.

Multi-sample compartment multi-detector configuration for Nicolet Apex FTIR Spectrometer (left) with an iZ10 module (right). Main sample compartment configured with a jacketed 2 m gas cell and TE-MCT detector. The iZ10 module is configured with a smart OMNI transmission accessory.

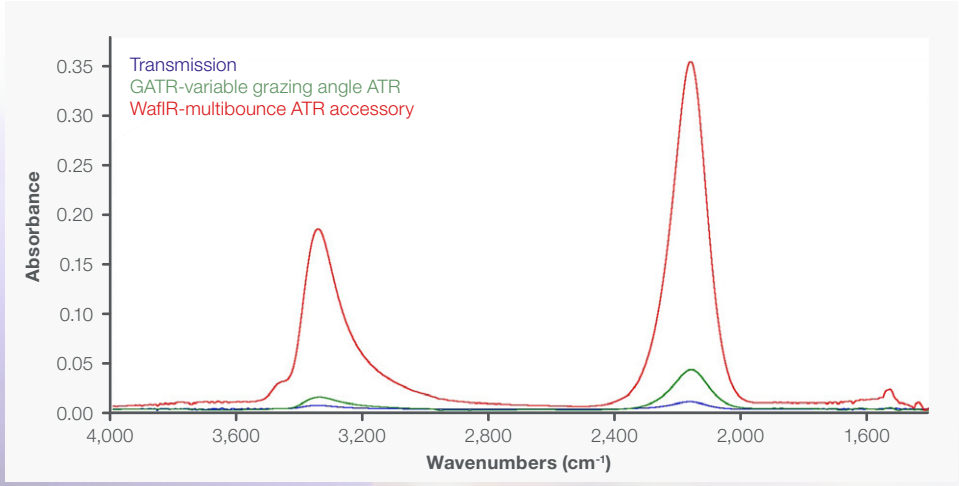




Paradigm time series measurements for gas sample.

Insights into your material science research

Fourier-transform infrared (FTIR) spectroscopy is a powerful analytical technique widely used in material sciences research to investigate the chemical composition and structure of various materials. With its high sensitivity and specificity, FTIR is a valuable tool for understanding the molecular properties of materials and their interactions with other substances. Its applications range from characterizing polymers and biomolecules to analyzing minerals and semiconductors.



Semiconductor Analysis of SiH and NH peaks by 3 unique methods.

An asset for academia and teaching laboratories

The straightforward operation of the Nicolet Apex FTIR Spectrometer combined with its compact size and versatility make the instrument ideal for academic chemistry laboratories. FTIR analysis provides information that can lead to better understanding the molecular structure of materials as well as the kinetics or mechanisms and pathways of chemical reactions. With functionalities that are applicable across a wide range of subject matter, the Nicolet Apex enhances teaching and research opportunities for general chemistry classes, advanced organic labs, and more.

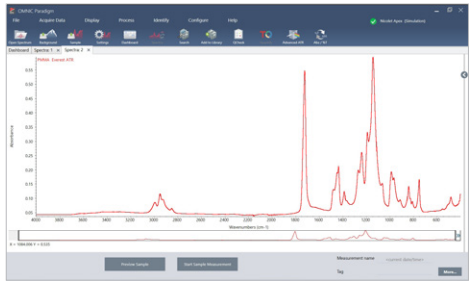
Nicolet Apex FTIR Spectrometer (left) with the Nicolet iN5 FTIR Microscope (right).

Simple and intuitive FTIR data analysis software

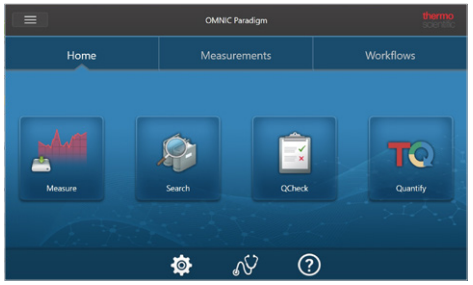
Thermo Scientific OMNIC Paradigm Software is a cutting-edge spectroscopy software solution that empowers scientists and researchers to unlock the full potential of their data, revolutionizing the way spectroscopic analysis is conducted and contributing to advancements in a variety of scientific fields.

Access to the most advanced and vast collection of FTIR spectral libraries.

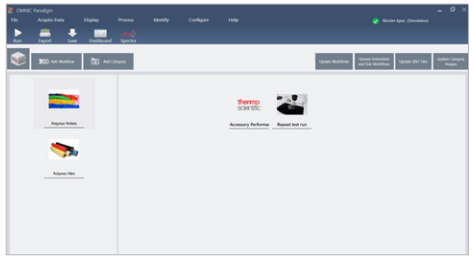
Learn more at **thermofisher.com/paradigm**



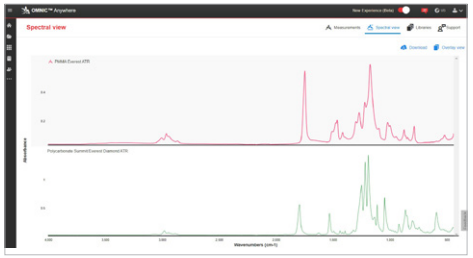
Desktop mode



Touchscreen mode



Operator mode



OMNIC Anywhere

Service and support

Thermo Fisher Scientific's Nicolet service and support team is dedicated to providing exceptional customer assistance globally, ensuring that help is always at your fingertips. With a wide network of experts and resources, we are committed to helping you maximize the value of your Nicolet Apex FTIR Spectrometer and associated accessories, wherever you are in the world.

thermofisher.com/vibrational-service

Learn more at **thermofisher.com/nicoletapex**

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