

# **IR Spectroscopy Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024 – 2032**

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## **Abstracts**

The Global IR Spectroscopy Market was valued at USD 1.3 billion in 2023 and is projected to grow at a CAGR of 5% from 2024 to 2032, driven by technological advancements. The growing miniaturization and portability of IR spectrometers have expanded their applications, making them more accessible for real-time, on-site analysis in sectors like environmental monitoring, food safety, and forensic science. Portable and handheld devices are becoming essential for rapid and accurate assessments in these areas. In the pharmaceutical industry, demand for IR spectroscopy is rising due to its critical role in drug development, quality assurance, and regulatory compliance.

This technique provides a non-destructive and precise method to analyze chemical compositions, aiding in various stages of drug formulation. IR spectroscopy is especially useful in identifying molecular structures, analyzing chemical interactions, and verifying compound purity during the drug discovery phase. In terms of technology, the Fourier Transform Infrared spectroscopy segment accounted for over 30% of the market share in 2023. FTIR spectroscopy, a sophisticated technique, offers detailed molecular analysis by measuring the absorbance of infrared light across different wavelengths. Unlike traditional methods that rely on a monochromator to select individual wavelengths, FTIR uses an interferometer to simultaneously capture a broad spectrum, making it a highly efficient and versatile tool.

On the product front, the portable IR spectroscopy segment is projected to experience significant growth, with a projected CAGR of over 9% between 2024 and 2032. Portable IR spectrometers are compact, field-deployable devices designed for real-time sample analysis outside the lab. These devices, equipped with miniaturized optics and detectors, enable rapid, accurate results in diverse field applications, such as

environmental assessments, food safety inspections, and security screenings. North America led the global IR spectroscopy market in 2023, contributing over 35% of the total market share. This dominance is largely due to the region's strong pharmaceutical sector, advanced healthcare infrastructure, and substantial investment in research and development.

The U.S., in particular, plays a pivotal role in driving market growth with its thriving pharmaceutical companies, research institutions, and academic organizations, which heavily rely on IR spectroscopy for various scientific and industrial applications

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