



WaveGuide Launches World's First Portable NMR Device: the WaveGuide Formµla™

Compact, battery-operated analytical device delivers precision and portability to transform on-site diagnostics and screening across medical, food and industrial applications.

Pittcon 2020

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CHICAGO—BUSINESS WIRE – WaveGuide Corporation, an innovator of portable micro NMR (Nuclear Magnetic Resonance) instruments, today launched its new WaveGuide Formµla™, the world's only battery-powered, compact scientific instrument that performs rapid screening and diagnostics of solid and liquid substances spanning an array of markets and applications.

The WaveGuide Formµla™ micro NMR delivers performance as good or better than larger, more costly benchtop NMRs, in a portable, easy-to-use device. This makes it ideal for applications requiring in-situ decision making, including pharmaceutical, petrochemical, food quality, food safety, and consumer product authentication applications. The WaveGuide Formµla™ provides quantitative analysis for a wide range of real-world scenarios—from detecting impurities in lubricants indicative of engine and component wear to authenticating biological therapies and vaccines to rapidly screening patients for specific disease states.

The WaveGuide Formµla™ represents a significant departure from large, expensive, benchtop NMR solutions. In addition to trained operators, benchtop NMR systems can require up to 24 hours for the device and sample to temperature stabilize. The WaveGuide Formµla™ requires minimal user training and little to no sample preparation. After a quick internal calibration, the instrument is ready to use within seconds.

The WaveGuide Formµla™ will be launched at Pittcon 2020 booth #4911 in Chicago Illinois, March 2-5, 2020. A technical presentation, "Portable Forensic Analysis of Biological Agents and Consumer Products," will be delivered by WaveGuide's Head of Biology, Massimiliano La Colla Ph.D., at the conference on March 4.

"Until now, the size, cost and complexity of commercially available NMR platforms has limited their use to low volume and niche applications with high fixed costs. From WaveGuide's founding in 2015, we have worked diligently to change this paradigm, partnering with Harvard University's Department of Physics to pioneer a new class of micro NMR analyzer technology," said Nelson K. Stacks, CEO and President of WaveGuide Corporation. "The WaveGuide Formµla™ is truly a revolutionary development,

opening the door to a range of in-situ applications in healthcare, consumer products, and industrial products that were previously impractical or impossible with the existing NMR technology.”

The WaveGuide Formula™ micro NMR is based on patented technology that enables small, low-cost, inhomogeneous magnets to produce a handheld chemical analyzer based on NMR, amplifying the NMR signal-to-noise by a factor of 10,000. WaveGuide has applied for six additional patents, bolstering the core technology.

WaveGuide Formula™ Features and Benefits

- **Fast:** WaveGuide performs tests in less than five minutes. Results can be immediately uploaded via secure VPN to the cloud for real-time data gathering and additional analytics; this is ideal for rapid, on-site decisions (e.g. disease outbreaks, alert of counterfeits by region, degradation of field equipment).
- **Quantitative:** Useful for dilution analytics, validation of expected conjugate mixtures, and determination of impurities in known commercial products and formulations (e.g. food, pharmaceuticals, contact lens solutions, formulated lubricants).
- **Little or no sample preparation:** Simply draw a small sample (<30 µL) into the disposable sample cartridge and insert into the device.
- **Low cost, easy to use:** Hardware is relatively inexpensive and truly portable. Novice users can become proficient with minimal training.
- **Selectivity:** Applications are built to address specific tasks and workflows. Extremely selective to the target compound and characterization of the complete formulation down to parts-per-trillion detection levels. (e.g. Is the content of this syringe precisely what it says on the label from the original manufacturer at the expected dosage concentration? What is the viscosity, particulate count, and moisture content in this sample of engine lubricant?).
- **Compliant for Global Deployment:** Designed to ISO 13485:2016 standards as a medical diagnostic device, the platform will be 21CFRpart11 ready and UL and CE certified.

About WaveGuide Corporation

Founded in 2015, WaveGuide is a privately-held analytical instrument company with core expertise in three domains: custom ASICs; embedded systems and algorithms; and customized, functionalized magnetic nanoparticles. Leveraging this combination of expertise, the company is focused on developing its portable micro-nuclear magnetic resonance (µNMR) platform technology. The WaveGuide Formula™ combines proprietary time domain NMR methods and diagnostic techniques to provide a system which allows diagnosis and analysis, including in remote settings, thereby reducing cost and improving responsiveness to critical patient/customer needs. Customers include biopharmaceutical manufacturers, hydrocarbon processing and refining plants, dairy producers, and U.S Federal agencies. The company is headquartered near Cambridge, Massachusetts. For more information, visit us at [www.Waveguidecorp.com](http://www.waveguidecorp.com) or on LinkedIn at <http://www.linkedin.com/company/microNMR>.

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