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MKS Announces Ophir® BeamPeek™, High Power Laser Beam Analysis and Power Measurement System for Additive Manufacturing

Compact, Lightweight Design Features Patent-Pending Passive Cooling Cartridge; No Water or Fan Cooling Required

Andover, MA – April 26, 2022 – MKS Instruments, Inc. (NASDAQ: MKSI), a global provider of technologies that enable advanced processes and improve productivity, has announced the **Ophir® BeamPeek™**, an integrated beam analysis and power measurement system for fast, accurate, real-time measurement of lasers in additive manufacturing chambers. Introduced at Laser World of Photonics, the BeamPeek system provides simultaneous beam profiling, focal spot analysis, and power measurement in just three (3) seconds. There is no need for water or fan cooling as the system includes a replaceable passive cooling beam dump tray that eliminates downtime between measurement sessions. The BeamPeek system is ideal for field service testing of additive manufacturing chamber powder beds. It is able to withstand chamber conditions, including the presence of metal powder residuals and when cooling agents or airflow connection points are not available.

“Additive manufacturing chambers present a challenging environment for high power laser-based systems,” said Reuven Silverman, General Manager, Ophir Photonics. “There is no room for the large, complex systems with water cooling pipes typically needed for high power laser measurement nor for fan-based systems that require cleaning before each use. The Ophir BeamPeek is able to measure high power lasers inside additive manufacturing chambers because of its compact, lightweight design and patent-pending



passive cooling cartridge. This allows users to easily move between the AM systems without halting production and without the need to clean the chamber before use.”

The new **Ophir BeamPeek** is a compact, ruggedized high power laser measurement tool that measures powers up to 1kW for two (2) minutes for both green (532nm) and NIR wavelengths (1030-1080nm). The active components (electronics, optics, camera, and power meter) are located in a sheltered chamber whose temperature rise is not more than 2.5°C per minute at 1kW. The system includes an innovative beam dump designed as a replaceable tray that eliminates the need to waste time letting the system cool down. As the main beam enters the system, it encounters a beam sampler which diverts approximately 4% of the laser’s power to the thermal sensor; the remaining 96% is captured by the beam dump for faster cooling. This allows measurements to be repeated immediately, allowing for sustained work cycles.

The **BeamPeek** system is supported by a range of Ophir software options: **StarLab**, **BeamPeek Tool**, and **BeamGage Professional**. BeamGage is the industry’s most advanced beam analysis system. It is based on **Ultracal**, Ophir’s patented, baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. BeamGage software includes all the calculations needed to make accurate, ISO approved laser beam measurements, including power and spot diameter, power density, spot position, and more. The software provides advanced image processing features, NIST-traceable power measurements, trend charting, data logging, pass/fail production testing, and multilingual support.

Availability & Pricing

The **Ophir BeamPeek™** laser measurement system is available now.
Prices available on request.

DATA SHEET: <https://bit.ly/3vjkhHeO>

SALES INQUIRIES:

sales.ophir.usa@mksinst.com

About MKS Instruments

MKS Instruments, Inc. (NASDAQ: MKSI), is a global provider of instruments, systems, subsystems and process control solutions that measure, monitor, deliver, analyze, power and control



critical parameters of advanced manufacturing processes to improve process performance and productivity for our customers. Our products are derived from our core competencies in pressure measurement and control, flow measurement and control, gas and vapor delivery, gas composition analysis, electronic control technology, reactive gas generation and delivery, power generation and delivery, vacuum technology, lasers, photonics, optics, precision motion control, vibration control and laser-based manufacturing systems solutions. We also provide services relating to the maintenance and repair of our products, installation services and training. Our primary served markets include semiconductor, industrial technologies, life and health sciences, research and defense. Additional information can be found at www.mksinst.com.

About the Ophir Brand

Ophir is a brand within the MKS Instruments Light & Motion division. The Ophir product portfolio consists of laser and LED measurement products, including laser power and energy meters, laser beam profilers measuring femto-watt to hundred-kilowatt lasers, high-performance IR and visible optical elements, IR thermal imaging lenses and zoom lenses for defense and commercial applications, OEM and replacement high-quality optics and sub-assemblies for CO₂ and high-power fiber laser material processing applications. Ophir products enhance our customers' capabilities and productivity in the semiconductor, industrial technologies, life and health sciences, research and defense markets. For more information, visit www.ophiropt.com.

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