

MKS Expands IP Portfolio with Patent for Ophir® BeamPeek®, High Power Laser Beam Analysis and Power Measurement System for Additive Manufacturing

Andover, MA – April 2, 2024 – MKS Instruments, Inc. (NASDAQ: MKSI), a global provider of technologies that enable advanced processes and improve productivity, has announced that the MKS Photonics Solutions Division has expanded its intellectual property portfolio. The latest patent covers the innovative architecture of **Ophir® BeamPeek™**, an integrated beam analysis and power measurement system for fast, accurate, real-time measurement of lasers in additive manufacturing chambers. The BeamPeek system provides simultaneous measurement of beam diameter, waist location, power, power density, and divergence in just three (3) seconds. The patent covers a unique, dual-compartment design that minimizes thermal energy transfer between system modules. The first compartment includes optical sensors configured to measure the characteristics of high-power laser beams. The second compartment contains a removable and replaceable passive cooling beam dump tray configured to absorb most of the high-power beam being measured. An optical window positioned between the compartments allows a significant portion of the beam to propagate through it. The beam dump absorbs nearly all the energy of the beam. This safeguards the optical sensors and enables operation without the need for water or fan cooling. The ability to replace trays eliminates downtime between measurement sessions.

“The Ophir BeamPeek system patent expands our broad IP portfolio and provides strong protection for our innovative laser measurement technologies and products,” said Reuven Silverman, General Manager, Ophir Photonics. “This patent provides coverage in the United States, China, Germany, Japan, and Korea.”

This Ophir brand patent portfolio includes:

- [BeamPeek](#) integrated beam analysis and power measurement system, US patent number 11,874,163, granted January 16, 2024.
- [BeamWatch](#) non-contact beam profiling system, US patent number 8,988,673.



- [BeamSquared](#) M² beam propagation analyzer, US patent number 5,642,567.
- [Ultracal](#) baseline correction algorithm that helped establish the ISO 11146-3 standard, US patent numbers 5,418,562 and 5,440,335.
- [BeamTrack](#) laser power-position-size sensors, US patent number 8,985,846.

About MKS Instruments

MKS Instruments enables technologies that transform our world. We deliver foundational technology solutions to leading edge semiconductor manufacturing, electronics and packaging, and specialty industrial applications. We apply our broad science and engineering capabilities to create instruments, subsystems, systems, process control solutions and specialty chemicals technology that improve process performance, optimize productivity and enable unique innovations for many of the world's leading technology and industrial companies. Our solutions are critical to addressing the challenges of miniaturization and complexity in advanced device manufacturing by enabling increased power, speed, feature enhancement, and optimized connectivity. Our solutions are also critical to addressing ever-increasing performance requirements across a wide array of specialty industrial applications. Additional information can be found at www.mks.com.

About the Ophir Brand

Ophir is a brand within the MKS Photonics Solutions 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, advanced electronics and specialty industrial markets. For more information, visit www.ophiropt.com.

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For more information, contact:

Reuven Silverman, General Manager

Ophir Business Unit (U.S.)

3050 North 300 West, North Logan, UT 84341

Tel: +1 435-753-3729

E-mail: reuven.silverman@mksinst.com

Web: www.ophiropt.com/photonics

Shari Worthington, PR

Telesian Technology

49 Midgley Lane, Worcester, MA 01604

Tel: +1 508-397-6345

E-mail: sharilee@telesian.com