

MKS Announces New Ophir® Large Beam Profiler with Small Pixel Size for Higher Resolution Measurement of Large and Divergent Beams

Andover, MA – September 13, 2022 – MKS Instruments, Inc. (NASDAQ: MKSI), a global provider of technologies that enable advanced processes and improve productivity, has announced the [Ophir® SP504S Beam Profiling Camera](#). Designed to measure large and divergent beams, the SP504S camera accurately captures and analyzes wavelengths from 340-1100nm for beam sizes from 45µm up to 23mm x 23mm. The camera features a wide dynamic range of 44.6dB, a lowest measurable signal of 0.25nW/cm², and high accuracy at NIR wavelengths. The SP504S camera provides the industry's smallest pixel size of 4.5 µm – up to 3X smaller than competitive offerings – which allows measurement of laser beams with higher spatial resolution and smaller beam sizes. That makes the camera ideal for large beam diameter applications that require high resolution or when beam tracking is needed over a large area, such as laser material processing, VCSEL / LEDs, and medical aesthetics.

“Increasingly, laser manufacturers need to find small features in a large divergent beam area, like semiconductor fabrication,” said Reuven Silverman, General Manager, Ophir Photonics. “The SP504S camera can capture and accurately analyze such beams with widths up to 23 mm. Prior to this, large beams often had to be reduced with optics so the beam would not overfill the camera imaging sensor. But there is always a concern that any optic in the path of the beam may cause spatial changes that are not characteristic of the natural beam. The



large imaging array and high resolution of the SP504S camera does away with the need to downsize beams for measurement.”

The Ophir SP504S beam profiling camera combines a large, 32.5mm global shutter CMOS imager with high resolution. The camera features a compact design with a thread adapter that contains industry standard 2.035”-40 threads for 2” optics and accessories. Stackable ND1, ND2, and ND3 filters are also provided. The camera’s GigE interface enables remote connection for industrial applications.

The Ophir SP504S camera works with **Ophir BeamGage® Professional**, the industry's most advanced laser beam analysis software. BeamGage software 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 SP504S Beam Profiling Camera** is available now. Prices available on request.

DATA SHEET: <https://www.ophiropt.com/laser--measurement/beam-profilers/products/Beam-Profiling/Camera-Profiling-with-BeamGage/SP504S>

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 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.

###

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

© 2022 MKS Instruments, Inc. All rights reserved. Specifications are subject to change without notice.