



FOR IMMEDIATE RELEASE:

Excelitas Introduces SPCM-1064 Single-Photon Counting Module with Superior Photon Detection Efficiency at 1064 nm

Reliable single-photon sensitivity in the near-infrared enables clean, low-noise detection for applications including Raman spectroscopy, IR photoluminescence and quantum-optics



Pittsburgh, Pa., January 6, 2026 – [Excelitas®](#), a leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor and avionics sectors, announced the [SPCM-1064](#). Engineered for high-performance detection across the 905 nm to 1064 nm wavelength range, the new single-photon counting module delivers superior near-infrared (NIR) sensitivity where many analytical and quantum optical systems operate.

At the core of the SPCM-1064 is a high-efficiency silicon avalanche photodiode that provides typical single-photon detection efficiency (PDE) of 10% at 1064 nm – a wavelength where reliable photon counting has traditionally been difficult. The module also delivers greater than 50% PDE from 750 nm to 950 nm, offering excellent uniformity across a large 500 μm active area for more consistent signal capture and reduced calibration for precise measurements. SPCM-1064 preserves the proven strengths of Excelitas' established SPCM-AQRH product family with enhanced NIR and 1064 nm response capabilities.

"The SPCM-1064 extends single-photon counting into the challenging 1064 nm region with a level of sensitivity and stability not previously available," said Richard Simons, Program Director for Photon Detection at Excelitas. "This enables researchers and system developers to achieve clean, low-noise detection in applications such as Raman spectroscopy, IR photoluminescence and quantum-optics experiments, particularly where weak signals or fluorescence would overwhelm standard detectors."

Key product features:

- **High PDE across key NIR wavelengths:**
 - Typical 57% PDE at 830 nm: Strong sensitivity for Raman setups, fluorescence-suppressed spectroscopy and TRPL using 830 nm excitation.
 - Typical 58% PDE at 905 nm: High efficiency in NIR analytical systems, nonlinear optics experiments and 905 nm-based excitation schemes.
 - Typical 10% PDE at 1064 nm: Cutting-edge detection capability at the challenging 1064 nm wavelength, supporting Raman spectroscopy, IR photoluminescence, wind LiDAR, aerosol monitoring and quantum optics experiments.
- **Large 500 μm active area:** Improves photon collection from divergent beams, reduces alignment sensitivity and ensures stable coupling efficiency in microscopy and spectroscopy.

- **High linearity at high count rates:** Maintains accurate quantitative measurements critical for fast scans and dynamic experiments, even in high-flux conditions.
- **Gated output option:** Enables precise timing control and background suppression for improved signal-to-noise performance.
- **Single +5 V power supply:** Simplifies system integration and reduces power-supply complexity.

Excelitas will showcase the SPCM-1064 module January 20 – 22, 2026 at SPIE [Photonics West 2026](#) in San Francisco, CA in Booth #637. For additional information, visit: <https://www.excelitas.com/product/spcm-1064>.

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About Excelitas

Excelitas is a leading provider of advanced, life-enriching technologies that make a difference, serving global market leaders in the life sciences, advanced industrial, next-generation semiconductor and avionics end markets. Headquartered in Pittsburgh, PA, USA, Excelitas is an essential partner in the design, development and manufacture of advanced technologies, offering leading-edge innovation in sensing, detection, imaging, optics and specialty illumination for customers worldwide. Excelitas is at the forefront of addressing many of the relevant megatrends impacting the world today, including precision medicine, industrial automation, artificial intelligence and connected devices (IoT).

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