Press Release

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Compact SWIR spectroscopy modules improve signal quality for accessible material analysis

Upgraded MEMS-FPI design delivers higher signal-to-noise ratio and improved stray-light suppression

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MEMS FPI C17752 ©Hamamatsu Photonics

Hamamatsu Photonics announces an upgraded version of its MEMS-FPI spectroscopic modules. Designed for short-wave infrared (SWIR) analysis, the C17752, C17753 and C17754 compact sensors offer improved signal-to-noise performance and enhanced stray-light rejection, supporting more reliable material analysis in cost-sensitive and space-constrained applications.

Key Benefits

The updated MEMS-FPI modules introduce design enhancements that improve measurement stability and spectral clarity. These spectroscopic modules are engineered to support efficient SWIR analysis while keeping integration complexity and cost low.

Key benefits include:

- **Improved signal-to-noise performance** supports stable and repeatable spectral measurements
- **Enhanced stray-light suppression** contributes to clearer spectral data
- **Compact, integrated design** enables use in space-constrained and embedded systems

- **Optional fiber adapter with integrated lens** supports transmission measurements and flexible system design
- **USB plug-and-play operation** allows quick setup without complex optical alignment
- **Cost-efficient solution** for accessible SWIR spectroscopy

Incorporating a MEMS-FPI spectrum sensor and an integrated light source, they offer the following:

Part no.	Spectral response range	Spectral resolution (FWHM) (typ.)	Wavelength reproducibility (typ.)	Wavelength Temperature dependence
C17552	1350 to 1650 nm	18 nm	±2 nm	±0.1 nm/℃
C17553	1550 to 1920 nm	21 nm	±2 nm	±0.1 nm/℃
C17554	1750 to 2150 nm	22 nm	±2 nm	±0.1 nm/℃

Target Applications

The upgraded MEMS-FPI module supports a range of industrial and analytical applications, including:

- Material sorting
- Quality control and inspection
- Process monitoring
- Embedded and portable spectroscopy systems
- Laboratory and industrial R&D

For full technical details, visit the C17752, C17753 and C17754 product pages on the Hamamatsu Photonics website.