

# Spectre® MINI [UV-VIS-NIR]

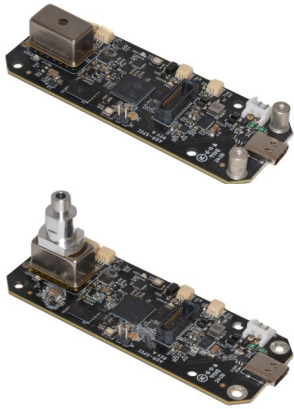
Powered by the Hamamatsu Photonics C12880MA



NIST



We See the Invisible®



**Save Money.  
Reduce Waste. Go Faster.**

Compact plug-and-play spectroscopy module made in the USA for edge AI and industrial integration



## Features

### See **Faster**

- ◇ Minimize data processing time and errors with **high frame rates** and **onboard calibrations** powered by 5 proprietary algorithms.
- ◇ Start today with AGR's® **evaluation apps** and sample embedded **Python scripts**.

### See **Farther**

- ◇ Send analysis-ready data **hundreds of feet** using PoE or within the same housing with **board-to-board** connectors and USB.
- ◇ Deploy like a camera for **non-contact** scans to **mitigate the risk** of cross-contamination.

### See **Fearless**

- ◇ Scale from **prototype to production** with a customizable OEM module reliably made in **America's Optics Capital**: Rochester, NY.
- ◇ **Solid state** sensors and rugged environmental ratings ensure **performance-critical integrity**.

## APPLICATIONS

### See the **Invisible** to Control Your Quality

- ◇ Agriculture, Forestry, Food & Beverage
- ◇ Medical & Pharmaceutical
- ◇ Water Quality & Environmental Monitoring
- ◇ Manufacturing & Recycling
- ◇ Lighting & Calibration

Contact us for inspiration from 100+ case studies.

## Specifications

Sensor		Hamamatsu Photonics C12880MA Micro Spectrometer
AGR® Part Number	Board-Level	9001 (USB), 9001-E (PoE)
	Board-Level (SMA)	9002 (USB), 9002-E (PoE)
	Enclosed	9003 (USB), 9003-E (PoE)
Electrical Interfaces	Enclosed	USB 2.0 Type C PoE M12 X-Coded Ethernet
	Board-Level	USB 2.0 Type C PoE M12 X-Coded or RJ45 Ethernet UART Board-to-Board [3.3V] I2C Board-to-Board [3.3V] Power Board-to-Board [5.0V I/O] Input & Output Triggers [Up to 24V]
Optical Interfaces		Free-Space SMA Fiber: With Housing Adapter or Board-Level SMA Connector Lenses and Diffusers by Request
Spectral Range		340 nm - 850 nm
Numerical Aperture		0.22
Free-Space Full Field of View		25°
Nominal Spectral Resolution		1.77 nm
FWHM Spectral Resolving Power		8 nm - 10 nm
Bit Depth		Linearized 16-bit
Integration Time (Exposure)		10µs to 10s
Maximum Frame Rate		840 FPS Calibrated   2,000 FPS Raw
Optical & Temperature Calibrations		Embedded Onboard
Operating Temperature		+5° to +50° C [+41° to +122° F]
Mechanical Dimensions		Drawings Available upon Request
Ingress Protection		Untested
Interface Protocol		EMI-Resistant Standard JSON
Operating Modes		Automatic & Manual
Compatible Off-the-Shelf Accessories		Detached Sensor Card & FFC Cable Housed SMA Fiber Adapter Calibrated Armored Optical Fiber Calibrated Glass Diffuser



(585) 210-3426



<https://www.agrsensors.com/>

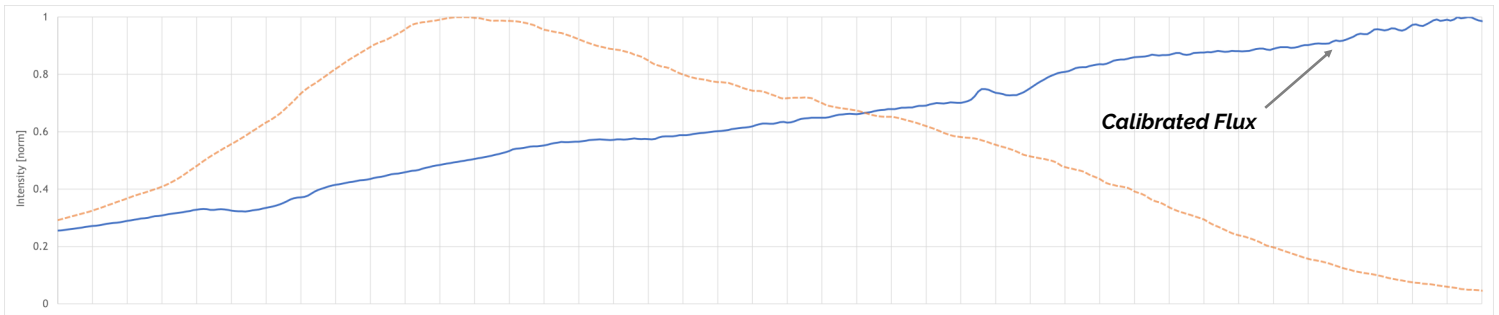


[info@agrsensors.com](mailto:info@agrsensors.com)

## Are You Ready for the AI Revolution?

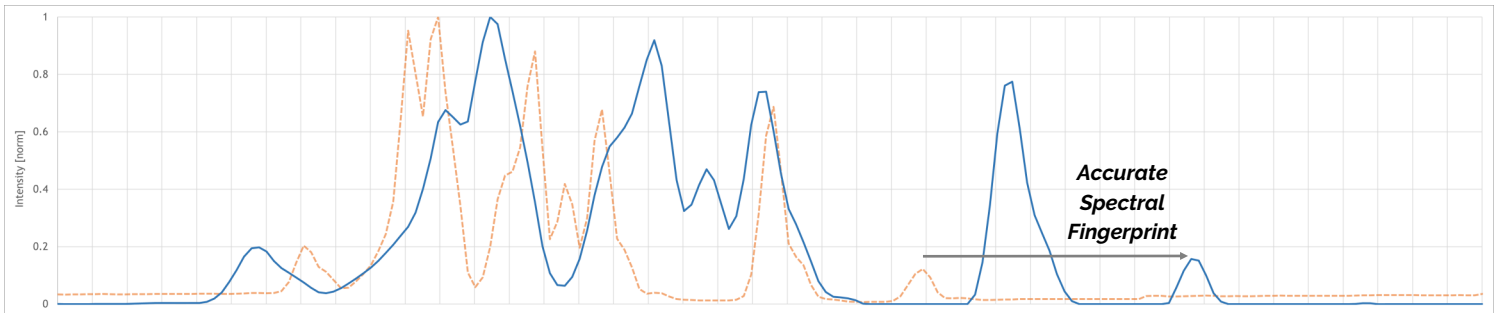
Ready or not, it's already here. That's why you need the **AGR® Advantage** to outperform standard imaging in **accuracy and training time**. Every Spectre® is factory-embedded with the 5 proprietary onboard calibrations demonstrated below to **minimize post-processing** time while **maximizing signal and accuracy** for high-performing spectral analytics.

**You take the scan, we do the rest.**



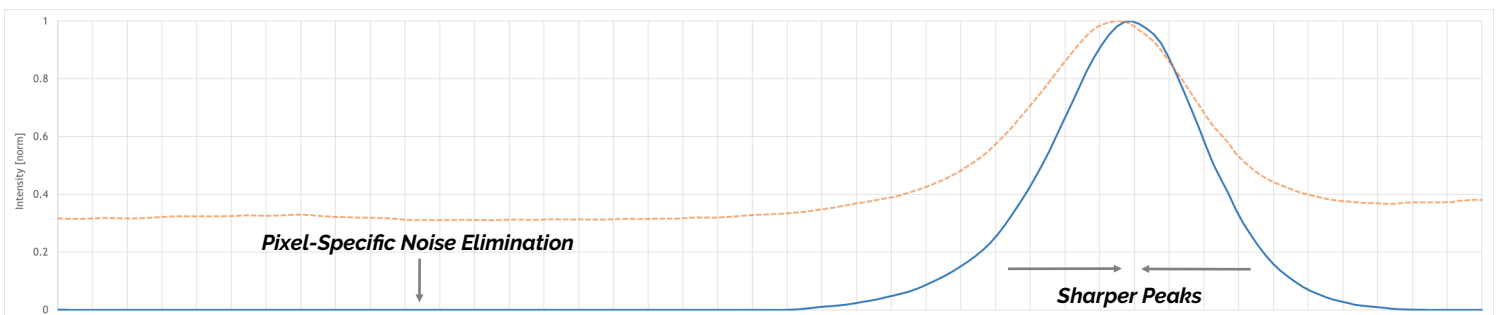
### Y-Axis [Quantum Efficiency and Auto-Exposure]

Calibrated reading (blue) directly overlaps tungsten-halogen data from NIST calibrated reference spectrometer, in contrast to raw reading (orange).



### X-Axis [Optical Alignment and Temperature Shift]

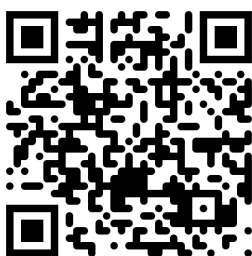
Calibrated reading (blue) correctly identifies primary Mercury-Argon atomic emission peaks, in contrast to wavelength-shifted raw reading (orange).



### Multi-Dimensional [Predictive Patterned Dark Noise]

Calibrated reading (blue) mitigates dark noise and its spectrally-dependent pattern *without* requiring the installed unit to be covered for dark readings.

Buy Now



**Custom  
AI Models**

We see the *invisible*, and you can too by contacting AGR® for tailored analytics.

**System  
Integration**

Customize for original design manufacturing (ODM) with AGR® & integration partners.

