

NEW

HAMAMATSU PHOTONICS Failure analysis systems

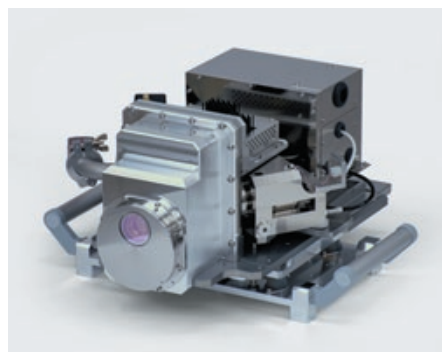
Solid Cold[®] Emmi-X camera

A new emission analysis solution for PHEMOS[®] series

No LN₂ required — enabling stable 24-hour semiconductor emission analysis

The Solid Cold Emmi-X camera is a photoemission analysis camera featuring Solid Cold cooling, a linear cooling mechanism. It offers higher stability and easier maintenance than LN₂-based systems.

It combines a wide field of view with a high S/N sensor and high-speed wavelength switching to enable ultra-low-level emission detection. This allows efficient, high-uptime analysis of advanced logic and high-density memory devices.



Features

Highly stable, low-maintenance cooling system

- High-reliability design with an MTTF of 90 000 hours
- Stable cooling during continuous 24-hour operation

Wide field of view and high S/N for weak emission detection

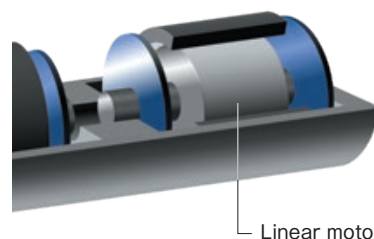
- Wide field imaging with a 1k × 1k sensor
- Noise reduction enabled by patented technology

High-speed wavelength switching and precise position control

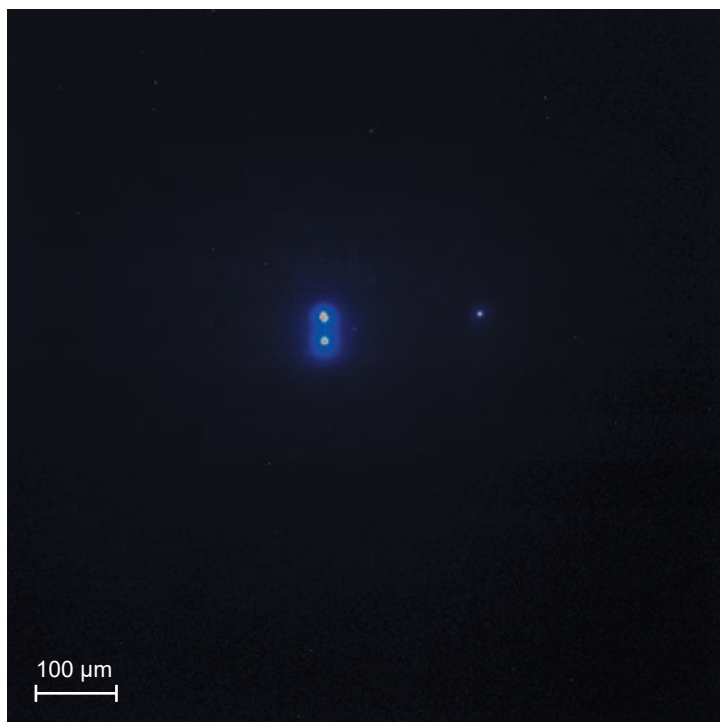
- Wavelength switching in as fast as 5 seconds
- High positional accuracy and stability enabled by a gearless single-axis filter wheel

Solid Cold Cooling

- Non-contact motion driven by a linear motor
- Long lifetime (MTTF: 90 000 hours)



Measurement example



Measurement conditions

Process	Logic 7 nm
Circuit	Ring OSC.
Lens	20×, NA=0.6
Exposure time	60 s
Supply voltage (Vdd)	400 mV

Solid Cold Emmi-X camera is compatible with Dual PHEMOS-X* and iPHEMOS-MPX



Dual PHEMOS-X

*Dual PHEMOS-X supports bottom-side observation only.



iPHEMOS-MPX

For product details, please visit the link below.

<https://www.hamamatsu.com/all/en/product/semiconductor-manufacturing-support-systems/failure-analysis-system.html>



LASER SAFETY

Dual PHEMOS-X and iPHEMOS-MPX are Class 1 laser products. Hamamatsu Photonics classifies laser diodes, and provides appropriate safety measures and labels according to the classification as required for manufacturers according to IEC 60825-1. When using this product, follow all safety measures according to the IEC.

CLASS 1 LASER PRODUCT

Description Label (Sample)



Caution Label

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 - The measurement examples in this brochure are not guaranteed.
 - Specifications and external appearance are subject to change without notice.
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