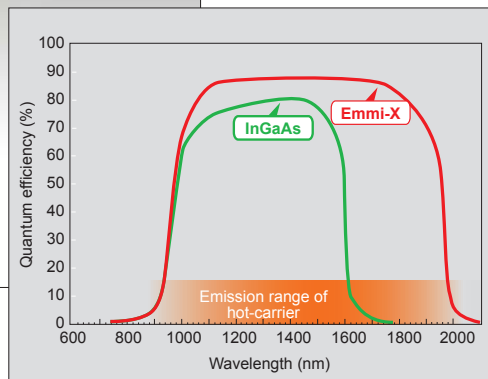


Emmi-X camera C8250-45 series (Near-infrared photo emission camera)

Super high sensitive NIR camera detects emissions from devices driven under 0.5 V.



Features

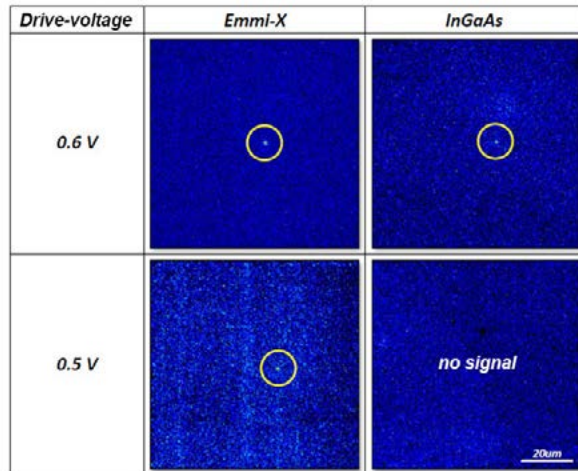
- Higher sensitivity than InGaAs camera.
- Optimized optics design for both macro and micro observation.
- Selectable 3 filters to change cover range of wavelength depending on device design and emission status.

Applications

- Backside photo emission observation for advanced devices.

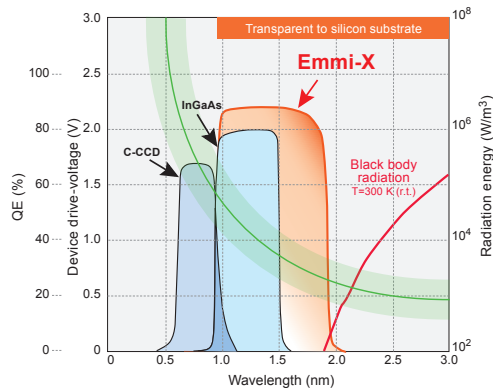
Measurement case study

- **Purpose** Confirm detectability of photo emission by using an advanced device driven under 0.5 V.
- **Method** Observe a sample (design rule <20 nm) with 20× objective lens, Integration time 300 sec.
- **Result**



- **Conclusion** Emmi-X camera detected a photo emission from a device running under 0.5 V. It was not possible by an InGaAs camera because the center wavelength of emission from a low-voltage device shifts to longer region, that matches sensitive region of an Emmi-X camera.

Mechanism



The green curve shows center of photo emission wavelength from semiconductor devices. Following to drive-voltage down, wavelength gets longer and emission intensity gets weaker. Since an Emmi-X camera has higher sensitivity in longer wavelength than InGaAs camera, it is more suitable for photo emission detection for advanced devices than InGaAs camera.

Product configuration

Product name	Type number	
Emmi-X camera 1k × 1k LN2 cooling for iPHEMOS	C8250-45-20	Camera main unit
Emmi-X camera peripherals 1k × 1k LN2 cooling for iPHEMOS	C8250-45-30	Peripherals

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