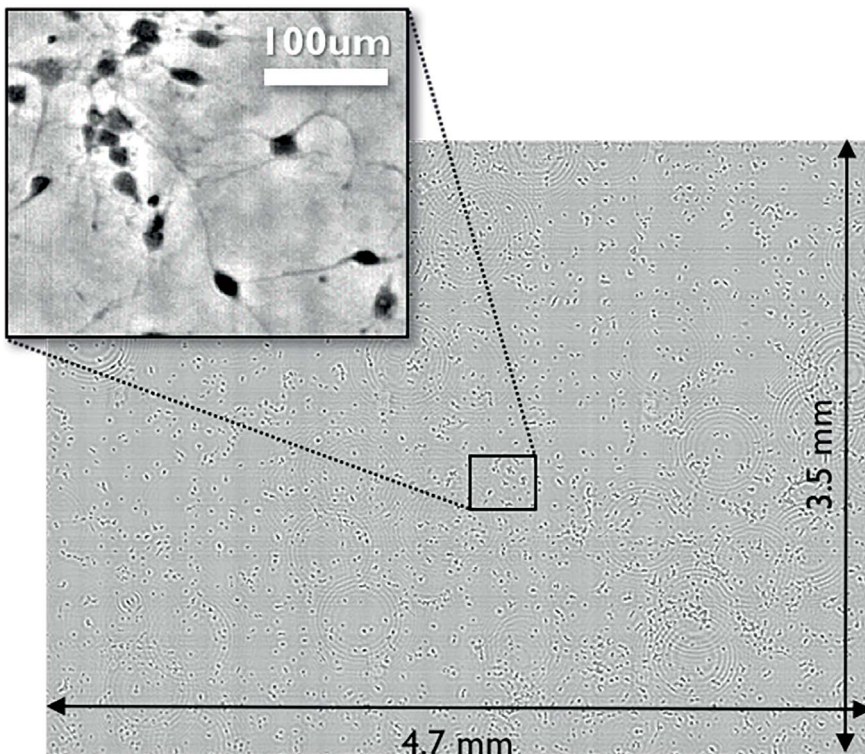


LENS-FREE IMAGING MICROSCOPE EVALUATION SYSTEM

Ready-to-use lens-free imaging demo-kit for life sciences & industrial applications

Imec's lens-free imaging evaluation system offers simple, fast, and easy application set-up for your digital microscopy application. You can get instantly super wide field-of-view live images at micrometer resolution. The kit includes all required components, from imager to host pc, integrated lighting, software and can be easily rebuilt into different configurations.



LFI single shot capture of fine neurite structures

LENS-FREE MICROSCOPY FOR REAL WORLD APPLICATIONS

Lens-free imaging, compared to traditional microscopes, removes the need for optical lens components to acquire and visualize microscopy image. In a lens-free digital microscope, images are reconstructed directly from their holograms in matter of seconds, enabling very large field of view acquisitions in one shot at micrometer scale resolutions.

KEY BENEFITS

- Super-**large field-of-view** at micrometer resolution
- Highly **compact** and modular
- **Plug & play** set-up of complete imaging system
- **OEM development** possible to meet your custom application requirements

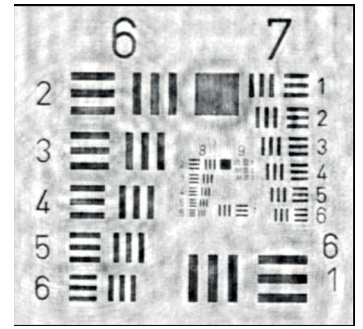
DEMO-KIT CONFIGURATION

Imec lens-free imaging evaluation system consists of the following five key elements:

- Integrated light source
- Image sensor
- Control and read-out electronics
- Interface & cables
- High-end display and computer with pre-installed imaging SW



Detailed view of acquisition stage of the lens-free microscopy evaluation system

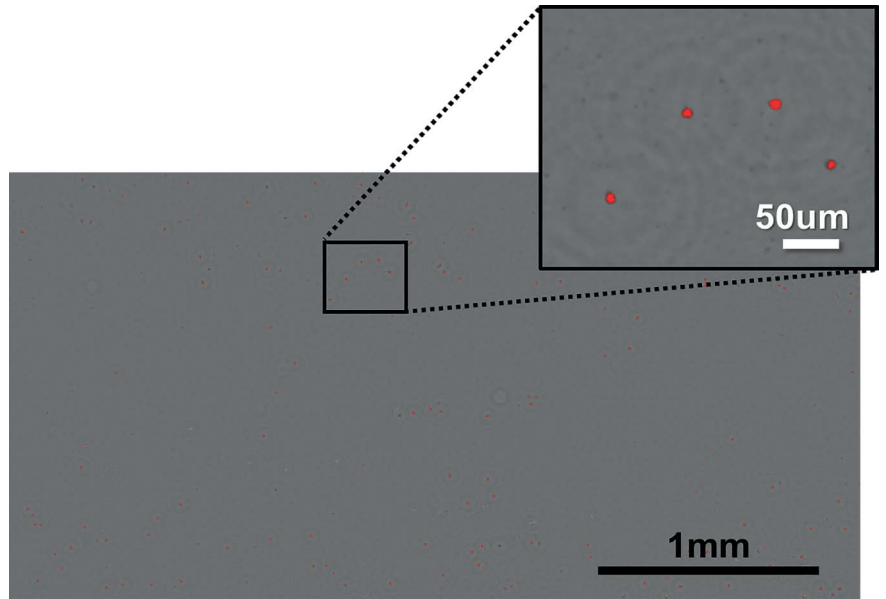


Detailed view of high-resolution USAF '51 test target shows optical resolution of 1µm

Specifications of the demo-kit can be found in the table below:

Weight	350 grams
Dimensions	120x100x105 mm (LxWxH)
Interface	USB 3.0
Field-of-view	4.7 x 3.5mm ² maximum
Spatial resolution	~ 1µm
Detection limit	200nm
Acquisition speed	20fps at full resolution (higher speed possible with ROI feature)
Imaging mode	Transmission (intensity & phase contrast)
Lighting	Laser-based (all integrated)
Sample height	25mm maximum

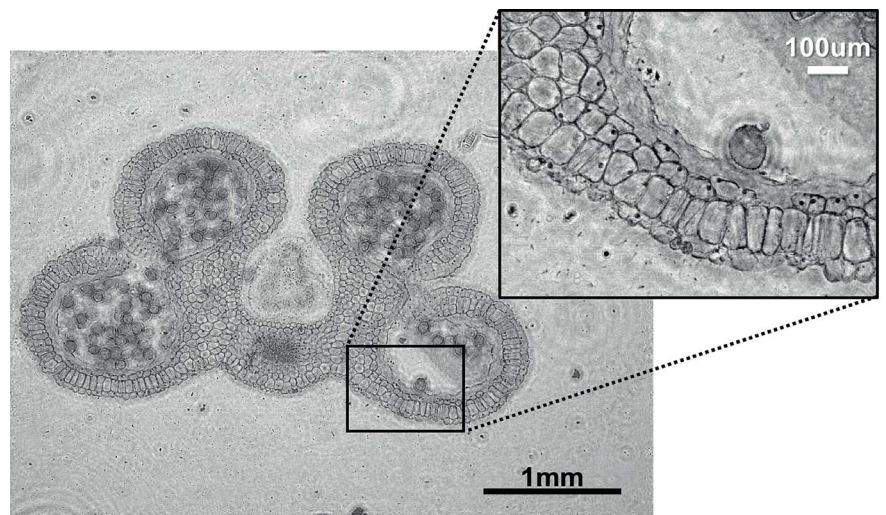
Imec lens-free imaging SW interface feature acquisition, live preview and reconstruction algorithms for visualization of both phase and intensity images.



Particle detection with automated counting and classification (e.g. for clean-room cleanliness monitoring applications)

APPLICATIONS

- Colony monitoring
- Cell culture
- Blood screening
- Cardiac cells contractility
- Particle contamination
- Small defect inspection
- High throughput microscopy applications
- High throughput scratch and defect inspection applications



Full field-of-view (16.5mm²) lens-free image with high-resolution details (zoom-in) shown on example of lily anther

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