THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

University Research Facility in Materials Characterization and Device Fabrication
材料與器件中心實驗室

UMF Equipment – KEYENCE VK-X200

3D Laser Scanning Microscope

The VK-X200 is a laser scanning confocal microscope capable of ultra-fine, non-contact profile measurements. It combines the capabilities of an optical microscope, scanning electron microscope and roughness gauge into a single system. It provides non-contact profile, roughness and thickness measurements on nearly any material.

The laser scanning microscope employs two light sources: a laser source and a white light source. These two types of light sources enable the acquisition of laser intensity, color and height. The information can be used to construct fully-focused color images, fully-focused laser images and detailed height profile.

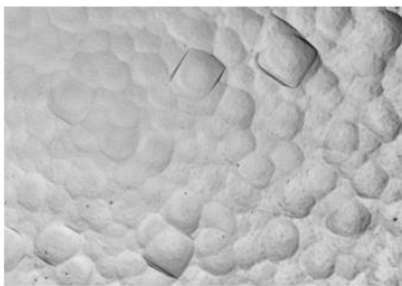
Features:

- Laser light source: 408 nm violet laser
- Magnification on a 15" monitor: 200x - 3000x
- Optical zoom: 1x to 8x
- Laser scanning method: Area (2048 × 1536 pixels)
- Height measurement display resolution: down to < 5 nm
- Width measurement display resolution: down to < 10 nm
- Laser monochrome image:16-bit
- Color image: 8-bit for RGB each
- Robust measurement software: height, width, angle and cross-section measurement; Surface area and volume measurement; Line & surface roughness measurement.
- Auto function: AAG (Auto gain), Auto focus, Auto upper/lower limit setting, etc.
- Built-in easy mode

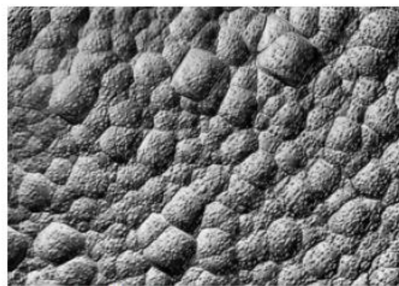
Please refer to supplier information page: https://www.keyence.com/keyence-tv/VK-X200_3D_Laser_Scanning_Microscope.jsp for further details of the system.

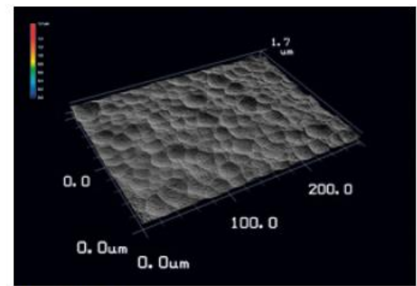
For any inquiry, please contact Pendy Ho (pendy.ho@polyu.edu.hk).

3D Laser Scanning Microscope - KEYENCE VK-X200


Laser, full-focus image

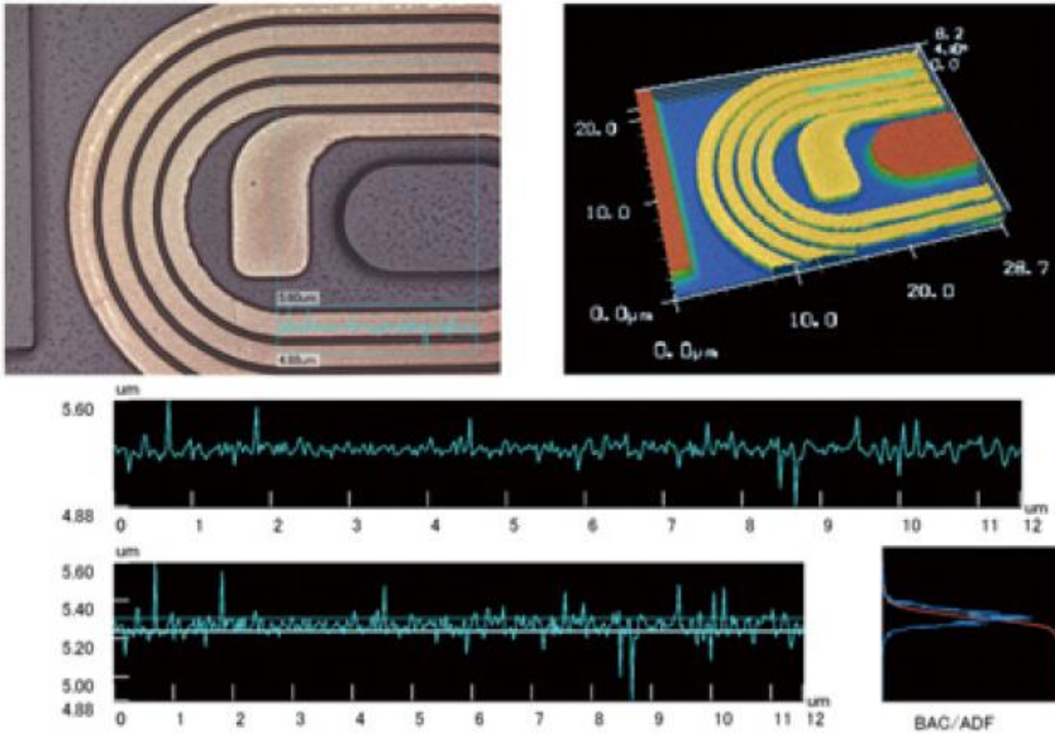
Rear face of a wafer (1000x)


C-laser DIC 2D image



C-laser DIC 3D image

C-Laser DIC function combines the laser image and height information. This enables effective observation of target objects previously difficult to observe when using contrast information, such as mirrored samples and samples with little variation in surface texture.



Electronic device pattern (1000x)

Calculate roughness on a 2D or 3D image for a given line.