

EpiX

EpiX Mapping stations combine an XY-mapping stage with LayTec spectroscopic reflectance and photoluminescence metrology systems for a comprehensive 2D analysis of optical wafer properties by non-contact measurements. Automated analysis facilitates samples statistics and pass / fail classification on wafer-level and die-level.

Features

Mapping stage

- XY-mapping stage for sample sizes up to 200 x 200 mm
- Vacuum chuck for wafer holding
- Maximum scanning speed ≥ 15 spectra/s

Spectroscopic reflectance measurements

- LayTec fiber-optical head
- Normalized reflectance measurements in the full spectral range
 standard Range: 400 nm – 1050 nm (2048 pixel CCD detector array)
 extended Range: 400 nm – 1700 nm (additional 512 pixel InGaAs detector array)
- Tungsten lamp (9 W) typical life-time according to manufacturer: 6.000 h, adjustment-free lamp unit for quick replacement reduces downtime

Photoluminescence measurements (optional)

- LayTec photoluminescence-fiber-optical head (wavelength-specific)
- Up to 4 laser sources configurable
 (405 nm, 532 nm, 638 nm, 808 nm, other wavelengths upon request)
- 6 attenuation levels

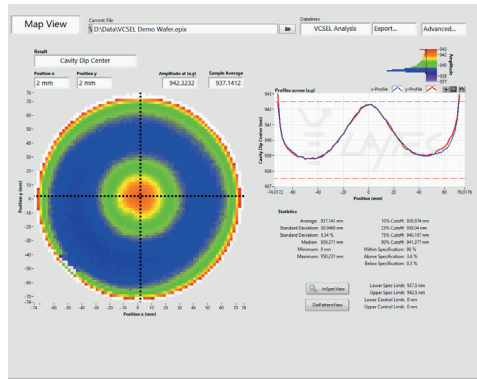


Fig. 1: Wafer-level 2D of cavity-dip center wavelength



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Data analysis

- Automated detection of VCSEL optical parameters (cavity dip, stop-band position)
- Single layer thickness fit
- Multi-peak fit

LayTec EpiX metrology software

- Recipe-based measurements / analyses
- Analysis results, statistics and pass / fail-classification on wafer-level and die-level
- XML reports, ASCII exports

Industrial grade cabinet

- Protection class IP55
- Touchscreen (19") for visualization and operation
- Signal lights
- Interlock and emergency stop
- Footprint: 2000 x 1000 x 1100 mm
- RJ 45 Ethernet connection

Operating conditions

- Power supply 220 V AC / 230 V AC / 240 V AC
- Other voltages upon request
- Supply frequency 50 Hz / 60 Hz ±5 Hz
- Maximum power consumption 400 W
- Weight depending on configuration, approx. 300 kg
- Operation temperature 15°C – 28°C
- Storage temperature -10°C – 45°C
- Max. operation humidity 50 %
- Max. storage humidity 80 %

EpiX is designed with multiple upgrade options: more optical heads (wafer bow, reflectance-anisotropy, sheet-resistance, wafer thickness, optical transmission), extended wavelength range, software interfaces (e.g. for user-owned spectral analysis libraries) upon request.

Specifications are subject to further technical development and may differ from those given in the data sheet. In certain cases, performance may be limited by reactor type and/or growth conditions. Please consult our technical sales team to see how LayTec metrology can best serve your specific application.

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Developed,
manufactured,
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