LAYTEC

MEMBER OF THE NYNOMIC GROUP

EpiX® Modular Metrology Solution

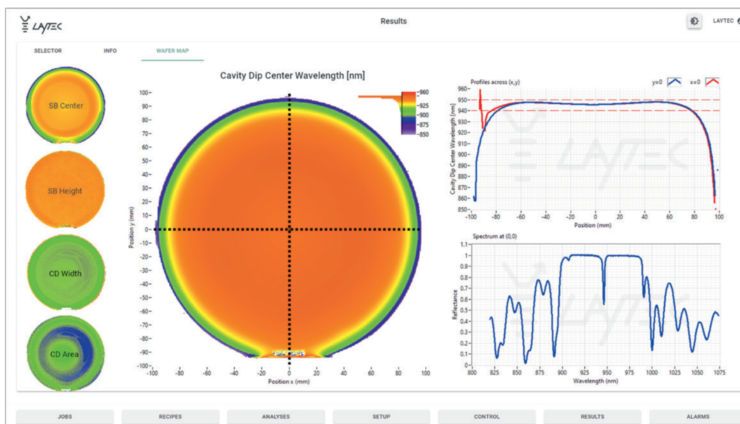
High-End Metrology White Light Reflectance, Photoluminescence & Automation for VCSEL Applications

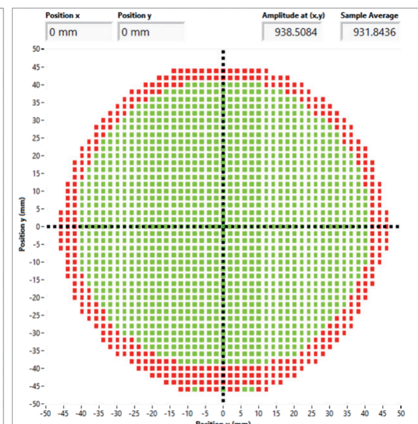
Applications

- 4D spectral reflectance wafer mapping
- Quantification of DBR and FP-Dip properties
- Total stack and individual layer thickness
- Statistical process control option

Features

- Pass/fail classification on wafer- and die-level
- Industry-compatible clean room design
- 250-2000 nm spectral range
- Analysis embedded in simple workflows
- Modularity by design





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EpiX® for VCSEL

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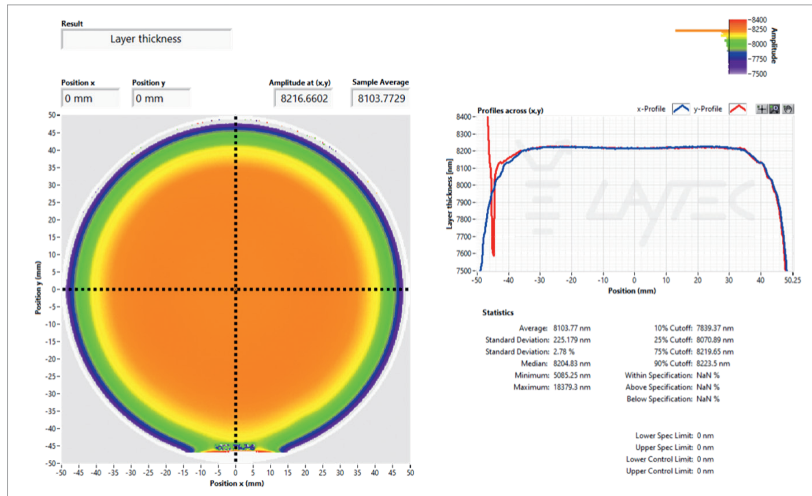
Frontside left: Color-coded wafermap of Fabry-Perot-Dip wavelength of 940 nm VCSEL wafer. Additional results are displayed on the left. Top right graph depicts x and y profiles defined by crosshairs in wafermap. Bottom right graph shows spectrum of point defined by crosshairs.

Frontside right: Pass/fail classification of VCSEL wafer at die-level.



Color-coded wafermap as well as x and y profiles of total stack thickness of VCSEL stack.

Key specs

White light reflectance	
Absolute accuracy at wafer center	< ± 0.5 %
Sample holder	< ± 0.5 %
Wafer thickness compensation	< ± 0.5 %
Photoluminescence	
Intensity stability across wafer	< ± 3 %
Signal to noise within single spectrum	< ± 1 %
Automation	
Throughput (wafers / h @ 1mm pitch)	up to 40/25/15 (for 4"/6"/8" wafers)
Cleanroom compatibility	up to ISO 3

Additional benefits

- Modular configuration enables flexible parallel usage for Laser, LED, Power and other wafer types
- Combination with complementary LayTec in-situ metrology for epitaxy and etching for in-depth wafer analysis through Connected Metrology®

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