LayTec EpiX® C2C PL + WLR mapping station

Product configuration overview

Summer 2026

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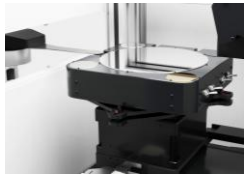
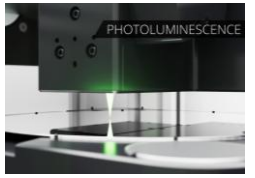
EpiX® C2C

- Best-in-class measurement performance
  - White light reflectance and photoluminescence wafer mapping
  - Bow mapping
  - Modular and flexible configuration optimized for your material system and custom requirements
  - Superior reproducibility and ultra-low noise levels
  - Superior absolute accuracy
  - Superior 2D measurement uniformity
- Optimized for high volume manufacturing
  - Cassette-to-cassette automation with slot mapping, pre-alignment, OCR and optimized automation cycles
  - High throughput wafer mapping recipes
  - Enclosed cassette ports, fan-filter-unit and controlled laminar flow for minimal particle concentration
  - Integrated and automated measurement of reference samples for SPC

Product Video: https://www.youtube.com/watch?v=WB4DbuMkaa0





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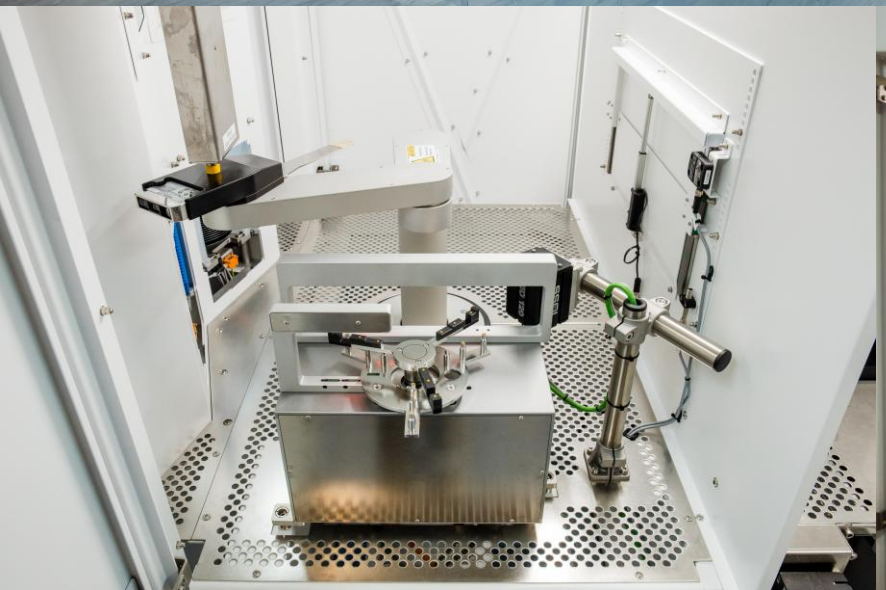

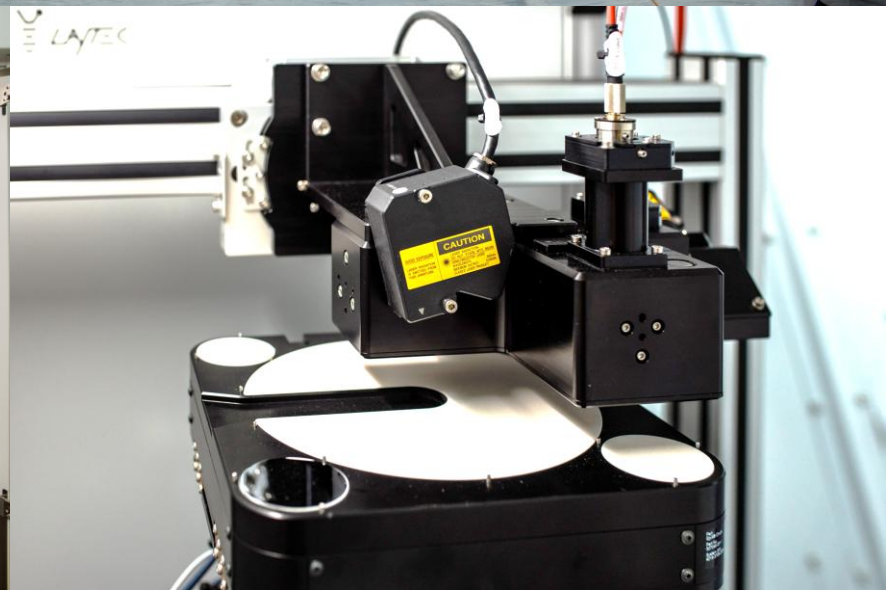
LAYTEC
CAUTION

EpiX® C2C standard configurations

Application	GaN Power	InP optoelectronics	LED/Laser	NIR VCSEL	Your custom configuration
Typical automation	6”+8” // 8”+12”	3”+4”+6”	3”-8”	4”-8”	2”-12”
Automation features	slot mapping, pre-aligner, wafer ID reader				
Measurements	WLR / PL / bow	PL / bow	WLR / PL / bow	WLR / bow	WLR / PL / bow
Spectral range	230 – 900 nm	900 – 1700 nm	400 – 1100 nm	600 – 1100 nm	230 – 2400 nm
Spectral resolution	≥ 0.1 nm, depending on grating configuration (up to 4 gratings configured)				
PL sources	266 nm pulsed	532 / 980 / 1064 nm cw	405 / 532 / 785 nm cw	-	custom laser wavelengths
WLR source	UV high-brightness LDLS	-	tungsten	tungsten	tungsten or LDLS
Throughput *	≥ 25 WPH	≥ 12 WPH	≥ 15 WPH	≥ 15 WPH	
Obtained parameters	HEMT layer properties: AlGaN composition AlGaN thickness p-GaN thickness total stack thickness yellow-PL bow	luminescence properties: peak wavelength → composition peak intensity peak width … bow	luminescence properties: peak wavelength centroid wavelength dominant wavelength peak intensity peak width peak asymmetry … total stack thickness bow	stop band (SB) properties: SB center wavelength SB width SB edge wavelengths SB height cavity dip (CD) properties: CD center wavelength CD width CD amplitude CD area bow	luminescence properties layer thicknesses layer compositions total stack thickness substrate thickness bow

* 1 measurement type, 17.6k spectra per wafer, typical measurement configuration

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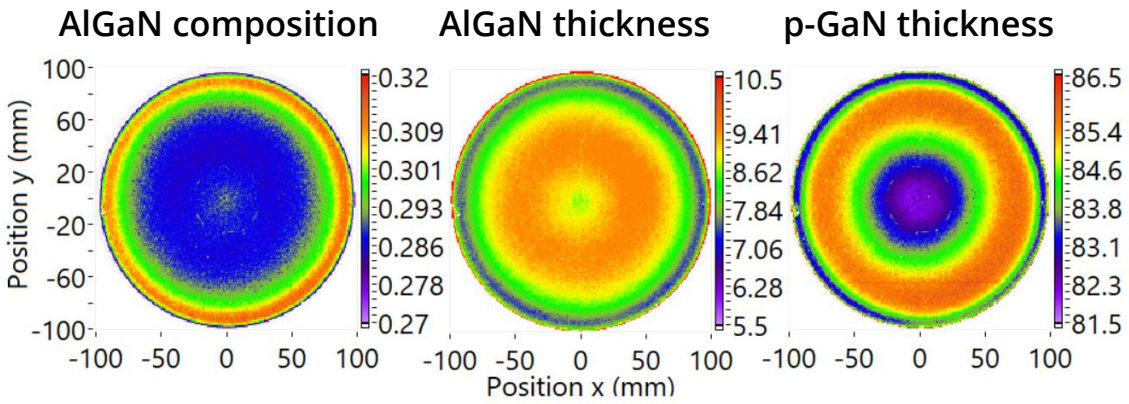
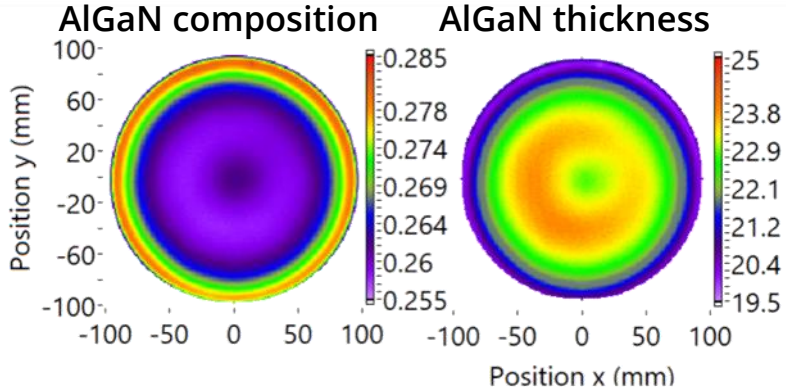
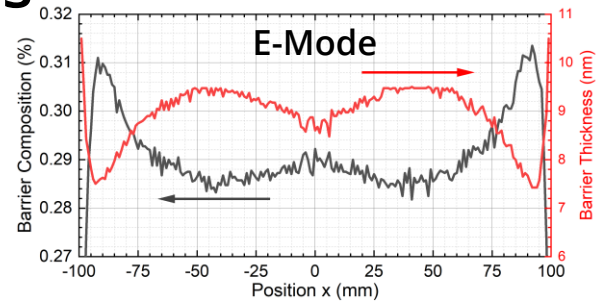
EpiX® for D- and E-Mode GaN Power devices

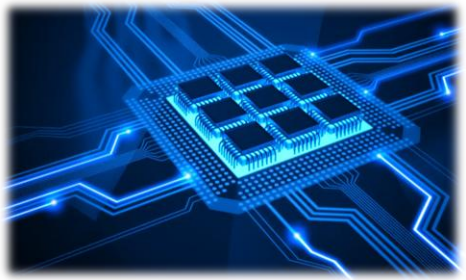
200 Gan-on- Si E-Mode



200 Gan-on- Si D-Mode







- Measurement of absolute UV reflectance with superior accuracy
- Additional measurement of UV-PL, total thickness and wafer bow
- 2D uniformity profiles of key HEMT layer properties with superior reproducibility and ultra-low noise levels for **D-Mode and E-Mode** structures

Application	GaN Power
Measurements	WLR / PL / bow
Spectral range	230 – 900 nm
Spectral resolution	≥ 0.1 nm
WLR source	UV high-brightness LDLS
PL source	266 nm pulsed (additional laser optional)
Throughput	≥ 25 WPH (UV-WLR, 17.6k spectra)
Obtained parameters	HEMT layer properties (D- & E-Mode): AlGaN composition + thickness, p-GaN thickness total stack thickness yellow-PL Bow
Reproducibility	AlGaN composition: ~0.04 % (D-Mode) / ~0.06 % (E-Mode) AlGaN thickness: ~0.03 nm (D-Mode) / ~0.25 nm (E-Mode) p-GaN thickness: ~0.15 nm (E-Mode)

Flyer Whitepaper

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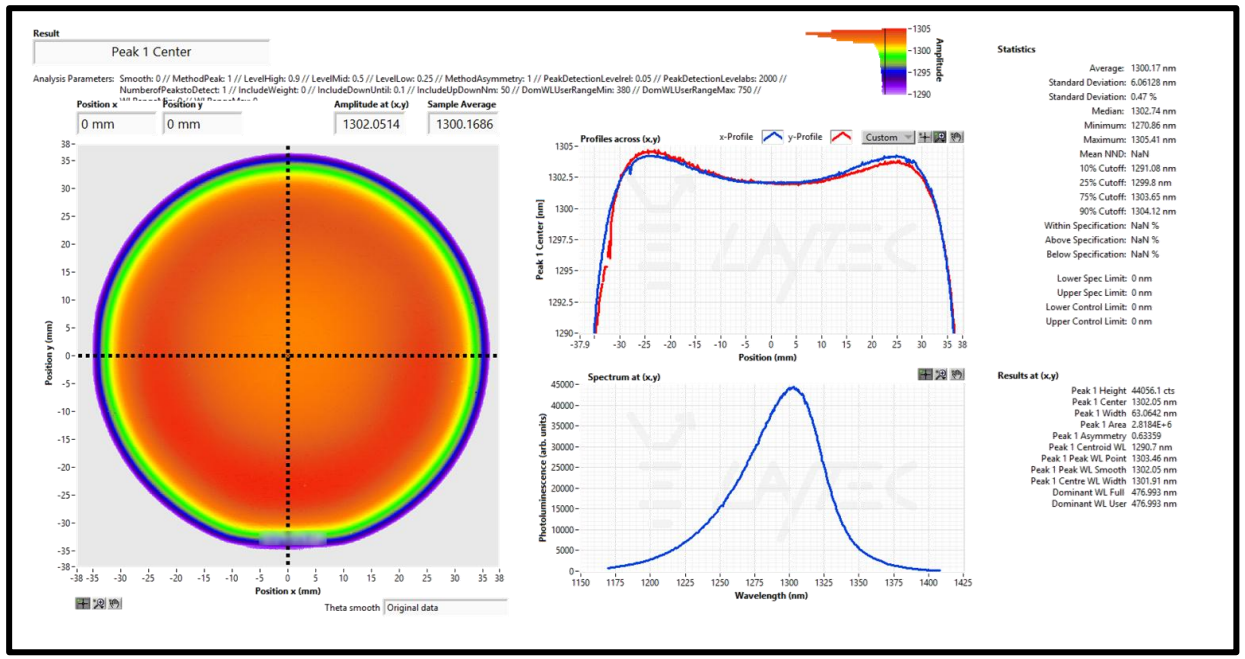
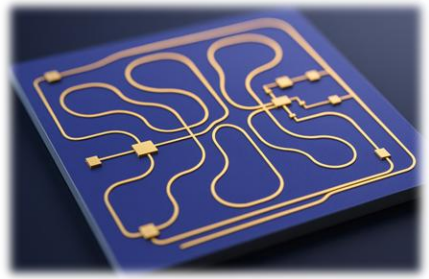
EpiX® for InP-based optoelectronic devices



2D peak center wavelength profile of InP-based epiwafer



- Measurement of photoluminescence with superior accuracy
- Additional measurement of wafer bow and optionally white light reflectance
- User-configurable automated correction of chuck temperature influence
- 2D uniformity profiles of peak wavelength and other key luminescence properties with superior reproducibility and ultra-low noise levels

Application	InP optoelectronics
Measurements	PL / bow (WLR optional)
Spectral range	900 – 1700 nm (extension to 2000 nm optional)
Spectral resolution	≥ 0.3 nm
PL sources	532 / 980 / 1064 nm cw
WLR source	tungsten
Throughput	≥ 12 WPH (PL, 17.6k spectra)
Obtained parameters	luminescence properties: peak wavelength → composition peak intensity, width, asymmetry, … bow
Reproducibility	peak center wavelength: ~0.03 nm peak intensity: ~0.8 %

Whitepaper

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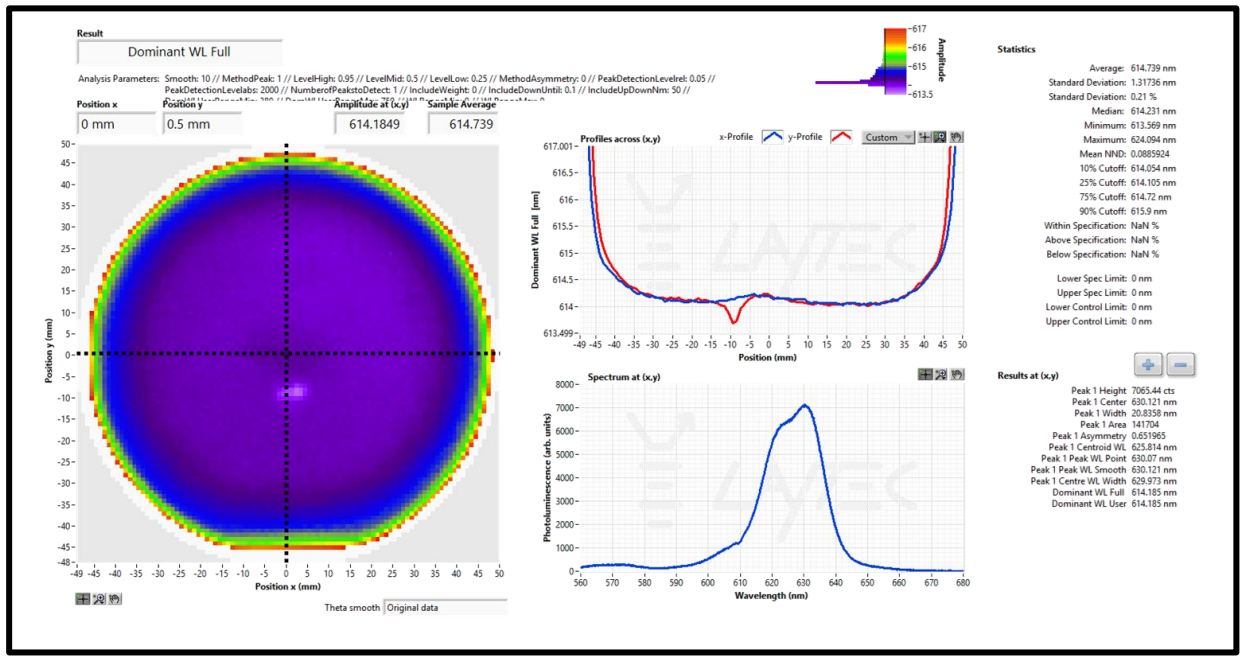
EpiX for LEDs, µLEDs and Lasers



2D thickness profile of dominant wavelength of red LED wafer

- Measurement of photoluminescence with superior accuracy
- Additional measurement of white light reflectance and wafer bow
- 2D uniformity profiles of peak, centroid and dominant wavelength, and other key luminescence properties with superior reproducibility and ultra-low noise levels

Application	LED / Lasers
Measurements	WLR / PL / bow
Spectral range	400 – 1100 nm
Spectral resolution	≥ 0.1 nm
PL sources	405 / 532 / 785 nm cw
WLR source	tungsten
Throughput	≥ 15 WPH (PL/WLR, 17.6k spectra)
Obtained parameters	luminescence properties: peak wavelength, centroid wavelength, dominant wavelength, peak intensity, width, asymmetry, … total stack thickness bow
Reproducibility	peak center wavelength: ~0.05 nm peak intensity: ~0.8 %

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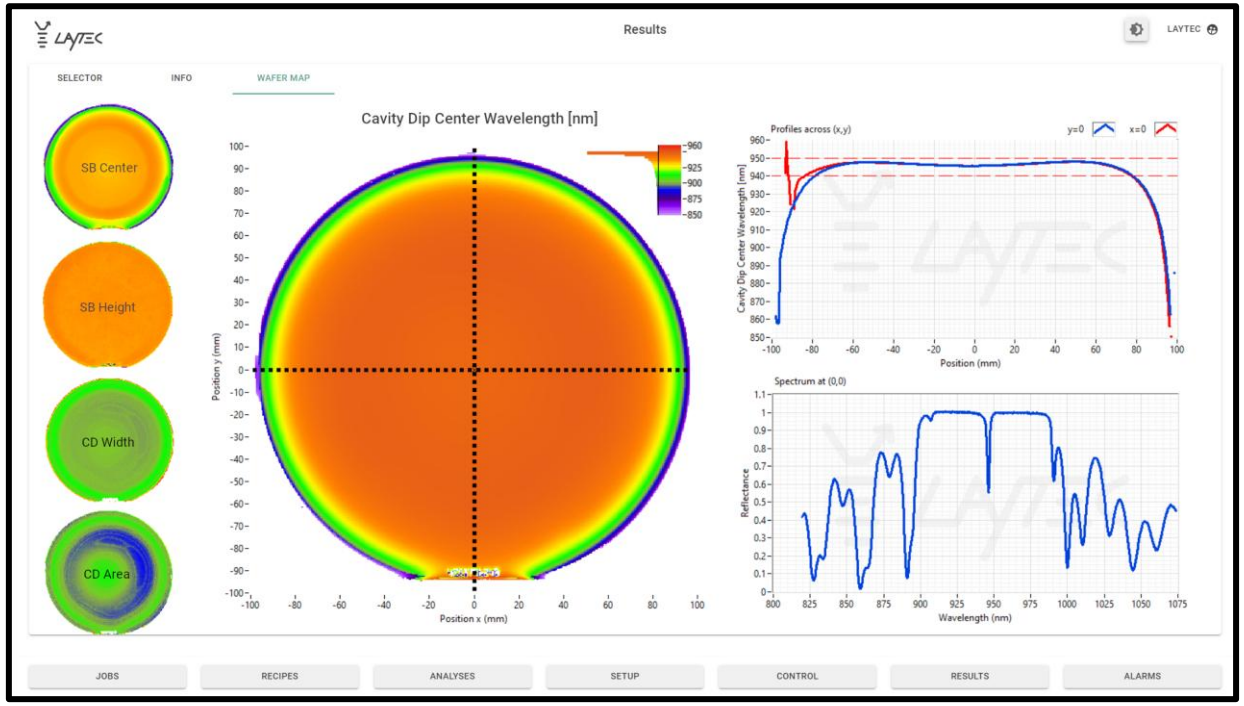
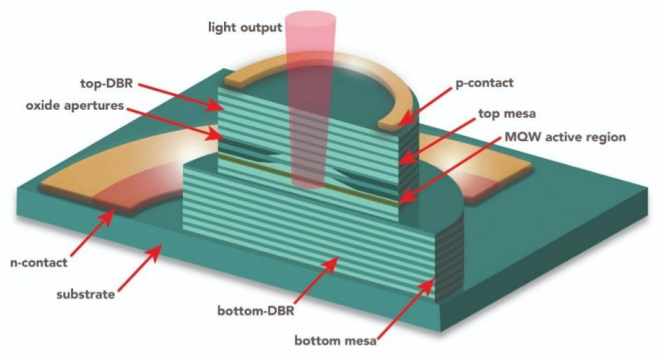
EpiX® for NIR VCSELs



- Measurement of absolute reflectance with superior accuracy
- 2D uniformity profiles of key stop-band and cavity dip parameters with superior reproducibility and ultra-low noise levels



Application	NIR VCSEL
Measurements	WLR / bow (PL optional)
Spectral range	600 – 1100 nm (range extension optional)
Spectral resolution	≥ 0.1 nm
WLR source	tungsten (LDLS for even higher throughout)
Throughput	≥ 15 WPH (WLR, 17.6k spectra)
Obtained parameters	stop band (SB) properties: center wavelength, edge wavelengths, width, height cavity dip (CD) properties: center wavelength, width, amplitude, area
Reproducibility	SB center wavelength: ≤ 0.04 nm SB height: ≤ 0.1 % CD center wavelength: ≤ 0.01 nm CD area: ≤ 1 %

Flyer Whitepaper

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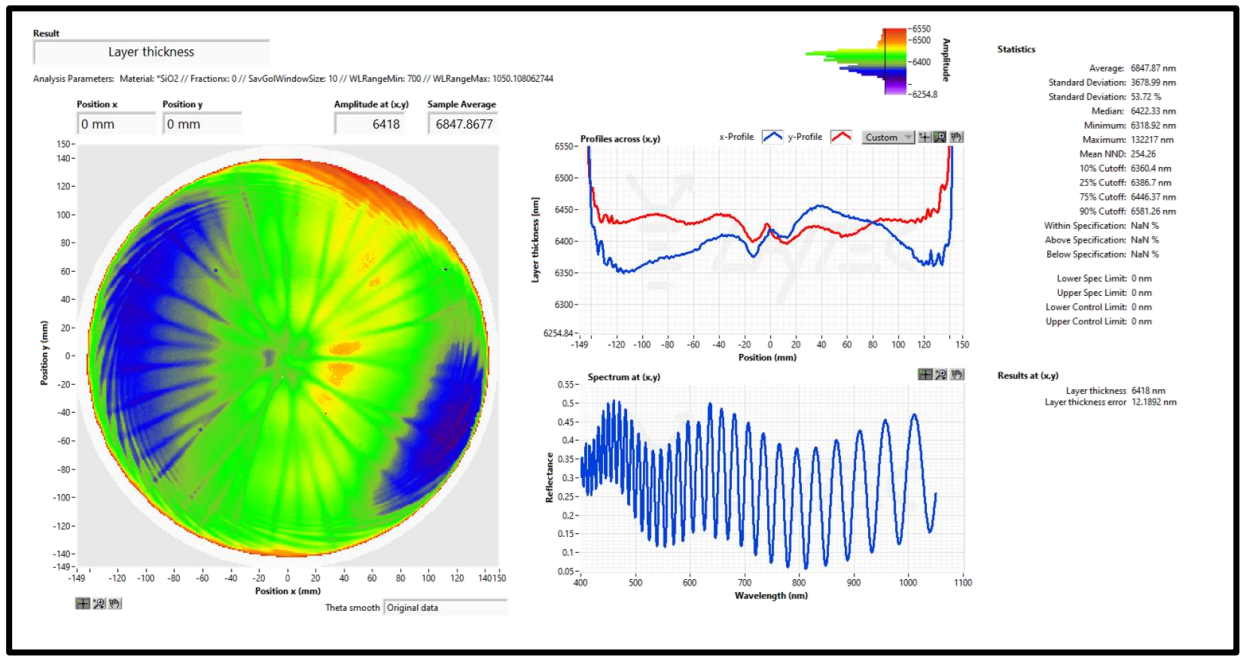
Customized EpiX®



2D thickness profile of spin-coated photo resist layer

- Measurement of spectral reflectance, photoluminescence and bow with superior accuracy
- Wide set of analytic and phenomenological analyses optimized to provide 2D uniformity profiles of key parameters with superior reproducibility and ultra-low noise levels

Application	Your custom configuration
Measurements	WLR / PL / bow
Spectral range	230 – 2400 nm
Spectral resolution	≥ 0.1 nm
PL sources	custom laser wavelengths
WLR source	tungsten or LDLS
Throughput	≥ 15 WPH (WLR, 17.6k spectra)
Available Analyses	single-layer thickness FFT thickness analysis full spectral fitting (multi-layer) total stack thickness substrate thickness DBR / VCSEL Analysis numeric Peak Analysis analytic Multi Peak Fit FFT smoothing POI tracking custom analysis bow ...

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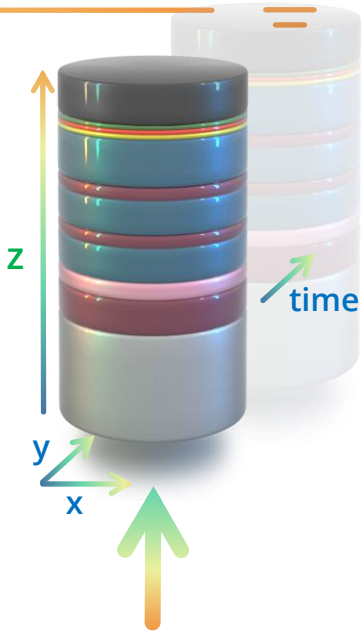
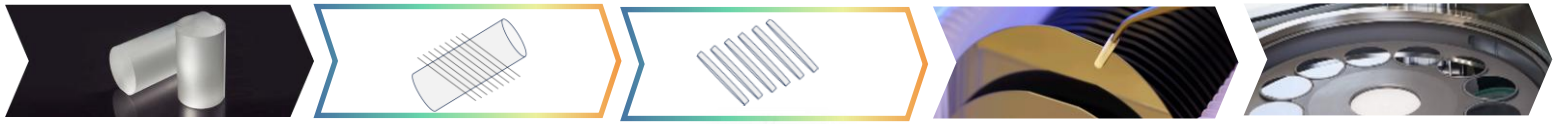
Connected Metrology® within the manufacturing chain

- With LayTec Connected Metrology®, wafer-specific measurements are combined to enable a new level of compound semi process control.

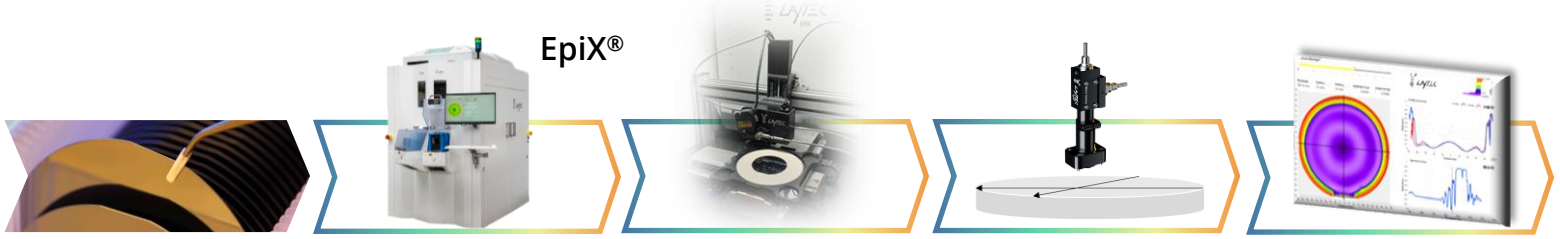
EpiCurve® TT

Full 4D
Layer stack
Quantification

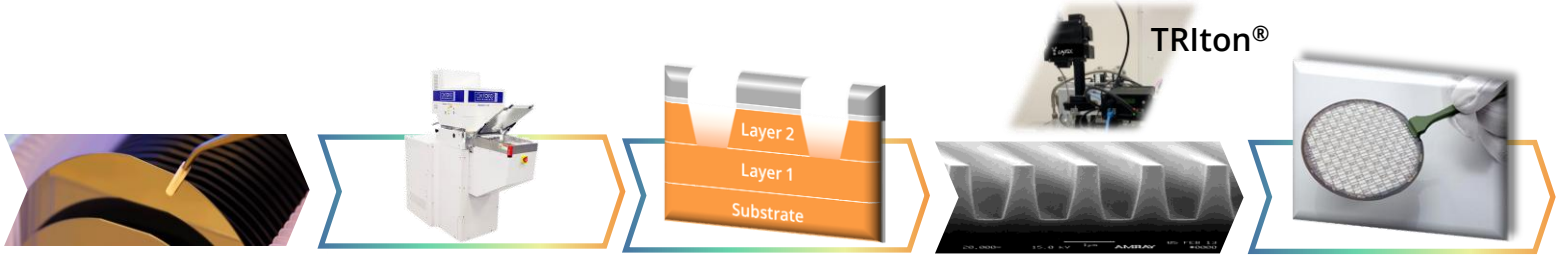




Epitaxy

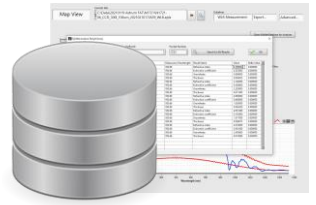


Mapping



Etch

Database of measured data



Whitepaper

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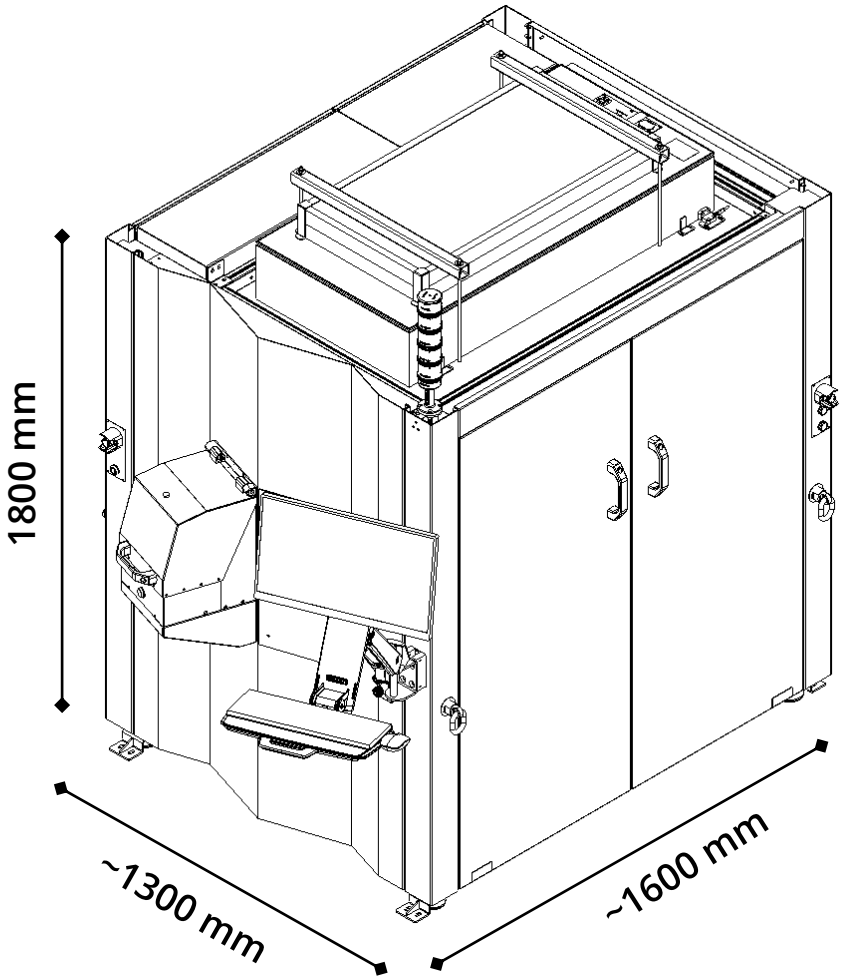
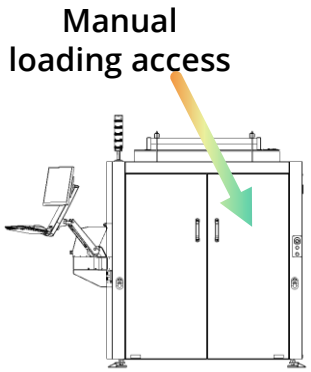
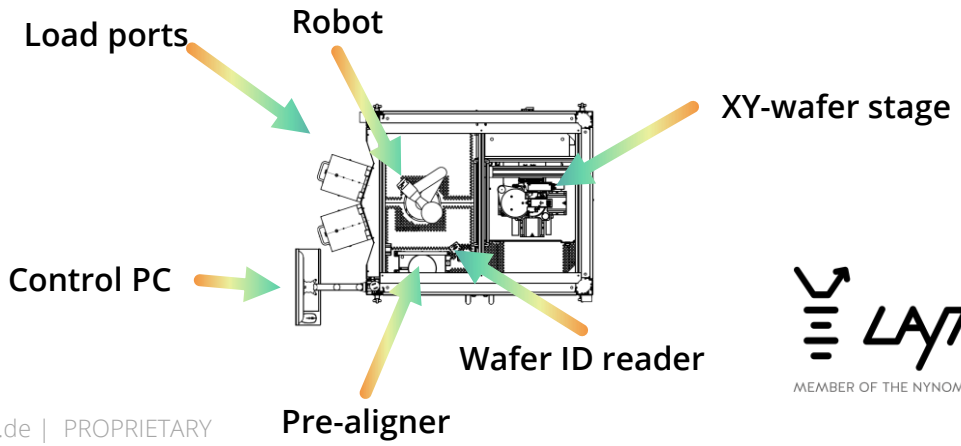
Installation requirements (C2C Option, 3” – 8”)

Data sheet



Parameter	Value
Footprint	~ 1300 x 1600 (+300) x 2150 mm
Mass	~ 1400 kg
Power supply	230V AC - 50Hz, L1/N/PE CEE 7/4 (EU version) 120V AC - 60Hz, L1/N/PE NEMA L5-20P (international version)
Vacuum	8 mm
Nitrogen Purge	4 mm (UV version only)
Network	RJ45
Laser classification	CLASS 1 LASER PRODUCT according to DIN EN 60825-1:2022-07
Certification	CE (UL, CSA, SEMI upon request)



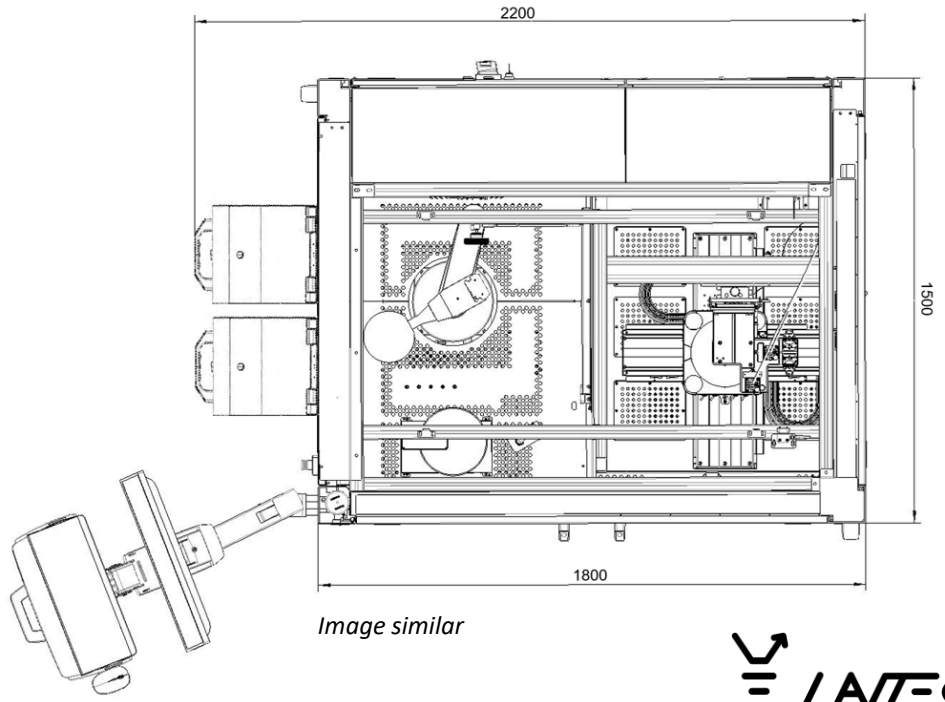


EpiX® manual loading option

- Footprint: 800 x 1000 mm
- Identical measurement hardware and performance like EpiX® C2C
- Available for all configurations and applications
- Prepared for future C2C automation upgrade

EpiX® C2C 300 mm option

- Footprint: 1500 x 1800 mm
- Ideal for 300 mm GaN-on-Si applications
- 2x FOUP 300 mm load ports
- 200 mm wafers can be supported via adapter plate



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Knowledge is key

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