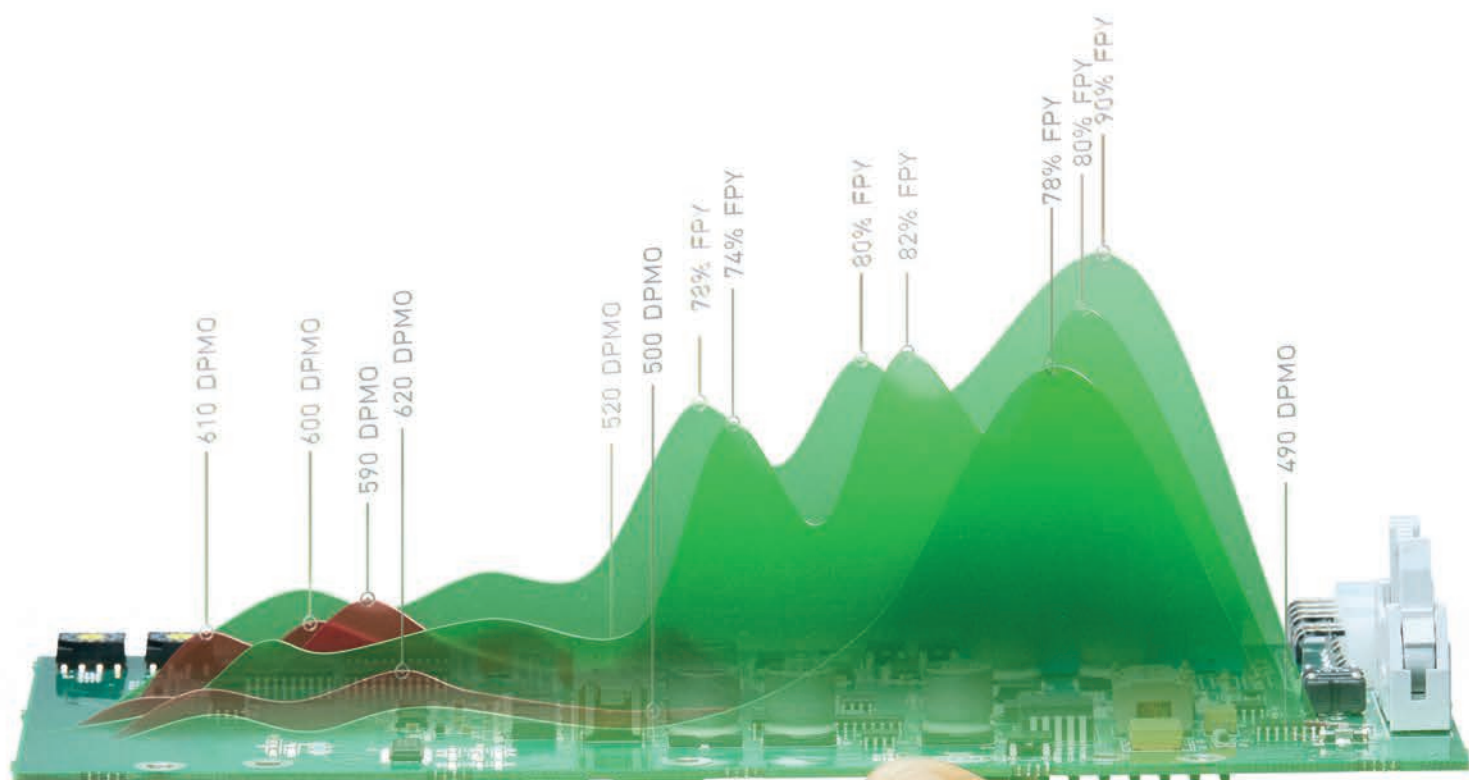


K series 3D AOI

The smartest way to the perfect PCB



France-based Vi TECHNOLOGY, a global pioneer in 3D AOI and SPI, is now part of the Mycronic Group. Already used by leading global manufacturers of aerospace, automotive and consumer electronics, Vi TECHNOLOGY's inspection solutions offer a uniquely integrated, accurate and scalable architecture – an ideal complement to the Mycronic 4.0 intelligent factory.

Advanced inspection that stops defects at their source

At Mycronic, we're on a mission to enable tomorrow's zero-defect SMT line. K series 3D AOI brings your factory one step closer to this vision by delivering scalable high-precision metrology in a single, intelligent, closed-loop system.

The days of automated optical inspection as a post-reflow quality check are long gone. In today's intelligent factory, you can combine pre- and post-reflow data to better predict and define the root causes of defects, inform real-time decisions and analyze complex process trends over time.

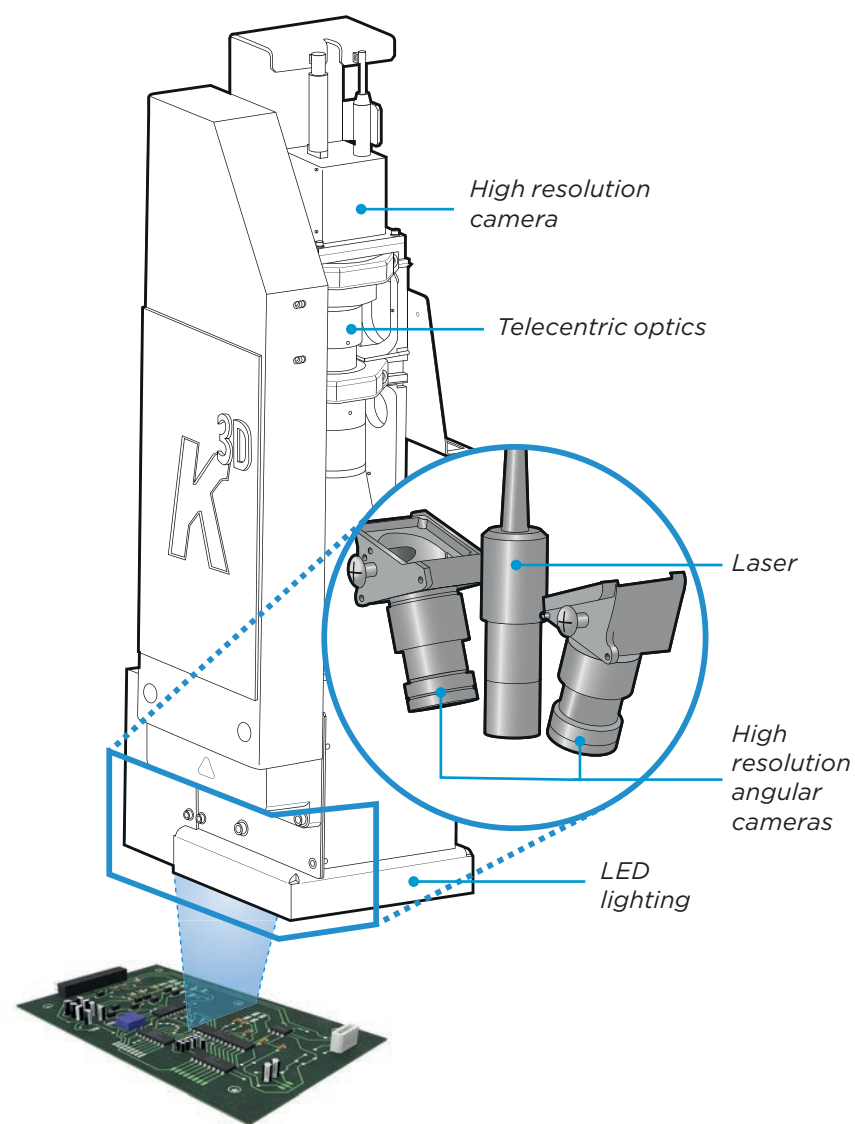
The K series 3D AOI system achieves all this by combining high-definition 2D texture with proprietary shadow-free 3D inspection, resulting in comprehensive coverage of component body and solder joints. For your operators, this means extremely reliable detection of misplaced components, tombstones and more for any degree of board complexity. Thanks to smart data visualization, you can leverage sophisticated real-time data to significantly reduce false calls and escape rates while continuously improving your products in even the most demanding production environments.

It's one more part of the Mycronic 4.0 intelligent factory, and one step closer to perfection.



K series 3D AOI

Take inspection to another dimension



Powerful 3D AOI

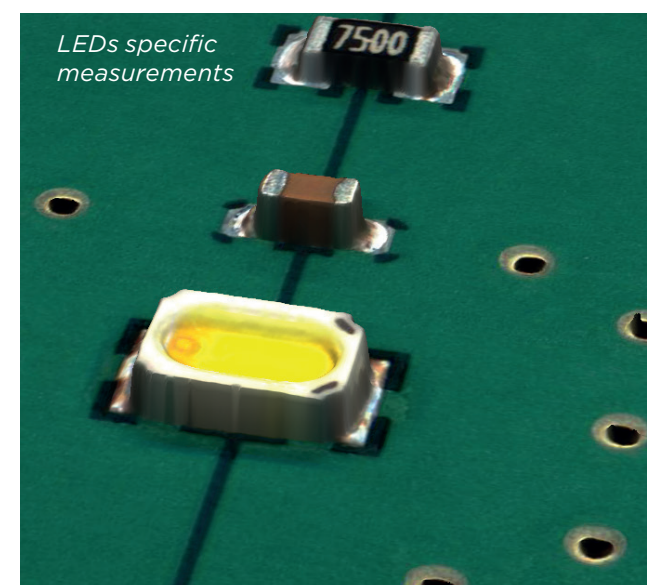
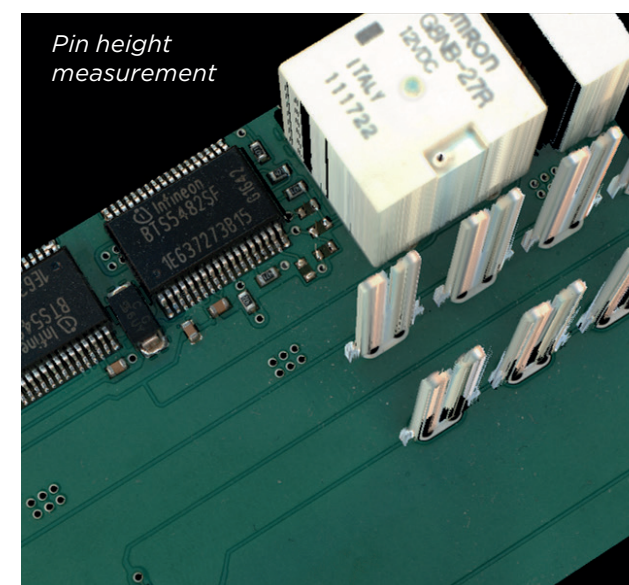
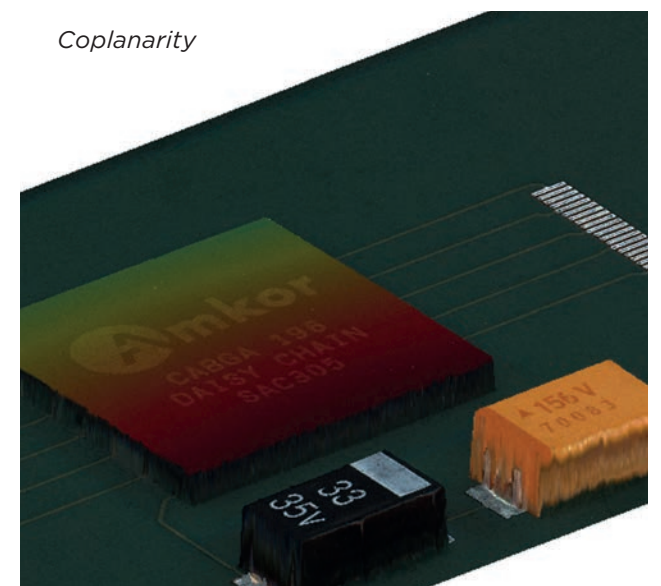
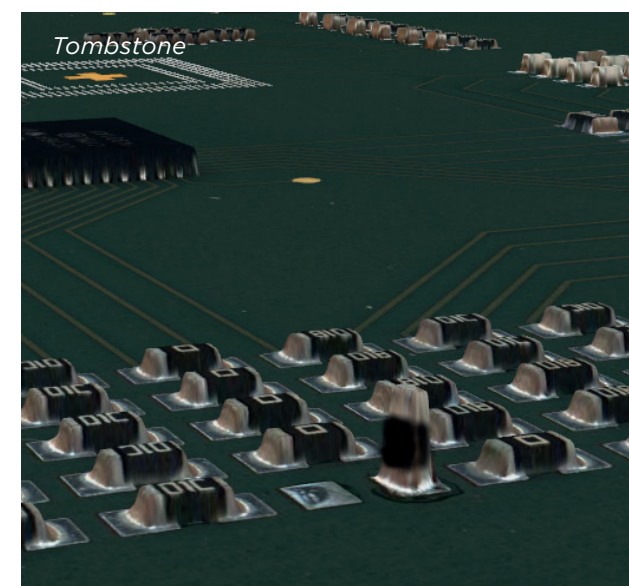
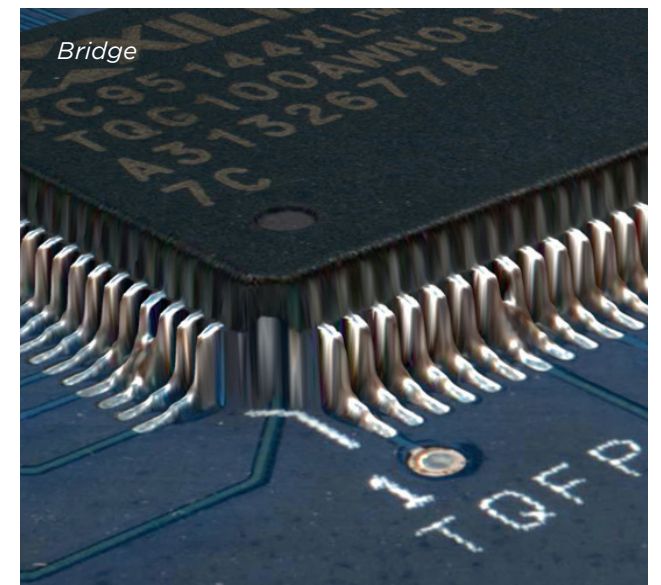
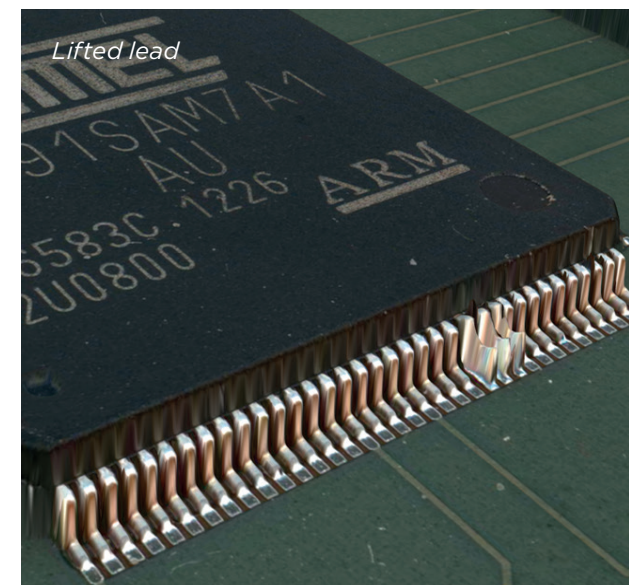
Drill down into powerful image library tools with advanced algorithmic assistance.

Precise optical metrology

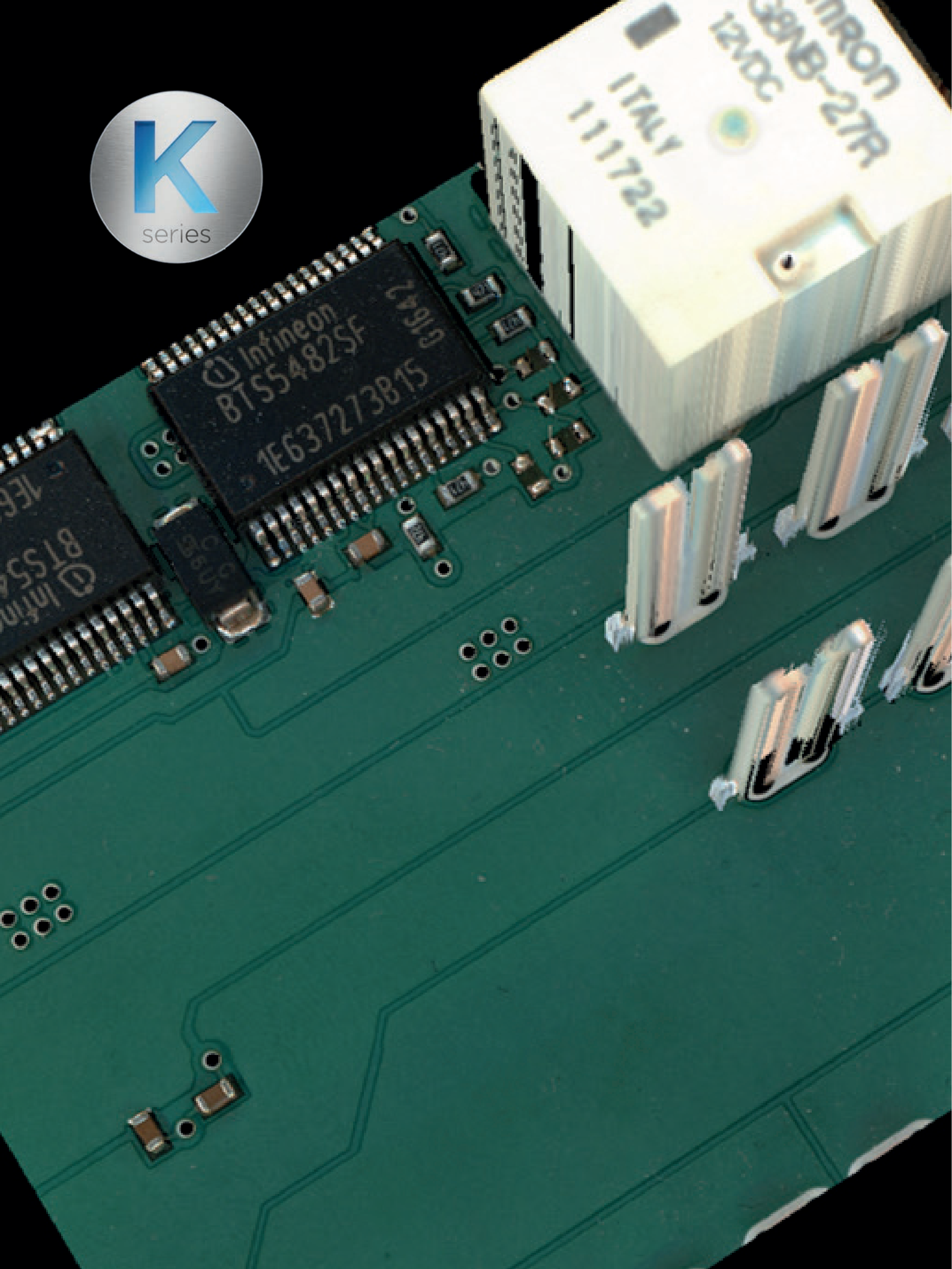
High-precision metrology combining high-definition 2D texture with shadow-free 3D inspection that eliminates image cropping and warpage effects.

Complete test coverage

Comprehensive defect coverage accurately measures component body and solder joints to identify misplaced components, tombstones, lifted leads and more.



Actual images from K series



Ensure comprehensive defect coverage

To enable reliable data capture and high-resolution 3D visualization, the K series expands defect coverage using a combination of 2D texture and shadow-free 3D inspection. This is made possible by a range of state-of-the-art camera, 3D sensor and motion system technologies.

- **High-resolution camera with fully telecentric lens** captures high-quality RGB images for inspection and review.
- **High-precision motion system** utilizing three linear motors for accurate high-speed motion and 0.5 μm resolution optical encoders for accurate positioning.
- **High-performance 3D sensor** combines vertical lasers to avoid projection shadows, optimized angles to minimize intrinsic shadow effects and adaptive height filtering that adapts the sensor's sensitivity to component geometry.

Industry-leading performance and production stability

Today's lean and agile manufacturing calls for superior first pass yield efficiency and 100% performance portability from one line to another. K series satisfies the most demanding customers in the electronics assembly industry where quality and productivity are both mission- and business-critical. The system has been designed to optimize test coverage at line speed for the smart factory while offering 100% offline capabilities.

- **Superior uptime above 99.5%.**
- **Unified software suite** for pre-reflow, post-reflow and post-wave AOI applications.
- **100% offline programming** and tuning capabilities.
- **Rapid inspection time** up to 100 cm^2/s .

Superior accuracy for any product geometry

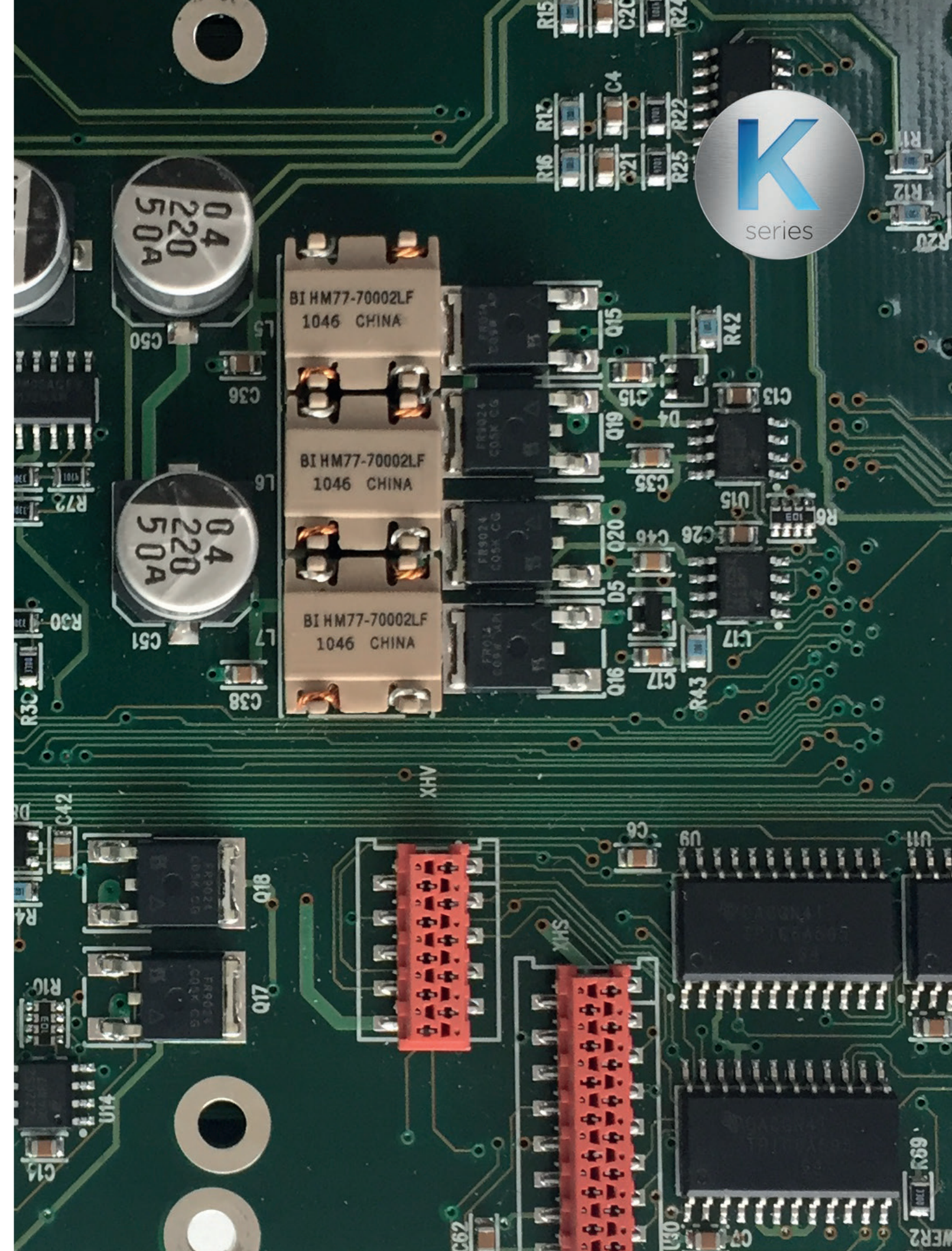
The K series paves the way to Automatic Optical Metrology (AOM). It offers best-in-class accuracy and repeatability in X, Y, Z and Theta for efficient process control. The unique combination of sub-pixel geometric pattern matching technology, proprietary 3D algorithms and unique warpage and distortion compensation leads to superior critical measurement capabilities.

- **Vectoral Imaging** pattern matching.
- **+/- 5mm warpage compensation** with full Z accuracy.
- **Sub-pixel technology** with 4.75µm X,Y resolution.

Fully integrated process control

With the Library Pro defect image bank, the K series ensures easy programming and requires minimal fine-tuning to reach top performance levels. Add SIGMA Link, the industry's most advanced web-based process control software suite, and you'll spend even less time correlating databases, so you can focus on getting to the root cause of every defect.

- **Unified source of SPI and AOI data** with SIGMA Link, allowing you to view your process in real time, quickly drill down to the defect image and take immediate corrective action.
- **Library Pro** improves test coverage and first-pass yield over time to guarantee unmatched levels of performance.
- **Full machine-to-machine portability** for all programs.



A complete range from 2D to full 2D+3D

The K series covers a complete range of needs from 2D to full 2D+3D inspection, board sizes from small (14 x 14 in.) to heavy-duty (up to 37 x 24 in.), and dual-lane (2 x 21 x 11 in.). Field upgrades and program portability from 2D to 2D+3D are also available at an affordable price.



SPECIFICATIONS	5K	8K	9K
Defects test coverage	Presence/absence, positioning X/Y/θ/Z, tombstone, polarity, coplanarity, upside-down components, OCR/OCV, solder joints, lifted leads, head-in-pillow, pins & critical distance measurements, foreign materials detection, IPC 610 compliance verification		
Z reconstruction range	-5 / 20mm		
Conveying height	860 - 960 mm		
Minimum PCB dimensions {L x W}	2" x 2" (51 x 51 mm)	2" x 2" (51 x 51 mm)	2" x 2" (51 x 51 mm)
Maximum PCB dimensions {L x W}	21" x 24" (533 x 609 mm)	DL: 2 x (17" x 12.8") (2 x (432 x 325) mm) or 2 x (21" x 11.0") (2 x (533 x 280) mm)	21" x 24" (533.4 x 609.6 mm)
DL: Dual Lane mode			37" x 24" (option) (939 x 609 mm)
SL: Single Lane mode		SL : 1 x (17" x 23.6") (1 x (432 x 600) mm) or 1 x (21" x 23.6") (1 x (533 x 600) mm)	
PCB thickness	0.5 - 4 mm	0.5 - 4 mm	0.5 - 15 mm
Maximum PCB weight	3 kg	3 kg	15 kg
Minimum edge clearance	3 mm	3 mm	4 mm
Top clearance		34 mm	
Bottom clearance		60 mm	

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