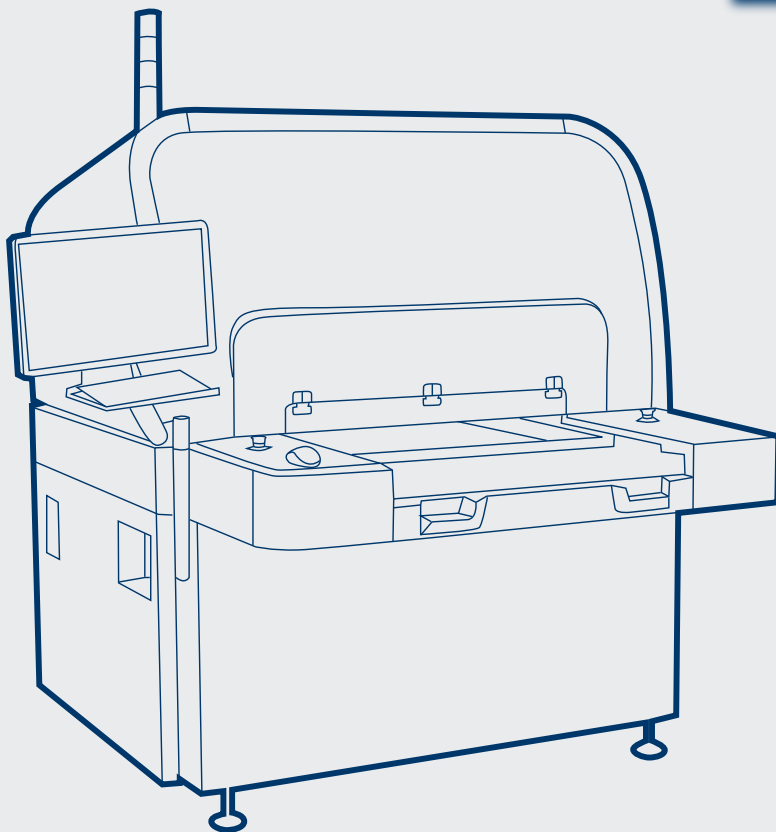


ULTRA DIMENSION™ LV

Automated Optical Inspection (AOI)



PCB Production Solutions

ULTRA DIMENSION™ LV

The Start of a New Era

Ultra Dimension™ LV 3-in-1 AOI Solution

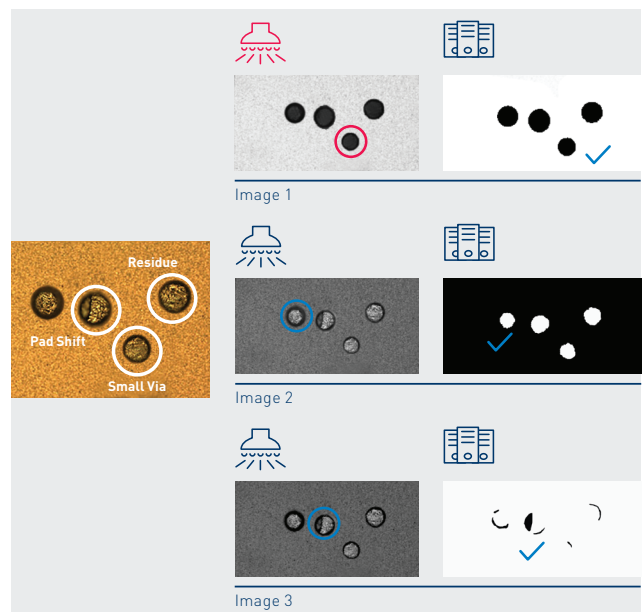
The Ultra Dimension LV is an innovative solution combining Automated Optical Inspection, 2D Laser Via measurement and next generation Remote Multi-Image Verification (RMIV Pro) solution for laser vias. Powered by Orbotech's Triple Vision Technology™, the Ultra Dimension LV is designed to meet the market's constantly evolving requirements for quality and reliability in advanced PCB production, including SLP/ mSAP, advanced HDI, advanced flex and IC substrates.



Benefits

Unique Inspection Capabilities

- Advanced solution for laser via (LV) inspection and 2D LV measurement in a single scan, enabled by Orbotech's Triple Vision Technology™
- Inspection and measurement of various stages of LV production, including Direct Laser Drilling (DLD) after desmear, DLD after plating and more



Integrated, Automated 2D LV Measurement

- Advanced accurate on-the-fly measurement of the laser via's top and bottom diameter, location, roundness and taper, ensuring high reliability and tight quality control
- High sampling rates in a single scan enabled by automated measurements
- Industry 4.0-ready including traceability, measurement analysis and statistics

Remote Multi Image Verification Pro (RMIV Pro) - New Generation of Verification

- Smart enhancement of defect image quality powered by artificial intelligence
- Major reduction in quantity of standard verification stations and operators
- Optimized productivity enabled by simultaneous 'grabbing' of defect multi-images

Low Total Cost of Ownership (TCO)

- Significant reduction in verification stations
- Lower labor costs
- High productivity resulting from fast, simultaneous inspection and measurement

Advanced AOI Solutions for Laser Vias in a Single System

Ultra Dimension LV combines three advanced solutions for laser via production in a single system – LV inspection, 2D LV measurement & RMIV Pro. Combined, these solutions simplify the AOI room workflow, enabling manufacturers to improve their production quality, yield and cost-efficiency.

Unique Inspection Capabilities

Ultra Dimension LV is an advanced AOI solution enabling laser via inspection and 2D laser via measurement in a single scan. Powered by Orbotech's proprietary Triple Vision Technology, it delivers superior inspection results at various stages of laser via production, including DLD after desmear, DLD after plating and more.

Based on its simultaneous inspection and analysis of three different types of images using varied light settings and thresholds as required, Triple Vision Technology enables the highly accurate detection and classification of a wide variety of defect types including laser via under/over drilling, missing via, laser via shifts, residue, roundness and more. It also enables false alarm reduction and a decreased set up time.

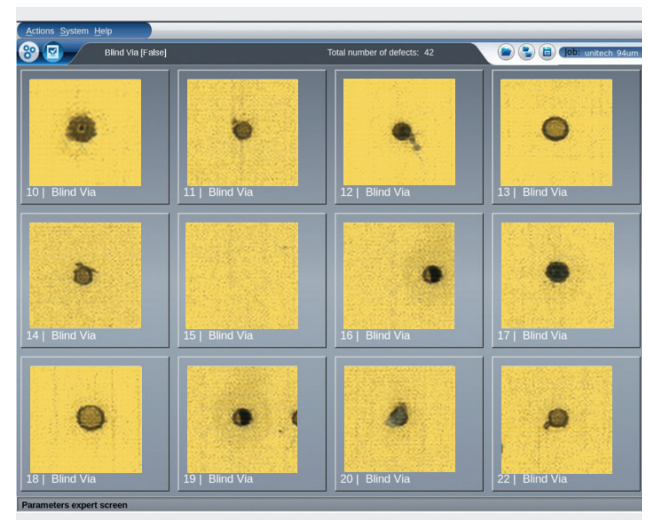
Integrated, Automated 2D Laser Via Measurement

Orbotech's 2D LV measurement enables the automated on-the-fly measurement of the diameters of both the top and bottom via, as well as the via's location, roundness and taper in seconds. This highly accurate measurement solution meets the industry's growing demand for the quality control necessary for advanced manufacturing technologies including SLP/mSAP, advanced HDI, automotive and advanced flex applications. The fully automated process ensures fast, accurate and repeatable measurement with a high sampling rate in a single scan. Complete digitalization of the process means that it is Industry 4.0-ready, fully supporting traceability, data analysis and statistics.

Remote Multi Image Verification Pro (RMIV Pro)

New Generation of Verification

Powered by Triple Vision Technology, Ultra Dimension LV enables the remote verification of multiple images which are automatically and simultaneously grabbed during the LV inspection process. The RMIV Pro next generation verification solution is driven by artificial intelligence which enables smart image enhancement, including better contrast, clarity, brightness and color. By integrating images from three channels into a single multicolor image, the solution enables operators to accurately differentiate between real and false defects in less than a second.



Low Total Cost of Ownership (TCO)

By combining three advanced solutions in a single system, Ultra Dimension LV enables high productivity for laser via inspection and measurement. This new system dramatically reduces the number of machines required, freeing up valuable floor space in the AOI room. As a result of its fast, simultaneous inspection and measurement as well as the reduced number of verification stations needed, the Ultra Dimension LV enables manufacturers to significantly lower their labor costs and their overall TCO.

Full Compatibility with Orbotech Smart Factory

Orbotech's web-based traceability and analytics solutions provide users with valuable insights to help them better understand and improve their production processes. Ultra Dimension LV is connected to the Orbotech Data Server (ODS), and communicates inspection results, defect reports, RMIV Pro images, measurement results and more.