

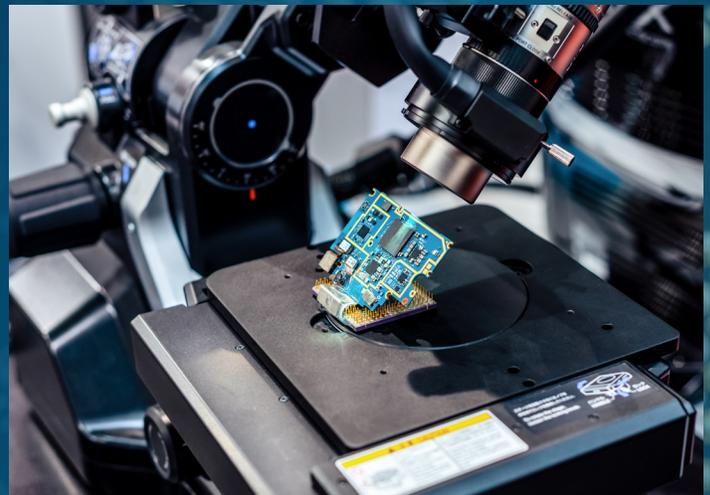
## Failure Analysis Services

With the Covalent Platform

In today's high-paced, ever-changing electronics and semiconductor industries, product failures are commonplace during all stages of manufacturing: R&D and prototyping, scaling, accelerated life and stress testing, production, and in the field. When engineers set out to troubleshoot these failures, the most cost-effective and efficient solutions are achieved by partnering with the right analytical services team. Covalent's failure analysis experts bring more than a century of combined experience in investigating and resolving clients' most challenging problems with advanced electronic and semiconductor equipment, devices, and products.

## The Solutions We Offer

- Infrared Thermography
- Near-infrared Imaging
- Emission Microscopy
- General Electrical Testing of PCBs and Electronics
- Mechanical Cross-sectioning and Destructive Physical Analysis
- IPC Certification
- Liquid Crystal Hot Spot Detection
- Bulk Grain Analysis of Metals
- Integrated Circuit Decapsulation
- Parallel Lapping of PCBs, and PCB Packages
- Die Parallel and Angle Lapping
- Plasma Cleaning and Chemical Etching
- Microprobing
- X-ray Inspection
- And more!



With access to more than 100 in-house analytical techniques and a robust suite of sample preparation equipment, the Covalent team can bring the expertise and technology necessary to help you solve problems faster.

## Why Choose a Failure Analysis Partner?

Modern devices can fail in countless ways: through nanoscale structural defects in underlying semiconductors and integrated circuits; by the introduction of unexpected chemical contaminants or impurities during fabrication or processing; or via faulty connections, welds, and junctions between parts and components – to name a few. Oftentimes, engineers working through these issues are ill-equipped to implement the most strategic failure analysis approach.

Extensive, specialized expertise and instrumentation are needed to outline and execute the most efficient approach as well as to devise and validate the most effective solution to the problem. With the right analytical services partner, you can tap the necessary resources to save time and money by accelerating the troubleshooting process and implementation of corrective actions.

## Covalent's Failure Analysis Group

The failure analysis experts at Covalent have more than 100 years of combined experience characterizing electronics and semiconductors used in numerous industries. When clients bring their most challenging problems, seeking “one more miracle,” Covalent delivers: providing data, insights, and consulting support so clients can identify and resolve the failure source. Backed by the Covalent Platform's full portfolio of cutting-edge instrumentation, the failure analysis team has the focused expertise to target the best experiment design for each project and to generate the most impactful data. They can help you ensure you find the right answers to your failure analysis questions as quickly and easily as possible.

Get a quote at [covalentmetrology.com](https://www.covalentmetrology.com)