PCB Testing

Production Test

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Move from PCB testing challenges to reliable results

To focus on design and cost is important but remember that the production test is the final safety net before your products reach your customers. Without a reliable test solution, you can suffer costly returns and worst of all, a damaged reputation.

At WireFlow we can help you out from the beginning of your new product development initiative – we can review your PCB design to make sure it is testable.

It is up to you how much you want to do yourself and which parts you want us to do.

Unknown test coverage	Known test coverage
Unreliable test systems	Reliable test systems
Lack of traceability	Real time production traceability
Costly returns	Long term support agreement
Shortage of time and expertise	Free up time for core business

Test coverage

To know the test coverage of your product is critical. We can go through the whole BOM, schematics and PCB design and give you a list of tests that needs to be performed. You can start making the tests manually, but you are prepared for the future.

The test coverage will point out which test methods that are most suitable for each test case.

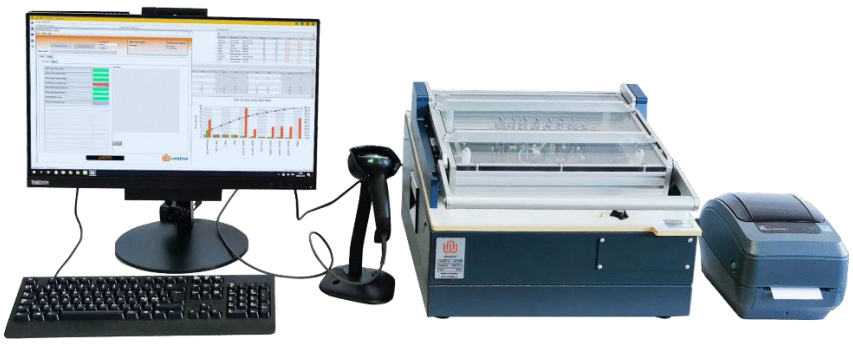
We know production

With hands-on experience in real-world production environments, we understand the challenges and demands that come with delivering high-quality results at scale.

We support you in structuring the production flow after the PCB has been assembled. The first critical step is the PCBA test, which verifies that the board functions correctly after all components have been mounted.

Following this, the process typically involves housing the PCB or assembling multiple PCBs into a complete unit. This step is called box build. To ensure the final product meets quality standards, an End-of-Line (EOL) test is performed. This final test guarantees that your customer receives a fully functional and reliable product.

Minimizing waste during the production test phase is essential for achieving efficient and cost-effective manufacturing. By applying the principles of Lean Manufacturing, it is possible to streamline the testing process, enhance product quality, and improve overall throughput.



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Reliable test systems

Before installing the test system in production, it is important to make sure it is reliable and finds the errors it was designed for. The test coverage analysis defined what to test and which errors the test shall be able to find.

To make sure that the test fulfils the requirements, the corresponding issue is created on the PCB to make sure the test detects the failure(s). The procedure and the results are documented in a Test Validation Report.

Another important thing is to make sure that it is easy to repair a failing board. An intuitive and clear test report that shows where to analyse the board is essential. A repair instruction makes it even easier.

An operator instruction is written to make it easy for the test operator to execute the test.

Finally test time and production flows are analysed and optimized and maybe there is a need to be able to communicate with the Manufacturing Execution System (MES)?

Define

- Review PCB
- Test coverage
- Method AOI, ICT, FCT
- Test specification

Validate

- Manipulate PCB
- Reliability
- Review for repair
- Optimize cost

Implement

- Assemble fixture
- Develop software
- LabVIEW, TestStand

Document

- Operator instruction
- Repair instruction
- Maintenance

Support

The WireFlow test stations are designed and manufactured with the highest quality to run without disruptions for many years, but in real operations events occur and needs immediate attention.

WireFlow offers a pro support agreement where we guarantee the availability of an expert within hours. By using our software tools for remote access and test data analysis we can pinpoint any kind of problem very quickly. Once the cause of the problem is identified, it is normally quite easy to fix the problem.

2h response
Highly critical issues – prevents further running of the applications

48h response
Medium critical issues – systems can run but with workarounds

One week response
Low critical issues – new functionality needed

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