



Basics of PCB Testing

Production Test



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To focus on design and cost is important but remember that 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.

Design for test

If you are not sure about the volumes of your product and want to make manual tests of your PCB it is still valuable to know that your PCB is ready for higher volumes. We have put together a guideline for how to make a PCB that is Designed For Test (DFT).

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.

Test methods

AOI or the visual inspection of the products contains both manual inspection at different process steps and Automated Optical Inspection (AOI). The Visual Inspection detects visual problems at components such as missing, rotated, misaligned. The Visual inspection can also detect shorts and opens.

In Circuit Testing (ICT) is standardized and easy method to implement, however it requires many test points on the PCB. For boards with limited space, it might not be possible to add enough test points to make a complete ICT test. Also, it is not possible to test active components such as microcontrollers etc. by using the ICT method. This means that boards with limited space and/or active components will normally require Functional tests complemented with ICT tests of varying degree. ICT is optimal for testing components like resistors, capacitors and diodes.

Functional Testing (FCT) is a higher level of testing, where the powered circuit board is verified by testing its functionality. This testing is normally required for boards that include integrated circuits like voltage regulators, processors etc. It is not uncommon for a special test software to be executed on embedded processors to obtain good test coverage and fast and stable test cycles.

Unknown test coverage

Unreliable test systems

Lack of traceability

Costly returns

Shortage of time and expertise



Known test coverage

Reliable test systems

Real time production traceability

Long term support agreement

Free up time for core business



Testing

When you have a PCB that is Designed For Test and know what you need to test (Test coverage) you can feel comfortable that you will produce working products to your customers.

Either you do the test system by yourself or want a complete test system from WireFlow. Read more about our extended offer on our web site.

Our offer

We review your PCB and make sure it is Designed For Test (DFT).

We create a Test coverage analysis specification at a fixed price. Contact us for pricing.