



Traceability Guideline

Production Test



Why traceability is important

Traceability is one of the most important factors in being able to provide high quality at a lower cost. This document gives some examples of why it's important to have good traceability in your circuit board production test system and how to implement it.

Or as Dr. W. Edwards Deming (global authority on statistical process control) said:

"In God we trust. All others must bring data."

"Without data, you are just another person with an opinion."

Root cause analysis

If your product starts failing at the site of your customer, you need to identify the cause quickly. With traceability, you can see exactly what was tested, when it was tested, by whom, and with which parameters.

This can reduce the time for troubleshooting a lot.

Compliance with industry standards

Many industries require proof that products have been tested correctly. With traceability you can show that every single product:

- Passed all tests
- Meets the documentation requirements
- Was tested using calibrated test fixtures and tools
- Was programmed with the correct firmware and parameters

Detection of systematic faults

Knowing the test yield for your product over time is useful for detecting faults in the production process or in your test system.

Being able to detect faults in the production process and provide input for improvements, reduces scrap and repair costs.

If a certain test case starts showing rising failure rates or if you need to retest many products, traceability reveals how each test case has behaved over time. It can be a software issue, a certain test fixture or a certain operator causing the lower yield.

With good traceability you can identify the problem and correct it.

Costly returns

If a product is failing in field, you need to be able to not only identify the root cause but also be able to identify which batches and customers are affected. With good traceability you can recall only affected products instead of recalling everything.

Product development feedback

Being able to analyze test data over time can help R&D teams understand which tests are most critical and where the design can be improved.



How to get good traceability

The test sequence not only indicates pass or fail for each board tested, it also takes measurements of various parts of the boards tested. Test data generated for each tested board is concluded with a pass or fail.

If all the test data is stored and archived, it can give valuable insights that can be used to better understand and evolve the existing manufacturing- and test processes and improve product designs.

At WireFlow we use the tool [WATS](#) from Virinco to help you gain new insights from your manufacturing data. By using WATS, you can quickly identify production yield issues, frequent test or product failures, poor test coverage or other performance problems, in real-time, directly through your web browser or mobile device.

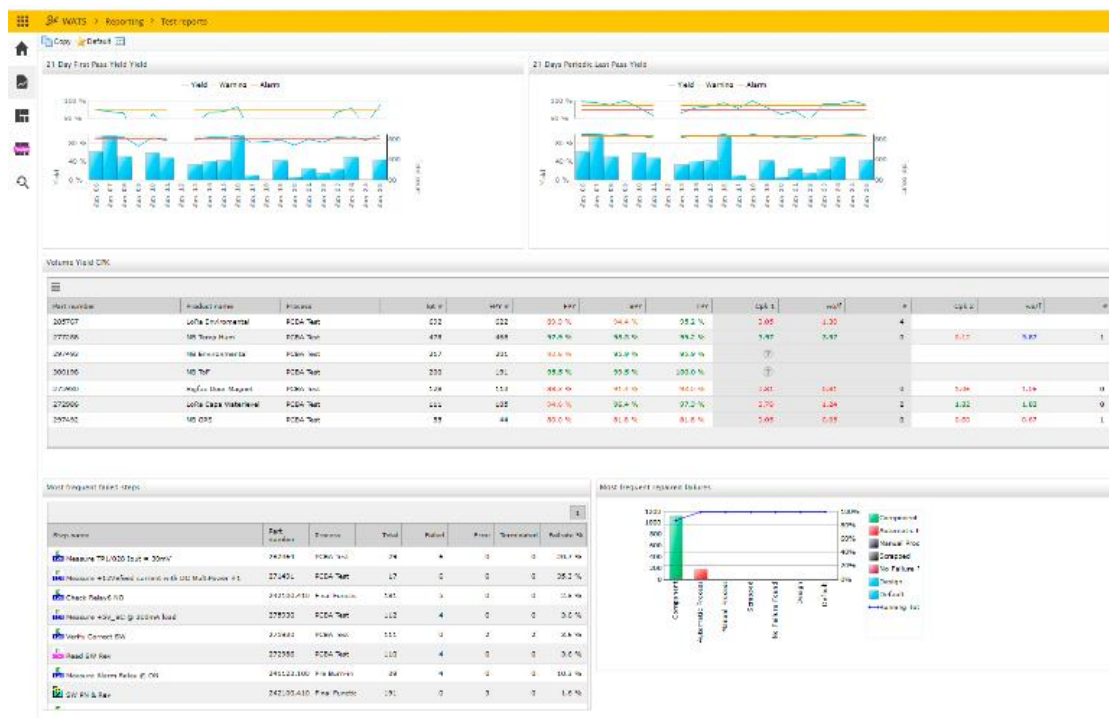
If you have problems in production, it's essential to find the root cause - WATS makes that easier.

If a board fails during PCB test and needs repair, the test report pointing out what failed is stored in WATS. Simply the scan the QR code of your PCB to reach it, now you know what failed and can repair the board.

Apart from given full access to all test data, WATS also gives you access to important KPI's like first pass yield.

If you have a test system that creates local test reports, we can help you create a report handler that converts your report into a WATS report that will be sent to the WATS system.

All you need is a unique identifier on your PCB for us to be able to create excellent traceability for you.



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