Test strategy

How to define what test that is needed and is most cost efficient in manufacturing process of my product

What is test strategy?

The starting point for any test strategy is the obvious: some components and products will fail, and these faults should be uncovered before the products are put to use. A test strategy will also recognize that products are different, in terms of their complexity and the consequences of an error. These considerations will influence questions such as what test equipment to use, what kinds of tests to perform, what product assembly level to be tested, how to perform the tests in a cost-efficient manner and what test coverage to aim for.
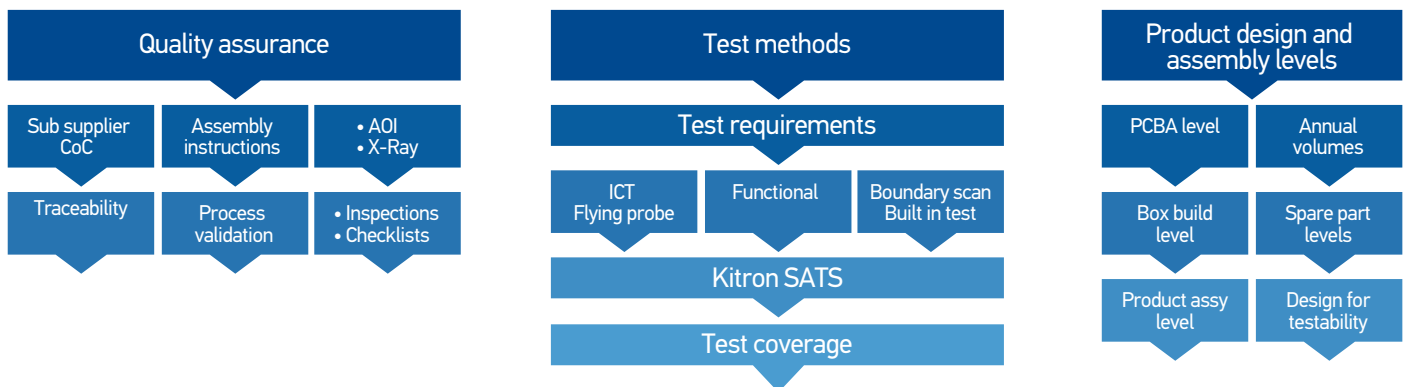
Product design phase

The most cost-efficient test strategy is done in the early product development stage. Design for testability (DFT) reviews are performed to achieve product design that ensures high test coverage with low test cost.

Test strategy review

A test strategy review analyzes: design for testability, product requirements, what tests to implement on what product assembly level, all complementary quality assurance methods, product annual volumes, different possible test methods, automation level of test and test coverage analysis. The output from the test strategy review is a manufacturing test and control plan and test equipment specification that ensure the highest product quality at the lowest total cost.

Test Development

With the test strategy defined, Kitron can develop state-of-the art test systems for automatic testing in production. The starting point for the actual test development is the test specification. Kitron has highly qualified test development departments for in-house development of all types of tests. For functional tests, we have our own standardized cost-efficient test system platform SATS.

Quality assurance

Sub supplier CoC	Assembly instructions	• AOI • X-Ray
Traceability	Process validation	• Inspections • Checklists

Test methods

Test requirements

ICT Flying probe	Functional	Boundary scan Built in test

Kitron SATS

Test coverage

Product design and assembly levels

PCBA level	Annual volumes
Box build level	Spare part levels
Product assy level	Design for testability

Test Strategy