CORELIS

ScanPlus ICT™

Boundary-Scan Upgrade for the Agilent 3070

- Fully integrated with all Agilent 3070 ICTs, including UNIX and PC-based testers
- ScanReuse™

  All boundary scan test steps and programming files created with the ScanPlus system in board design and prototyping can be reused on the Agilent 3070
- Includes a Fast boundary-scan controller with user programmable sustained Test Clock (TCK) up to 80 MHz
- Supports up to four JTAG-ports concurrent (gang) testing and in-system programming of CPLDs and Flash devices
- Reduces ICT fixture size, density, cost
- Easy connection to the test fixture with high-signal integrity
- Fault detection and isolation to the net and pin levels
- Automatic generation of test patterns for Infrastructure, Interconnect, Clusters, Memories, FIFOs, and Resistors, using proven, mature boundary-scan test algorithms
- High-level debugger including waveform representation of applied, expected, and actual test data including go from breakpoints, looping, and single-step
- Summary and Comprehensive reports of board test coverage
- Facilitates a common failure report mechanism
- Complies with IEEE Std 1149.1 and BSDL industry standards

Overview

The benefits of boundary-scan are noticed in all phases of the product life cycle. By coupling the power of the ScanPlus boundary-scan tools with that of the Agilent 3070 ICT, a complete, integrated solution is now available that offers the best advantages of both technologies.

Boundary-scan operates as the perfect companion to the ICT. Boundary-scan is capable of testing areas of printed circuit board assemblies that are difficult to access due to physical space constraints and loss of physical access, which is often due to fine pitch components such as Ball Grid Array (BGA) devices. Conversely, the ICT is able to check the non-boundary-scan compatible portion of the unit under test (UUT) such as analog.

Integrating the Corelis ScanPlus boundary-scan tools with the Agilent ICT into a single test system forms a powerful and cost-effective solution that virtually eliminates each of the obstacles that are presented to the individual test technologies. By utilizing the benefits of both boundary-scan and the ICT, complete test procedures can be created in a minimal time frame that provide outstanding test coverage of the entire printed circuit board assembly.

The efficiency of boundary-scan is extended still further by the added benefits of JTAG-based In-System-Programming. Flash memories and other PLD devices can be programmed in-system by simply including programming steps into the boundary-scan test plan.

Combining the effectiveness of boundary-scan with the power and flexibility of the Agilent 3070 In-Circuit Tester produces a unified test methodology that is robust, extensive, and easy to use. With the appropriate use of boundary-scan, test fixtures can be greatly simplified, leading directly to reduced test cost and development time.

ScanReuse

Design and test engineers often invest considerable effort creating boundary-scan tests for initial development and prototyping. When the design is released to production, this effort is then duplicated by redeveloping the same boundary-scan tests from scratch for use on an ICT. The integration of the Corelis ScanPlus boundary-scan tools and the Agilent 3070 was designed specifically to eliminate this redundant effort and hence unify boundary-scan test procedures across the complete product life cycle.

Boundary-scan tests that are created during development, and executed on bench-top systems, can now be applied directly by the Agilent 3070. When faults are detected by the boundary-scan portion of the test, the output of the ScanPlus Advanced Diagnostic is displayed from within the Agilent 3070 interface, clearly specifying the cause of the fault down to the net and pin level.

Reusing boundary-scan tests created by the design engineer not only saves dramatically on time and effort but also increases the quality of the test procedure. The design engineer often has unique insight into the details of the design that can be transferred directly to a more complete and robust test procedure.

The test procedures passed down from engineering are often matured and refined from usage, making them much more valuable to the repair technician when faults are detected.

Single GUI and reporting

The integrated environment allows the operator to execute all the test steps and print diagnostics messages using the same Agilent 3070 user interface and the same 40 character wide repair ticket. No special training is required on the production floor.

Figure 2 depicts two reporting tickets for a board that passed all the tests and for a board that failed the interconnect boundary-scan test.

Figure 1. Single operator user interface for Agilent 3070 and ScanPlus Tests

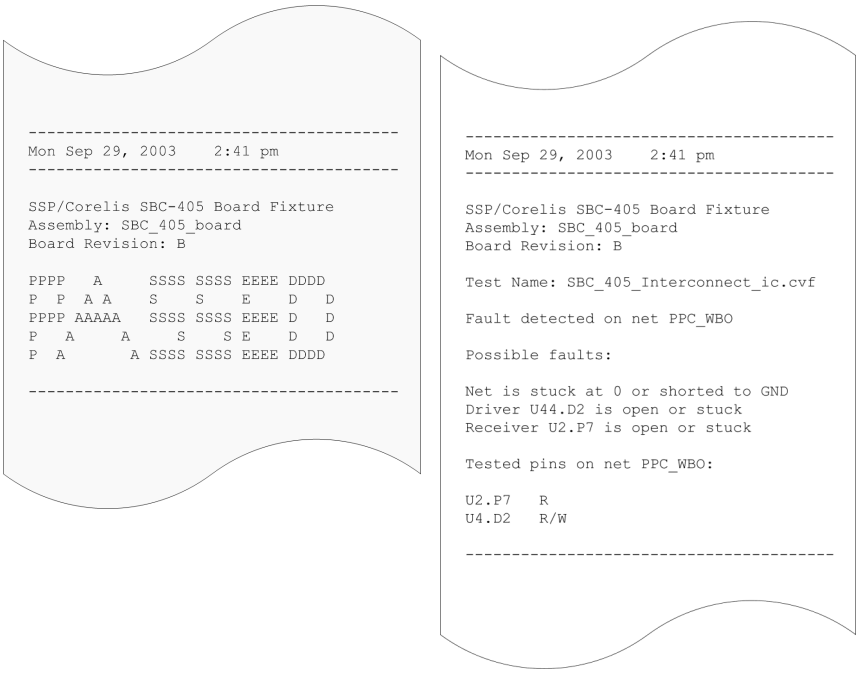

Figure 2. Single reporting ticket for Agilent 3070 and ScanPlus Tests

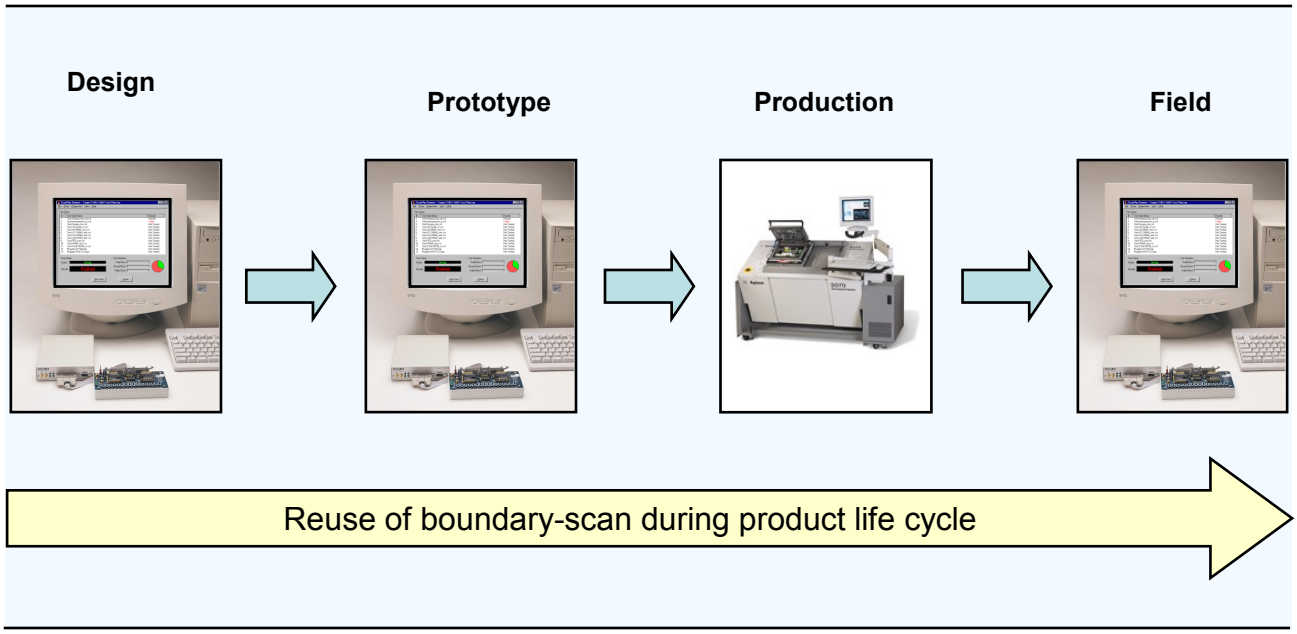

Figure 3. Reuse of boundary-scan during product life cycle

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