ScanWorks® Processor-Controlled Test Manufacturing

Put the most powerful instrument on your board – the CPU – to work performing structural and functional test, diagnostics, and debug routines all in one pass.

Overview

In today's market with buses that can't be probed, complex device types like system-on-a-chip (SoC) and pressure to lower test costs, you can't use the same approach and be profitable. ScanWorks Processor-Controlled Test (PCT)

Manufacturing Software is targeted at providing manufacturers fast structural and functional test in a single pass and which is cost effective. This approach allows you the flexibility to adjust your in-circuit test (ICT) and functional test strategies to better manage production line costs. With a test script, ScanWorks PCT can typically test today's complex designs in six to eight minutes[1] per board. The PCT Manufacturing Software runs test

profiles, developed and validated with the PCT Development software, and nothing else – nothing to overwhelm factory technicians. The ScanWorks clean and elegant user interface provides powerful diagnostic messages should a UUT fail a test.

Intel Platform Focus

Today's Intel board designs are as intricate as the processors from Intel creating a challenge to maximize test coverage for test engineers. Whether you are using an Intel Core™ or Intel Xeon® processors, you must have tools that deal not only with the processor architecture, but the chipset as well. ScanWorks Processor-Controlled Test (PCT) lets you see what the silicon sees and control the behavior of the chip for both prototype board test and for production test. PCT for Intel designs, focuses on three specific areas. Testing without the BIOS, fast test execution without booting the platform and unparalleled diagnostic resolution.

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[1] Board complexity and test coverage will determine exact test times. RAM cell test times are not included in this estimate.

BIOS Independence

Using PCT testing methodology of BIOS Independence prevents the system BIOS from providing false pass indications in memory testing and ensures full memory configuration setups. Should the memory setup fail, diagnostic messages provide the lane training data enabling the pinpoint resolution of the problem.

Fast Functional Test

PCT is excellent at providing a fast functional test without the need for a hard drive and OS booting. Post boot diagnostic utilities cost time; sometimes as much as 3 times the platform initialization time verses using PCT. PCT provides for beat rate predictability and a broad fault spectrum utilizing at-speed CPU test execution.

Diagnostic Resolution

PCT provides unparalleled diagnostic resolution when testing memories on Intel platforms. On client designs, bit-level diagnostics are provided. On server designs, rank-level diagnostics comes standard. Diagnostic messages indicate either opens or shorts as appropriate based upon the test being executed.

Additionally, the PCT Manufacturing software can be easily integrated into a function test executive that controls the entire functional tester. Either standalone or incorporated into a functional tester, PCT helps increase test coverage and finds faults across the structural and functional spectrum.

ScanWorks Platform for Embedded Instruments

The ScanWorks platform for embedded instruments is a seamless software environment that validates, tests and debugs circuit boards, chips and systems. The ScanWorks platform includes tools for Boundary-Scan Test (BST), Processor-Controlled Test (PCT), High-Speed I/O (HSIO) validation, FPGA-Controlled Test (FCT) and IJTAG test (IJTAG).

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