NEW!

Test New Devices for Compliance to PCI Express 2.0

The LeCroy Protocol Test Card (PTC) is a multimodal test board used for checking adherence to the protocol-oriented sections of the PCI Express 2.0 specification. The PTC has been developed in close collaboration with Intel®, and is specifically designed to meet industry requirements for next generation development tools for PCI Express. LeCroy brings extensive technical experience with PCI Express compliance verification and testing, building on the family of products that already support PCI Express compliance with tools such as SpekChek™ on SPX Trainers and the Link and Transaction tests on its PE*Trainer*™ line of products

This new tool will be used by validation and test engineers to check for functionality and interoperability of add-in cards, systems, and chips using PCI Express 2.0. The tests are mainly defined to check the platform (BIOS, OS and RC) and add-in devices (endpoints, switches, and bridges) in the form of an add-in card. The PTC Card is easy to use and works at both 5 GT/s and 2.5 GT/s. Simply insert the card into a PCI Express socket and test the PCI Express host or device for conformity to specifications.

Key Specifications

- Transaction Layer, Data Link Layer and Firmware (BIOS/EFI) tests for PCI Express 2.0 and 1.x
- MidBus connector for analyzer debugging
- LeCroy connector for PE*Tracer*™ Gen2 Summit Analyzer
- Field-upgradeable FPGA
- USB 2.0 connector for topology simulation mode
- x16 Connector for testing add-in cards from x1 to x16 lane widths

Key Benefits

- Reduces time-to-market through higher quality interoperability test
- Tests both platforms (root complexes) and add-in devices (endpoints)
- Ensures compliance to PCI Express 2.0 and PCI Express 1.x specifications
- Supports 2.5 and 5 GT/s speeds
- Supports testing with x1, x4, x8, and x16 add-in cards
- Easy to use
- Portable & low cost

PCI EXPRESS®
PERFORMANCE
SCALABLILTY FOR THE
NEXT DECADE
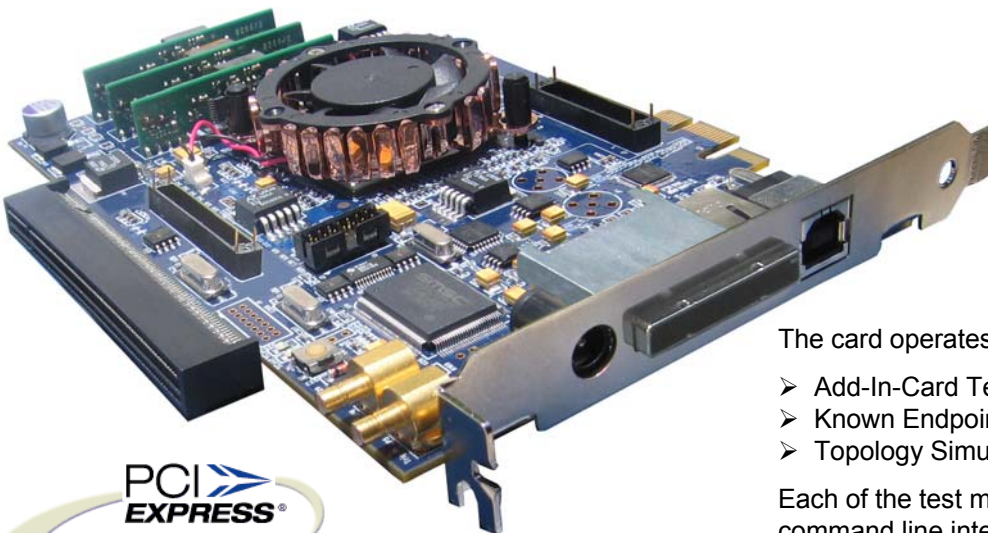
The card operates in the following test modes:

➤ Add-In-Card Test Mode
➤ Known Endpoint Test Mode
➤ Topology Simulation Mode

Each of the test modes can be controlled by either a command line interface or by changing a dipswitch on the PTC card itself.

Add-In Card Test Mode

In this mode, the protocol test card takes on the characteristics of a switch. It is inserted between the system and the PCI Express add-in card under test. An external power supply is used to power the PTC. The purpose of this mode is to check the behavior and functional compliance of a PCI Express add-in card.
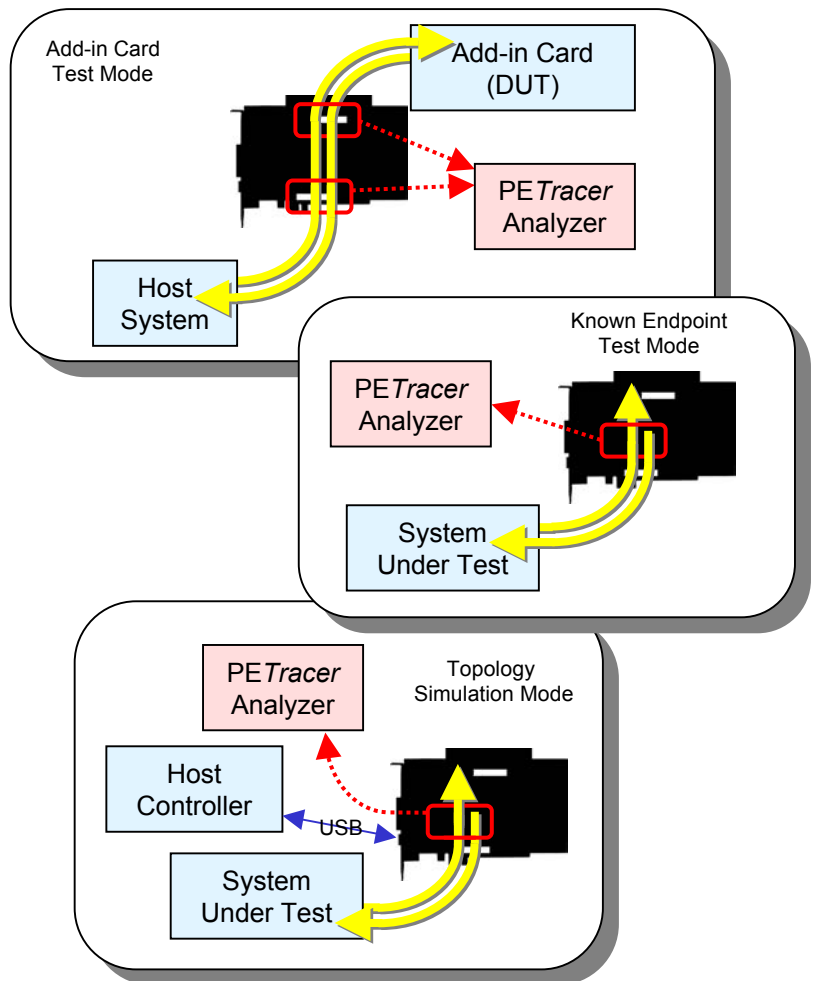
Known Endpoint Test Mode (KEP)

In this mode, the Protocol Test Card emulates a known endpoint device. The DUT in this case is the system board. The Protocol Test card is inserted into the system where it will then run its tests. The purpose of the test is to check interoperability of the system with the PTC card.

Topology Simulation Mode

In the topology simulation mode, a topology tree is emulated via an application running external to the PTC card. In this mode, transaction layer packets are simply redirected from the PTC card to a PC via a USB 2.0 link. The purpose of this mode is to verify compliance of test system BIOS and that the system is aware of the extent of a PCI Express topology and can properly initialize the topology.

Compliance Test Library

Please contact LeCroy for more information on the extensive library of predefined compliance tests available for the Protocol Text Card.

Add-in Card Test Mode — Add-in Card (DUT), PE*Tracer* Analyzer, Host System

Known Endpoint Test Mode — PE*Tracer* Analyzer, System Under Test

Topology Simulation Mode — PE*Tracer* Analyzer, Host Controller, USB, System Under Test

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PTC Specifications

➢ PCI Express Specification Version 2.0/1.1

➢ 5 GT/s and 2.5 GT/s data rates

System Requirements

➢ Windows XP or Windows Vista

PTC Card Interfaces

➢ PCI Express x1 connection to system board

➢ PCI Express x16 connector on top for add-in cards

➢ Two MidBus probe connections

➢ Analyzer connector to LeCroy's PCI Express Protocol Analyzer

➢ USB 2.0 connector

➢ External power connector

Ordering Information

Product Description	Product Code
Protocol Test Card for PCI Express 2.0	PE020AGA-X

LeCroy
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