

# Agilent E2969B Protocol Test Card II for PCI Express® 2.0

Agilent Technologies, the company that provided E2969A, the gold standard Protocol Test Card I (PTC1), is now providing E2969B PTC II for PCIe™ 2.0. The Agilent PTC II will enable device compliance with the PCI-SIG® by providing 13 mandatory test cases. This test capability will also facilitate industry deployment of the PCI Express® 2.0 technology.

## PTC II (E2969B)

PTC II is an electrical implementation running at 2.5 GT/s and 5.0 GT/s, and supports all link widths, from x1 to x16. Further more, the PTC II can be plugged into any host platform for system testing, or be connected to an add-in card.

A Graphical User Interface (GUI) provides selectable test execution with a single mouse click.

An intuitive HTML Compliance Report displays the test results: passed tests

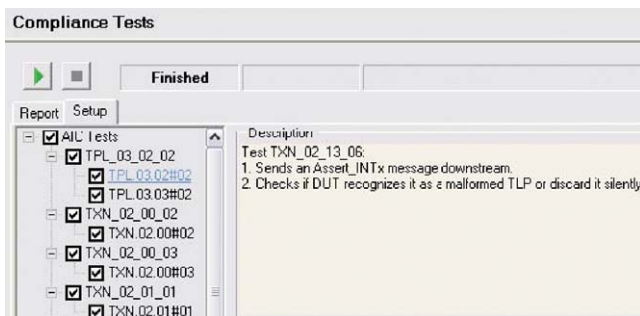
in green, warnings in yellow, and failed tests in red. A detailed test report makes it simple to understand the cause for failure, and can be used for troubleshooting and debugging.

## Compliance Assured Test Package (N5309A-COM)

For complete product assurance, a simple software upgrade takes you to the Compliance Assured Test Package (N5309A-COM), with an additional 180 recommended tests.

The Compliance Assured Test Package includes transaction layer, link layer, electrical layer and configuration space tests to ensure high quality product releases and reduce test and debug time.

The Compliance Assured Test Package is easy to run and utilizes the same GUI and HTML reporting model as the mandatory tests.



Selectable test execution

| Name         | Description  |
|--------------|--|
| TXN_02_19_01 | Acceptance of hot plug messages without error detection  |
| TPL_01_02_01 | First configuration transaction error  |
| TPL_01_02_04 | PCI Express Endpoints support Configuration Requests as a Completer                              |
| TXN_02_01_01 | TLP header format  |
| TXN_02_02_01 | Detection of malformed packets   |
| TXN_02_02_01 | The length of MRD completion never exceeds Max_Payload_Size                                      |
| TXN_02_07_10 | Bus Number and Device Number must be recognized  |
| TXN_02_10_01 | TCO must be supported by every PCI Express device  |
| TXN_02_12_03 | The Set_Slot_Power_Limit message data payload must be copied from the Slot Capabilities Register |
| TXN_02_12_03 | Set_Slot_Power_Limit Message: Bits 31:10 of the data payload must be ignored                     |
| TXN_02_21_06 | Check Completion Status[20]  |
| TXN_02_21_06 | Check Completion Status[20]  |
| TXN_02_21_16 | Initial values for bus_device and function number must be 0                                      |
| TXN_02_21_21 | Byte count for all DW_BE combinations  |
| TXN_01_06_03 | Values in Reserved fields must be ignored by the Receiver  |
| TXN_02_09_02 | Receiver Flow Control tracking   |
| TXN_01_06_03 | Malformed TLPs must not have effect on flow control credits                                      |
| TXN_01_01_03 | Message Requests with undefined or unsupported value   |
| TXN_02_02_03 | IO and Configuration Reads must be completed with exactly one Completion                         |
| TXN_02_02_13 | Completion which not cross boundary must include all data  |
| TXN_01_02_03 | Read Completions with a Completion Status other than Successful Completion                       |
| TXN_01_02_03 | Read Completions with a Completion Status other than Successful Completion                       |

HTML Compliance Report

### Simple upgrade use model

The same hardware can even become a full exerciser and LTSSM Tester for PCI Express 1.x or 2.0 with a simple software upgrade. The LTSSM Tester enables error injection and analysis for the link and transaction layers. The full exerciser also allows configuration space emulation and power management testing capabilities.

### Configuration Guide

| Product number          | Description   |
|-------------------------|---|
| E2969B                  | Protocol Test Card 2.0 (includes N5309A-PTC software for all 22 PCI-SIG required tests) |
| <b>Software options</b> |   |
| N5309A-COM              | Compliance Assured Test Package   |
| N5309A-EX2              | PCI Express 2.0 Exerciser and LTSSM Tester  |

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### Related literature

| Publication title  | Publication type | Publication number |
|--|------------------|--------------------|
| <i>The Agilent Test Portfolio for PCI Express 2.0</i>                                | Brochure         | 5989-5594EN        |
| <i>Agilent E2960B Series for PCI Express 1.0 &amp; 2.0</i>                           | Brochure         | 5989-5610EN        |
| <i>Agilent E2960B Series for PCI Express 2.0</i>                                     | Data Sheet       | 5989-5660EN        |
| <i>Agilent E2960B Series for PCI Express 2.0 x1 through x16 Gen 2 Ready Analyzer</i> | Photo Card       | 5989-6395EN        |

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Product specifications and descriptions in this document subject to change without notice.

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