Outline
Previously, PCI Express devices were limited mainly to computing applications, but the rapid growth of data communications is starting to drive deployment of equipment with PCIe interfaces in data centers, such as transmission equipment, servers, storage, etc., to speed-up fast and large-capacity transfers. Base Specification 5.0 of the next PCIe Gen5 standard has been completed and increases data transfer speeds to 32 GT/s. As a result, development of equipment supporting this standard is urgently required.

With this release, Anritsu supports Gen5 Rx tests for IP and inspection of devices in the early standardization and development period with all-in-one Gen1 to Gen5 measurement support. Expansion of measurement functions to meet new emerging standards and trends will also help customers design inspection times.

Features

Shortening test times
- Automates complex receiver tests to reduce engineers’ workloads

Cuts equipment costs
- Supports customers’ own real-time oscilloscopes from three main vendors
- Extensibility for PCI Express 1.0 to 5.0

High performance BERT
- Jitter Addition (SJ, RJ, SSC), and Jitter Tolerance /Jitter Margin test
- Supports to generate Victim signal for Crosstalk
Anritsu MP1900A
The Signal Quality Analyzer-R MP1900A is a Plug-in modular multi-channel bit error rate tester. It has a pulse pattern generator for outputting high-quality, wideband multi-channel NRZ signals at 2.4 Gbit/s to 32.1 Gbit/s, an error detector with high input sensitivity, Jitter modulation source and Noise Generator, and supports automatic measurement of jitter tolerance tests.

21G/32G bit/s SI PPG MU195020A
Bit Rate 2.4 Gbit/s to 32.1 Gbit/s (Opt-001)
Emphasis Taps 10 Tap (Opt-011)
Tr/Tf (20% to 80%) 12 ps (typ.)

21G/32G bit/s SI ED MU195040A
Bit Rate 2.4 Gbit/s to 32.1 Gbit/s (Opt-001)
Input Sensitivity 13 mV (Eye Height 21 Gbit/s) (typ.)
Clock Recovery 2.4 Gbit/s to 32.1 Gbit/s, SSC input (Opt-022)
CTLE 0 to –12 dB (Opt-011)

Recommended Equipment List

- Model | Name | Option |
- MP1900A | Signal Quality Analyzer-R | - |
- MU181000B | 12.5GHz 4port Synthesizer | 002 |
- MU181500B | Jitter Modulation Source | - |
- MU195020A | 21G/32G bit/s SI PPG | 001,010,011,040 or 001,020,021,041 |
- MU195040A | 21G/32G bit/s SI ED | 001,010,011,022 |
- MU195050A | Noise Generator | - |

*1: Support for crosstalk testing by 2ch PPG

Recommended Software Options

- Jitter Tolerance Test | MX183000A-PL001 |
- PCIe Link Training Gen1-4 | MX183000A-PL021 |

Teledyne LeCroy Software
The QPHY software automates and controls the Teledyne LeCroy LabMaster 10Zi-A and Anritsu MP1900A BERT to implement compliance tests integrating PCI Express Tx tests (collection and analysis of transmitted waveforms for transmitter preset and signal quality tests, integrated Eye diagram and Jitter analysis tools) and Rx tests (Eye calibration, Link Training, LTSSM Analysis). Measurement reports can be created and saved as HTML or PDF files.

Ordering Information

QPHY-PCIe-Tx-Rx | PCI Express Compliance Test Option

*2: Supported Real-Time Oscilloscope LabMaster 10Zi-A series

Granite River Labs Software
The GRL-PCIE4-RXA software supports data rates of 8 GT/s and 16 GT/s (PCI Express Gen3 and Gen4) and upgradable to 32GT/s (Gen5) for PCI Express Rx tests including automated Eye calibration for BASE and CEM. Measurement reports can be created and saved as PDF files.

Ordering Information

GRL-PCIE4-BASE-RXA | PCIe 3.0/4.0 Base Specification Rx Test Software license
GRL-PCIE4-CEM-RXA | PCIe 3.0/4.0 CEM Specification Rx Test Software license
GRL-PCIES-BASE-RXA | PCIe 5.0 Base Specification Rx Test Software license


Refer to the release notes for details on verified oscilloscopes