VIAVI
Xgig 4K4 Analyzer Platform
for PCI Express® 4.0

Provides full-speed 16Gbps data capture, enabling detailed functional and performance analysis of PCIe protocol

The Xgig® 4K4 platform provides protocol analysis for PCIe 4th generation traffic at all layers of the stack. It supports link widths up to 4-lanes, and link speeds to 16GTps.

The Xgig 4K4 Protocol Analyzer expands the family of VIAVI protocol analysis products targeting NVMe, U.2, M.2, and other applications. In today's complex multi-protocol environments the Xgig 4K4 operates with other VIAVI Protocol Analyzers designed for interface to Ethernet, SAS, and FC with time correlated multi-protocol views.

The Xgig 4K4 chassis has 32 GB of memory; 16GB for upstream and 16GB for downstream traffic capture. The chassis provides advanced PCIe and NVMe level trigger and search capabilities designed to reduce debug and problem resolution down time. Interposer autotuning automatically restores signal integrity by reducing insertion loss in both directions, greatly reducing set-up time.

Additional features include configuration space viewer, PCIe link performance measurements, trace view packet compression, and sideband signal triggers for PERST#, PEDET#, PEWAKE#, and CLKREQ#. Multicolored LEDs on the front panel specify link speed, lane width, and performance.

Features

- 16GTps, PCIe 4.0 data rate operation. Fully compatible with lower PCIe data rates of 2.5, 5.0 and 8.0GTps
- Link widths up to 4-lanes
- 32GB memory (16GB Up Stream and 16GB Down Stream)
- Memory segmentation for capture of multiple traces
- Host-Client connection for remote debugging using Ethernet or local debugging using USB
- SMB capture and trigger for NVMe Management Interface (NVMe-MI) observability
- The Tap ports enable multi-analyzer configurations using a single Interposer in the channel
- Decodes all PCIe and NVMe traffic at all layers of the stack including the TLP, DLLP, and PHY layer blocks
- Trigger and Search events include training sequences, ordered sets, queue pairs, PRPs, Scatter/Gather Lists (SGL), SMB, etc.
- Cascade up to four Xgig time-correlated trace captures
- Full support of LTSSM for PCI Express
- Field replaceable modular fan and power supply assemblies
- Multicolored LEDs on the front panel specify link speed, lane width and performance
- Size (W x D x H): 17.0 x 14.5 x 2.3 in; 43.2 x 36.8 x 5.8 cm
- Weight: 15 lbs; 6.8 kg
- Power: 100 – 240 VAC, 450W maximum
- Supported by Xgig tool suite including Trace Control, Expert and Serialytics
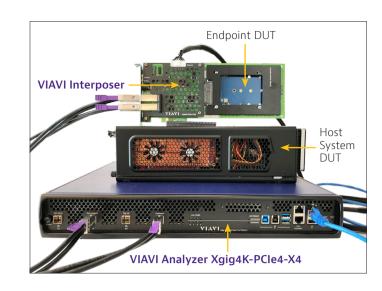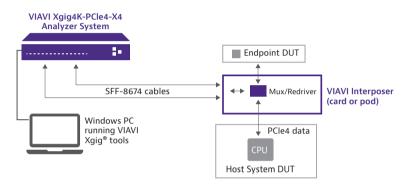
Applications

The VIAVI 4K4 hardware chassis and complementary Xgig software tools support the latest PCIe and NVMe specifications. Analysis will alert the user to all protocol errors at every layer of the PCIe stack, including state and substate level errors within the LTSSM viewer.

A full complement of Interposers and probes is available enabling the Xgig 4K4 to attach to all popular PCIe and NVMe connector interfaces. Interposers include CEM Adapters, U.2, M.2, OCulink, solder-down Flying-Lead probes and more. Using a time-synchronized packet trace view, the Xgig 4K4 supports the SMBus status to be shown alongside PCIe or NVMe packets.

The following photo and block diagram show an example test configuration of the 4K4 system.

When purchasing the 4K4 platform, also select an analyzer licenses, and Interposers to fit your specific application requirements.

VIAVI Interposer · Endpoint DUT · Host System DUT · VIAVI Analyzer Xgig4K-PCIe4-X4

VIAVI Xgig4K-PCIe4-X4 Analyzer System · Endpoint DUT · SFF-8674 cables · Mux/Redriver · VIAVI Interposer (card or pod) · Windows PC running VIAVI Xgig® tools · PCIe4 data · CPU · Host System DUT

Kit Contents

Item	Description	Qty
1	Xgig4K-PCIe4-X4, 4-lane Chassis for PCIe 4.0	1
2	Mechanical accessory kit (includes: Cat5e and USB cables, USB recovery drive, power cord)	1
3	Rack mounting tray	1
4	Hard-shell, wheeled travel case with padding	1

Ordering Information

Part Number	Description
Xgig4K-PCIe4-X4	4-lane, 16GTps PCIe 4.0 Analyzer Platform Chassis with 1-yr HW and 1-yr SW maintenance
Xgig4K-PCIe4-X4-H1	Optional 1-year extended hardware warranty
Xgig4K-PCIe4-X4-M1	Optional 1-year extended software maintenance warranty

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