

Data Sheet

VIAVI

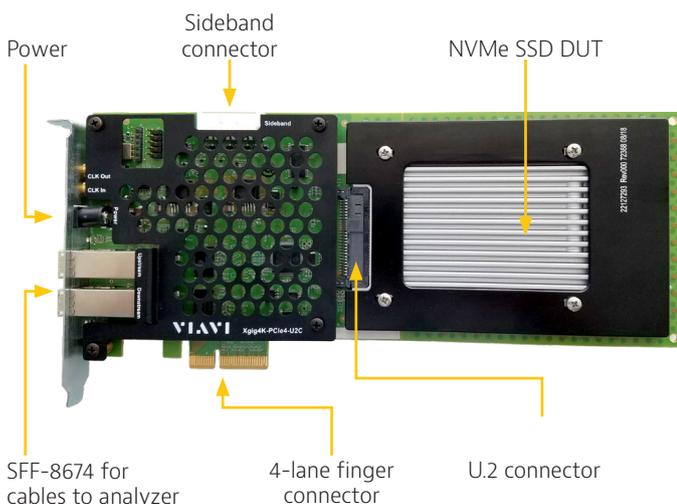
Xgig U.2-CEM, 4-lane Interposer

for PCI Express® 4.0

Provides a tap of host-system to U.2 NVMe SSD data signals for input to the VIAVI Analyzer

VIAVI Solutions Xgig® U.2-CEM 4-lane Interposer, the Xgig4K-PCIe4-X4-U2C, is an Active Interposer with a design optimized for NVMe SSD development. This Interposer can be installed into any PC, workstation or server having a 4-lane or larger PCIe CEM slot. Bidirectional PCIe 4.0 protocol data on each of 4 lanes is captured at up to 16GTps rate for analysis. Quality, low-loss custom high-performance cables are supplied for connection into the VIAVI Analyzer.

This Interposer uses high-speed linear signal redrivers to buffer the system data signals across the Interposer between PCIe slot and PCB fingers. This design ensures a clean signal is delivered to both the Analyzer and devices-under-test for reliable protocol capture



Key Features

- Operates up to 16GTps, PCIe 4.0 data rates
- Downward compatible with PCIe gen-1, gen-2 and gen-3 data rates of 2.5, 5.0 and 8.0GTps
- Supports links of up to and including 4-lanes
- NVMe SSD DUT (not supplied) plugs directly into the Interposer
- Supplied with two high-quality performance custom cables for Analyzer attachment
- Data path uses high-speed linear redrivers to ensure good signal capture with little or no tuning
- Supports Analyzer side-band signal capture and triggering
- Provides two differential clock connectors
- Interposer power is independent of host system
- A 120/220 AC in, 12V/3A DC output converter is included
- LEDs give quick indicators of power and status
- Size: 254 x 98 x 15 mm, fits full length, full height slot
- Format: Design based on 4-lane PCIe CEM specification
- Works together with the VIAVI PCIe4 and PCIe5 Analyzer/Jammer platform chassis
- Integrates seamlessly with Xgig Expert for performance analysis and debug information for NVMe and PCIe
- Provides consistent, repeatable capture of link training, equalization negotiation and other data information
- Supports error injection for deep system analysis
- Supported by Xgig tool suite including Trace Control, Expert and Serialytics

Application

Working together with the VIAVI PCIe 4.0 Analyzer/Jammer platform, the Interposer enables debug and verification of new controller ICs, NVMe SSD devices, system implementation, firmware development, validation of system BIOS and software, and for manufacturing test. It supports full decode and analysis of NVMe and PCIe traffic including NVMe-MI protocol.

The Xgig4K-PCIe4-X4-U2C Interposer is inserted into a 4-, 8-, or 16-lane PCIe CEM slot in the host PC or server system. Prior to system installation an NVMe SSD is mounted onto the Interposer. High-performance cables (supplied) connect the Interposer to the VIAVI Analyzer/Jammer chassis.

The photo to the right shows a typical application, while the block diagram below it indicates the signal data path. Data flows from the host CPU to the SSD as normal and is "tapped" for use by the Analyzer.

When operating in Analyzer mode, the DUT data is captured (tapped) from both the upstream and downstream data paths as inputs to the Analyzer. When operating in Jammer mode, or Analyzer/Jammer mode, data flows into and out of the Analyzer.

VIAVI offers a variety of other Interposer types for connecting into different PCIe system applications, including 8- and 16-lane CEM, M.2 and others.

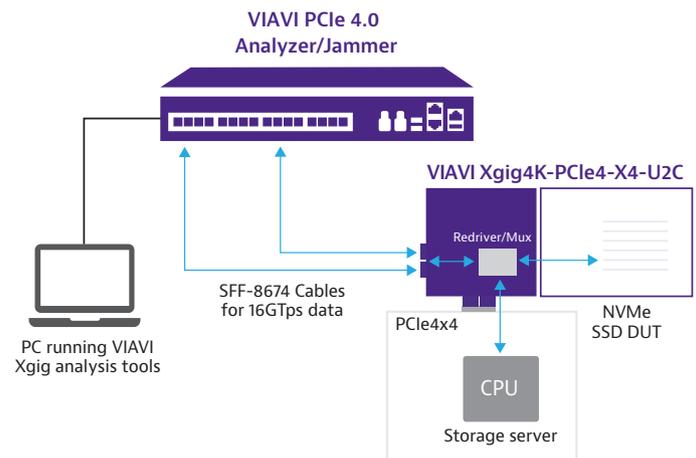
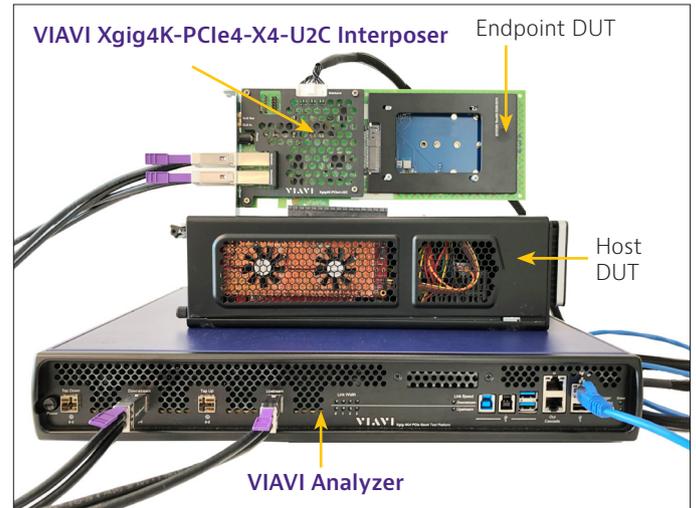
Kit Contents

Item	Description	Qty
1	Xgig4K-PCIe4-X4-U2C, U.2 to CEM, 4-lane Interposer adapter card for PCIe 4.0	1
2	SFF-8674 custom high-performance cables	2
3	Sideband cable	1
4	Coax cable for optional clock	2
5	Power brick, 120/220 input, 12V/3A output	1
6	Quick Start Guide	1

Ordering Information

VIAVI Part Number	Description
Xgig4K-PCIe4-X4-U2C	4-lane, 16GTps, PCIe 4.0, U.2 to CEM*-slot active Interposer
Xgig4K-PCIe4-X4-U2C-H1	1-year extended hardware warranty

*CEM: Card Electro-Mechanical Specification (a PCIe spec)



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