

VIAVI Xgig U.2-Server, 4-lane Interposer

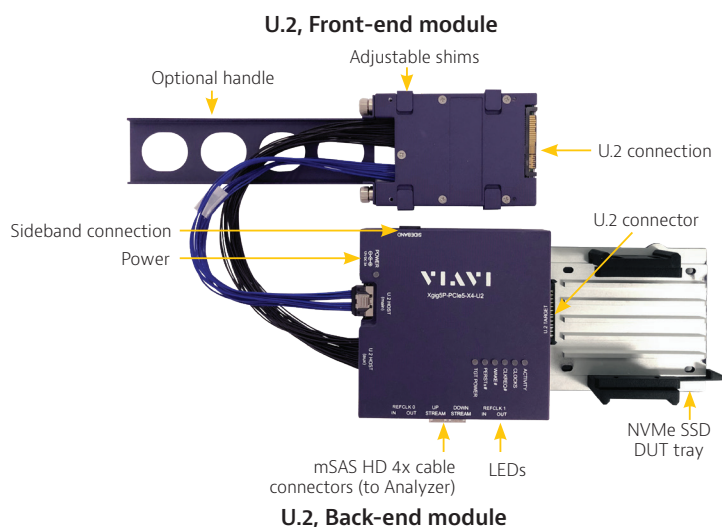
for PCI Express® 5.0

Provides a tap of communication between a host-system and a U.2 NVMe SSD for input to a VIAVI PCIe 5.0 Analysis System

VIAVI Solutions Xgig® 4-lane, U.2 Interposer, the Xgig5P-PCIe5-X4-U2, is an Active Interposer optimized for development, debugging and performance tuning of NVMe Solid State Drive (SSD) operation in high-density storage servers. Bidirectional PCIe 5.0 protocol data on 4 lanes is captured at up to 32GT/s for analysis. The Interposer supports either 1 link of 4 lanes, or 2 links of 2 lanes for dual port operation.

This Interposer uses high-speed linear signal redrivers to restore the signal quality of the PCIe data lanes across the Interposer between host system and SSD device-under-test (DUT). This design ensures a clean signal is delivered to the Analyzer for reliable protocol capture and analysis.

The photo below shows the Front-end Module, which is physically the same size as a 2.5-inch SSD allowing it to be inserted into the drive carrier normally used with the server. Alternatively, a light-weight handle can be attached and used for drive insertion. The flex cables allow the Back-end module to lay on top of the server or on the lab bench.



Key Features

- Supports 1 link of 4 lanes, or dual-port operation of 2 links of 2 lanes each
- Operates at 32GT/s PCIe 5.0 data rates, and is compatible with PCIe rates of 2.5, 5.0, 8.0 and 16GT/s
- Front-end module plugs into system-under-test
- U.2 NVMe SSD DUT (not supplied) plugs into the Back-end module
- Adjustable tray clamps and quick-release latch allow for snug fit and hot swap testing
- Data path uses high-speed linear redrivers to ensure good signal capture with little or no tuning
- Supplied with high-quality, custom SFF-8764 cables for Analyzer system attachment
- Supports side-band signal triggering and capture
- Supplied power brick makes Interposer power independent of host system
- LEDs give quick indicators of power and status
- Size: Front-end module 100.45 x 69.85 x 15mm
Back-end module 226.8 x 111.2 x 33.3mm
- Works with VIAVI Xgig 5P16 or 5P8 analysis platform
- Provides consistent, repeatable capture of link training, negotiation and other data
- Exerciser EP emulation mode supported
- Supports error injection for deep system analysis
- Supported by Xgig tool suite including Trace Control, Expert™ and Serialytics™

Application

Working together with the VIAVI Xgig 5P16 or 5P8 PCIe 5.0 analysis platform chassis, this Interposer enables debug and verification of new NVMe controller ICs, new system implementations, firmware, validation of system BIOS and software, and for manufacturing test quality assurance.

To set up the Interposer for operation, an NVMe SSD is inserted into the Xgig5P-PCIe5-X4-U2 Interposer. The Interposer Front-end Module is then plugged into the NVMe bay or drive carrier of a high-density storage server. Tray clamps and shims may be adjusted as needed for best fit. To complete the test setup, custom high-performance cables are attached connecting the VIAVI PCIe 5.0 protocol analysis platform. Xgig analysis tools are loaded and run on a local or remote Windows PC.

The photo to the right shows an example application, while the corresponding block diagram below indicates the signal data paths and connections.

When operating in Analyzer mode, the DUT data is captured or tapped from both the upstream and downstream data paths as inputs to the Analyzer. When operating in Analyzer/Jammer mode, data flows through the Analyzer and is resynchronized (retimed) for transmission. When operating in Analyzer/Exciser mode, data flows through the Interposer to the DUT.

VIAVI offers a variety of Interposer types for different PCIe system applications, including 4-, 8- and 16-lane CEM, M.2, U.3, EDSFF, Slimline, Flying-lead and others.

Kit Contents

Item	Description	Qty
1	Xgig5P-PCIe5-X16-U2, U.2, NVMe SSD-to-Server, 4-lane Interposer for PCIe 5.0	1
2	SFF-8674 custom high-performance cables	2
3	Custom SFF-8674 Y-splitter cables	2
4	Sideband cable (to analyzer)	1
5	Coax cable for optional clock	4
6	Hardware kit (includes handle and screws)	1
7	Power brick, 120/220 input, 12V/3A output	1
8	Quick Start Guide	1

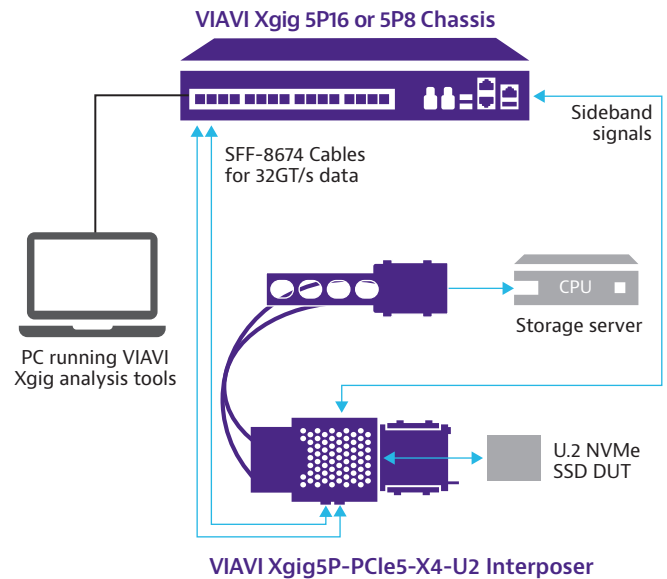
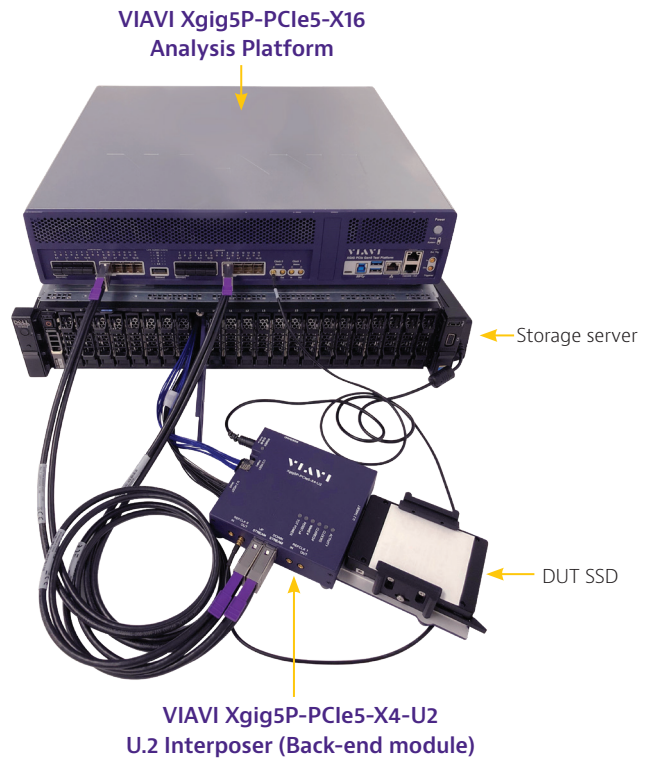
Ordering Information

Part Number	Description
Xgig5P-PCIe5-X4-U2	Xgig U.2-to-Server, 4-lane, 32GT/s Interposer for PCIe 5.0
XGIG-INTPSR-B-Hx (x=1,2,3,4)	1-year extended hardware warranty



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