VIAVI Solutions

Data Sheet

VIAVI
Xgig E3 EDSFF Interposer

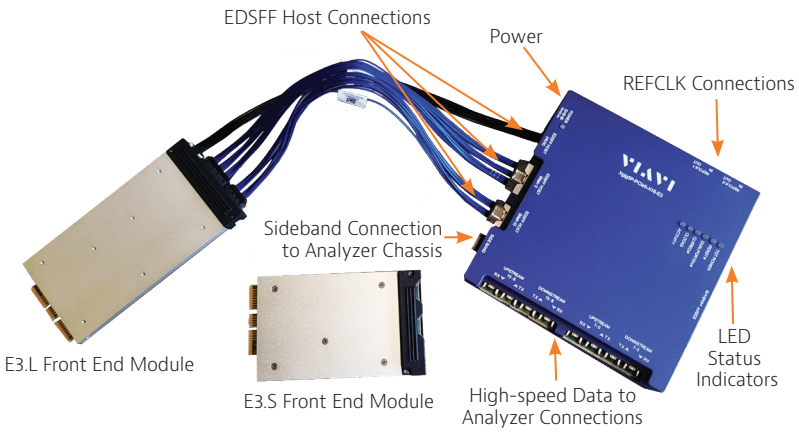
for PCI Express® 5.0

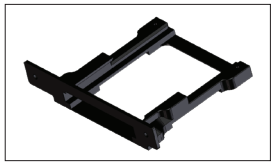
Provides a tap of host-system to EDSFF NVMe SSD data signals for input to the VIAVI Analyzer

VIAVI Solutions Xgig5P-PCIe5-X16-E3 Interposer is optimized for developing, debugging and performance-tuning NVMe SSD operation in high-density storage servers. Bidirectional PCIe 5.0 protocol data on up to 16 lanes can be captured at 32 GT/s for analysis.

The interposer is supplied with both E3.L (long) and E3.S (short) user swappable front-end modules for proper system fit. The E3.S is implemented to fit the 7.5 mm Short Form Factor with Optional Symmetric Enclosure variation. The Interposer is designed to support either 1 link of 4 or 8 lanes or 1 link of 16 lanes.

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





E3.S and E3.L Support Brackets

Key Features

- Operates up to 32GT/s, PCIe 5.0 data rates
- Downward compatible with PCIe data rates of 2.5, 5.0, 8.0G and 16GT/s
- Supports 1 link of 16 lanes or 1 link of 4 or 8 lanes
- EDSFF E3.L or E3.S NVMe SSD DUT (not supplied) plugs directly into the Interposer
- Data path uses high-speed linear redrivers to ensure good signal capture with little or no tuning
- Includes high-quality cables for Analyzer connection
- Supports Analyzer side-band signal capture and triggering with display in multiple formats
- The supplied power brick makes Interposer power independent of host system
- LEDs give quick indicators of power and status
- Size: Base Pod: 160 x160 x 35 mm
  E3.L: 158 x 7.5 x 76 mm (LxTxH)
  E3.S: 128 x 7.5 x 76 mm
- Works together with the VIAVI Xgig5P-PCIe5-X16 Analyzer/ Exerciser/Jammer chassis platform
- Provides consistent, repeatable capture of link training, equalization negotiation and other data
- Supports error injection (jamming) for deep system analysis
- Supported by Xgig tool suite including Trace Control, Expert™ and Serialytics™

Application

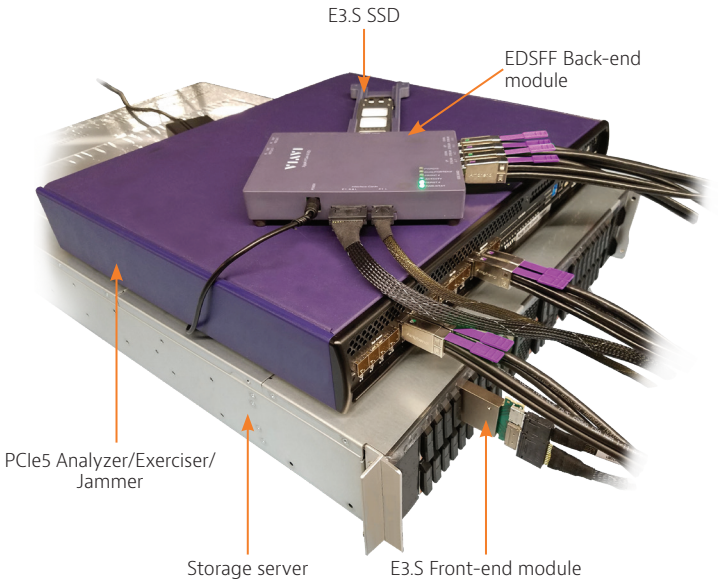
Working together with the VIAVI PCIe 5.0 Analyzer/Exerciser/Jammer chassis, this Interposer enables debug and verification of new E3 EDSFF PCIe or CXL controller ICs, new server designs, firmware tuning, validation of system BIOS and software, and for verification of manufacturing test.

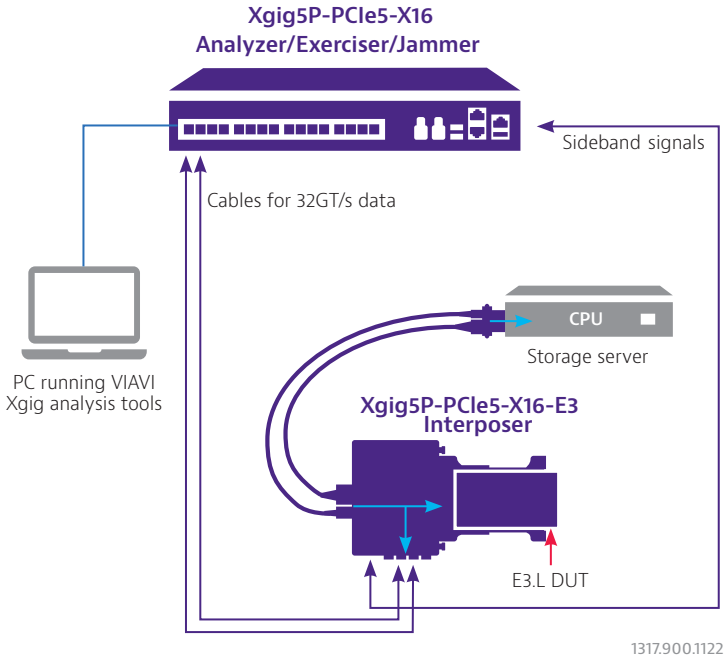
To setup the interposer for operation, an E3 EDSFF SSD is inserted into the Interposer base pod. The Interposer front-end module is then inserted into the EDSFF bay of a high-density storage server. To complete the test data path the cables are attached connecting the Interposer with the VIAVI PCIe 5.0 protocol Analyzer/Exerciser/Jammer platform. Xgig analysis tools are loaded and run on a local or remote Windows PC.

The following photo shows an example application, while the corresponding block diagram indicates the signal data path.

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 Analyzer/Jammer mode, data flows through the Analyzer and is modified between DUT devices. In Analyzer/Exerciser mode, data is sourced from the Analyzer chassis and connected to the server device under test via the Interposer.

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





Kit Contents

Item	Description	Qty
1	Xgig5P-PCIe5-X16-E3, 16-lane EDSFF Interposer Base Pod	1
2	E3.L Front-end module	1
3	E3.S Front-end module	1
4	Custom high-performance cables	8
5	Sideband cable (to analyzer)	1
6	Coax cable for optional clock	4
7	Power brick, 120/220 input, 12V/3A output	1
8	Bracket kit	1
9	Quick Start Guide	1

Ordering Information

Part Number	Description
Xgig5P-PCIe5-X16-E3	Xgig 16-lane E3 EDSFF Interposer for PCIe 5.0
Xgig-Intpsr-C-Hx (x=1, 2, 3, 4)	x-year extended hardware warranty

VIAVI Solutions

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