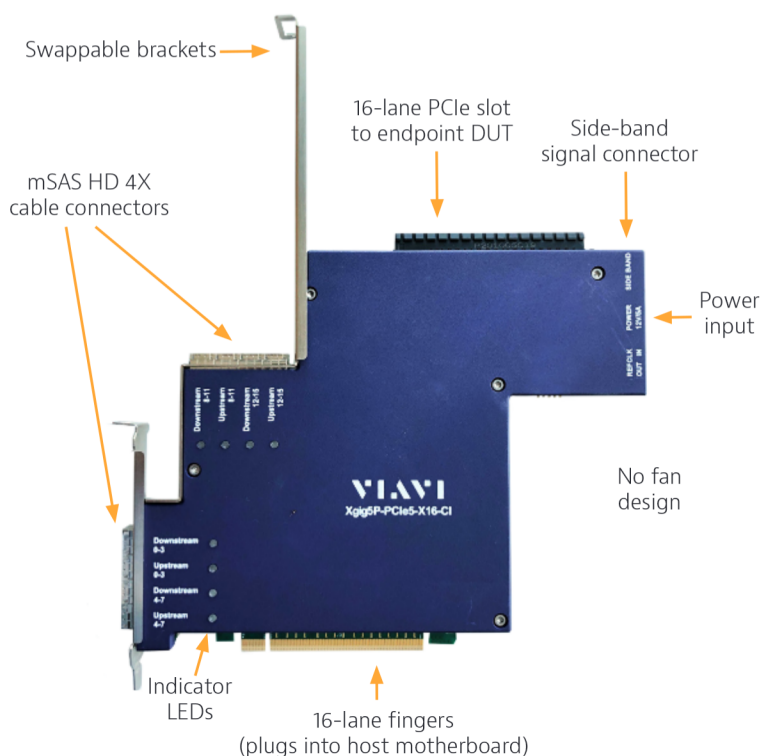# VIAVI
Xgig 16-lane CEM Interposer
for PCI Express® 5.0

Provides a tap of data signals between a host system and adapter card for the VIAVI Analyzer

VIAVI Solutions Xgig® 16-lane CEM slot Interposer provides connection between the VIAVI PCIe 5.0 Analyzer/Exerciser/ Jammer chassis and a system under test. The Interposer installs into a 16-lane PCIe CEM slot which is common on many servers, workstations, and desktop PCs. The Interposer provides tap of the data signal communication between host and endpoint devices forinput to the Analyzer chassis. It operates at the 32GTps, PCIe 5.0 rate, across 16-lanes (bi-directional).

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 the Analyzer and DUT devices for reliable protocol capture and analysis.

Key Features

- Supports link widths up to 16-lanes
- Operates up to 32GTps, PCIe 5.0 data rates
- Downward compatible with PCIe gen-1, gen-2, gen-3 and gen-4, and data rates of 2.5, 5.0, 8.0 and 16GTps
- A top edge 16-lane CEM slot connector accepts all endpoint DUT adapter cards
- Bottom edge 16-lane PCB finger connector installs into host test system's 16-lane PCIe slot
- Supplied with eight high-quality custom data cables for Analyzer attachment
- Data path uses high-speed linear redrivers to ensure good signal capture with minimal tuning effort
- Supports Analyzer side-band signal triggering and capture via custom cable
- Interposer power is independent of host system. A 120/220 AC in, 12V/3A DC out converter is included
- Custom, exchangeable brackets enable secure chassis and endpoint card installations
- LEDs give quick indication of power and operation
- Format: Design is based on the 16-lane Card Electro-Mechanical (CEM) specification
- Size: 230mm deep x 185mm tall x 15mm thick
- Works together with the VIAVI Xgig5PK-PCIe5-X16-PF Analyzer/Exerciser/Jammer chassis platform
- Supported by VIAVI Analyzer tools for trace capture with filter, trigger and more
- Provides consistent, repeatable capture of link training, equalization negotiation and other data
- Supports error injection for deep system analysis

Swappable brackets

16-lane PCIe slot to endpoint DUT

Side-band signal connector

mSAS HD 4X cable connectors

Power input

No fan design

Indicator LEDs

16-lane fingers (plugs into host motherboard)
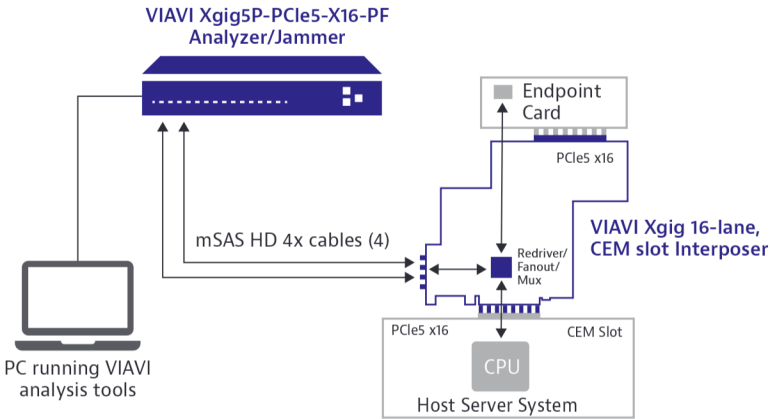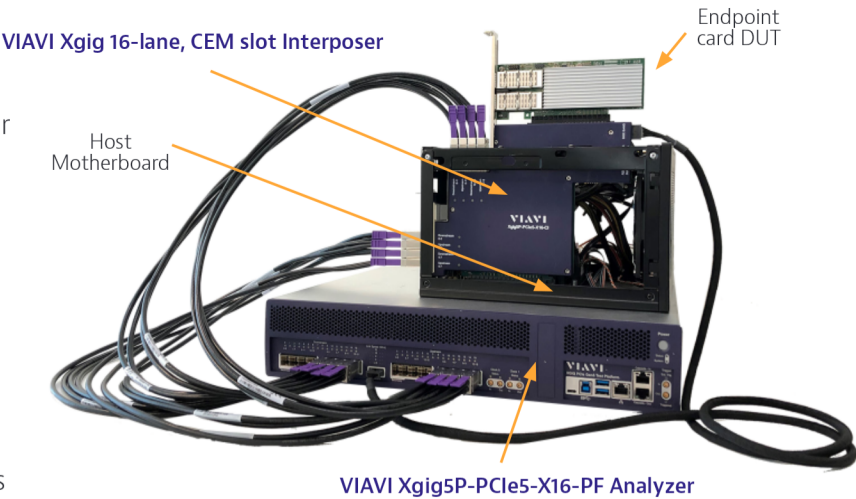
Applications

Working together with the VIAVI PCIe 5.0, Analyzer/Exerciser/Jammer chassis, this Interposer enables debug and verification of new ICs, new system hardware designs, FPGA firmware, validation of system BIOS and software, and supports manufacturing test.

The Xgig 16-lane, CEM slot Interposer is inserted into a 16-lane PCIe slot in the host system, and an endpoint card is installed into the top 16-lane slot connector creating the test data path. Cables connect the Interposer to the VIAVI protocol Analyzer/Exerciser/Jammer platform chassis.

The following photo shows a typical application, while the corresponding block diagram indicates the signal data paths. Note that this Interposer requires an open DUT system chassis while in use.

When operating in Analyzer mode, the DUT data is captured (tapped) from both the upstream and downstream signal paths as inputs to the Analyzer. When operating in Jammer mode, or Analyzer/Jammer mode, the Interposer data path is switched to route data into and out of the Xgig chassis.

VIAVI offers a variety of other Interposer types for connecting into many popular PCIe system applications, including U.2, M.2, EDSFF, OCulink, Flying-Lead and others.

VIAVI Xgig 16-lane, CEM slot Interposer
Endpoint card DUT
Host Motherboard
VIAVI Xgig5P-PCIe5-X16-PF Analyzer

VIAVI Xgig5P-PCIe5-X16-PF Analyzer/Jammer
Endpoint Card
PCIe5 x16
mSAS HD 4x cables (4)
VIAVI Xgig 16-lane, CEM slot Interposer
Redriver/ Fanout/ Mux
PCIe5 x16
CEM Slot
CPU
Host Server System
PC running VIAVI analysis tools

Kit Contents

Item	Description	Qty
1	Xgig5P-PCIe5-X16-CI, 16-lane CEM Interposer card for PCIe 5.0	1
2	Custom high-performance data cables	8
3	Sideband cable for PCIe5	1
4	MCX coax cables (for optional clock)	2
5	Power brick, 120/220 input, 12V/3A output	1
6	Replaceable bracket kit	1
7	Quick Start Guide	1

Ordering Information

Part Number	Description
Xgig5P-PCIe5-X16-CI	Xgig 16-lane, 32GTps CEM* Interposer Kit for PCIe 5.0
Xgig5PK-PCIe5-X16-CI-H1	1-year extended hardware warranty

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

VIAVI Solutions

viavisolutions.com