VIAVI
Xgig M.2, 4-lane Interposer
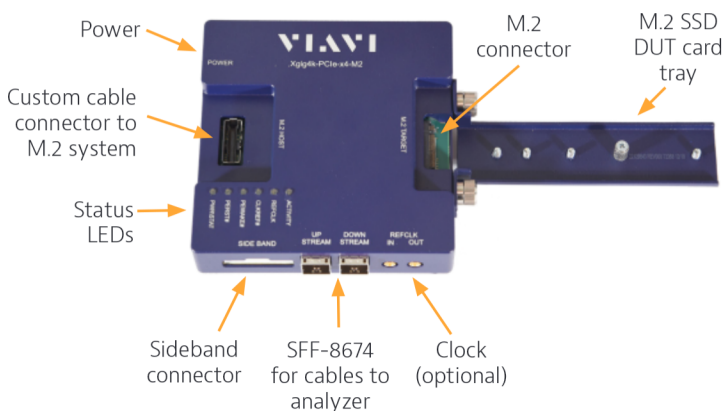for PCI Express® 4.0

Provides a tap of host-system to M.2 PCIe SSD data signals for input to the VIAVI PCIe 4.0 Analyzer.

VIAVI Solutions Xgig4K-PCIe4-X4-M2 is an Active Interposer with a design optimized for M.2 SSD development. This interposer enables protocol analysis of communication between a M.2 PCIe SSD and the host system. It supports use in server, workstation, desktop and notebook PCs, and other system types. Works with M.2 card types 2230, 2242, 2260, 2280 and 22110. Bidirectional PCIe 4.0 protocol data on each of 4 lanes is captured at up to 16GTps rate for analysis. High-quality, low-loss, custom SFF-8764 cables are supplied for connection into the VIAVI Analyzer.

This interposer uses high-speed linear signal redrivers to buffer the system data signals insuring a clean signal is delivered to both the Analyzer and the devices-under-test (DUT) for accurate protocol capture and analysis.

Power
Custom cable connector to M.2 system
Status LEDs
M.2 connector
M.2 SSD DUT card tray
Sideband connector
SFF-8674 for cables to analyzer
Clock (optional)

Features

- Operates up to 16GTps, PCIe gen-4 data rates
- Downward compatible with PCIe gen-1, gen-2 and gen-3 data rates of 2.5, 5.0 and 8.0GTps
- Supports PCIe links of up to 4-lanes
- M.2 PCIe SSD DUT plugs directly into the interposer
- Supports card types 2230, 2242, 2260, 2280 and 22110
- Custom cable with PCB connects to host system DUT
- Supplied with two high-quality SFF-8674 equivalent custom cables for Analyzer attachment
- Data path uses high-speed linear redrivers to insure good signal capture with little or no tuning
- Supports Analyzer side-band signal capture and triggering
- Supplied with two clock connectors and cables
- Interposer power is independent of host system
- A 120/220 AC in, 12V/3A DC output converter is included
- LED's give quick indicators of power and status
- Size: (L x W x H): 103 mm x 103 mm x 30 mm
- Works together with the VIAVI Xgig4K-PCIe4-X16 and Xgig4K-PCIe4-X4 Analyzer/Jammer chassis
- Supported by VIAVI Xgig Analyzer tools for trace capture with filter, trigger and more
- Integrates seamlessly with Xgig Expert™ for problem and performance analysis
- Provides consistent, repeatable capture of link training, equalization negotiation and other data information
- Supports error injection for deep system analysis
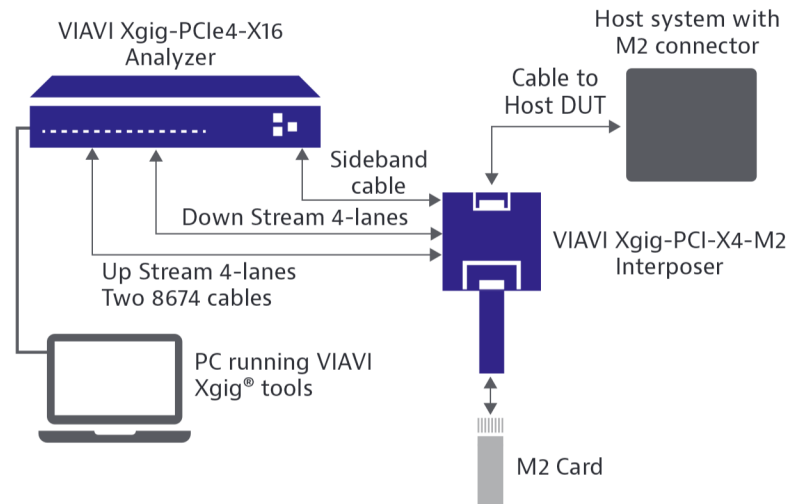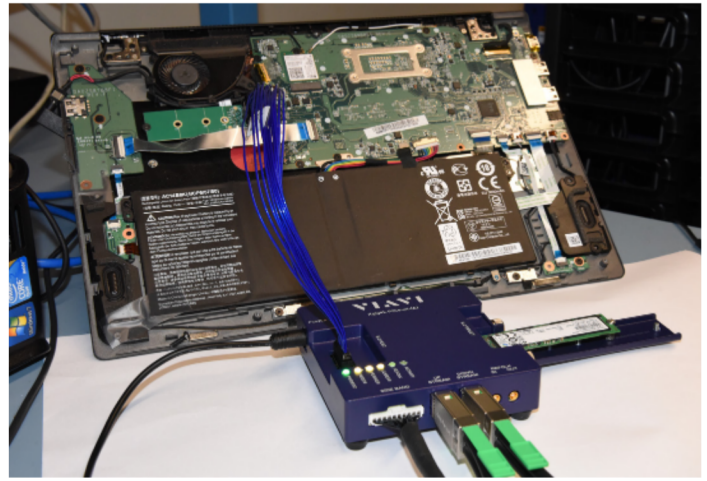
Applications

Working together with the VIAVI PCIe 4.0 Analyzer/Jammer platform, the Interposer enables debug and verification of new ICs, M.2 PCIe SSD cards, system implementations, firmware development, validation of system BIOS and software, and for manufacturing test. It supports full decode and analysis of data traffic and link states.

To use the Xgig4K-PCIe4-X4-M2 Interposer, first the PCIe SSD is mounted into the interposer M.2 Card tray. Cables are attached to connect the Interposer to the VIAVI Analyzer/Jammer chassis. Then the M.2 DUT PCB and cable is installed into the system under test and the cable plugged into the Interposer pod.

The following photo shows a typical application, while the corresponding block diagram indicates the signal data path. Data flows between the host CPU and the SSD DUTs as normal and is "tapped" for use by the Analyzer.

When operating in analyzer mode, both upstream and downstream data are tapped as inputs to the analyzer ports. When operating in Jammer mode, or Analyzer/Jammer mode, data flows through the Analyzer chassis.

VIAVI offers a variety of other interposer types for connecting into different PCIe system applications, including CEM slot cards, U.2 and others.

Kit Contents

Item	Description	Qty
1	M.2 4-lane interposer pod for PCIe 4.0	1
2	M.2 DUT cable and PCB	1
3	SFF-8674 custom high-performance cables	2
4	Sideband cable (to Analyzer)	1
5	MCX 50-Ohm coax cables for optional clock	2
6	Power brick, 120/220 input, 12V/3A output	1
7	Quick Start Guide	1

Ordering Information

Part Number	Description
Xgig4K-PCIe4-X4-M2	M.2 active Interposer, 4-lane, 16GTps, for PCIe 4.0
Xgig4K-PCIe4-X4-M2-H1	1-year extended hardware warranty

VIAVI Solutions

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