VIAVI Solutions

VIAVI
Xgig Flying-Lead Interposer
for PCI Express® 4.0

Provides the data signal connection between a device under test and the VIAVI Protocol Analyzer chassis

VIAVI Xgig® PCIe 4.0 Flying-Lead Interposer, the Xgig4K-PCIe4-X4-FL, provides a data signal tap to the link between host and endpoint devices when a physical connector port is not available. Each Interposer provides solder-down probe tips for attaching to the device under test (DUT). Using up to four Flying Lead Interposers, the analyzer will support up to x16 lane width.

The Flying-Lead probe is supplied with high-quality, low-loss probe cables, in matched differential pairs connecting to a small PCB with the probe tip wires. The tip wires are replaceable which allows for multiple uses of the probe cables. This active interposer taps bidirectional data on each of 1-to-4 lanes. Data is captured at 16GTps for analysis.
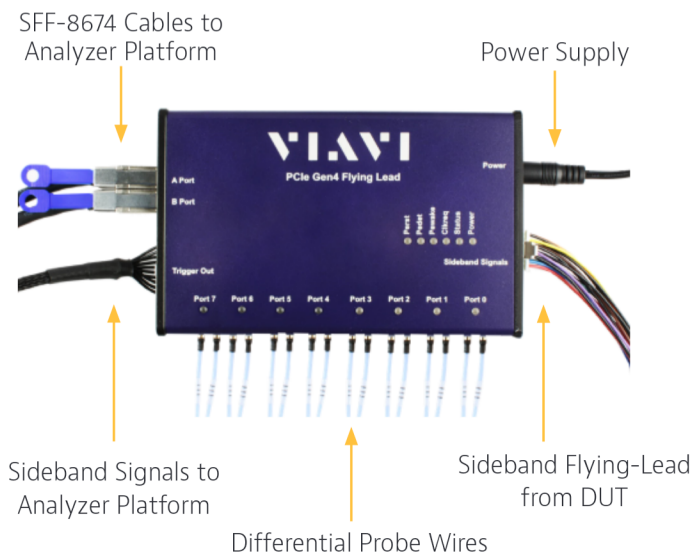
Key Features

- Operates up to and including 16GTps, PCIe 4.0 data rates
- One Pod supports link widths up to 4-lanes. Multiple pods can expand link widths to 16-lanes.
- Downward compatible with PCIe 1.0 to PCIe 3.0 data rates of 2.5, 5.0 and 8.0GTps
- Eight differential probe cables support simultaneous upstream and downstream capture
- Supplied with two high-quality SFF-8674 equivalent custom cables for Analyzer attachment
- Data path uses high-sensitivity amplifiers to ensure good signal capture with little or no tuning
- Supports PCIe sideband signal triggering and capture
- Interposer power is independent of host system
- Power supply, 120/220 input, 12V/3A output
- LEDs provide quick indicators of power and status
- Size: 170 x 107 x 34 mm (6.7 x 4.2 x 1.3 in)
- Works together with multiple VIAVI Xgig PCIe Analyzer chassis types
- Provides consistent, repeatable capture of link training, equalization negotiation and other data
- Supported by Xgig tool suite including Trace Control, Expert™ and Serialytics™

SFF-8674 Cables to Analyzer Platform

Power Supply

Sideband Signals to Analyzer Platform

Sideband Flying-Lead from DUT

Differential Probe Wires

Applications

The VIAVI Xgig4K-PCIe4-X4-FL Interposer supports the Analyzer functions of the VIAVI Xgig4K-PCIe4-X16 system chassis. The intended use of this Interposer is for capturing signals between controller ICs on the same PCB where there is no connector providing an access point. Single-Board-Computers (SBC) often include many PCIe linked controllers, as do other embedded and industrial system designs.
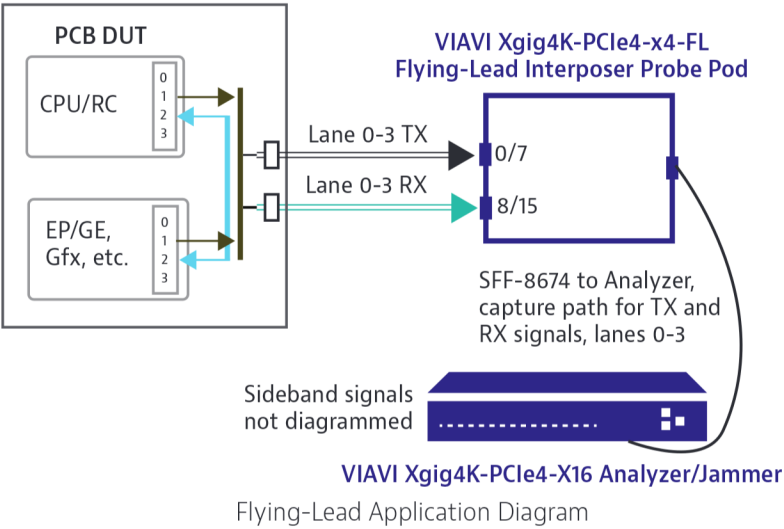
The Flying-Lead probe wires of this Interposer are soldered onto the traces, near the host or endpoint device. The photo on the right shows an example soldered onto a test board.

The simple block diagram below the photo indicates the tap signal data path from DUT, through the Flying-Lead Pod to the Analyzer. PCIe signal data of the DUT is captured (tapped) from both the upstream and downstream data paths as inputs to the Analyzer.

Working together with the Analyzer, the Flying-Lead probe is used to debug and verify new hardware ICs, new system hardware implementations, firmware, validation of system BIOS and software, and supports manufacturing test.

Matched differential wire pair (to Flying-Lead Pod)

Probe tip wires

Flying-Lead Probe Attachment

Flying-Lead Application Diagram

Kit Contents

Item	Description	Qty
1	4-lane Flying-Lead Interposer probe pod for PCIe 4.0	1
2	18-inch differential probe leads	9 (8+1 spare)
3	Replacement tip wire	1
4	SFF-8674 equivalent custom cables	2
5	Sideband analyzer cable	1
6	Sideband Flying-Lead cable	1
7	Mini-grabber clips	8
8	Power supply, 120/220 AC in, 12V/3A DC out	1
9	Quick Start Guide	1

Ordering Information

VIAVI Part Number	Description
Xgig4K-PCIe4-x4-FL	4-lane 16GTps PCIe 4.0 Flying-Lead Interposer
Xgig4K-PCIe4-x4-FLC	Replacement cable set (optional)

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