M.2 PCI Express® Interposers
supporting SRIS Clocking and CLKREQ# for M.2 Socket 2 or M.2 Socket 3 Devices

Key Features

- Quick and simple set-up
- Allows capturing and decoding of all PCI Express traffic between host and device
- Supports all PCIe protocols, such as NVM Express (NVMe) and SATA Express (ATA/AHCI/PCIe)
- Supports SSD sizes of 42mm, 60mm, 80mm and 110mm (all x 22mm width)
- Supports data rates of 2.5 GT/s (Gen1), 5 GT/s (Gen2) and 8 GT/s (Gen3)
- Supports lane widths of x1, x2 and x4
- Independent clock selection per traffic direction
- Supports SRIS clocking
- Supports CLKREQ# for testing of L1 substates

The M.2 Interposer Card, which is used with Summit™ Protocol Analyzers, enables PCIe® bus traffic between a system board or tablet and a M.2/NGFF connector on a SSD device to be monitored, captured, and recorded for protocol analysis. The M.2 interposer will support analysis for all PCIe protocols, such as SATA Express (ATA/AHCI/PCIe) and NVM Express (NVMe) at data rates from 2.5 GT/s up to 8 GT/s, and lane widths of x2 and x4.

The M.2 technology specification includes two connector definitions: Socket 2 and Socket 3. Socket 2 is keyed as “B” and allows for PCIe x2 interface for SSDs, WWAN or other non-storage devices. Socket 3 is keyed as “M” and is strictly for high-performance storage, offering x4 lanes of bandwidth in this form factor. In some cases a “B/M” keyed SSD will also be available and it is both a Socket 2 and 3 type. A “B”, “M” or a “B/M” keyed memory SSD can then be connected to a host based B or M connector which is capable of supporting any of those three types of memory SSDs.

Teledyne LeCroy provides two versions of the M.2 interposer to support all of these three types of memory SSDs. One interposer SKU is for use with B and B-M type memory modules and a second interposer SKU is for use with M and B-M type M.2 memory modules. Both interposers support the common 42mm, 60mm, 80mm and 110mm SSD lengths.
M.2 Interposer Interconnection Overview

Note: M/B-M Type Interposer is shown below. The B/M-B Type is physically similar with a different carrier board and host slot connector.

Dimensions:
Metal chassis is 134mm x 142mm (5.3” x 5.6”). DUT carrier board extends 100mm x 64mm (3.9” x 2.5”). Cables extend 475mm (18.7”) to host slot card.

Connecting the M.2 Interposer
1. Set the SW1 DIP switches to the desired clock selection. 
   Note: "HOST_CLK" should be the default setting unless you are using an external clock reference source.
2. Install the M.2 SSD device under test (DUT) into the connector on the interposer as shown (will fit 42mm, 60mm, 80mm and 110mm).
3. Connect the Summit T34 Analyzer (or other compatible Teledyne LeCroy analyzer) to the interposer using the system iPass cable (PE013ACA-X). If using a Summit T28, T3-8 or T3-16, use an iPass Y-cable (PE010UCA-X).
4. Install the M.2 Host Slot Connector into the M.2 host slot.
5. Connect the analyzer to a host machine using the USB port on the front panel of the Summit analyzer.
6. If not already done, install the PCIe Protocol Suite software on the host machine.
7. Connect 12V DC using the AC adapter supplied with the interposer. (Make sure that the AC adapter is powered on).
8. Power on the analyzer.
9. Launch the Teledyne LeCroy software application to monitor, record and view PCI Express traffic passing through the M.2 Interposer.
10. Power on the host machine.

Ordering Information

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<td>Gen3 M.2 M/B-M Type Interposer, supports PCIe x1, x2 and x4 memory modules (socket 3)</td>
<td>PE089UIA-X</td>
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<td>Gen3 M.2 B/B-M Type Interposer, supports PCIe x1 and x2 memory modules (socket 2)</td>
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