

PCI Express® 4.0 M.2 Interposer



Key Features

- Quick and simple set-up
- Allows capturing and decoding of all PCI Express traffic between host and device
- Supports NVM Express (NVMe) and SATA Express (ATA/AHCI/PCIe)
- Supports "M/B-M" key memory SSD
- Supports SSD sizes of 30mm, 42mm, 60mm, 80mm and 110mm (all x 30mm width)
- Supports data rates of 2.5 GT/s, 5.0 GT/s, 8.0 GT/s, and 16.0 GT/s
- Supports link widths of x1, x2 and x4
- Independent clock selection per traffic direction
- Supports SRIS clocking
- Supports CLKREQ# for testing of L1 substates
- Supports SMBus
- Supports CrossSync™ PHY
- Environmental:

Operating: 0° to 55°C (32° to 131°F)

Non-Operating: -20° to 80°C (-4° to 176° F)

Humidity: 10% to 90% RH (non-condensing)

- Dimensions:

Carrier board: 235.96 mm x 143.26 mm (9.29" x 5.65")

Paddle board: 22 mm x 29.97 mm (.866" x 1.18")

Used with Summit™ Protocol Analyzers, the PCIe® 4.0 M.2 Interposer enables PCIe bus traffic between a system board or tablet and an M.2 connector on a SSD device to be monitored, captured, and recorded for protocol analysis. The M.2 interposer will support analysis for SATA Express (ATA/AHCI/PCIe) and NVM Express (NVMe) at data rates from 2.5 GT/s up to 16.0 GT/s, and link widths of x1, x2 and x4.

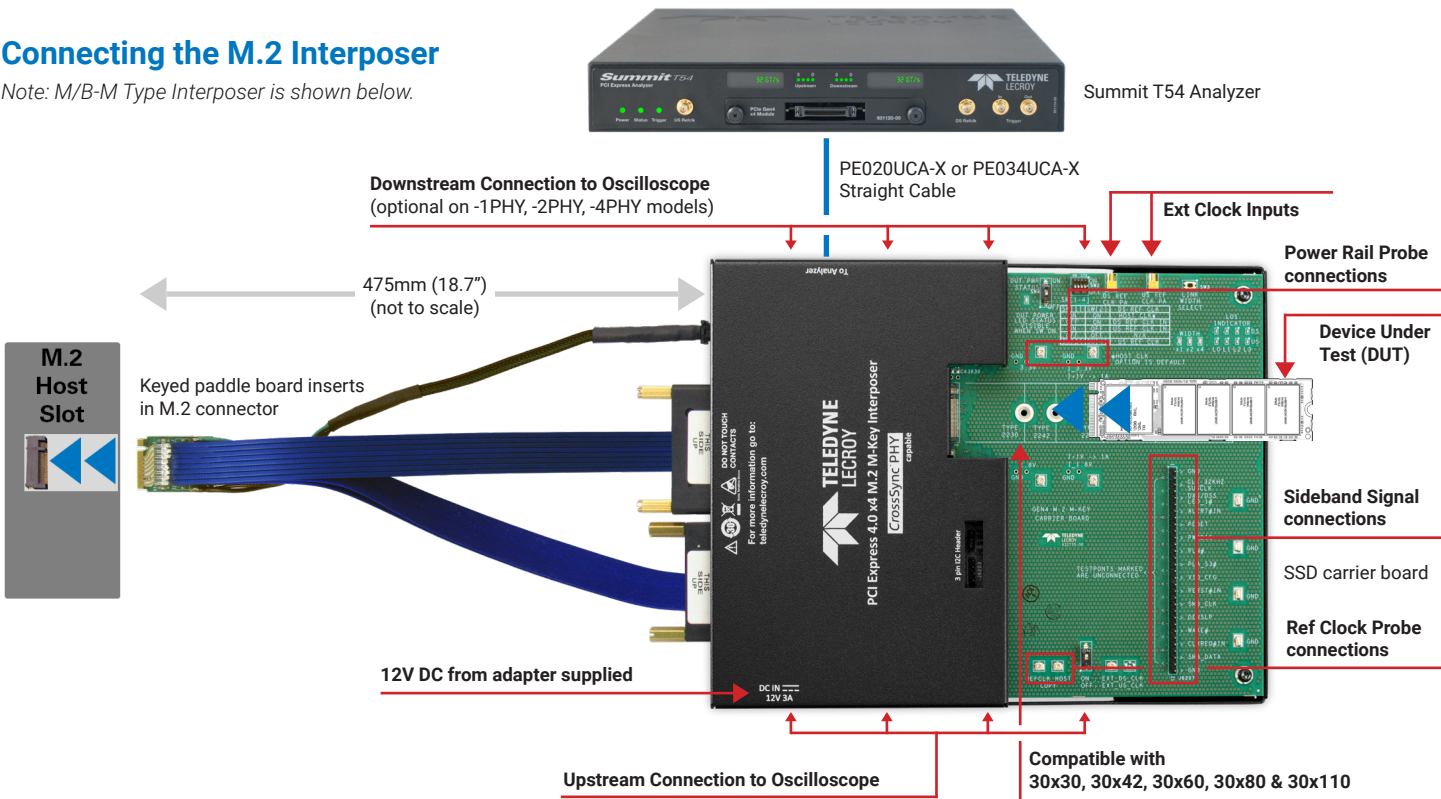
Now with the MultiPort option on the PCI Express 4.0 analyzers it is possible to monitor and analyze multiple PCIe links. This means that multiple M.2 interposers can be used with a single T4 protocol analyzer to do multilink protocol analysis. This provide a lower cost debugging solution for more complicated configurations.

The M.2 technology specification includes different connector definitions: Socket 3 is keyed as "M" and is strictly for high-performance storage, offering x4 lanes of PCIe bandwidth in this form factor. In some cases a "B/M" keyed SSD will also be available and supports both Socket 2 and 3. This interposer supports the "M/B-M" key memory SSD, and supports the common 30mm, 42mm, 60mm, 80mm and 110mm SSD lengths, and widths up to 30mm.



Connecting the M.2 Interposer

Note: M/B-M Type Interposer is shown below.



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 SSD device under test (DUT) into the connector on the interposer as shown (will fit 30mm, 42mm, 60mm, 80mm and 110mm lengths, and widths up to 30mm).
3. Connect the Summit T48 Analyzer (or other compatible Teledyne LeCroy analyzer) to the interposer using the system cables. If using MultiPort, use the x4-to-x8 straight cable (PE020UCA-X). If not using MultiPort then the Y-Cable (PE021UCA-X) should be used.
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 or Ethernet port on the front panel of the Summit analyzer.
6. If not already done, install the PCIe Protocol Analysis 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 PCIe Protocol analysis software to monitor, record and view PCI Express traffic passing through the M.2 Interposer. Power on the host machine.
10. To connect to an oscilloscope for CrossSync PHY capabilities (supported on Summit T54 only), please refer to the CrossSync PHY user manual.

System Compatibility	
Summit T48	✓
Summit T416	✓
Summit T54	✓
Summit T516	✓


Ordering Information

Product Description

- PCIe 4.0 M.2 M-Key Interposer - CrossSync PHY capable (no high-speed probe installed)
- PCIe 4.0 M.2 M-Key Interposer with CrossSync PHY probe Lane 0
- PCIe 4.0 M.2 M-Key Interposer with CrossSync PHY probe Lane 0, 1
- PCIe 4.0 M.2 M-Key Interposer with CrossSync PHY probe Lane 0, 1, 2, 3

Product Code

- PE210UIA-X
- PE210UIA-1PHY
- PE210UIA-2PHY
- PE210UIA-4PHY



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