



Card Edge Connectors

Product Presentation



PCI Express* (PCIe) Card Edge Connectors

Updated datasheet describing PCIe Gen 3 products – Available Now!



All standard links per PCI-SIG CEM Specification

- X1 = 36P = Client I/O
- X4 = 64P = Server I/O
- X8 = 98P = Server I/O
- X16 = 164P = Graphics / Riser card

Support **2.5 Gb/s** Gen1 and **5 Gb/s** Gen2 specification requirements ... and also proposed **8.0 Gb/s** Gen3 requirements

Available options

- x1 (36P), x4 (64P), x8 (98), x16 (164P) sizes
- 200P, 230P & 280P for server riser cards
- Termination types
 - PTH solder
 - Press-fit
 - Surface-mount (X1, X4, X8 and X16)
 - Straddle-mount (X1, X4, X8 and X16) is available now



PCIe Gen3 Straddlemount 10125756

▶ BOARD/WIRE-TO-BOARD CONNECTORS



PCI EXPRESS® CARD EDGE CONNECTORS

Extend differential signaling to 8.0GB/S for new generation systems

OVERVIEW

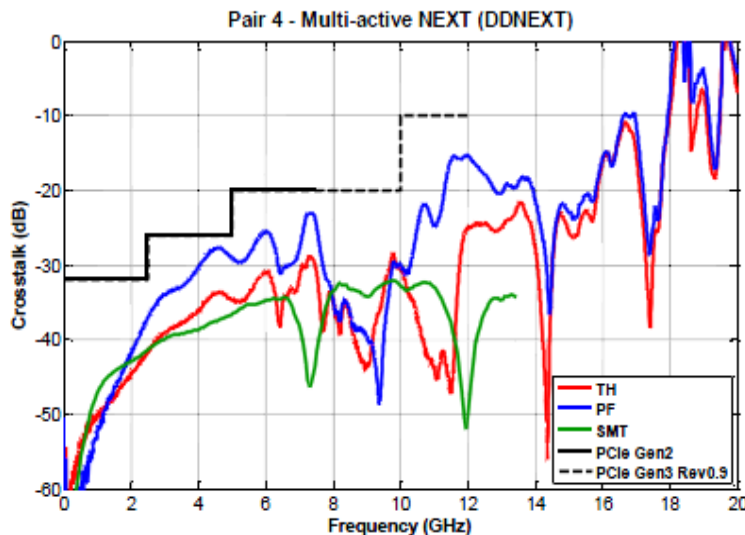
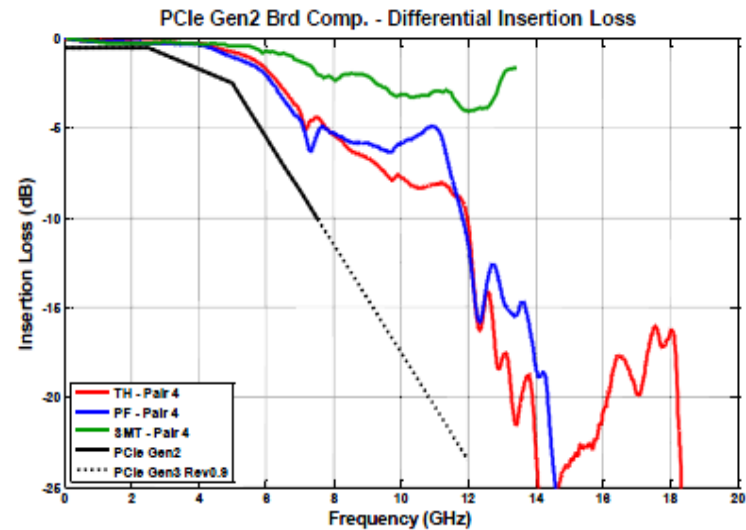
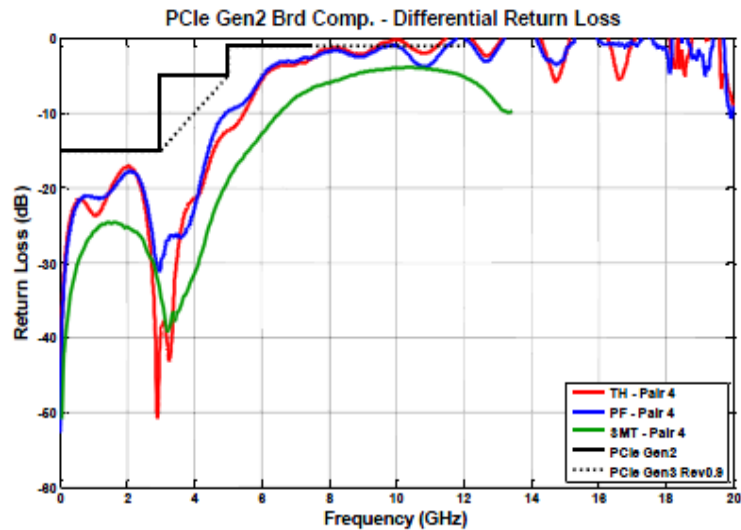
These 1.0mm pitch, vertical card edge connectors from FCI enable all generations of PCI Express® signaling in desktop PCs, workstations, and servers. The connector designs provide support for 2.5Gb/s (Gen1), 5.0Gb/s (Gen2), and the recent update to 8.0Gb/s (Gen3) per differential signal pair.

The base connector family provides x1, x4, x8, or x16 link widths to suit different bandwidth requirements. The basic bandwidth (x1) version supports a single PCI Express lane and is typically used for I/O cards in desktop PCs. The x4 and x8 connectors provide 64 and 98 contacts, respectively, for server I/O. The high bandwidth versions (x16 lanes and higher) are used for applications that require even more bandwidth, such as graphics cards in desktop PCs or riser cards in servers.

FCI's expansive range of available PCI Express card edge connectors includes options for through-hole solder, press-fit, surface-mount, or straddle-mount termination.



Differential Electrical Performance @ 8 Gb/s



Support proposed requirements for 8.0 Gb/s per differential signal pair

- Measured results are referenced to 85 Ω differential environment
- Through-hole solder, press-fit and surface-mount termination types met PCIe Gen3 requirements when evaluated on Gen2 test boards
- FCI Gen2 connectors work for Gen3

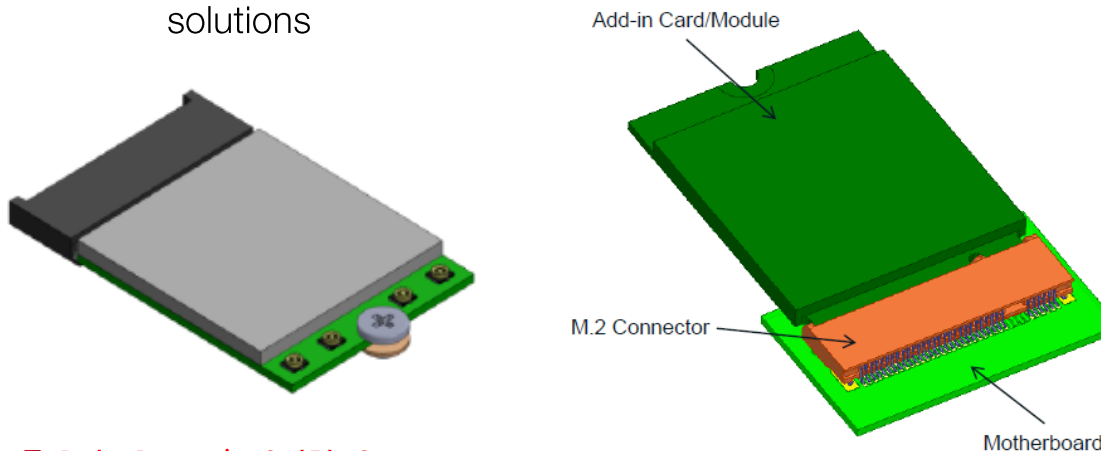
PCI Express M.2 Specification Overview



The initial M.2 specification was released on November 1, 2013

- Culmination of an industry-wide effort led by PCI-SIG to evolve the existing HMC (Half Mini Card) form factor standard to the new M.2 (informally known as NGFF) standard
- Supporting multiple types of platforms (notebooks, tablets, etc.)
- The Key Features of the M.2 include:
 - Reduced add-in card footprint and Z-Height
 - New Connector Keying scheme to support a multitude of Host interfaces and enabling new system partitioning:
 - A Wi-Fi centric socket
 - A SSD cache / WWAN / Other socket
 - SSD high performance socket (with x4 PCIe interface)
 - Support for both Connector-ized and Soldered-Down (LGA) solutions

FCI PN	Height	Key
10128786	3.2mm	A
10128787	3.2mm	B
10128788	3.2mm	E
10130618	3.2mm	M
10128792	4.2mm	A
10128793	4.2mm	B
10128794	4.2mm	E
10130616	4.2mm	M
10128798	5.5mm	M
10128796	8.5mm	B
10128797	8.5mm	E
10131758	8.5mm	M

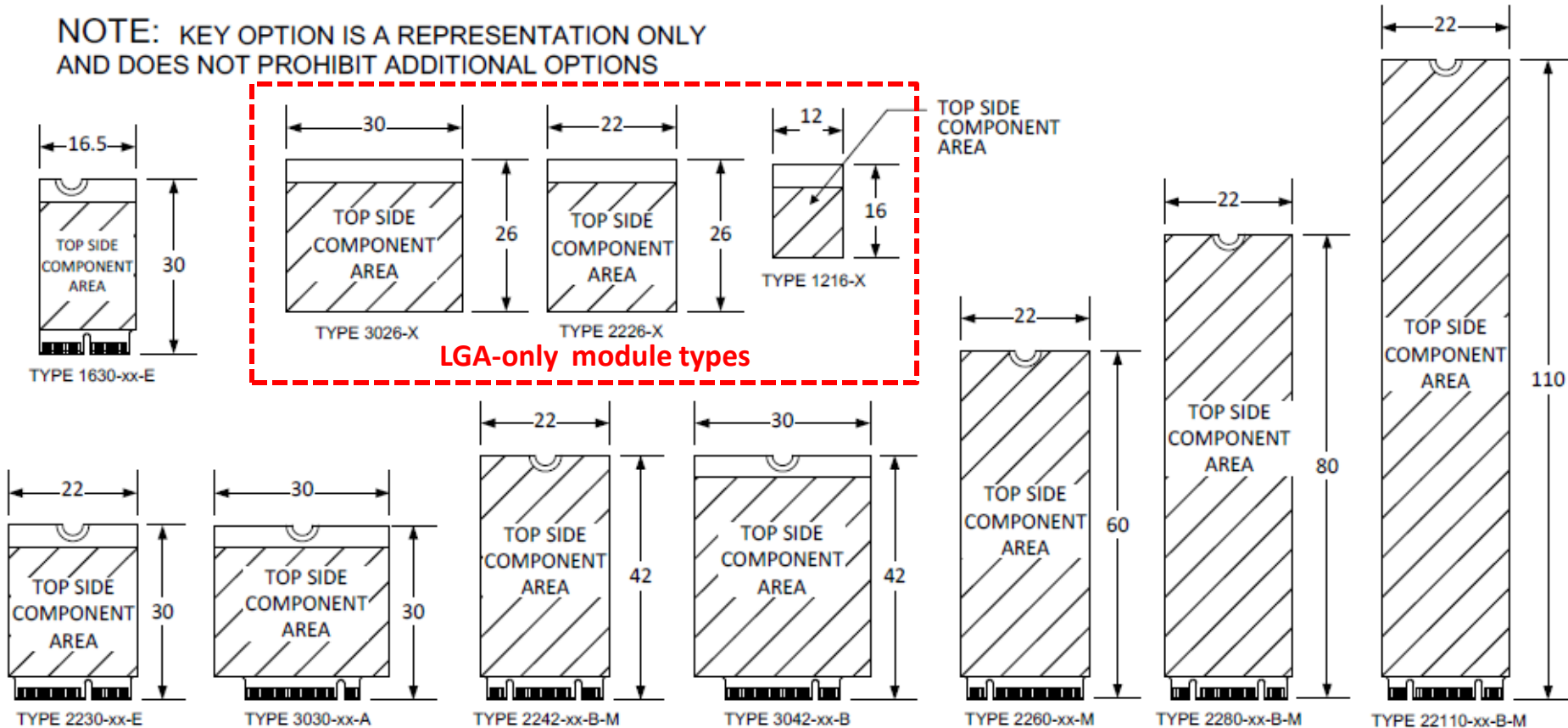


Numerous M.2 Module Card Form Factors



All module types use the M.2 connector except LGA types 1216, 2226 and 3026

NOTE: KEY OPTION IS A REPRESENTATION ONLY AND DOES NOT PROHIBIT ADDITIONAL OPTIONS



LGA-only module types

GENERAL TOLERANCE IS ± 0.15

Dimensions in mm

M.2 Connector Features & Benefits

Product Features

- 75 positions with 8 positions are used for connector key, 0.5mm pitch
- Available in various height options
- Support both single and double-sided modules
- Support PCI Express 3.0, USB 3.0, & SATA 3.0

Benefits

- Occupies less PCB board space compared to mini PCIe card
- Flexible to meet various design needs
- Reduces overall height profile
- Supports higher data rates transmission

Target Applications

- Laptop, Ultra-books, Tablets, Desktop, Server, SSD



Part Number

- 10125101: H = 3.2mm, B Key
- 10128793: H = 4.0mm, B Key



THANK YOU

