

# 3M™ Twin Axial Cable Assemblies for PCI Express Applications

3M provides the latest in high-speed solutions to meet demanding system performance and packaging challenges with the 3M PCI Express Extender Assemblies and PCI Express Jumper Assemblies, for PCI Express 2.0 and 3.0.

We have incorporated our award winning 3M™ High-Routability Twin Axial Cable into these assemblies that allow you to re-locate a PCIe card slot, or bridge between slots on two different PCBs. The ribbonized format of the 3M cable provides a dense and flexible solution, and these assemblies are available in X16, X8 and X4 standard channel sizes. As with other 3M Twin Axial Cable, SL8800 Series, based products, these assemblies can be folded to provide unique and specific geometries, maximizing the use of space and reducing obstruction to airflow. These mechanical benefits are provided along with the extremely low loss, and excellent signal integrity customers have come to expect from 3M Twin Axial Cable, SL8800 Series.

Industry standard PCIe peripheral cards can be placed in virtually any orientation within a system chassis. The 3M PCI Express Extender Assemblies can be folded or simply routed to the peripheral card, providing a low loss extension from the motherboard. Up to now, choices have been short assemblies, rigid PCB assemblies, or high-loss flex circuit assemblies. Higher channel loss solutions may require the use of PCI Express retimer chips. Another cost and design impact.

If your applications uses a mother board that needs to link to another PCB via PCIe, and that PCB has PCIe connectors instead of edge fingers, then the PCIe Jumper Assemblies may fit your need. All of the speed and flexibility of the original 3M Extender Assemblies, but for card-to-card applications.

3M PCI Express Extender Assemblies are available in PCIe X4, x8 and X16 sizes, utilizing PCIe standard motherboard interfaces. The boards have been designed to minimize trace lengths. The connector PCB, on the Extender Assemblies, have mounting holes, allowing it to be secured within a system.

Common applications for these assemblies are for flexible system packaging, airflow optimization, or as extender cables for benchtop development. Rigid riser cards are limited to a simple offset (up and over), while 3M PCI Express Extender Assemblies can be configured to virtually any orientation within the cable length (up, over, forward, backward, around, under, etc.). Similarly, the PCIe Jumper Assemblies are equally flexible and can allow your separate PCBs to be placed in an optimal configuration to meet your other packaging requirements. A single 3M assembly may fit multiple mechanical designs.



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## Fast Facts

- PCIe 2.0 and 3.0
- X4, x8 and x16
- Extender and jumper
- High bandwidth
- Flexible
- Up to 8 Gbps and beyond
- Utilizing 3M™ Twin Axial Cable technology: highly-routable, foldable, flexible

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Another application is for systems where long PCB traces consume too much of the signal loss budget. Using 3M PCI Express Extender Assemblies or 3M PCIe Jumper Assemblies, customers may be able to eliminate the requirement for re-timers when implementing long electrical lengths. Similarly, the assemblies can help to avoid expensive low-loss laminate layers that may have been necessary to handle the PCI Express signals across the required distance. Reducing layer count or avoiding high-performance laminates may contribute to system design cost savings.

System density, performance enhancement and cost savings. Anything is possible.

