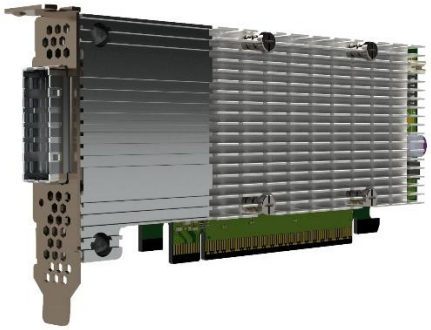
MXH670 PCIe 6.0 x16 CDFP NTB Adapter



Features

- ✓ PCI Express 6.0 - 64.0 GT/s per lane
- ✓ Microchip Switchtec® PCIe 6.0 PFX
- ✓ Link compliant with PCIe 1.0, 2.0, 3.0, 4.0, 5.0 and 6.0
- ✓ Host Clock isolation support,
  Automatic support for a host running CFC or SSC
- ✓ x16 CDPF connectors
- ✓ Low Profile, Half Length PCIe form factor
- ✓ Support for both copper and fiber cables
- ✓ FLASH for multiple system configurations
- ✓ RDMA support through PIO and DMA
- ✓ Link status LED through the face plate
- ✓ ~500ns - application-to-application latency
- ✓ ~100ns - Chip latency
- ✓ High performance DMA transfer rate
- ✓ eXpressWare™ software suite license

The MXH670 PCIe 6.0 NTB Host Adapter is our High-Performance networking solution. It is designed to the PCI-SIG Card Electromechanical (CEM) Specification 5.0 and the PCI-SIG CopprLink 1.0 specification and employs the Microchip Switchtec® PCIe 6.0 PFX switch to facilitate reliable and fast host-to-host communication. This adapter serves various high-performance purposes, such as clustering and IO hot-add applications.

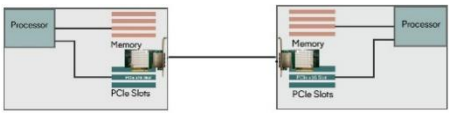
The card is delivered with a passive heat sink by default, but it is also available with a fan for use on an open desktop.
Application developers using the MXH670 host adapter can harness its impressive PCIe 6.0 performance while benefiting from application-to-application latency under 500 nanoseconds. Additionally, it is fully compatible with our eXpressWare software suite.

www.dolphinics.com/products/MXH670.html

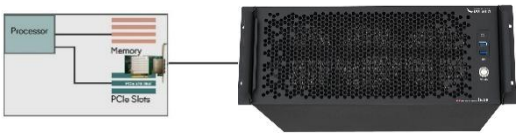
Configurations

The MXH670 enables the establishment the following PCIe network topologies:

2 Node NTB network: By using one x16 CDFP cable, you can realize a connection to another system



Single-Node Transparent Hot Add: Dolphin eXpressWare adds PCIe hot add support with Linux systems. Cabled PCIe expansion systems and IO devices can dynamically be added, hot swapped or removed from the system without rebooting the host.



Multiple-Node Network: Larger networks can be realized using Dolphins MXS610 switch. Please contact Dolphin for details.

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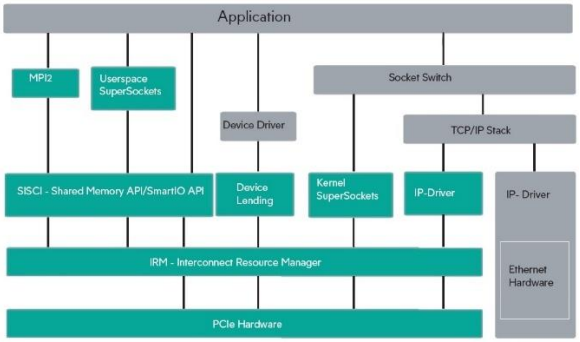
Topology Examples

eXpressWare PCIe Software

The MXH670 card is bundled with a full license for Dolphin's eXpressWare clustering software, which includes.

- ✓ SISCI API - a robust and powerful shared memory programming environment for PCIe
- ✓ Standard TCP/IP drivers
- ✓ Super Sockets socket accelerator software
- ✓ SmartIO - access to remote PCIe devices over PCIe
- ✓ Board management software

Dolphin's software suite effectively supports large and small data transfers using DMA and PIO data transfer schemes. PIO transfers are optimised for small packet transfers, minimising latency. DMA seamlessly moves large data packets with minimal CPU utilization. The eXpressWare software is compatible with Linux and Windows. The software framework is designed to develop and deploy multi-node systems rapidly.



For more details, please visit [www.dolphinics.com/software.](http://www.dolphinics.com/software)

Specifications

PCI Express	➢ Base Specification 6.0 ➢ CopprLink Specification 1.0 ➢ Card Electromechanical Specification 5.0	Operating Environment	➢ Operating Temperature: 0˚C - 45˚C (32˚F - 113˚F) ➢ Airflow: TBD ➢ Relative Humidity: 5% -95% non-condensing
Application to Application latency	~500ns (system dependent)	Storage Environment	➢ Storage Temperature: -40˚C to 70˚C (-40˚F to 158˚F) ➢ Relative Humidity 95% (non-condensing) at 35°C
Application to Application Maximum DMA Throughput	~TBD	Mechanical Dimensions	Low profile, half-length, 167.65mm- (6.6 inches) x 68.90 mm (2.731 inches)
Active Components	Microchip Switchtec® PCIe 5.0 PFX Switch	eXpressWare Software	➢ SISCI API ➢ Super Sockets Berkley Sockets API ➢ Microsoft WinSock2/LSP support ➢ TCP-IP driver ➢ SmartIO ➢ Board Management
Max Link Speeds	1024 Gb/s	Usage Modes	Non-transparent bridging (NTB)
Configuration	DIP-switch	Operating Systems	Windows, Linux
Topologies	➢ Two-node direct cable	Pending Regulatory markings	➢ CE ➢ FCC Class B ➢ KCC ➢ Canada/IC ➢ RCM
		Regulatory Compliant	➢ Reach ➢ RoHS ➢ UL94V-0
Cable Connections	➢ CDFP connector for copper/fiber cables ➢ Supports x16 cables.	Mounting Brackets	➢ Full height Bracket installed. ➢ Half-height bracket is included in the shipping box.
Maximum power rating	➢ TBD	Product Codes	➢ MXH670 Host NTB Adapter – Passive Heatsink ➢ MXH670F Host NTB Adapter – Active fan Heatsink
Typical power rating	➢ TBD	Pending Regulatory Approvals	➢ EN 55032:2012 ➢ EN 55035:2017 ➢ EN 61000-3-2:2014 ➢ EN 61000-3-3:2013 ➢ EN 61010-1:2010 ➢ EN 61326-1:2013 ➢ ICES-003 ➢ KS C 9832:2019, KS C 9835:2019 ➢ 47 CFR Part 15, Subpart B (Clause 15.107 and 15.109) in conjunction with ANSI C63.4:2014 ➢ CISPR 35:2016 Edition 1.0 (CISPR/I/412/CDV) Korean Harmonized standard, KN 35
Port Power	➢ TBD		