# eXpressWare Host Adapters

Gen3 Host Adapters

PCI Express NTB Host Adapters are high performance cabled interface to external processor sub-systems. Based on standard PCI Express bridging architectures, the host adapters include advanced features for non-transparent bridging (NTB) and clock isolation. These host adapters combine high performance with an application-to-application latency starting at sub-1 microsecond. They support both Remote Direct Memory Access (RDMA) and Programmed IO (PIO) transfers, effectively support-ing both large and small data packets. RDMA transfers result in efficient larger packet transfers and processor off-load. PIO transfers optimize small packet transfers at the lowest latency. The combina-tion of RDMA and PIO creates a highly potent data transfer system.

Our host adapters are carefully designed for maximum cable length. They support copper cables at various lengths at full PCI Express speeds. Fiber optics are available on some models to extend cable distances up to 100 meters.
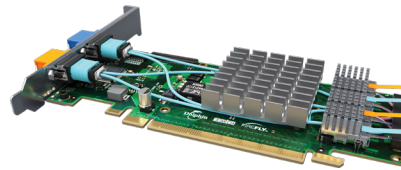
Our eXpressWare™ software suite is included with all eXpressWare NTB host adaptercards.
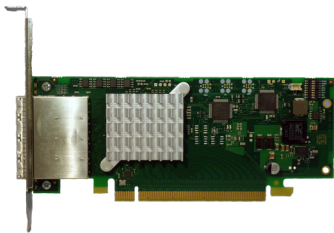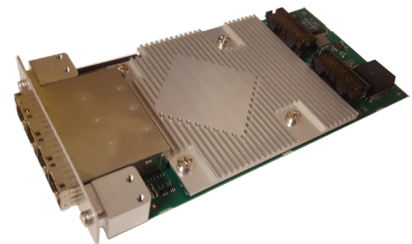
PXH830

PCIe Gen3 x16 NTB Host Adapter

• One x16 PCIe edge port

• Four x4 PCIe cable ports

• PCIe 3.0 or MiniSAS-HD cables

• Low Profile Design

• Quad SFF-8644 Connectors

• Full Dolphin Software Stack

• 128 Gigabit/s performance

PXH840

PCIe Gen3 x16 NTB Host Adapter

• One x16 PCIe edge port

• Configurable up to 4 fiber optic ports

• Low Profile Design

• 128 Gigabit/s performance

• PIO and DMA RDMA

• Full Dolphin Software Stack

PXH820

PCIe Gen3 XMC NTB Adapter

• x4, x8 or x16 PCIe ports

• PIO and DMA RDMA

• Quad SFF-8644 cable port

• VITA 42.0 XMC 1.0

• Up to 9M copper, 100M fiber cables

• Transparent & Non Transparent bridging
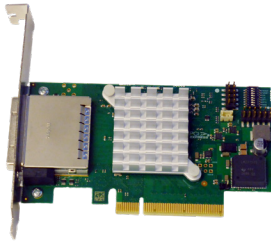
PXH810

Gen3 PCI Express NTB Host Adapter

- Gen3 64 Gbps
- PCI Express iPass Connectors
- Supports Gen1,2,and 3 PCIe
- RDMA through PIO and DMA
- Clock isolation for CFC or SSC
- Low Profile Design
- Copper cables up to 5m
- Fiber-optic cables up to 100m
- Non-transparent bridging
- EEPROM configurable
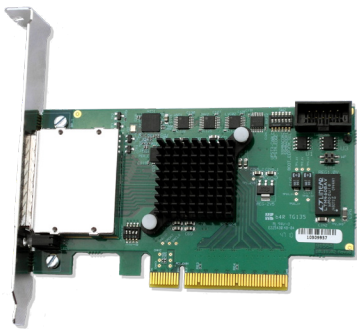- Link status LEDs
- Full Dolphin Software stack
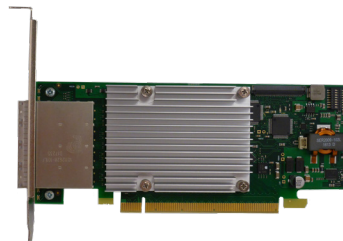
MXH830

PCI Express Gen 3 x16 NTB Host Adapter

- One x16 PCIe edge port
- Four x4 PCIe Cable ports
- PCIe 3.0 or MiniSAS-HD cables
- 0.54 microsecond latency
- Low Profile Design
- Quad SFF-8644 Connectors
- Non Transparent Bridging
- 128 Gbit/s Performance
- Full Dolphin Software Stack

Gen2 Host Adapters

IXH610

PCI Express Gen2 Host Adapter

- x8 PCI Express port
- PIO and DMA RDMA
- iPass Connector
- Low Profile Design
- Up to 7m Copper Cables
- Transparent HOST bridging
- Non Transparent Bridging
- 40 Gbit/s Performance
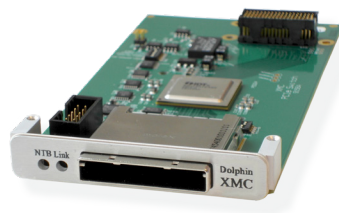
IXH620

XMC PCI Express Gen2 Adapter

- x8 PCI Express port
- PIO and DMA RDMA
- iPass Connector
- VITA 42.0-2005,ANSI/VITA 42.3-2006
- Up to 7m Copper Cables
- Transparent bridging
- Non Transparent Bridging
- 40 Gbit/s Performance

Feature	PXH830	PXH840	PXH820	MXH830	PXH810
Port Speeds	32 GT/s per port / 128 GT/s max	32 GT/s per port / 128 GT/s max	32 GT/s per port / 128 GT/s max	32 GT/s per port / 128 GT/s max	64 GT/s per port/ 64 GT/s max
Max Application Performance	540 nanoseconds latency 13.2 GB/s throughput	540 nanoseconds latency 13.2 GB/s throughput	540 nanoseconds latency 13.2 GB/s throughput	600 nanoseconds latency 13.2 GB/s throughput	540 nanoseconds latency 6.8 GB/s throughput
Active Components	Broadcom/PLX Gen 3 PCIe Switch with DMA	Broadcom/PLX Gen 3 PCIe Switch with DMA	Broadcom/PLX Gen 3 PCIe Switch with DMA	Microsemi Switchtec PFX Gen 3 PCIe Switch	Broadcom/PLX Gen 3 PCIe Switch with DMA
Specifications	Base Spec 3.0 Cable Spec 3.0 CEM Spec 3.0	Base Spec 3.0 Cable Speci3.0 CEM Spec 3.0	Base Spec 3.0 Cable Spec 3.0 VITA 41	Base Spec 3.1 Cable Spec 3.0 CEM Spec 3.0	Base Speci 3.0 Cable Spec 2.0 CEM Spec 3.0
Topologies	Point to point 3 node Mesh Topology Switch topology with MXS824	Point to point 3 node Mesh Topology	Point to point 3 node Mesh Topology Switch topology with MXS824	Point to point 3 node Mesh Topology 5 node Mesh Topology Switch topology with MXS824	Point to point 3 node Mesh Topology IXH600 Switch topology
Cable Connections	SFF-8644 connector Supports 4 - x4/ 2 - x8 or 1 - x16 connections PCIe 3.0 copper and MiniSAS-HD copper / PCIe fiber	Fiber optic cable (AOC) support MPO Fiber cabling	SFF-8644 connector Supports 4 - x4/ 2 - x8 or 1 - x16 connections PCIe 3.0 copper and MiniSAS-HD copper / PCIe fiber	SFF-8644 connector Supports 4 - x4/ 2 - x8 or 1 - x16 connections PCIe 3.0 copper and MiniSAS-HD copper / PCIe fiber	x8 iPass copper cable, fiber optic cable support Supports x8 to x4 transition cables
Max Cable Distance	9m with copper 100m with fiber	100 meters with fiber	9m with copper 100m with fiber	9m with copper 100m with fiber	5m with copper 100m with fiber
Mechanical Dimensions	Low profile, Half Length - 68.90 mm (2.731 in) x 167.65 mm (6.600 in)	Low profile, Half Length - 68.90 mm (2.731 inches) x 167.65 mm (6.600 inches)	Single width XMC	Low profile, Half Length - 69.2 mm (2.7 inches) x 168.2 mm (6.6 inches)	Low profile - 68.90 mm (2.731 inches) x120 mm (6.600 inches)
Bracket	Full height bracket mounted Half height bracket included	Full height bracket mounted Half height bracket not included, only available for x8 and x4 configurations	XMC front panel face plate	Full height bracket mounted Half height bracket included	Full height bracket mounted Half height bracket included
Product Codes	PXH830 NTB Adapter	PXH840 - 2x8 - NTB x16/ NTB 2x8 PXH841 - 1x8 - NTB x8 PXH843 - 2x4 - NTB x8/ NTB 2x4 PXH844 - 1x4 - NTB x4	PXH820 Vita 41 NTB Adapter	MXH830 NTB Adapter	PXH810 NTB Adapter