



# XLINK-Family

## Connecting PCI, CompactPCI with MicroTCA



### Overview

The XLINK-Family is an easy way to apply input / output (I/O) interfaces in PCI and/or CompactPCI (cPCI) form factors without any software modification in MicroTCA applications benefitting from its reliability and speed.

The **NAMC-XLINK** is an Advanced Mezzanine Card (AMC) providing access to the passive PC backplane (NPCI-XLINK) and/or the cPCI system (NcPCI-XLINK) via PCI Express IO Extension not sacrificing hot swap and redundancy. The combination of different standards is ideal for projects requiring reduced engineering costs, time-to-market and gaining synergies of established systems.

### Key features

- I/Os of PCI and/or cPCI formats
- Reliability and speed of MicroTCA
- Compatible with any AMC slot / system slot 1 in PC or cPCI systems
- No driver modification
- No software adaption

XLINK-Family Overview:

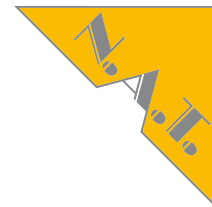
- **NAMC-XLINK**
- NPCI-XLINK
- NcPCI-XLINK



# Technical Data

## XLINK-Family

Connecting PCI, CompactPCI with MicroTCA



### Overview

The **NAMC-XLINK** is a high performance single width, full-size Advanced Mezzanine Card (AMC) compatible with any MicroTCA system and connects systems based on different standards such as MicroTCA, PCI and cPCI.

This MicroTCA system containing a processor card (i.e. NAMC-8569-CPU or NAMC-QorIQ-P40) and one or more XLINK cards deliver the master functionality. The slave system is based on either PCI or cPCI standard and is controlled by the master system. The **NAMC-XLINK** connects the PCI Express (PCIe) backplane lane to a PCI Express External Cable Interface Connector on the front panel via a programmable re-driver circuitry for exchanging data streams. Each **NAMC-XLINK** board in the MicroTCA rack will drive up to 4 slots in a passive PCI

rack or up to 8 slots in a cPCI chassis up to 7 meters away, via cable, at speeds up to 2.5 Gb/s.

#### Functional Blocks Re-Driver Circuitry

The **NAMC-XLINK** includes a re-driver circuitry to guarantee PCIe signal quality at the receiver portion of the PCI Express External Cable Interface.

The on-board Pericom PI2E-QX4402D re-driver device allows users to adapt transmission characteristics to different cable lengths.

Port A of the PI2EQX4402D directs the PCIe line of the AMC backplane to the PCI Express Cable Interface Connector; port C connects the PCIe line of the PCI Express Cable Interface Connector with the AMC backplane.

#### IPMB Interface

The **NAMC-XLINK** implements an IPMB interface consisting of an AVR ATmega645 microcontroller and a temperature sensor. The IPMB controller also manages the hot swap functionality and the geographical address as requested by the AMC.0 specification.

#### XLINK-Family

The **NAMC-XLINK** is a member of the XLINK-Family which enables the connection of different system platforms via a PCI Express External Cable Interface to a MicroTCA system.

### Key Features

#### Requirements

- Free AMC slot

#### AMC Interface

- 1x PCIe (port 4 of the Fat Pipe Region of the AMC backplane connector)

#### PCI Express Interface

- 1x PCI Express External Cable Connector at the front panel with a transfer data rate of 2.5Gb/s

#### Indicator LEDs

- 2 general status LEDs
- 2 LEDs (optionally)
- 4 LED blocks above PCI Express External Cable Connector

#### Clock Selection

- Local PCIe clock or
- Backplane clock FCLKA Host Operating System Support
- No restrictions
- No driver adaption
- No application modifications

#### Power Consumption

- 12V 0.2A max. payload power
- 3.3V 0.1A max. management power

#### Environmental Conditions

- Operating temperature: 0°C to +70°C with forced air cooling
- Storage temperature: -40°C to +85°C
- Relative humidity: 10% to 90% at +55°C (non-condensing)

#### Standard Compliance

- PICMG AMC.1 Rev 1.0
- PCI Express External Cabling Specification

#### Applications

Industrial and telecommunication applications requiring

- speed,
- flexibility,
- hot swap,
- reliability and
- optional redundancy
- different I/O form factors

#### XLINK Board Combinations

NAMC-XLINK : NPCI-XLINK  
NAMC-XLINK : NcPCI-XLINK