Key Features

- PCI Express active Lane Driver-Receiver
- PCI Express Clock Re-Driving
- PCI Express x4 External Cabling Rev1.0 Standard Connector
- Over to 7 meters PCIe cable limitation
- Up to 3 meters in GEN2 operation
- Multi Rate operation: 2.5 [Gbps] GEN1 or 5.0 [Gbps] GEN2
- PCI Express x4 GEN1 and GEN2
- Low power implementation < 1 [W]
- On board CPLD logic to manage the PCI Express sideband signals
- Sideband signals Opto coupler isolation
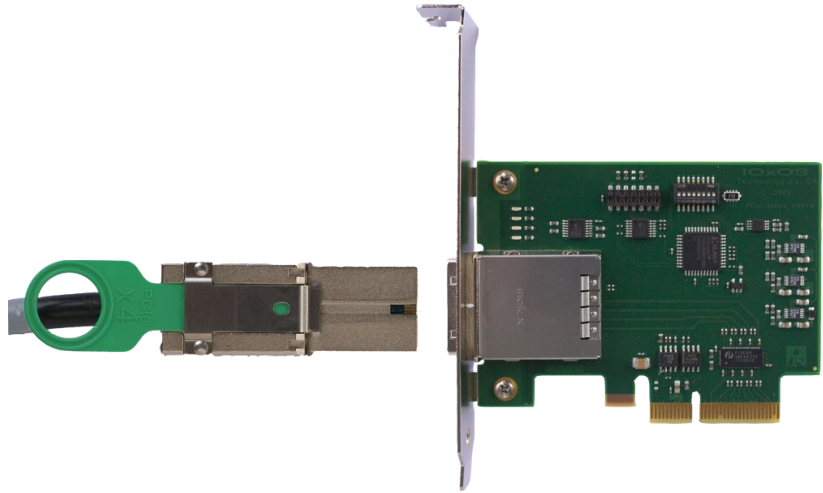
Overview

The **PEA_3100** provides PCI Express External Cabling operation over 7 (maximal) meters cable. The active circuitry optimize the signal quality at the physical end of the cable.

The **PEA_3100** supports PCI Express GEN1 and GEN2 and has provision for up-coming GEN3. A local non volatile CPLD manages the I2C configuration sequence for the PCIe Re-Driver from the DIP switches selection. The DIP switches select the mode of operation, according to the PCI Express cable length and the GEN1/GEN2 mode.

- Tx De-emphasis level (0 to -8.5[dB])
- Tx Output swing (0.5 to 1.0[V])
- Rx Equalization level (0.5 to 12.3.dB])
- GEN1 /GEN2 Mode

The **PEA_3100** extends the reach and robustness of high-speed serial links by compensating for losses in the transmission medium.

The **PEA_3100** is designed for perfect matching with the PCI Express to VME64x bridge **PEV_1100** and **PEV_7912** boards and the **IPV_1102** Intelligent PCI Express / VME64x P2020 computer board.

Advanced Features

- PCI Express Spread Spectrum Clocking support
- Transparent for data rate negotiation GEN1/GEN2
- Electrical Idle Preservation

PCI Express ReDriver

- Programmable output level
- Programmable Emphasis from 0 to 20[dB]
- Low latency
- Dynamic configuration over I2C bus

PCI Express Receiver

- Input range 100 [mV$_{ppd}$] to 1200 [mV$_{ppd}$]
- Programmable Equalization from 0 to 12.3[dB]
- High input jitter tolerance
- Horizontal phase adjustment capability
- Low latency
- Dynamic configuration over I2C bus

Environmental Specifications

Operating Temperature	Comm: 0 °C to +55 °C Indus: -40 °C to +55 °C
Add-In Card Form Factor	Standard Height
Add-In Card Bracket	Standard Height
PCIe Extension socket requirement	PCI Express x4 / x8 / x16
Forced Air Flow requirement	No specific requirements
Power Supply Rail consumption	Low power Slot 10 Watts: 3.3V / 0.3A

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Ordering Information

Article Reference	Product Description
PEA_3100-A0	PCIe x4 PC Host Adapter, commercial temp.
PEA_3100-B0	PCIe x4 PC Host Adapter, industrial temp.