PI2EQX5984

5.0Gbps 4-Lane PCIe® 2.0 ReDriver™ with Equalization, Emphasis, & I²C Control

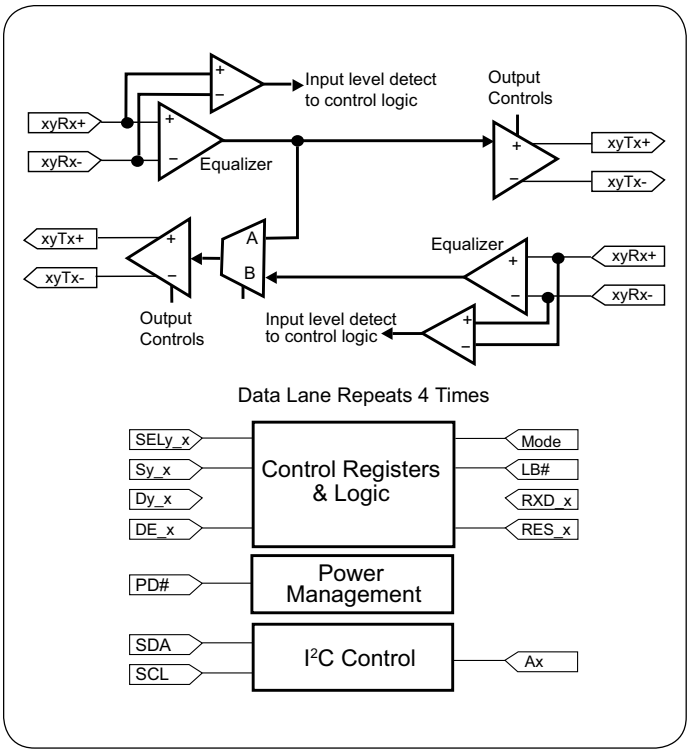
Pericom Semiconductor's PI2EQX5984 is a low power, PCIe® compliant signal ReDriver™. The device provides programmable equalization, amplification, and de-emphasis by using 8 select bits, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

PI2EQX5984 supports eight 100-Ohm Differential CML data I/O's between the Protocol ASIC to a switch fabric, across a backplane, or extends the signals across other distant data pathways on the user's platform.

The integrated equalization circuitry provides flexibility with signal integrity of the PCI Express signal before the ReDriver™, whereas the integrated de-emphasis circuitry provides flexibility with signal integrity of the signal after the redriver.

In addition to providing signal re-conditioning, Pericom's PI2EQX5984 also provides power management Stand-by mode operated by a Bus Enable pin.

Block Diagram



Features

- Up to 5.0Gbps PCI Express® 2.0 Serial ReDriver
- Supporting 8 differential channels or 4 lanes of PCIe Interface
- I²C configuration controls (3.3V tolerant)
- Adjustable receiver equalization and transmitter de-emphasis and output levels
- Variable input an output termination
- 1:2 channel broadcast
- Channel loop-back/Mux and Demux Mode
- Electrical Idle fully supported
- Receiver detect and individual output control
- Fine adjustment of electrical idle threshold via I²C
- Single supply voltage, 1.2V ± 0.05V
- Power down modes
- Industrial Temp support, -40°C ~ +85°C
- Packaging: 72-contact TQFN, Pb-free & Green

Figure1

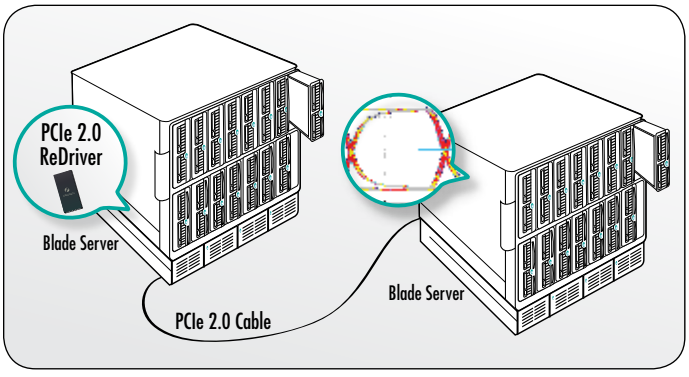


Figure1

Redrivers with emphasis and equalization signal conditioning technology ensure the integrity of high-frequency PCIe signals by opening closed signal eyes to recover data and meet strict compliance testing requirements. Increased signal margin also supports longer drive lenghts over even low-quality cables.