

# PI2EQX5984 5.0Gbps 4-Lane PCIe<sup>®</sup> 2.0 ReDriver<sup>™</sup> with Equalization, Emphasis, & I<sup>2</sup>C Control

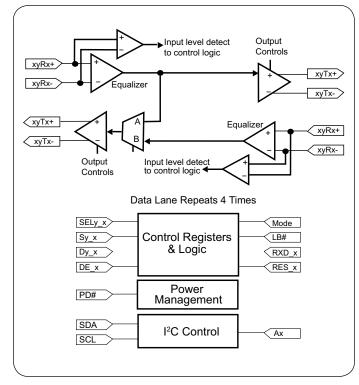
Pericom Semiconductor's PI2EQX5984 is a low power, PCle<sup>®</sup> compliant signal ReDriver<sup>™</sup>. The device provides programmable equalization, amplification, and de-emphasis by using 8 select bits, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

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<sup>™</sup>, 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.

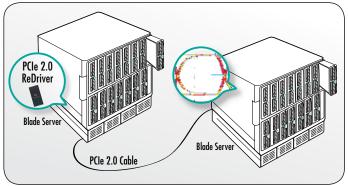
## **Block Diagram**



## Features

- Up to 5.0Gbps PCI Express<sup>®</sup> 2.0 Serial ReDriver
- Supporting 8 differential channels or 4 lanes of PCIe Interface
- I<sup>2</sup>C 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 I<sup>2</sup>C
- Single supply voltage,  $1.2V \pm 0.05V$
- Power down modes
- Industrial Temp support, -40°C  $\sim$  +85°C
- Packaging: 72-contact TQFN, Pb-free & Green

### Figure1



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Redrivers with emphasis and equalization signal conditioning technology ensure the integrity of high-frequency PCle 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.