New Product Databrief

PI2EQX6804-A
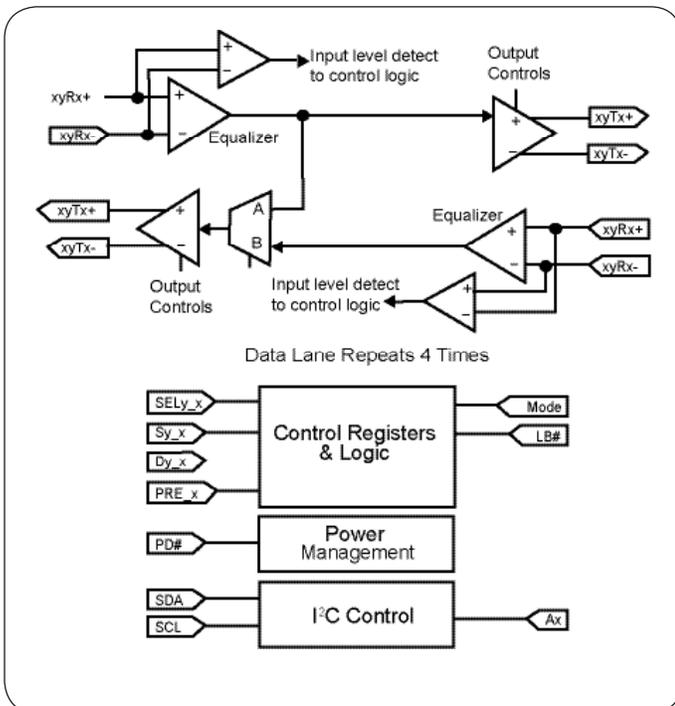## 6.5Gbps, 4-lane, SAS2.0/SATA3.0/XAUI ReDriver™ with Equalization & Emphasis

Pericom Semiconductor's PI2EQX6804-A is a low power, SAS2, SATA, XAUI signal ReDriver™. The device provides programmable equalization, amplification, and emphasis by using 8 select bits, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

PI2EQX6804-A supports eight 100Ω 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 signal before the ReDriver, whereas the integrated emphasis circuitry provides flexibility with signal integrity of the signal after the ReDriver.

In addition to providing signal re-conditioning, Pericom's PI2EQX6804-A also provides power management stand-by mode operated by a power-down pin.

Features
- Up to 6.5Gbps SAS2/SATA/XAUI ReDriver™
- Supporting 8 differential channels or 4 ports
- Pin strapped and I²C configuration controls (3.3V Tolerant)
- Adjustable receiver equalization
- Adjustable transmitter amplitude and emphasis
- 50Ω input/output termination
- Mux/Demux feature
- Channel loop-back
- OOB fully supported
- Single supply voltage, 1.2V ± 0.05V
- Power down modes
- Packaging (Pb-free & Green):
    - 100-contact LFBGA

Applications:
❑ Server ❑ Workstation ❑ Data Storage

Block Diagram

SATA3.0/SAS2.0 6Gbps 4-Port ReDriver in Storage Array Application
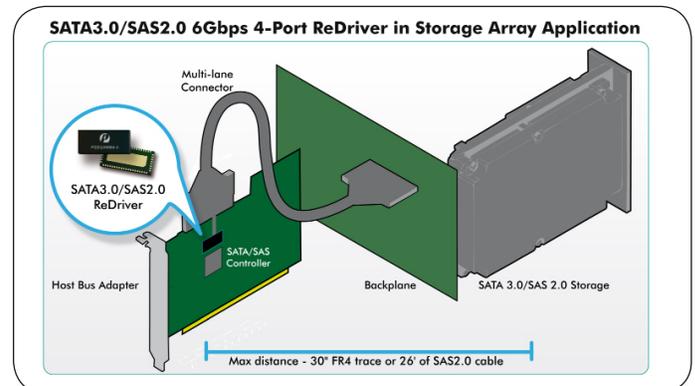
Max distance - 30" FR4 trace or 26' of SAS2.0 cable

Figure1

Redrivers with emphasis and equalization signal conditioning technology ensure the integrity of high-frequency SAS2.0/SATA3.0 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

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  PI2EQX3211BHEX PI2EQX6812ZHE PI2EQX3202BNBE PI2EQX5904NJEX PI2EQX3232AZDE
PI2EQX5964ZFEX PI2EQX6874ZFE PI2EQX3201BZFE PI2EQX6812ZHEX PI2EQX3202BNBEX PI2EQX6874ZFEX
  PI2EQX3201BZFEX PI2EQX5964ZFE PI74FCT244TLEX PI90LV031AWE PI2EQX4432DZDEX
PI2EQX862XUAEX PI3EQX8908AZFEX PI3EQX8904ZHEX PI2EQX6804NJE PI2EQX8814AFNJEX
PI2EQX8814AFNJE