



MAX72466

PCIe Gen2.0 Signal Conditioner

Eliminates Signal Integrity Risks

This product is Not Recommended for New Designs. Some versions may be No Longer Available or being discontinued and subject to Last Time Buy, after which new orders can not be placed.

Description

The MAX72466 signal conditioner cleans up intersymbol interference (ISI) and reduces jitter to extend the reach of 5Gbps PCIe® signals over FR4 or copper cables. Each of the 8 PHYs includes a fully adaptive receiver, low jitter clock and data recovery, and a highly configurable 400mV to 1600mV transmitter. The transmit amplitude, deemphasis, slew rate, and zero crossing are adjustable through I²C or UART, or can be loaded from an external flash memory. Receiver auto optimizes during link training.

In addition to link conditioning, the MAX72466 provides adjustable LOS thresholds and filters, eye mapping and monitoring, an interrupt output, and 10 GPIOs. The eye mapper allows viewing of the internal eye margin, while the eye monitor detects channel degradation in real time. Support for PCIe over optical is also included.

Signaling rates of 2.5Gbps and 5Gbps are supported with a 100MHz reference clock. The MAX72466 can recover InfiniBand™, USB 3.0, and other high-speed signals with appropriate register settings and a suitable oscillator frequency.

Key Features

- Eight Independent PHYs
- Adaptive Receiver with DFE
- Low Jitter Clock and Data Recovery with Spread-Spectrum Clock Support
- 400mV to 1600mV Transmitter Amplitude with 0 to 9dB Deemphasis and Slew-Rate Control
- Inband Power-Down Support
- 15mm x 15mm, 196-Ball FCCSP with 1mm Ball Pitch

Applications/Uses

- 2.5Gbps and 5.0Gbps PCIe 2.0 Over Lossy, Jitter-Challenged Channels
- Cable I/O Cards for 15m or Greater Reach
- Out of the Box PCIe
- Upgrading Legacy Backplanes/Midplanes to 5Gbps