

M21450 6.5 Gbps Dual-Channel Backplane Signal Conditioner

Product Overview

The M21450 is a dual channel device designed to enable the transmission of multi gigabit serial data through the most challenging environments. The device features two independent adaptive equalizers that automatically equalize data at rates up to 6.5 Gbps. Control of key functions of the M21450 is provided through hardware pins, and full register control of the M21450 is provided through an I2C compatible software control interface. The M21450 can also self-configure from an external EEPROM without the need for a host processor. For compatibility with PCI-Express and S-ATA/SAS systems, the M21450 is designed with an electrical idle pass-through function to drive the differential output to the common mode level during OOB signaling. Boundary scan is provided for high-speed input and output pins, and the device is available in a 6x6 mm, 40 pin QFN package.

| Features | Benefits |
|--|--|
| ➤ Full non-blocking switch matrices | Ultimate flexibility for switching and copying signals |
| ➤ SMPTE 424M, 344M, 292M, and 259M compatible, DVB-ASI | Robust video compatibility |
| ➤ 40 dB equalization and 6 dB of de-emphasis available | Maximizes transmission length |
| ➤ Low power dissipation at 140 mW per channel | Minimizes thermal management costs |
| ➤ 6x6 mm, 40-pin QFN package | Provides space efficiency and reliability |
| ➤ Out of band (OOB) signaling support | Allows for seamless integration into PCIe, SATA, and SAS |
| ➤ Protocol agnostic | One device supports multiple applications |
| ➤ 1.2 Volt core / optional 1.2, 1.8 or 2.5 Volt IO | Flexibility to use right power performance |
| ➤ Extended temperature range [-20°C to +85 °C] | Provides additional margin for most applications |
| ➤ Data rate independent | Operates to 6.5 Gbps, no reference clock required |

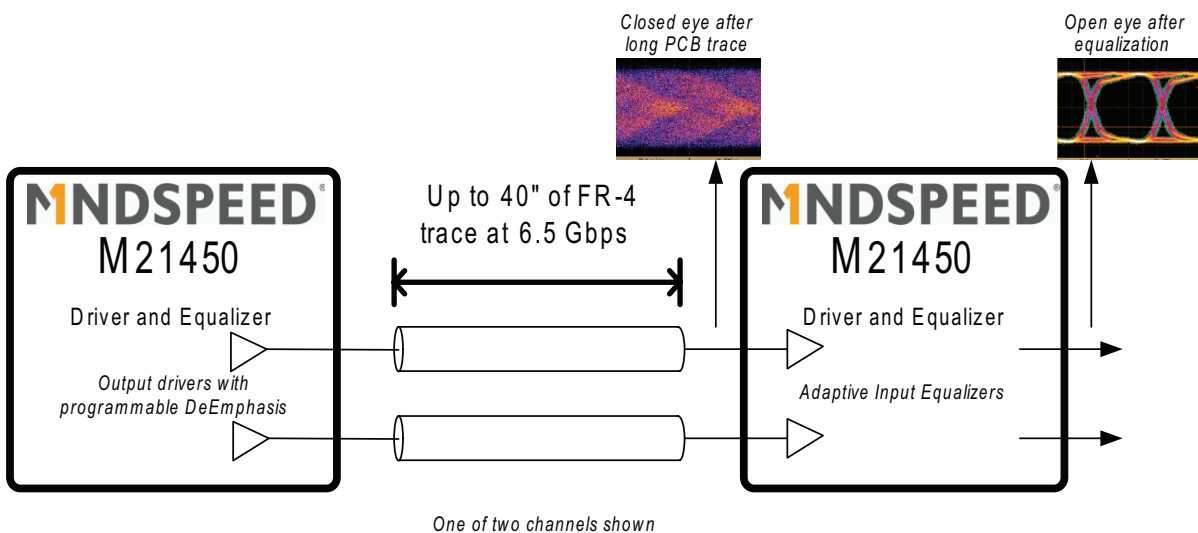


Fig. 1 - M21450 Application Diagram



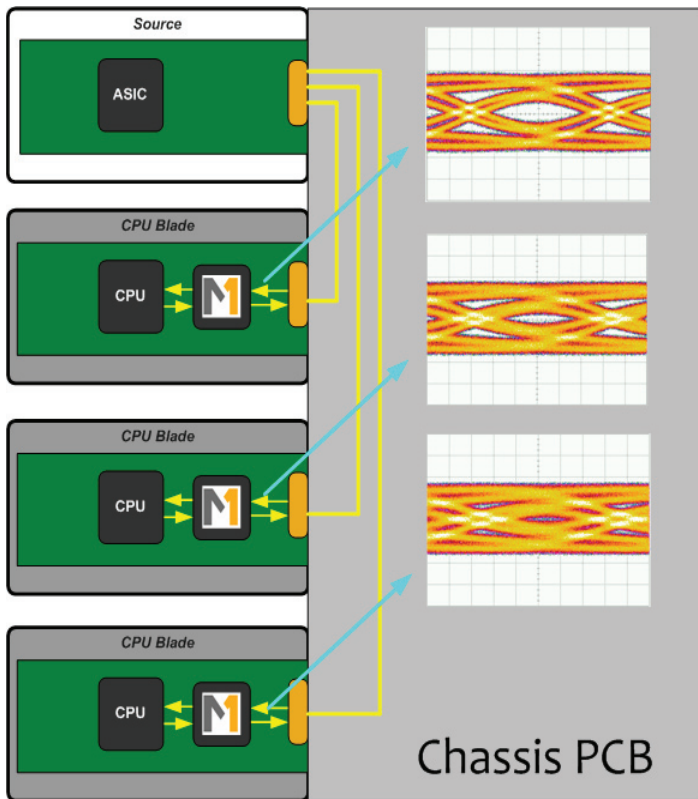


Fig. 2 - M21450 Application Diagram

Product Features

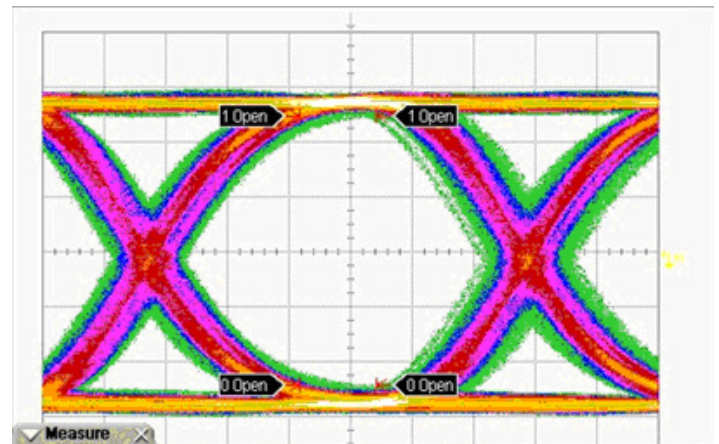
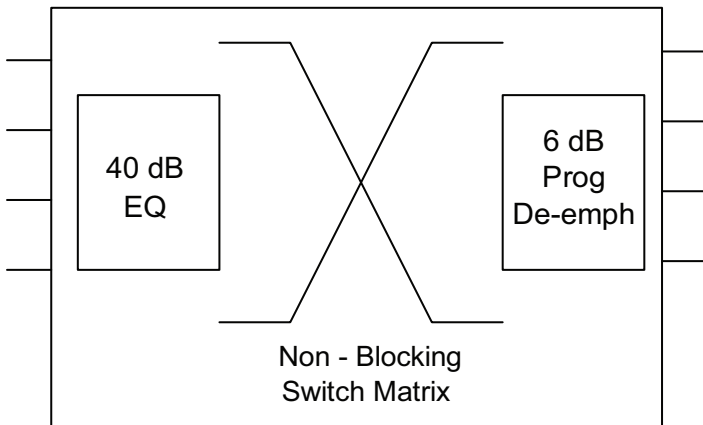
- Protocol agnostic
- Supports SMPTE 424M, 344M, 292M, 259M, and DVB-ASI
- Supports rates from 50 Mbps to 6.5 Gbps
- Transparently relays OOB/EBI
- Extended temperature range -20°C to 85 °C
- Boundary scan
- 1.2V core
- 1.2V or 1.8V IO option

Applications

- Backplane equalizer/driver
- SDI video and DVB-ASI equipment
- Blade server board to board interconnect
- InfiniBand reach extension
- PCI express

Package (RoHS Compliant)

- 6x6 mm, 40-pin QFN package



6.5 Gbps Equalized After 40" Trace

For more product information, please visit www.mindspeed.com

www.mindspeed.com/salesoffices
 General Information: (949) 579-3000
 Headquarters – Newport Beach
 4000 MacArthur Blvd., East Tower
 Newport Beach, CA 92660-3007
 M21450-BRF-001-A.pdf

© 2007 Mindspeed Technologies, Inc. All rights reserved. Mindspeed and the Mindspeed logo are trademarks of Mindspeed Technologies. All other trademarks are the property of their respective owners. Although Mindspeed Technologies strives for accuracy in all its publications, this material may contain errors or omissions and is subject to change without notice. **This material is provided as is and without any express or implied warranties, including merchantability, fitness for a particular purpose and non-infringement.** Mindspeed Technologies shall not be liable for any special, indirect, incidental or consequential damages as a result of its use.

Ordering Info:
 M21450G-