

Description

The Retimer is a 16-lane PCIe® 5.0/CXL low-latency retimer used to secure the link budget to meet the challenging SI requirements for long PCIe 5.0 channel comprising PCB, connector and cable. It uses advanced signal conditioning techniques to compensate for the channel attenuation and remove the impacts of various jitter sources. It contains 32 Rx-Tx pairs capable of performing up to 32GT/s operation to provide 16-lane Retimer functionalities.

The device is targeted for meeting the higher performance PCIe 5.0 interconnection needs of the end applications.

Note: The Retimer has two SKUs: M88RT51632 and M88RT51632TR. Unless otherwise stated, the term “M88MX6852” or “Retimer” represents the two SKUs throughout the document.

Features

- High Performance Retimer
 - 32 GT/s SerDes, capable of compensating for channel loss up to 36 dB
 - Eliminate deterministic input jitter and random input jitter
 - Per-lane SerDes configuration (de-emphasis, Rx EQ)
- PCIe Standards and Compatibility
 - Compliant with PCIe 5.0 Base Specification, backward compliant with PCIe 4.0 and below
 - Compliant with Intel PCIe 5.0 Retimer Supplemental Features and Standard BGA Footprint Spec.

- Support PCIe 5.0 Enhanced Link Behavior
- Clocking
 - Standard 100MHz reference clock
 - Support Common mode, SRNS and SRIS mode
 - Support 100MHz reference clock output
- Power Management
 - Support optional PCIe L1PM feature
 - Powered by 1.8V and 0.9V
- Low power and low latency
- IEEE 1149.6 AC-JTAG Boundary Scan
- Support Rx margining and slave loop-back
- Device configuration via SMBus or EEPROM
- Two SKUs:
 - M88RT51632 without internal AC-Coupling capacitor
 - M88RT51632TR with internal AC-Coupling capacitors on A_PET* and B_PER* differential line

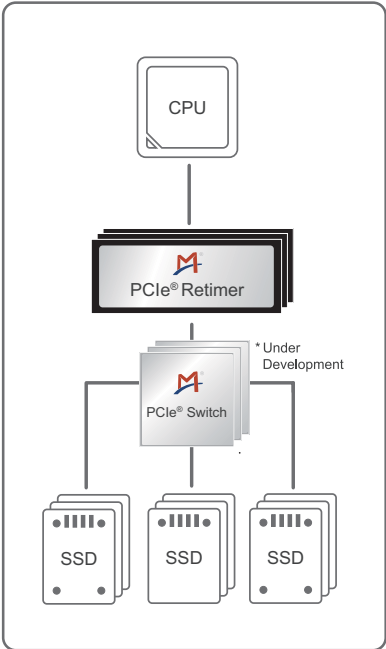
Service Support

- Evaluation Board (EVB) and Debugging/Diagnosis/Simulation tool kit
- SDK software and user-friendly visual GUI tools
- SerDes IBIS-AMI kit and package S-parameters

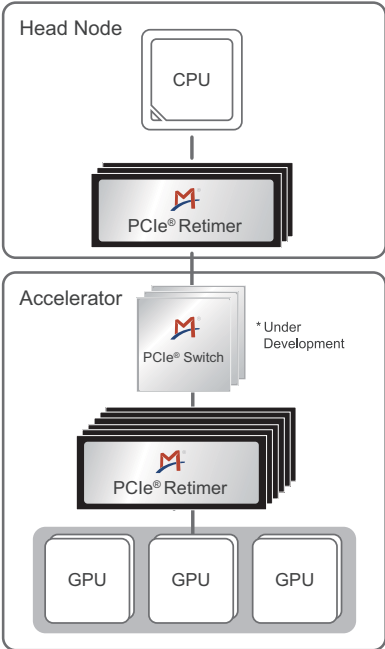
Applications

- Servers
- Storage Appliances
- Communication equipments
- Hardware Accelerators

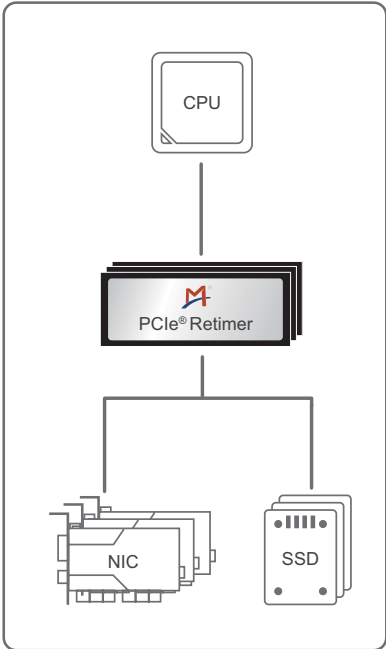
Application Examples



Storage Server



AI Server



General-purpose Server