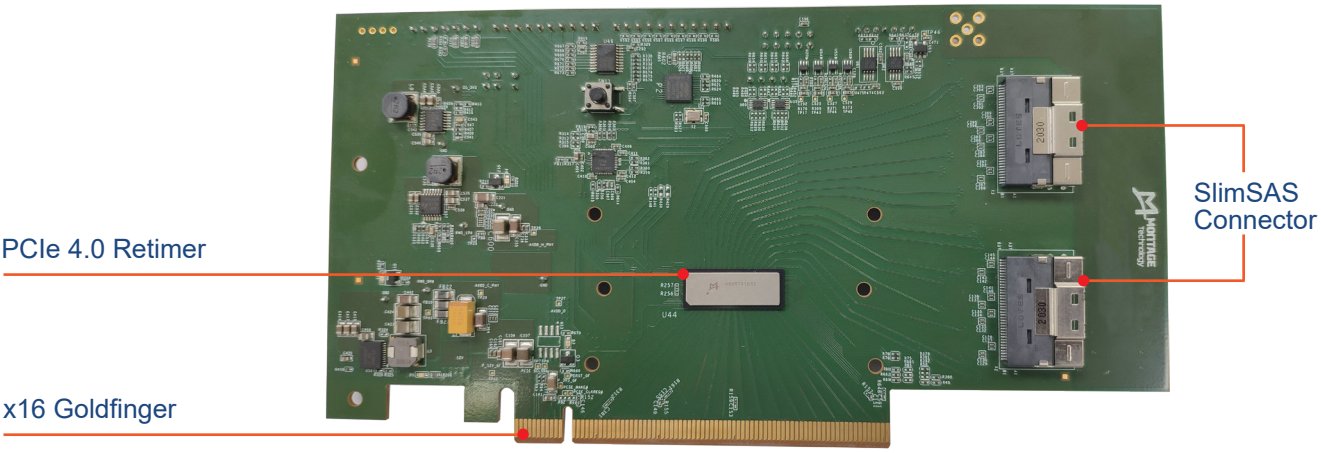
PCIe 4.0 Retimer

Introduction

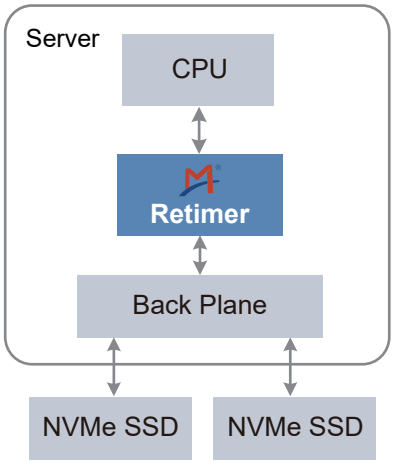
Montage Technology provides high-performance, 8-lane and 16-lane PCIe 4.0 retimers with advanced signal conditioning capabilities to secure system reliability and scalability. These retimers are compliant with PCIe Base Specification 4.0 and support mainstream package requirements, offering a robust and scalable PCIe interconnect solution for servers, enterprise storage, heterogeneous computing and communication systems. These retimers have industry-leading performance in terms of power consumption, latency, etc. and have completed comprehensive interoperability tests with various devices including CPU, network card, SSD, GPU and PCIe switch.



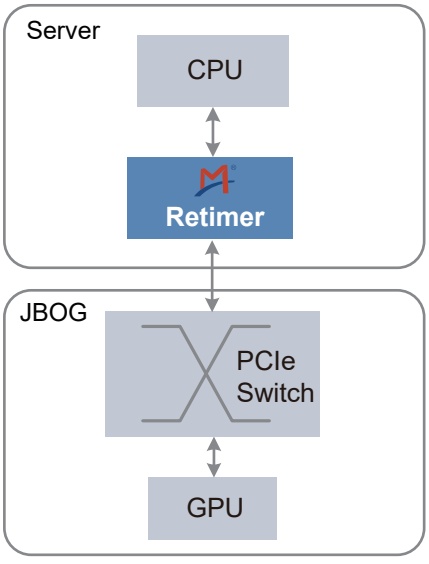
NVMe SSD Reference Design Board

Typical Applications

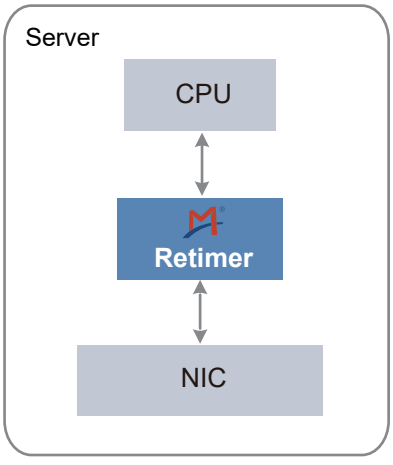
- Servers
- Storage appliances
- Communication equipments
- Hardware accelerators



NVMe SSD



AI Server



Riser Card

Features

High-performance PCIe 4.0 x8/x16 Retimers

- High-performance 16 GT/s SerDes, capable of compensating for channel loss up to 28 dB
- Eliminate deterministic input jitter and random input jitter
- Support lane polarity inversion
- Support hot plug
- Low power and low latency

PCIe Standards and Compatibility

- Compliant with PCIe 4.0 Base Specification, backward compliant with PCIe 3.0 and below
- Support mainstream package requirements

Power Management

- Support PCIe L1PM feature
- Powered by 1.8 V and 0.8 V

Clocking

- Use standard 100 MHz reference clock
- Support Common Clock, SRNS and SRIS
- Support 100 MHz reference clock output

Reliability, Availability and Maintainability

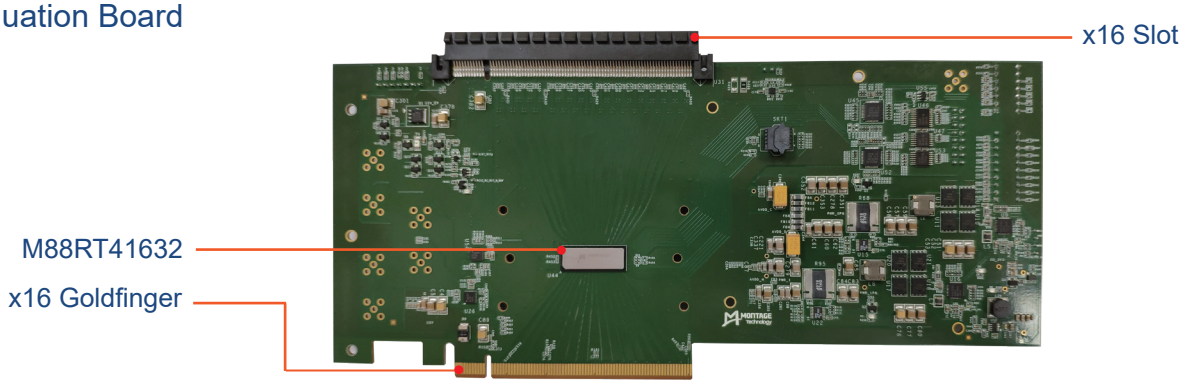
- IEEE 1149.6 AC-JTAG Boundary Scan
- Support Rx margining test and slave loop-back
- Support multiple DFX features for convenient system bring-up and test
- Device configuration via SMBus or EEPROM
- Provide Lane/Port error diagnosis register
- Provide internal registers for system use

Ordering Information

Part Number	Specification	Configurability	Max. Data Rate	Number of Lanes	Package
M88RT40816	PCIe 4.0	EEPROM I²C	16 GT/s	8	13.4 mm x 8.5 mm，332-ball FCCSP
M88RT41632	PCIe 4.0	EEPROM I²C	16 GT/s	16	22.8 mm x 8.9 mm，354-ball FCCSP

Evaluation Board and Kit

Evaluation Board



Debugging Tool