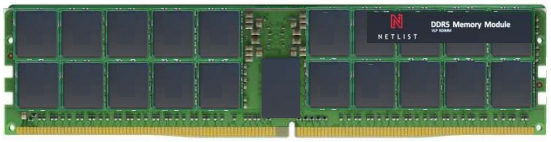
Netlist DDR5 MRDIMM:

Unlock the Power of More Cores with MRDIMM (Multiplexed Rank DIMM)

DIMM Capacities 32GB to 128GB



Netlist DDR5 MRDIMM products optimize AI training, inference, and HPC workloads with low latency and high bandwidth.

Netlist's MRDIMM series offers exceptional performance and unmatched speed, enabling users to fully optimize their high performance computing systems without the need for any adjustments.

AI TRAINING, INFERENCE, AND HPC SYSTEMS

The DDR5 MRDIMM (Multiplexed Rank DIMM) is particularly beneficial for AI training, inference, and high-performance computing (HPC) systems. These applications demand high bandwidth and low latency to process large datasets and complex computations efficiently. The increased bandwidth and reduced latency of DDR5 MRDIMM enable faster data access and processing, which are critical for the performance of AI and HPC workloads. Future computational solutions will increasingly leverage these advancements to meet the growing demands of AI and HPC applications.

VALUE PROPOSITION

The DDR5 MRDIMM offers exceptional scalability, supporting a wide range of capacities and configurations to meet diverse application needs. Its energy efficiency is enhanced by lower power consumption with reduced I/O voltage, contributing to greener data centers. Reliability is ensured through On-Die ECC and CRC, maintaining data integrity and system stability. Designed to be future-proof, DDR5 MRDIMM meets the demands of emerging applications and next-generation processors. Enhanced performance, with significant improvements in bandwidth and latency, is crucial for AI, HPC, and other data-intensive applications.

MRDIMM PERFORMANCE

Netlist MRDIMM are designed to enhance data center performance, particularly for AI, high-performance computing (HPC), and data analytics applications. It offers up to a 38% increase in bandwidth compared to traditional DDR5 RDIMMs, making it a high-bandwidth, low-latency solution. Available in capacities ranging from 32GB to 128GB, MRDIMM supports high-density memory configurations while improving performance per watt for energy efficiency. It is compatible with the next generation of Intel® Xeon® processors, codenamed Granite Rapids, and comes in both low-profile and tall form factor (TFF) modules, providing flexibility for various server configurations.

More Bandwidth on Granite Rapids AP (37.5%) & SP (12.5%) platforms

Rank Configuration	64GB 16Gb 1U 4R x 8	64GB 16Gb 1U 2R x 4
Consistent Performance	a 37.5% increase in bandwidth per socket for MRDIMM at 8800 MT/s versus DDR5 at 6400 MT/s with no more than 5ns latency penalty with no restriction on R/W ratios	
Matched System Configuration	1 x Socket, & 64GB 1DPC configuration	
Same Capacity	768 GB data Processing visual information & e-commerce, social media, entertainment	
Save More	0.90	1.0
	CPU 1 x Intel Xeon processor (GNR) Memory 128GB x 16 DDR5 DIMMs for 1.5TB	

Rank Configuration	128GB 16Gb 2U 56mm Height	128GB 32Gb 1U 31mm Height
Consistent Performance	a 37.5% increase in bandwidth per socket for MRDIMM at 8800 MT/s versus DDR5 at 6400 MT/s with no more than 5ns latency penalty with no restriction on R/W ratios	
Matched System Configuration	1 x Socket, & 128GB 1DPC configuration	
Same Capacity	1.5 TB data Computer vision & Natural Language Processing Model (NLP) DB	
Save More	0.75	1.0
	CPU 1 x Intel Xeon processor (GNR) Memory 128GB x 16 DDR5 DIMMs for 1.5TB	

LEARN MORE: EMAIL US AT SALES@NETLIST.COM OR VISIT NETLIST.COM/PRODUCTS

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DIMM Capacities 32GB to 128GB

DDR5 MRDIMM Features

Features	Description
Bandwidth	Up to 8.8K MT/s, providing a 39% bandwidth upgrade
Latency	Up to 40% lower latency compared to traditional DDR5
Capacity	Available in sizes from 32GB to 128GB
Parallel DRAM Activation	Enables pairs of DRAM ranks to be activated and accessed in parallel
Multiplexed Data Streams	Doubles the data rate per signal pin
Power Management	Includes PMIC 5030 for efficient power management
Compatibility	Optimized for Intel Xeon 6 processors. They maintain the same connector and physical layout as RDIMMs, allowing easy integration into existing systems without modifications
Operating Voltage	1.1 volts
Operating Temperature	0°C to +70°C

Density	Organization	Speed	Latency	Part Number
32GB	1Rx4	8800MT/s	36-36-36 @ 1.1V	NLM5G0054G0388200HC
32GB	2Rx8	8800MT/s	36-36-36 @ 1.1V	NLM5G0054G0788200HC
64GB	2Rx4	8800MT/s	36-36-36 @ 1.1V	NLM6G0054G0388200HC
64GB	4Rx8	8800MT/s	36-36-36 @ 1.1V	NLM6G0054G0788200HC
128GB	2Rx4	8800MT/s	36-36-36 @ 1.1V	NLM7G0055G0388200HM

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