

1.1. - Tool: 1. AIDA64 (Formerly Everest): AIDA64 offers benchmarking features, including memory bandwidth testing. It provides detailed information about memory performance and supports various memory types, including DDR, DDR2, DDR3, DDR4, and more.

2. SiSoftware Sandra: Sandra is a well-known system information and benchmarking tool that includes memory bandwidth benchmark tests. It provides a range of memory-related benchmarks to assess the bandwidth and latency of different memory subsystems.

3. Geekbench: While Geekbench is primarily known for its CPU benchmarking, it also includes memory performance tests. It provides a memory bandwidth score that can help you compare memory performance between different systems.

- Methods: 1. Stream Benchmark: The STREAM benchmark is a widely used method to measure sustainable memory bandwidth. It consists of four different tests that assess memory read and write performance.

2. Copy and Bandwidth Tests: These tests involve copying data from one memory location to another, typically evaluating the memory's bandwidth and latency. The ability to copy data quickly is essential for certain tasks, such as data processing and graphics rendering.

3. Random Read/Write Tests: Random read and write tests involve accessing memory locations in a non-sequential manner. This method evaluates the memory's ability to handle random data requests efficiently.

3.4. Our maximum bandwidth is 41.0997 GB/s , which can be found in the memory_bandwidth.csv file. The sudden changes in the output are related to the relationship between memory bandwidth and array size:

- Small Array Size: When the array size used in the benchmark is relatively small, the memory bandwidth measurement may not fully utilize the memory subsystem's capabilities. This is because the CPU can read and write data from and to the memory quickly, and the data may be cached, so the benchmark results might not accurately represent the system's maximum memory bandwidth.

- Large Array Size: When the array size is increased, the benchmark becomes more likely to saturate the memory subsystem's capacity. In other words, it requires more data to be transferred between the memory and the CPU, which can help reveal the maximum memory bandwidth that the system can achieve under load.

Report

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Part1,Part2,Part3	Zusammen gemacht	Zusammen gemacht	Zusammen gemacht
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