|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Work -load** | **Concurrency** | **Block Size** | **MyRAMBench Measured Throughput (GB/sec)** | **pmbw Measured Throughput (GB/sec)** | **Theoretical Throughput (GB/sec)** | **MyRAMBench Efficiency (%)**  **(MyRamBench**  **Throughput/Theoretical Throughput) \*100** | **pmbw Efficiency (%)** |
| RWS | 1 | 1KB | 5070715741.164837 bytes/second  5GB/S | 19083473829.547901154 bytes/s  19GB/s | 32.5 GB/s | 15% | 58% |
| RWS | 1 | 1MB | 5393057670.452649 bytes/second  5GB/S | 15885139493.95293808 bytes/s  15GB/S | 32.5 GB/s | 15% | 46% |
| RWS | 1 | 10MB | 8496725488.287854 bytes/second  8GB/S | 16159542380.043987274 bytes/s  16GB/s | 32.5 GB/s | 24% | 49% |
| RWS | 2 | 1KB | 19136111279.080994 bytes/second  19GB/S | 32257115538.279850006 bytes/s  32GB/s | 32.5 GB/s | 58% | 98% |
| RWS | 2 | 1MB | 20621760811.414494 bytes/second  20GB/s | 31974528576.588294983 bytes/s  31GB/s | 32.5 GB/s | 61% | 95% |
| RWS | 2 | 10MB | 31164352945.322739 bytes/second  31GB/s | 31263626642.925918579 bytes/s  31GB/s | 32.5 GB/s | 95% | 95% |
| RWS | 4 | 1KB | 55736050992.659286 bytes/second  55GB/s | 54053852868.281555176 bytes/s  54Gb/s | 32.5 GB/s | 169% | 166% |
| RWS | 4 | 1MB | 58798985403.503944 bytes/second  58GB/s | 67685197960.900032043 bytes/second  67GB/s | 32.5 GB/s | 178% | 206% |
| RWS | 4 | 10MB | 81207868230.816315 bytes/second  81GB/s | 59506623198.472335815 GB/s  59GB/s | 32.5 GB/s | 249% | 181% |
| RWS | 8 | 1KB | SIGSEGV Received | 73338544191.029510498 bytes/s  73GB/s | 32.5 GB/s |  | 223% |
| RWS | 8 | 1MB | SIGSEGV Received | 71147047398.722335815 bytes/s  71GB/s | 32.5 GB/s |  | 218% |
| RWS | 8 | 10MB | SIGSEGV Received | 60694590685.563423157 bytes/second  60 GB/S | 32.5 GB/s |  | 184% |
| RWR | 1 | 1KB | 12848303982.353113 bytes/second  12GB/S | 5358599084.8706092834 bytes/second  5GB/s | 32.5 GB/s | 36% | 15% |
| RWR | 1 | 1MB | 12054248636.296057 bytes/second  12GB/S | 481481833.73605161905 bytes/second  480 MB/s | 32.5 GB/s | 36% | 1.4% |
| RWR | 1 | 10MB | 11257717491.680195 bytes/second  11GB/S | 336836524.38738650084 bytes/second  336MB/s | 32.5 GB/s | 33% | 1.0% |
| RWR | 2 | 1KB | 7377308318.669209 bytes/second  7GB/S | 9740869947.2403659821 bytes/s  9GB/s | 32.5 GB/s | 21% | 27% |
| RWR | 2 | 1MB | 45616829750.555023 bytes/second  45GB/S | 1238887454.0722577572 bytes/second  1GB/s | 32.5 GB/s | 138% | 3% |
| RWR | 2 | 10MB | 34143610150.805107 bytes/second  34GB/s | 720229109.90543735027 bytes/second  720MB/s | 32.5 GB/s | 104% | 2% |
| RWR | 4 | 1KB | 14822674333.052099 bytes/second  14GB/s | 38354029143.454559326 bytes/second  38GB/s | 32.5 GB/s | 43% | 116% |
| RWR | 4 | 1MB | 180017212205.197723bytes/second  180GB/s | 5684170659.5120592117 bytes/second  5GB/s | 32.5 GB/s | 553% | 15% |
| RWR | 4 | 10MB | 76305450703.137329 bytes/second  76GB/s | 1617658302.3694992065 bytes/second  1GB/s | 32.5 GB/s | 233% | 3% |
| RWR | 8 | 1KB | SIGSEGV Received | 47050143583.638839722 bytes/second  47GB/s | 32.5 GB/s |  | 144% |
| RWR | 8 | 1MB | SIGSEGV Received | 8251286601.3084669113 bytes/s  8GB/s | 32.5 GB/s |  | 24% |
| RWR | 8 | 10MB | SIGSEGV Received | 1760425875.5282599926 bytes/second  17GB/s | 32.5 GB/s |  | 52% |

RAM Details : Description: DDR4 DIMM Synchronous 2133 MHz (CAS CL15)

Product: HMA42GR7MFR4N-TF

Vendor: 00AD00B300AD

Size: 16GiB (this is the physical capacity, but you are using only 4GiB)

Width: 64 bits

Clock: 2133 MHz (CAS CL15)

Theoretical bandwidth = 2133000000 \* 2 lines per clock \* 64 bits per line = 273,024,000,000 (273.024 billion) bits per second (in bytes, 32,546 MB/s or 32.5 GB/s)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Work -load | Concurrency | Block Size | MyRAMBench Measured Latency (us) | pmbw Measured Latency (us) | Theoretical Latency (us) | MyRAMBench Efficiency (%) | pmbw Efficiency (%) |
| RWS | 1 | 1B | 0.00083 | 0.00226 | 0.01406 | 5% | 16% |
| RWS | 2 | 1B | 0.0022 | 0.00147 | 0.01406 | 10% | 10% |
| RWS | 4 | 1B | 0.006085 | 0.001501 | 0.01406 | 43% | 14% |
| RWS | 8 | 1B | SIGSEGV Received | 0.00161 | 0.01406 |  | 11% |
| RWR | 1 | 1B | 0.00089 | 0.00195 | 0.01406 | 6% | 13% |
| RWR | 2 | 1B | 0.00166 | 0.00121 | 0.01406 | 7% | 8% |
| RWR | 4 | 1B | 0.0061725 | 0.0012245 | 0.01406 | 43% | 8% |
| RWR | 8 | 1B | SIGSEGV Received | 0.00215 | 0.01406 |  | 15% |

Theoretical latency: 2133 MHz clock cycle time (ns) =0.94 CAS latency : 15

(15/2133)\*1000\*2=14.06 ns (True latency)