

www.phoronix-test-suite.com

mem_tkg_xmp

AMD Ryzen 7 3700X 8-Core testing with a Gigabyte X570 AORUS PRO WIFI (F21 BIOS) and Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 8GB on Arch rolling via the Phoronix Test Suite.

Test Systems:

XMP 3200MHz

Fast 3600MHz

Processor: AMD Ryzen 7 3700X 8-Core @ 3.60GHz (8 Cores / 16 Threads), Motherboard: Gigabyte X570 AORUS PRO WIFI (F21 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 960GB Corsair Force MP510 + 120GB Samsung SSD 840, Graphics: Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 8GB (1366/2000MHz), Audio: AMD Ellesmere HDMI Audio, Monitor: LG ULTRAWIDE + DELL U2412M, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Arch rolling, Kernel: 5.8.7-10-tkg-pds (x86_64), Desktop: Sway, Display Server: X Server 1.20.5 + Wayland, Display Driver: modesetting 1.20.5, OpenGL: 4.6 Mesa 20.1.7 (LLVM 10.0.1), Vulkan: 1.2.131, Compiler: Clang 10.0.1 + LLVM

mem_tkg_xmp

10.0.1, File-System: zfs, Screen Resolution: 3760x1920

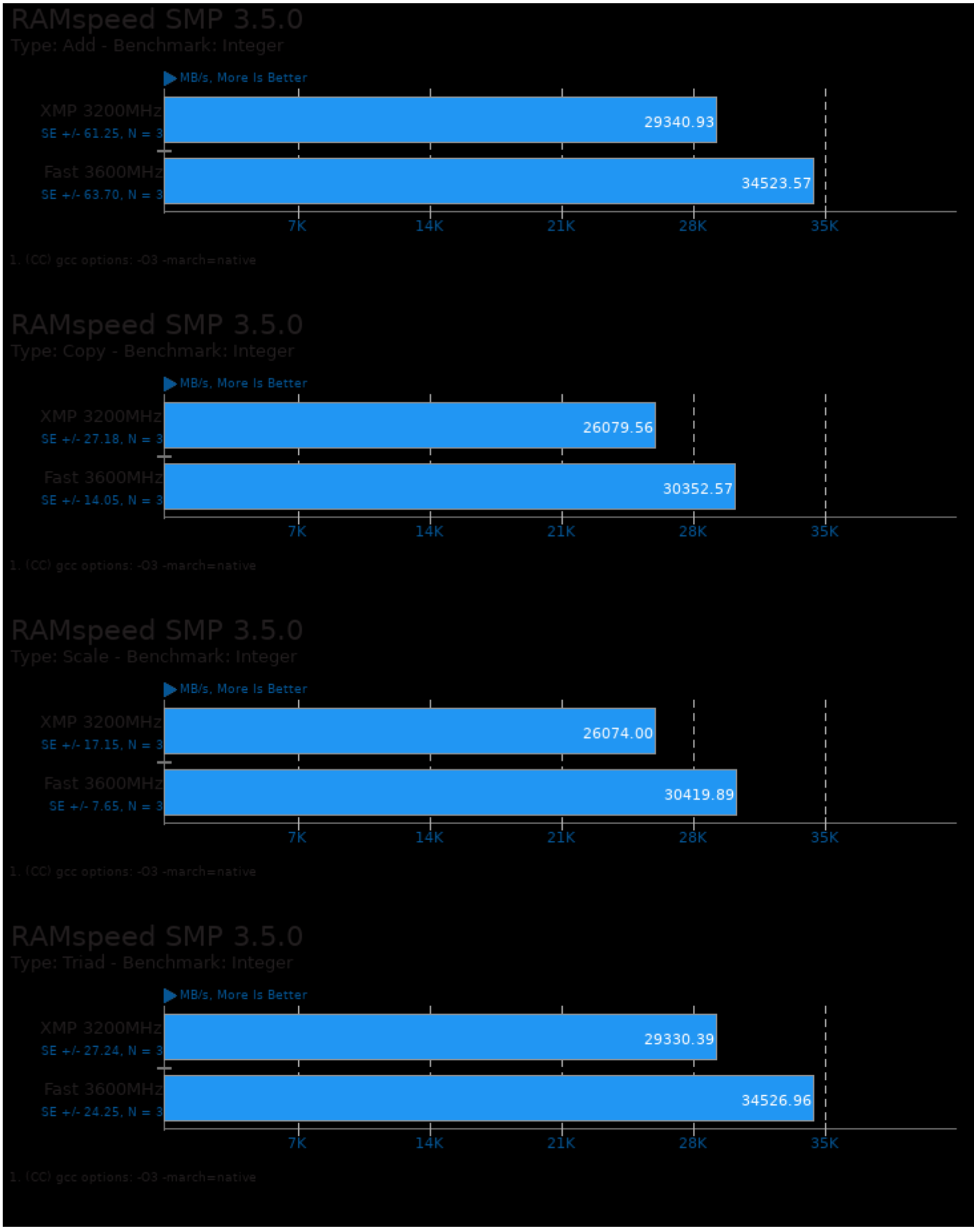
Kernel Notes: amdgpu.ppfeaturemask=0xffffffff
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8701021
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	XMP 3200MHz	Fast 3600MHz
RAMspeed SMP - Add - Integer (MB/s)	**29341**	**34524**
Normalized	84.99%	100%
Standard Deviation	0.4%	0.3%
RAMspeed SMP - Copy - Integer (MB/s)	**26080**	**30353**
Normalized	85.92%	100%
Standard Deviation	0.2%	0.1%
RAMspeed SMP - Scale - Integer (MB/s)	**26074**	**30420**
Normalized	85.71%	100%
Standard Deviation	0.1%	0%
RAMspeed SMP - Triad - Integer (MB/s)	**29330**	**34527**
Normalized	84.95%	100%
Standard Deviation	0.2%	0.1%
RAMspeed SMP - Average - Integer (MB/s)	**27714**	**32448**
Normalized	85.41%	100%
Standard Deviation	0.1%	0.1%
RAMspeed SMP - Add - Floating Point (MB/s)	**29299**	**34493**
Normalized	84.94%	100%
Standard Deviation	0.1%	0.1%
RAMspeed SMP - Copy - Floating Point (MB/s)	**26099**	**30314**
Normalized	86.1%	100%
Standard Deviation	0.3%	0.1%
RAMspeed SMP - Scale - Floating Point (MB/s)	**26071**	**30350**
Normalized	85.9%	100%
Standard Deviation	0.2%	0.1%
RAMspeed SMP - Triad - Floating Point (MB/s)	**29301**	**34497**
Normalized	84.94%	100%
Standard Deviation	0.1%	0.1%
RAMspeed SMP - Average - Floating Point (MB/s)	**27702**	**32395**
Normalized	85.51%	100%
Standard Deviation	0.2%	0.1%
Stream - Copy (MB/s)	**24109**	**29185**
Normalized	82.61%	100%
Standard Deviation	0.1%	0%
Stream - Scale (MB/s)	**24257**	**29236**
Normalized	82.97%	100%
Standard Deviation	0.1%	0%
Stream - Triad (MB/s)	**26949**	**32587**
Normalized	82.7%	100%
Standard Deviation	0.3%	0%
Stream - Add (MB/s)	**26927**	**32546**

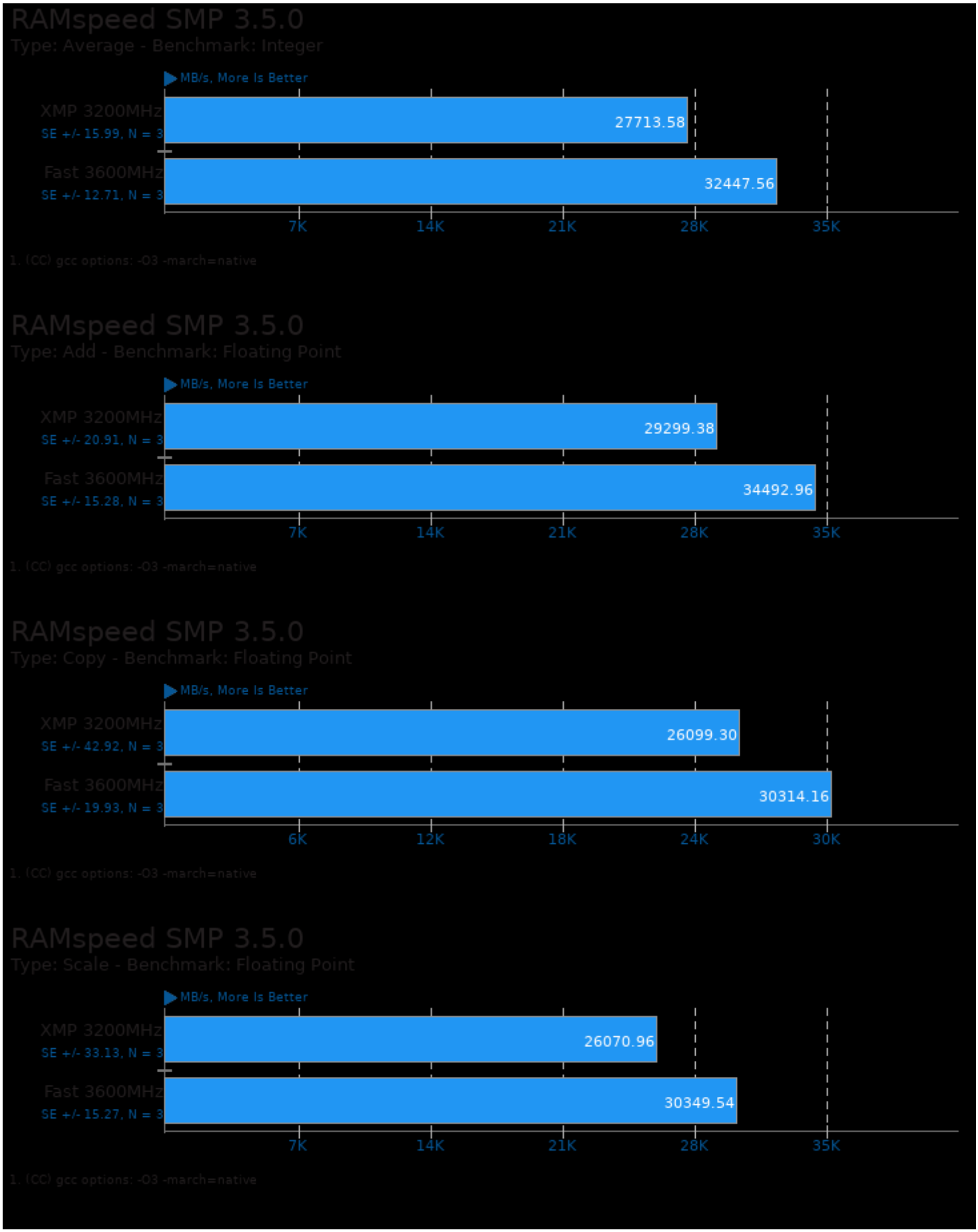
mem_tkg_xmp

Normalized	82.73%	100%
Standard Deviation	0.1%	0%
Tinymembench - Standard Memcpy (MB/s)	**10305**	**11729**
Normalized	87.86%	100%
Standard Deviation	0.1%	0.6%
Tinymembench - Standard Memset (MB/s)	**16059**	**19344**
Normalized	83.02%	100%
Standard Deviation	0.3%	2.4%
MBW - Memory Copy - 1024 MiB (MiB/s)	**18943**	**21033**
Normalized	90.06%	100%
Standard Deviation	0.5%	1%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	**10562**	**11965**
Normalized	88.28%	100%
Standard Deviation	0.1%	0.8%
t-test1 - 1 (sec)	**15.643**	**14.252**
Normalized	91.11%	100%
Standard Deviation	0.8%	0.2%
t-test1 - 2 (sec)	**5.117**	**4.774**
Normalized	93.3%	100%
Standard Deviation	0.3%	0.2%
CacheBench - Read Cache (MB/s)	**3313**	**3322**
Normalized	99.73%	100%
Standard Deviation	0.1%	0%
CacheBench - Write Cache (MB/s)	**31671**	**31741**
Normalized	99.78%	100%
Standard Deviation	0.1%	0%

mem_tkg_xmp


RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
XMP 3200MHz
SE +/- 61.25, N = 3
29340.93
Fast 3600MHz
SE +/- 63.70, N = 3
34523.57
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
XMP 3200MHz
SE +/- 27.18, N = 3
26079.56
Fast 3600MHz
SE +/- 14.05, N = 3
30352.57
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
XMP 3200MHz
SE +/- 17.15, N = 3
26074.00
Fast 3600MHz
SE +/- 7.65, N = 3
30419.89
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
XMP 3200MHz
SE +/- 27.24, N = 3
29330.39
Fast 3600MHz
SE +/- 24.25, N = 3
34526.96
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

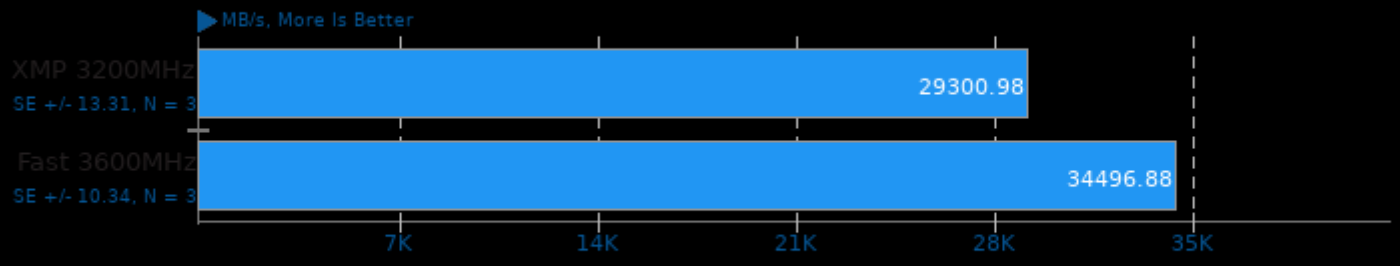
mem_tkg_xmp


RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
XMP 3200MHz
SE +/- 15.99, N = 3
27713.58
Fast 3600MHz
SE +/- 12.71, N = 3
32447.56
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
XMP 3200MHz
SE +/- 20.91, N = 3
29299.38
Fast 3600MHz
SE +/- 15.28, N = 3
34492.96
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Floating Point
MB/s, More Is Better
XMP 3200MHz
SE +/- 42.92, N = 3
26099.30
Fast 3600MHz
SE +/- 19.93, N = 3
30314.16
6K
12K
18K
24K
30K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
XMP 3200MHz
SE +/- 33.13, N = 3
26070.96
Fast 3600MHz
SE +/- 15.27, N = 3
30349.54
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

mem_tkg_xmp

RAMspeed SMP 3.5.0

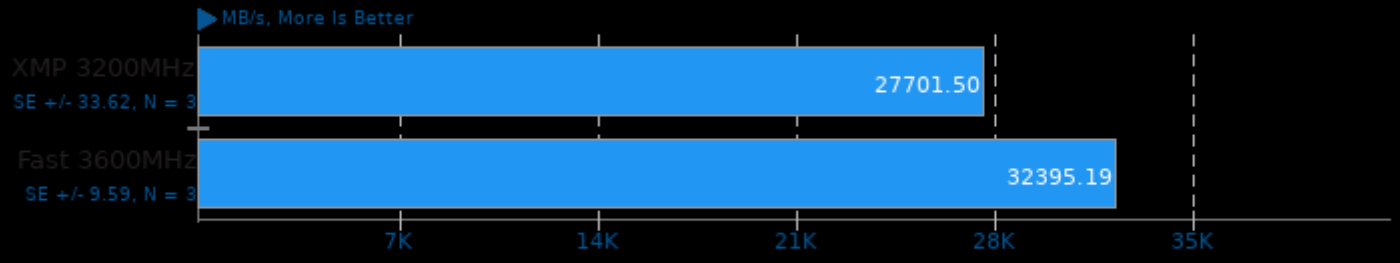
Type: Triad - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

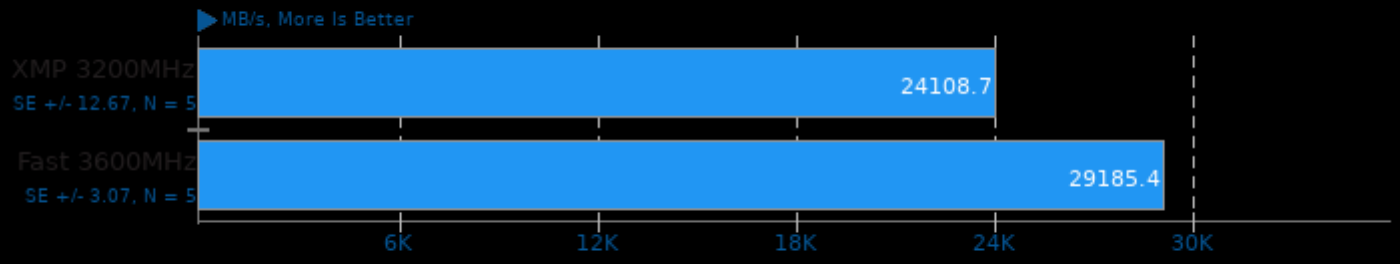
Type: Average - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native

Stream 2013-01-17

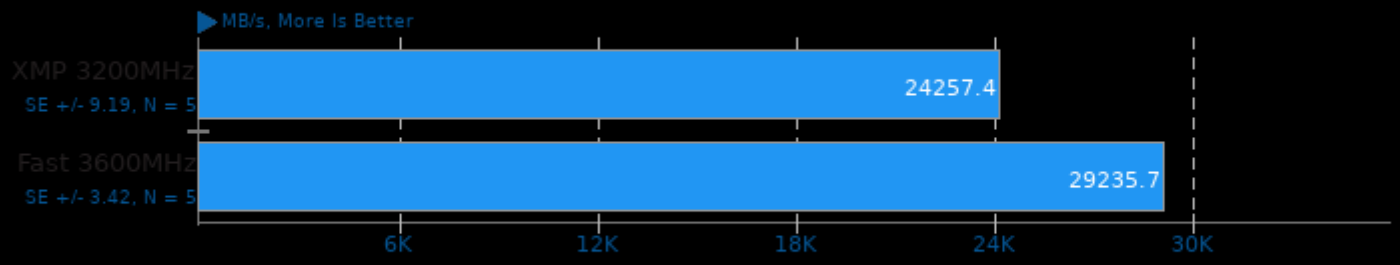
Type: Copy



1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17

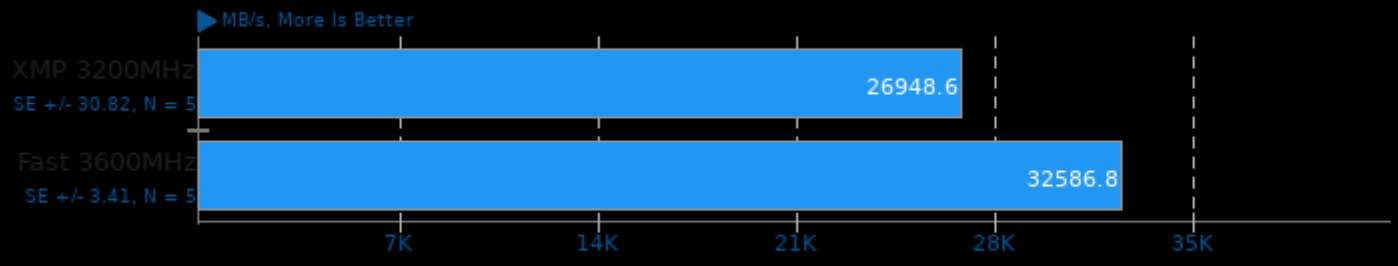
Type: Scale



1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17

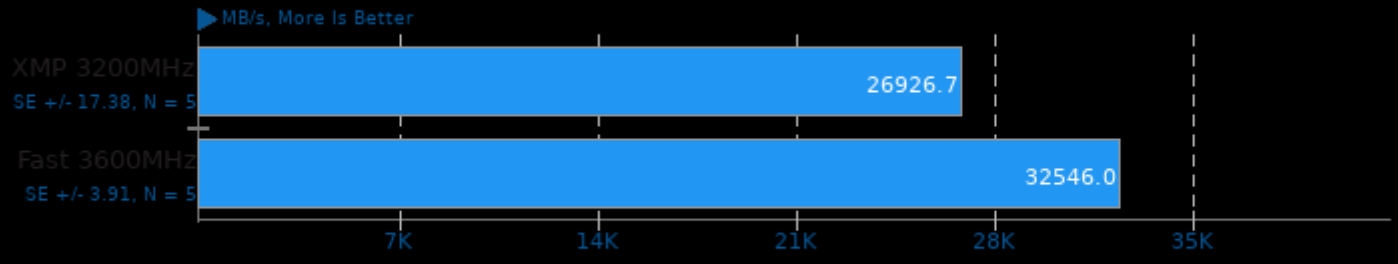
Type: Triad



1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17

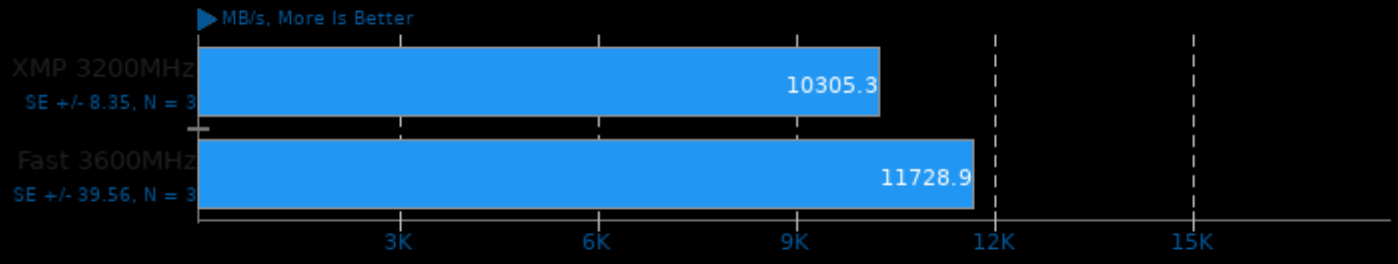
Type: Add



1. (CC) gcc options: -O3 -march=native -fopenmp

Tinymembench 2018-05-28

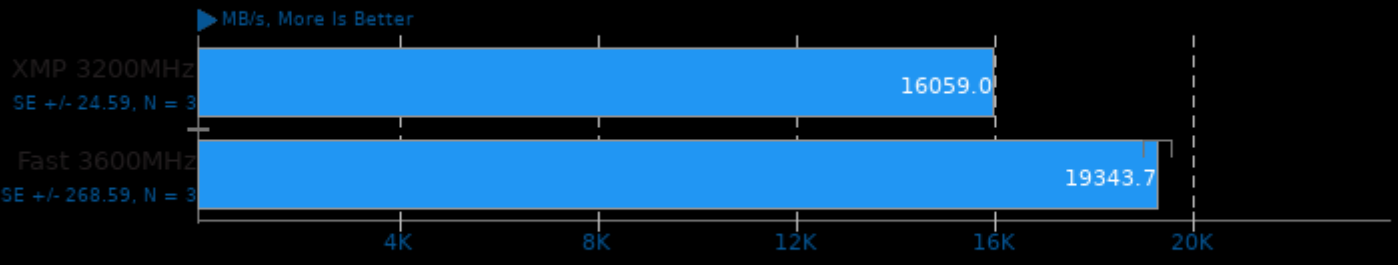
Standard Memcpy



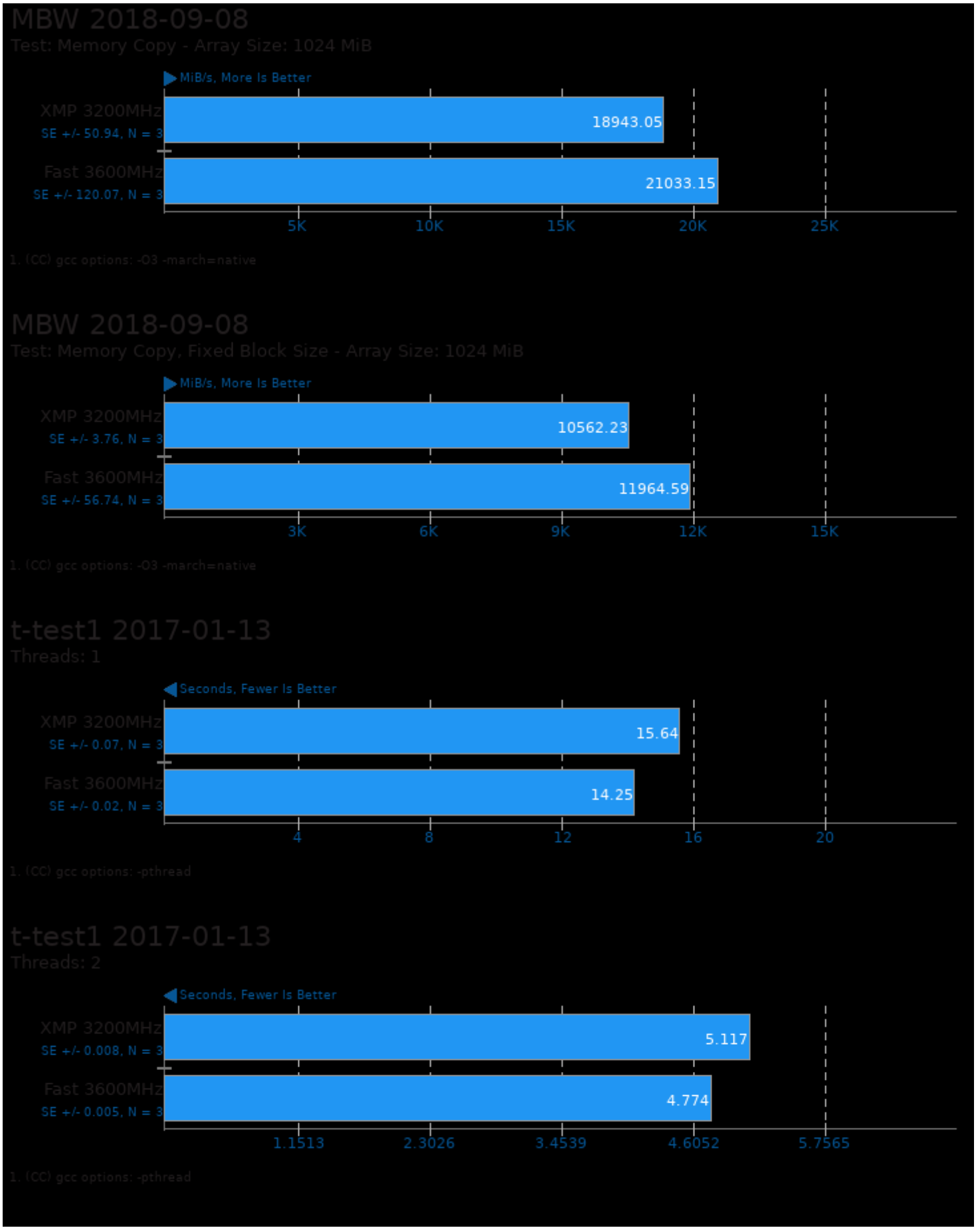
1. (CC) gcc options: -O2 -lm

Tinymembench 2018-05-28

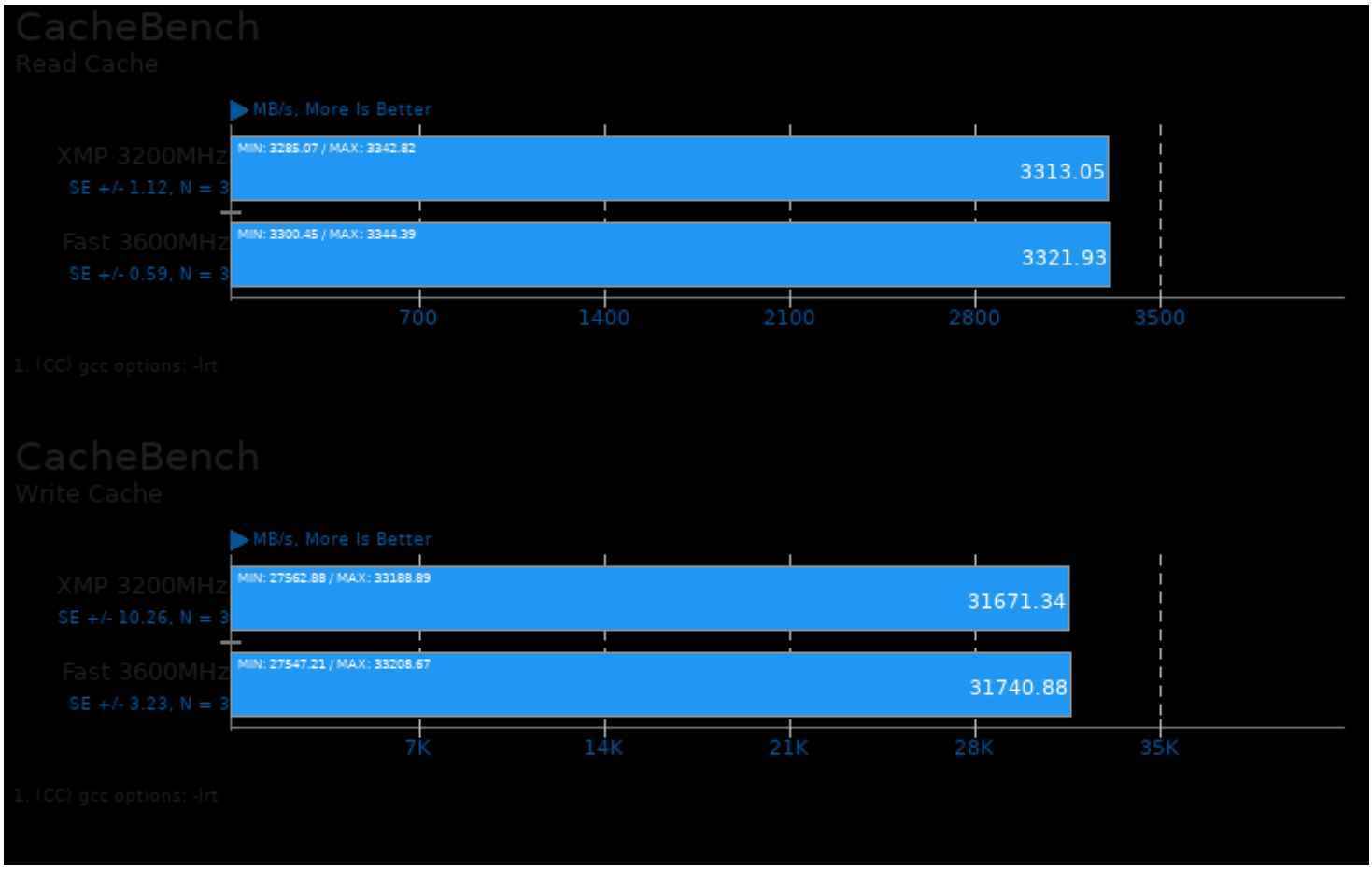
Standard Memset



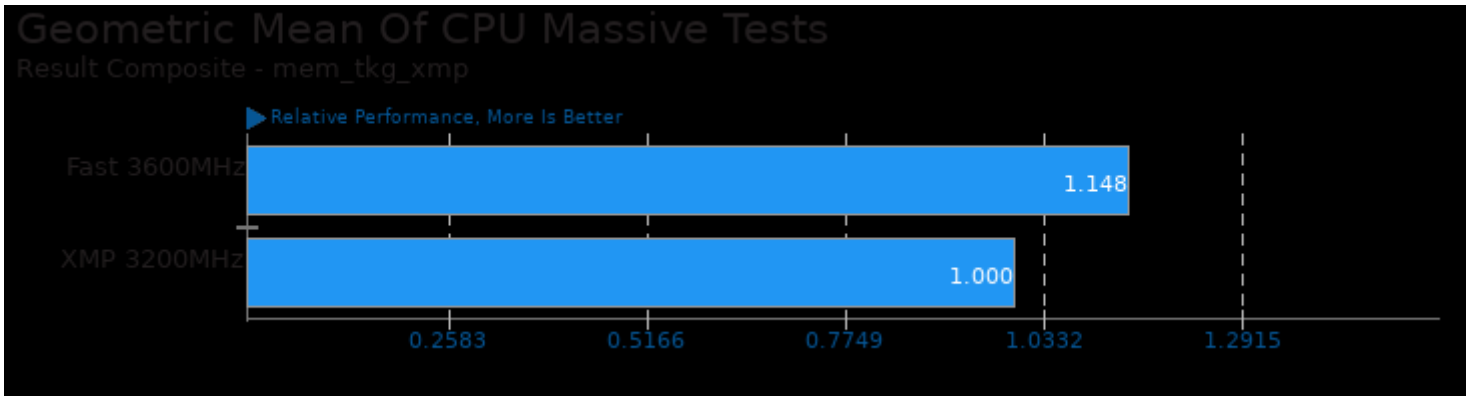
1. (CC) gcc options: -O2 -lm


MBW 2018-09-08
Test: Memory Copy - Array Size: 1024 MiB
MiB/s, More Is Better
XMP 3200MHz
SE +/- 50.94, N = 3
18943.05
Fast 3600MHz
SE +/- 120.07, N = 3
21033.15
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native
MBW 2018-09-08
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB
MiB/s, More Is Better
XMP 3200MHz
SE +/- 3.76, N = 3
10562.23
Fast 3600MHz
SE +/- 56.74, N = 3
11964.59
3K
6K
9K
12K
15K
1. (CC) gcc options: -O3 -march=native
t-test1 2017-01-13
Threads: 1
Seconds, Fewer Is Better
XMP 3200MHz
SE +/- 0.07, N = 3
15.64
Fast 3600MHz
SE +/- 0.02, N = 3
14.25
4
8
12
16
20
1. (CC) gcc options: -pthread
t-test1 2017-01-13
Threads: 2
Seconds, Fewer Is Better
XMP 3200MHz
SE +/- 0.008, N = 3
5.117
Fast 3600MHz
SE +/- 0.005, N = 3
4.774
1.1513
2.3026
3.4539
4.6052
5.7565
1. (CC) gcc options: -pthread

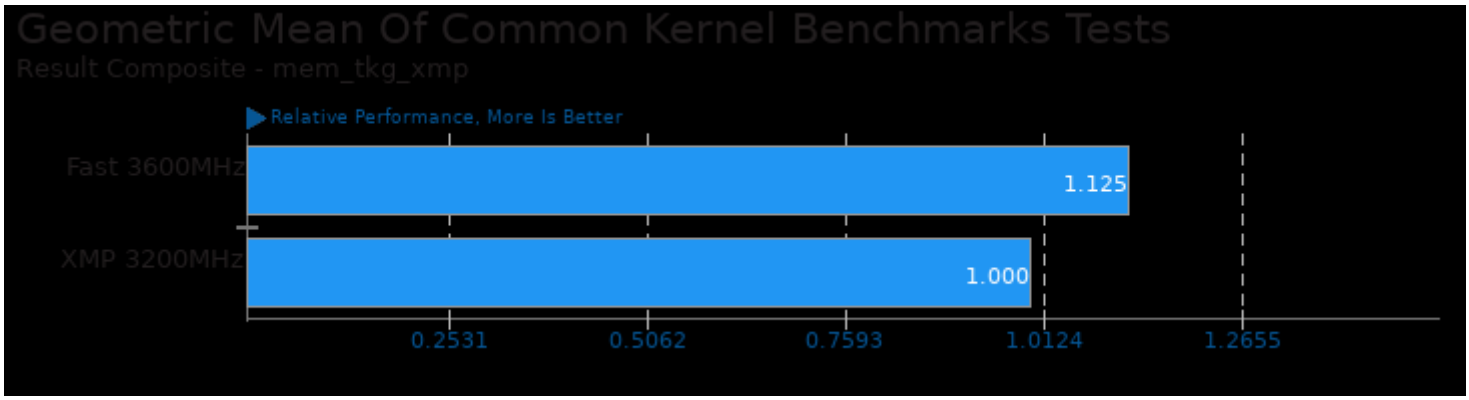
mem_tkg_xmp


CacheBench
Read Cache
MB/s, More Is Better
XMP 3200MHz
SE +/- 1.12, N = 3
MIN: 3285.07 / MAX: 3342.82
3313.05
Fast 3600MHz
SE +/- 0.59, N = 3
MIN: 3300.45 / MAX: 3344.39
3321.93
700
1400
2100
2800
3500
1. (CC) gcc options: -lrt
CacheBench
Write Cache
MB/s, More Is Better
XMP 3200MHz
SE +/- 10.26, N = 3
MIN: 27562.88 / MAX: 33188.89
31671.34
Fast 3600MHz
SE +/- 3.23, N = 3
MIN: 27547.21 / MAX: 33208.67
31740.88
7K
14K
21K
28K
35K
1. (CC) gcc options: -lrt

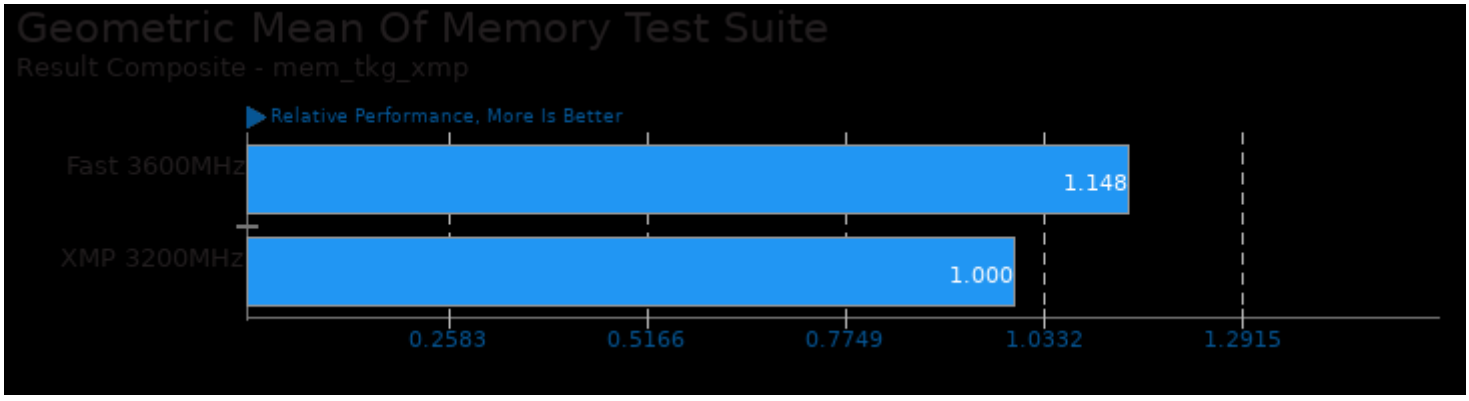
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/cachebench, pts/mbw, pts/ramspeed, pts/stream, pts/t-test1 and pts/tinymembench

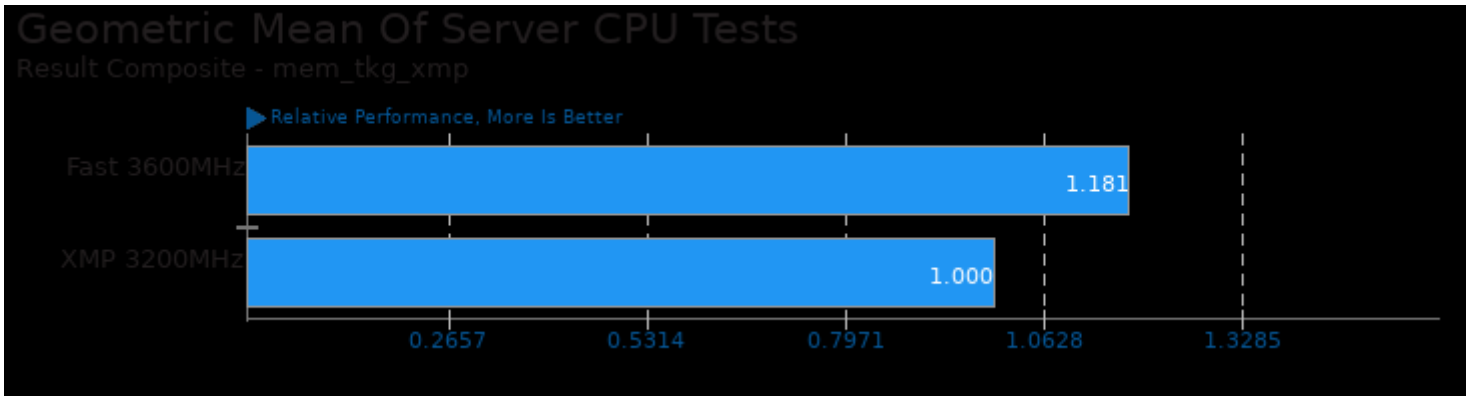


Geometric mean based upon tests: pts/tinymembench, pts/mbw and pts/t-test1



Geometric mean based upon tests: pts/ramspeed, pts/stream, pts/t-test1, pts/cachebench, pts/tinymembench and pts/mbw

mem_tkg_xmp



Geometric mean based upon tests: pts/ramspeed and pts/stream

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:18.