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Ryzen 3600 Single/Multithreaded and RAM tests

Custom Built PC from 2018

Automated Executive Summary

Ryzen 3600 had the most wins, coming in first place for 88% of the tests.

Based on the geometric mean of all complete results, the fastest (Ryzen 3600) was 1.298x the speed of the slowest (ChrisLAS Workstation).

The results with the greatest spread from best to worst included:

Blender (CPU Temperature Monitor) at 2.298x
PyBench (CPU Temperature Monitor) at 1.735x
libjpeg-turbo tjbench (CPU Temperature Monitor) at 1.724x
RAMspeed SMP (Type: Scale - Benchmark: Integer) at 1.666x
RAMspeed SMP (Type: Add - Benchmark: Integer) at 1.66x
FLAC Audio Encoding (CPU Temperature Monitor) at 1.651x
RAMspeed SMP (Type: Copy - Benchmark: Integer) at 1.642x
Blender (CPU Temperature Monitor) at 1.632x
Blender (CPU Temperature Monitor) at 1.527x
RAMspeed SMP (CPU Temperature Monitor) at 1.5x.

Test Systems:

Ryzen 3600

Processor: AMD Ryzen 5 3600 6-Core @ 3.60GHz (6 Cores / 12 Threads), Motherboard: ASUS PRIME X570-P (1201 BIOS), Chipset: AMD Starship/Matisse, Memory: 16384MB, Disk: 2000GB Western Digital WD20EARS-00M + 240GB SanDisk SDSSDX24 + 3001GB Western Digital WD30EZRX-00D + 3001GB Western Digital WD30EFRX-68E, Graphics: Sapphire AMD Radeon RX 5700 / XT 8GB (2100/875MHz), Audio: Creative Labs EMU20k2, Monitor: KAMN341FQULA, Network: Realtek RTL8111/8168/8411

OS: ManjaroLinux 18.1.1, Kernel: 5.4.0-1-MANJARO (x86_64), Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 4.5 Mesa 19.3.0-devel (git-3ad6154f4e) (LLVM 10.0.0), Compiler: GCC 9.2.0 + Clang 10.0.0 + LLVM 10.0.0svn, File-System: f2fs, Screen Resolution: 3440x1440

Environment Notes: AMD_DEBUG=nodma,nongg
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++ --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 performance
Python Notes: Python 3.7.4
Security Notes: 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: always-on RSB filling

ChrisLAS Workstation

Processor: Intel Core i7-5820K @ 4.00GHz (6 Cores / 12 Threads), Motherboard: ASUS X99-A (3004 BIOS), Chipset: Intel Xeon E7 v3/Xeon, Memory: 32GB, Disk: Samsung SSD 950 PRO 256GB + 480GB INTEL SSDSC2BP48 + 1000GB INTEL SSDSC2KW01 + 3 x 1000GB Western Digital WD10EZEX-00W, Graphics: MSI AMD Radeon RX 470/480/570/570X/580/580X/590 8GB (1268/1750MHz), Audio: Realtek ALC1150, Monitor: 2 x ASUS PB278 + ASUS PB277, Network: Intel I218-V

OS: Pop 20.10, Kernel: 5.8.0-7630-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: btrfs, Screen Resolution: 5440x2560

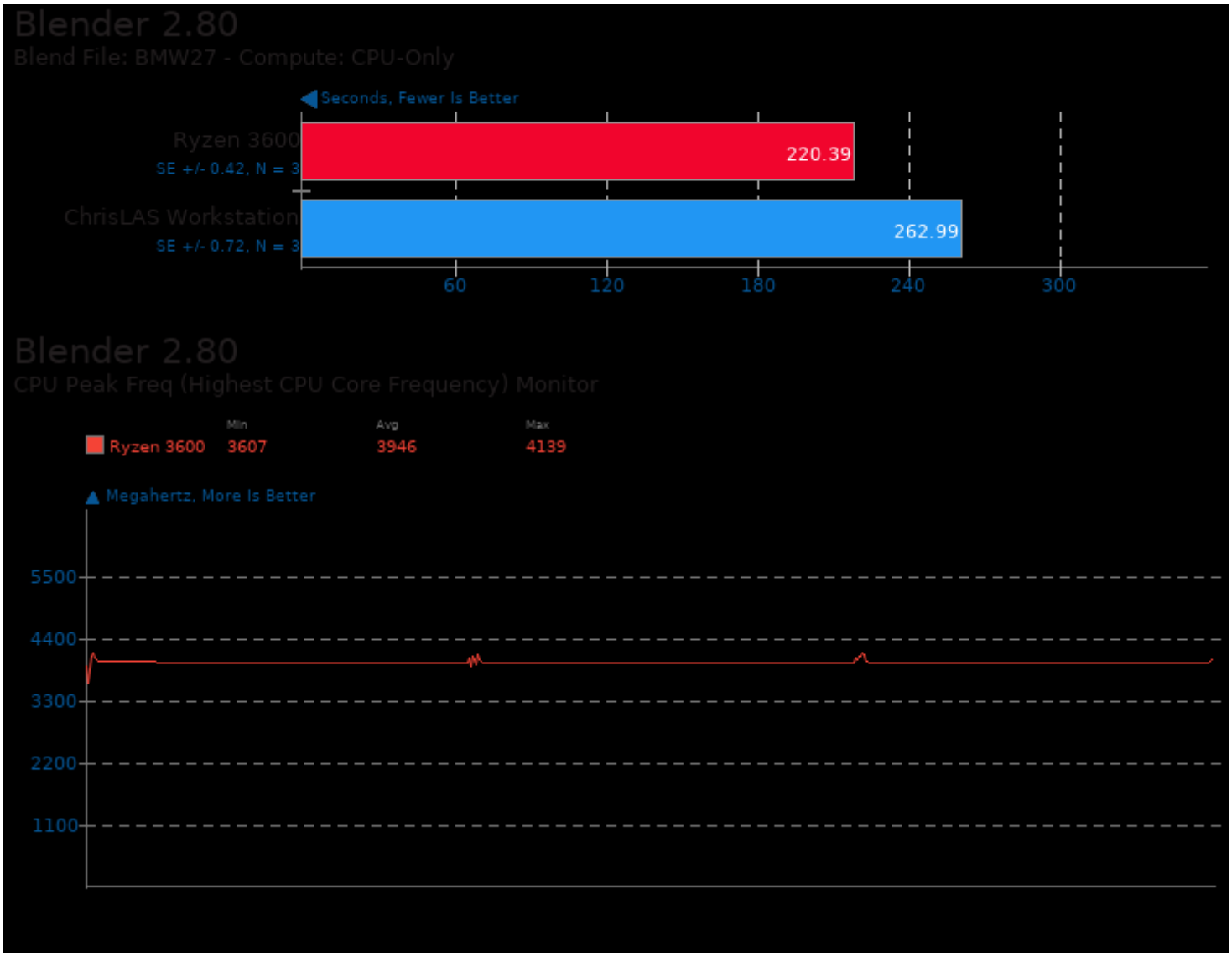
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_cpufreq ondemand - CPU Microcode: 0x44
Python Notes: Python 2.7.18 + Python 3.8.6
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Ryzen 3600	ChrisLAS Workstation
Blender - BMW27 - CPU-Only (sec)	220.39	262.99
Normalized	100%	83.8%
Standard Deviation	0.3%	0.5%

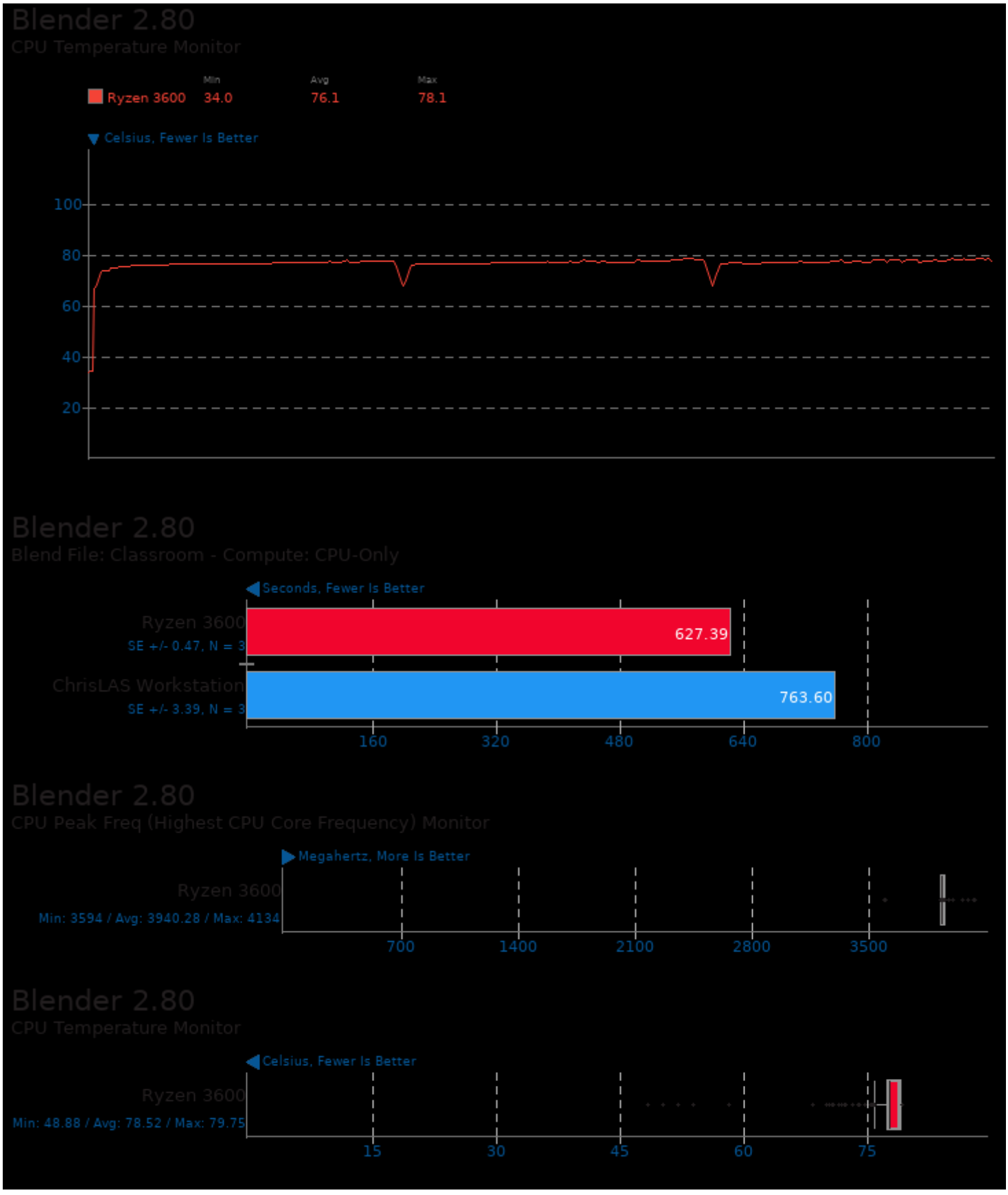
Ryzen 3600 Single/Multithreaded and RAM tests

Blender - Classroom - CPU-Only (sec)	**627.39**	**763.60**
Normalized	100%	82.16%
Standard Deviation	0.1%	0.8%
Blender - Barbershop - CPU-Only (sec)	**870.79**	**1079**
Normalized	100%	80.72%
Standard Deviation	0.1%	0.2%
RAMspeed SMP - Copy - Integer (MB/s)	**28199**	**17176**
Normalized	100%	60.91%
RAMspeed SMP - Scale - Integer (MB/s)	**28264**	**16962**
Normalized	100%	60.01%
RAMspeed SMP - Add - Integer (MB/s)	**31885**	**19209**
Normalized	100%	60.25%
FLAC Audio Encoding - WAV To FLAC (sec)	**7.95**	**10.224**
Normalized	100%	77.76%
Standard Deviation	0.5%	0.2%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	**210.14**	**180.261580**
Normalized	100%	85.78%
Standard Deviation	0.4%	1.2%
PyBench - T.F.A.T.T (Milliseconds)	**1314**	**1123**
Normalized	85.46%	100%
Standard Deviation	0.2%	0.1%

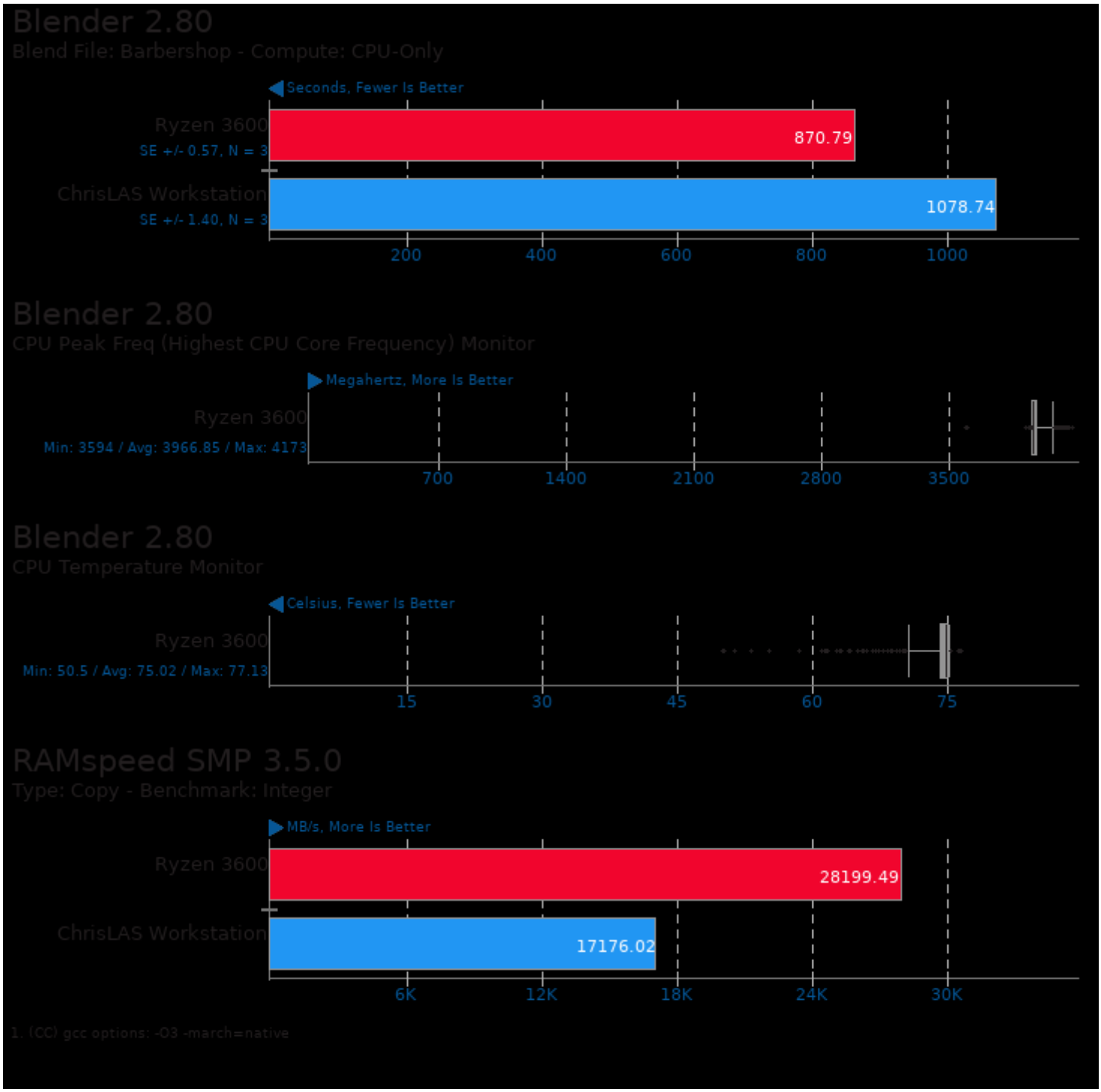
Ryzen 3600 Single/Multithreaded and RAM tests



Ryzen 3600 Single/Multithreaded and RAM tests



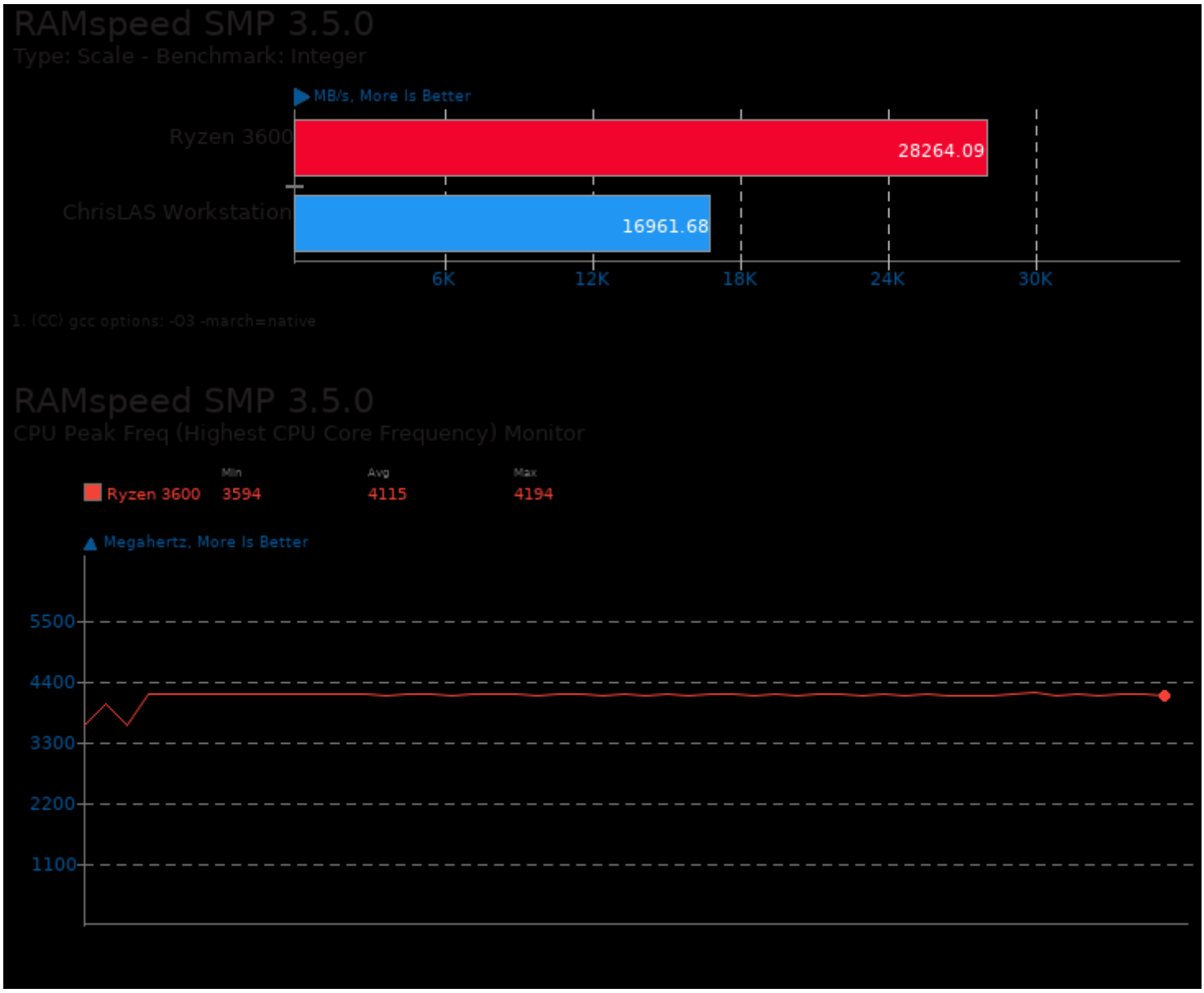
Ryzen 3600 Single/Multithreaded and RAM tests



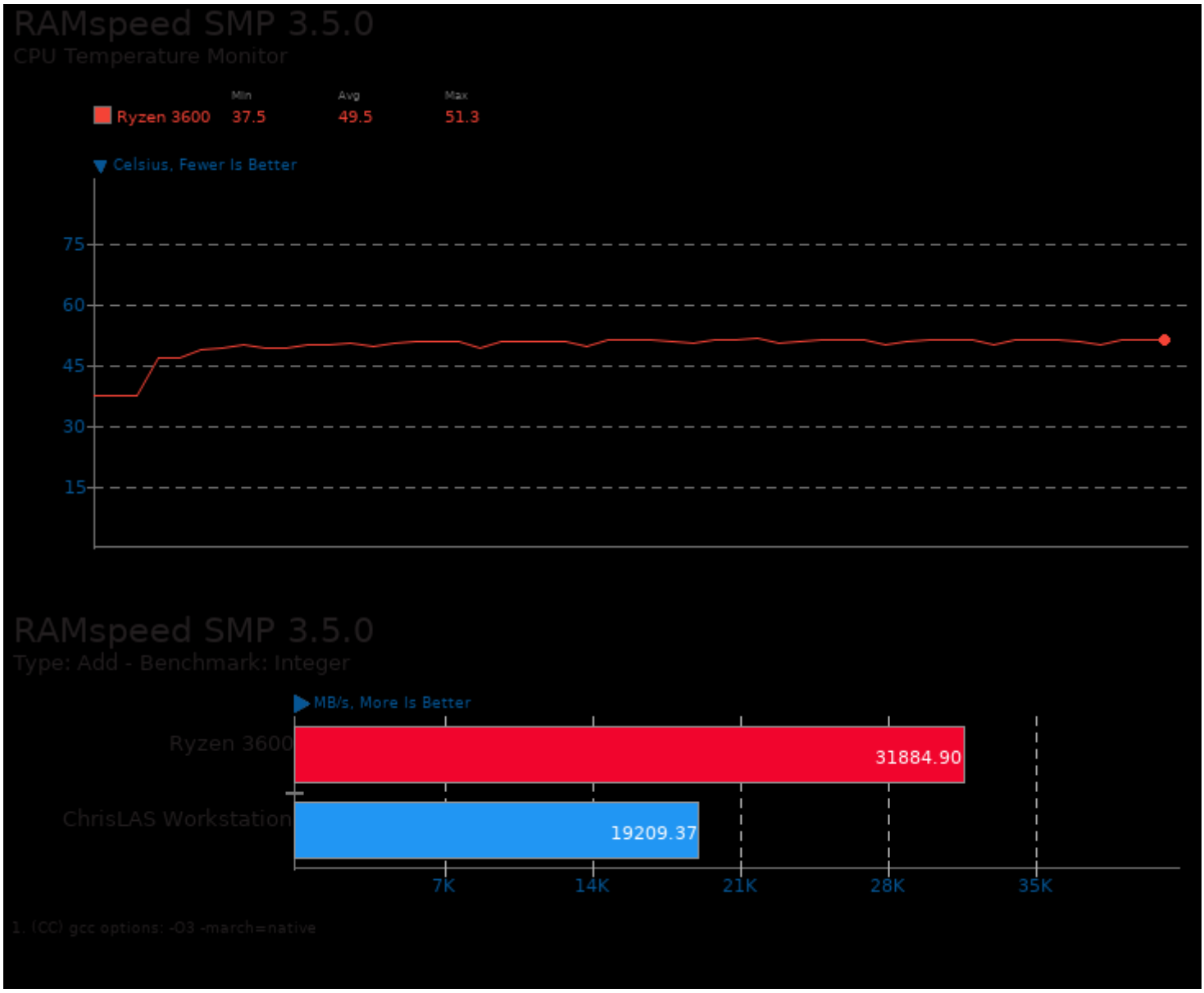
Ryzen 3600 Single/Multithreaded and RAM tests



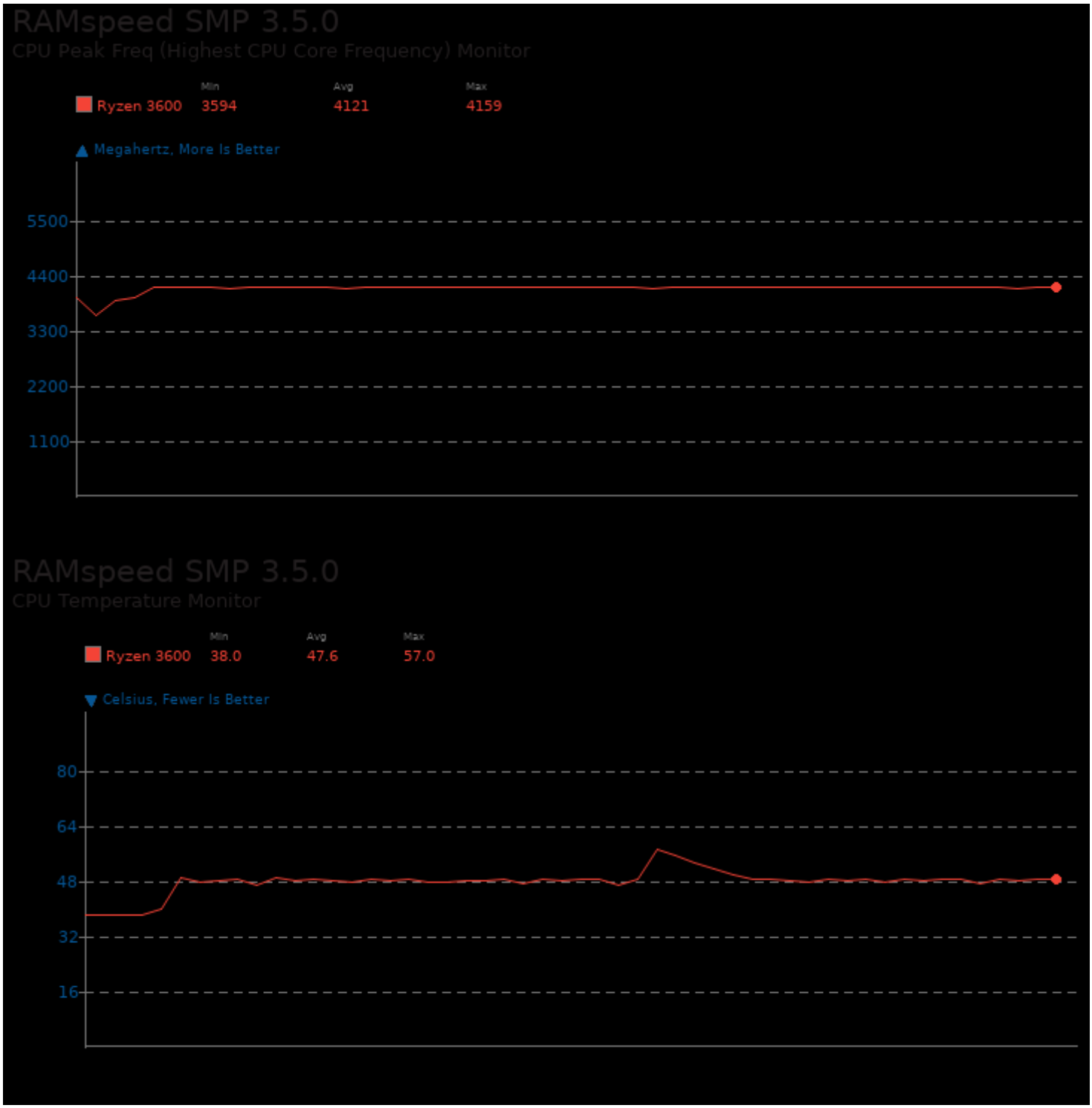
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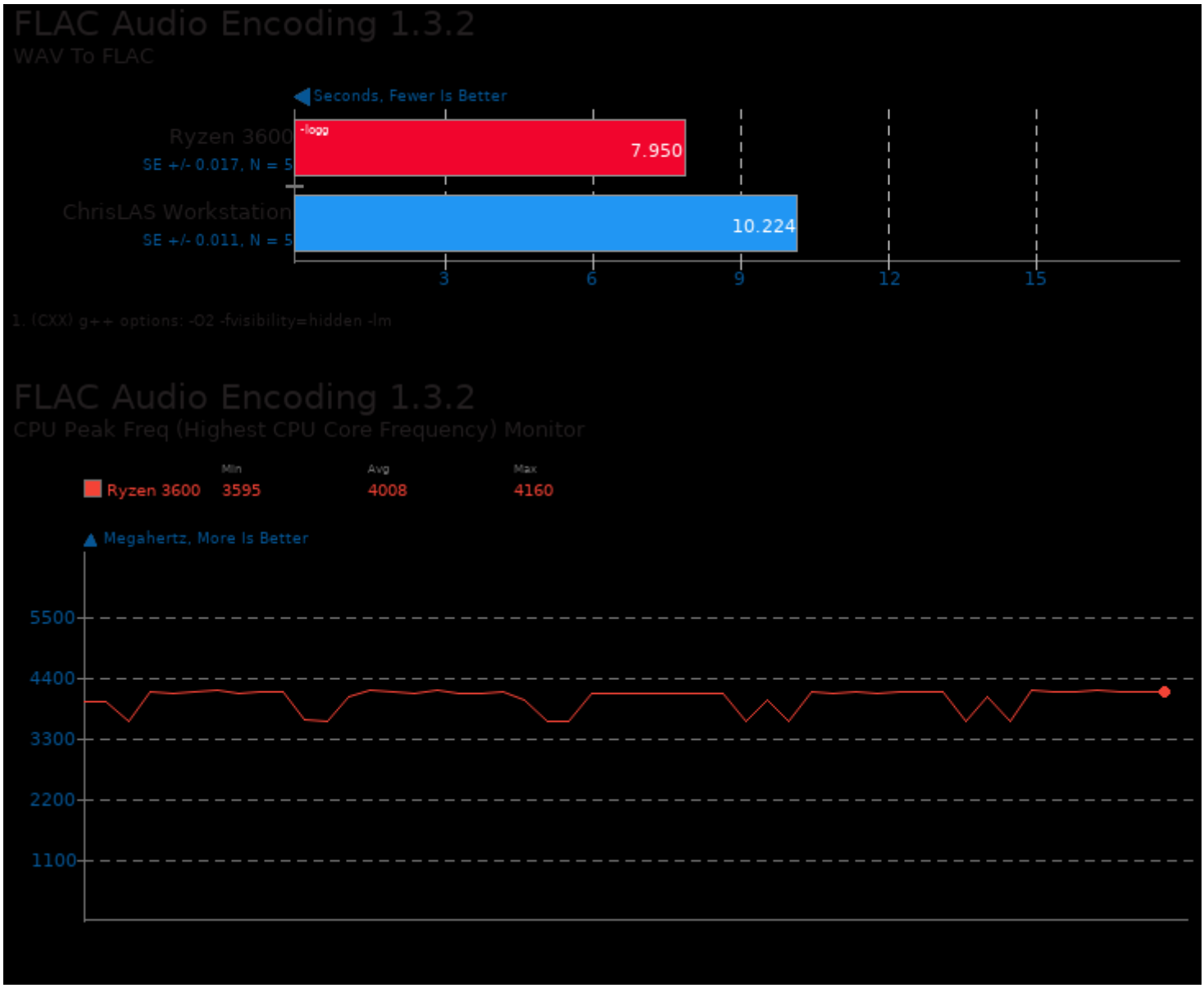


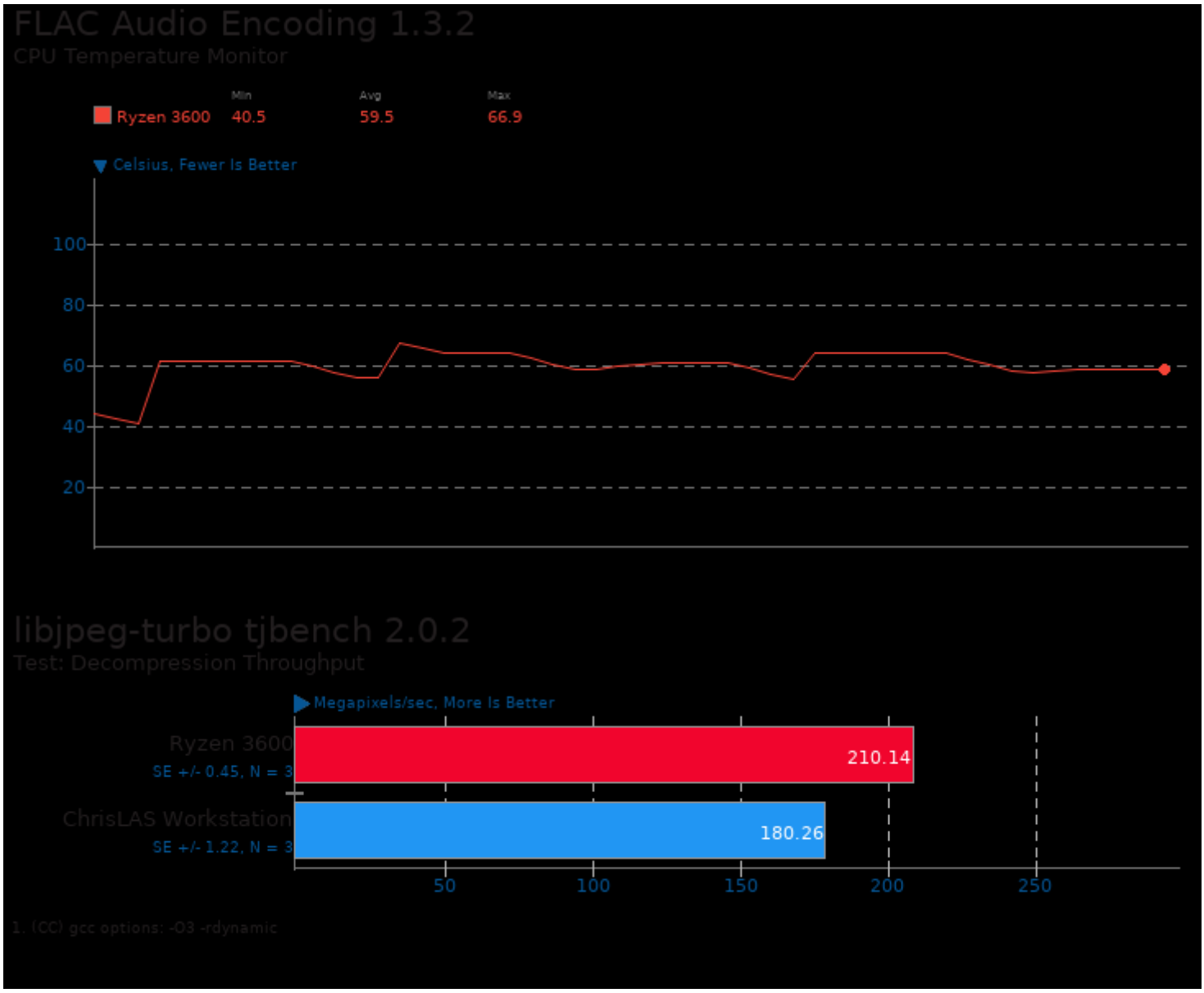
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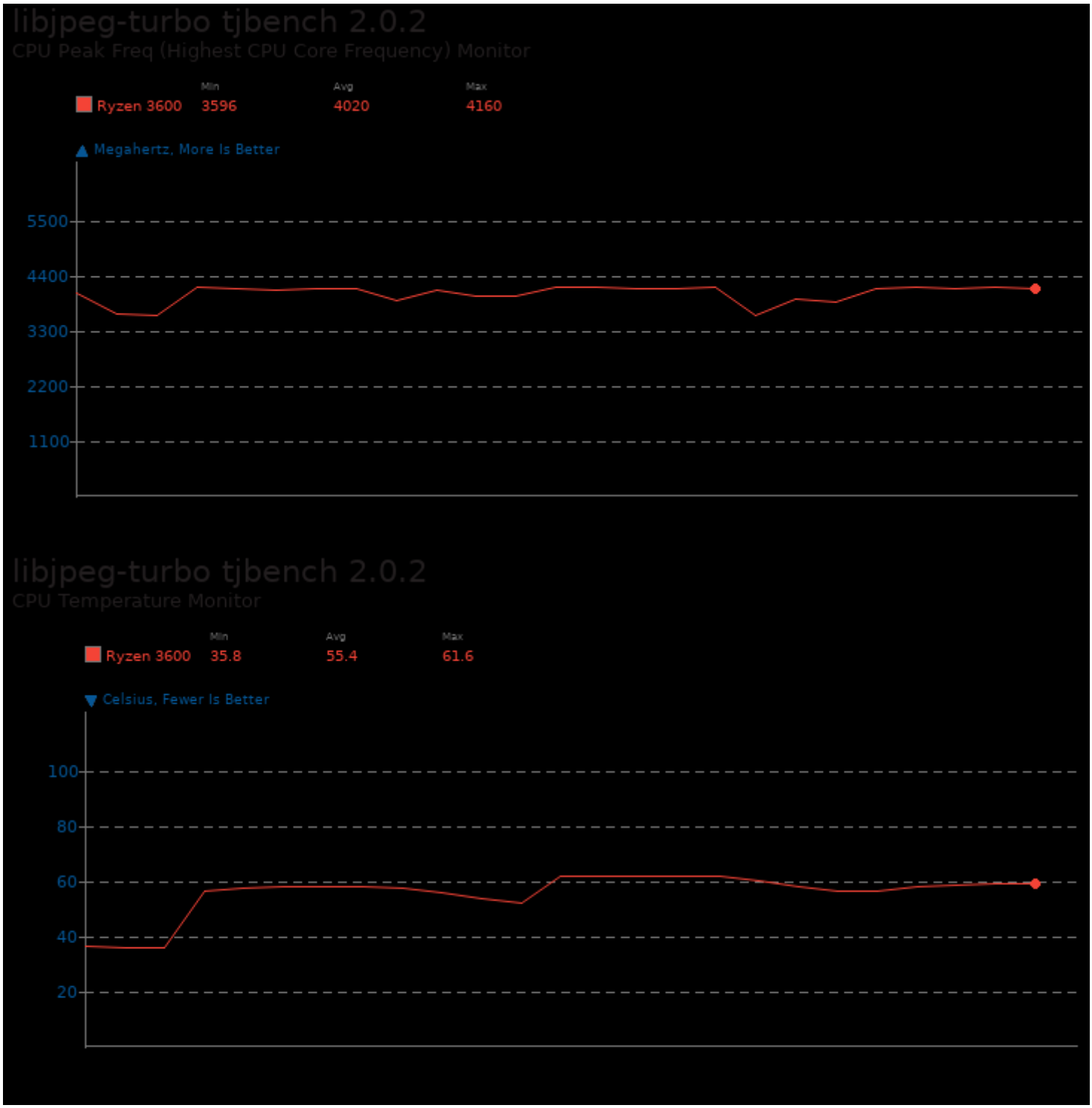


Ryzen 3600 Single/Multithreaded and RAM tests

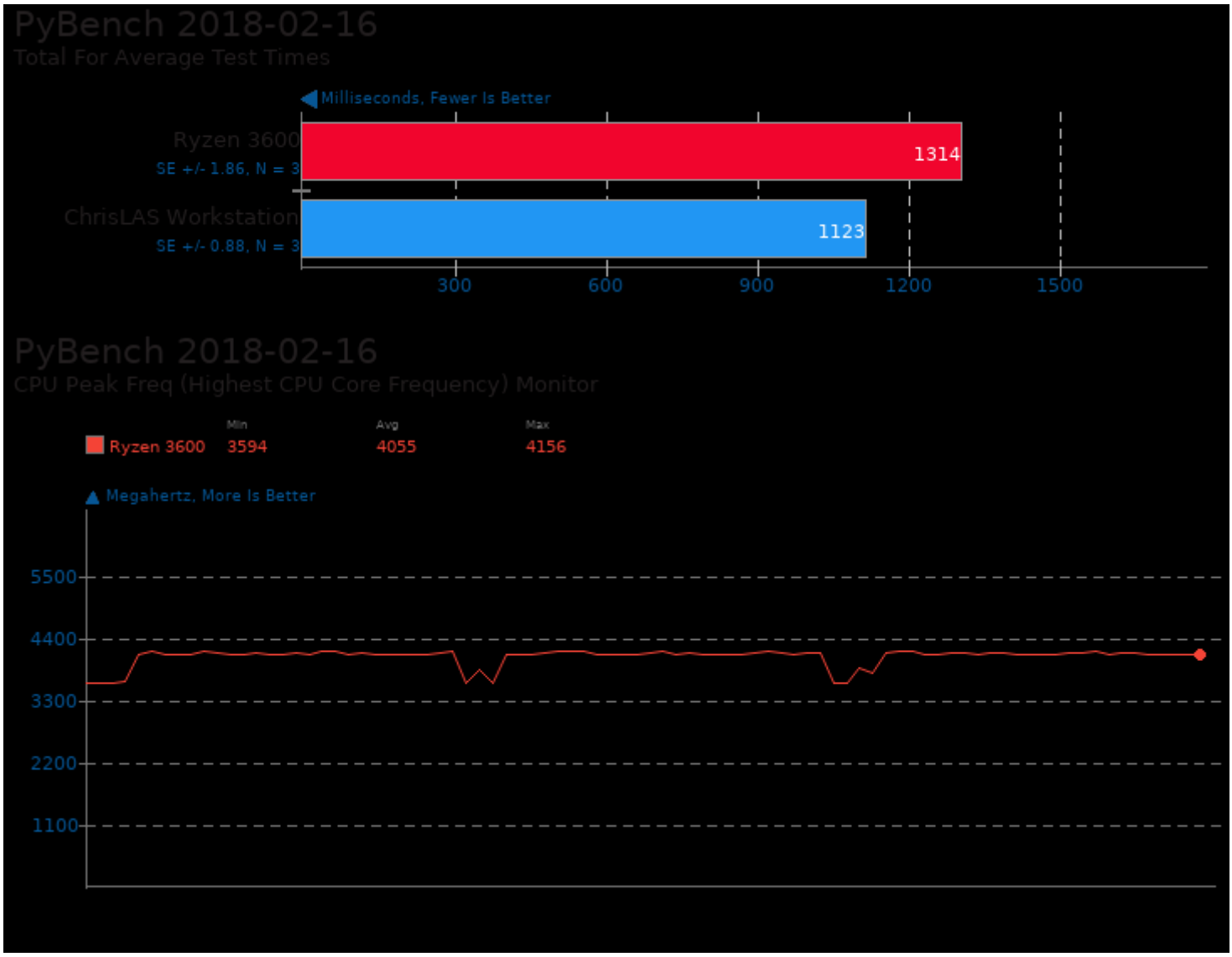



FLAC Audio Encoding 1.3.2
WAV To FLAC
Seconds, Fewer Is Better
Ryzen 3600
SE +/- 0.017, N = 5
-logg
7.950
ChrisLAS Workstation
SE +/- 0.011, N = 5
10.224
3
6
9
12
15
1. (CXX) g++ options: -O2 -fvisibility=hidden -lm
FLAC Audio Encoding 1.3.2
CPU Peak Freq (Highest CPU Core Frequency) Monitor
Min
Avg
Max
Ryzen 3600
3595
4008
4160
Megahertz, More Is Better
5500
4400
3300
2200
1100

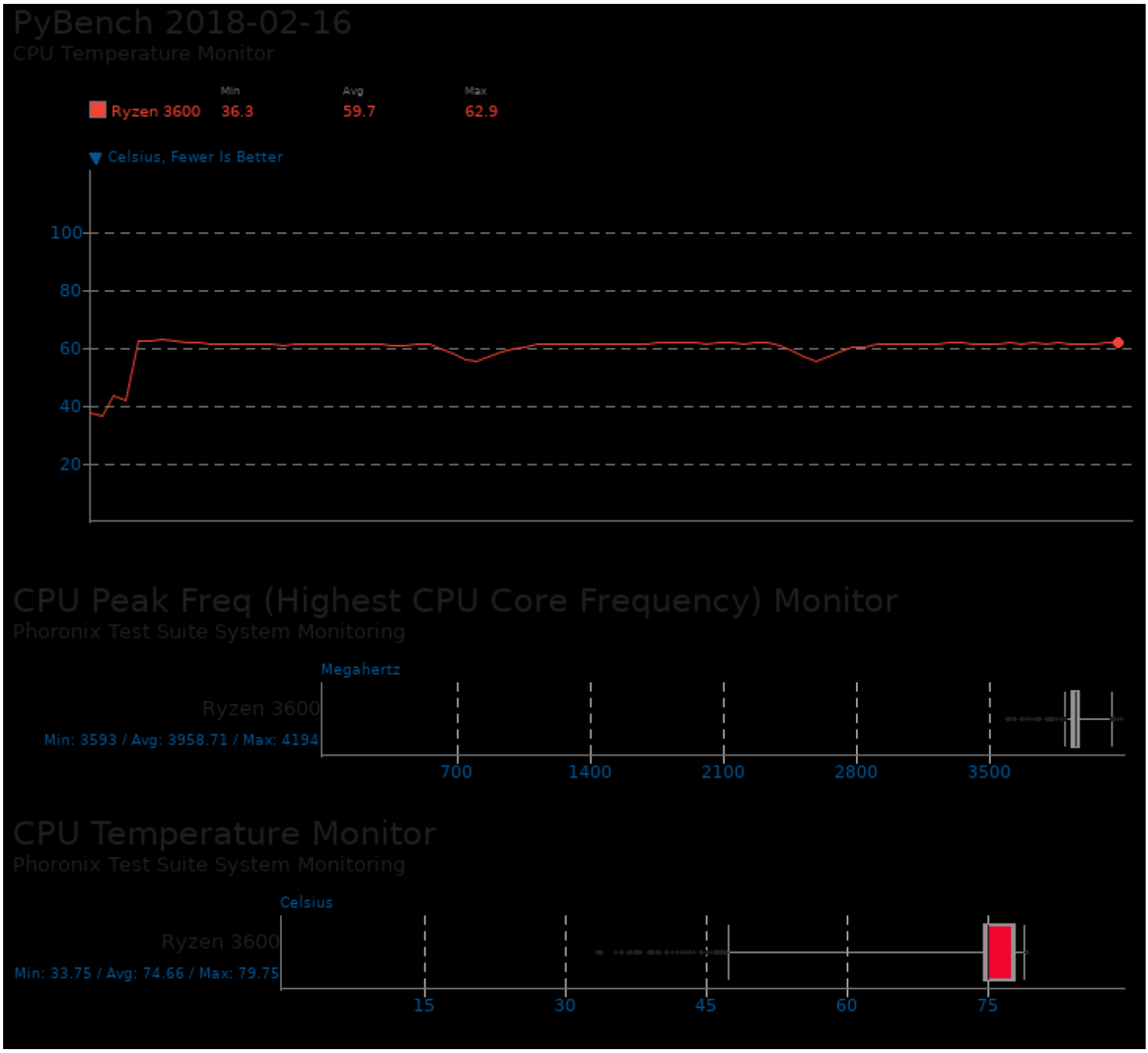

FLAC Audio Encoding 1.3.2
CPU Temperature Monitor
Min
Avg
Max
Ryzen 3600
40.5
59.5
66.9
Celsius, Fewer Is Better
100
80
60
40
20
libjpeg-turbo tjbench 2.0.2
Test: Decompression Throughput
Megapixels/sec, More Is Better
Ryzen 3600
SE +/- 0.45, N = 3
210.14
ChrisLAS Workstation
SE +/- 1.22, N = 3
180.26
50
100
150
200
250
1. (CC) gcc options: -O3 -rdynamic


libjpeg-turbo tjbench 2.0.2
CPU Peak Freq (Highest CPU Core Frequency) Monitor
Min
Avg
Max
Ryzen 3600
3596
4020
4160
Megahertz, More Is Better
5500
4400
3300
2200
1100
libjpeg-turbo tjbench 2.0.2
CPU Temperature Monitor
Min
Avg
Max
Ryzen 3600
35.8
55.4
61.6
Celsius, Fewer Is Better
100
80
60
40
20

Ryzen 3600 Single/Multithreaded and RAM tests

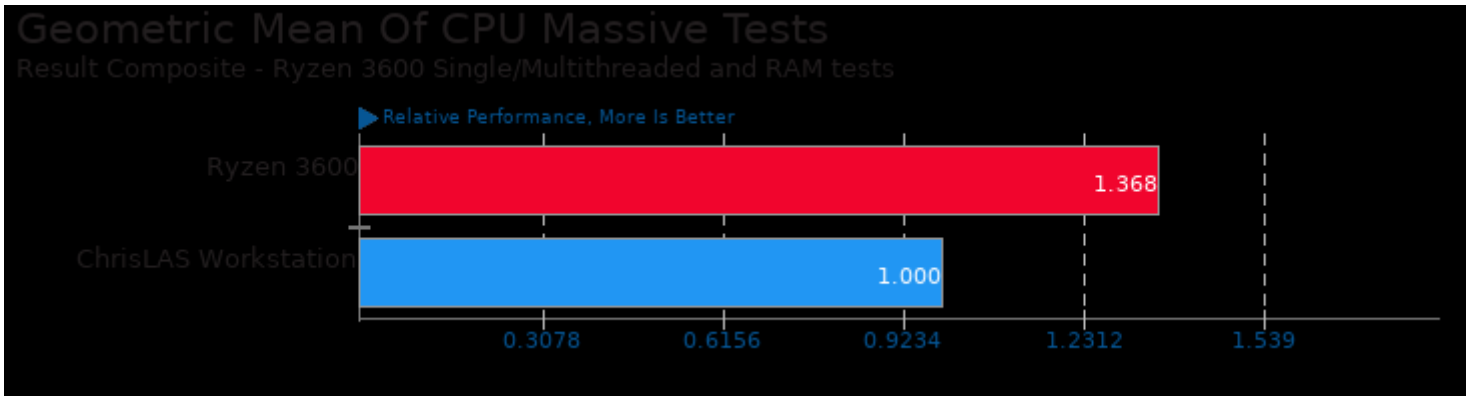


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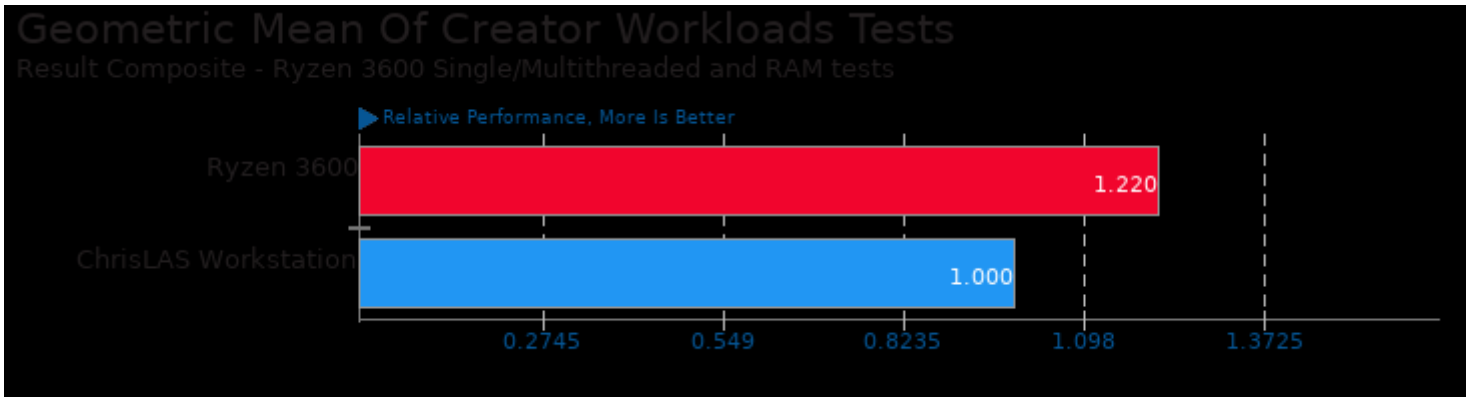


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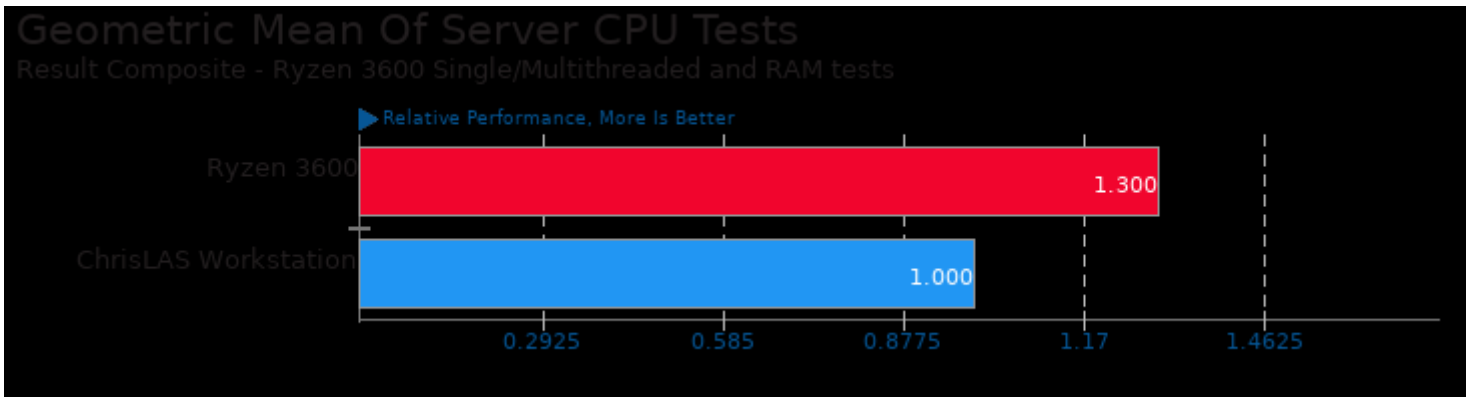
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-flac, pts/ramspeed, pts/blender and pts/tjbench

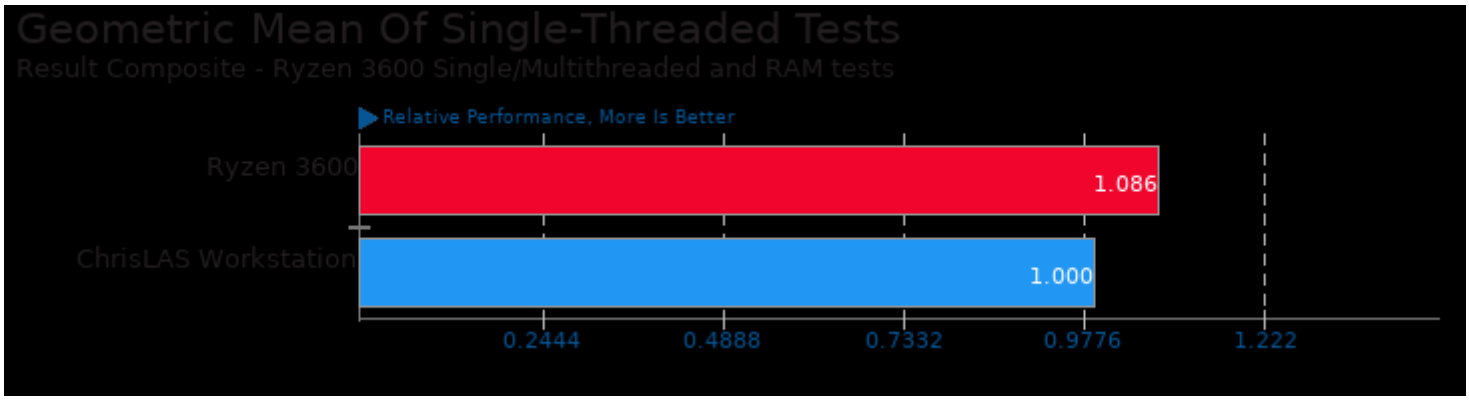


Geometric mean based upon tests: pts/blender, pts/encode-flac and pts/tjbench



Geometric mean based upon tests: pts/tjbench, pts/blender, pts/pybench and pts/ramspeed

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Geometric mean based upon tests: pts/encode-flac, pts/tjbench and pts/pybench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:26.