



Ryzen 3600 Single/Multithreaded and RAM tests

Precision 5750 Xeon Box

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.

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 WD30EZR-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-liberty --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: 11tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: always-on RSB filling

Dell Precision 5750

Processor: Intel Xeon W-10885M @ 5.30GHz (8 Cores / 16 Threads), Motherboard: Dell 0RV9F4 (1.4.0 BIOS), Chipset: Intel Device 06ef, Memory: 32GB, Disk: Kioxia KXG60PNV1T02 NVMe 1024GB, Graphics: Intel UHD P630 (1250MHz), Audio: Intel Device 06c8, Network: Intel Device 06f0

OS: Ubuntu 18.04, Kernel: 5.0.0-1071-oem-osp1 (x86_64), Desktop: GNOME Shell 3.28.4, Display Server: X Server 1.20.4, Display Driver: modesetting 1.20.4, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 3840x2400

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xe0
Python Notes: Python 2.7.17 + Python 3.6.9
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 11tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Ryzen 3600 Single/Multithreaded and RAM tests: 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 WD30EZR-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

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--enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-liberty
--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: I1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1:
Mitigation of usercopy/swaps 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

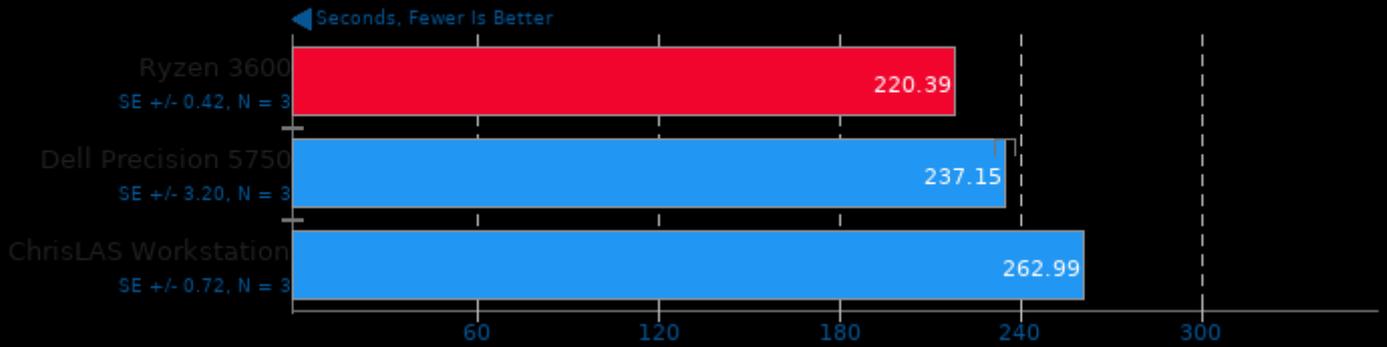
```
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie
--enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug
--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,amdgc-nvptx=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/us
r,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 + I1tf: 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/swaps
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	Dell Precision 5750	Ryzen 3600 Single/Multithread and RAM tests: Ryzen 3600	ChrisLAS Workstation
Blender - BMW27 - CPU-Only (sec)	220.39	237.15		262.99
Normalized	100%	92.93%		83.8%
Standard Deviation	0.3%	2.3%		0.5%
Blender - Classroom - CPU-Only (sec)	627.39	724.17		763.60
Normalized	100%	86.64%		82.16%
Standard Deviation	0.1%	0.6%		0.8%
Blender - Barbershop - CPU-Only	870.79	957.37		1079
Normalized	100%	90.96%		80.72%
Standard Deviation	0.1%	0%		0.2%
RAMspeed SMP - Copy - Integer	28199	24806		17176
Normalized	100%	87.96%		60.91%
RAMspeed SMP - Scale - Integer	28264	25323		16962
Normalized	100%	89.59%		60.01%
RAMspeed SMP - Add - Integer (MB/s)	31885	24522		19209
Normalized	100%	76.91%		60.25%

FLAC Audio Encoding - WAV To	7.95	9.986	10.224
FLAC (sec)			
Normalized	100%	79.61%	77.76%
Standard Deviation	0.5%	0.3%	0.2%
libjpeg-turbo tjbench - D.T	210.14	165.712146	180.261580
(Megapixels/sec)			
Normalized	100%	78.86%	85.78%
Standard Deviation	0.4%	2.2%	1.2%
PyBench - T.F.A.T.T (Milliseconds)	1314	1169	1123
Normalized	85.46%	96.07%	100%
Standard Deviation	0.2%	0.4%	0.1%

Blender 2.80

Blend File: BMW27 - Compute: CPU-Only

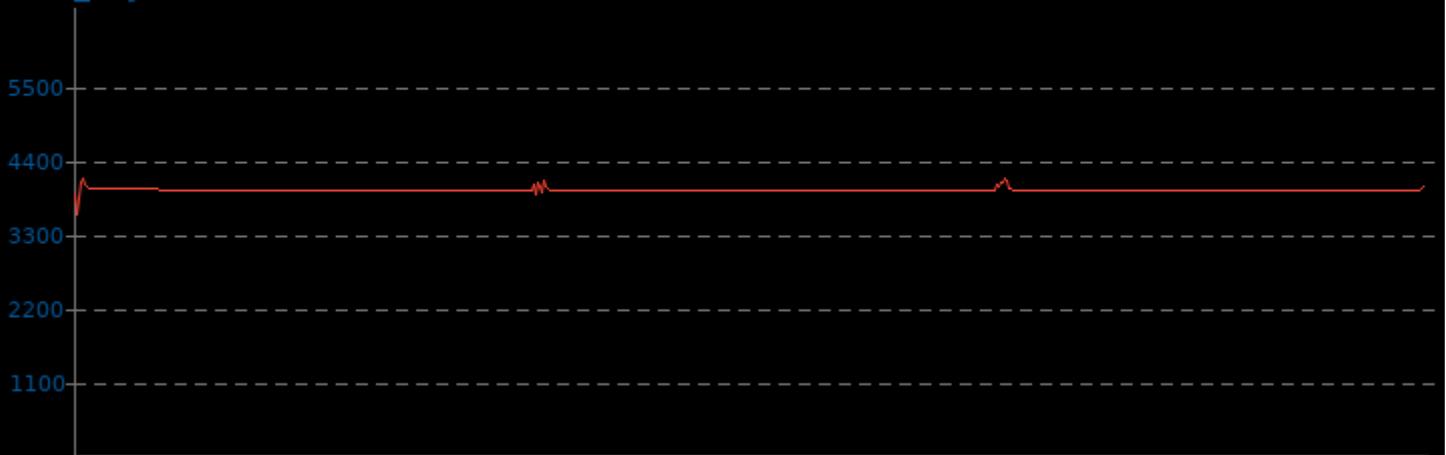


Blender 2.80

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	3607	3946	4139

▲ Megahertz, More Is Better

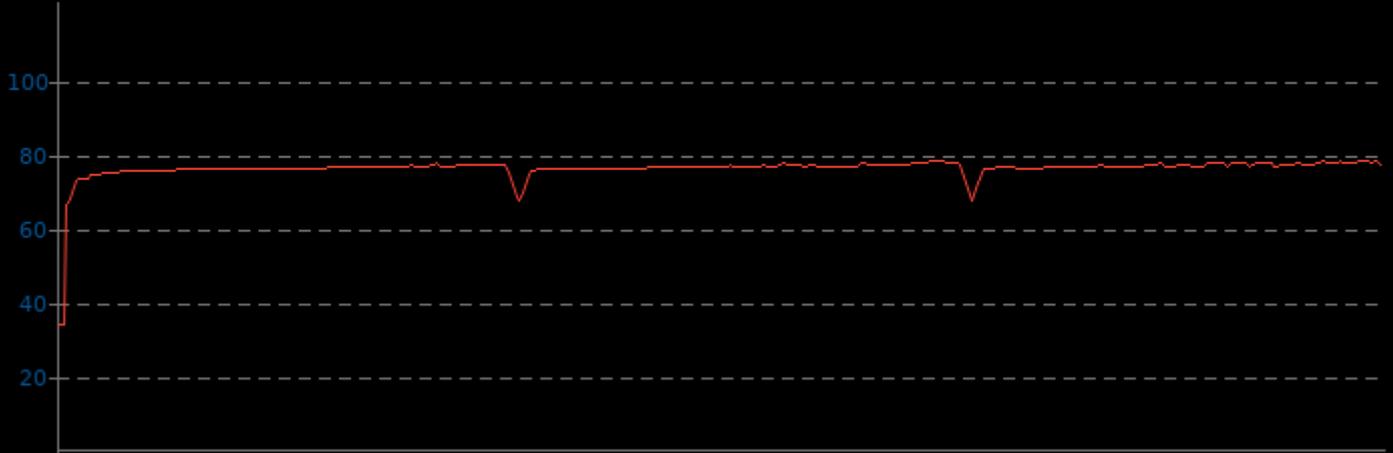


Blender 2.80

CPU Temperature Monitor

	Min	Avg	Max
Ryzen 3600	34.0	76.1	78.1

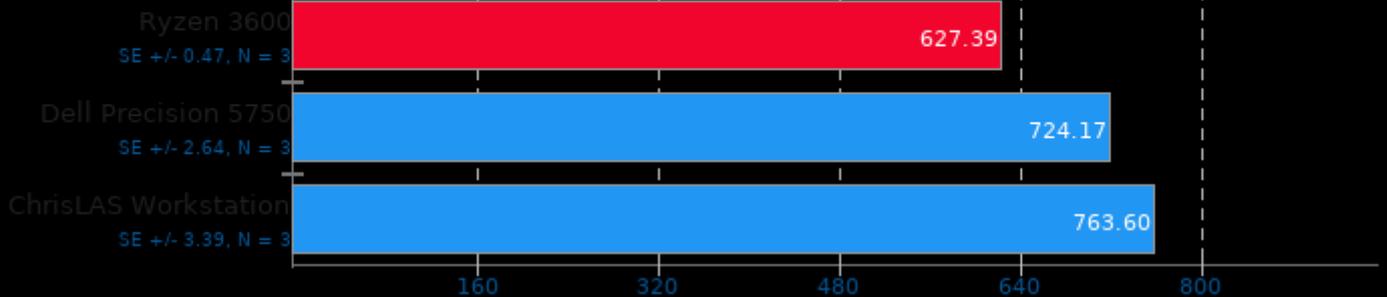
▼ Celsius, Fewer Is Better



Blender 2.80

Blend File: Classroom - Compute: CPU-Only

◀ Seconds, Fewer Is Better



Blender 2.80

CPU Peak Freq (Highest CPU Core Frequency) Monitor

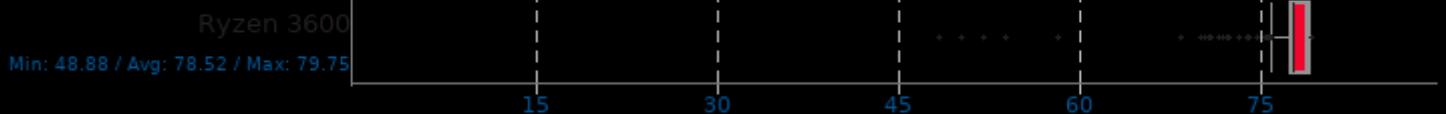
▶ Megahertz, More Is Better



Blender 2.80

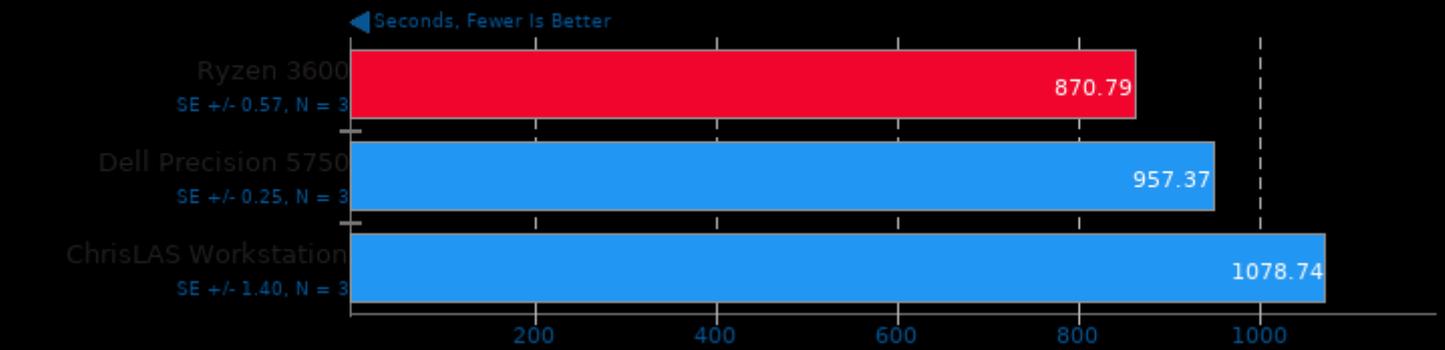
CPU Temperature Monitor

◀ Celsius, Fewer Is Better



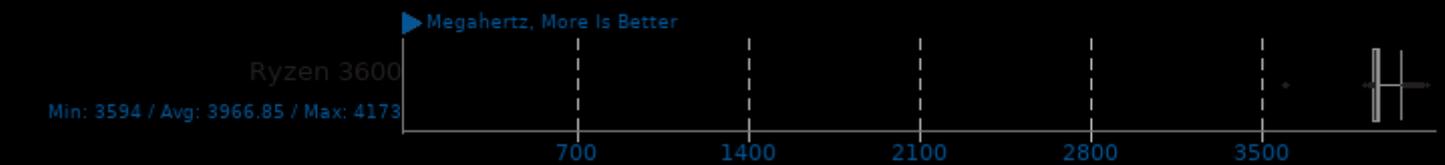
Blender 2.80

Blend File: Barbershop - Compute: CPU-Only



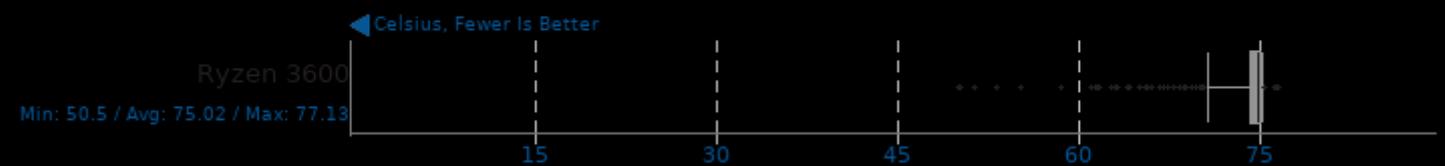
Blender 2.80

CPU Peak Freq (Highest CPU Core Frequency) Monitor



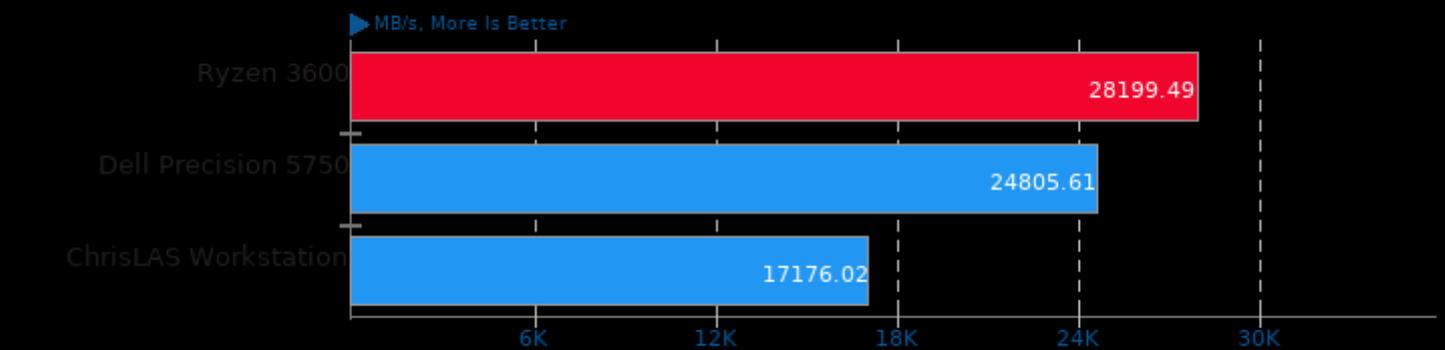
Blender 2.80

CPU Temperature Monitor



RAMspeed SMP 3.5.0

Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	4015	4135	4148

▲ Megahertz, More Is Better

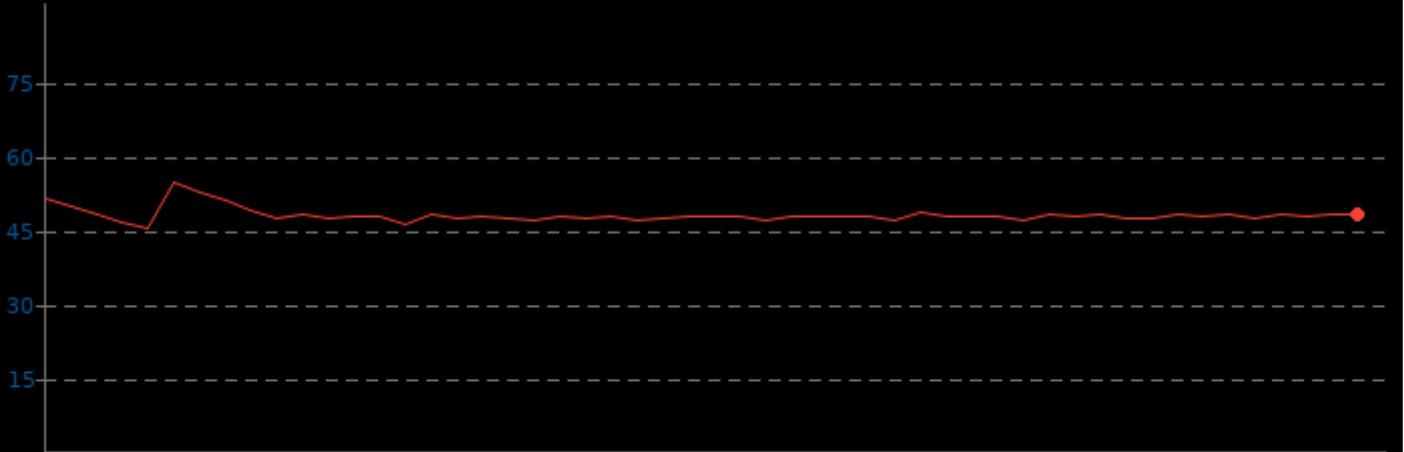


RAMspeed SMP 3.5.0

CPU Temperature Monitor

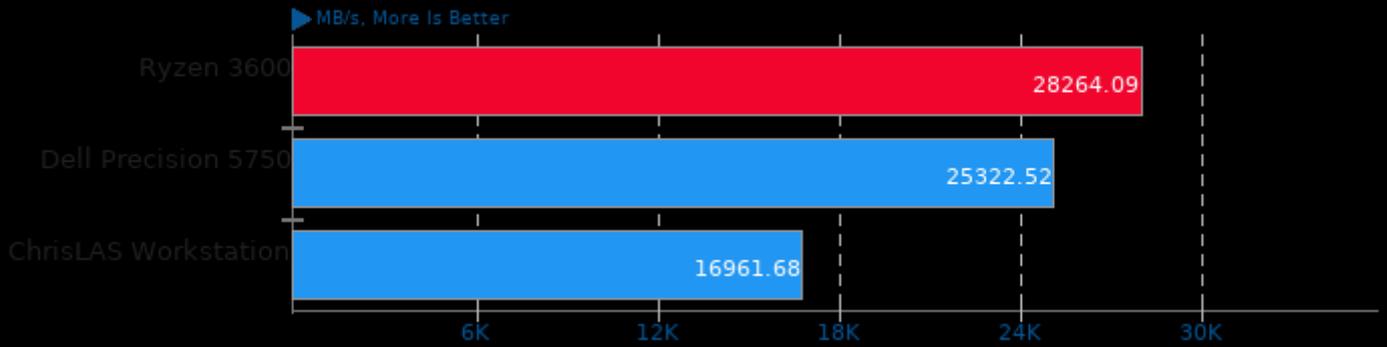
	Min	Avg	Max
Ryzen 3600	45.5	48.1	54.6

▼ Celsius, Fewer Is Better



RAMspeed SMP 3.5.0

Type: Scale - Benchmark: Integer

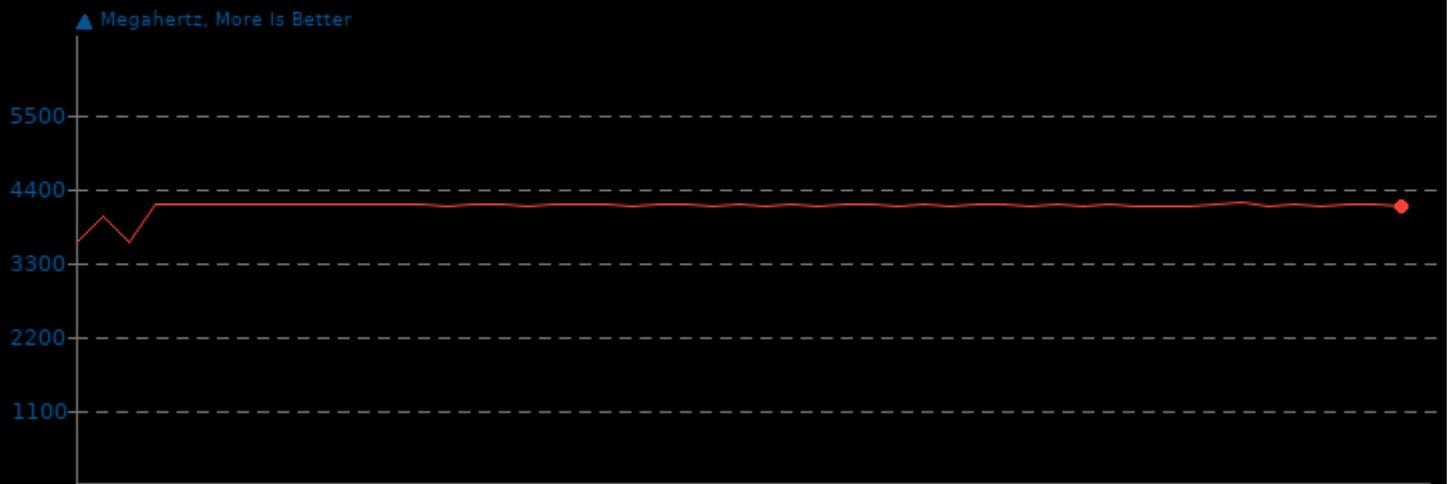


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	3594	4115	4194

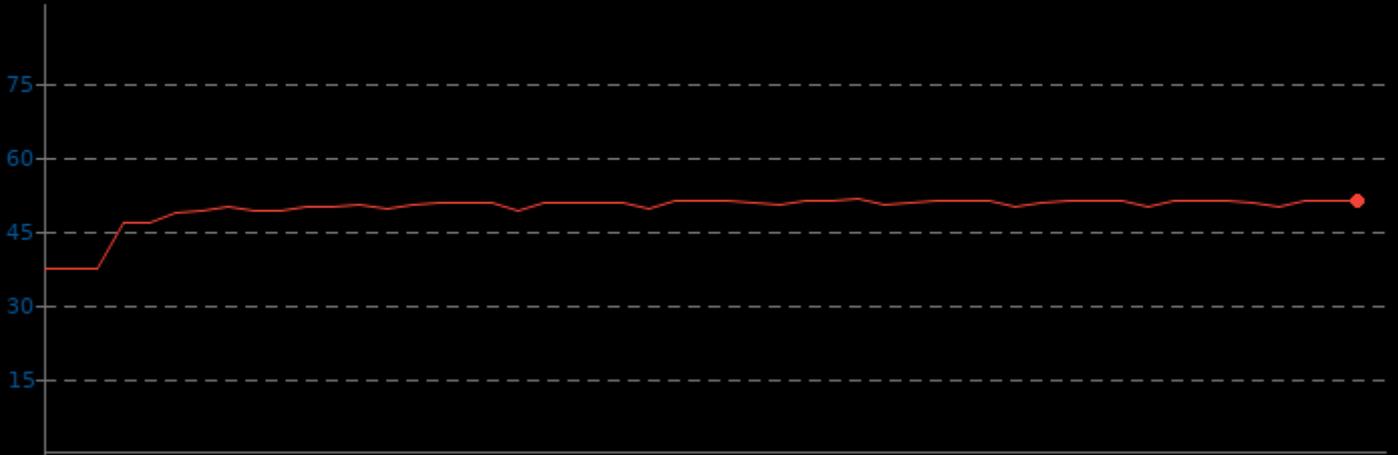


RAMspeed SMP 3.5.0

CPU Temperature Monitor

	Min	Avg	Max
Ryzen 3600	37.5	49.5	51.3

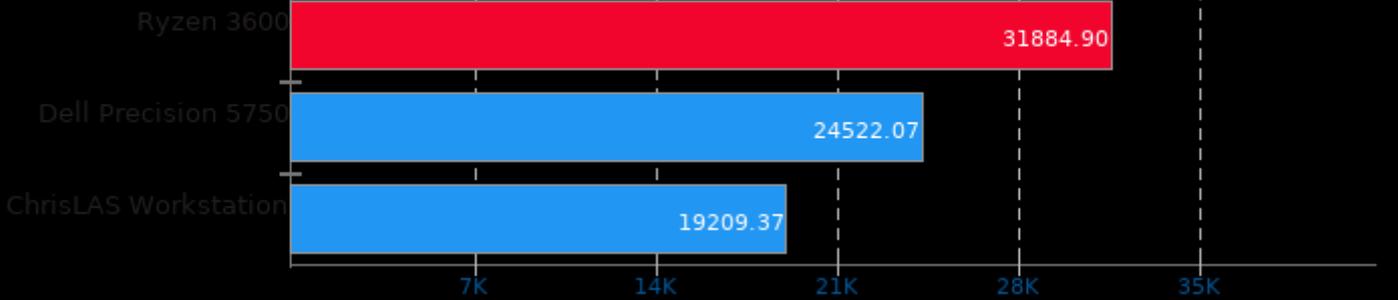
▼ Celsius, Fewer Is Better



RAMspeed SMP 3.5.0

Type: Add - Benchmark: Integer

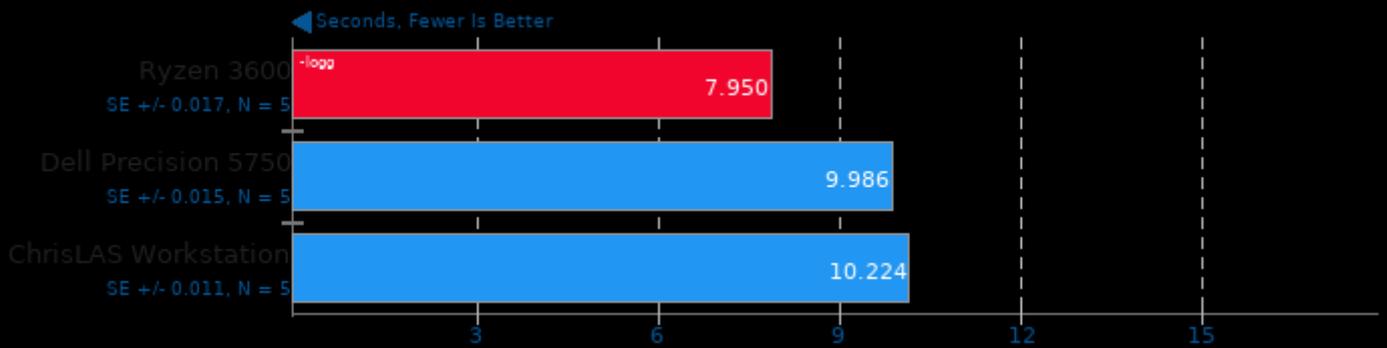
► MB/s, More Is Better



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

FLAC Audio Encoding 1.3.2

WAV To FLAC

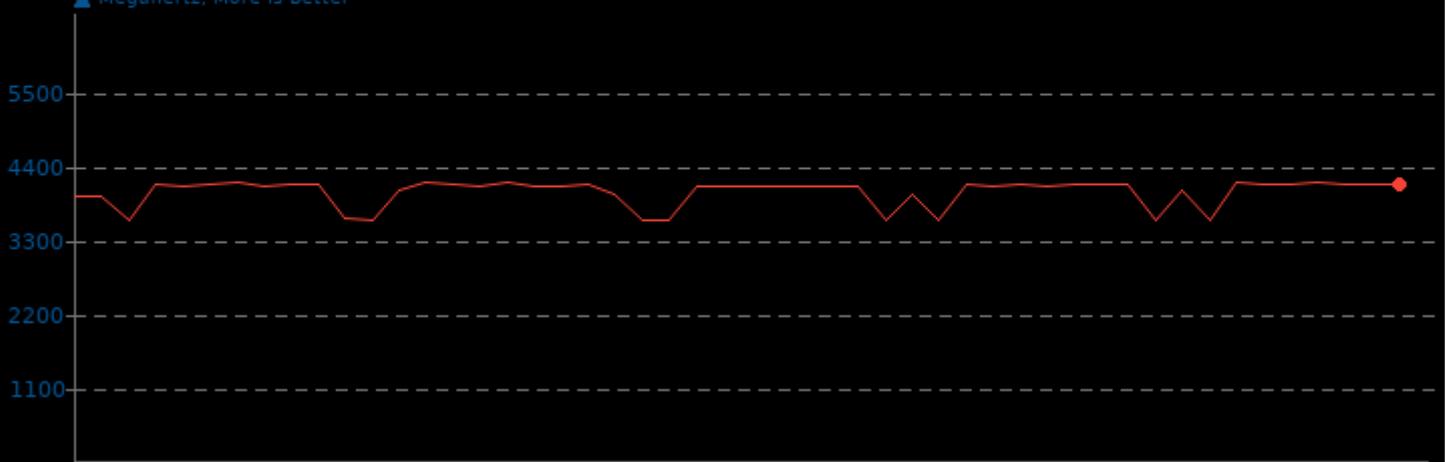


FLAC Audio Encoding 1.3.2

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	3595	4008	4160

▲ Megahertz, More Is Better

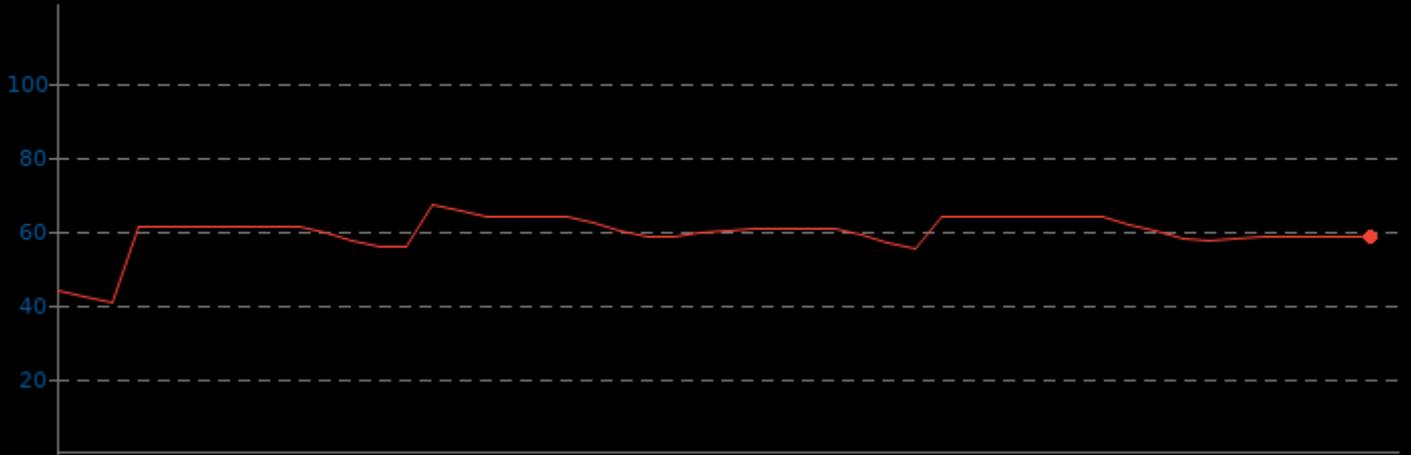


FLAC Audio Encoding 1.3.2

CPU Temperature Monitor

■ Ryzen 3600 Min: 40.5 Avg: 59.5 Max: 66.9

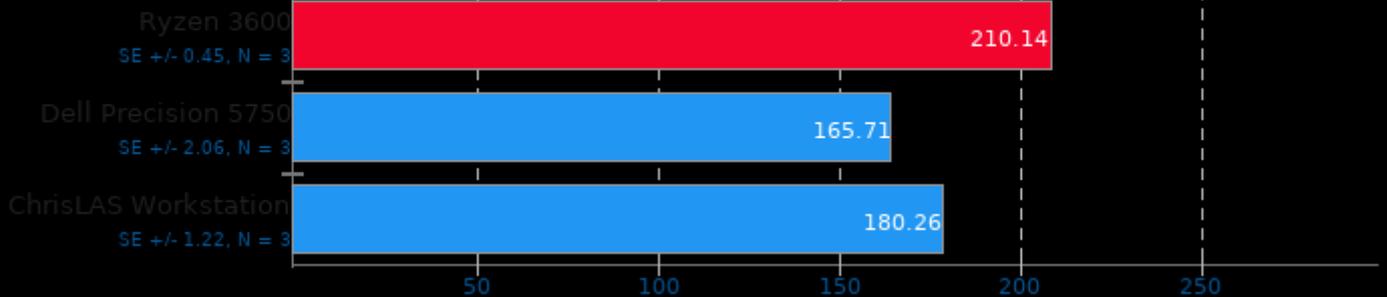
▼ Celsius, Fewer Is Better



libjpeg-turbo tjbench 2.0.2

Test: Decompression Throughput

► Megapixels/sec, More Is Better



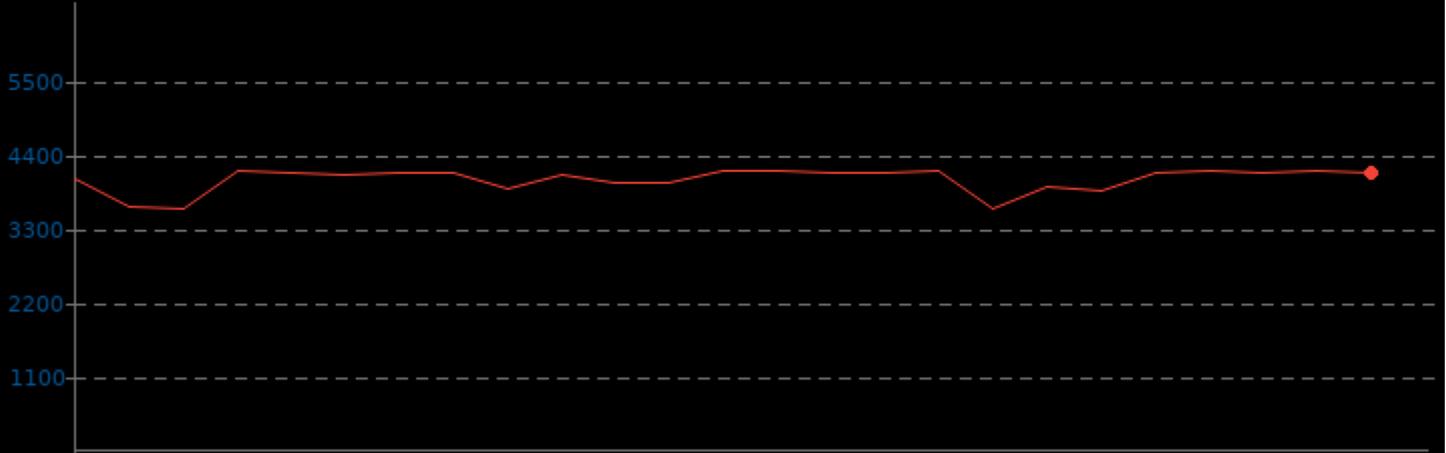
1. (CC) gcc options: -O3 -rdynamic

libjpeg-turbo tjbenc 2.0.2

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	3596	4020	4160

▲ Megahertz, More Is Better

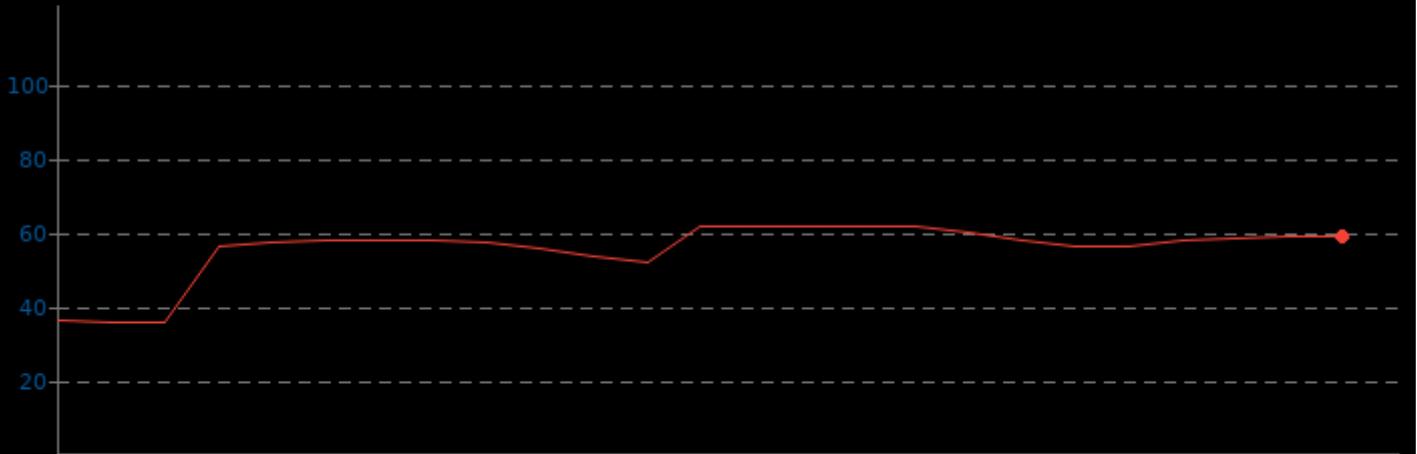


libjpeg-turbo tjbenc 2.0.2

CPU Temperature Monitor

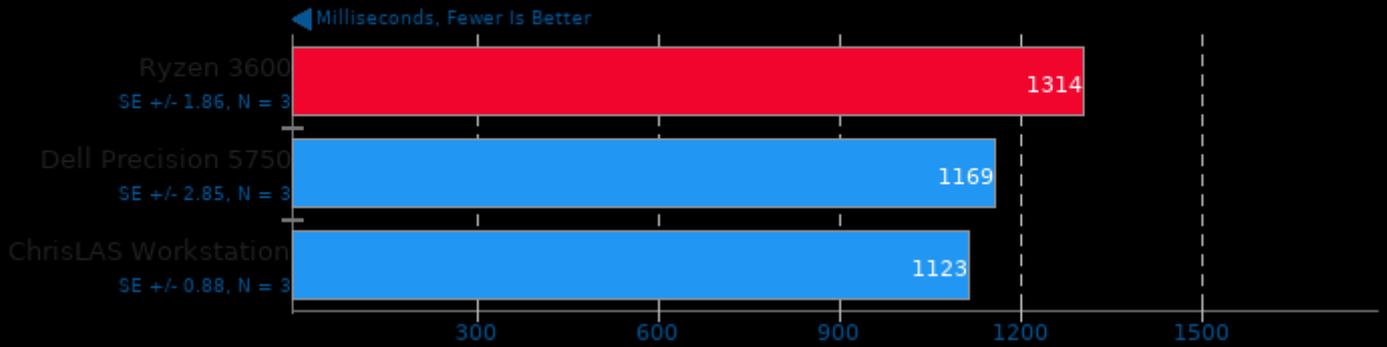
	Min	Avg	Max
Ryzen 3600	35.8	55.4	61.6

▼ Celsius, Fewer Is Better



PyBench 2018-02-16

Total For Average Test Times

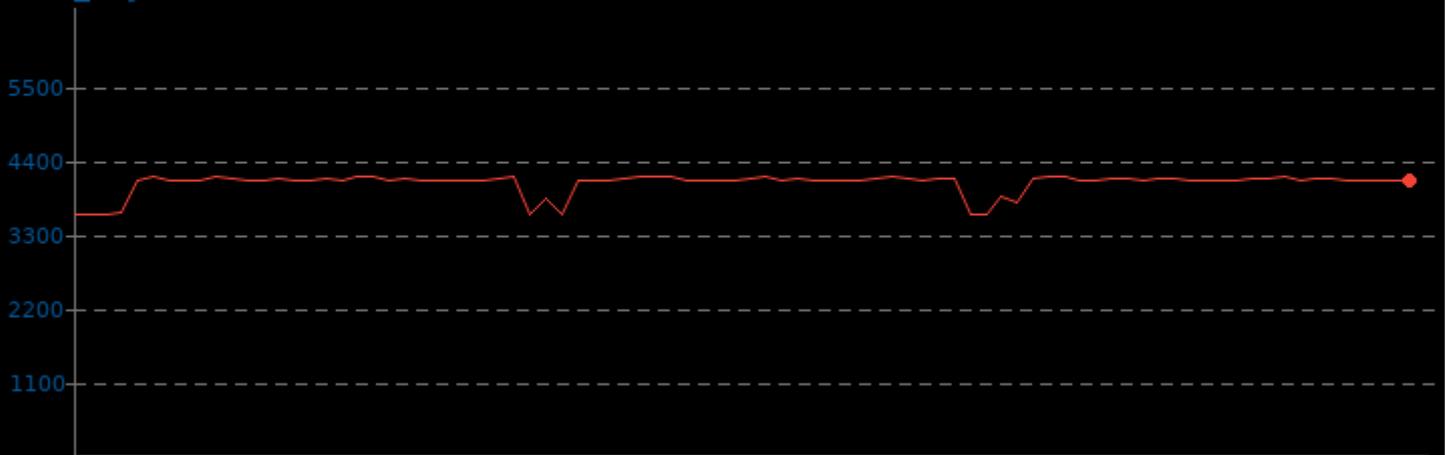


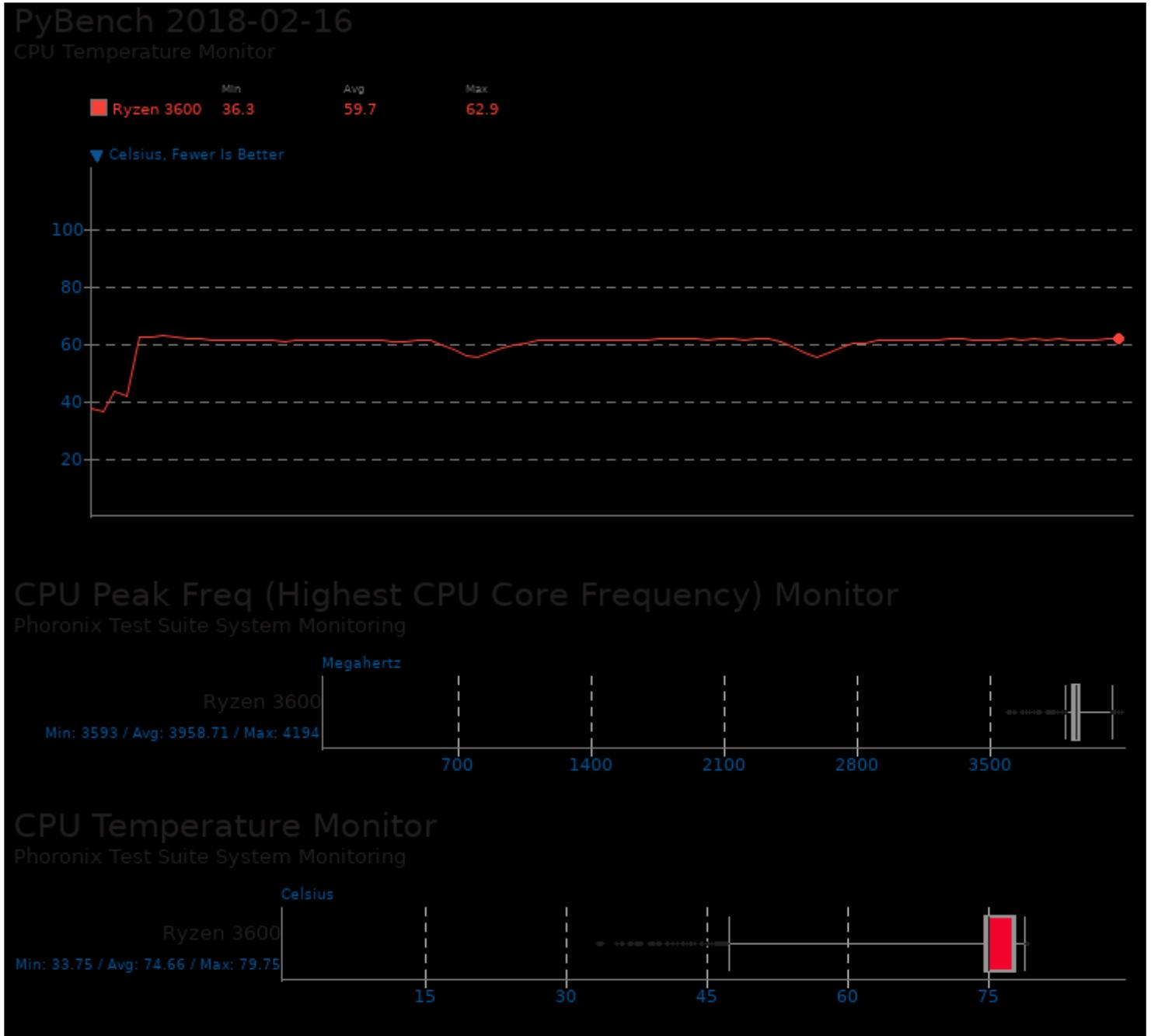
PyBench 2018-02-16

CPU Peak Freq (Highest CPU Core Frequency) Monitor

	Min	Avg	Max
Ryzen 3600	3594	4055	4156

▲ Megahertz, More Is Better





This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 10:05.