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# ryzen 7000 series extra

AMD Ryzen 9 7950X 16-Core testing with a ASUS ROG CROSSHAIR X670E HERO (0604 BIOS) and GFX1036 512MB on Ubuntu 22.04 via the Phoronix Test Suite.

**Automated Executive Summary**

*7950X had the most wins, coming in first place for 54% of the tests.*

*Based on the geometric mean of all complete results, the fastest (7950X) was 1.098x the speed of the slowest (7900X). AMD 7950X was 0.995x the speed of 7950X, Ryzen 9 7900X was 0.917x the speed of AMD 7950X, 7900X was 0.999x the speed of Ryzen 9 7900X.*

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

*ONNX Runtime (Model: bertsquad-12 - Device: CPU - Executor: Standard) at 1.824x*
*LAMMPS Molecular Dynamics Simulator (Model: Rhodopsin Protein) at 1.771x*
*ONNX Runtime (Model: ArcFace ResNet-100 - Device: CPU - Executor: Standard) at 1.545x*
*ONNX Runtime (Model: yolov4 - Device: CPU - Executor: Standard) at 1.515x*
*Stargate Digital Audio Workstation (Sample Rate: 480000 - Buffer Size: 1024) at 1.45x*
*Stargate Digital Audio Workstation (Sample Rate: 44100 - Buffer Size: 512) at 1.438x*
*Stargate Digital Audio Workstation (Sample Rate: 480000 - Buffer Size: 512) at 1.434x*
*Stargate Digital Audio Workstation (Sample Rate: 44100 - Buffer Size: 1024) at 1.43x*

*Etcpak (Benchmark: Multi-Threaded - Configuration: ETC2) at 1.42x*
*Stargate Digital Audio Workstation (Sample Rate: 96000 - Buffer Size: 1024) at 1.413x.*

# Test Systems:

## Ryzen 9 7900X

### 7900X

Processor: AMD Ryzen 9 7900X 12-Core @ 5.73GHz (12 Cores / 24 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0604 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: 2000GB Samsung SSD 980 PRO 2TB + 2000GB, Graphics: AMD Radeon RX 6800 XT 16GB (2575/1000MHz), Audio: AMD Navi 21 HDMI Audio, Monitor: ASUS VP28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 6.0.0-060000rc1daily20220820-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.3.0-devel (git-4685385 2022-08-23 jammy-oibaf-ppa) (LLVM 14.0.6 DRM 3.48), Vulkan: 1.3.224, Compiler: GCC 12.0.1 20220319, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-gcn/usr --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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa601203
Java Notes: OpenJDK Runtime Environment (build 11.0.16+8-post-Ubuntu-0ubuntu122.04)
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

### 7950X

Processor: AMD Ryzen 9 7950X 16-Core @ 5.88GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0604 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: 2000GB Samsung SSD 980 PRO 2TB + 2000GB, Graphics: AMD Radeon RX 6800 XT 16GB (2575/1000MHz), Audio: AMD Navi 21 HDMI Audio, Monitor: ASUS VP28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 6.0.0-060000rc1daily20220820-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.3.0-devel (git-4685385 2022-08-23 jammy-oibaf-ppa) (LLVM 14.0.6 DRM 3.48), Vulkan: 1.3.224, Compiler: GCC 12.0.1 20220319, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-gcn/usr --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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa601203

Java Notes: OpenJDK Runtime Environment (build 11.0.16+8-post-Ubuntu-0ubuntu122.04)
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

## AMD 7950X

Processor: AMD Ryzen 9 7950X 16-Core @ 5.88GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR X670E HERO (0604 BIOS), Chipset: AMD Device 14d8, Memory: 32GB, Disk: 2000GB Samsung SSD 980 PRO 2TB + 2000GB, Graphics: GFX1036 512MB (2200/3000MHz), Audio: AMD Device 1640, Monitor: ASUS VP28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 6.0.0-060000rc1daily20220820-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.3.0-devel (git-4685385 2022-08-23 jammy-oibaf-ppa) (LLVM 14.0.6 DRM 3.48), Vulkan: 1.3.224, Compiler: GCC 12.0.1 20220319, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,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-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-OcsLtf/gcc-12-12-20220319/debian/tmp-gcn/usr --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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: amd-pstate performance (Boost: Enabled) - CPU Microcode: 0xa601203
Java Notes: OpenJDK Runtime Environment (build 11.0.16+8-post-Ubuntu-0ubuntu122.04)
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

| | Ryzen 9 7900X | 7900X | 7950X | AMD 7950X |
|---|---|---|---|---|
| **Unpacking The Linux Kernel - linux-5.19.tar.xz (sec)** | **4.548** | 4.511 | **4.333** | 4.367 |
| **Normalized** | 95.27% | 96.05% | 100% | 99.22% |
| **WireGuard + Linux Networking Stack Stress Test (sec)** | 142.826 | **145.909** | **136.951** | 138.371 |
| **Normalized** | 95.89% | 93.86% | 100% | 98.97% |
| **C-Blosc - blosclz shuffle (MB/s)** | **25926** | 27071 | 27259 | **27969** |
| **Normalized** | 92.7% | 96.79% | 97.46% | 100% |
| **C-Blosc - blosclz bitshuffle (MB/s)** | **15663** | 16084 | 16595 | **16781** |
| **Normalized** | 93.34% | 95.85% | 98.89% | 100% |
| **QuantLib (MFLOPS)** | **4029** | 4081 | **4505** | 4174 |
| **Normalized** | 89.42% | 90.58% | 100% | 92.65% |
| **Etcpak - Multi-Threaded - ETC2** | **4884** | 4890 | **6936** | 6831 |
| **Normalized** | 70.42% | 70.51% | 100% | 98.49% |
| **Etcpak - Single-Threaded - ETC2 (Mpx/s)** | 379.489 | **372.091** | 385.066 | **385.794** |
| **Normalized** | 98.37% | 96.45% | 99.81% | 100% |

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|---|---|---|---|---|
| **High Performance Conjugate Gradient (GFLOP/s)** | **8.15235** | 8.12831 | 8.05073 | **8.02218** |
| **Normalized** | 100% | 99.71% | 98.75% | 98.4% |
| **NAS Parallel Benchmarks - BT.C (Mop/s)** | **42056** | 42380 | **48525** | 48342 |
| **Normalized** | 86.67% | 87.34% | 100% | 99.62% |
| **NAS Parallel Benchmarks - CG.C (Mop/s)** | **11688** | 11344 | **10859** | 10966 |
| **Normalized** | 100% | 97.05% | 92.9% | 93.82% |
| **NAS Parallel Benchmarks - EP.C (Mop/s)** | 2356 | **2319** | **3102** | 2972 |
| **Normalized** | 75.95% | 74.74% | 100% | 95.78% |
| **NAS Parallel Benchmarks - FT.C (Mop/s)** | **24330** | 24473 | **26932** | 26788 |
| **Normalized** | 90.34% | 90.87% | 100% | 99.46% |
| **NAS Parallel Benchmarks - IS.D** | 1421 | **1424** | 1380 | **1379** |
| **Normalized** | 99.78% | 100% | 96.86% | 96.84% |
| **NAS Parallel Benchmarks - LU.C (Mop/s)** | 44323 | **44058** | **54807** | 54402 |
| **Normalized** | 80.87% | 80.39% | 100% | 99.26% |
| **NAS Parallel Benchmarks - MG.C (Mop/s)** | 24817 | **24833** | 23046 | **23002** |
| **Normalized** | 99.93% | 100% | 92.8% | 92.63% |
| **NAS Parallel Benchmarks - SP.B (Mop/s)** | **19974** | 20040 | 20125 | **20177** |
| **Normalized** | 98.99% | 99.32% | 99.74% | 100% |
| **LeelaChessZero - BLAS (Nodes/s)** | **1625** | 1687 | 1636 | **1693** |
| **Normalized** | 95.98% | 99.65% | 96.63% | 100% |
| **LeelaChessZero - Eigen (Nodes/s)** | 1671 | **1668** | **1731** | 1712 |
| **Normalized** | 96.53% | 96.36% | 100% | 98.9% |
| **CloverLeaf - L.E.H (sec)** | 50.00 | **50.22** | **47.78** | 48.03 |
| **Normalized** | 95.56% | 95.14% | 100% | 99.48% |
| **Rodinia - OpenMP LavaMD (sec)** | **109.679** | 109.597 | **80.422** | 87.232 |
| **Normalized** | 73.32% | 73.38% | 100% | 92.19% |
| **Rodinia - OpenMP Leukocyte (sec)** | **55.163** | 55.064 | 52.249 | **52.042** |
| **Normalized** | 94.34% | 94.51% | 99.6% | 100% |
| **Rodinia - OpenMP CFD Solver (sec)** | 10.461 | **10.524** | **8.416** | 8.783 |
| **Normalized** | 80.45% | 79.97% | 100% | 95.82% |
| **NAMD - ATPase Simulation - 327,506 Atoms (days/ns)** | **1.04198** | 1.04151 | **0.76893** | 0.83178 |
| **Normalized** | 73.8% | 73.83% | 100% | 92.44% |
| **Nebular Empirical Analysis Tool (sec)** | 20.861 | **21.783** | **19.207** | 19.619 |
| **Normalized** | 92.07% | 88.17% | 100% | 97.9% |
| **Algebraic Multi-Grid Benchmark (Figure Of Merit)** | **421074300** | 421060400 | 420147400 | **418328700** |
| **Normalized** | 100% | 100% | 99.78% | 99.35% |
| **Pennant - sedovbig (Hydro Cycle Time - sec)** | **38.40846** | 38.21709 | **36.08194** | 36.26435 |
| **Normalized** | 93.94% | 94.41% | 100% | 99.5% |

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|---|---|---|---|---|
| **Pennant - leblancbig (Hydro Cycle Time - sec)** | **26.14324** | 26.13997 | **25.23303** | 25.28983 |
| **Normalized** | 96.52% | 96.53% | 100% | 99.78% |
| **Timed MrBayes Analysis - P.P.A (sec)** | 69.169 | 69.214 | **67.545** | **71.281** |
| **Normalized** | 97.65% | 97.59% | 100% | 94.76% |
| **Timed HMMer Search - P.D.S (sec)** | 80.246 | 79.426 | **77.328** | **80.983** |
| **Normalized** | 96.36% | 97.36% | 100% | 95.49% |
| **Xcompact3d Incompact3d - i.i.1.C.P.D (sec)** | **15.408988** | 15.4057541 | 15.0190678 | **14.9581795** |
| **Normalized** | 97.07% | 97.09% | 99.59% | 100% |
| **Xcompact3d Incompact3d - i.i.1.C.P.D (sec)** | **72.0486298** | 71.6013718 | 70.7468643 | **68.7257843** |
| **Normalized** | 95.39% | 95.98% | 97.14% | 100% |
| **OpenFOAM - motorBike - Mesh Time (sec)** | | | **27.9818** | **29.112** |
| **Normalized** | | | 100% | 96.12% |
| **OpenFOAM - motorBike - Execution Time (sec)** | | | **64.5454** | **65.5223** |
| **Normalized** | | | 100% | 98.51% |
| **OpenFOAM - d.S.M.S - Mesh Time** | | | **22.746348** | **23.353751** |
| **Normalized** | | | 100% | 97.4% |
| **OpenFOAM - d.S.M.S - Execution Time (sec)** | | | **166.48325** | **167.60494** |
| **Normalized** | | | 100% | 99.33% |
| **LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)** | 13.742 | **13.629** | **17.851** | 17.069 |
| **Normalized** | 76.98% | 76.35% | 100% | 95.62% |
| **LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein** | 13.348 | 13.743 | **10.072** | **17.84** |
| **Normalized** | 74.82% | 77.03% | 56.46% | 100% |
| **WebP Image Encode - Q.1.H.C (Encode Time - sec)** | **4.846** | 4.845 | **4.784** | 4.796 |
| **Normalized** | 98.72% | 98.74% | 100% | 99.75% |
| **libgav1 - Summer Nature 4K (FPS)** | 110.34 | **110.04** | **112.96** | 111.19 |
| **Normalized** | 97.68% | 97.42% | 100% | 98.43% |
| **libgav1 - S.N.1 (FPS)** | 351.15 | **349.7** | **359.4** | 354.59 |
| **Normalized** | 97.7% | 97.3% | 100% | 98.66% |
| **simdjson - Kostya (GB/s)** | **5.82** | **6** | 5.96 | 5.89 |
| **Normalized** | 97% | 100% | 99.33% | 98.17% |
| **simdjson - TopTweet (GB/s)** | **10.18** | **9.66** | 10.17 | 9.92 |
| **Normalized** | 100% | 94.89% | 99.9% | 97.45% |
| **simdjson - LargeRand (GB/s)** | **1.74** | 1.8 | 1.79 | **1.83** |
| **Normalized** | 95.08% | 98.36% | 97.81% | 100% |
| **simdjson - PartialTweets (GB/s)** | **9.29** | **9.96** | 9.6 | 9.8 |
| **Normalized** | 93.27% | 100% | 96.39% | 98.39% |
| **simdjson - DistinctUserID (GB/s)** | 10.16 | **10.33** | 10.13 | **10.01** |
| **Normalized** | 98.35% | 100% | 98.06% | 96.9% |
| **Xmrig - Monero - 1M (H/s)** | 12967 | **13064** | 12767 | **12193** |
| **Normalized** | 99.26% | 100% | 97.73% | 93.33% |
| **Xmrig - Wownero - 1M (H/s)** | **15290** | 15373 | **19863** | 19359 |
| **Normalized** | 76.98% | 77.39% | 100% | 97.46% |

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|---|---|---|---|---|
| **Chia Blockchain VDF - Square Plain C++ (IPS)** | **260000** | **269800** | 266000 | 266000 |
| **Normalized** | 96.37% | 100% | 98.59% | 98.59% |
| **Chia Blockchain VDF - S.A.O (IPS)** | 224300 | **221900** | **226000** | 222100 |
| **Normalized** | 99.25% | 98.19% | 100% | 98.27% |
| **Bork File Encrypter - F.E.T (sec)** | 4.917 | 4.851 | **4.72** | **5.069** |
| **Normalized** | 95.99% | 97.3% | 100% | 93.12% |
| **DaCapo Benchmark - H2 (msec)** | **1923** | 1824 | **1600** | 1703 |
| **Normalized** | 83.2% | 87.72% | 100% | 93.95% |
| **DaCapo Benchmark - Jython (msec)** | 2363 | **2365** | **2281** | 2290 |
| **Normalized** | 96.53% | 96.45% | 100% | 99.61% |
| **DaCapo Benchmark - Tradebeans (msec)** | **1728** | 1619 | **1581** | 1604 |
| **Normalized** | 91.49% | 97.65% | 100% | 98.57% |
| **LZ4 Compression - 1 - Compression Speed (MB/s)** | **16666** | 16757 | **16872** | 16832 |
| **Normalized** | 98.78% | 99.32% | 100% | 99.76% |
| **LZ4 Compression - 1 - D.S (MB/s)** | **18925** | 19091 | 19176 | **19177** |
| **Normalized** | 98.68% | 99.55% | 99.99% | 100% |
| **LZ4 Compression - 3 - Compression Speed (MB/s)** | 76.95 | **77.05** | 76.78 | **76.33** |
| **Normalized** | 99.87% | 100% | 99.65% | 99.07% |
| **LZ4 Compression - 3 - D.S (MB/s)** | 18043 | 18240 | **17792** | **18416** |
| **Normalized** | 97.97% | 99.04% | 96.61% | 100% |
| **LZ4 Compression - 9 - Compression Speed (MB/s)** | 76.23 | **74.56** | **77.41** | 77.08 |
| **Normalized** | 98.48% | 96.32% | 100% | 99.57% |
| **LZ4 Compression - 9 - D.S (MB/s)** | 18232 | 18171 | **18009** | **18372** |
| **Normalized** | 99.23% | 98.9% | 98.02% | 100% |
| **Zstd Compression - 8 - Compression Speed (MB/s)** | **2084** | 2169 | **2212** | 2069 |
| **Normalized** | 94.22% | 98.09% | 100% | 93.56% |
| **Zstd Compression - 19 - Compression Speed (MB/s)** | **60** | **60** | 79.5 | **81.5** |
| **Normalized** | 73.62% | 73.62% | 97.55% | 100% |
| **Zstd Compression - 19 - D.S (MB/s)** | **4935** | 5107 | 5059 | **5367** |
| **Normalized** | 91.95% | 95.14% | 94.26% | 100% |
| **Zstd Compression - 3, Long Mode - Compression Speed (MB/s)** | 1890 | 1887 | **1913** | **1871** |
| **Normalized** | 98.12% | 97.99% | 99.34% | 97.14% |
| **Zstd Compression - 3, Long Mode - D.S (MB/s)** | 6003 | **6230** | **5997** | 6099 |
| **Normalized** | 96.36% | 100% | 96.25% | 97.89% |
| **Zstd Compression - 8, Long Mode - Compression Speed (MB/s)** | 1654 | **1653** | **1736** | 1712 |
| **Normalized** | 95.32% | 95.25% | 100% | 98.64% |
| **Zstd Compression - 8, Long Mode - D.S (MB/s)** | 6478 | **6220** | 6253 | **6603** |
| **Normalized** | 98.11% | 94.19% | 94.71% | 100% |

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|---|---|---|---|---|
| Zstd Compression - 19, Long Mode - Compression Speed (MB/s) | 48.7 | 49.1 | 53.6 | 54.7 |
| Normalized | 89.03% | 89.76% | 97.99% | 100% |
| Zstd Compression - 19, Long Mode - D.S (MB/s) | 5131 | 5089 | 5119 | 5318 |
| Normalized | 96.48% | 95.7% | 96.27% | 100% |
| Nettle - aes256 (Mbyte/s) | 8235 | 8585 | 8782 | 8512 |
| Normalized | 93.76% | 97.75% | 100% | 96.92% |
| Nettle - chacha (Mbyte/s) | 1522 | 1531 | 1540 | 1506 |
| Normalized | 98.82% | 99.44% | 100% | 97.81% |
| Nettle - sha512 (Mbyte/s) | 876.83 | 878.26 | 859.2 | 866.49 |
| Normalized | 99.84% | 100% | 97.83% | 98.66% |
| Nettle - poly1305-aes (Mbyte/s) | 4306 | 4268 | 4203 | 4265 |
| Normalized | 100% | 99.12% | 97.61% | 99.05% |
| LuaRadio - F.B.t.B.F.F (MiB/s) | 2043 | 2080 | 2258 | 2193 |
| Normalized | 90.51% | 92.12% | 100% | 97.15% |
| LuaRadio - F.D.F (MiB/s) | 536 | 526.3 | 529.2 | 528.3 |
| Normalized | 100% | 98.19% | 98.73% | 98.56% |
| LuaRadio - Hilbert Transform (MiB/s) | 156.6 | 156 | 157.4 | 157.6 |
| Normalized | 99.37% | 98.98% | 99.87% | 100% |
| LuaRadio - Complex Phase (MiB/s) | 1004 | 1012 | 1036 | 1043 |
| Normalized | 96.29% | 97.04% | 99.33% | 100% |
| GNU Radio - F.B.t.B.F.F (MiB/s) | 1451 | 1391 | 1172 | 1437 |
| Normalized | 100% | 95.86% | 80.76% | 98.99% |
| GNU Radio - S.S.C (MiB/s) | 5034 | 5206 | 5135 | 5131 |
| Normalized | 96.69% | 100% | 98.64% | 98.56% |
| GNU Radio - FIR Filter (MiB/s) | 1413 | 1383 | 1403 | 1402 |
| Normalized | 100% | 97.88% | 99.29% | 99.21% |
| GNU Radio - IIR Filter (MiB/s) | 576.7 | 551.2 | 565 | 582.4 |
| Normalized | 99.02% | 94.64% | 97.01% | 100% |
| GNU Radio - F.D.F (MiB/s) | 925.3 | 908.1 | 913.9 | 916.8 |
| Normalized | 100% | 98.14% | 98.77% | 99.08% |
| GNU Radio - Hilbert Transform (MiB/s) | 716.2 | 694.8 | 752.5 | 743 |
| Normalized | 95.18% | 92.33% | 100% | 98.74% |
| LibRaw - P.P.B (Mpix/sec) | 87.62 | 88.81 | 95.07 | 94.81 |
| Normalized | 92.16% | 93.42% | 100% | 99.73% |
| Crafty - Elapsed Time (Nodes/s) | 15036137 | 14667231 | 14701310 | 14841328 |
| Normalized | 100% | 97.55% | 97.77% | 98.7% |
| TSCP - A.C.P (Nodes/s) | 2384320 | 2469856 | 2426334 | 2526504 |
| Normalized | 94.37% | 97.76% | 96.04% | 100% |
| Node.js Express HTTP Load Test (Reqs/sec) | 13642 | 13859 | 13849 | 13781 |
| Normalized | 98.43% | 100% | 99.93% | 99.44% |
| LuxCoreRender - DLSC - CPU (M samples/sec) | 3.97 | 3.98 | 5.13 | 5.03 |
| Normalized | 77.39% | 77.58% | 100% | 98.05% |
| LuxCoreRender - Danish Mood - CPU (M samples/sec) | 3.25 | 3.27 | 4.3 | 4.36 |
| Normalized | 74.54% | 75% | 98.62% | 100% |
| LuxCoreRender - Orange Juice - CPU (M samples/sec) | 6.26 | 6.27 | 7.92 | 7.79 |
| Normalized | 79.04% | 79.17% | 100% | 98.36% |

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|---|---|---|---|---|
| **LuxCoreRender - LuxCore Benchmark - CPU (M samples/sec)** | **3.64** | 3.67 | **4.78** | 4.71 |
| **Normalized** | 76.15% | 76.78% | 100% | 98.54% |
| **LuxCoreRender - R.C.a.P - CPU (M samples/sec)** | **14.48** | 14.99 | 19.25 | **19.57** |
| **Normalized** | 73.99% | 76.6% | 98.36% | 100% |
| **GraphicsMagick - Enhanced (Iterations/min)** | **484** | 487 | **633** | 630 |
| **Normalized** | 76.46% | 76.94% | 100% | 99.53% |
| **GraphicsMagick - Resizing (Iterations/min)** | **2198** | 2268 | **2800** | 2748 |
| **Normalized** | 78.5% | 81% | 100% | 98.14% |
| **GraphicsMagick - Noise-Gaussian (Iterations/min)** | 531 | **526** | **649** | 639 |
| **Normalized** | 81.82% | 81.05% | 100% | 98.46% |
| **GraphicsMagick - HWB Color Space (Iterations/min)** | **1622** | 1690 | **1796** | 1771 |
| **Normalized** | 90.31% | 94.1% | 100% | 98.61% |
| **TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)** | 1081 | **1078** | **1310** | 1286 |
| **Normalized** | 82.45% | 82.27% | 100% | 98.12% |
| **AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)** | 75.03 | **74.25** | **79.75** | 77.39 |
| **Normalized** | 94.08% | 93.1% | 100% | 97.04% |
| **AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)** | **98.14** | 99.81 | **104.44** | 103.49 |
| **Normalized** | 93.97% | 95.57% | 100% | 99.09% |
| **AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)** | **100** | 101.55 | **103.45** | 101.18 |
| **Normalized** | 96.67% | 98.16% | 100% | 97.81% |
| **AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)** | **205.44** | 206.18 | **208.84** | 207.72 |
| **Normalized** | 98.37% | 98.73% | 100% | 99.46% |
| **AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)** | **252.21** | 253.58 | **265.49** | 261.13 |
| **Normalized** | 95% | 95.51% | 100% | 98.36% |
| **AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)** | **256.58** | 268.32 | **273.17** | 261.35 |
| **Normalized** | 93.93% | 98.22% | 100% | 95.67% |
| **Embree - Pathtracer - Crown (FPS)** | **24.143** | 24.2043 | **31.3435** | 30.9408 |
| **Normalized** | 77.03% | 77.22% | 100% | 98.72% |
| **Embree - Pathtracer ISPC - Crown (FPS)** | 26.471 | **26.1721** | **33.5107** | 33.3153 |
| **Normalized** | 78.99% | 78.1% | 100% | 99.42% |
| **Embree - Pathtracer - Asian Dragon (FPS)** | **25.4688** | 25.4927 | **32.5486** | 31.8739 |
| **Normalized** | 78.25% | 78.32% | 100% | 97.93% |
| **Embree - Pathtracer ISPC - Asian Dragon (FPS)** | **28.7478** | 28.8591 | **34.6746** | 34.45 |
| **Normalized** | 82.91% | 83.23% | 100% | 99.35% |

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|---|---|---|---|---|
| **Kvazaar - Bosphorus 4K - Very Fast (FPS)** | **34.57** | 36.06 | **44.21** | 39.92 |
| **Normalized** | 78.19% | 81.57% | 100% | 90.3% |
| **Kvazaar - Bosphorus 4K - Ultra Fast (FPS)** | 64.74 | **64.22** | **83.36** | 79.81 |
| **Normalized** | 77.66% | 77.04% | 100% | 95.74% |
| **Kvazaar - Bosphorus 1080p - Very Fast (FPS)** | **130.26** | 130.63 | **174.33** | 168.25 |
| **Normalized** | 74.72% | 74.93% | 100% | 96.51% |
| **Kvazaar - Bosphorus 1080p - Ultra Fast (FPS)** | **249.59** | 251.02 | **321.95** | 318.72 |
| **Normalized** | 77.52% | 77.97% | 100% | 99% |
| **SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)** | **3.081** | 3.093 | **3.468** | 3.381 |
| **Normalized** | 88.84% | 89.19% | 100% | 97.49% |
| **SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)** | 70.41 | **70.139** | **81.085** | 76.847 |
| **Normalized** | 86.83% | 86.5% | 100% | 94.77% |
| **SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)** | **126.588** | 127.767 | **141.072** | 138.169 |
| **Normalized** | 89.73% | 90.57% | 100% | 97.94% |
| **SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)** | 186.66 | **184.87** | **203.794** | 202.155 |
| **Normalized** | 91.59% | 90.71% | 100% | 99.2% |
| **SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)** | **9.227** | 9.278 | **9.891** | 9.877 |
| **Normalized** | 93.29% | 93.8% | 100% | 99.86% |
| **SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)** | **190.263** | 190.615 | 211.672 | **212.389** |
| **Normalized** | 89.58% | 89.75% | 99.66% | 100% |
| **SVT-AV1 - Preset 10 - Bosphorus 1080p (FPS)** | **408.344** | 408.498 | **465.903** | 454.922 |
| **Normalized** | 87.65% | 87.68% | 100% | 97.64% |
| **SVT-AV1 - Preset 12 - Bosphorus 1080p (FPS)** | 675.34 | **670.797** | **710.813** | 710.208 |
| **Normalized** | 95.01% | 94.37% | 100% | 99.91% |
| **SVT-HEVC - 7 - Bosphorus 4K (FPS)** | 81.72 | **81.33** | **99.47** | 98.99 |
| **Normalized** | 82.16% | 81.76% | 100% | 99.52% |
| **SVT-HEVC - 10 - Bosphorus 4K (FPS)** | 137.87 | **133.75** | 161.77 | **164.02** |
| **Normalized** | 84.06% | 81.54% | 98.63% | 100% |
| **SVT-HEVC - 7 - Bosphorus 1080p** | 254.45 | **253.06** | **321.2** | 309.76 |
| **Normalized** | 79.22% | 78.79% | 100% | 96.44% |
| **SVT-HEVC - 10 - Bosphorus 1080p (FPS)** | **495.46** | 496.28 | **592.89** | 576.92 |
| **Normalized** | 83.57% | 83.71% | 100% | 97.31% |
| **SVT-VP9 - VMAF Optimized - Bosphorus 4K (FPS)** | **96.73** | 97.08 | **104.24** | 103.11 |
| **Normalized** | 92.8% | 93.13% | 100% | 98.92% |
| **SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)** | **360.38** | 361.22 | **414.06** | 405.49 |
| **Normalized** | 87.04% | 87.24% | 100% | 97.93% |

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|---|---|---|---|---|
| **SVT-VP9 - P.S.O - Bosphorus 4K** | 106.22 | **104.06** | **108.4** | 107.73 |
| **Normalized** | 97.99% | 96% | 100% | 99.38% |
| **SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)** | 375.71 | **373.9** | **422** | 408.99 |
| **Normalized** | 89.03% | 88.6% | 100% | 96.92% |
| **SVT-VP9 - V.Q.O - Bosphorus 4K** | 95.45 | **95.11** | **108.32** | 105.59 |
| **Normalized** | 88.12% | 87.8% | 100% | 97.48% |
| **SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)** | **330.72** | 331.22 | **389.22** | 373.66 |
| **Normalized** | 84.97% | 85.1% | 100% | 96% |
| **VP9 libvpx Encoding - Speed 0 - Bosphorus 4K (FPS)** | **10.63** | 10.88 | **11.07** | 10.83 |
| **Normalized** | 96.03% | 98.28% | 100% | 97.83% |
| **VP9 libvpx Encoding - Speed 5 - Bosphorus 4K (FPS)** | **25.87** | 26.56 | 26.35 | **26.9** |
| **Normalized** | 96.17% | 98.74% | 97.96% | 100% |
| **VP9 libvpx Encoding - Speed 0 - Bosphorus 1080p (FPS)** | **20.72** | 22.78 | **22.89** | 22.88 |
| **Normalized** | 90.52% | 99.52% | 100% | 99.96% |
| **VP9 libvpx Encoding - Speed 5 - Bosphorus 1080p (FPS)** | 48.86 | **48.1** | 48.46 | **48.92** |
| **Normalized** | 99.88% | 98.32% | 99.06% | 100% |
| **x264 - Bosphorus 4K (FPS)** | **52.75** | 53 | **62.95** | 62.17 |
| **Normalized** | 83.8% | 84.19% | 100% | 98.76% |
| **x264 - Bosphorus 1080p (FPS)** | 241.16 | **239.73** | **282.05** | 281.27 |
| **Normalized** | 85.5% | 85% | 100% | 99.72% |
| **x265 - Bosphorus 4K (FPS)** | **30.35** | 30.61 | **36.24** | 35.87 |
| **Normalized** | 83.75% | 84.46% | 100% | 98.98% |
| **x265 - Bosphorus 1080p (FPS)** | 112.18 | **111.61** | **122.49** | 121.37 |
| **Normalized** | 91.58% | 91.12% | 100% | 99.09% |
| **Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)** | **0.69** | **0.69** | **0.87** | **0.87** |
| **Normalized** | 79.31% | 79.31% | 100% | 100% |
| **Intel Open Image Denoise - RT.ldr_alb_nrm.3840x2160 (Images / Sec)** | **0.69** | **0.69** | **0.88** | 0.87 |
| **Normalized** | 78.41% | 78.41% | 100% | 98.86% |
| **OpenVKL - vklBenchmark ISPC (Items / Sec)** | **153** | **153** | **196** | 195 |
| **Normalized** | 78.06% | 78.06% | 100% | 99.49% |
| **OpenVKL - v.S (Items / Sec)** | **56** | **56** | 68 | **72** |
| **Normalized** | 77.78% | 77.78% | 94.44% | 100% |
| **OSPRay - particle_volume/ao/real_time** | 5.98269 | **5.91569** | **7.67756** | 7.62904 |
| **Normalized** | 77.92% | 77.05% | 100% | 99.37% |
| **OSPRay - particle_volume/scivis/real_time (Items/sec)** | 5.94602 | **5.91425** | 7.63101 | **7.72007** |
| **Normalized** | 77.02% | 76.61% | 98.85% | 100% |

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|---|---|---|---|---|
| **OSPRay - particle_volume/pathtracer/real_time (Items/sec)** | **215.639** | 217.38 | **247.099** | 244.257 |
| **Normalized** | 87.27% | 87.97% | 100% | 98.85% |
| **OSPRay - gravity_spheres_volume/dim_512/ao/real_time (Items/sec)** | **5.97357** | 5.97359 | **7.74077** | 7.65618 |
| **Normalized** | 77.17% | 77.17% | 100% | 98.91% |
| **OSPRay - gravity_spheres_volume/dim_512/scivis/real_time (Items/sec)** | 5.90253 | **5.83245** | **7.58104** | 7.5395 |
| **Normalized** | 77.86% | 76.93% | 100% | 99.45% |
| **OSPRay - gravity_spheres_volume/dim_512/pathtracer/real_time (Items/sec)** | 7.01002 | **6.99484** | **9.04721** | 9.00402 |
| **Normalized** | 77.48% | 77.31% | 100% | 99.52% |
| **Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)** | **805615** | 806406 | **884837** | 883091 |
| **Normalized** | 91.05% | 91.14% | 100% | 99.8% |
| **asmFish - 1.H.M.2.D (Nodes/s)** | **60746175** | 61854382 | **77166056** | 76508982 |
| **Normalized** | 78.72% | 80.16% | 100% | 99.15% |
| **Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)** | **5.911319** | 6.029547 | **8.497707** | 8.384272 |
| **Normalized** | 69.56% | 70.95% | 100% | 98.67% |
| **Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)** | 4.630259 | **4.606672** | 6.260121 | **6.269144** |
| **Normalized** | 73.86% | 73.48% | 99.86% | 100% |
| **Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)** | 6.263301 | **6.260137** | **8.953144** | 8.861638 |
| **Normalized** | 69.96% | 69.92% | 100% | 98.98% |
| **Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)** | 6.083383 | **6.018932** | **8.631312** | 8.507457 |
| **Normalized** | 70.48% | 69.73% | 100% | 98.57% |
| **Stargate Digital Audio Workstation - 96000 - 1024 (Render Ratio)** | **4.794923** | 4.817782 | **6.77407** | 6.732052 |
| **Normalized** | 70.78% | 71.12% | 100% | 99.38% |
| **Stargate Digital Audio Workstation - 480000 - 1024 (Render Ratio)** | 6.278703 | **6.170099** | **8.944355** | 8.77686 |
| **Normalized** | 70.2% | 68.98% | 100% | 98.13% |
| **libavif avifenc - 0 (sec)** | **85.237** | 84.788 | 76.521 | **75.647** |
| **Normalized** | 88.75% | 89.22% | 98.86% | 100% |
| **libavif avifenc - 2 (sec)** | **41.094** | 40.931 | **38.831** | 39.496 |
| **Normalized** | 94.49% | 94.87% | 100% | 98.32% |
| **libavif avifenc - 6 (sec)** | 4.89 | **4.945** | 4.103 | **4.099** |
| **Normalized** | 83.82% | 82.89% | 99.9% | 100% |
| **libavif avifenc - 6, Lossless (sec)** | 6.454 | **6.562** | 5.981 | **5.963** |
| **Normalized** | 92.39% | 90.87% | 99.7% | 100% |
| **libavif avifenc - 10, Lossless (sec)** | 3.32 | **3.443** | **3.319** | 3.366 |
| **Normalized** | 99.97% | 96.4% | 100% | 98.6% |

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|---|---|---|---|---|
| **Timed FFmpeg Compilation - Time To Compile (sec)** | 26.454 | **26.542** | 22.129 | **22.02** |
| **Normalized** | 83.24% | 82.96% | 99.51% | 100% |
| **Timed Gem5 Compilation - Time To Compile (sec)** | 228.798 | **229.32** | **194.394** | 195.933 |
| **Normalized** | 84.96% | 84.77% | 100% | 99.21% |
| **Timed Godot Game Engine Compilation - Time To Compile (sec)** | **63.794** | 63.732 | 53.226 | **53.041** |
| **Normalized** | 83.14% | 83.23% | 99.65% | 100% |
| **Timed Linux Kernel Compilation - defconfig (sec)** | **49.522** | 49.254 | **40.72** | 40.924 |
| **Normalized** | 82.23% | 82.67% | 100% | 99.5% |
| **Timed Linux Kernel Compilation - allmodconfig (sec)** | **576.671** | 571.803 | 460.538 | **459.477** |
| **Normalized** | 79.68% | 80.36% | 99.77% | 100% |
| **Timed LLVM Compilation - Ninja (sec)** | **325.788** | 324.842 | 268.502 | **268.035** |
| **Normalized** | 82.27% | 82.51% | 99.83% | 100% |
| **Timed LLVM Compilation - Unix Makefiles (sec)** | 350.322 | **353.402** | **297.173** | 301.149 |
| **Normalized** | 84.83% | 84.09% | 100% | 98.68% |
| **Timed Mesa Compilation - Time To Compile (sec)** | 26.314 | **26.495** | **22.803** | 22.844 |
| **Normalized** | 86.66% | 86.07% | 100% | 99.82% |
| **Timed MPlayer Compilation - Time To Compile (sec)** | **18.945** | 18.9 | **15.626** | 15.639 |
| **Normalized** | 82.48% | 82.68% | 100% | 99.92% |
| **Parallel BZIP2 Compression - F.1.0.R.a.m.i.C (sec)** | **3.853** | 3.78 | **2.91** | 2.937 |
| **Normalized** | 75.53% | 76.98% | 100% | 99.08% |
| **POV-Ray - Trace Time (sec)** | **22.067** | 22.053 | **17.511** | 17.7 |
| **Normalized** | 79.35% | 79.4% | 100% | 98.93% |
| **Primesieve - 1e12 (sec)** | **8.376** | 8.364 | **6.521** | 6.544 |
| **Normalized** | 77.85% | 77.97% | 100% | 99.65% |
| **oneDNN - R.N.N.T - f32 - CPU (ms)** | **1482** | 1478 | **1188** | 1191 |
| **Normalized** | 80.2% | 80.4% | 100% | 99.78% |
| **oneDNN - R.N.N.I - f32 - CPU (ms)** | 754.761 | **755.025** | **607.982** | 608.818 |
| **Normalized** | 80.55% | 80.52% | 100% | 99.86% |
| **oneDNN - R.N.N.T - u8s8f32 - CPU** | 1479 | **1482** | 1192 | **1188** |
| **Normalized** | 80.28% | 80.16% | 99.67% | 100% |
| **oneDNN - R.N.N.I - u8s8f32 - CPU (ms)** | **757.435** | 755.698 | **609.143** | 610.36 |
| **Normalized** | 80.42% | 80.61% | 100% | 99.8% |
| **OSPRay Studio - 1 - 4K - 1 - Path Tracer (ms)** | **5018** | 5014 | **3861** | 3873 |
| **Normalized** | 76.94% | 77% | 100% | 99.69% |
| **OSPRay Studio - 2 - 4K - 1 - Path Tracer (ms)** | **5096** | 5087 | **3931** | 3939 |
| **Normalized** | 77.14% | 77.28% | 100% | 99.8% |
| **OSPRay Studio - 3 - 4K - 1 - Path Tracer (ms)** | 5994 | **6009** | **4626** | 4635 |
| **Normalized** | 77.18% | 76.98% | 100% | 99.81% |

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|---|---|---|---|---|
| **OSPRay Studio - 1 - 4K - 16 - Path Tracer (ms)** | **83869** | 83840 | **65217** | 66000 |
| **Normalized** | 77.76% | 77.79% | 100% | 98.81% |
| **OSPRay Studio - 1 - 4K - 32 - Path Tracer (ms)** | 164512 | **165227** | **127621** | 127635 |
| **Normalized** | 77.58% | 77.24% | 100% | 99.99% |
| **OSPRay Studio - 2 - 4K - 16 - Path Tracer (ms)** | 84997 | **85254** | **66218** | 66456 |
| **Normalized** | 77.91% | 77.67% | 100% | 99.64% |
| **OSPRay Studio - 2 - 4K - 32 - Path Tracer (ms)** | **166874** | 166330 | 129227 | **129199** |
| **Normalized** | 77.42% | 77.68% | 99.98% | 100% |
| **OSPRay Studio - 3 - 4K - 16 - Path Tracer (ms)** | 99170 | **99547** | 77813 | **77186** |
| **Normalized** | 77.83% | 77.54% | 99.19% | 100% |
| **OSPRay Studio - 3 - 4K - 32 - Path Tracer (ms)** | **196302** | 195466 | 151669 | **151643** |
| **Normalized** | 77.25% | 77.58% | 99.98% | 100% |
| **Gzip Compression - L.S.T.A.T.t.g (sec)** | **27.299** | 27.213 | **26.642** | 26.722 |
| **Normalized** | 97.59% | 97.9% | 100% | 99.7% |
| **FLAC Audio Encoding - WAV To FLAC (sec)** | 10.439 | **10.156** | 10.458 | **10.493** |
| **Normalized** | 97.29% | 100% | 97.11% | 96.79% |
| **LAME MP3 Encoding - WAV To MP3 (sec)** | **4.443** | **4.308** | 4.406 | 4.396 |
| **Normalized** | 96.96% | 100% | 97.78% | 98% |
| **Opus Codec Encoding - WAV To Opus Encode (sec)** | **4.628** | 4.712 | 4.714 | **4.731** |
| **Normalized** | 100% | 98.22% | 98.18% | 97.82% |
| **eSpeak-NG Speech Engine - T.T.S.S (sec)** | 17.608 | **17.444** | **17.821** | 17.626 |
| **Normalized** | 99.07% | 100% | 97.88% | 98.97% |
| **Helsing - 14 digit (sec)** | **258.776** | 257.65 | **207.119** | 207.3 |
| **Normalized** | 80.04% | 80.39% | 100% | 99.91% |
| **m-queens - Time To Solve (sec)** | **37.018** | 36.961 | **28.68** | 28.79 |
| **Normalized** | 77.48% | 77.6% | 100% | 99.62% |
| **N-Queens - Elapsed Time (sec)** | **7.567** | 7.556 | **5.761** | 5.778 |
| **Normalized** | 76.13% | 76.24% | 100% | 99.71% |
| **Ngspice - C2670 (sec)** | 57.222 | 57.965 | **56.795** | **58.264** |
| **Normalized** | 99.25% | 97.98% | 100% | 97.48% |
| **Ngspice - C7552 (sec)** | 55.197 | **56.48** | 56.08 | **54.798** |
| **Normalized** | 99.28% | 97.02% | 97.71% | 100% |
| **RNNoise (sec)** | **12.761** | **12.225** | 12.314 | 12.273 |
| **Normalized** | 95.8% | 100% | 99.28% | 99.61% |
| **VOSK Speech Recognition Toolkit** | **12.371** | **12.934** | 12.769 | 12.638 |
| **Normalized** | 100% | 95.65% | 96.88% | 97.89% |
| **WebP2 Image Encode - Default (sec)** | 1.742 | **1.779** | 1.563 | **1.541** |
| **Normalized** | 88.46% | 86.62% | 98.59% | 100% |
| **WebP2 Image Encode - Q.7.C.E.7** | **95.727** | 94.632 | 80.827 | **80.75** |
| **Normalized** | 84.35% | 85.33% | 99.9% | 100% |
| **WebP2 Image Encode - Q.9.C.E.7** | 196.213 | **198.534** | **169.098** | 169.506 |
| **Normalized** | 86.18% | 85.17% | 100% | 99.76% |

# ryzen 7000 series extra

| | | | | |
|---|---|---|---|---|
| **WebP2 Image Encode - Q.1.C.E.5** | 2.743 | 2.733 | 2.35 | 2.35 |
| **Normalized** | 85.67% | 85.99% | 100% | 100% |
| **WebP2 Image Encode - Q.1.L.C (sec)** | 432.811 | 429.988 | 366.42 | 365.481 |
| **Normalized** | 84.44% | 85% | 99.74% | 100% |
| **Aircrack-ng (k/s)** | 89485 | 89447 | 119085 | 117148 |
| **Normalized** | 75.14% | 75.11% | 100% | 98.37% |
| **SecureMark - SecureMark-TLS** | 420052 | 426090 | 418283 | 419142 |
| **Normalized** | 98.58% | 100% | 98.17% | 98.37% |
| **OpenSSL - SHA256 (byte/s)** | 26576621020 | 26575518700 | 34190441430 | 34302097260 |
| **Normalized** | 77.48% | 77.47% | 99.67% | 100% |
| **OpenSSL - RSA4096 (sign/s)** | 4470 | 4472 | 5830 | 5835 |
| **Normalized** | 76.6% | 76.64% | 99.92% | 100% |
| **OpenSSL - RSA4096 (verify/s)** | 292034 | 292395 | 381128 | 381593 |
| **Normalized** | 76.53% | 76.62% | 99.88% | 100% |
| **Node.js V8 Web Tooling Benchmark (runs/s)** | 20.14 | 20.28 | 20.05 | 20.19 |
| **Normalized** | 99.31% | 100% | 98.87% | 99.56% |
| **Liquid-DSP - 1 - 256 - 57 (samples/s)** | 106050000 | 106250000 | 106720000 | 104170000 |
| **Normalized** | 99.37% | 99.56% | 100% | 97.61% |
| **Liquid-DSP - 2 - 256 - 57 (samples/s)** | 209690000 | 209990000 | 211840000 | 213420000 |
| **Normalized** | 98.25% | 98.39% | 99.26% | 100% |
| **Liquid-DSP - 4 - 256 - 57 (samples/s)** | 421250000 | 418840000 | 424890000 | 422700000 |
| **Normalized** | 99.14% | 98.58% | 100% | 99.48% |
| **Liquid-DSP - 8 - 256 - 57 (samples/s)** | 807230000 | 818280000 | 826350000 | 806410000 |
| **Normalized** | 97.69% | 99.02% | 100% | 97.59% |
| **Liquid-DSP - 16 - 256 - 57 (samples/s)** | 1214800000 | 1211100000 | 1551600000 | 1556200000 |
| **Normalized** | 78.06% | 77.82% | 99.7% | 100% |
| **Liquid-DSP - 32 - 256 - 57 (samples/s)** | 1254600000 | 1254300000 | 1609400000 | 1609100000 |
| **Normalized** | 77.95% | 77.94% | 100% | 99.98% |
| **ClickHouse - 1.R.W.A.D.F.R.C.C (Queries/min, Geo Mean)** | 264.56 | 271.19 | 292.59 | 292.63 |
| **Normalized** | 90.41% | 92.67% | 99.99% | 100% |
| **ClickHouse - 1.R.W.A.D.S.R (Queries/min, Geo Mean)** | 302.13 | 283.61 | 312.52 | 325.42 |
| **Normalized** | 92.84% | 87.15% | 96.04% | 100% |
| **ClickHouse - 1.R.W.A.D.T.R (Queries/min, Geo Mean)** | 292.30 | 295.81 | 327.78 | 331.32 |
| **Normalized** | 88.22% | 89.28% | 98.93% | 100% |
| **Redis - GET - 50 (Reqs/sec)** | 5396082 | 4809629 | 5240635 | 5374080 |
| **Normalized** | 100% | 89.13% | 97.12% | 99.59% |
| **Redis - SET - 50 (Reqs/sec)** | 4255369 | 4244198 | 4368035 | 4403371 |
| **Normalized** | 96.64% | 96.39% | 99.2% | 100% |
| **Redis - GET - 500 (Reqs/sec)** | 5194359 | 5769778 | 5830328 | 5836453 |
| **Normalized** | 89% | 98.86% | 99.9% | 100% |
| **Redis - SET - 500 (Reqs/sec)** | 3851853 | 4288977 | 4421337 | 4444524 |
| **Normalized** | 86.67% | 96.5% | 99.48% | 100% |
| **FinanceBench - Repo OpenMP (ms)** | 21869 | 20718 | 20467 | 20367 |
| **Normalized** | 93.13% | 98.31% | 99.51% | 100% |
| **FinanceBench - Bonds OpenMP (ms)** | 32644 | 32674 | 32174 | 33062 |
| **Normalized** | 98.56% | 98.47% | 100% | 97.31% |
| **ASKAP - H.C.O (Iterations/sec)** | 427.35 | 396.825 | 442.478 | 434.783 |
| **Normalized** | 96.58% | 89.68% | 100% | 98.26% |

# ryzen 7000 series extra

| | | | | |
|---|---|---|---|---|
| **ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)** | **1940** | 1941 | **2089** | 2086 |
| **Normalized** | 92.87% | 92.93% | 100% | 99.85% |
| **ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)** | 2723 | **2733** | **2685** | 2723 |
| **Normalized** | 99.62% | 100% | 98.25% | 99.63% |
| **ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)** | **4755** | 4841 | **6051** | 5788 |
| **Normalized** | 78.57% | 80% | 100% | 95.65% |
| **ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)** | **5325** | 5788 | 5665 | **5917** |
| **Normalized** | 90% | 97.83% | 95.74% | 100% |
| **Cryptsetup - PBKDF2-sha512 (Iterations/sec)** | **2962079** | 3030566 | 2974683 | 2987396 |
| **Normalized** | 97.18% | 99.42% | 97.59% | 98.01% |
| **Cryptsetup - PBKDF2-whirlpool (Iterations/sec)** | **1014096** | 1036142 | 1024000 | 1028015 |
| **Normalized** | 97.1% | 99.21% | 98.05% | 98.43% |
| **Cryptsetup - A.X.2.E (MiB/s)** | **6811** | 6852 | 6683 | 6874 |
| **Normalized** | 97.18% | 97.76% | 95.35% | 98.08% |
| **Cryptsetup - A.X.2.D (MiB/s)** | **6803** | 6956 | 6789 | 6841 |
| **Normalized** | 97.08% | 99.26% | 96.88% | 97.63% |
| **Cryptsetup - S.X.2.E (MiB/s)** | **1127** | 1140 | 1112 | 1107 |
| **Normalized** | 98.6% | 99.76% | 97.25% | 96.87% |
| **Cryptsetup - S.X.2.D (MiB/s)** | **1116** | 1128 | 1104 | 1100 |
| **Normalized** | 98.65% | 99.73% | 97.6% | 97.25% |
| **Cryptsetup - T.X.2.E (MiB/s)** | **682.1** | 693.1 | 680.1 | 679.7 |
| **Normalized** | 97.74% | 99.31% | 97.45% | 97.39% |
| **Cryptsetup - T.X.2.D (MiB/s)** | **698.5** | 710 | 699 | 689.8 |
| **Normalized** | 97.73% | 99.34% | 97.8% | 96.52% |
| **Cryptsetup - A.X.5.E (MiB/s)** | **5665** | 5767 | 5571 | 5588 |
| **Normalized** | 97.61% | 99.37% | 95.99% | 96.28% |
| **Cryptsetup - A.X.5.D (MiB/s)** | **5673** | 5768 | 5624 | 5636 |
| **Normalized** | 97.92% | 99.54% | 97.06% | 97.26% |
| **Cryptsetup - S.X.5.E (MiB/s)** | **1128** | 1141 | 1114 | 1111 |
| **Normalized** | 98.72% | 99.89% | 97.53% | 97.29% |
| **Cryptsetup - S.X.5.D (MiB/s)** | **1116** | 1129 | 1102 | 1100 |
| **Normalized** | 98.75% | 99.9% | 97.53% | 97.28% |
| **Cryptsetup - T.X.5.E (MiB/s)** | **681.5** | 696.8 | 681.8 | 681.4 |
| **Normalized** | 97.73% | 99.93% | 97.78% | 97.72% |
| **Cryptsetup - T.X.5.D (MiB/s)** | **698.1** | 713.7 | 698.5 | 689.5 |
| **Normalized** | 97.73% | 99.92% | 97.79% | 96.53% |
| **ASTC Encoder - Medium (MT/s)** | 102.6812 | **102.3869** | 114.85 | **143.1043** |
| **Normalized** | 71.75% | 71.55% | 80.26% | 100% |
| **ASTC Encoder - Thorough (MT/s)** | 14.7249 | **14.6968** | **17.5932** | 17.515 |
| **Normalized** | 83.7% | 83.54% | 100% | 99.56% |
| **ASTC Encoder - Exhaustive (MT/s)** | 1.4873 | **1.4856** | **1.7546** | 1.7538 |
| **Normalized** | 84.77% | 84.67% | 100% | 99.95% |
| **libjpeg-turbo tjbench - D.T (Megapixels/sec)** | 327.646719 | **331.775428** | 323.459146 | **321.772364** |
| **Normalized** | 98.76% | 100% | 97.49% | 96.98% |

# ryzen 7000 series extra

| | | | | |
|---|---|---|---|---|
| GROMACS - MPI CPU - water_GMX50_bare (Ns/Day) | 2.232 | 2.231 | 2.521 | 2.503 |
| Normalized | 88.54% | 88.5% | 100% | 99.29% |
| TensorFlow Lite - SqueezeNet (us) | 1548 | 1549 | 1524 | 1497 |
| Normalized | 96.75% | 96.66% | 98.26% | 100% |
| TensorFlow Lite - Inception V4 (us) | 19323 | 19365 | 17148 | 17245 |
| Normalized | 88.75% | 88.55% | 100% | 99.44% |
| TensorFlow Lite - Mobilenet Float (us) | 1113 | 1115 | 1057 | 1065 |
| Normalized | 94.96% | 94.83% | 100% | 99.29% |
| TensorFlow Lite - Mobilenet Quant | 2001 | 1891 | 1612 | 1622 |
| Normalized | 80.55% | 85.24% | 100% | 99.38% |
| SQLite Speedtest - Timed Time - Size 1,000 (sec) | 35.656 | 35.276 | 35.135 | 34.741 |
| Normalized | 97.43% | 98.48% | 98.88% | 100% |
| GEGL - Scale (sec) | 6.247 | 6.146 | 5.991 | 6.225 |
| Normalized | 95.9% | 97.48% | 100% | 96.24% |
| GEGL - Reflect (sec) | 19.567 | 19.353 | 19.443 | 19.526 |
| Normalized | 98.91% | 100% | 99.54% | 99.11% |
| GEGL - Antialias (sec) | 24.289 | 24.259 | 24.337 | 24.452 |
| Normalized | 99.88% | 100% | 99.68% | 99.21% |
| GEGL - Tile Glass (sec) | 19.087 | 18.841 | 19.228 | 19.274 |
| Normalized | 98.71% | 100% | 97.99% | 97.75% |
| GEGL - Wavelet Blur (sec) | 40.047 | 39.285 | 39.431 | 39.38 |
| Normalized | 98.1% | 100% | 99.63% | 99.76% |
| GEGL - Color Enhance (sec) | 34.959 | 34.44 | 34.46 | 34.686 |
| Normalized | 98.52% | 100% | 99.94% | 99.29% |
| GEGL - Rotate 90 Degrees (sec) | 34.561 | 35.316 | 35.029 | 34.606 |
| Normalized | 100% | 97.86% | 98.66% | 99.87% |
| GIMP - resize (sec) | 13.391 | 13.562 | 13.058 | 13.257 |
| Normalized | 97.51% | 96.28% | 100% | 98.5% |
| GIMP - rotate (sec) | 9.065 | 9.115 | 8.788 | 9.166 |
| Normalized | 96.94% | 96.41% | 100% | 95.88% |
| GIMP - auto-levels (sec) | 10.171 | 9.913 | 10.158 | 10.528 |
| Normalized | 97.46% | 100% | 97.59% | 94.16% |
| GIMP - unsharp-mask (sec) | 12.43 | 12.199 | 12.582 | 13.021 |
| Normalized | 98.14% | 100% | 96.96% | 93.69% |
| G'MIC - 2.F.P.1.T (sec) | 68.533 | 72.601 | 69.864 | 70.744 |
| Normalized | 100% | 94.4% | 98.09% | 96.87% |
| G'MIC - P.I.O.A.3.V.1.T (sec) | 9.114 | 9.543 | 9.274 | 9.311 |
| Normalized | 100% | 95.5% | 98.27% | 97.88% |
| G'MIC - 3.E.F.I.R.C.1.T (sec) | 35.219 | 36.56 | 36.126 | 36.145 |
| Normalized | 100% | 96.33% | 97.49% | 97.44% |
| Inkscape - SVG Files To PNG (sec) | 14.272 | 14.458 | 14.139 | 13.223 |
| Normalized | 92.65% | 91.46% | 93.52% | 100% |
| OCRMyPDF - P.6.P.P.D (sec) | 10.365 | 10.482 | 9.438 | 9.461 |
| Normalized | 91.06% | 90.04% | 100% | 99.76% |
| GNU Octave Benchmark (sec) | 4.401 | 4.334 | 4.345 | 4.567 |
| Normalized | 98.48% | 100% | 99.75% | 94.9% |
| OpenSCAD - Pistol (sec) | 57.006 | 55.63 | 55.452 | 56.102 |
| Normalized | 97.27% | 99.68% | 100% | 98.84% |
| OpenSCAD - Mini-ITX Case (sec) | 24.185 | 24.375 | 23.639 | 23.99 |
| Normalized | 97.74% | 96.98% | 100% | 98.54% |
| OpenSCAD - L.P.C.S (sec) | 9.535 | 9.96 | 9.635 | 9.713 |

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| | | | | |
|---|---|---|---|---|
| Normalized | 100% | 95.73% | 98.96% | 98.17% |
| RawTherapee - T.B.T (sec) | 33.73 | 33.553 | 32.414 | 33.204 |
| Normalized | 96.1% | 96.61% | 100% | 97.62% |
| Google Draco - Lion (ms) | 3566 | 3684 | 3555 | 3663 |
| Normalized | 99.69% | 96.5% | 100% | 97.05% |
| Google Draco - Church Facade (ms) | 4556 | 4624 | 4419 | 4653 |
| Normalized | 96.99% | 95.57% | 100% | 94.97% |
| Stress-NG - NUMA (Bogo Ops/s) | 594.66 | 589.59 | 730.61 | 788.86 |
| Normalized | 75.38% | 74.74% | 92.62% | 100% |
| Stress-NG - Socket Activity (Bogo | 33986 | 33900 | 33665 | 28863 |
| Normalized | 100% | 99.75% | 99.05% | 84.93% |
| GPAW - Carbon Nanotube (sec) | 168.163 | 167.632 | 149.934 | 151.089 |
| Normalized | 89.16% | 89.44% | 100% | 99.24% |
| NCNN - CPU - mobilenet (ms) | 8.46 | 8.82 | 8.5 | 8.67 |
| Normalized | 100% | 95.92% | 99.53% | 97.58% |
| NCNN - CPU-v2-v2 - mobilenet-v2 (ms) | 3.36 | 3.39 | 3.58 | 3.72 |
| Normalized | 100% | 99.12% | 93.85% | 90.32% |
| NCNN - CPU-v3-v3 - mobilenet-v3 (ms) | 2.93 | 2.96 | 3.13 | 3.25 |
| Normalized | 100% | 98.99% | 93.61% | 90.15% |
| NCNN - CPU - shufflenet-v2 (ms) | 3.47 | 3.5 | 3.62 | 3.78 |
| Normalized | 100% | 99.14% | 95.86% | 91.8% |
| NCNN - CPU - mnasnet (ms) | 3.01 | 3.14 | 3.19 | 3.32 |
| Normalized | 100% | 95.86% | 94.36% | 90.66% |
| NCNN - CPU - efficientnet-b0 (ms) | 4.13 | 4.41 | 4.36 | 4.54 |
| Normalized | 100% | 93.65% | 94.72% | 90.97% |
| NCNN - CPU - blazeface (ms) | 1.36 | 1.4 | 1.53 | 1.6 |
| Normalized | 100% | 97.14% | 88.89% | 85% |
| NCNN - CPU - googlenet (ms) | 8.06 | 8.58 | 8.32 | 8.55 |
| Normalized | 100% | 93.94% | 96.88% | 94.27% |
| NCNN - CPU - vgg16 (ms) | 24.51 | 25.42 | 24.22 | 24.34 |
| Normalized | 98.82% | 95.28% | 100% | 99.51% |
| NCNN - CPU - resnet18 (ms) | 7.15 | 7.24 | 7.4 | 7.51 |
| Normalized | 100% | 98.76% | 96.62% | 95.21% |
| NCNN - CPU - alexnet (ms) | 4.68 | 5.09 | 4.82 | 4.83 |
| Normalized | 100% | 91.94% | 97.1% | 96.89% |
| NCNN - CPU - resnet50 (ms) | 12.07 | 12.49 | 11.85 | 12.1 |
| Normalized | 98.18% | 94.88% | 100% | 97.93% |
| NCNN - CPU - yolov4-tiny (ms) | 13.68 | 13.74 | 13.62 | 14.09 |
| Normalized | 99.56% | 99.13% | 100% | 96.66% |
| NCNN - CPU - squeezenet_ssd (ms) | 11.86 | 11.95 | 12.12 | 12.36 |
| Normalized | 100% | 99.25% | 97.85% | 95.95% |
| NCNN - CPU - regnety_400m (ms) | 10.16 | 10.47 | 11.31 | 12.16 |
| Normalized | 100% | 97.04% | 89.83% | 83.55% |
| NCNN - CPU - vision_transformer (ms) | 50.16 | 50.24 | 50.25 | 51.22 |
| Normalized | 100% | 99.84% | 99.82% | 97.93% |
| NCNN - CPU - FastestDet (ms) | 4.19 | 4.35 | 4.5 | 4.66 |
| Normalized | 100% | 96.32% | 93.11% | 89.91% |
| TNN - CPU - DenseNet (ms) | 2042 | 2066 | 1929 | 1928 |
| Normalized | 94.41% | 93.32% | 99.94% | 100% |
| TNN - CPU - MobileNet v2 (ms) | 191.631 | 185.692 | 174.487 | 173.235 |
| Normalized | 90.4% | 93.29% | 99.28% | 100% |
| TNN - CPU - SqueezeNet v2 (ms) | 42.82 | 44.359 | 39.907 | 40.391 |
| Normalized | 93.2% | 89.96% | 100% | 98.8% |

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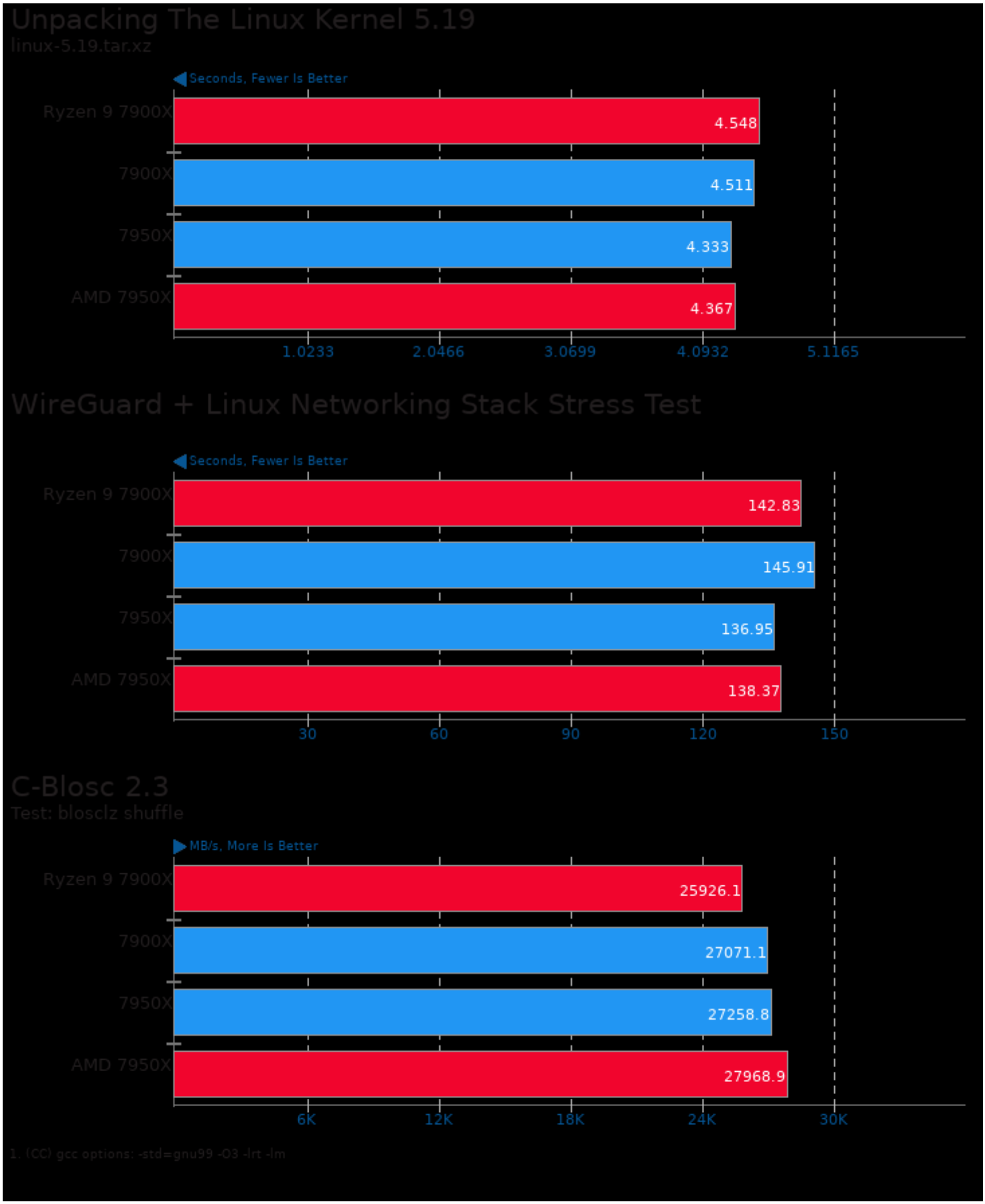
| | | | | |
|---|---|---|---|---|
| **TNN - CPU - SqueezeNet v1.1 (ms)** | **182.037** | 176.022 | **173.704** | 174.664 |
| **Normalized** | 95.42% | 98.68% | 100% | 99.45% |
| **Blender - BMW27 - CPU-Only (sec)** | 71.73 | **71.86** | **55.88** | 55.99 |
| **Normalized** | 77.9% | 77.76% | 100% | 99.8% |
| **Blender - Classroom - CPU-Only (sec)** | **187.32** | 186.66 | **146.52** | 146.56 |
| **Normalized** | 78.22% | 78.5% | 100% | 99.97% |
| **Blender - Fishy Cat - CPU-Only (sec)** | **93.47** | 93.3 | **73.55** | 73.68 |
| **Normalized** | 78.69% | 78.83% | 100% | 99.82% |
| **Blender - Barbershop - CPU-Only** | **696.69** | 691.69 | **543.63** | 544.92 |
| **Normalized** | 78.03% | 78.59% | 100% | 99.76% |
| **Blender - Pabellon Barcelona - CPU-Only (sec)** | **238.06** | 237.38 | 186.8 | **186.28** |
| **Normalized** | 78.25% | 78.47% | 99.72% | 100% |
| **ctx_clock - C.S.T (Clocks)** | **188** | **188** | **180** | **180** |
| **Normalized** | 95.74% | 95.74% | 100% | 100% |
| **Sysbench - CPU (Events/sec)** | **81734** | 81937 | **107702** | 107616 |
| **Normalized** | 75.89% | 76.08% | 100% | 99.92% |
| **IndigoBench - CPU - Bedroom (M samples/s)** | 4.11 | **4.108** | 5.233 | **5.269** |
| **Normalized** | 78% | 77.97% | 99.32% | 100% |
| **IndigoBench - CPU - Supercar (M samples/s)** | **9.036** | 9.141 | **11.645** | 11.483 |
| **Normalized** | 77.6% | 78.5% | 100% | 98.61% |
| **PyBench - T.F.A.T.T (Milliseconds)** | 603 | **587** | **612** | 597 |
| **Normalized** | 97.35% | 100% | 95.92% | 98.32% |
| **PyPerformance - 2to3 (Milliseconds)** | **169** | 168 | **167** | **167** |
| **Normalized** | 98.82% | 99.4% | 100% | 100% |
| **PyPerformance - chaos (Milliseconds)** | **54** | 53.3 | **52.6** | 53.7 |
| **Normalized** | 97.41% | 98.69% | 100% | 97.95% |
| **PyPerformance - nbody (Milliseconds)** | **80** | 78.9 | 78.6 | **77.9** |
| **Normalized** | 97.38% | 98.73% | 99.11% | 100% |
| **PyPerformance - pathlib** | **10.2** | **10.2** | **10.2** | **10.3** |
| **Normalized** | 100% | 100% | 100% | 99.03% |
| **PyPerformance - raytrace** | **247** | **247** | **244** | **244** |
| **Normalized** | 98.79% | 98.79% | 100% | 100% |
| **PyPerformance - json_loads (Milliseconds)** | **11.9** | **11.9** | **11.8** | **11.8** |
| **Normalized** | 99.16% | 99.16% | 100% | 100% |
| **PyPerformance - crypto_pyaes (Milliseconds)** | **63.2** | 60.8 | **59.8** | 60.1 |
| **Normalized** | 94.62% | 98.36% | 100% | 99.5% |
| **PyPerformance - regex_compile (Milliseconds)** | **79.6** | 79.2 | **78.6** | 78.9 |
| **Normalized** | 98.74% | 99.24% | 100% | 99.62% |
| **PyPerformance - python_startup (Milliseconds)** | **4.42** | **4.42** | **4.38** | 4.4 |
| **Normalized** | 99.1% | 99.1% | 100% | 99.55% |
| **PyPerformance - pickle_pure_python (Milliseconds)** | **225** | 222 | 222 | **221** |
| **Normalized** | 98.22% | 99.55% | 99.55% | 100% |

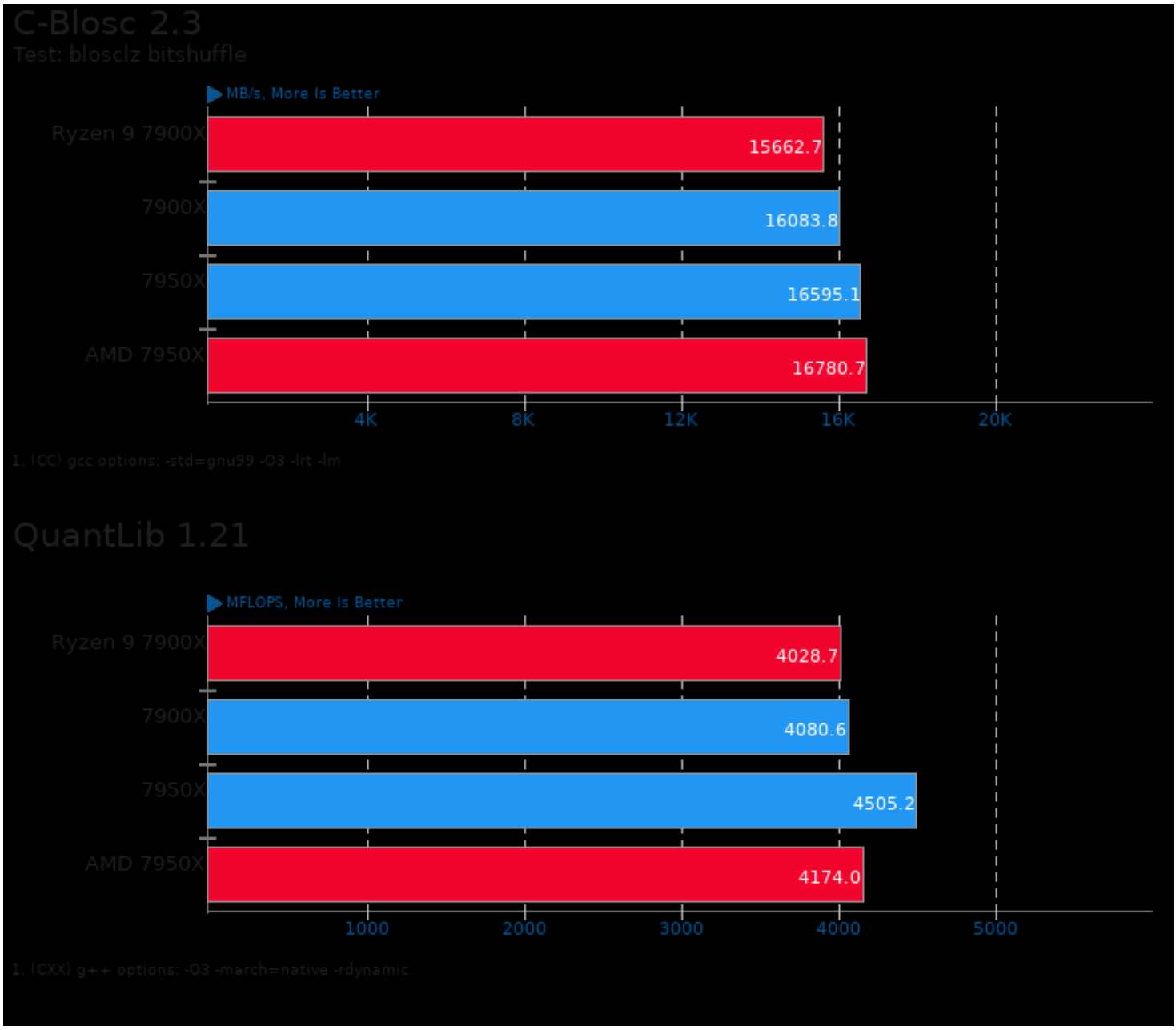
# ryzen 7000 series extra

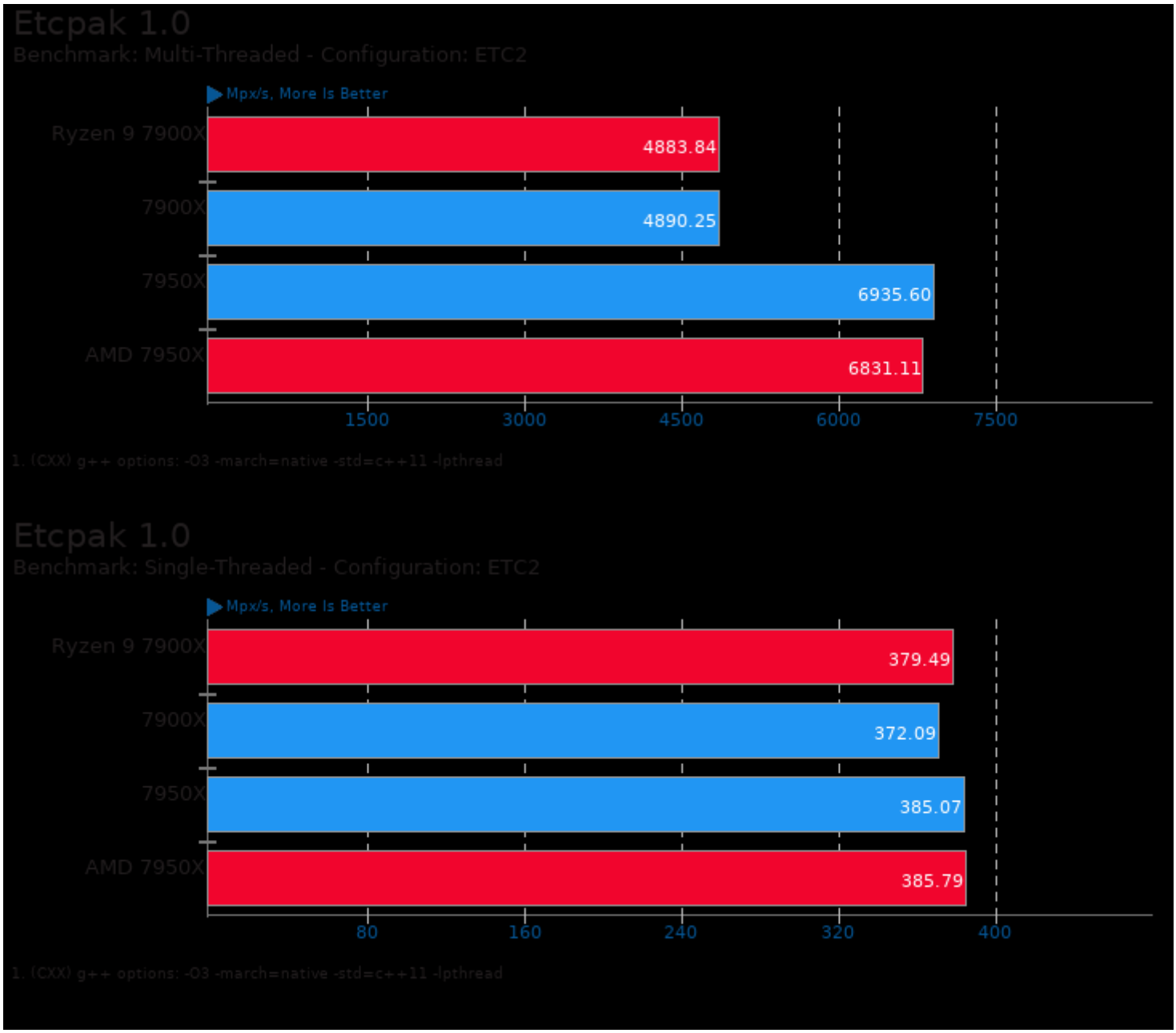
| | | | | |
|---|---|---|---|---|
| **Hierarchical INTegration - FLOAT (QUIPs)** | 646917722 | **627446221** | 659837489 | **660305278** |
| **Normalized** | 97.97% | 95.02% | 99.93% | 100% |
| **Natron - Spaceship (FPS)** | 4 | **3.9** | **5** | 4.5 |
| **Normalized** | 80% | 78% | 100% | 90% |
| **ONNX Runtime - GPT-2 - CPU - Standard (Inferences/min)** | 9362 | 9091 | **9521** | **8891** |
| **Normalized** | 98.33% | 95.48% | 100% | 93.38% |
| **ONNX Runtime - yolov4 - CPU - Standard (Inferences/min)** | **706** | **466** | 501 | 518 |
| **Normalized** | 100% | 66.01% | 70.96% | 73.37% |
| **ONNX Runtime - bertsquad-12 - CPU - Standard (Inferences/min)** | **723** | 763 | **1319** | 855 |
| **Normalized** | 54.81% | 57.85% | 100% | 64.82% |
| **ONNX Runtime - ArcFace ResNet-100 - CPU - Standard (Inferences/min)** | **2604** | **1685** | 1796 | 1848 |
| **Normalized** | 100% | 64.71% | 68.97% | 70.97% |
| **ONNX Runtime - super-resolution-10 - CPU - Standard (Inferences/min)** | 6022 | 6098 | **5888** | **7707** |
| **Normalized** | 78.14% | 79.12% | 76.4% | 100% |
| **Appleseed - Emily (sec)** | 178.880998 | **179.695392** | **146.600218** | 146.727896 |
| **Normalized** | 81.95% | 81.58% | 100% | 99.91% |
| **Appleseed - Disney Material (sec)** | **106.598409** | 106.469103 | **84.065654** | 84.480535 |
| **Normalized** | 78.86% | 78.96% | 100% | 99.51% |
| **Appleseed - Material Tester (sec)** | 113.738262 | **113.777811** | **95.585583** | 95.853525 |
| **Normalized** | 84.04% | 84.01% | 100% | 99.72% |
| **AI Benchmark Alpha - D.I.S (Score)** | **2851** | **2851** | **3295** | 3288 |
| **Normalized** | 86.53% | 86.53% | 100% | 99.79% |
| **AI Benchmark Alpha - D.T.S (Score)** | 3699 | **3693** | **4131** | 4112 |
| **Normalized** | 89.54% | 89.4% | 100% | 99.54% |
| **AI Benchmark Alpha - Device AI Score (Score)** | 6550 | **6544** | **7426** | 7400 |
| **Normalized** | 88.2% | 88.12% | 100% | 99.65% |
| **PHPBench - P.B.S (Score)** | 1205025 | **1211978** | 1190293 | **1173107** |
| **Normalized** | 99.43% | 100% | 98.21% | 96.79% |
| **Selenium - ARES-6 - Google Chrome (ms)** | **7.67** | | **7.49** | |
| **Normalized** | 97.65% | | 100% | |
| **Selenium - Kraken - Google Chrome (ms)** | **367.1** | | **358.2** | |
| **Normalized** | 97.58% | | 100% | |
| **Selenium - Jetstream 2 - Google Chrome (Score)** | **317.836** | | **319.52** | |
| **Normalized** | 99.47% | | 100% | |
| **Selenium - Speedometer - Google Chrome (Runs/min)** | **370** | | **377** | |
| **Normalized** | 98.14% | | 100% | |
| **Selenium - PSPDFKit WASM - Google Chrome (Score)** | **2537** | | **2341** | |
| **Normalized** | 92.27% | | 100% | |
| **Selenium - W.i - Google Chrome (ms)** | **18.45** | | **17.76** | |
| **Normalized** | 96.26% | | 100% | |

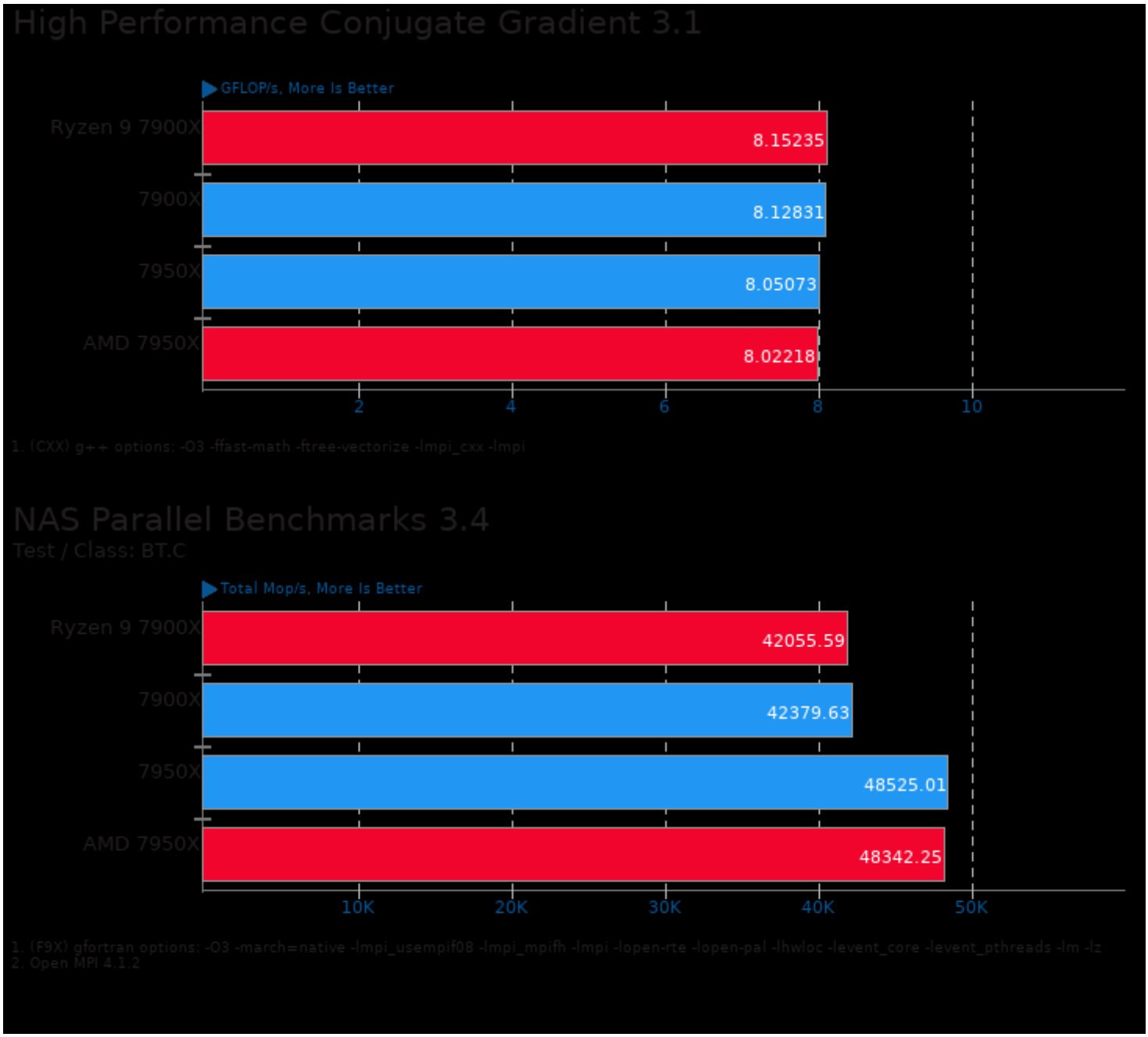
# ryzen 7000 series extra

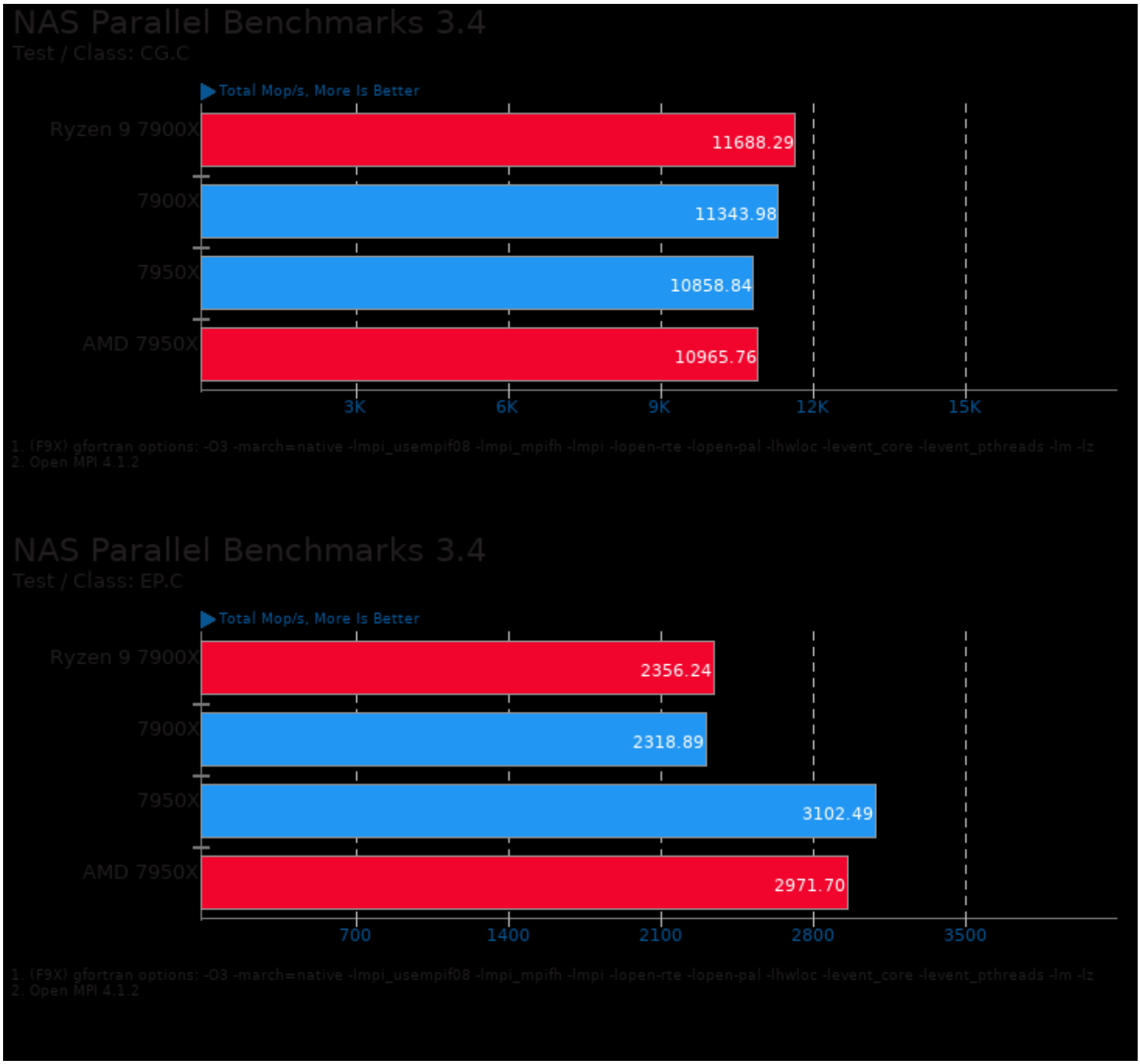
| | | | | |
|---|---|---|---|---|
| **Selenium - W.c - Google Chrome (ms)** | **214.99** | | **211.38** | |
| **Normalized** | 98.32% | | 100% | |
| **WavPack Audio Encoding - WAV To WavPack (sec)** | **8.425** | **8.726** | 8.549 | 8.581 |
| **Normalized** | 100% | 96.55% | 98.55% | 98.18% |
| **PyHPC Benchmarks - CPU - Numpy - 4194304 - Equation of State (sec)** | **0.738** | **0.777** | 0.765 | 0.739 |
| **Normalized** | 100% | 94.98% | 96.47% | 99.86% |
| **PyHPC Benchmarks - CPU - Numpy - 4194304 - Isoneutral Mixing (sec)** | **1.337** | **1.375** | 1.352 | 1.344 |
| **Normalized** | 100% | 97.24% | 98.89% | 99.48% |
| **Unpacking Firefox - firefox-84.0.source.tar.xz (sec)** | **11.513** | 11.323 | **11.194** | 11.25 |
| **Normalized** | 97.23% | 98.86% | 100% | 99.5% |
| **Chaos Group V-RAY - CPU (vsamples)** | 24285 | **24055** | 30955 | **31160** |
| **Normalized** | 77.94% | 77.2% | 99.34% | 100% |
| **Zstd Compression - 8 - D.S (MB/s)** | | | **5880** | **5948** |
| **Normalized** | | | 98.86% | 100% |

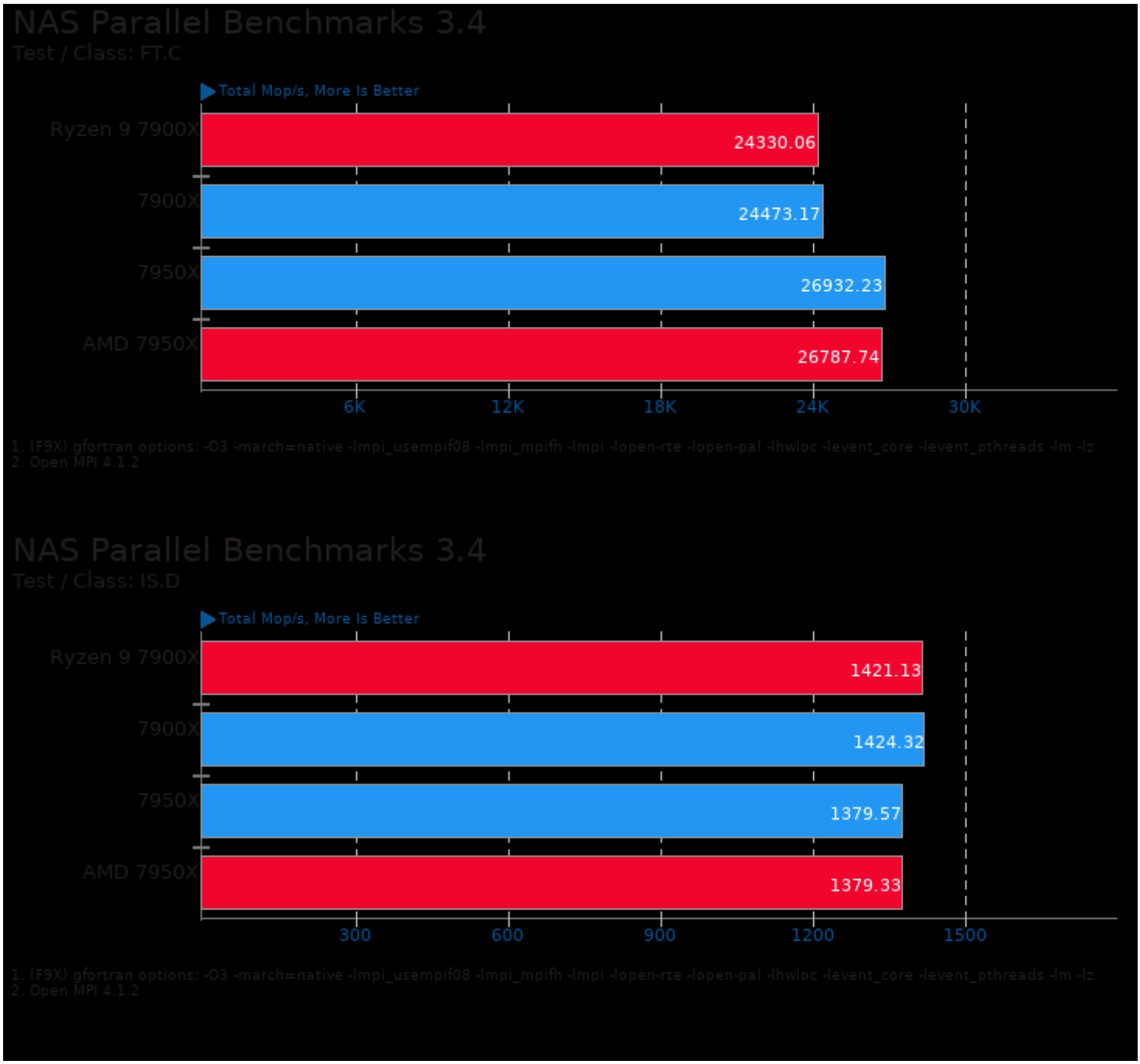

Unpacking The Linux Kernel 5.19
linux-5.19.tar.xz
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
4.548
4.511
4.333
4.367
1.0233
2.0466
3.0699
4.0932
5.1165
WireGuard + Linux Networking Stack Stress Test
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
142.83
145.91
136.95
138.37
30
60
90
120
150
C-Blosc 2.3
Test: blosclz shuffle
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
25926.1
27071.1
27258.8
27968.9
6K
12K
18K
24K
30K
1. (CC) gcc options: -std=gnu99 -O3 -lrt -lm

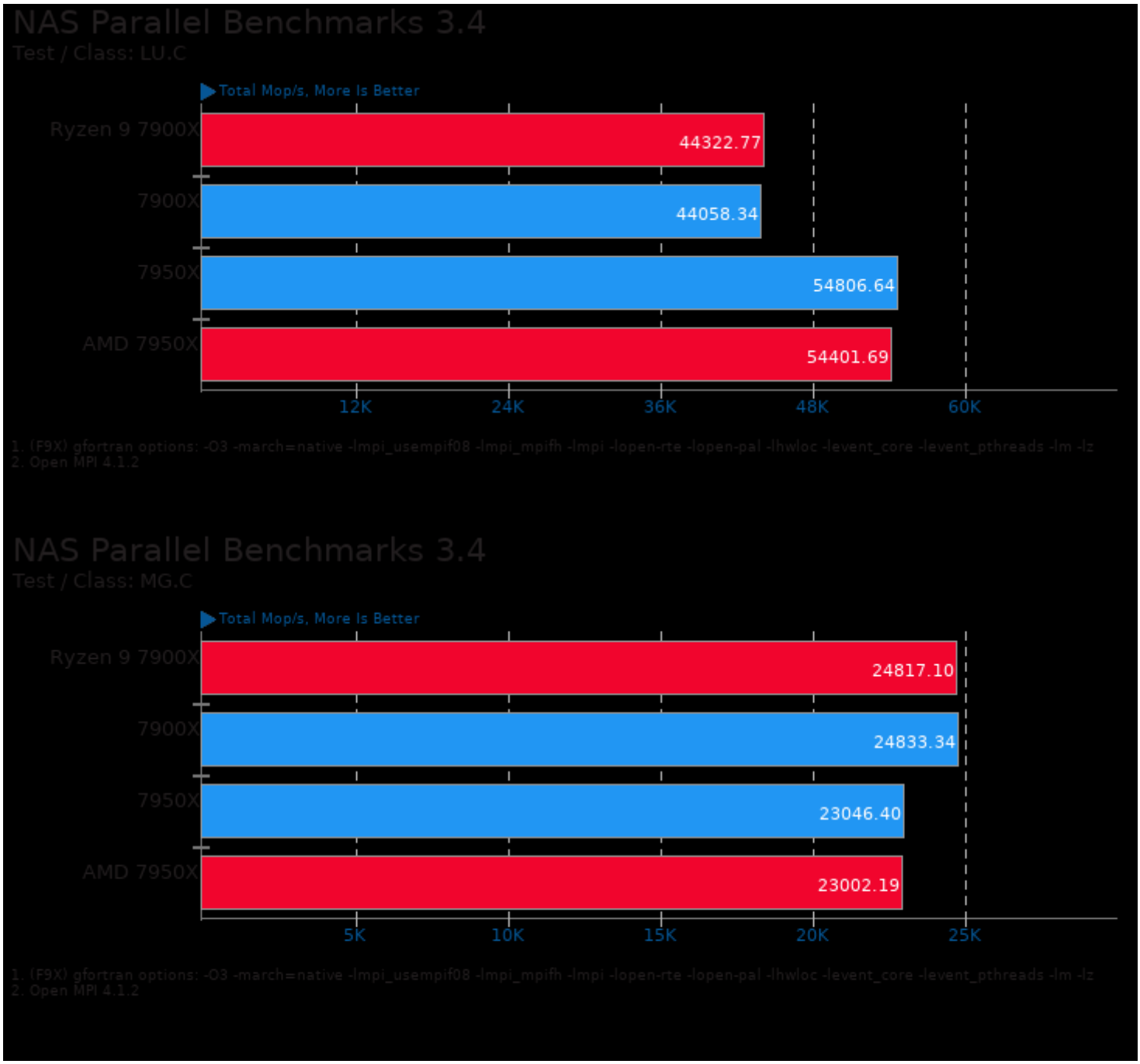

C-Blosc 2.3
Test: blosclz bitshuffle
MB/s, More Is Better
Ryzen 9 7900X
15662.7
7900X
16083.8
7950X
16595.1
AMD 7950X
16780.7
4K
8K
12K
16K
20K
1. (CC) gcc options: -std=gnu99 -O3 -lrt -lm
QuantLib 1.21
MFLOPS, More Is Better
Ryzen 9 7900X
4028.7
7900X
4080.6
7950X
4505.2
AMD 7950X
4174.0
1000
2000
3000
4000
5000
1. (CXX) g++ options: -O3 -march=native -rdynamic

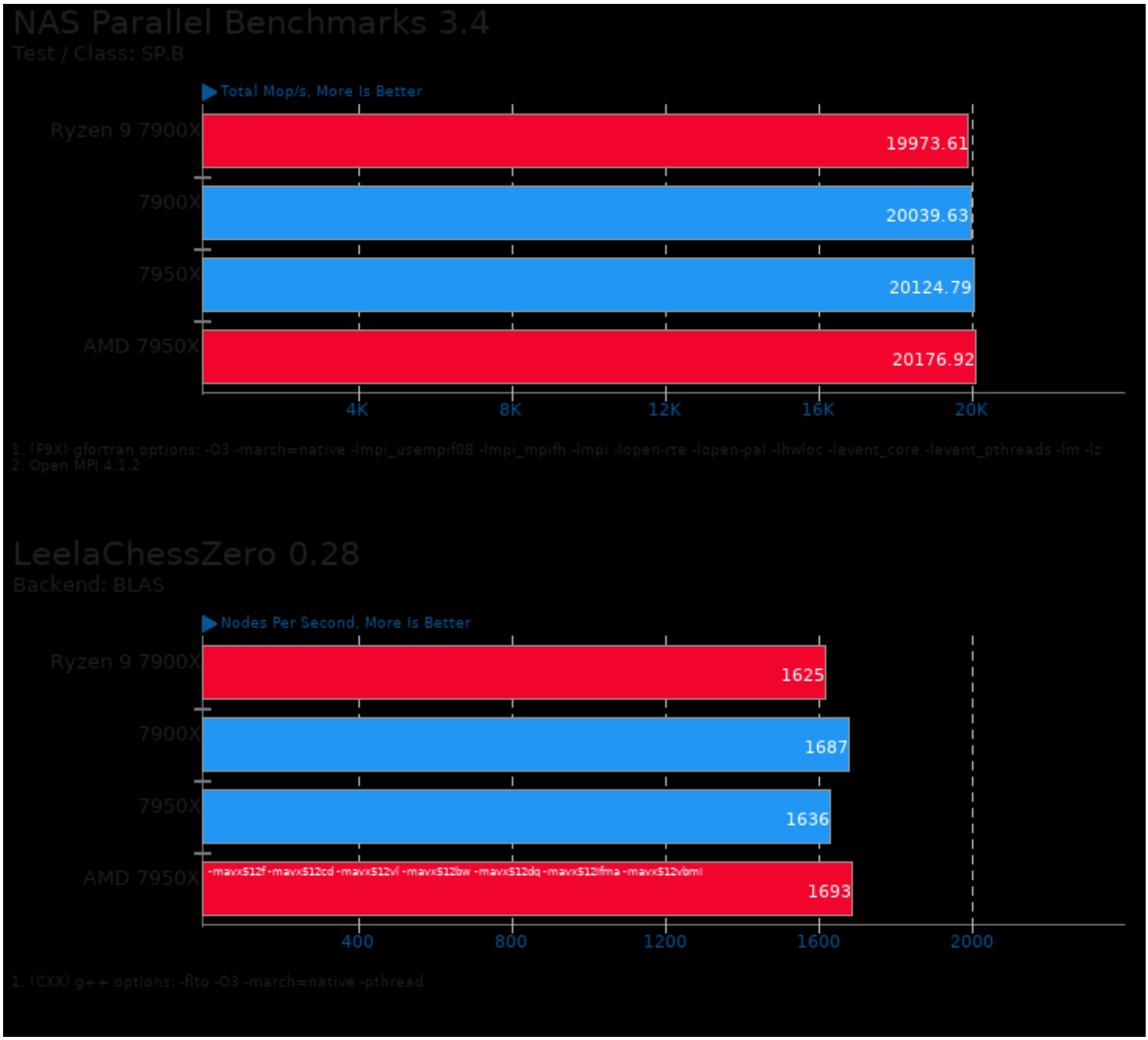

Etcpak 1.0
Benchmark: Multi-Threaded - Configuration: ETC2
Mpx/s, More Is Better
Ryzen 9 7900X
4883.84
7900X
4890.25
7950X
6935.60
AMD 7950X
6831.11
1500
3000
4500
6000
7500
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 1.0
Benchmark: Single-Threaded - Configuration: ETC2
Mpx/s, More Is Better
Ryzen 9 7900X
379.49
7900X
372.09
7950X
385.07
AMD 7950X
385.79
80
160
240
320
400
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

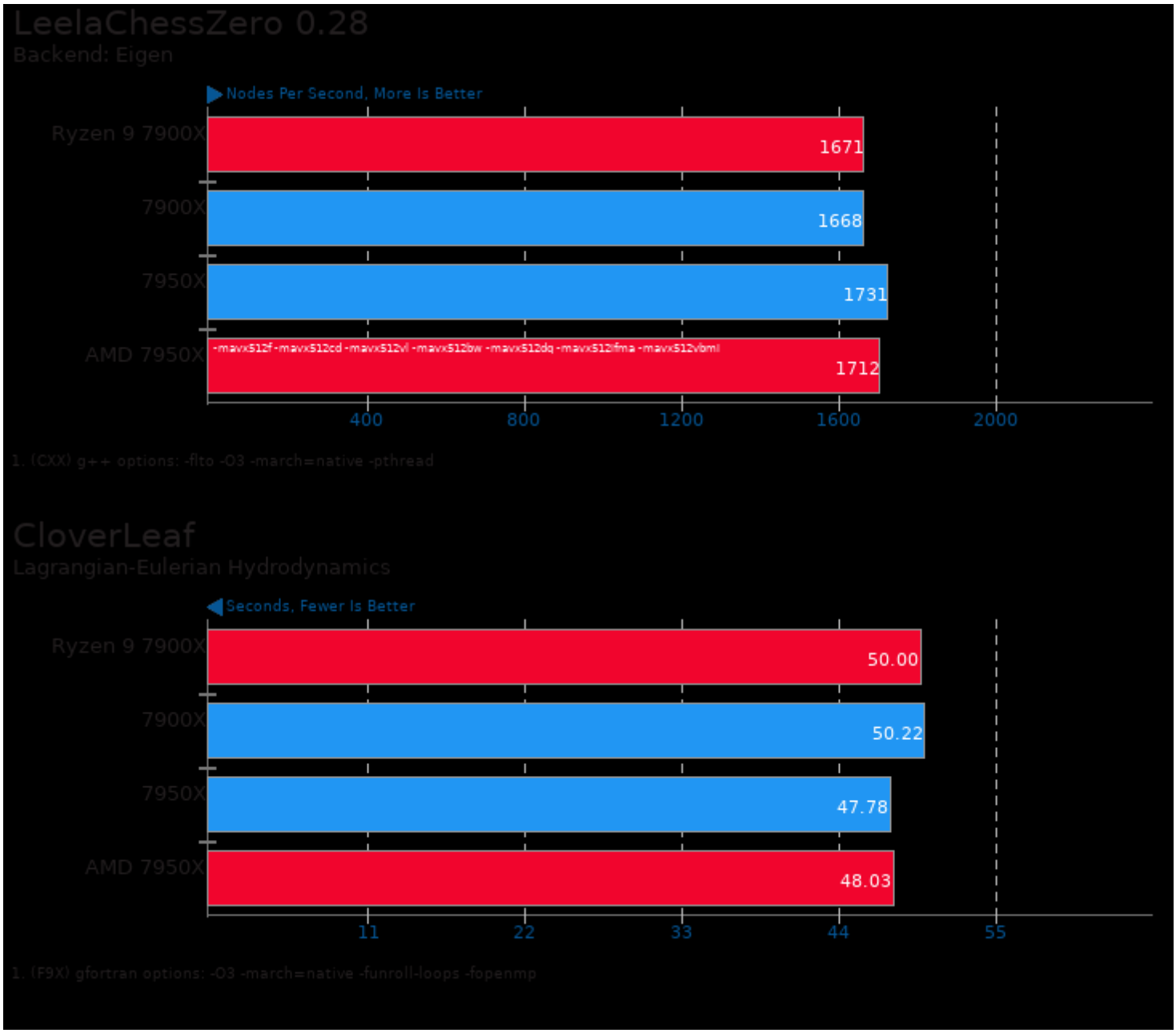

High Performance Conjugate Gradient 3.1
GFLOP/s, More Is Better
Ryzen 9 7900X
8.15235
7900X
8.12831
7950X
8.05073
AMD 7950X
8.02218
2
4
6
8
10
1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -lmpi_cxx -lmpi
NAS Parallel Benchmarks 3.4
Test / Class: BT.C
Total Mop/s, More Is Better
Ryzen 9 7900X
42055.59
7900X
42379.63
7950X
48525.01
AMD 7950X
48342.25
10K
20K
30K
40K
50K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2

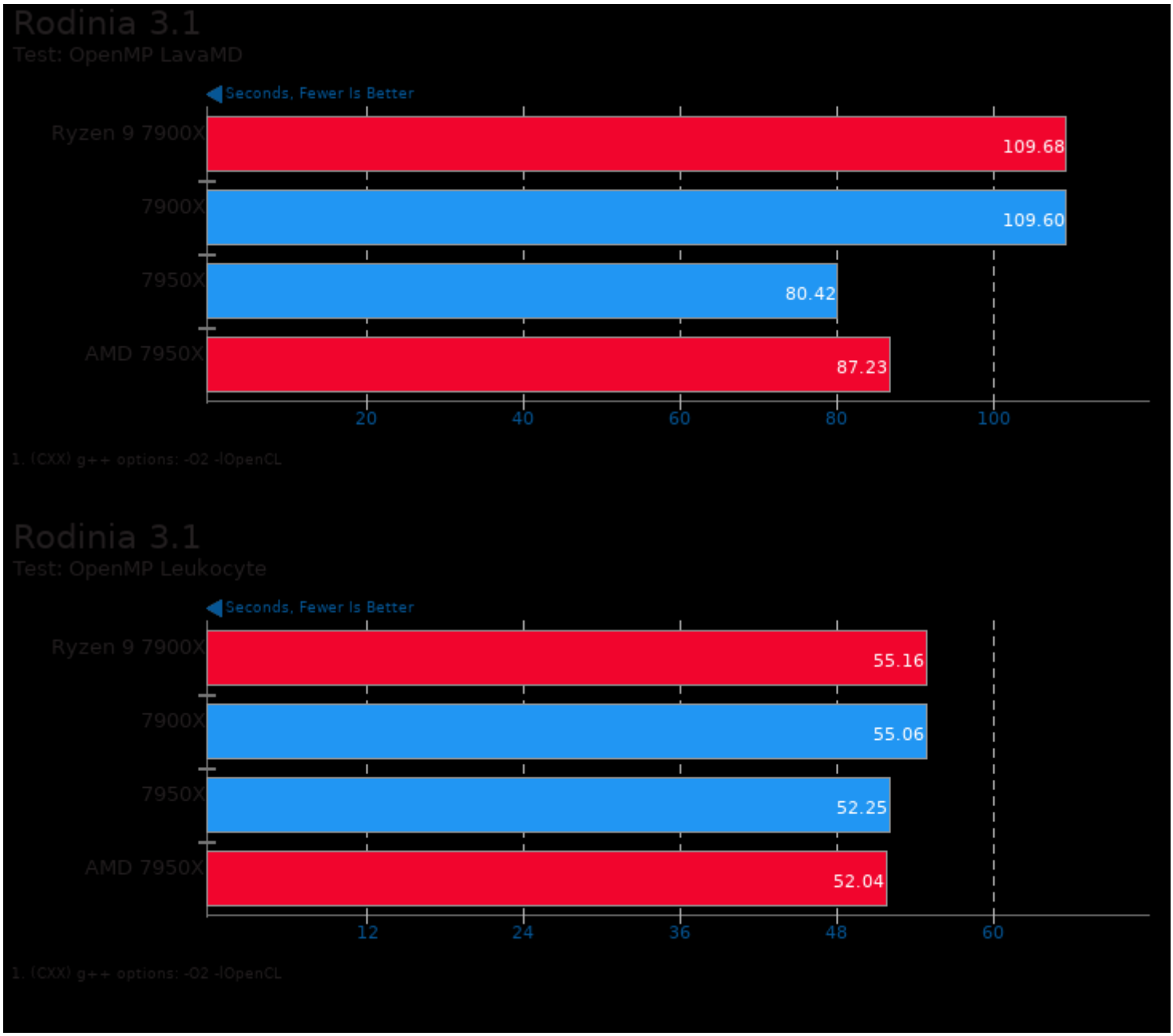

NAS Parallel Benchmarks 3.4
Test / Class: CG.C
Total Mop/s, More Is Better
Ryzen 9 7900X
11688.29
7900X
11343.98
7950X
10858.84
AMD 7950X
10965.76
3K
6K
9K
12K
15K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2
NAS Parallel Benchmarks 3.4
Test / Class: EP.C
Total Mop/s, More Is Better
Ryzen 9 7900X
2356.24
7900X
2318.89
7950X
3102.49
AMD 7950X
2971.70
700
1400
2100
2800
3500
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2


NAS Parallel Benchmarks 3.4
Test / Class: FT.C
Total Mop/s, More Is Better
Ryzen 9 7900X
24330.06
7900X
24473.17
7950X
26932.23
AMD 7950X
26787.74
6K
12K
18K
24K
30K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2
NAS Parallel Benchmarks 3.4
Test / Class: IS.D
Total Mop/s, More Is Better
Ryzen 9 7900X
1421.13
7900X
1424.32
7950X
1379.57
AMD 7950X
1379.33
300
600
900
1200
1500
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2


NAS Parallel Benchmarks 3.4
Test / Class: LU.C
Total Mop/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
44322.77
44058.34
54806.64
54401.69
12K
24K
36K
48K
60K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2
NAS Parallel Benchmarks 3.4
Test / Class: MG.C
Total Mop/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
24817.10
24833.34
23046.40
23002.19
5K
10K
15K
20K
25K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2

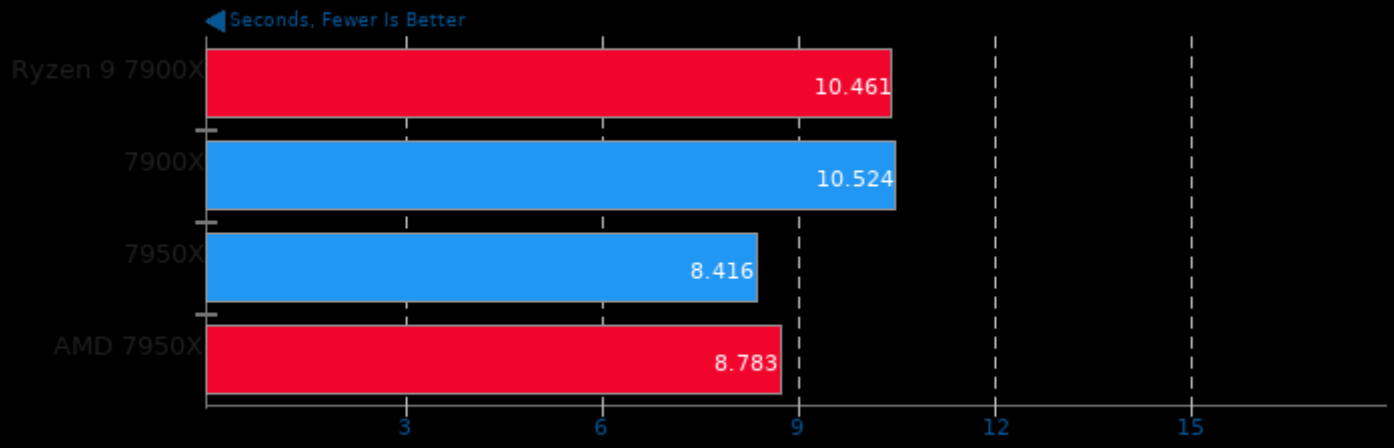

NAS Parallel Benchmarks 3.4
Test / Class: SP.B
Total Mop/s, More Is Better
Ryzen 9 7900X
19973.61
7900X
20039.63
7950X
20124.79
AMD 7950X
20176.92
4K
8K
12K
16K
20K
1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.2
LeelaChessZero 0.28
Backend: BLAS
Nodes Per Second, More Is Better
Ryzen 9 7900X
1625
7900X
1687
7950X
1636
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
1693
400
800
1200
1600
2000
1. (CXX) g++ options: -flto -O3 -march=native -pthread


LeelaChessZero 0.28
Backend: Eigen
Nodes Per Second, More Is Better
Ryzen 9 7900X
1671
7900X
1668
7950X
1731
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
1712
400
800
1200
1600
2000
1. (CXX) g++ options: -flto -O3 -march=native -pthread
CloverLeaf
Lagrangian-Eulerian Hydrodynamics
Seconds, Fewer Is Better
Ryzen 9 7900X
50.00
7900X
50.22
7950X
47.78
AMD 7950X
48.03
11
22
33
44
55
1. (F9X) gfortran options: -O3 -march=native -funroll-loops -fopenmp


Rodinia 3.1
Test: OpenMP LavaMD
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
109.68
109.60
80.42
87.23
20
40
60
80
100
1. (CXX) g++ options: -O2 -lOpenCL
Rodinia 3.1
Test: OpenMP Leukocyte
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
55.16
55.06
52.25
52.04
12
24
36
48
60
1. (CXX) g++ options: -O2 -lOpenCL

## Rodinia 3.1

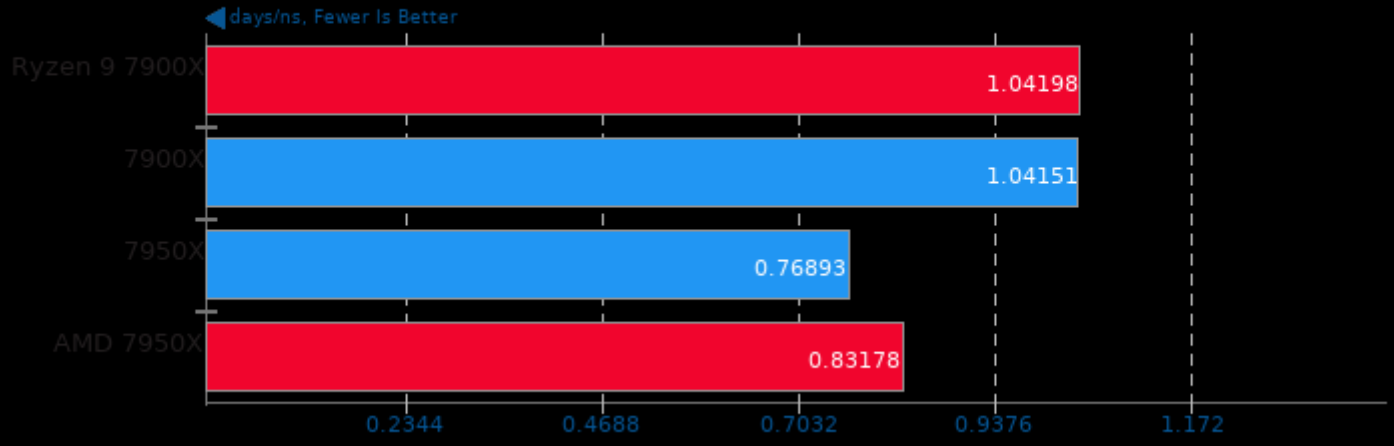
Test: OpenMP CFD Solver



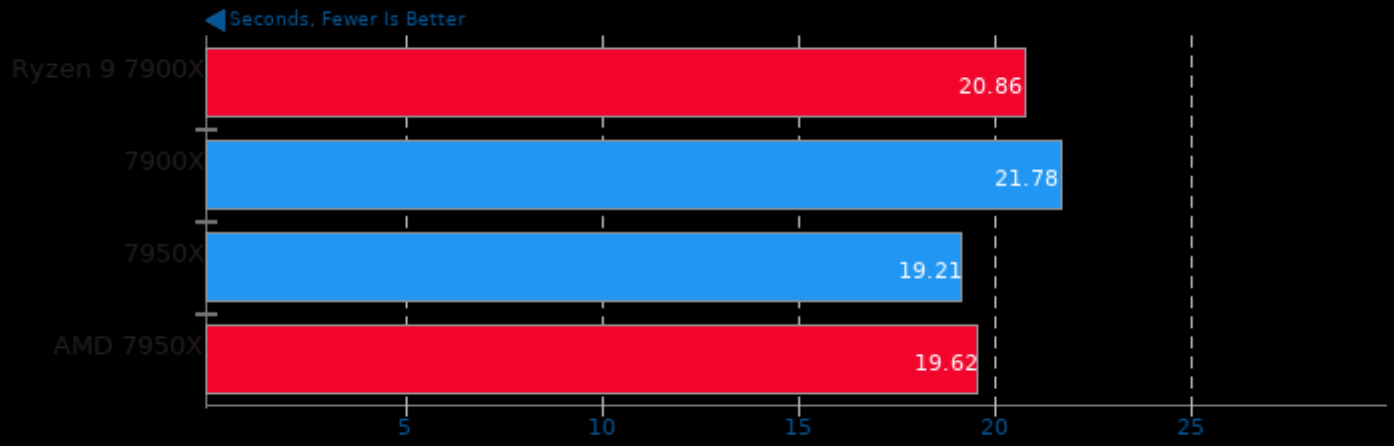

1. (CXX) g++ options: -O2 -lOpenCL

## NAMD 2.14

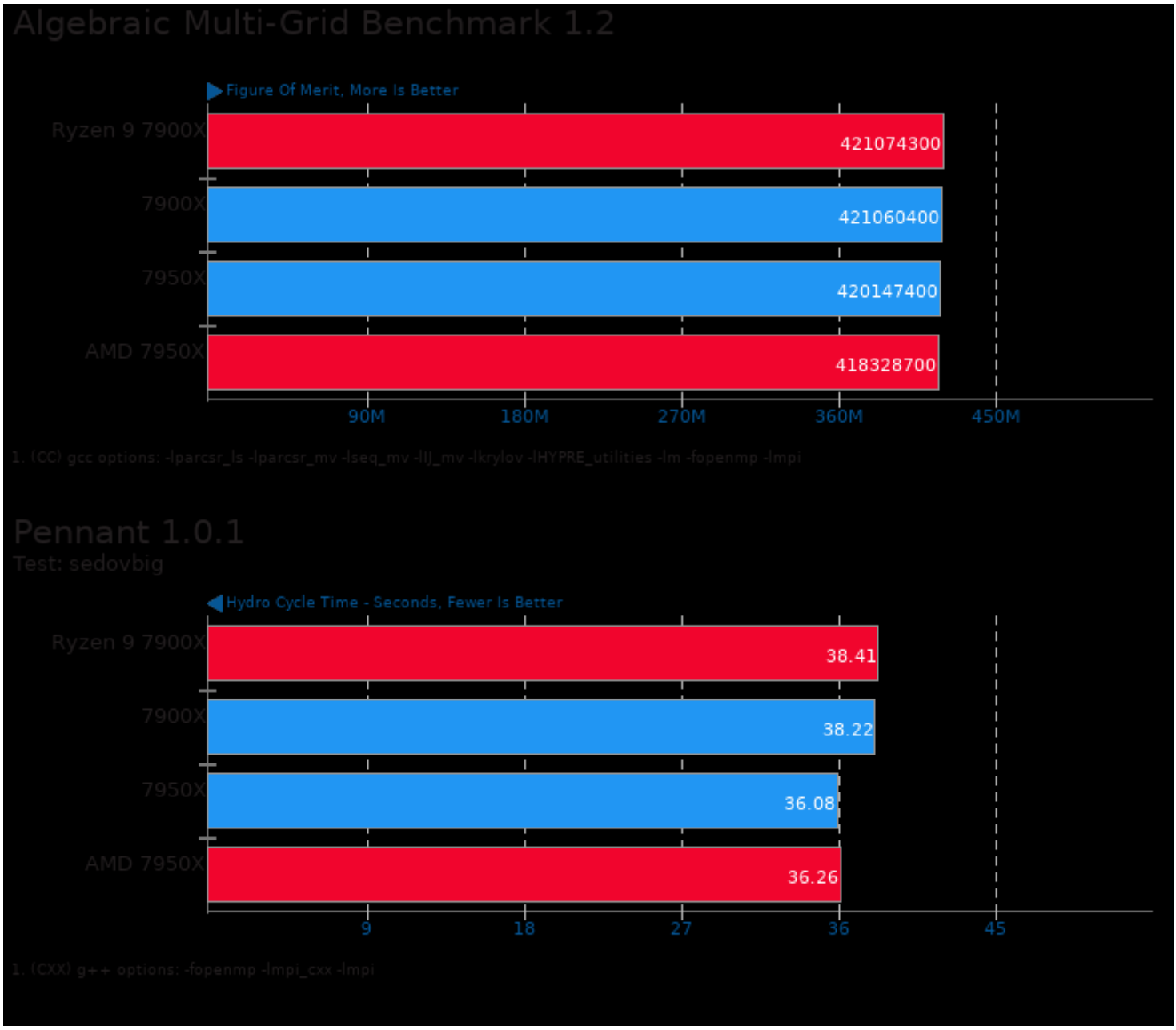
ATPase Simulation - 327,506 Atoms

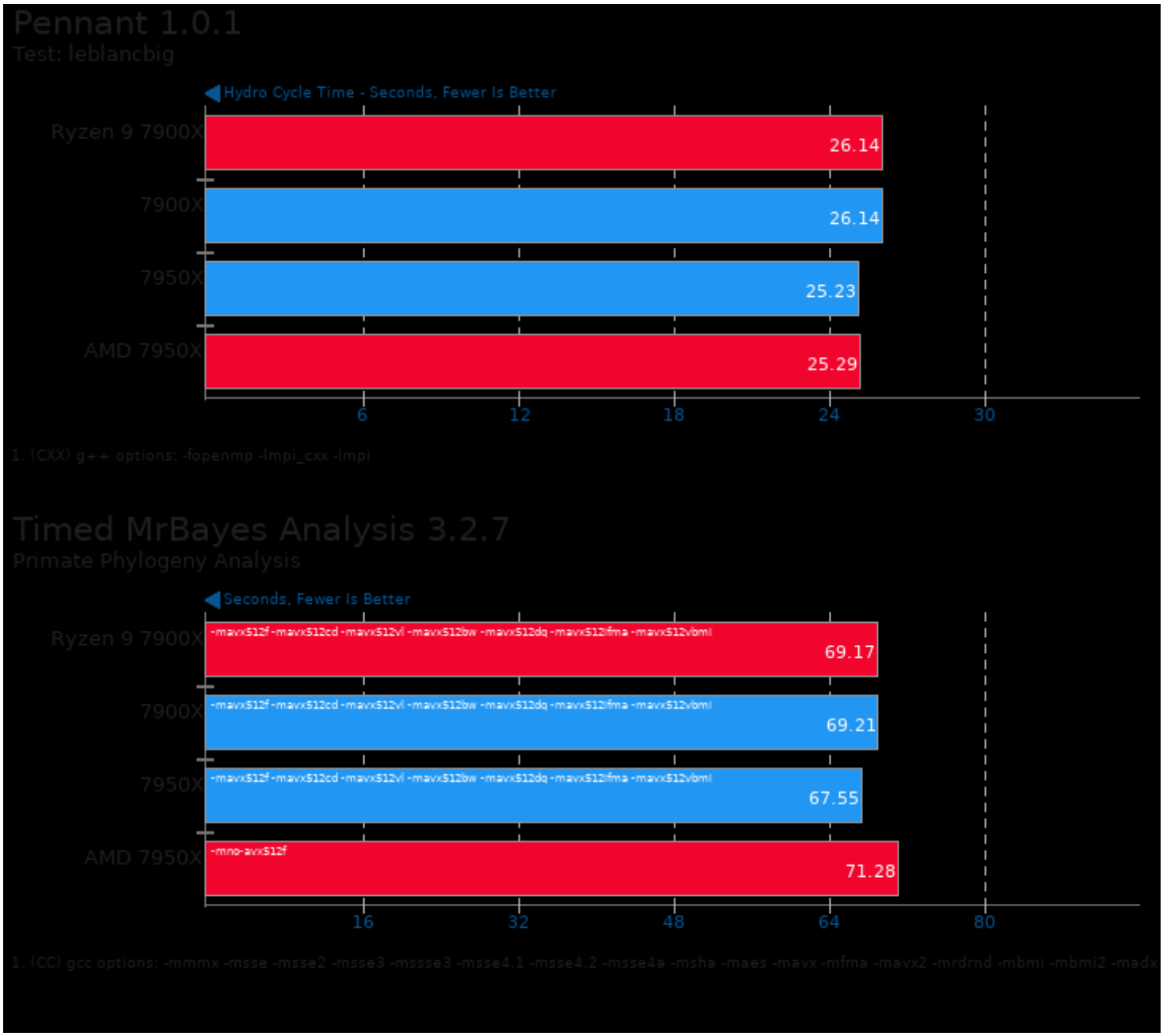


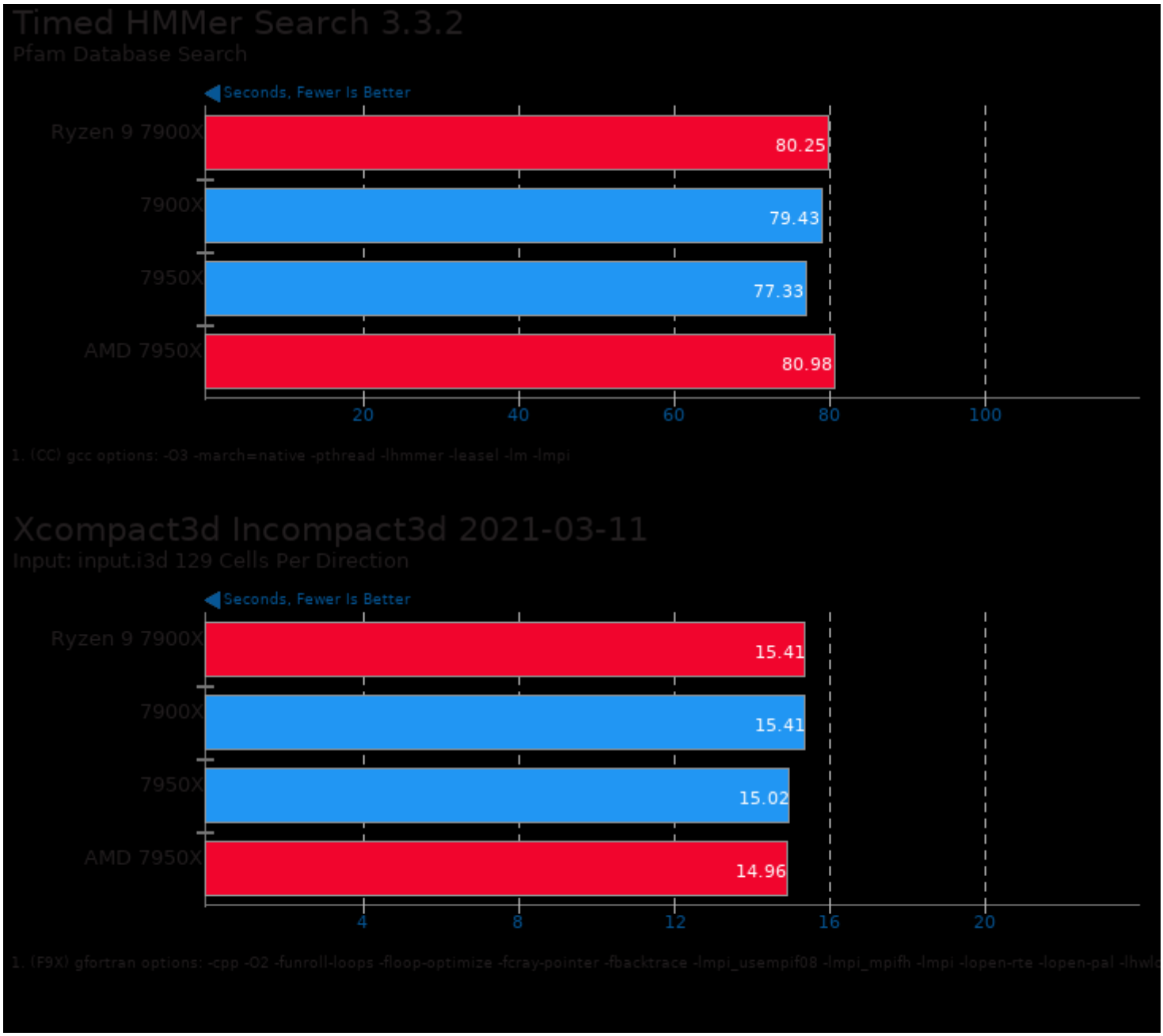

## Nebular Empirical Analysis Tool 2.3

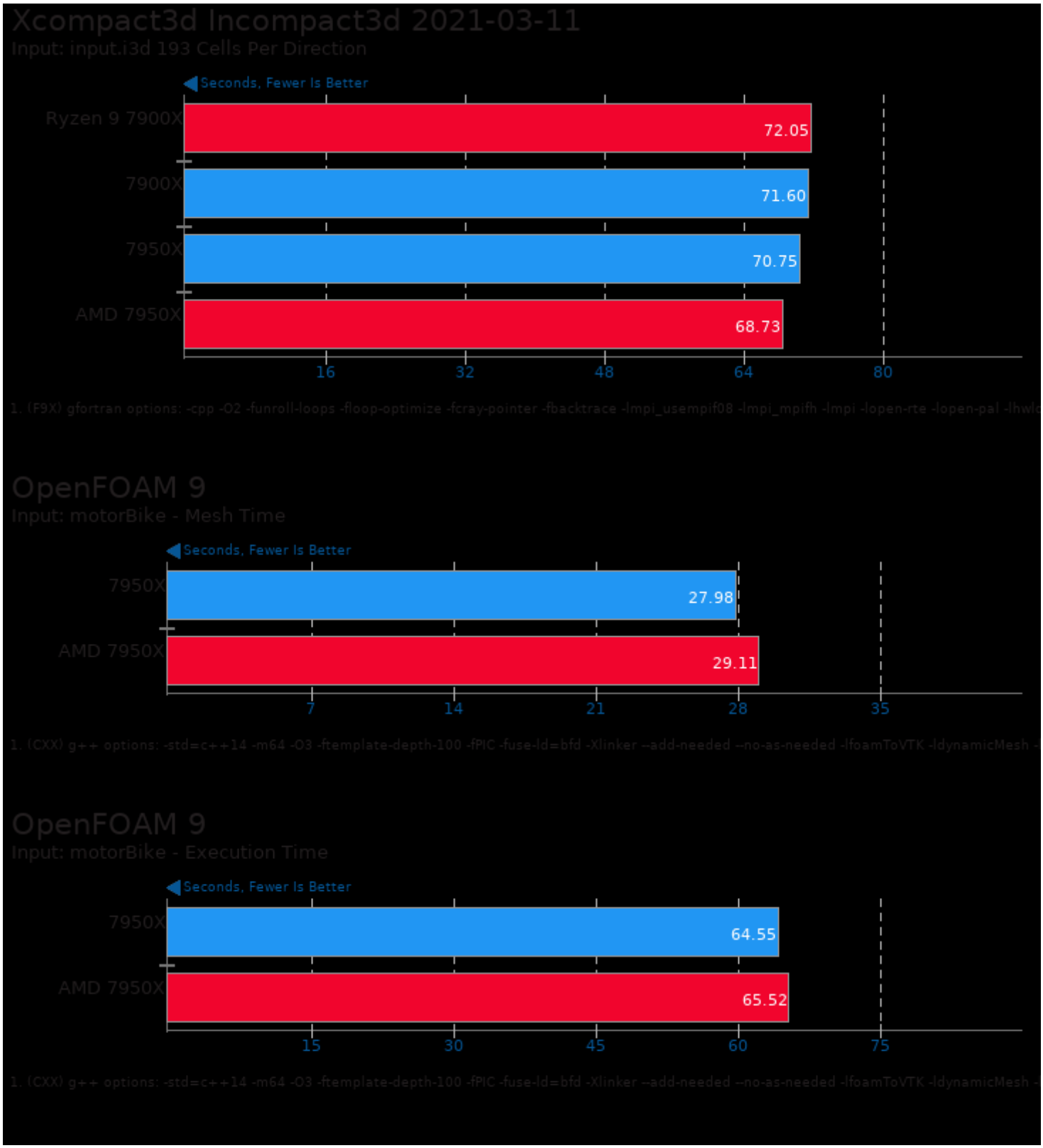


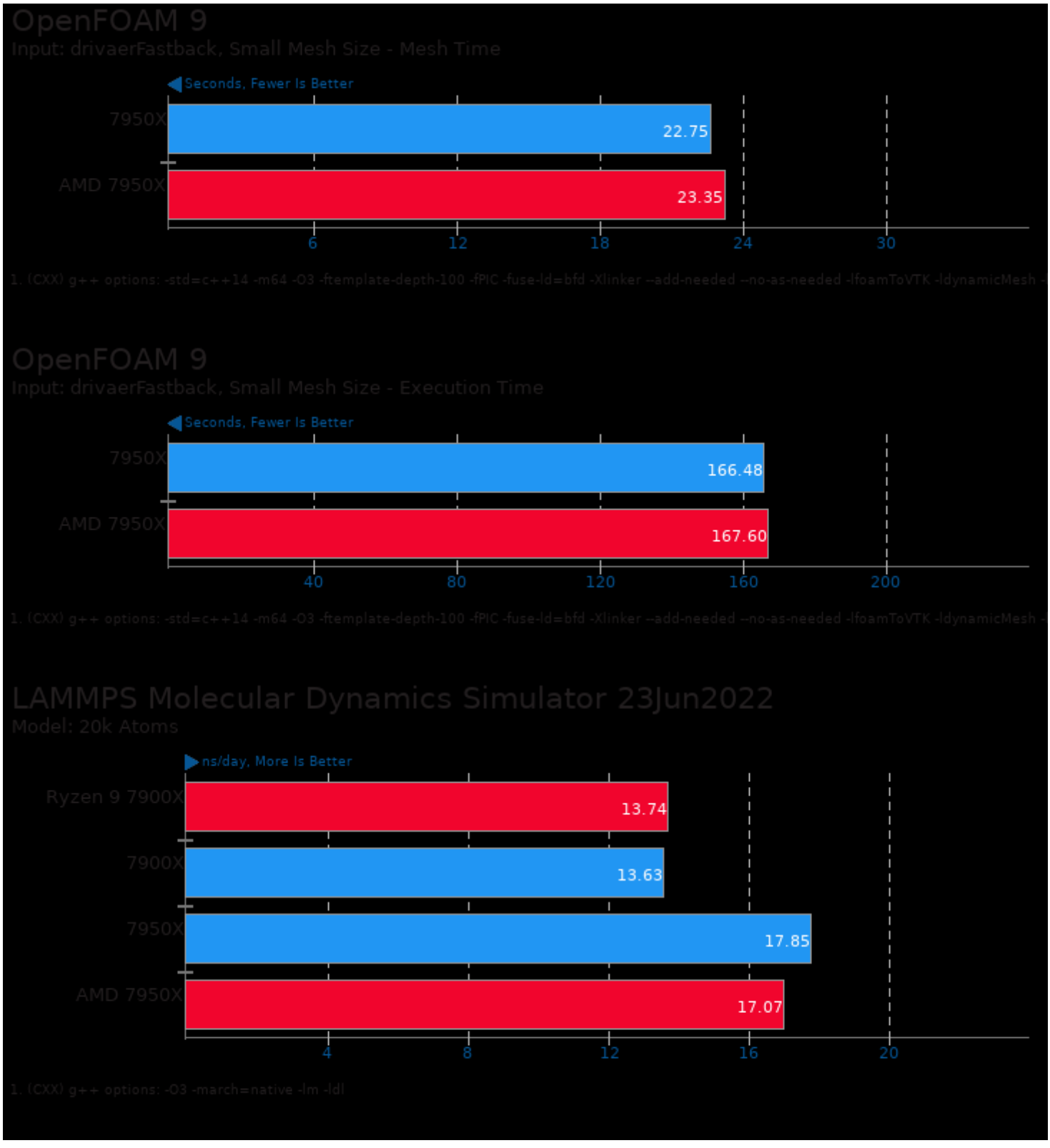

1. (F9X) gfortran options: -O3 -cpp -ffree-line-length-0 -Jsource/ -fopenmp -fno-backtrace -lcfitsio

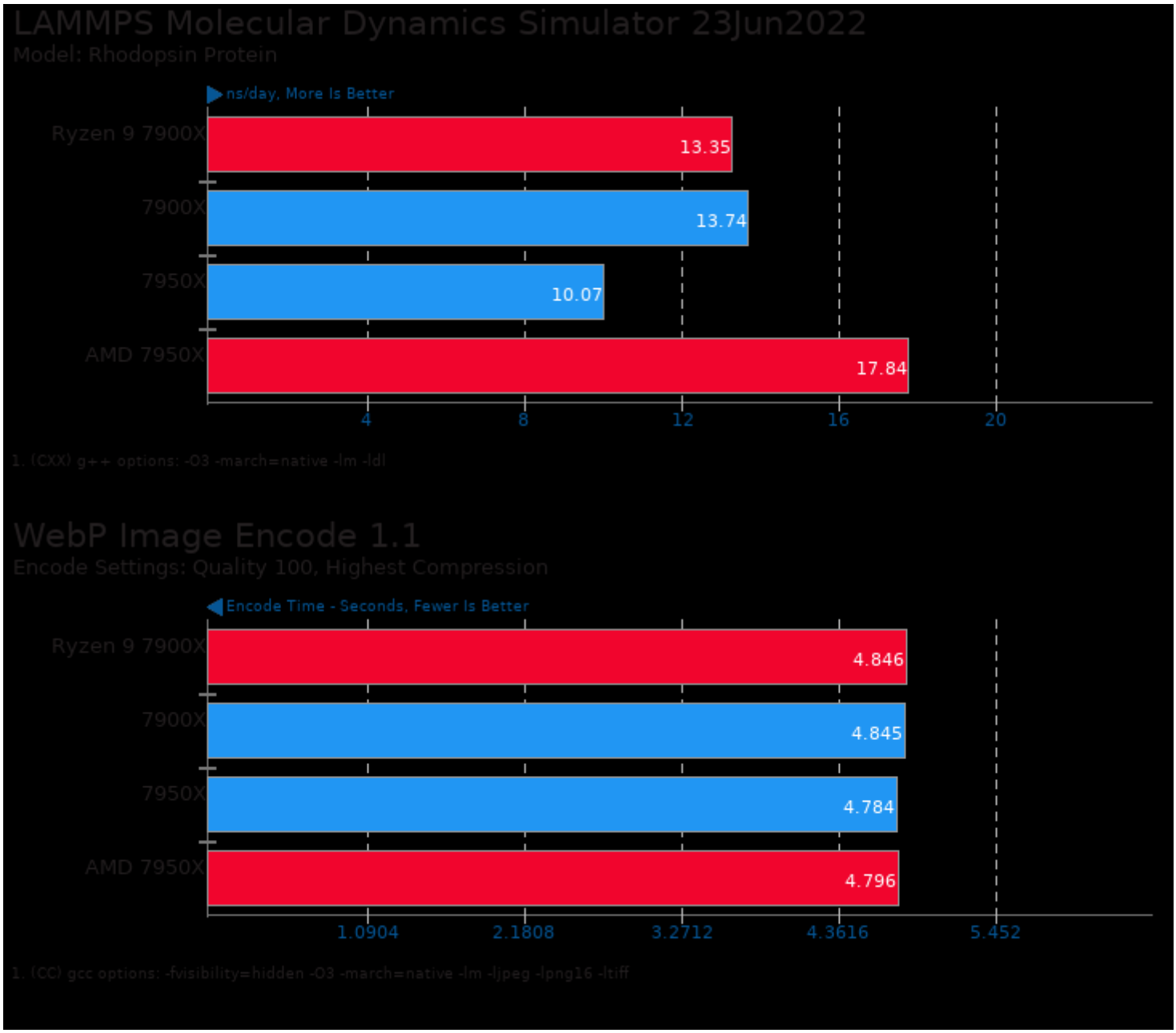

Algebraic Multi-Grid Benchmark 1.2
Figure Of Merit, More Is Better
Ryzen 9 7900X
421074300
7900X
421060400
7950X
420147400
AMD 7950X
418328700
90M
180M
270M
360M
450M
1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -lIJ_mv -lkrylov -lHYPRE_utilities -lm -fopenmp -lmpi
Pennant 1.0.1
Test: sedovbig
Hydro Cycle Time - Seconds, Fewer Is Better
Ryzen 9 7900X
38.41
7900X
38.22
7950X
36.08
AMD 7950X
36.26
9
18
27
36
45
1. (CXX) g++ options: -fopenmp -lmpi_cxx -lmpi

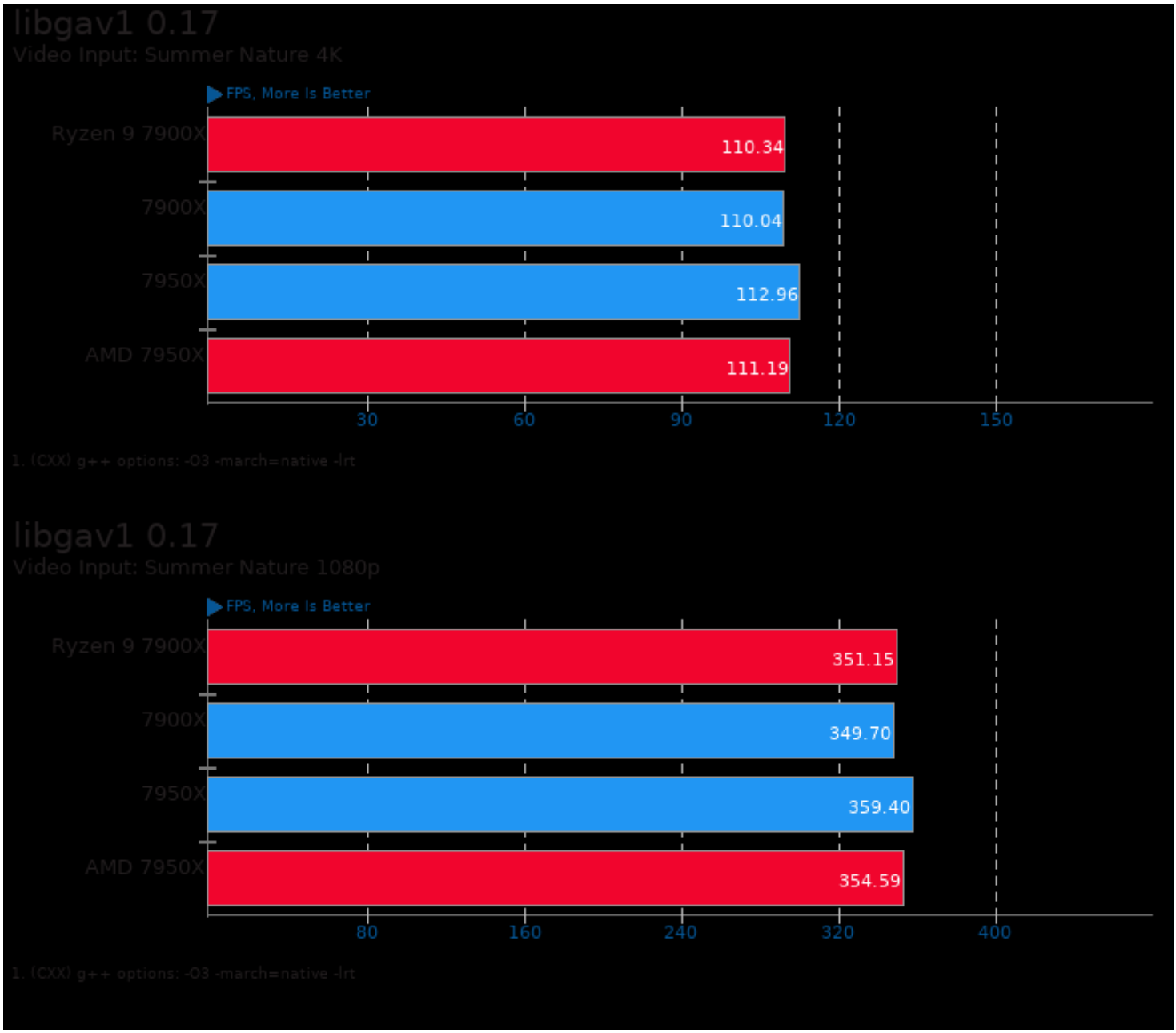

Pennant 1.0.1
Test: leblancbig
Hydro Cycle Time - Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
26.14
26.14
25.23
25.29
6
12
18
24
30
1. (CXX) g++ options: -fopenmp -lmpi_cxx -lmpi
Timed MrBayes Analysis 3.2.7
Primate Phylogeny Analysis
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
69.17
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
69.21
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
67.55
-mno-avx512f
71.28
16
32
48
64
80
1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -msha -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx

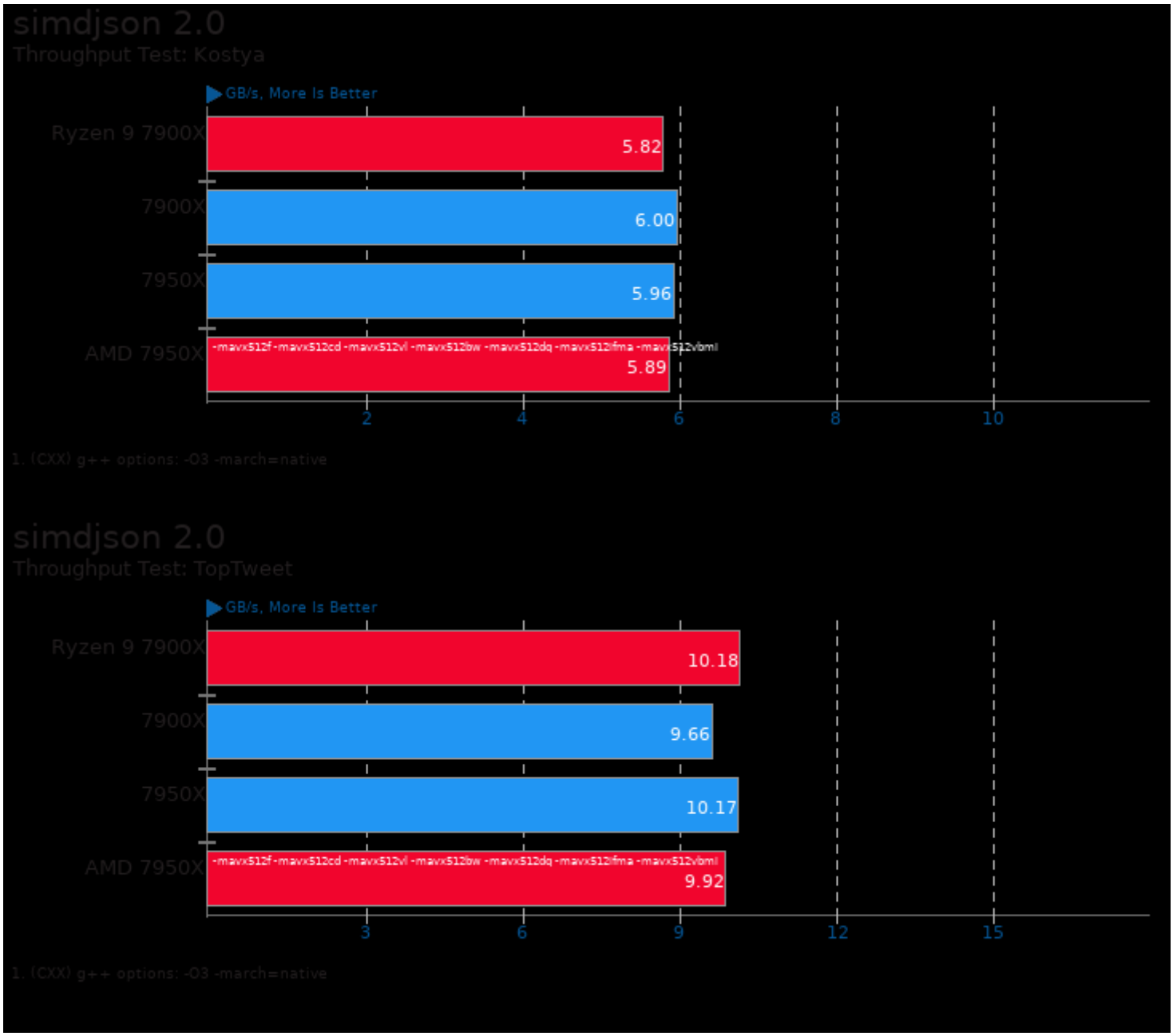

Timed HMMer Search 3.3.2
Pfam Database Search
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
80.25
79.43
77.33
80.98
20
40
60
80
100
1. (CC) gcc options: -O3 -march=native -pthread -lhmmer -leasel -lm -lmpi
Xcompact3d Incompact3d 2021-03-11
Input: input.i3d 129 Cells Per Direction
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
15.41
15.41
15.02
14.96
4
8
12
16
20
1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwl

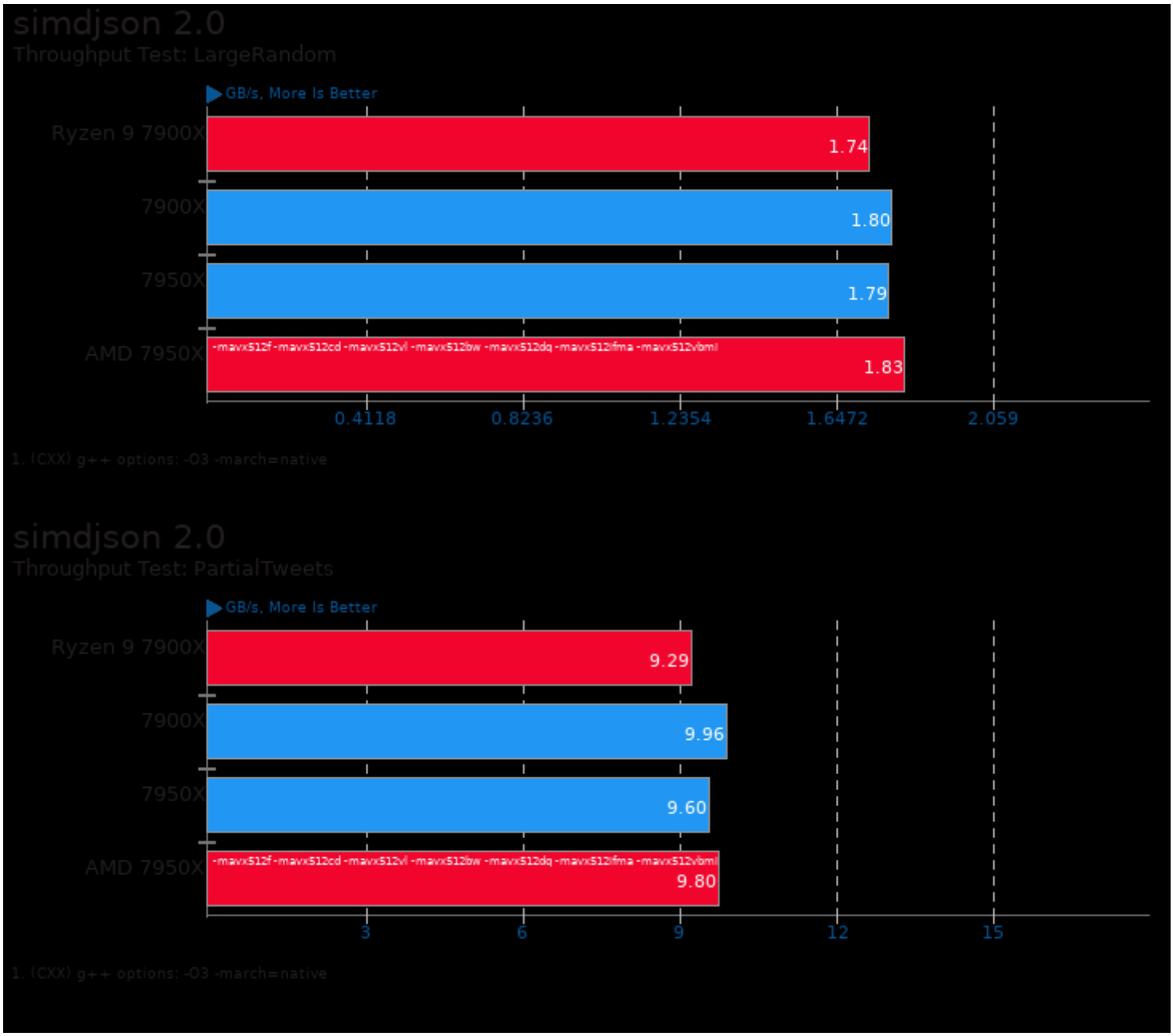

Xcompact3d Incompact3d 2021-03-11
Input: input.i3d 193 Cells Per Direction
Seconds, Fewer Is Better
Ryzen 9 7900X
72.05
7900X
71.60
7950X
70.75
AMD 7950X
68.73
16
32
48
64
80
1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwl
OpenFOAM 9
Input: motorBike - Mesh Time
Seconds, Fewer Is Better
7950X
27.98
AMD 7950X
29.11
7
14
21
28
35
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
OpenFOAM 9
Input: motorBike - Execution Time
Seconds, Fewer Is Better
7950X
64.55
AMD 7950X
65.52
15
30
45
60
75
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh

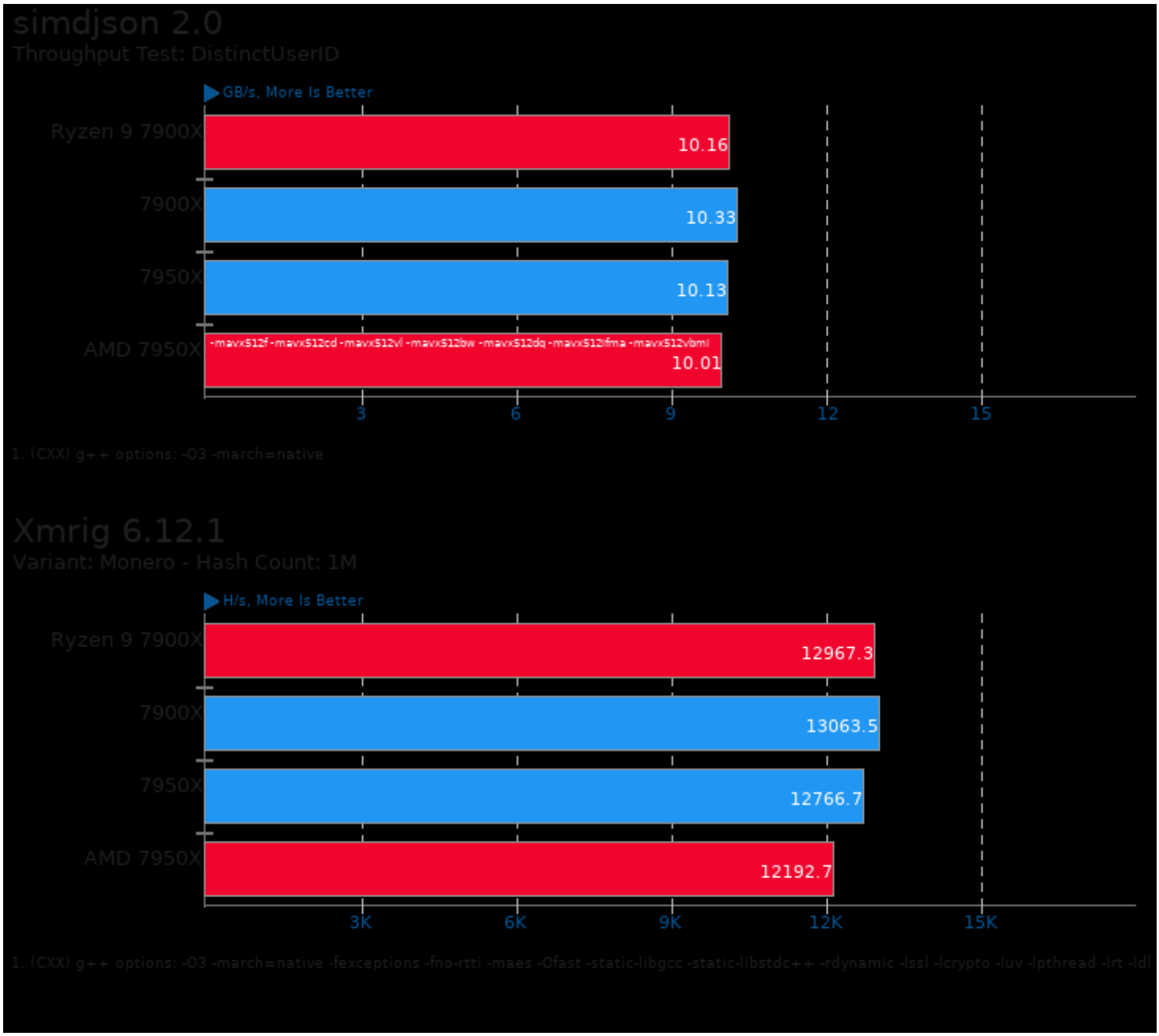

OpenFOAM 9
Input: drivaerFastback, Small Mesh Size - Mesh Time
Seconds, Fewer Is Better
7950X
22.75
AMD 7950X
23.35
6
12
18
24
30
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
OpenFOAM 9
Input: drivaerFastback, Small Mesh Size - Execution Time
Seconds, Fewer Is Better
7950X
166.48
AMD 7950X
167.60
40
80
120
160
200
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh
LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: 20k Atoms
ns/day, More Is Better
Ryzen 9 7900X
13.74
7900X
13.63
7950X
17.85
AMD 7950X
17.07
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -lm -ldl

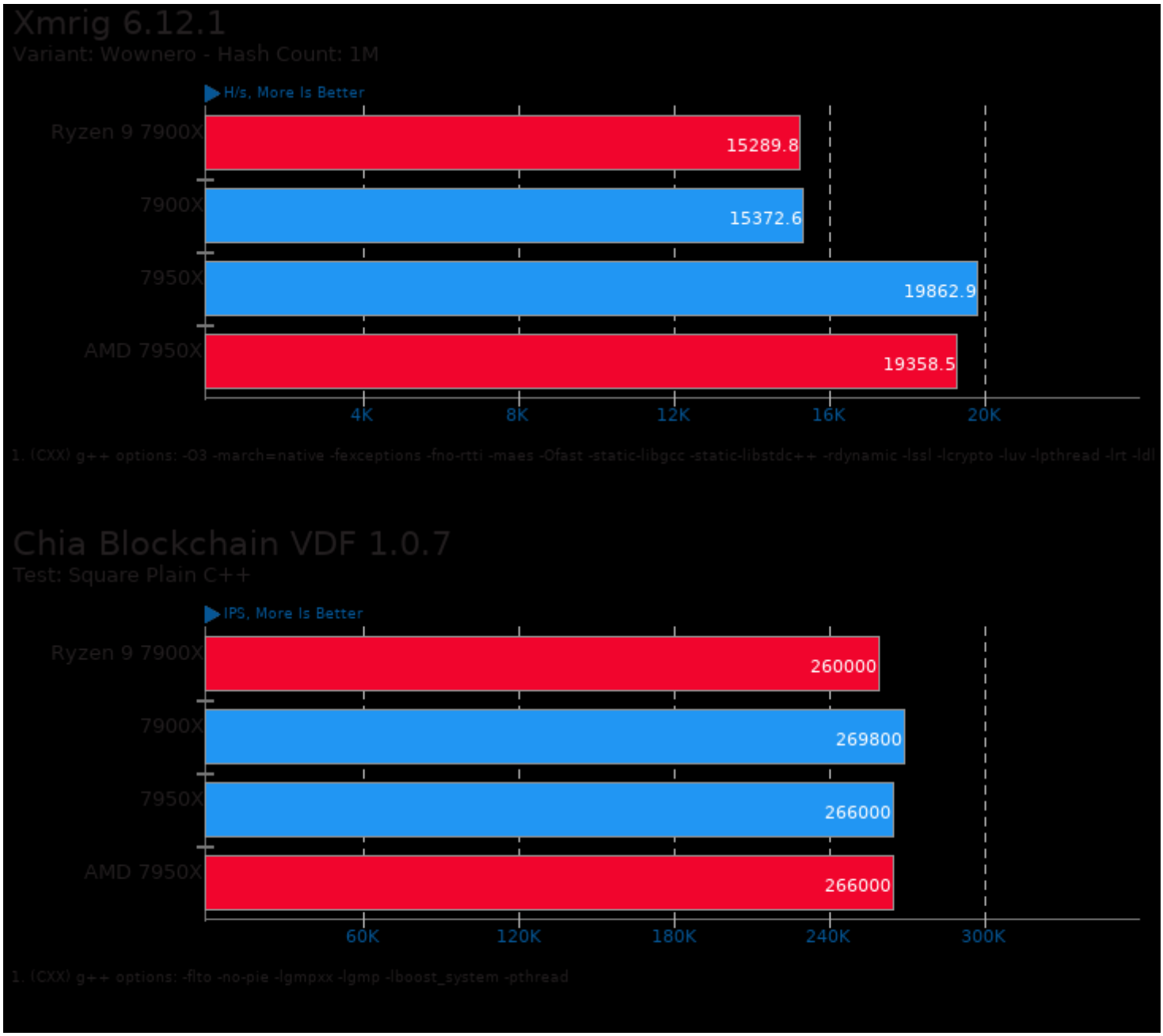

LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: Rhodopsin Protein
ns/day, More Is Better
Ryzen 9 7900X
13.35
7900X
13.74
7950X
10.07
AMD 7950X
17.84
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -lm -ldl
WebP Image Encode 1.1
Encode Settings: Quality 100, Highest Compression
Encode Time - Seconds, Fewer Is Better
Ryzen 9 7900X
4.846
7900X
4.845
7950X
4.784
AMD 7950X
4.796
1.0904
2.1808
3.2712
4.3616
5.452
1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -lm -ljpeg -lpng16 -ltiff

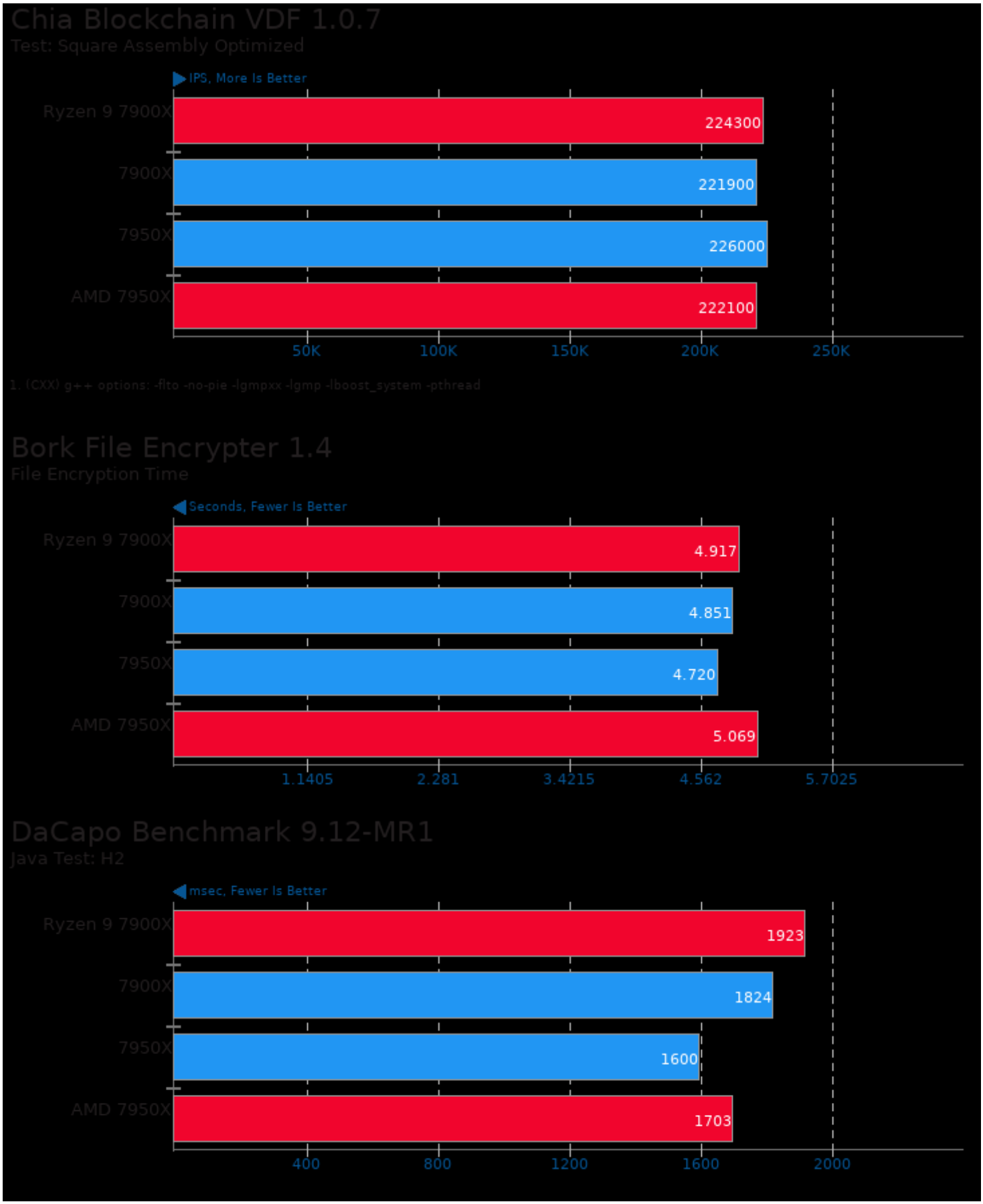

libgav1 0.17
Video Input: Summer Nature 4K
FPS, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
110.34
110.04
112.96
111.19
30
60
90
120
150
1. (CXX) g++ options: -O3 -march=native -lrt
libgav1 0.17
Video Input: Summer Nature 1080p
FPS, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
351.15
349.70
359.40
354.59
80
160
240
320
400
1. (CXX) g++ options: -O3 -march=native -lrt

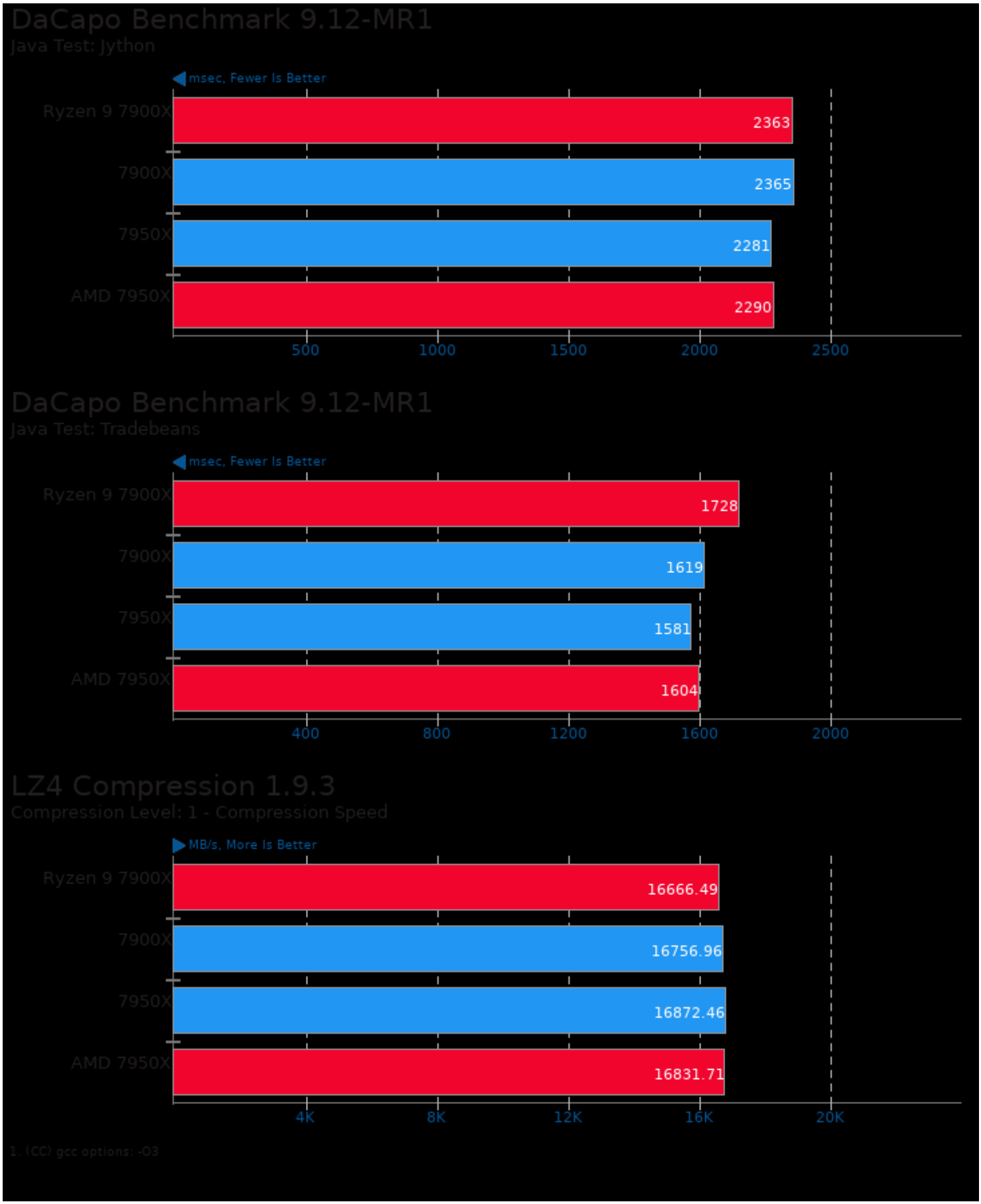

simdjson 2.0
Throughput Test: Kostya
GB/s, More Is Better
Ryzen 9 7900X
5.82
7900X
6.00
7950X
5.96
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
5.89
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native
simdjson 2.0
Throughput Test: TopTweet
GB/s, More Is Better
Ryzen 9 7900X
10.18
7900X
9.66
7950X
10.17
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
9.92
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native

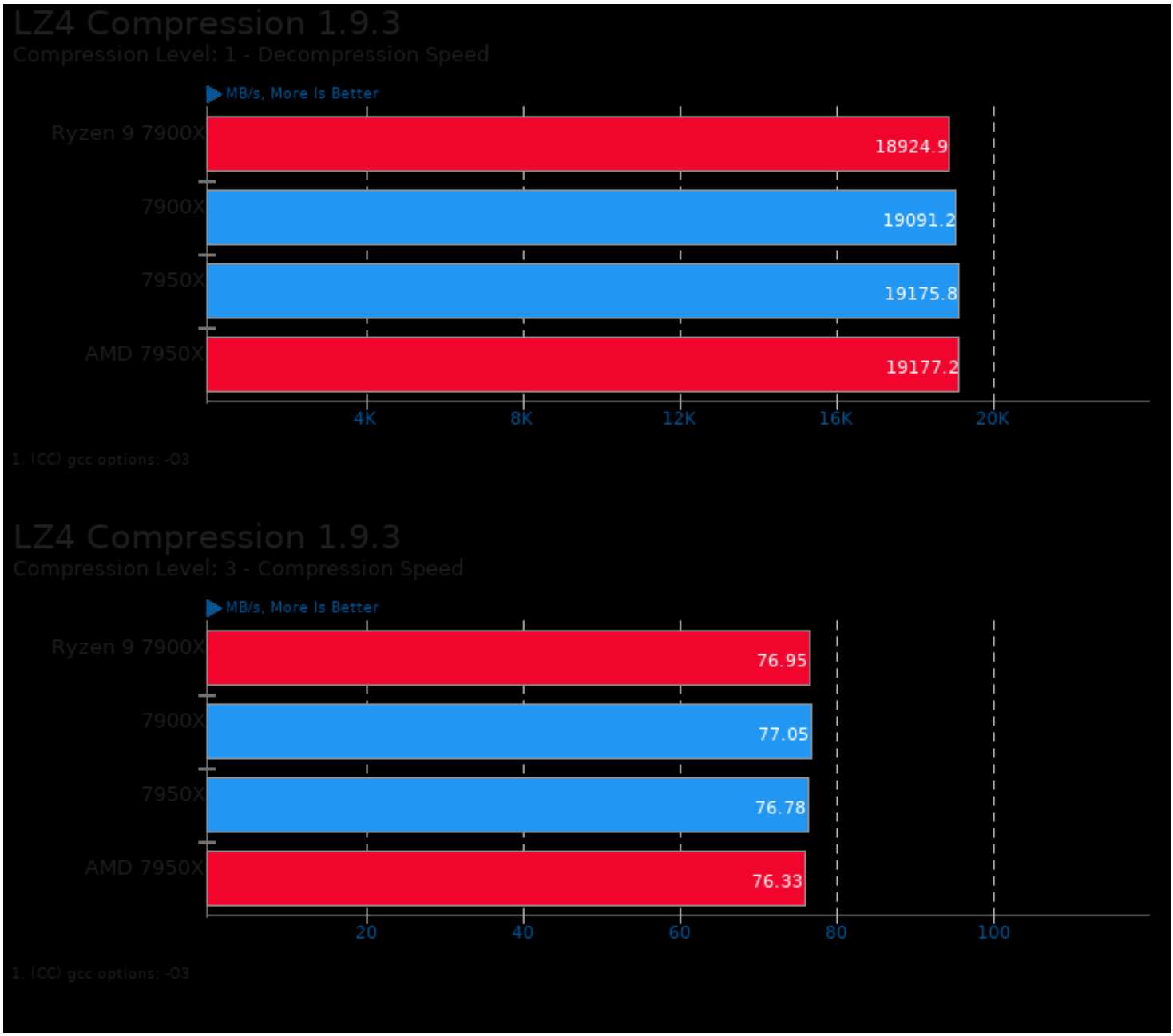

simdjson 2.0
Throughput Test: LargeRandom
GB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
1.74
1.80
1.79
1.83
0.4118
0.8236
1.2354
1.6472
2.059
1. (CXX) g++ options: -O3 -march=native
simdjson 2.0
Throughput Test: PartialTweets
GB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
9.29
9.96
9.60
9.80
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native

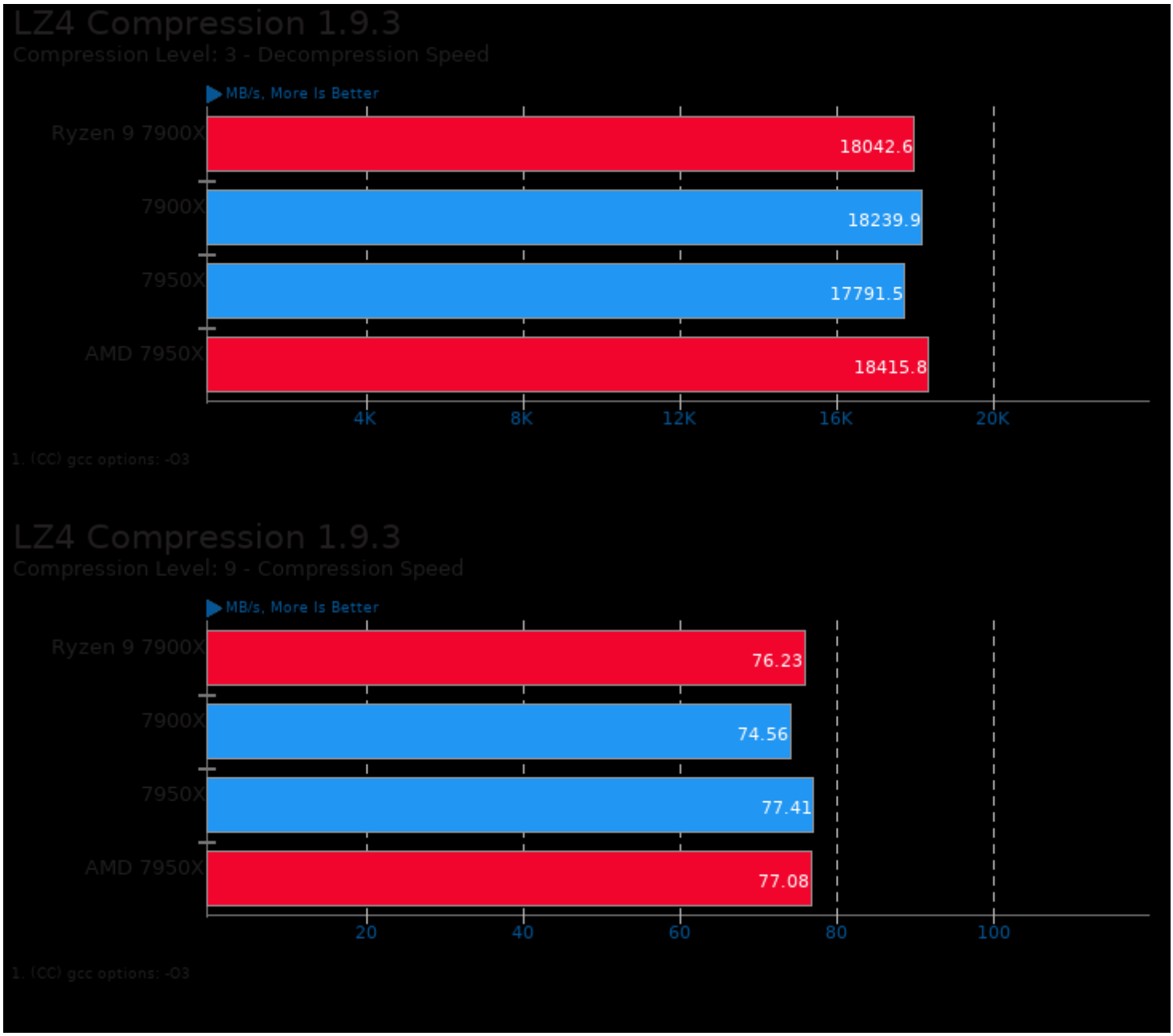

simdjson 2.0
Throughput Test: DistinctUserID
GB/s, More Is Better
Ryzen 9 7900X
10.16
7900X
10.33
7950X
10.13
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
10.01
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native
Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
Ryzen 9 7900X
12967.3
7900X
13063.5
7950X
12766.7
AMD 7950X
12192.7
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -march=native -fexceptions -fno-rtti -maes -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl


Xmrig 6.12.1
Variant: Wownero - Hash Count: 1M
H/s, More Is Better
Ryzen 9 7900X
15289.8
7900X
15372.6
7950X
19862.9
AMD 7950X
19358.5
4K
8K
12K
16K
20K
1. (CXX) g++ options: -O3 -march=native -fexceptions -fno-rtti -maes -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl
Chia Blockchain VDF 1.0.7
Test: Square Plain C++
IPS, More Is Better
Ryzen 9 7900X
260000
7900X
269800
7950X
266000
AMD 7950X
266000
60K
120K
180K
240K
300K
1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

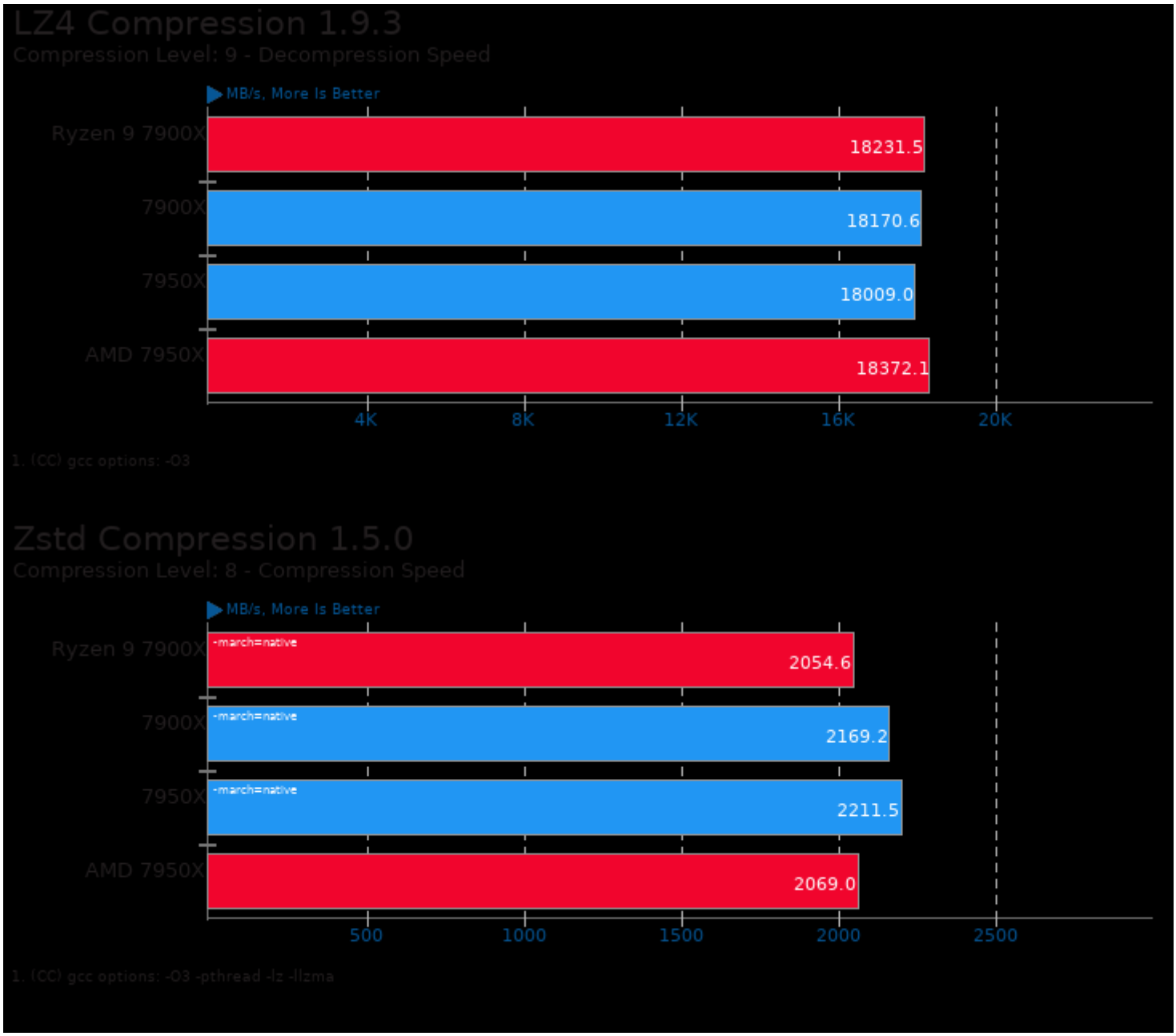

Chia Blockchain VDF 1.0.7
Test: Square Assembly Optimized
IPS, More Is Better
Ryzen 9 7900X
224300
7900X
221900
7950X
226000
AMD 7950X
222100
50K
100K
150K
200K
250K
1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread
Bork File Encrypter 1.4
File Encryption Time
Seconds, Fewer Is Better
Ryzen 9 7900X
4.917
7900X
4.851
7950X
4.720
AMD 7950X
5.069
1.1405
2.281
3.4215
4.562
5.7025
DaCapo Benchmark 9.12-MR1
Java Test: H2
msec, Fewer Is Better
Ryzen 9 7900X
1923
7900X
1824
7950X
1600
AMD 7950X
1703
400
800
1200
1600
2000

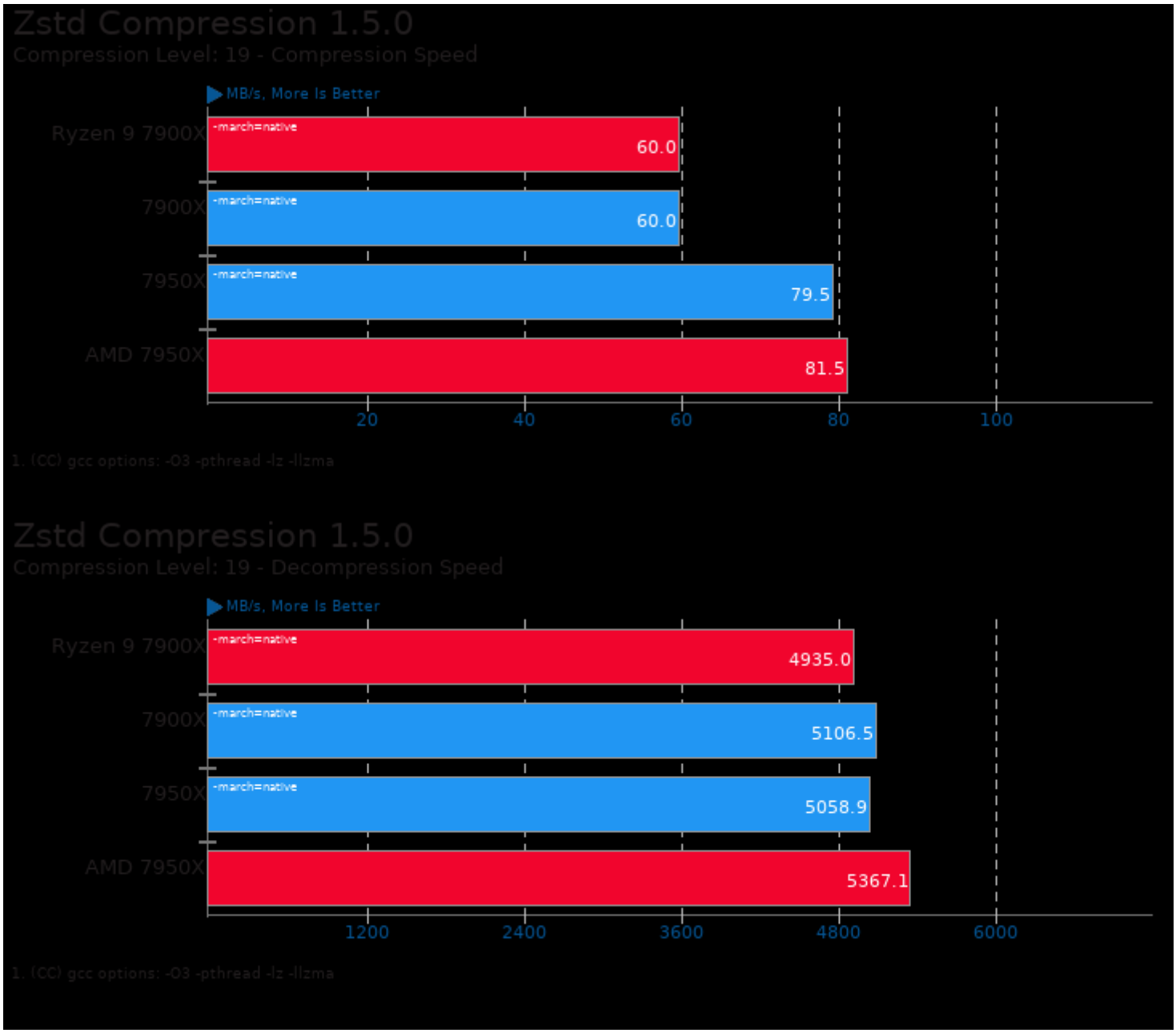

DaCapo Benchmark 9.12-MR1
Java Test: Jython
msec, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
2363
2365
2281
2290
500
1000
1500
2000
2500
DaCapo Benchmark 9.12-MR1
Java Test: Tradebeans
msec, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1728
1619
1581
1604
400
800
1200
1600
2000
LZ4 Compression 1.9.3
Compression Level: 1 - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
16666.49
16756.96
16872.46
16831.71
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3

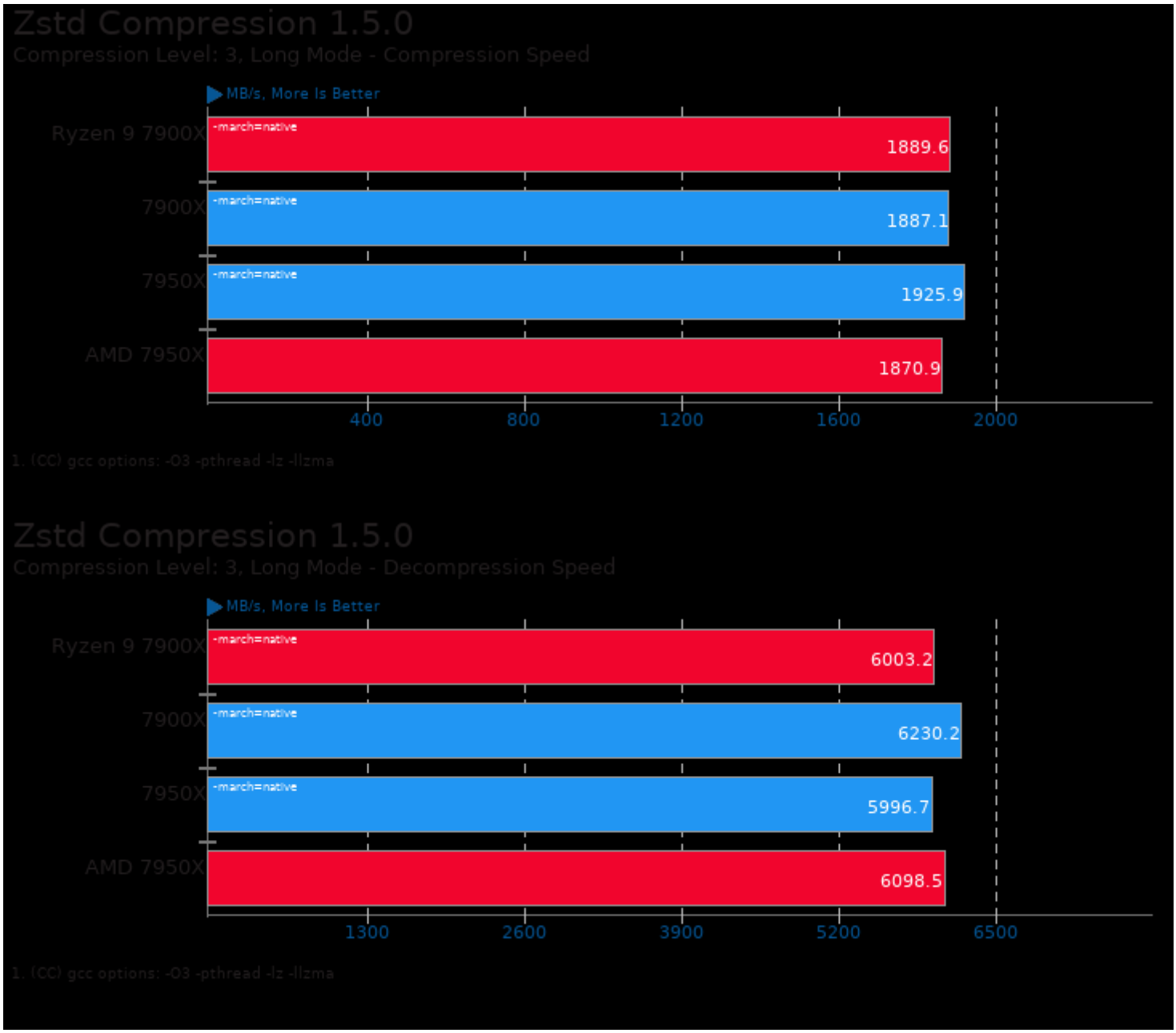

LZ4 Compression 1.9.3
Compression Level: 1 - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
18924.9
19091.2
19175.8
19177.2
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 3 - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
76.95
77.05
76.78
76.33
20
40
60
80
100
1. (CC) gcc options: -O3

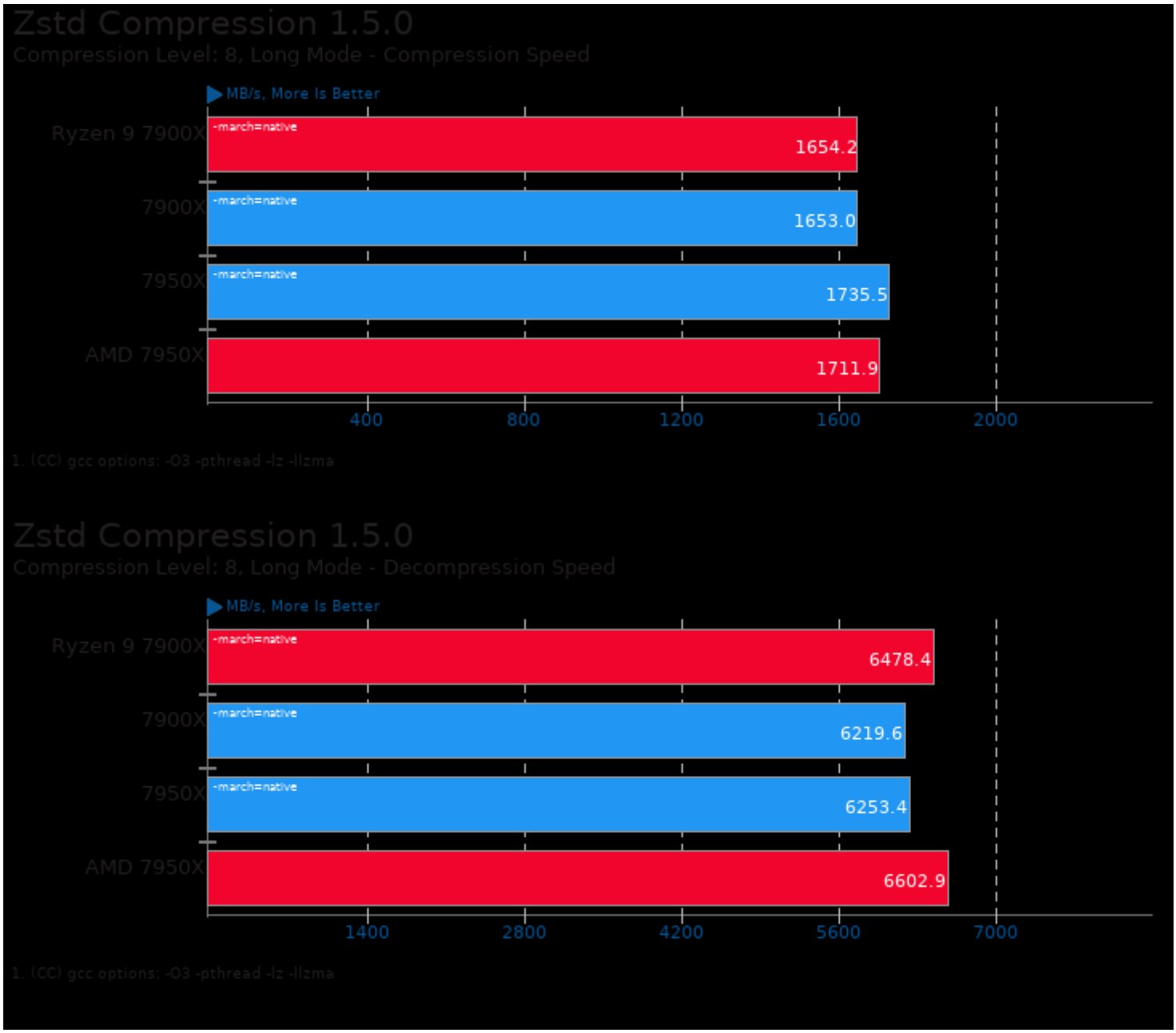

LZ4 Compression 1.9.3
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
18042.6
18239.9
17791.5
18415.8
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 9 - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
76.23
74.56
77.41
77.08
20
40
60
80
100
1. (CC) gcc options: -O3

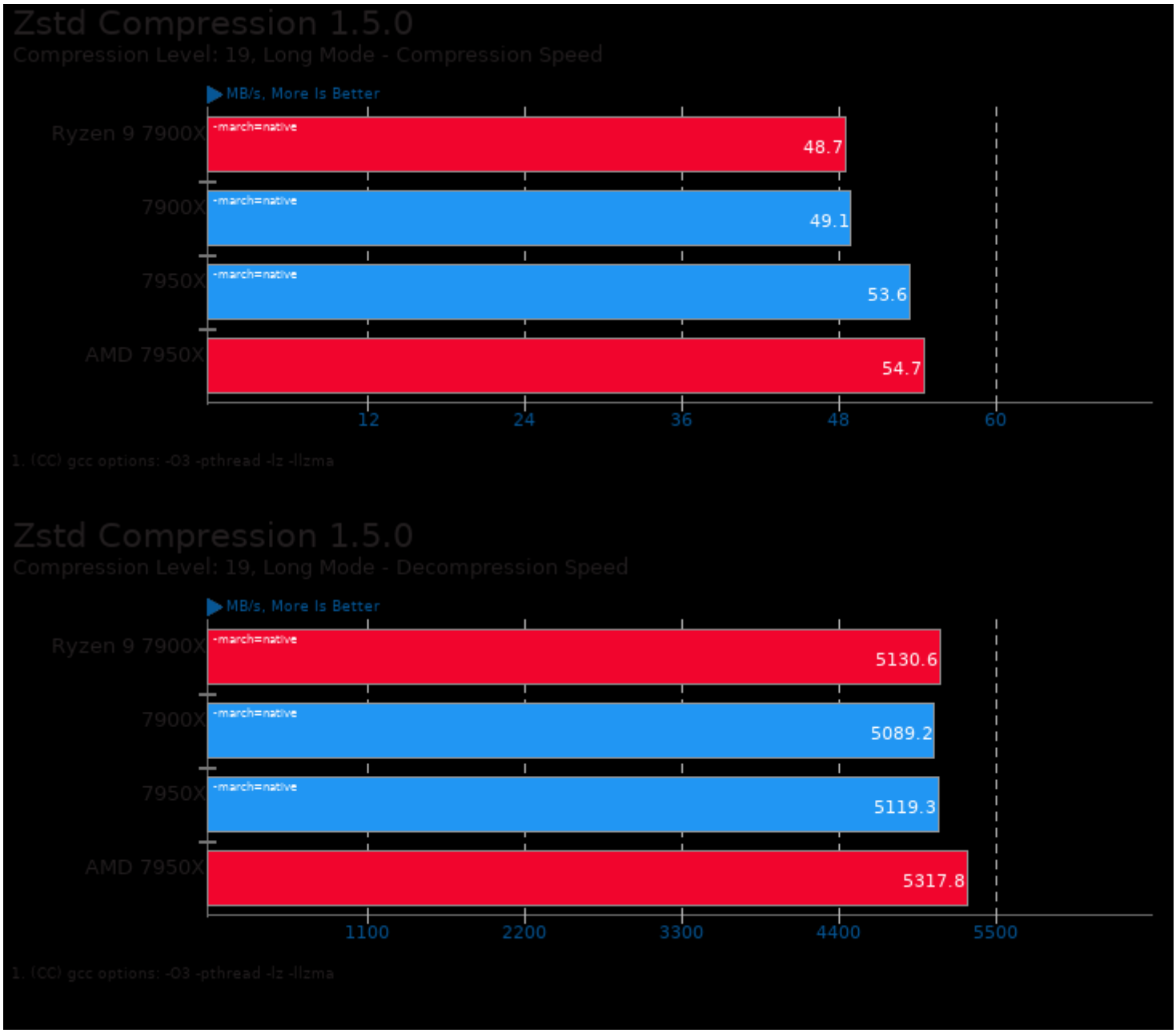
# ryzen 7000 series extra

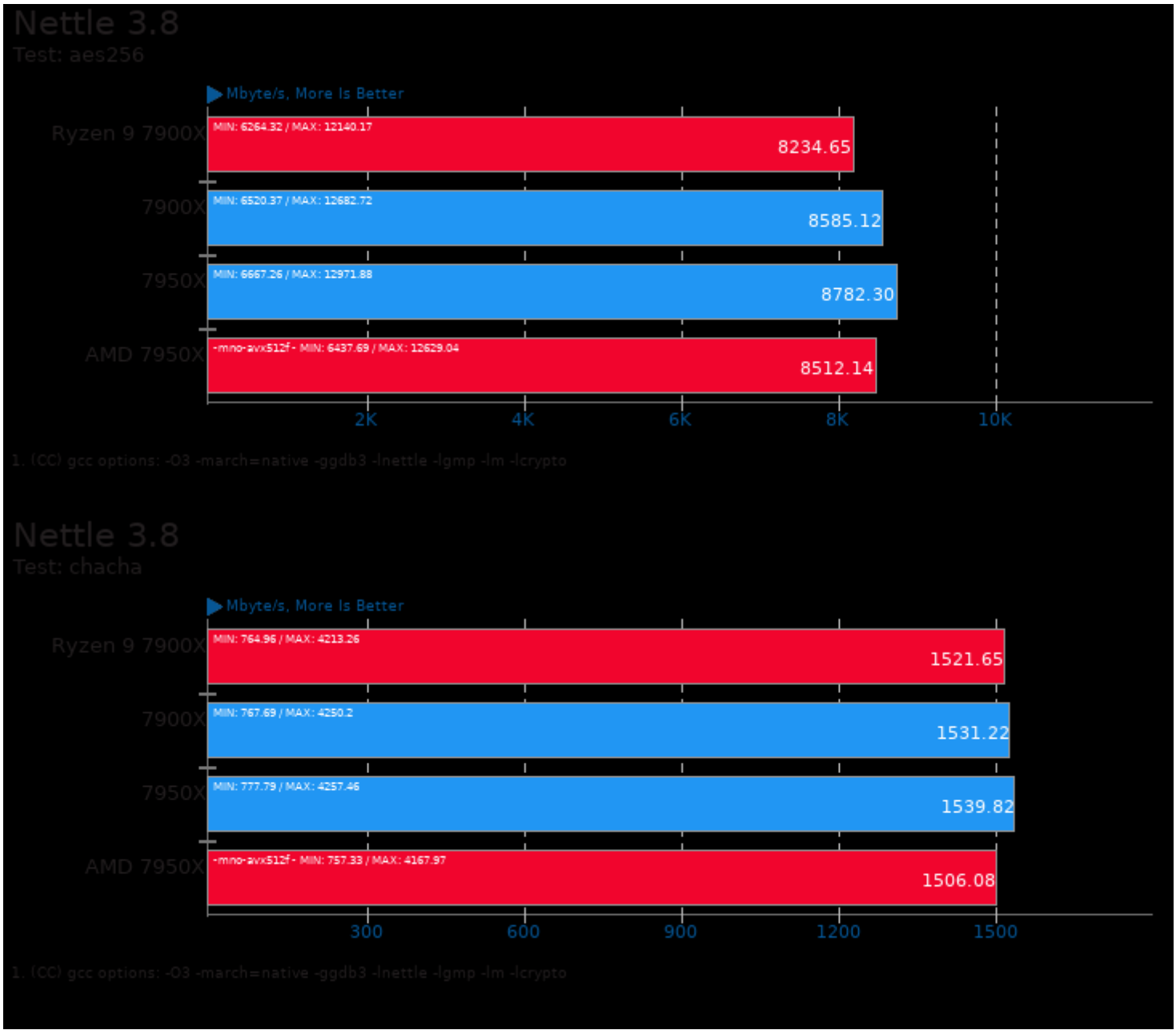



Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
60.0
7900X
-march=native
60.0
7950X
-march=native
79.5
AMD 7950X
81.5
20
40
60
80
100
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
4935.0
7900X
-march=native
5106.5
7950X
-march=native
5058.9
AMD 7950X
5367.1
1200
2400
3600
4800
6000
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
1889.6
7900X
-march=native
1887.1
7950X
-march=native
1925.9
AMD 7950X
1870.9
400
800
1200
1600
2000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
6003.2
7900X
-march=native
6230.2
7950X
-march=native
5996.7
AMD 7950X
6098.5
1300
2600
3900
5200
6500
1. (CC) gcc options: -O3 -pthread -lz -llzma

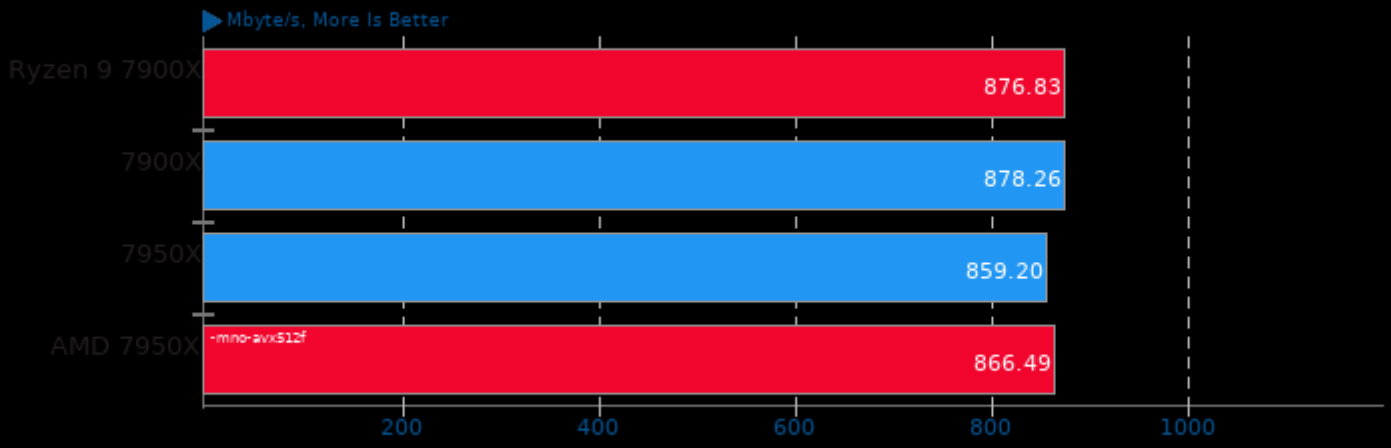

Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
1654.2
7900X
-march=native
1653.0
7950X
-march=native
1735.5
AMD 7950X
1711.9
400
800
1200
1600
2000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
6478.4
7900X
-march=native
6219.6
7950X
-march=native
6253.4
AMD 7950X
6602.9
1400
2800
4200
5600
7000
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
48.7
7900X
-march=native
49.1
7950X
-march=native
53.6
AMD 7950X
54.7
12
24
36
48
60
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
Ryzen 9 7900X
-march=native
5130.6
7900X
-march=native
5089.2
7950X
-march=native
5119.3
AMD 7950X
5317.8
1100
2200
3300
4400
5500
1. (CC) gcc options: -O3 -pthread -lz -llzma


Nettle 3.8
Test: aes256
Mbyte/s, More Is Better
Ryzen 9 7900X
MIN: 6264.32 / MAX: 12140.17
8234.65
7900X
MIN: 6520.37 / MAX: 12682.72
8585.12
7950X
MIN: 6667.26 / MAX: 12971.88
8782.30
AMD 7950X
-mno-avx512f - MIN: 6437.69 / MAX: 12629.04
8512.14
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native -ggdb3 -lnettle -lgmp -lm -lcrypto
Nettle 3.8
Test: chacha
Mbyte/s, More Is Better
Ryzen 9 7900X
MIN: 764.96 / MAX: 4213.26
1521.65
7900X
MIN: 767.69 / MAX: 4250.2
1531.22
7950X
MIN: 777.79 / MAX: 4257.46
1539.82
AMD 7950X
-mno-avx512f - MIN: 757.33 / MAX: 4167.97
1506.08
300
600
900
1200
1500
1. (CC) gcc options: -O3 -march=native -ggdb3 -lnettle -lgmp -lm -lcrypto

## Nettle 3.8

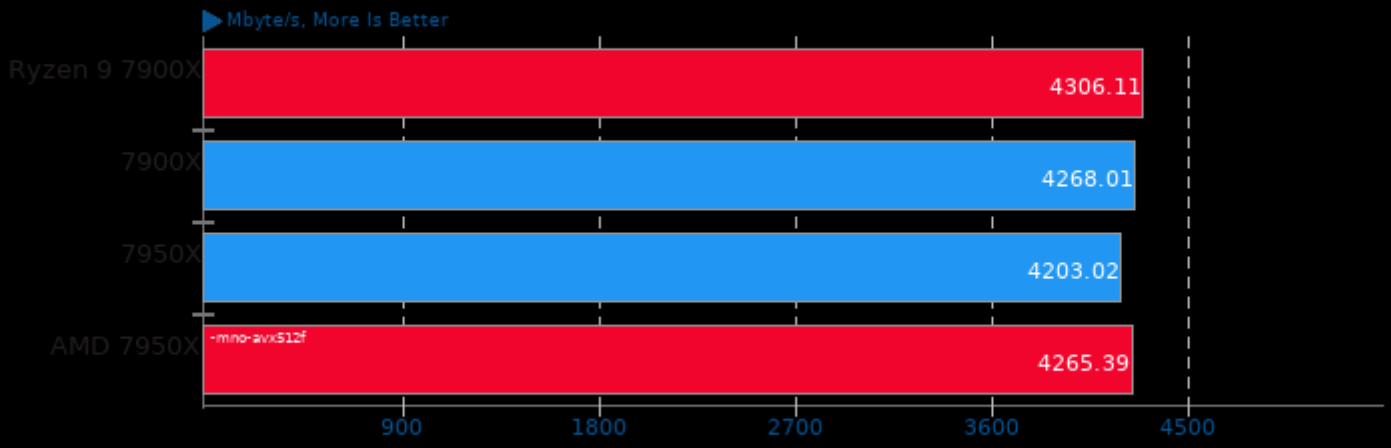
Test: sha512




1. (CC) gcc options: -O3 -march=native -ggdb3 -lnettle -lgmp -lm -lcrypto

## Nettle 3.8

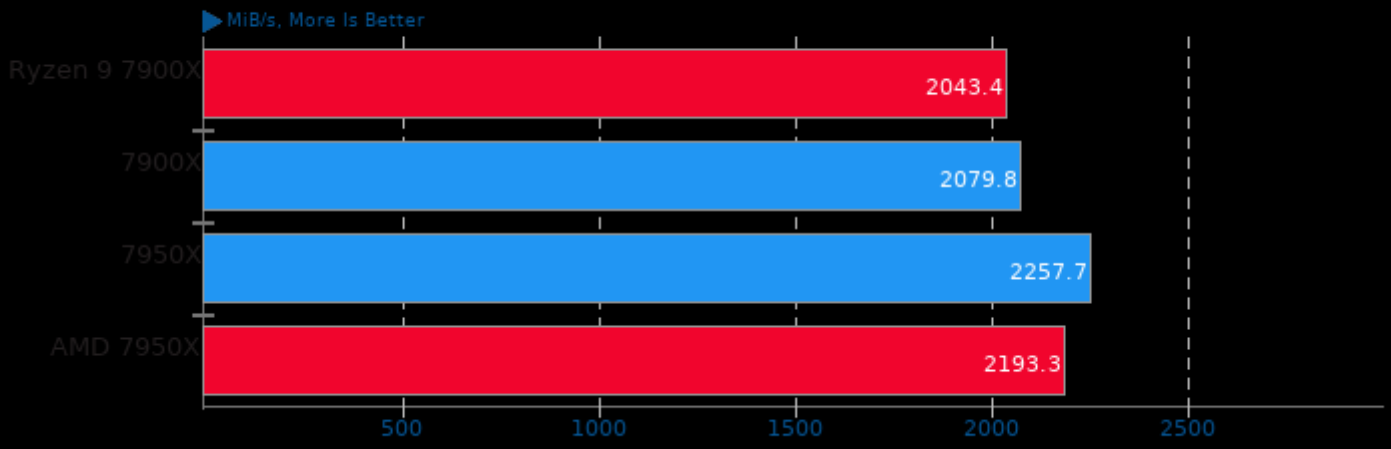
Test: poly1305-aes




1. (CC) gcc options: -O3 -march=native -ggdb3 -lnettle -lgmp -lm -lcrypto

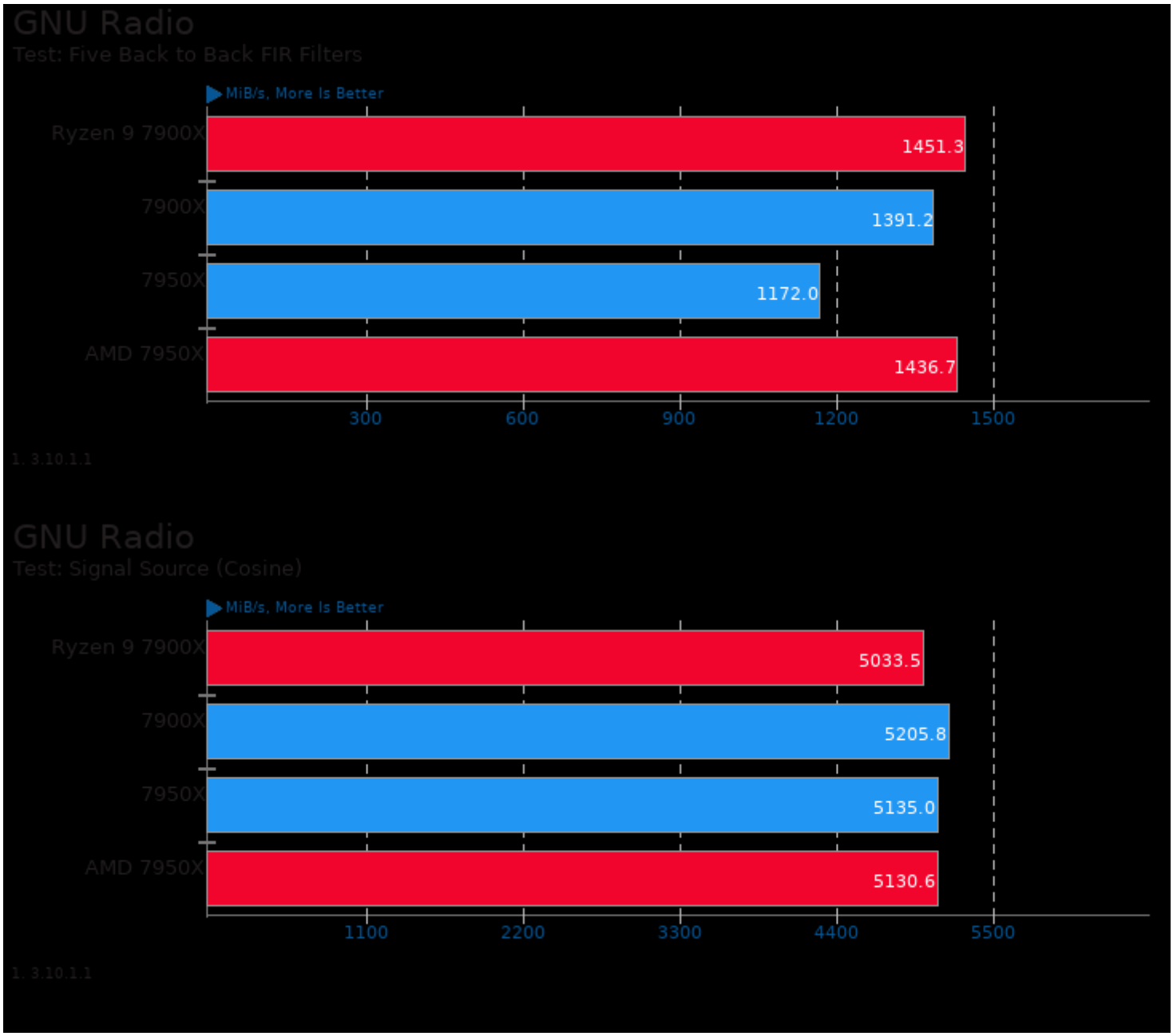
## LuaRadio 0.9.1

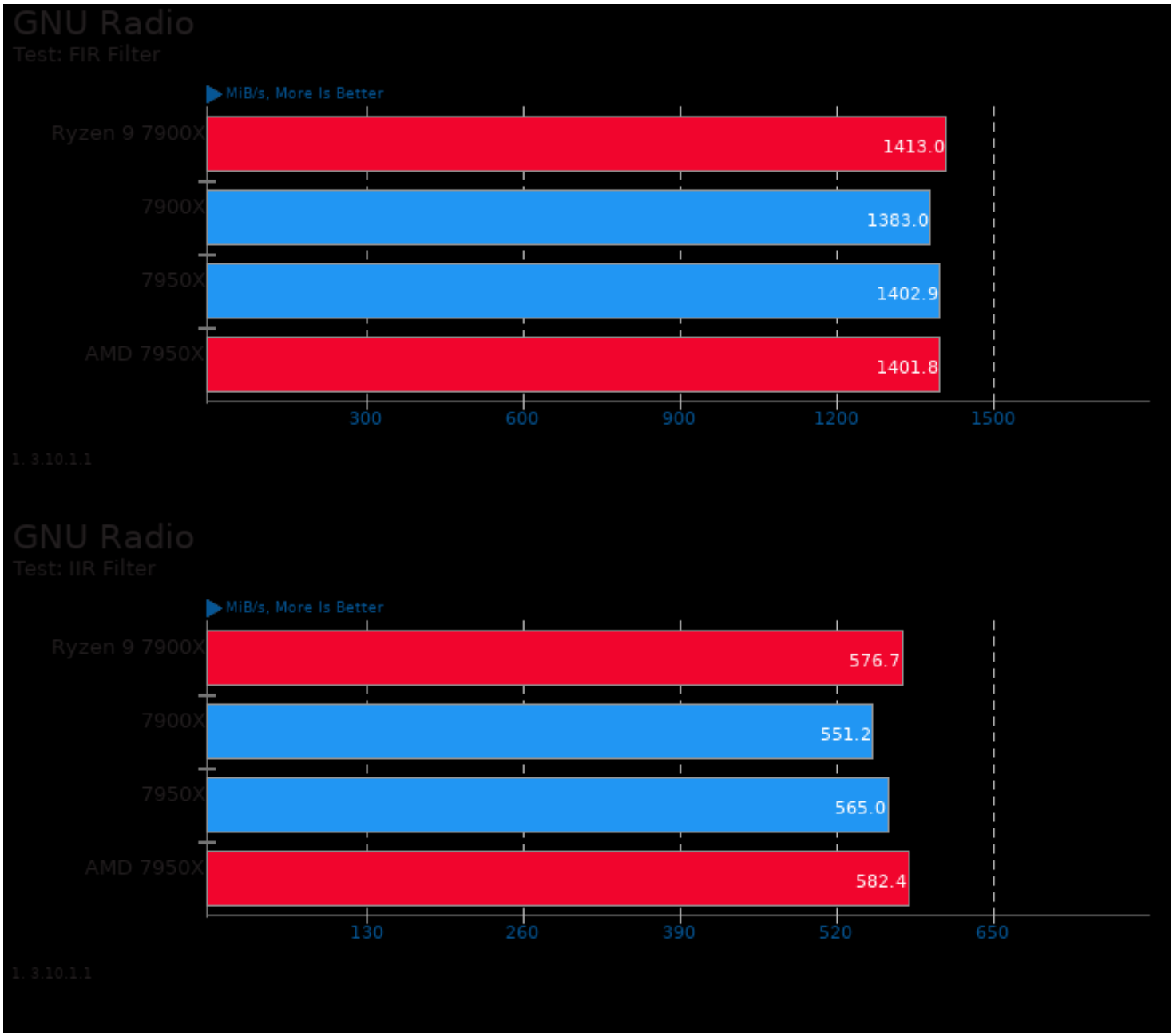
Test: Five Back to Back FIR Filters

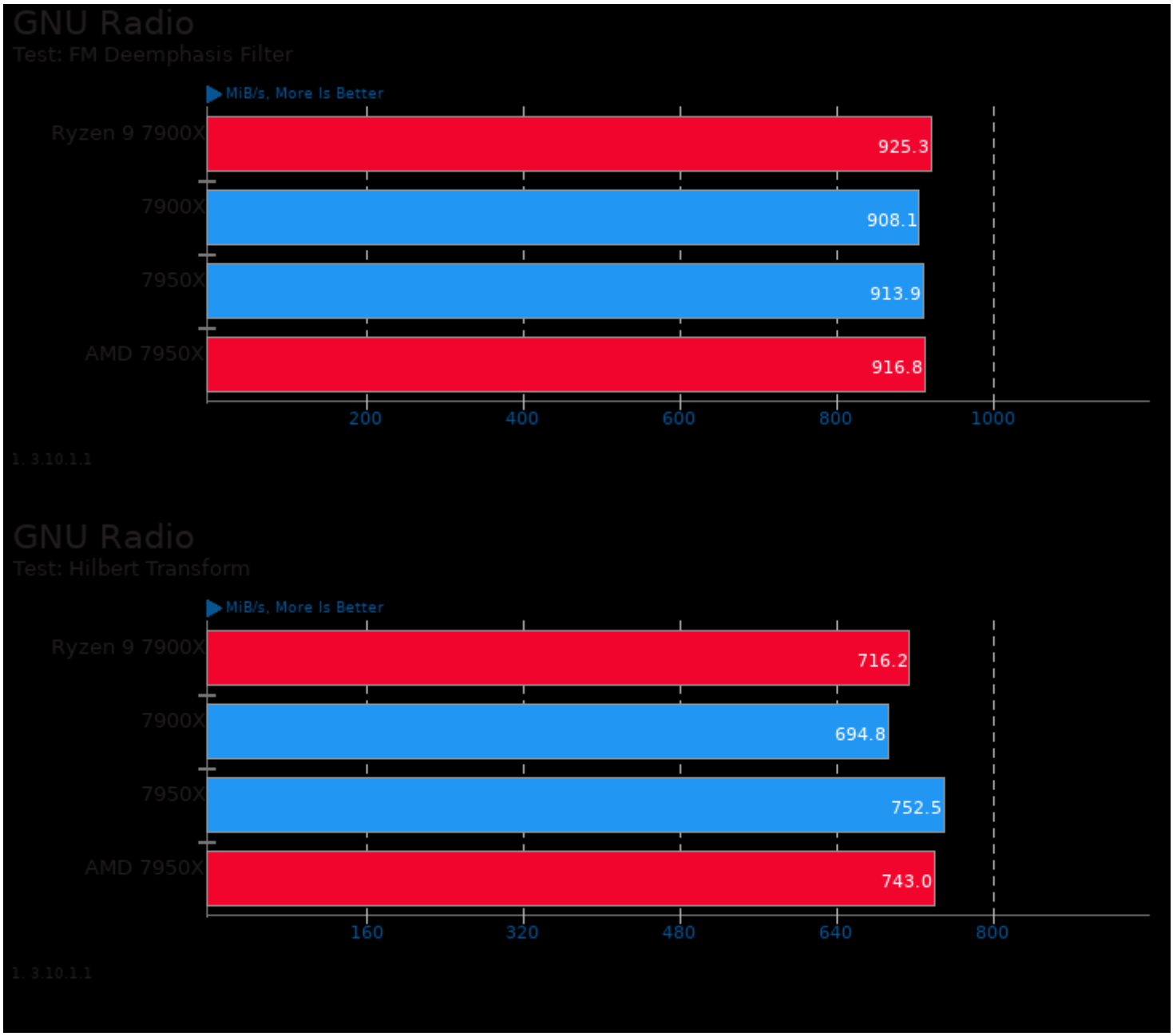


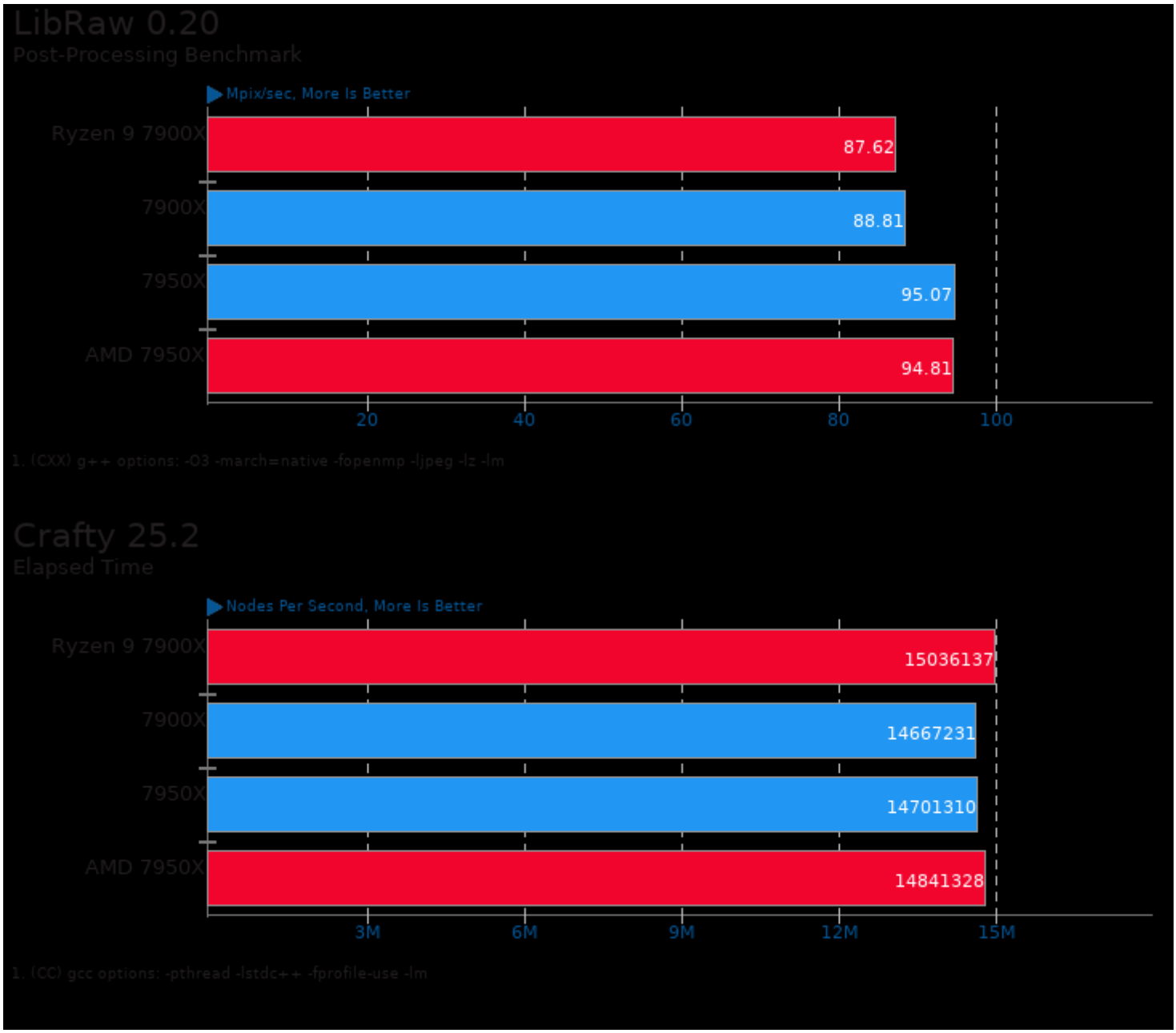
# ryzen 7000 series extra

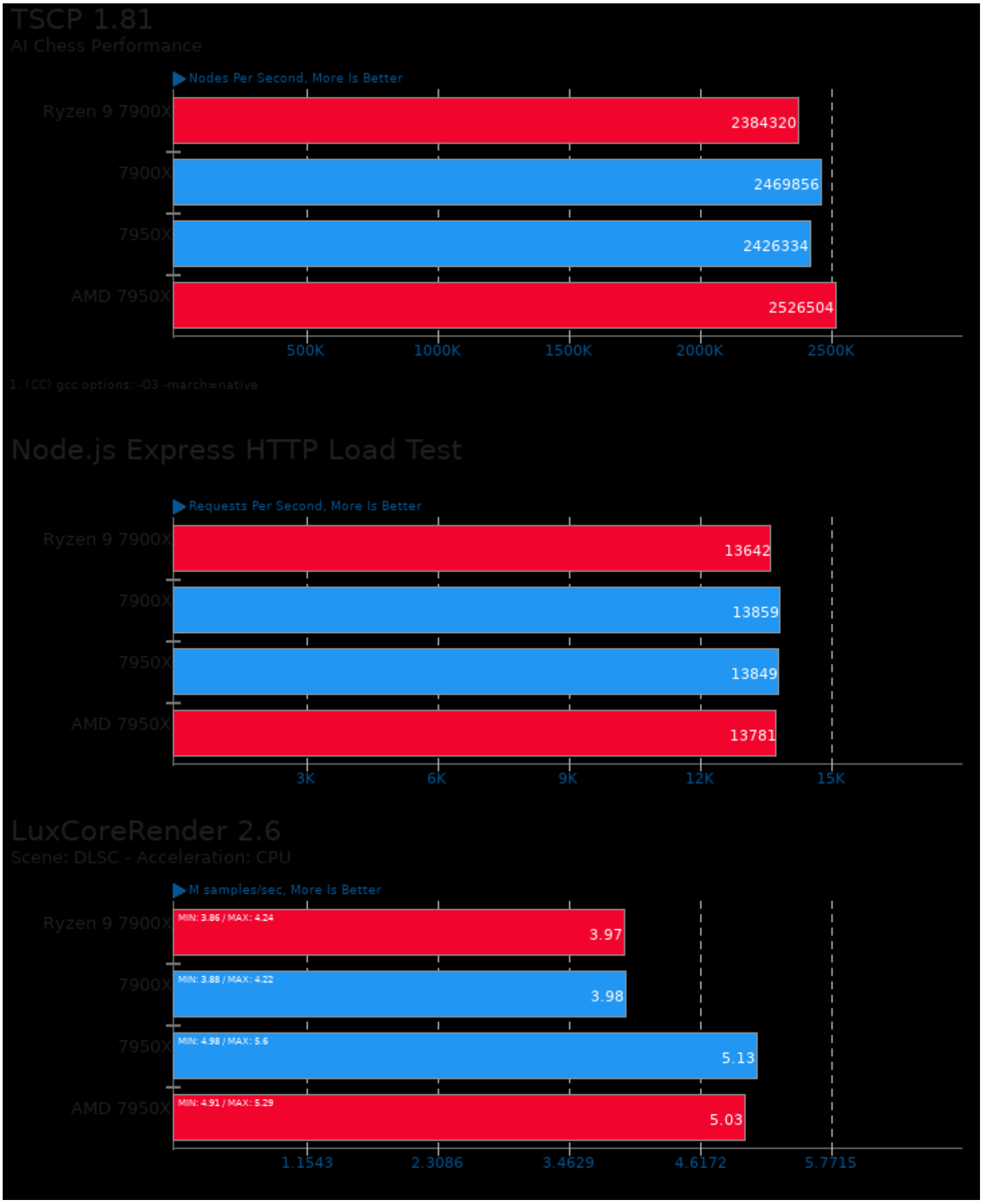


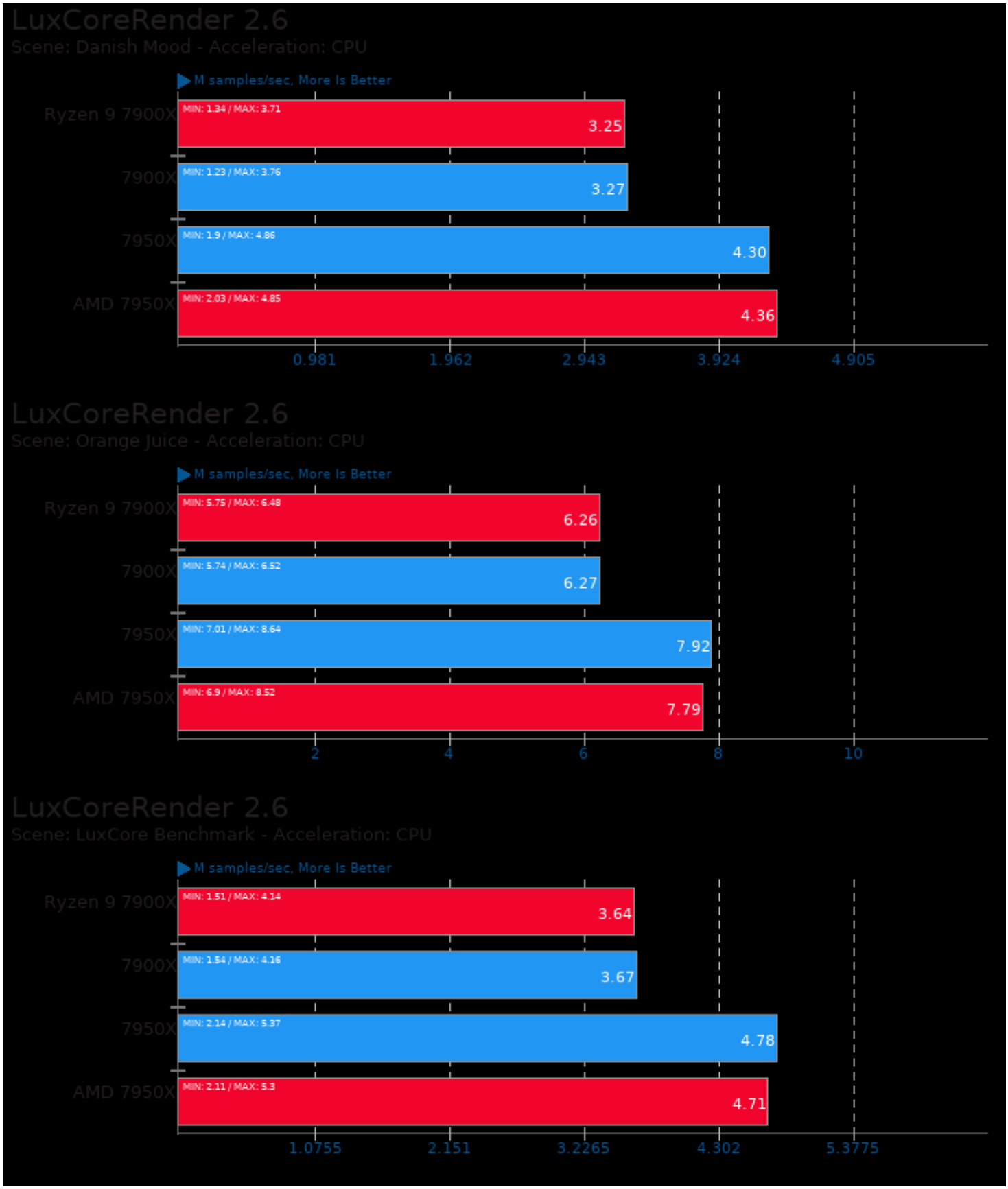

GNU Radio
Test: Five Back to Back FIR Filters
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1451.3
1391.2
1172.0
1436.7
300
600
900
1200
1500
1. 3.10.1.1
GNU Radio
Test: Signal Source (Cosine)
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
5033.5
5205.8
5135.0
5130.6
1100
2200
3300
4400
5500
1. 3.10.1.1


GNU Radio
Test: FIR Filter
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1413.0
1383.0
1402.9
1401.8
300
600
900
1200
1500
1. 3.10.1.1
GNU Radio
Test: IIR Filter
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
576.7
551.2
565.0
582.4
130
260
390
520
650
1. 3.10.1.1

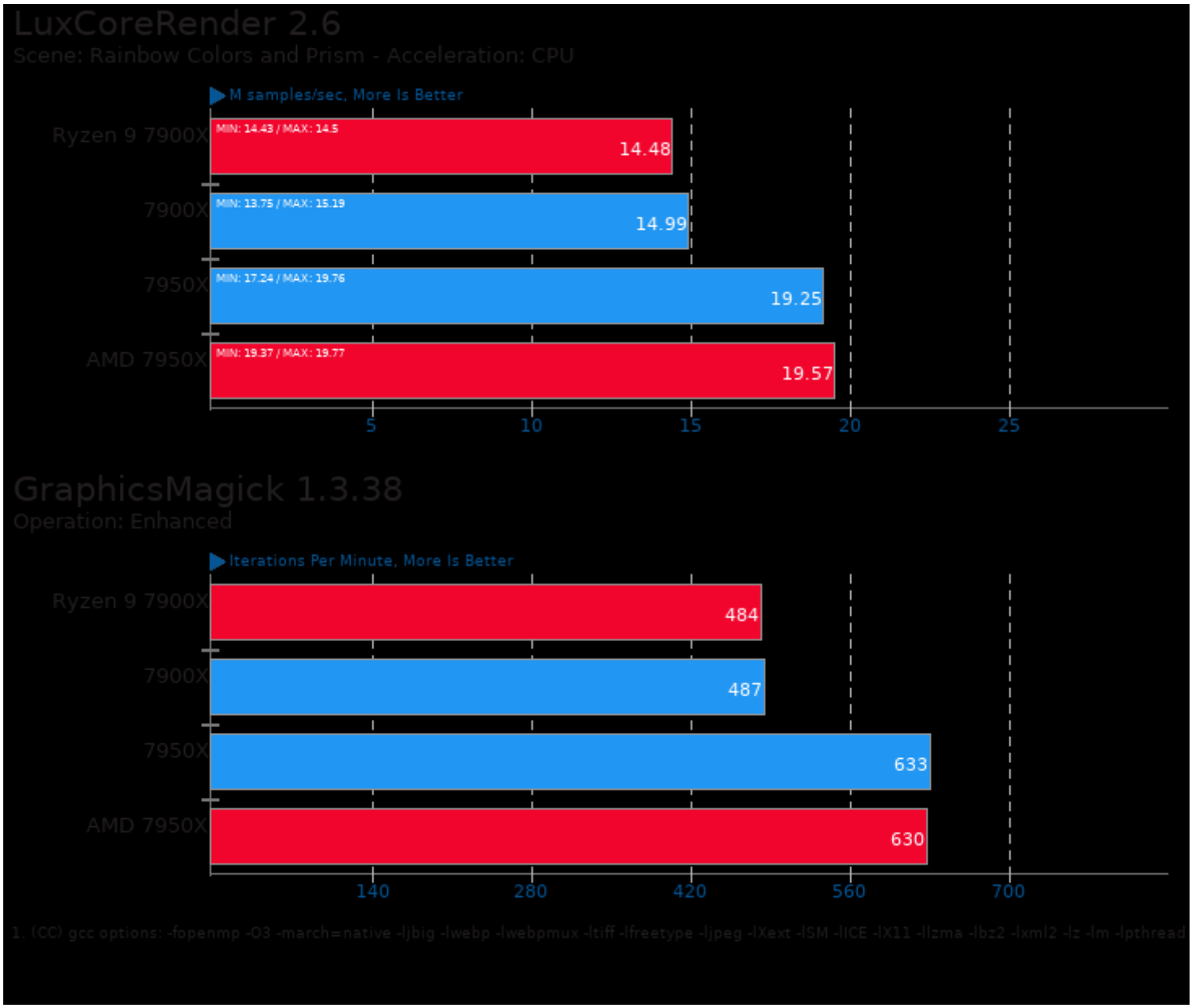

GNU Radio
Test: FM Deemphasis Filter
MiB/s, More Is Better
Ryzen 9 7900X
925.3
7900X
908.1
7950X
913.9
AMD 7950X
916.8
200
400
600
800
1000
1. 3.10.1.1
GNU Radio
Test: Hilbert Transform
MiB/s, More Is Better
Ryzen 9 7900X
716.2
7900X
694.8
7950X
752.5
AMD 7950X
743.0
160
320
480
640
800
1. 3.10.1.1

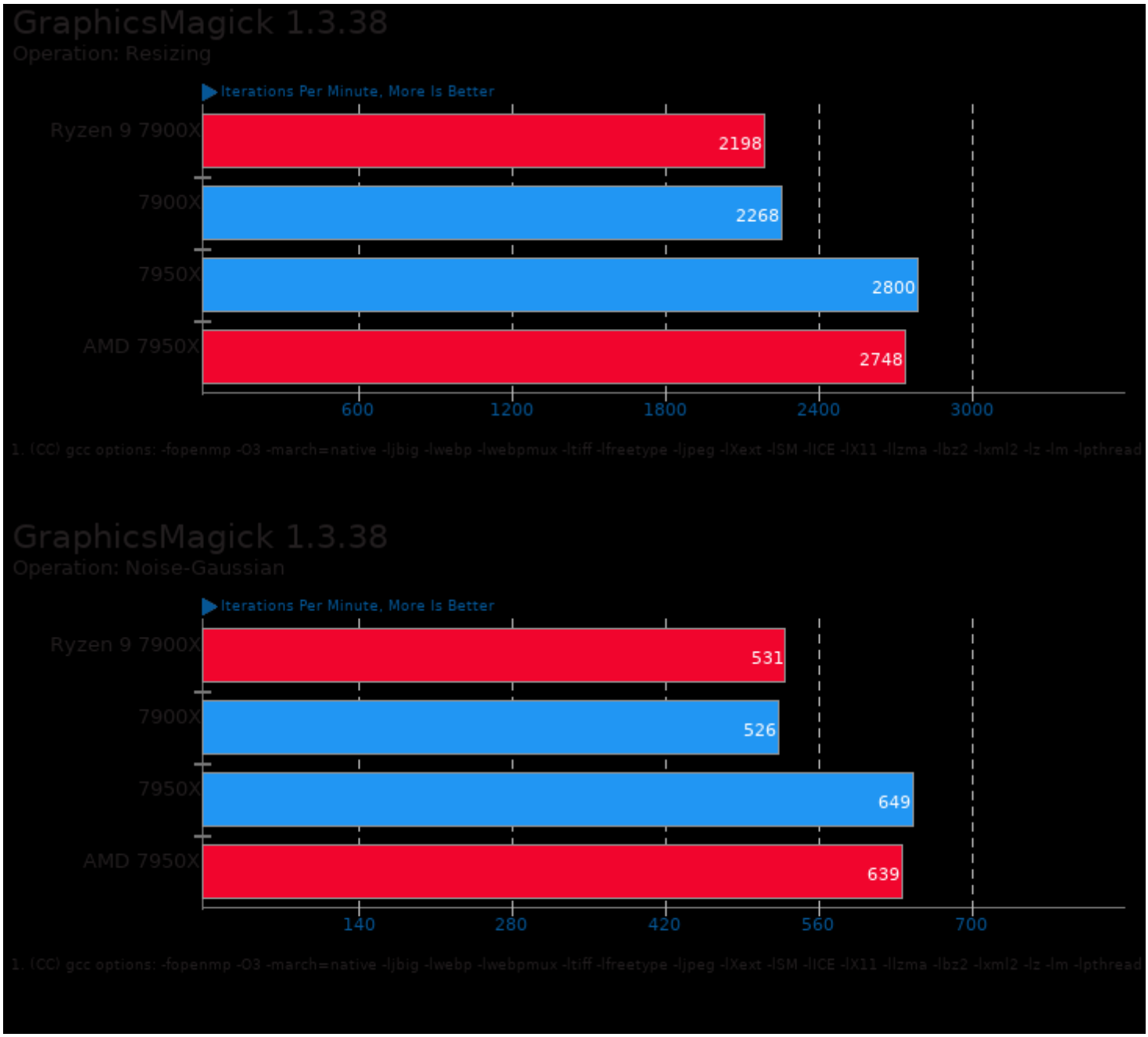

LibRaw 0.20
Post-Processing Benchmark
Mpix/sec, More Is Better
Ryzen 9 7900X
87.62
7900X
88.81
7950X
95.07
AMD 7950X
94.81
20
40
60
80
100
1. (CXX) g++ options: -O3 -march=native -fopenmp -ljpeg -lz -lm
Crafty 25.2
Elapsed Time
Nodes Per Second, More Is Better
Ryzen 9 7900X
15036137
7900X
14667231
7950X
14701310
AMD 7950X
14841328
3M
6M
9M
12M
15M
1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

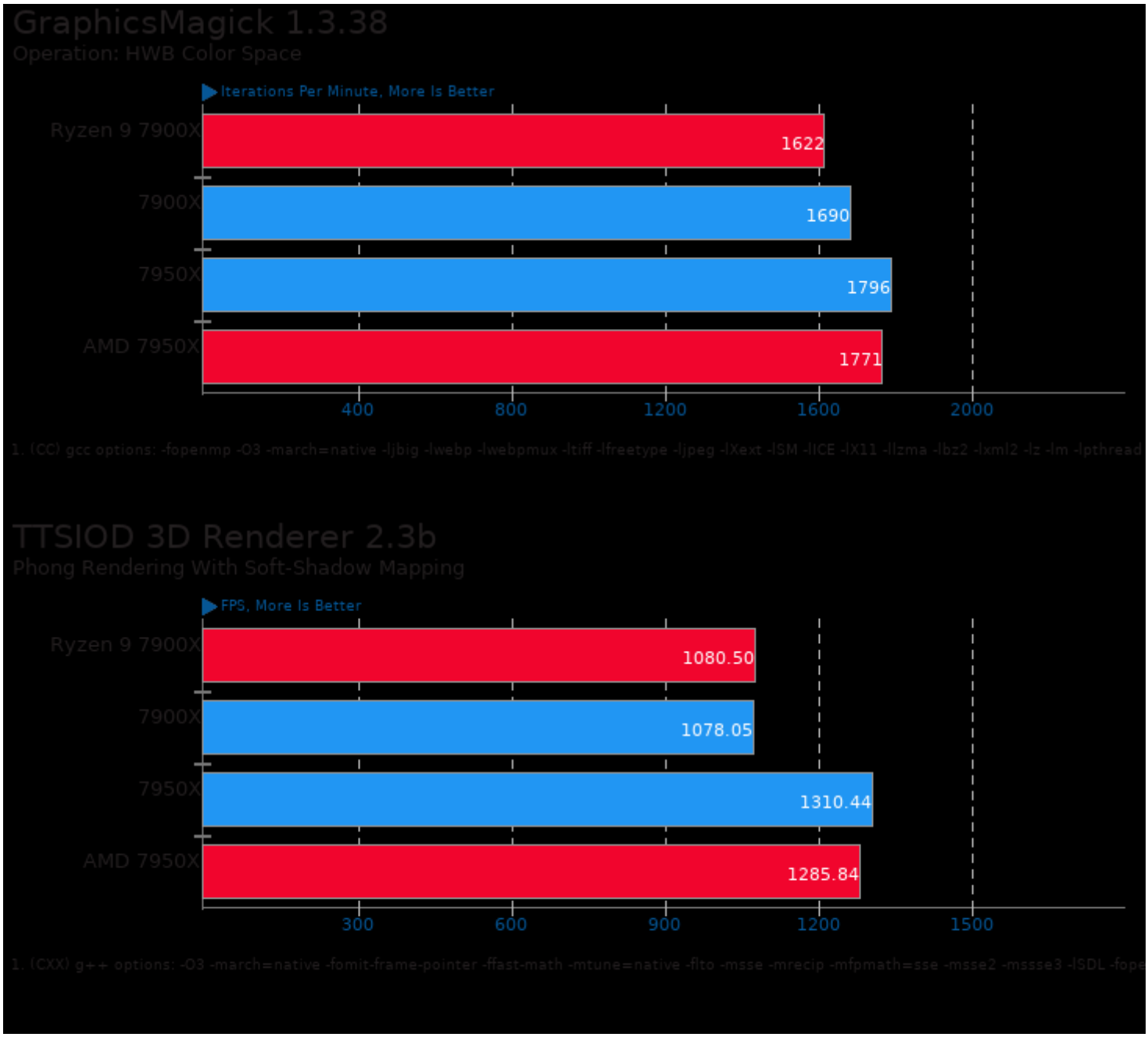

TSCP 1.81
AI Chess Performance
Nodes Per Second, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
2384320
2469856
2426334
2526504
500K
1000K
1500K
2000K
2500K
1. (CC) gcc options: -O3 -march=native
Node.js Express HTTP Load Test
Requests Per Second, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
13642
13859
13849
13781
3K
6K
9K
12K
15K
LuxCoreRender 2.6
Scene: DLSC - Acceleration: CPU
M samples/sec, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
MIN: 3.86 / MAX: 4.24
3.97
MIN: 3.88 / MAX: 4.22
3.98
MIN: 4.98 / MAX: 5.6
5.13
MIN: 4.91 / MAX: 5.29
5.03
1.1543
2.3086
3.4629
4.6172
5.7715

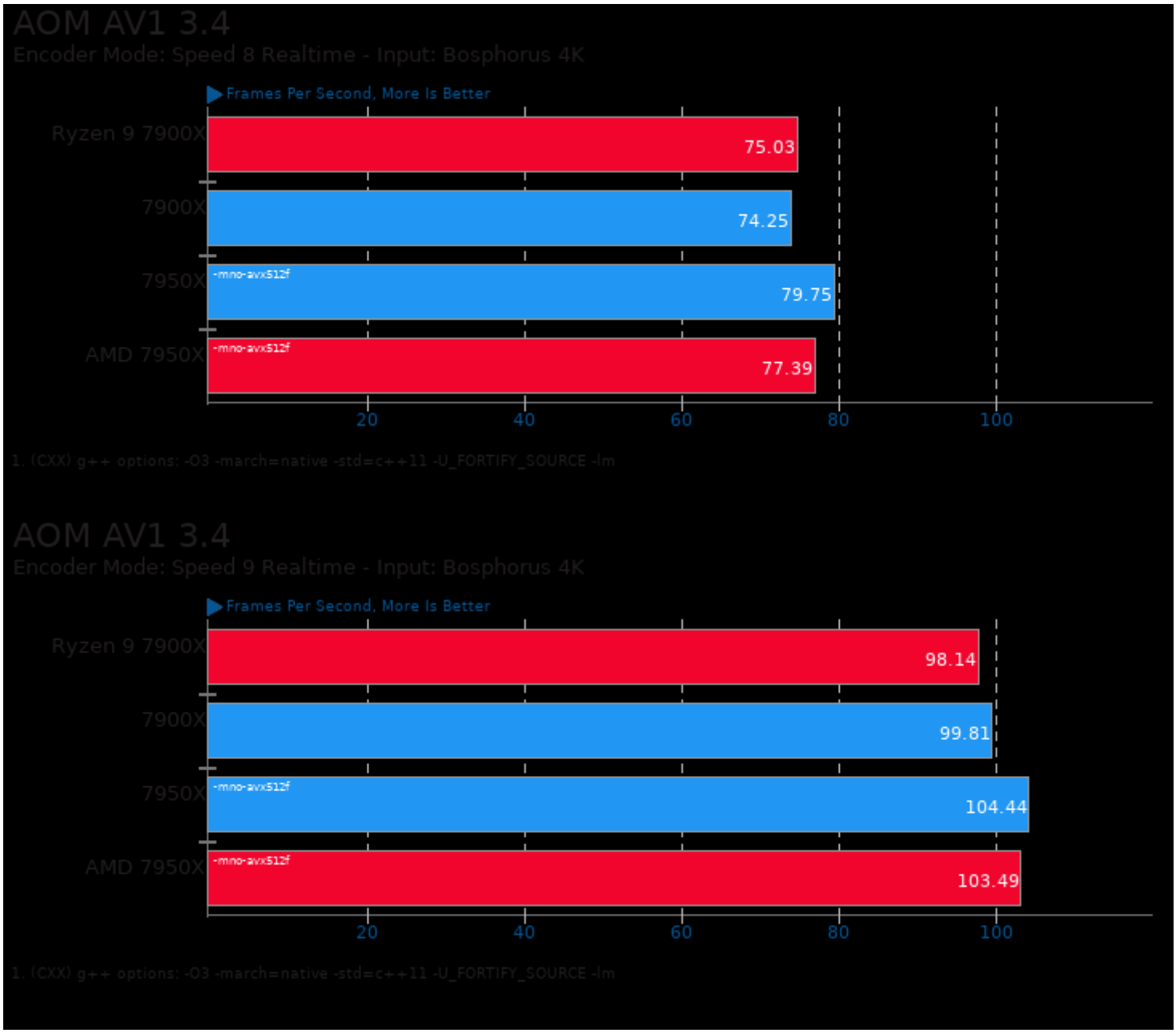

LuxCoreRender 2.6
Scene: Danish Mood - Acceleration: CPU
M samples/sec, More Is Better
Ryzen 9 7900X
MIN: 1.34 / MAX: 3.71
3.25
7900X
MIN: 1.23 / MAX: 3.76
3.27
7950X
MIN: 1.9 / MAX: 4.86
4.30
AMD 7950X
MIN: 2.03 / MAX: 4.85
4.36
0.981
1.962
2.943
3.924
4.905
LuxCoreRender 2.6
Scene: Orange Juice - Acceleration: CPU
M samples/sec, More Is Better
Ryzen 9 7900X
MIN: 5.75 / MAX: 6.48
6.26
7900X
MIN: 5.74 / MAX: 6.52
6.27
7950X
MIN: 7.01 / MAX: 8.64
7.92
AMD 7950X
MIN: 6.9 / MAX: 8.52
7.79
2
4
6
8
10
LuxCoreRender 2.6
Scene: LuxCore Benchmark - Acceleration: CPU
M samples/sec, More Is Better
Ryzen 9 7900X
MIN: 1.51 / MAX: 4.14
3.64
7900X
MIN: 1.54 / MAX: 4.16
3.67
7950X
MIN: 2.14 / MAX: 5.37
4.78
AMD 7950X
MIN: 2.11 / MAX: 5.3
4.71
1.0755
2.151
3.2265
4.302
5.3775

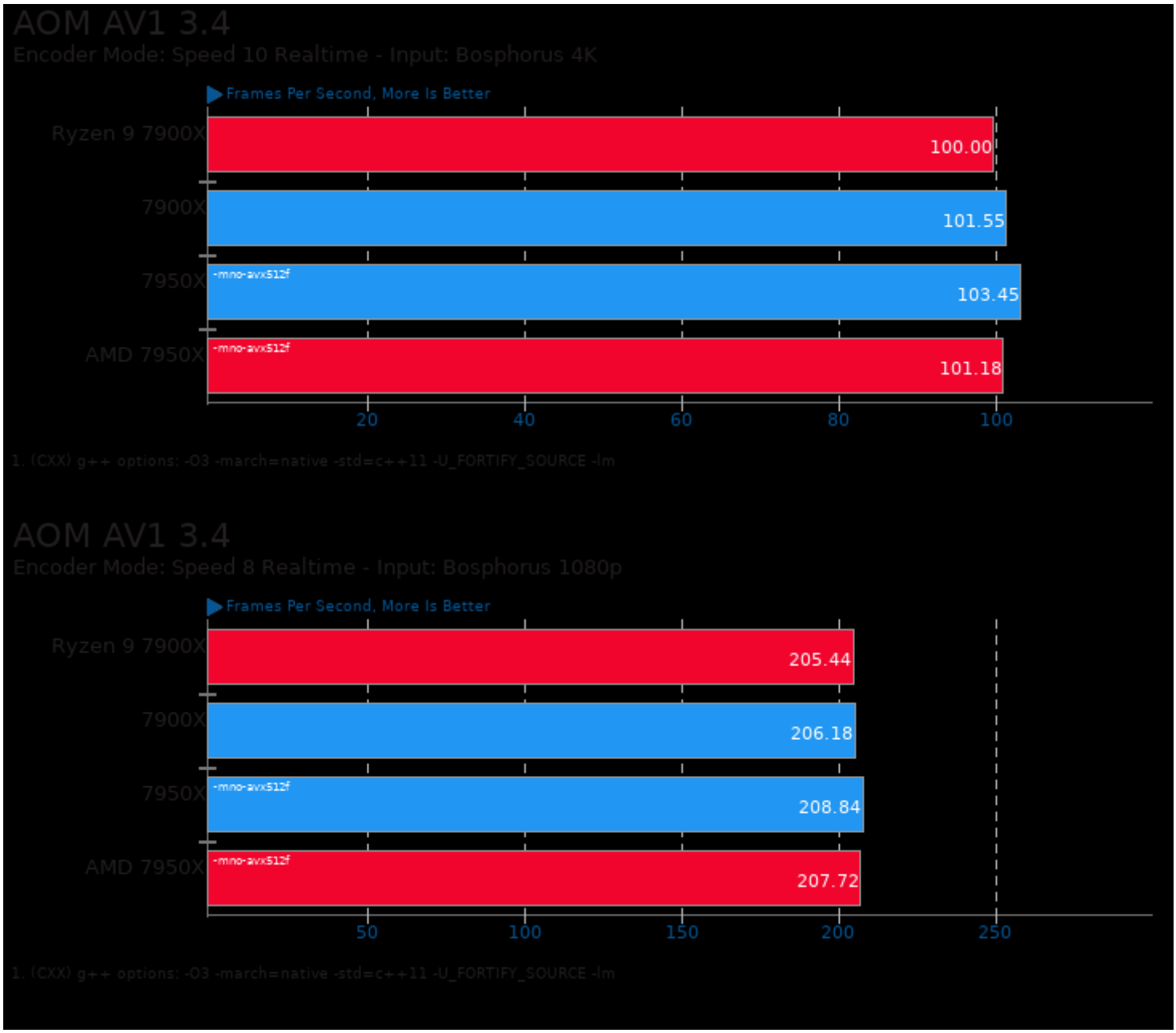
# ryzen 7000 series extra

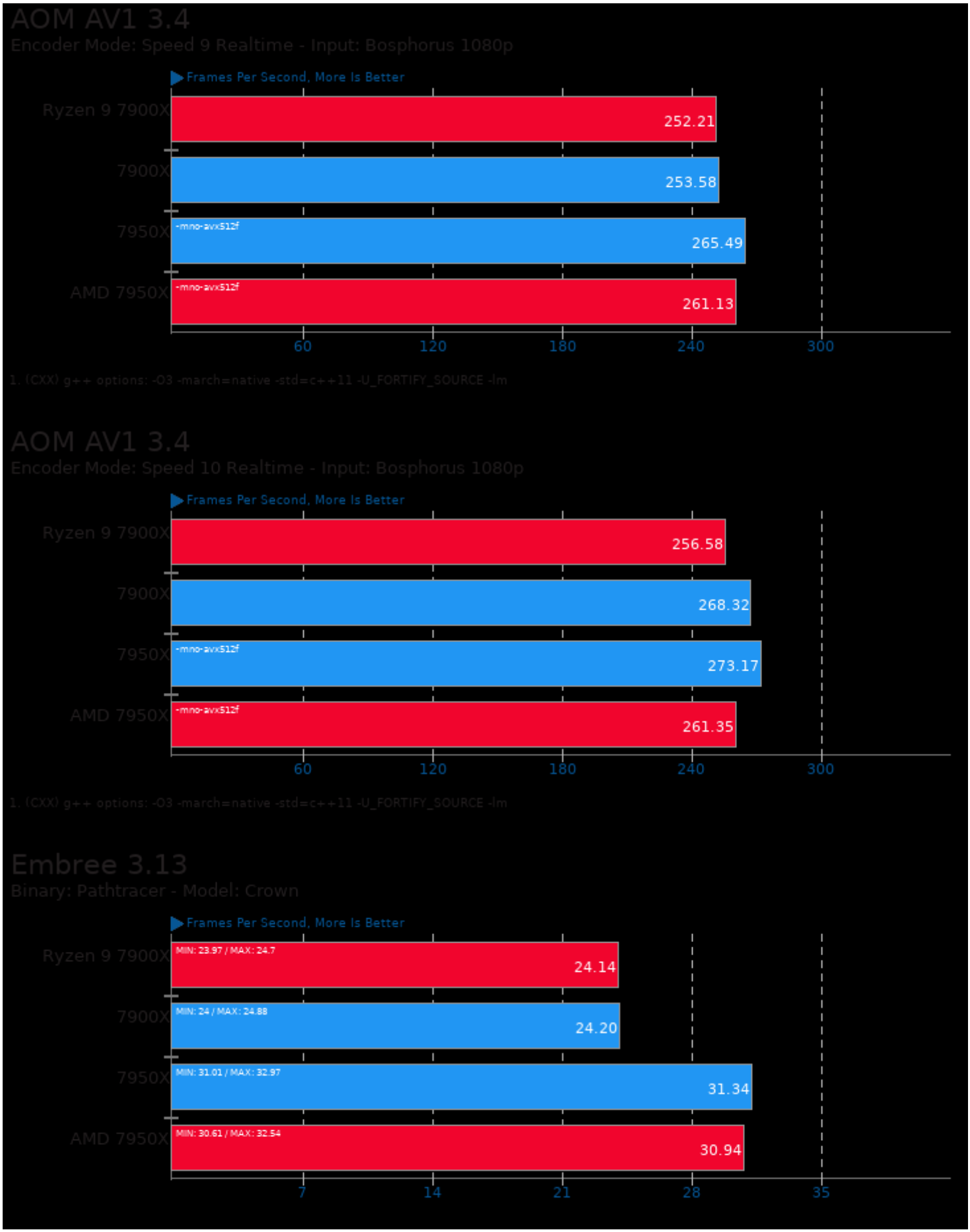


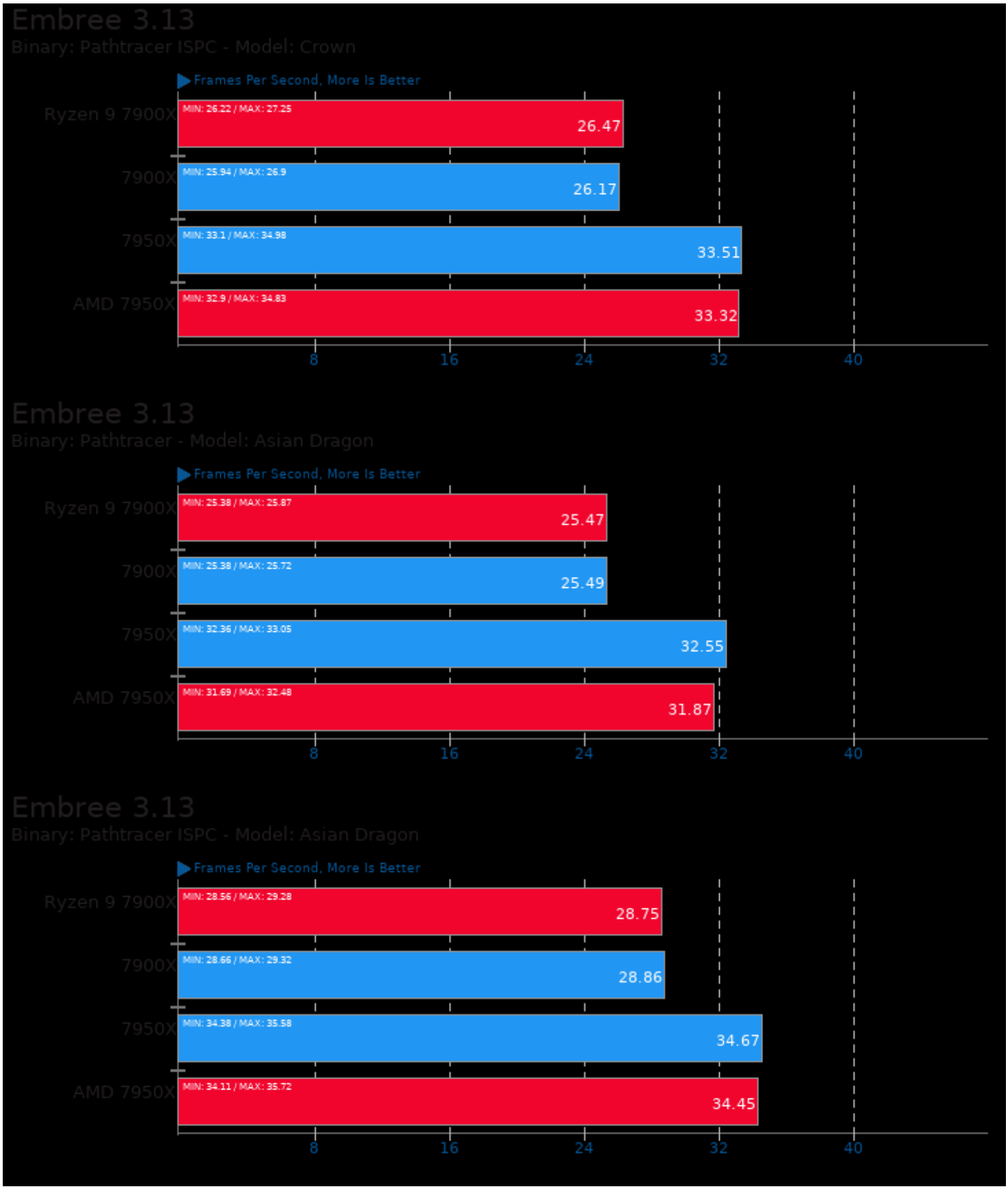

GraphicsMagick 1.3.38
Operation: Resizing
Iterations Per Minute, More Is Better
Ryzen 9 7900X
2198
7900X
2268
7950X
2800
AMD 7950X
2748
600
1200
1800
2400
3000
1. (CC) gcc options: -fopenmp -O3 -march=native -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Noise-Gaussian
Iterations Per Minute, More Is Better
Ryzen 9 7900X
531
7900X
526
7950X
649
AMD 7950X
639
140
280
420
560
700
1. (CC) gcc options: -fopenmp -O3 -march=native -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

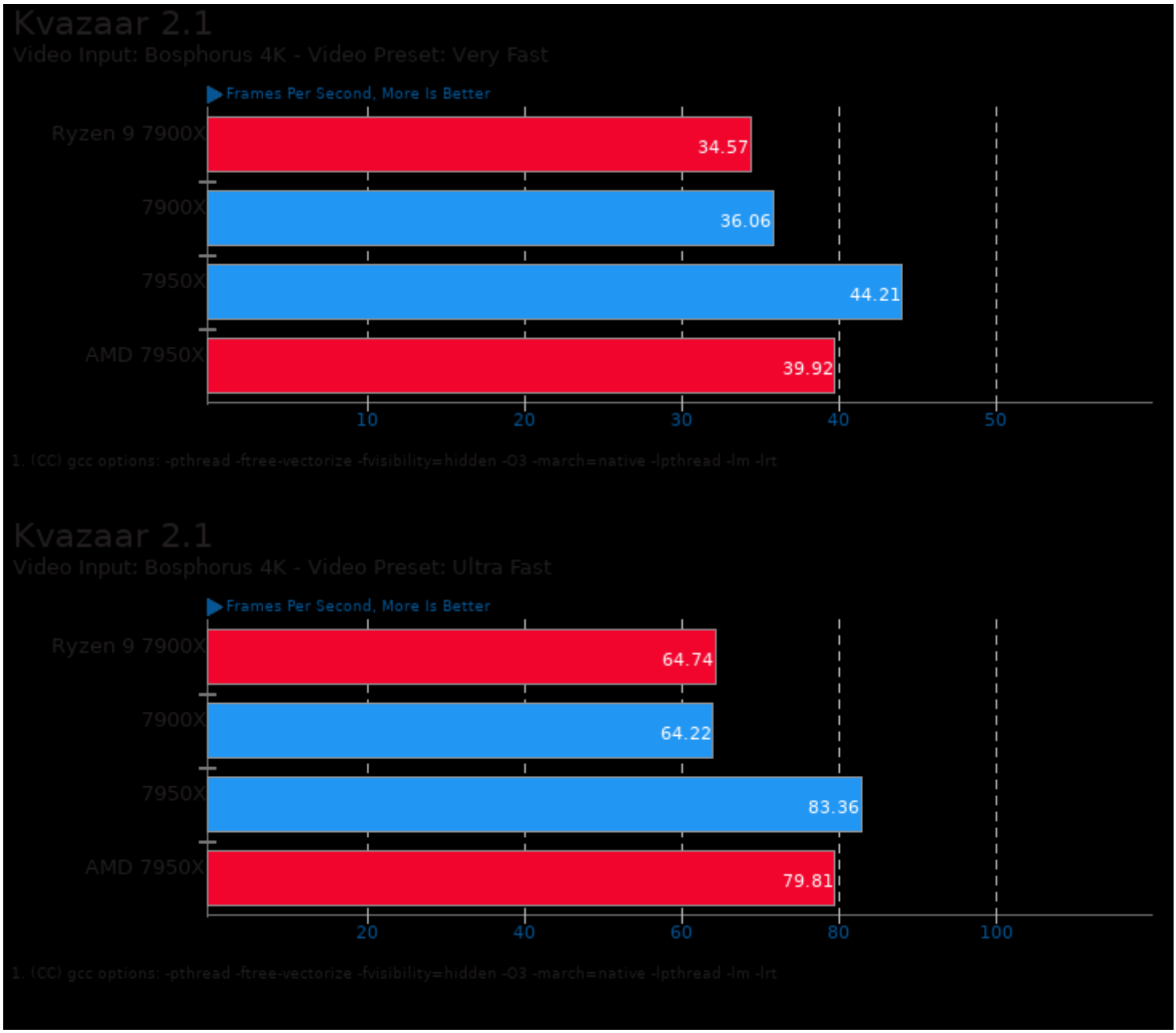

GraphicsMagick 1.3.38
Operation: HWB Color Space
Iterations Per Minute, More Is Better
Ryzen 9 7900X
1622
7900X
1690
7950X
1796
AMD 7950X
1771
400
800
1200
1600
2000
1. (CC) gcc options: -fopenmp -O3 -march=native -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
TTSIOD 3D Renderer 2.3b
Phong Rendering With Soft-Shadow Mapping
FPS, More Is Better
Ryzen 9 7900X
1080.50
7900X
1078.05
7950X
1310.44
AMD 7950X
1285.84
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -fomit-frame-pointer -ffast-math -mtune=native -flto -msse -mrecip -mfpmath=sse -msse2 -mssse3 -lSDL -fope

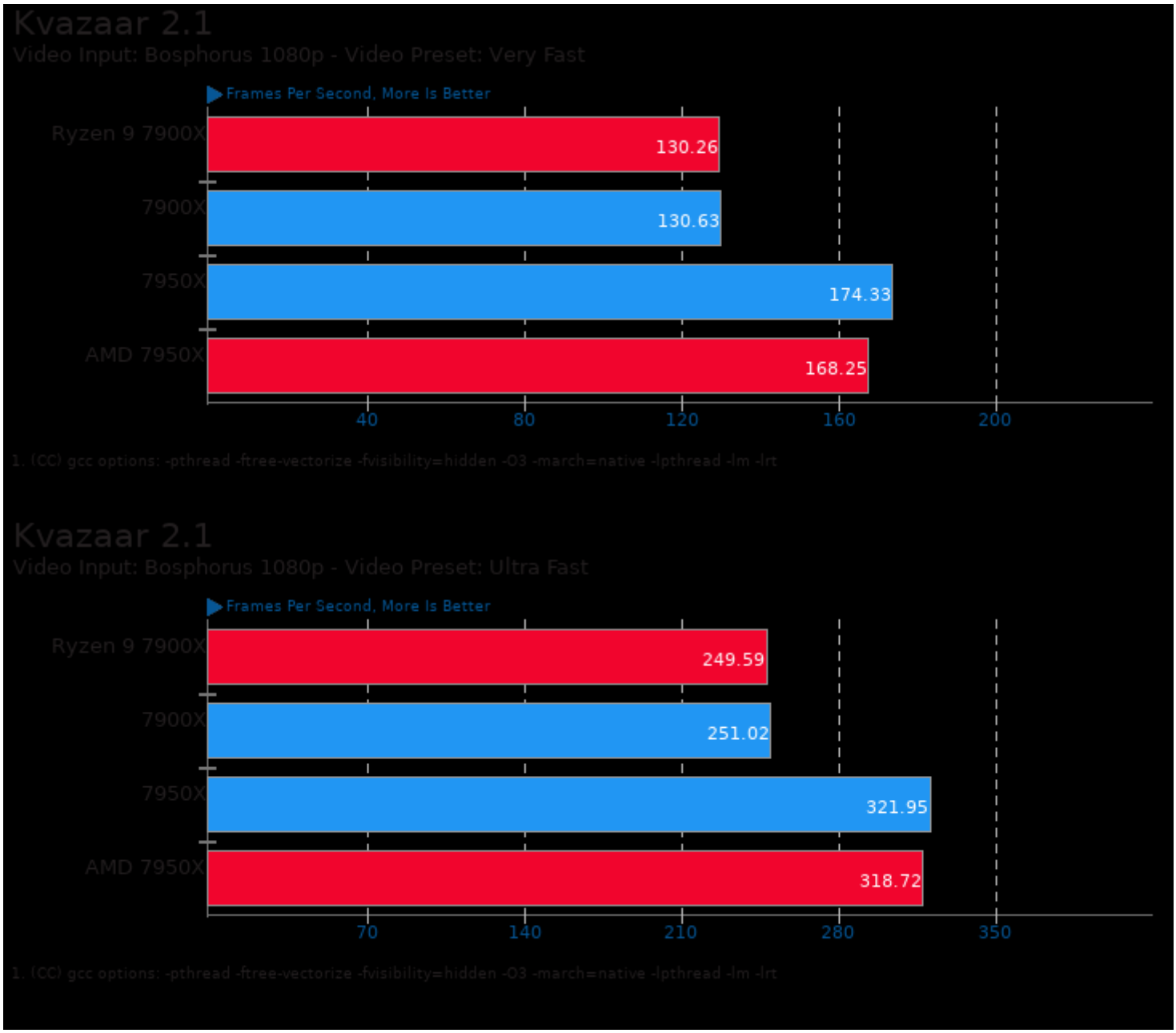

AOM AV1 3.4
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
75.03
7900X
74.25
7950X
-mno-avx512f
79.75
AMD 7950X
-mno-avx512f
77.39
20
40
60
80
100
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.4
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
98.14
7900X
99.81
7950X
-mno-avx512f
104.44
AMD 7950X
-mno-avx512f
103.49
20
40
60
80
100
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm

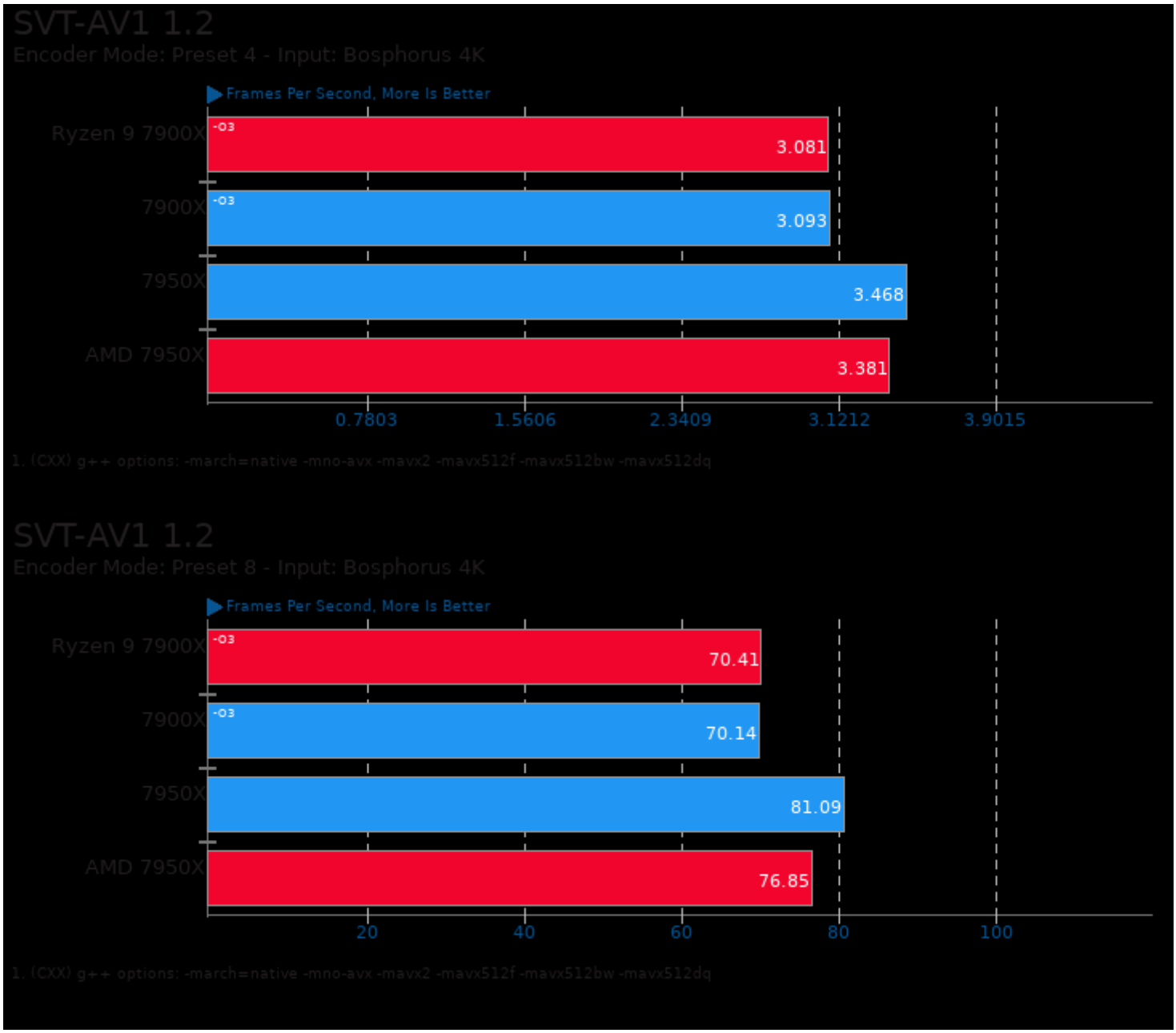

AOM AV1 3.4
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
100.00
7900X
-mno-avx512f
101.55
7950X
-mno-avx512f
103.45
AMD 7950X
-mno-avx512f
101.18
20
40
60
80
100
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.4
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
205.44
7900X
-mno-avx512f
206.18
7950X
-mno-avx512f
208.84
AMD 7950X
-mno-avx512f
207.72
50
100
150
200
250
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm

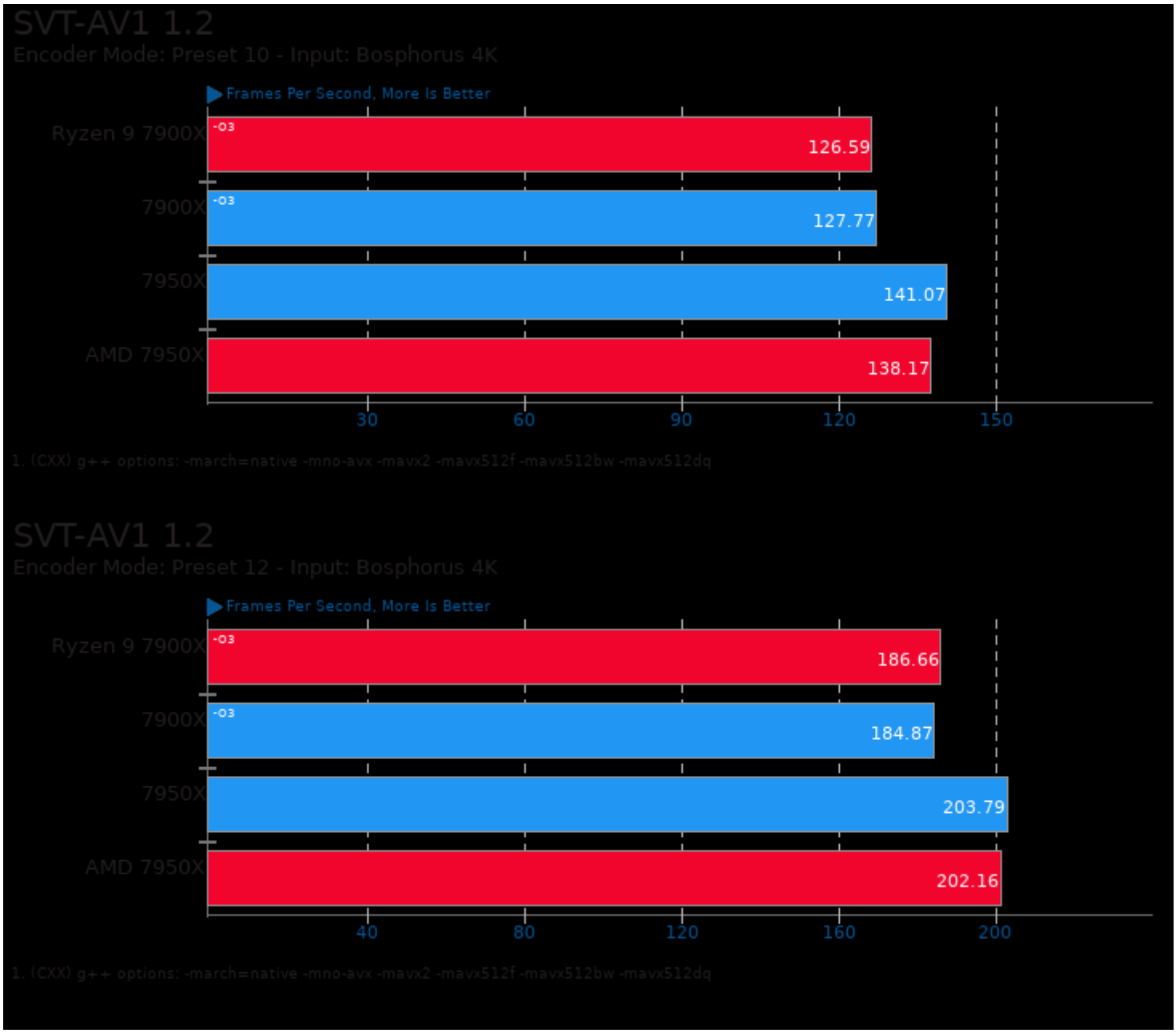

AOM AV1 3.4
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
252.21
7900X
253.58
7950X
-mno-avx512f
265.49
AMD 7950X
-mno-avx512f
261.13
60
120
180
240
300
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.4
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
256.58
7900X
268.32
7950X
-mno-avx512f
273.17
AMD 7950X
-mno-avx512f
261.35
60
120
180
240
300
1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm
Embree 3.13
Binary: Pathtracer - Model: Crown
Frames Per Second, More Is Better
Ryzen 9 7900X
MIN: 23.97 / MAX: 24.7
24.14
7900X
MIN: 24 / MAX: 24.88
24.20
7950X
MIN: 31.01 / MAX: 32.97
31.34
AMD 7950X
MIN: 30.61 / MAX: 32.54
30.94
7
14
21
28
35

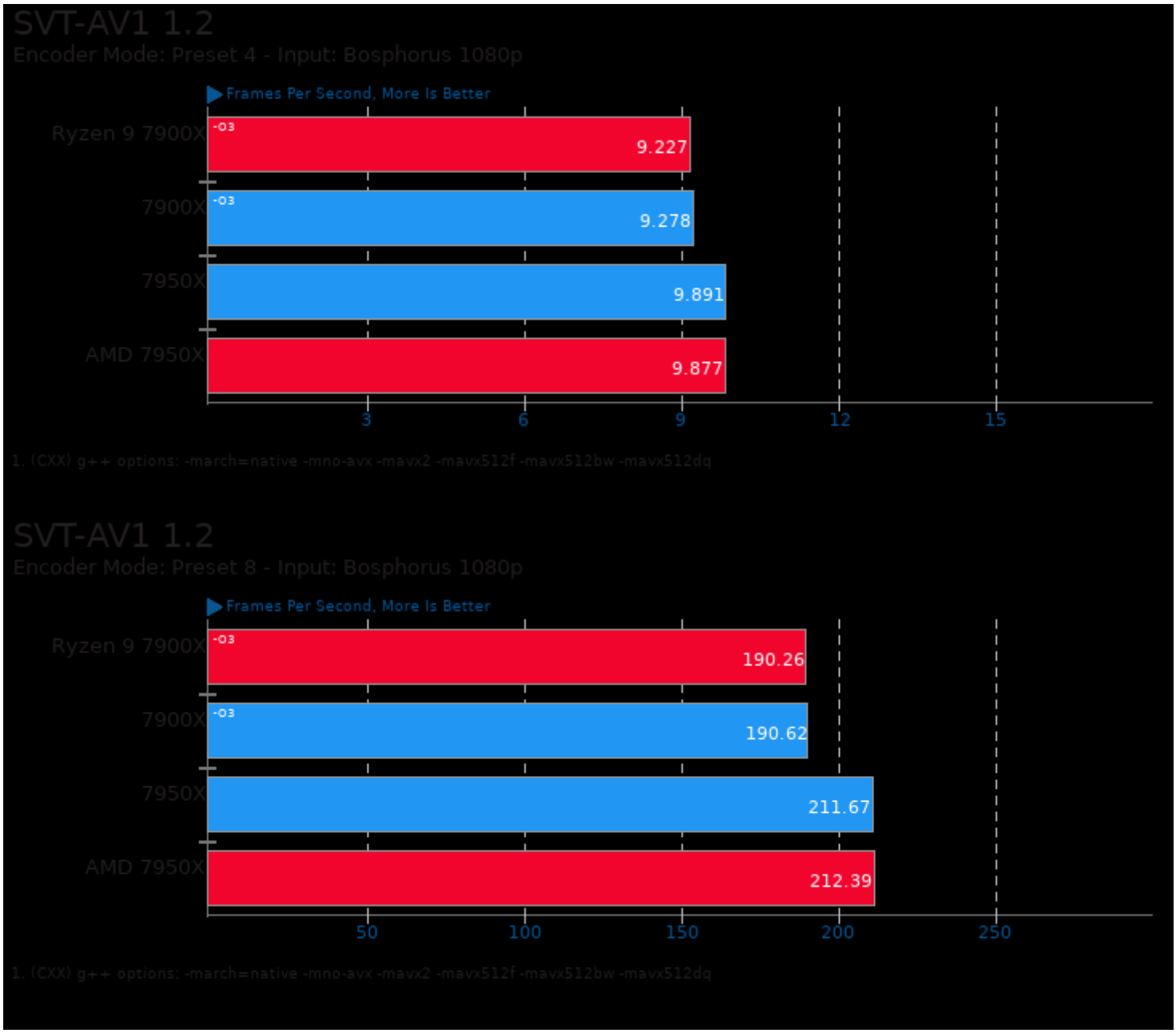

Embree 3.13
Binary: Pathtracer ISPC - Model: Crown
Frames Per Second, More Is Better
Ryzen 9 7900X
MIN: 26.22 / MAX: 27.25
26.47
7900X
MIN: 25.94 / MAX: 26.9
26.17
7950X
MIN: 33.1 / MAX: 34.98
33.51
AMD 7950X
MIN: 32.9 / MAX: 34.83
33.32
8
16
24
32
40
Embree 3.13
Binary: Pathtracer - Model: Asian Dragon
Frames Per Second, More Is Better
Ryzen 9 7900X
MIN: 25.38 / MAX: 25.87
25.47
7900X
MIN: 25.38 / MAX: 25.72
25.49
7950X
MIN: 32.36 / MAX: 33.05
32.55
AMD 7950X
MIN: 31.69 / MAX: 32.48
31.87
8
16
24
32
40
Embree 3.13
Binary: Pathtracer ISPC - Model: Asian Dragon
Frames Per Second, More Is Better
Ryzen 9 7900X
MIN: 28.56 / MAX: 29.28
28.75
7900X
MIN: 28.66 / MAX: 29.32
28.86
7950X
MIN: 34.38 / MAX: 35.58
34.67
AMD 7950X
MIN: 34.11 / MAX: 35.72
34.45
8
16
24
32
40

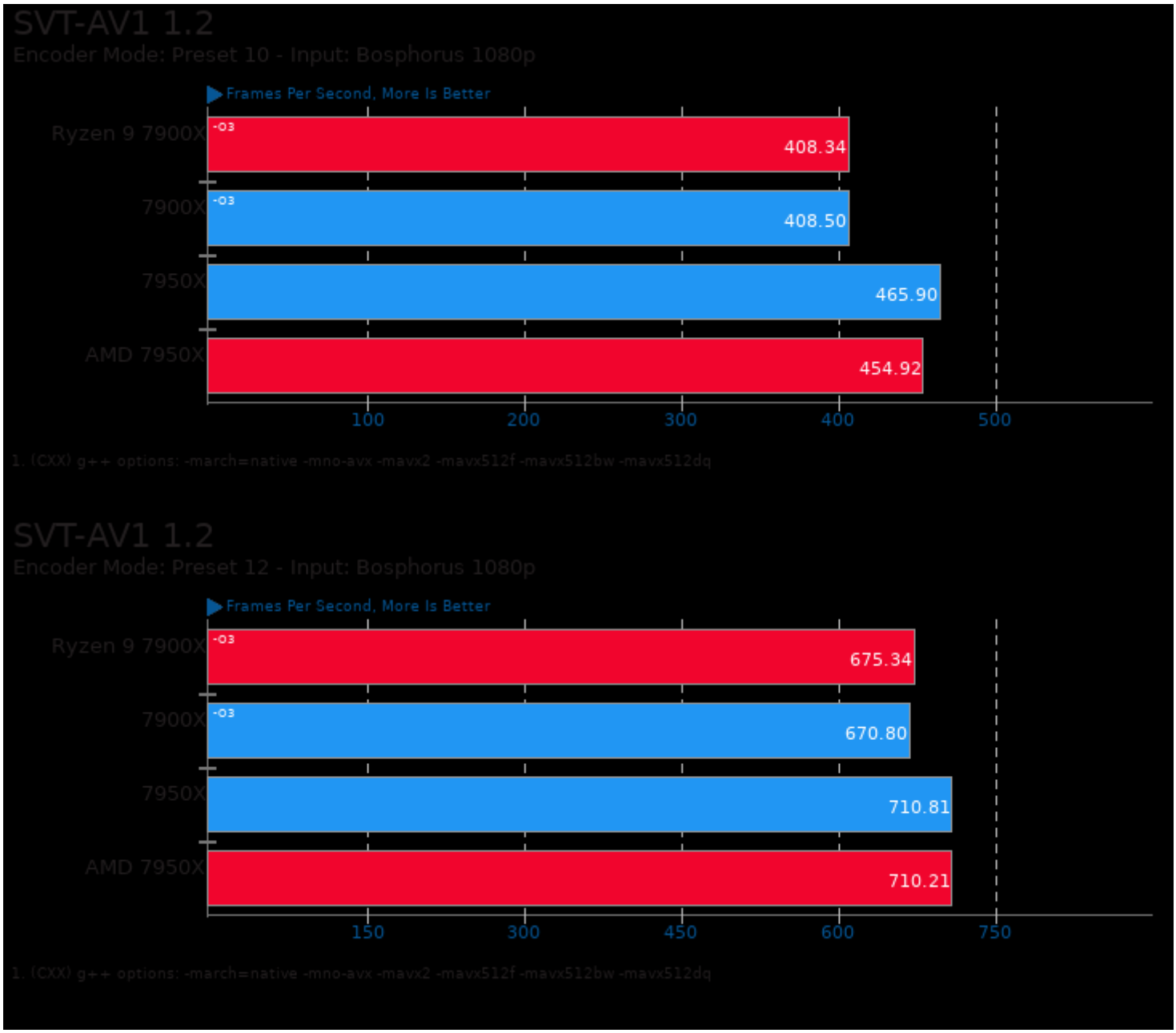

Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Very Fast
Frames Per Second, More Is Better
Ryzen 9 7900X
34.57
7900X
36.06
7950X
44.21
AMD 7950X
39.92
10
20
30
40
50
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O3 -march=native -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Ultra Fast
Frames Per Second, More Is Better
Ryzen 9 7900X
64.74
7900X
64.22
7950X
83.36
AMD 7950X
79.81
20
40
60
80
100
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O3 -march=native -lpthread -lm -lrt

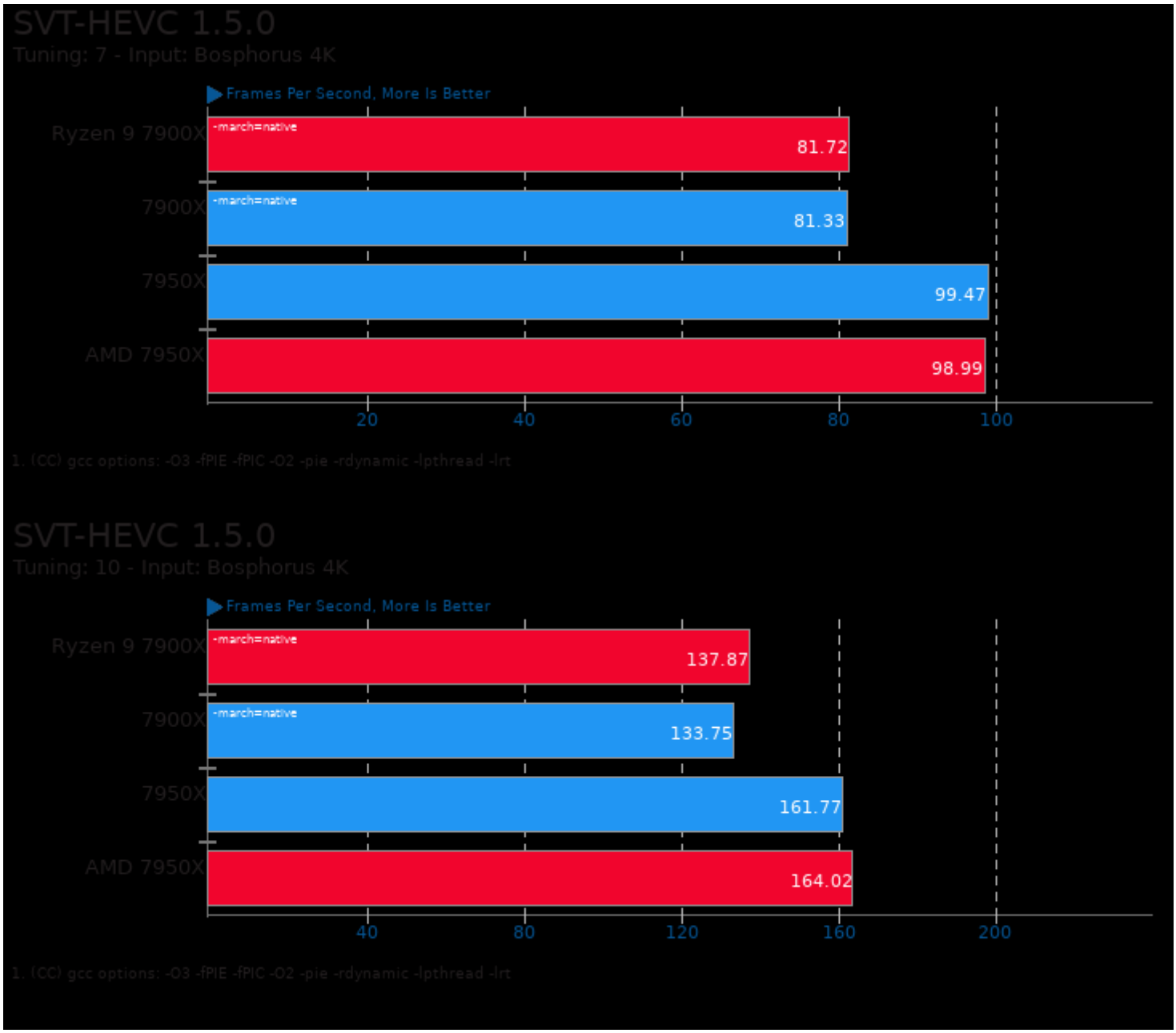

Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Very Fast
Frames Per Second, More Is Better
Ryzen 9 7900X
130.26
7900X
130.63
7950X
174.33
AMD 7950X
168.25
40
80
120
160
200
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O3 -march=native -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast
Frames Per Second, More Is Better
Ryzen 9 7900X
249.59
7900X
251.02
7950X
321.95
AMD 7950X
318.72
70
140
210
280
350
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O3 -march=native -lpthread -lm -lrt

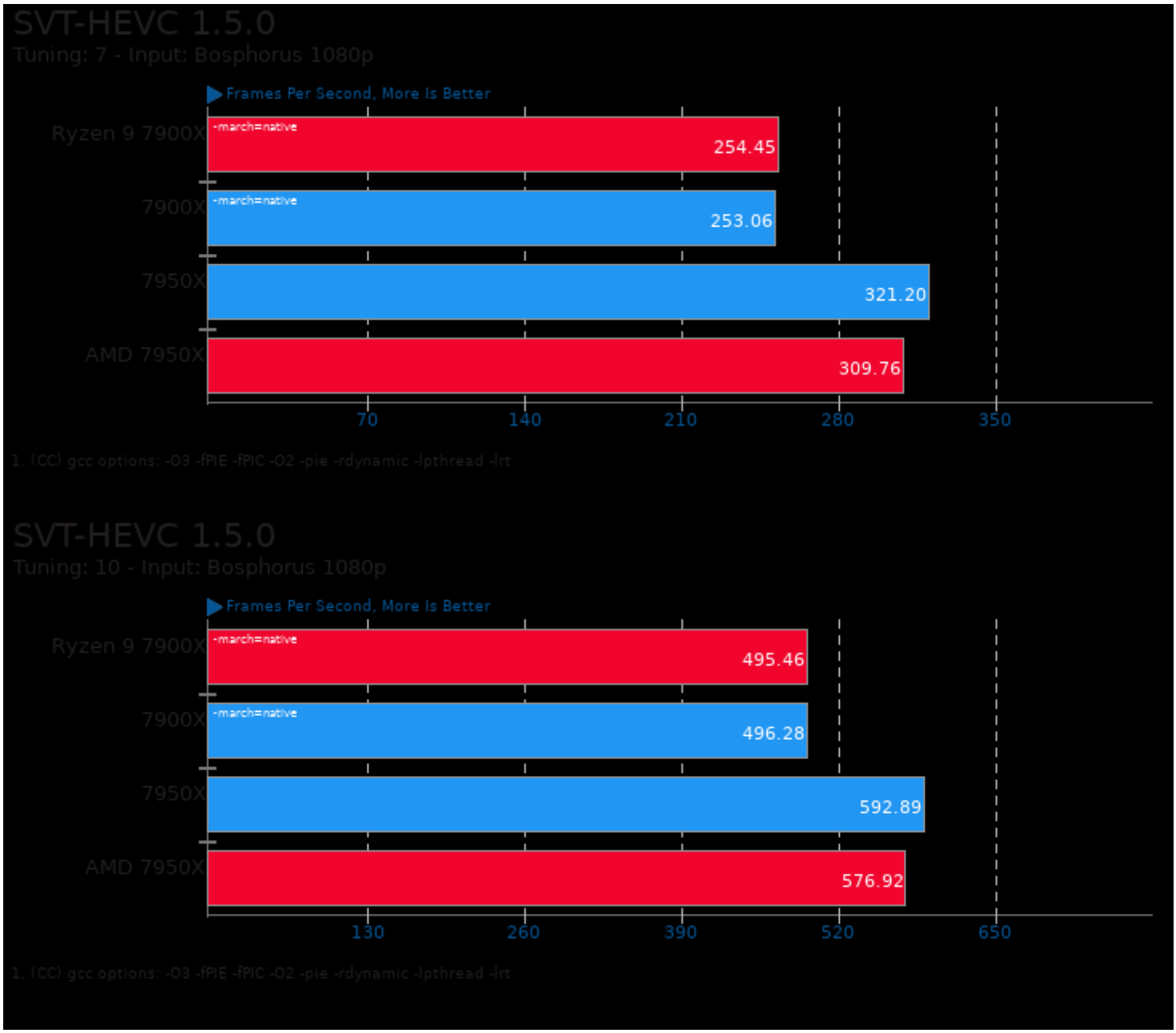

SVT-AV1 1.2
Encoder Mode: Preset 4 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
3.081
7900X
-O3
3.093
7950X
3.468
AMD 7950X
3.381
0.7803
1.5606
2.3409
3.1212
3.9015
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
70.41
7900X
-O3
70.14
7950X
81.09
AMD 7950X
76.85
20
40
60
80
100
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

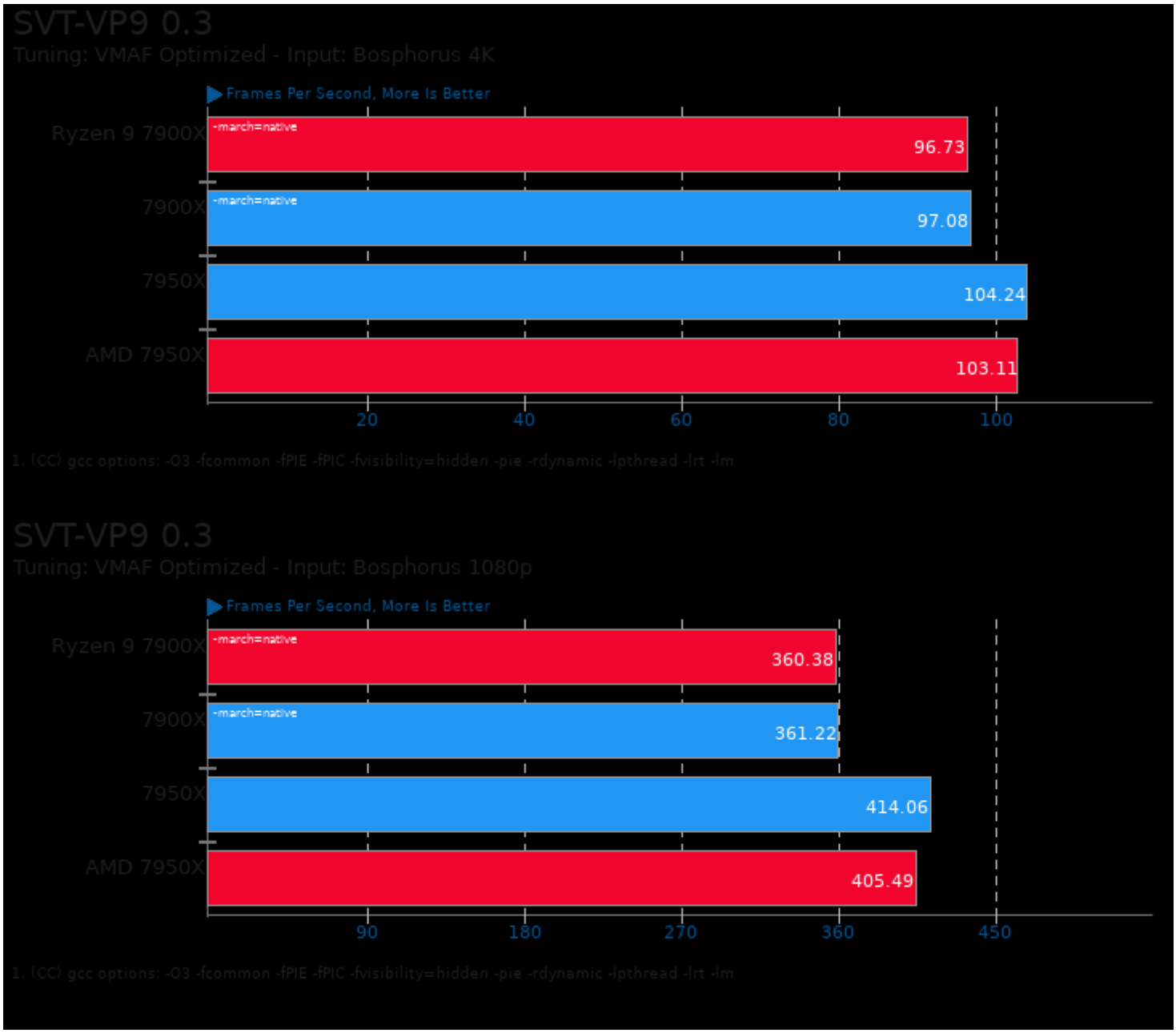

SVT-AV1 1.2
Encoder Mode: Preset 10 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
126.59
7900X
-O3
127.77
7950X
141.07
AMD 7950X
138.17
30
60
90
120
150
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 12 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
186.66
7900X
-O3
184.87
7950X
203.79
AMD 7950X
202.16
40
80
120
160
200
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

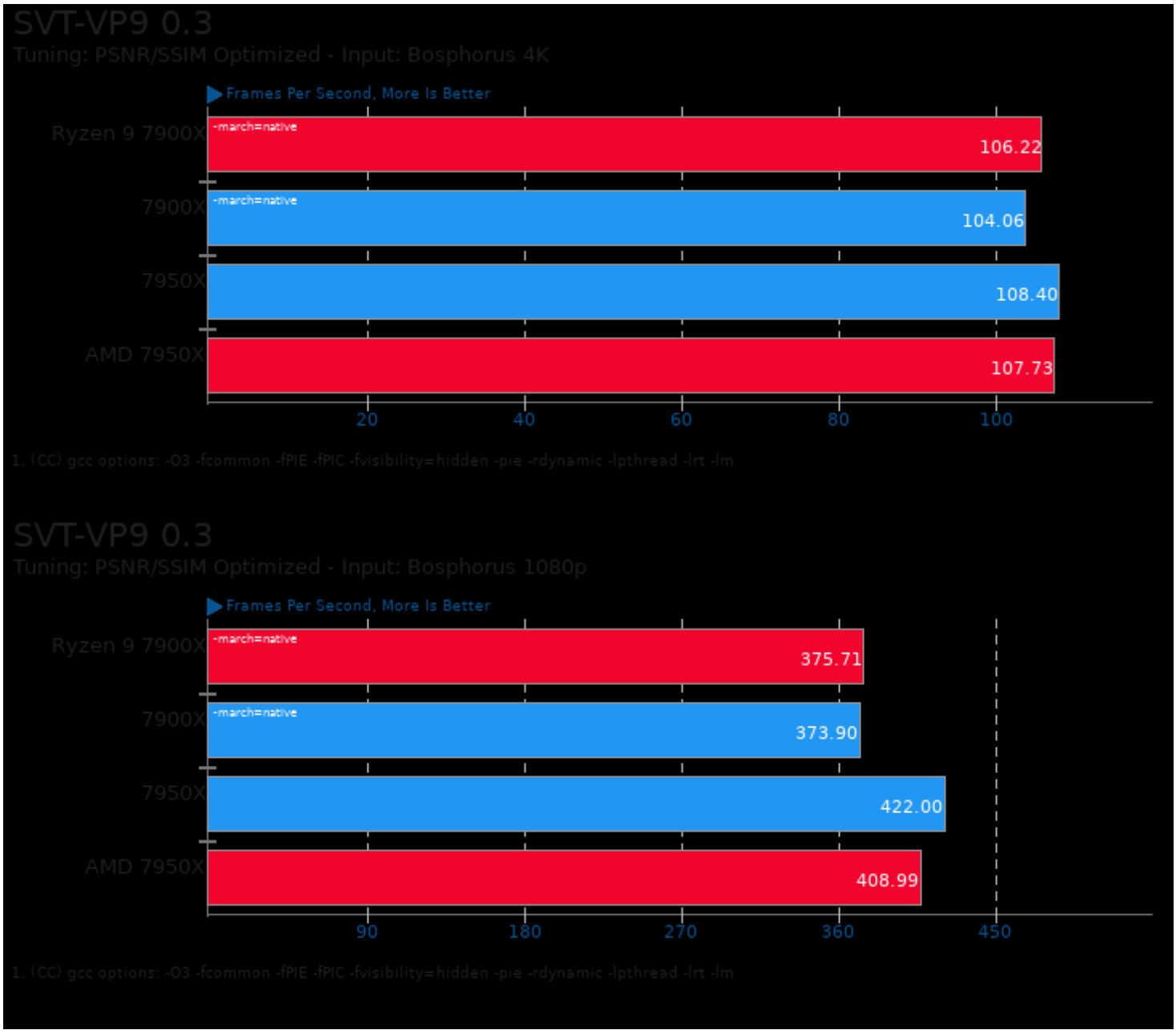

SVT-AV1 1.2
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
9.227
7900X
-O3
9.278
7950X
9.891
AMD 7950X
9.877
3
6
9
12
15
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 8 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
190.26
7900X
-O3
190.62
7950X
211.67
AMD 7950X
212.39
50
100
150
200
250
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

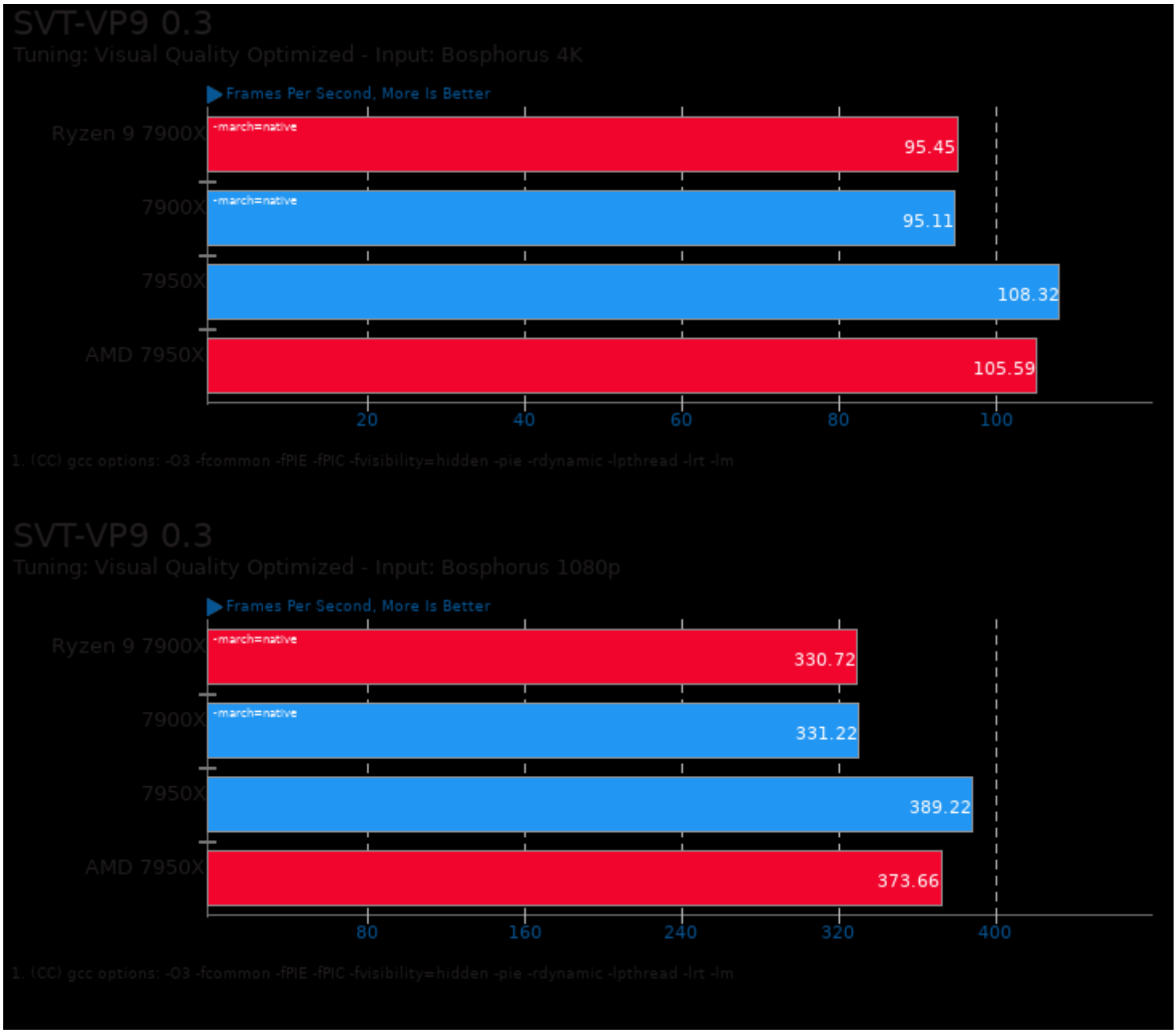

SVT-AV1 1.2
Encoder Mode: Preset 10 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
408.34
7900X
-O3
408.50
7950X
465.90
AMD 7950X
454.92
100
200
300
400
500
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.2
Encoder Mode: Preset 12 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-O3
675.34
7900X
-O3
670.80
7950X
710.81
AMD 7950X
710.21
150
300
450
600
750
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

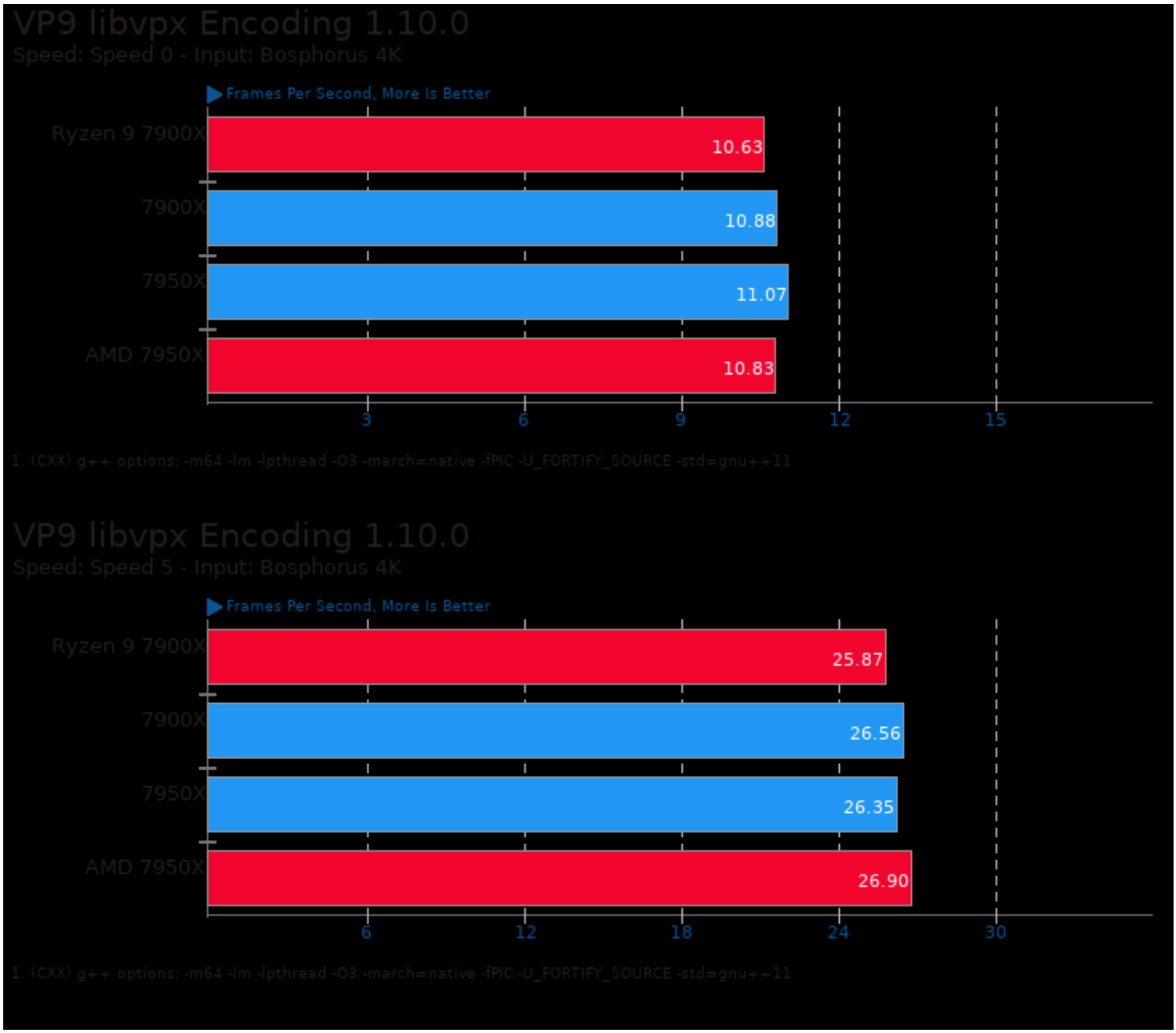

SVT-HEVC 1.5.0
Tuning: 7 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
81.72
7900X
-march=native
81.33
7950X
99.47
AMD 7950X
98.99
20
40
60
80
100
1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt
SVT-HEVC 1.5.0
Tuning: 10 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
137.87
7900X
-march=native
133.75
7950X
161.77
AMD 7950X
164.02
40
80
120
160
200
1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

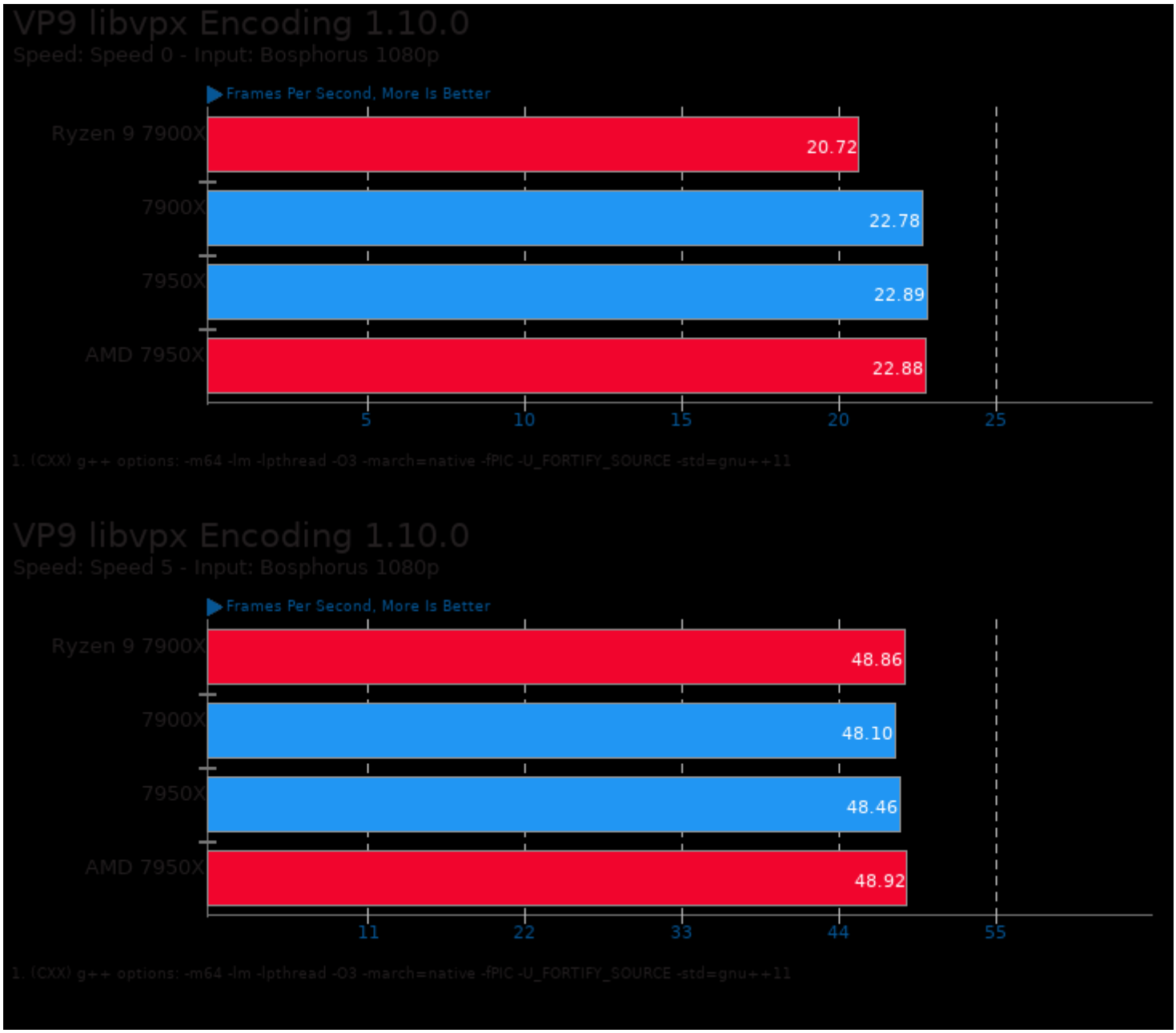

SVT-HEVC 1.5.0
Tuning: 7 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
254.45
7900X
-march=native
253.06
7950X
321.20
AMD 7950X
309.76
70
140
210
280
350
1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt
SVT-HEVC 1.5.0
Tuning: 10 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
495.46
7900X
-march=native
496.28
7950X
592.89
AMD 7950X
576.92
130
260
390
520
650
1. (CC) gcc options: -O3 -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

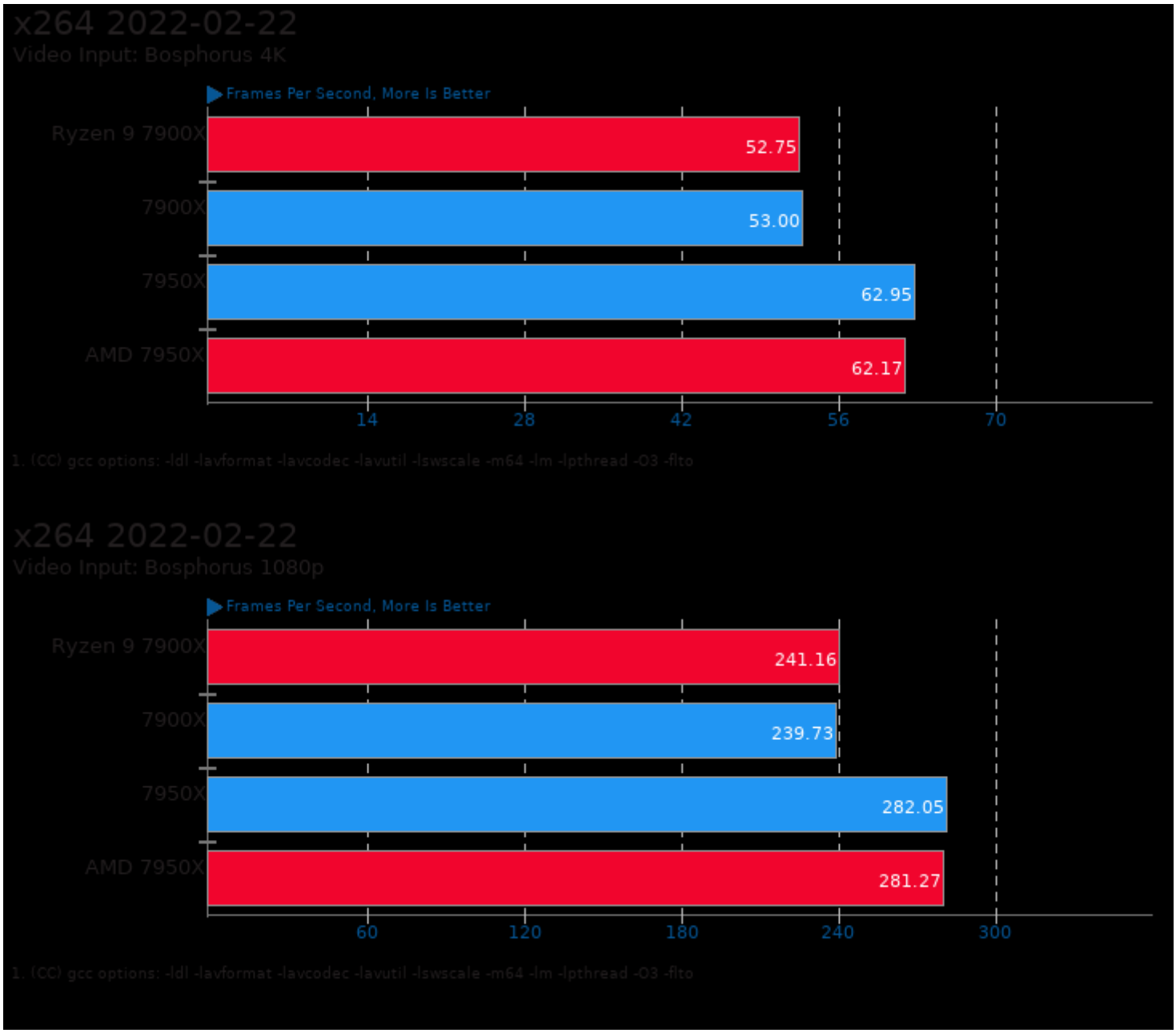

SVT-VP9 0.3
Tuning: VMAF Optimized - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
96.73
7900X
-march=native
97.08
7950X
104.24
AMD 7950X
103.11
20
40
60
80
100
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm
SVT-VP9 0.3
Tuning: VMAF Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
360.38
7900X
-march=native
361.22
7950X
414.06
AMD 7950X
405.49
90
180
270
360
450
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm


SVT-VP9 0.3
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
106.22
7900X
-march=native
104.06
7950X
108.40
AMD 7950X
107.73
20
40
60
80
100
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm
SVT-VP9 0.3
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
375.71
7900X
-march=native
373.90
7950X
422.00
AMD 7950X
408.99
90
180
270
360
450
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm


SVT-VP9 0.3
Tuning: Visual Quality Optimized - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
95.45
7900X
-march=native
95.11
7950X
108.32
AMD 7950X
105.59
20
40
60
80
100
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm
SVT-VP9 0.3
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
-march=native
330.72
7900X
-march=native
331.22
7950X
389.22
AMD 7950X
373.66
80
160
240
320
400
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

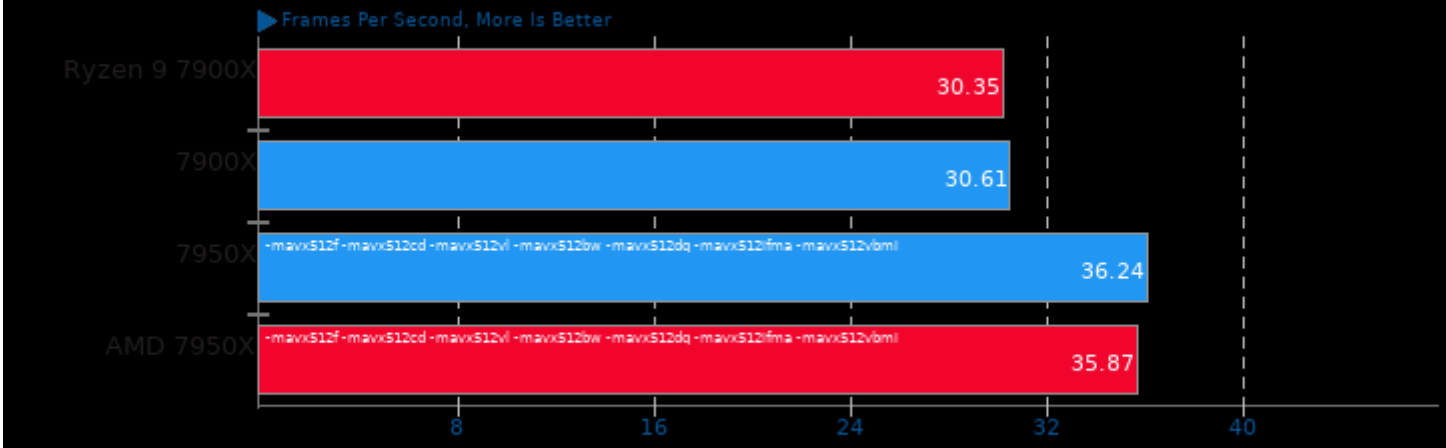

VP9 libvpx Encoding 1.10.0
Speed: Speed 0 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
10.63
7900X
10.88
7950X
11.07
AMD 7950X
10.83
3
6
9
12
15
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=native -fPIC -U_FORTIFY_SOURCE -std=gnu++11
VP9 libvpx Encoding 1.10.0
Speed: Speed 5 - Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
25.87
7900X
26.56
7950X
26.35
AMD 7950X
26.90
6
12
18
24
30
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=native -fPIC -U_FORTIFY_SOURCE -std=gnu++11


VP9 libvpx Encoding 1.10.0
Speed: Speed 0 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
20.72
22.78
22.89
22.88
5
10
15
20
25
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=native -fPIC -U_FORTIFY_SOURCE -std=gnu++11
VP9 libvpx Encoding 1.10.0
Speed: Speed 5 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
48.86
48.10
48.46
48.92
11
22
33
44
55
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=native -fPIC -U_FORTIFY_SOURCE -std=gnu++11


x264 2022-02-22
Video Input: Bosphorus 4K
Frames Per Second, More Is Better
Ryzen 9 7900X
52.75
7900X
53.00
7950X
62.95
AMD 7950X
62.17
14
28
42
56
70
1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -flto
x264 2022-02-22
Video Input: Bosphorus 1080p
Frames Per Second, More Is Better
Ryzen 9 7900X
241.16
7900X
239.73
7950X
282.05
AMD 7950X
281.27
60
120
180
240
300
1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -flto

## x265 3.4

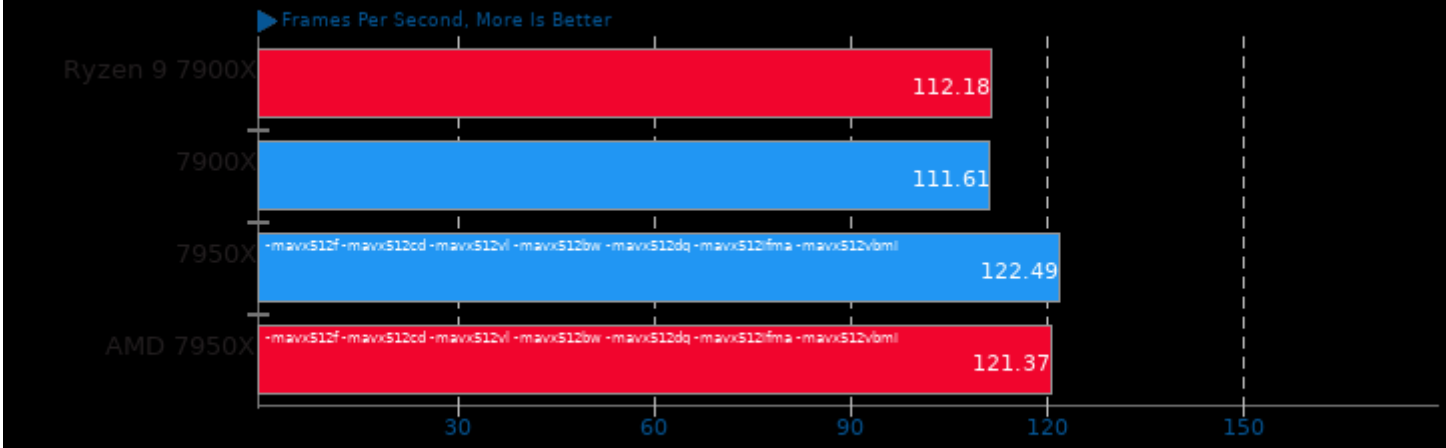
Video Input: Bosphorus 4K




1. (CXX) g++ options: -O3 -march=native -rdynamic -lpthread -lrt -ldl -lnuma

## x265 3.4

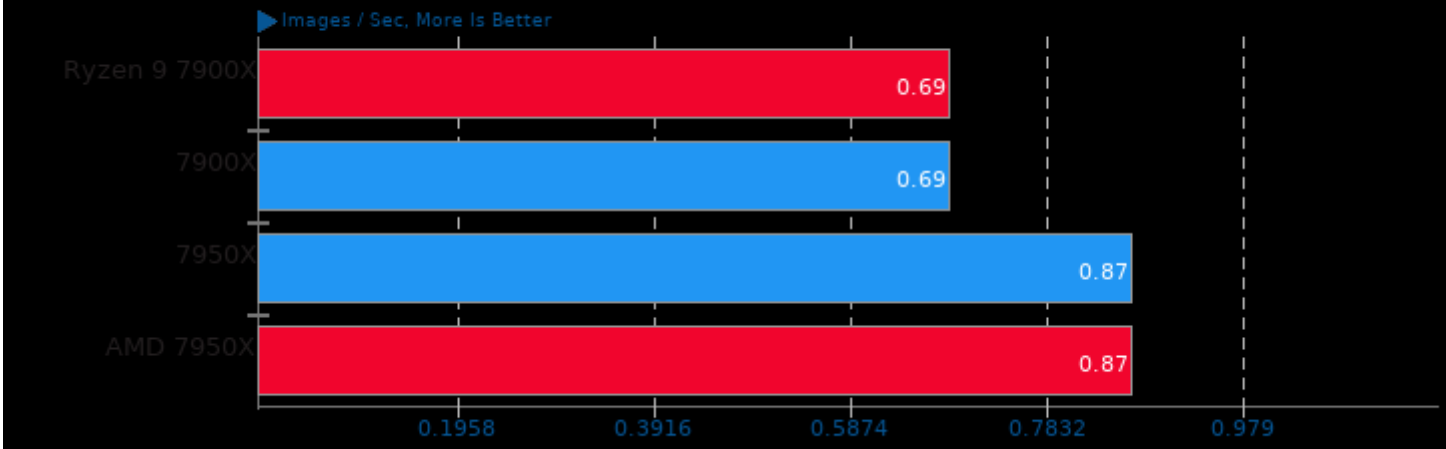
Video Input: Bosphorus 1080p

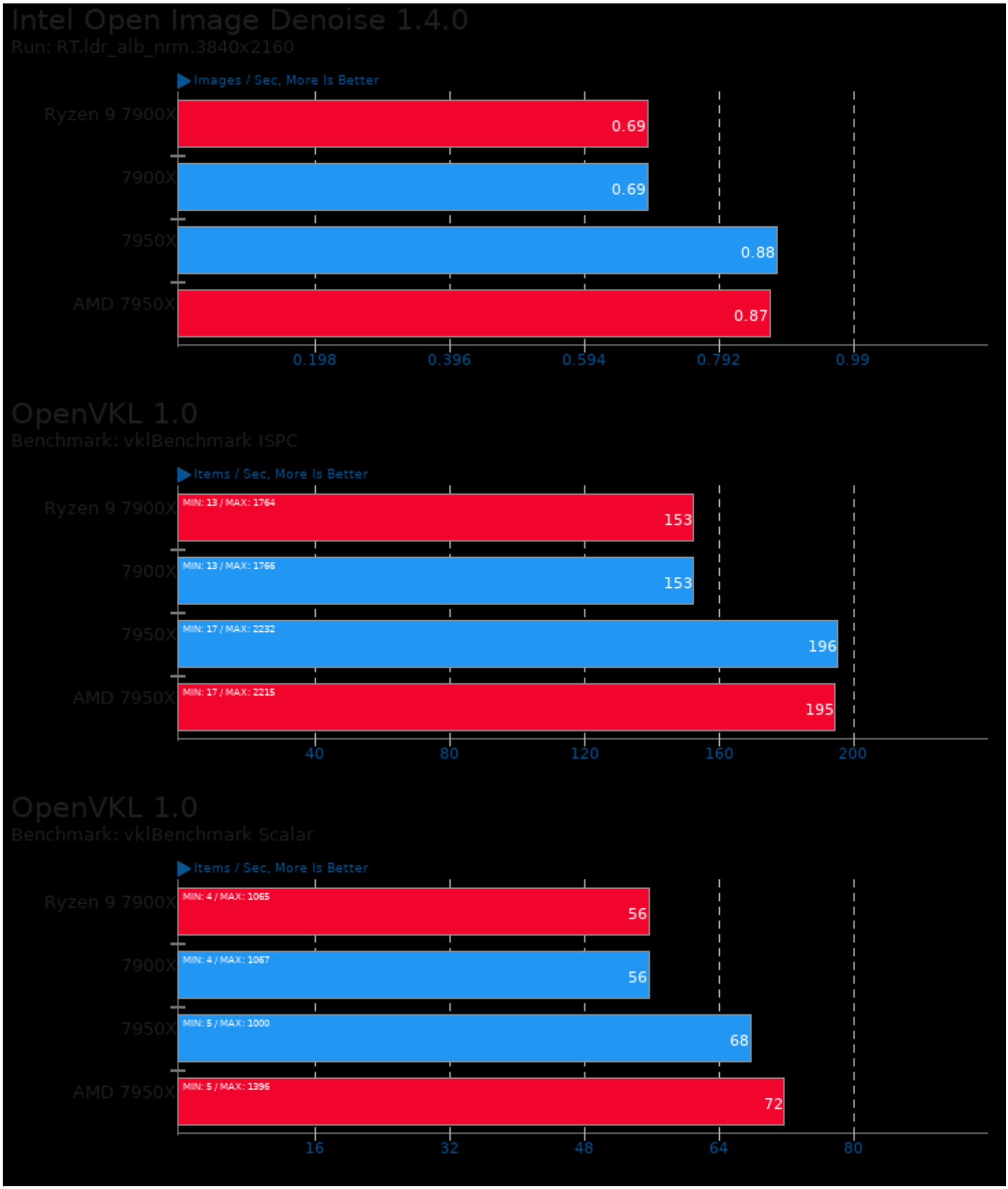



1. (CXX) g++ options: -O3 -march=native -rdynamic -lpthread -lrt -ldl -lnuma

## Intel Open Image Denoise 1.4.0

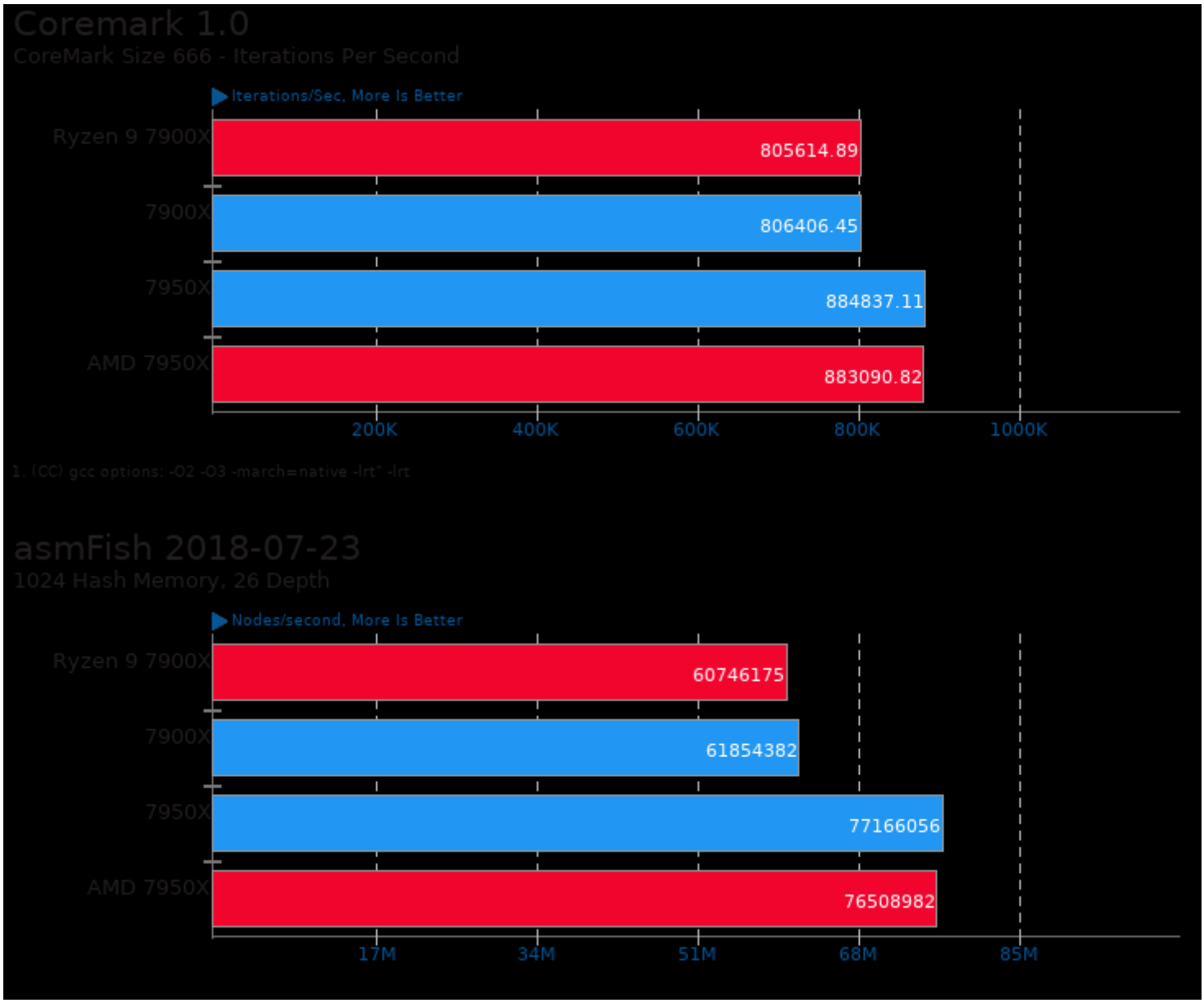
Run: RT.hdr_alb_nrm.3840x2160

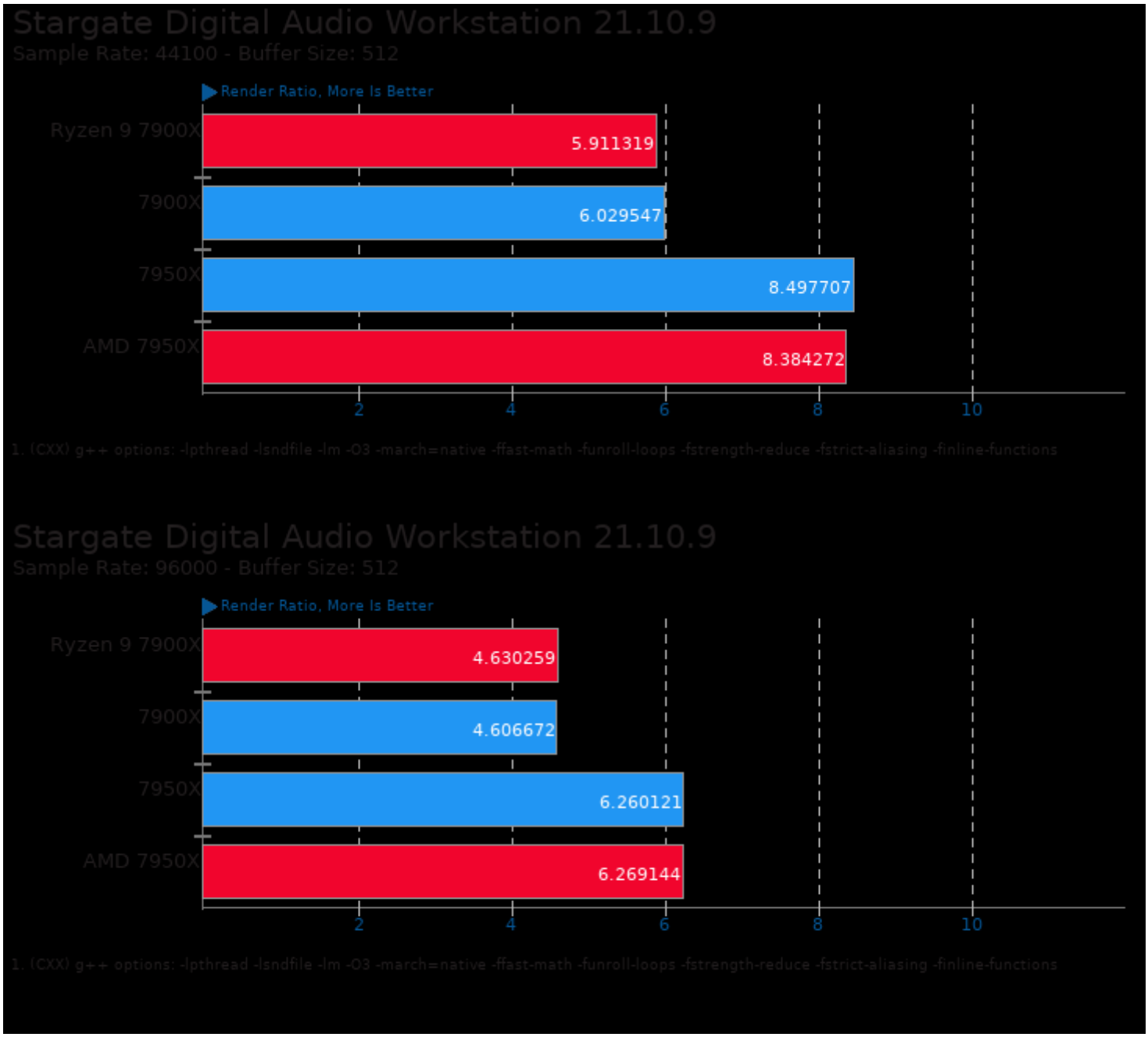


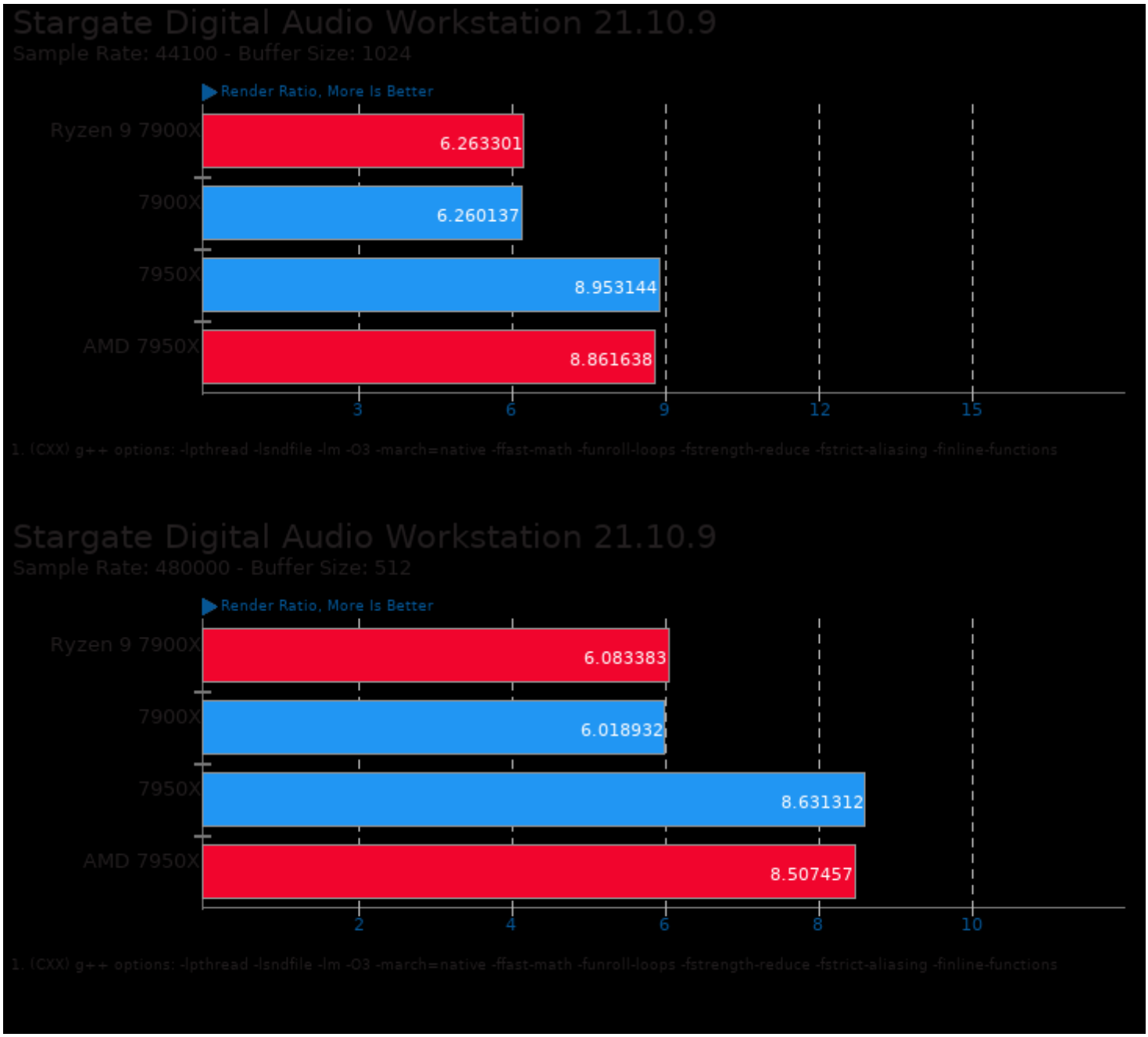

Intel Open Image Denoise 1.4.0
Run: RT.ldr_alb_nrm.3840x2160
Images / Sec, More Is Better
Ryzen 9 7900X
0.69
7900X
0.69
7950X
0.88
AMD 7950X
0.87
0.198
0.396
0.594
0.792
0.99
OpenVKL 1.0
Benchmark: vklBenchmark ISPC
Items / Sec, More Is Better
Ryzen 9 7900X
MIN: 13 / MAX: 1764
153
7900X
MIN: 13 / MAX: 1766
153
7950X
MIN: 17 / MAX: 2232
196
AMD 7950X
MIN: 17 / MAX: 2215
195
40
80
120
160
200
OpenVKL 1.0
Benchmark: vklBenchmark Scalar
Items / Sec, More Is Better
Ryzen 9 7900X
MIN: 4 / MAX: 1065
56
7900X
MIN: 4 / MAX: 1067
56
7950X
MIN: 5 / MAX: 1000
68
AMD 7950X
MIN: 5 / MAX: 1396
72
16
32
48
64
80

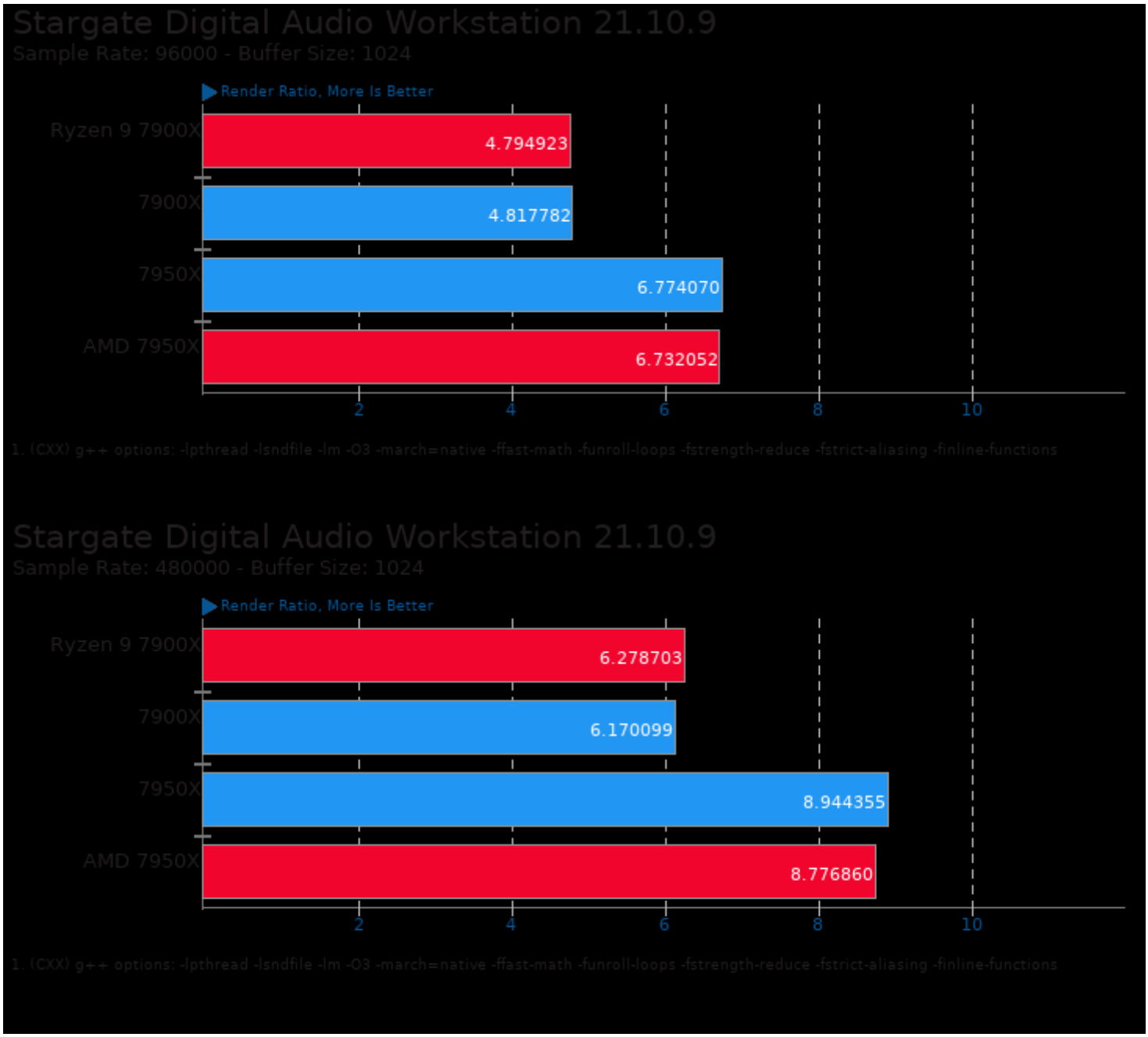

OSPRay 2.10
Benchmark: particle_volume/ao/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
5.98269
7900X
5.91569
7950X
7.67756
AMD 7950X
7.62904
2
4
6
8
10
OSPRay 2.10
Benchmark: particle_volume/scivis/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
5.94602
7900X
5.91425
7950X
7.63101
AMD 7950X
7.72007
2
4
6
8
10
OSPRay 2.10
Benchmark: particle_volume/pathtracer/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
215.64
7900X
217.38
7950X
247.10
AMD 7950X
244.26
50
100
150
200
250

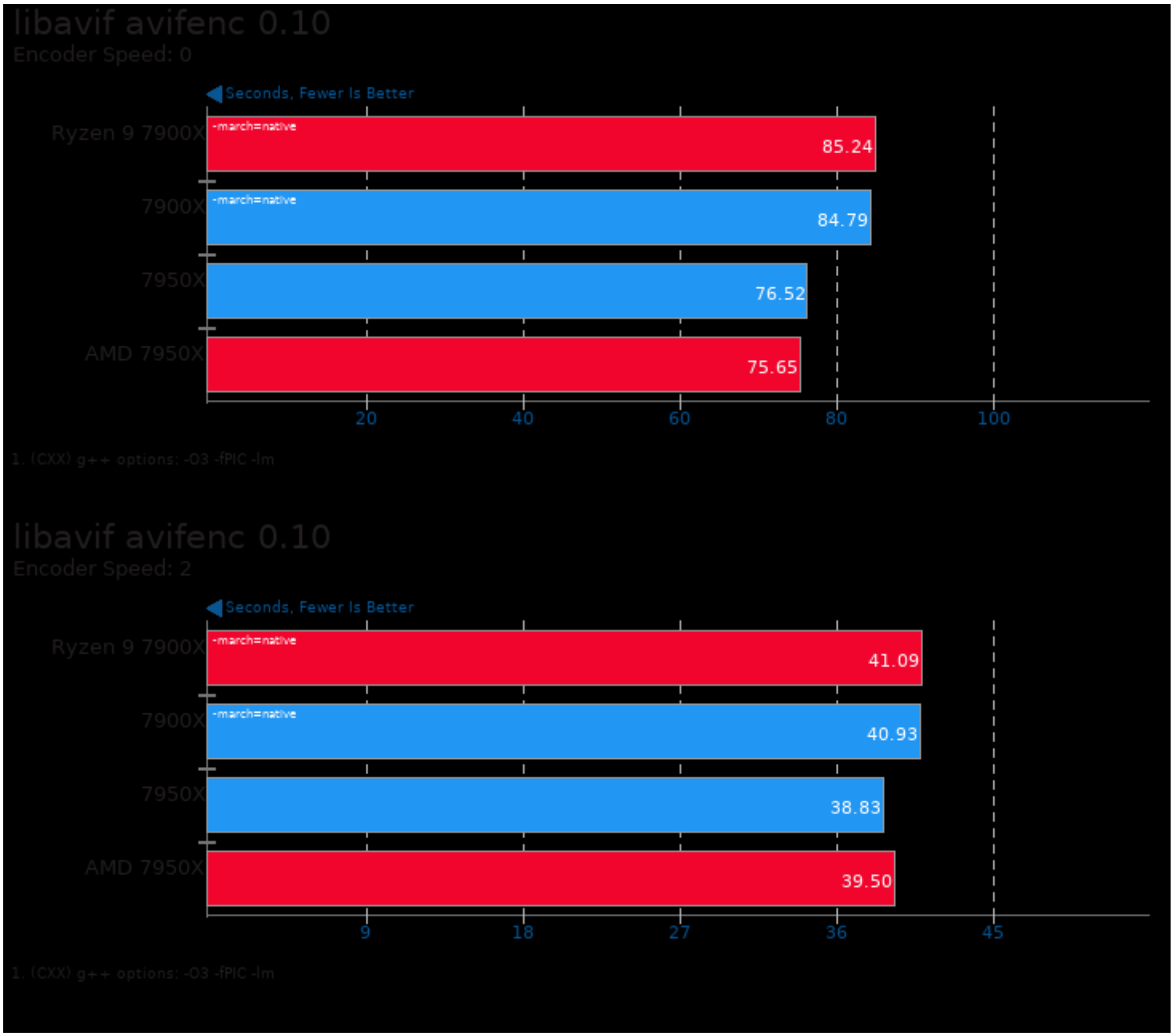

OSPRay 2.10
Benchmark: gravity_spheres_volume/dim_512/ao/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
5.97357
7900X
5.97359
7950X
7.74077
AMD 7950X
7.65618
2
4
6
8
10
OSPRay 2.10
Benchmark: gravity_spheres_volume/dim_512/scivis/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
5.90253
7900X
5.83245
7950X
7.58104
AMD 7950X
7.53950
2
4
6
8
10
OSPRay 2.10
Benchmark: gravity_spheres_volume/dim_512/pathtracer/real_time
Items Per Second, More Is Better
Ryzen 9 7900X
7.01002
7900X
6.99484
7950X
9.04721
AMD 7950X
9.00402
3
6
9
12
15

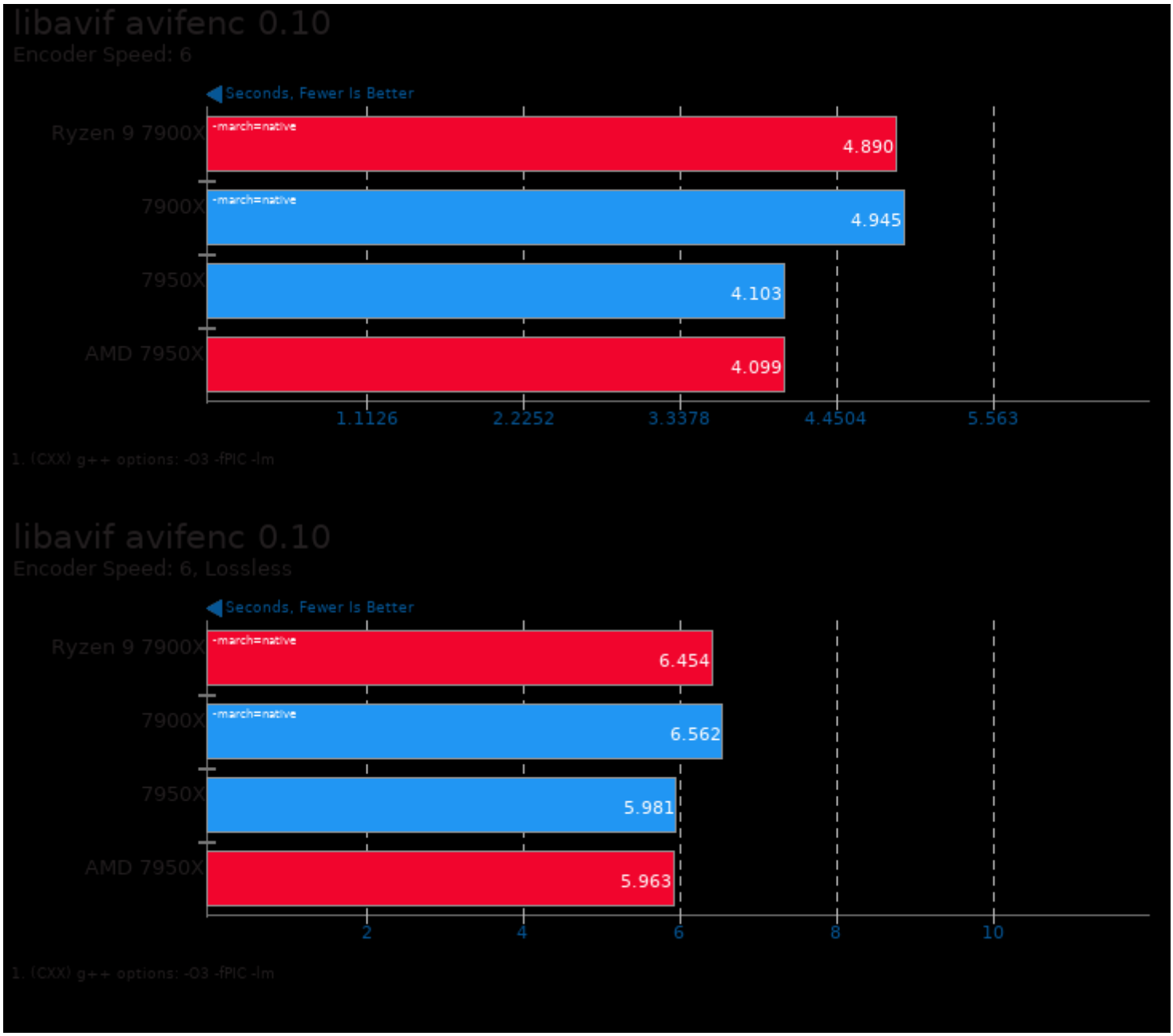

Coremark 1.0
CoreMark Size 666 - Iterations Per Second
Iterations/Sec, More Is Better
Ryzen 9 7900X
805614.89
7900X
806406.45
7950X
884837.11
AMD 7950X
883090.82
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -O3 -march=native -lrt" -lrt
asmFish 2018-07-23
1024 Hash Memory, 26 Depth
Nodes/second, More Is Better
Ryzen 9 7900X
60746175
7900X
61854382
7950X
77166056
AMD 7950X
76508982
17M
34M
51M
68M
85M


Stargate Digital Audio Workstation 21.10.9
Sample Rate: 44100 - Buffer Size: 512
Render Ratio, More Is Better
Ryzen 9 7900X
5.911319
7900X
6.029547
7950X
8.497707
AMD 7950X
8.384272
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 21.10.9
Sample Rate: 96000 - Buffer Size: 512
Render Ratio, More Is Better
Ryzen 9 7900X
4.630259
7900X
4.606672
7950X
6.260121
AMD 7950X
6.269144
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

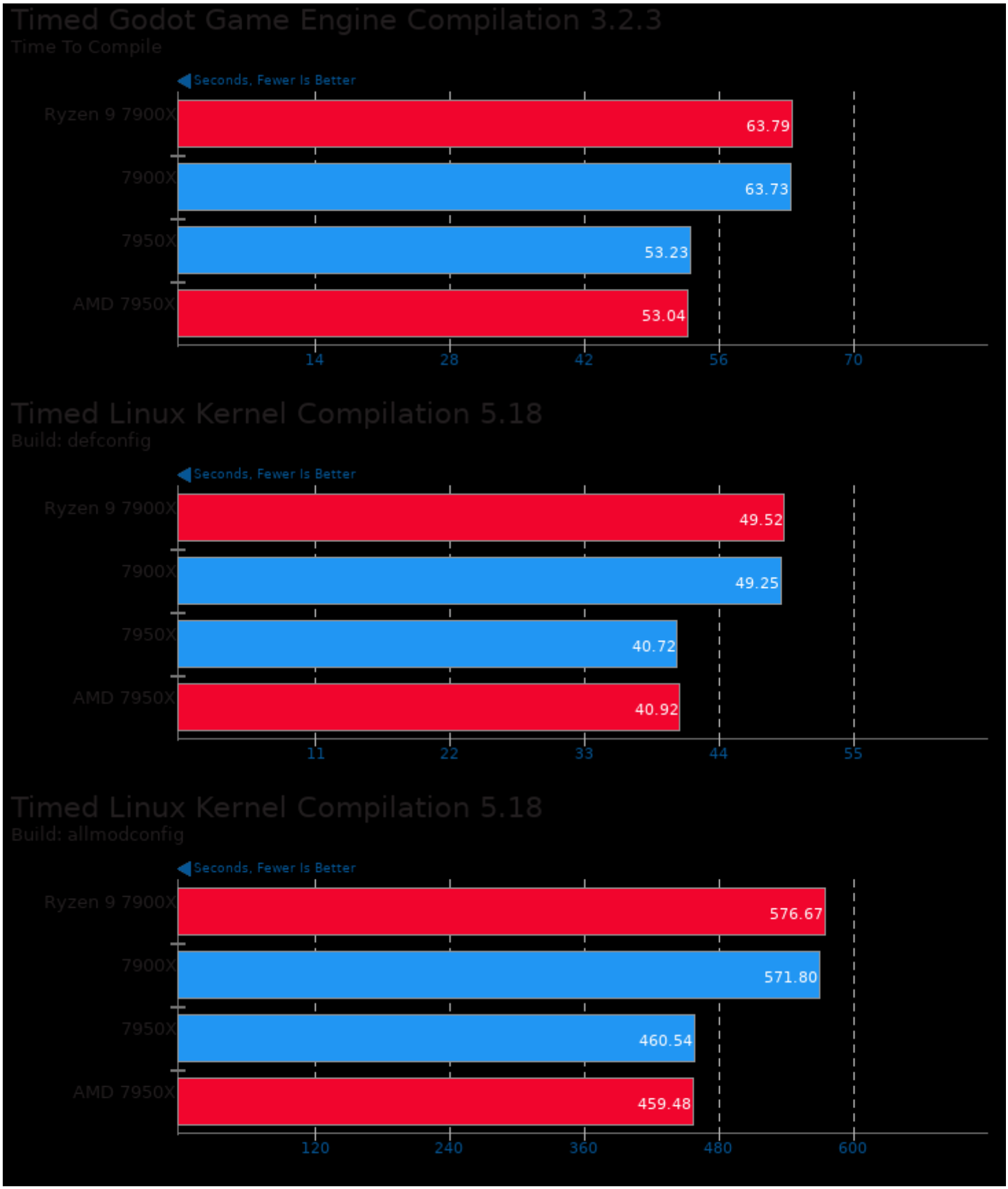

Stargate Digital Audio Workstation 21.10.9
Sample Rate: 44100 - Buffer Size: 1024
Render Ratio, More Is Better
Ryzen 9 7900X
6.263301
7900X
6.260137
7950X
8.953144
AMD 7950X
8.861638
3
6
9
12
15
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 21.10.9
Sample Rate: 480000 - Buffer Size: 512
Render Ratio, More Is Better
Ryzen 9 7900X
6.083383
7900X
6.018932
7950X
8.631312
AMD 7950X
8.507457
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

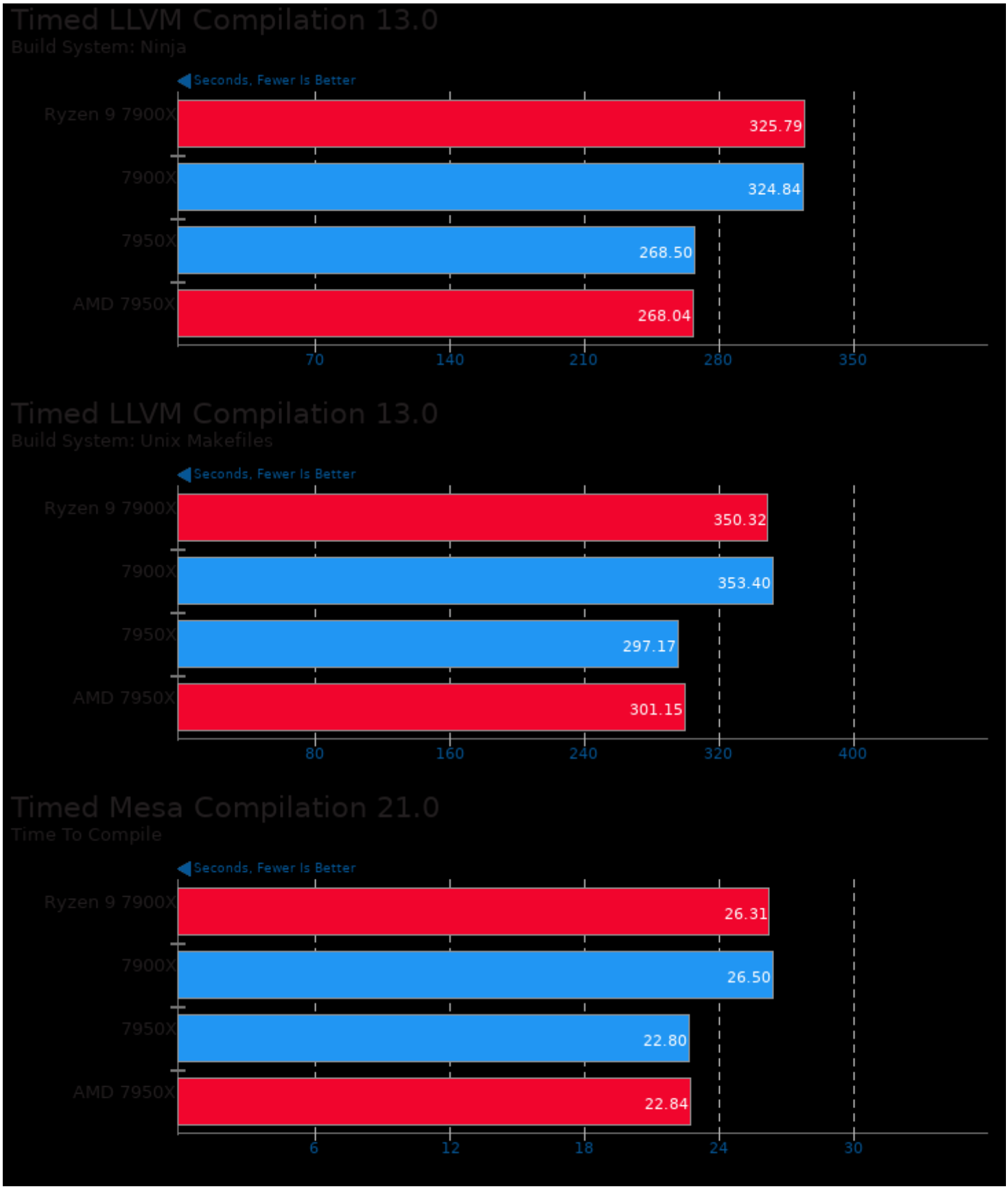

Stargate Digital Audio Workstation 21.10.9
Sample Rate: 96000 - Buffer Size: 1024
Render Ratio, More Is Better
Ryzen 9 7900X
4.794923
7900X
4.817782
7950X
6.774070
AMD 7950X
6.732052
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 21.10.9
Sample Rate: 480000 - Buffer Size: 1024
Render Ratio, More Is Better
Ryzen 9 7900X
6.278703
7900X
6.170099
7950X
8.944355
AMD 7950X
8.776860
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

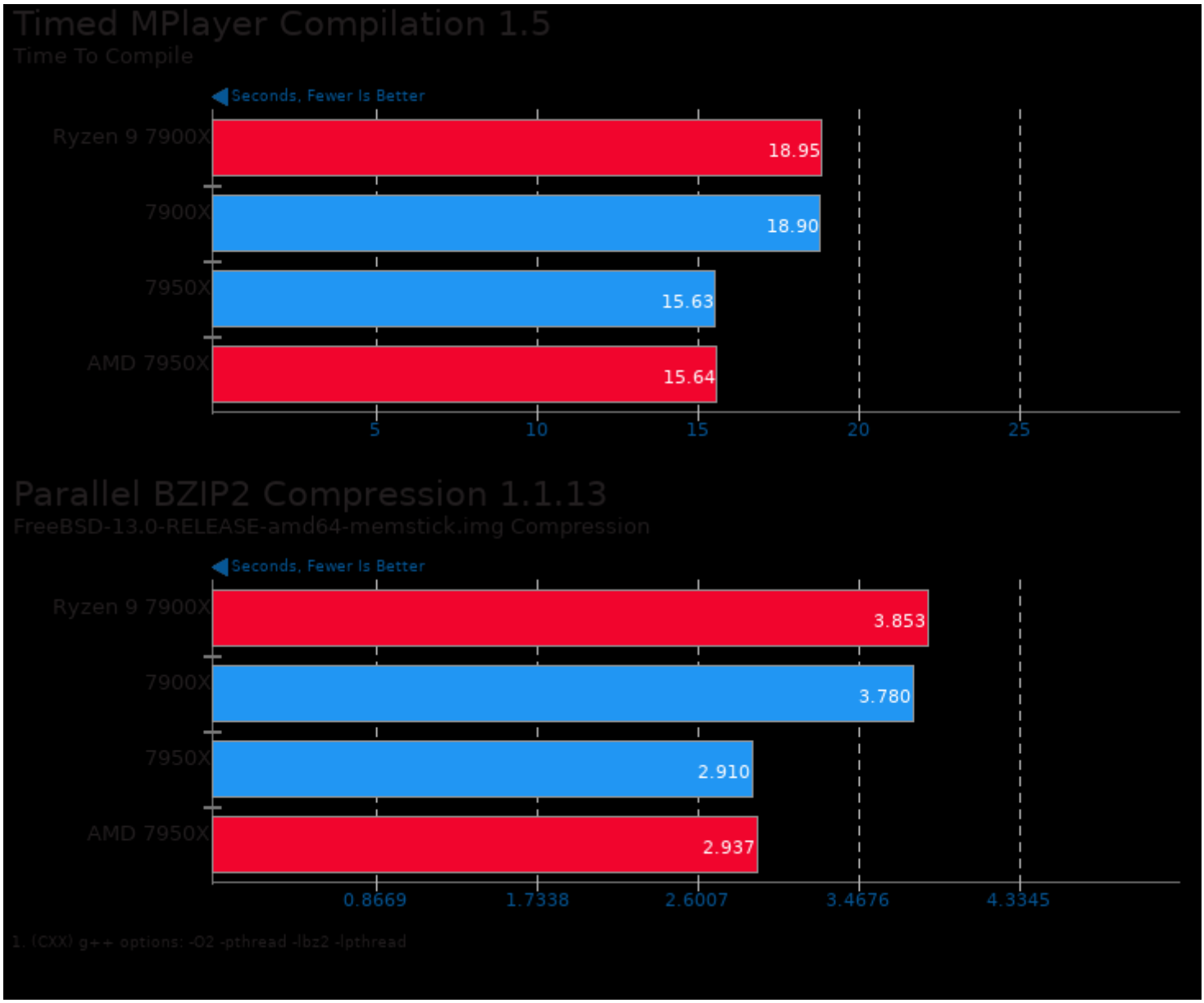

libavif avifenc 0.10
Encoder Speed: 0
Seconds, Fewer Is Better
Ryzen 9 7900X
-march=native
85.24
7900X
-march=native
84.79
7950X
76.52
AMD 7950X
75.65
20
40
60
80
100
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.10
Encoder Speed: 2
Seconds, Fewer Is Better
Ryzen 9 7900X
-march=native
41.09
7900X
-march=native
40.93
7950X
38.83
AMD 7950X
39.50
9
18
27
36
45
1. (CXX) g++ options: -O3 -fPIC -lm

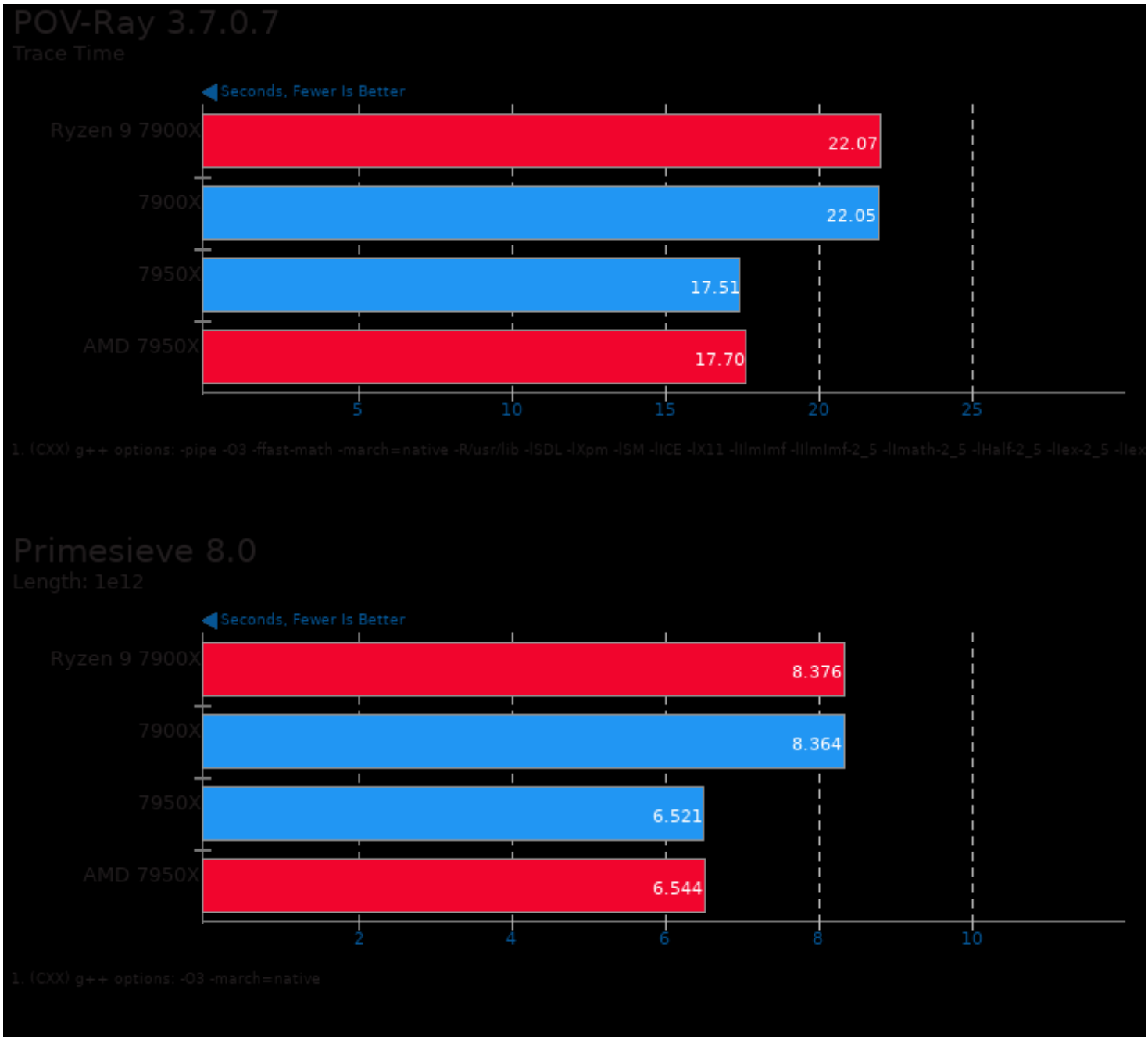

libavif avifenc 0.10
Encoder Speed: 6
Seconds, Fewer Is Better
Ryzen 9 7900X
-march=native
4.890
7900X
-march=native
4.945
7950X
4.103
AMD 7950X
4.099
1.1126
2.2252
3.3378
4.4504
5.563
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.10
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
Ryzen 9 7900X
-march=native
6.454
7900X
-march=native
6.562
7950X
5.981
AMD 7950X
5.963
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm

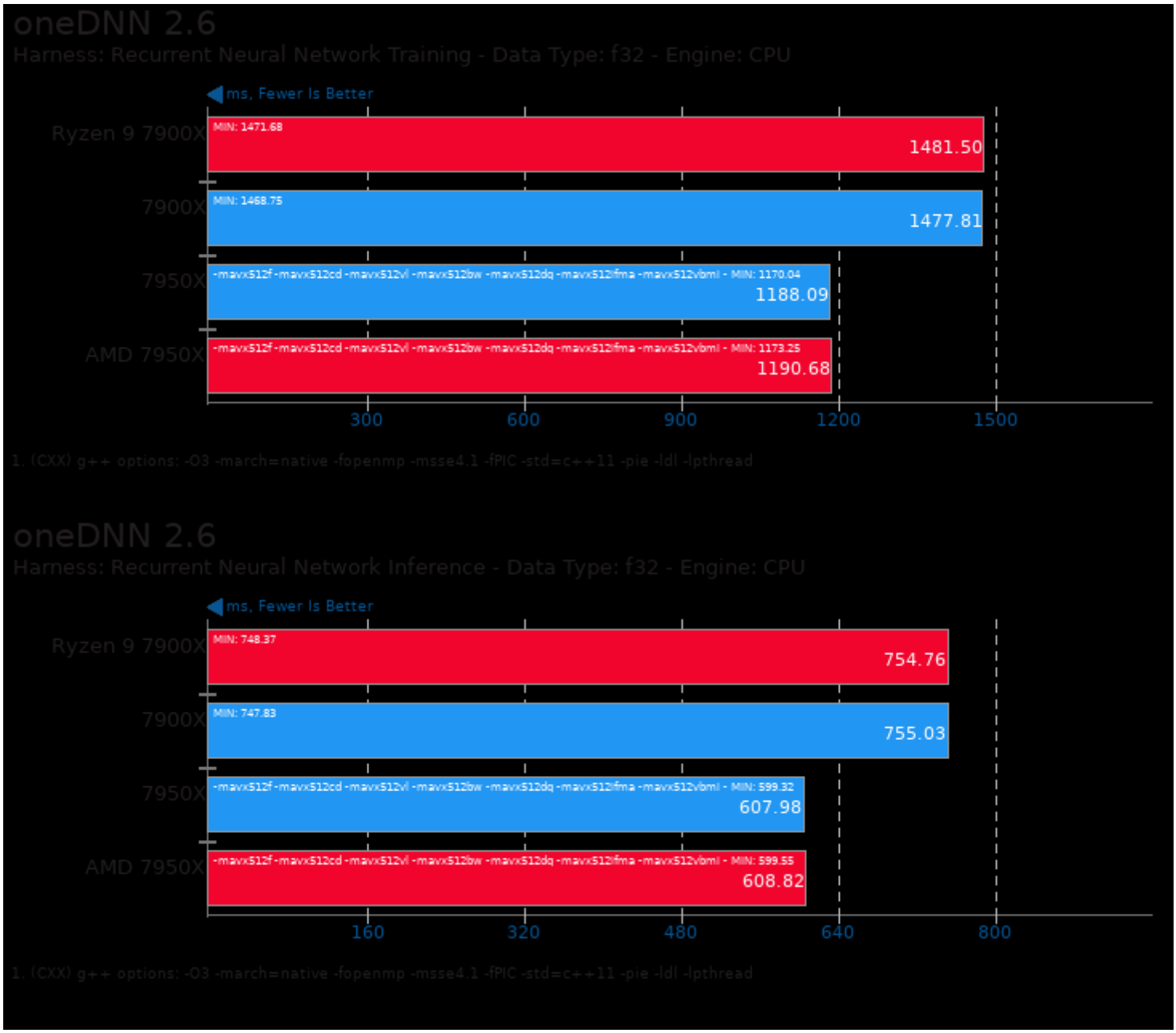

libavif avifenc 0.10
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
Ryzen 9 7900X
-march=native
3.320
7900X
-march=native
3.443
7950X
3.319
AMD 7950X
3.366
0.7747
1.5494
2.3241
3.0988
3.8735
1. (CXX) g++ options: -O3 -fPIC -lm
Timed FFmpeg Compilation 4.4
Time To Compile
Seconds, Fewer Is Better
Ryzen 9 7900X
26.45
7900X
26.54
7950X
22.13
AMD 7950X
22.02
6
12
18
24
30
Timed Gem5 Compilation 21.2
Time To Compile
Seconds, Fewer Is Better
Ryzen 9 7900X
228.80
7900X
229.32
7950X
194.39
AMD 7950X
195.93
50
100
150
200
250

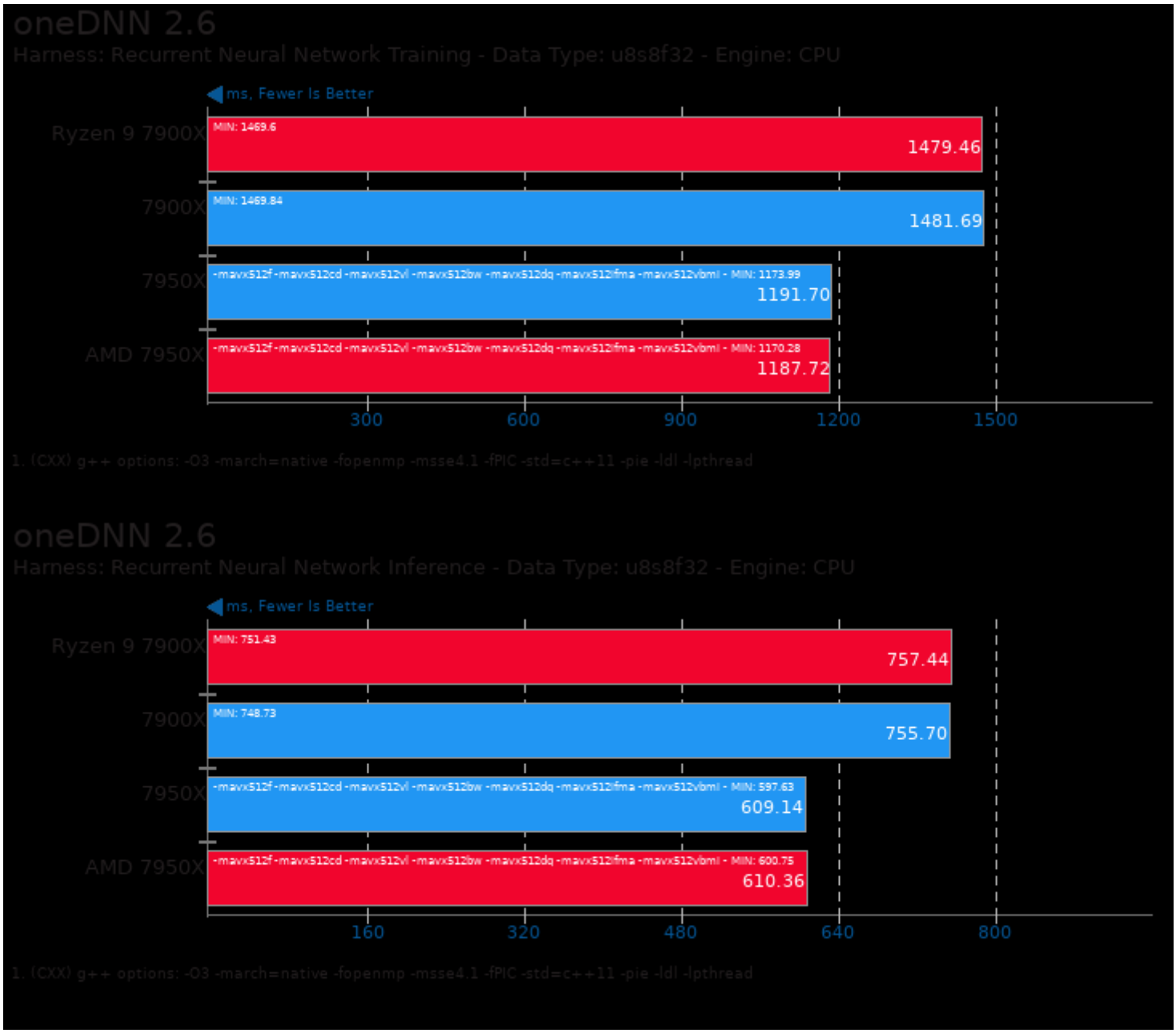

Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
63.79
63.73
53.23
53.04
14
28
42
56
70
Timed Linux Kernel Compilation 5.18
Build: defconfig
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
49.52
49.25
40.72
40.92
11
22
33
44
55
Timed Linux Kernel Compilation 5.18
Build: allmodconfig
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
576.67
571.80
460.54
459.48
120
240
360
480
600

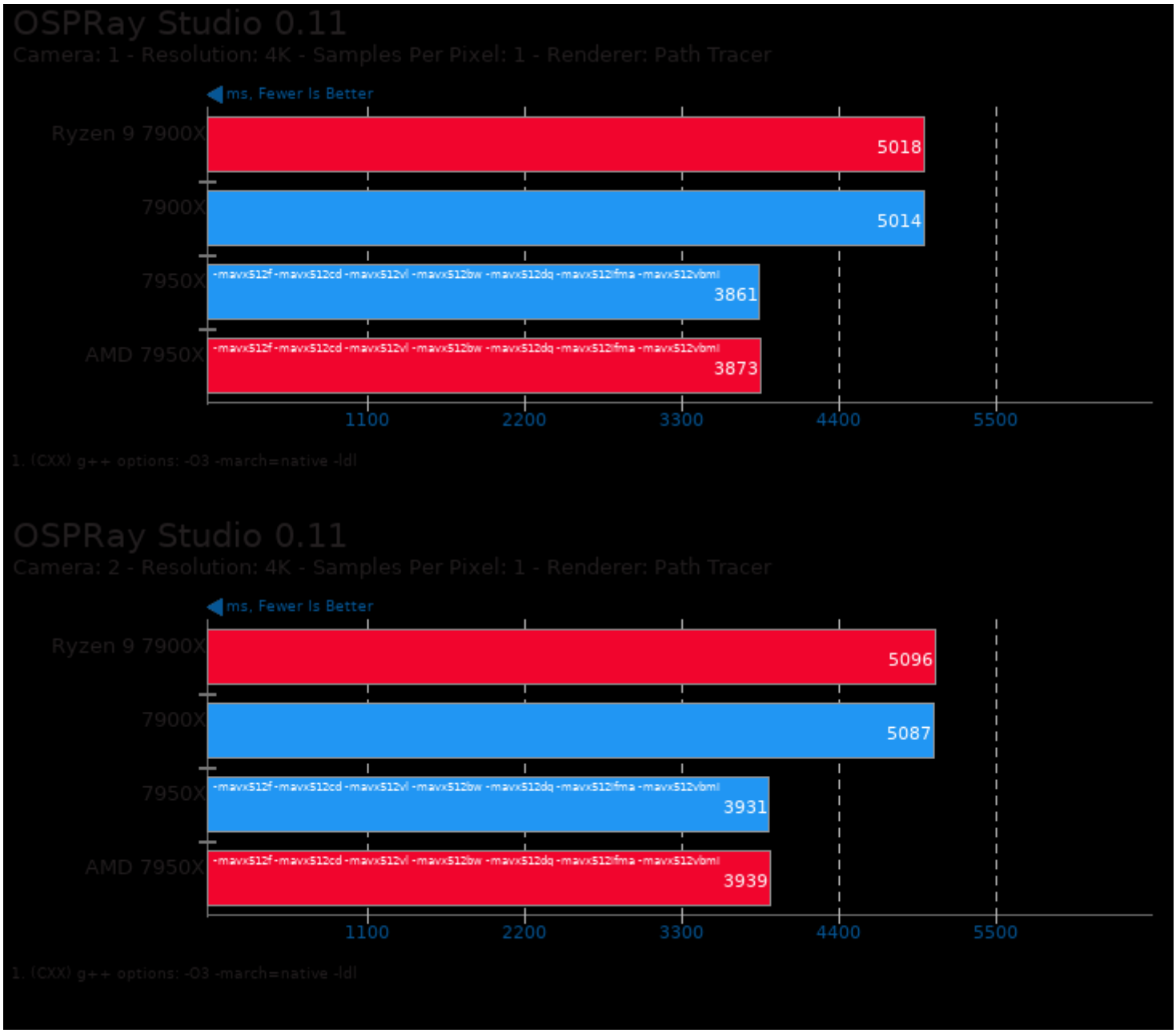

Timed LLVM Compilation 13.0
Build System: Ninja
Seconds, Fewer Is Better
Ryzen 9 7900X
325.79
7900X
324.84
7950X
268.50
AMD 7950X
268.04
70
140
210
280
350
Timed LLVM Compilation 13.0
Build System: Unix Makefiles
Seconds, Fewer Is Better
Ryzen 9 7900X
350.32
7900X
353.40
7950X
297.17
AMD 7950X
301.15
80
160
240
320
400
Timed Mesa Compilation 21.0
Time To Compile
Seconds, Fewer Is Better
Ryzen 9 7900X
26.31
7900X
26.50
7950X
22.80
AMD 7950X
22.84
6
12
18
24
30

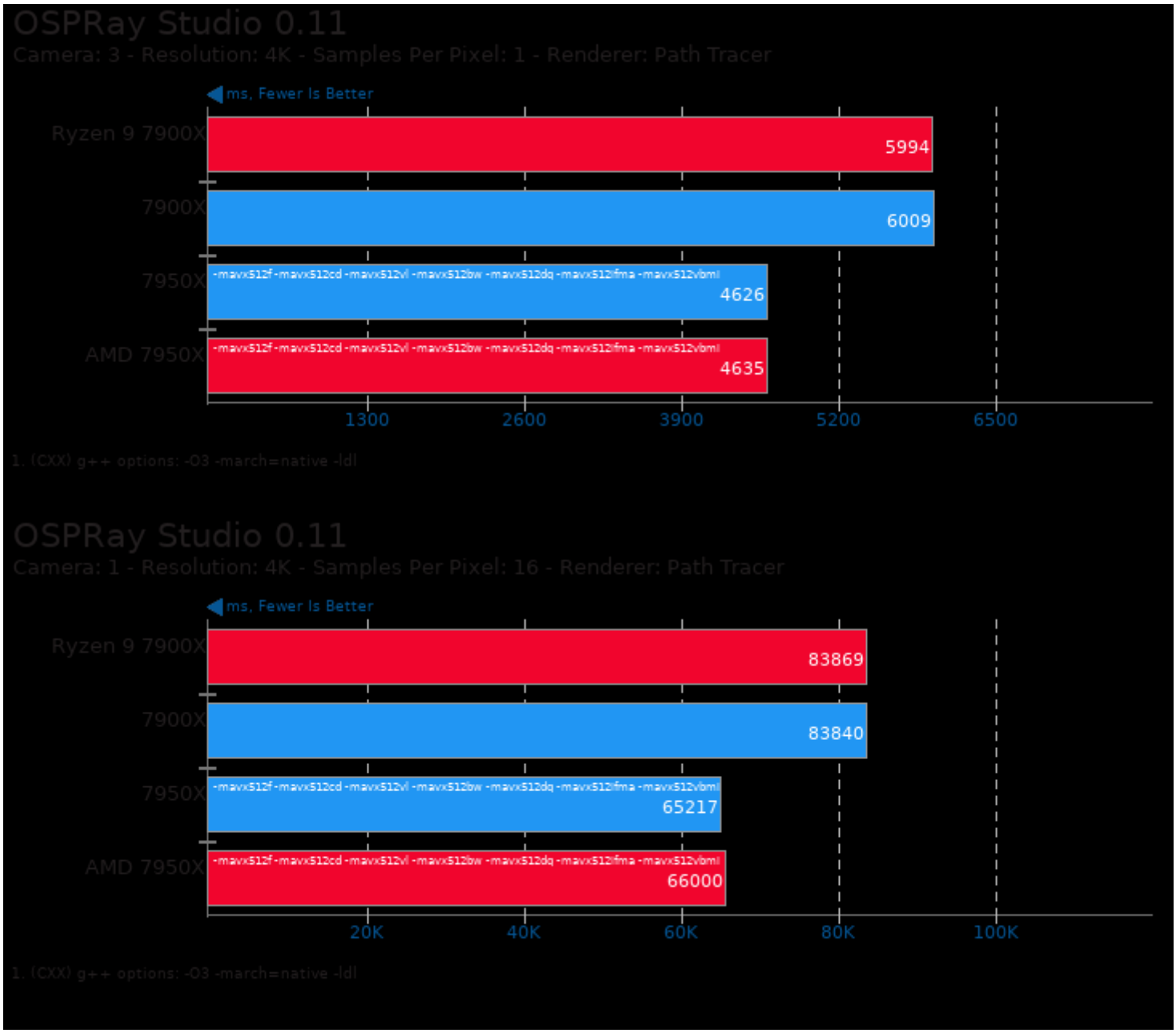

Timed MPlayer Compilation 1.5
Time To Compile
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
18.95
18.90
15.63
15.64
5
10
15
20
25
Parallel BZIP2 Compression 1.1.13
FreeBSD-13.0-RELEASE-amd64-memstick.img Compression
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
3.853
3.780
2.910
2.937
0.8669
1.7338
2.6007
3.4676
4.3345
1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread

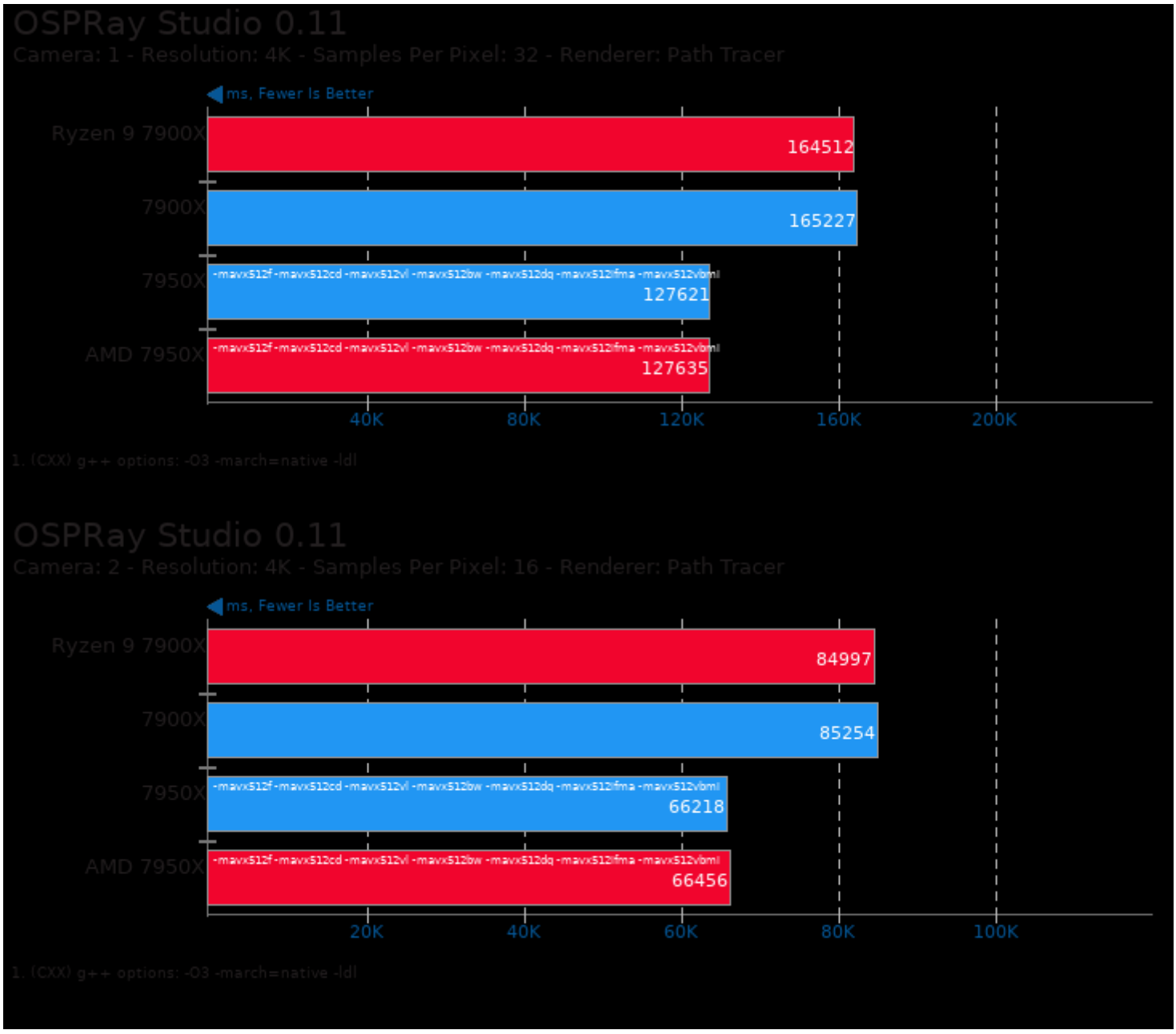

POV-Ray 3.7.0.7
Trace Time
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
22.07
22.05
17.51
17.70
5
10
15
20
25
1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -R/usr/lib -lSDL -lXpm -lSM -lICE -lX11 -lIlmImf -lIlmImf-2_5 -lImath-2_5 -lHalf-2_5 -lIex-2_5 -lIex
Primesieve 8.0
Length: 1e12
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
8.376
8.364
6.521
6.544
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native

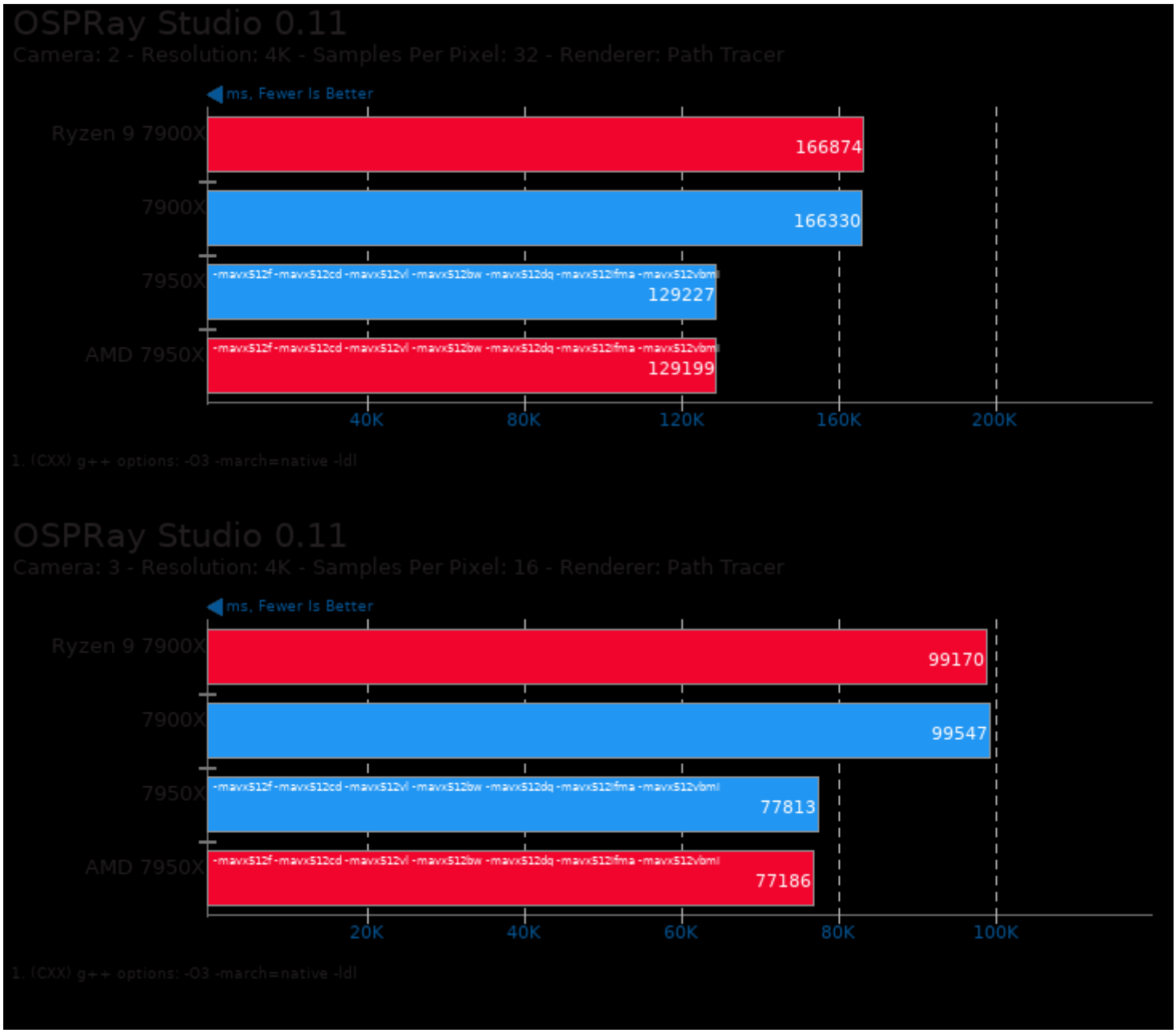

oneDNN 2.6
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 1471.68
1481.50
7900X
MIN: 1468.75
1477.81
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1170.04
1188.09
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1173.25
1190.68
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -std=c++11 -pie -ldl -lpthread
oneDNN 2.6
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 748.37
754.76
7900X
MIN: 747.83
755.03
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 599.32
607.98
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 599.55
608.82
160
320
480
640
800
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -std=c++11 -pie -ldl -lpthread


oneDNN 2.6
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 1469.6
1479.46
7900X
MIN: 1469.84
1481.69
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1173.99
1191.70
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1170.28
1187.72
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -std=c++11 -pie -ldl -lpthread
oneDNN 2.6
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 751.43
757.44
7900X
MIN: 748.73
755.70
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 597.63
609.14
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 600.75
610.36
160
320
480
640
800
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -std=c++11 -pie -ldl -lpthread


OSPRay Studio 0.11
Camera: 1 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
5018
7900X
5014
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
3861
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
3873
1100
2200
3300
4400
5500
1. (CXX) g++ options: -O3 -march=native -ldl
OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
5096
7900X
5087
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
3931
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
3939
1100
2200
3300
4400
5500
1. (CXX) g++ options: -O3 -march=native -ldl

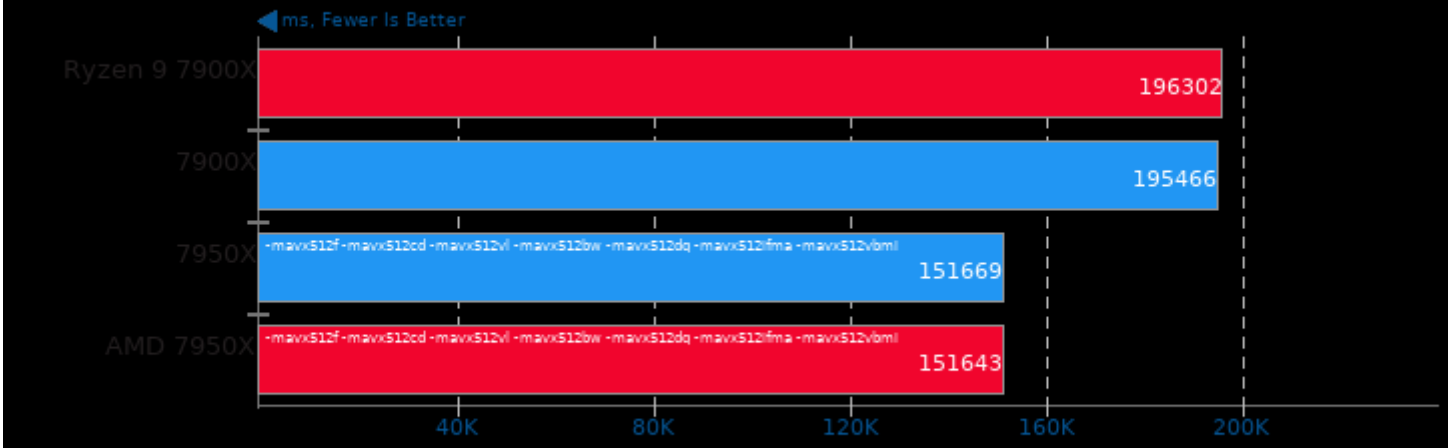

OSPRay Studio 0.11
Camera: 3 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
5994
7900X
6009
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
4626
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
4635
1300
2600
3900
5200
6500
1. (CXX) g++ options: -O3 -march=native -ldl
OSPRay Studio 0.11
Camera: 1 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
83869
7900X
83840
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
65217
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
66000
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -march=native -ldl


OSPRay Studio 0.11
Camera: 1 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
164512
7900X
165227
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
127621
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
127635
40K
80K
120K
160K
200K
1. (CXX) g++ options: -O3 -march=native -ldl
OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
84997
7900X
85254
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
66218
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
66456
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -march=native -ldl


OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
166874
7900X
166330
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
129227
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
129199
40K
80K
120K
160K
200K
1. (CXX) g++ options: -O3 -march=native -ldl
OSPRay Studio 0.11
Camera: 3 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
Ryzen 9 7900X
99170
7900X
99547
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
77813
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi
77186
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -march=native -ldl

## OSPRay Studio 0.11

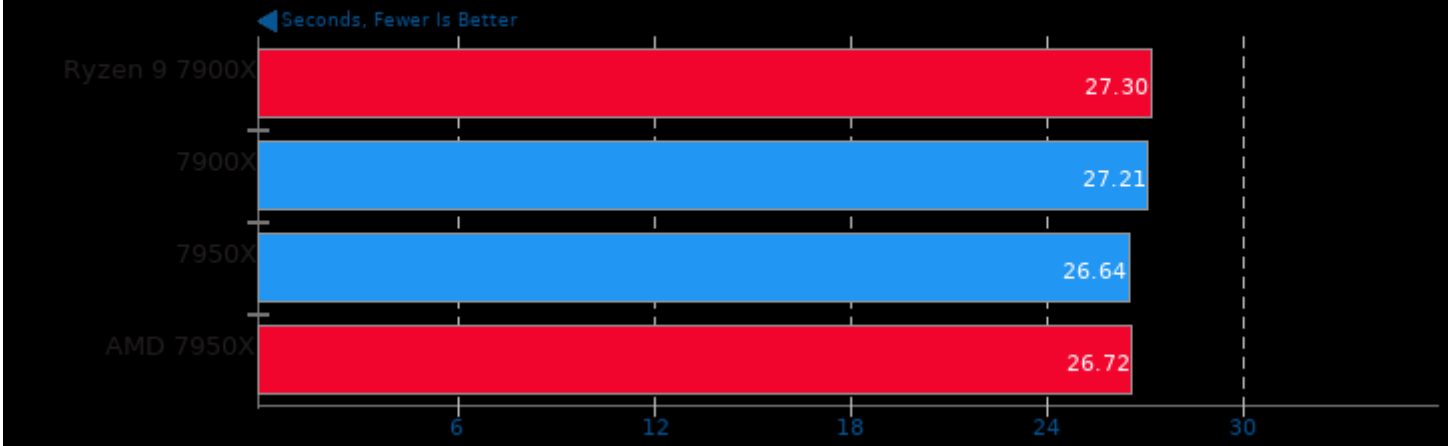
Camera: 3 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer




1. (CXX) g++ options: -O3 -march=native -ldl

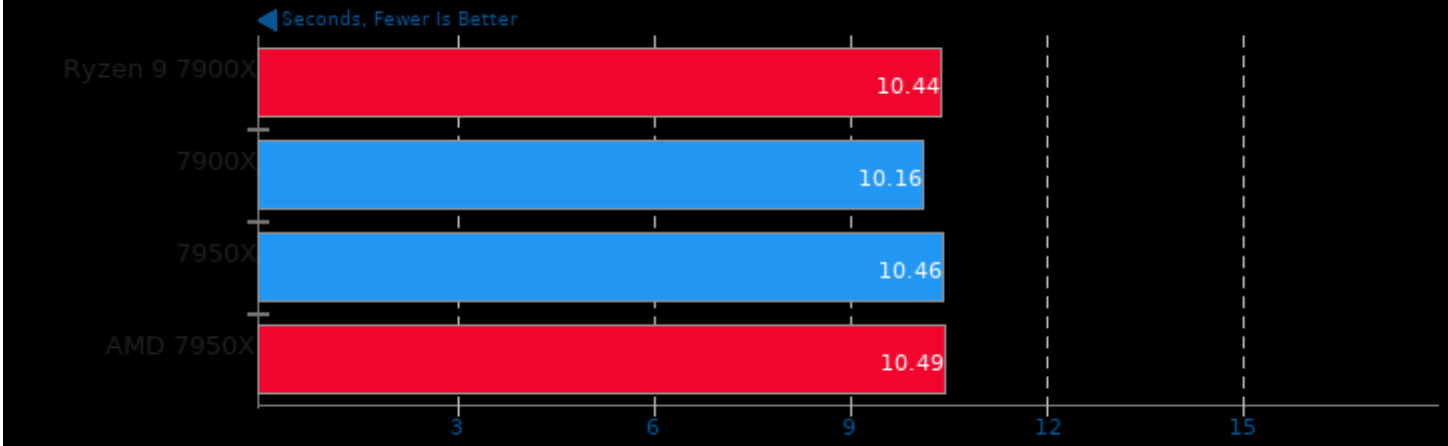
## Gzip Compression

Linux Source Tree Archiving To .tar.gz

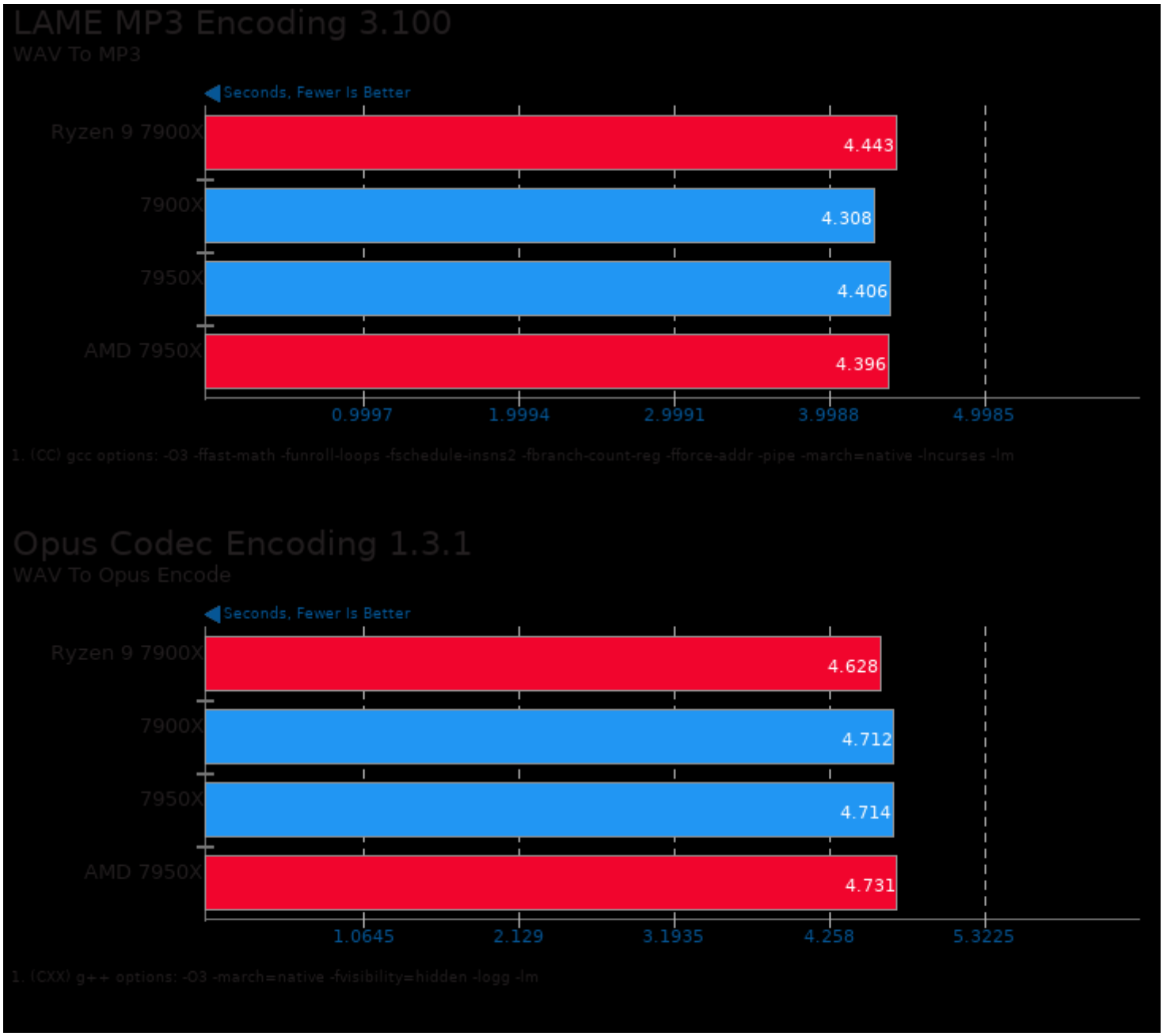


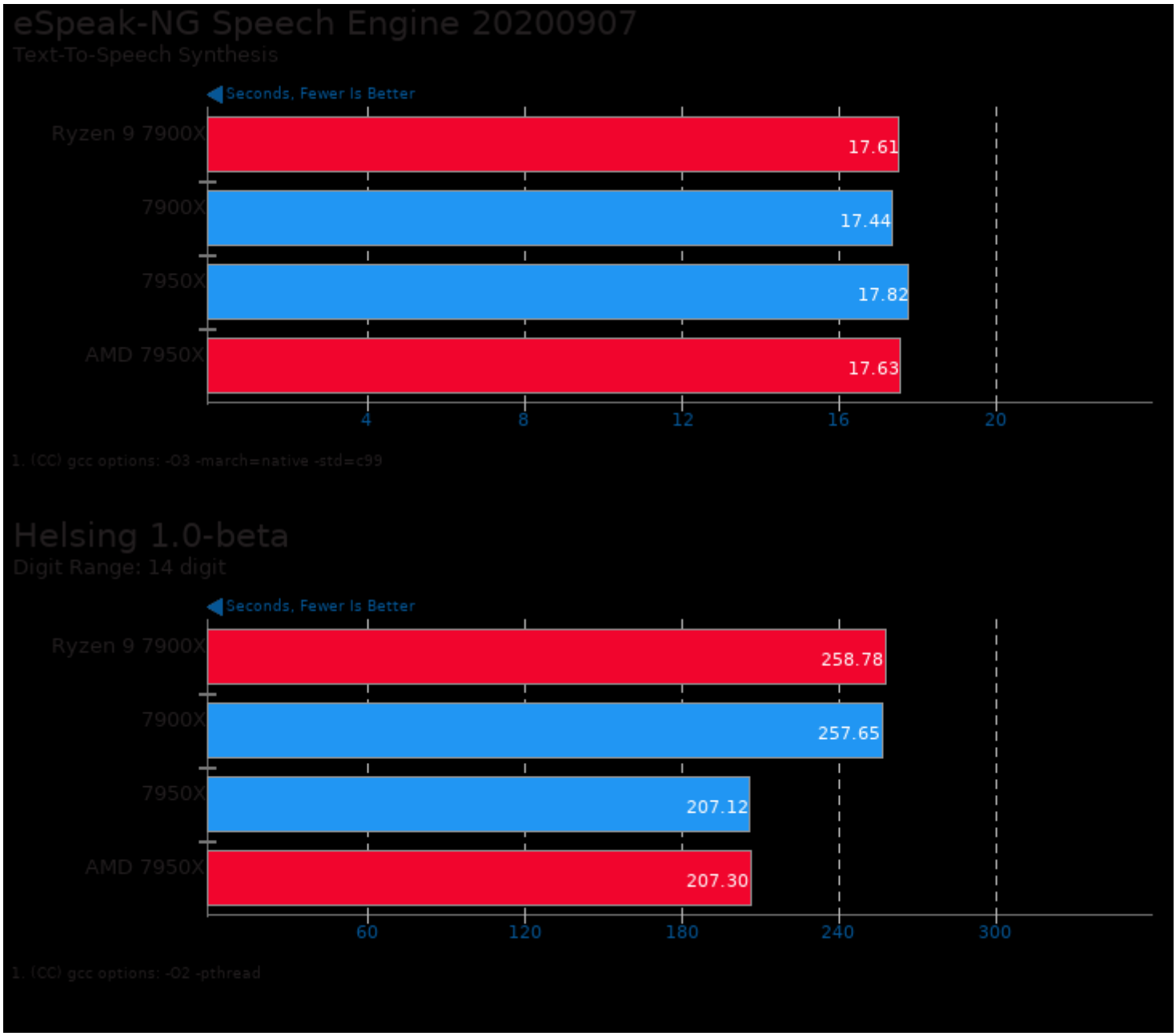

## FLAC Audio Encoding 1.3.3

WAV To FLAC

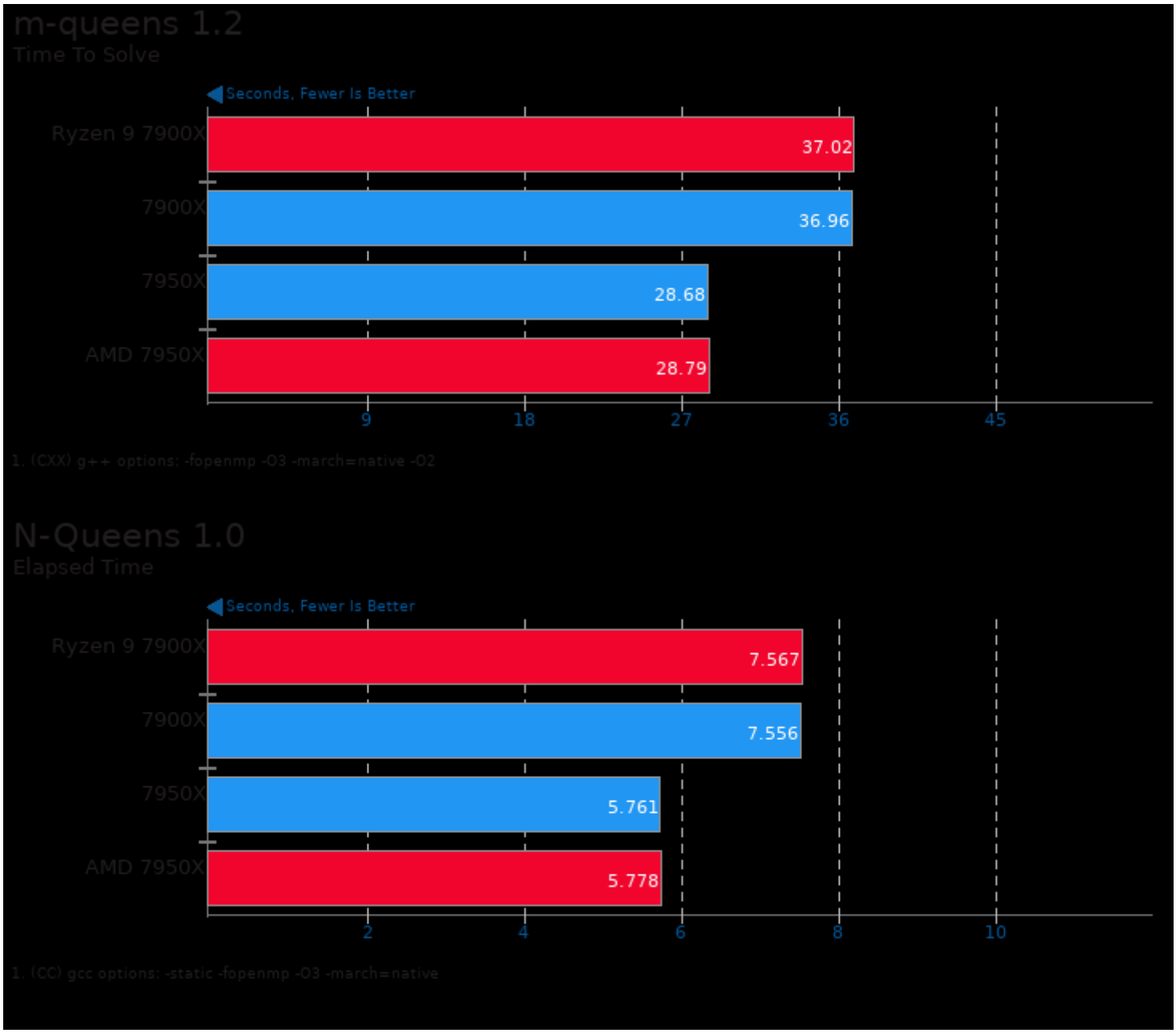


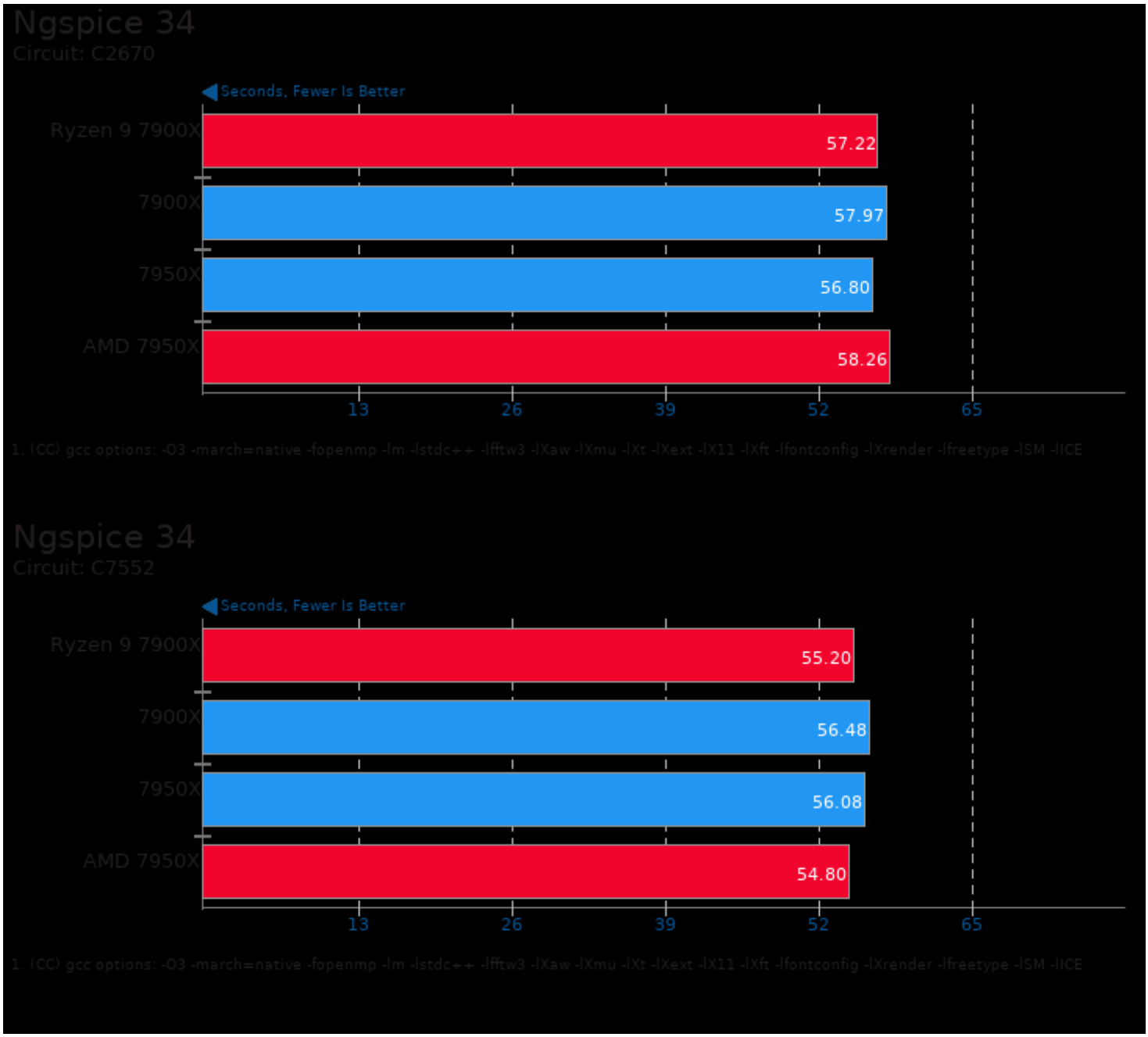

1. (CXX) g++ options: -O3 -march=native -fvisibility=hidden -logg -lm


LAME MP3 Encoding 3.100
WAV To MP3
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
4.443
4.308
4.406
4.396
0.9997
1.9994
2.9991
3.9988
4.9985
1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -march=native -lncurses -lm
Opus Codec Encoding 1.3.1
WAV To Opus Encode
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
4.628
4.712
4.714
4.731
1.0645
2.129
3.1935
4.258
5.3225
1. (CXX) g++ options: -O3 -march=native -fvisibility=hidden -logg -lm

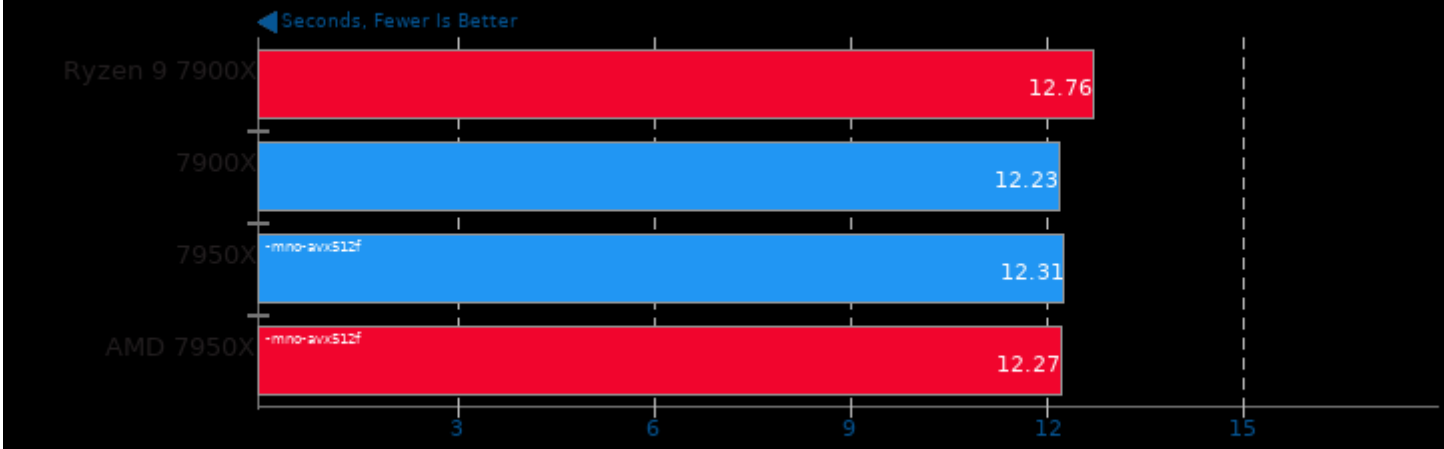

eSpeak-NG Speech Engine 20200907
Text-To-Speech Synthesis
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
17.61
17.44
17.82
17.63
4
8
12
16
20
1. (CC) gcc options: -O3 -march=native -std=c99
Helsing 1.0-beta
Digit Range: 14 digit
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
258.78
257.65
207.12
207.30
60
120
180
240
300
1. (CC) gcc options: -O2 -pthread

# ryzen 7000 series extra



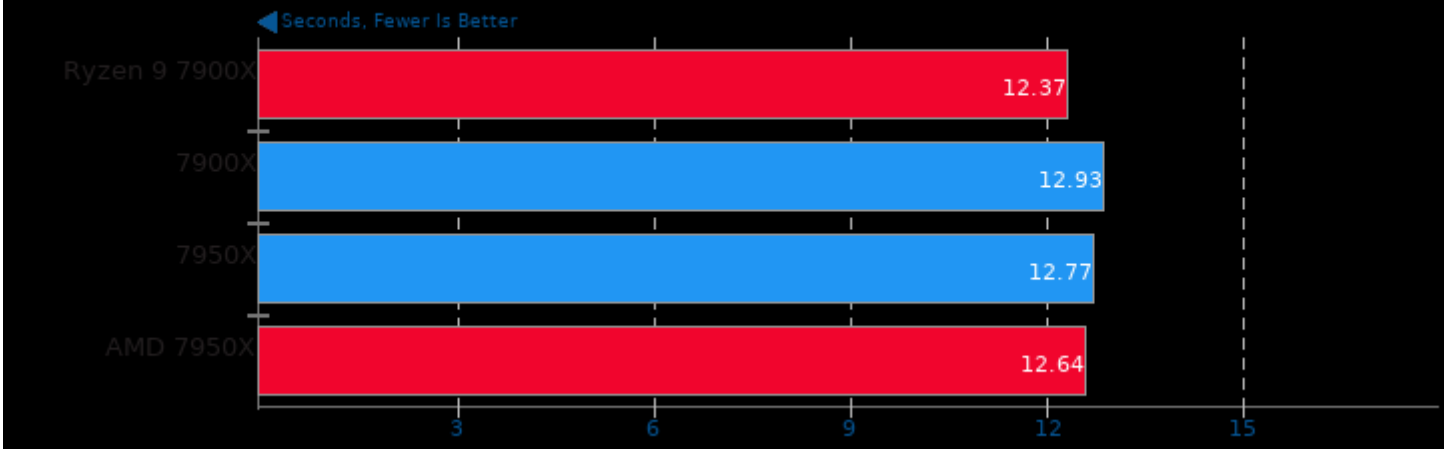

Ngspice 34
Circuit: C2670
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
57.22
57.97
56.80
58.26
13
26
39
52
65
1. (CC) gcc options: -O3 -march=native -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lXft -lfontconfig -lXrender -lfreetype -lSM -lICE
Ngspice 34
Circuit: C7552
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
55.20
56.48
56.08
54.80
13
26
39
52
65
1. (CC) gcc options: -O3 -march=native -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lXft -lfontconfig -lXrender -lfreetype -lSM -lICE

## RNNoise 2020-06-28



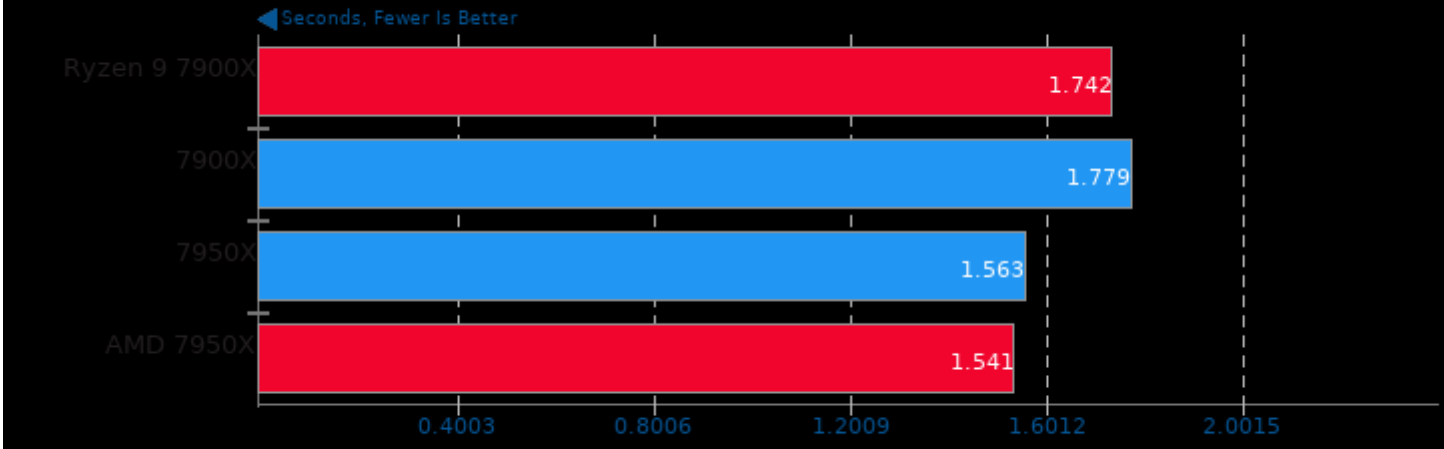

1. (CC) gcc options: -O3 -march=native -pedantic -fvisibility=hidden

## VOSK Speech Recognition Toolkit 0.3.21

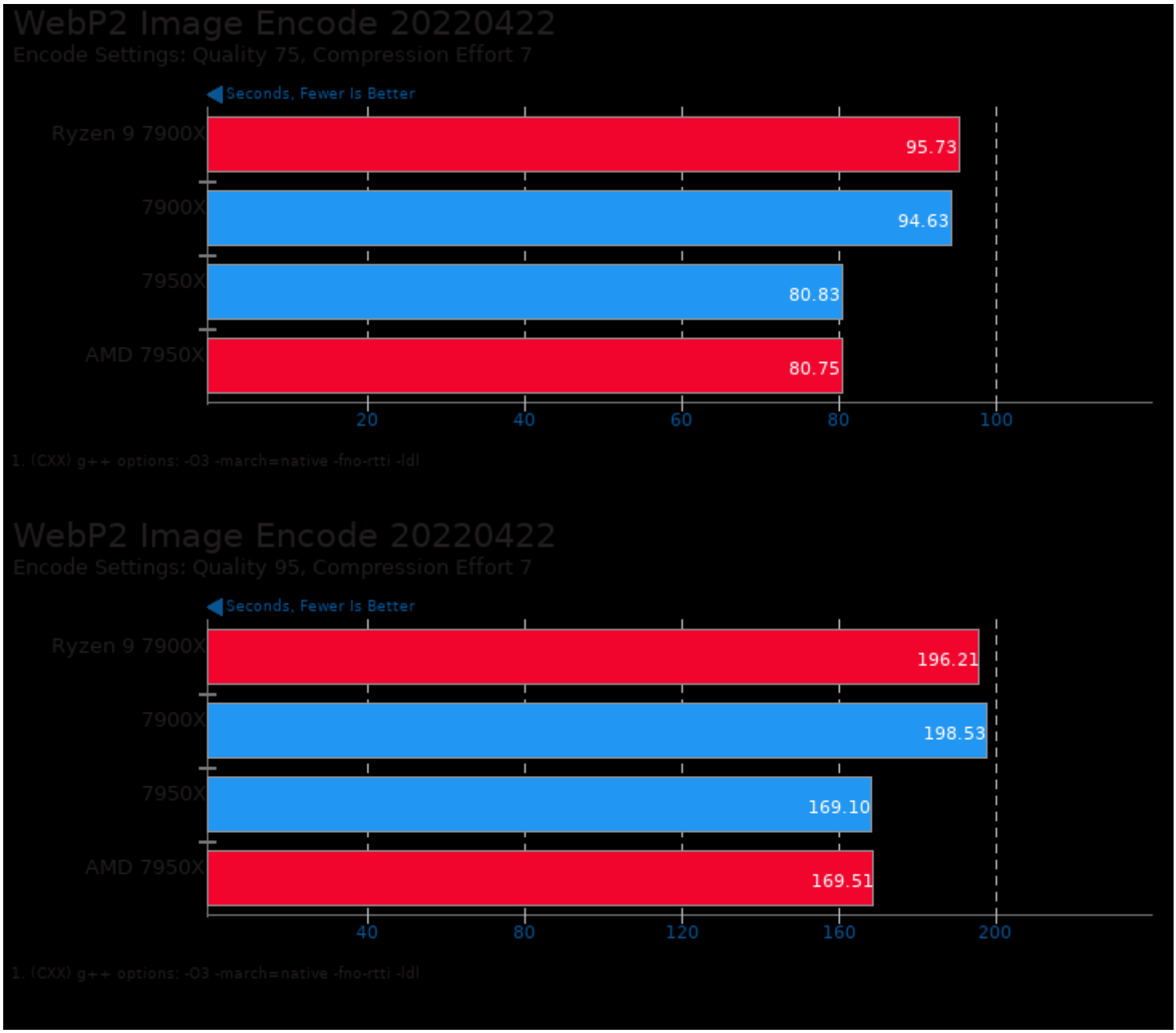


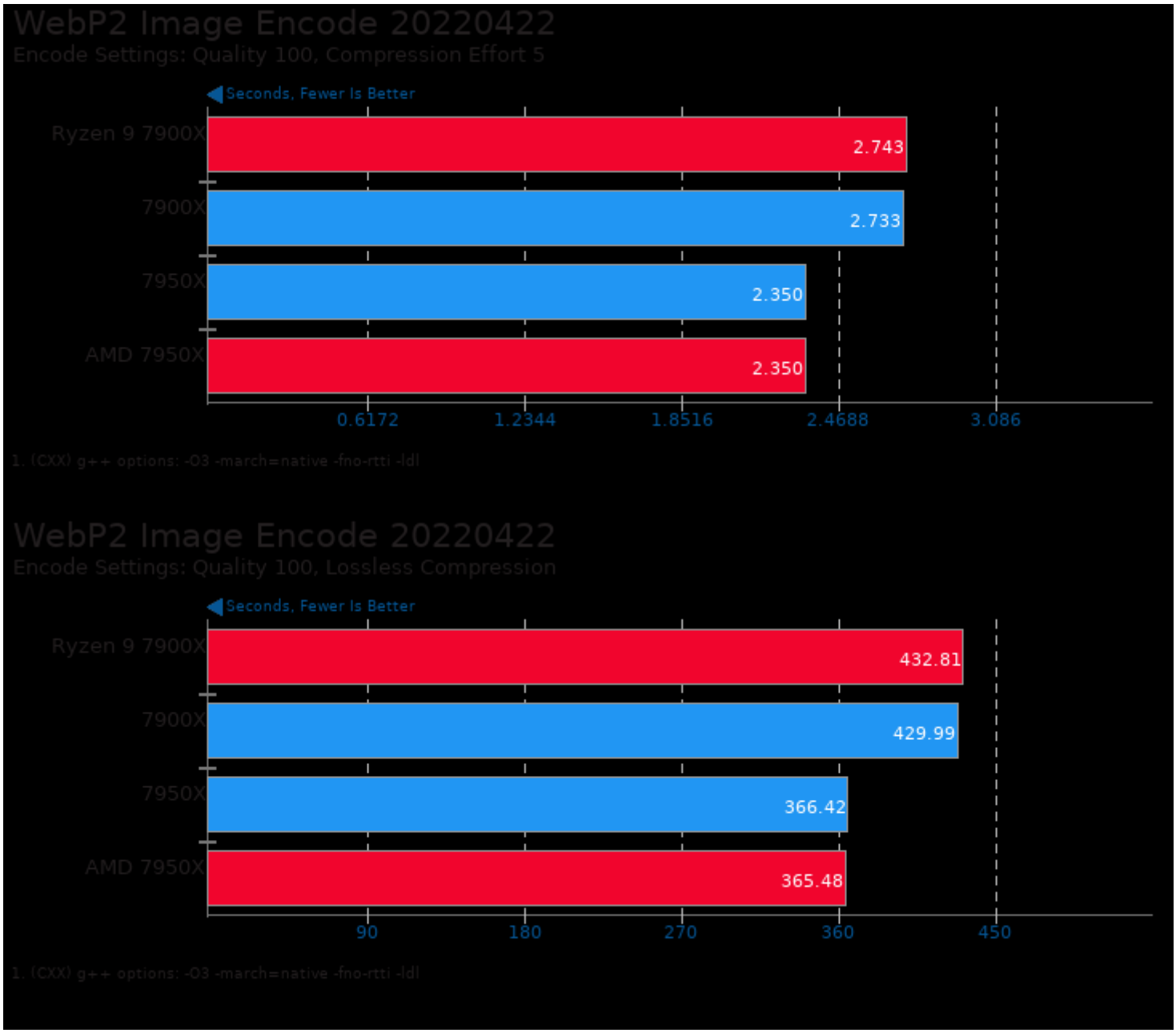

## WebP2 Image Encode 20220422

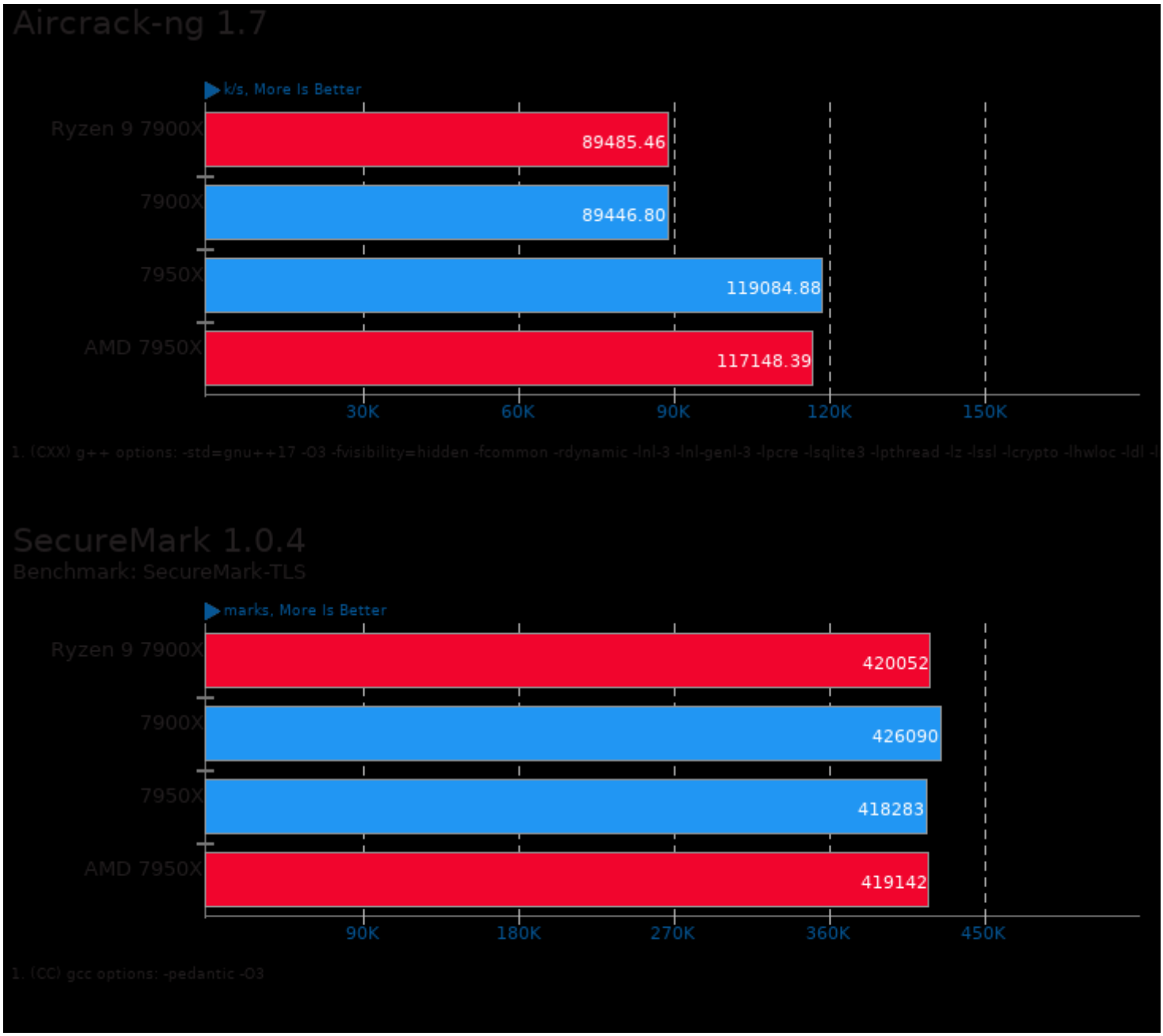
Encode Settings: Default

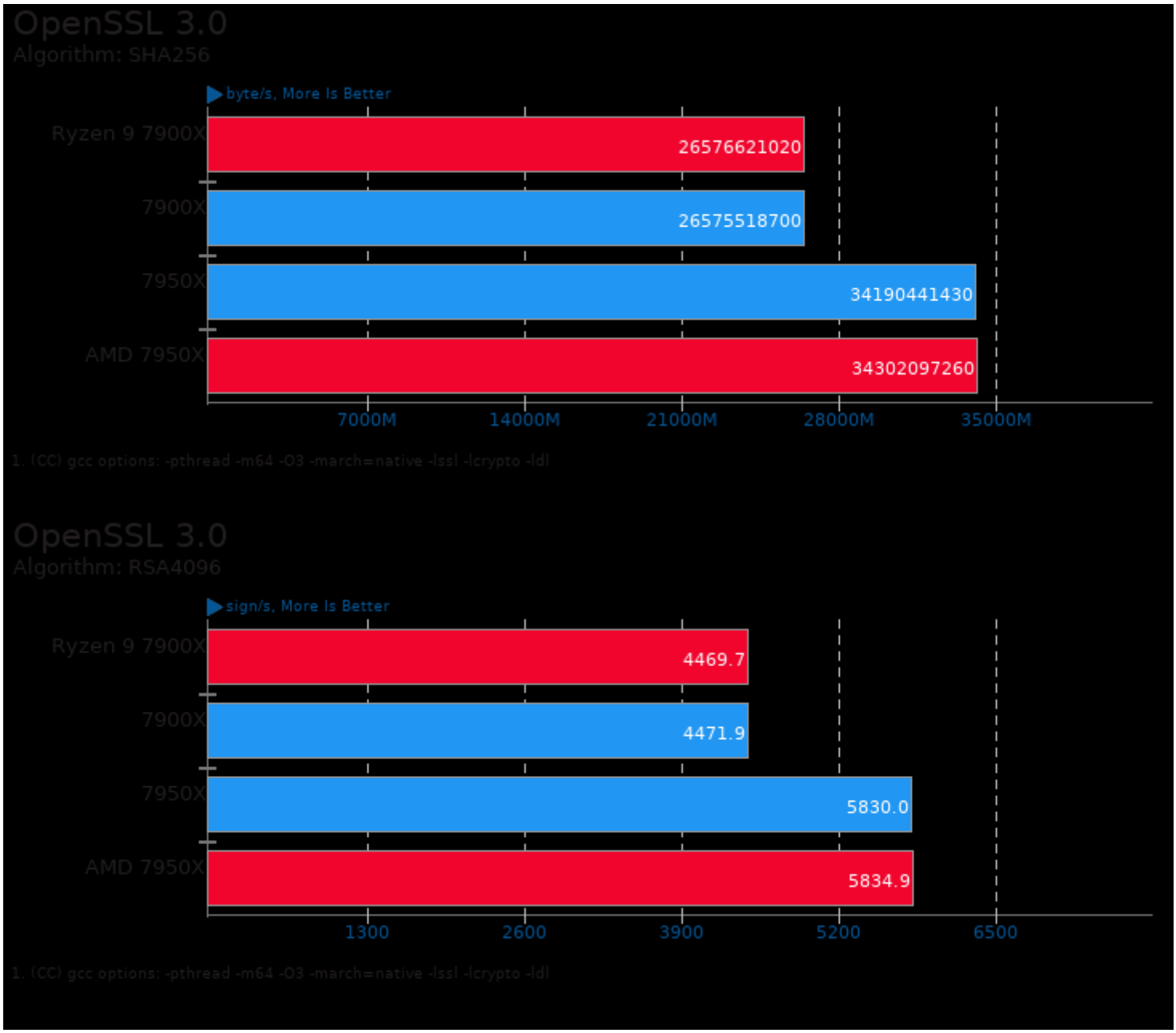



1. (CXX) g++ options: -O3 -march=native -fno-rtti -ldl


WebP2 Image Encode 20220422
Encode Settings: Quality 75, Compression Effort 7
Seconds, Fewer Is Better
Ryzen 9 7900X
95.73
7900X
94.63
7950X
80.83
AMD 7950X
80.75
20
40
60
80
100
1. (CXX) g++ options: -O3 -march=native -fno-rtti -ldl
WebP2 Image Encode 20220422
Encode Settings: Quality 95, Compression Effort 7
Seconds, Fewer Is Better
Ryzen 9 7900X
196.21
7900X
198.53
7950X
169.10
AMD 7950X
169.51
40
80
120
160
200
1. (CXX) g++ options: -O3 -march=native -fno-rtti -ldl

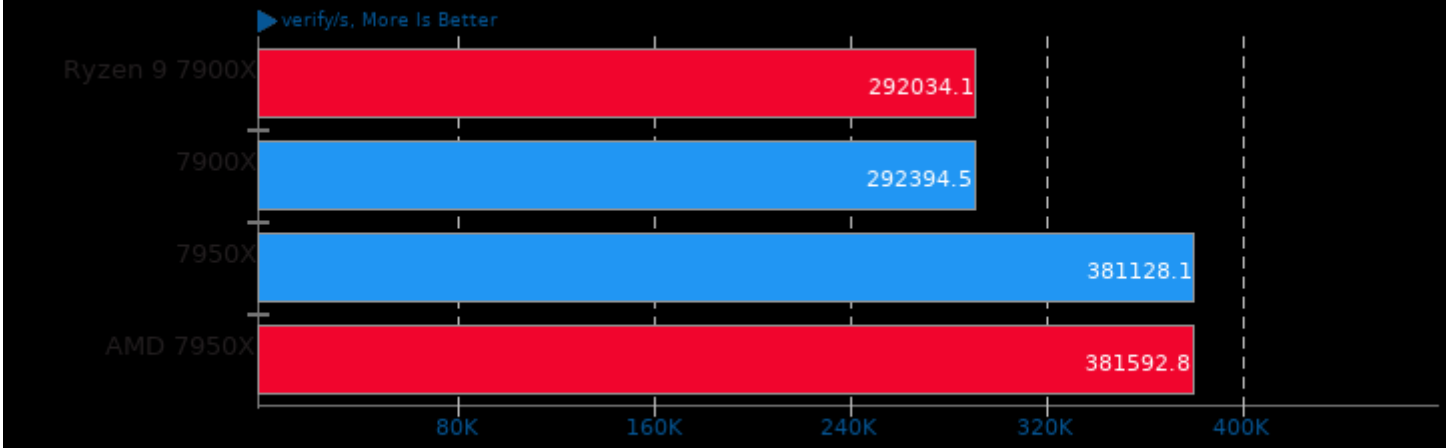

WebP2 Image Encode 20220422
Encode Settings: Quality 100, Compression Effort 5
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
2.743
2.733
2.350
2.350
0.6172
1.2344
1.8516
2.4688
3.086
1. (CXX) g++ options: -O3 -march=native -fno-rtti -ldl
WebP2 Image Encode 20220422
Encode Settings: Quality 100, Lossless Compression
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
432.81
429.99
366.42
365.48
90
180
270
360
450
1. (CXX) g++ options: -O3 -march=native -fno-rtti -ldl


Aircrack-ng 1.7
k/s, More Is Better
Ryzen 9 7900X
89485.46
7900X
89446.80
7950X
119084.88
AMD 7950X
117148.39
30K
60K
90K
120K
150K
1. (CXX) g++ options: -std=gnu++17 -O3 -fvisibility=hidden -fcommon -rdynamic -lnl-3 -lnl-genl-3 -lpcre -lsqlite3 -lpthread -lz -lssl -lcrypto -lhwloc -ldl
SecureMark 1.0.4
Benchmark: SecureMark-TLS
marks, More Is Better
Ryzen 9 7900X
420052
7900X
426090
7950X
418283
AMD 7950X
419142
90K
180K
270K
360K
450K
1. (CC) gcc options: -pedantic -O3


OpenSSL 3.0
Algorithm: SHA256
byte/s, More Is Better
Ryzen 9 7900X
26576621020
7900X
26575518700
7950X
34190441430
AMD 7950X
34302097260
7000M
14000M
21000M
28000M
35000M
1. (CC) gcc options: -pthread -m64 -O3 -march=native -lssl -lcrypto -ldl
OpenSSL 3.0
Algorithm: RSA4096
sign/s, More Is Better
Ryzen 9 7900X
4469.7
7900X
4471.9
7950X
5830.0
AMD 7950X
5834.9
1300
2600
3900
5200
6500
1. (CC) gcc options: -pthread -m64 -O3 -march=native -lssl -lcrypto -ldl

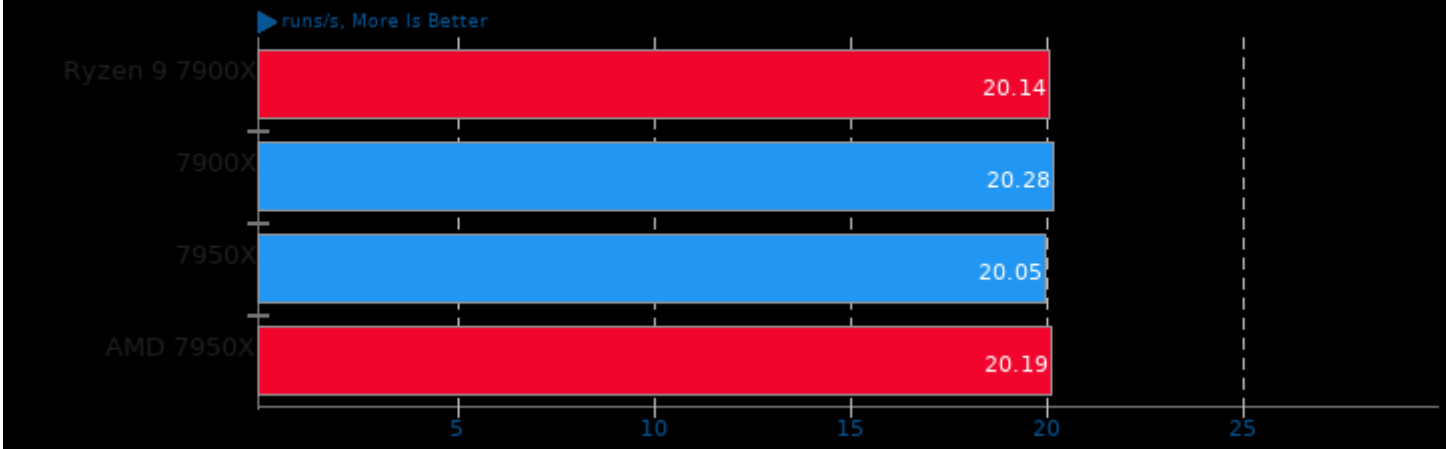
## OpenSSL 3.0

Algorithm: RSA4096



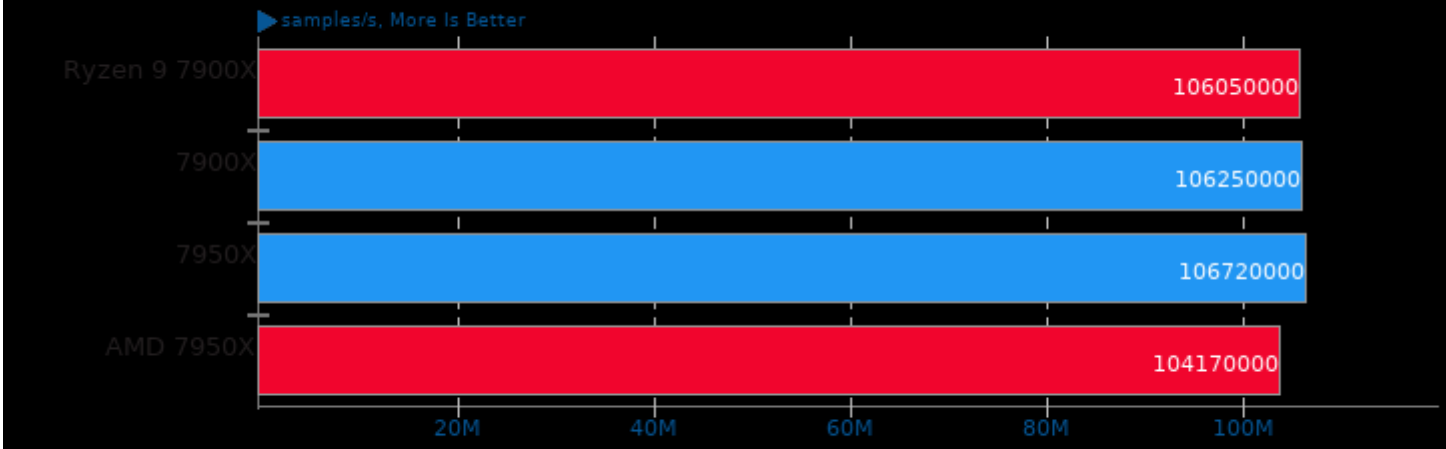

1. (CC) gcc options: -pthread -m64 -O3 -march=native -lssl -lcrypto -ldl

## Node.js V8 Web Tooling Benchmark

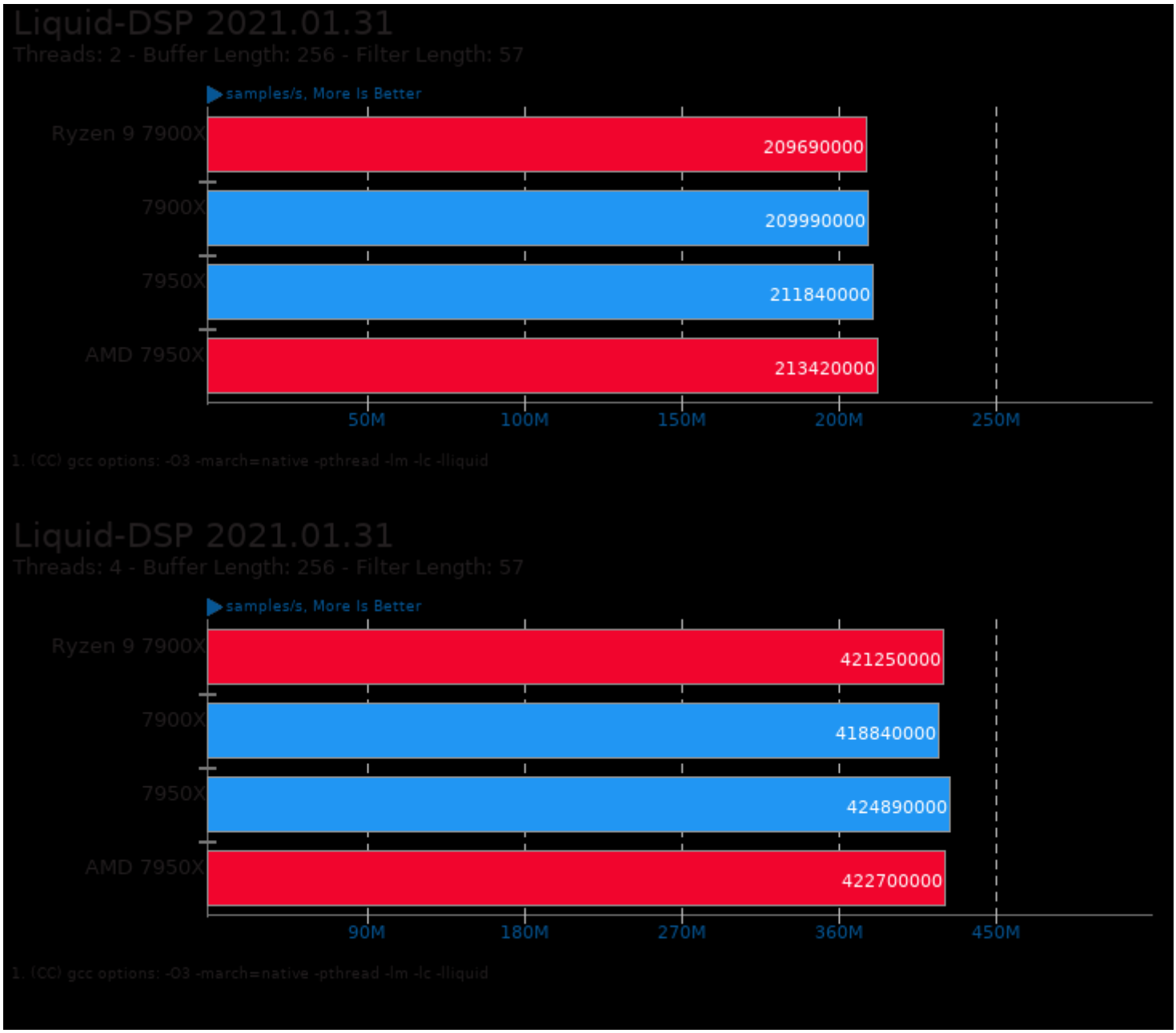


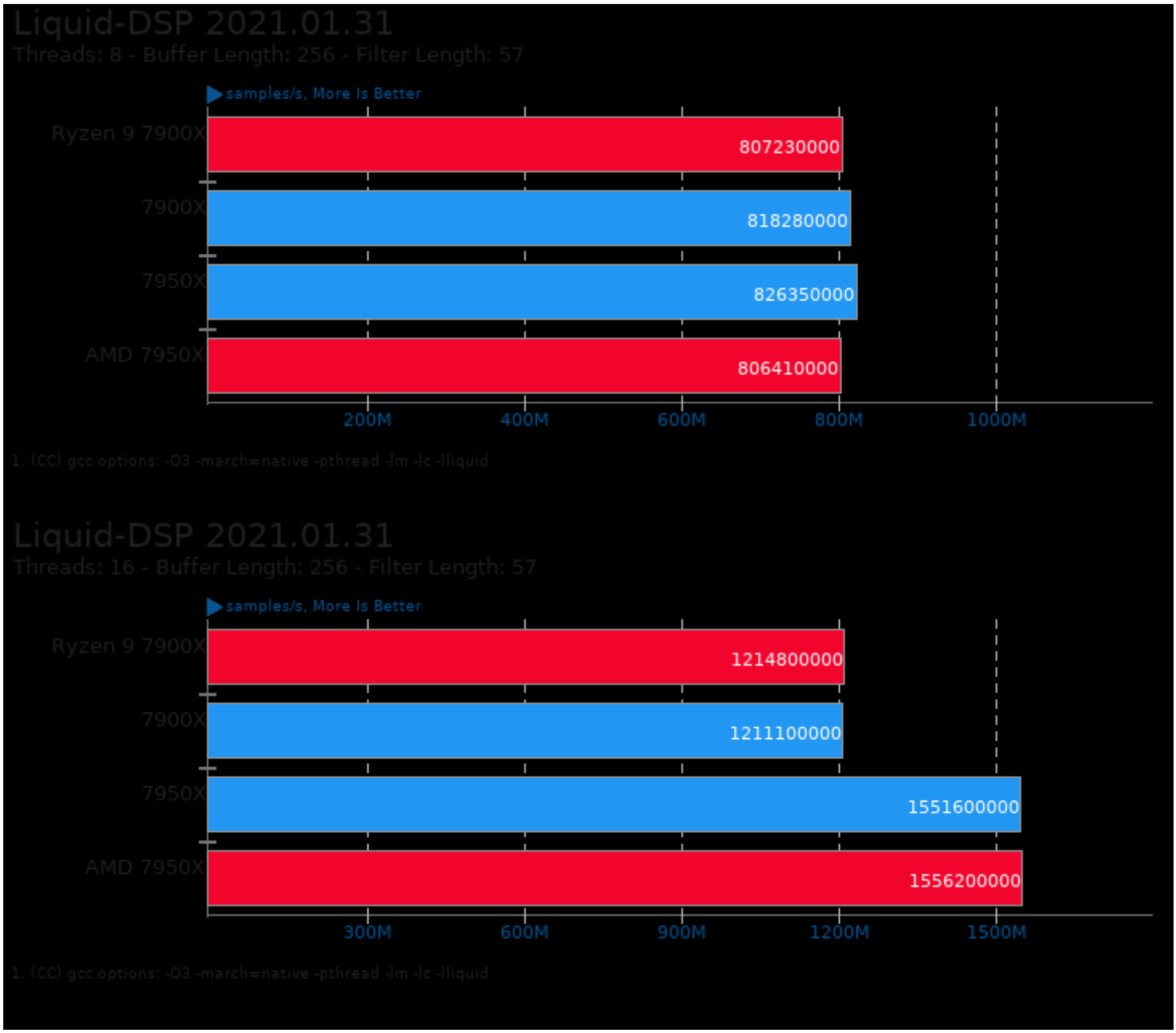

## Liquid-DSP 2021.01.31

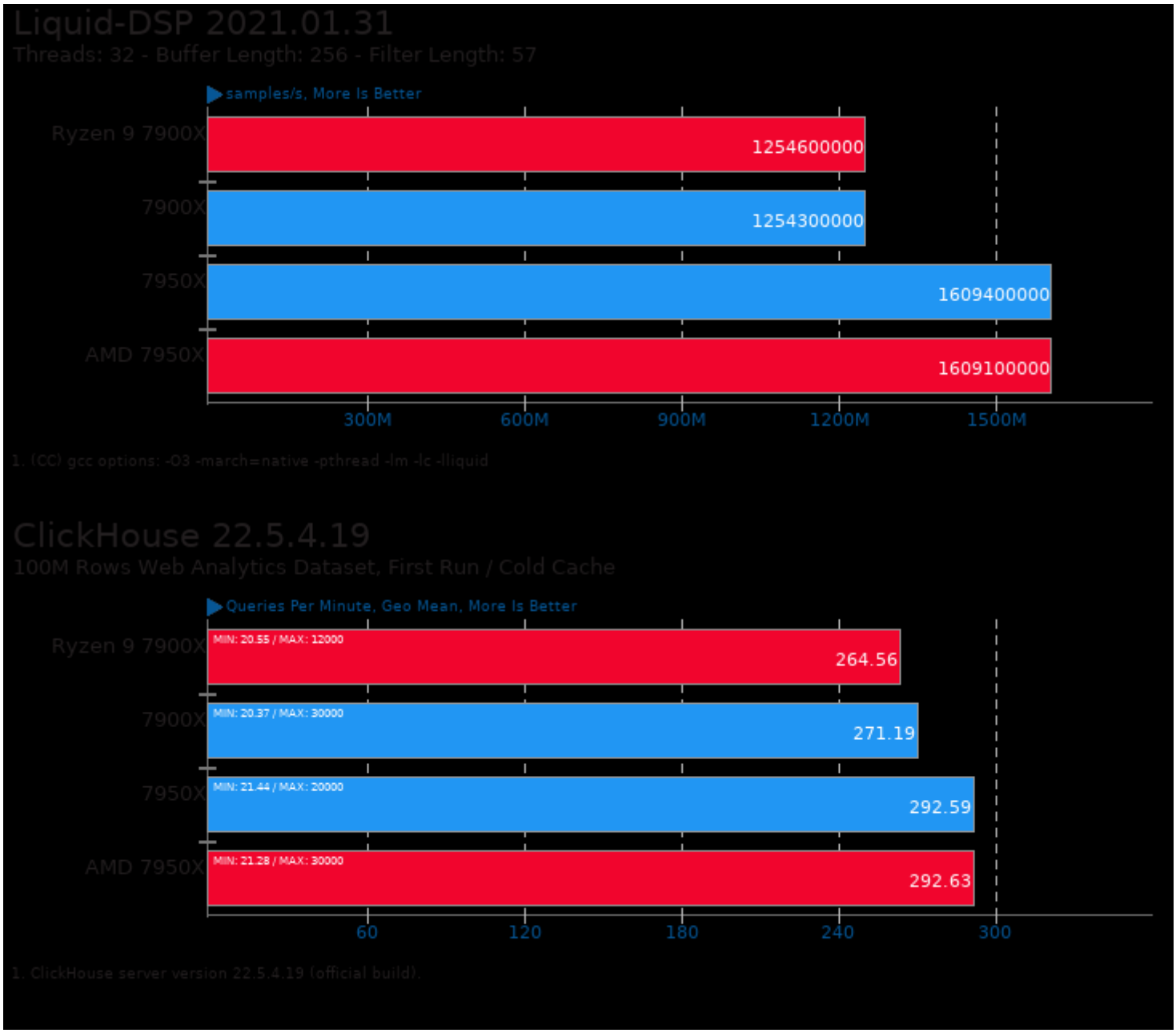
Threads: 1 - Buffer Length: 256 - Filter Length: 57

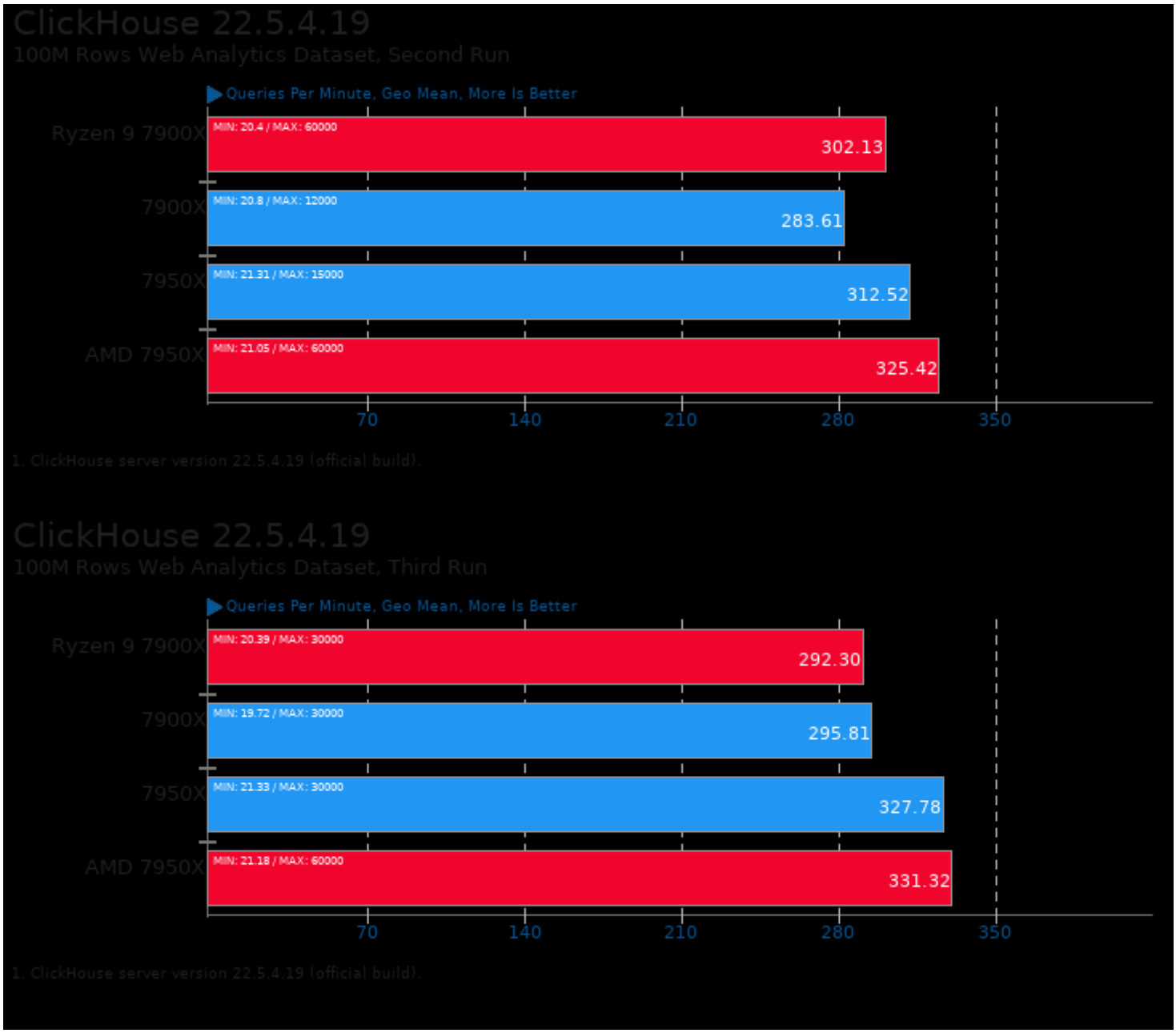


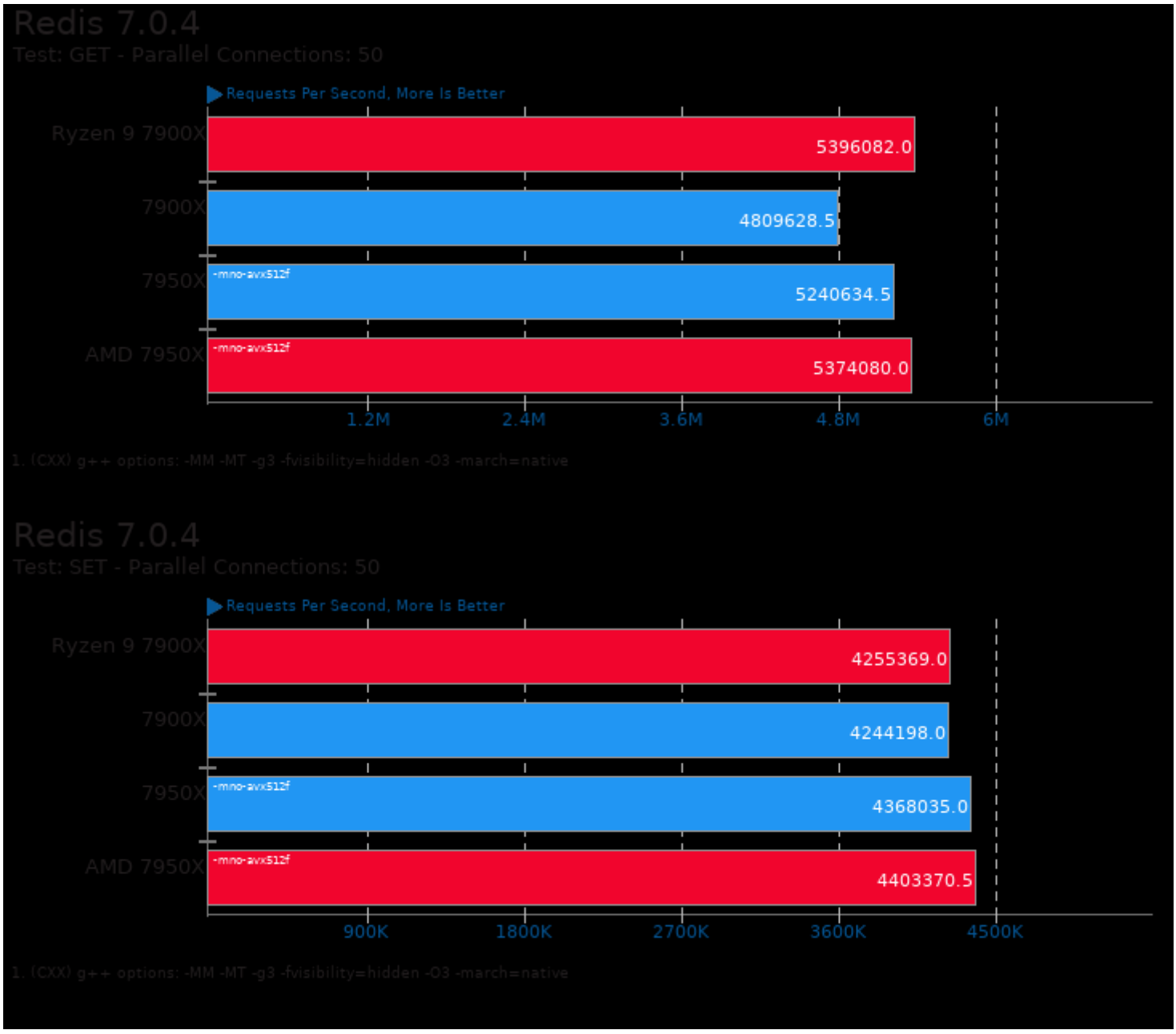

1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

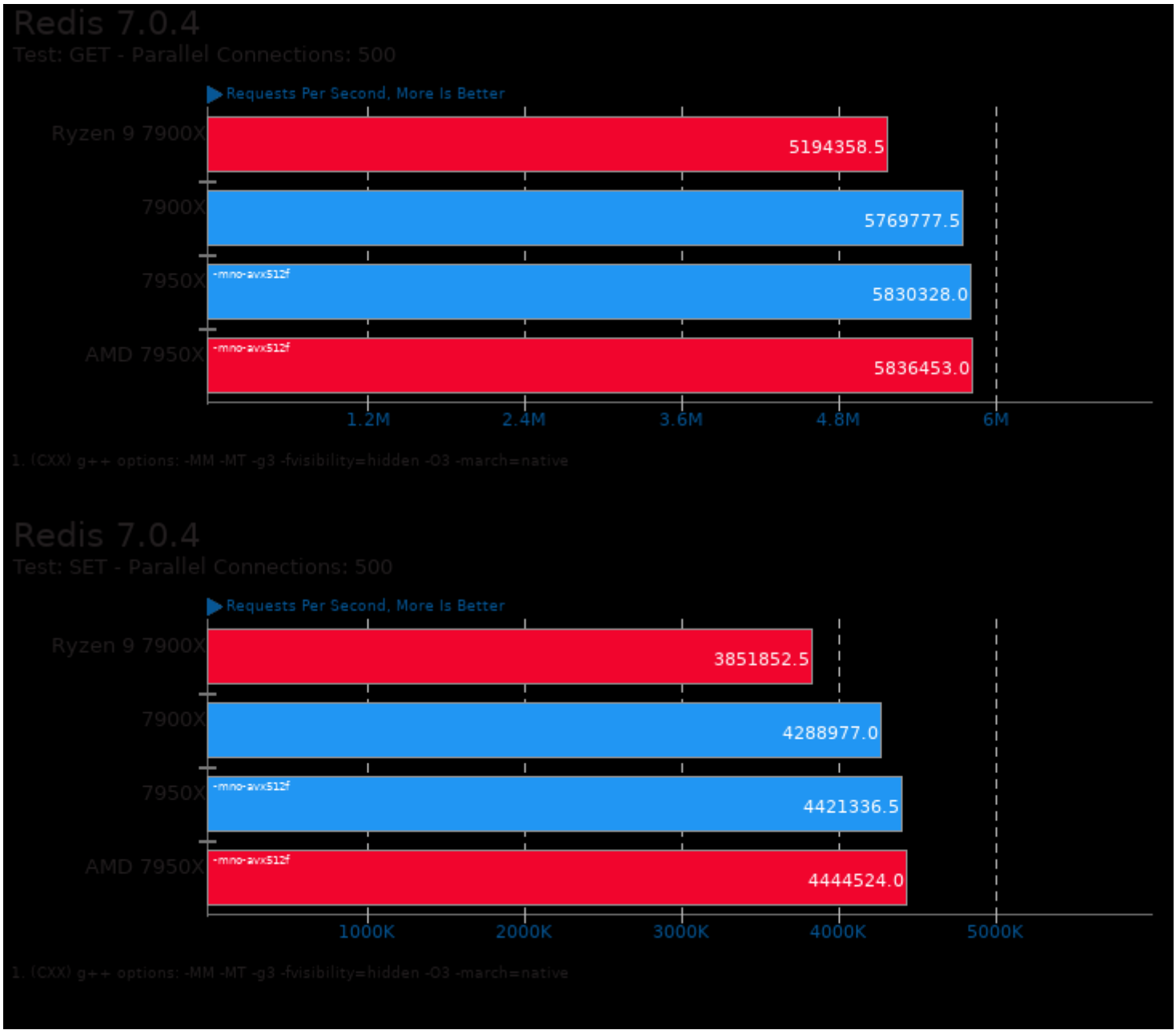

Liquid-DSP 2021.01.31
Threads: 2 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Ryzen 9 7900X
209690000
7900X
209990000
7950X
211840000
AMD 7950X
213420000
50M
100M
150M
200M
250M
1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 4 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Ryzen 9 7900X
421250000
7900X
418840000
7950X
424890000
AMD 7950X
422700000
90M
180M
270M
360M
450M
1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

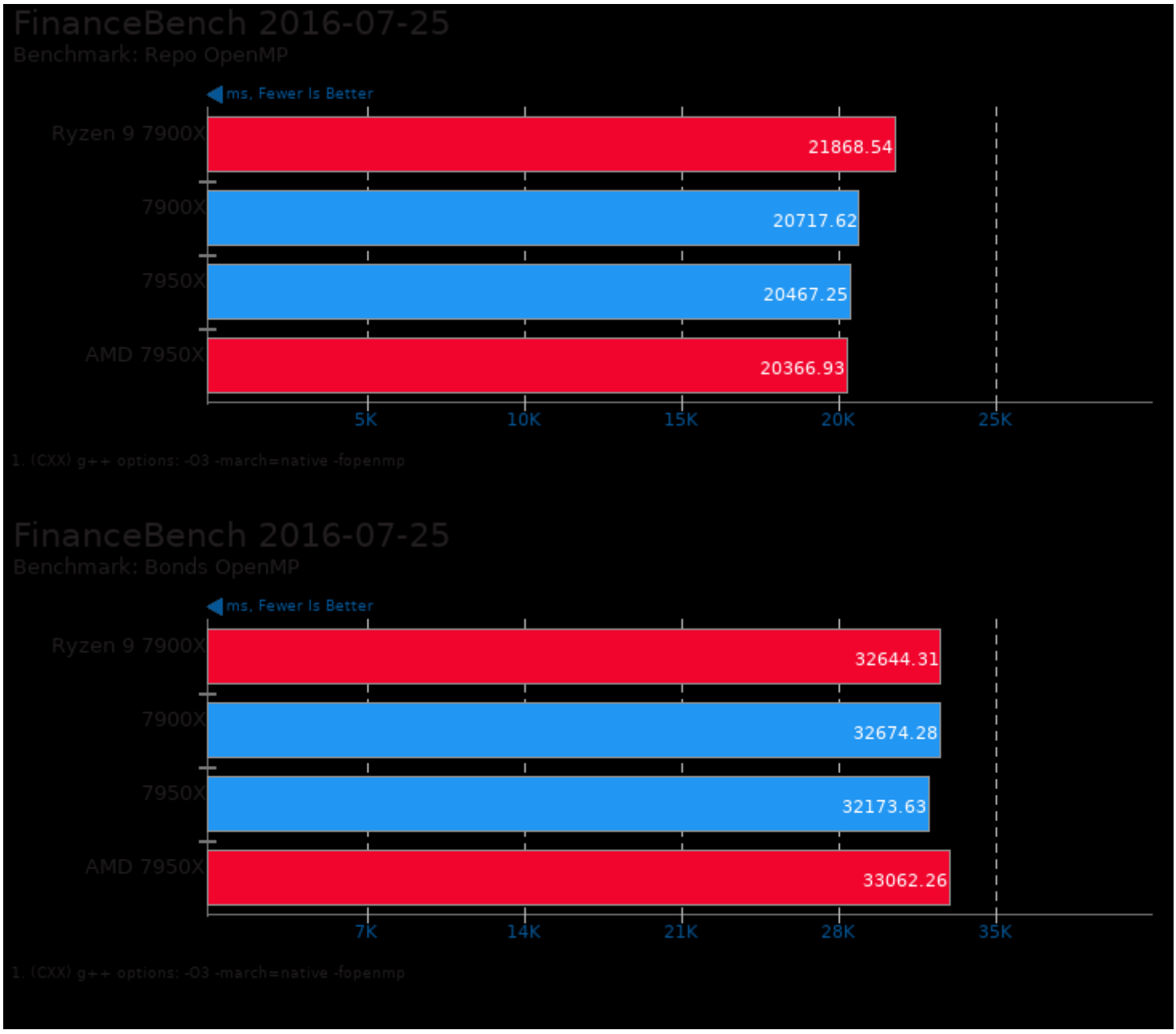

Liquid-DSP 2021.01.31
Threads: 8 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Ryzen 9 7900X
807230000
7900X
818280000
7950X
826350000
AMD 7950X
806410000
200M
400M
600M
800M
1000M
1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 16 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Ryzen 9 7900X
1214800000
7900X
1211100000
7950X
1551600000
AMD 7950X
1556200000
300M
600M
900M
1200M
1500M
1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

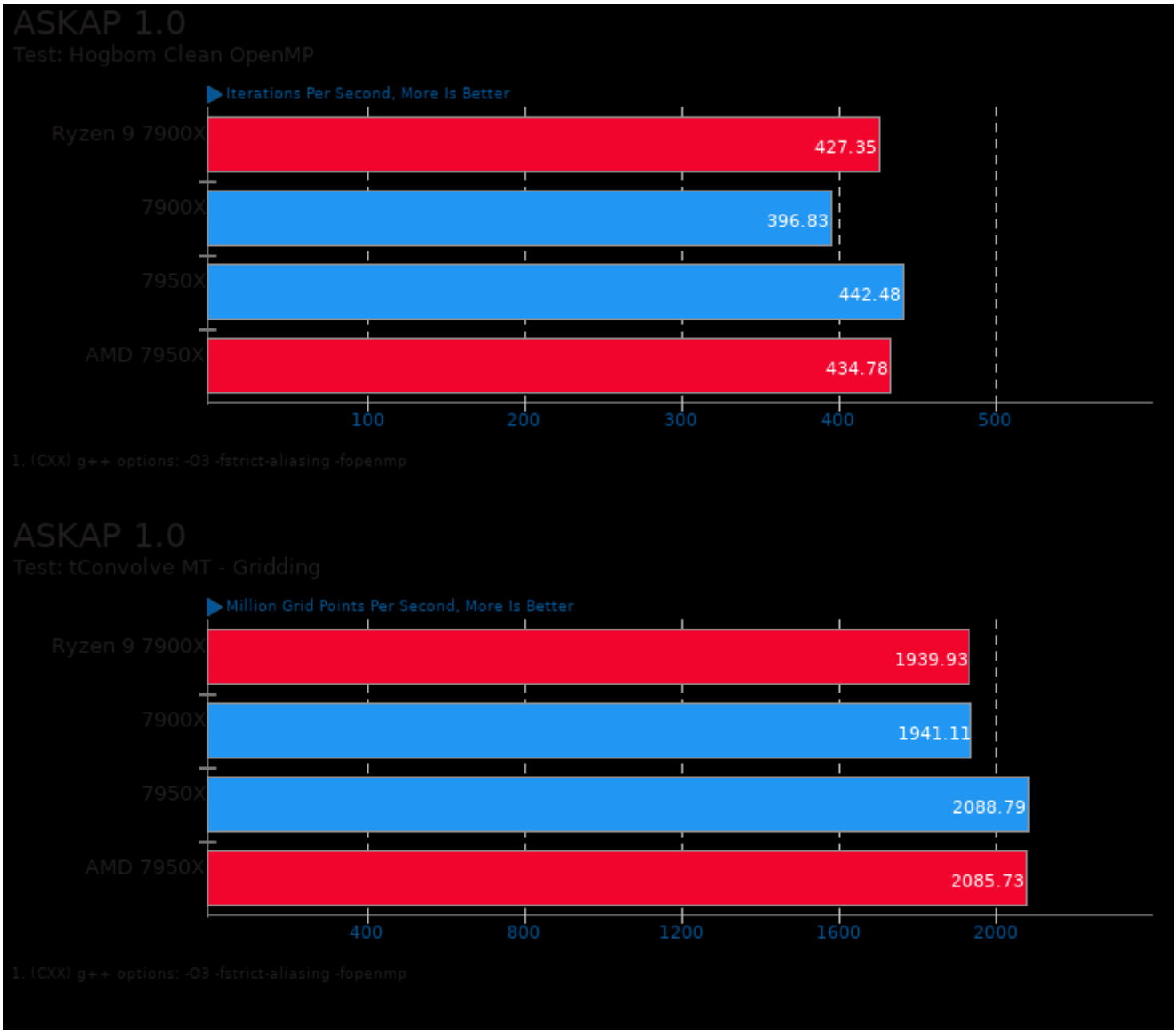

Liquid-DSP 2021.01.31
Threads: 32 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Ryzen 9 7900X
1254600000
7900X
1254300000
7950X
1609400000
AMD 7950X
1609100000
300M
600M
900M
1200M
1500M
1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid
ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, First Run / Cold Cache
Queries Per Minute, Geo Mean, More Is Better
Ryzen 9 7900X
MIN: 20.55 / MAX: 12000
264.56
7900X
MIN: 20.37 / MAX: 30000
271.19
7950X
MIN: 21.44 / MAX: 20000
292.59
AMD 7950X
MIN: 21.28 / MAX: 30000
292.63
60
120
180
240
300
1. ClickHouse server version 22.5.4.19 (official build).

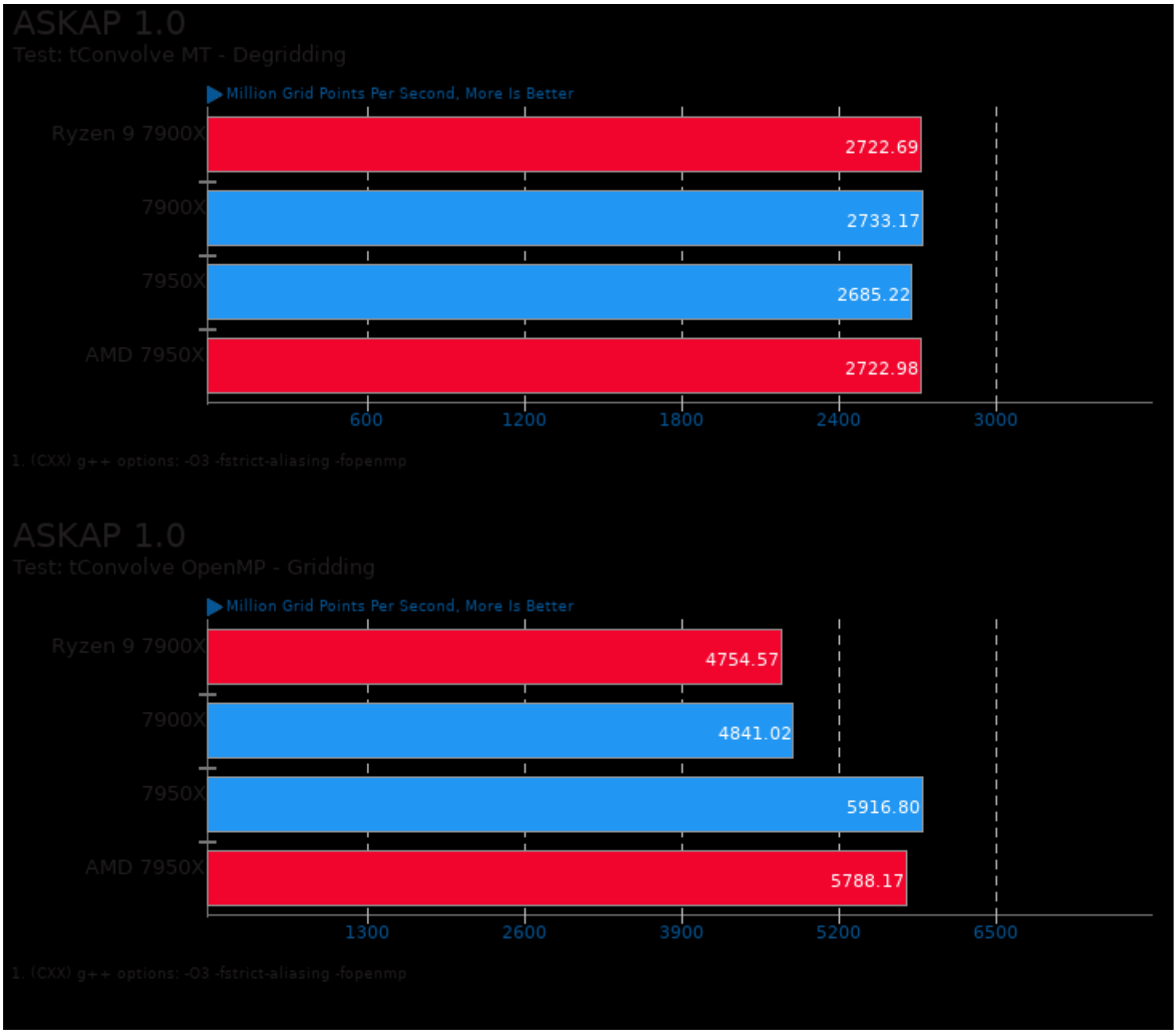

ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, Second Run
Queries Per Minute, Geo Mean, More Is Better
Ryzen 9 7900X
MIN: 20.4 / MAX: 60000
302.13
7900X
MIN: 20.8 / MAX: 12000
283.61
7950X
MIN: 21.31 / MAX: 15000
312.52
AMD 7950X
MIN: 21.05 / MAX: 60000
325.42
70
140
210
280
350
1. ClickHouse server version 22.5.4.19 (official build).
ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, Third Run
Queries Per Minute, Geo Mean, More Is Better
Ryzen 9 7900X
MIN: 20.39 / MAX: 30000
292.30
7900X
MIN: 19.72 / MAX: 30000
295.81
7950X
MIN: 21.33 / MAX: 30000
327.78
AMD 7950X
MIN: 21.18 / MAX: 60000
331.32
70
140
210
280
350
1. ClickHouse server version 22.5.4.19 (official build).

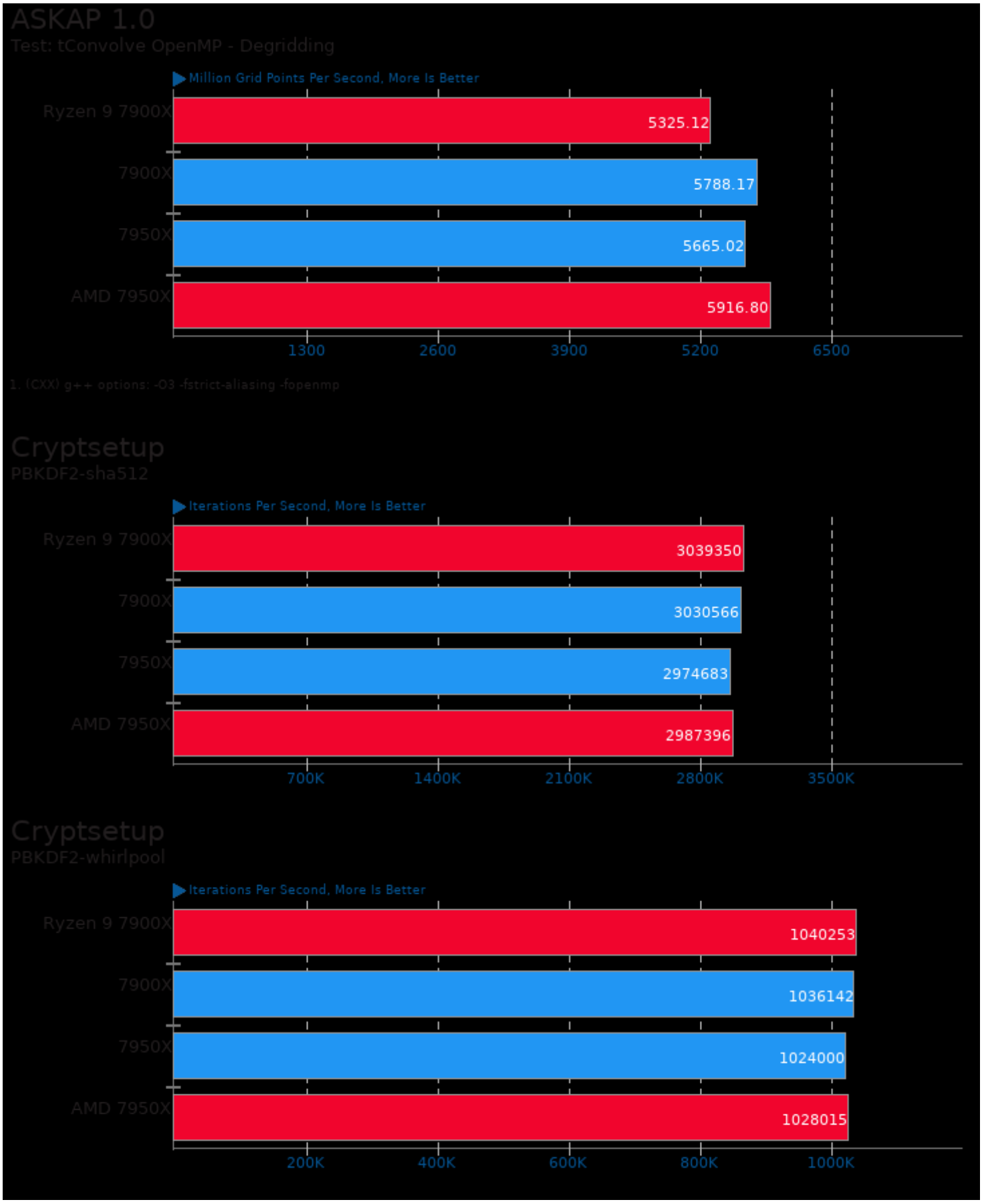

Redis 7.0.4
Test: GET - Parallel Connections: 50
Requests Per Second, More Is Better
Ryzen 9 7900X
5396082.0
7900X
4809628.5
7950X
-mno-avx512f
5240634.5
AMD 7950X
-mno-avx512f
5374080.0
1.2M
2.4M
3.6M
4.8M
6M
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3 -march=native
Redis 7.0.4
Test: SET - Parallel Connections: 50
Requests Per Second, More Is Better
Ryzen 9 7900X
4255369.0
7900X
4244198.0
7950X
-mno-avx512f
4368035.0
AMD 7950X
-mno-avx512f
4403370.5
900K
1800K
2700K
3600K
4500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3 -march=native


Redis 7.0.4
Test: GET - Parallel Connections: 500
Requests Per Second, More Is Better
Ryzen 9 7900X
5194358.5
7900X
5769777.5
7950X
-mno-avx512f
5830328.0
AMD 7950X
-mno-avx512f
5836453.0
1.2M
2.4M
3.6M
4.8M
6M
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3 -march=native
Redis 7.0.4
Test: SET - Parallel Connections: 500
Requests Per Second, More Is Better
Ryzen 9 7900X
3851852.5
7900X
4288977.0
7950X
-mno-avx512f
4421336.5
AMD 7950X
-mno-avx512f
4444524.0
1000K
2000K
3000K
4000K
5000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3 -march=native

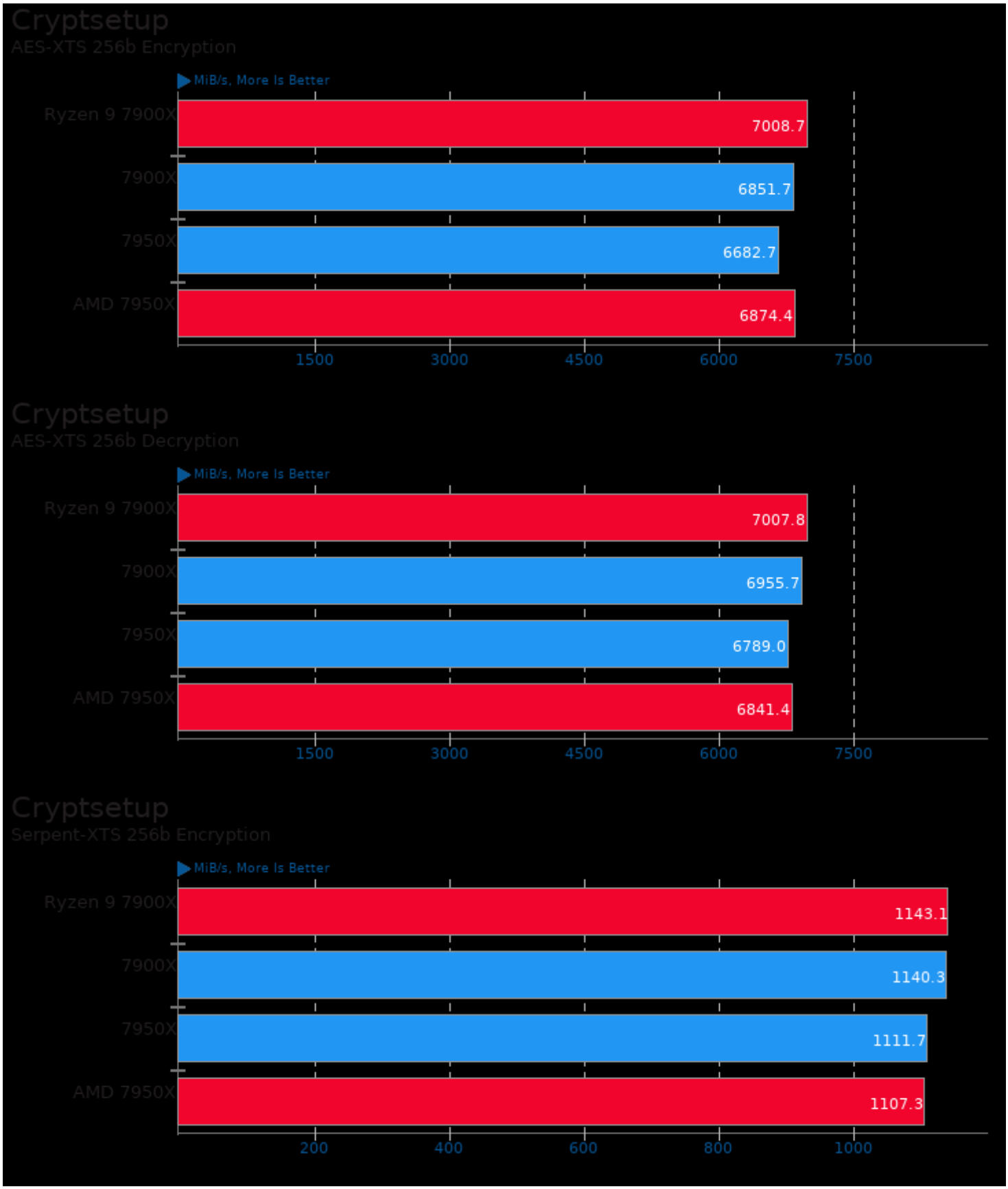

FinanceBench 2016-07-25
Benchmark: Repo OpenMP
ms, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
21868.54
20717.62
20467.25
20366.93
5K
10K
15K
20K
25K
1. (CXX) g++ options: -O3 -march=native -fopenmp
FinanceBench 2016-07-25
Benchmark: Bonds OpenMP
ms, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
32644.31
32674.28
32173.63
33062.26
7K
14K
21K
28K
35K
1. (CXX) g++ options: -O3 -march=native -fopenmp

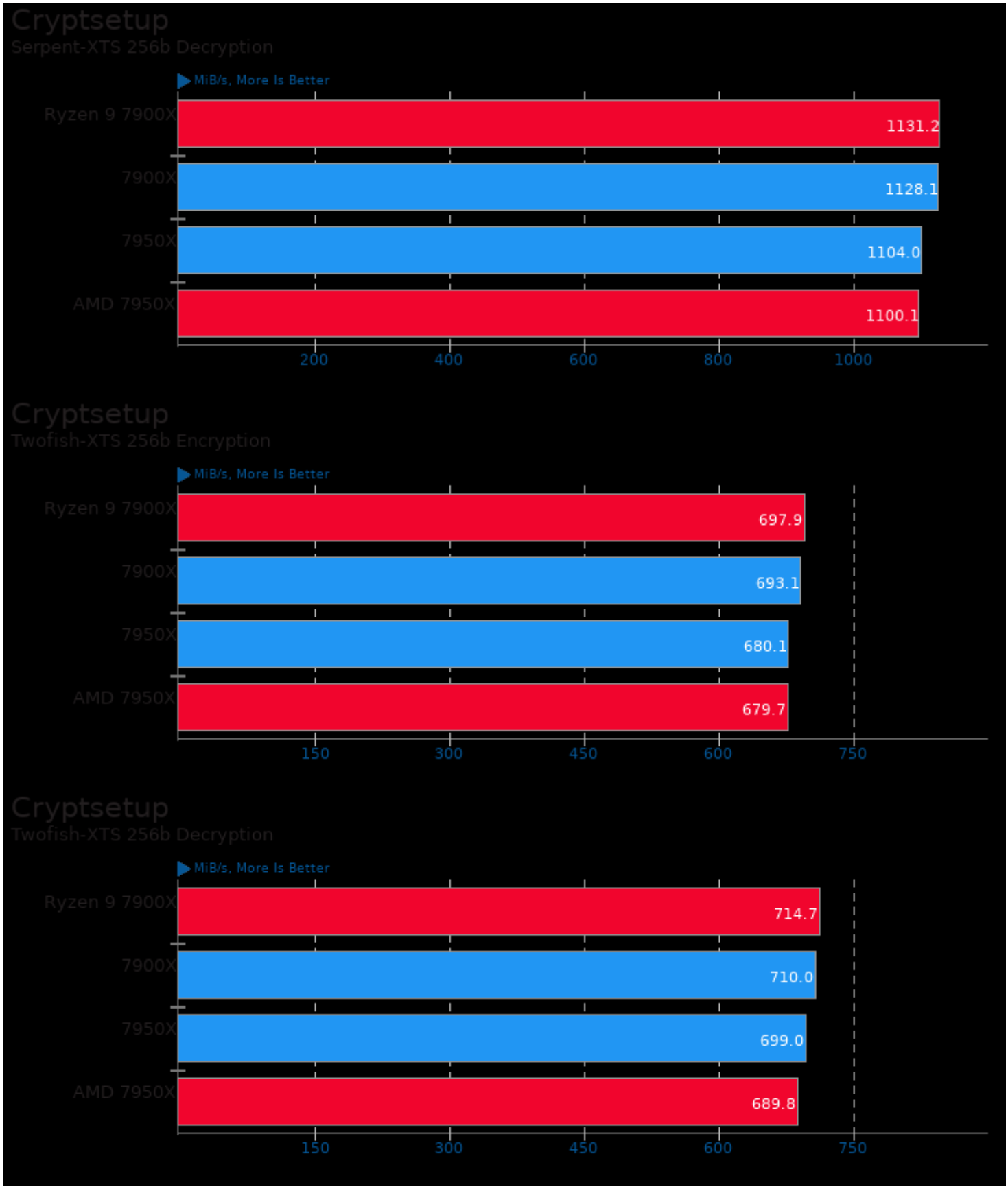

ASKAP 1.0
Test: Hogbom Clean OpenMP
Iterations Per Second, More Is Better
Ryzen 9 7900X
427.35
7900X
396.83
7950X
442.48
AMD 7950X
434.78
100
200
300
400
500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve MT - Gridding
Million Grid Points Per Second, More Is Better
Ryzen 9 7900X
1939.93
7900X
1941.11
7950X
2088.79
AMD 7950X
2085.73
400
800
1200
1600
2000
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp


ASKAP 1.0
Test: tConvolve MT - Degridding
Million Grid Points Per Second, More Is Better
Ryzen 9 7900X
2722.69
7900X
2733.17
7950X
2685.22
AMD 7950X
2722.98
600
1200
1800
2400
3000
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve OpenMP - Gridding
Million Grid Points Per Second, More Is Better
Ryzen 9 7900X
4754.57
7900X
4841.02
7950X
5916.80
AMD 7950X
5788.17
1300
2600
3900
5200
6500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

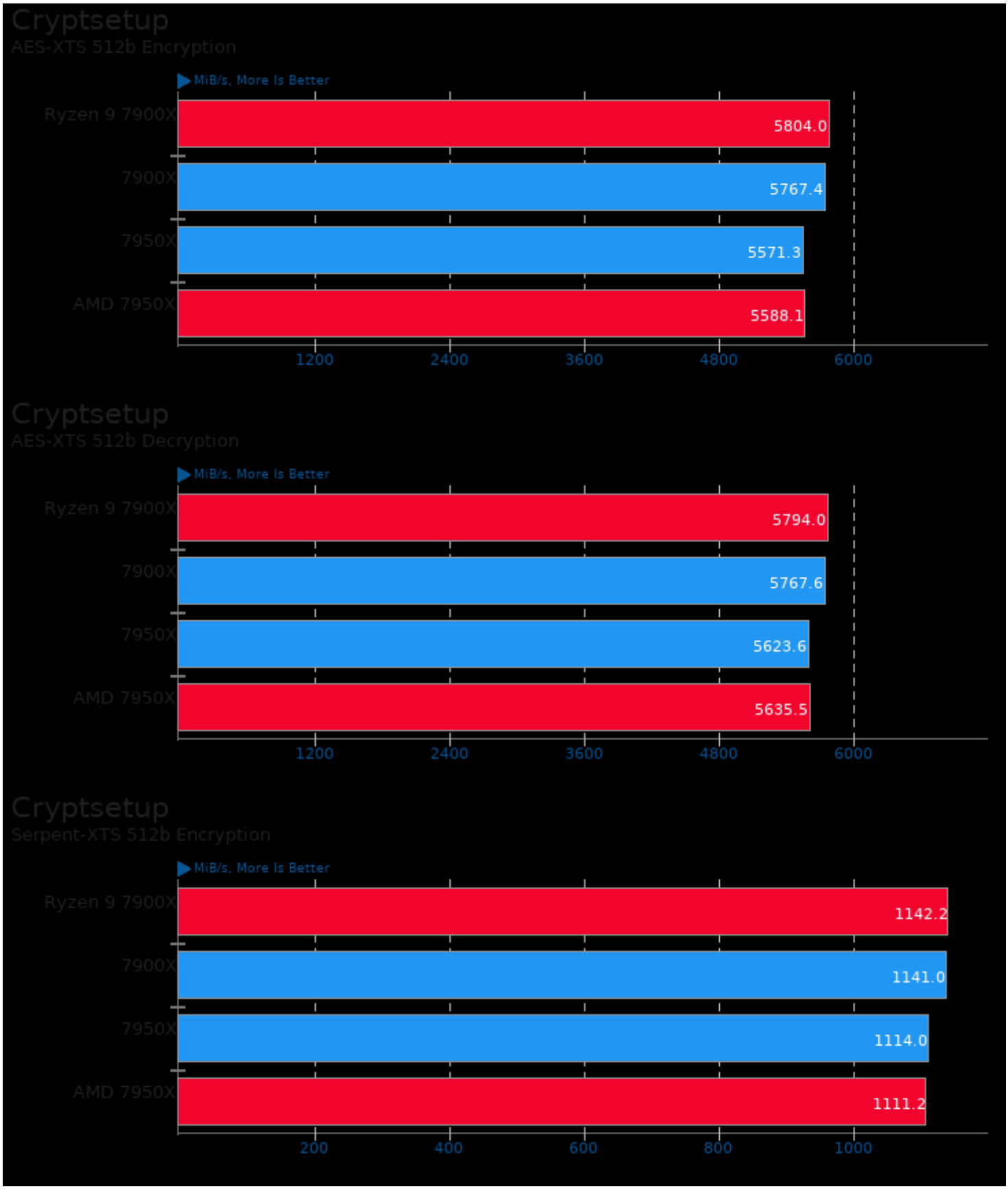

ASKAP 1.0
Test: tConvolve OpenMP - Degridding
Million Grid Points Per Second, More Is Better
Ryzen 9 7900X
5325.12
7900X
5788.17
7950X
5665.02
AMD 7950X
5916.80
1300
2600
3900
5200
6500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
Cryptsetup
PBKDF2-sha512
Iterations Per Second, More Is Better
Ryzen 9 7900X
3039350
7900X
3030566
7950X
2974683
AMD 7950X
2987396
700K
1400K
2100K
2800K
3500K
Cryptsetup
PBKDF2-whirlpool
Iterations Per Second, More Is Better
Ryzen 9 7900X
1040253
7900X
1036142
7950X
1024000
AMD 7950X
1028015
200K
400K
600K
800K
1000K

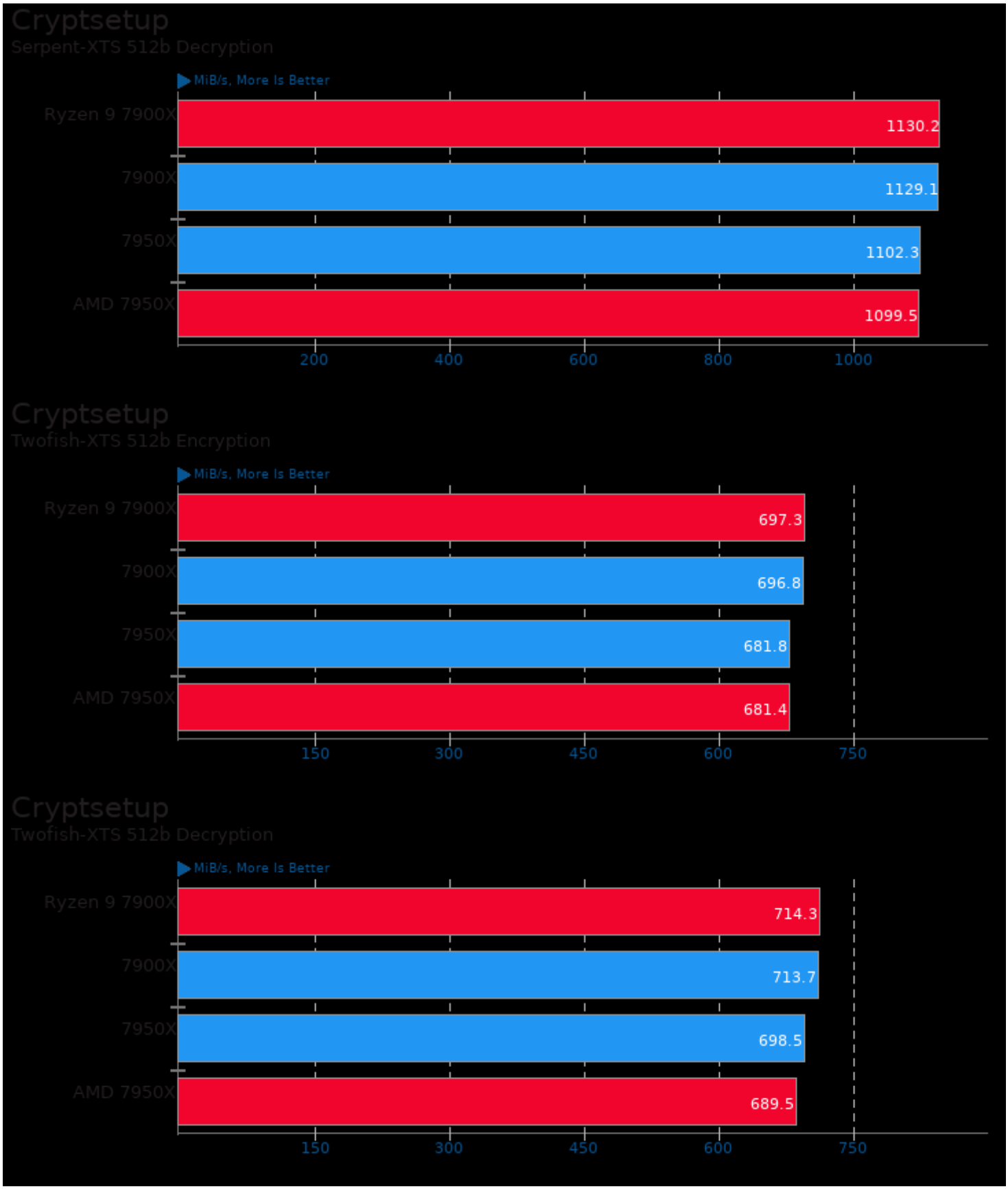
# ryzen 7000 series extra

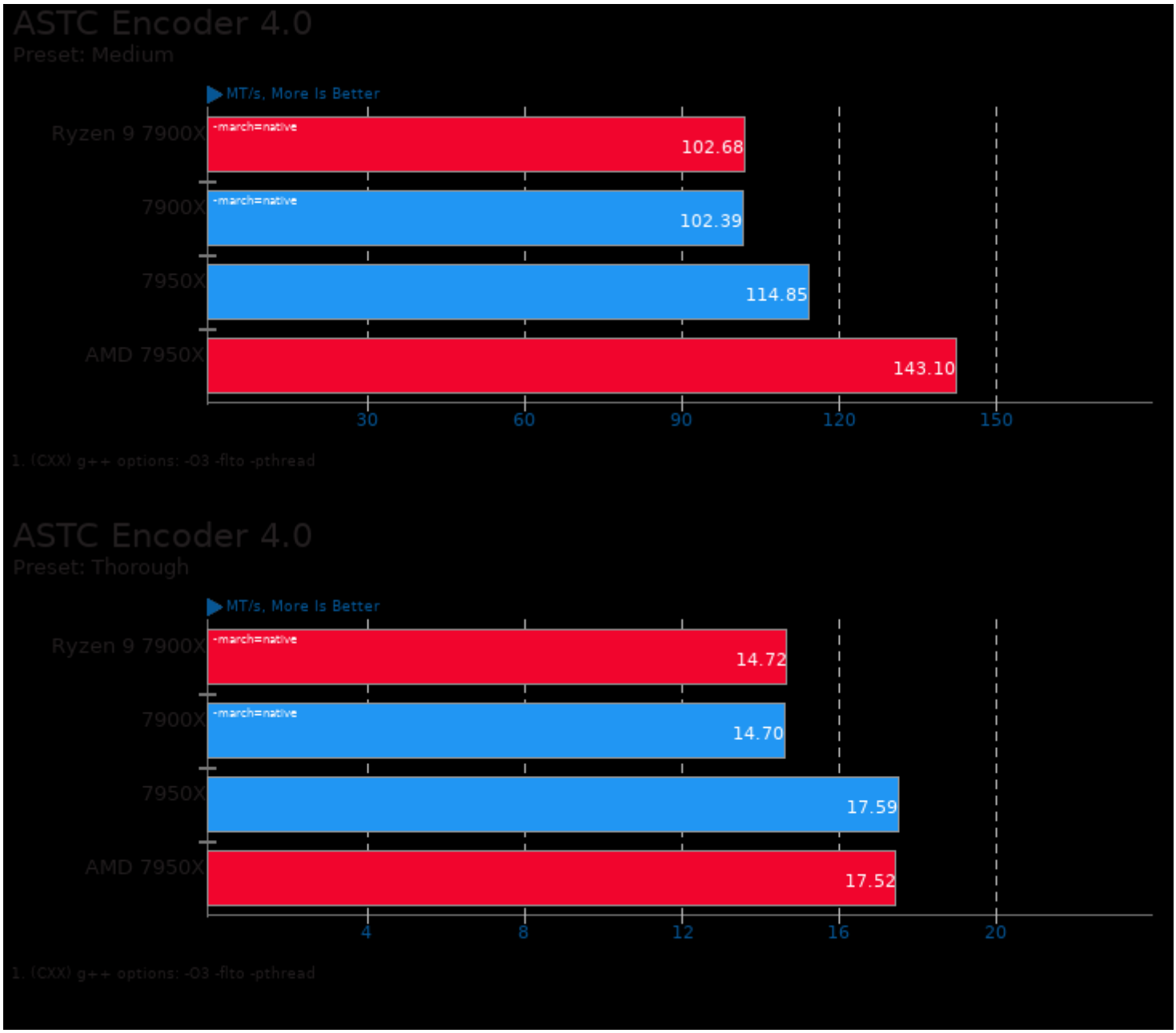


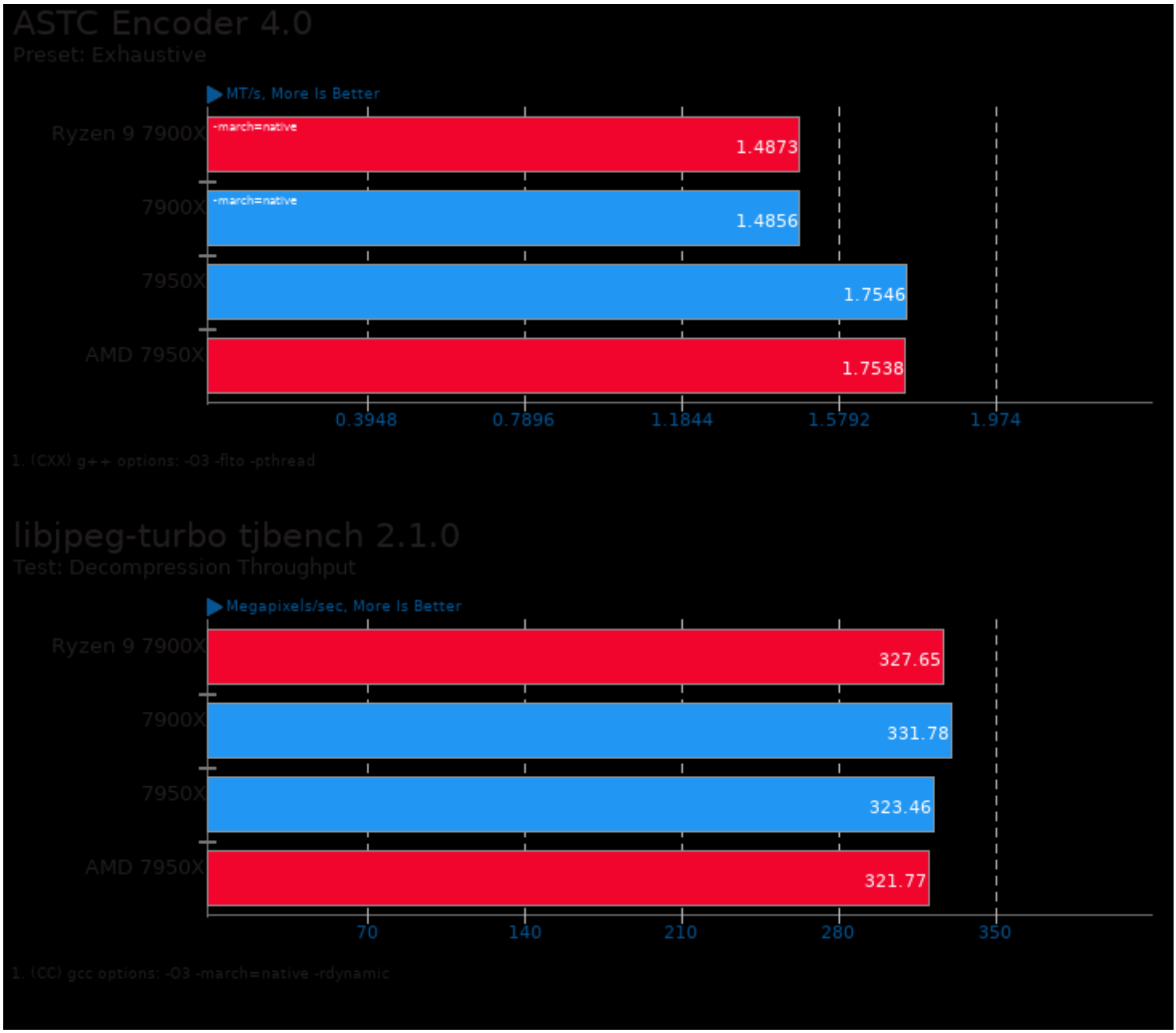

Cryptsetup
Serpent-XTS 256b Decryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1131.2
1128.1
1104.0
1100.1
200
400
600
800
1000
Cryptsetup
Twofish-XTS 256b Encryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
697.9
693.1
680.1
679.7
150
300
450
600
750
Cryptsetup
Twofish-XTS 256b Decryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
714.7
710.0
699.0
689.8
150
300
450
600
750

# ryzen 7000 series extra

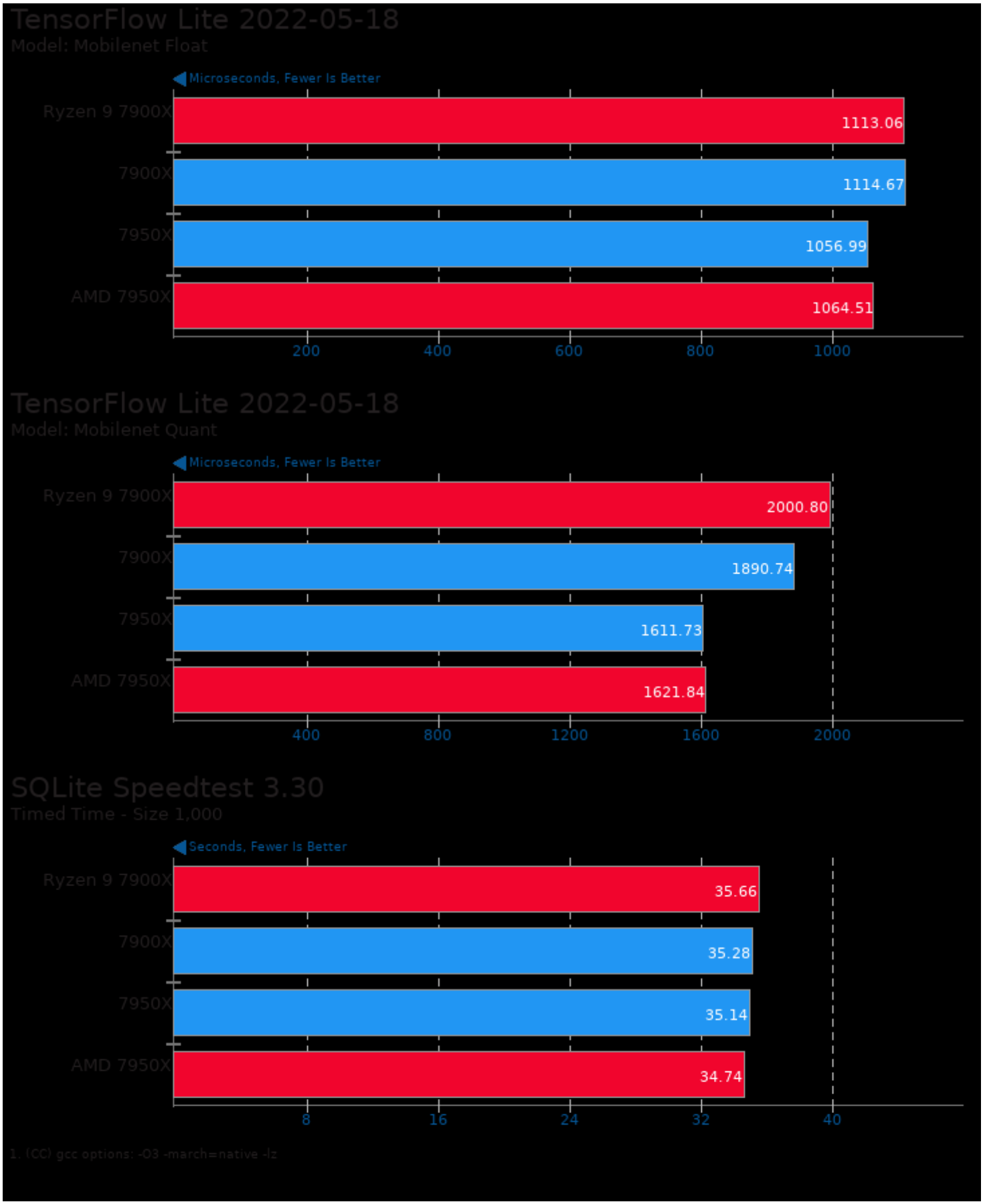



Cryptsetup
Serpent-XTS 512b Decryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1130.2
1129.1
1102.3
1099.5
200
400
600
800
1000
Cryptsetup
Twofish-XTS 512b Encryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
697.3
696.8
681.8
681.4
150
300
450
600
750
Cryptsetup
Twofish-XTS 512b Decryption
MiB/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
714.3
713.7
698.5
689.5
150
300
450
600
750


ASTC Encoder 4.0
Preset: Medium
MT/s, More Is Better
Ryzen 9 7900X
-march=native
102.68
7900X
-march=native
102.39
7950X
114.85
AMD 7950X
143.10
30
60
90
120
150
1. (CXX) g++ options: -O3 -flto -pthread
ASTC Encoder 4.0
Preset: Thorough
MT/s, More Is Better
Ryzen 9 7900X
-march=native
14.72
7900X
-march=native
14.70
7950X
17.59
AMD 7950X
17.52
4
8
12
16
20
1. (CXX) g++ options: -O3 -flto -pthread

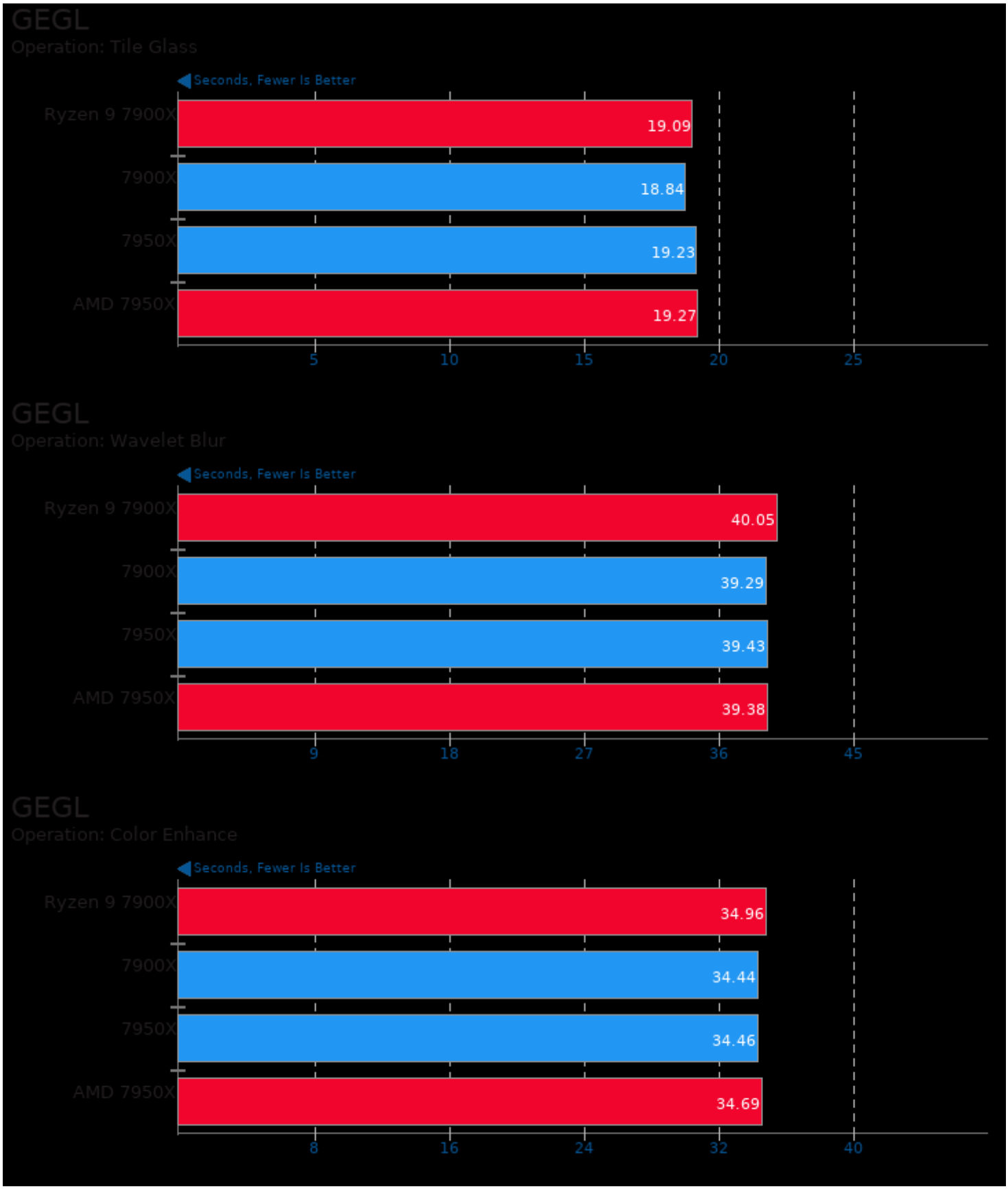

ASTC Encoder 4.0
Preset: Exhaustive
MT/s, More Is Better
Ryzen 9 7900X
-march=native
1.4873
7900X
-march=native
1.4856
7950X
1.7546
AMD 7950X
1.7538
0.3948
0.7896
1.1844
1.5792
1.974
1. (CXX) g++ options: -O3 -flto -pthread
libjpeg-turbo tjbench 2.1.0
Test: Decompression Throughput
Megapixels/sec, More Is Better
Ryzen 9 7900X
327.65
7900X
331.78
7950X
323.46
AMD 7950X
321.77
70
140
210
280
350
1. (CC) gcc options: -O3 -march=native -rdynamic


GROMACS 2022.1
Implementation: MPI CPU - Input: water_GMX50_bare
Ns Per Day, More Is Better
Ryzen 9 7900X
-march=native
2.232
7900X
-march=native
2.231
7950X
2.521
AMD 7950X
2.503
0.5672
1.1344
1.7016
2.2688
2.836
1. (CXX) g++ options: -O3
TensorFlow Lite 2022-05-18
Model: SqueezeNet
Microseconds, Fewer Is Better
Ryzen 9 7900X
1547.50
7900X
1548.98
7950X
1523.81
AMD 7950X
1497.26
300
600
900
1200
1500
TensorFlow Lite 2022-05-18
Model: Inception V4
Microseconds, Fewer Is Better
Ryzen 9 7900X
19322.6
7900X
19364.8
7950X
17148.3
AMD 7950X
17244.5
4K
8K
12K
16K
20K

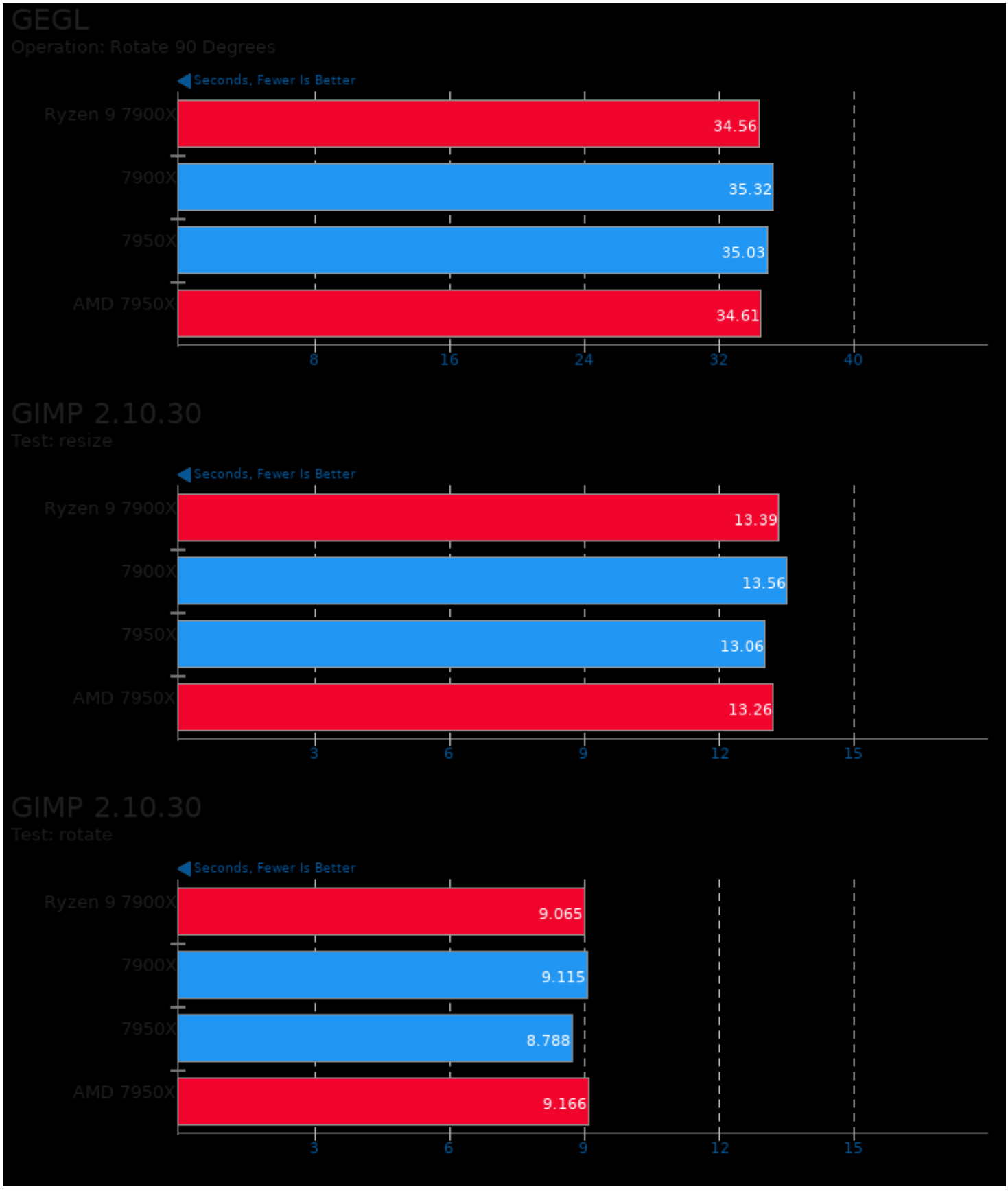

TensorFlow Lite 2022-05-18
Model: Mobilenet Float
Microseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1113.06
1114.67
1056.99
1064.51
200
400
600
800
1000
TensorFlow Lite 2022-05-18
Model: Mobilenet Quant
Microseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
2000.80
1890.74
1611.73
1621.84
400
800
1200
1600
2000
SQLite Speedtest 3.30
Timed Time - Size 1,000
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
35.66
35.28
35.14
34.74
8
16
24
32
40
1. (CC) gcc options: -O3 -march=native -lz

# ryzen 7000 series extra

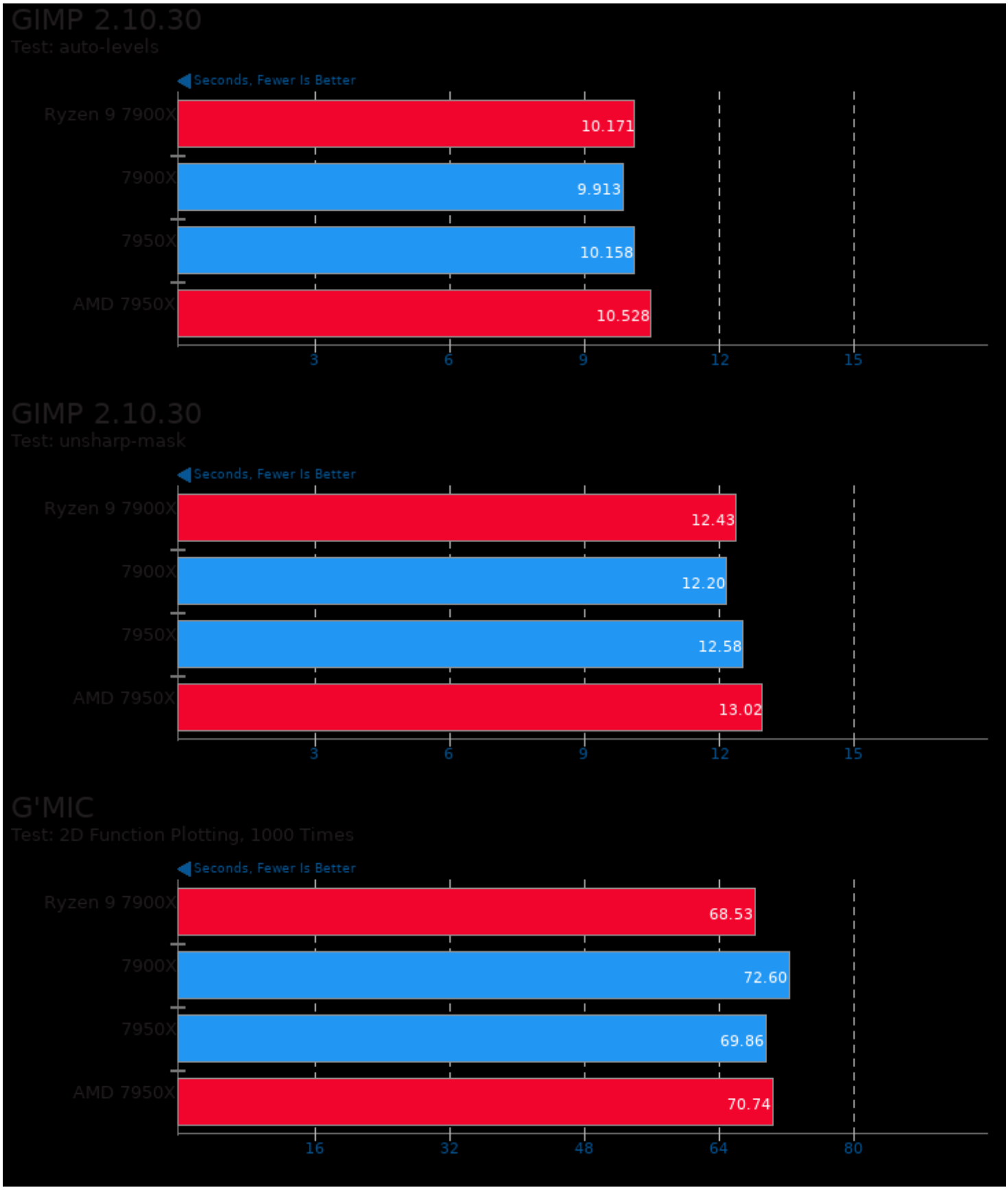


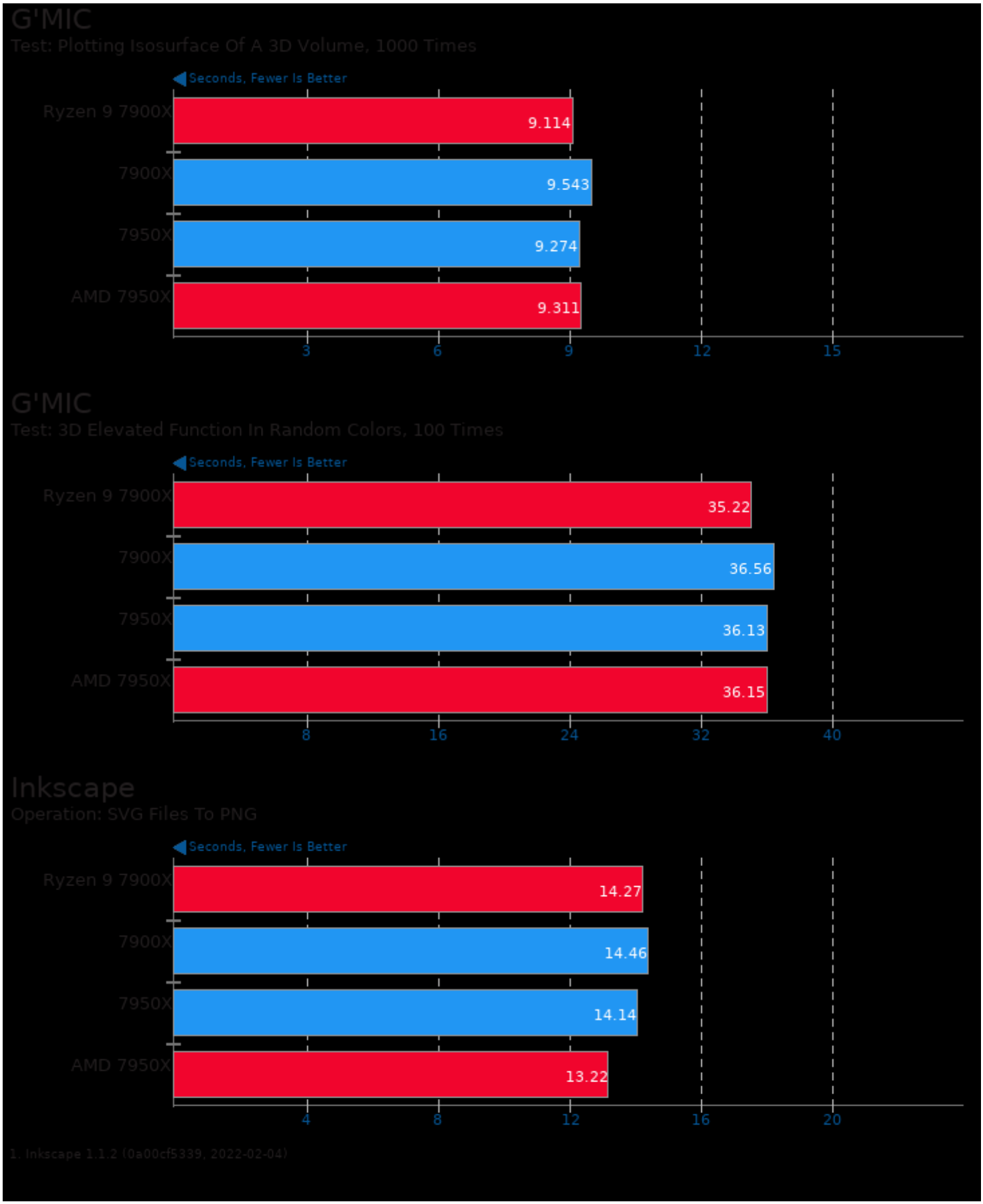

GEGL
Operation: Tile Glass
Seconds, Fewer Is Better
Ryzen 9 7900X
19.09
7900X
18.84
7950X
19.23
AMD 7950X
19.27
5
10
15
20
25
GEGL
Operation: Wavelet Blur
Seconds, Fewer Is Better
Ryzen 9 7900X
40.05
7900X
39.29
7950X
39.43
AMD 7950X
39.38
9
18
27
36
45
GEGL
Operation: Color Enhance
Seconds, Fewer Is Better
Ryzen 9 7900X
34.96
7900X
34.44
7950X
34.46
AMD 7950X
34.69
8
16
24
32
40

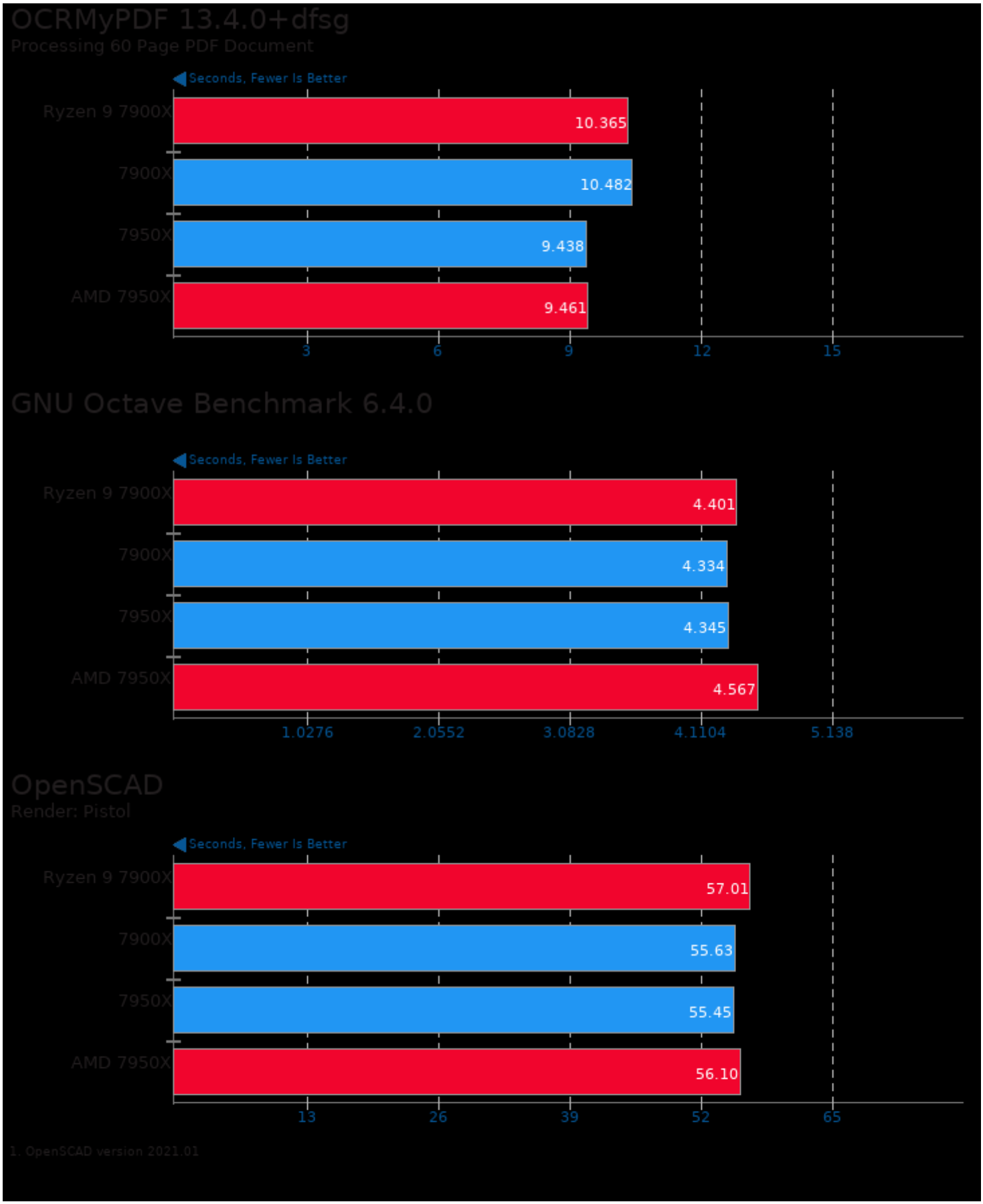
# ryzen 7000 series extra

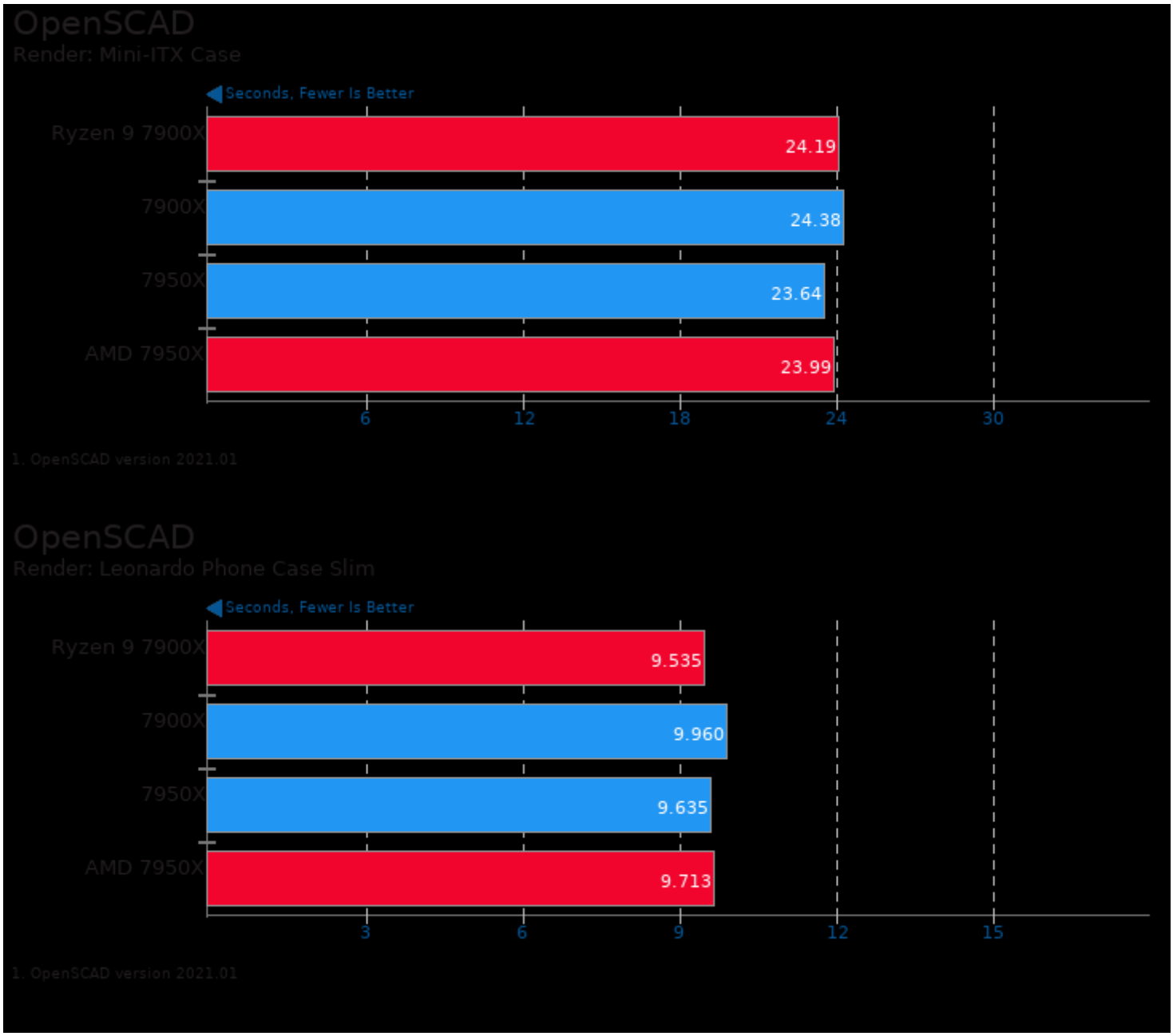


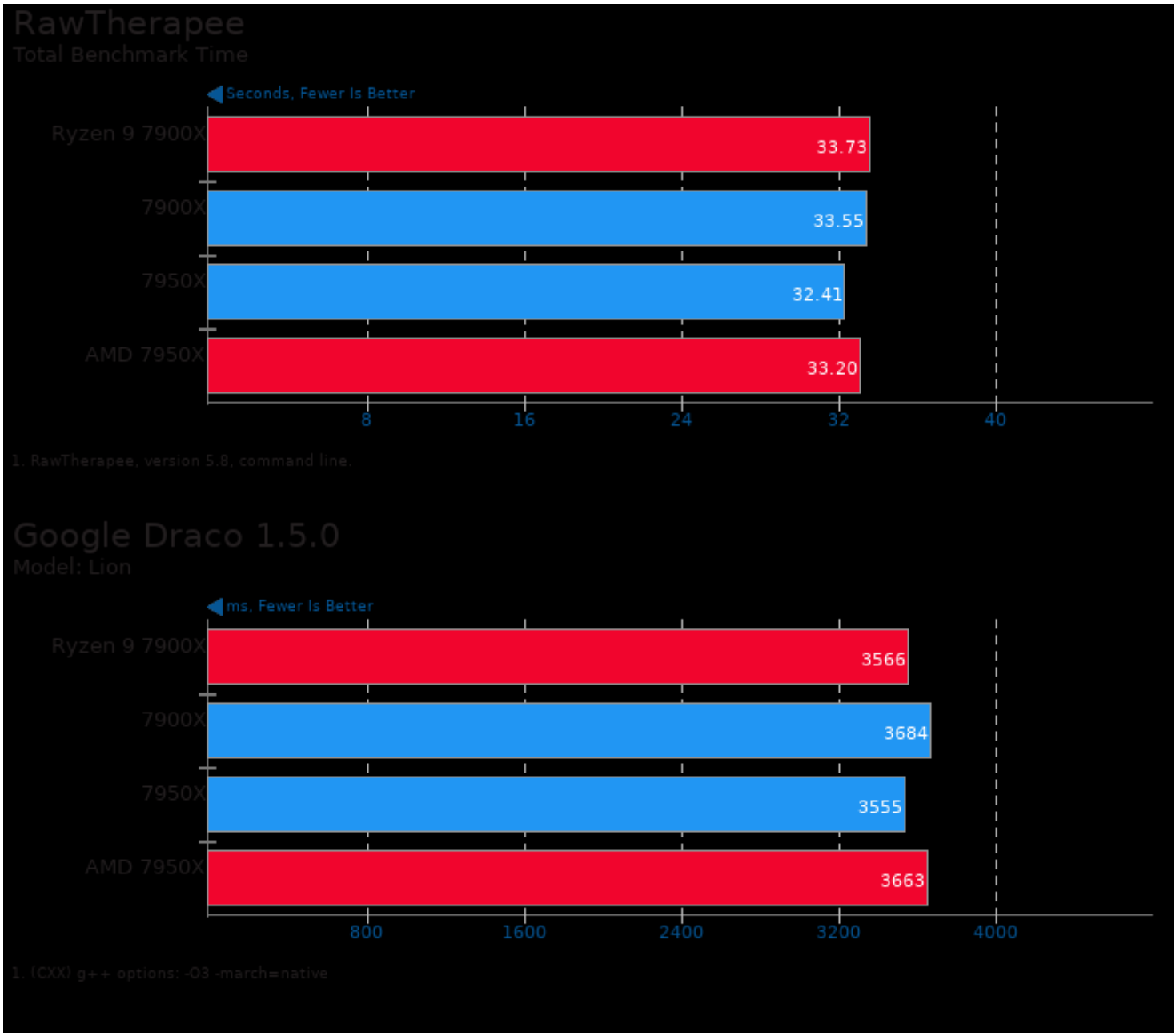
# ryzen 7000 series extra

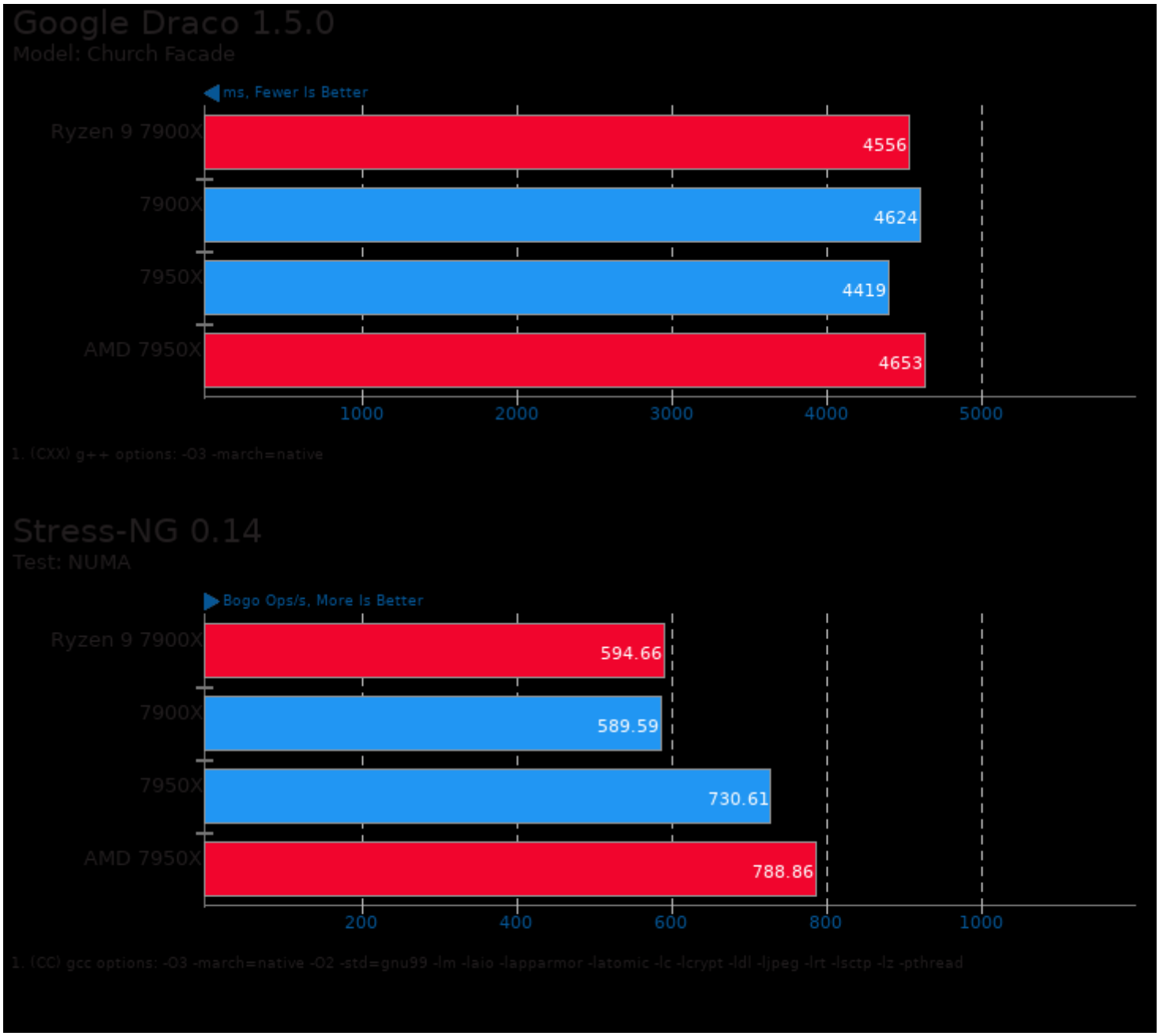


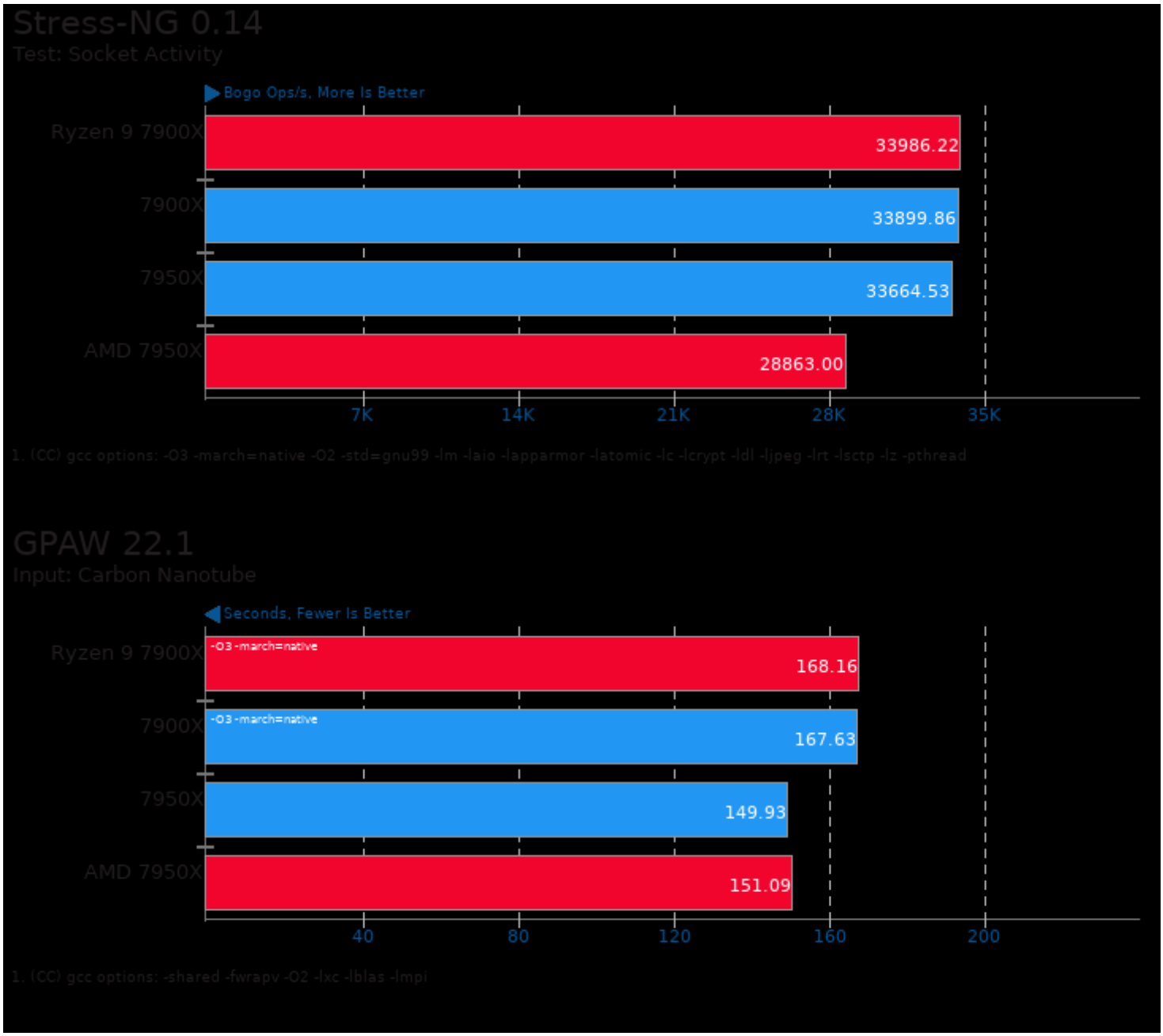

G'MIC
Test: Plotting Isosurface Of A 3D Volume, 1000 Times
Seconds, Fewer Is Better
Ryzen 9 7900X
9.114
7900X
9.543
7950X
9.274
AMD 7950X
9.311
3
6
9
12
15
G'MIC
Test: 3D Elevated Function In Random Colors, 100 Times
Seconds, Fewer Is Better
Ryzen 9 7900X
35.22
7900X
36.56
7950X
36.13
AMD 7950X
36.15
8
16
24
32
40
Inkscape
Operation: SVG Files To PNG
Seconds, Fewer Is Better
Ryzen 9 7900X
14.27
7900X
14.46
7950X
14.14
AMD 7950X
13.22
4
8
12
16
20
1. Inkscape 1.1.2 (0a00cf5339, 2022-02-04)

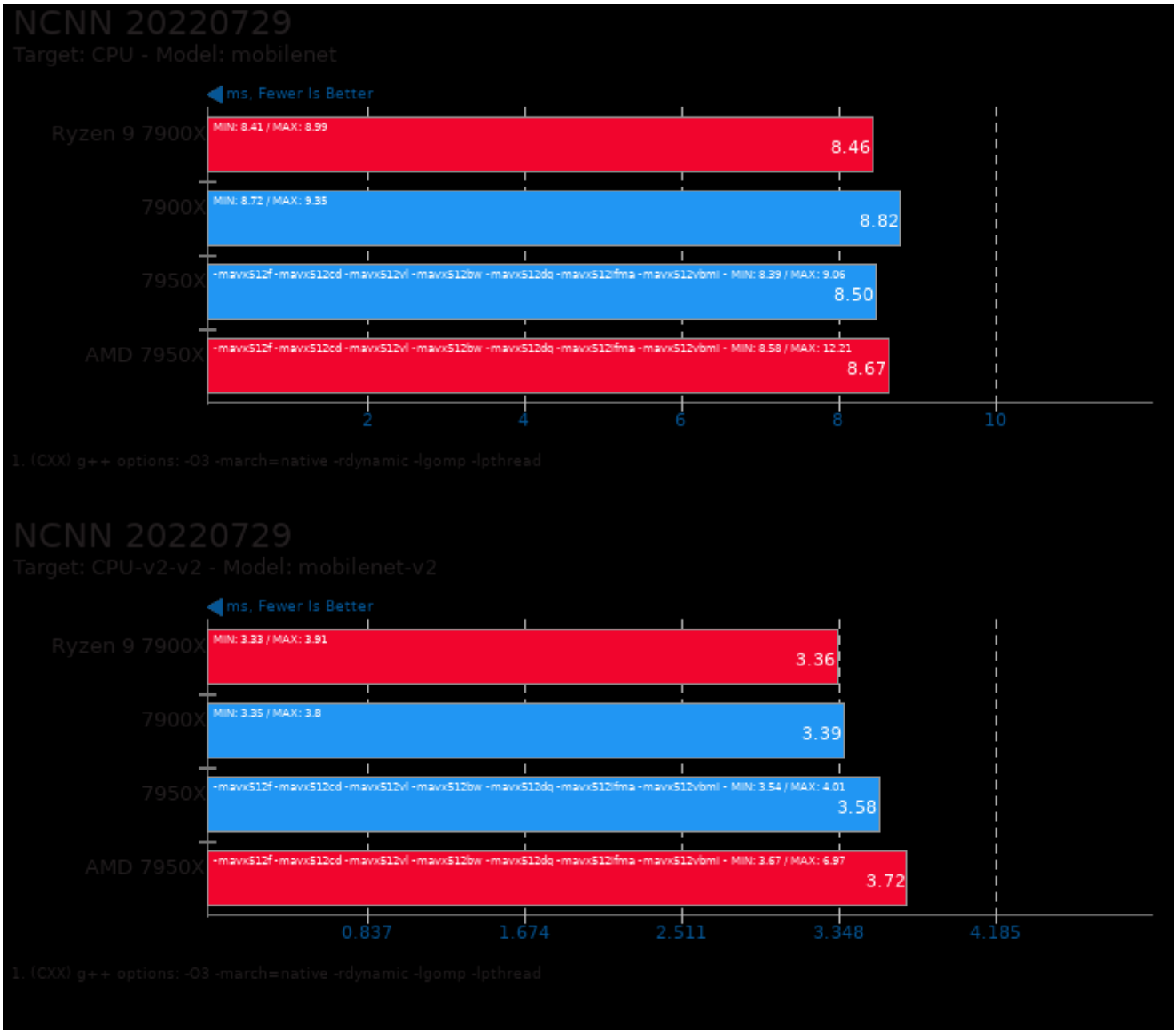

OCRMyPDF 13.4.0+dfsg
Processing 60 Page PDF Document
Seconds, Fewer Is Better
Ryzen 9 7900X
10.365
7900X
10.482
7950X
9.438
AMD 7950X
9.461
3
6
9
12
15
GNU Octave Benchmark 6.4.0
Seconds, Fewer Is Better
Ryzen 9 7900X
4.401
7900X
4.334
7950X
4.345
AMD 7950X
4.567
1.0276
2.0552
3.0828
4.1104
5.138
OpenSCAD
Render: Pistol
Seconds, Fewer Is Better
Ryzen 9 7900X
57.01
7900X
55.63
7950X
55.45
AMD 7950X
56.10
13
26
39
52
65
1: OpenSCAD version 2021.01

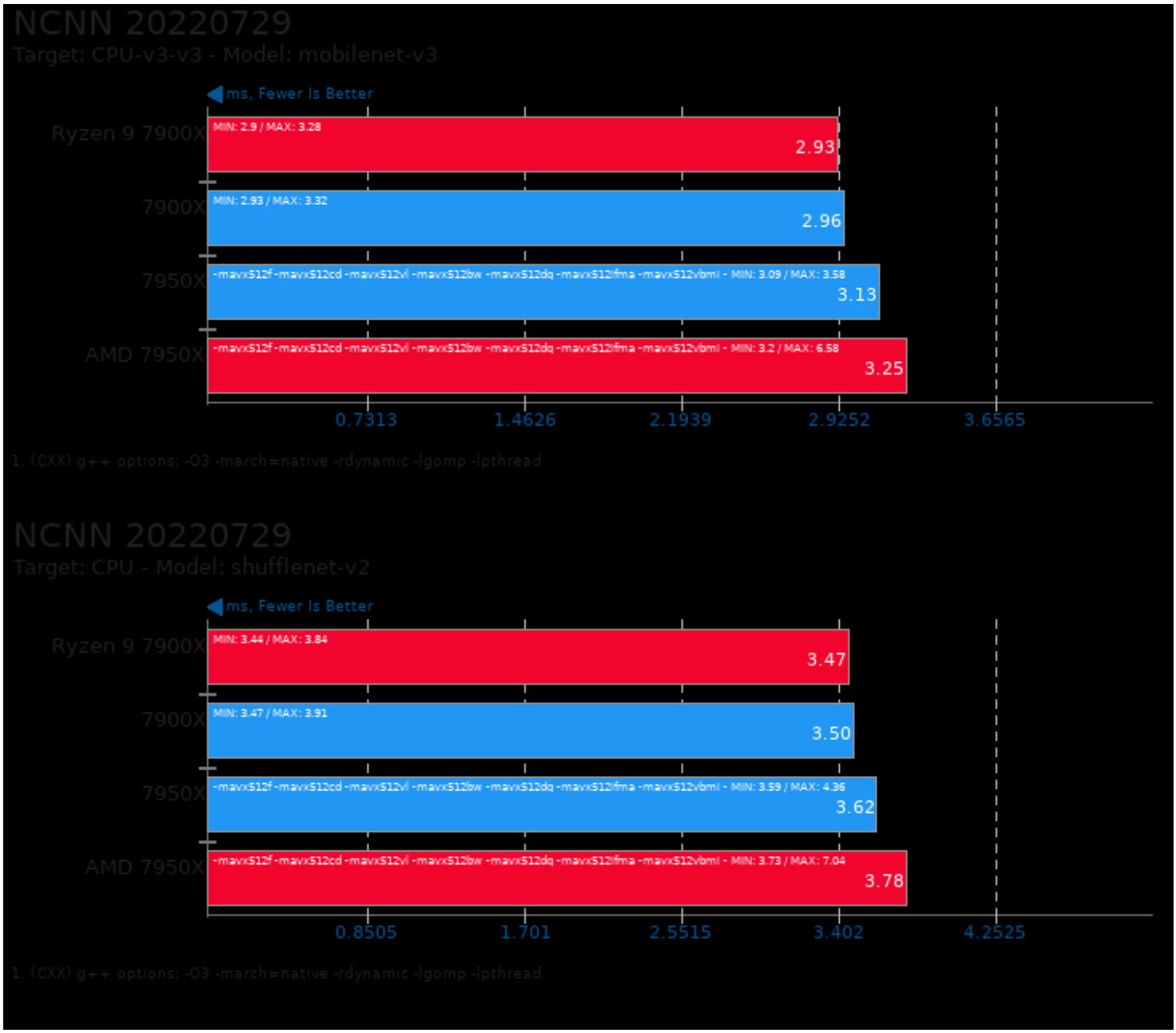

OpenSCAD
Render: Mini-ITX Case
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
24.19
24.38
23.64
23.99
6
12
18
24
30
1. OpenSCAD version 2021.01
OpenSCAD
Render: Leonardo Phone Case Slim
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
9.535
9.960
9.635
9.713
3
6
9
12
15
1. OpenSCAD version 2021.01

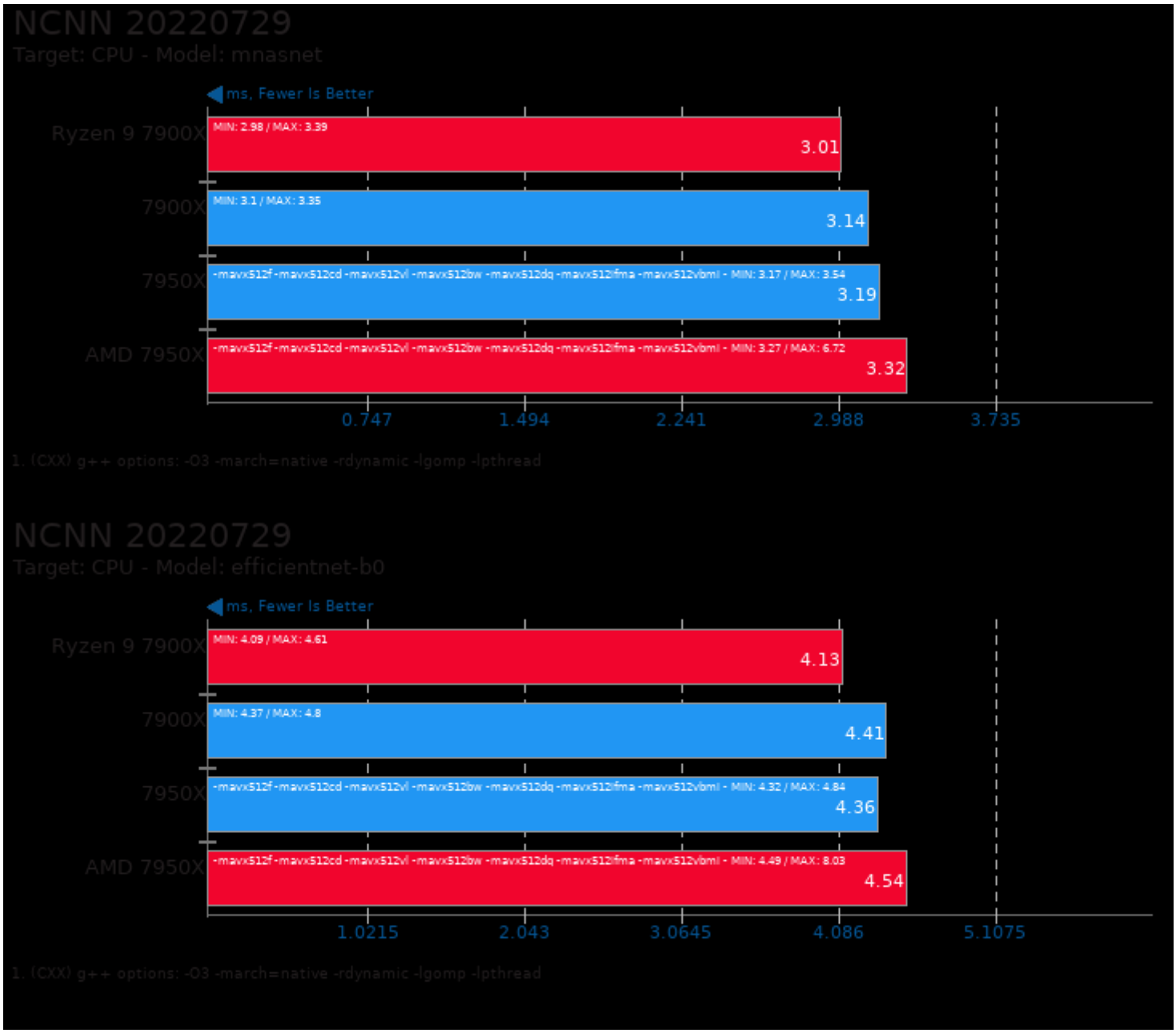

RawTherapee
Total Benchmark Time
Seconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
33.73
33.55
32.41
33.20
8
16
24
32
40
1. RawTherapee, version 5.8, command line.
Google Draco 1.5.0
Model: Lion
ms, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
3566
3684
3555
3663
800
1600
2400
3200
4000
1. (CXX) g++ options: -O3 -march=native

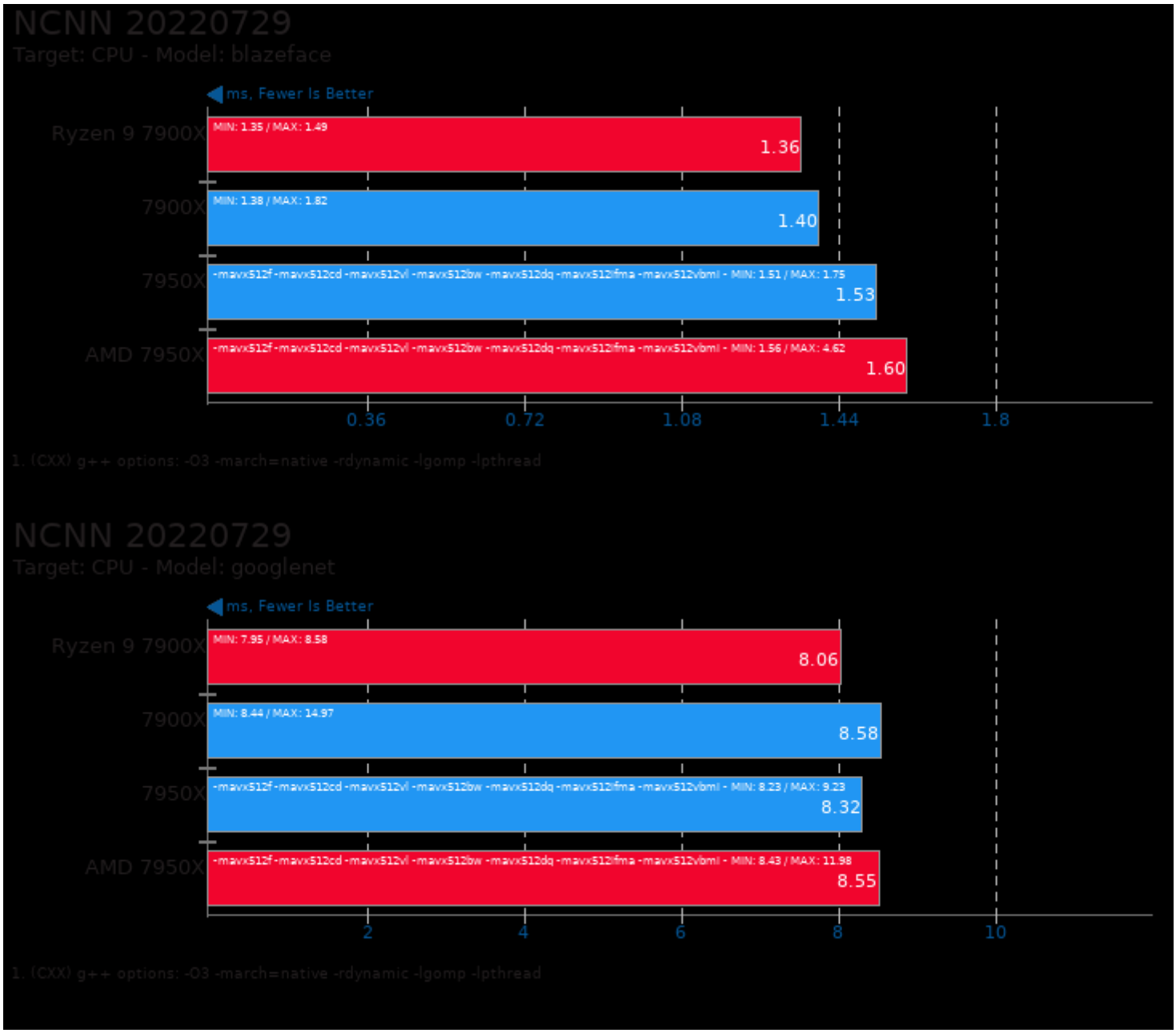

Google Draco 1.5.0
Model: Church Facade
ms, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
4556
4624
4419
4653
1000
2000
3000
4000
5000
1. (CXX) g++ options: -O3 -march=native
Stress-NG 0.14
Test: NUMA
Bogo Ops/s, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
594.66
589.59
730.61
788.86
200
400
600
800
1000
1. (CC) gcc options: -O3 -march=native -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14
Test: Socket Activity
Bogo Ops/s, More Is Better
Ryzen 9 7900X
33986.22
7900X
33899.86
7950X
33664.53
AMD 7950X
28863.00
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
GPAW 22.1
Input: Carbon Nanotube
Seconds, Fewer Is Better
Ryzen 9 7900X
-O3 -march=native
168.16
7900X
-O3 -march=native
167.63
7950X
149.93
AMD 7950X
151.09
40
80
120
160
200
1. (CC) gcc options: -shared -fwrapv -O2 -lxc -lblas -lmpi

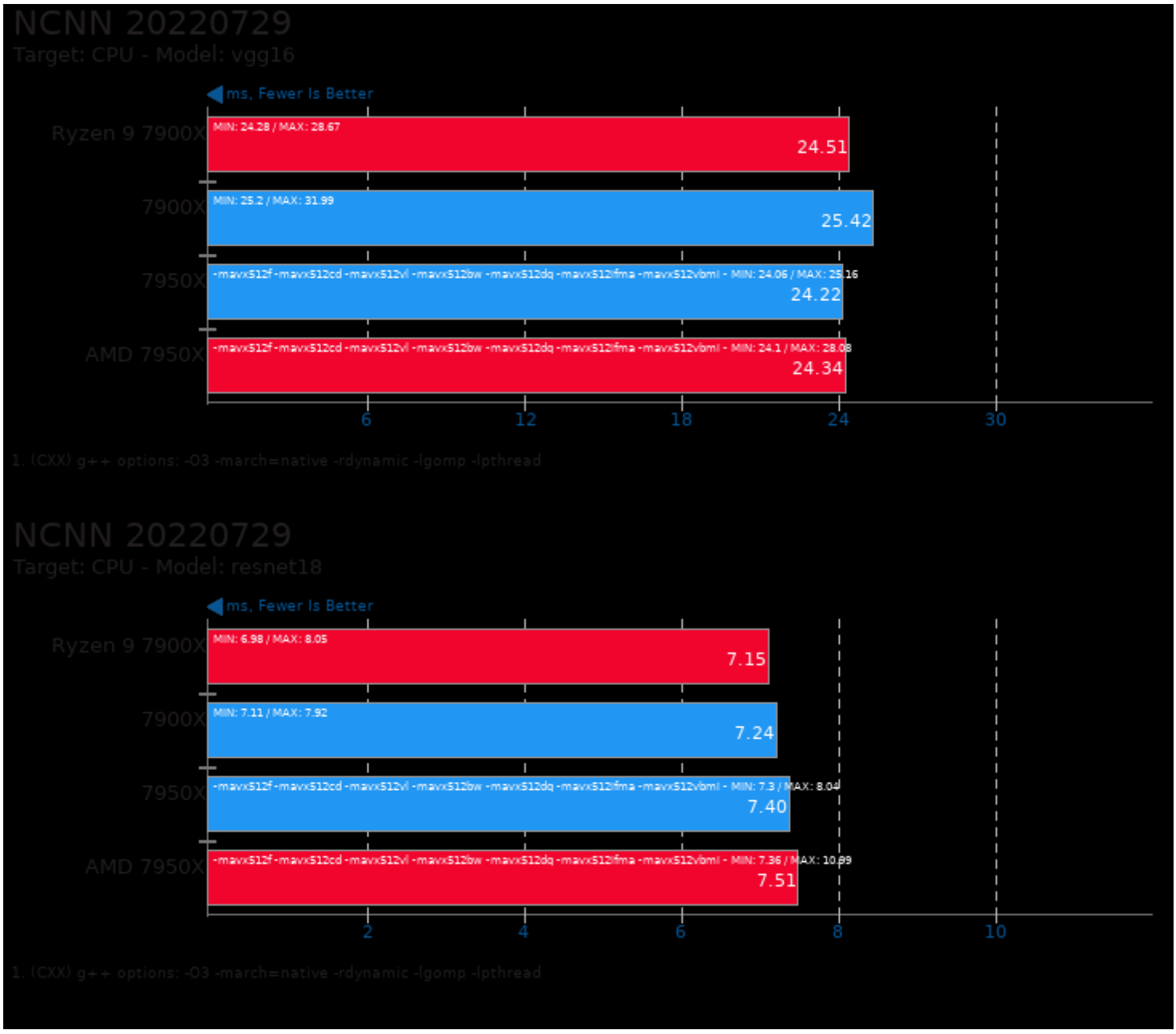

NCNN 20220729
Target: CPU - Model: mobilenet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 8.41 / MAX: 8.99
8.46
7900X
MIN: 8.72 / MAX: 9.35
8.82
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 8.39 / MAX: 9.06
8.50
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 8.58 / MAX: 12.21
8.67
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU-v2-v2 - Model: mobilenet-v2
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 3.33 / MAX: 3.91
3.36
7900X
MIN: 3.35 / MAX: 3.8
3.39
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.54 / MAX: 4.01
3.58
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.67 / MAX: 6.97
3.72
0.837
1.674
2.511
3.348
4.185
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread

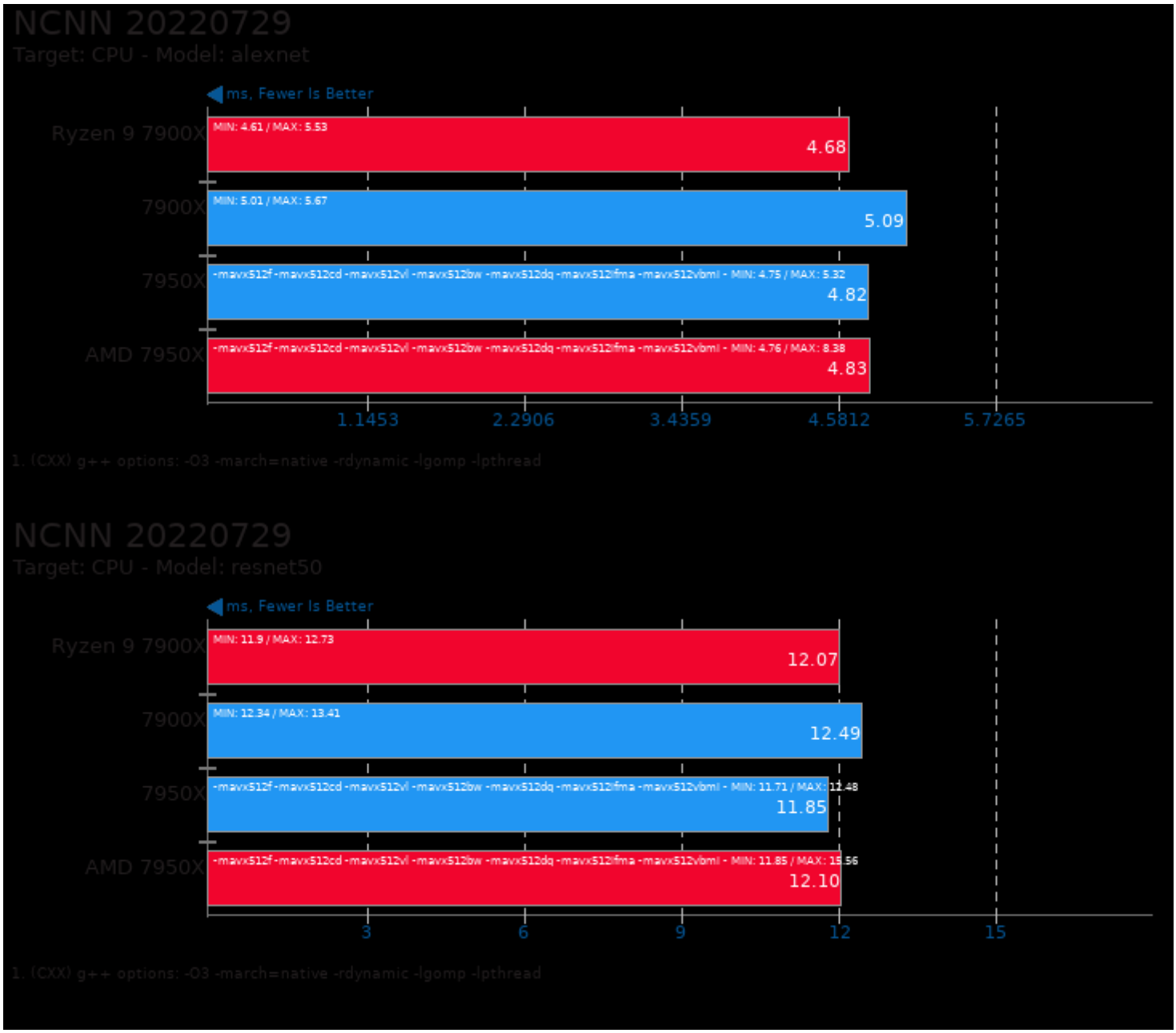

NCNN 20220729
Target: CPU-v3-v3 - Model: mobilenet-v3
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 2.9 / MAX: 3.28
2.93
7900X
MIN: 2.93 / MAX: 3.32
2.96
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.09 / MAX: 3.58
3.13
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.2 / MAX: 6.58
3.25
0.7313
1.4626
2.1939
2.9252
3.6565
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: shufflenet-v2
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 3.44 / MAX: 3.84
3.47
7900X
MIN: 3.47 / MAX: 3.91
3.50
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.59 / MAX: 4.36
3.62
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.73 / MAX: 7.04
3.78
0.8505
1.701
2.5515
3.402
4.2525
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread

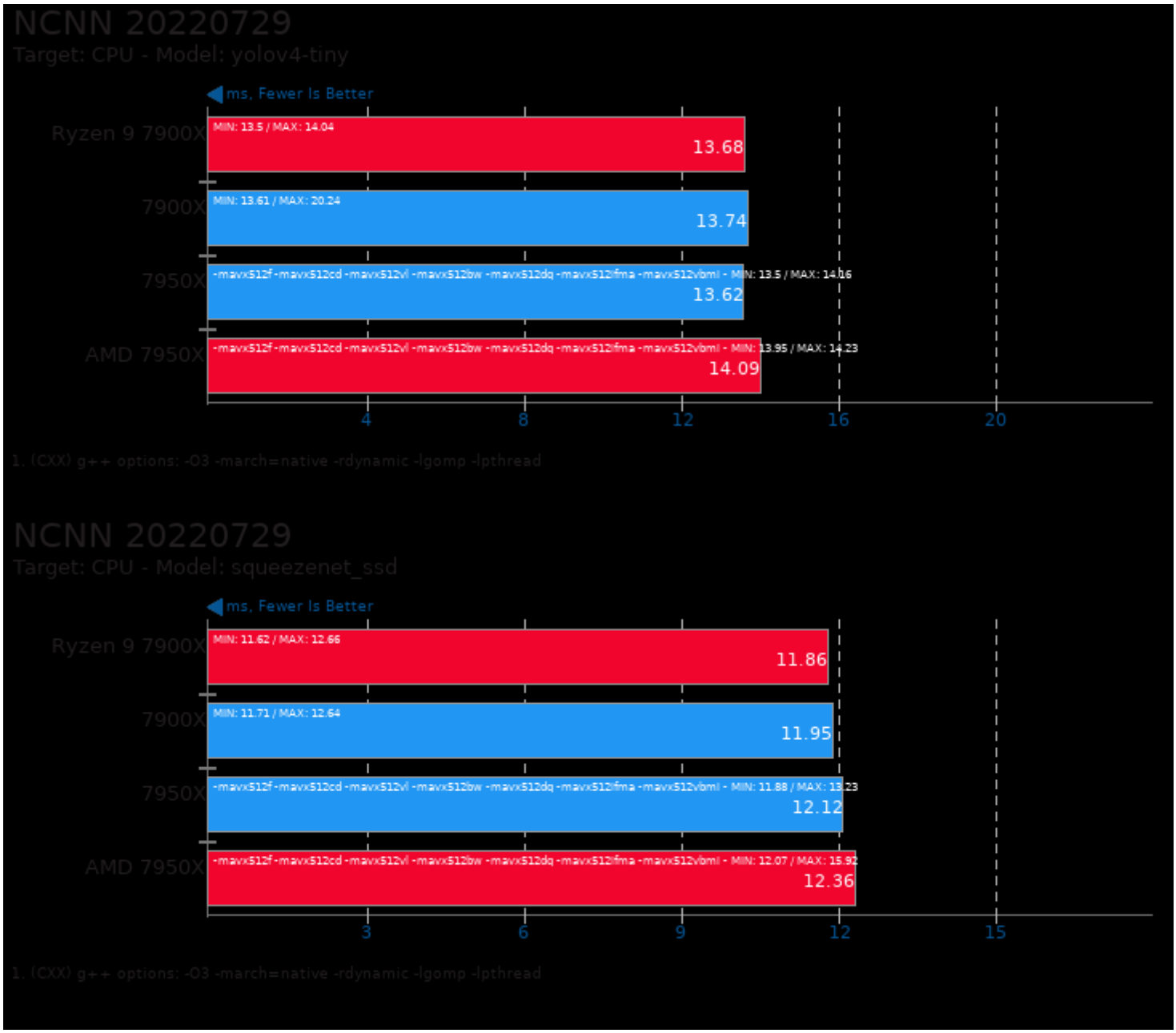

NCNN 20220729
Target: CPU - Model: mnasnet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 2.98 / MAX: 3.39
3.01
7900X
MIN: 3.1 / MAX: 3.35
3.14
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.17 / MAX: 3.54
3.19
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 3.27 / MAX: 6.72
3.32
0.747
1.494
2.241
2.988
3.735
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: efficientnet-b0
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 4.09 / MAX: 4.61
4.13
7900X
MIN: 4.37 / MAX: 4.8
4.41
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 4.32 / MAX: 4.84
4.36
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 4.49 / MAX: 8.03
4.54
1.0215
2.043
3.0645
4.086
5.1075
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread

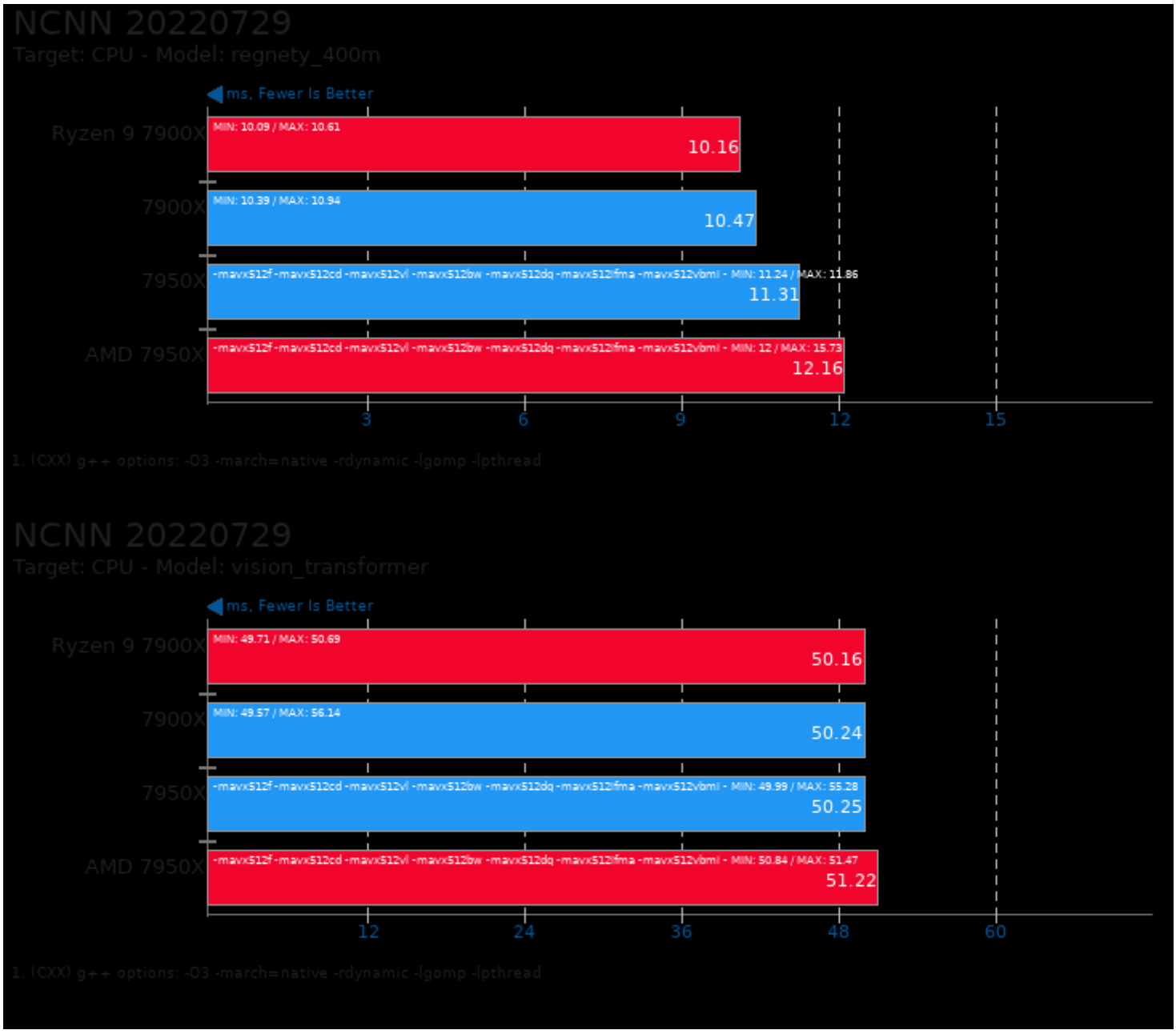

NCNN 20220729
Target: CPU - Model: blazeface
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 1.35 / MAX: 1.49
1.36
7900X
MIN: 1.38 / MAX: 1.82
1.40
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1.51 / MAX: 1.75
1.53
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 1.56 / MAX: 4.62
1.60
0.36
0.72
1.08
1.44
1.8
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: googlenet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 7.95 / MAX: 8.58
8.06
7900X
MIN: 8.44 / MAX: 14.97
8.58
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 8.23 / MAX: 9.23
8.32
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 8.43 / MAX: 11.98
8.55
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread

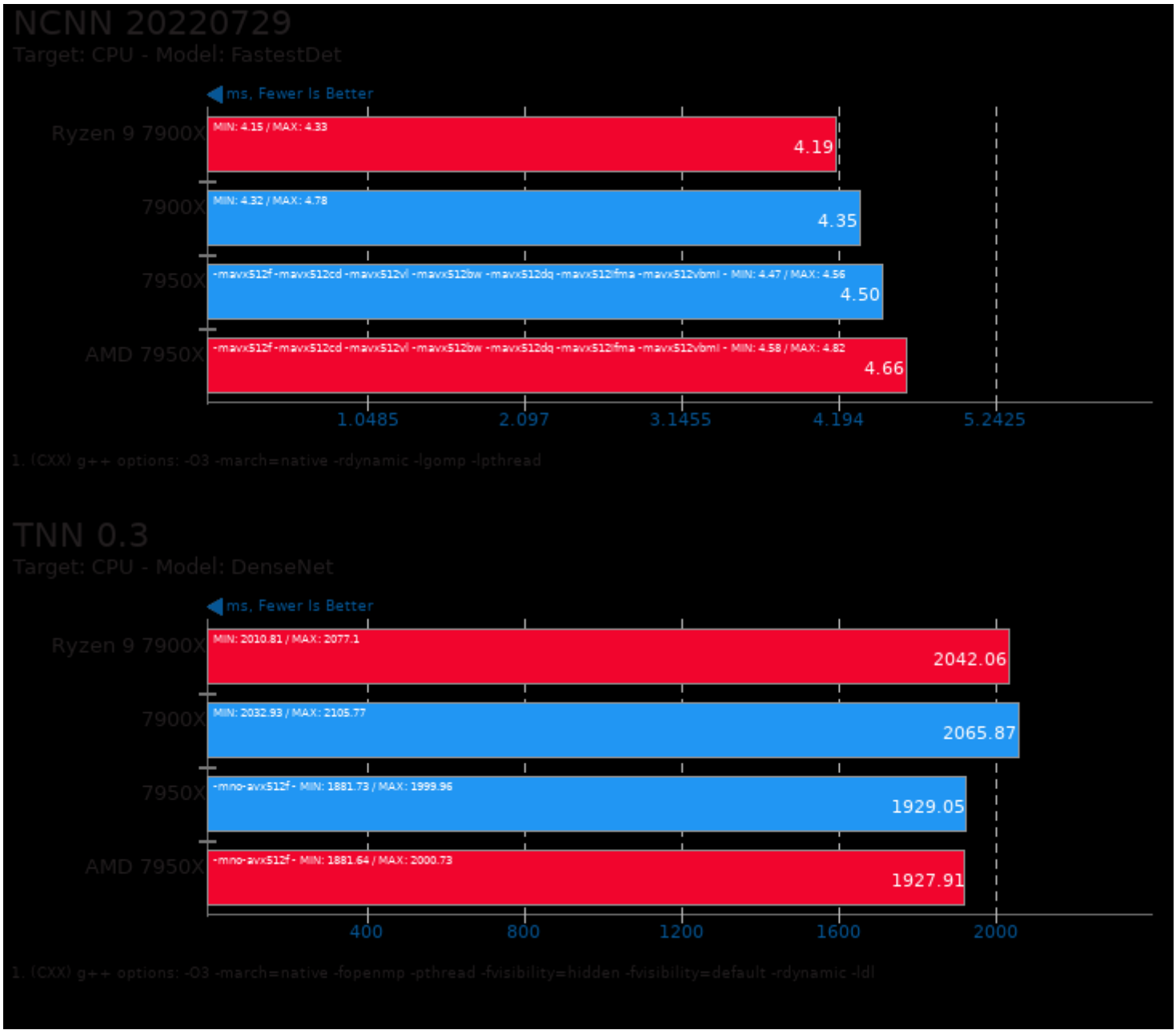
# ryzen 7000 series extra

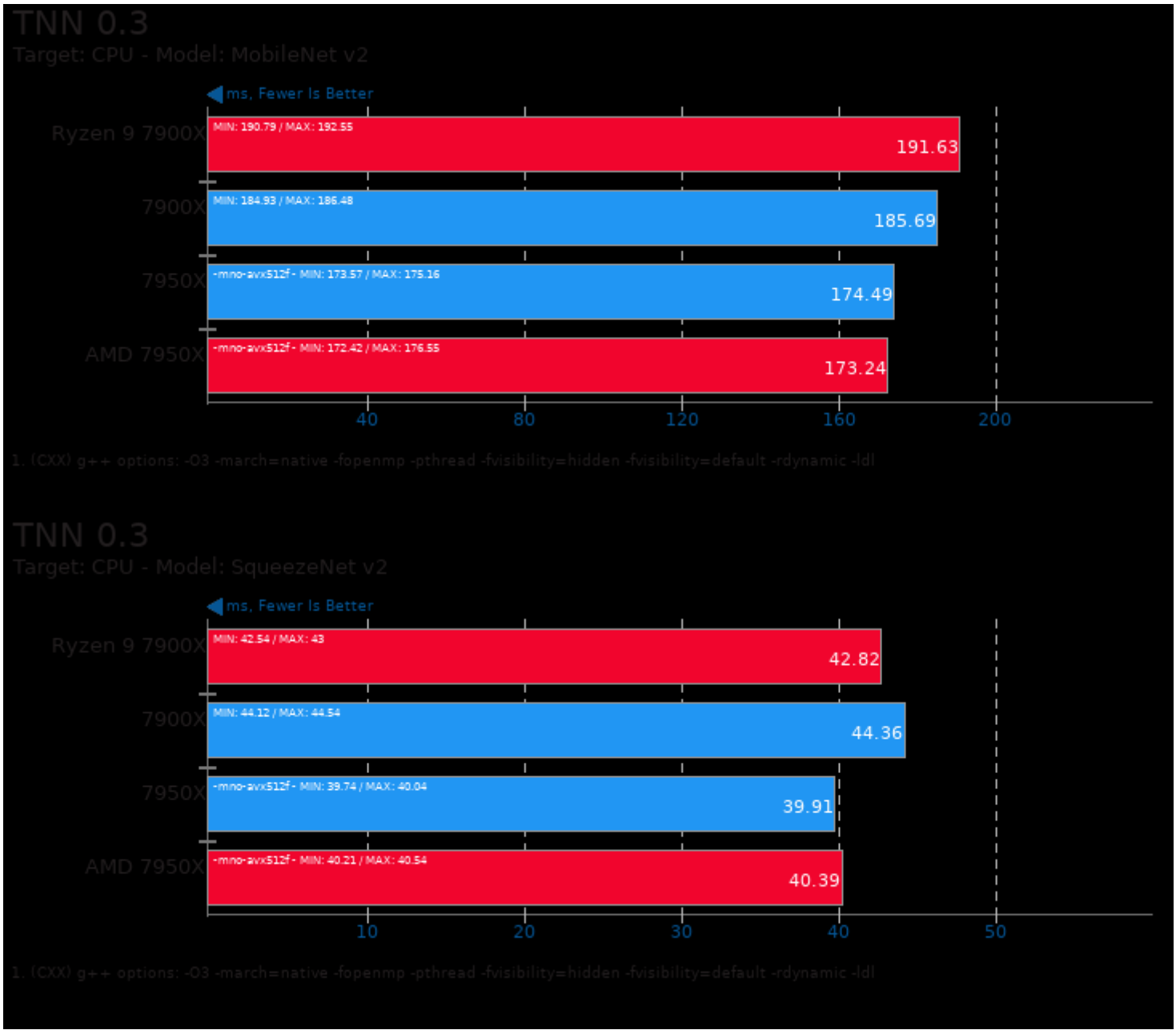


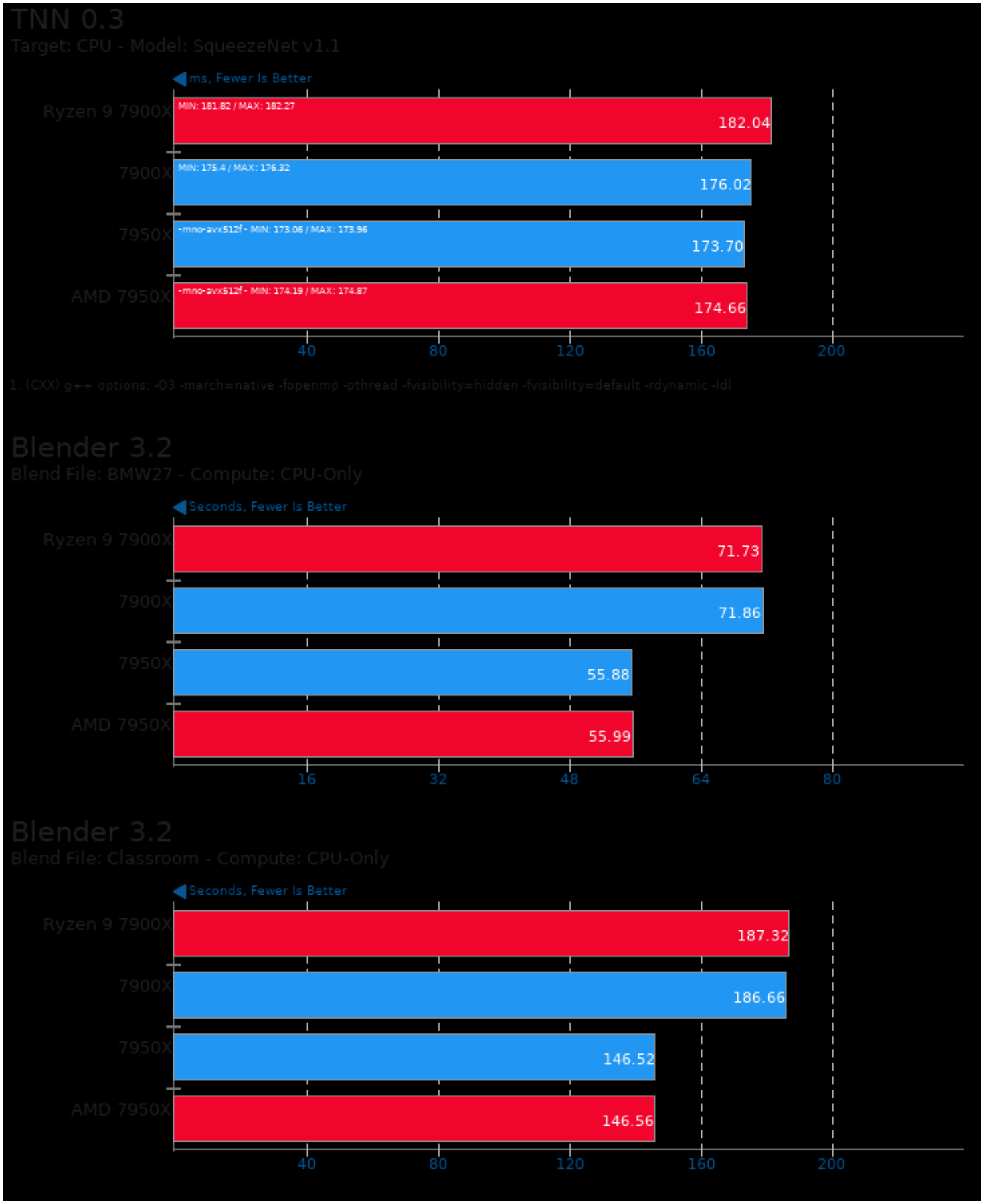

NCNN 20220729
Target: CPU - Model: alexnet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 4.61 / MAX: 5.53
4.68
7900X
MIN: 5.01 / MAX: 5.67
5.09
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512fma -mavx512vbmi - MIN: 4.75 / MAX: 5.32
4.82
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512fma -mavx512vbmi - MIN: 4.76 / MAX: 8.38
4.83
1.1453
2.2906
3.4359
4.5812
5.7265
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: resnet50
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 11.9 / MAX: 12.73
12.07
7900X
MIN: 12.34 / MAX: 13.41
12.49
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512fma -mavx512vbmi - MIN: 11.71 / MAX: 11.48
11.85
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512fma -mavx512vbmi - MIN: 11.85 / MAX: 19.56
12.10
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread

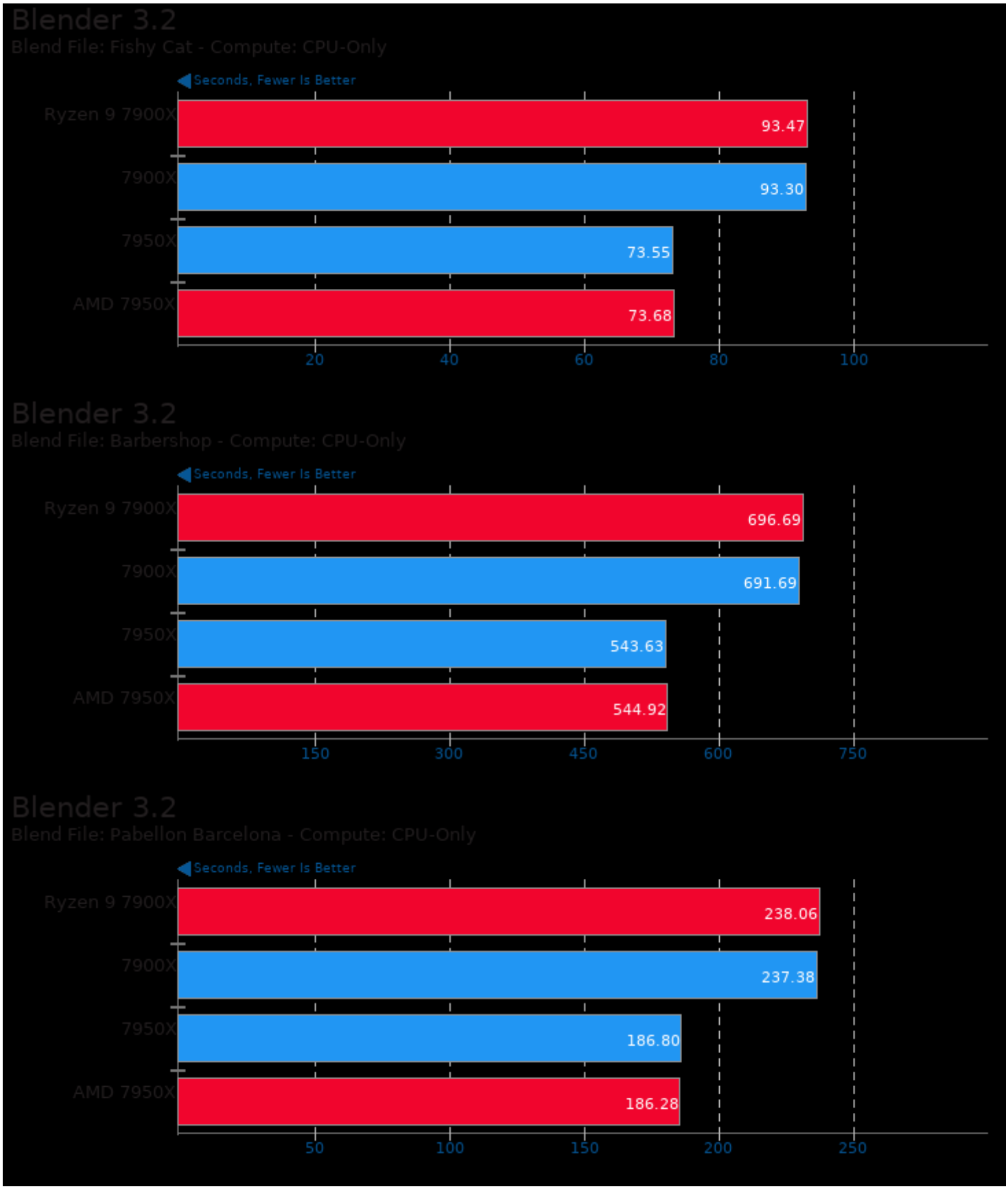

NCNN 20220729
Target: CPU - Model: yolov4-tiny
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 13.5 / MAX: 14.04
13.68
7900X
MIN: 13.61 / MAX: 20.24
13.74
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 13.5 / MAX: 14.16
13.62
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 13.95 / MAX: 14.23
14.09
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: squeezenet_ssd
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 11.62 / MAX: 12.66
11.86
7900X
MIN: 11.71 / MAX: 12.64
11.95
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 11.88 / MAX: 13.23
12.12
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 12.07 / MAX: 15.92
12.36
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread


NCNN 20220729
Target: CPU - Model: regnety_400m
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 10.09 / MAX: 10.61
10.16
7900X
MIN: 10.39 / MAX: 10.94
10.47
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 11.24 / MAX: 11.86
11.31
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 12 / MAX: 15.73
12.16
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
NCNN 20220729
Target: CPU - Model: vision_transformer
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 49.71 / MAX: 50.69
50.16
7900X
MIN: 49.57 / MAX: 56.14
50.24
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 49.99 / MAX: 55.28
50.25
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 50.84 / MAX: 51.47
51.22
12
24
36
48
60
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread


NCNN 20220729
Target: CPU - Model: FastestDet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 4.15 / MAX: 4.33
4.19
7900X
MIN: 4.32 / MAX: 4.78
4.35
7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 4.47 / MAX: 4.56
4.50
AMD 7950X
-mavx512f -mavx512cd -mavx512vl -mavx512bw -mavx512dq -mavx512ifma -mavx512vbmi - MIN: 4.58 / MAX: 4.82
4.66
1.0485
2.097
3.1455
4.194
5.2425
1. (CXX) g++ options: -O3 -march=native -rdynamic -lgomp -lpthread
TNN 0.3
Target: CPU - Model: DenseNet
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 2010.81 / MAX: 2077.1
2042.06
7900X
MIN: 2032.93 / MAX: 2105.77
2065.87
7950X
-mno-avx512f- MIN: 1881.73 / MAX: 1999.96
1929.05
AMD 7950X
-mno-avx512f- MIN: 1881.64 / MAX: 2000.73
1927.91
400
800
1200
1600
2000
1. (CXX) g++ options: -O3 -march=native -fopenmp -pthread -fvisibility=hidden -fvisibility=default -rdynamic -ldl

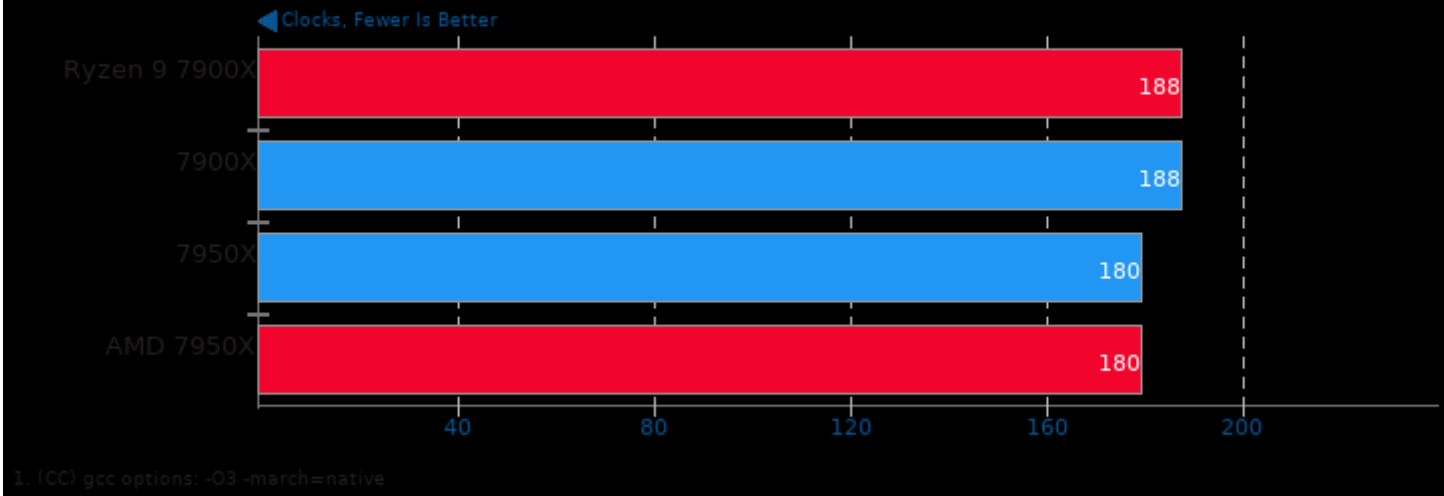

TNN 0.3
Target: CPU - Model: MobileNet v2
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 190.79 / MAX: 192.55
191.63
7900X
MIN: 184.93 / MAX: 186.48
185.69
7950X
-mno-avx512f - MIN: 173.57 / MAX: 175.16
174.49
AMD 7950X
-mno-avx512f - MIN: 172.42 / MAX: 176.55
173.24
40
80
120
160
200
1. (CXX) g++ options: -O3 -march=native -fopenmp -pthread -fvisibility=hidden -fvisibility=default -rdynamic -ldl
TNN 0.3
Target: CPU - Model: SqueezeNet v2
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 42.54 / MAX: 43
42.82
7900X
MIN: 44.12 / MAX: 44.54
44.36
7950X
-mno-avx512f - MIN: 39.74 / MAX: 40.04
39.91
AMD 7950X
-mno-avx512f - MIN: 40.21 / MAX: 40.54
40.39
10
20
30
40
50
1. (CXX) g++ options: -O3 -march=native -fopenmp -pthread -fvisibility=hidden -fvisibility=default -rdynamic -ldl


TNN 0.3
Target: CPU - Model: SqueezeNet v1.1
ms, Fewer Is Better
Ryzen 9 7900X
MIN: 181.82 / MAX: 182.27
182.04
7900X
MIN: 175.4 / MAX: 176.32
176.02
7950X
-mno-avx512f- MIN: 173.06 / MAX: 173.96
173.70
AMD 7950X
-mno-avx512f- MIN: 174.19 / MAX: 174.87
174.66
40
80
120
160
200
1. (CXX) g++ options: -O3 -march=native -fopenmp -pthread -fvisibility=hidden -fvisibility=default -rdynamic -ldl
Blender 3.2
Blend File: BMW27 - Compute: CPU-Only
Seconds, Fewer Is Better
Ryzen 9 7900X
71.73
7900X
71.86
7950X
55.88
AMD 7950X
55.99
16
32
48
64
80
Blender 3.2
Blend File: Classroom - Compute: CPU-Only
Seconds, Fewer Is Better
Ryzen 9 7900X
187.32
7900X
186.66
7950X
146.52
AMD 7950X
146.56
40
80
120
160
200


Blender 3.2
Blend File: Fishy Cat - Compute: CPU-Only
Seconds, Fewer Is Better
Ryzen 9 7900X
93.47
7900X
93.30
7950X
73.55
AMD 7950X
73.68
20
40
60
80
100
Blender 3.2
Blend File: Barbershop - Compute: CPU-Only
Seconds, Fewer Is Better
Ryzen 9 7900X
696.69
7900X
691.69
7950X
543.63
AMD 7950X
544.92
150
300
450
600
750
Blender 3.2
Blend File: Pabellon Barcelona - Compute: CPU-Only
Seconds, Fewer Is Better
Ryzen 9 7900X
238.06
7900X
237.38
7950X
186.80
AMD 7950X
186.28
50
100
150
200
250

## ctx_clock

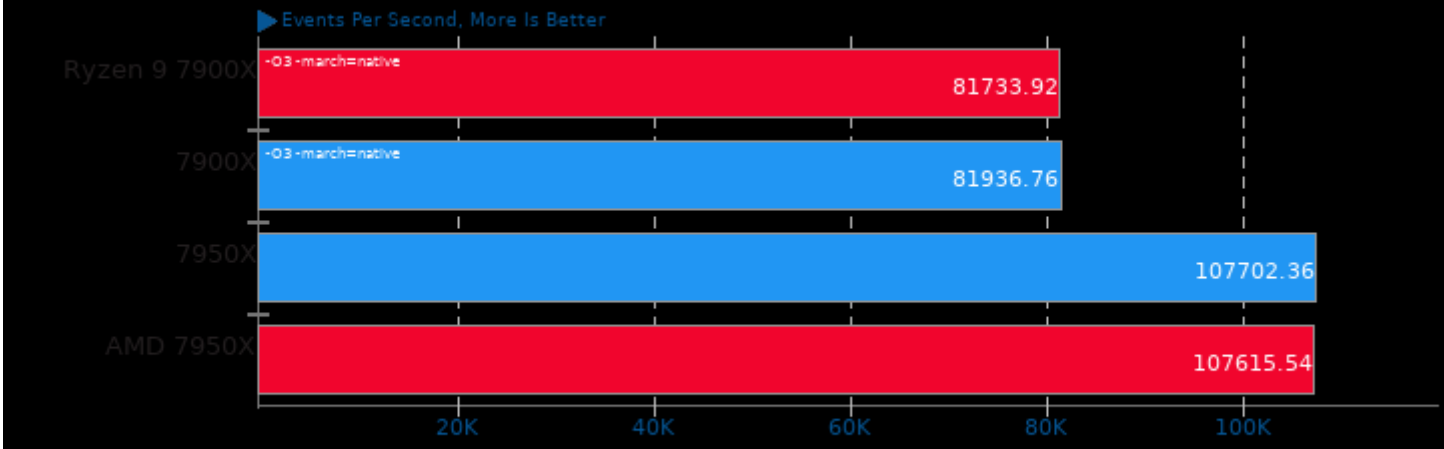
Context Switch Time




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

## Sysbench 1.0.20

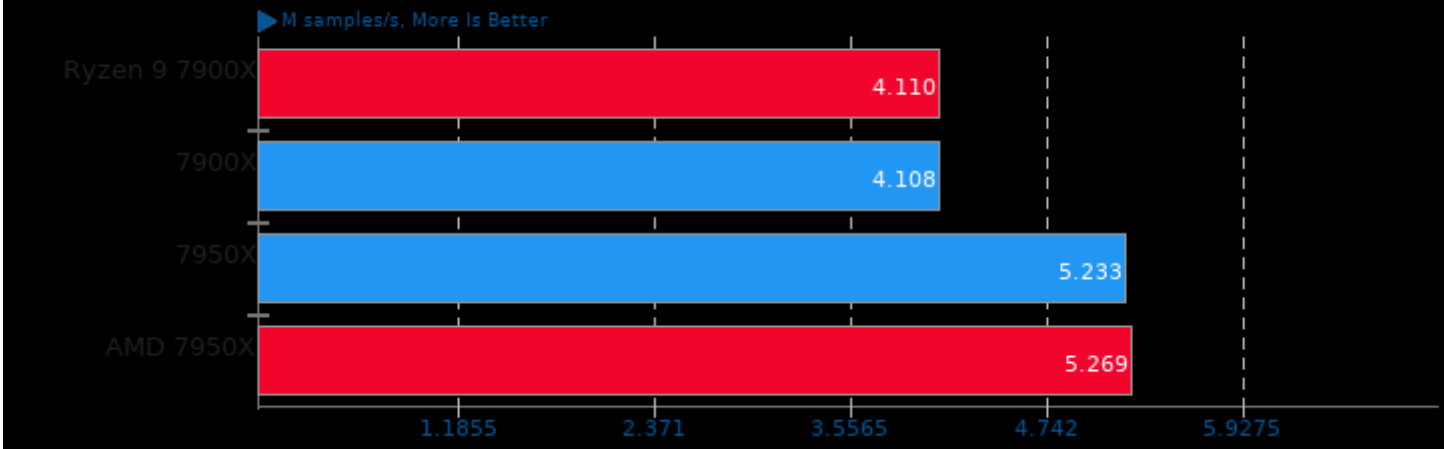
Test: CPU



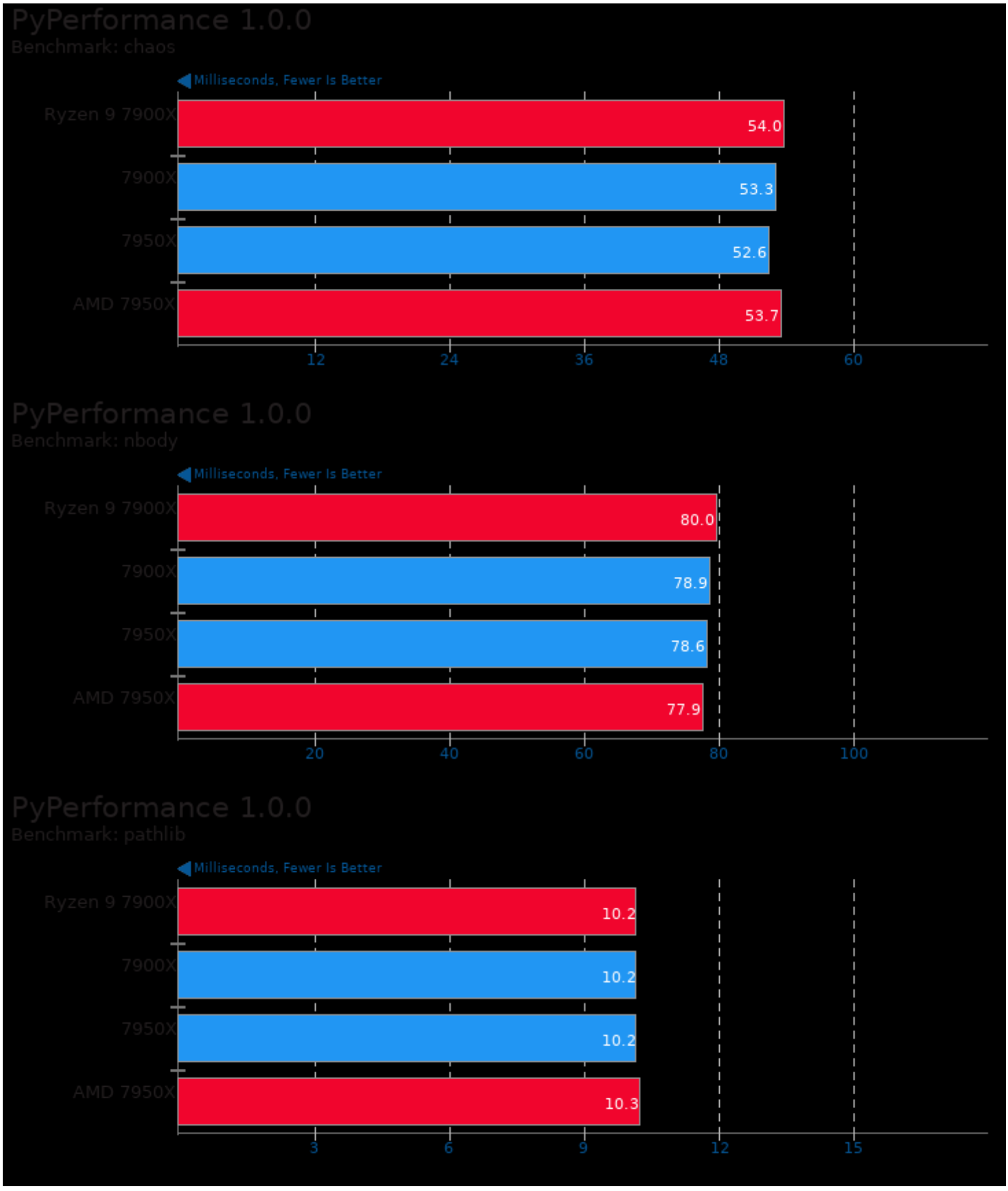

1. (CC) gcc options: -O2 -funroll-loops -rdynamic -ldl -laio -lm

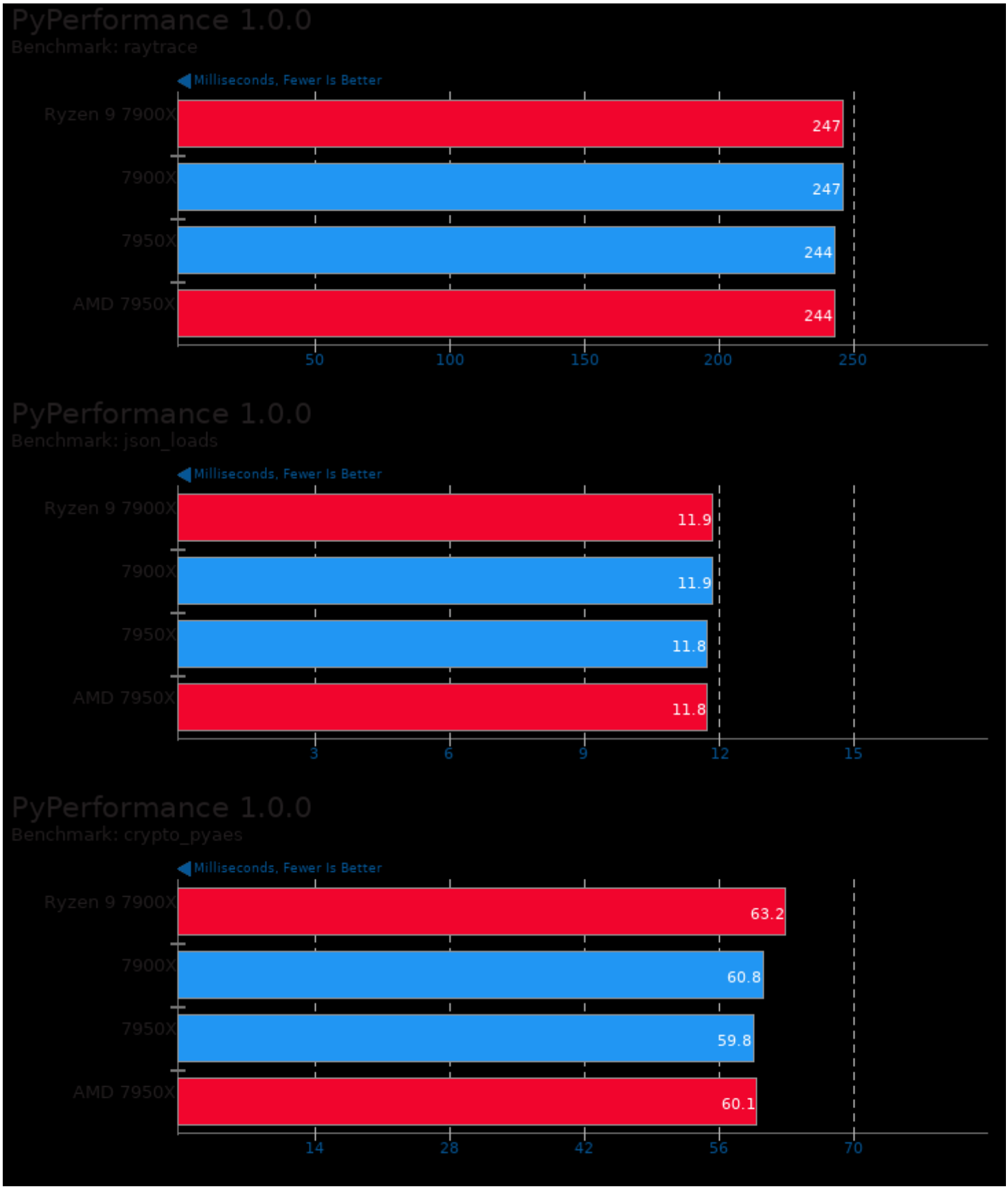
## IndigoBench 4.4

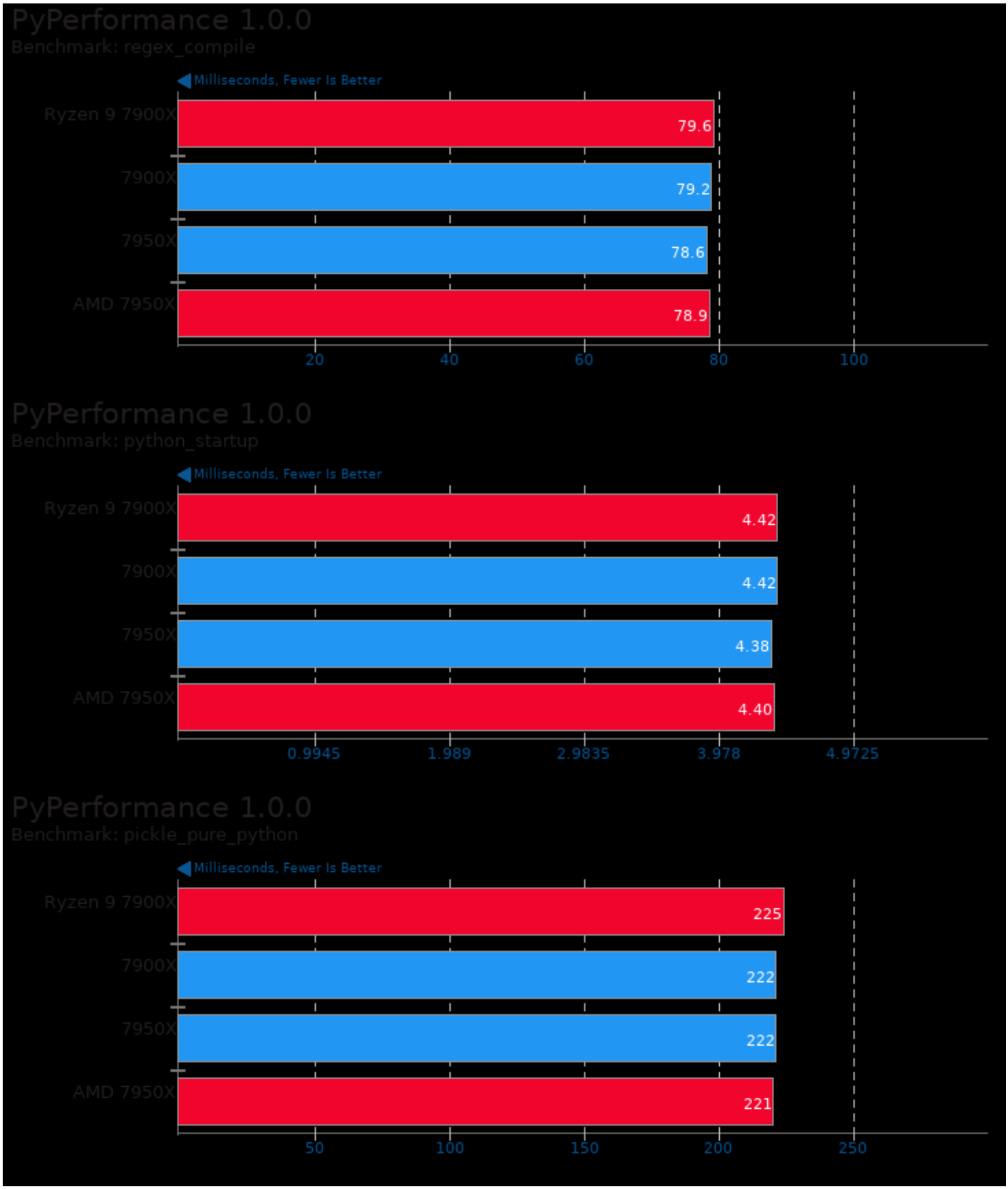
Acceleration: CPU - Scene: Bedroom




IndigoBench 4.4
Acceleration: CPU - Scene: Supercar
M samples/s, More Is Better
Ryzen 9 7900X
9.036
7900X
9.141
7950X
11.645
AMD 7950X
11.483
3
6
9
12
15
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
Ryzen 9 7900X
603
7900X
587
7950X
612
AMD 7950X
597
130
260
390
520
650
PyPerformance 1.0.0
Benchmark: 2to3
Milliseconds, Fewer Is Better
Ryzen 9 7900X
169
7900X
168
7950X
167
AMD 7950X
167
40
80
120
160
200

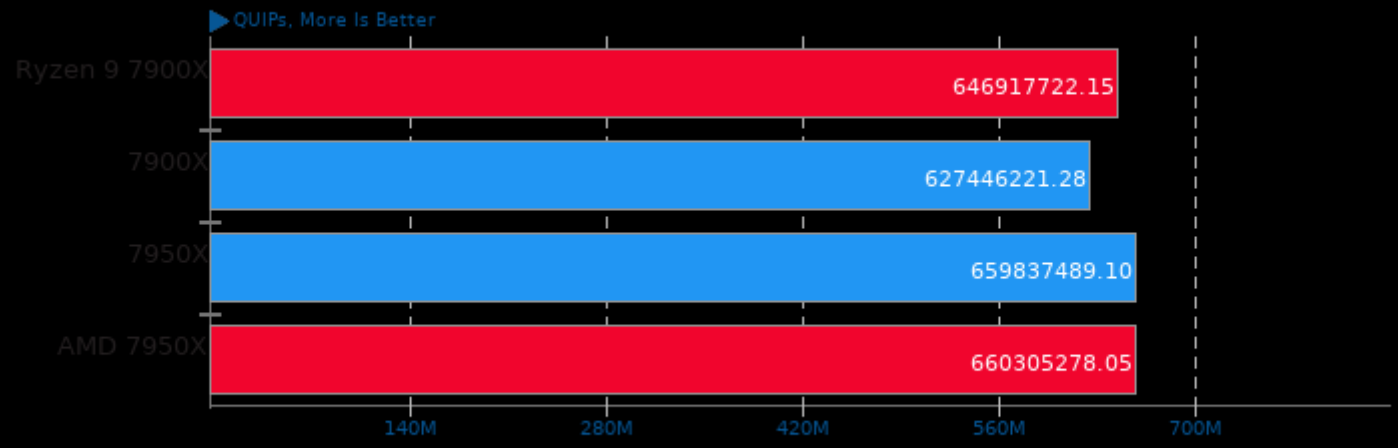

PyPerformance 1.0.0
Benchmark: chaos
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
54.0
53.3
52.6
53.7
12
24
36
48
60
PyPerformance 1.0.0
Benchmark: nbody
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
80.0
78.9
78.6
77.9
20
40
60
80
100
PyPerformance 1.0.0
Benchmark: pathlib
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
10.2
10.2
10.2
10.3
3
6
9
12
15


PyPerformance 1.0.0
Benchmark: raytrace
Milliseconds, Fewer Is Better
Ryzen 9 7900X
247
7900X
247
7950X
244
AMD 7950X
244
50
100
150
200
250
PyPerformance 1.0.0
Benchmark: json_loads
Milliseconds, Fewer Is Better
Ryzen 9 7900X
11.9
7900X
11.9
7950X
11.8
AMD 7950X
11.8
3
6
9
12
15
PyPerformance 1.0.0
Benchmark: crypto_pyaes
Milliseconds, Fewer Is Better
Ryzen 9 7900X
63.2
7900X
60.8
7950X
59.8
AMD 7950X
60.1
14
28
42
56
70


PyPerformance 1.0.0
Benchmark: regex_compile
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
79.6
79.2
78.6
78.9
20
40
60
80
100
PyPerformance 1.0.0
Benchmark: python_startup
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
4.42
4.42
4.38
4.40
0.9945
1.989
2.9835
3.978
4.9725
PyPerformance 1.0.0
Benchmark: pickle_pure_python
Milliseconds, Fewer Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
225
222
222
221
50
100
150
200
250

## Hierarchical INTegration 1.0

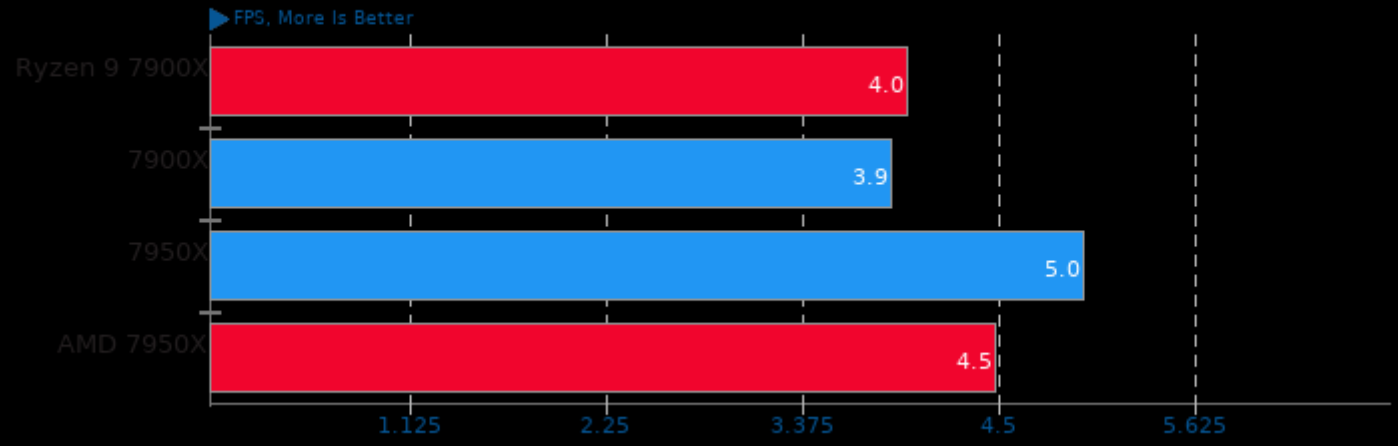
Test: FLOAT




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

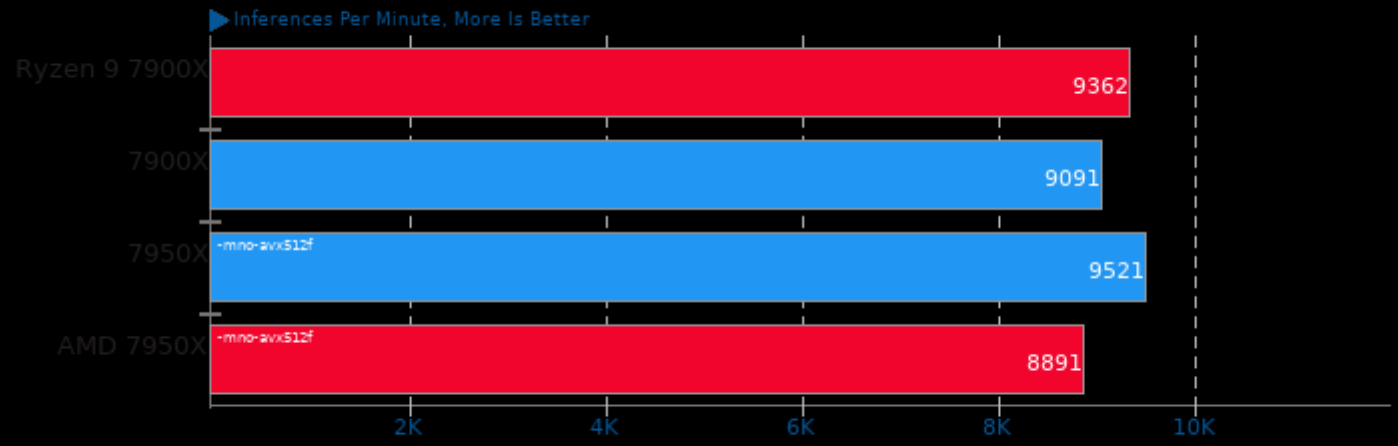
## Natron 2.4

Input: Spaceship

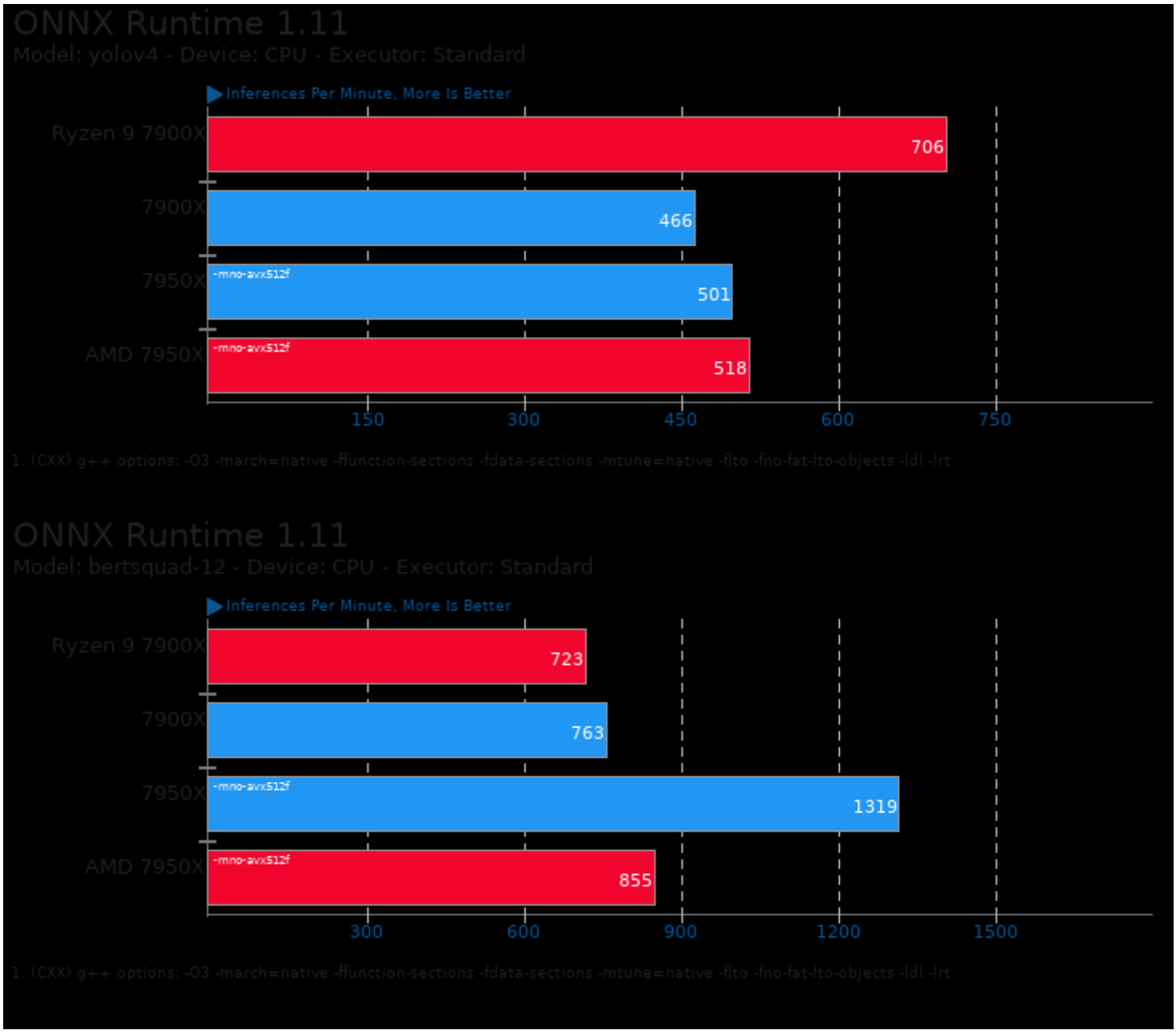



## ONNX Runtime 1.11

Model: GPT-2 - Device: CPU - Executor: Standard

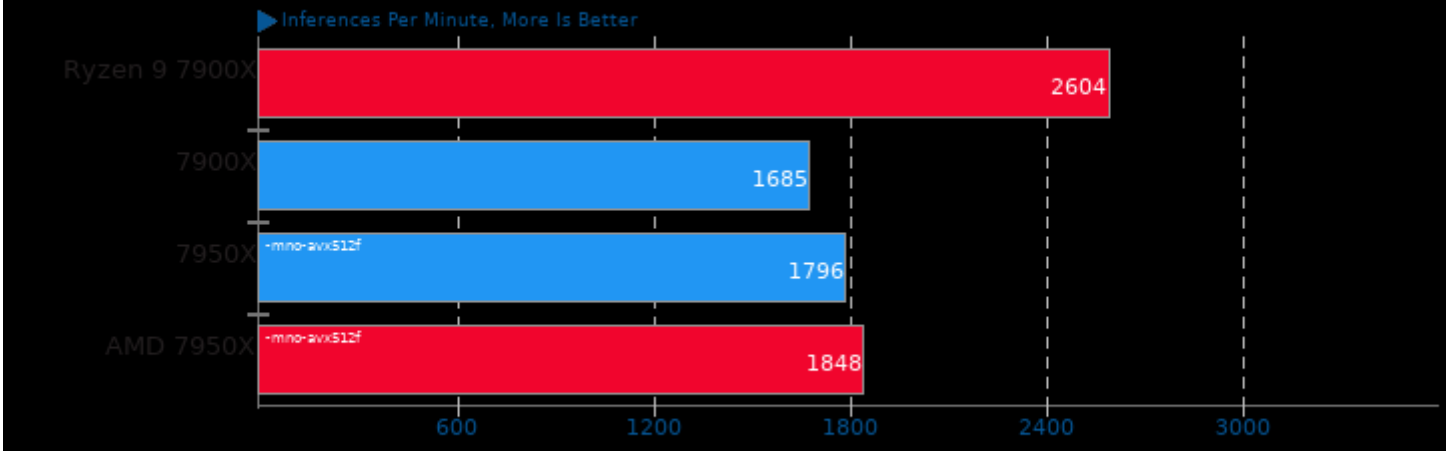



1. (CXX) g++ options: -O3 -march=native -ffunction-sections -fdata-sections -mtune=native -flto -fno-fat-lto-objects -ldl -lrt


ONNX Runtime 1.11
Model: yolov4 - Device: CPU - Executor: Standard
Inferences Per Minute, More Is Better
Ryzen 9 7900X
706
7900X
466
7950X
-mno-avx512f
501
AMD 7950X
-mno-avx512f
518
150
300
450
600
750
1. (CXX) g++ options: -O3 -march=native -ffunction-sections -fdata-sections -mtune=native -flto -fno-fat-lto-objects -ldl -lrt
ONNX Runtime 1.11
Model: bertsquad-12 - Device: CPU - Executor: Standard
Inferences Per Minute, More Is Better
Ryzen 9 7900X
723
7900X
763
7950X
-mno-avx512f
1319
AMD 7950X
-mno-avx512f
855
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -march=native -ffunction-sections -fdata-sections -mtune=native -flto -fno-fat-lto-objects -ldl -lrt

## ONNX Runtime 1.11

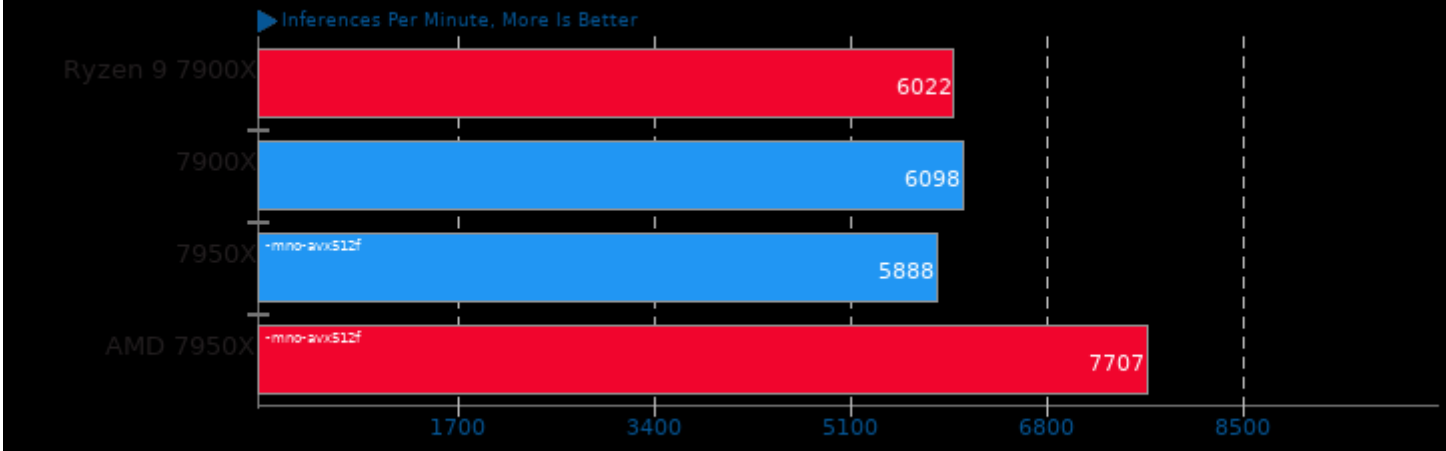
Model: ArcFace ResNet-100 - Device: CPU - Executor: Standard




1. (CXX) g++ options: -O3 -march=native -ffunction-sections -fdata-sections -mtune=native -flto -fno-fat-lto-objects -ldl -lrt

## ONNX Runtime 1.11

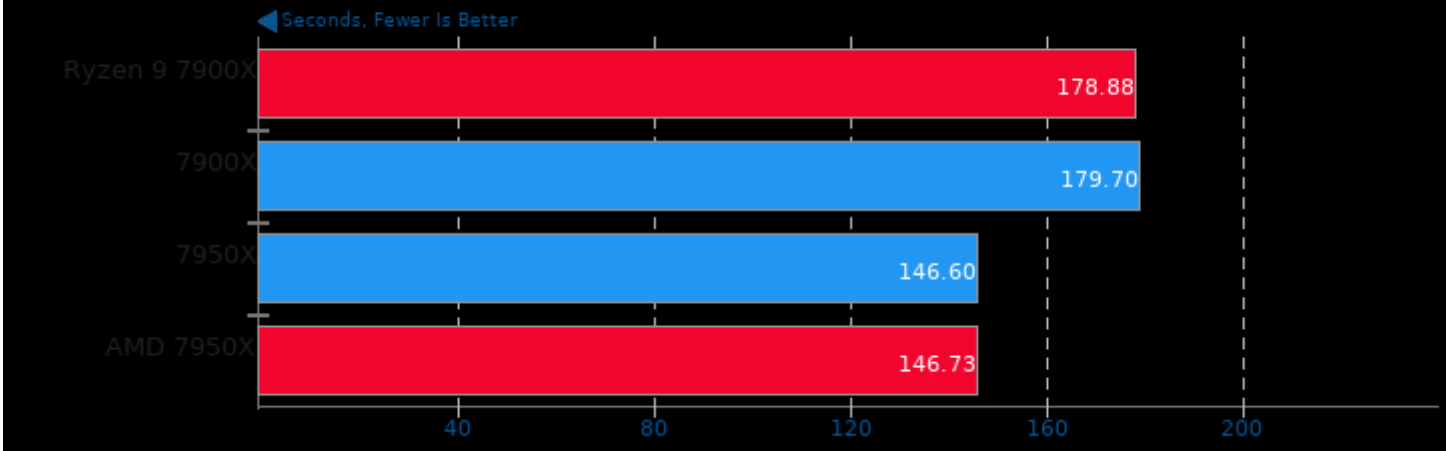
Model: super-resolution-10 - Device: CPU - Executor: Standard

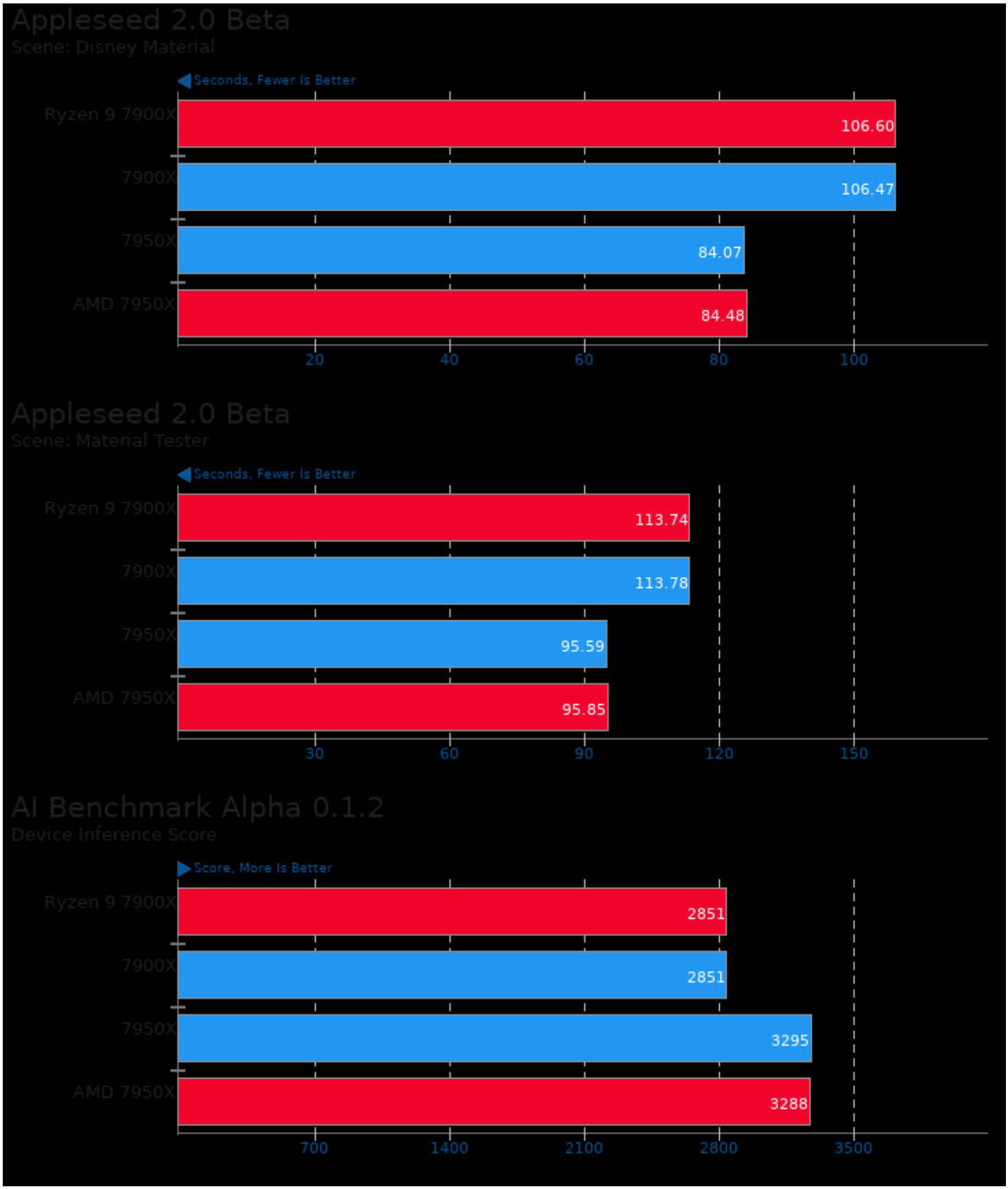


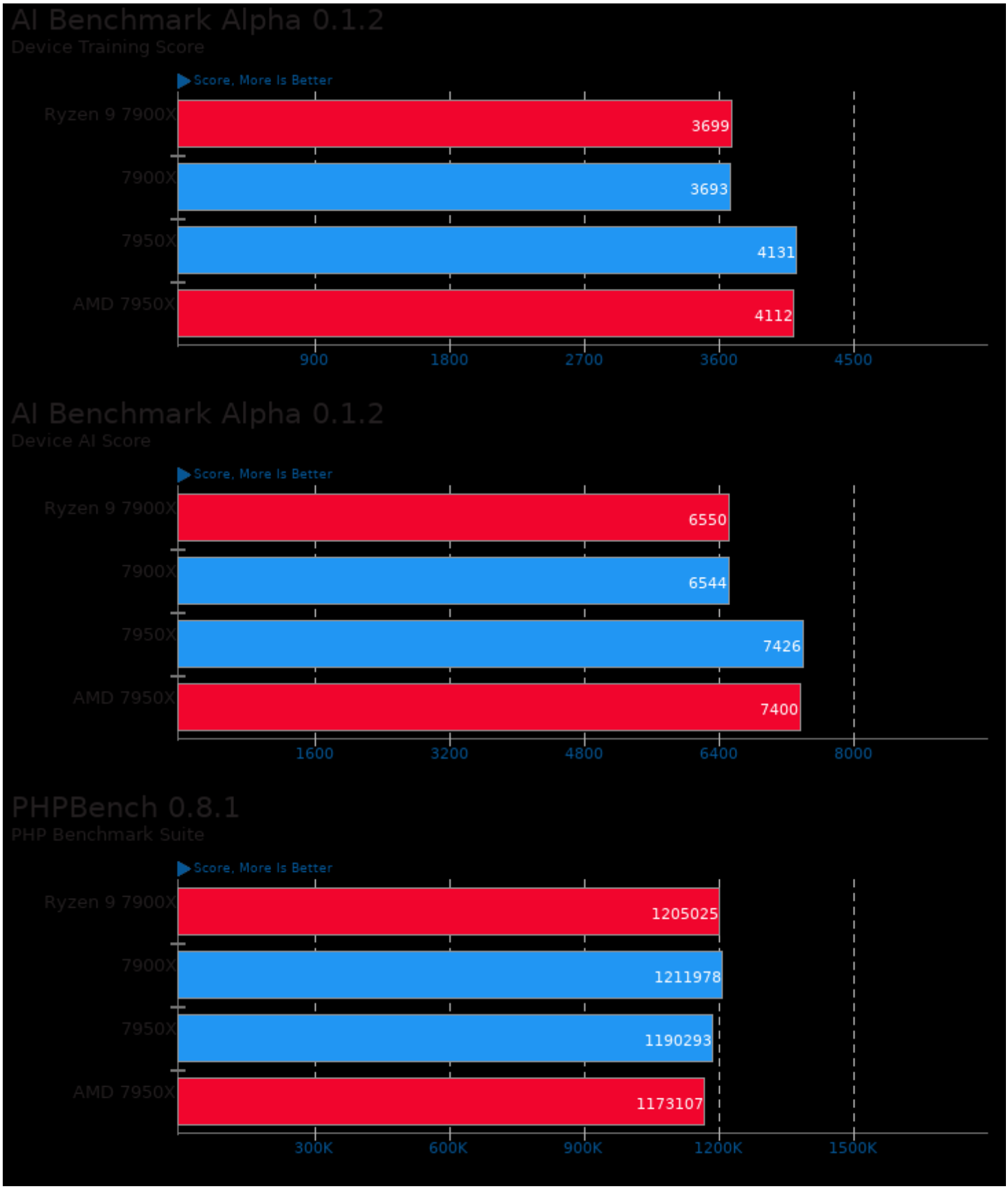

1. (CXX) g++ options: -O3 -march=native -ffunction-sections -fdata-sections -mtune=native -flto -fno-fat-lto-objects -ldl -lrt

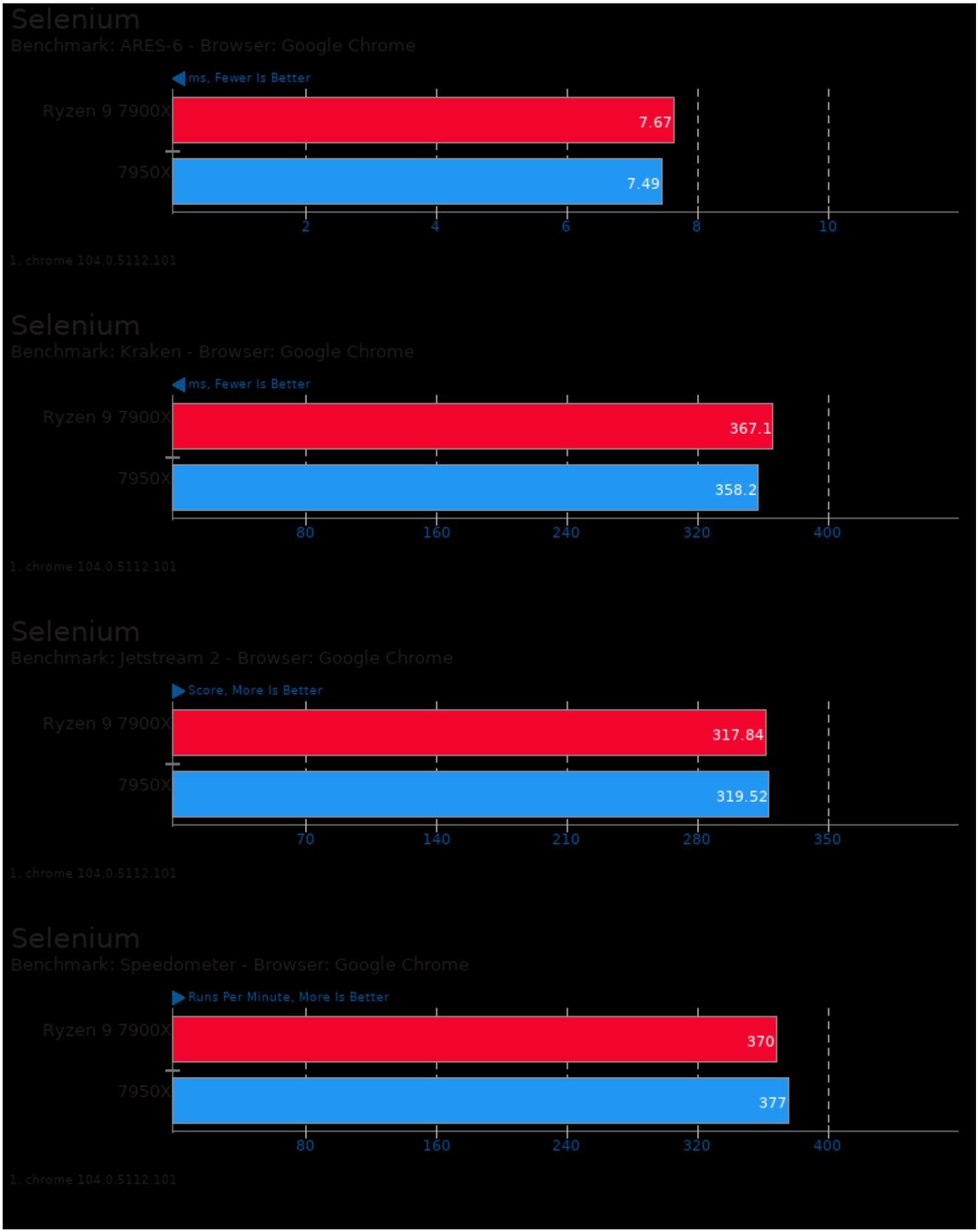
## Appleseed 2.0 Beta

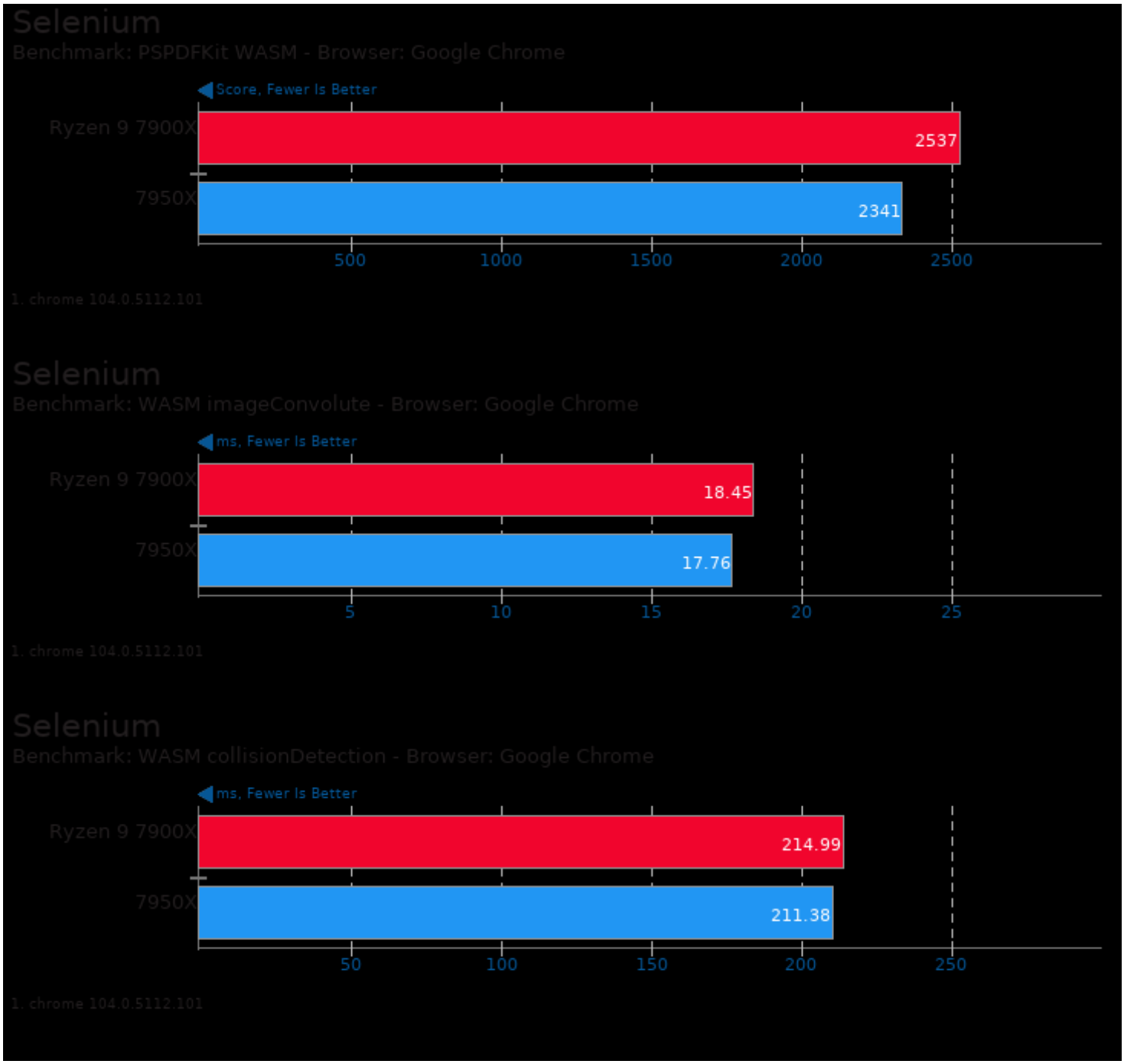
Scene: Emily




Appleseed 2.0 Beta
Scene: Disney Material
Seconds, Fewer Is Better
Ryzen 9 7900X
106.60
7900X
106.47
7950X
84.07
AMD 7950X
84.48
20
40
60
80
100
Appleseed 2.0 Beta
Scene: Material Tester
Seconds, Fewer Is Better
Ryzen 9 7900X
113.74
7900X
113.78
7950X
95.59
AMD 7950X
95.85
30
60
90
120
150
AI Benchmark Alpha 0.1.2
Device Inference Score
Score, More Is Better
Ryzen 9 7900X
2851
7900X
2851
7950X
3295
AMD 7950X
3288
700
1400
2100
2800
3500

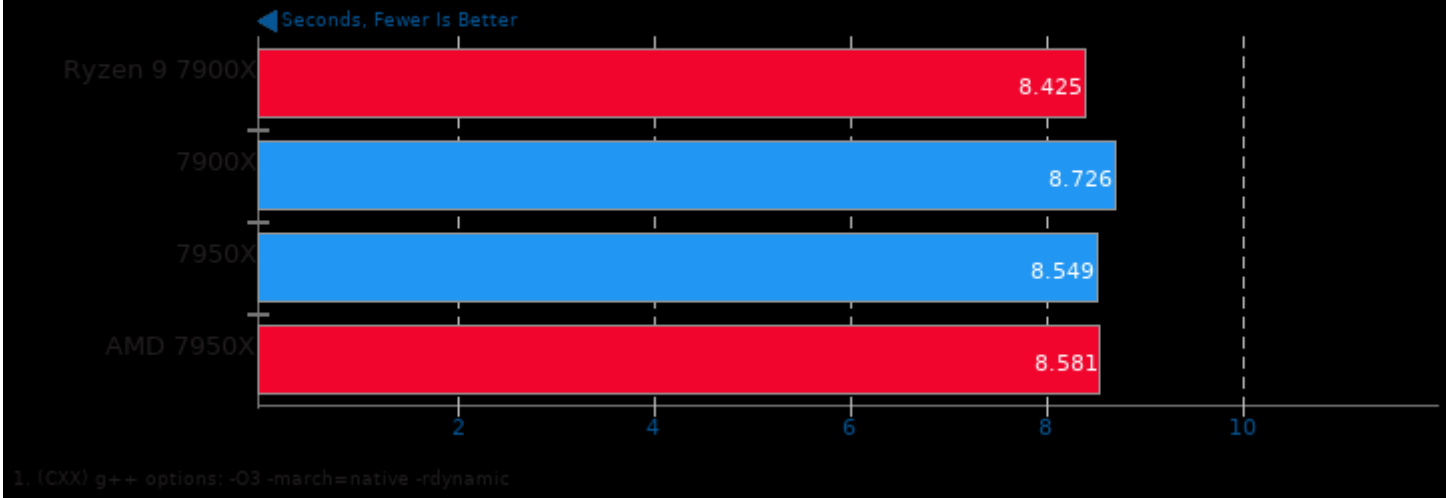

AI Benchmark Alpha 0.1.2
Device Training Score
Score, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
3699
3693
4131
4112
900
1800
2700
3600
4500
AI Benchmark Alpha 0.1.2
Device AI Score
Score, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
6550
6544
7426
7400
1600
3200
4800
6400
8000
PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
Ryzen 9 7900X
7900X
7950X
AMD 7950X
1205025
1211978
1190293
1173107
300K
600K
900K
1200K
1500K


Selenium
Benchmark: ARES-6 - Browser: Google Chrome
ms, Fewer Is Better
Ryzen 9 7900X
7950X
7.67
7.49
2
4
6
8
10
1. chrome 104.0.5112.101
Selenium
Benchmark: Kraken - Browser: Google Chrome
ms, Fewer Is Better
Ryzen 9 7900X
7950X
367.1
358.2
80
160
240
320
400
1. chrome 104.0.5112.101
Selenium
Benchmark: Jetstream 2 - Browser: Google Chrome
Score, More Is Better
Ryzen 9 7900X
7950X
317.84
319.52
70
140
210
280
350
1. chrome 104.0.5112.101
Selenium
Benchmark: Speedometer - Browser: Google Chrome
Runs Per Minute, More Is Better
Ryzen 9 7900X
7950X
370
377
80
160
240
320
400
1. chrome 104.0.5112.101


Selenium
Benchmark: PSPDFKit WASM - Browser: Google Chrome
Score, Fewer Is Better
Ryzen 9 7900X
7950X
2537
2341
500
1000
1500
2000
2500
1: chrome 104.0.5112.101
Selenium
Benchmark: WASM imageConvolute - Browser: Google Chrome
ms, Fewer Is Better
Ryzen 9 7900X
7950X
18.45
17.76
5
10
15
20
25
1: chrome 104.0.5112.101
Selenium
Benchmark: WASM collisionDetection - Browser: Google Chrome
ms, Fewer Is Better
Ryzen 9 7900X
7950X
214.99
211.38
50
100
150
200
250
1: chrome 104.0.5112.101

## WavPack Audio Encoding 5.3

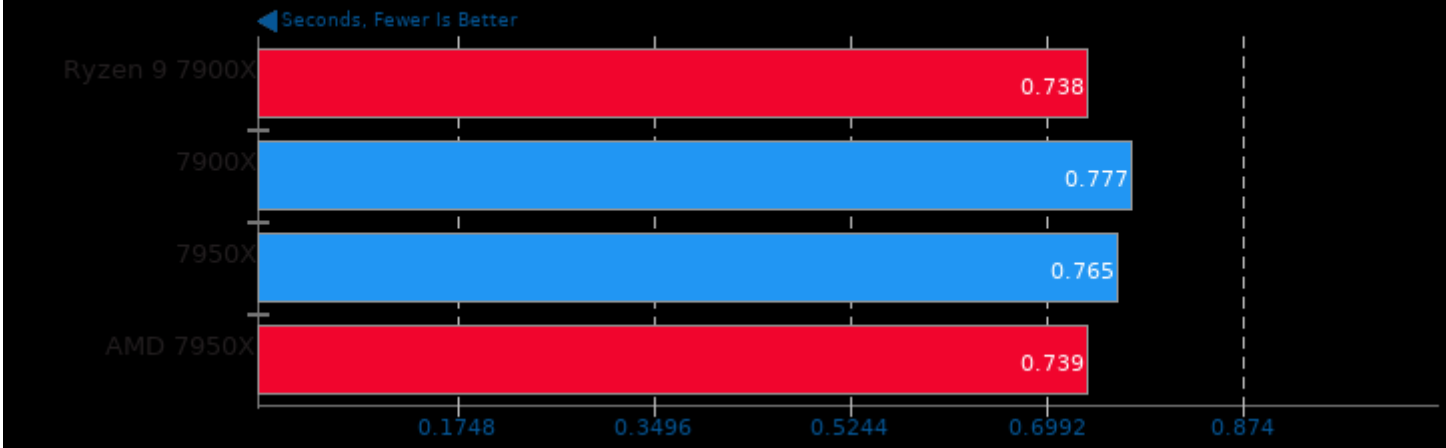
WAV To WavPack




1. (CXX) g++ options: -O3 -march=native -rdynamic

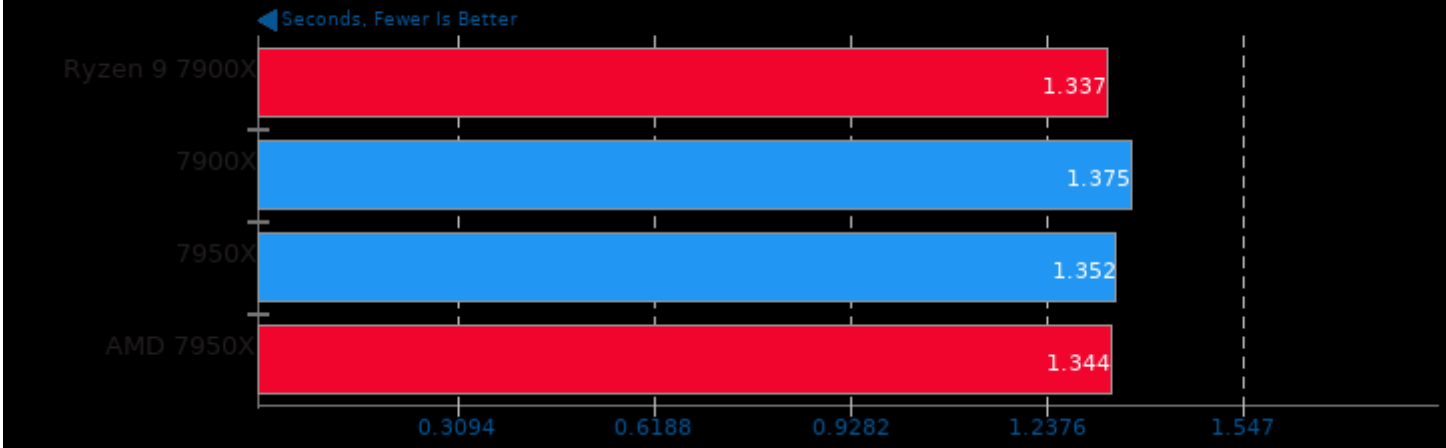
## PyHPC Benchmarks 3.0

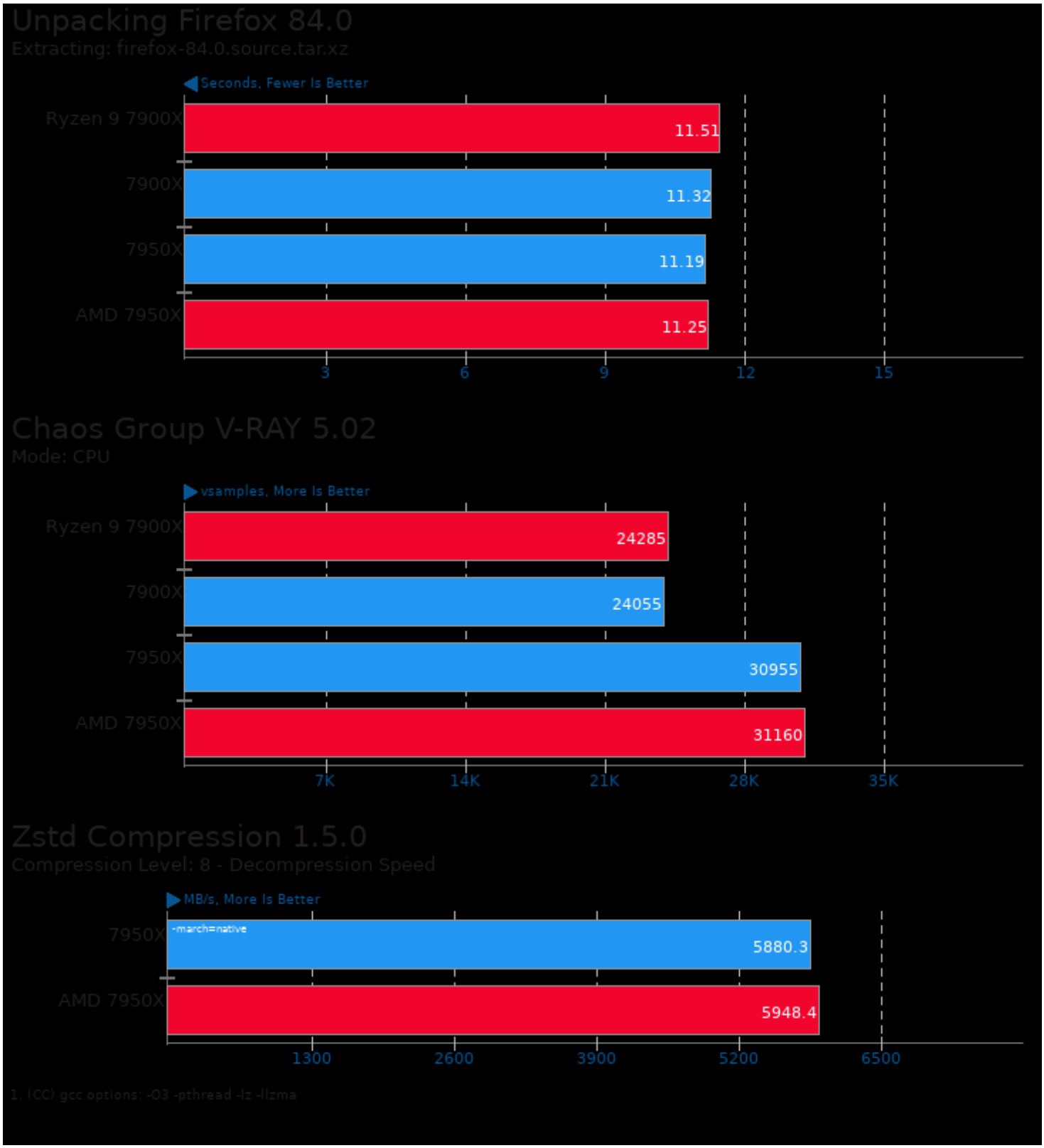
Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Equation of State



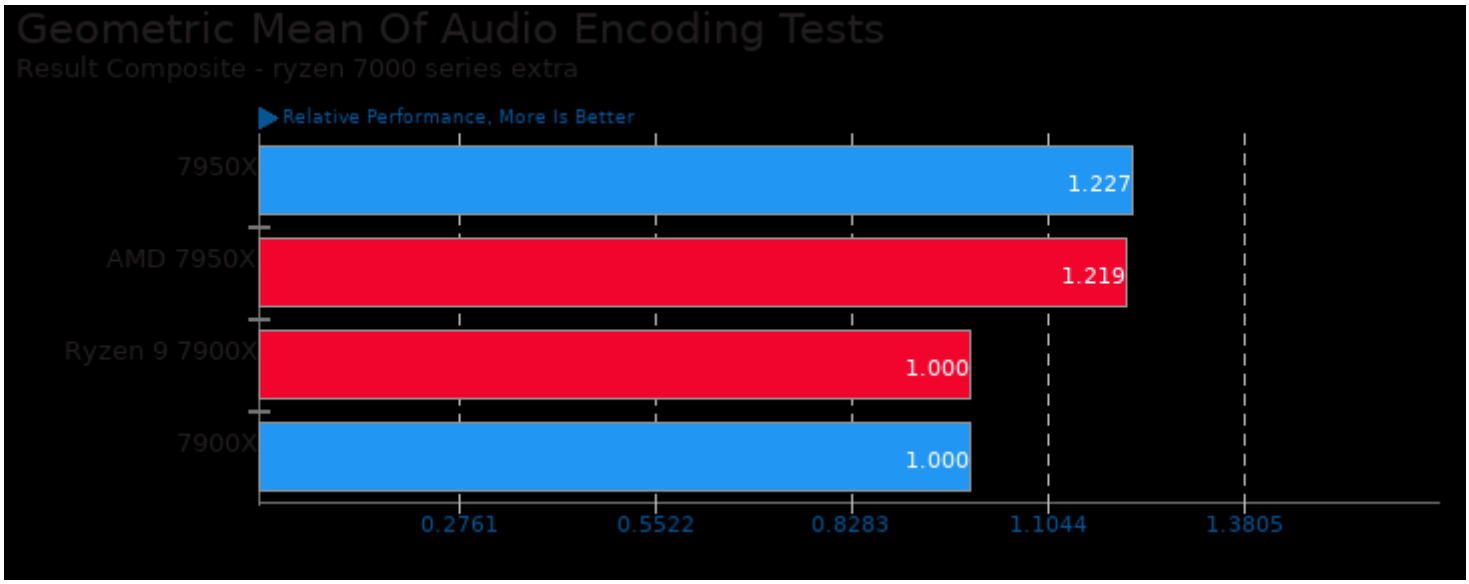

## PyHPC Benchmarks 3.0

Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Isoneutral Mixing

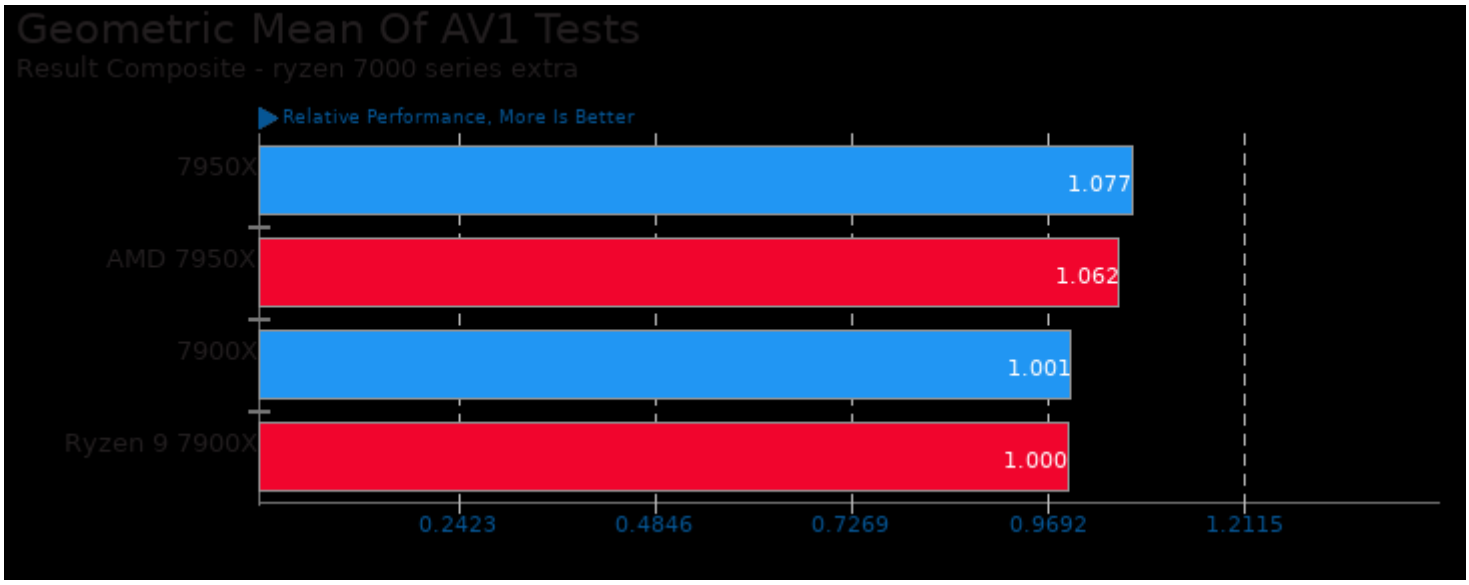



Unpacking Firefox 84.0
Extracting: firefox-84.0.source.tar.xz
Seconds, Fewer Is Better
Ryzen 9 7900X
11.51
7900X
11.32
7950X
11.19
AMD 7950X
11.25
3
6
9
12
15
Chaos Group V-RAY 5.02
Mode: CPU
vsamples, More Is Better
Ryzen 9 7900X
24285
7900X
24055
7950X
30955
AMD 7950X
31160
7K
14K
21K
28K
35K
Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
7950X
-march=native
5880.3
AMD 7950X
5948.4
1300
2600
3900
5200
6500
1. (CC) gcc options: -O3 -pthread -lz -llzma

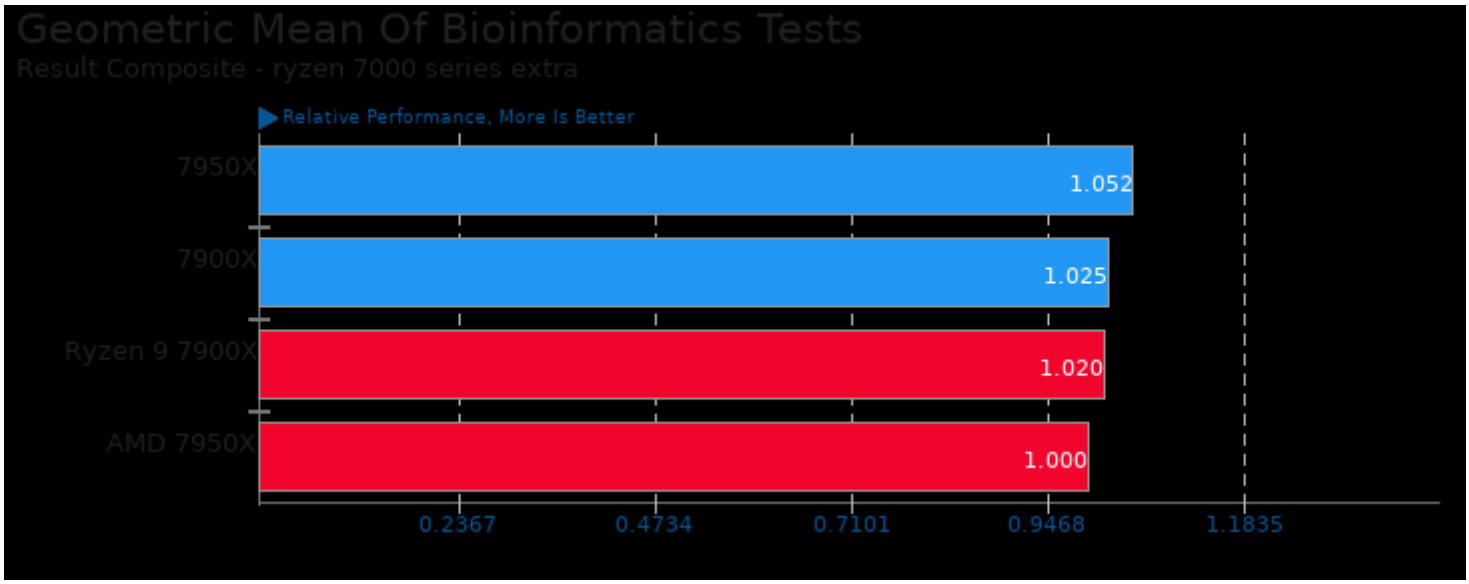
These geometric means are based upon test groupings / test suites for this result file.



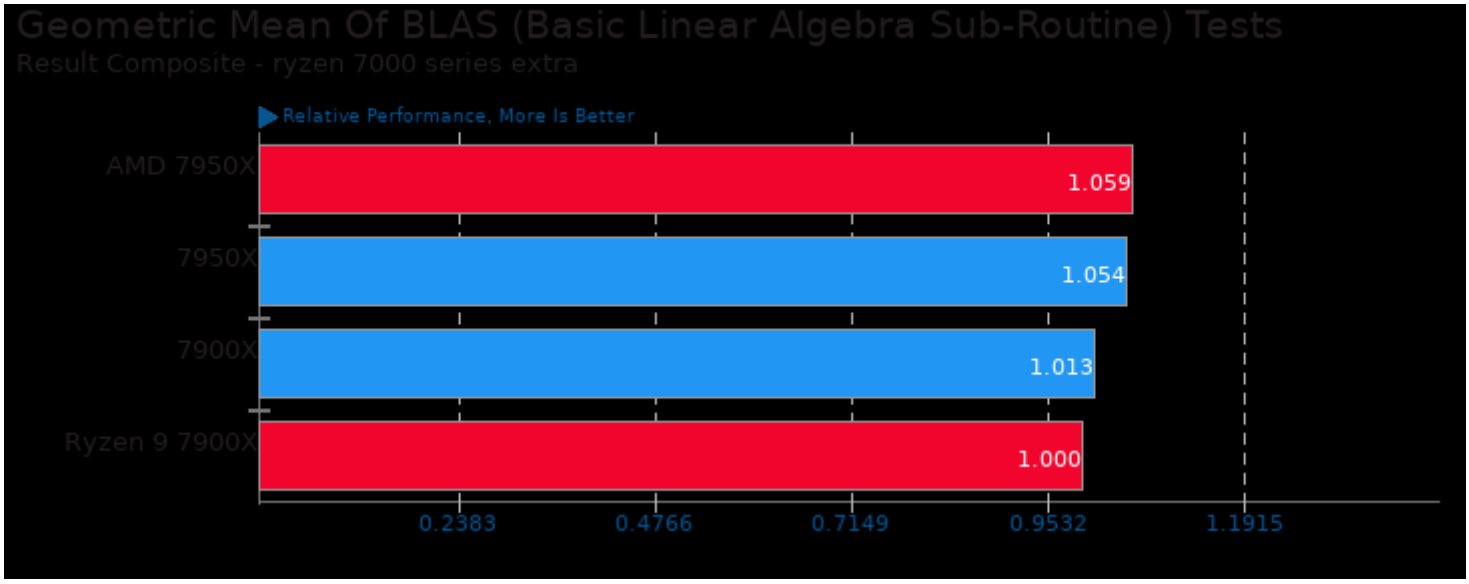

Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/encode-wavpack, pts/encode-opus and pts/stargate



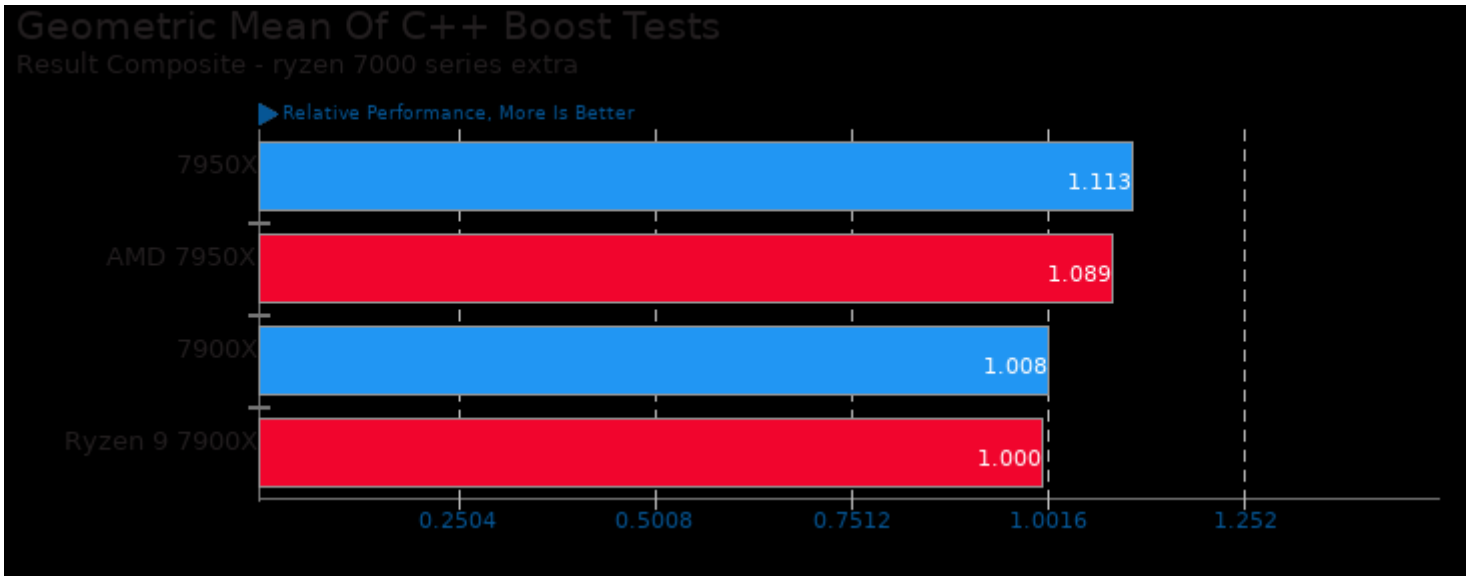

Geometric mean based upon tests: pts/aom-av1, pts/svt-av1, pts/libgav1 and pts/avifenc



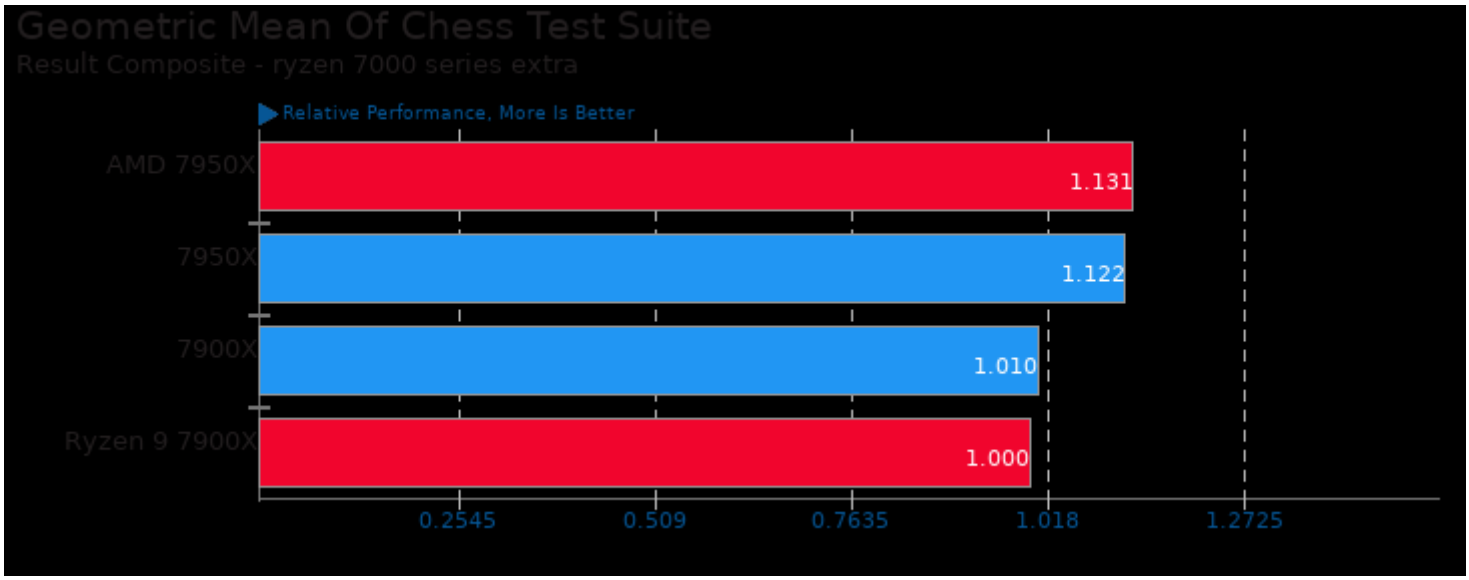

Geometric mean based upon tests: pts/mrbayes and pts/hmmer



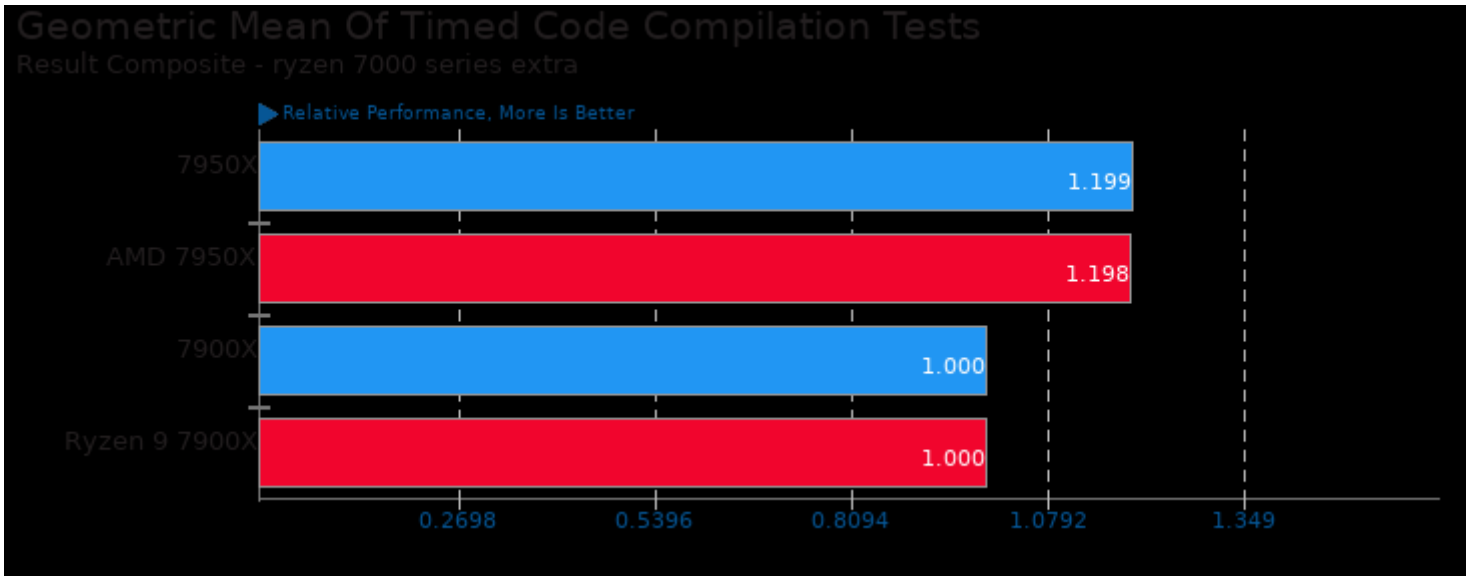

Geometric mean based upon tests: pts/lczero and pts/gpaw



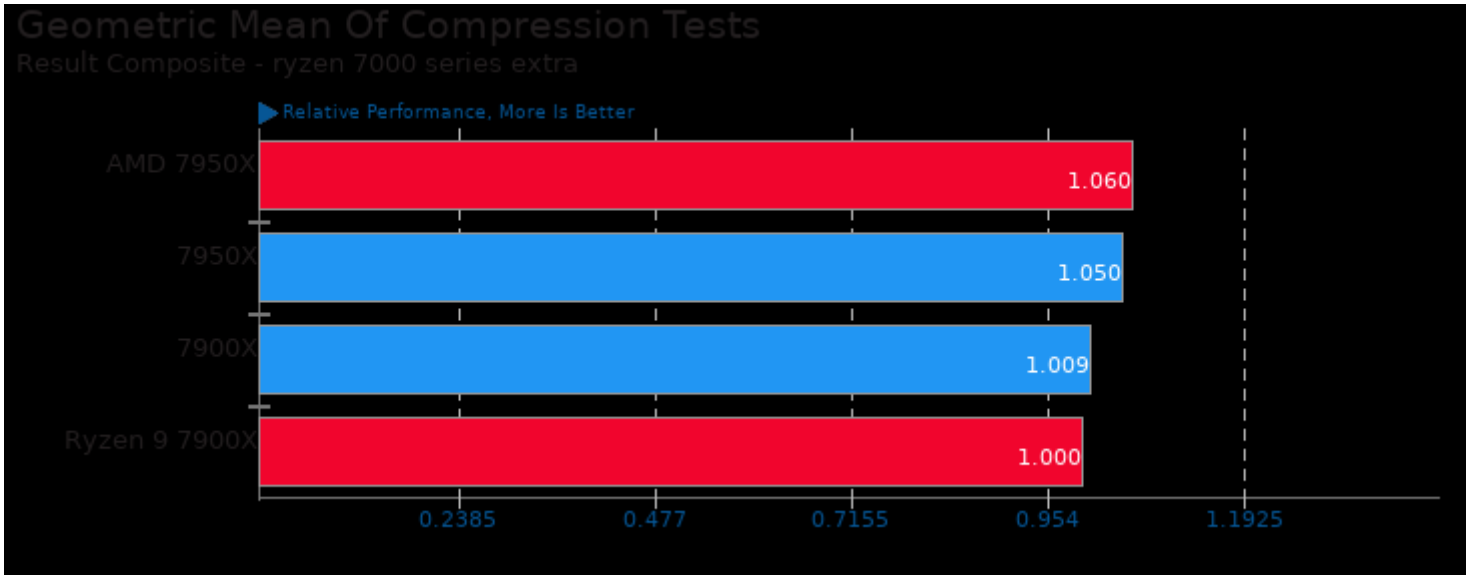

Geometric mean based upon tests: pts/quantlib, pts/openfoam, pts/chia-vdf, pts/build-gem5 and pts/povray



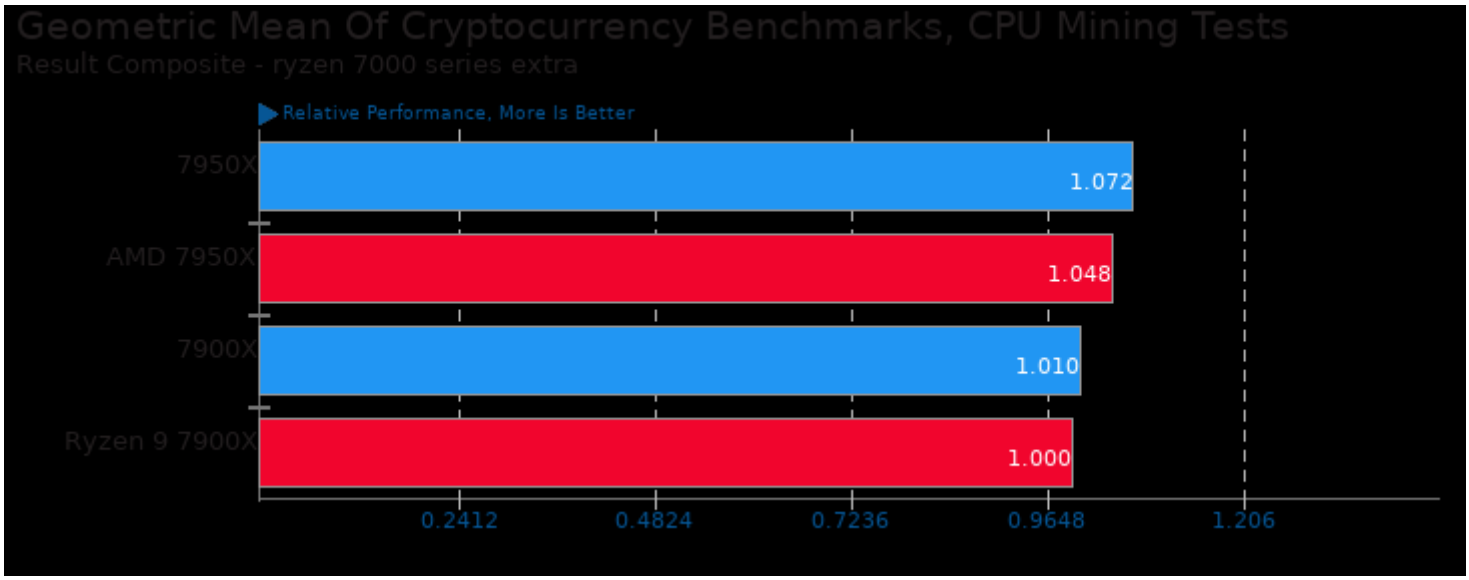

Geometric mean based upon tests: pts/crafty, pts/tscp, pts/lczero, pts/asmfish, pts/n-queens and pts/m-queens



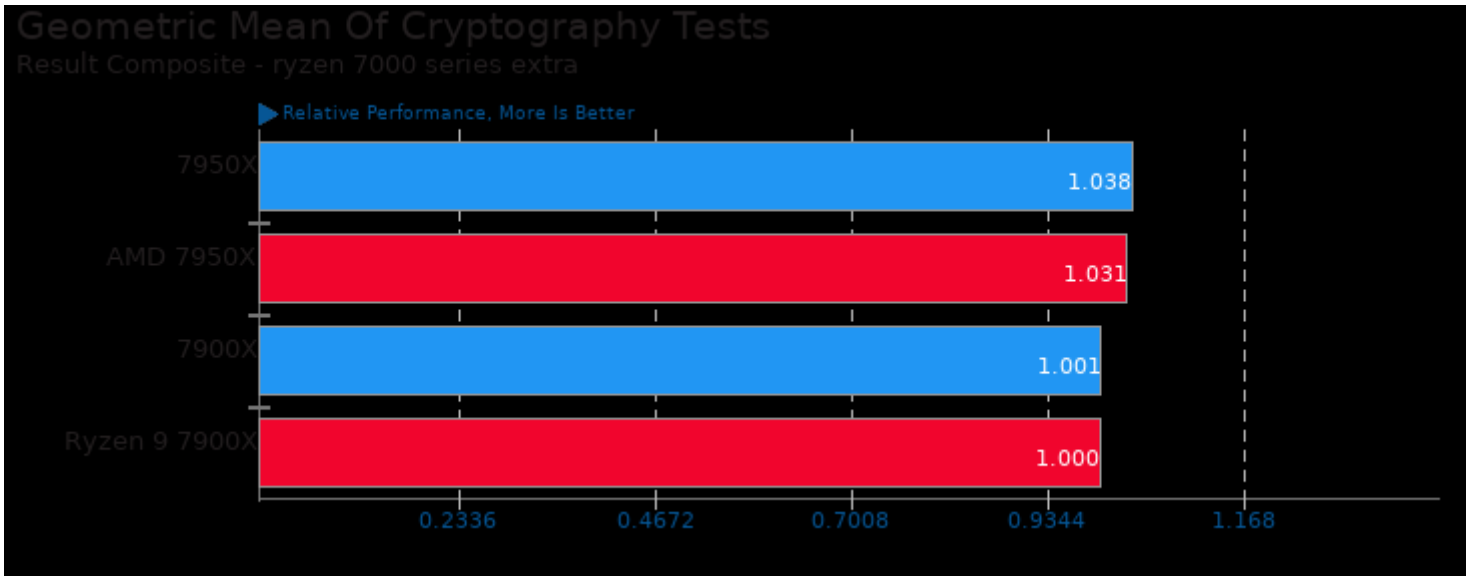

Geometric mean based upon tests: pts/build-linux-kernel, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build-godot, pts/build-mesa and pts/build-gem5



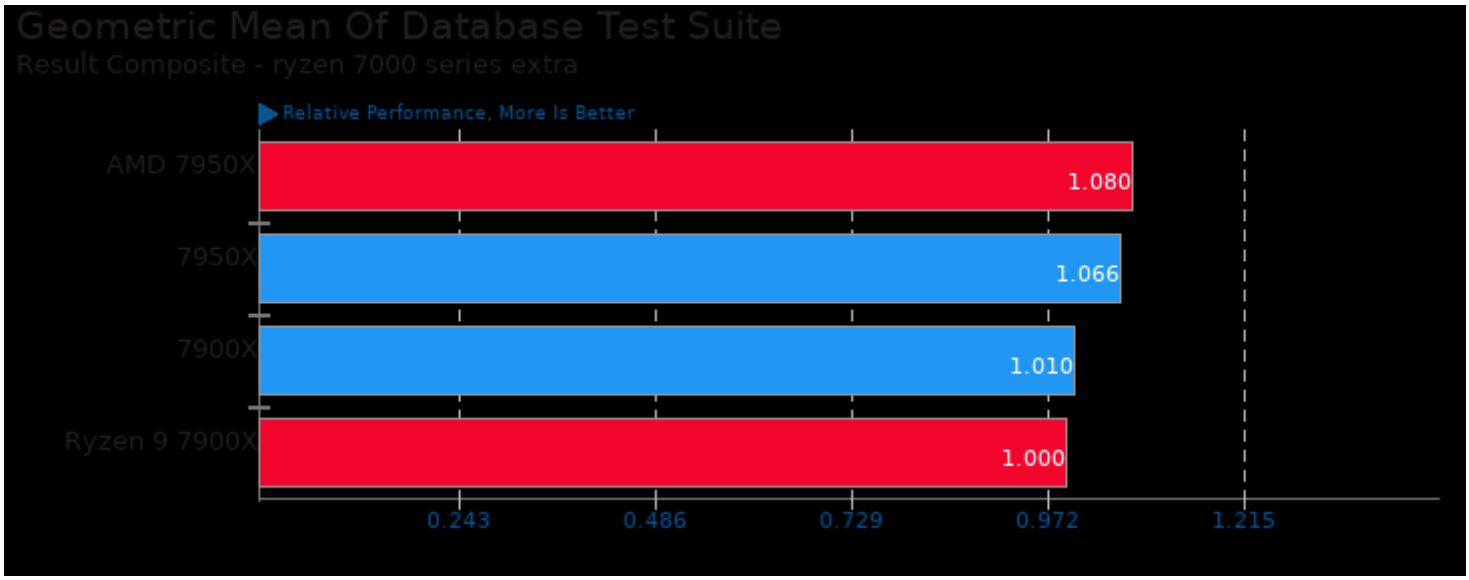

Geometric mean based upon tests: pts/compress-gzip, pts/compress-pbzip2, pts/compress-zstd, pts/compress-lz4 and pts/blosc



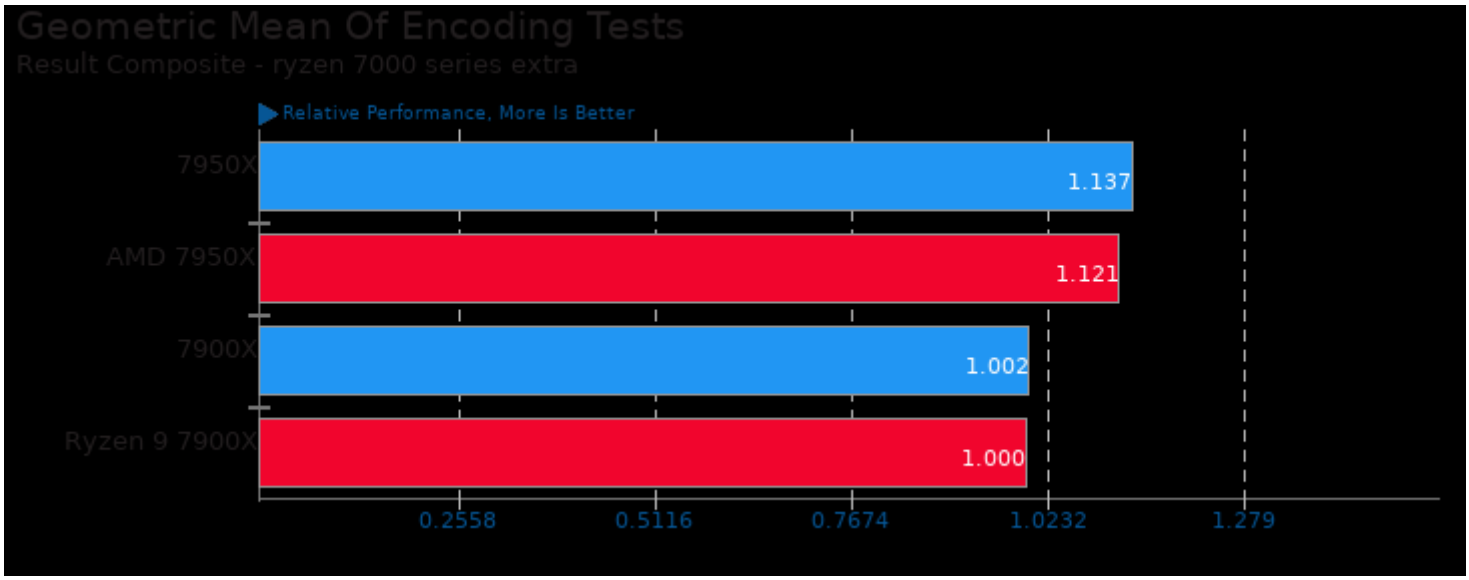

Geometric mean based upon tests: pts/xmrig and pts/chia-vdf



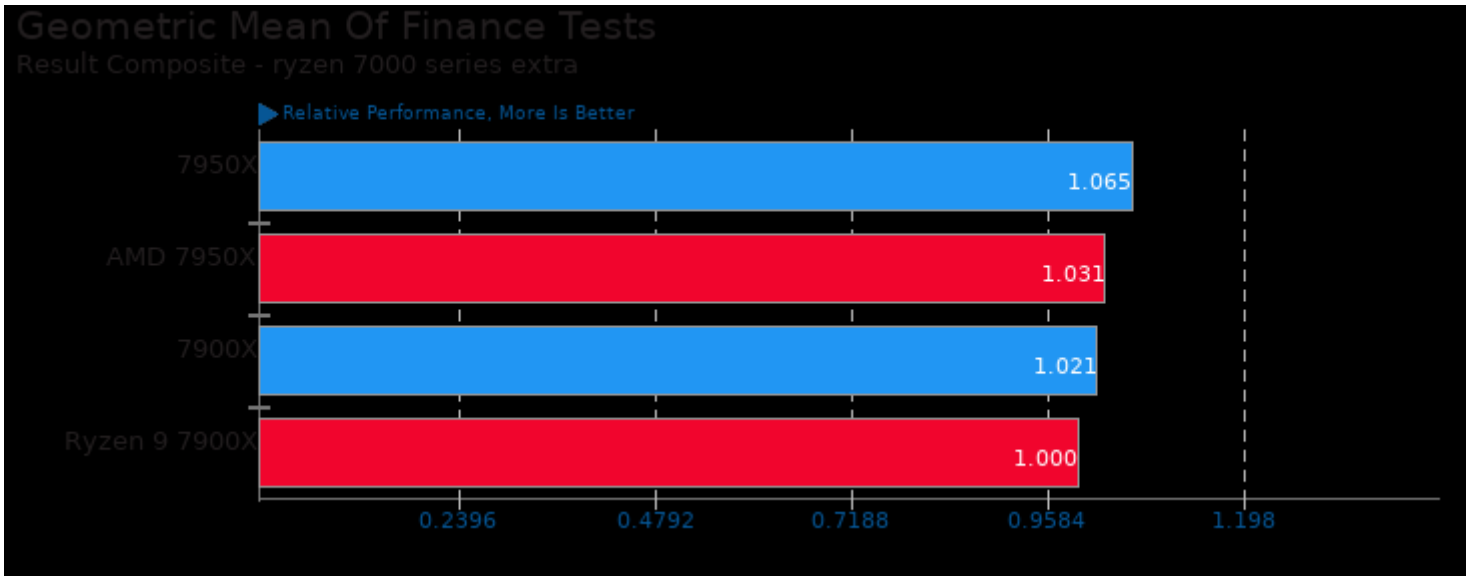

Geometric mean based upon tests: pts/openssl, system/cryptsetup, pts/bork, pts/nettle, pts/aircrack-ng, pts/securemark, pts/xmrig and pts/chia-vdf



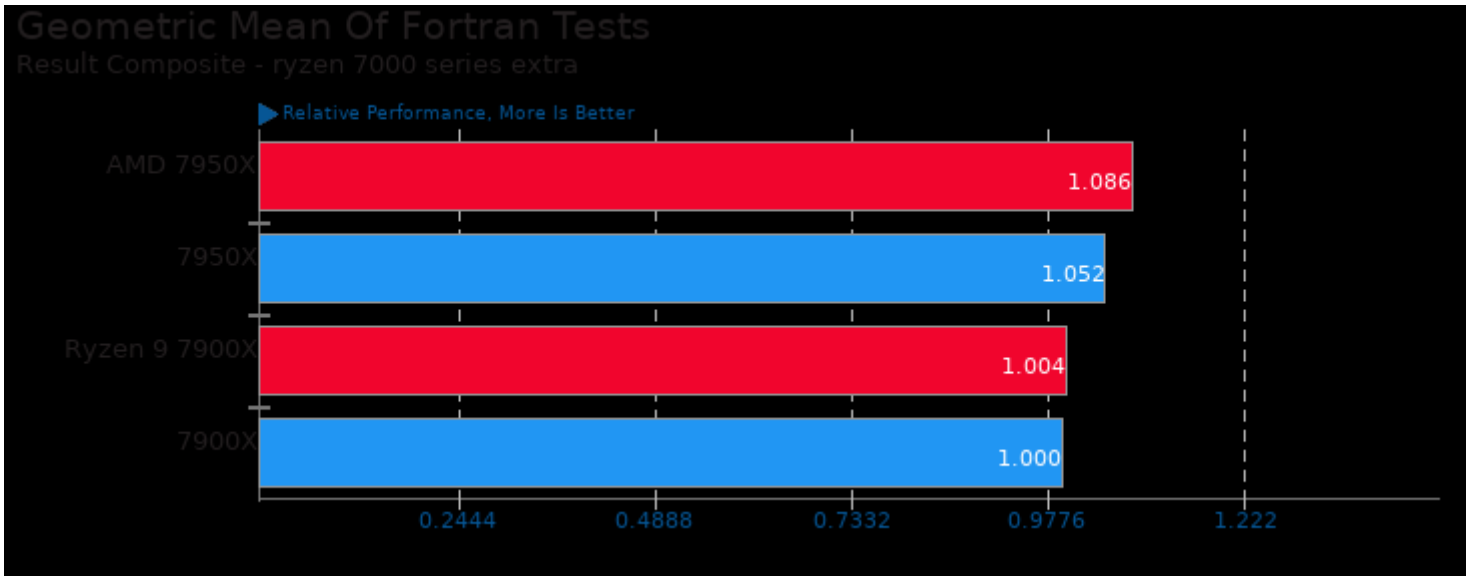

Geometric mean based upon tests: pts/sqlite-speedtest, pts/redis and pts/clickhouse



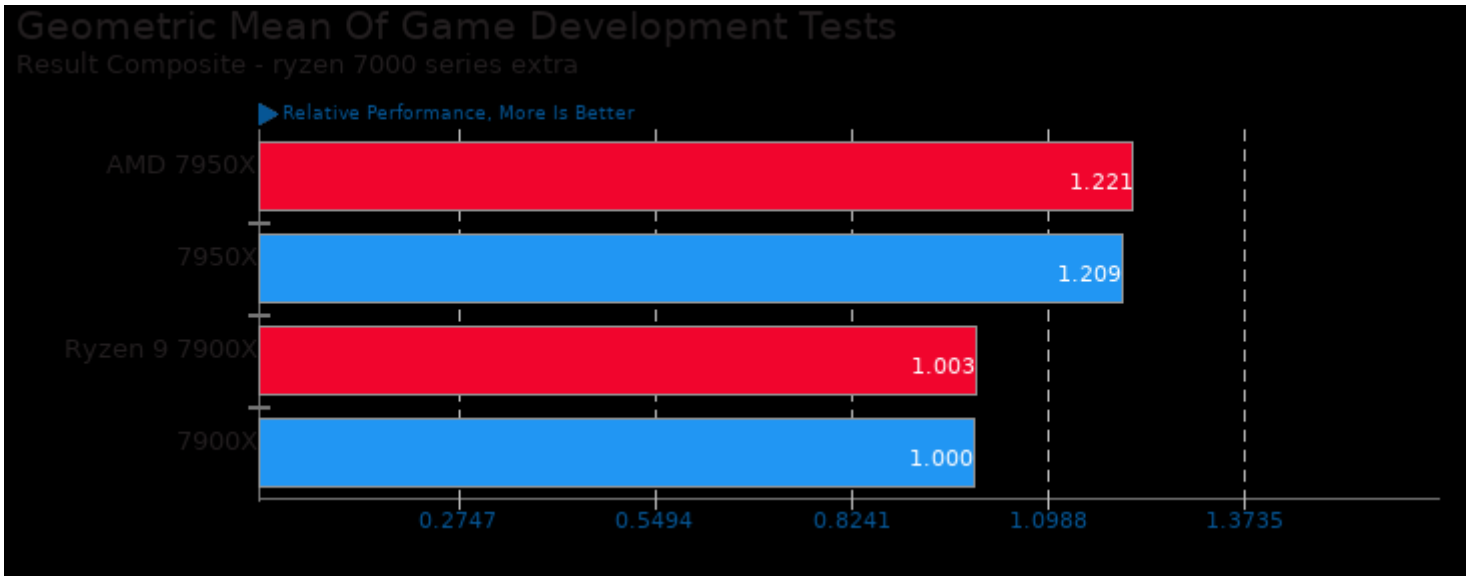

Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/encode-wavpack, pts/encode-opus, pts/stargate, pts/svt-vp9, pts/svt-hevc, pts/x264, pts/x265, pts/kvazaar, pts/vpxenc, pts/aom-av1, pts/svt-av1, pts/libgav1 and pts/avifenc



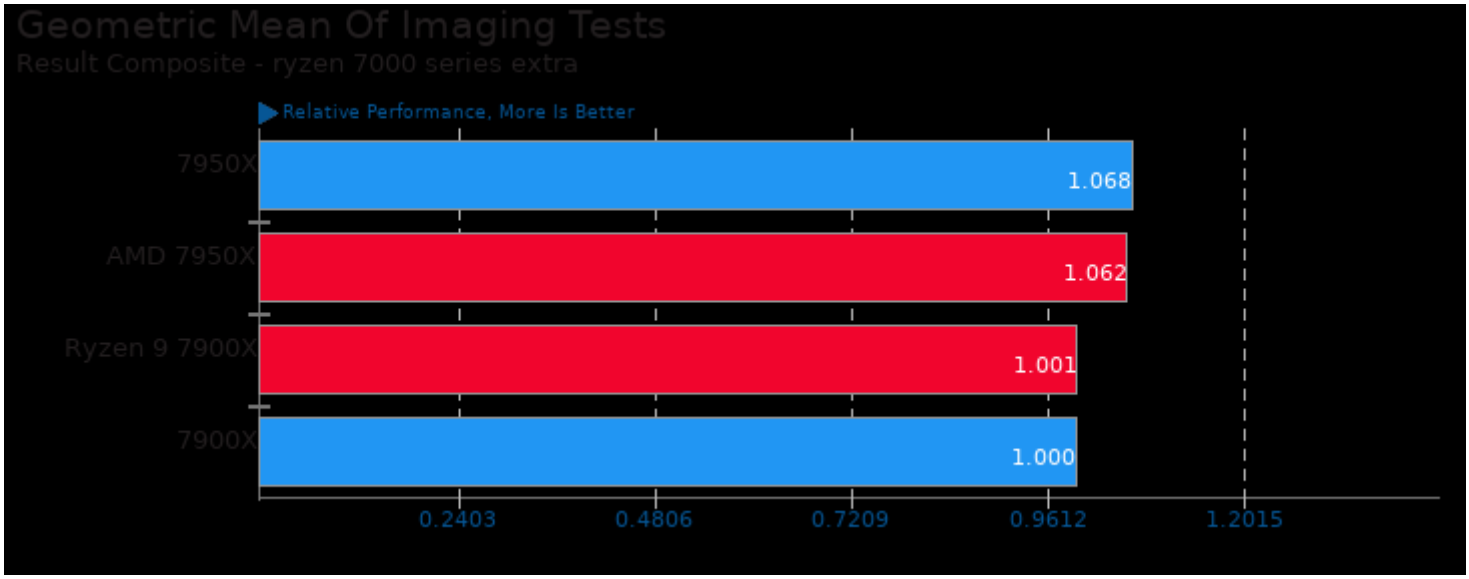

Geometric mean based upon tests: pts/financebench and pts/quantlib




Geometric mean based upon tests: pts/hpcg, pts/npb, pts/cloverleaf, pts/neat, pts/incompact3d and pts/lammps



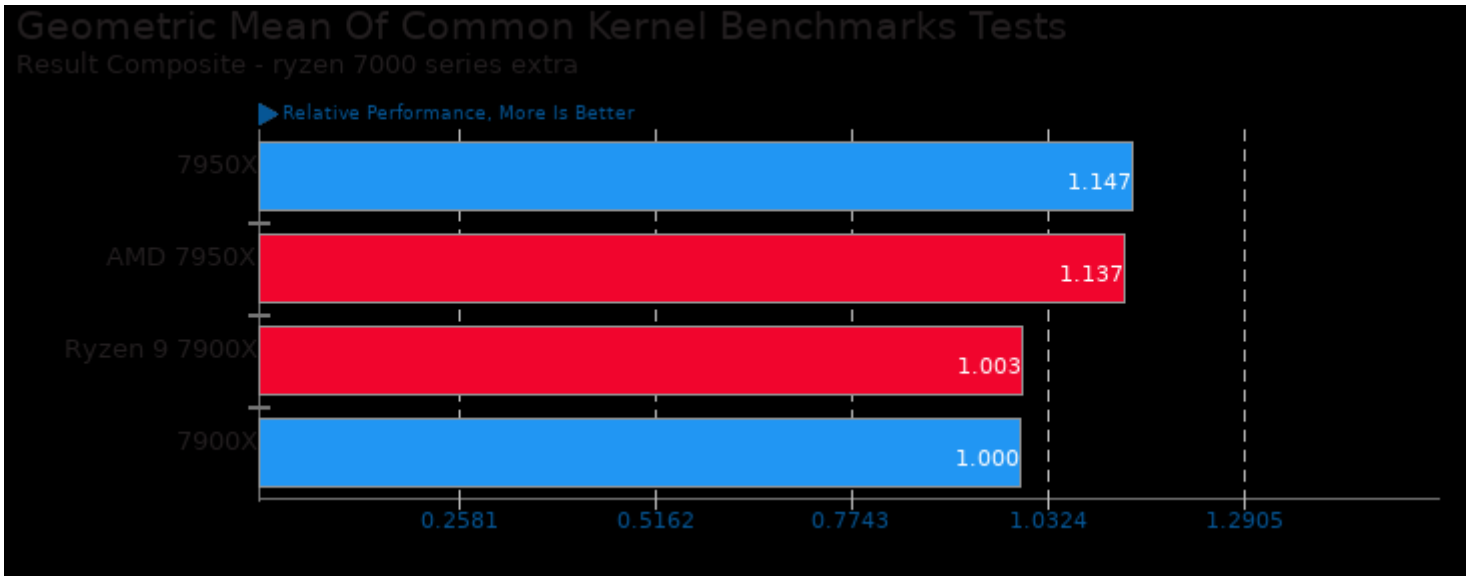

Geometric mean based upon tests: pts/astcenc, pts/etcpak, pts/draco, pts/build-godot, pts/blender, pts/oidn and pts/openvkl



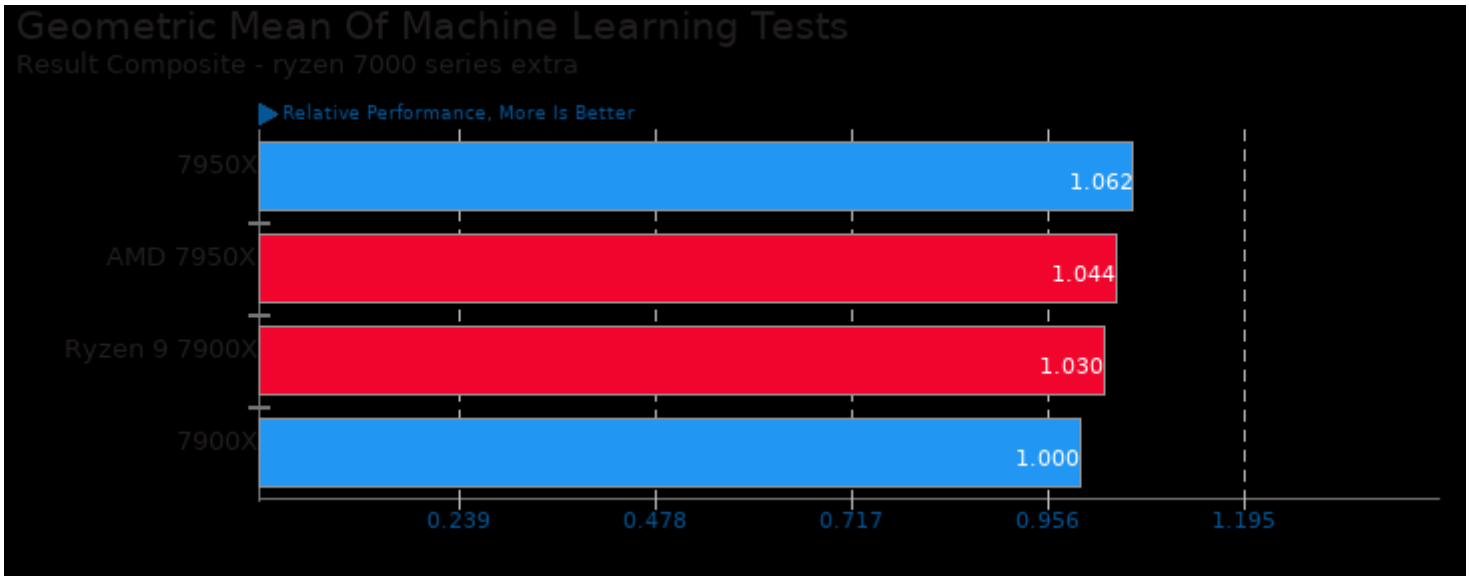

Geometric mean based upon tests: pts/graphics-magick, system/inkscape, system/gmic, pts/libraw, pts/webp, pts/webp2, pts/jpegxl, pts/jpegxl-decode, system/rawtherapee, pts/tjbench, system/gimp, system/gegl and pts/avifenc



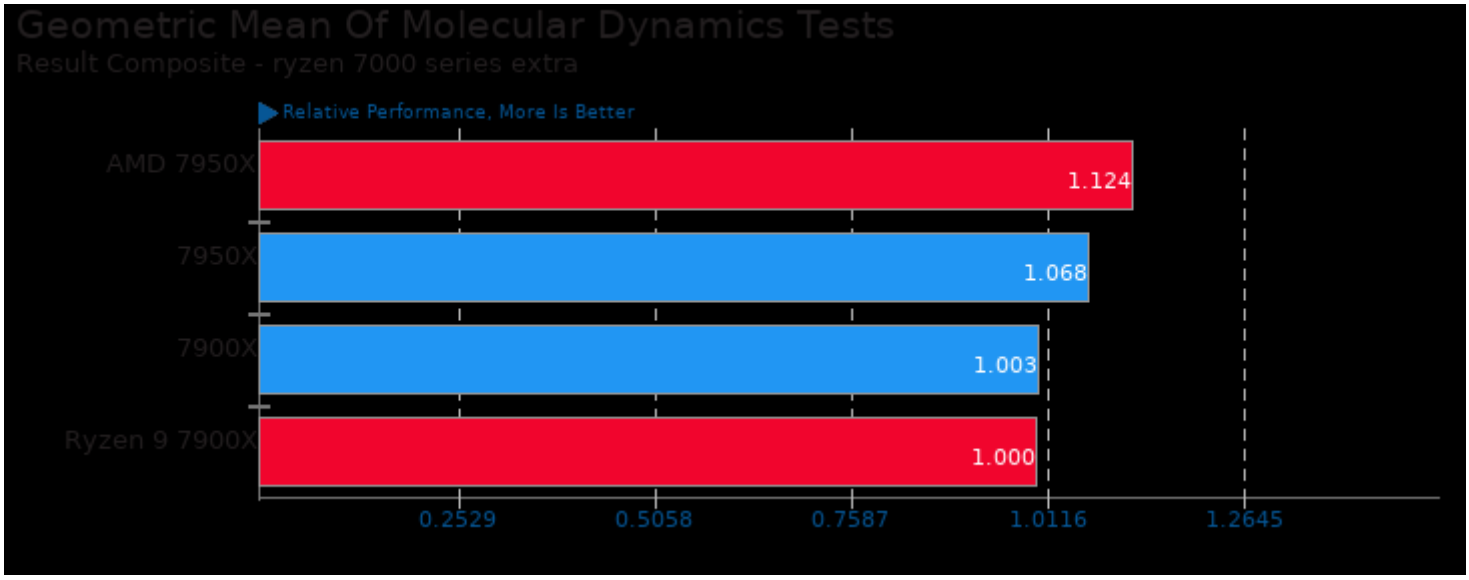

Geometric mean based upon tests: pts/bork and pts/dacapobench



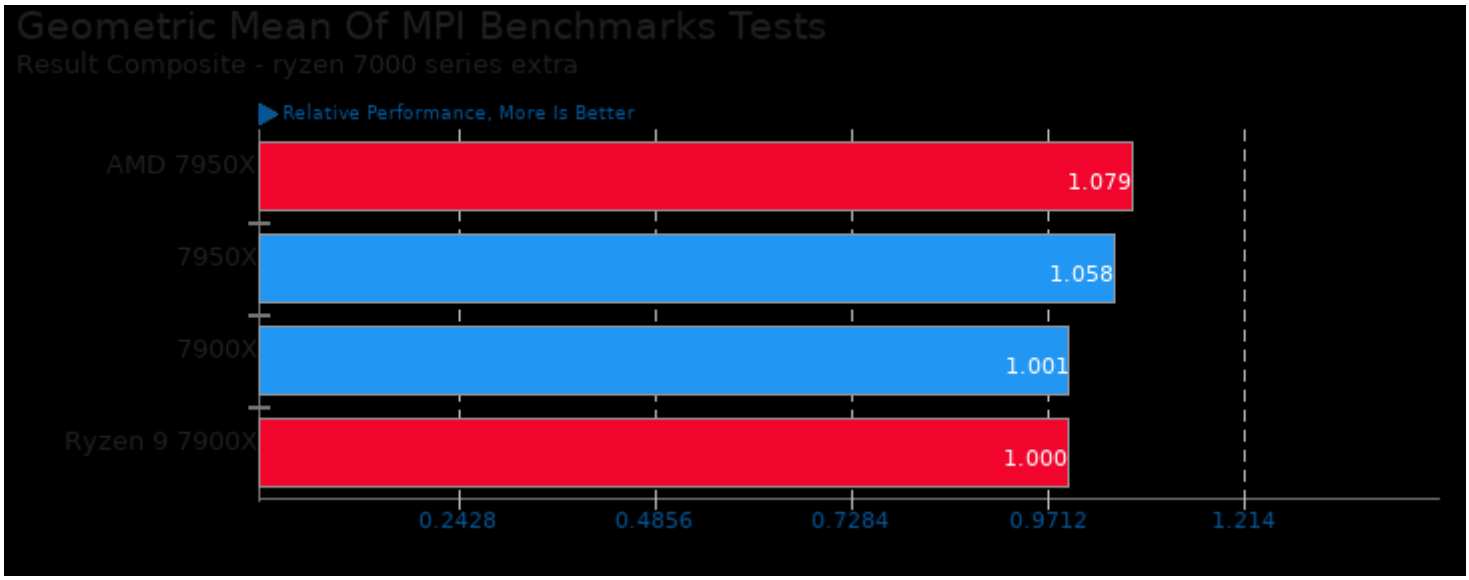

Geometric mean based upon tests: system/wireguard, pts/sqlite-speedtest, pts/openssl, pts/ctx-clock and pts/stress-ng



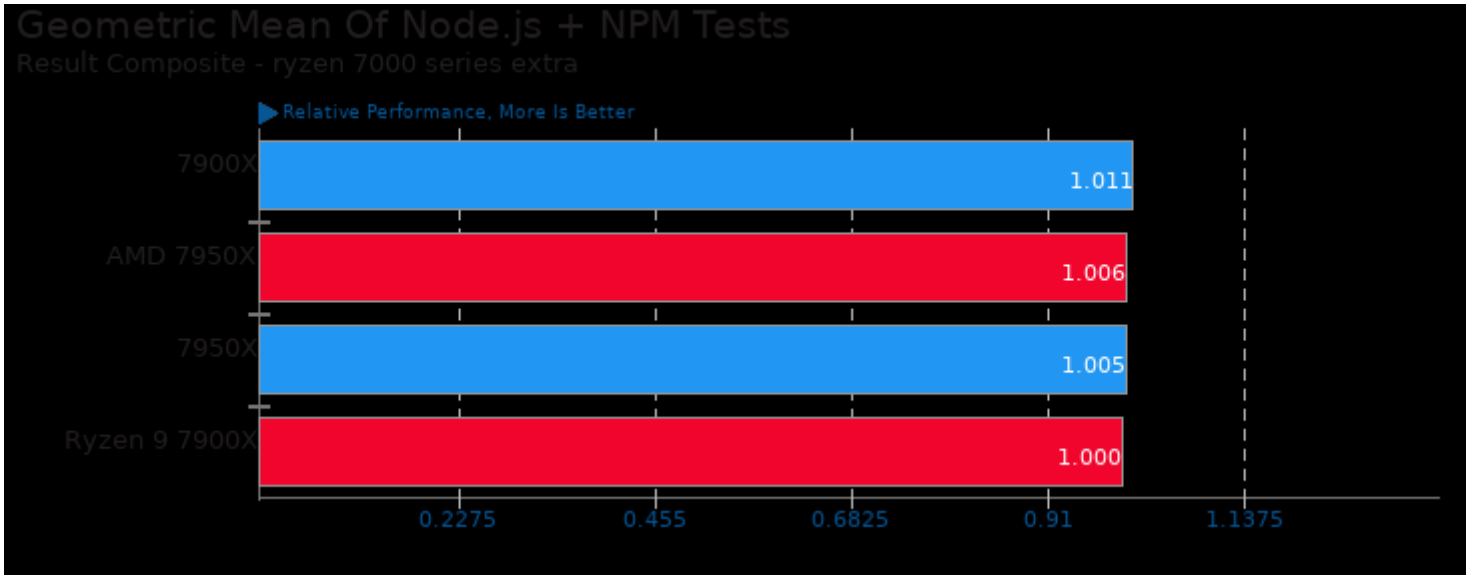

Geometric mean based upon tests: pts/ncnn, pts/tnn, pts/ai-benchmark, pts/rnnoise, pts/tensorflow-lite, pts/onednn, pts/onnx and pts/lczero



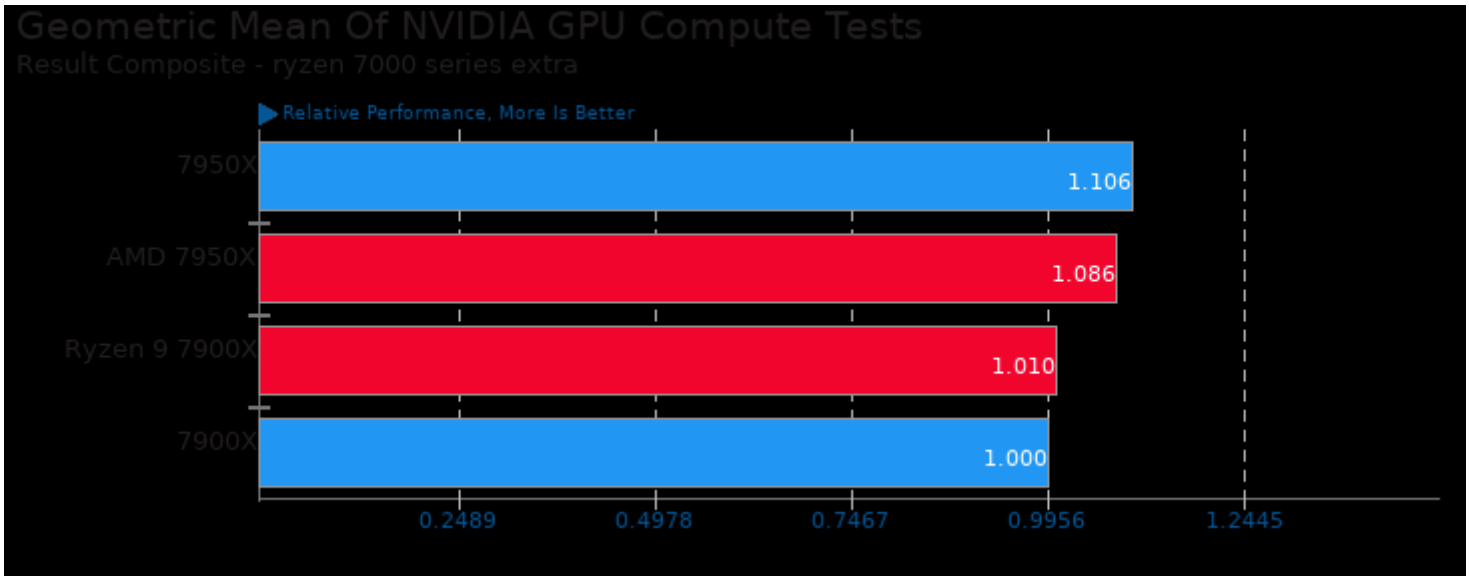

Geometric mean based upon tests: pts/namd, pts/gromacs, pts/cloverleaf, pts/lammps, pts/pennant, pts/incompact3d and pts/openfoam




Geometric mean based upon tests: pts/askap, pts/lammps, pts/incompact3d, pts/gpaw, pts/gromacs, pts/pennant, pts/hpcg, pts/mrbayes and pts/npb



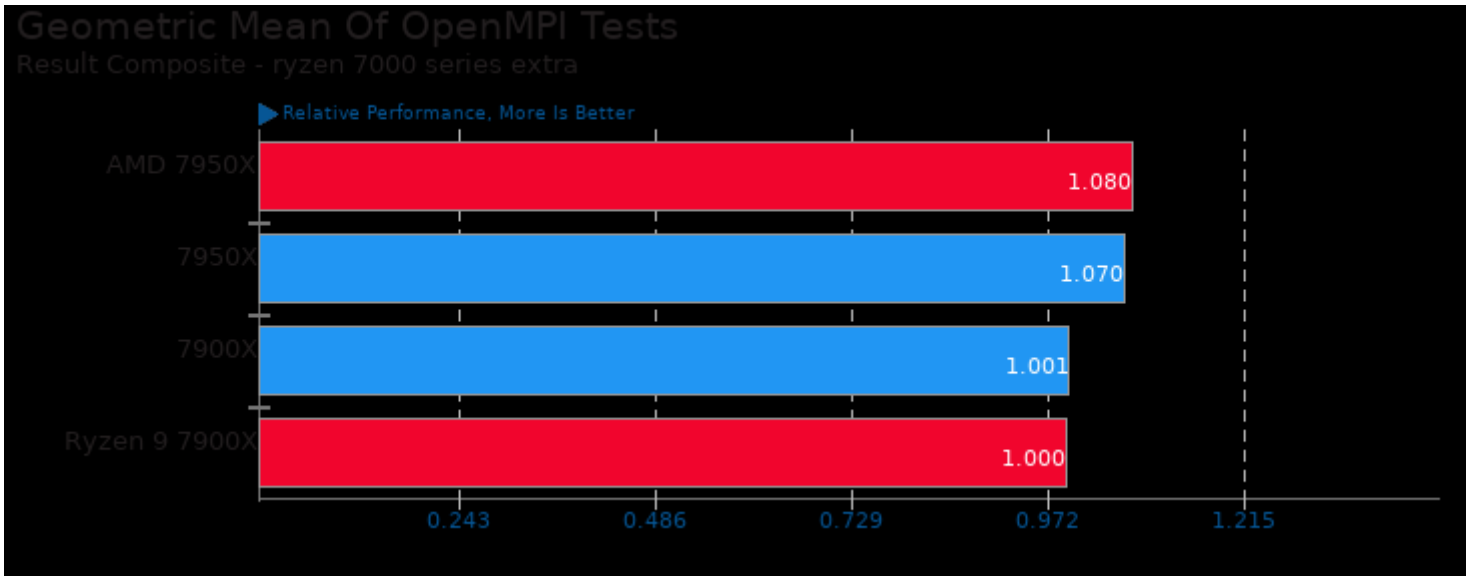

Geometric mean based upon tests: pts/node-express-loadtest and pts/node-web-tooling



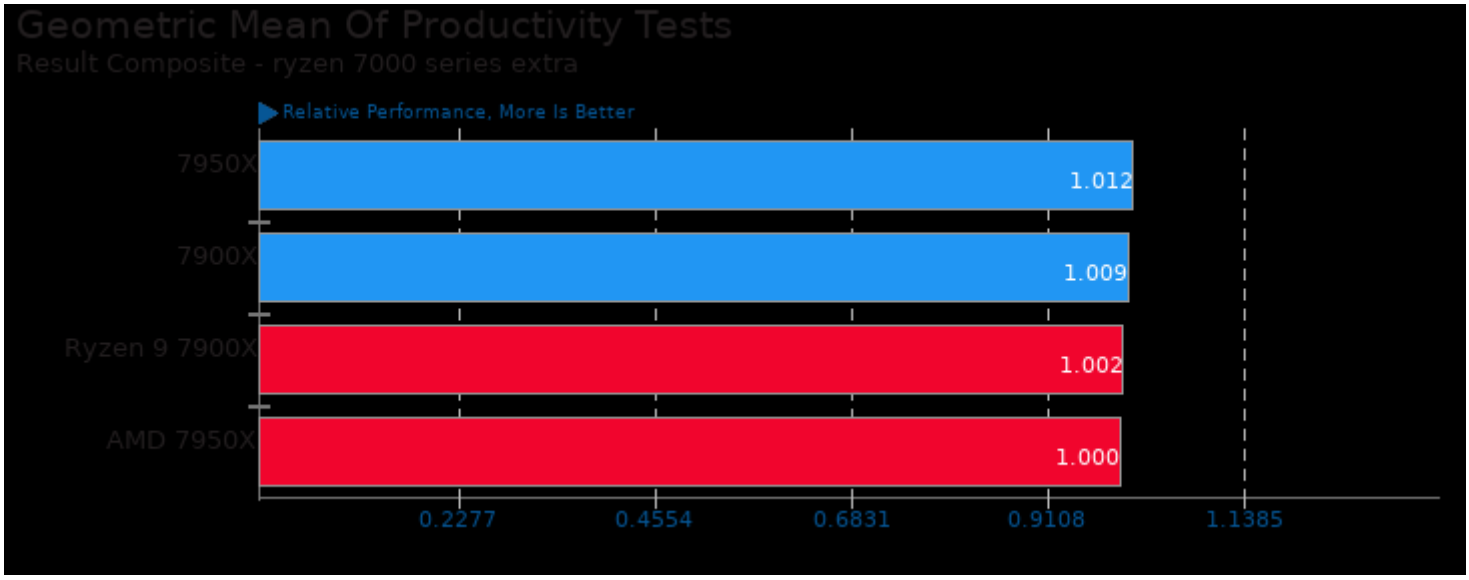

Geometric mean based upon tests: pts/gromacs, pts/luxcorerender, pts/rodinia, pts/financebench, pts/lczero, pts/indigobench, pts/v-ray, pts/blender and pts/ncnn




Geometric mean based upon tests: pts/embree, pts/onednn, pts/oidn, pts/ospray, pts/ospray-studio and pts/openvkl

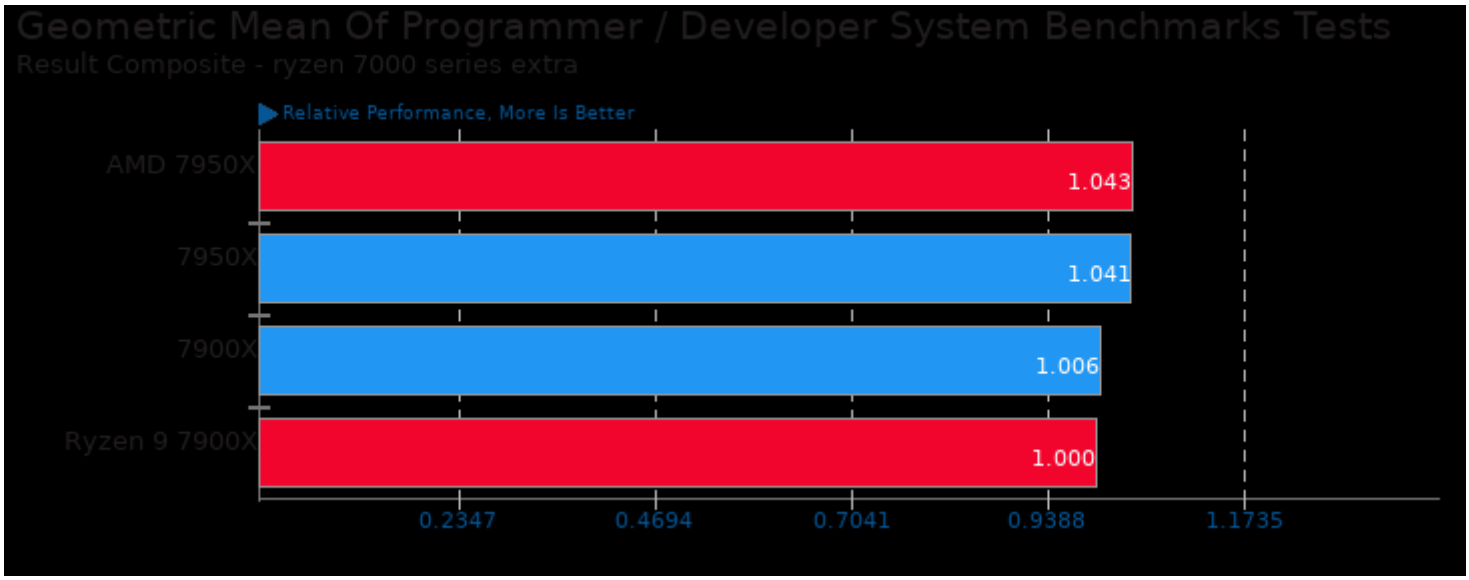



Geometric mean based upon tests: pts/hpcg, pts/npb, pts/cloverleaf, pts/rodinia, pts/amg, pts/pennant, pts/mrbayes, pts/hmmer, pts/incompact3d, pts/openfoam, pts/lammps, pts/askap, pts/gromacs and pts/gpaw

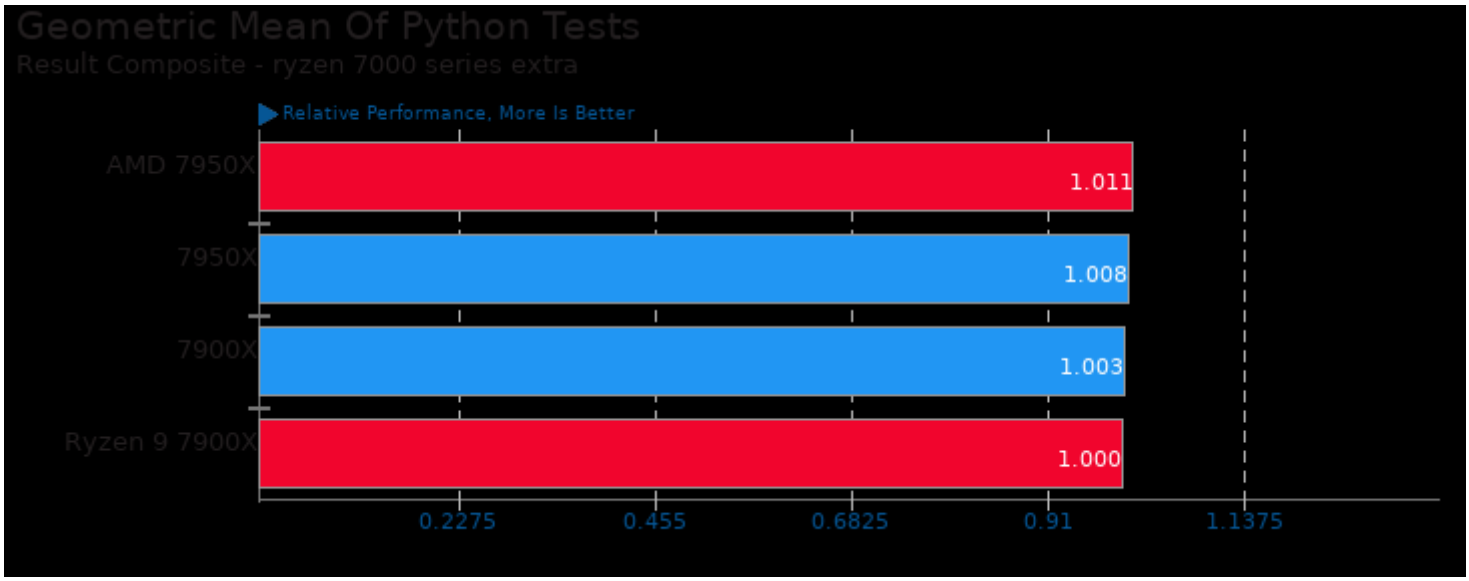



Geometric mean based upon tests: system/octave-benchmark, system/inkscape, system/gimp and system/gegl

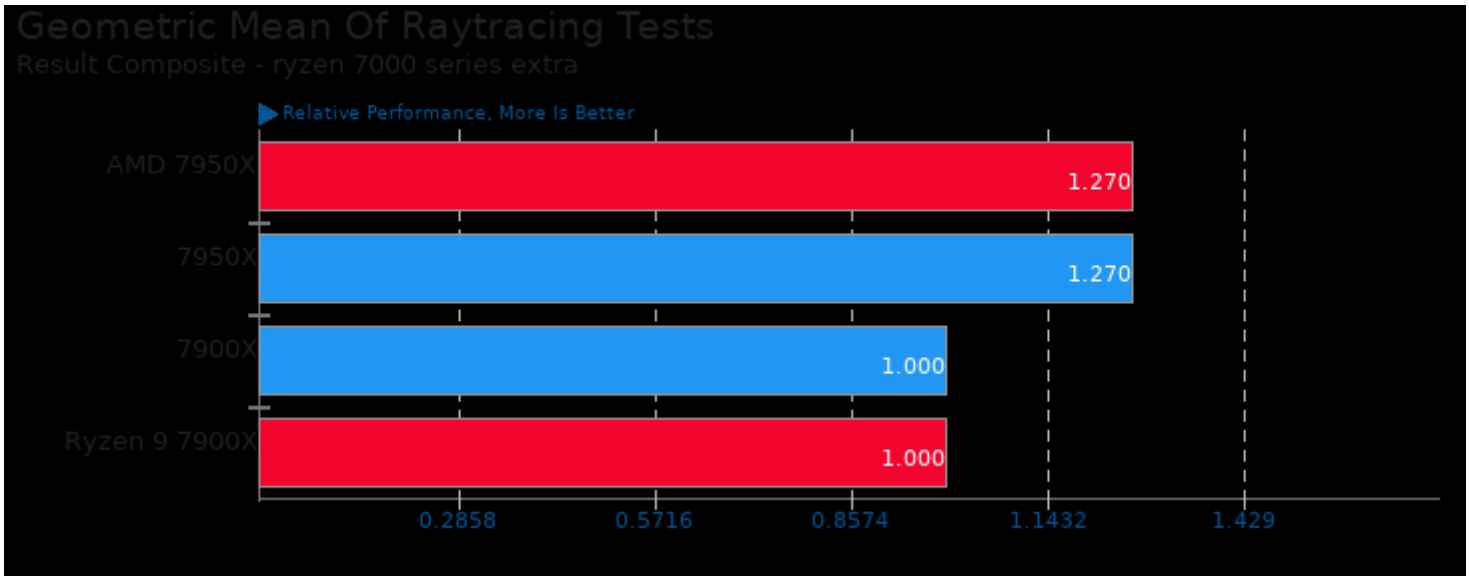
# ryzen 7000 series extra



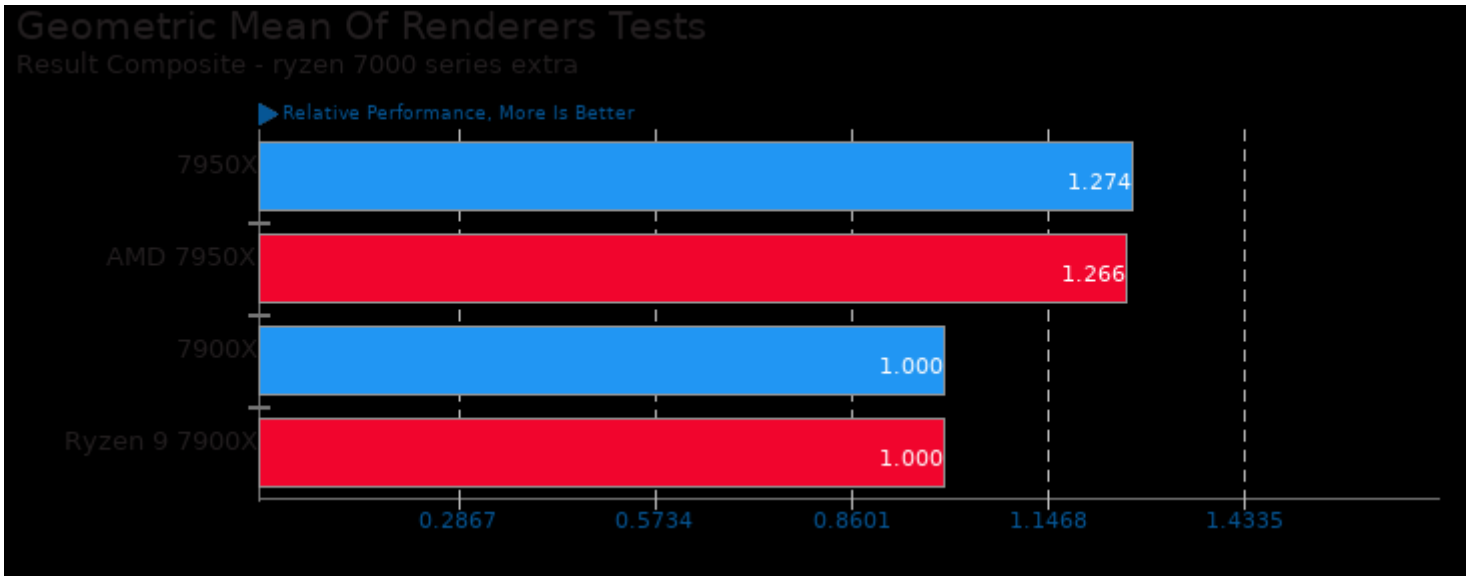

Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/node-web-tooling, pts/blosc, pts/compress-zstd, pts/pyperformance, pts/pybench, system/cryptsetup, pts/build-linux-kernel, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build-godot, pts/build-mesa, pts/build-gem5 and pts/amg




Geometric mean based upon tests: pts/pybench, pts/pyperformance and pts/pyhpc

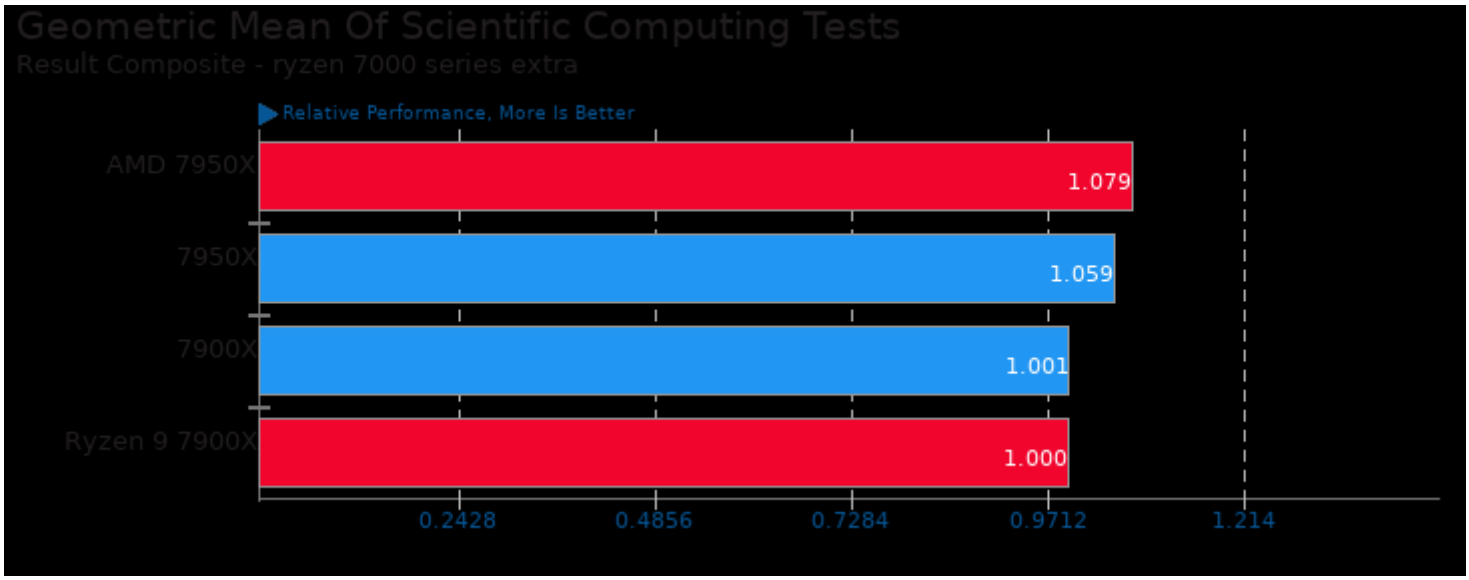



Geometric mean based upon tests: pts/ospray, pts/ospray-studio and pts/povray

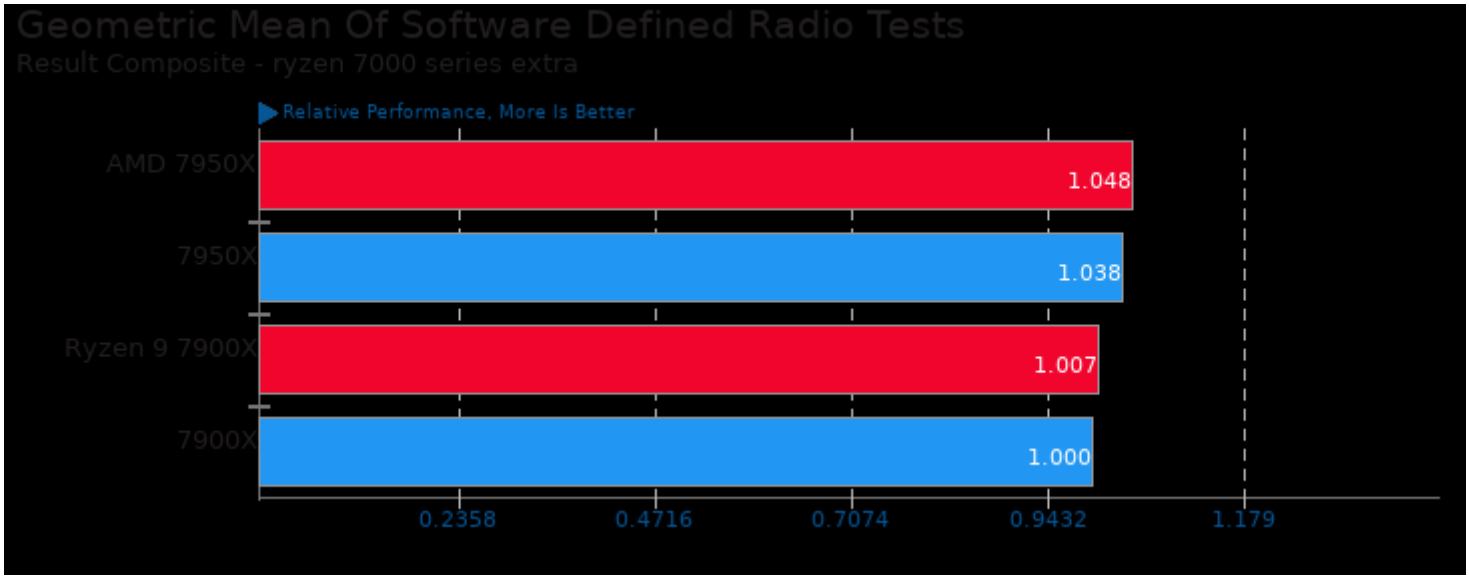



Geometric mean based upon tests: pts/ospray, pts/ospray-studio, pts/povray, pts/blender, pts/appleseed, pts/luxcorerender, pts/ttsiod-renderer, pts/v-ray, pts/indigobench and pts/natron

# ryzen 7000 series extra

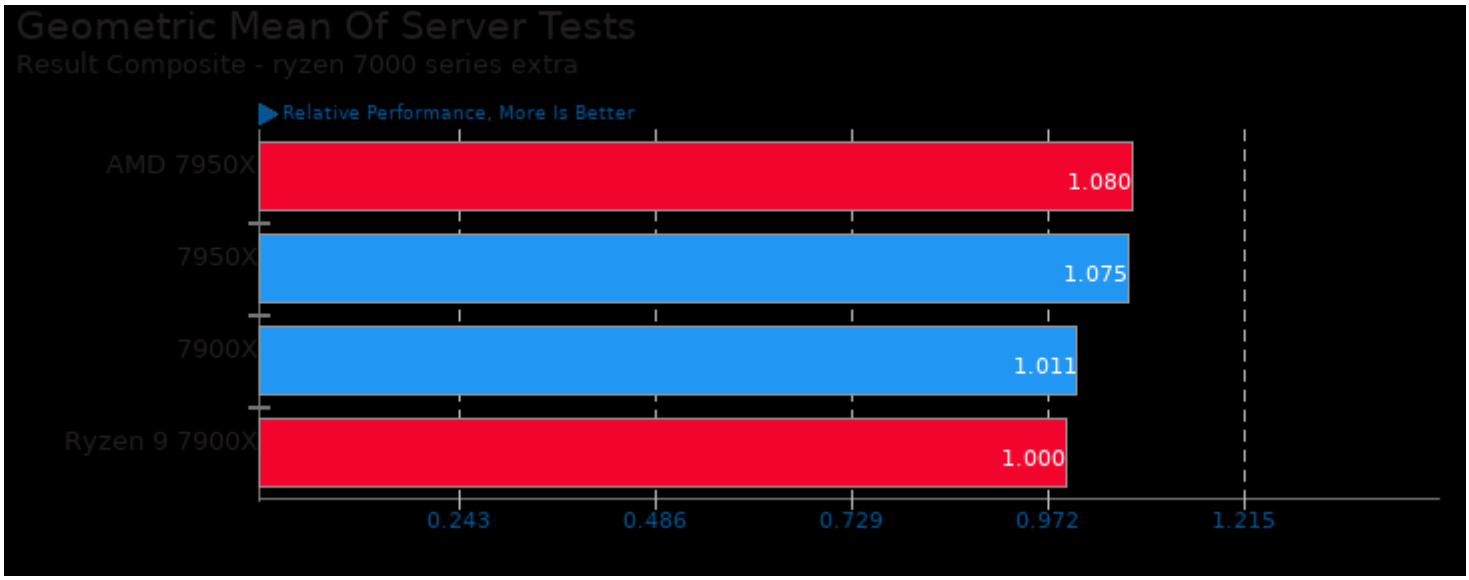



Geometric mean based upon tests: system/octave-benchmark, pts/neat, pts/amg, pts/namd, pts/gromacs, pts/cloverleaf, pts/lammps, pts/pennant, pts/incompact3d, pts/openfoam, pts/mrbayes, pts/hmmer and pts/gpaw

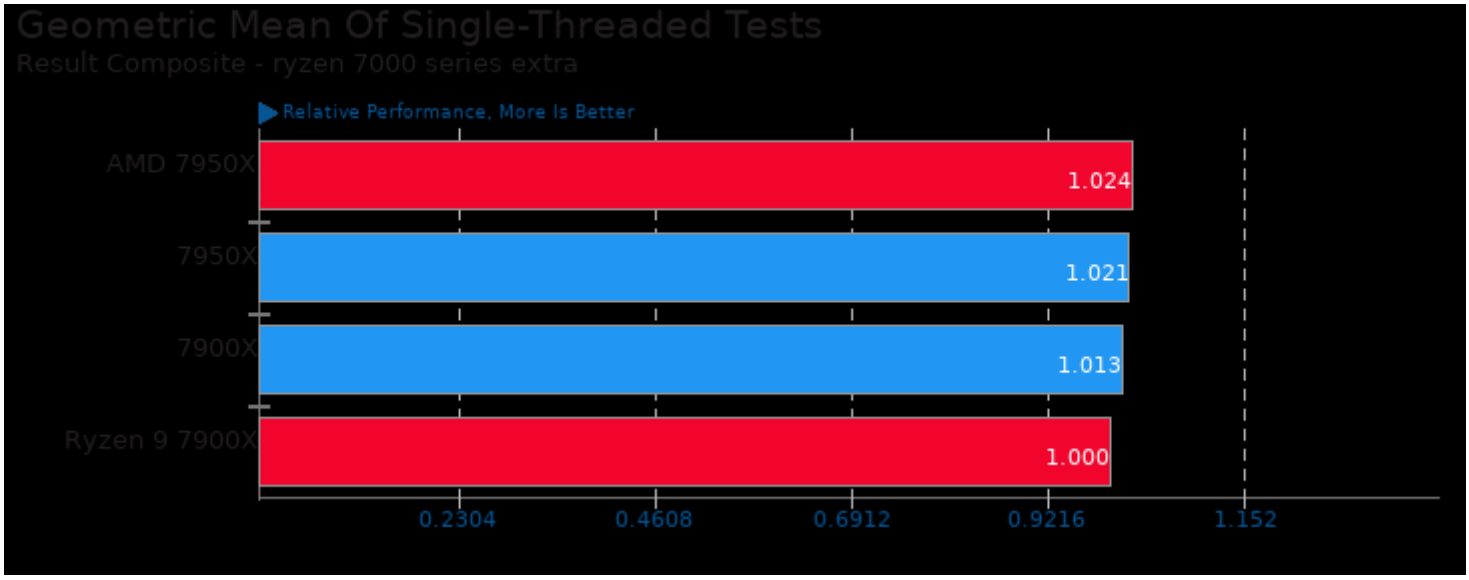



Geometric mean based upon tests: pts/liquid-dsp, pts/luaradio and system/gnuradio

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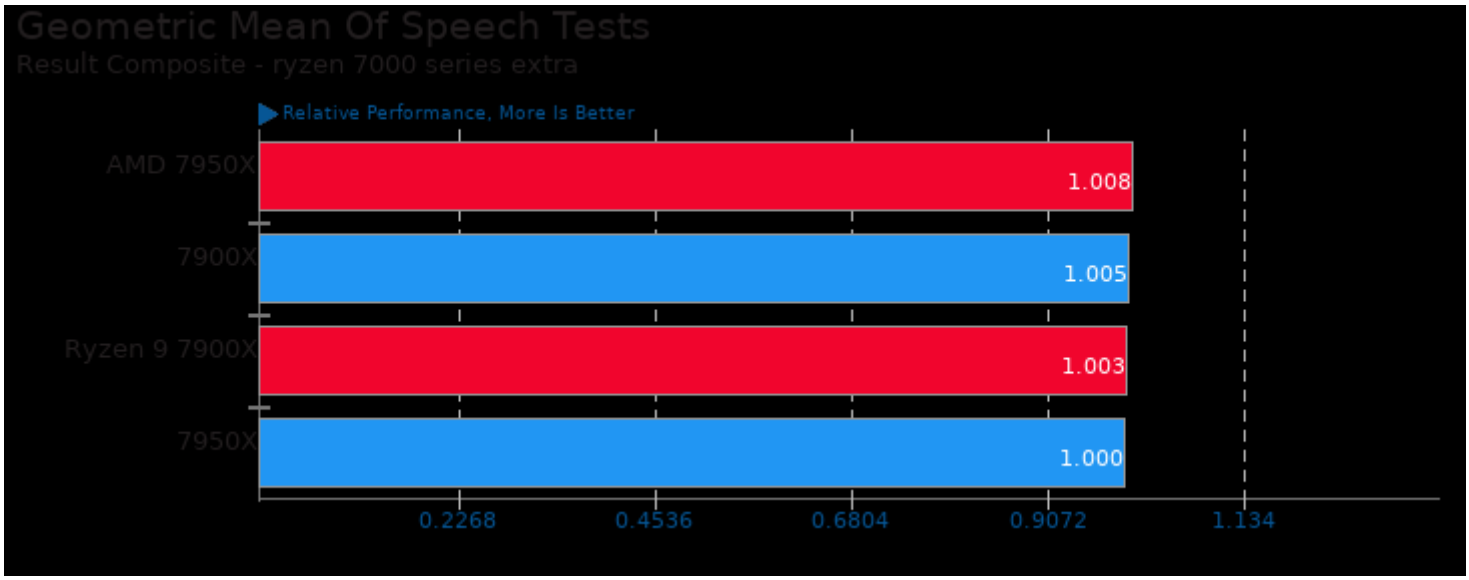



Geometric mean based upon tests: pts/redis, pts/phpbench, pts/node-express-loadtest, pts/openssl, pts/simdjson, pts/node-web-tooling, pts/sqlite-speedtest and pts/clickhouse

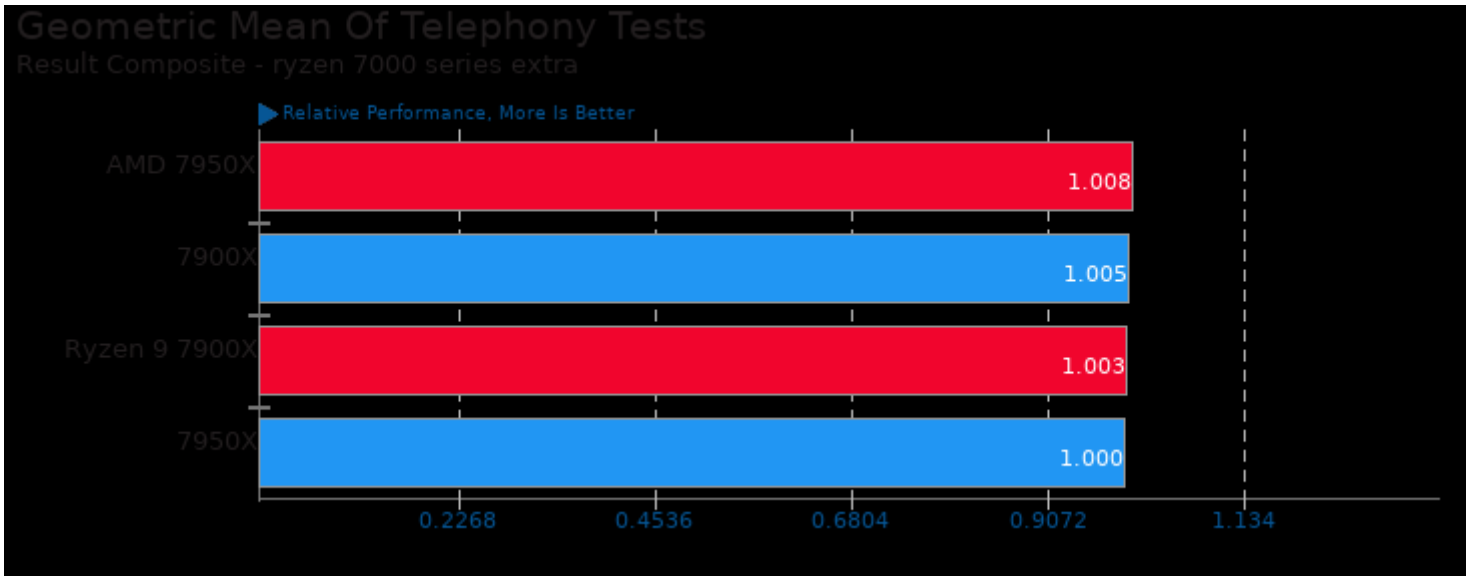



Geometric mean based upon tests: pts/bork, pts/node-express-loadtest, pts/compress-gzip, pts/encode-flac, pts/encode-mp3, pts/espeak, pts/tjbench, system/inkscape, pts/redis, pts/pybench, pts/phpbench and pts/hint

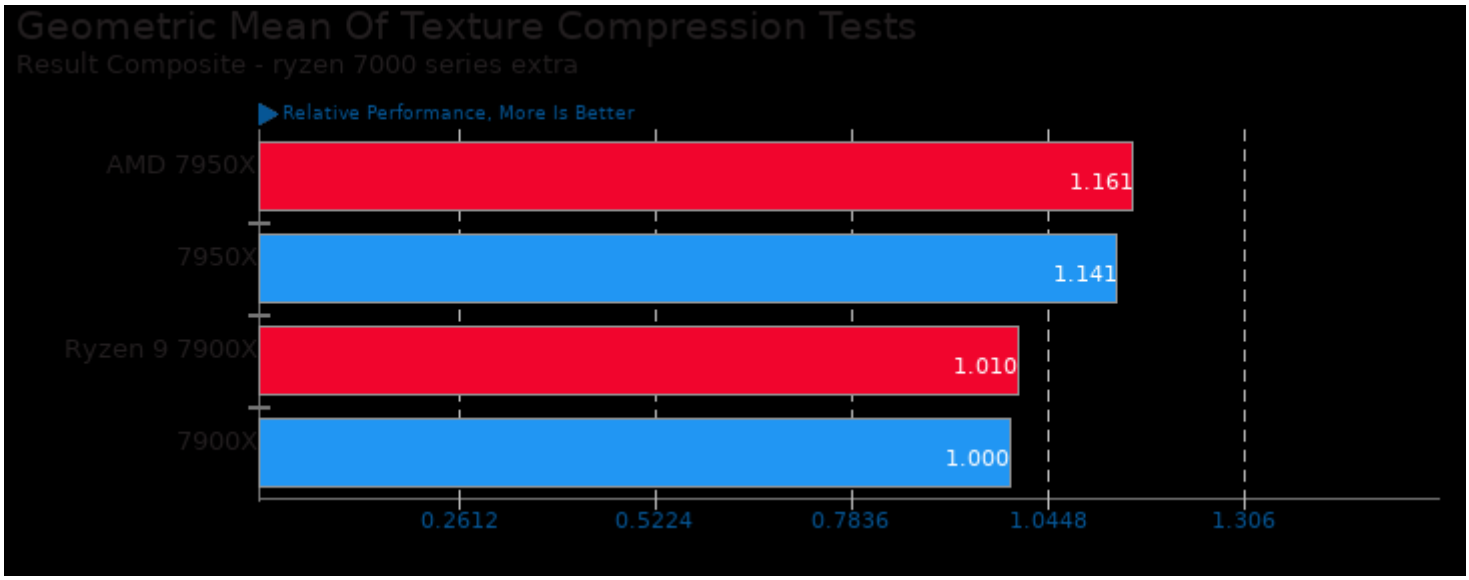
# ryzen 7000 series extra



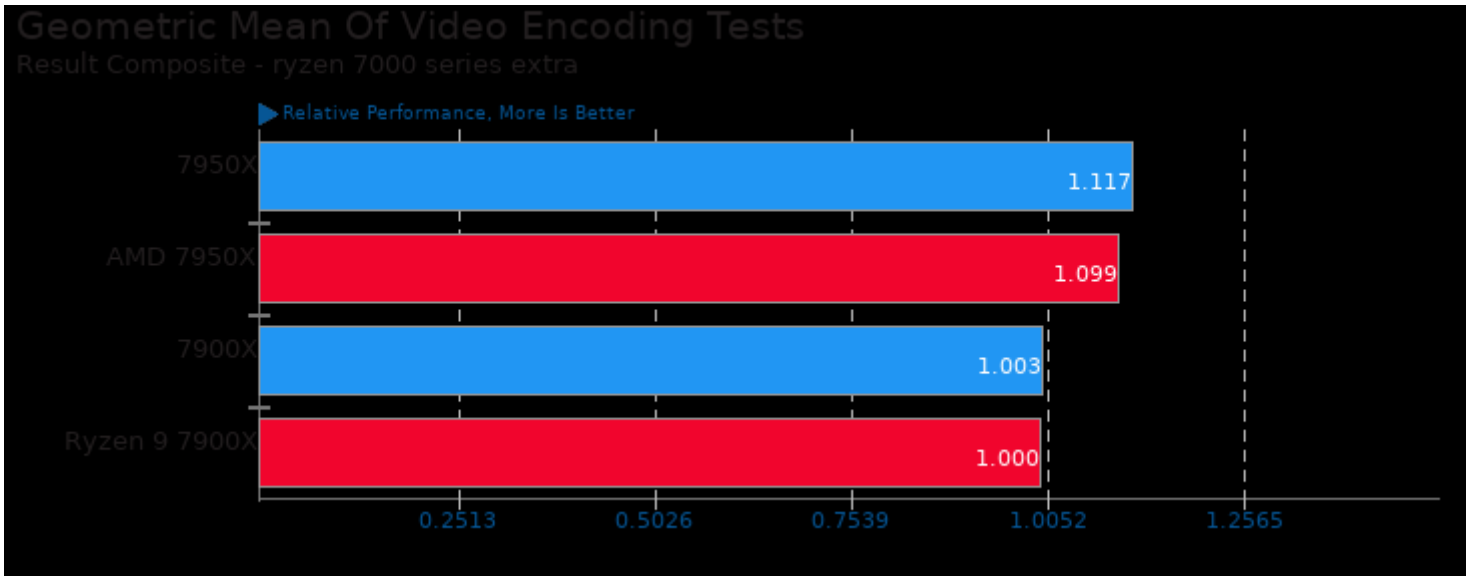

Geometric mean based upon tests: pts/espeak, pts/vosk, pts/rnnoise and pts/synthmark




Geometric mean based upon tests: pts/espeak, pts/vosk, pts/rnnoise and pts/synthmark

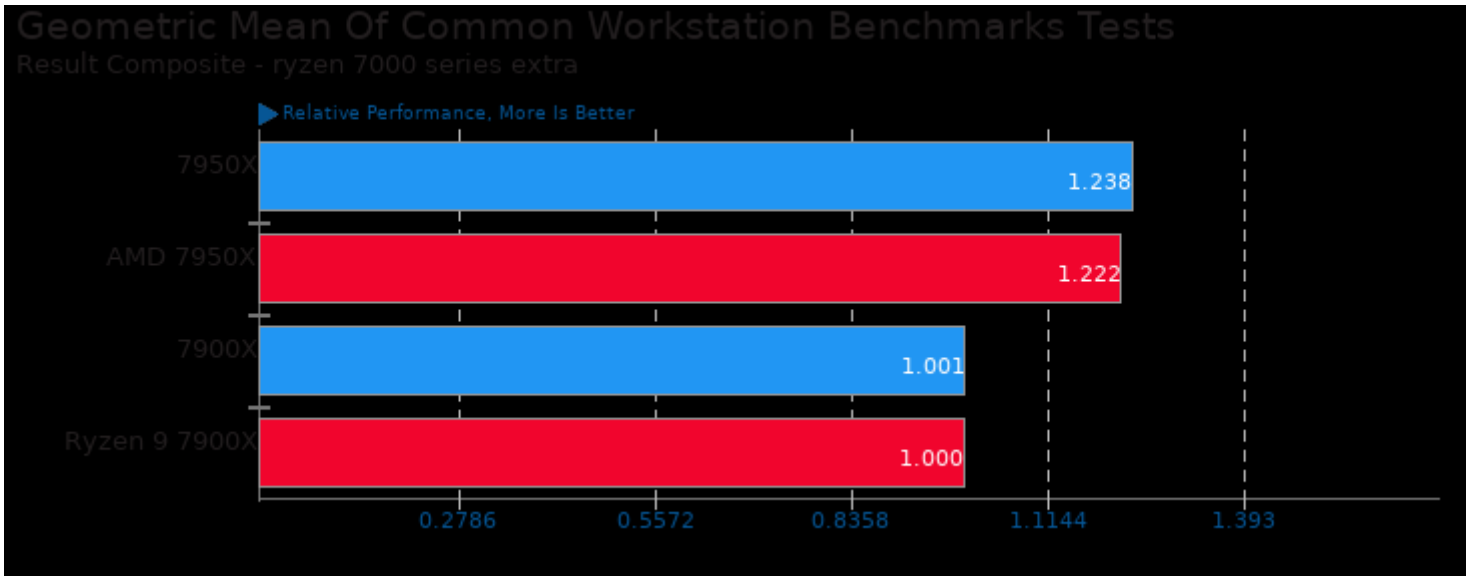



Geometric mean based upon tests: pts/astcenc, pts/etcpak and pts/draco




Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x264, pts/x265, pts/kvazaar, pts/vpxenc, pts/aom-av1, pts/svt-av1, pts/libgav1 and pts/avifenc

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Geometric mean based upon tests: pts/blender, pts/rodinia, pts/x265 and pts/sysbench

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 03:17.*