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Core i7 5960X Intel 2021 Linux

Intel Core i7-5960X testing with a Gigabyte X99-UD4-CF (F24c BIOS) and NVIDIA GeForce 6600 GT 124MB on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 48% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.008x the speed of the slowest (B). C was 0.995x the speed of A and B was 0.998x the speed of C.

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

High Performance Conjugate Gradient at 2.459x
Etcpak (Configuration: DXT1) at 2.318x
Redis (Test: LPOP) at 1.597x
CLOMP (Static OMP Speedup) at 1.577x
C-Blosc (Compressor: blosclz) at 1.352x
ONNX Runtime (Model: yolov4 - Device: CPU) at 1.337x
Etcpak (Configuration: ETC1) at 1.312x
ONNX Runtime (Model: shufflenet-v2-10 - Device: CPU) at 1.301x
LeelaChessZero (Backend: Eigen) at 1.293x

Etcpak (Configuration: ETC1 + Dithering) at 1.29x.

Test Systems:

A

B

C

Processor: Intel Core i7-5960X @ 3.00GHz (8 Cores / 16 Threads), Motherboard: Gigabyte X99-UD4-CF (F24c BIOS), Chipset: Intel Xeon E7 v3/Xeon, Memory: 16GB, Disk: 120GB INTEL SSDSC2BW12, Graphics: NVIDIA GeForce 6600 GT 124MB, Audio: Realtek ALC1150, Monitor: DELL S2409W, Network: Intel I218-V

OS: Debian 11, Kernel: 5.10.0-10-amd64 (x86_64), Display Driver: nouveau, Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0x3d
Java Notes: OpenJDK Runtime Environment (build 11.0.13+8-post-Debian-1deb11u1)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + l1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
C-Blosc - blosclz (MB/s)	**14740**	**10905**	11390
Normalized	100%	73.98%	77.28%
QuantLib (MFLOPS)	**1830**	**1729**	1736
Normalized	100%	94.48%	94.88%
Etcpak - DXT1 (Mpx/s)	**1114**	**480.375**	482.296
Normalized	100%	43.14%	43.31%
Etcpak - ETC1 (Mpx/s)	**266.27**	**202.958**	203.097
Normalized	100%	76.22%	76.27%
Etcpak - ETC2 (Mpx/s)	**150.482**	**128.218**	129.432
Normalized	100%	85.2%	86.01%
Etcpak - ETC1 + Dithering (Mpx/s)	**249.356**	**193.302**	193.583
Normalized	100%	77.52%	77.63%

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High Performance Conjugate Gradient (GFLOP/s)	**6.35064**	**2.58273**	2.58626
Normalized	100%	40.67%	40.72%
NAS Parallel Benchmarks - EP.C (Mop/s)	**945.03**	**883.78**	884.3
Normalized	100%	93.52%	93.57%
LeelaChessZero - BLAS (Nodes/s)	**903**	**723**	759
Normalized	100%	80.07%	84.05%
LeelaChessZero - Eigen (Nodes/s)	**865**	**669**	681
Normalized	100%	77.34%	78.73%
Rodinia - OpenMP CFD Solver (sec)	**32.08**	**35.061**	34.848
Normalized	100%	91.5%	92.06%
CLOMP - Static OMP Speedup (Speedup)	**9.7**	**15.3**	14.6
Normalized	63.4%	100%	95.42%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	**2.81775**	**2.93814**	2.88609
Normalized	100%	95.9%	97.63%
Timed MrBayes Analysis - P.P.A (sec)	**189.578**	**192.921**	192.604
Normalized	100%	98.27%	98.43%
Timed HMMer Search - P.D.S (sec)	**167.406**	**167.946**	167.58
Normalized	100%	99.68%	99.9%
Quantum ESPRESSO - AUSURF112 (sec)	1033		
BLAKE2 (Cycles/Byte)	**6.49**	**6.49**	**6.48**
Normalized	99.85%	99.85%	100%
libgav1 - Chimera 1080p (FPS)	**80.32**	78.37	**78.34**
Normalized	100%	97.57%	97.53%
libgav1 - Summer Nature 4K (FPS)	**33.82**	**31.55**	31.69
Normalized	100%	93.29%	93.7%
libgav1 - S.N.1 (FPS)	**103.66**	101.43	**101.21**
Normalized	100%	97.85%	97.64%
libgav1 - C.1.1.b (FPS)	**23.83**	22.43	**22.4**
Normalized	100%	94.13%	94%
Xmrig - Monero - 1M (H/s)	3900	**3907**	**3879**
Normalized	99.83%	100%	99.27%
Xmrig - Wownero - 1M (H/s)	5157	**5162**	**5156**
Normalized	99.91%	100%	99.88%
LZ4 Compression - 1 - Compression Speed (MB/s)	3973		
LZ4 Compression - 1 - D.S (MB/s)	4457		
LZ4 Compression - 3 - Compression Speed (MB/s)	40.8		
LZ4 Compression - 3 - D.S (MB/s)	4257		
LZ4 Compression - 9 - Compression Speed (MB/s)	39.86		
LZ4 Compression - 9 - D.S (MB/s)	4254		
Zstd Compression - 3 - Compression Speed (MB/s)	1823		
Zstd Compression - 8 - Compression Speed (MB/s)	361.6		
Zstd Compression - 8 - D.S (MB/s)	2199		

Zstd Compression - 19 - Compression Speed (MB/s)	35.2		
Zstd Compression - 19 - D.S (MB/s)	2070		
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	341.8		
Zstd Compression - 3, Long Mode - D.S	2297		
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	413.4		
Zstd Compression - 8, Long Mode - D.S	2360		
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	33		
Zstd Compression - 19, Long Mode - D.S (MB/s)	2108		
JPEG XL libjxl - PNG - 5 (MP/s)	**21.01**	**21.48**	21.46
Normalized	97.81%	100%	99.91%
JPEG XL libjxl - PNG - 7 (MP/s)	**4.89**	**5.43**	**5.43**
Normalized	90.06%	100%	100%
JPEG XL libjxl - PNG - 8 (MP/s)	**0.37**	0.42	**0.43**
Normalized	86.05%	97.67%	100%
JPEG XL libjxl - JPEG - 5 (MP/s)	**34.42**	34.63	**34.88**
Normalized	98.68%	99.28%	100%
JPEG XL libjxl - JPEG - 7 (MP/s)	**34.52**	**34.81**	34.65
Normalized	99.17%	100%	99.54%
JPEG XL libjxl - JPEG - 8 (MP/s)	**14.24**	**14.37**	14.28
Normalized	99.1%	100%	99.37%
srsRAN - OFDM_Test (Samples / Second)	**75100000**	75200000	**77000000**
Normalized	97.53%	97.66%	100%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	**238.6**	**238.5**	**238.5**
Normalized	100%	99.96%	99.96%
srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	77.8	**76.9**	**78.9**
Normalized	98.61%	97.47%	100%
srsRAN - 4.P.1.P.S.6.Q (eNb Mb/s)	**244.1**	**244**	**244.1**
Normalized	100%	99.96%	100%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	**93.1**	**94.2**	94
Normalized	98.83%	100%	99.79%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	265.6	**261.8**	**265.9**
Normalized	99.89%	98.46%	100%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	**83.5**	87.5	**87.8**
Normalized	95.1%	99.66%	100%
srsRAN - 4.P.1.P.S.2.Q (eNb Mb/s)	**270**	**271**	270.3
Normalized	99.63%	100%	99.74%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	**97.7**	100.2	**101.2**
Normalized	96.54%	99.01%	100%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	**83.1**	83.3	**84.2**
Normalized	98.69%	98.93%	100%
srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	**41.1**	**41.3**	**41.3**
Normalized	99.52%	100%	100%
LuxCoreRender - DLSC - CPU (M	**1.26**	**1.26**	**1.29**
Normalized	97.67%	97.67%	100%

LuxCoreRender - Danish Mood - CPU (M samples/sec)	0.67	0.73	0.76
Normalized	88.16%	96.05%	100%
LuxCoreRender - Orange Juice - CPU (M samples/sec)	1.84	1.83	1.82
Normalized	100%	99.46%	98.91%
LuxCoreRender - LuxCore Benchmark - CPU (M samples/sec)	0.79	0.79	0.76
Normalized	100%	100%	96.2%
LuxCoreRender - R.C.a.P - CPU (M samples/sec)	5.24	5.21	5.24
Normalized	100%	99.43%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	5.35	5.35	5.28
Normalized	100%	100%	98.69%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	4.47	4.7	4.68
Normalized	95.11%	100%	99.57%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	19.8	19.64	19.95
Normalized	99.25%	98.45%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	22.82	22.81	22.57
Normalized	100%	99.96%	98.9%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	25.21	25.47	25.48
Normalized	98.94%	99.96%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	4.22	4.19	4.21
Normalized	100%	99.29%	99.76%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	10.38	10.44	10.6
Normalized	97.92%	98.49%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	42.63	42.91	43.11
Normalized	98.89%	99.54%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	53.61	56.14	54.71
Normalized	95.49%	100%	97.45%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	61.94	60.99	61.56
Normalized	100%	98.47%	99.39%
Kvazaar - Bosphorus 4K - Medium (FPS)	4.39	4.41	4.43
Normalized	99.1%	99.55%	100%
Kvazaar - Bosphorus 1080p - Medium (FPS)	23.49	23.46	23.35
Normalized	100%	99.87%	99.4%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	9.7	9.69	9.76
Normalized	99.39%	99.28%	100%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	16.5	16.62	16.76
Normalized	98.45%	99.16%	100%
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	43.79	43.99	44.5
Normalized	98.4%	98.85%	100%

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Kvazaar - Bosphorus 1080p - Ultra Fast	79.73	80.06	80.19
Normalized	99.43%	99.84%	100%
VP9 libvpx Encoding - Speed 0 - Bosphorus 4K (FPS)	4.13	3.95	4.13
Normalized	100%	95.64%	100%
VP9 libvpx Encoding - Speed 5 - Bosphorus 4K (FPS)	7.32	7.29	7.39
Normalized	99.05%	98.65%	100%
VP9 libvpx Encoding - Speed 0 - Bosphorus 1080p (FPS)	9.2	9.12	9.13
Normalized	100%	99.13%	99.24%
VP9 libvpx Encoding - Speed 5 - Bosphorus 1080p (FPS)	21.34	21.39	21.49
Normalized	99.3%	99.53%	100%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	273364	274466	274784
Normalized	99.48%	99.88%	100%
7-Zip Compression - Compression Rating (MIPS)	52913	52941	53331
Normalized	99.22%	99.27%	100%
7-Zip Compression - D.R (MIPS)	41133	41615	41598
Normalized	98.84%	100%	99.96%
Stockfish - Total Time (Nodes/s)	16818369	17158681	17360856
Normalized	96.88%	98.84%	100%
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	2.099402	2.115231	2.093862
Normalized	99.25%	100%	98.99%
Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)	1.50767	1.519214	1.514371
Normalized	99.24%	100%	99.68%
Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)	1.994605	2.00383	2.012198
Normalized	99.13%	99.58%	100%
PJSIP - INVITE (Responses/sec)	5224	5215	5188
Normalized	100%	99.83%	99.31%
PJSIP - OPTIONS, Stateful (Responses/sec)	7430	7452	7447
Normalized	99.7%	100%	99.93%
PJSIP - OPTIONS, Stateless (Responses/sec)	42926	42813	43574
Normalized	98.51%	98.25%	100%
Timed FFmpeg Compilation - Time To Compile (sec)	81.079		
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	81.848	81.855	82.309
Normalized	100%	99.99%	99.44%
Timed Linux Kernel Compilation - Time To Compile (sec)	130.789		
Timed LLVM Compilation - Ninja (sec)	987.648		
Timed LLVM Compilation - Unix Makefiles	1031		
Timed MPlayer Compilation - Time To Compile (sec)	52.573		

Timed Node.js Compilation - Time To Compile (sec)	861.255		
Primesieve - 1.P.N.G (sec)	**49.119**	**46.266**	46.432
Normalized	94.19%	100%	99.64%
YafaRay - T.T.F.S.S (sec)	**240.999**	235.392	**234.255**
Normalized	97.2%	99.52%	100%
Timed Erlang/OTP Compilation - Time To Compile (sec)	153.919		
FLAC Audio Encoding - WAV To FLAC (sec)	**23.701**	**23.071**	23.329
Normalized	97.34%	100%	98.89%
Ogg Audio Encoding - WAV To Ogg (sec)	25.983		
Opus Codec Encoding - WAV To Opus Encode (sec)	9.885		
Gcrypt Library (sec)	257.566	**259.204**	**256.475**
Normalized	99.58%	98.95%	100%
Helsing - 12 digit (sec)	6.799	**7.496**	**6.797**
Normalized	99.97%	90.68%	100%
Tachyon - Total Time (sec)	**164.2028**	**161.374**	162.992
Normalized	98.28%	100%	99.01%
VOSK Speech Recognition Toolkit (sec)	**37.076**	37.056	**36.945**
Normalized	99.65%	99.7%	100%
Google SynthMark - VoiceMark_100 (Voices)	558.668	**559.679**	**558.065**
Normalized	99.82%	100%	99.71%
Cpuminer-Opt - Magi (kH/s)	175.44	**174.48**	**176.24**
Normalized	99.55%	99%	100%
Cpuminer-Opt - x25x (kH/s)	**186.28**	185.86	**183.98**
Normalized	100%	99.77%	98.77%
Cpuminer-Opt - Deepcoin (kH/s)	**5763**	**5656**	5730
Normalized	100%	98.15%	99.44%
Cpuminer-Opt - Ringcoin (kH/s)	1199	**1190**	**1409**
Normalized	85.15%	84.52%	100%
Cpuminer-Opt - Blake-2 S (kH/s)	**253980**	**261150**	261040
Normalized	97.25%	100%	99.96%
Cpuminer-Opt - Garlicoin (kH/s)	**1441**	1433	**1428**
Normalized	100%	99.46%	99.08%
Cpuminer-Opt - Skeincoin (kH/s)	**25090**	**25870**	**25870**
Normalized	96.98%	100%	100%
Cpuminer-Opt - Myriad-Groestl (kH/s)	**8513**	**8187**	8217
Normalized	100%	96.18%	96.52%
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	15650	**15620**	**15940**
Normalized	98.18%	97.99%	100%
Cpuminer-Opt - Q.S.2.P (kH/s)	**30210**	**28400**	29810
Normalized	100%	94.01%	98.68%
Cpuminer-Opt - T.S.2.O (kH/s)	44200	**44980**	**42500**
Normalized	98.27%	100%	94.49%
SecureMark - SecureMark-TLS (marks)	**202520**	**202049**	202214
Normalized	100%	99.77%	99.85%
OpenSSL - SHA256 (byte/s)	**2127484790**	2138335840	**2141734590**
Normalized	99.33%	99.84%	100%
OpenSSL - RSA4096 (sign/s)	**1233**	1231	**1228**
Normalized	100%	99.83%	99.56%
OpenSSL - RSA4096 (verify/s)	**80776**	80638	**80582**

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Normalized	100%	99.83%	99.76%
OpenSSL (sign/s)	1278	1276	1274
Normalized	100%	99.84%	99.69%
OpenSSL (verify/s)	82440	82048	82114
Normalized	100%	99.52%	99.6%
TensorFlow Lite - SqueezeNet (us)	311946	312934	314212
Normalized	100%	99.68%	99.28%
TensorFlow Lite - Inception V4 (us)	4704570	4693680	4711360
Normalized	99.77%	100%	99.62%
TensorFlow Lite - NASNet Mobile (us)	277804	279621	277195
Normalized	99.78%	99.13%	100%
TensorFlow Lite - Mobilenet Float (us)	221283	220185	220785
Normalized	99.5%	100%	99.73%
TensorFlow Lite - Mobilenet Quant (us)	212069	211119	211694
Normalized	99.55%	100%	99.73%
TensorFlow Lite - I.R.V (us)	4311120	4288720	4311290
Normalized	99.48%	100%	99.48%
ASTC Encoder - Medium (sec)	6.4392	6.4445	6.7564
Normalized	100%	99.92%	95.31%
ASTC Encoder - Thorough (sec)	11.9221	11.9352	11.928
Normalized	100%	99.89%	99.95%
Basis Universal - ETC1S (sec)	35.703	36.357	36.192
Normalized	100%	98.2%	98.65%
Basis Universal - UASTC Level 0 (sec)	11.097	11.306	10.972
Normalized	98.87%	97.05%	100%
Basis Universal - UASTC Level 2 (sec)	48.566	48.781	48.564
Normalized	100%	99.56%	100%
Basis Universal - UASTC Level 3 (sec)	94.068	94.264	93.773
Normalized	99.69%	99.48%	100%
KTX-Software toktx - UASTC 3 (sec)	18.696	18.763	19.097
Normalized	100%	99.64%	97.9%
KTX-Software toktx - Zstd Compression 9	4.127	3.791	4.021
Normalized	91.86%	100%	94.28%
KTX-Software toktx - Z.C.1 (sec)	19.983	20.267	19.912
Normalized	99.64%	98.25%	100%
KTX-Software toktx - U.3.Z.C.1 (sec)	23.323	23.524	23.227
Normalized	99.59%	98.74%	100%
KTX-Software toktx - U.4.Z.C.1 (sec)	551.125	551.074	552.484
Normalized	99.99%	100%	99.74%
Stress-NG - MMAP (Bogo Ops/s)	76.27	76.02	74.95
Normalized	100%	99.67%	98.27%
Stress-NG - NUMA (Bogo Ops/s)	162.28	159.29	157.36
Normalized	100%	98.16%	96.97%
Stress-NG - MEMFD (Bogo Ops/s)	667.09	668.24	664.89
Normalized	99.83%	100%	99.5%
Stress-NG - Atomic (Bogo Ops/s)	207416	206569	204756
Normalized	100%	99.59%	98.72%
Stress-NG - Crypto (Bogo Ops/s)	1311	1320	1297
Normalized	99.32%	100%	98.28%
Stress-NG - Malloc (Bogo Ops/s)	73477756	73394558	73277087
Normalized	100%	99.89%	99.73%
Stress-NG - RdRand (Bogo Ops/s)	310753	310757	310736
Normalized	100%	100%	99.99%

Stress-NG - Forking (Bogo Ops/s)	39104	**39156**	**35641**
Normalized	99.87%	100%	91.02%
Stress-NG - IO_uring (Bogo Ops/s)	7722	**7769**	**7716**
Normalized	99.39%	100%	99.31%
Stress-NG - SENDFILE (Bogo Ops/s)	**96627**	96178	**95599**
Normalized	100%	99.54%	98.94%
Stress-NG - CPU Cache (Bogo Ops/s)	**31.5**	**35.1**	34.3
Normalized	89.74%	100%	97.72%
Stress-NG - CPU Stress (Bogo Ops/s)	**14859**	14828	**14718**
Normalized	100%	99.79%	99.05%
Stress-NG - Semaphores (Bogo Ops/s)	1197344	**1197532**	**1195348**
Normalized	99.98%	100%	99.82%
Stress-NG - Matrix Math (Bogo Ops/s)	**35207**	**34729**	34754
Normalized	100%	98.64%	98.72%
Stress-NG - Vector Math (Bogo Ops/s)	**21423**	21338	**21228**
Normalized	100%	99.6%	99.09%
Stress-NG - Memory Copying (Bogo Ops/s)	**1534**	1541	**1544**
Normalized	99.38%	99.83%	100%
Stress-NG - Socket Activity (Bogo Ops/s)	7067	**6953**	**7166**
Normalized	98.62%	97.03%	100%
Stress-NG - Context Switching (Bogo Ops/s)	**3774835**	3680418	**3479012**
Normalized	100%	97.5%	92.16%
Stress-NG - G.C.S.F (Bogo Ops/s)	**873108**	873177	**879026**
Normalized	99.33%	99.33%	100%
Stress-NG - G.Q.D.S (Bogo Ops/s)	105.93	**106.1**	**105.73**
Normalized	99.84%	100%	99.65%
Stress-NG - S.V.M.P (Bogo Ops/s)	**6655135**	6638960	**6561829**
Normalized	100%	99.76%	98.6%
Mobile Neural Network - mobilenetV3 (ms)	**2.627**	**2.619**	2.625
Normalized	99.7%	100%	99.77%
Mobile Neural Network - squeezenetv1.1	**5.775**	5.685	**5.597**
Normalized	96.92%	98.45%	100%
Mobile Neural Network - resnet-v2-50 (ms)	**94.039**	**93.192**	94.026
Normalized	99.1%	100%	99.11%
Mobile Neural Network - SqueezeNetV1.0	**9.59**	9.524	**9.475**
Normalized	98.8%	99.49%	100%
Mobile Neural Network - MobileNetV2_224	4.431	**4.565**	**4.384**
Normalized	98.94%	96.04%	100%
Mobile Neural Network - mobilenet-v1-1.0	**4.173**	4.152	**4.149**
Normalized	99.42%	99.93%	100%
Mobile Neural Network - inception-v3 (ms)	103.812	**103.624**	**103.875**
Normalized	99.82%	100%	99.76%
NCNN - CPU - mobilenet (ms)	**25.65**	25.94	**26.3**
Normalized	100%	98.88%	97.53%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	**7.98**	**8.01**	**7.98**
Normalized	100%	99.63%	100%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	6.78	**6.81**	**6.66**
Normalized	98.23%	97.8%	100%
NCNN - CPU - shufflenet-v2 (ms)	5.67	**5.73**	**5.57**
Normalized	98.24%	97.21%	100%
NCNN - CPU - mnasnet (ms)	**6.89**	**6.98**	**6.98**
Normalized	100%	98.71%	98.71%
NCNN - CPU - efficientnet-b0 (ms)	10.17	**10.21**	**10.14**

Normalized	99.71%	99.31%	100%
NCNN - CPU - blazeface (ms)	2.5	2.46	2.46
Normalized	98.4%	100%	100%
NCNN - CPU - googlenet (ms)	20.75	20.6	20.63
Normalized	99.28%	100%	99.85%
NCNN - CPU - vgg16 (ms)	72.67	73.24	73.96
Normalized	100%	99.22%	98.26%
NCNN - CPU - resnet18 (ms)	20	20.49	20.07
Normalized	100%	97.61%	99.65%
NCNN - CPU - alexnet (ms)	15.03	15.1	15.68
Normalized	100%	99.54%	95.85%
NCNN - CPU - resnet50 (ms)	39.46	39.63	39.83
Normalized	100%	99.57%	99.07%
NCNN - CPU - yolov4-tiny (ms)	38.17	37.21	37.93
Normalized	97.48%	100%	98.1%
NCNN - CPU - squeezenet_ssd (ms)	30.06	30.02	30.22
Normalized	99.87%	100%	99.34%
NCNN - CPU - regnety_400m (ms)	16.48	16.47	16.48
Normalized	99.94%	100%	99.94%
TNN - CPU - DenseNet (ms)	4002	4013	4008
Normalized	100%	99.73%	99.85%
TNN - CPU - MobileNet v2 (ms)	334.258	334.484	334.622
Normalized	100%	99.93%	99.89%
TNN - CPU - SqueezeNet v2 (ms)	78.153	78.227	78.348
Normalized	100%	99.91%	99.75%
TNN - CPU - SqueezeNet v1.1 (ms)	303.405	303.469	303.821
Normalized	100%	99.98%	99.86%
Blender - BMW27 - CPU-Only (sec)	231.94	234.18	235.01
Normalized	100%	99.04%	98.69%
Apache Cassandra - Writes (Op/s)	65211	65771	67342
Normalized	96.84%	97.67%	100%
nginx - 1 (Reqs/sec)	24160	24207	24058
Normalized	99.81%	100%	99.38%
nginx - 20 (Reqs/sec)	349874	350348	347162
Normalized	99.86%	100%	99.09%
nginx - 100 (Reqs/sec)	352770	354631	352656
Normalized	99.48%	100%	99.44%
nginx - 200 (Reqs/sec)	346786	345783	343768
Normalized	100%	99.71%	99.13%
nginx - 500 (Reqs/sec)	339570	334924	334219
Normalized	100%	98.63%	98.42%
nginx - 1000 (Reqs/sec)	329734	327801	326437
Normalized	100%	99.41%	99%
Natron - Spaceship (FPS)	1.3	1.5	1.5
Normalized	86.67%	100%	100%
ONNX Runtime - yolov4 - CPU	190	211	254
Normalized	74.8%	83.07%	100%
ONNX Runtime - fcn-resnet101-11 - CPU (Inferences/min)	30	30	37
Normalized	81.08%	81.08%	100%
ONNX Runtime - shufflenet-v2-10 - CPU (Inferences/min)	14501	14530	18871
Normalized	76.84%	77%	100%

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ONNX Runtime - super-resolution-10 - CPU (Inferences/min)	3256	3237	3172
Normalized	100%	99.42%	97.42%
Apache HTTP Server - 1 (Reqs/sec)	5006	5030	5117
Normalized	97.83%	98.31%	100%
Apache HTTP Server - 20 (Reqs/sec)	38748	38586	38520
Normalized	100%	99.58%	99.41%
Apache HTTP Server - 100 (Reqs/sec)	63628	63461	63993
Normalized	99.43%	99.17%	100%
Apache HTTP Server - 200 (Reqs/sec)	67600	67193	67092
Normalized	100%	99.4%	99.25%
Apache HTTP Server - 500 (Reqs/sec)	59330	59875	59918
Normalized	99.02%	99.93%	100%
Apache HTTP Server - 1000 (Reqs/sec)	61108	61220	58980
Normalized	99.82%	100%	96.34%
RAR Compression - L.S.T.A.T.R (sec)	106.381		
WavPack Audio Encoding - WAV To WavPack (sec)	17.786	17.962	17.824
Normalized	100%	99.02%	99.79%
GnuPG - 2.7.S.F.E (sec)	77.497		
Mlpack Benchmark - scikit_ica (sec)	63.74	64.10	64.28
Normalized	100%	99.44%	99.16%
Mlpack Benchmark - scikit_qda (sec)	69.75	69.31	62.03
Normalized	88.93%	89.5%	100%
Mlpack Benchmark - scikit_svm (sec)	42.67	42.48	42.59
Normalized	99.55%	100%	99.74%
Mlpack Benchmark - scikit_linearridgeregression (sec)	4.23	4.11	4.12
Normalized	97.16%	100%	99.76%
PyHPC Benchmarks - CPU - JAX - 16384 - Equation of State (sec)	0.001	0.001	0.001
PyHPC Benchmarks - CPU - JAX - 16384 - Isoneutral Mixing (sec)	0.005	0.005	0.005
PyHPC Benchmarks - CPU - Numba - 16384 - Equation of State (sec)	0.002	0.002	0.002
PyHPC Benchmarks - CPU - Numba - 16384 - Isoneutral Mixing (sec)	0.006	0.006	0.006
PyHPC Benchmarks - CPU - Numpy - 16384 - Equation of State (sec)	0.006	0.006	0.006
PyHPC Benchmarks - CPU - Numpy - 16384 - Isoneutral Mixing (sec)	0.015	0.014	0.014
Normalized	93.33%	100%	100%
PyHPC Benchmarks - CPU - Aesara - 16384 - Equation of State (sec)	0.003	0.003	0.003
PyHPC Benchmarks - CPU - Aesara - 16384 - Isoneutral Mixing (sec)	0.009	0.009	0.009
PyHPC Benchmarks - CPU - PyTorch - 16384 - Equation of State (sec)	0.001	0.001	0.001

PyHPC Benchmarks - CPU - PyTorch - 16384 - Isoneutral Mixing (sec)	0.009	0.009	0.009
PyHPC Benchmarks - CPU - TensorFlow - 16384 - Equation of State (sec)	0.003	0.003	0.003
BRL-CAD - V.P.M (VGR Performance Metric)	79120	78320	78363
Normalized	100%	98.99%	99.04%
OpenCV - Features 2D (ms)	184896	190097	184007
Normalized	99.52%	96.8%	100%
OpenCV - Object Detection (ms)	110596	103583	113305
Normalized	93.66%	100%	91.42%
OpenCV - DNN - D.N.N (ms)	27943	22072	22148
Normalized	78.99%	100%	99.66%
toyBrot Fractal Generator - TBB (ms)	72331	72744	72156
Normalized	99.76%	99.19%	100%
toyBrot Fractal Generator - OpenMP (ms)	72125	73690	74489
Normalized	100%	97.88%	96.83%
toyBrot Fractal Generator - C++ Tasks (ms)	71926	72781	73133
Normalized	100%	98.83%	98.35%
toyBrot Fractal Generator - C++ Threads	72252	73054	73279
Normalized	100%	98.9%	98.6%
lzbench - XZ 0 - Compression (MB/s)	36	36	36
lzbench - XZ 0 - Decompression (MB/s)	101	101	101
lzbench - Zstd 1 - Compression (MB/s)	330	332	330
Normalized	99.4%	100%	99.4%
lzbench - Zstd 1 - Decompression (MB/s)	1131	1131	1136
Normalized	99.56%	99.56%	100%
lzbench - Zstd 8 - Compression (MB/s)	69	71	73
Normalized	94.52%	97.26%	100%
lzbench - Zstd 8 - Decompression (MB/s)	1240	1249	1259
Normalized	98.49%	99.21%	100%
lzbench - Crush 0 - Compression (MB/s)	83	82	97
Normalized	85.57%	84.54%	100%
lzbench - Crush 0 - Decompression (MB/s)	436	436	436
lzbench - Brotli 0 - Compression (MB/s)	385	394	393
Normalized	97.72%	100%	99.75%
lzbench - Brotli 0 - Decompression (MB/s)	499	490	499
Normalized	100%	98.2%	100%
lzbench - Brotli 2 - Compression (MB/s)	149	149	151
Normalized	98.68%	98.68%	100%
lzbench - Brotli 2 - Decompression (MB/s)	589	590	581
Normalized	99.83%	100%	98.47%
lzbench - Libdeflate 1 - Compression (MB/s)	171	171	172
Normalized	99.42%	99.42%	100%
Algebraic Multi-Grid Benchmark (Figure Of Merit)	186550500	187064700	186261400
Normalized	99.73%	100%	99.57%
Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	39.3495178	39.2277489	38.6105156
Normalized	98.12%	98.43%	100%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	4.511	4.502	4.515
Normalized	99.91%	99.71%	100%
simdjson - Kostya (GB/s)	0.51	0.52	0.52

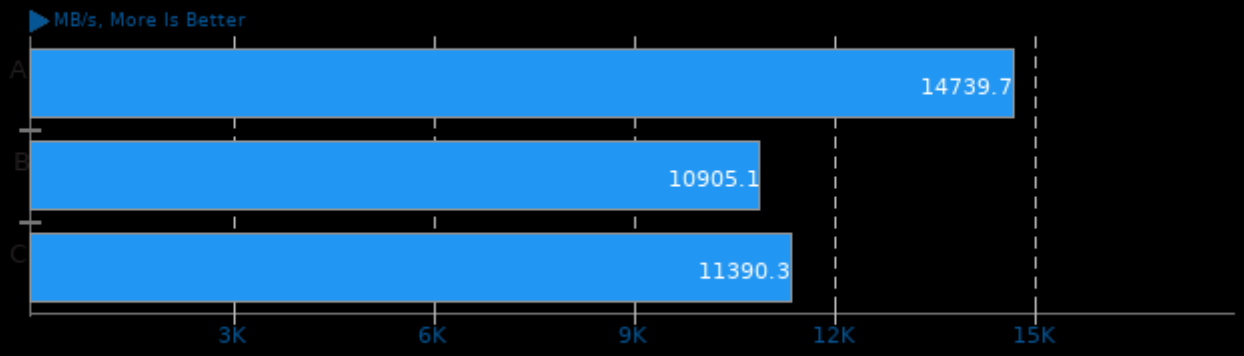
Normalized	98.08%	100%	100%
simdjson - LargeRand (GB/s)	0.27	0.27	0.27
simdjson - PartialTweets (GB/s)	1.94	1.94	1.93
Normalized	100%	100%	99.48%
simdjson - DistinctUserID (GB/s)	2.27	2.29	2.24
Normalized	99.13%	100%	97.82%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	0.81	0.817	0.814
Normalized	99.14%	100%	99.63%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	8.557	8.73	8.736
Normalized	97.95%	99.93%	100%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	2.822	2.82	2.783
Normalized	100%	99.93%	98.62%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	36.179	36.516	37.357
Normalized	96.85%	97.75%	100%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	4.42	4.4	4.37
Normalized	100%	99.55%	98.87%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	74.13	74.57	74.58
Normalized	99.4%	99.99%	100%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	169.25	166.9	166.3
Normalized	100%	98.61%	98.26%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	109.49	109.45	109.58
Normalized	99.92%	99.88%	100%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	120.66	121.41	120.39
Normalized	99.38%	100%	99.16%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	93.14	94.06	93.91
Normalized	99.02%	100%	99.84%
libavif avifenc - 0 (sec)	110.674	110.53	111.27
Normalized	99.87%	100%	99.33%
libavif avifenc - 2 (sec)	55.859	55.722	55.619
Normalized	99.57%	99.82%	100%
libavif avifenc - 6 (sec)	18.622	18.37	18.34
Normalized	98.49%	99.84%	100%
libavif avifenc - 10 (sec)	4.901	4.678	4.702
Normalized	95.45%	100%	99.49%
libavif avifenc - 6, Lossless (sec)	85.275	85.454	86.489
Normalized	100%	99.79%	98.6%
libavif avifenc - 10, Lossless (sec)	8.655	8.444	8.464
Normalized	97.56%	100%	99.76%
Timed Godot Game Engine Compilation - Time To Compile (sec)	196.751		
Ngspice - C2670 (sec)	225.92	226.004	225.148
Normalized	99.66%	99.62%	100%
Ngspice - C7552 (sec)	156.264	157.38	155.853
Normalized	99.74%	99.03%	100%
Node.js V8 Web Tooling Benchmark (runs/s)	8.69	8.61	8.58
Normalized	100%	99.08%	98.73%
ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)	1321	1322	1324
Normalized	99.75%	99.85%	100%

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ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)	1043	1044	1047
Normalized	99.56%	99.66%	100%
ASKAP - tConvolve MPI - Degridding	1466	1411	1426
Normalized	100%	96.24%	97.28%
ASKAP - tConvolve MPI - Gridding	2018	1944	1958
Normalized	100%	96.3%	97.02%
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	1539	1496	1513
Normalized	100%	97.19%	98.3%
ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)	1199	1168	1173
Normalized	100%	97.37%	97.8%
ASKAP - H.C.O (Iterations/sec)	127.065	125.945	125.471
Normalized	100%	99.12%	98.75%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	155.773659	157.508209	155.241489
Normalized	98.9%	100%	98.56%
Google Draco - Lion (ms)	6795	6522	6731
Normalized	95.98%	100%	96.89%
Google Draco - Church Facade (ms)	8031	7755	7791
Normalized	96.56%	100%	99.54%
Redis - LPOP (Reqs/sec)	2455843	2510759	1572635
Normalized	97.81%	100%	62.64%
Redis - SADD (Reqs/sec)	1950465	1952750	1800840
Normalized	99.88%	100%	92.22%
Redis - LPUSH (Reqs/sec)	1484786	1512411	1505383
Normalized	98.17%	100%	99.54%
Redis - GET (Reqs/sec)	2338170	2285714	2172531
Normalized	100%	97.76%	92.92%
Redis - SET (Reqs/sec)	1744022	1720299	1744913
Normalized	99.95%	98.59%	100%
Systemd Total Boot Time - Total (ms)	11352	11352	11352
Systemd Total Boot Time - Kernel (ms)	10484	10484	10484
Systemd Total Boot Time - Loader (ms)	3198	3198	3198
Systemd Total Boot Time - Firmware (ms)	23128	23128	23128
Systemd Total Boot Time - Userspace (ms)	868	868	868

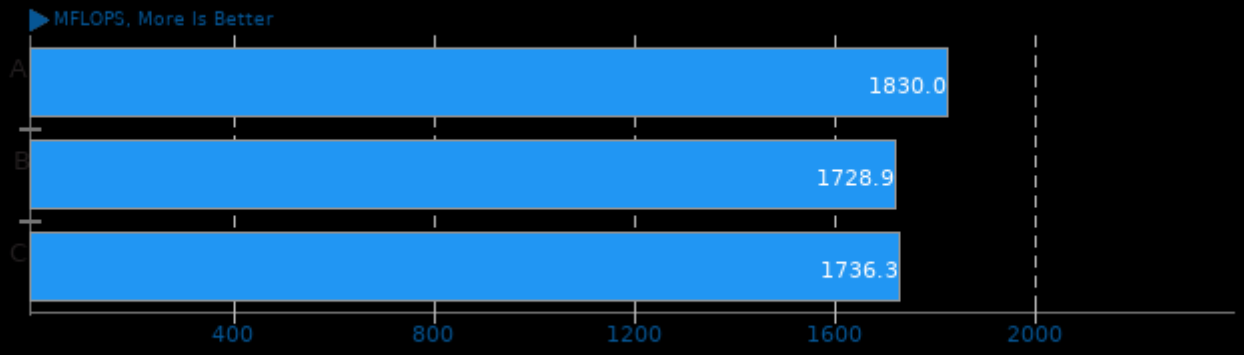
C-Blosc 2.0

Compressor: blosclz



1. (CC) gcc options: -std=gnu99 -O3 -pthread -lrt -lm

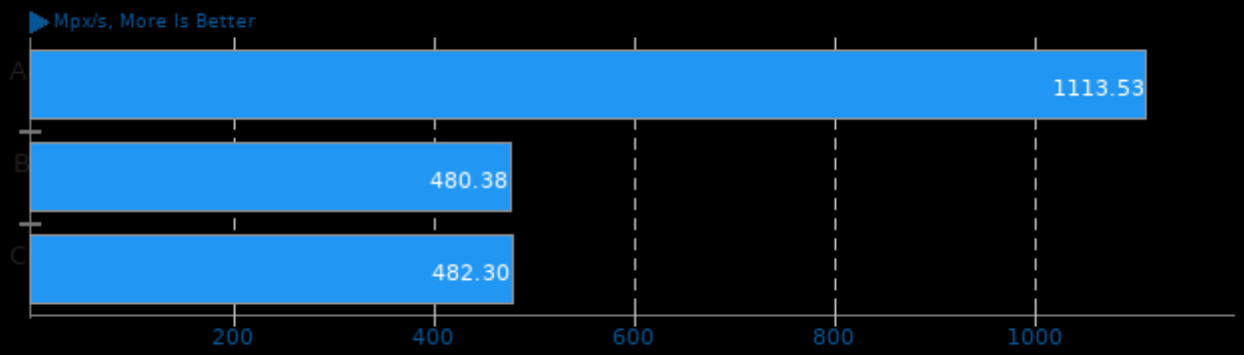
QuantLib 1.21



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

Etcpak 0.7

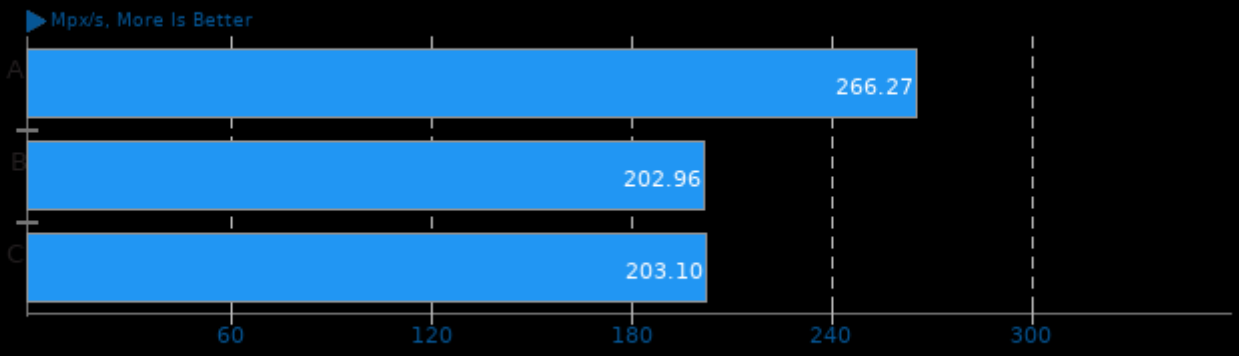
Configuration: DXT1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

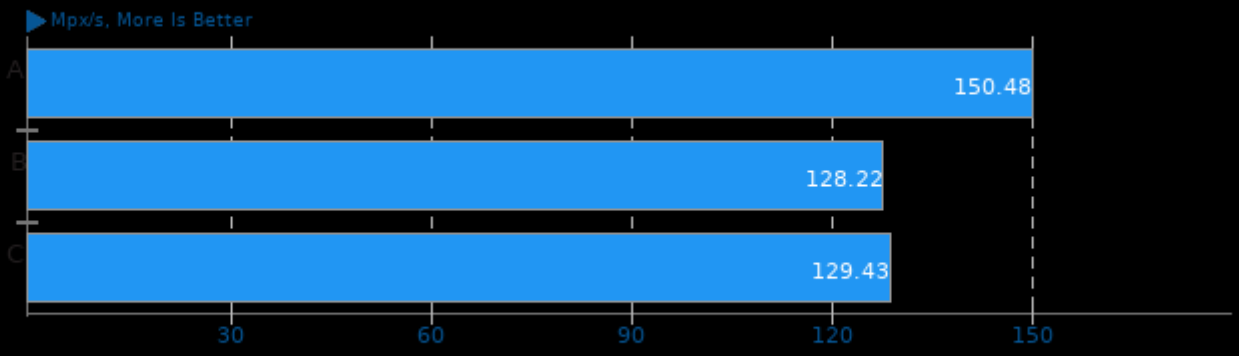
Configuration: ETC1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

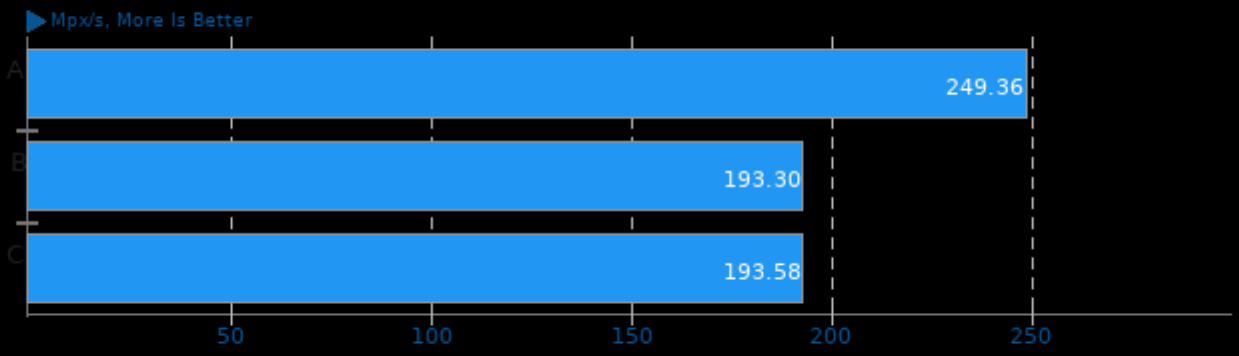
Configuration: ETC2



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

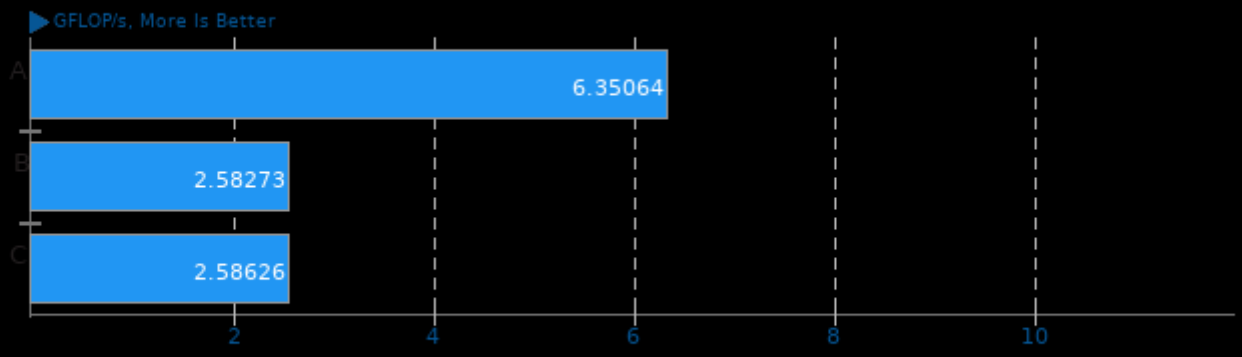
Etcpak 0.7

Configuration: ETC1 + Dithering



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

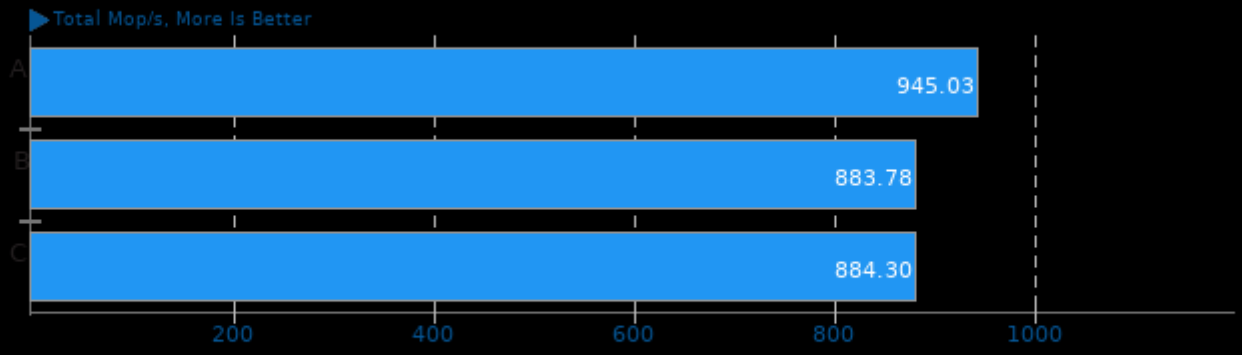
High Performance Conjugate Gradient 3.1



1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -pthread -lmpi_cxx -lmpi

NAS Parallel Benchmarks 3.4

Test / Class: EP.C

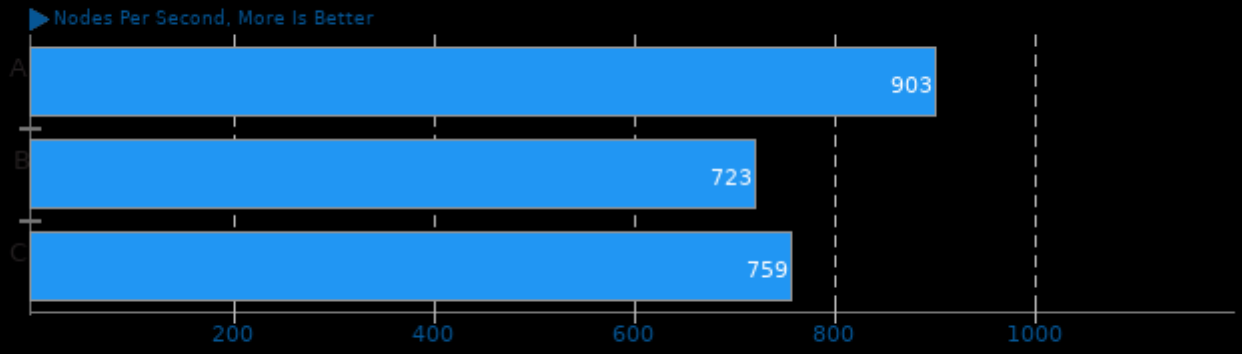


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

LeelaChessZero 0.28

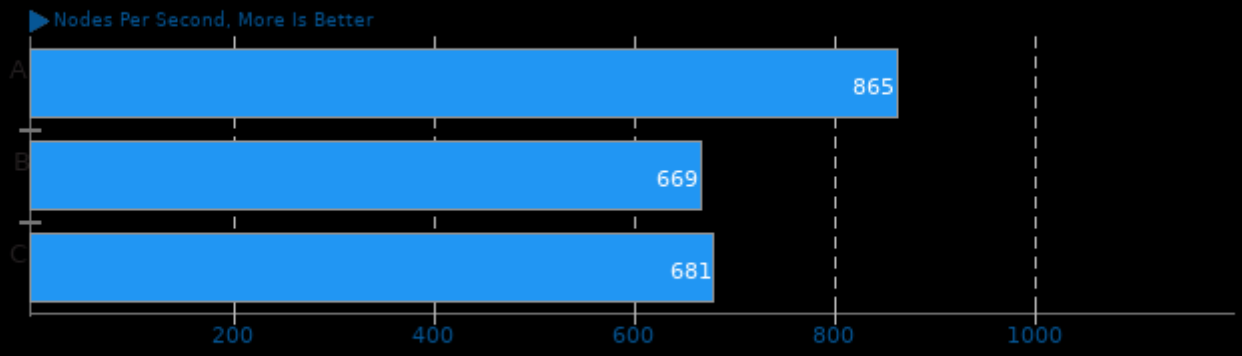
Backend: BLAS



1. (CXX) g++ options: -flto -pthread

LeelaChessZero 0.28

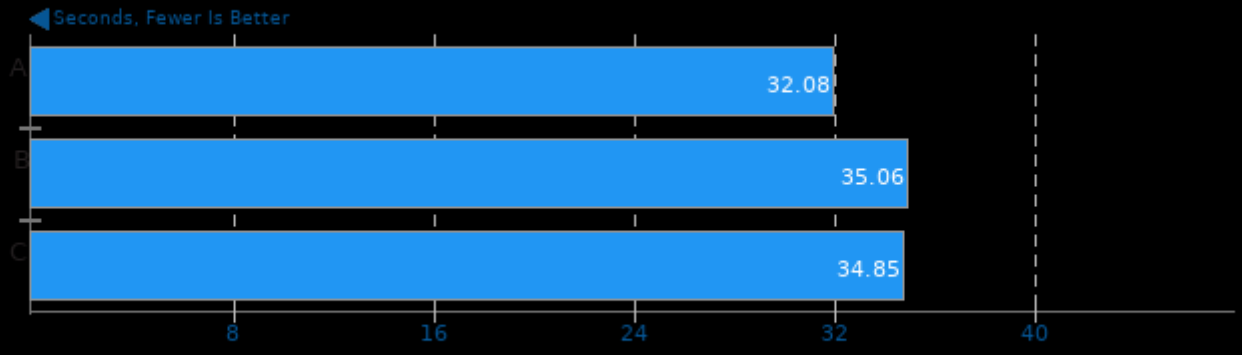
Backend: Eigen



1. (CXX) g++ options: -flto -pthread

Rodinia 3.1

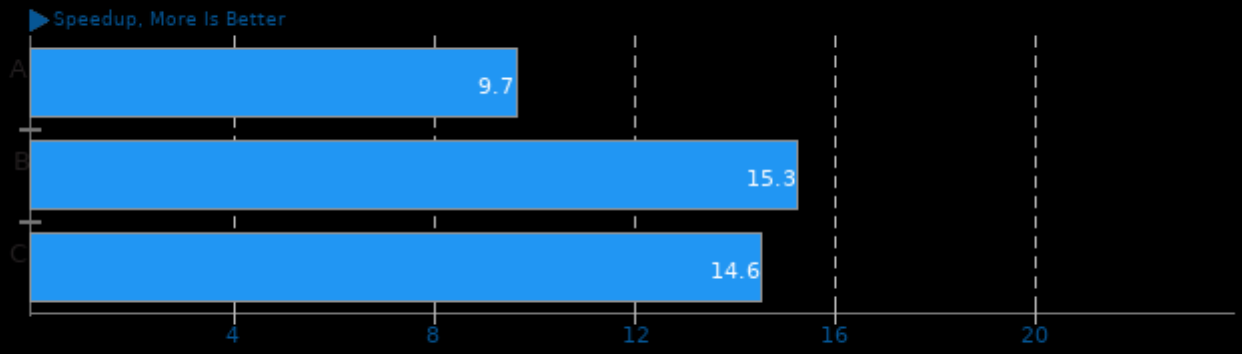
Test: OpenMP CFD Solver



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

CLOMP 1.2

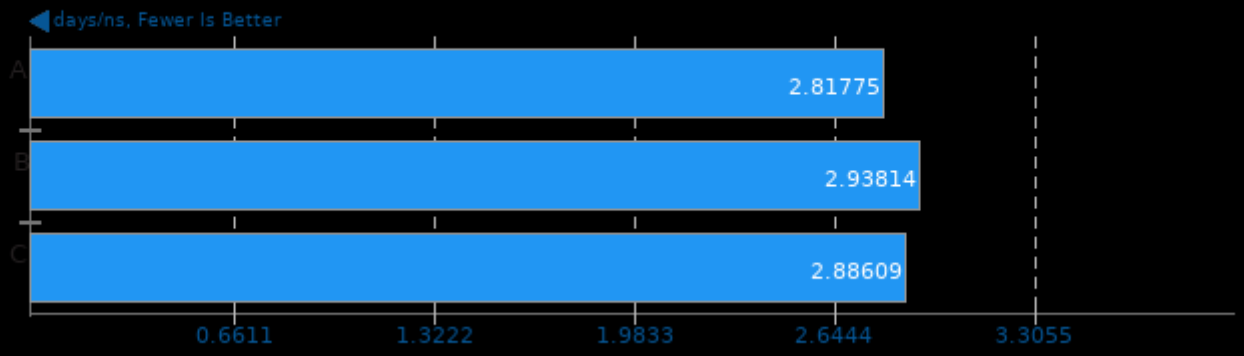
Static OMP Speedup



1. (CC) gcc options: -fopenmp -O3 -lm

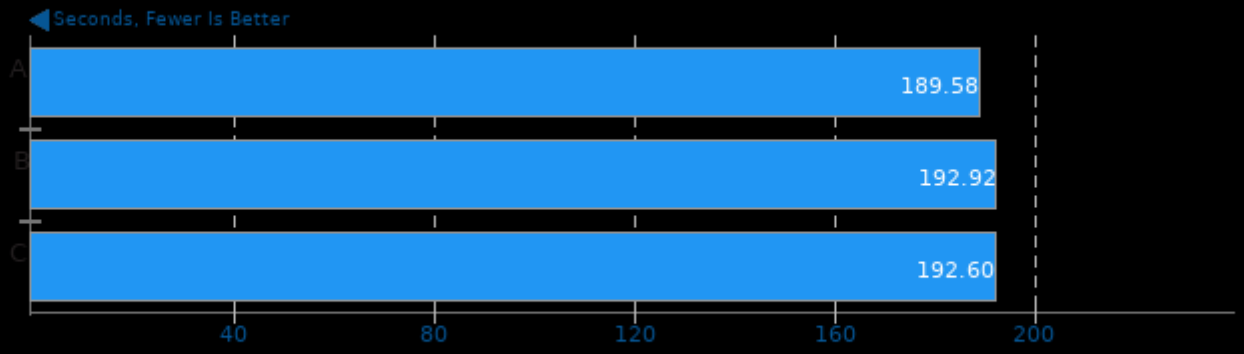
NAMD 2.14

ATPase Simulation - 327,506 Atoms



Timed MrBayes Analysis 3.2.7

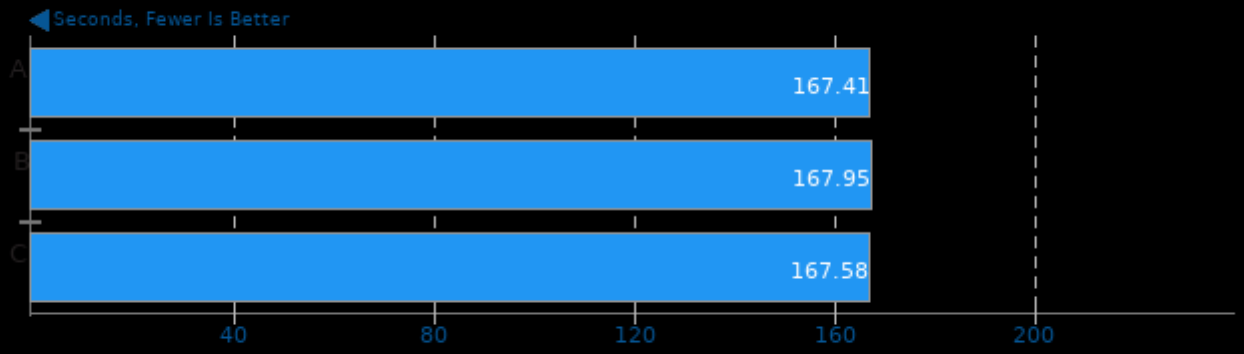
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -mabm -O3 -std=c99

Timed HMMer Search 3.3.2

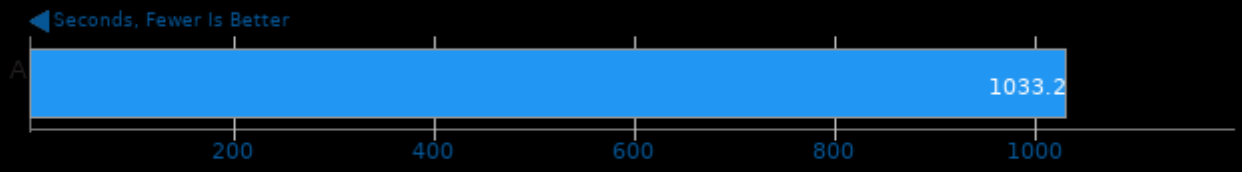
Pfam Database Search



1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm -lmpi

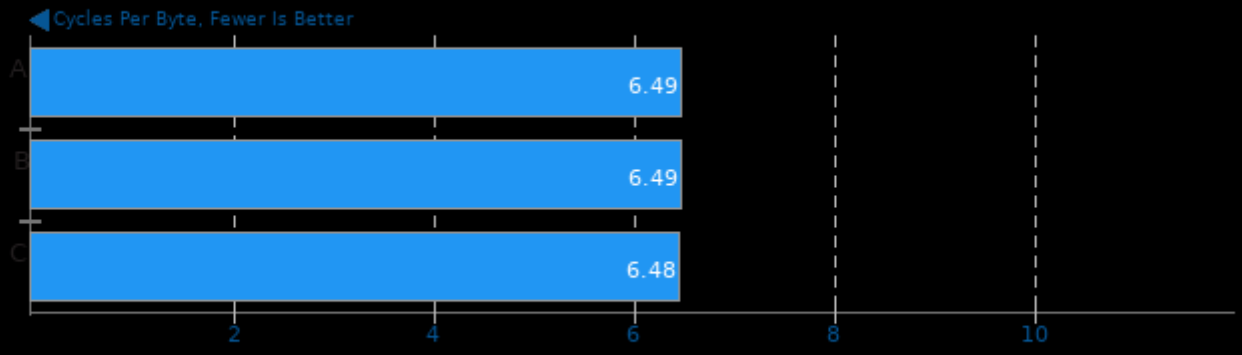
Quantum ESPRESSO 7.0

Input: AUSURF112



1. (F9X) gfortran options: -pthread -fopenmp -ldevXlib -lopenblas -lFoX_dom -lFoX_sax -lFoX_wxml -lFoX_common -lFoX_utils -lFoX_fsys -lfftw3_omp -lfftw

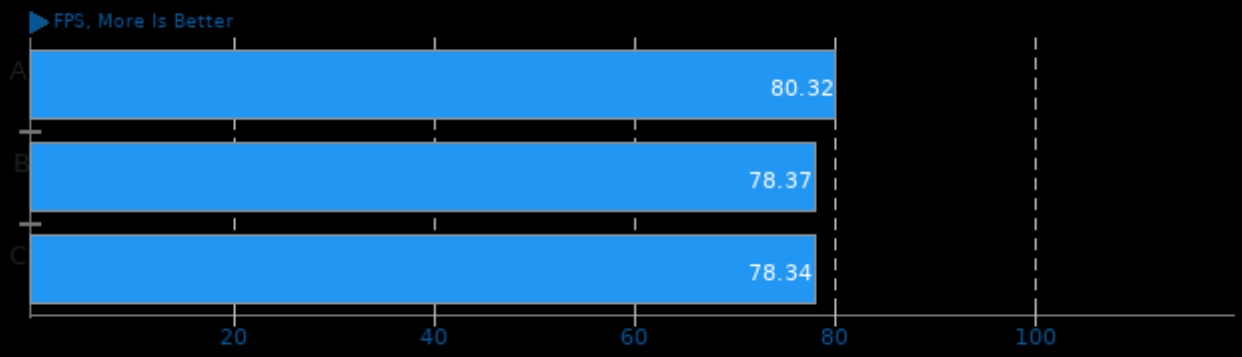
BLAKE2 20170307



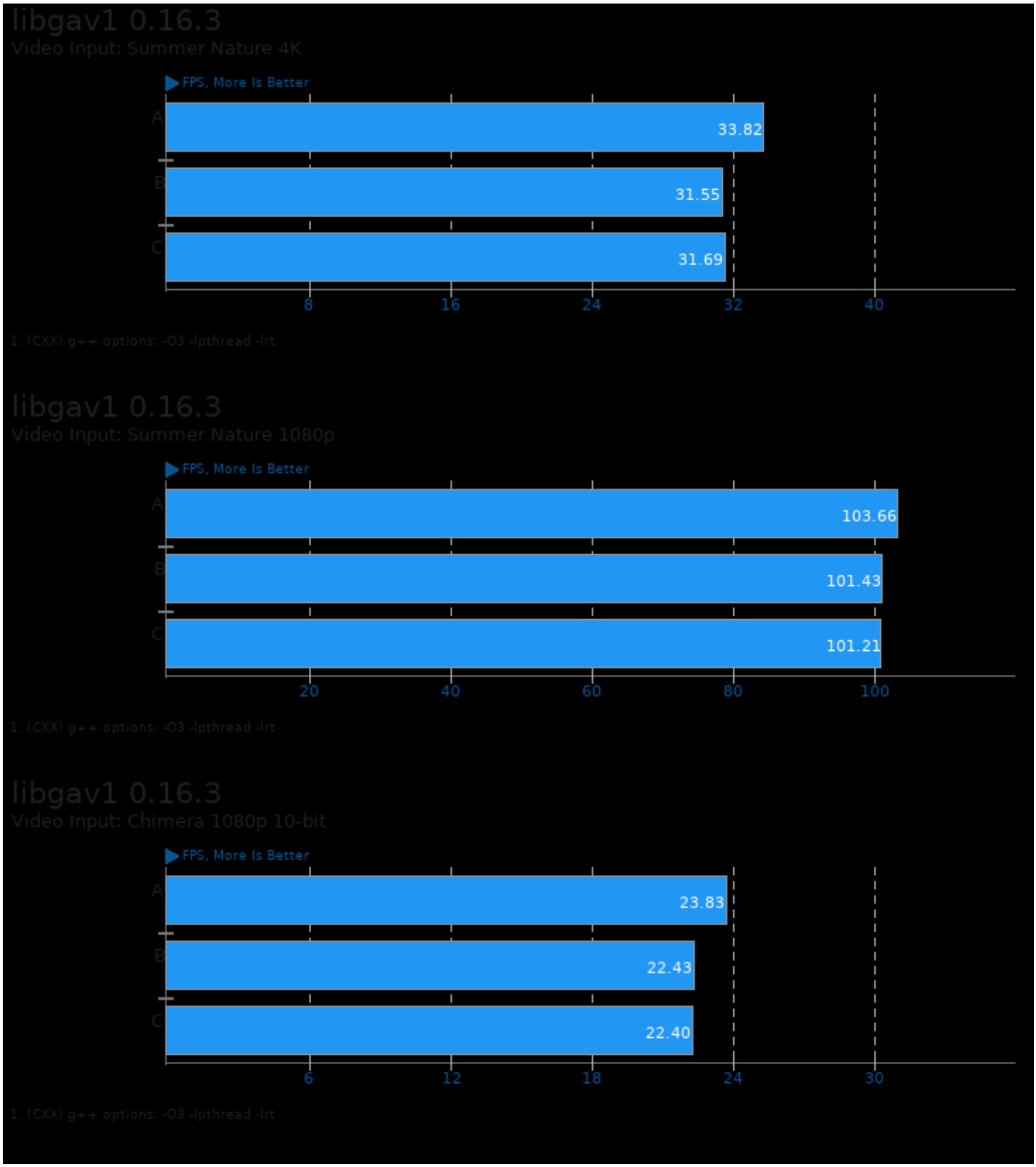
1. (CC) gcc options: -O3 -march=native -lcrypto -lz

libgav1 0.16.3

Video Input: Chimera 1080p

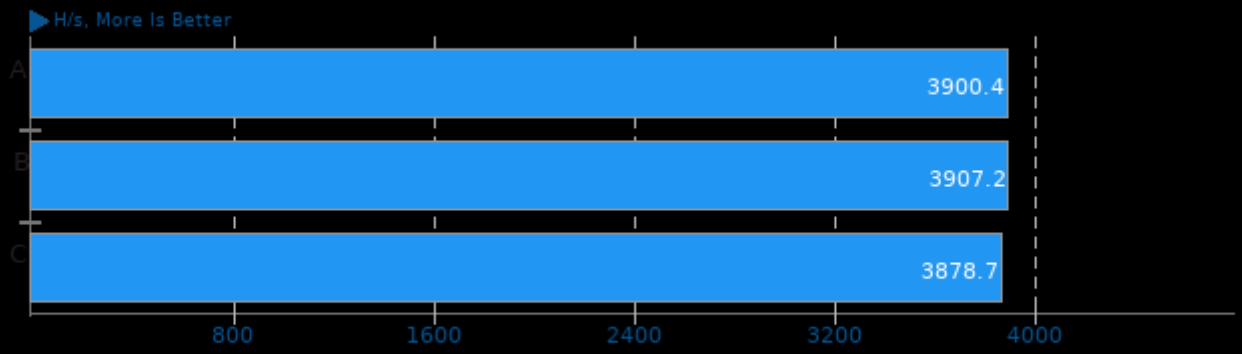


1. (CXX) g++ options: -O3 -lpthread -lrt


libgav1 0.16.3
Video Input: Summer Nature 4K
FPS, More Is Better
A
B
C
33.82
31.55
31.69
8
16
24
32
40
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.16.3
Video Input: Summer Nature 1080p
FPS, More Is Better
A
B
C
103.66
101.43
101.21
20
40
60
80
100
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.16.3
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
A
B
C
23.83
22.43
22.40
6
12
18
24
30
1. (CXX) g++ options: -O3 -lpthread -lrt

Xmrig 6.12.1

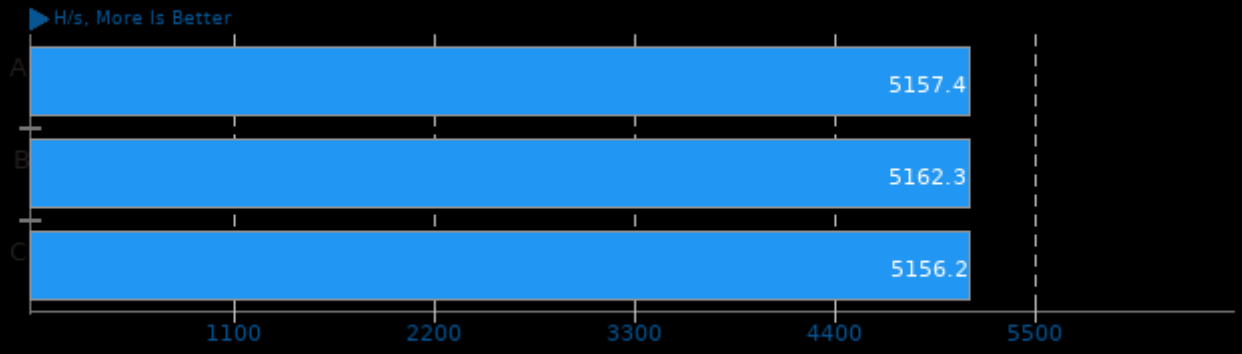
Variant: Monero - Hash Count: 1M



1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Xmrig 6.12.1

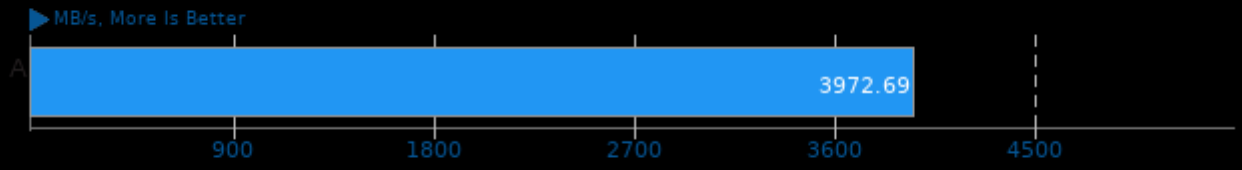
Variant: Wownero - Hash Count: 1M



1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

LZ4 Compression 1.9.3

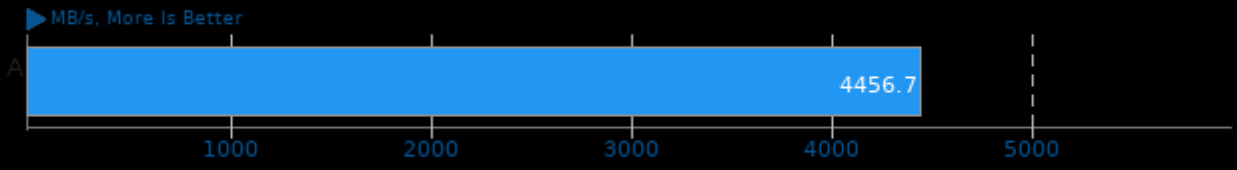
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

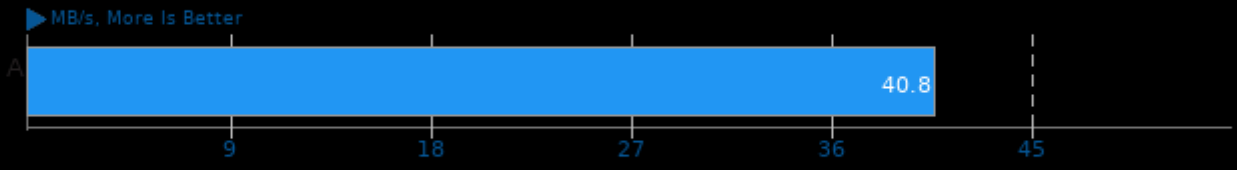
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

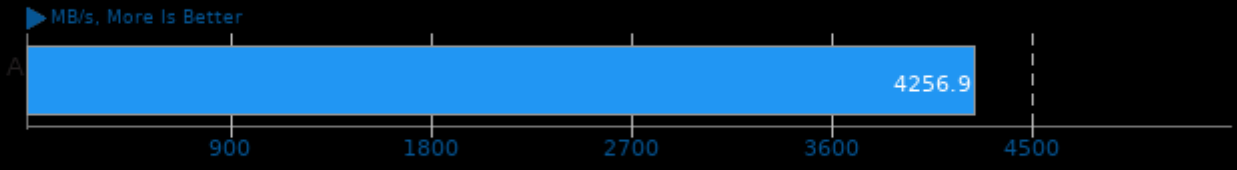
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

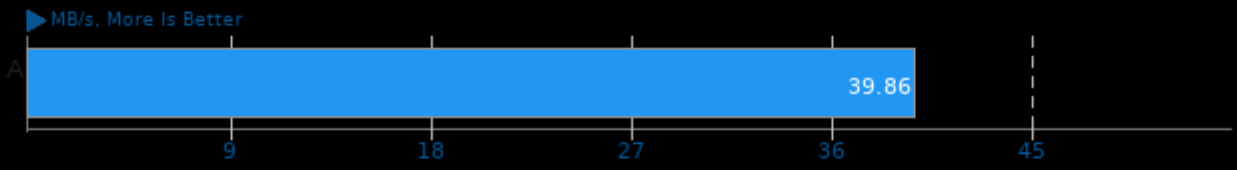
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

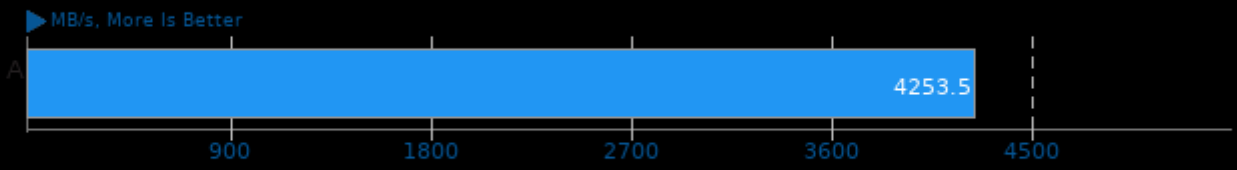
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

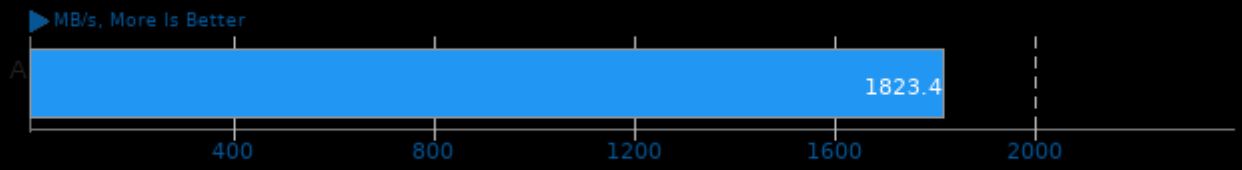
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

Zstd Compression 1.5.0

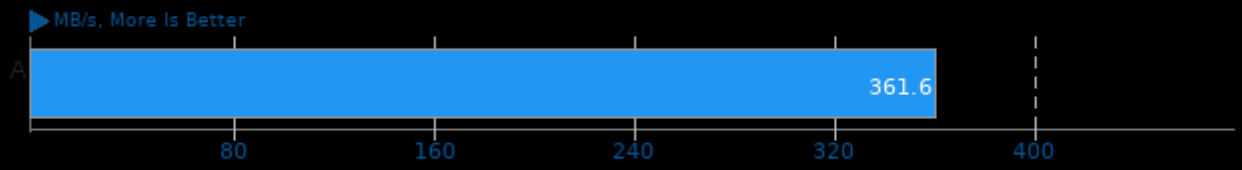
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

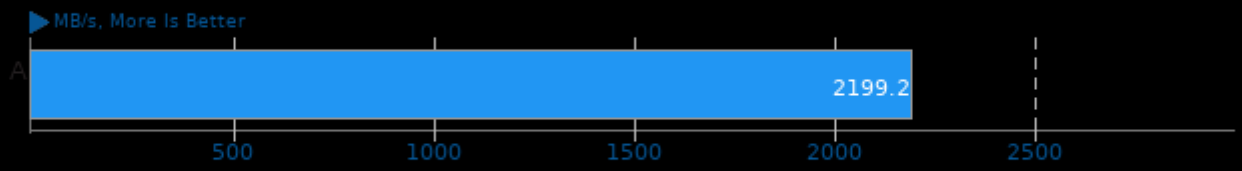
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

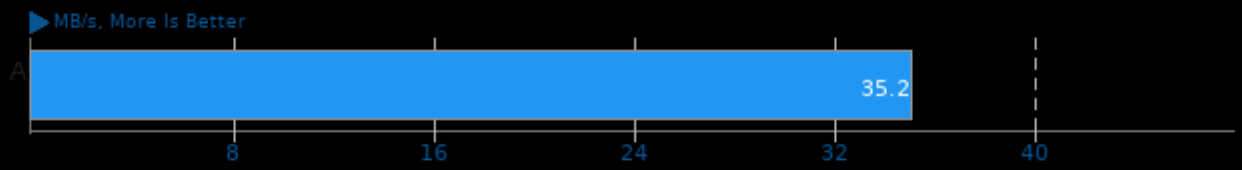
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

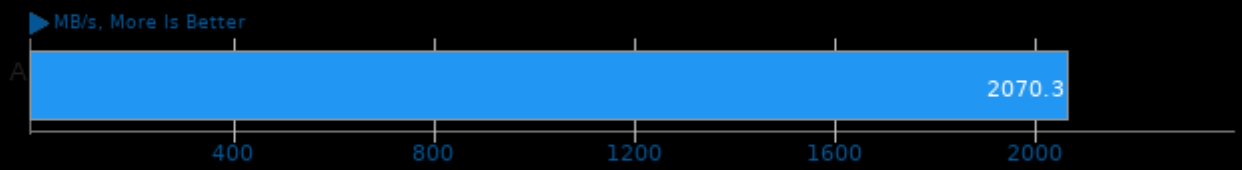
Compression Level: 19 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

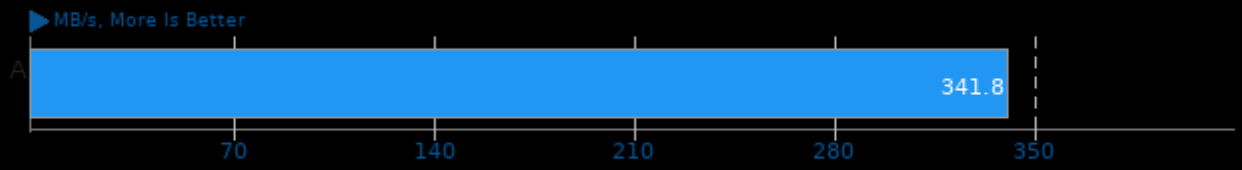
Compression Level: 19 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

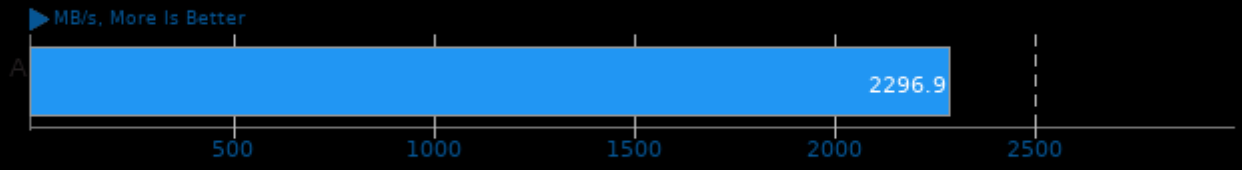
Compression Level: 3, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

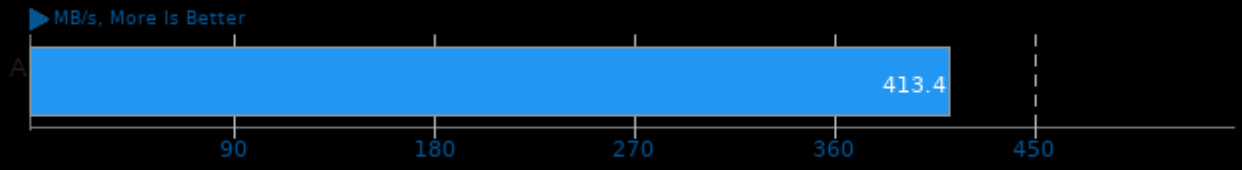
Compression Level: 3, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

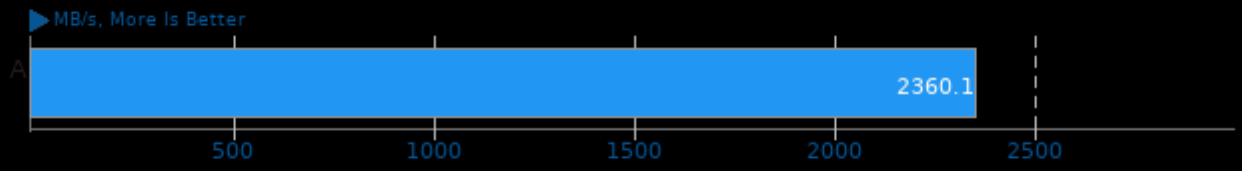
Compression Level: 8, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

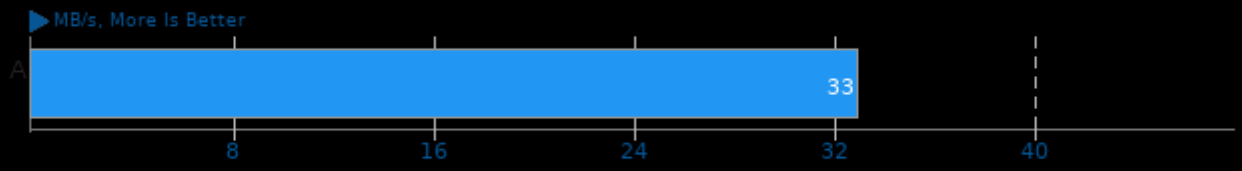
Compression Level: 8, Long Mode - Decompression Speed



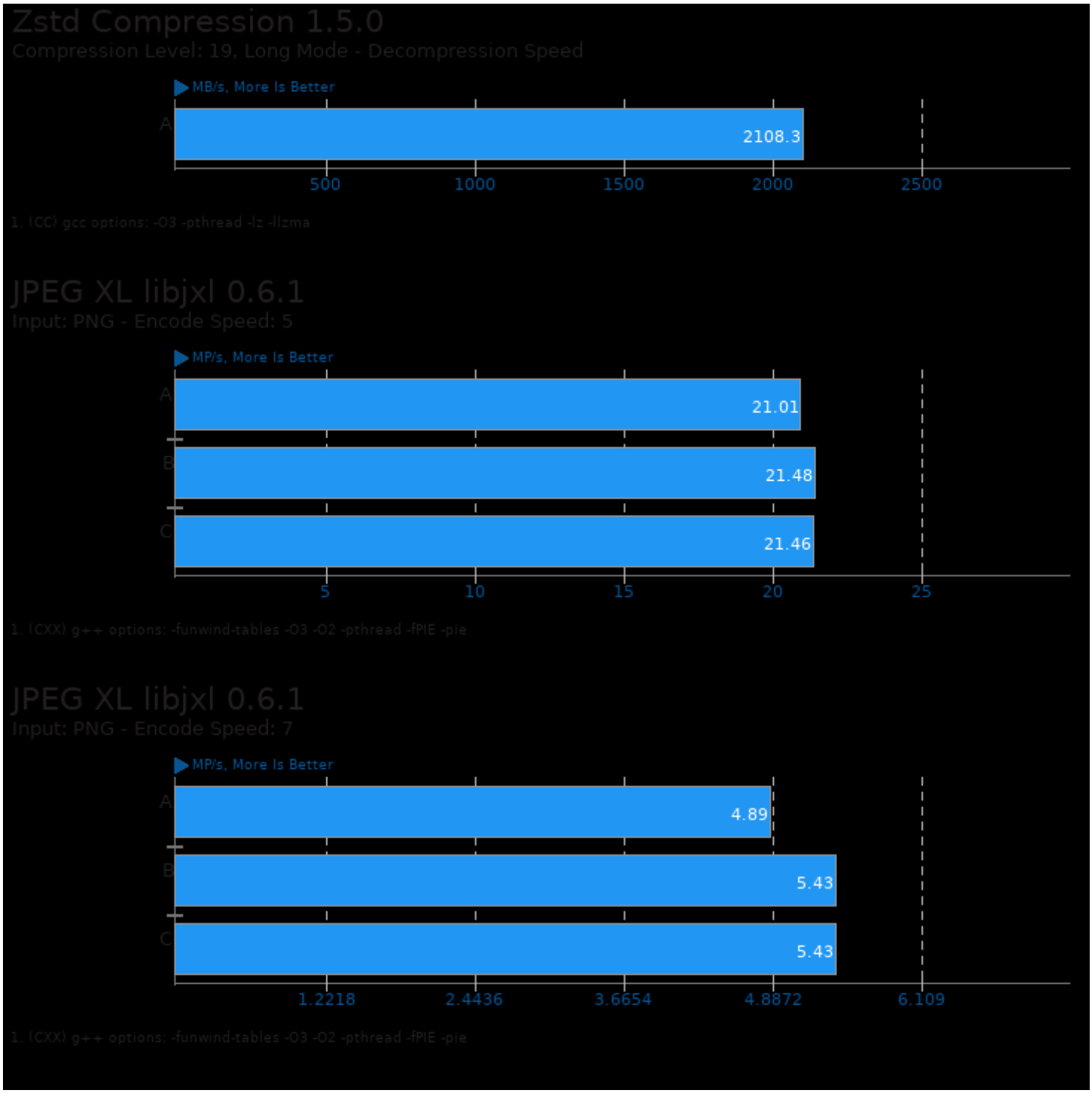
1. (CC) gcc options: -O3 -pthread -lz -llzma

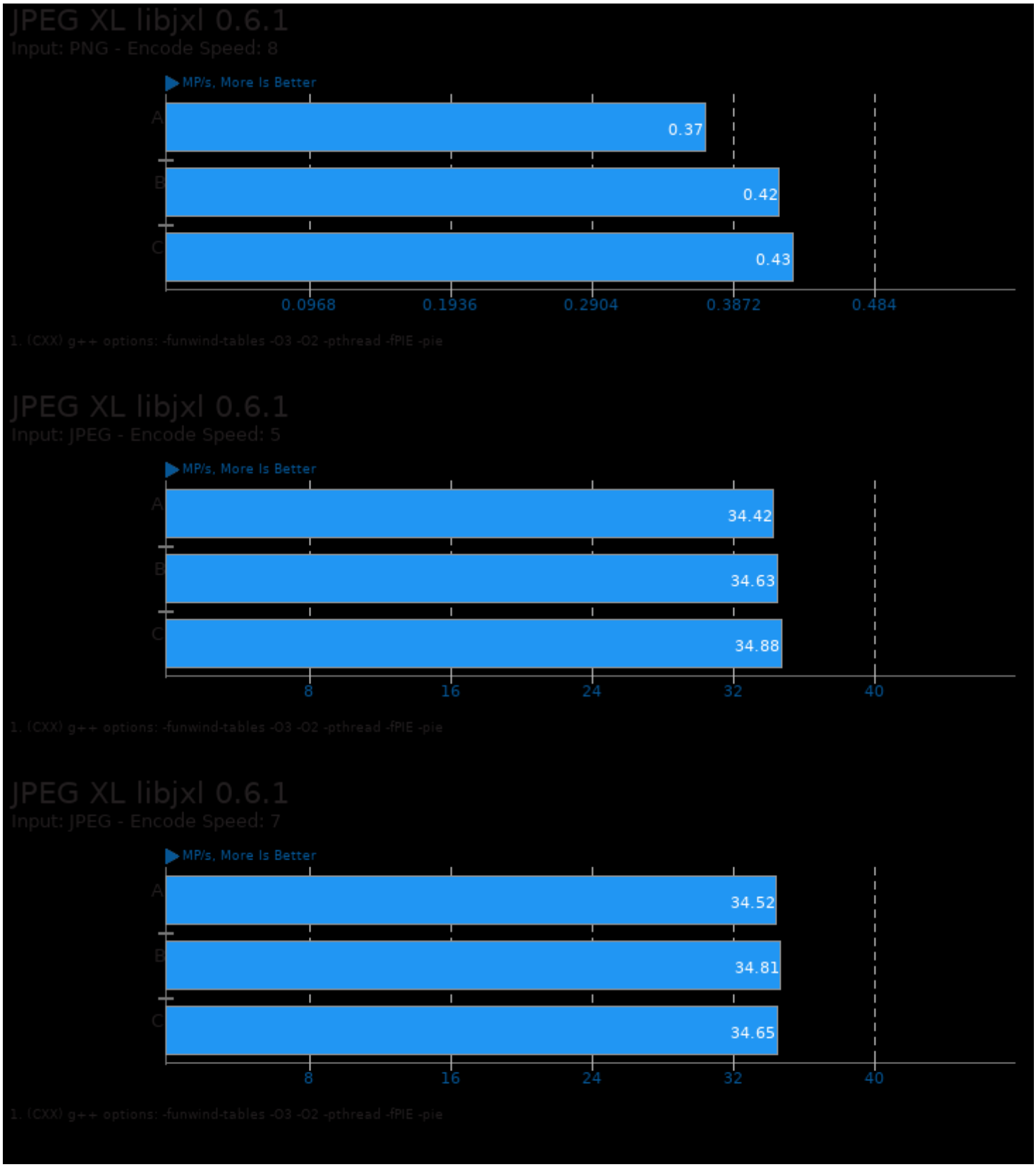
Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Compression Speed



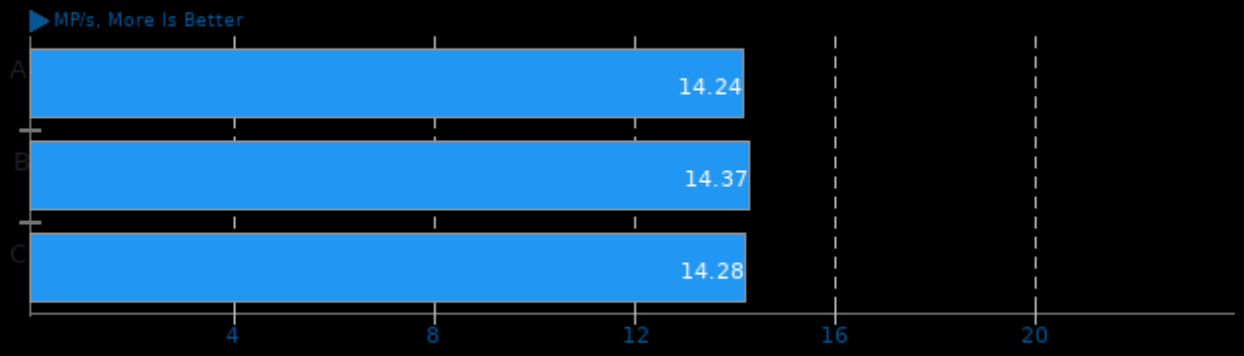
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
A
2108.3
500
1000
1500
2000
2500
1. (CC) gcc options: -O3 -pthread -lz -llzma
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 5
MP/s, More Is Better
A
21.01
B
21.48
C
21.46
5
10
15
20
25
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 7
MP/s, More Is Better
A
4.89
B
5.43
C
5.43
1.2218
2.4436
3.6654
4.8872
6.109
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie


JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
A
B
C
0.37
0.42
0.43
0.0968
0.1936
0.2904
0.3872
0.484
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
A
B
C
34.42
34.63
34.88
8
16
24
32
40
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
A
B
C
34.52
34.81
34.65
8
16
24
32
40
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

JPEG XL libjxl 0.6.1

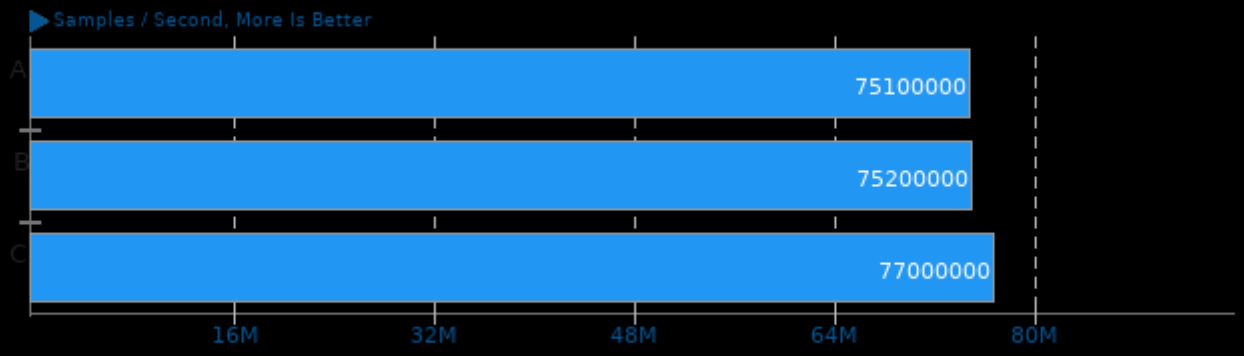
Input: JPEG - Encode Speed: 8



1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

srsRAN 21.10

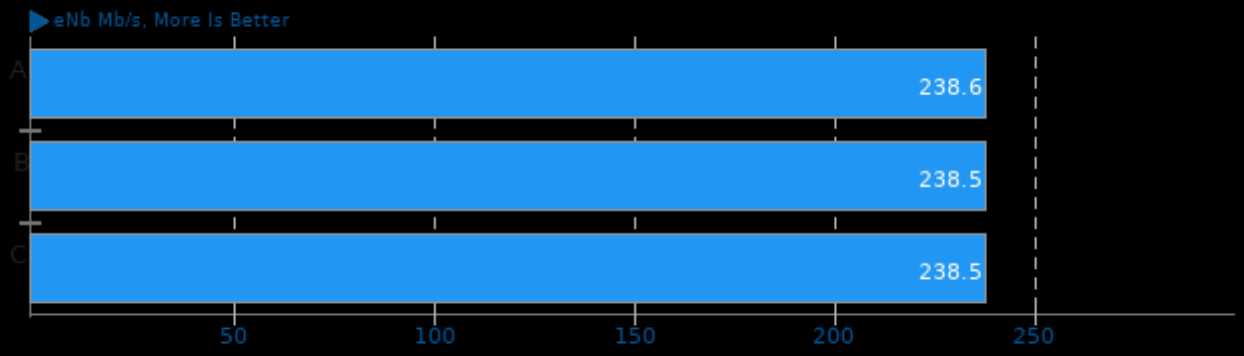
Test: OFDM_Test



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

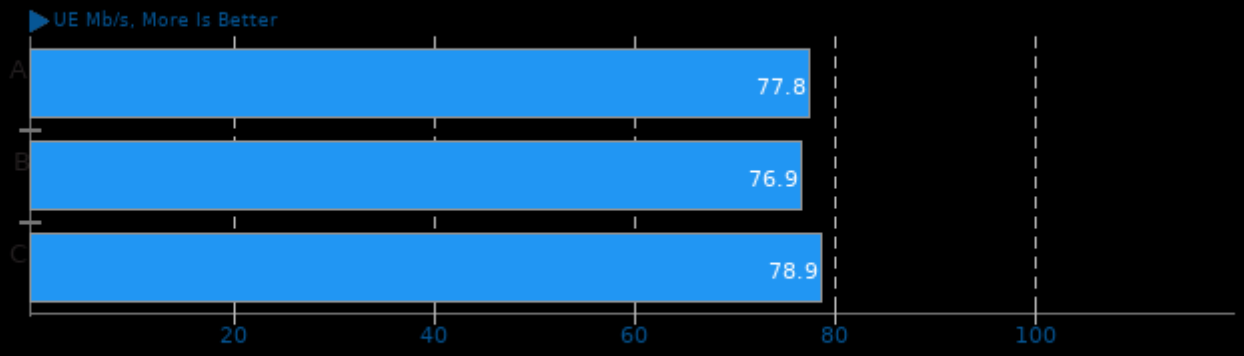
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

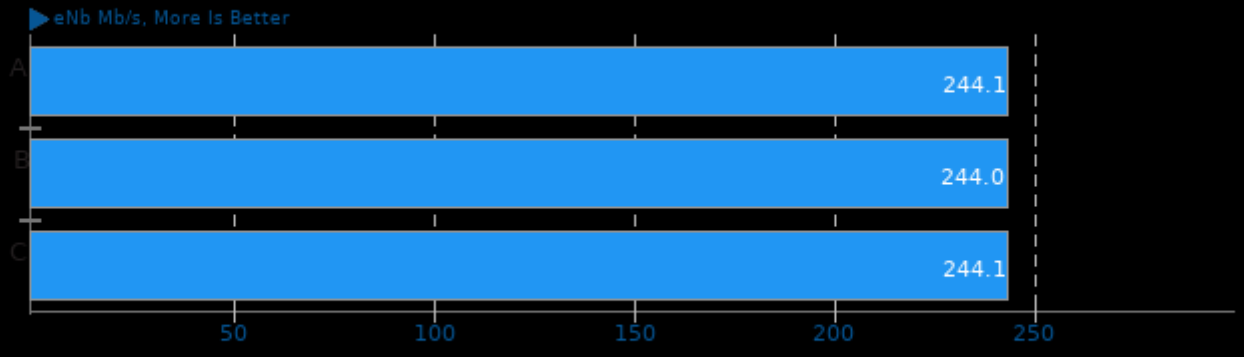
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

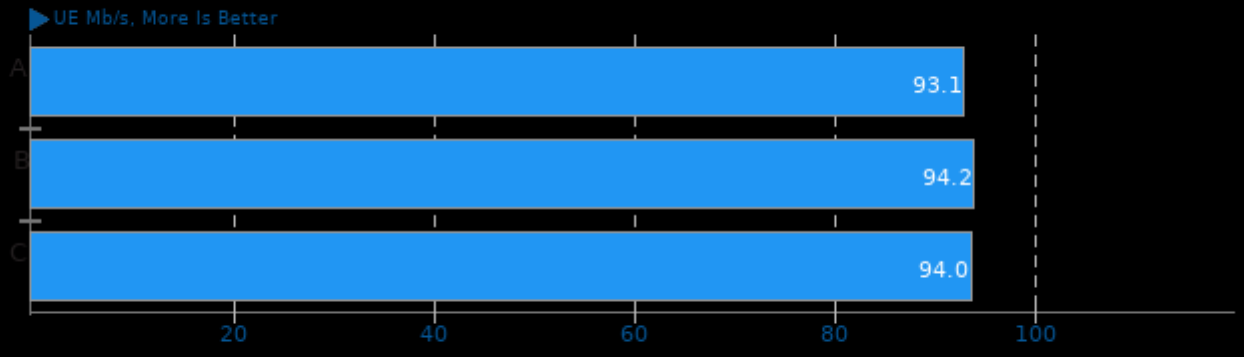
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

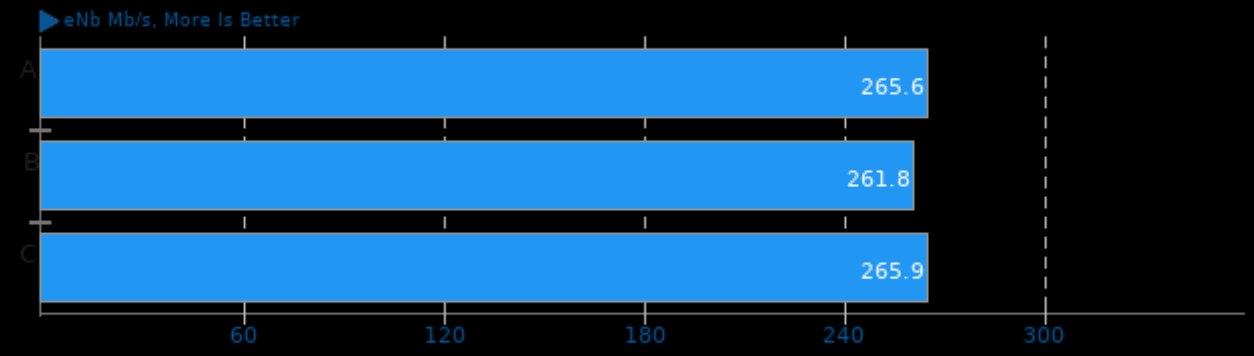
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

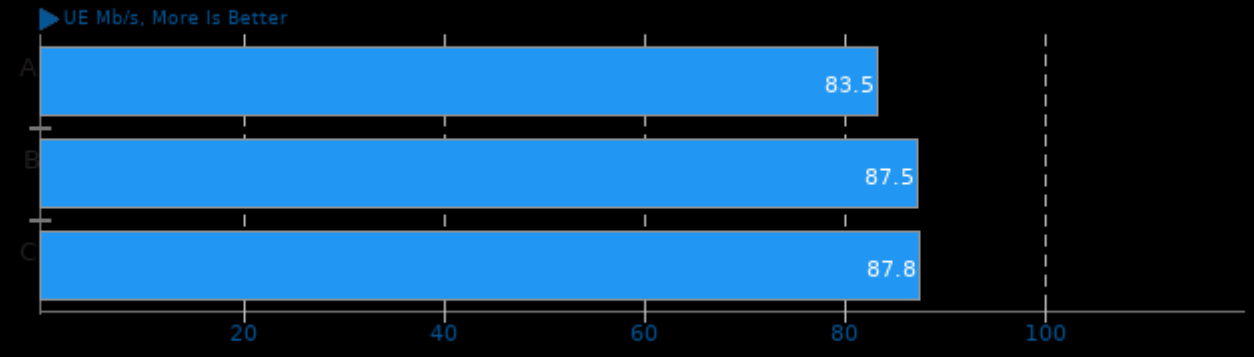
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 21.10

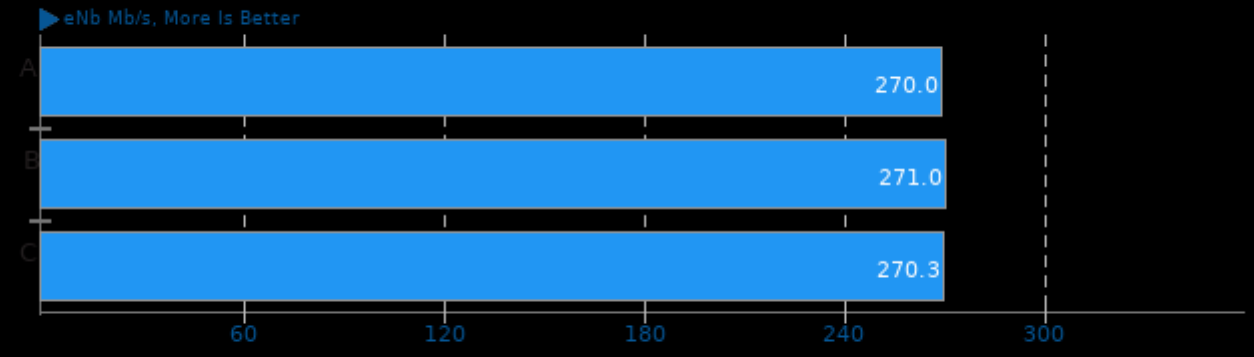
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM



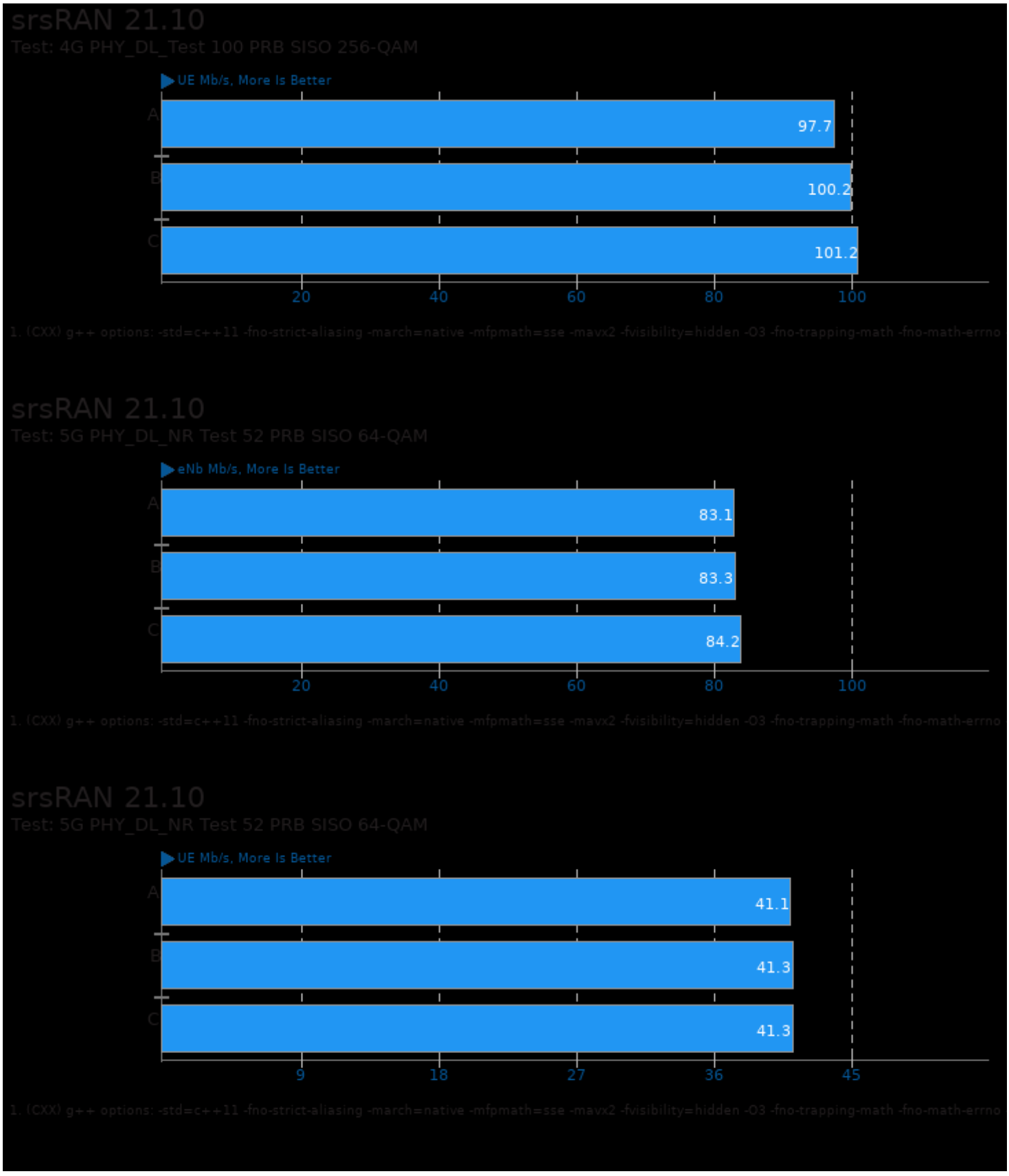
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

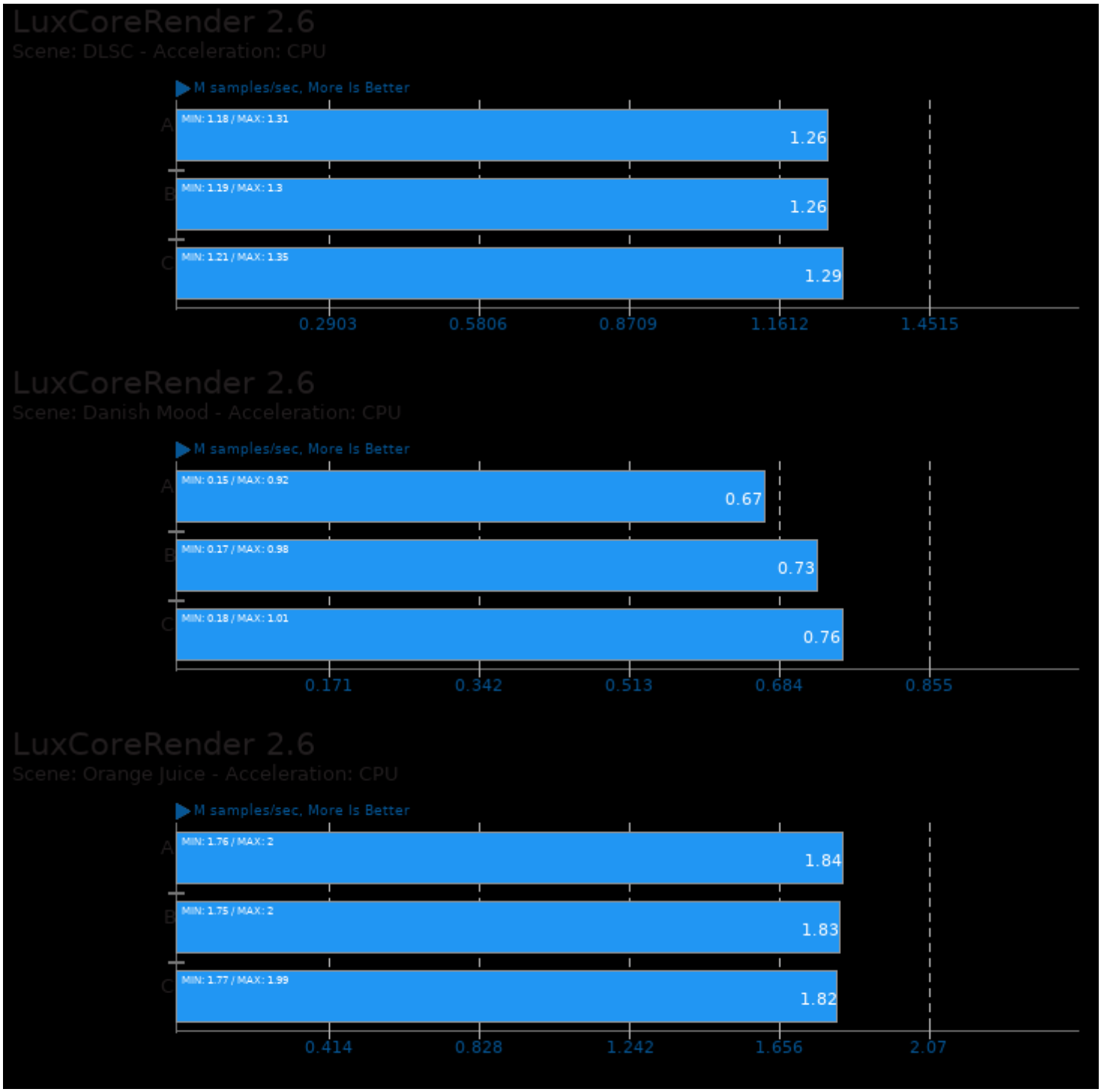
srsRAN 21.10

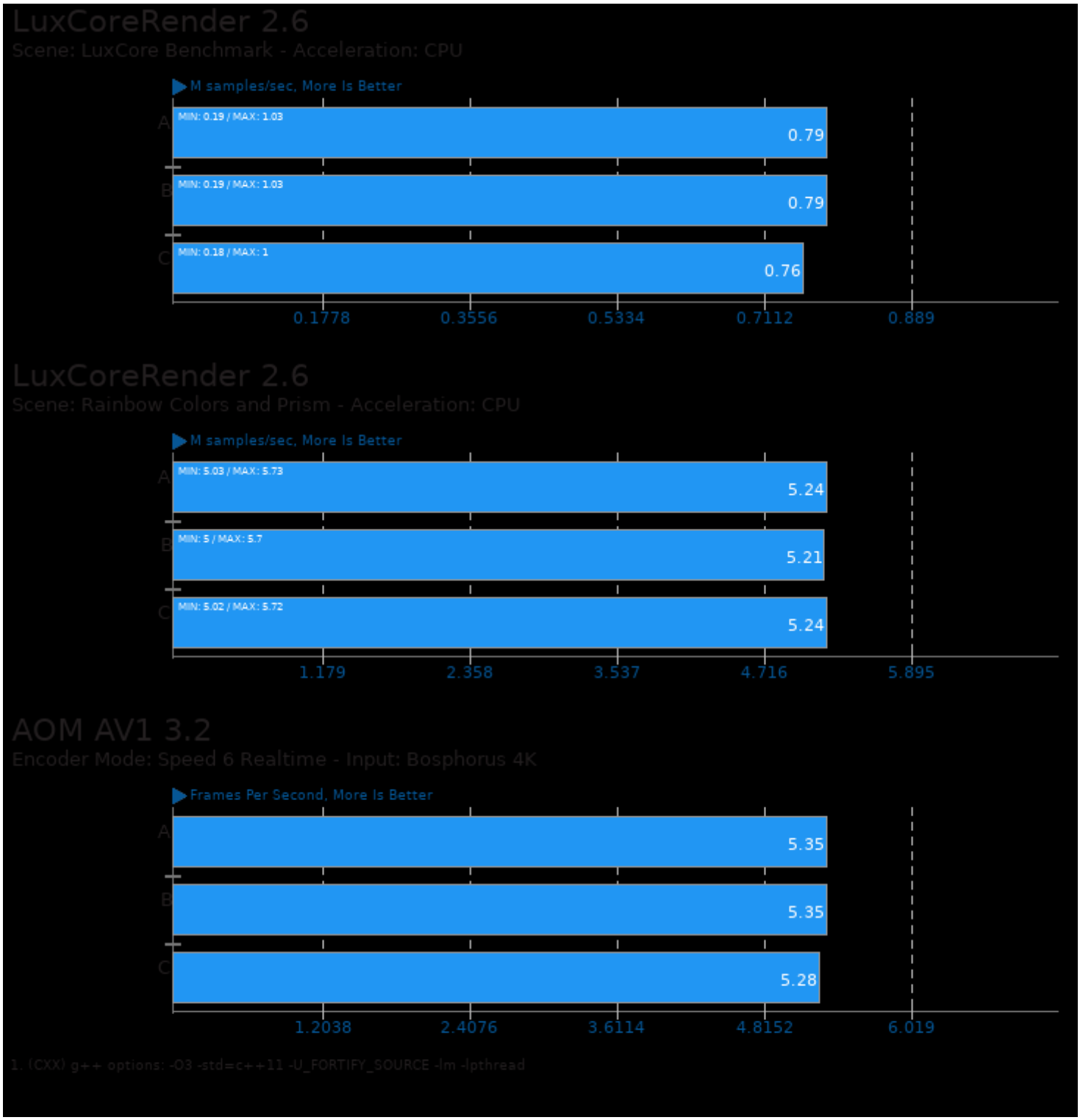
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM

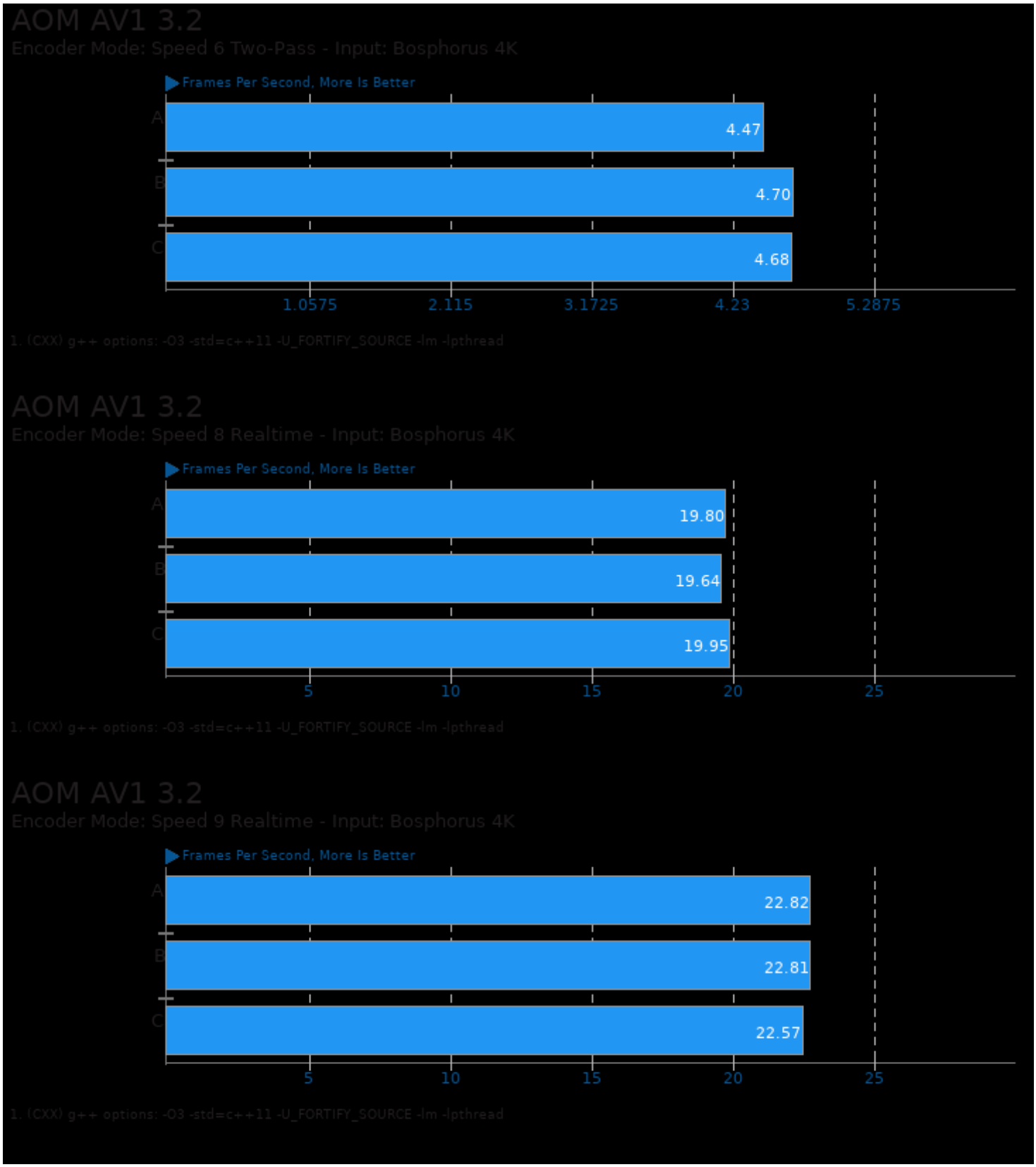


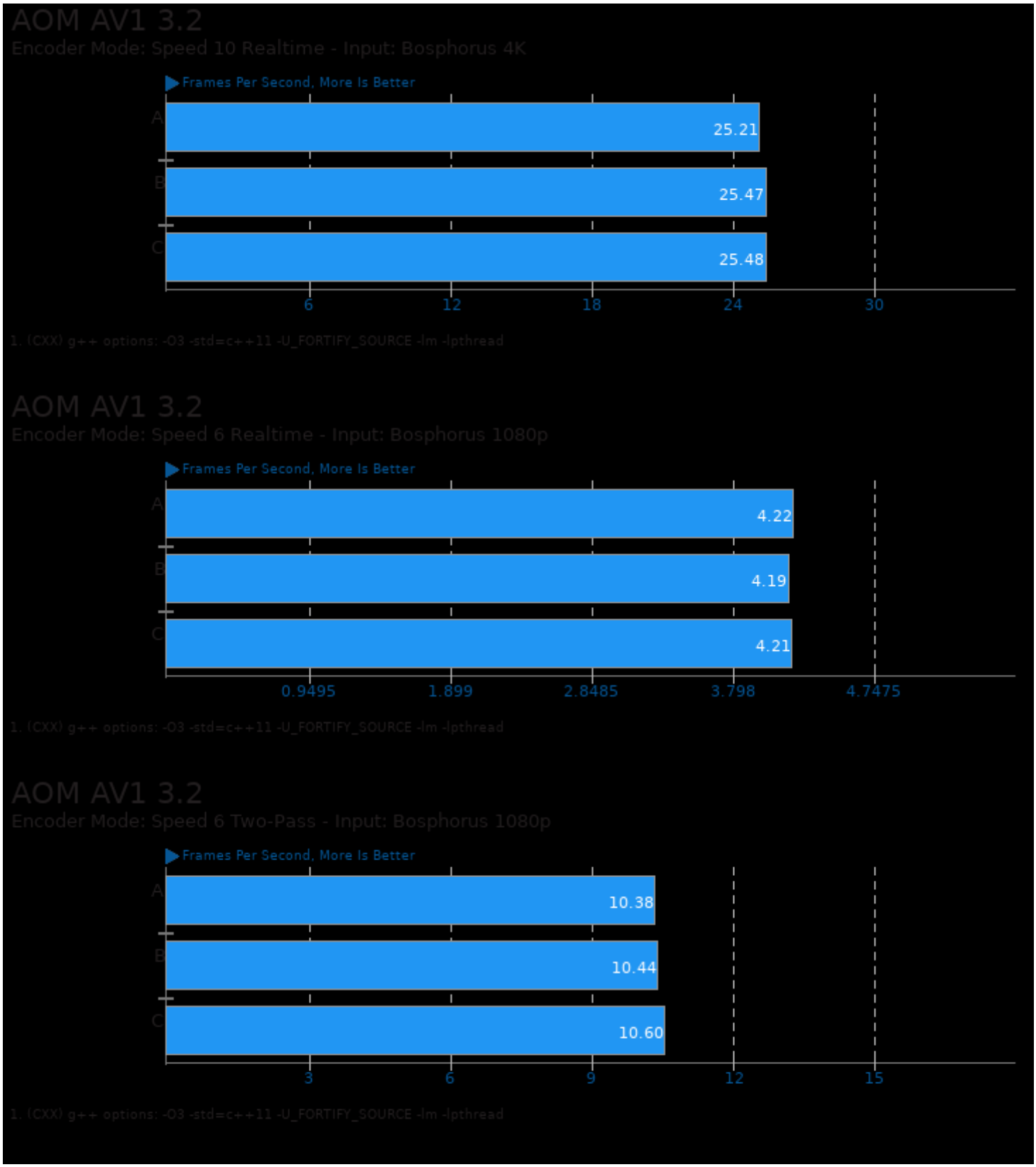
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

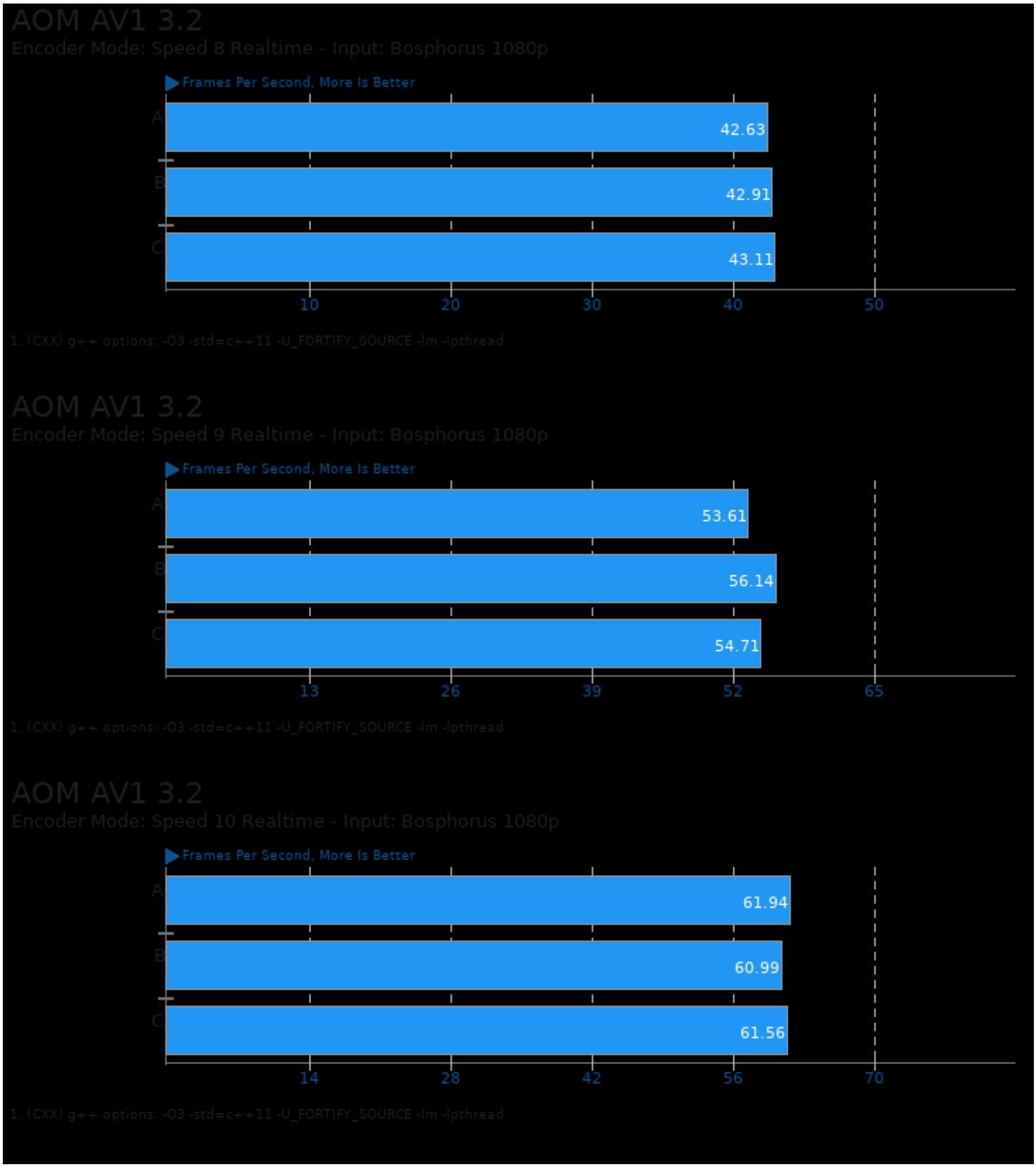

srsRAN 21.10
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
UE Mb/s, More Is Better
A
B
C
97.7
100.2
101.2
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.10
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
eNb Mb/s, More Is Better
A
B
C
83.1
83.3
84.2
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.10
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
UE Mb/s, More Is Better
A
B
C
41.1
41.3
41.3
9
18
27
36
45
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


LuxCoreRender 2.6
Scene: DLSC - Acceleration: CPU
M samples/sec, More Is Better
A
MIN: 1.18 / MAX: 1.31
1.26
B
MIN: 1.19 / MAX: 1.3
1.26
C
MIN: 1.21 / MAX: 1.35
1.29
0.2903
0.5806
0.8709
1.1612
1.4515
LuxCoreRender 2.6
Scene: Danish Mood - Acceleration: CPU
M samples/sec, More Is Better
A
MIN: 0.15 / MAX: 0.92
0.67
B
MIN: 0.17 / MAX: 0.98
0.73
C
MIN: 0.18 / MAX: 1.01
0.76
0.171
0.342
0.513
0.684
0.855
LuxCoreRender 2.6
Scene: Orange Juice - Acceleration: CPU
M samples/sec, More Is Better
A
MIN: 1.76 / MAX: 2
1.84
B
MIN: 1.75 / MAX: 2
1.83
C
MIN: 1.77 / MAX: 1.99
1.82
0.414
0.828
1.242
1.656
2.07


LuxCoreRender 2.6
Scene: LuxCore Benchmark - Acceleration: CPU
M samples/sec, More Is Better
A
MIN: 0.19 / MAX: 1.03
0.79
B
MIN: 0.19 / MAX: 1.03
0.79
C
MIN: 0.18 / MAX: 1
0.76
0.1778
0.3556
0.5334
0.7112
0.889
LuxCoreRender 2.6
Scene: Rainbow Colors and Prism - Acceleration: CPU
M samples/sec, More Is Better
A
MIN: 5.03 / MAX: 5.73
5.24
B
MIN: 5 / MAX: 5.7
5.21
C
MIN: 5.02 / MAX: 5.72
5.24
1.179
2.358
3.537
4.716
5.895
AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
5.35
B
5.35
C
5.28
1.2038
2.4076
3.6114
4.8152
6.019
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

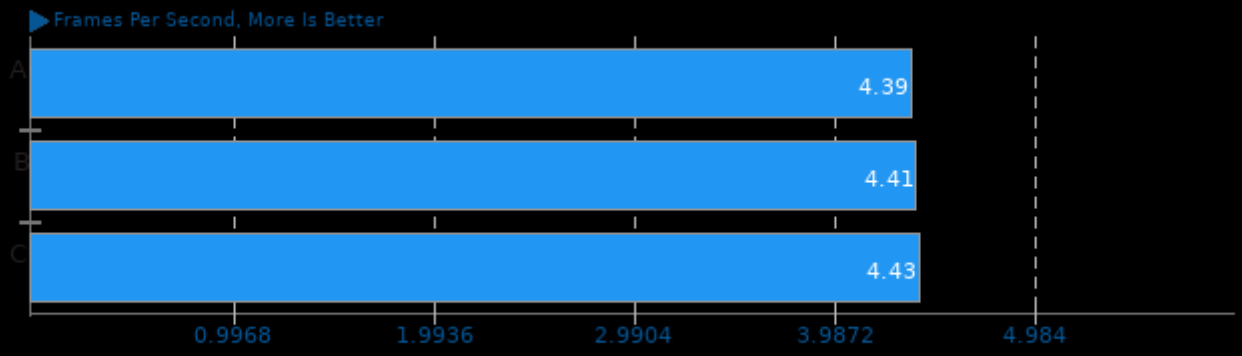

AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
4.47
4.70
4.68
1.0575
2.115
3.1725
4.23
5.2875
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
19.80
19.64
19.95
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
22.82
22.81
22.57
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
25.21
25.47
25.48
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
4.22
4.19
4.21
0.9495
1.899
2.8485
3.798
4.7475
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
10.38
10.44
10.60
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
42.63
42.91
43.11
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
53.61
56.14
54.71
13
26
39
52
65
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
61.94
60.99
61.56
14
28
42
56
70
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

Kvazaar 2.1

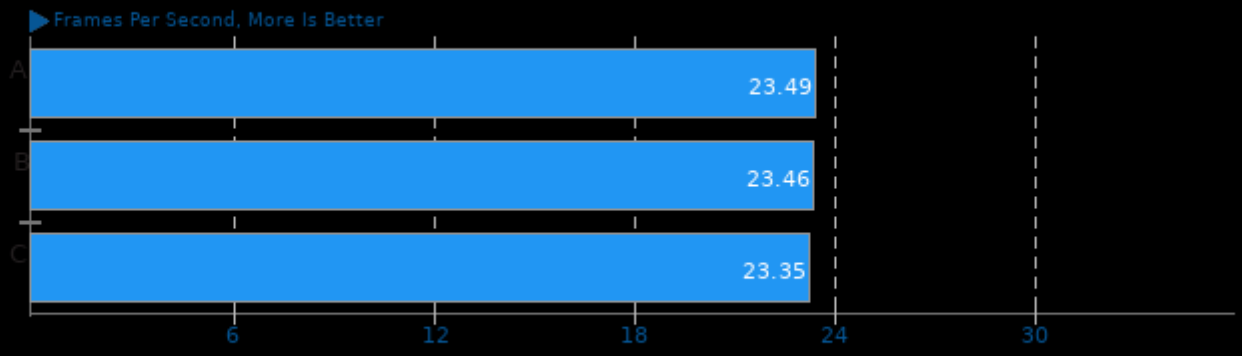
Video Input: Bosphorus 4K - Video Preset: Medium



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

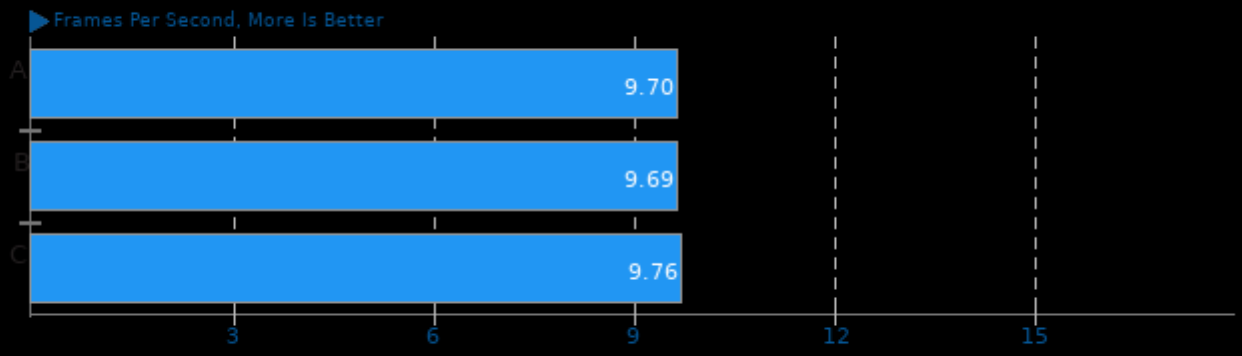
Video Input: Bosphorus 1080p - Video Preset: Medium



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

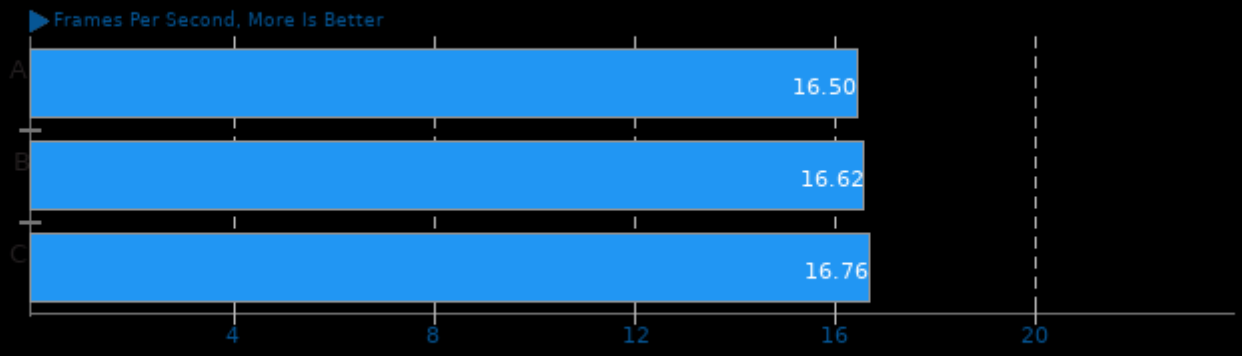
Video Input: Bosphorus 4K - Video Preset: Very Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

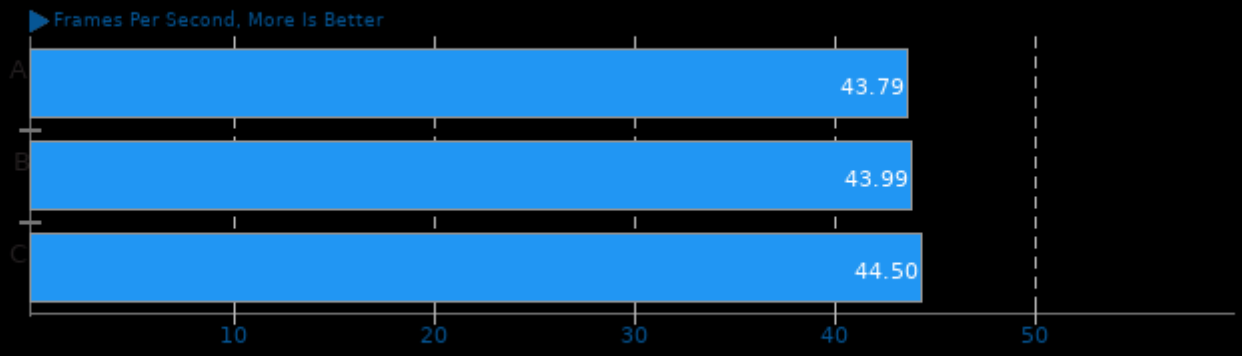
Video Input: Bosphorus 4K - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

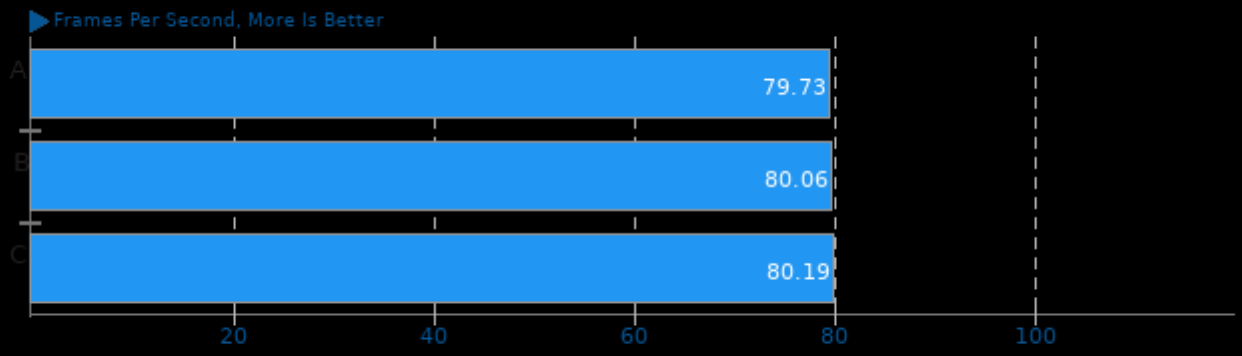
Video Input: Bosphorus 1080p - Video Preset: Very Fast



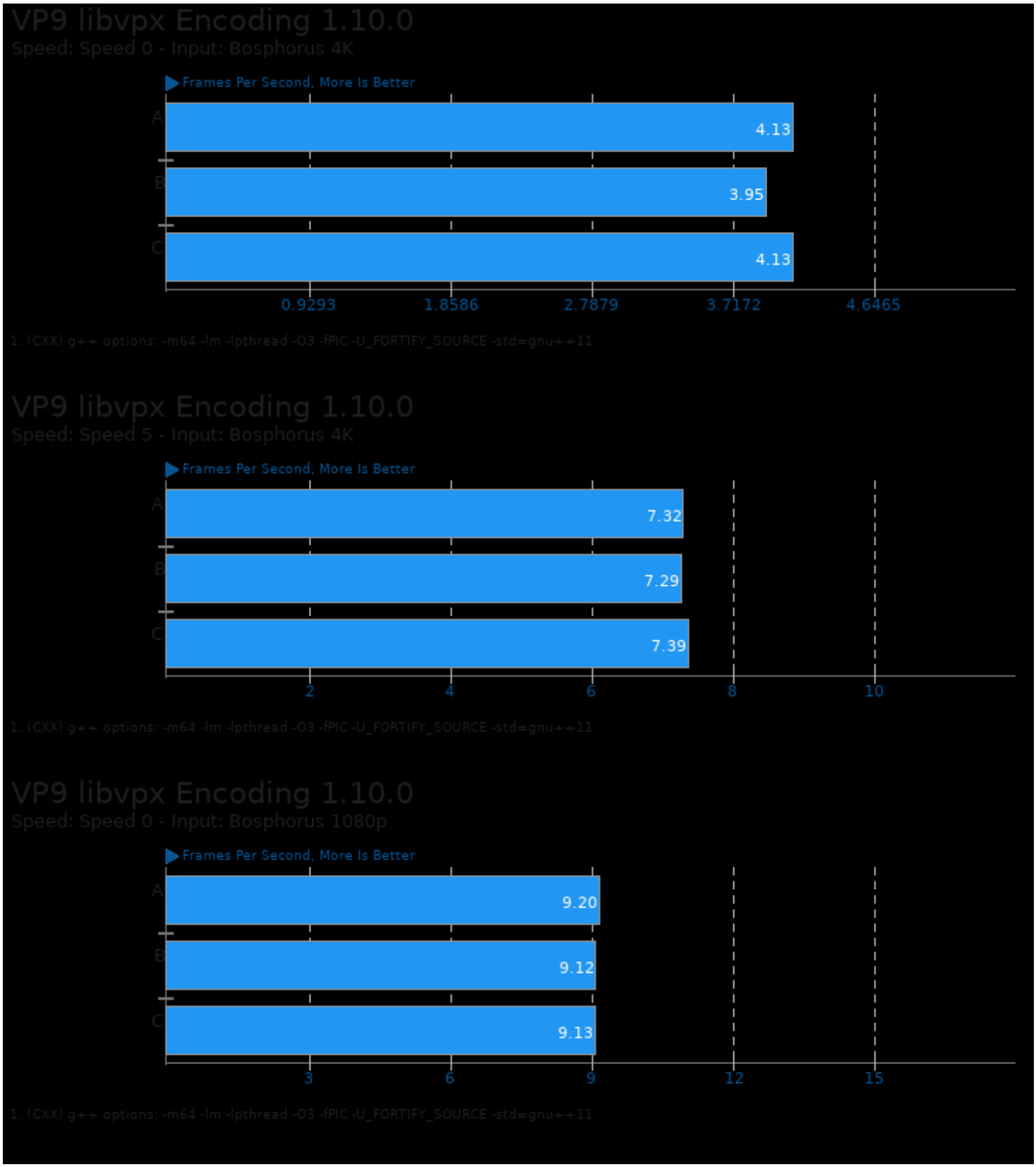
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

Video Input: Bosphorus 1080p - Video Preset: Ultra Fast

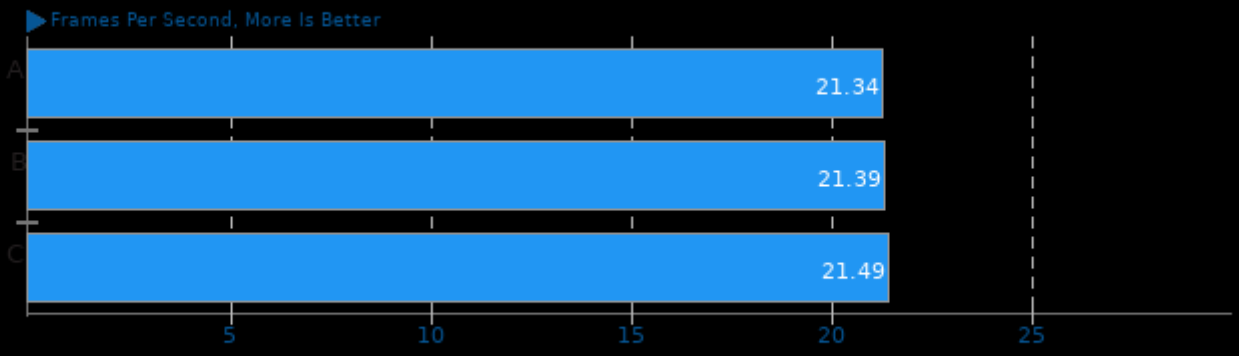


1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt


VP9 libvpx Encoding 1.10.0
Speed: Speed 0 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
4.13
3.95
4.13
0.9293
1.8586
2.7879
3.7172
4.6465
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -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
A
B
C
7.32
7.29
7.39
2
4
6
8
10
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -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
A
B
C
9.20
9.12
9.13
3
6
9
12
15
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

VP9 libvpx Encoding 1.10.0

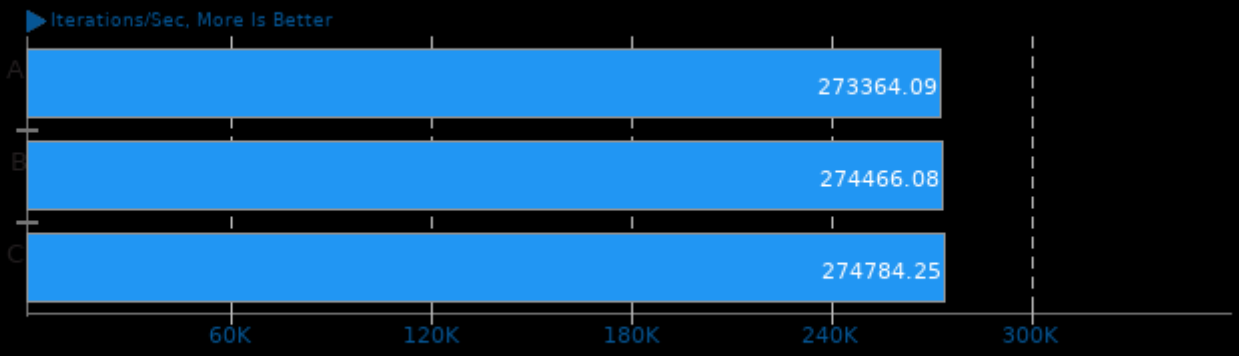
Speed: Speed 5 - Input: Bosphorus 1080p



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

Coremark 1.0

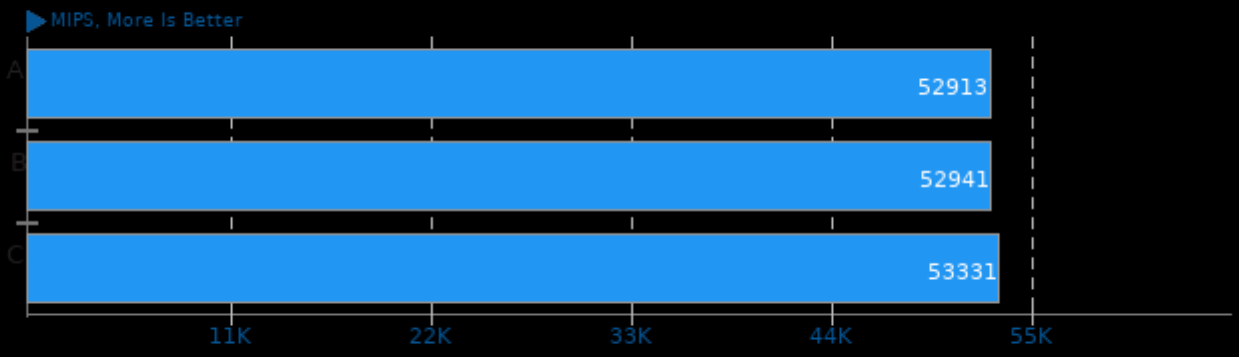
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -lrt" -lrt

7-Zip Compression 21.06

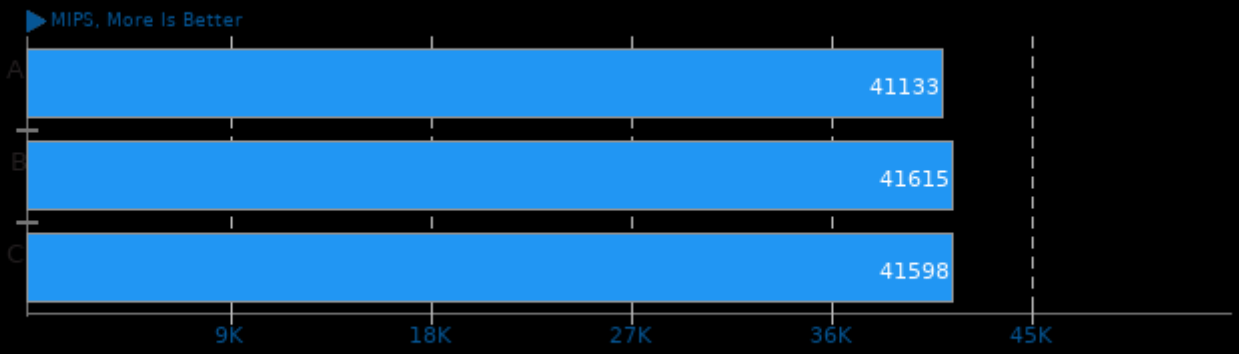
Test: Compression Rating



1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC

7-Zip Compression 21.06

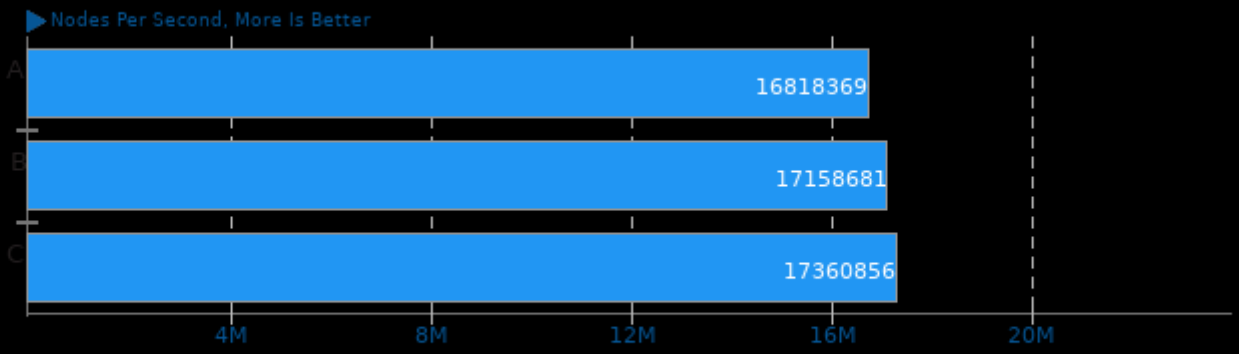
Test: Decompression Rating



1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC

Stockfish 13

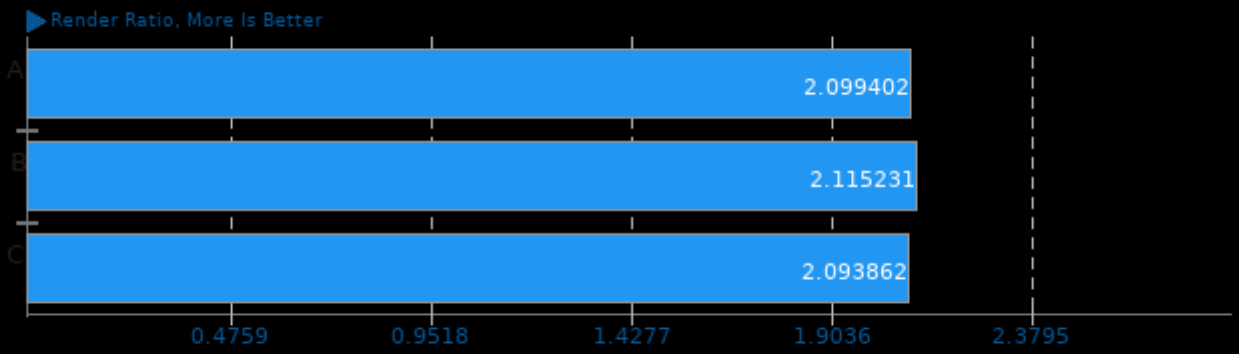
Total Time



1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt -

Stargate Digital Audio Workstation 21.10.9

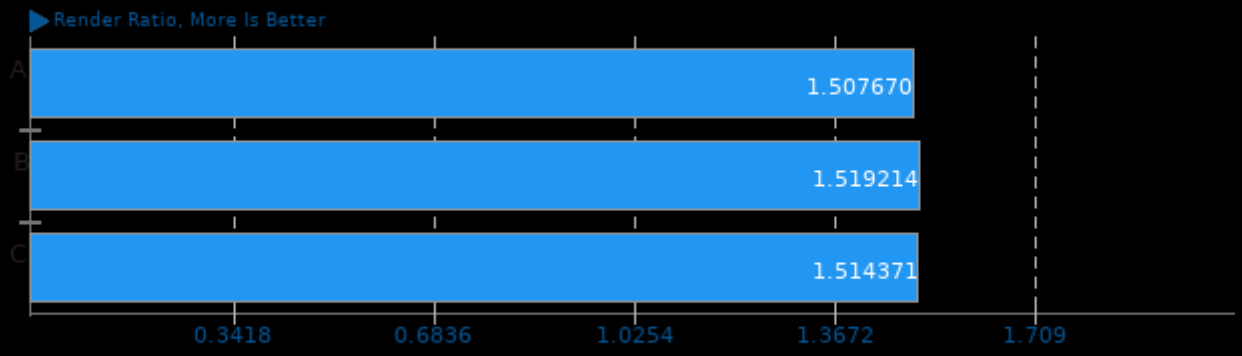
Sample Rate: 44100 - Buffer Size: 512



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

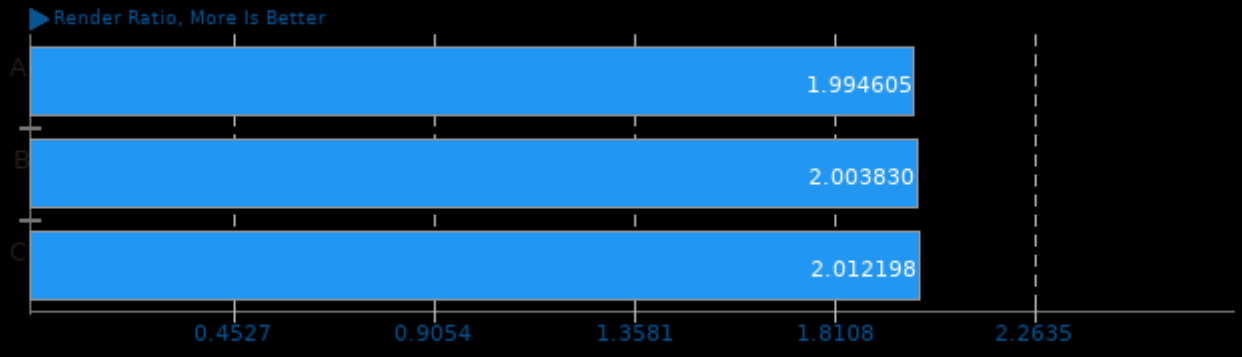
Sample Rate: 96000 - Buffer Size: 512



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

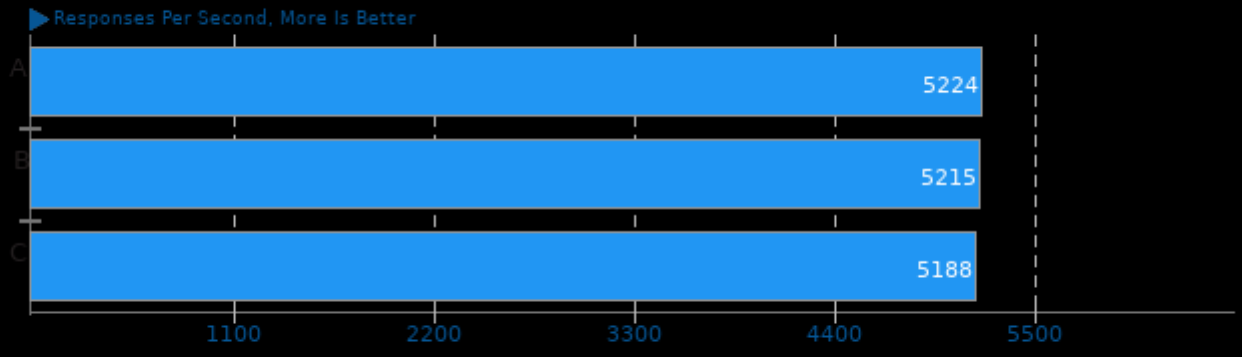
Sample Rate: 480000 - Buffer Size: 512



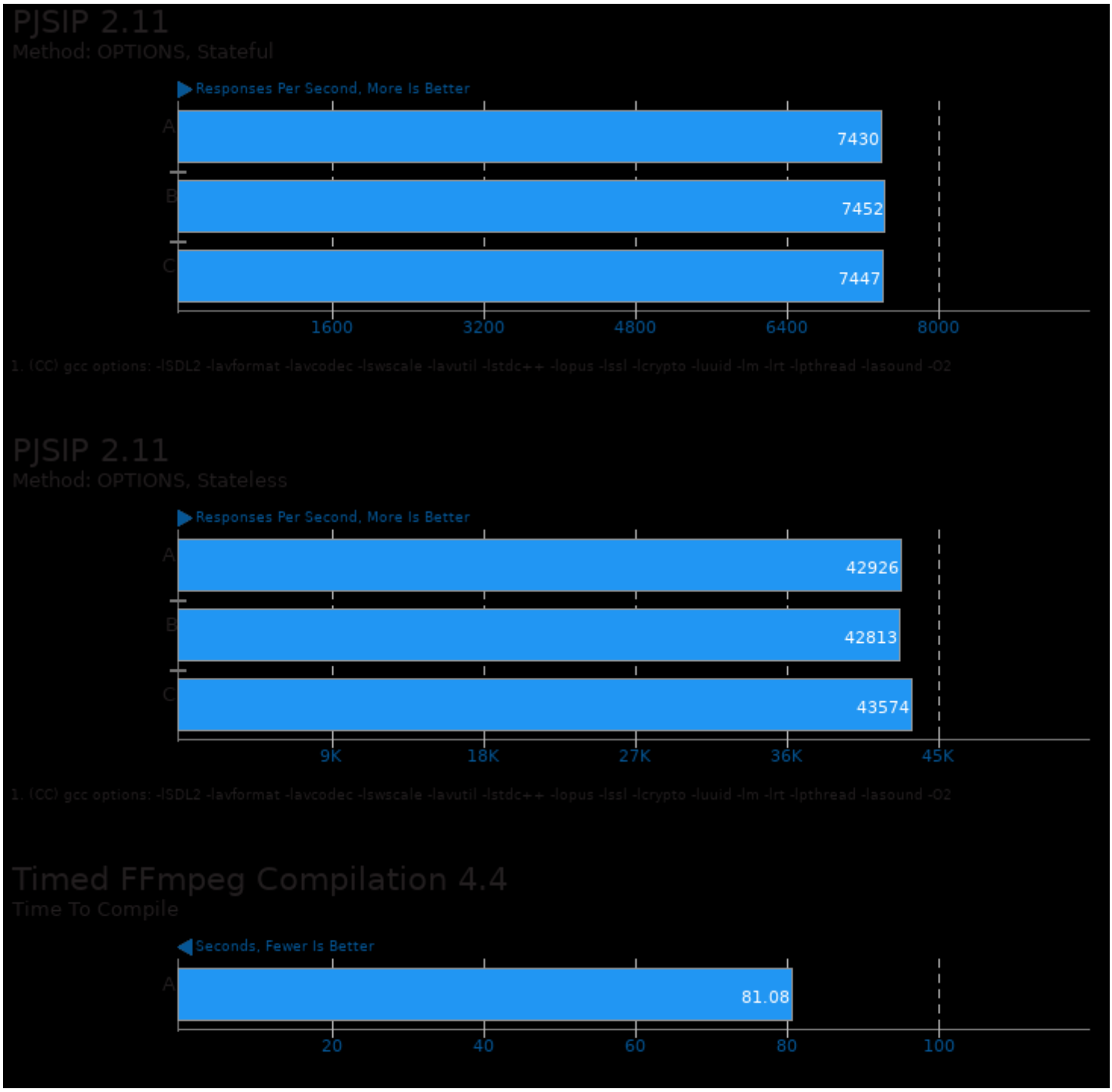
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

PJSIP 2.11

Method: INVITE

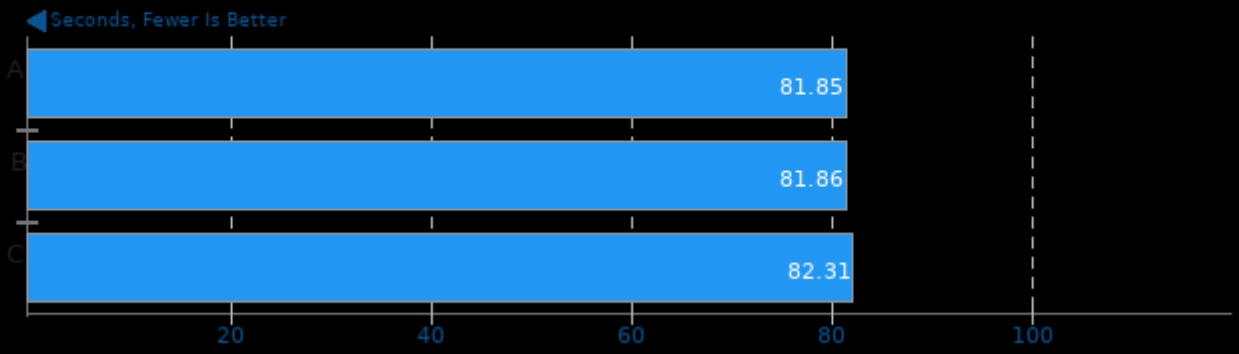


1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2


PJSIP 2.11
Method: OPTIONS, Stateful
Responses Per Second, More Is Better
A
B
C
7430
7452
7447
1600
3200
4800
6400
8000
1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2
PJSIP 2.11
Method: OPTIONS, Stateless
Responses Per Second, More Is Better
A
B
C
42926
42813
43574
9K
18K
27K
36K
45K
1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2
Timed FFmpeg Compilation 4.4
Time To Compile
Seconds, Fewer Is Better
A
81.08
20
40
60
80
100

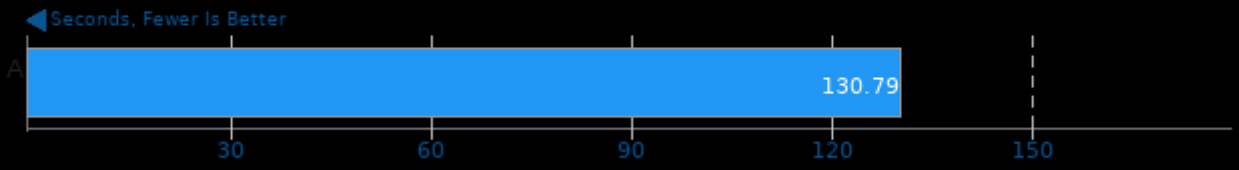
Timed GDB GNU Debugger Compilation 10.2

Time To Compile



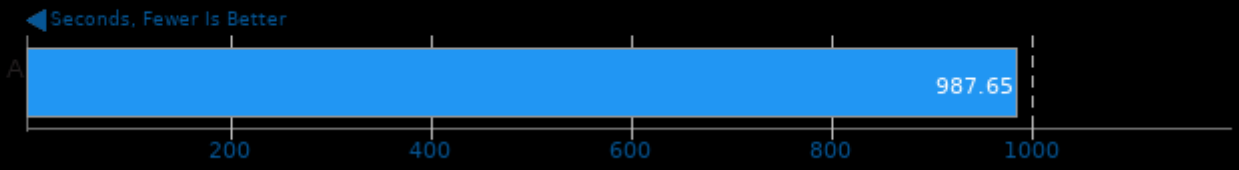
Timed Linux Kernel Compilation 5.14

Time To Compile



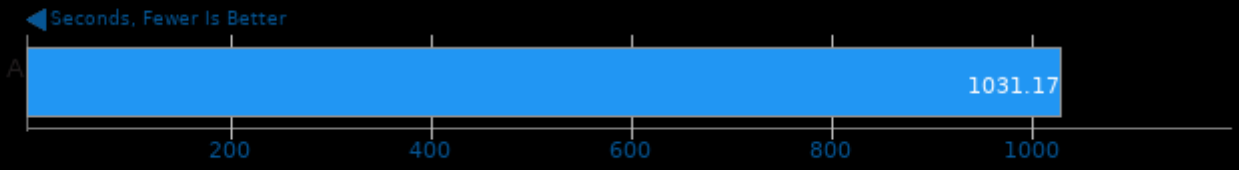
Timed LLVM Compilation 13.0

Build System: Ninja



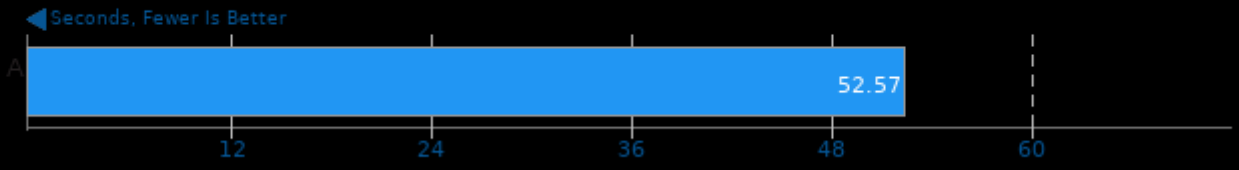
Timed LLVM Compilation 13.0

Build System: Unix Makefiles



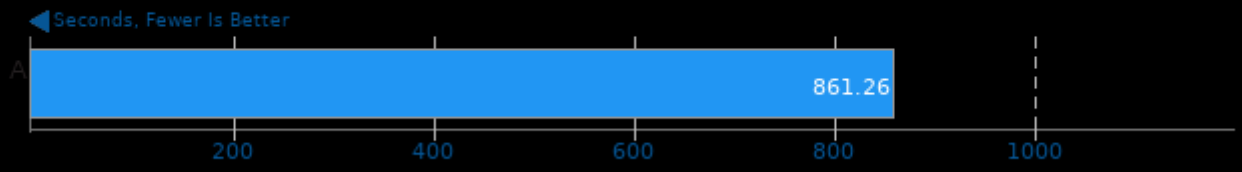
Timed MPlayer Compilation 1.4

Time To Compile



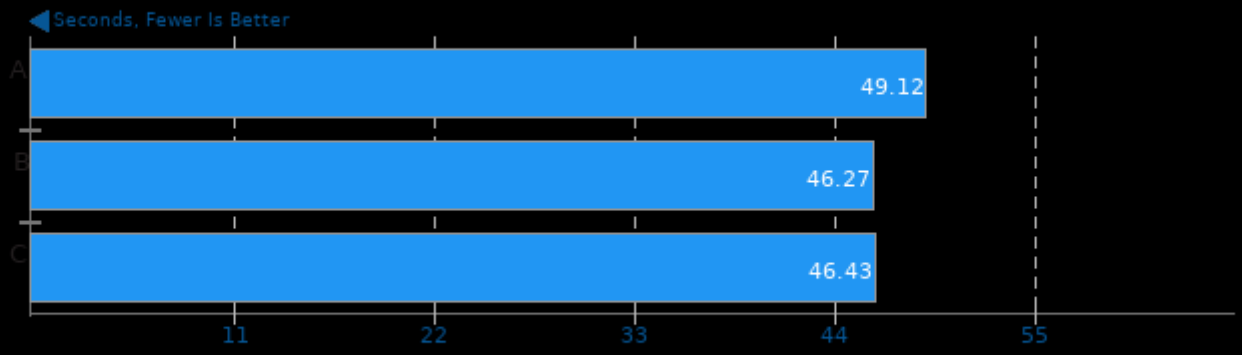
Timed Node.js Compilation 17.3

Time To Compile



Primesieve 7.7

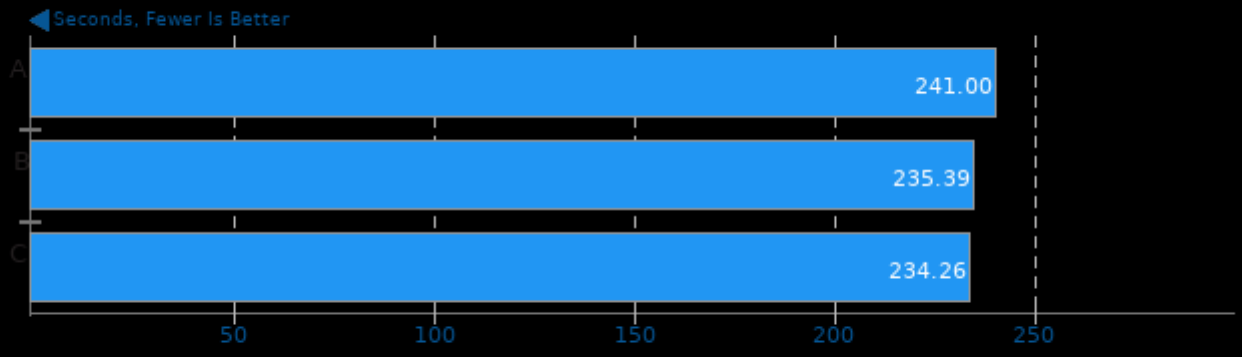
1e12 Prime Number Generation



1. (CXX) g++ options: -O3 -lpthread

YafaRay 3.5.1

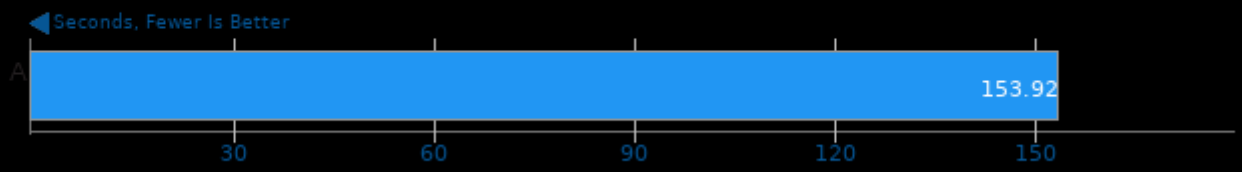
Total Time For Sample Scene



1. (CXX) g++ options: -std=c++11 -pthread -O3 -ffast-math -rdynamic -ldl -lImath -lIlmImf -lIex -lHalf -lz -lIlmThread -lxml2 -lfreetype

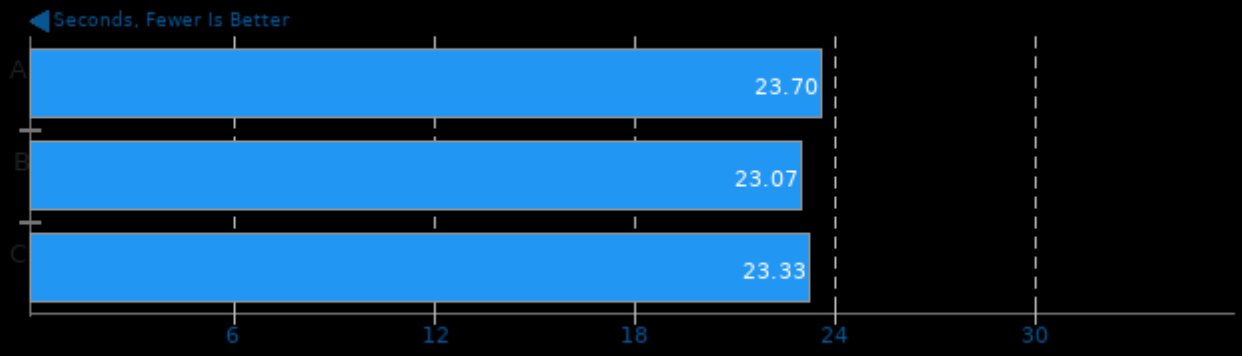
Timed Erlang/OTP Compilation 23.2

Time To Compile



FLAC Audio Encoding 1.3.3

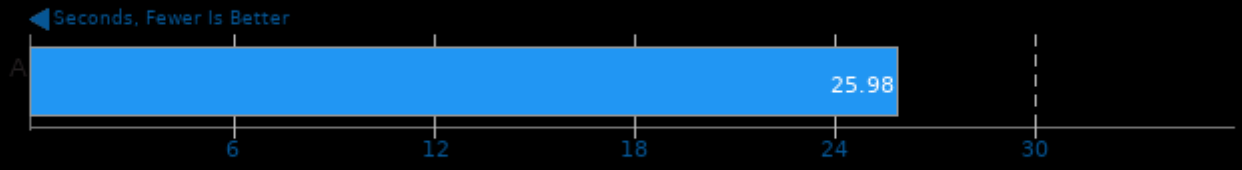
WAV To FLAC



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

Ogg Audio Encoding 1.3.4

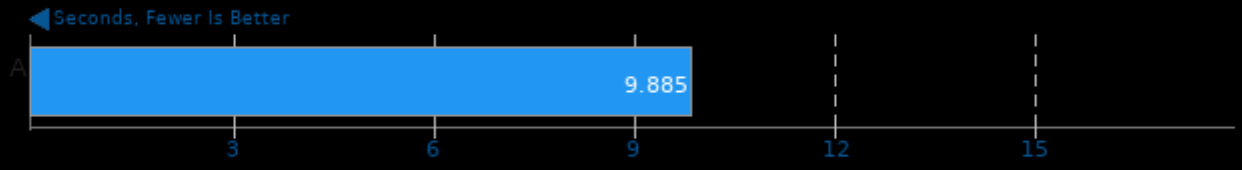
WAV To Ogg



1. (CC) gcc options: -O2 -ffast-math -fsigned-char

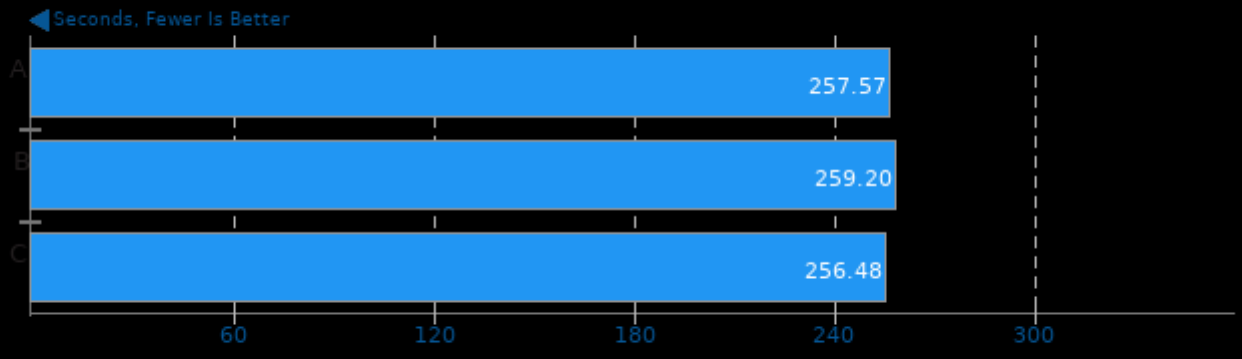
Opus Codec Encoding 1.3.1

WAV To Opus Encode



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

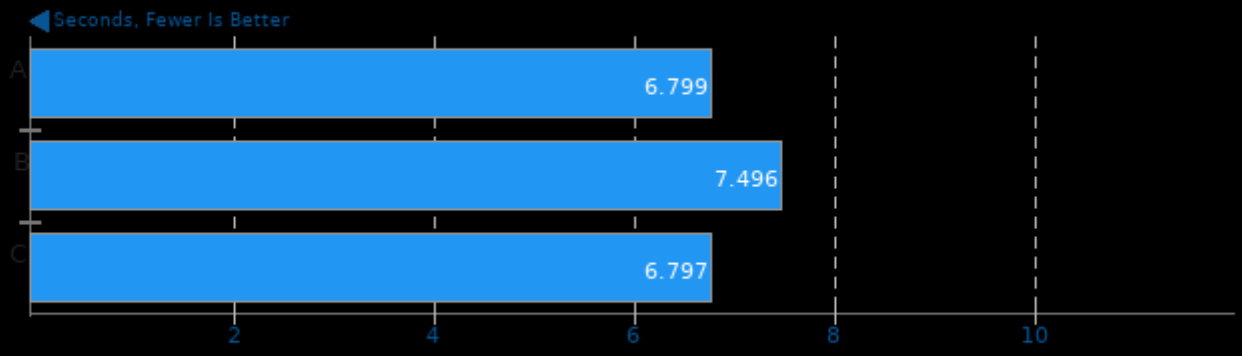
Gcrypt Library 1.9



1. (CC) gcc options: -O2 -fvisibility=hidden -lgpg-error

Helsing 1.0-beta

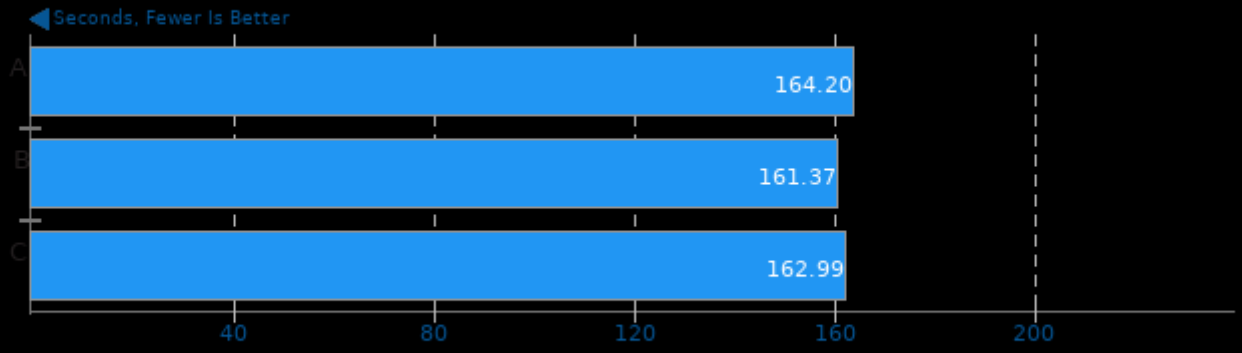
Digit Range: 12 digit



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

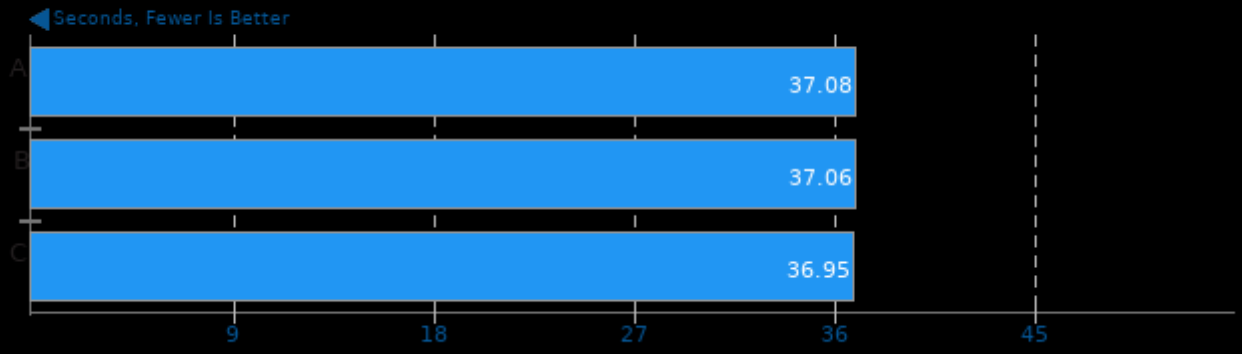
Tachyon 0.99b6

Total Time



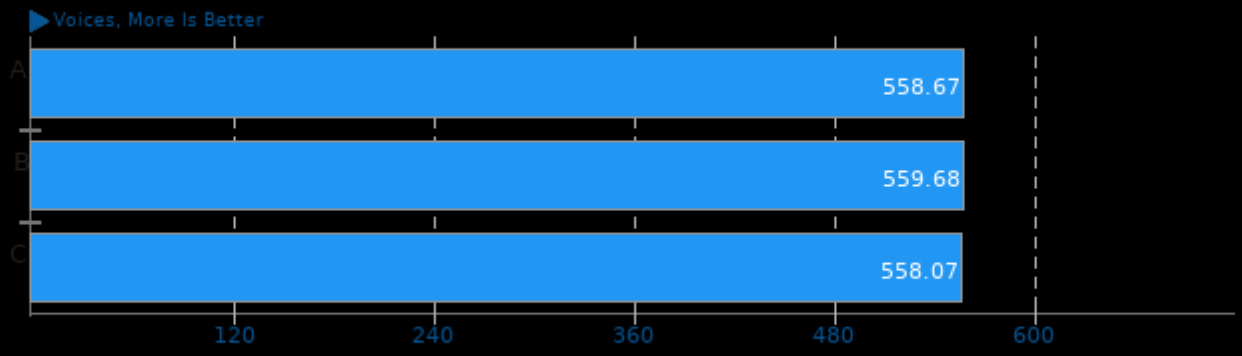
1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

VOSK Speech Recognition Toolkit 0.3.21



Google SynthMark 20201109

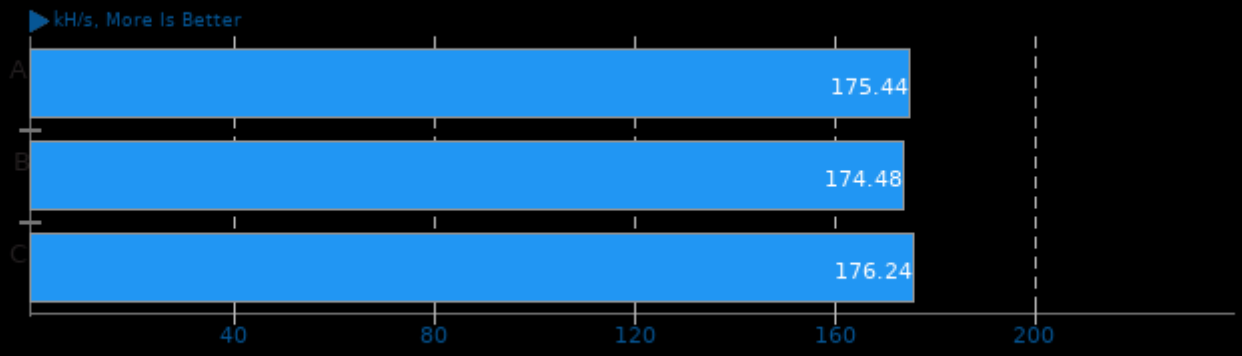
Test: VoiceMark_100



1. (CXX) g++ options: -lm -lpthread -std=c++11 -Ofast

Cpuminer-Opt 3.18

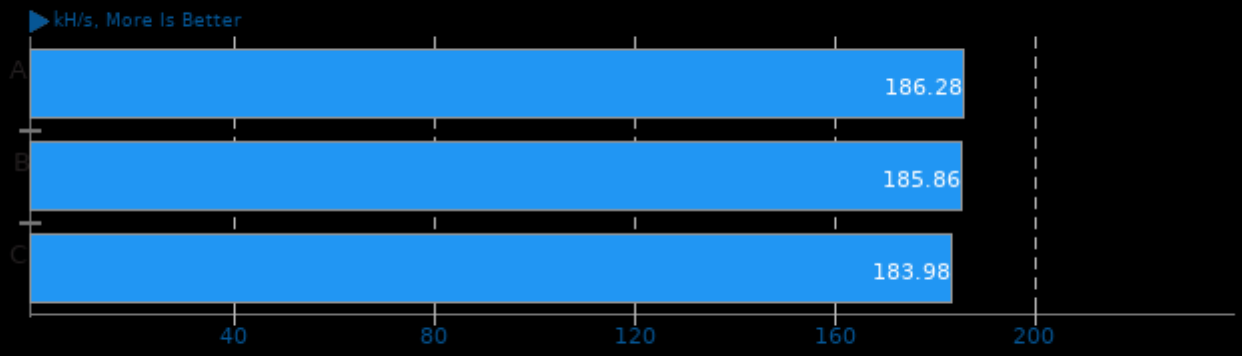
Algorithm: Magi



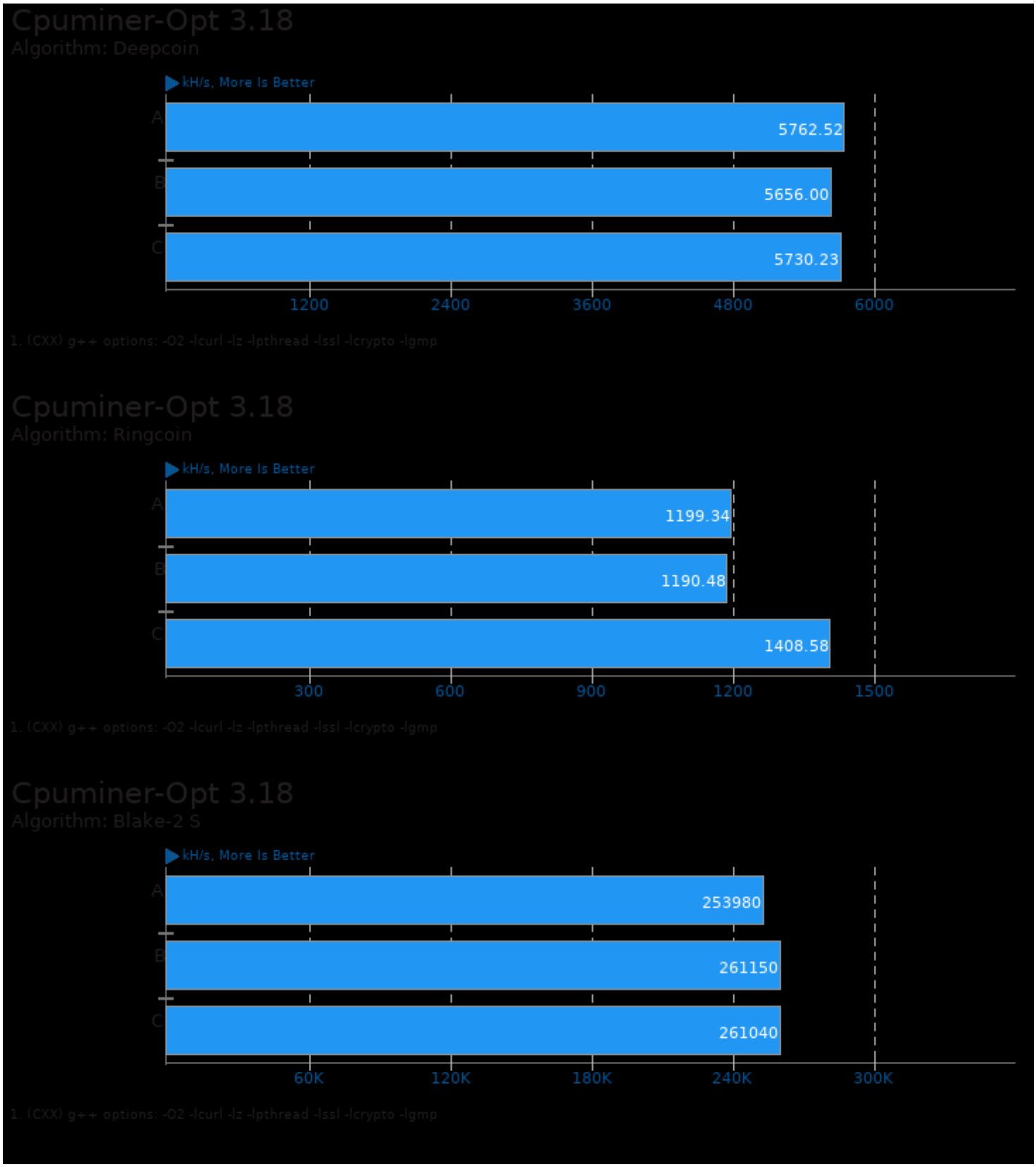
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

Algorithm: x25x

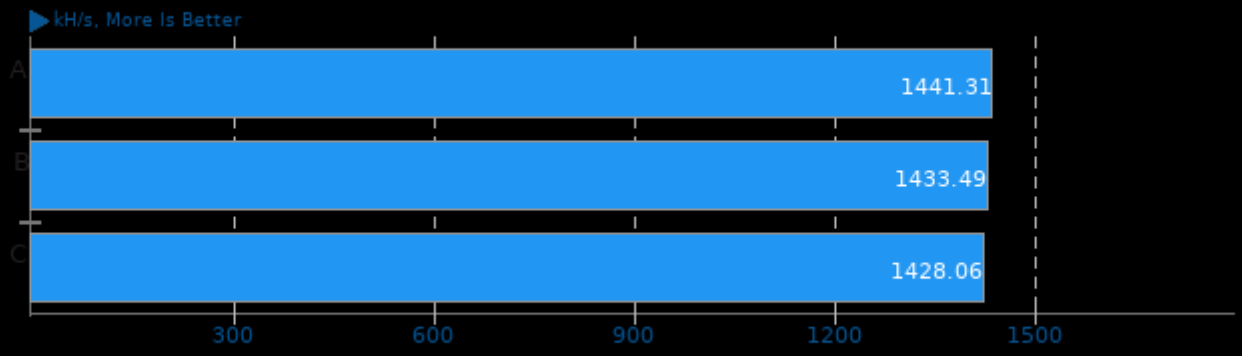


1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp


Cpuminer-Opt 3.18
Algorithm: Deepcoin
kH/s, More Is Better
A
B
C
5762.52
5656.00
5730.23
1200
2400
3600
4800
6000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.18
Algorithm: Ringcoin
kH/s, More Is Better
A
B
C
1199.34
1190.48
1408.58
300
600
900
1200
1500
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.18
Algorithm: Blake-2 S
kH/s, More Is Better
A
B
C
253980
261150
261040
60K
120K
180K
240K
300K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

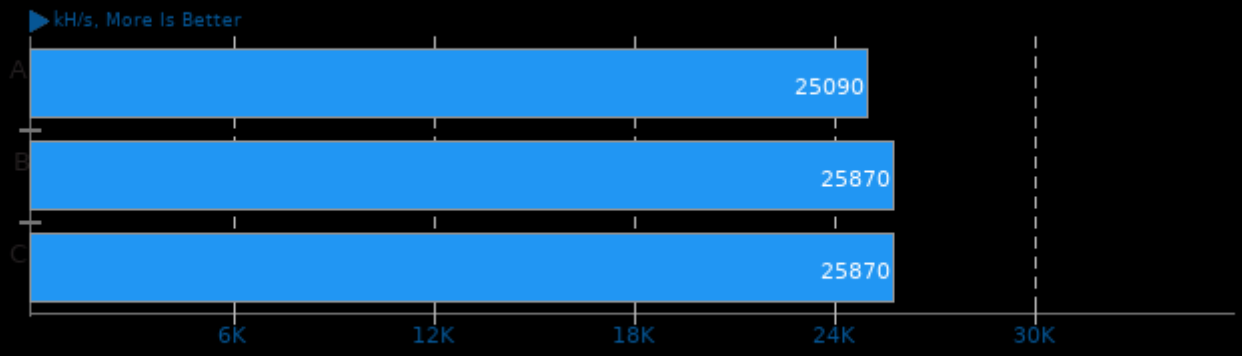
Algorithm: Garlicoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

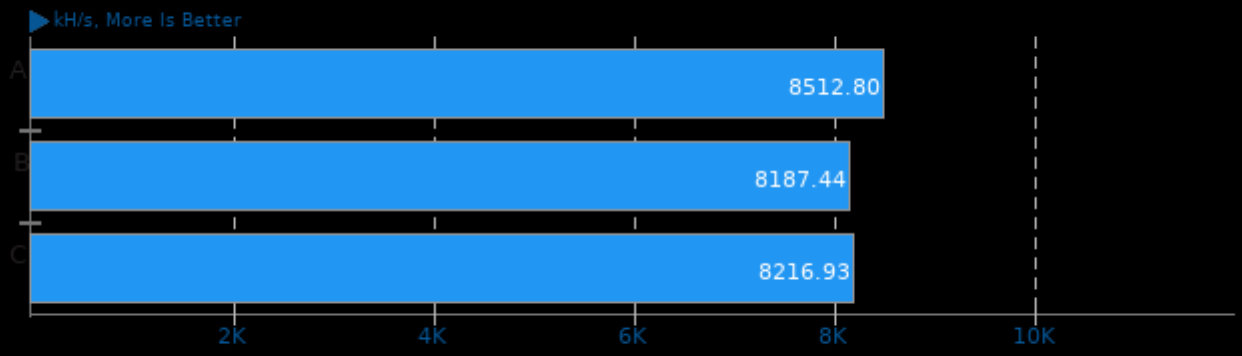
Algorithm: Skeincoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

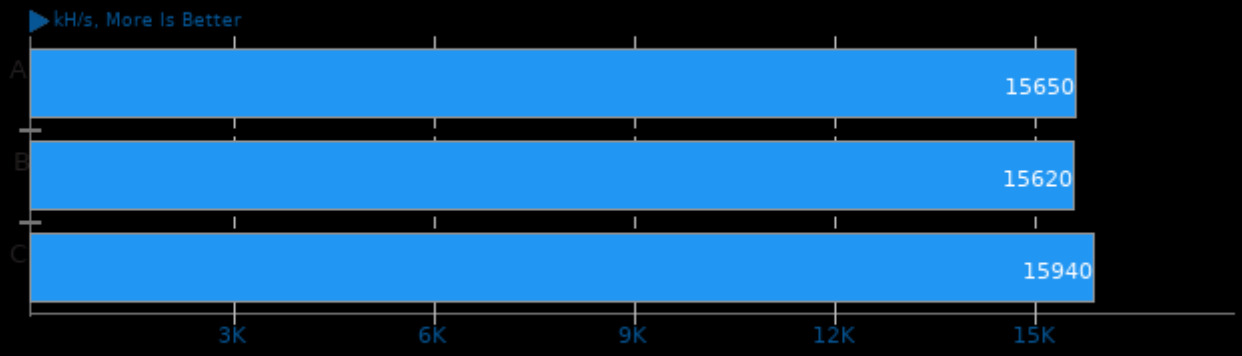
Algorithm: Myriad-Groestl



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

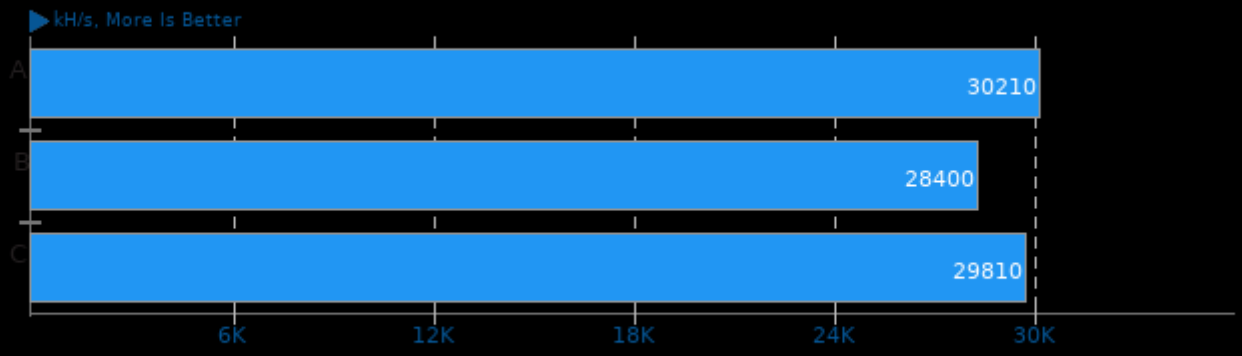
Algorithm: LBC, LBRY Credits



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

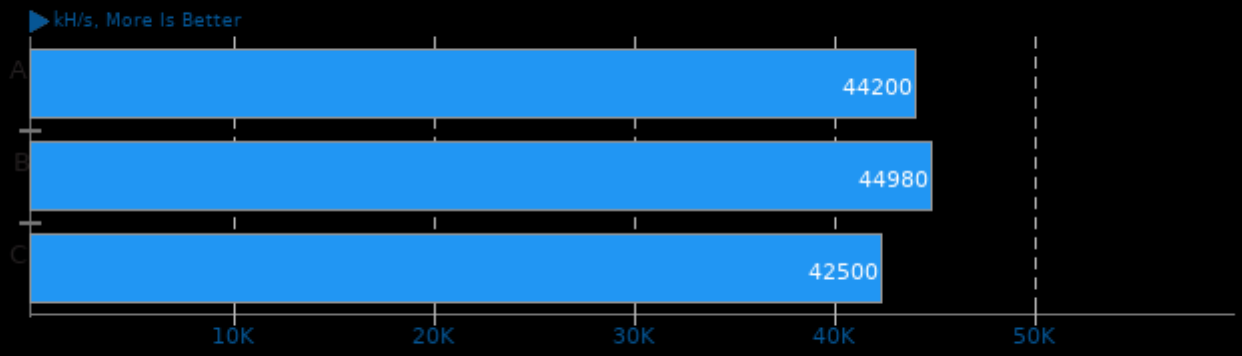
Algorithm: Quad SHA-256, Pyrite



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

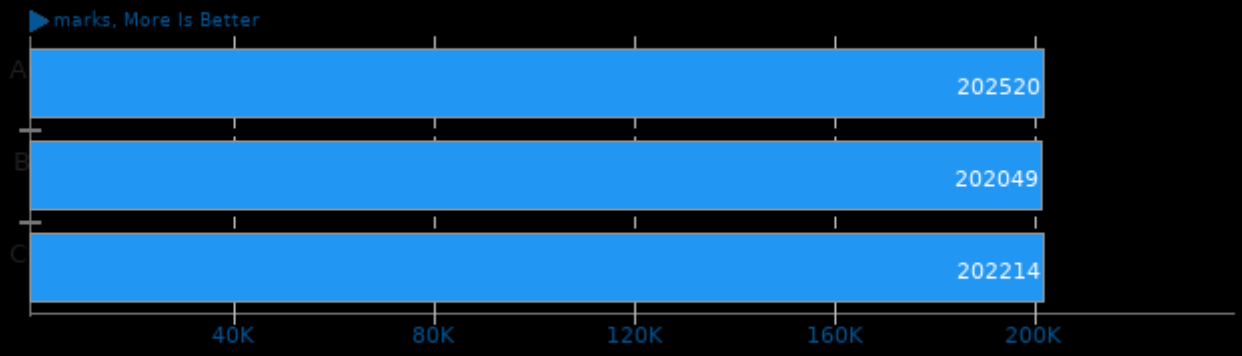
Algorithm: Triple SHA-256, Onecoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

SecureMark 1.0.4

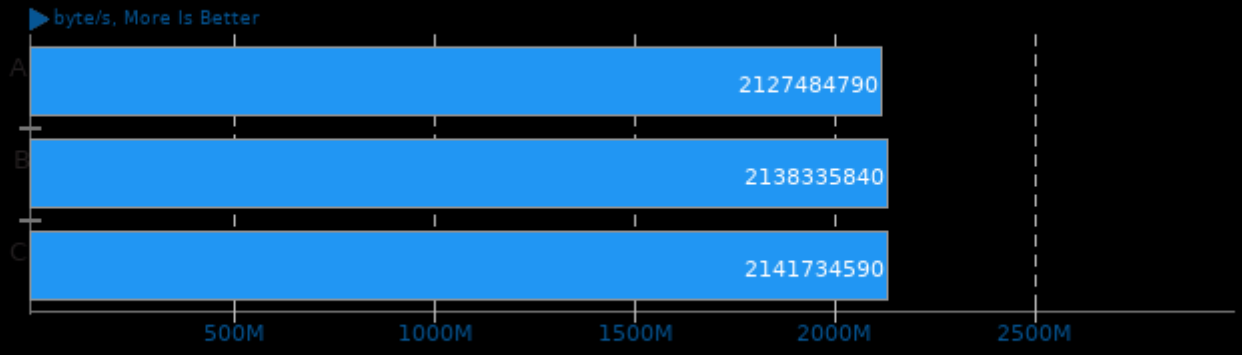
Benchmark: SecureMark-TLS



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

OpenSSL 3.0

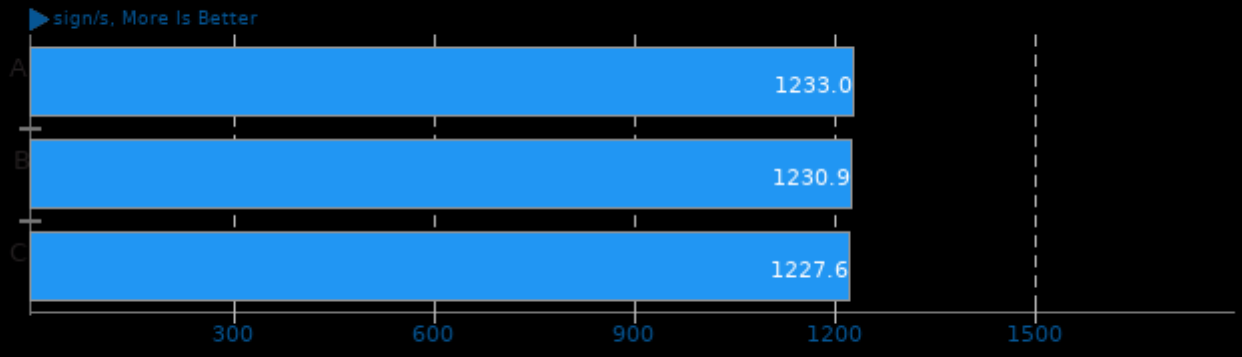
Algorithm: SHA256



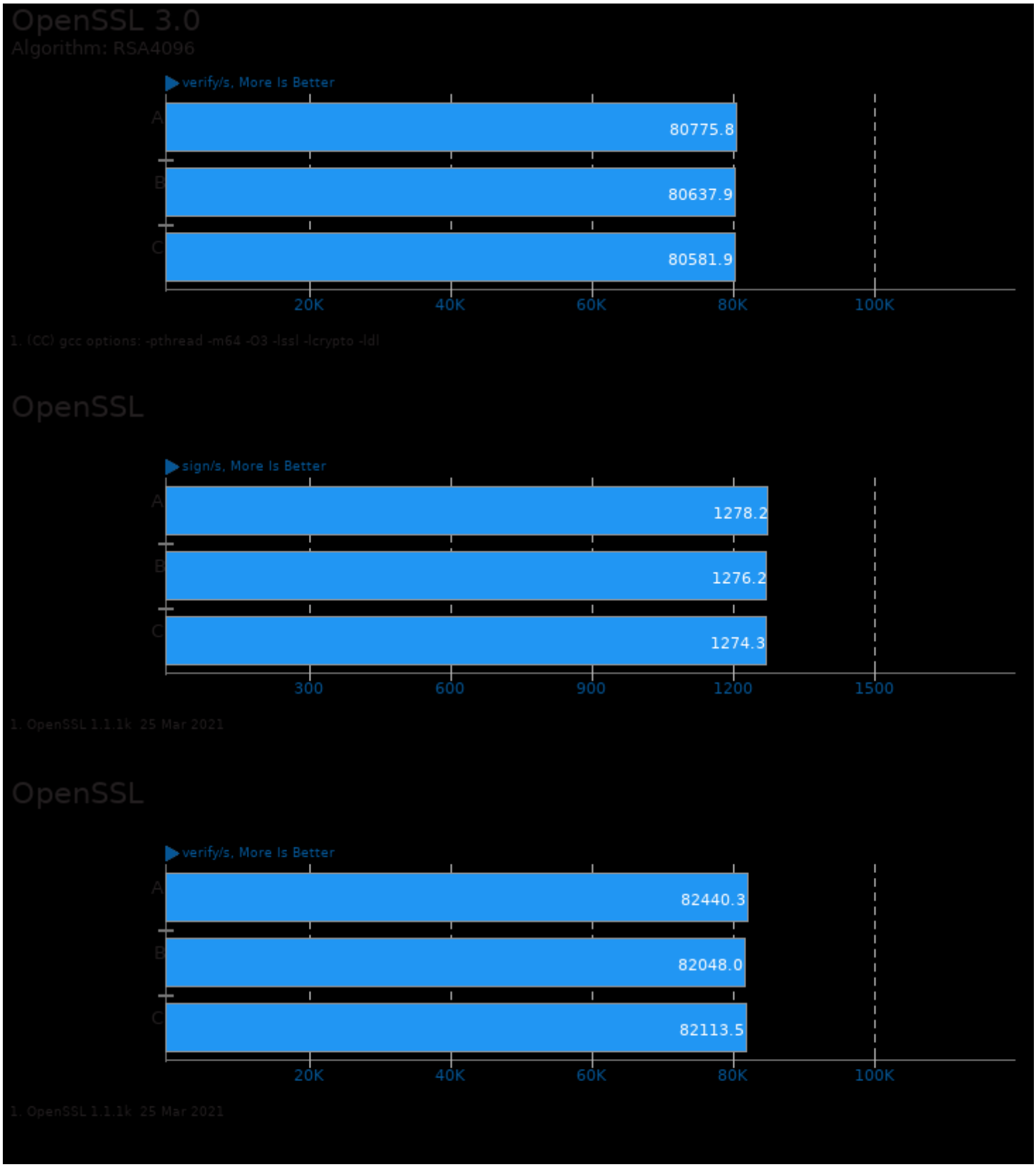
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

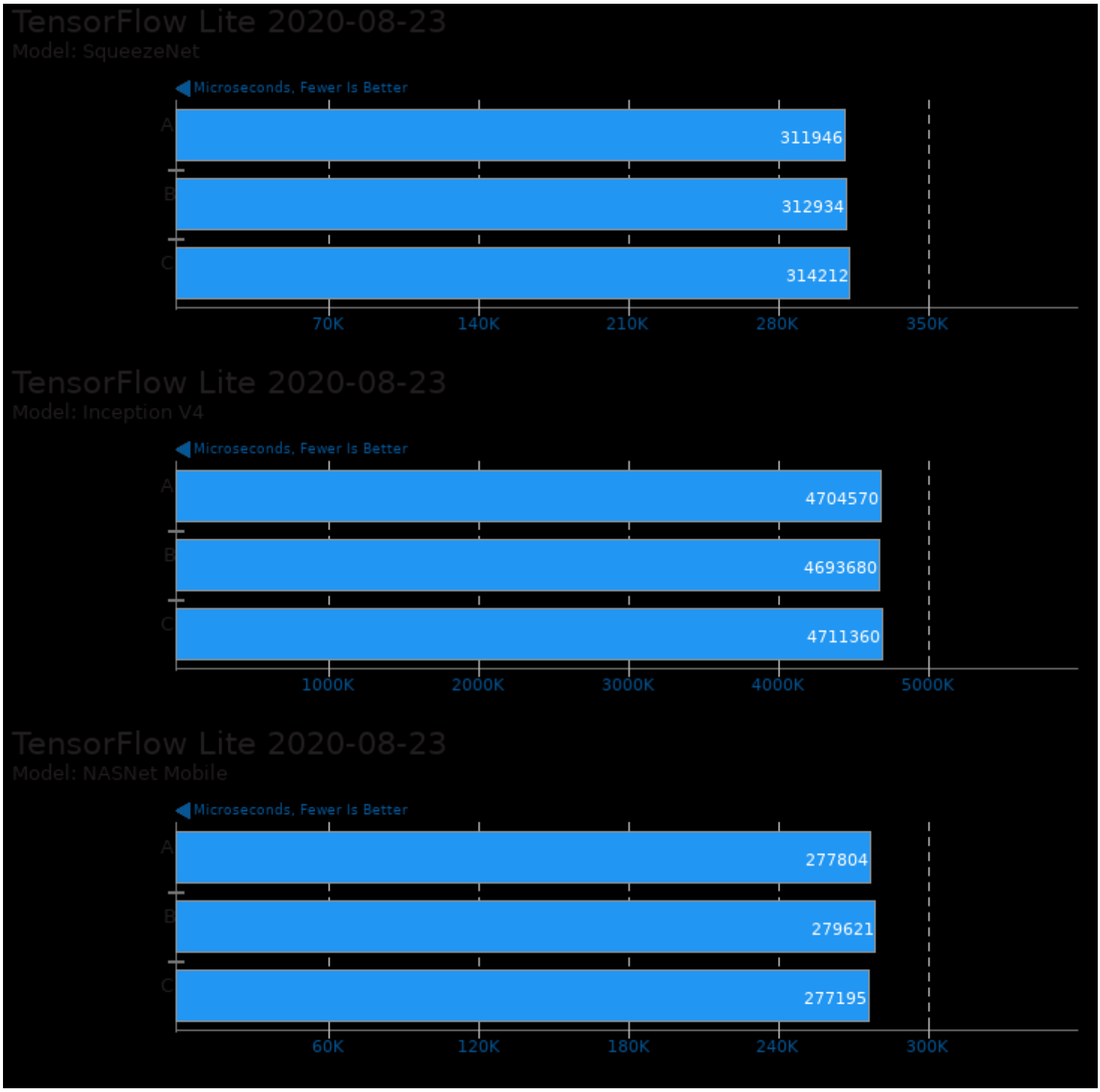
OpenSSL 3.0

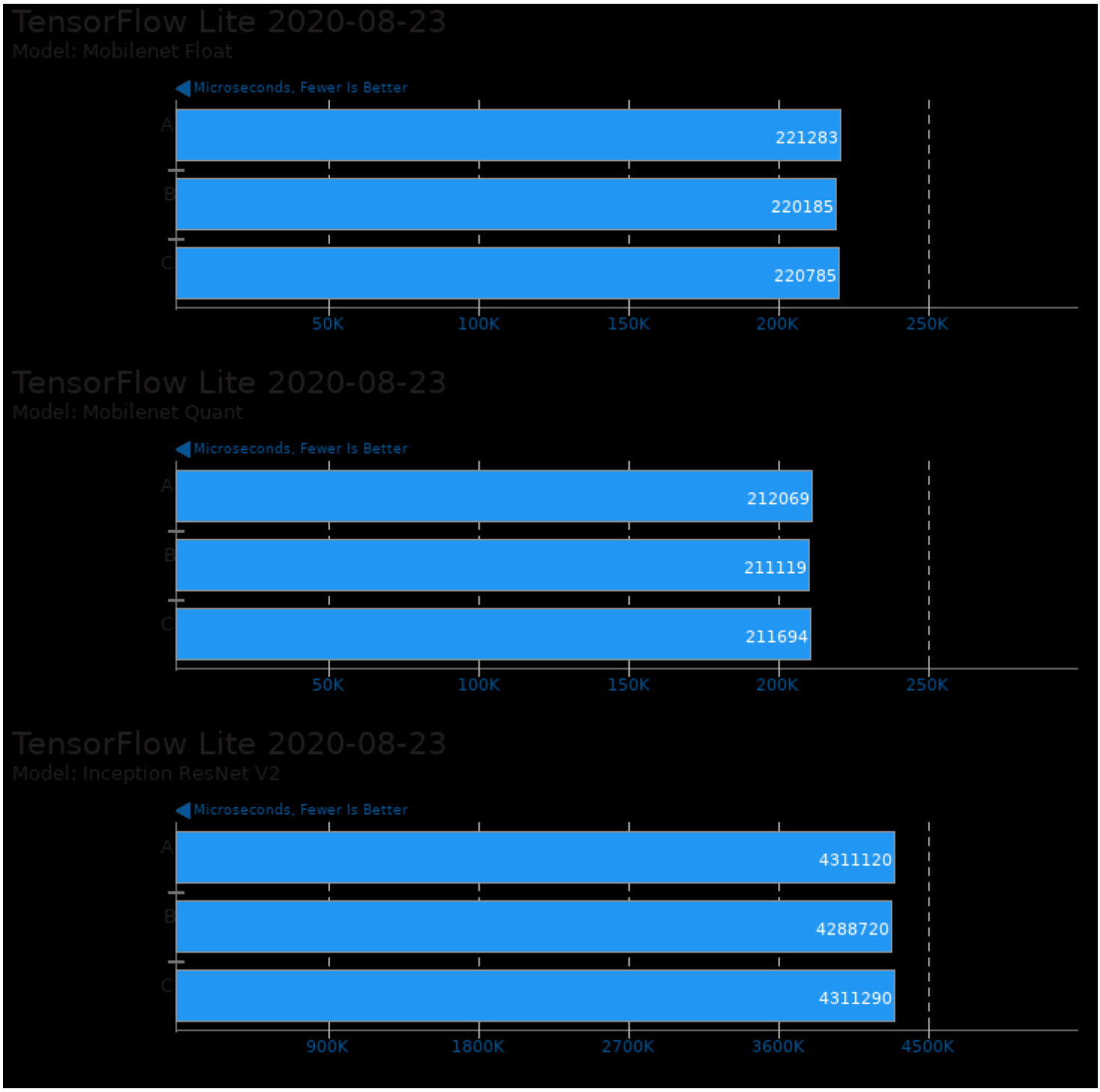
Algorithm: RSA4096



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

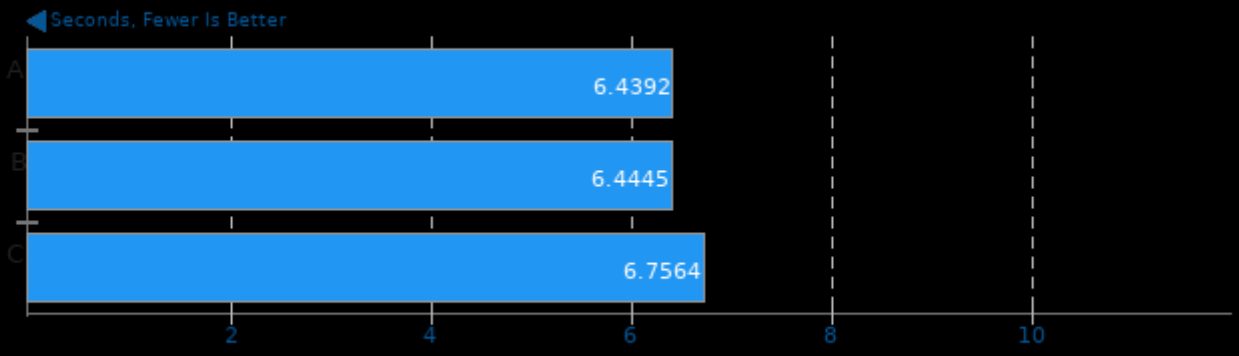

OpenSSL 3.0
Algorithm: RSA4096
verify/s, More Is Better
A
80775.8
B
80637.9
C
80581.9
20K
40K
60K
80K
100K
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
OpenSSL
sign/s, More Is Better
A
1278.2
B
1276.2
C
1274.3
300
600
900
1200
1500
1. OpenSSL 1.1.1k 25 Mar 2021
OpenSSL
verify/s, More Is Better
A
82440.3
B
82048.0
C
82113.5
20K
40K
60K
80K
100K
1. OpenSSL 1.1.1k 25 Mar 2021


TensorFlow Lite 2020-08-23
Model: SqueezeNet
Microseconds, Fewer Is Better
A
311946
B
312934
C
314212
70K
140K
210K
280K
350K
TensorFlow Lite 2020-08-23
Model: Inception V4
Microseconds, Fewer Is Better
A
4704570
B
4693680
C
4711360
1000K
2000K
3000K
4000K
5000K
TensorFlow Lite 2020-08-23
Model: NASNet Mobile
Microseconds, Fewer Is Better
A
277804
B
279621
C
277195
60K
120K
180K
240K
300K


TensorFlow Lite 2020-08-23
Model: Mobilenet Float
Microseconds, Fewer Is Better
A
B
C
221283
220185
220785
50K
100K
150K
200K
250K
TensorFlow Lite 2020-08-23
Model: Mobilenet Quant
Microseconds, Fewer Is Better
A
B
C
212069
211119
211694
50K
100K
150K
200K
250K
TensorFlow Lite 2020-08-23
Model: Inception ResNet V2
Microseconds, Fewer Is Better
A
B
C
4311120
4288720
4311290
900K
1800K
2700K
3600K
4500K

ASTC Encoder 3.2

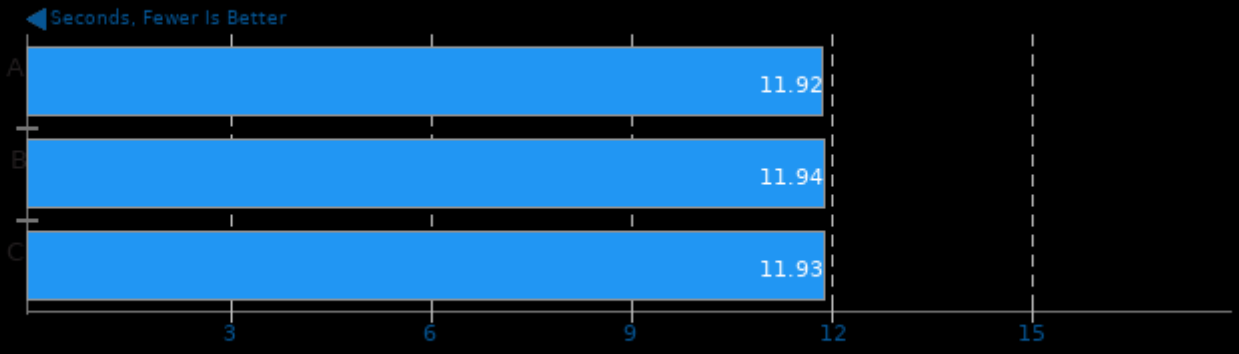
Preset: Medium



1. (CXX) g++ options: -O3 -flto -pthread

ASTC Encoder 3.2

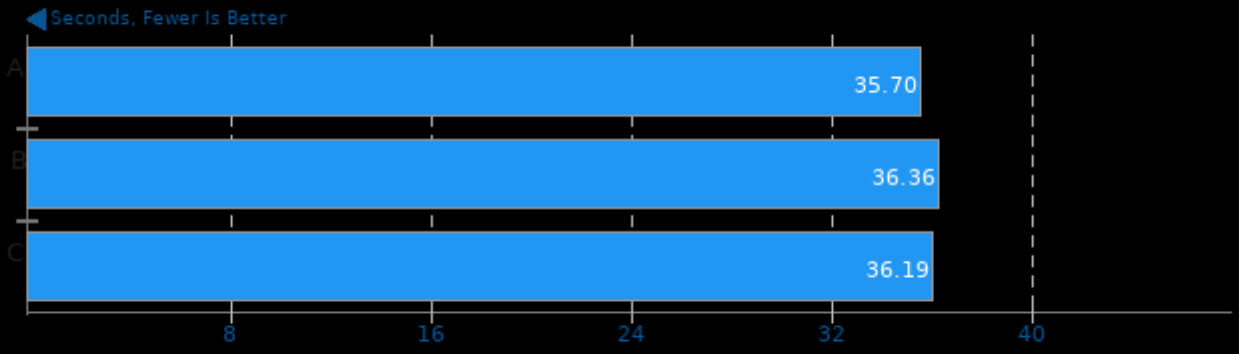
Preset: Thorough



1. (CXX) g++ options: -O3 -flto -pthread

Basis Universal 1.13

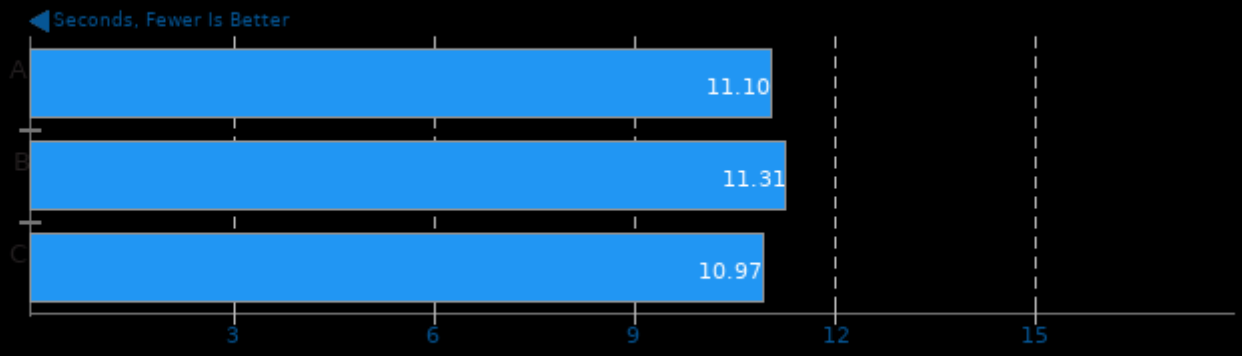
Settings: ETC1S



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

Basis Universal 1.13

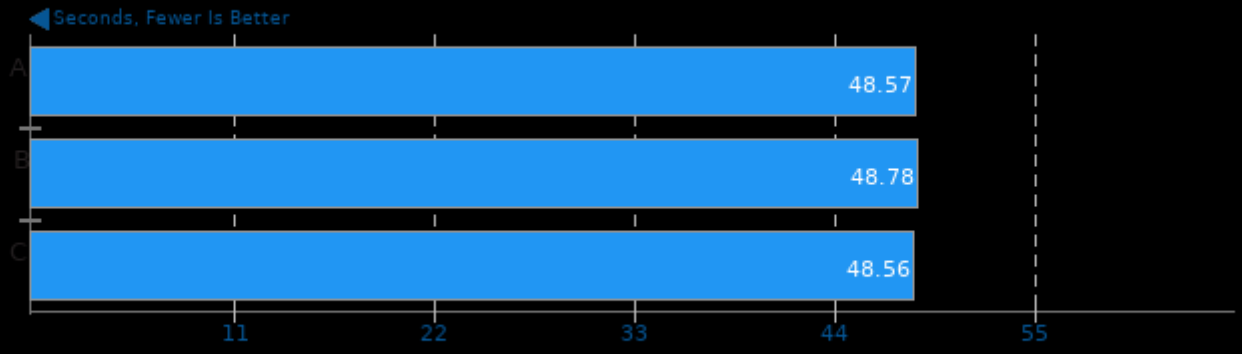
Settings: UASTC Level 0



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

Basis Universal 1.13

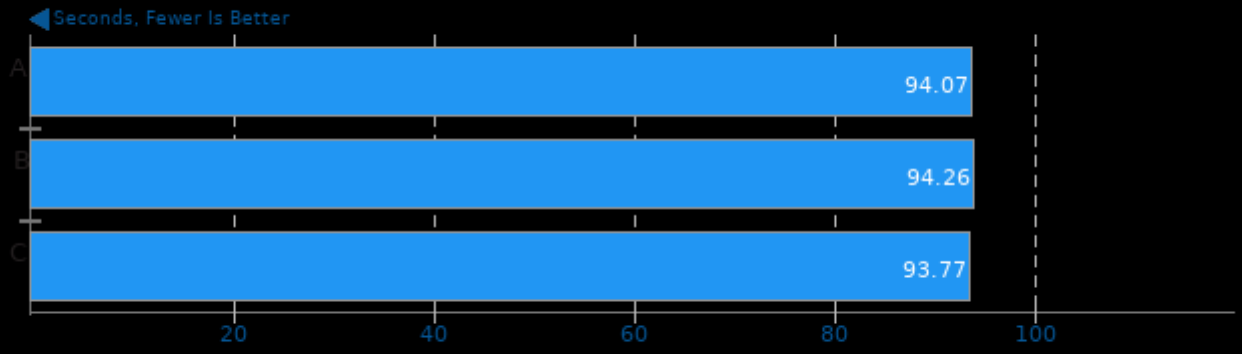
Settings: UASTC Level 2



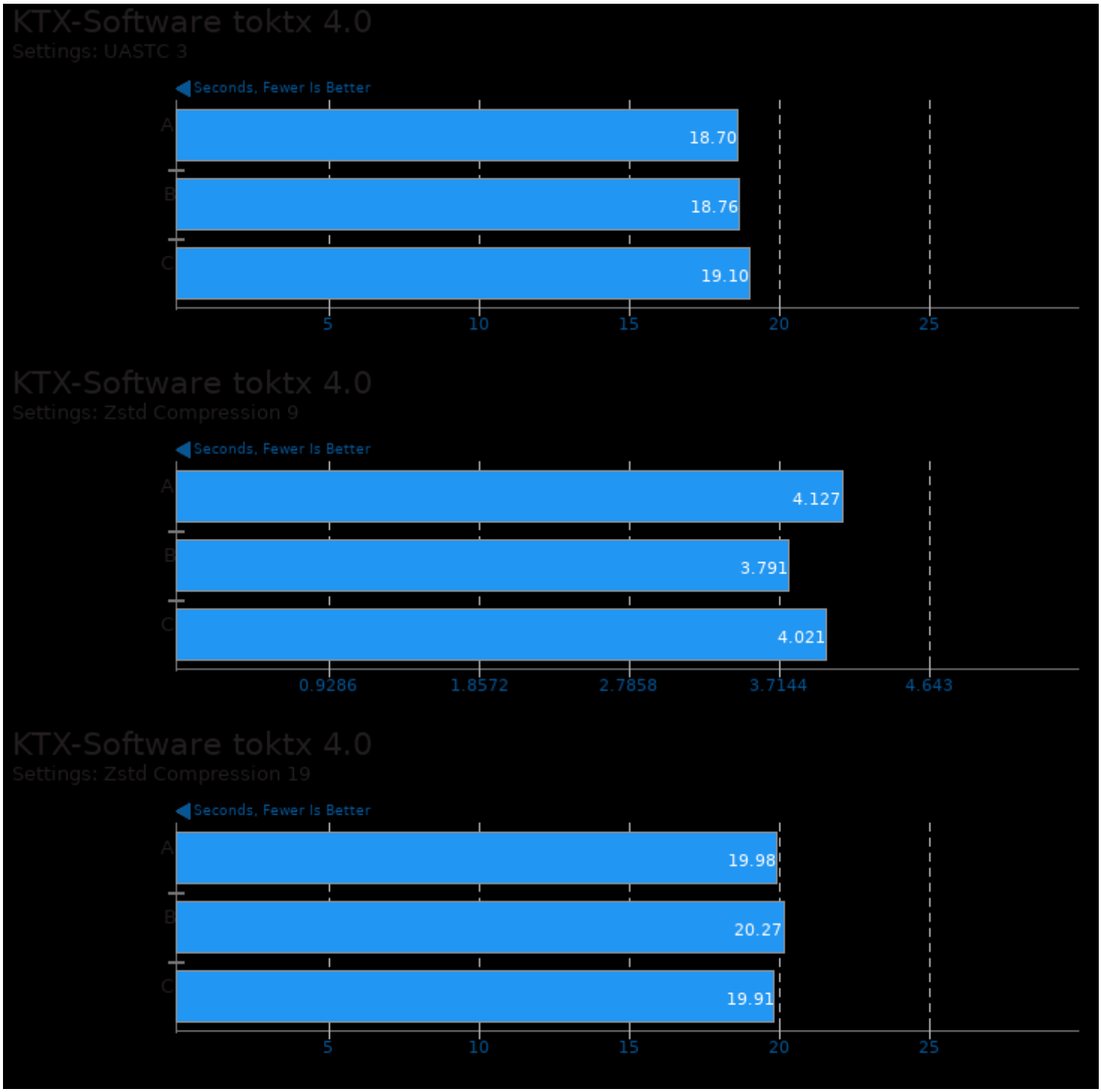
1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

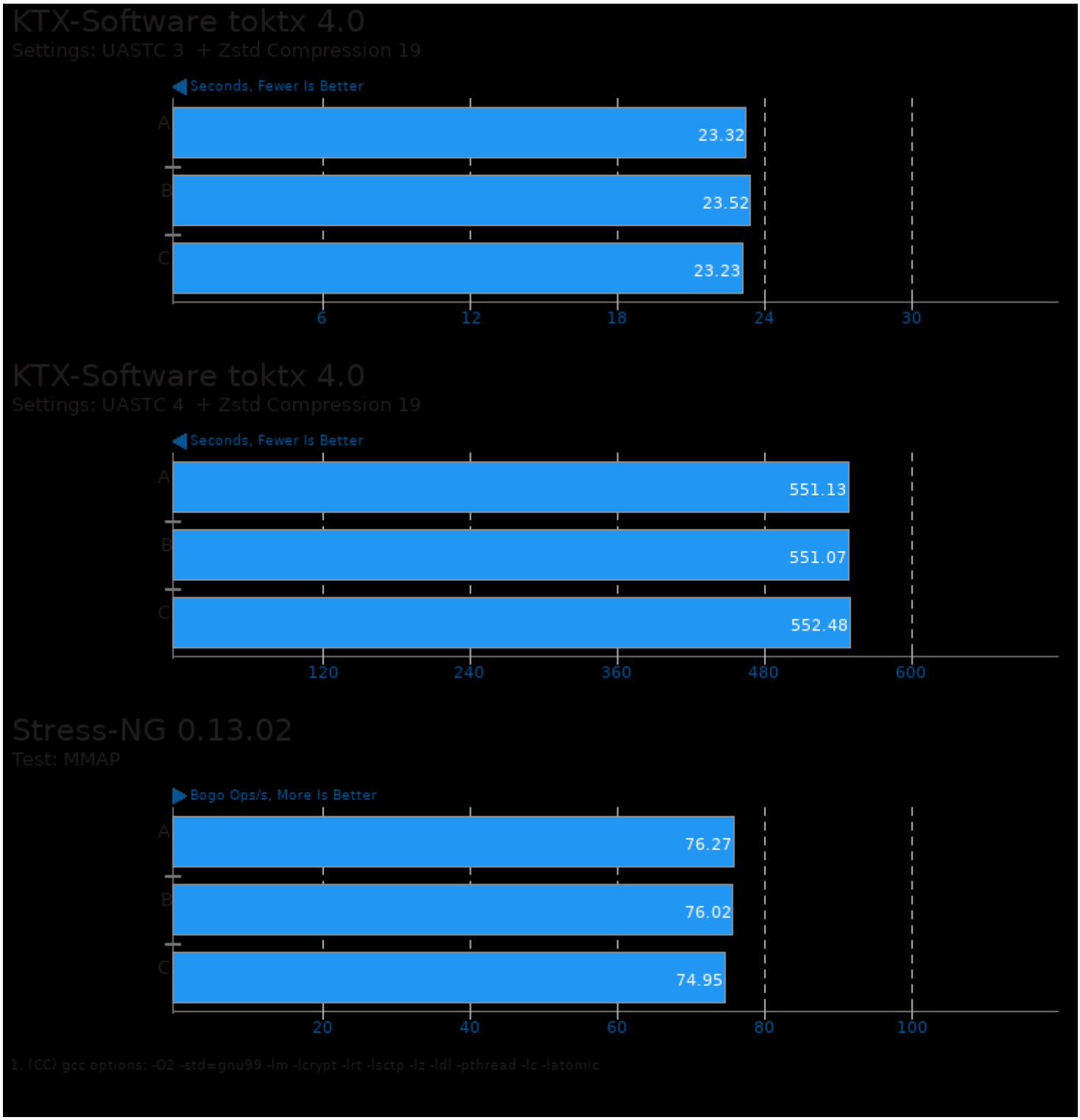
Basis Universal 1.13

Settings: UASTC Level 3



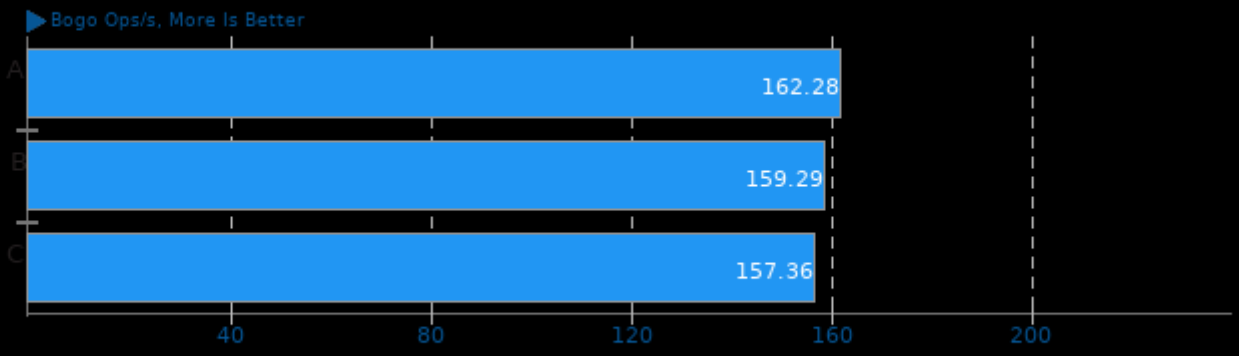
1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread


KTX-Software toktx 4.0
Settings: UASTC 3
Seconds, Fewer Is Better
A
B
C
18.70
18.76
19.10
5
10
15
20
25
KTX-Software toktx 4.0
Settings: Zstd Compression 9
Seconds, Fewer Is Better
A
B
C
4.127
3.791
4.021
0.9286
1.8572
2.7858
3.7144
4.643
KTX-Software toktx 4.0
Settings: Zstd Compression 19
Seconds, Fewer Is Better
A
B
C
19.98
20.27
19.91
5
10
15
20
25


KTX-Software toktx 4.0
Settings: UASTC 3 + Zstd Compression 19
Seconds, Fewer Is Better
A
B
C
23.32
23.52
23.23
6
12
18
24
30
KTX-Software toktx 4.0
Settings: UASTC 4 + Zstd Compression 19
Seconds, Fewer Is Better
A
B
C
551.13
551.07
552.48
120
240
360
480
600
Stress-NG 0.13.02
Test: MMAP
Bogo Ops/s, More Is Better
A
B
C
76.27
76.02
74.95
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

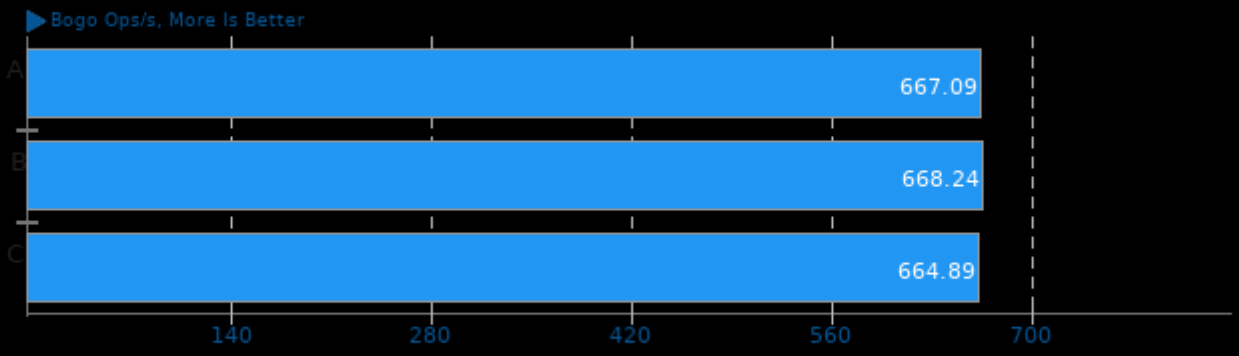
Test: NUMA



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

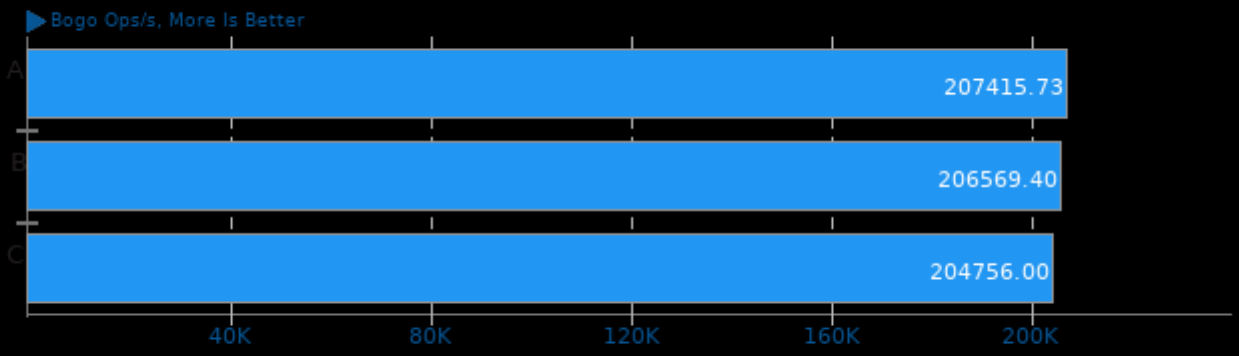
Test: MEMFD



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

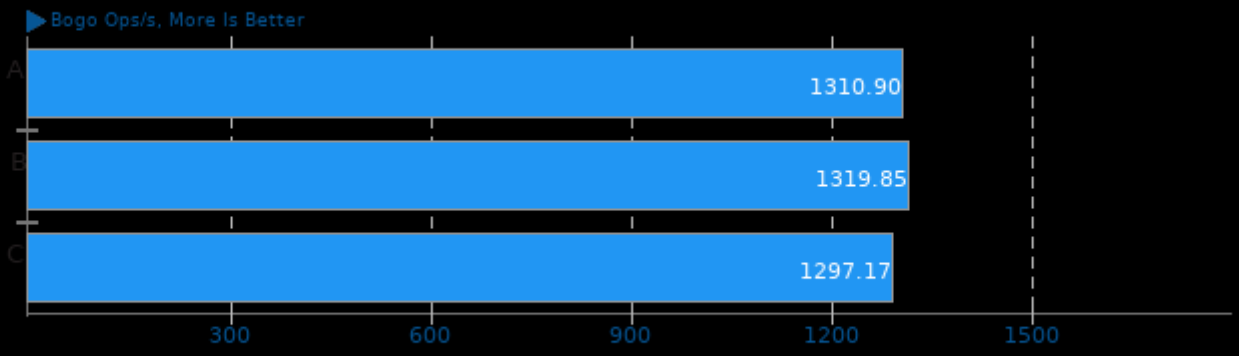
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

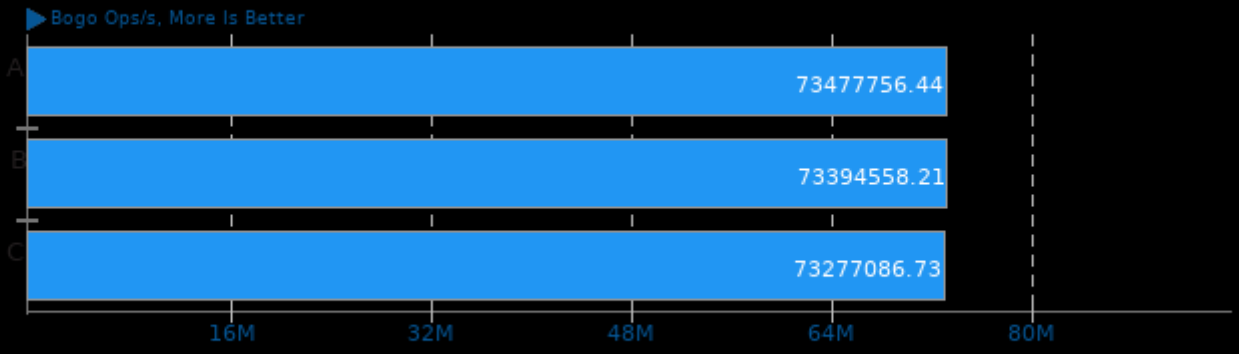
Test: Crypto



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

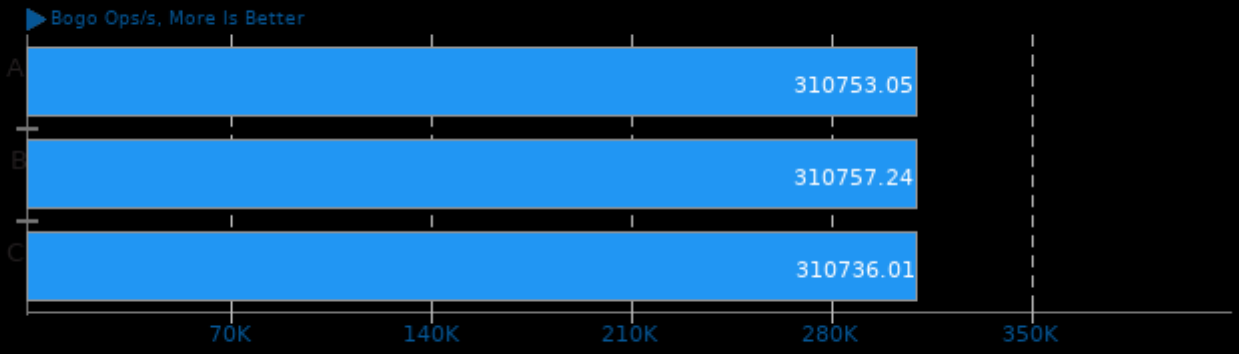
Test: Malloc



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

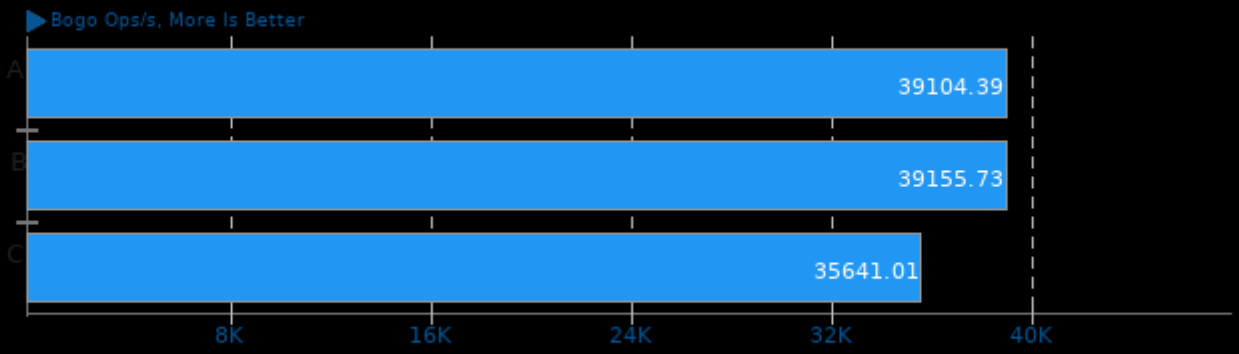
Test: RdRand



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

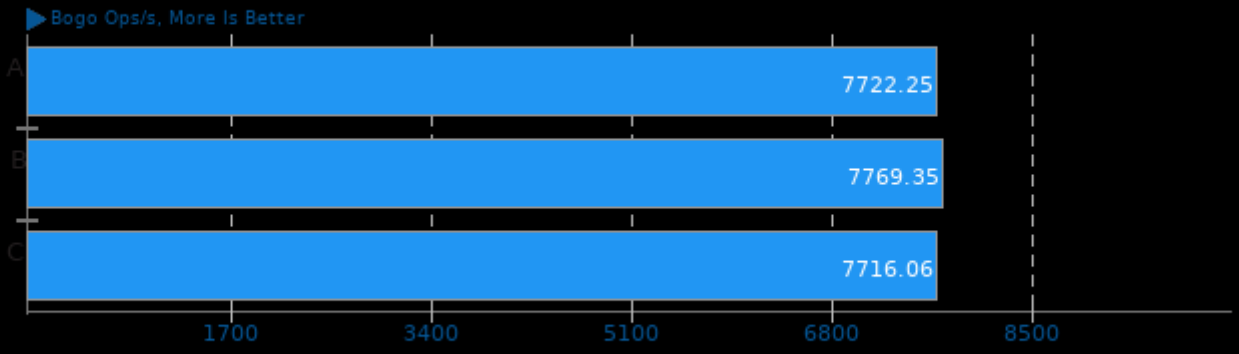
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

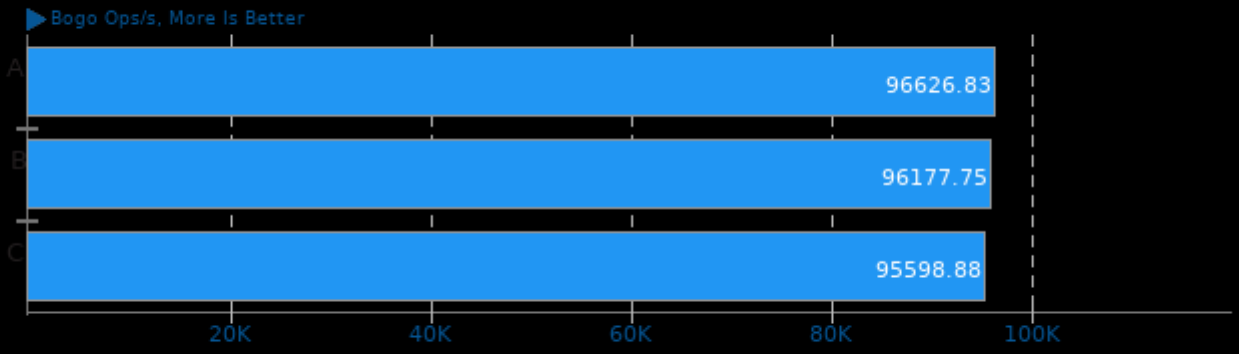
Test: IO_uring



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

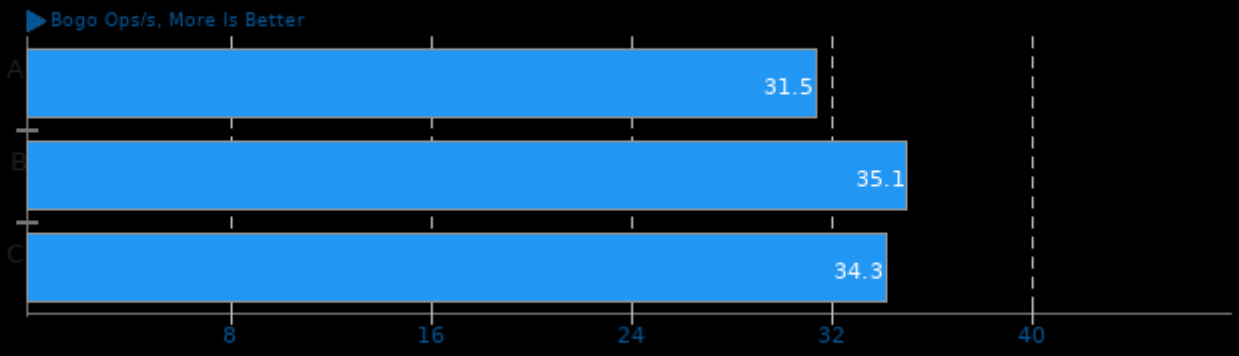
Test: SENDFILE



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

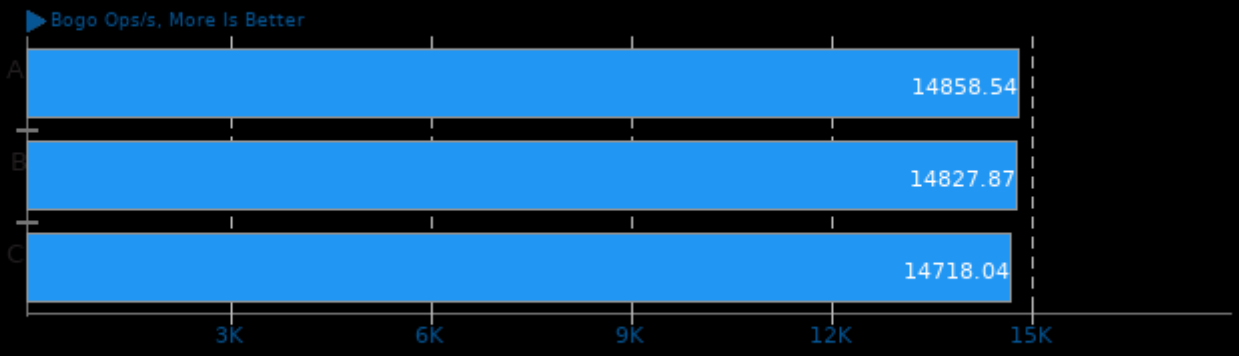
Test: CPU Cache



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

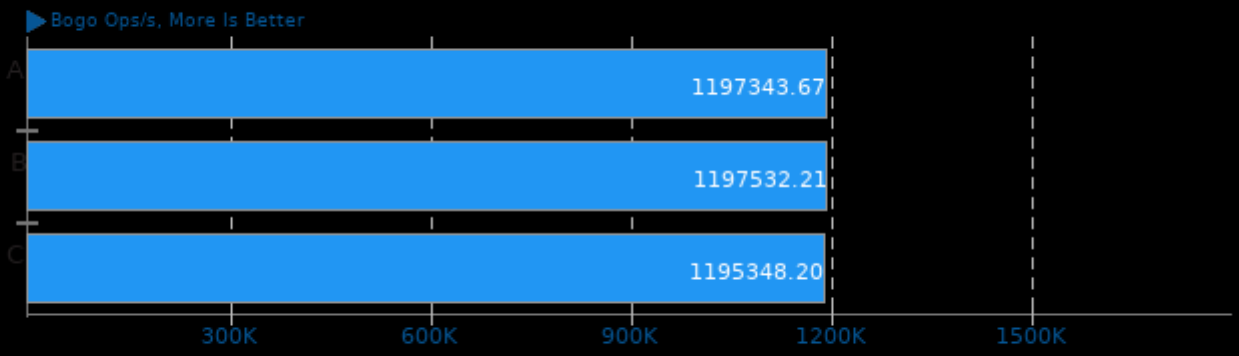
Test: CPU Stress



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

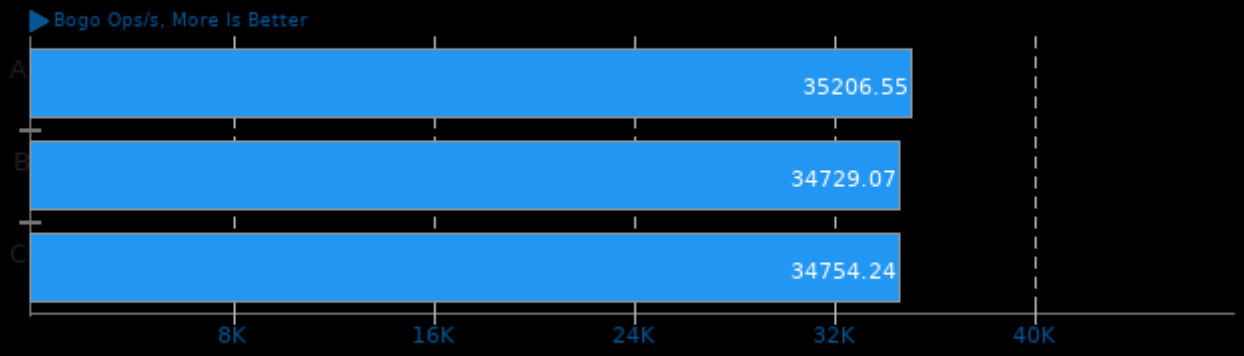
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

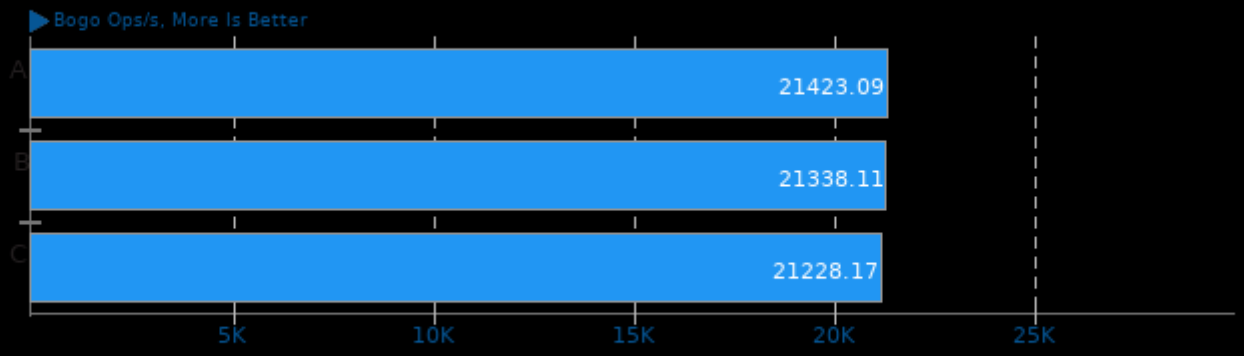
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

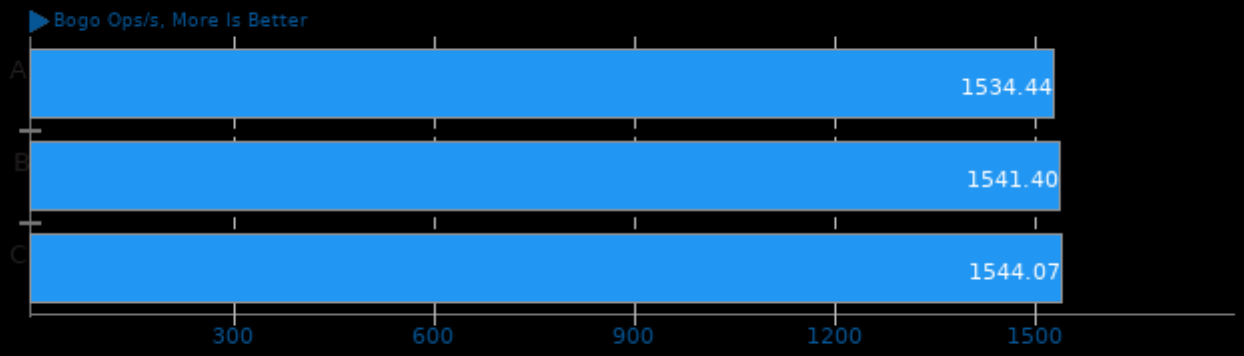
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

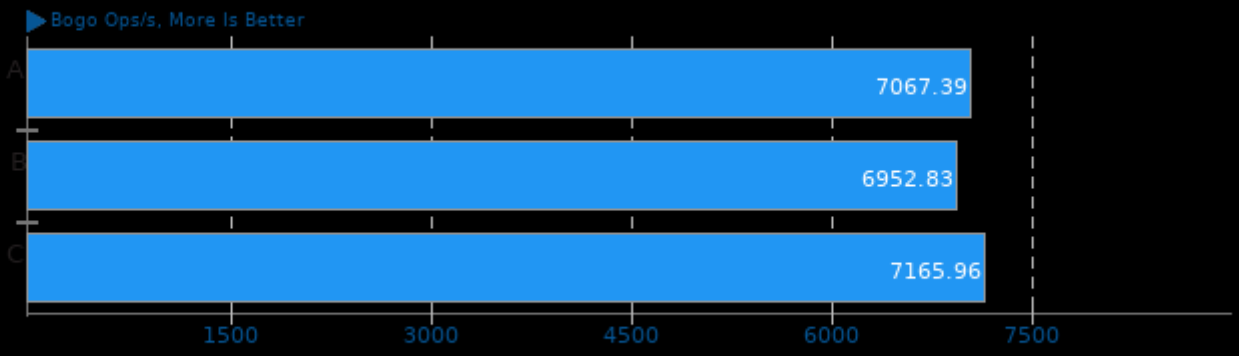
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

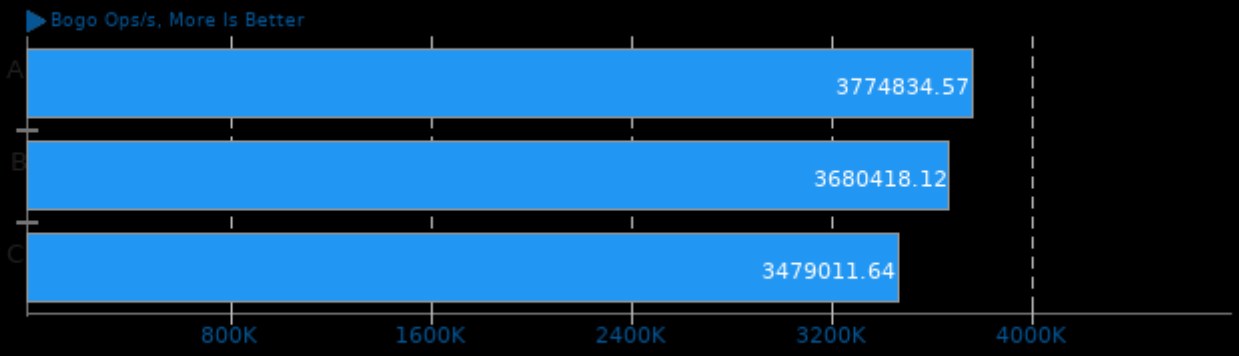
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

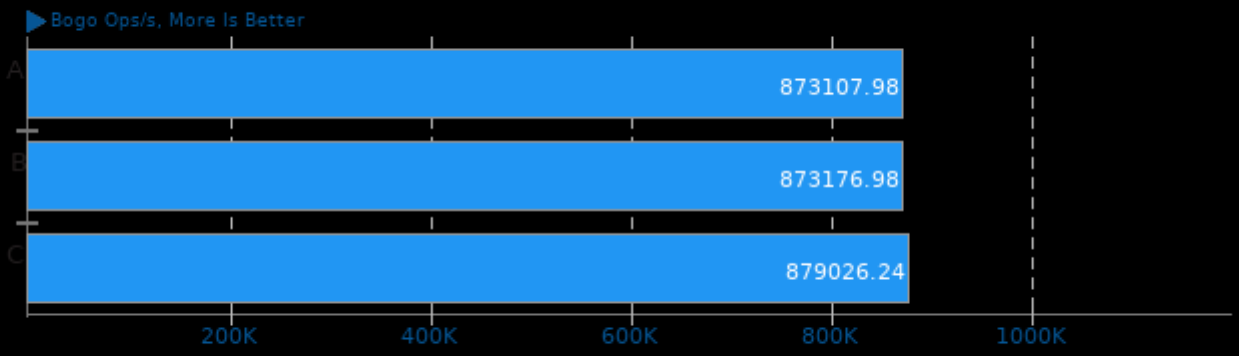
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

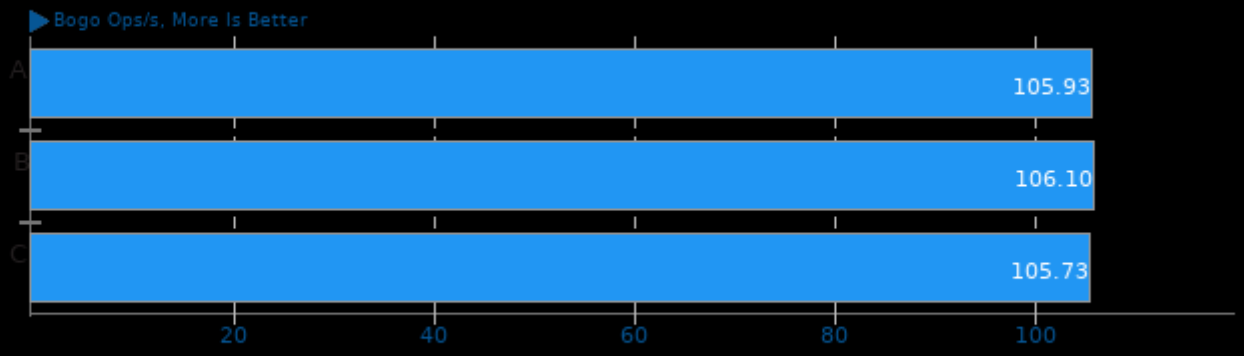
Test: Glibc C String Functions



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

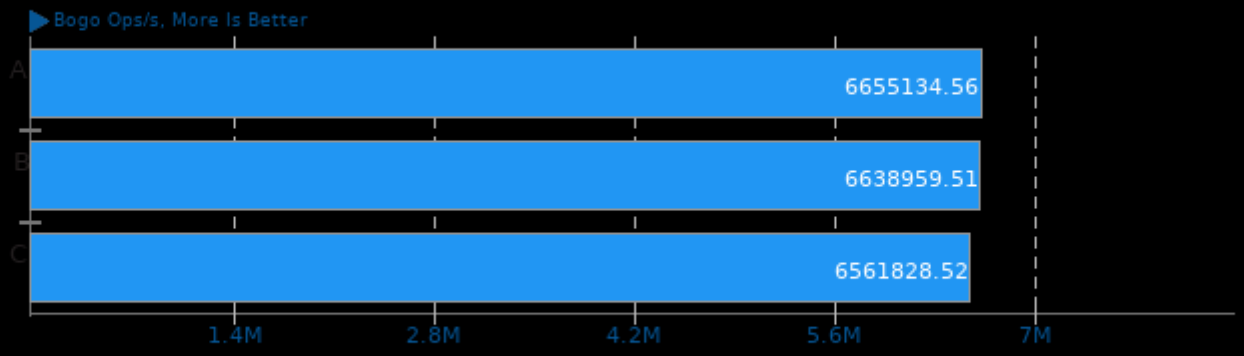
Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

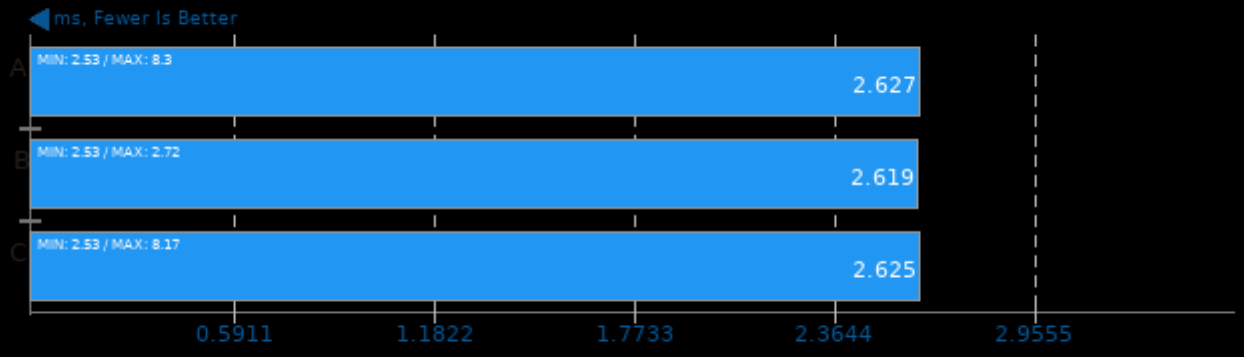
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Mobile Neural Network 1.2

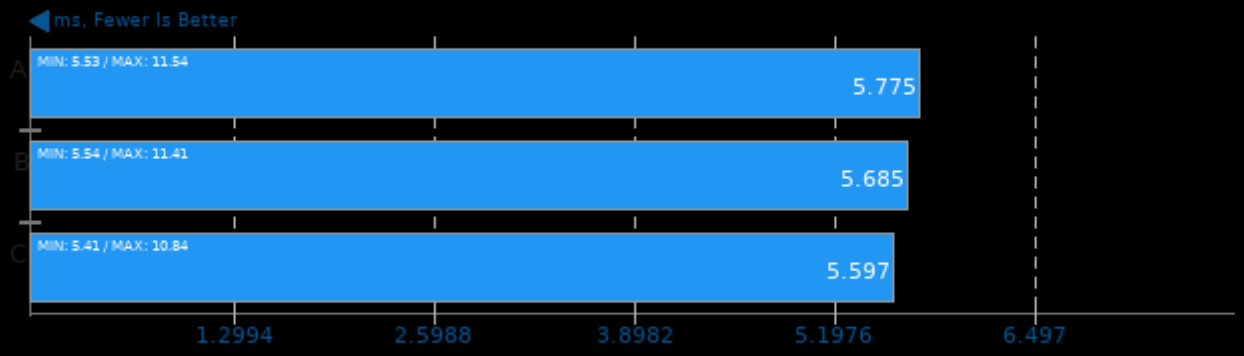
Model: mobilenetV3



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

Mobile Neural Network 1.2

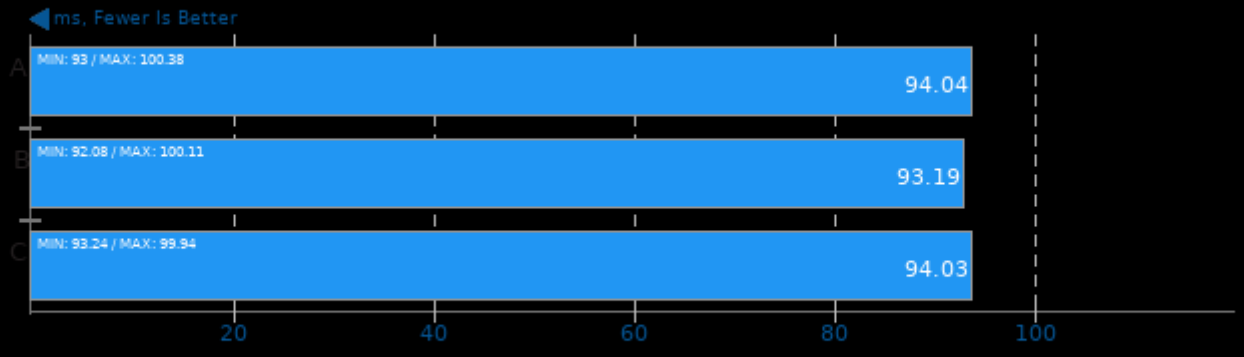
Model: squeezenetv1.1



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fv

Mobile Neural Network 1.2

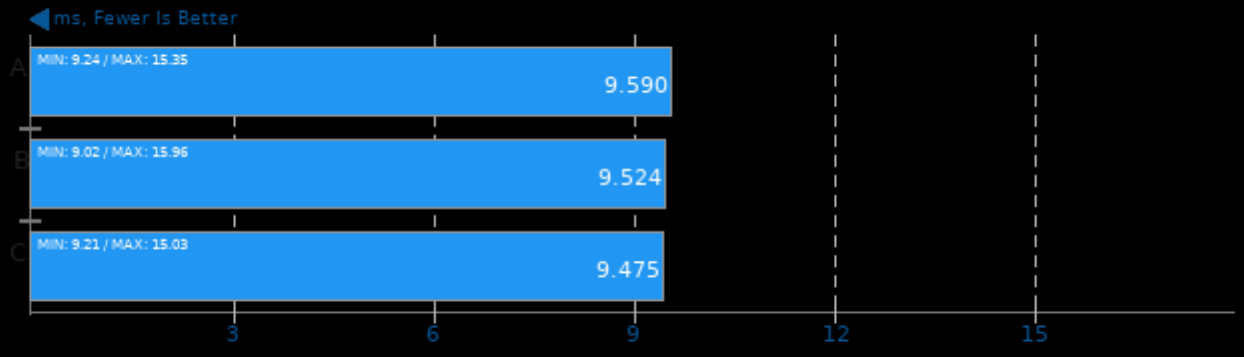
Model: resnet-v2-50



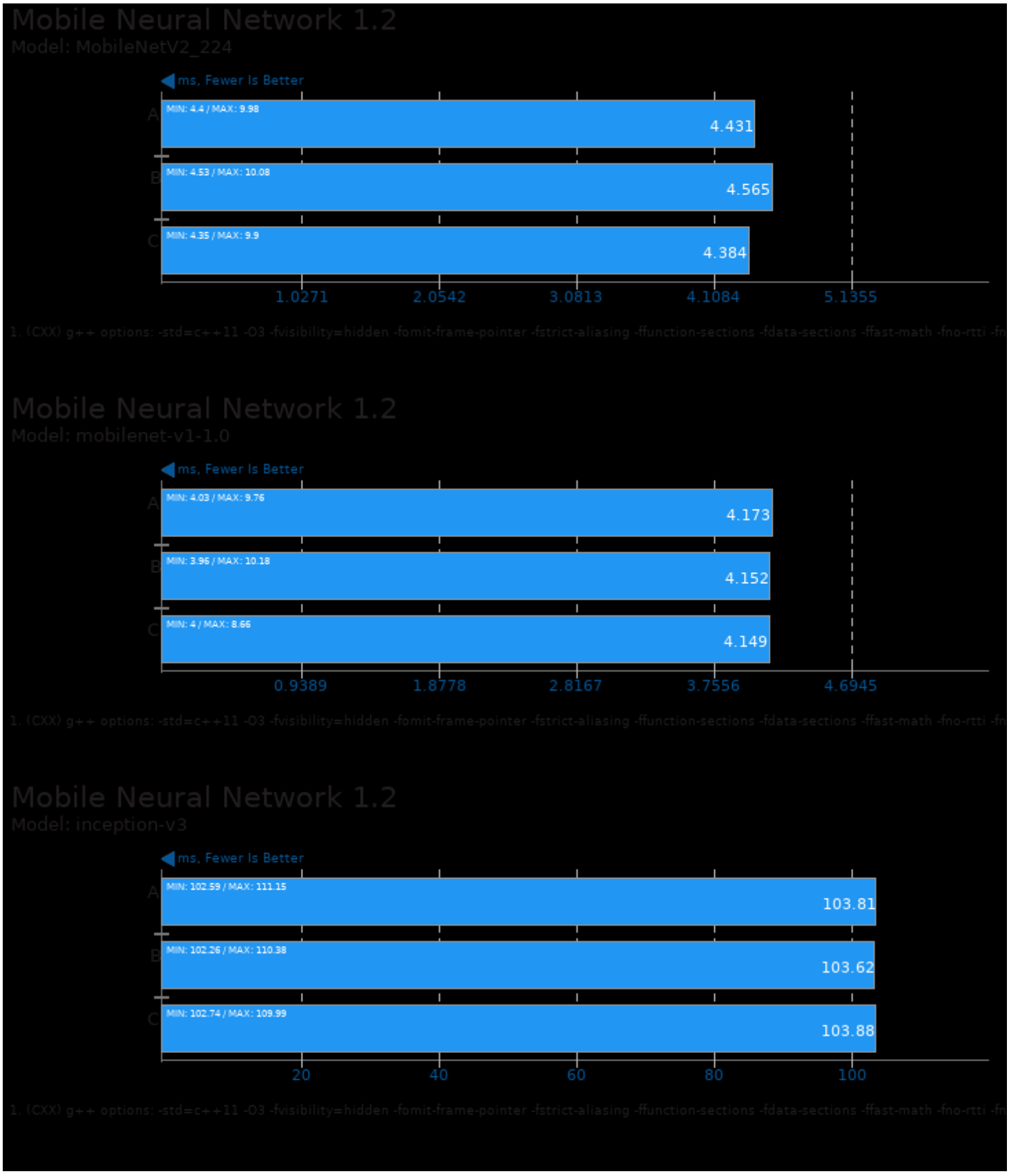
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fv

Mobile Neural Network 1.2

Model: SqueezeNetV1.0

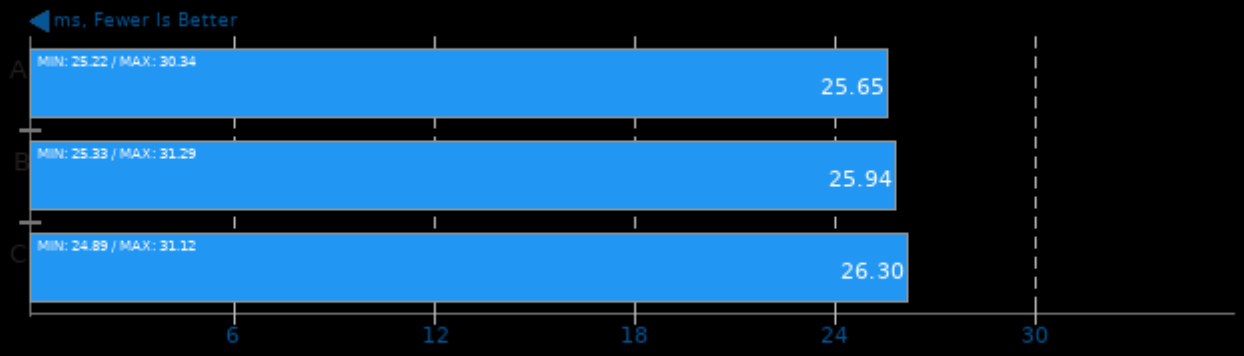


1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fv


Mobile Neural Network 1.2
Model: MobileNetV2_224
ms, Fewer Is Better
A
MIN: 4.4 / MAX: 9.98
4.431
B
MIN: 4.53 / MAX: 10.08
4.565
C
MIN: 4.35 / MAX: 9.9
4.384
1.0271
2.0542
3.0813
4.1084
5.1355
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.2
Model: mobilenet-v1-1.0
ms, Fewer Is Better
A
MIN: 4.03 / MAX: 9.76
4.173
B
MIN: 3.96 / MAX: 10.18
4.152
C
MIN: 4 / MAX: 8.66
4.149
0.9389
1.8778
2.8167
3.7556
4.6945
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.2
Model: inception-v3
ms, Fewer Is Better
A
MIN: 102.59 / MAX: 111.15
103.81
B
MIN: 102.26 / MAX: 110.38
103.62
C
MIN: 102.74 / MAX: 109.99
103.88
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

NCNN 20210720

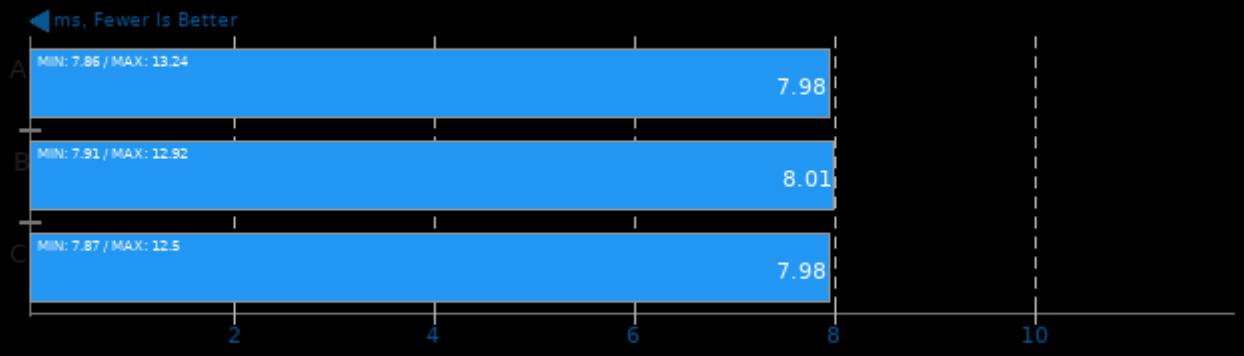
Target: CPU - Model: mobilenet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

NCNN 20210720

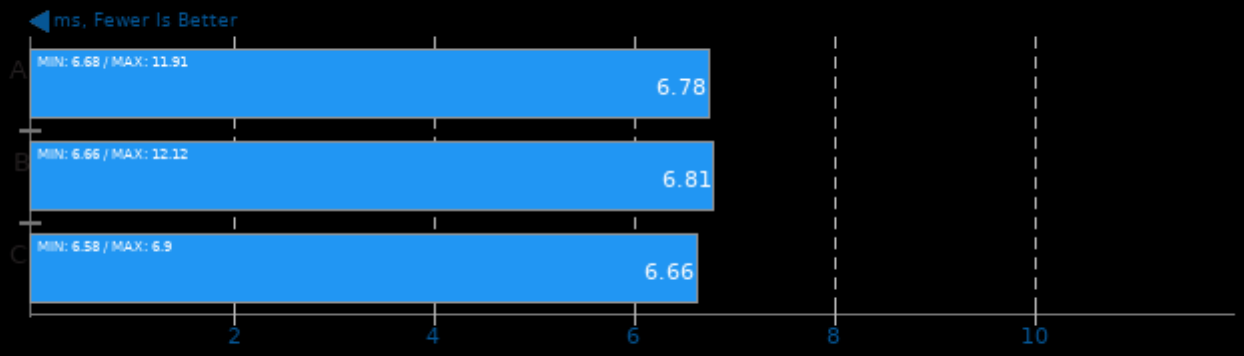
Target: CPU-v2-v2 - Model: mobilenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

NCNN 20210720

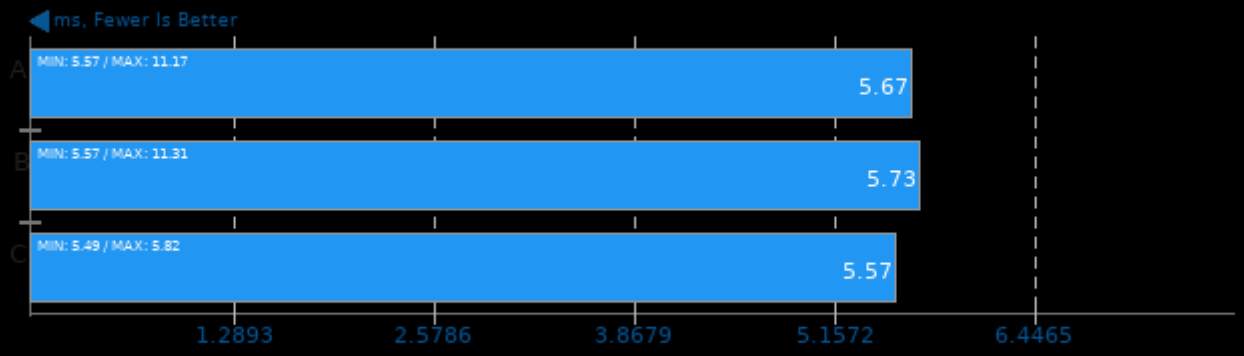
Target: CPU-v3-v3 - Model: mobilenet-v3



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

NCNN 20210720

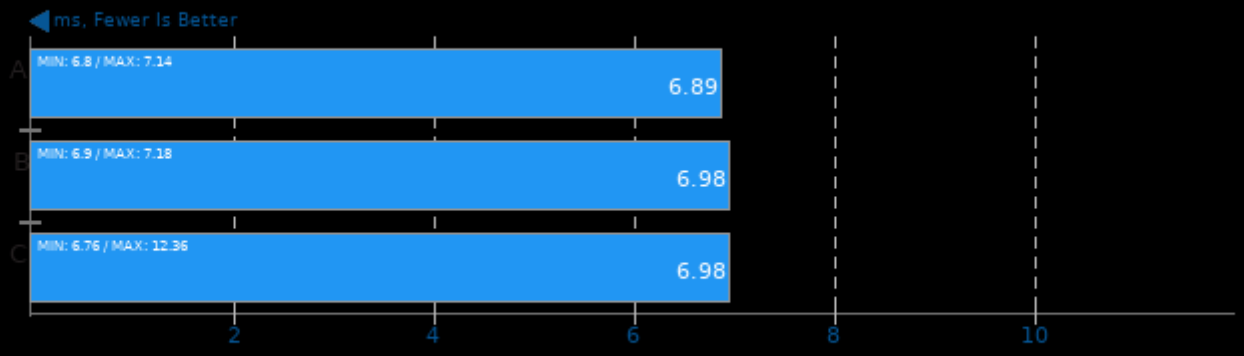
Target: CPU - Model: shufflenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

NCNN 20210720

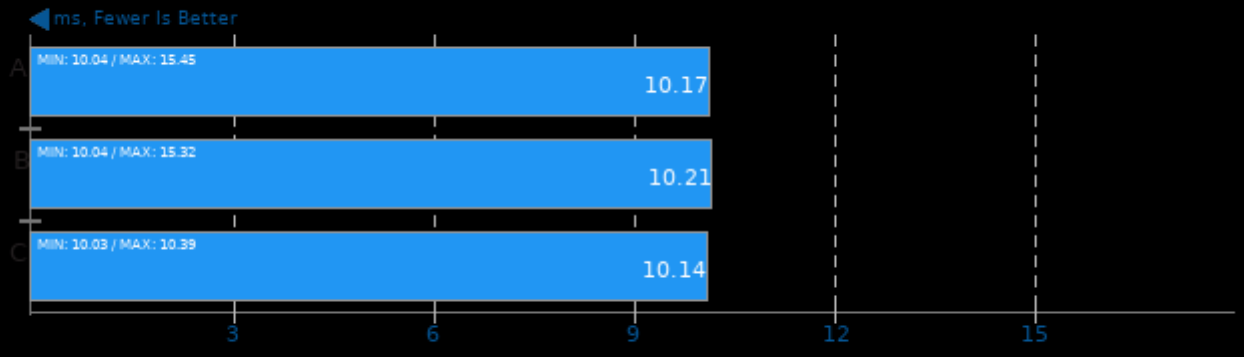
Target: CPU - Model: mnasnet



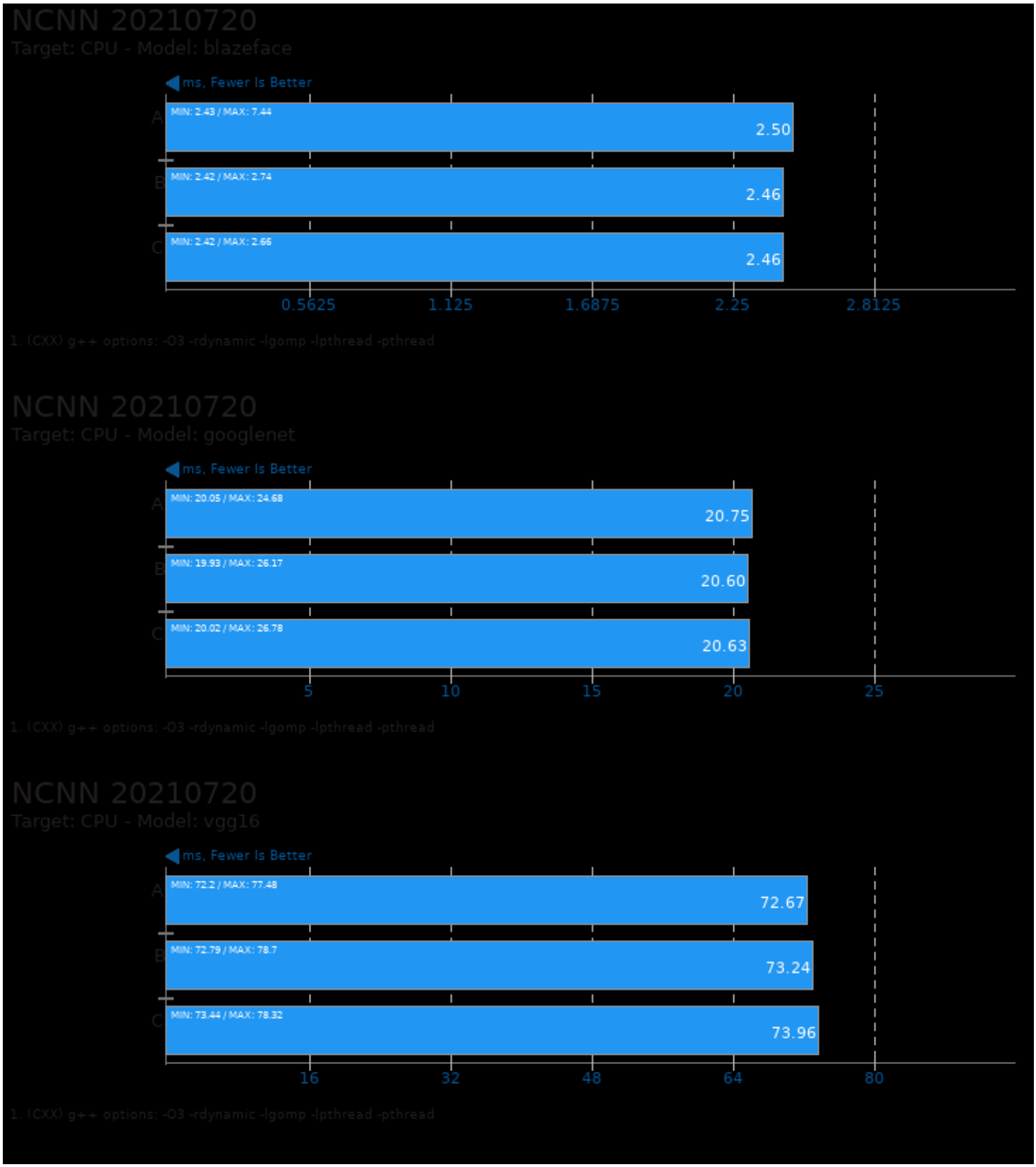
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

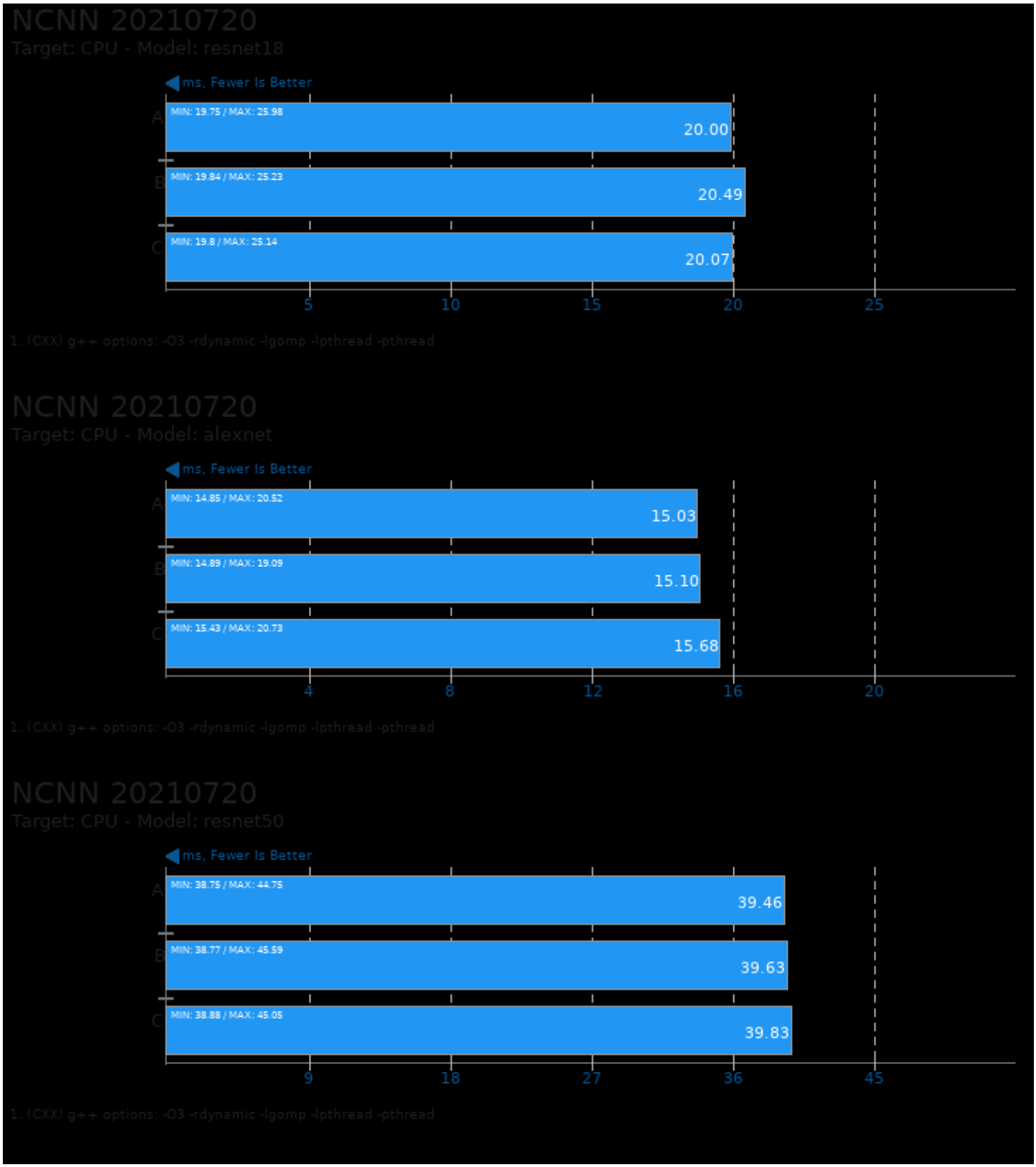
NCNN 20210720

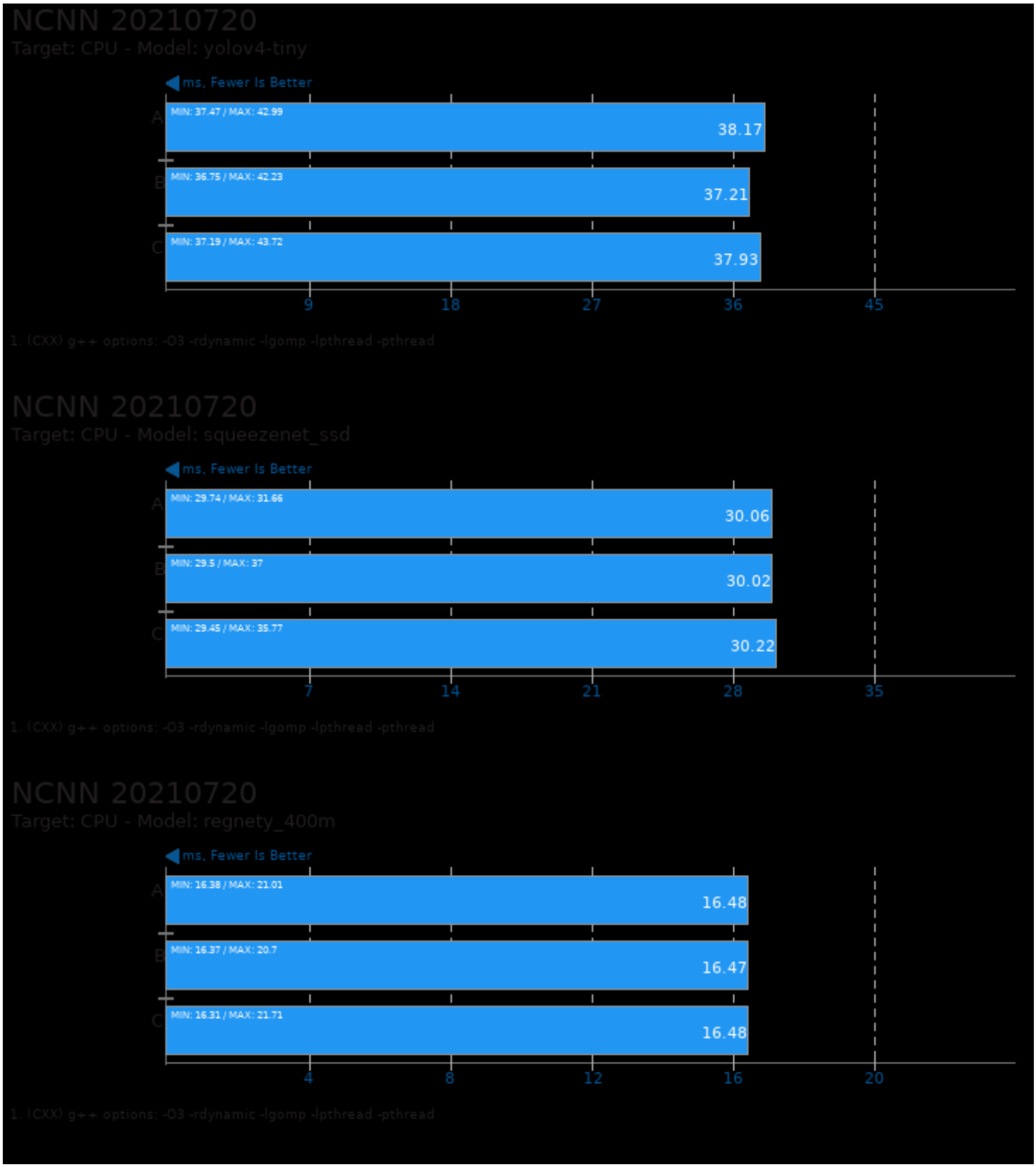
Target: CPU - Model: efficientnet-b0



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

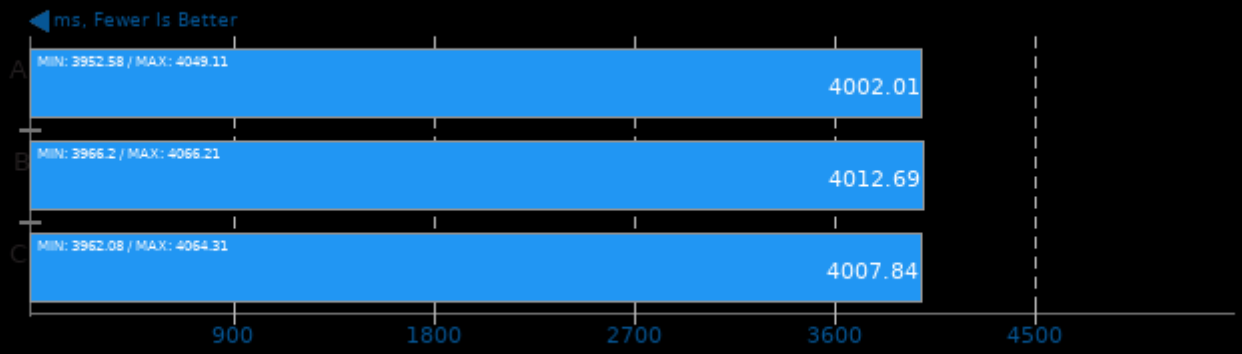

NCNN 20210720
Target: CPU - Model: blazeface
ms, Fewer Is Better
A
MIN: 2.43 / MAX: 7.44
2.50
B
MIN: 2.42 / MAX: 2.74
2.46
C
MIN: 2.42 / MAX: 2.66
2.46
0.5625
1.125
1.6875
2.25
2.8125
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: googlenet
ms, Fewer Is Better
A
MIN: 20.05 / MAX: 24.68
20.75
B
MIN: 19.93 / MAX: 26.17
20.60
C
MIN: 20.02 / MAX: 26.78
20.63
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: vgg16
ms, Fewer Is Better
A
MIN: 72.2 / MAX: 77.48
72.67
B
MIN: 72.79 / MAX: 78.7
73.24
C
MIN: 73.44 / MAX: 78.32
73.96
16
32
48
64
80
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread


NCNN 20210720
Target: CPU - Model: resnet18
ms, Fewer Is Better
A
MIN: 19.75 / MAX: 25.98
20.00
B
MIN: 19.84 / MAX: 25.23
20.49
C
MIN: 19.8 / MAX: 25.14
20.07
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: alexnet
ms, Fewer Is Better
A
MIN: 14.85 / MAX: 20.52
15.03
B
MIN: 14.89 / MAX: 19.09
15.10
C
MIN: 15.43 / MAX: 20.73
15.68
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: resnet50
ms, Fewer Is Better
A
MIN: 38.75 / MAX: 44.75
39.46
B
MIN: 38.77 / MAX: 45.59
39.63
C
MIN: 38.88 / MAX: 45.05
39.83
9
18
27
36
45
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread


NCNN 20210720
Target: CPU - Model: yolov4-tiny
ms, Fewer Is Better
A
MIN: 37.47 / MAX: 42.99
38.17
B
MIN: 36.75 / MAX: 42.23
37.21
C
MIN: 37.19 / MAX: 43.72
37.93
9
18
27
36
45
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: squeezenet_ssd
ms, Fewer Is Better
A
MIN: 29.74 / MAX: 31.66
30.06
B
MIN: 29.5 / MAX: 37
30.02
C
MIN: 29.45 / MAX: 35.77
30.22
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: regnety_400m
ms, Fewer Is Better
A
MIN: 16.38 / MAX: 21.01
16.48
B
MIN: 16.37 / MAX: 20.7
16.47
C
MIN: 16.31 / MAX: 21.71
16.48
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

TNN 0.3

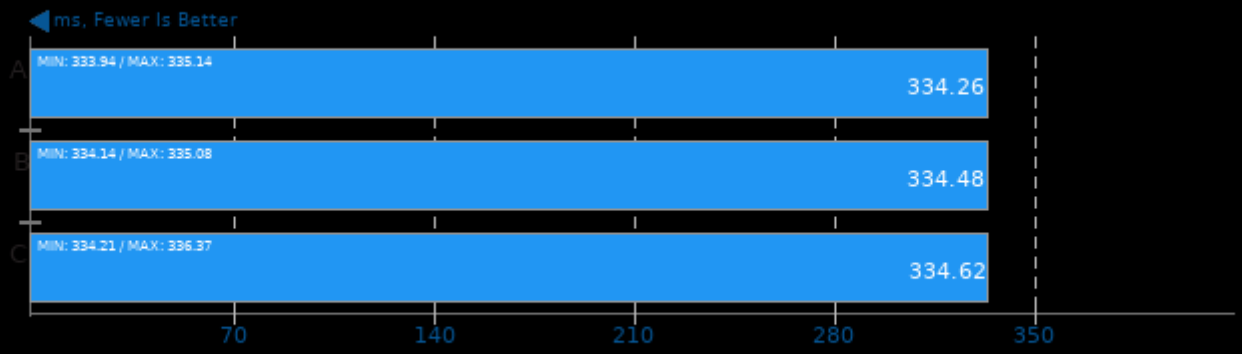
Target: CPU - Model: DenseNet



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

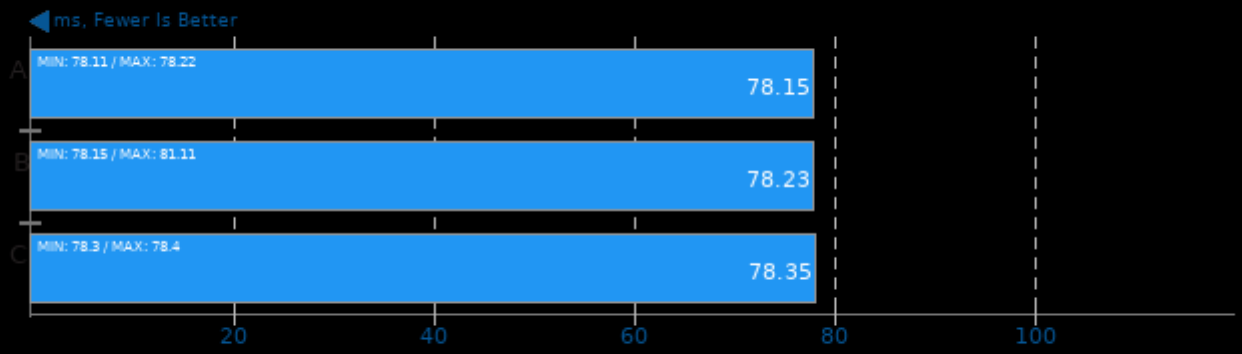
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

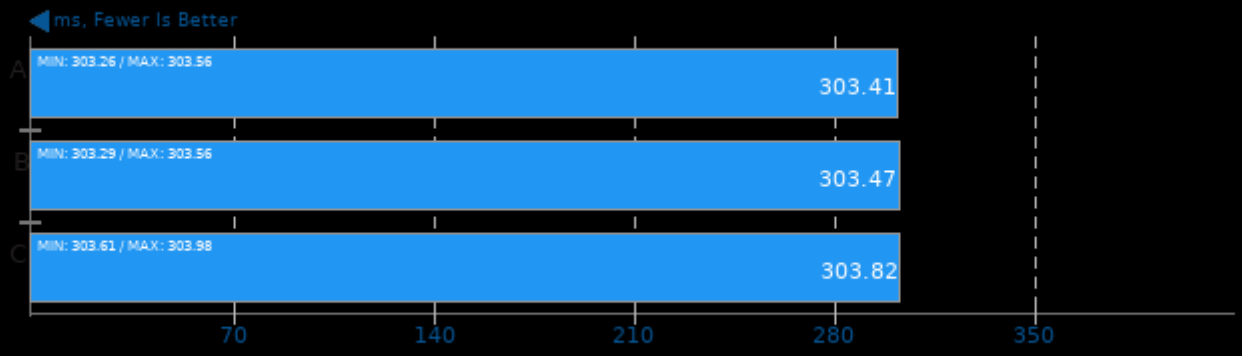
Target: CPU - Model: SqueezeNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

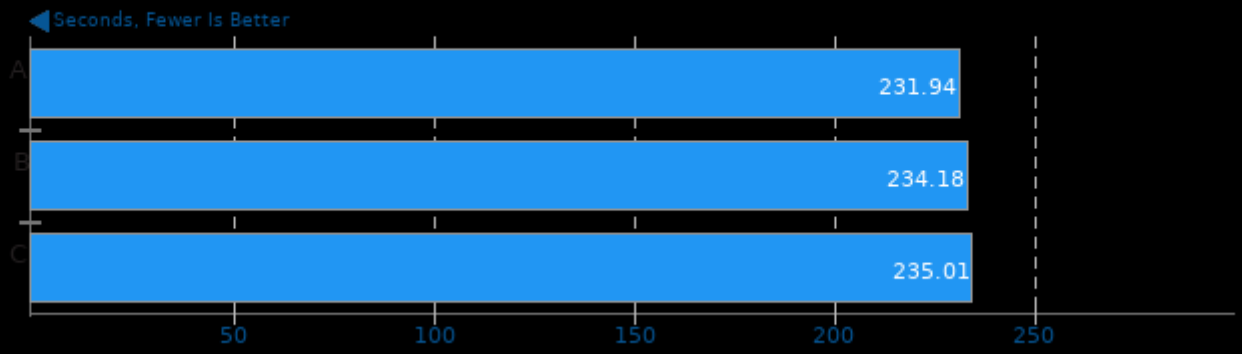
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

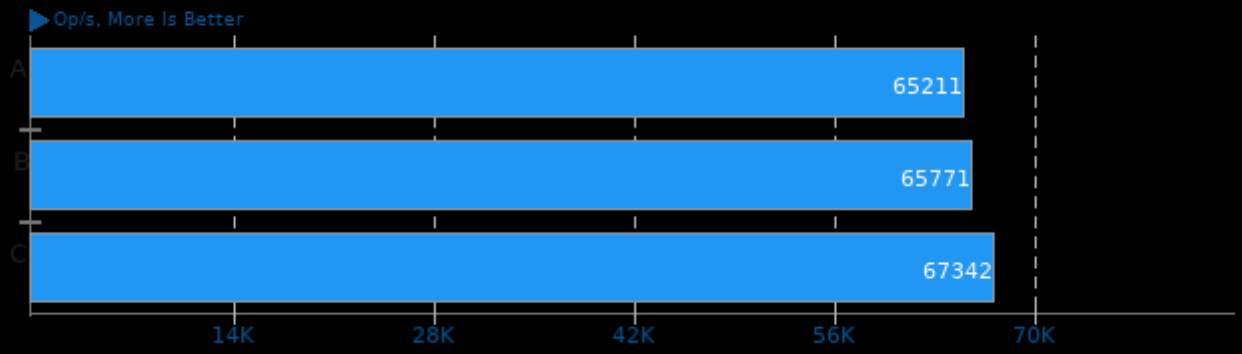
Blender 3.0

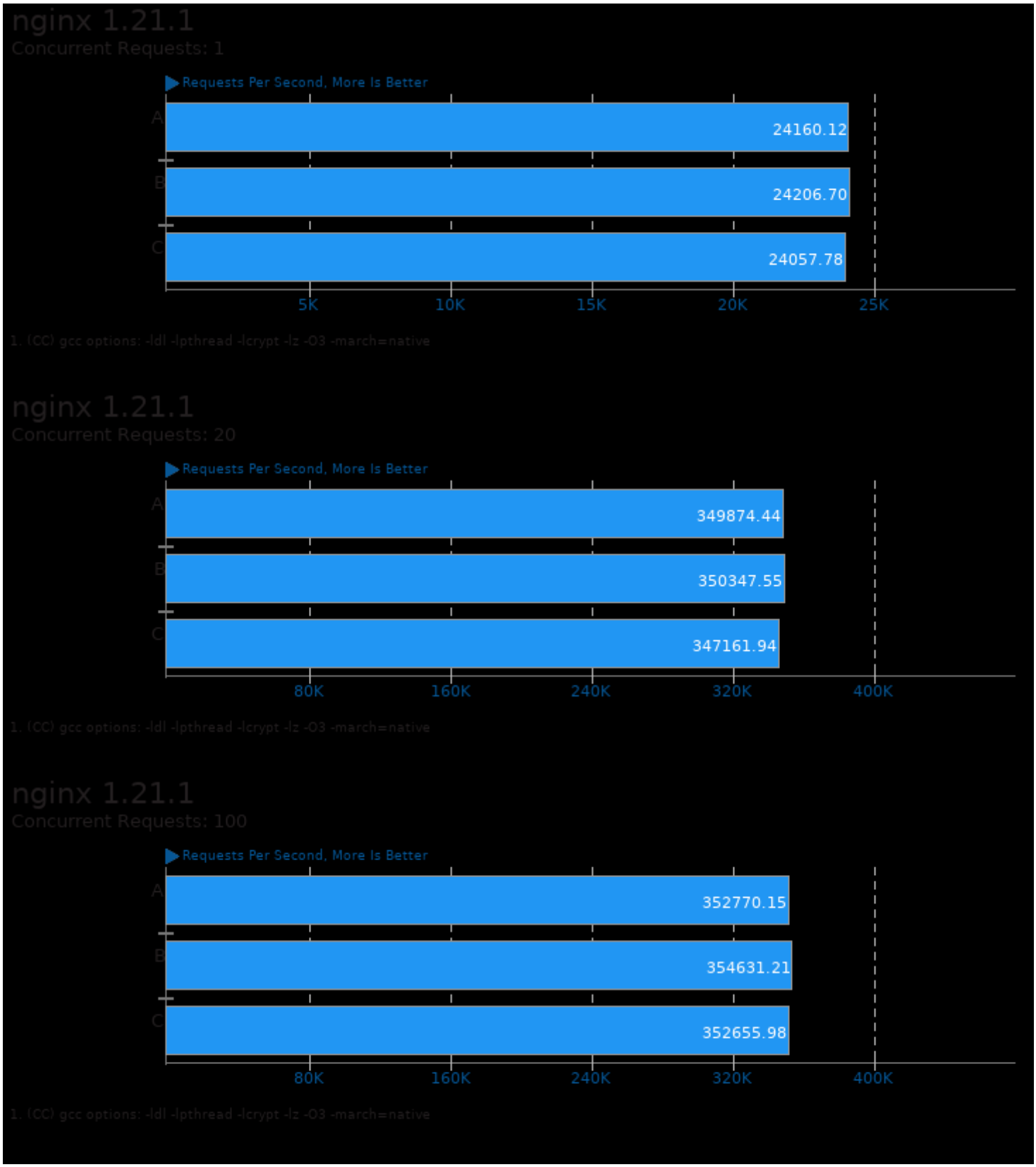
Blend File: BMW27 - Compute: CPU-Only

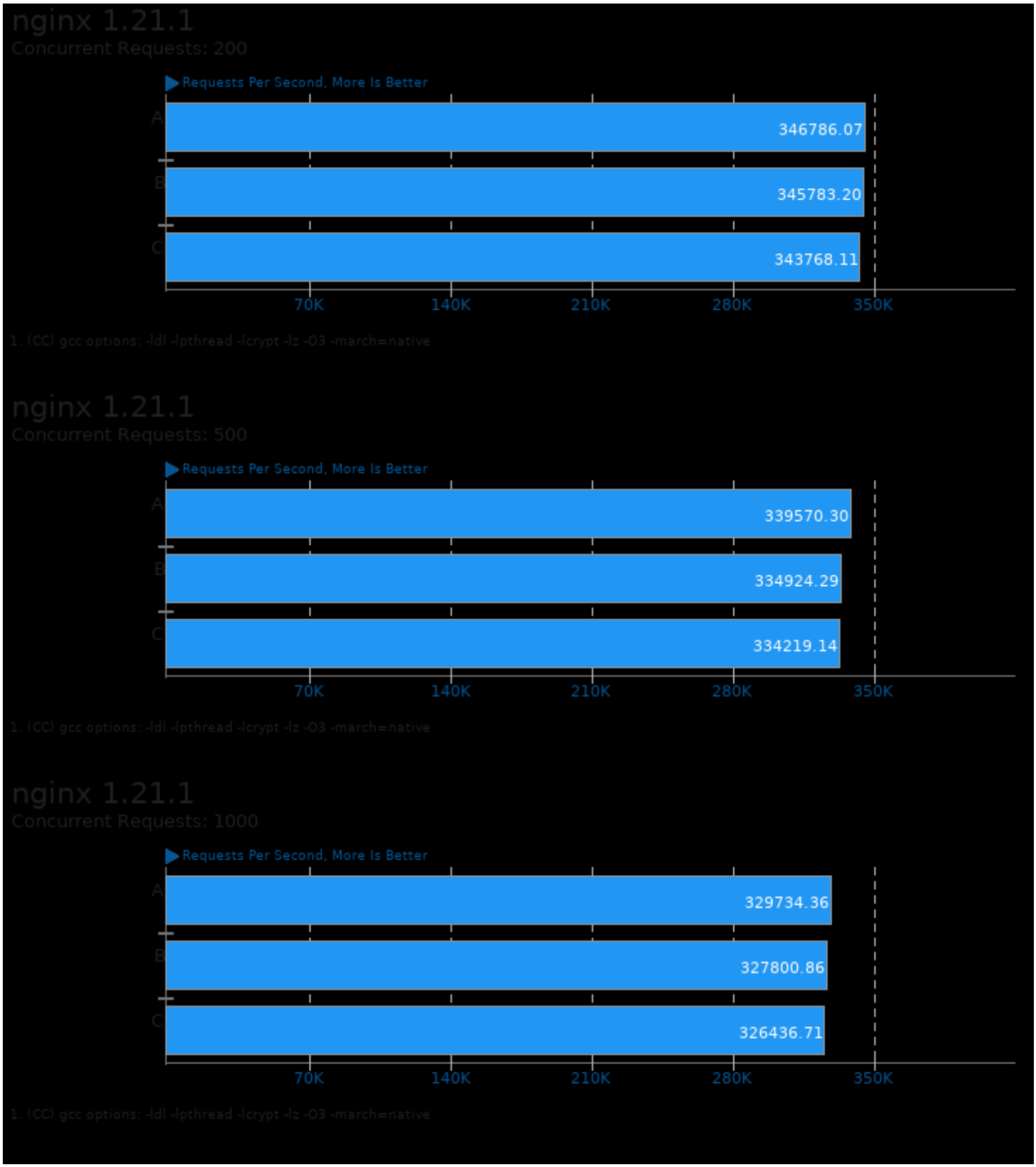


Apache Cassandra 4.0

Test: Writes

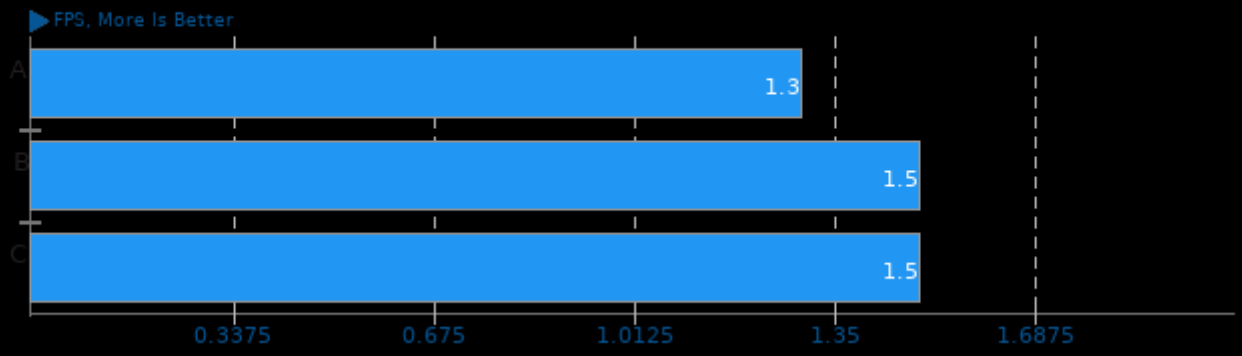



nginx 1.21.1
Concurrent Requests: 1
Requests Per Second, More Is Better
A
B
C
24160.12
24206.70
24057.78
5K
10K
15K
20K
25K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 20
Requests Per Second, More Is Better
A
B
C
349874.44
350347.55
347161.94
80K
160K
240K
320K
400K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 100
Requests Per Second, More Is Better
A
B
C
352770.15
354631.21
352655.98
80K
160K
240K
320K
400K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native


nginx 1.21.1
Concurrent Requests: 200
Requests Per Second, More Is Better
A
B
C
346786.07
345783.20
343768.11
70K
140K
210K
280K
350K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 500
Requests Per Second, More Is Better
A
B
C
339570.30
334924.29
334219.14
70K
140K
210K
280K
350K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 1000
Requests Per Second, More Is Better
A
B
C
329734.36
327800.86
326436.71
70K
140K
210K
280K
350K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native

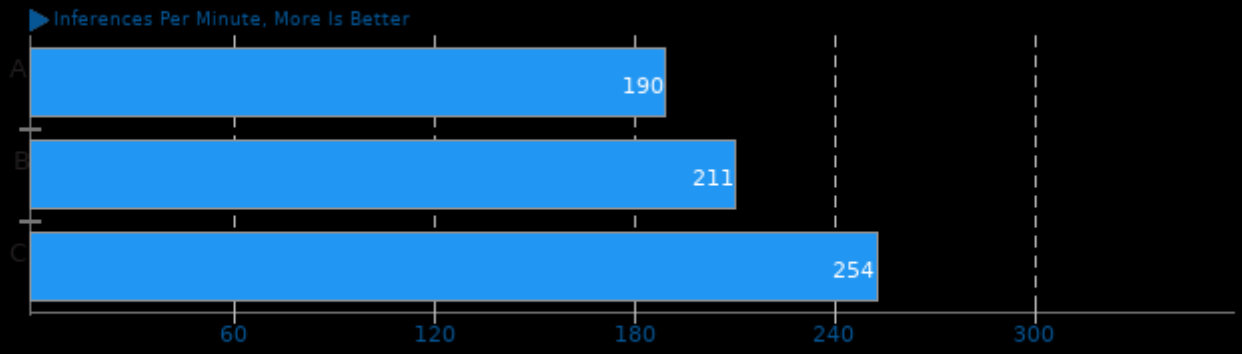
Natron 2.4

Input: Spaceship



ONNX Runtime 1.10

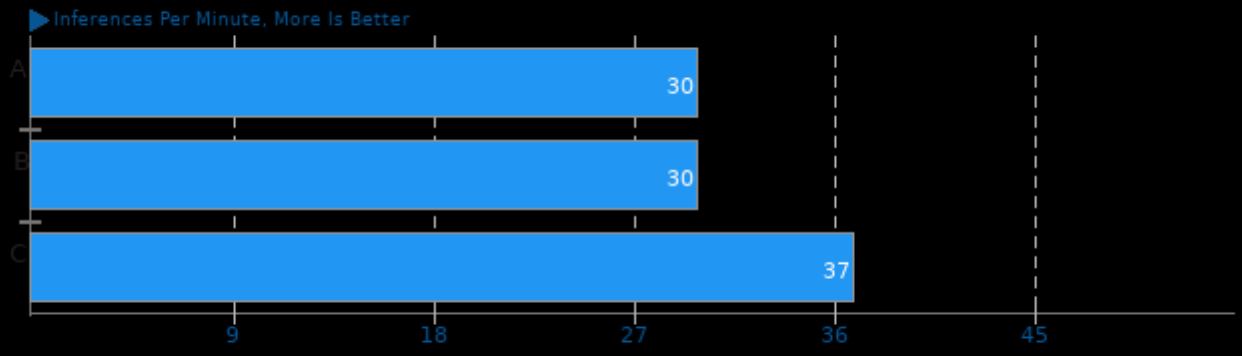
Model: yolov4 - Device: CPU



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

ONNX Runtime 1.10

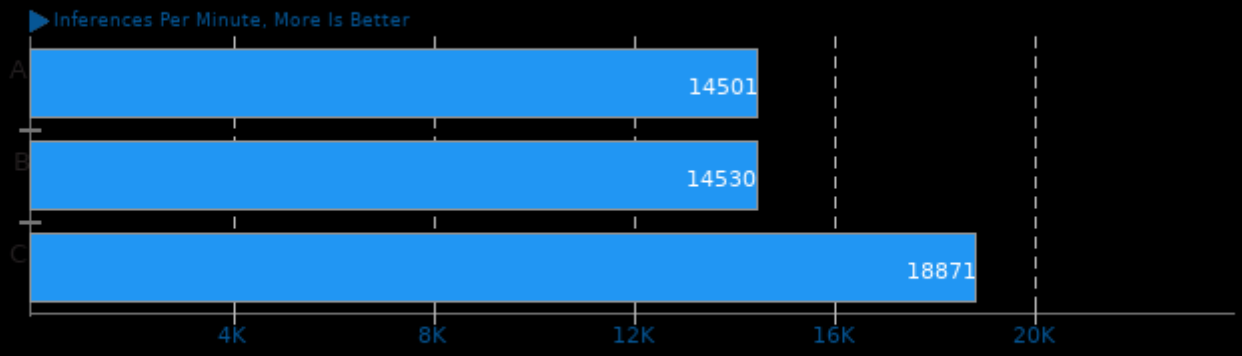
Model: fcn-resnet101-11 - Device: CPU



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

ONNX Runtime 1.10

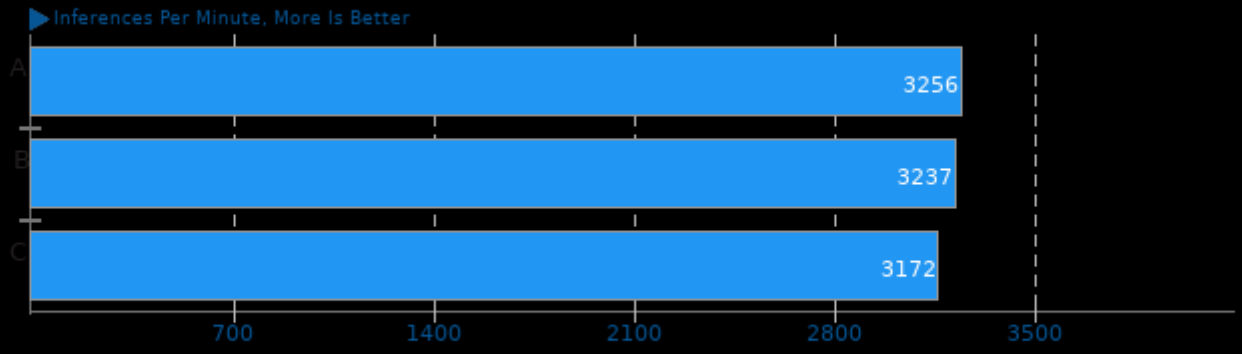
Model: shufflenet-v2-10 - Device: CPU



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

ONNX Runtime 1.10

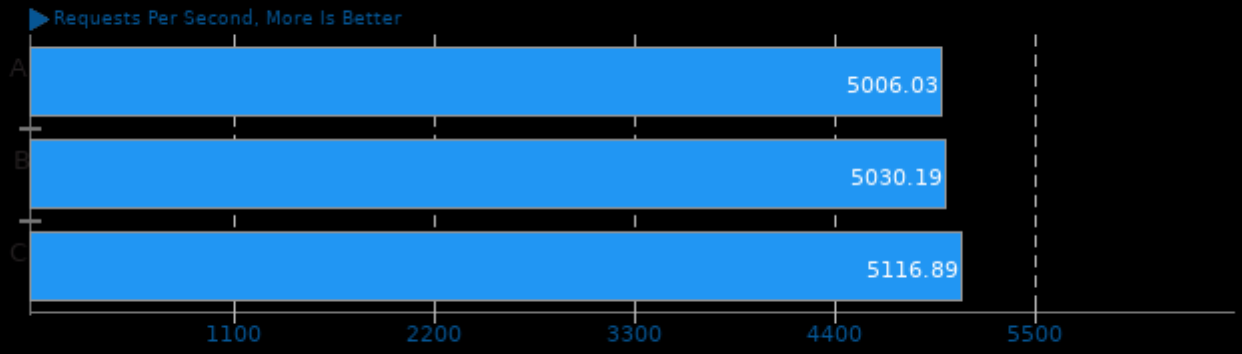
Model: super-resolution-10 - Device: CPU



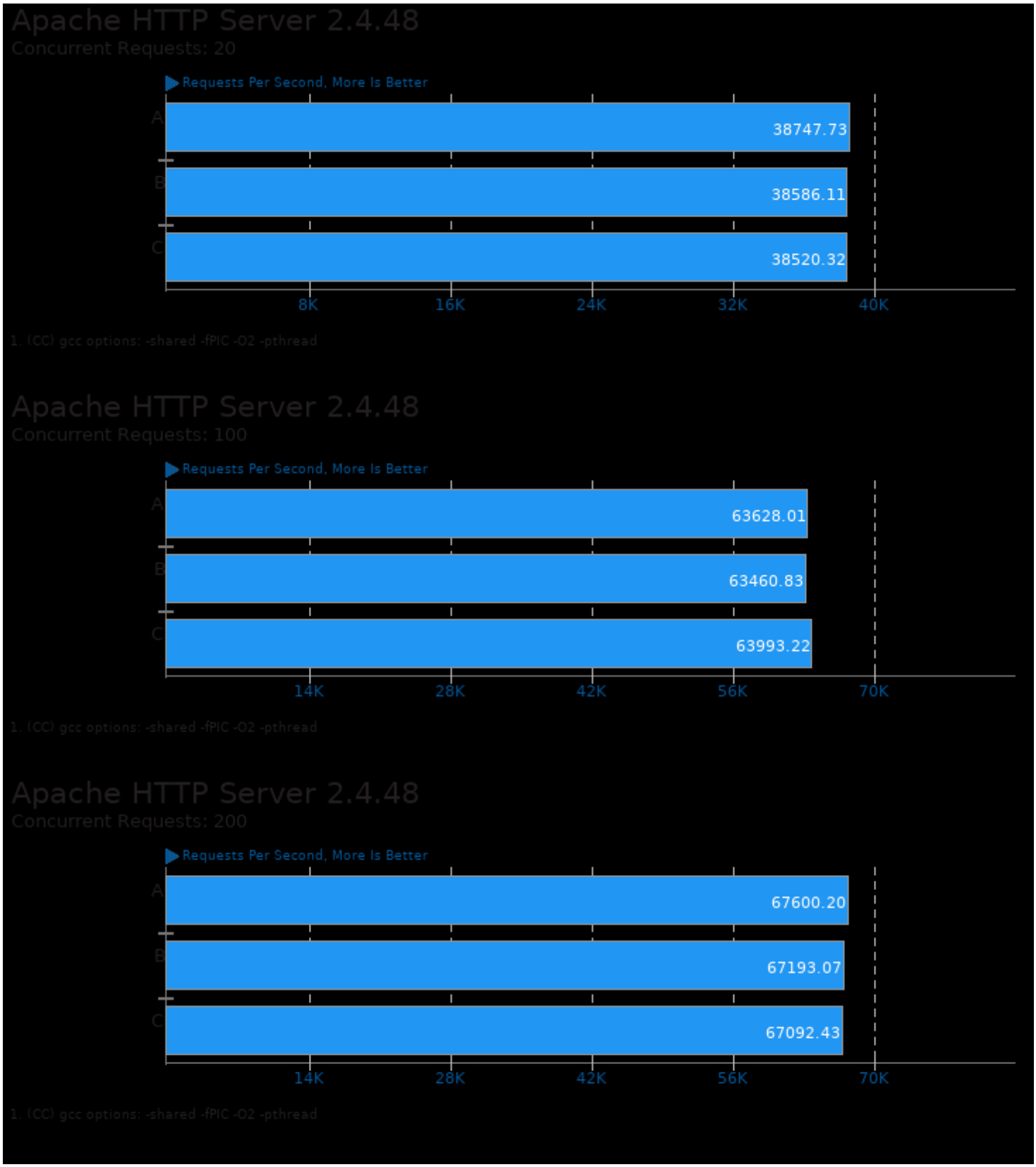
1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt -pthread -lpthread

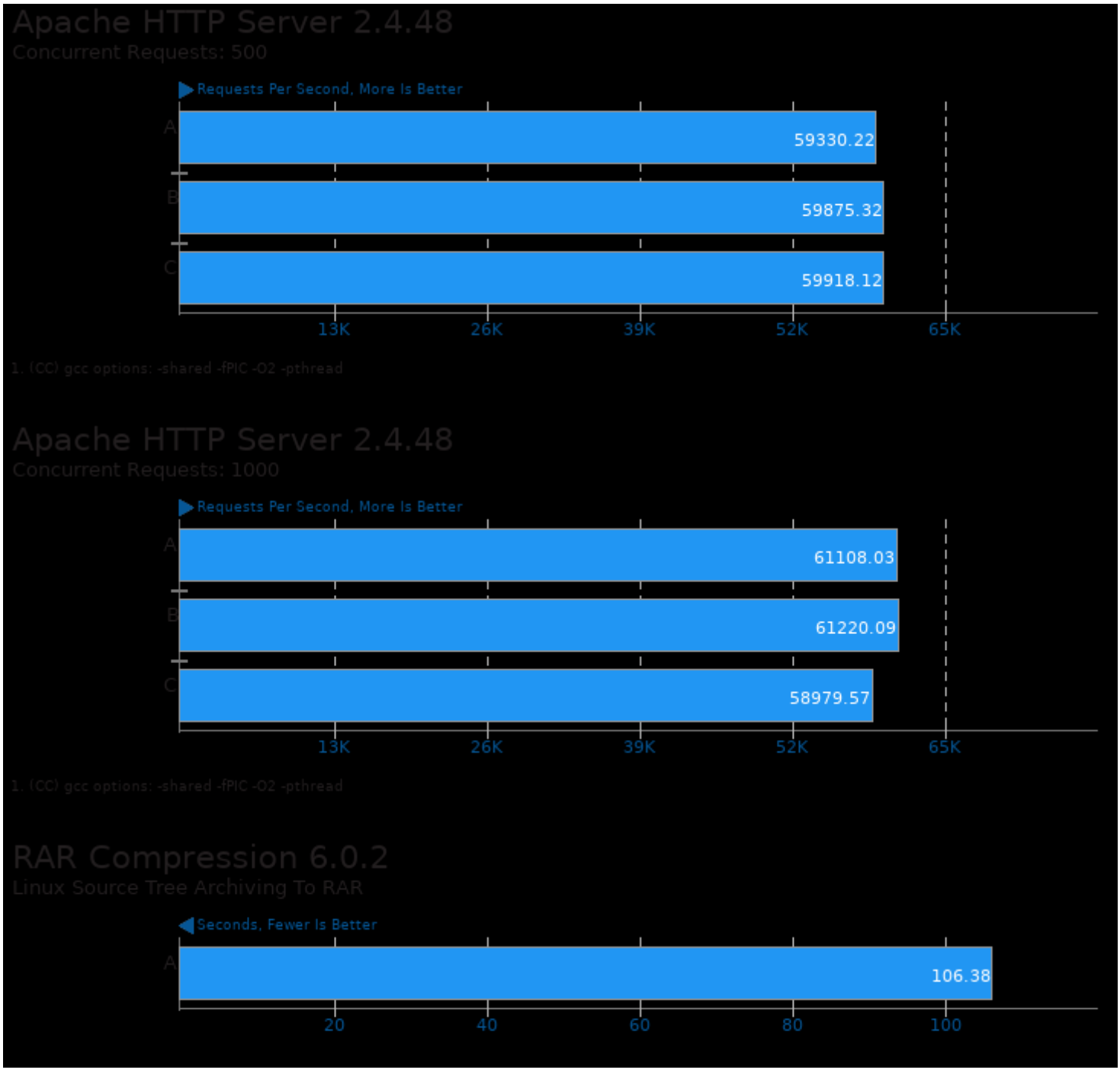
Apache HTTP Server 2.4.48

Concurrent Requests: 1



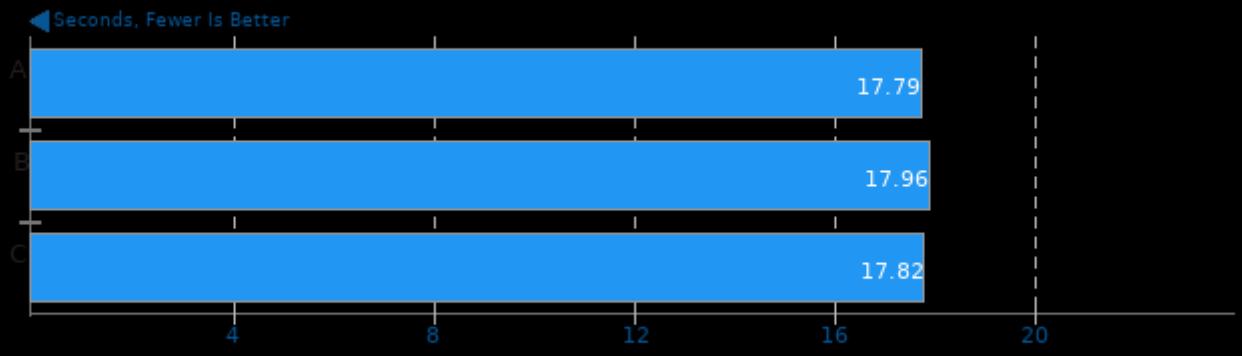
1. (CC) gcc options: -shared -fPIC -O2 -pthread


Apache HTTP Server 2.4.48
Concurrent Requests: 20
Requests Per Second, More Is Better
A
38747.73
B
38586.11
C
38520.32
8K
16K
24K
32K
40K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
Apache HTTP Server 2.4.48
Concurrent Requests: 100
Requests Per Second, More Is Better
A
63628.01
B
63460.83
C
63993.22
14K
28K
42K
56K
70K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
Apache HTTP Server 2.4.48
Concurrent Requests: 200
Requests Per Second, More Is Better
A
67600.20
B
67193.07
C
67092.43
14K
28K
42K
56K
70K
1. (CC) gcc options: -shared -fPIC -O2 -pthread


Apache HTTP Server 2.4.48
Concurrent Requests: 500
Requests Per Second, More Is Better
A
59330.22
B
59875.32
C
59918.12
13K
26K
39K
52K
65K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
Apache HTTP Server 2.4.48
Concurrent Requests: 1000
Requests Per Second, More Is Better
A
61108.03
B
61220.09
C
58979.57
13K
26K
39K
52K
65K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
RAR Compression 6.0.2
Linux Source Tree Archiving To RAR
Seconds, Fewer Is Better
A
106.38
20
40
60
80
100

WavPack Audio Encoding 5.3

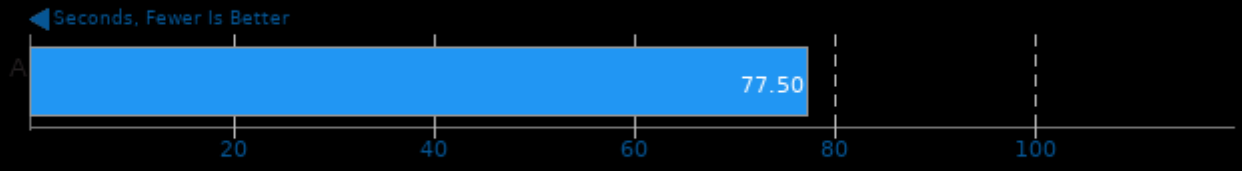
WAV To WavPack



1. (CXX) g++ options: -rdynamic

GnuPG 2.2.27

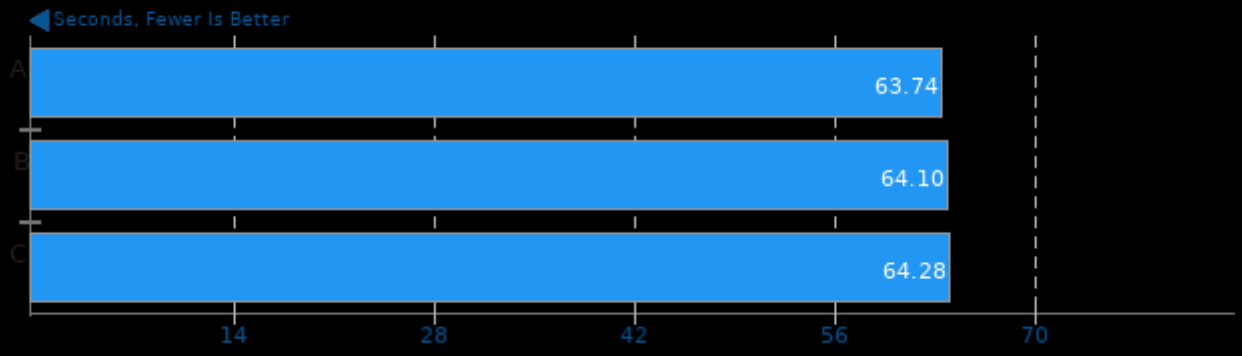
2.7GB Sample File Encryption

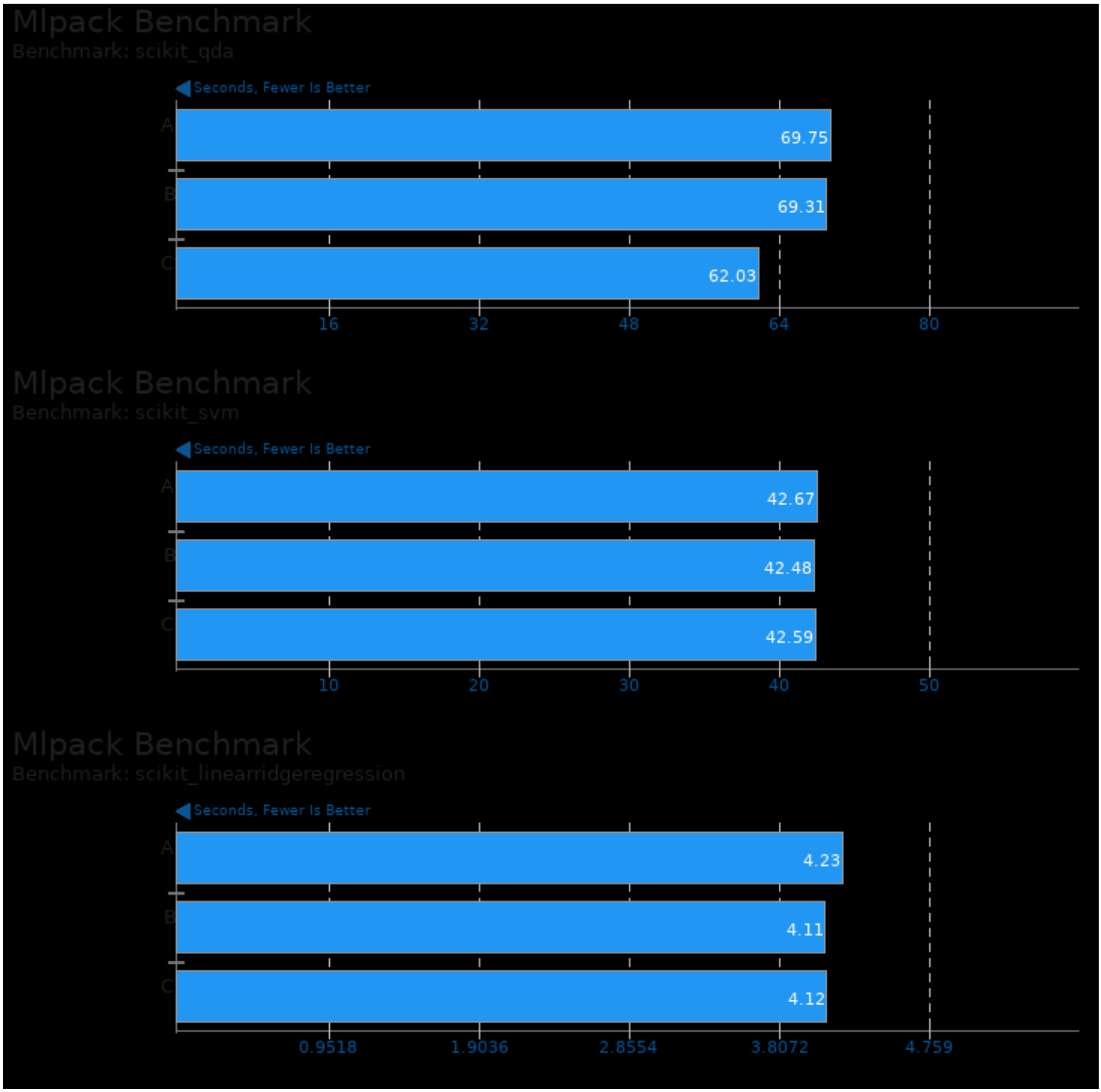


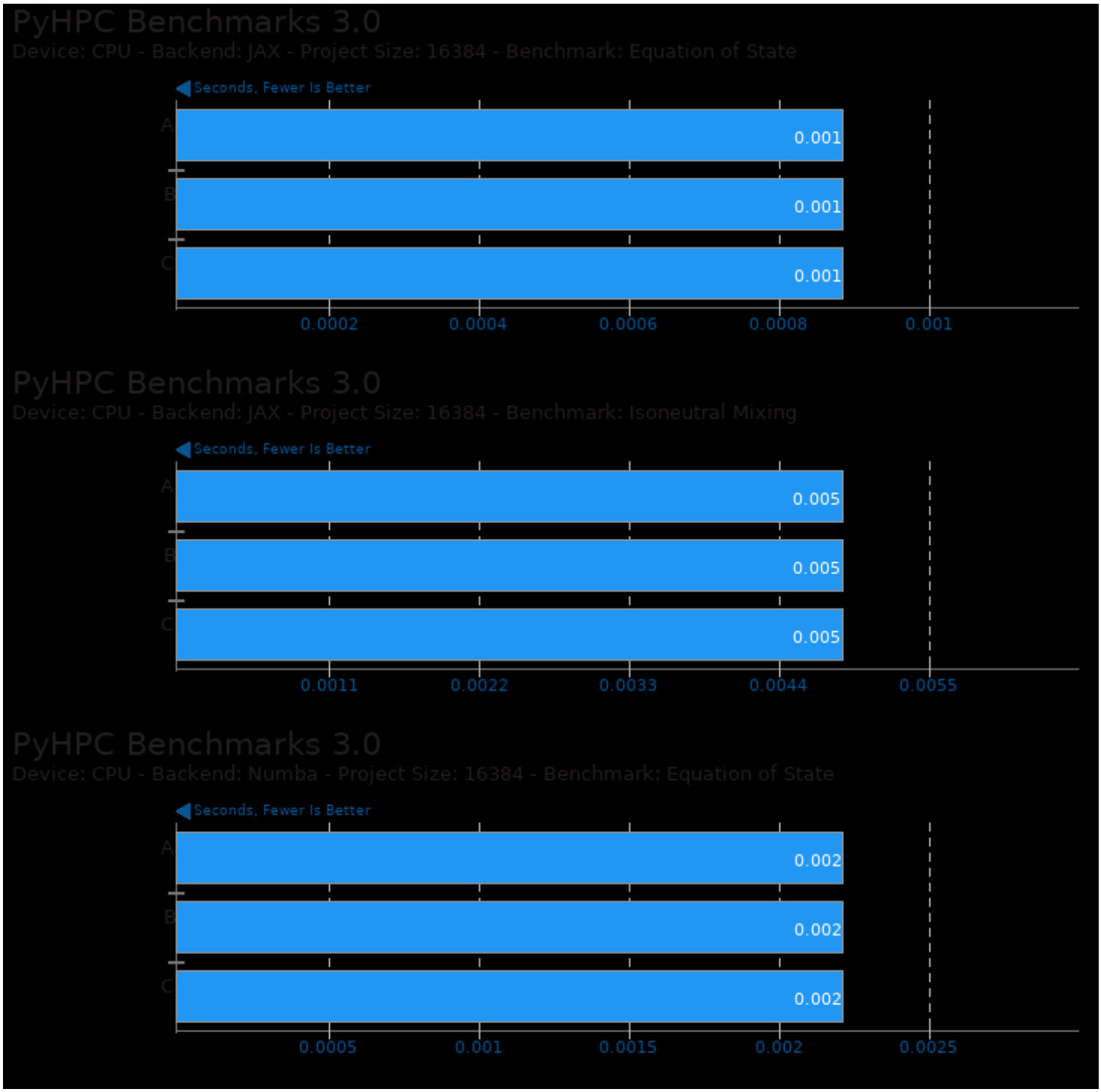
1. (CC) gcc options: -O2

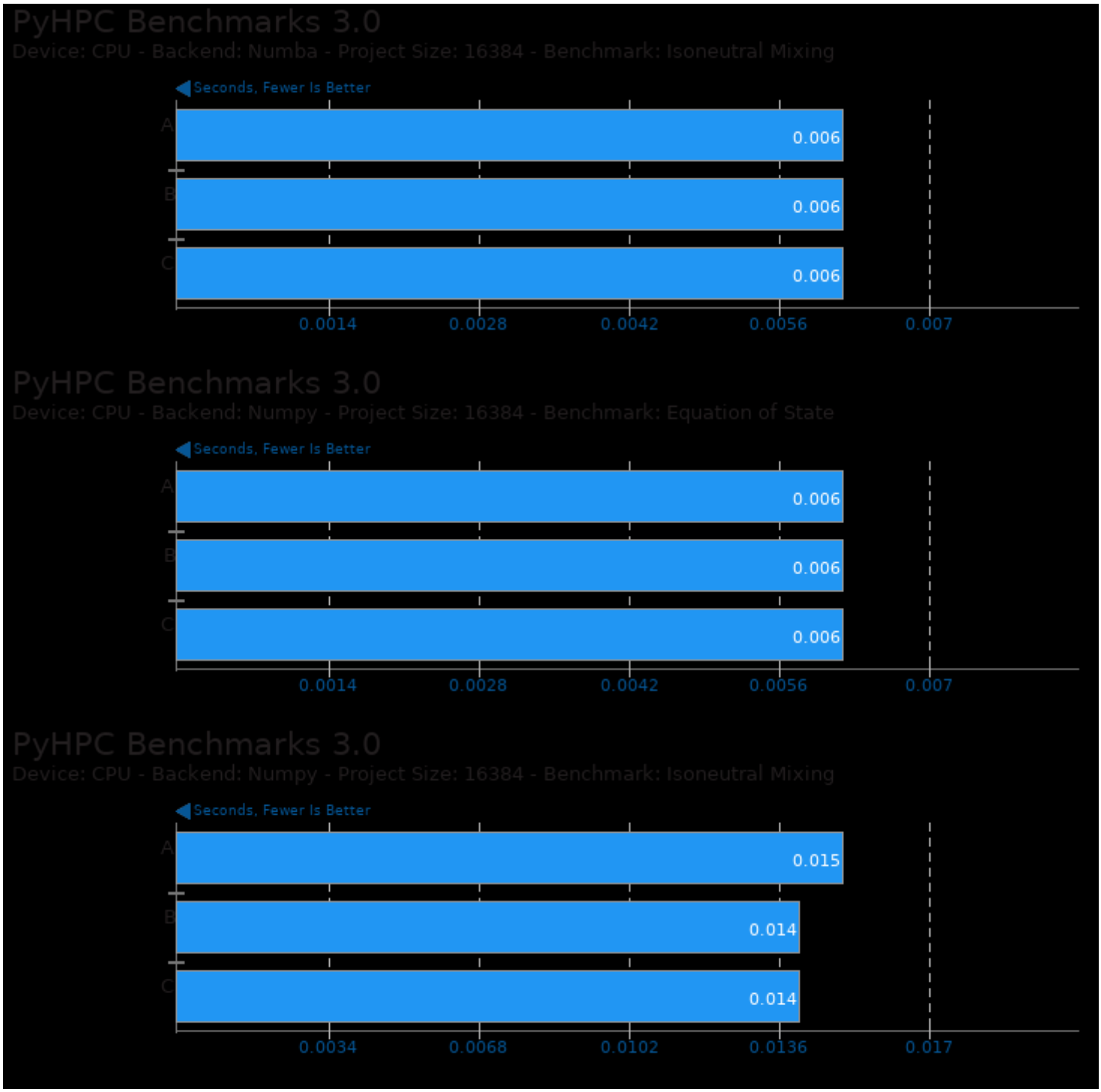
Mlpack Benchmark

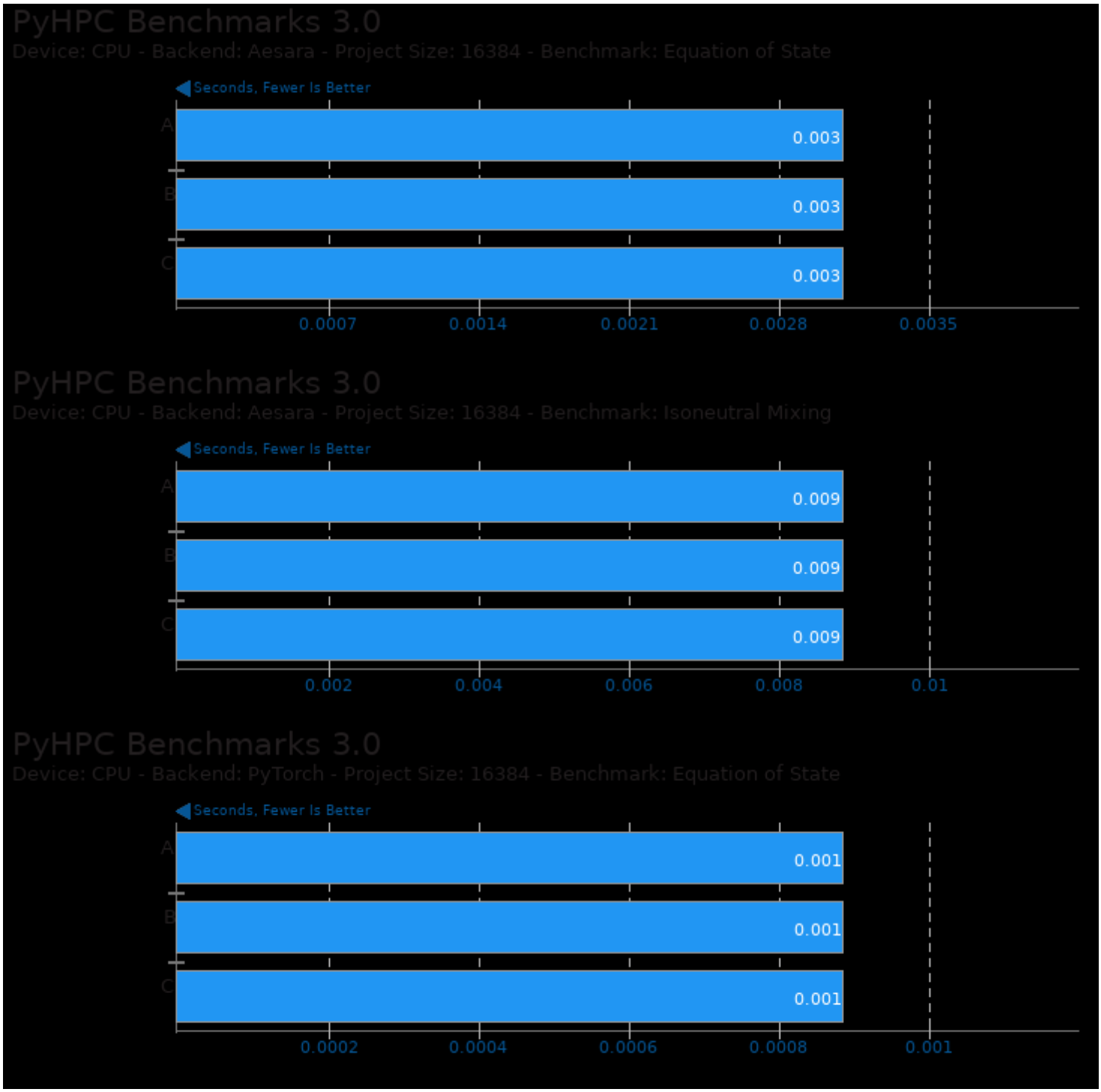
Benchmark: scikit_ica




Mlpack Benchmark
Benchmark: scikit_qda
Seconds, Fewer Is Better
A
B
C
69.75
69.31
62.03
16
32
48
64
80
Mlpack Benchmark
Benchmark: scikit_svm
Seconds, Fewer Is Better
A
B
C
42.67
42.48
42.59
10
20
30
40
50
Mlpack Benchmark
Benchmark: scikit_linearridgeregression
Seconds, Fewer Is Better
A
B
C
4.23
4.11
4.12
0.9518
1.9036
2.8554
3.8072
4.759

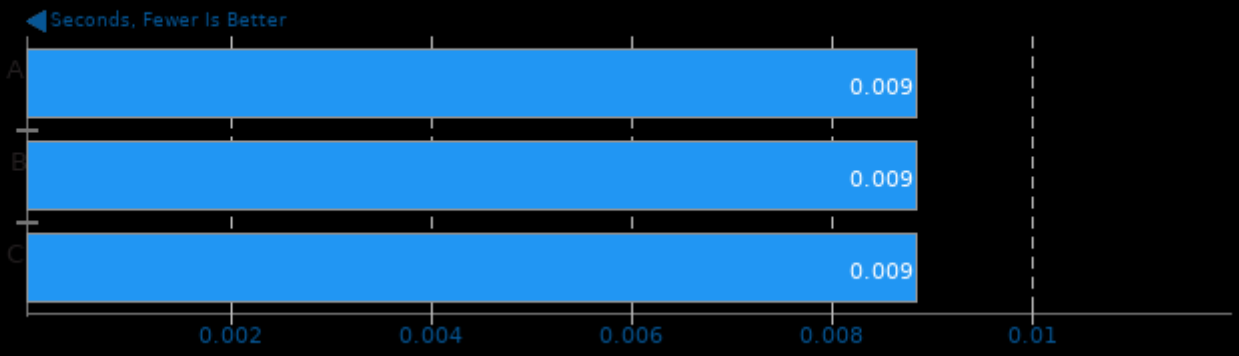

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.005
0.005
0.005
0.0011
0.0022
0.0033
0.0044
0.0055
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.002
0.002
0.002
0.0005
0.001
0.0015
0.002
0.0025


PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.006
0.006
0.006
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.006
0.006
0.006
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.015
0.014
0.014
0.0034
0.0068
0.0102
0.0136
0.017


PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.003
0.003
0.003
0.0007
0.0014
0.0021
0.0028
0.0035
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.009
0.009
0.009
0.002
0.004
0.006
0.008
0.01
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001

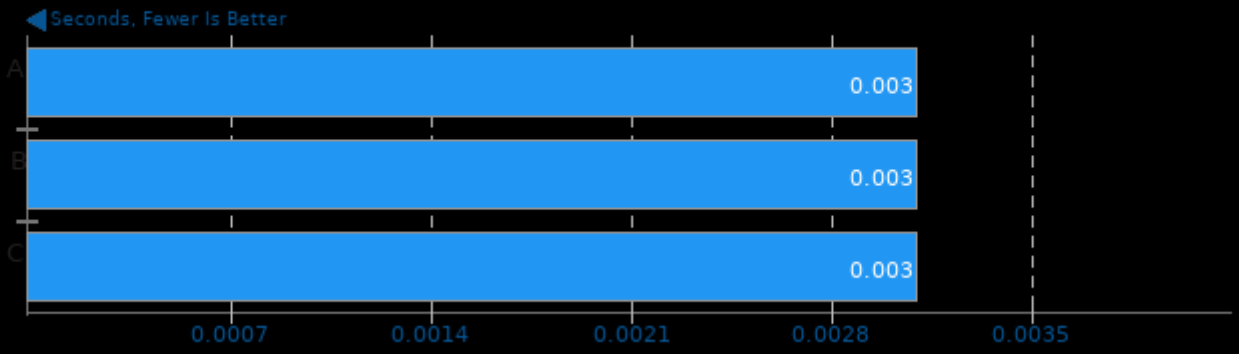
PyHPC Benchmarks 3.0

Device: CPU - Backend: PyTorch - Project Size: 16384 - Benchmark: Isoneutral Mixing



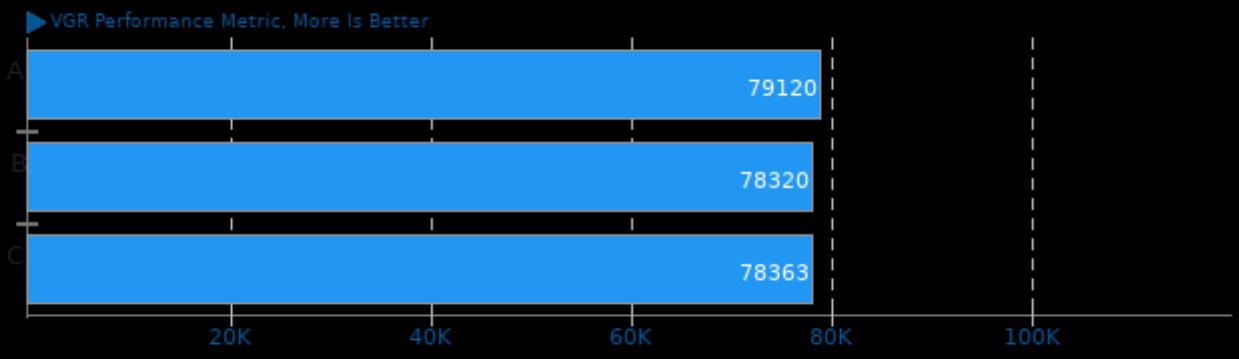
PyHPC Benchmarks 3.0

Device: CPU - Backend: TensorFlow - Project Size: 16384 - Benchmark: Equation of State



BRL-CAD 7.32.2

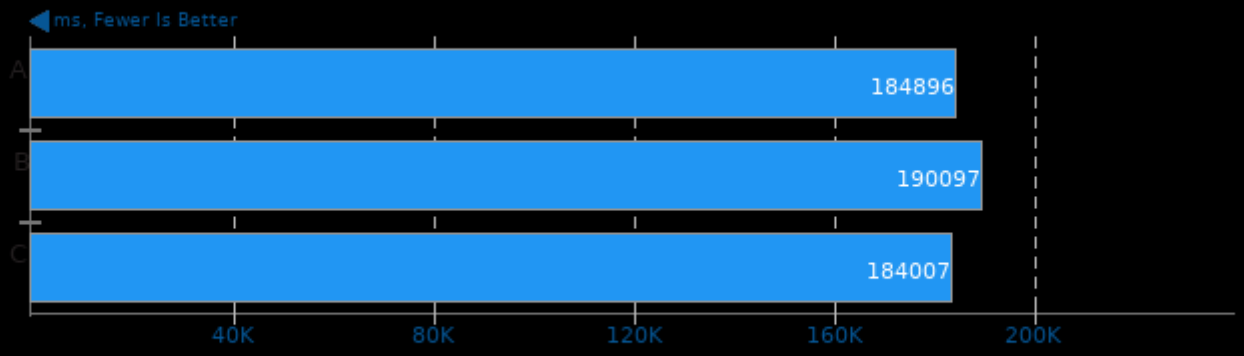
VGR Performance Metric



1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pt

OpenCV 4.5.4

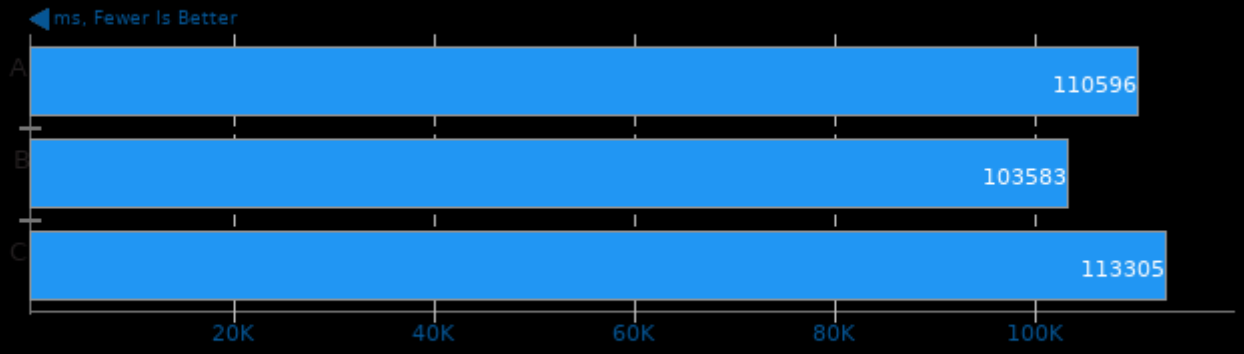
Test: Features 2D



1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3

OpenCV 4.5.4

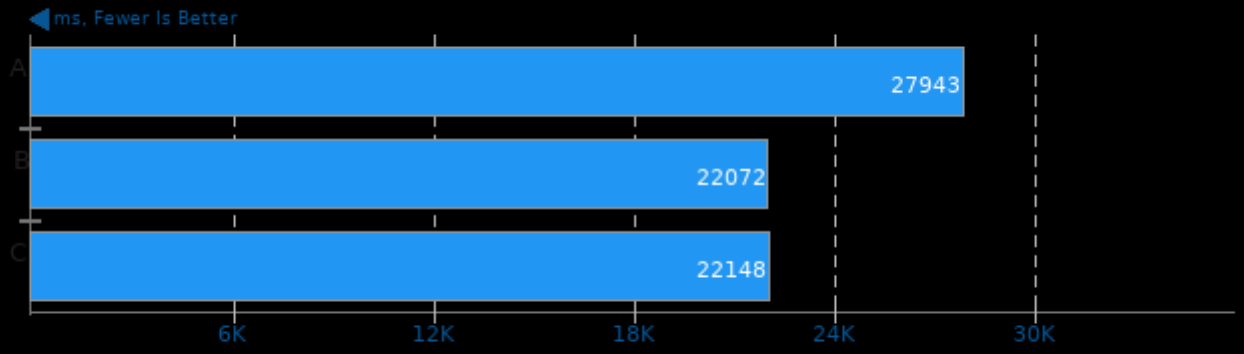
Test: Object Detection



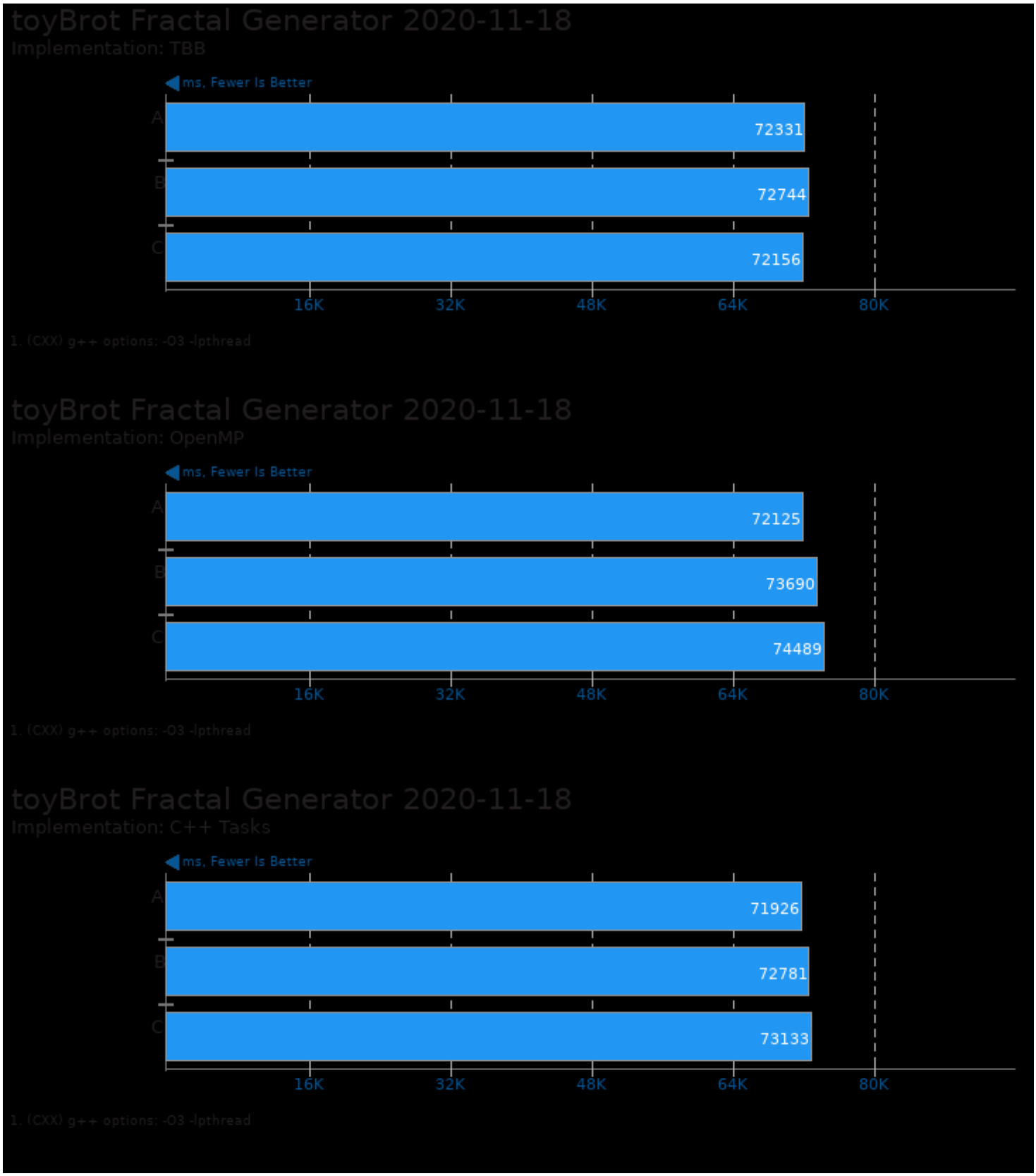
1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3

OpenCV 4.5.4

Test: DNN - Deep Neural Network

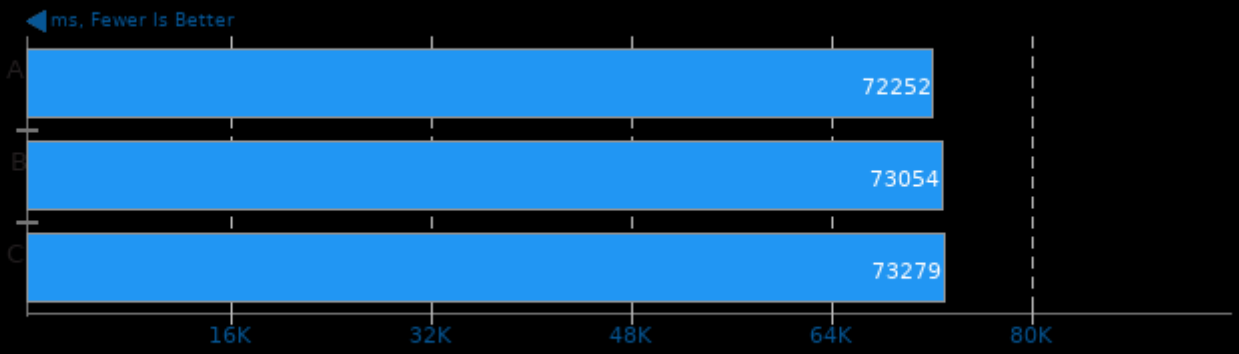


1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3


toyBrot Fractal Generator 2020-11-18
Implementation: TBB
ms, Fewer Is Better
A
B
C
72331
72744
72156
16K
32K
48K
64K
80K
1. (CXX) g++ options: -O3 -lpthread
toyBrot Fractal Generator 2020-11-18
Implementation: OpenMP
ms, Fewer Is Better
A
B
C
72125
73690
74489
16K
32K
48K
64K
80K
1. (CXX) g++ options: -O3 -lpthread
toyBrot Fractal Generator 2020-11-18
Implementation: C++ Tasks
ms, Fewer Is Better
A
B
C
71926
72781
73133
16K
32K
48K
64K
80K
1. (CXX) g++ options: -O3 -lpthread

toyBrot Fractal Generator 2020-11-18

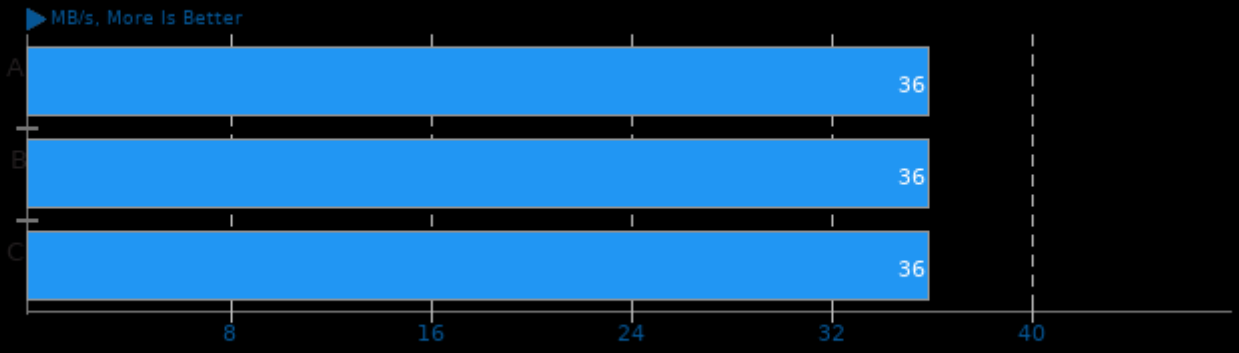
Implementation: C++ Threads



1. (CXX) g++ options: -O3 -lpthread

lzbench 1.8

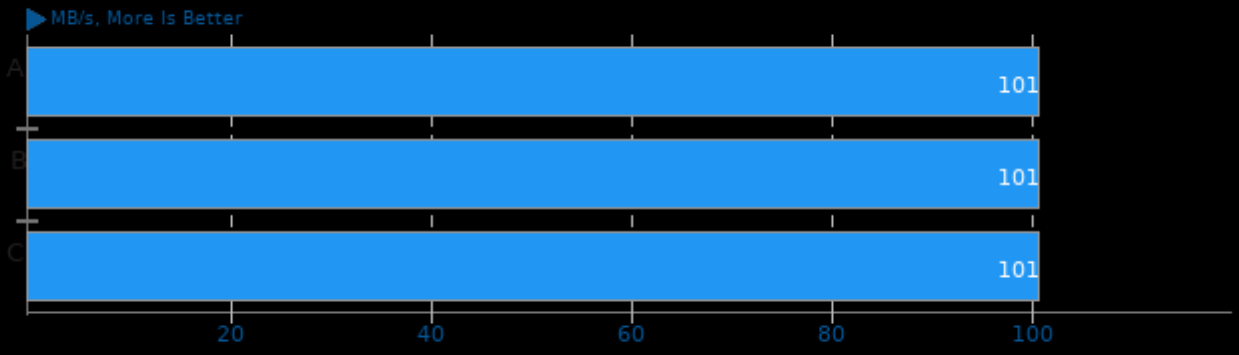
Test: XZ 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

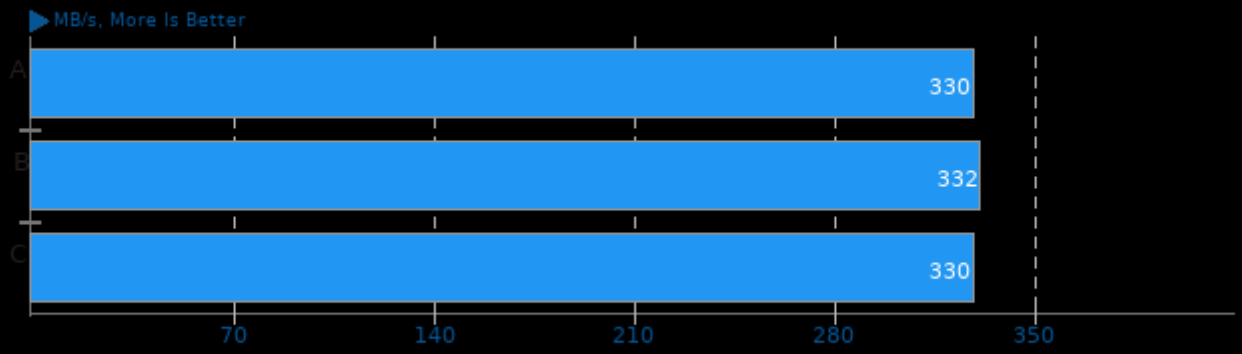
Test: XZ 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

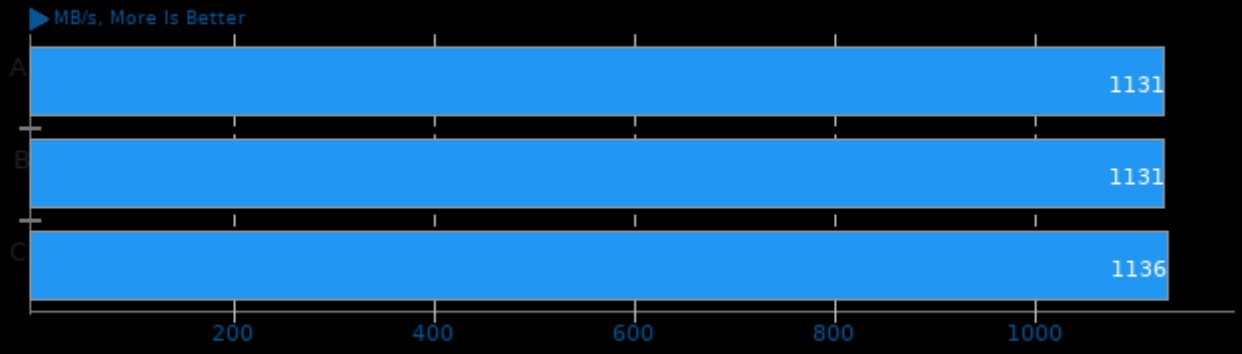
Test: Zstd 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

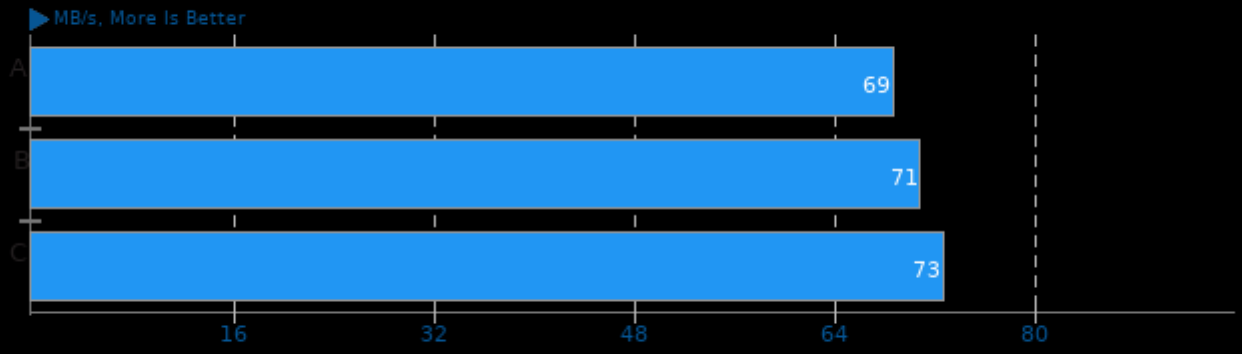
Test: Zstd 1 - Process: Decompression



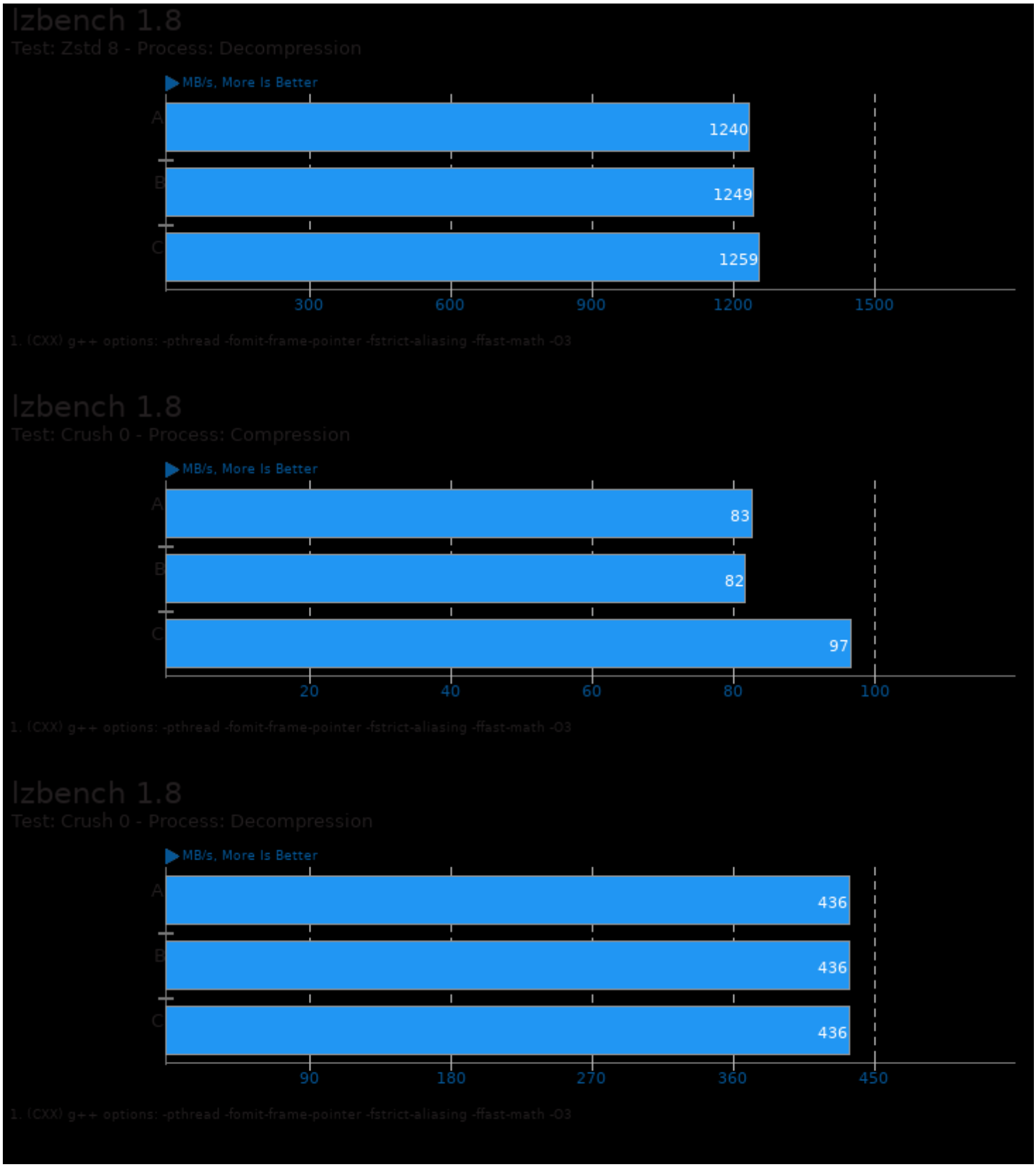
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

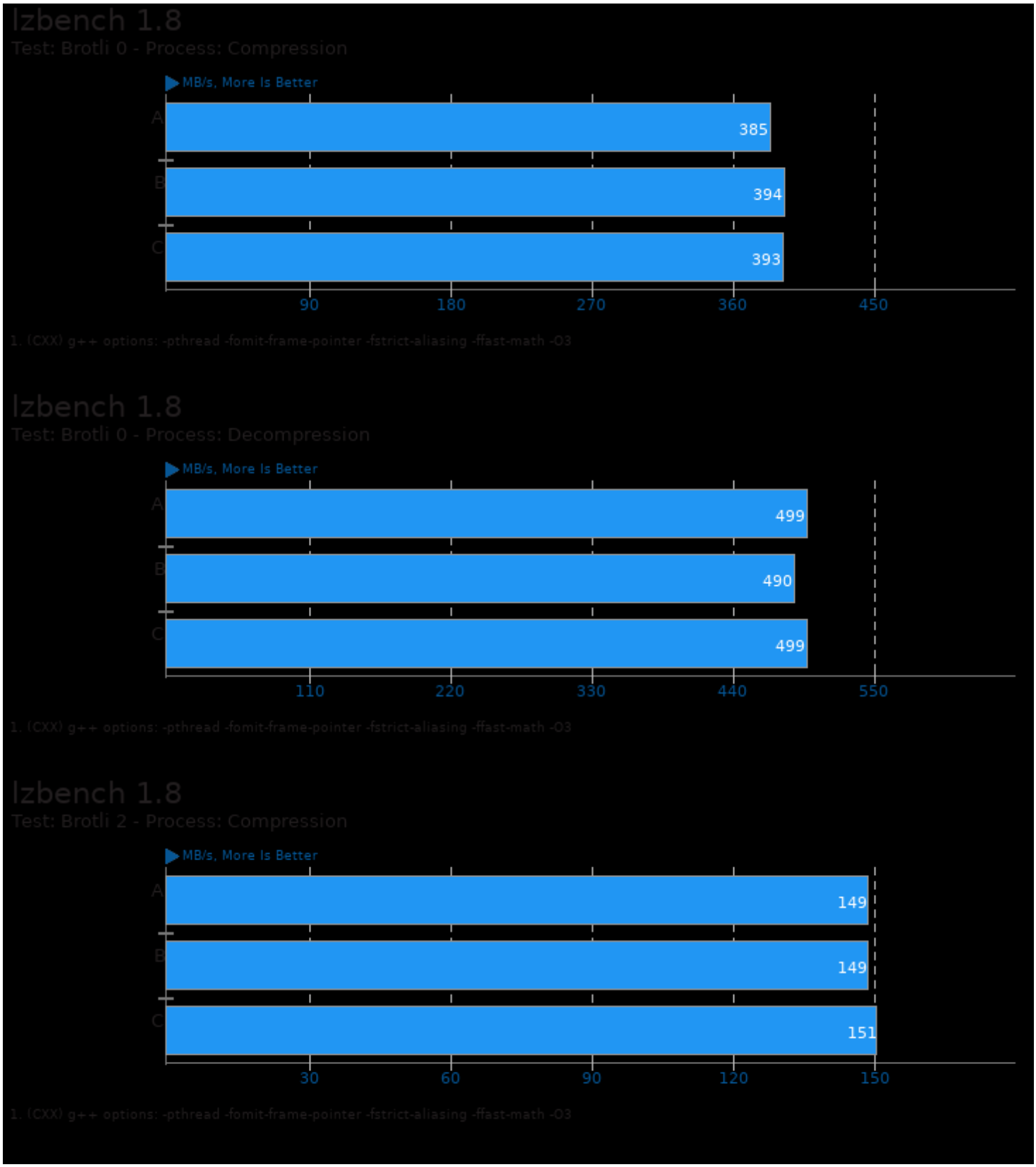
lzbench 1.8

Test: Zstd 8 - Process: Compression



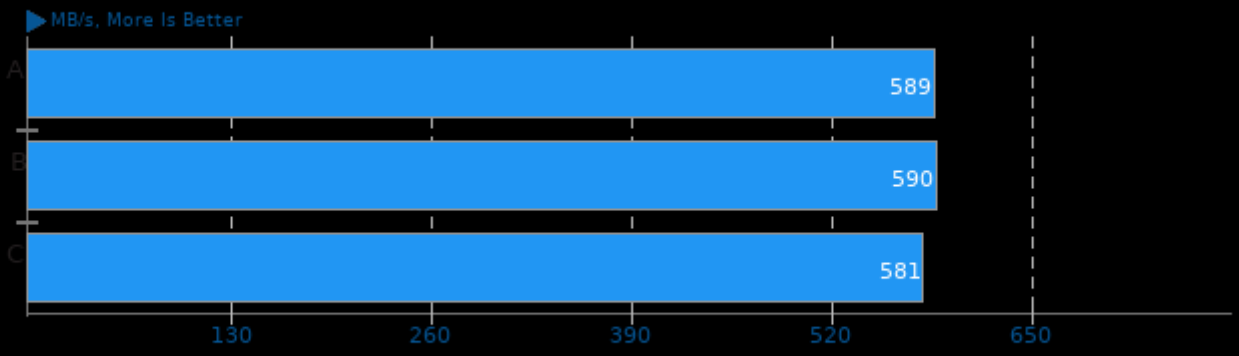
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: Zstd 8 - Process: Decompression
MB/s, More Is Better
A
B
C
1240
1249
1259
300
600
900
1200
1500
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Crush 0 - Process: Compression
MB/s, More Is Better
A
B
C
83
82
97
20
40
60
80
100
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Crush 0 - Process: Decompression
MB/s, More Is Better
A
B
C
436
436
436
90
180
270
360
450
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3


lzbench 1.8
Test: Brotli 0 - Process: Compression
MB/s, More Is Better
A
B
C
385
394
393
90
180
270
360
450
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Brotli 0 - Process: Decompression
MB/s, More Is Better
A
B
C
499
490
499
110
220
330
440
550
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3
lzbench 1.8
Test: Brotli 2 - Process: Compression
MB/s, More Is Better
A
B
C
149
149
151
30
60
90
120
150
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

lzbench 1.8

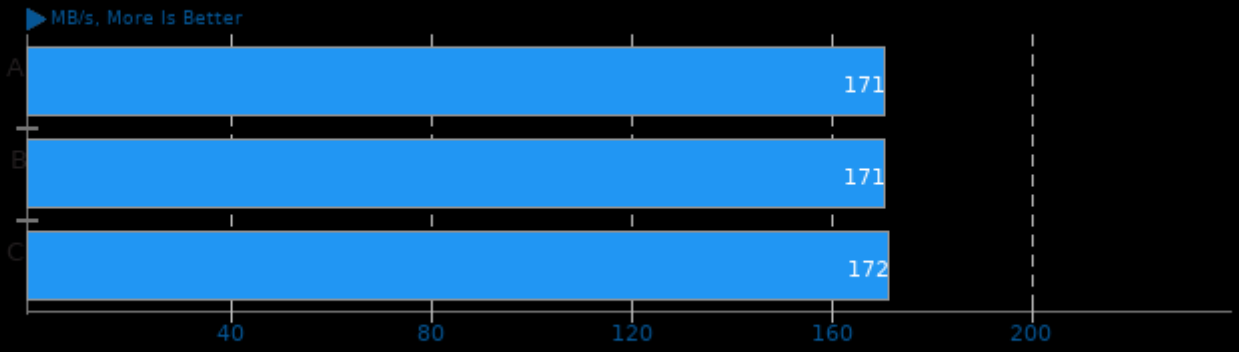
Test: Brotli 2 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

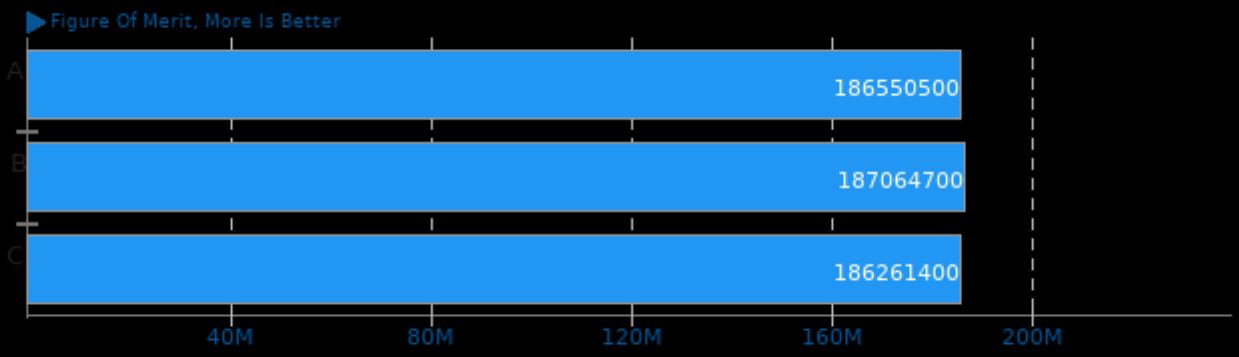
lzbench 1.8

Test: Libdeflate 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

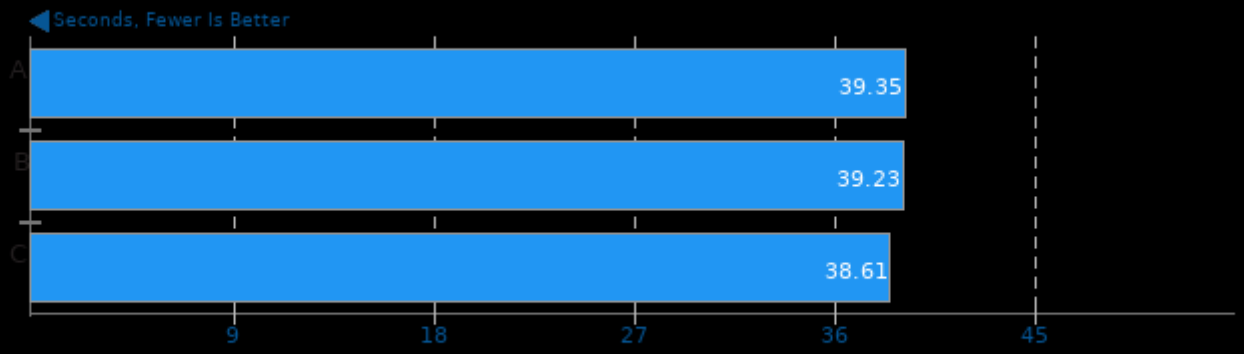
Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -lIJ_mv -lkrylov -lHYPRE_utilities -lm -fopenmp -pthread -lmpi

Xcompact3d Incompact3d 2021-03-11

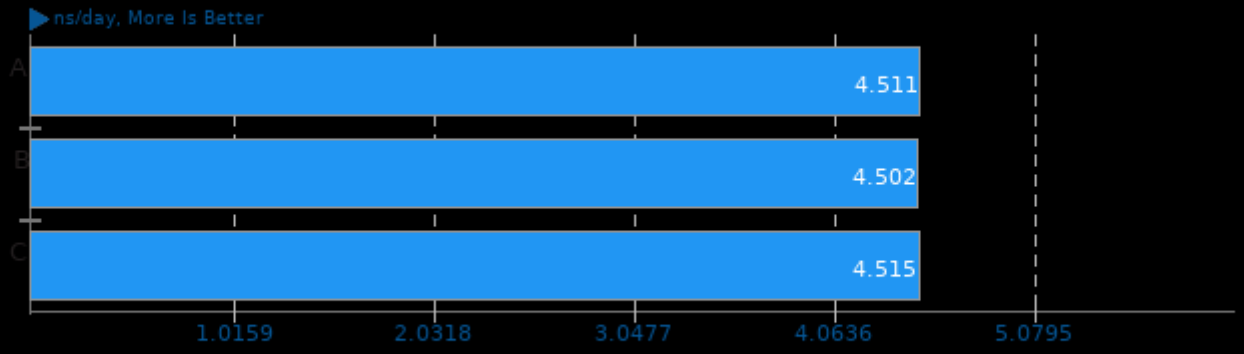
Input: input.i3d 129 Cells Per Direction



1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-

LAMMPS Molecular Dynamics Simulator 29Oct2020

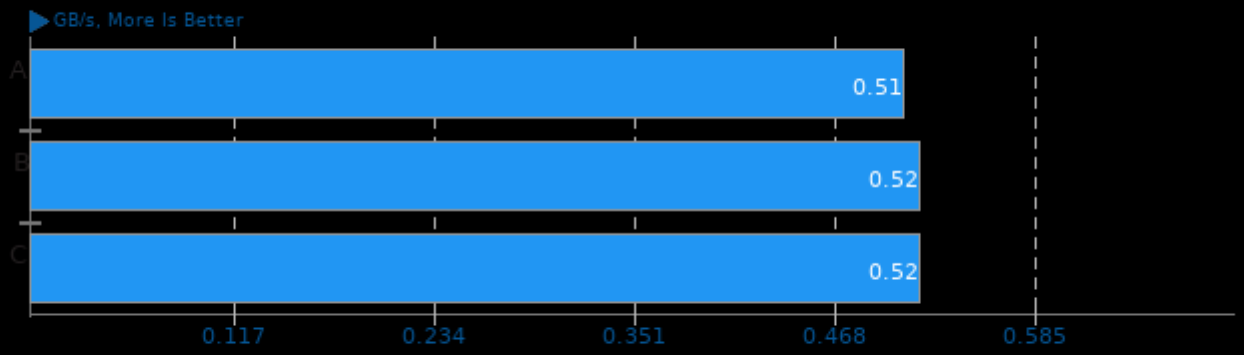
Model: Rhodopsin Protein



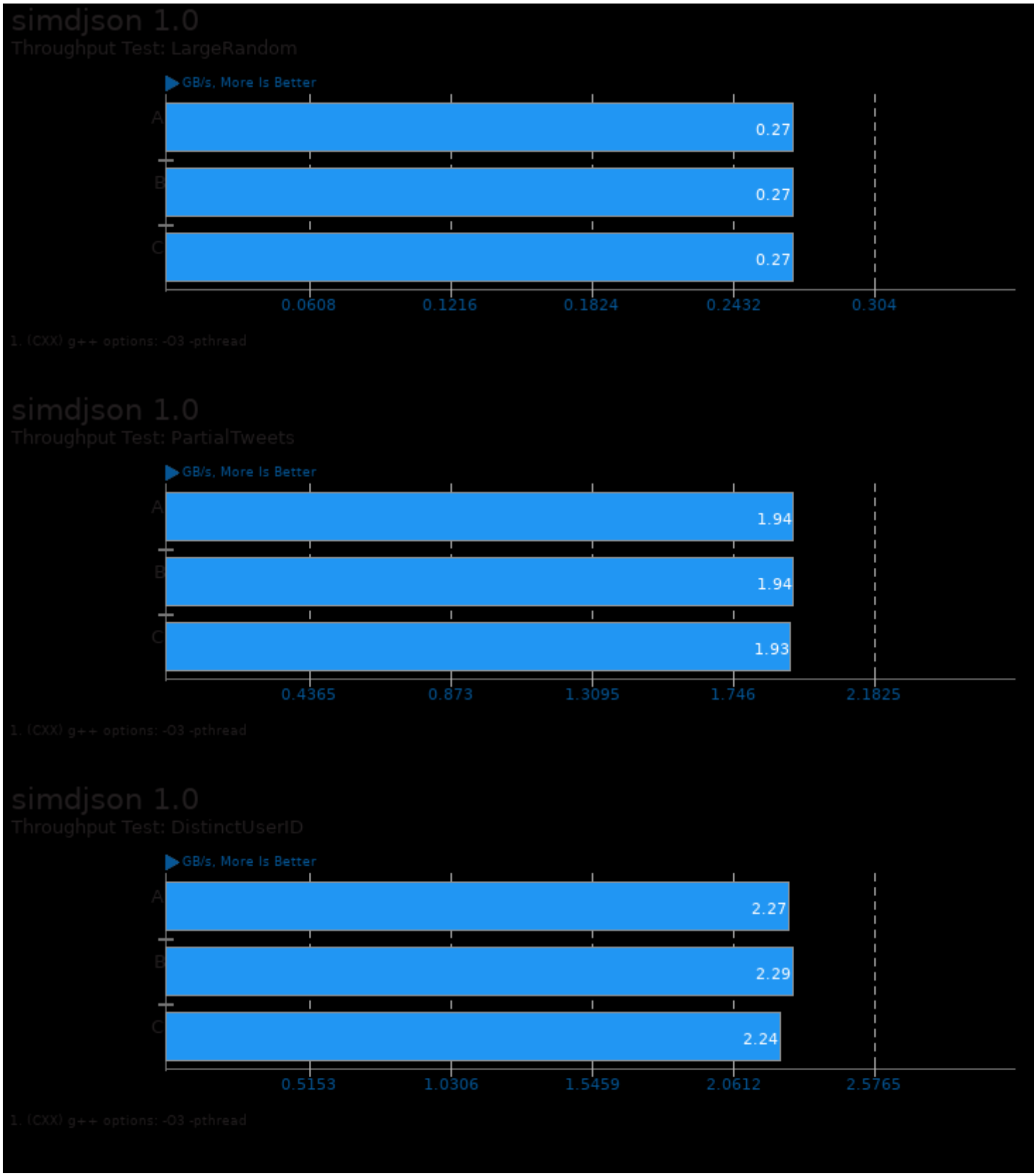
1. (CXX) g++ options: -O3 -pthread -lm

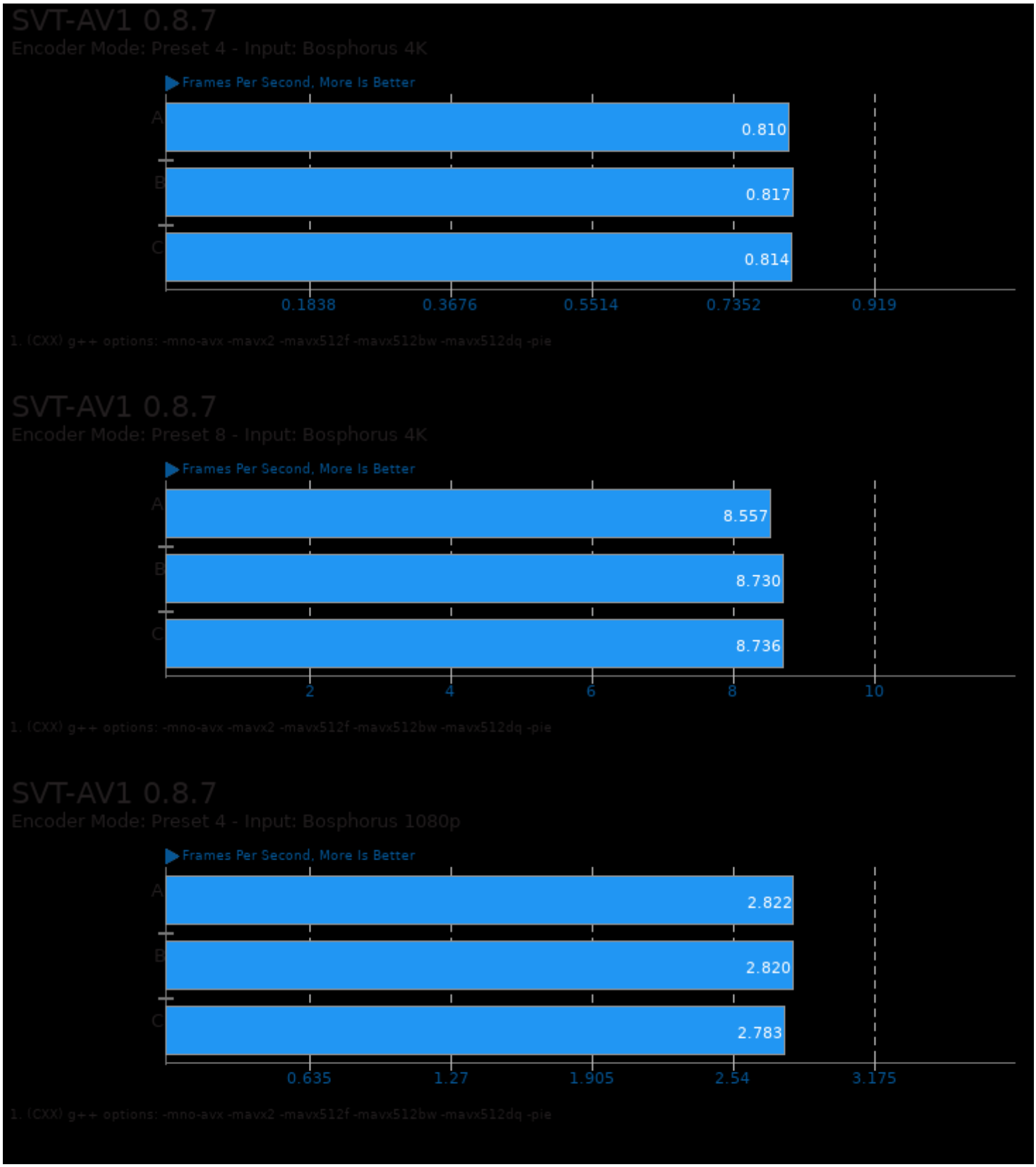
simdjson 1.0

Throughput Test: Kostya



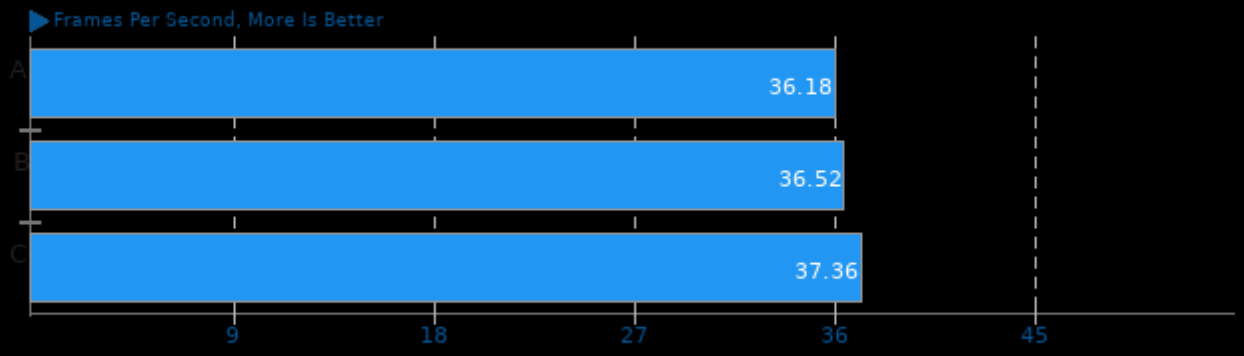
1. (CXX) g++ options: -O3 -pthread


simdjson 1.0
Throughput Test: LargeRandom
GB/s, More Is Better
A
B
C
0.27
0.27
0.27
0.0608
0.1216
0.1824
0.2432
0.304
1. (CXX) g++ options: -O3 -pthread
simdjson 1.0
Throughput Test: PartialTweets
GB/s, More Is Better
A
B
C
1.94
1.94
1.93
0.4365
0.873
1.3095
1.746
2.1825
1. (CXX) g++ options: -O3 -pthread
simdjson 1.0
Throughput Test: DistinctUserID
GB/s, More Is Better
A
B
C
2.27
2.29
2.24
0.5153
1.0306
1.5459
2.0612
2.5765
1. (CXX) g++ options: -O3 -pthread


SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
0.810
0.817
0.814
0.1838
0.3676
0.5514
0.7352
0.919
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 0.8.7
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
8.557
8.730
8.736
2
4
6
8
10
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
2.822
2.820
2.783
0.635
1.27
1.905
2.54
3.175
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 0.8.7

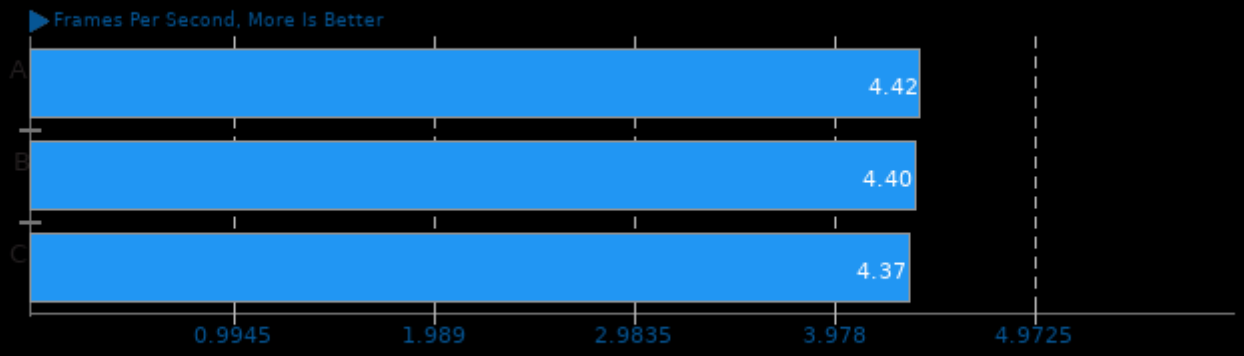
Encoder Mode: Preset 8 - Input: Bosphorus 1080p



1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-HEVC 1.5.0

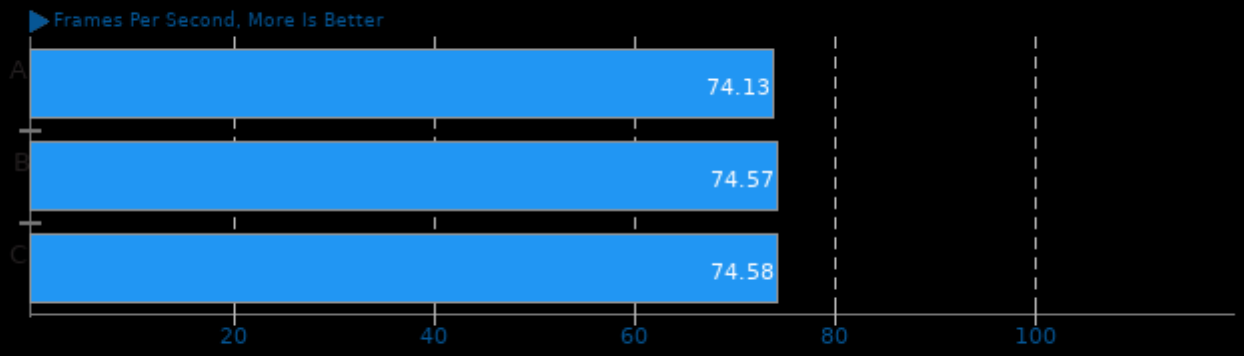
Tuning: 1 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

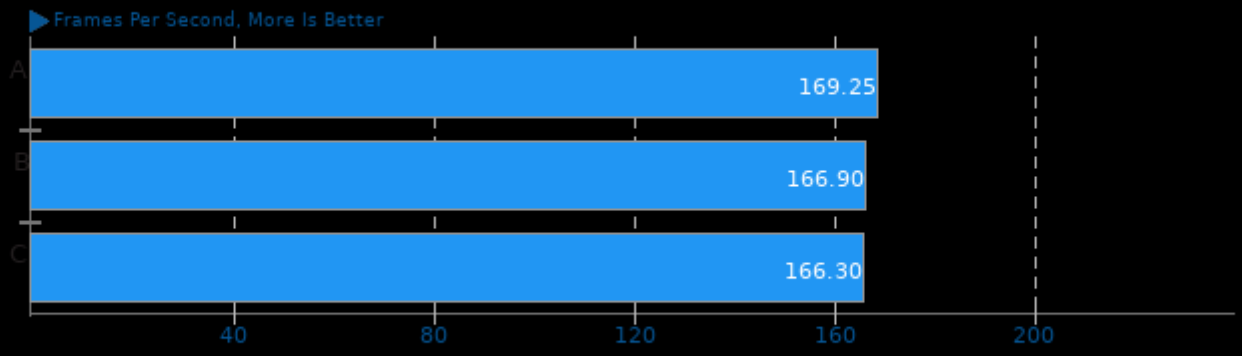
Tuning: 7 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

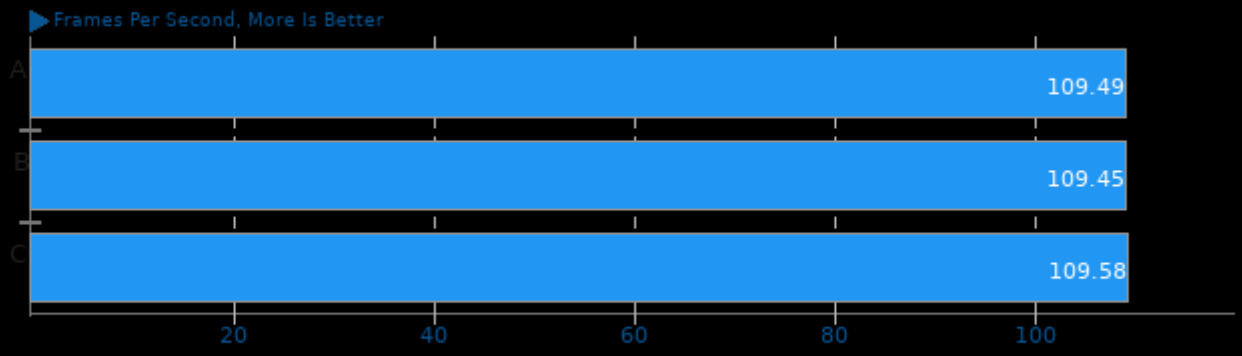
Tuning: 10 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-VP9 0.3

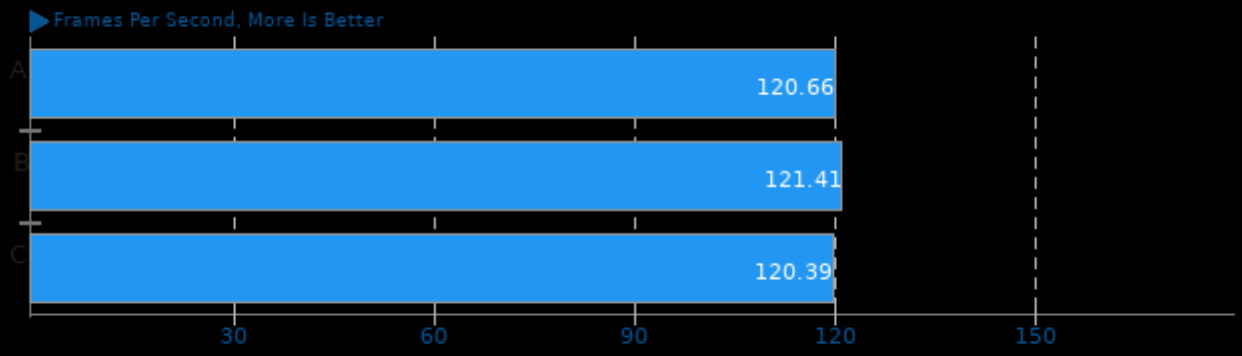
Tuning: VMAF Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

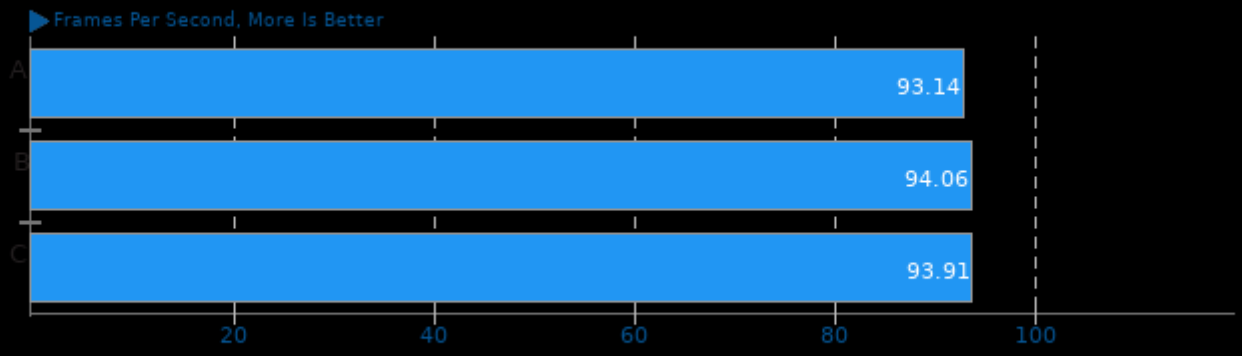
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

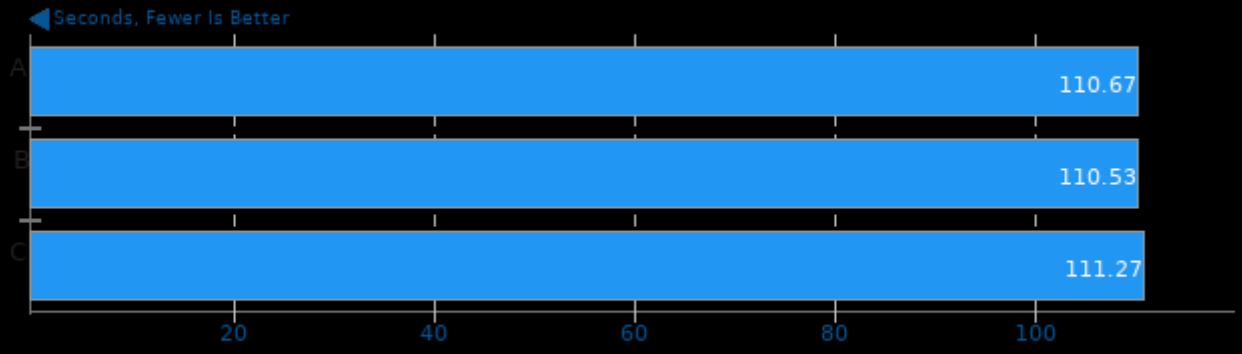
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

libavif avifenc 0.9.0

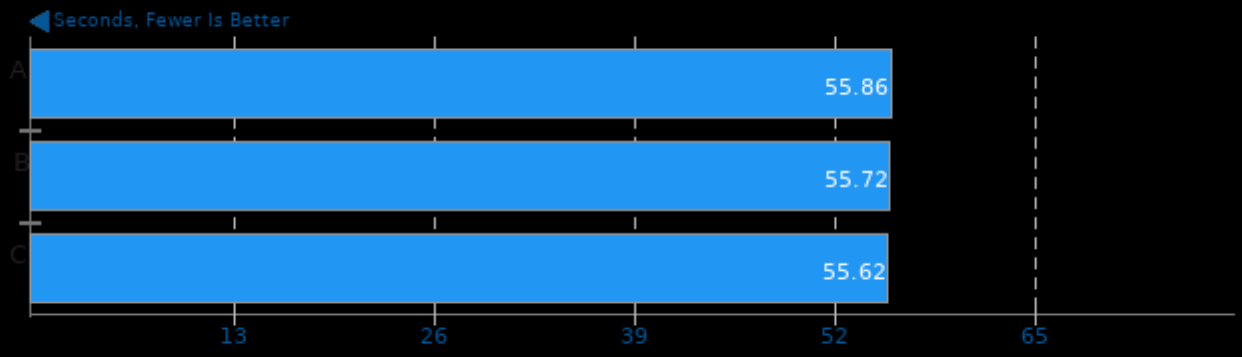
Encoder Speed: 0



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

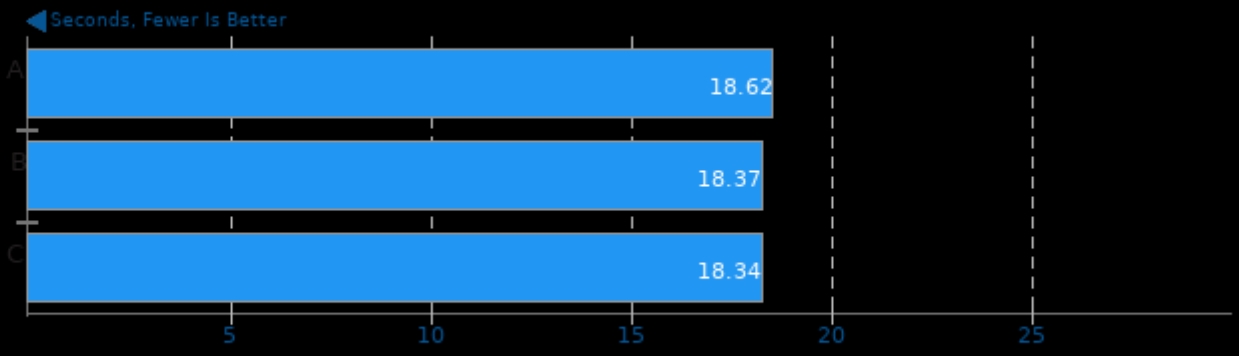
Encoder Speed: 2



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

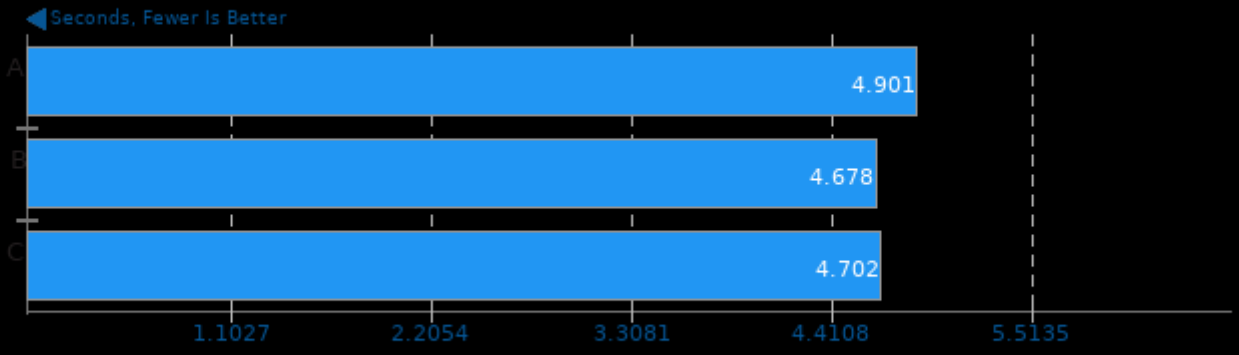
Encoder Speed: 6



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

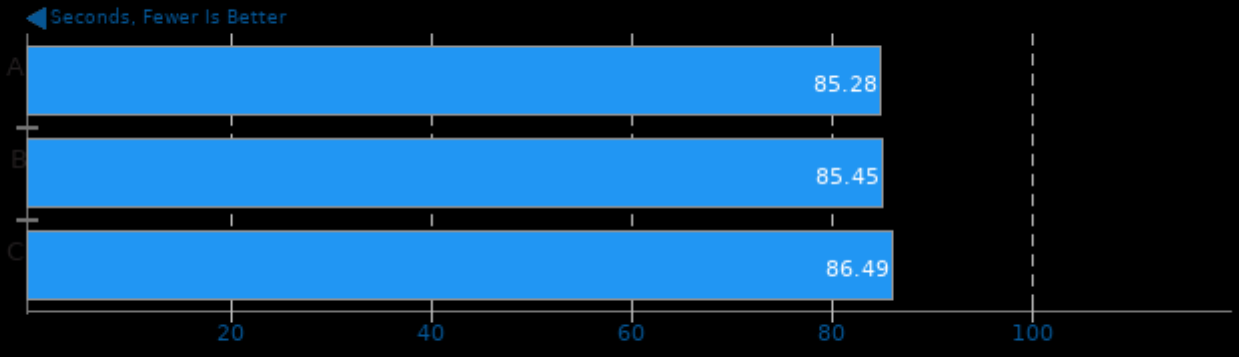
Encoder Speed: 10



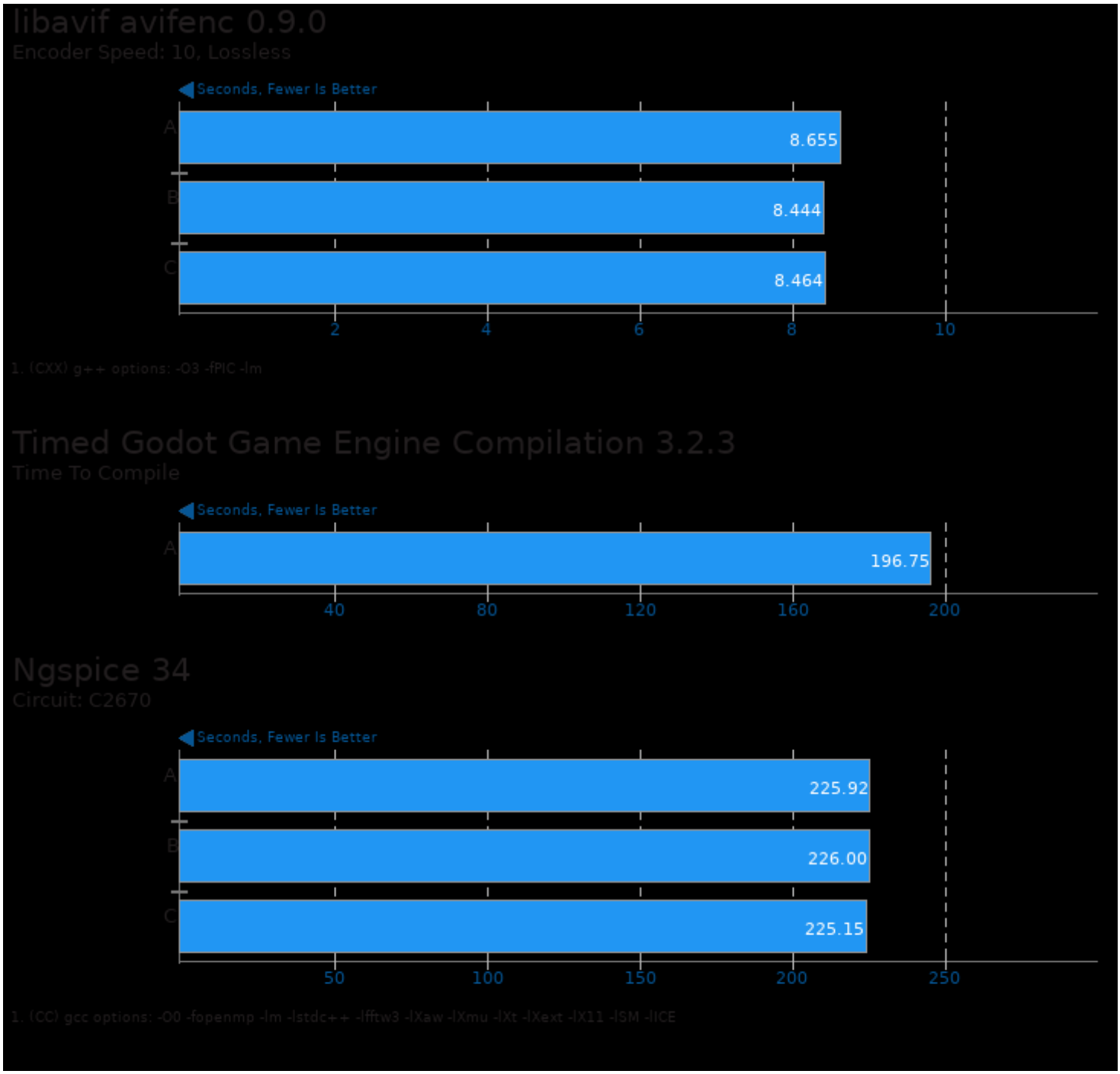
1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

Encoder Speed: 6, Lossless

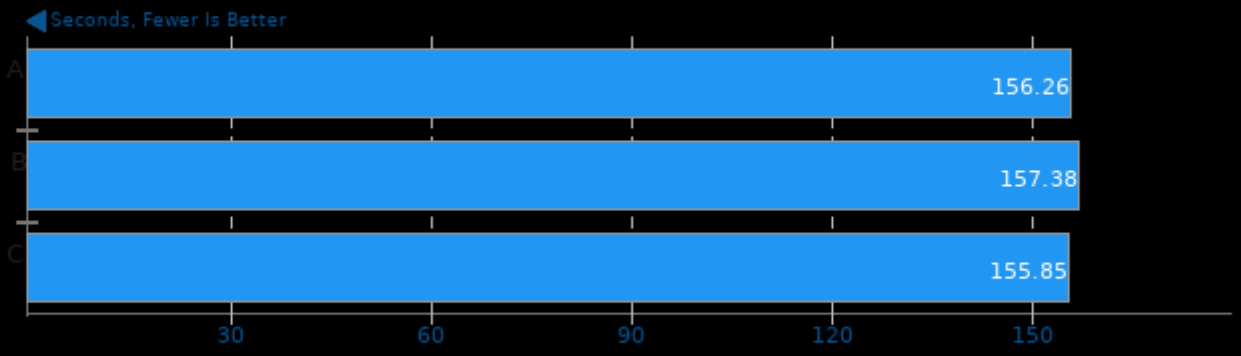


1. (CXX) g++ options: -O3 -fPIC -lm


libavif avifenc 0.9.0
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
A
B
C
8.655
8.444
8.464
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm
Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
A
196.75
40
80
120
160
200
Ngspice 34
Circuit: C2670
Seconds, Fewer Is Better
A
B
C
225.92
226.00
225.15
50
100
150
200
250
1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lSM -lICE

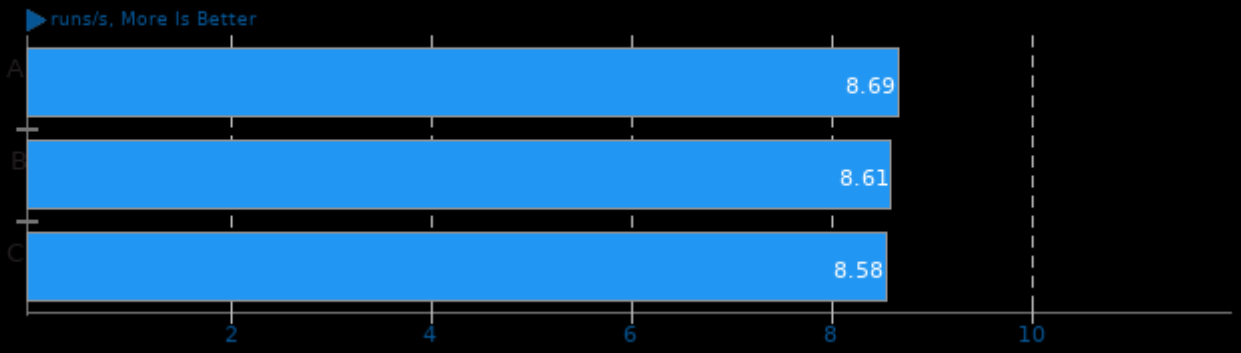
Ngspice 34

Circuit: C7552



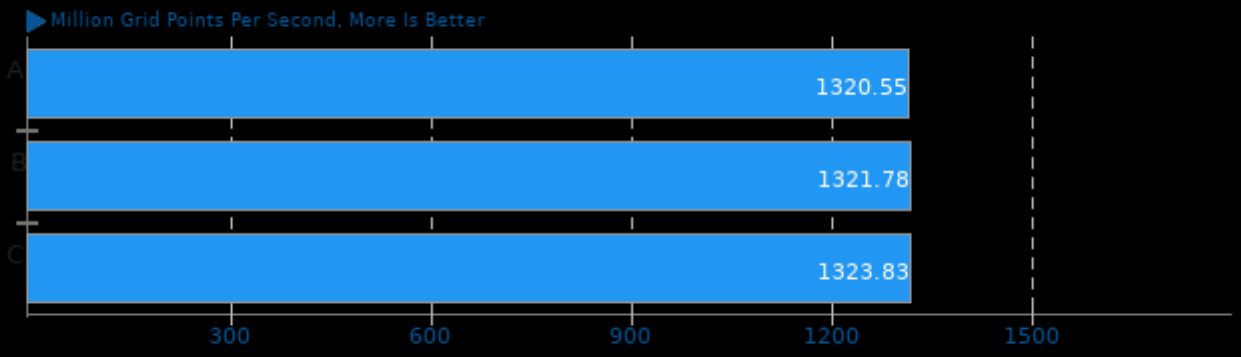
1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lSM -lICE

Node.js V8 Web Tooling Benchmark

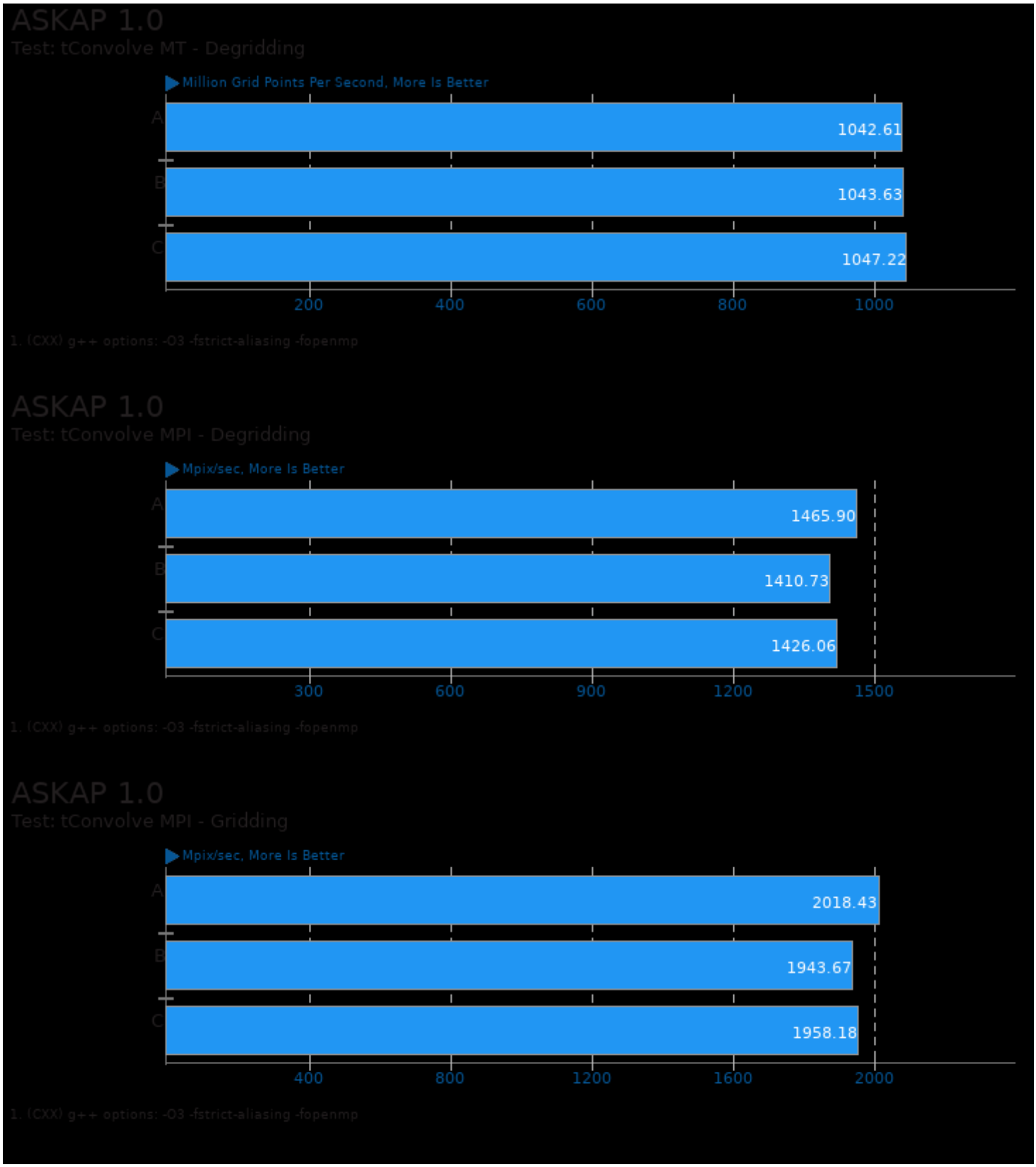


ASKAP 1.0

Test: tConvolve MT - Gridding

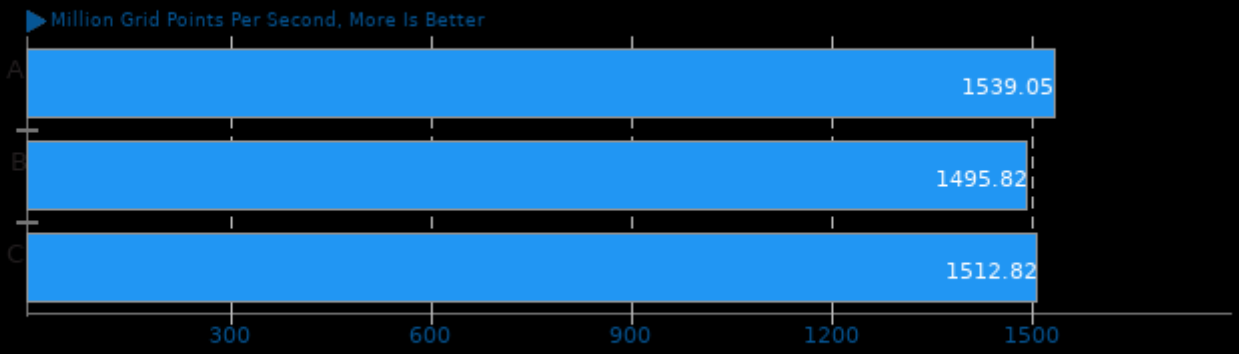


1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp


ASKAP 1.0
Test: tConvolve MT - Degridding
Million Grid Points Per Second, More Is Better
A
1042.61
B
1043.63
C
1047.22
200
400
600
800
1000
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve MPI - Degridding
Mpix/sec, More Is Better
A
1465.90
B
1410.73
C
1426.06
300
600
900
1200
1500
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp
ASKAP 1.0
Test: tConvolve MPI - Gridding
Mpix/sec, More Is Better
A
2018.43
B
1943.67
C
1958.18
400
800
1200
1600
2000
1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

ASKAP 1.0

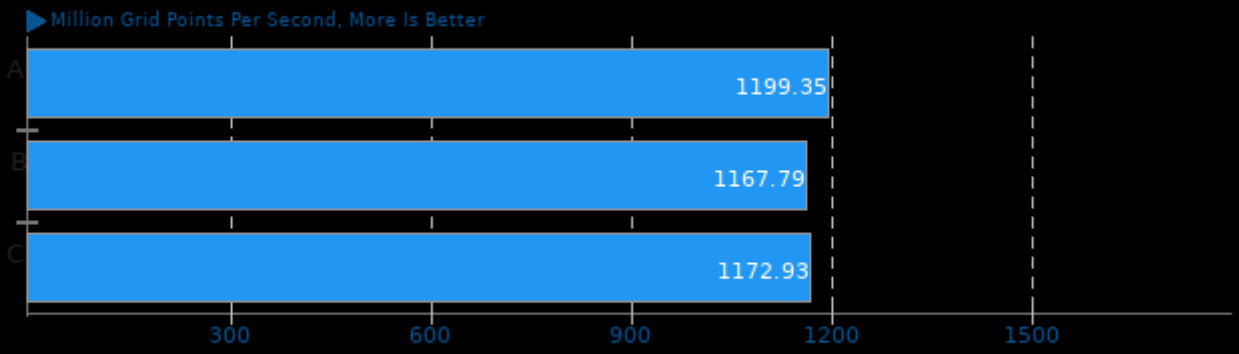
Test: tConvolve OpenMP - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

ASKAP 1.0

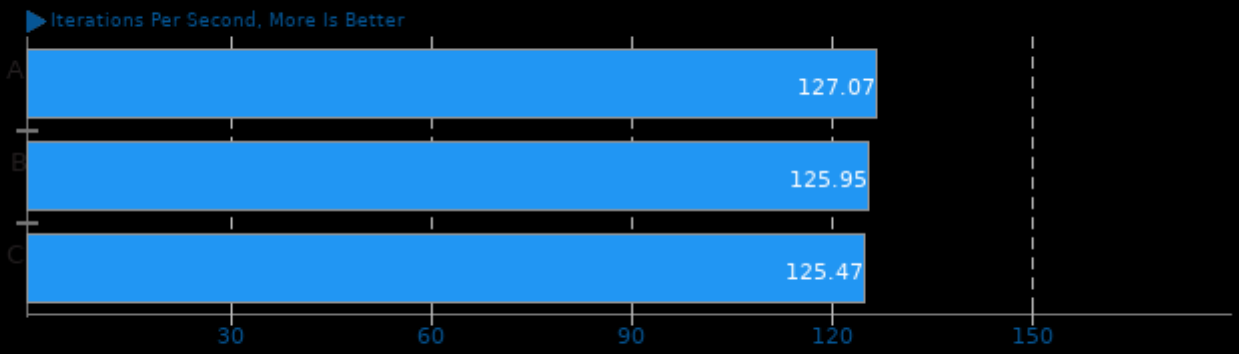
Test: tConvolve OpenMP - Degridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

ASKAP 1.0

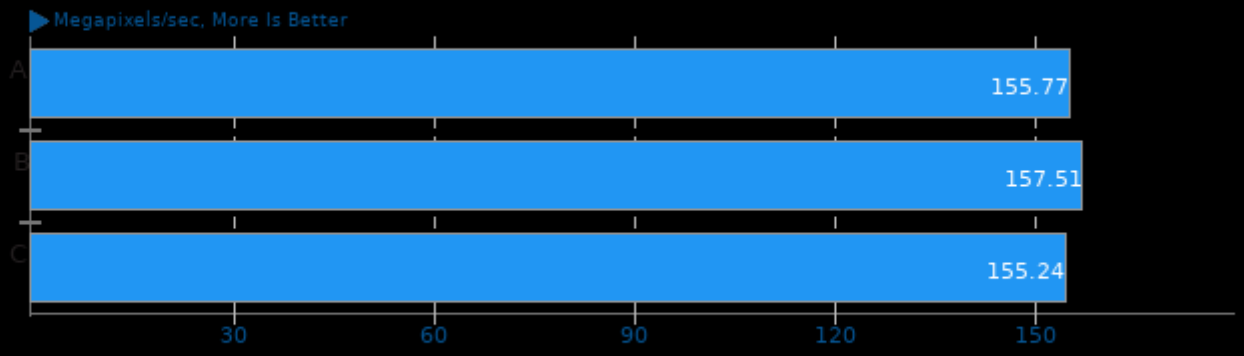
Test: Hogbom Clean OpenMP



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

libjpeg-turbo tjbench 2.1.0

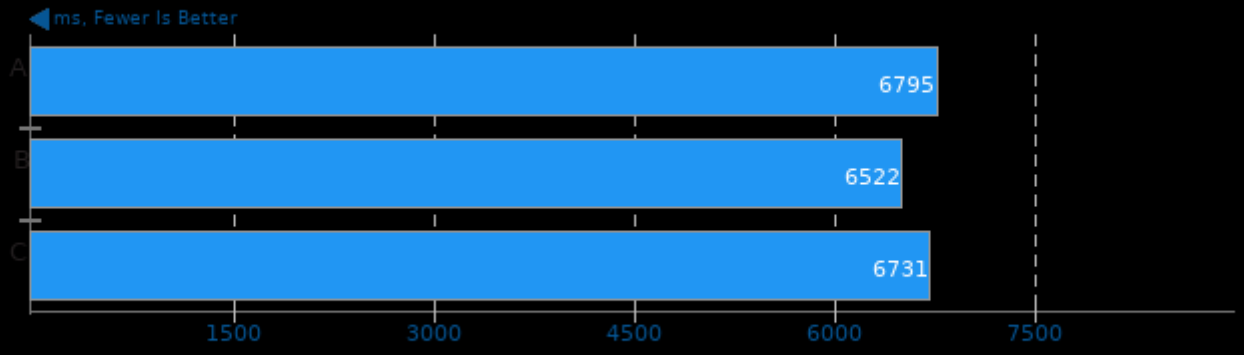
Test: Decompression Throughput



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

Google Draco 1.4.1

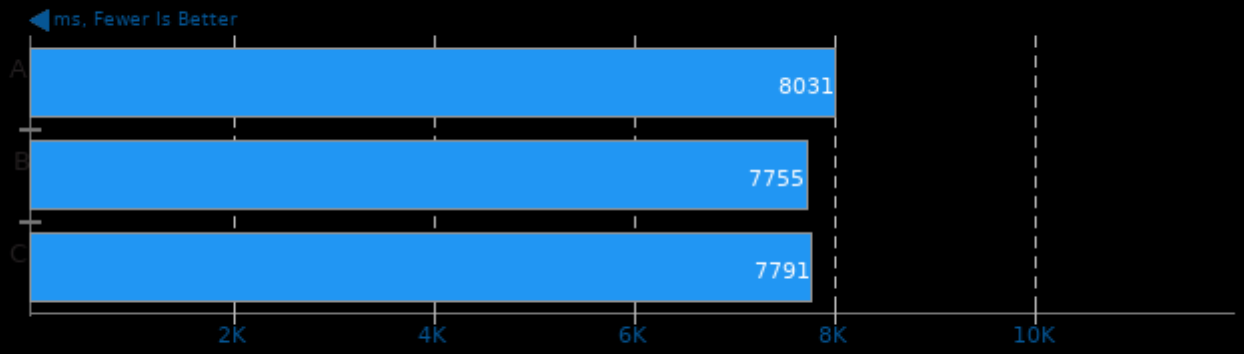
Model: Lion



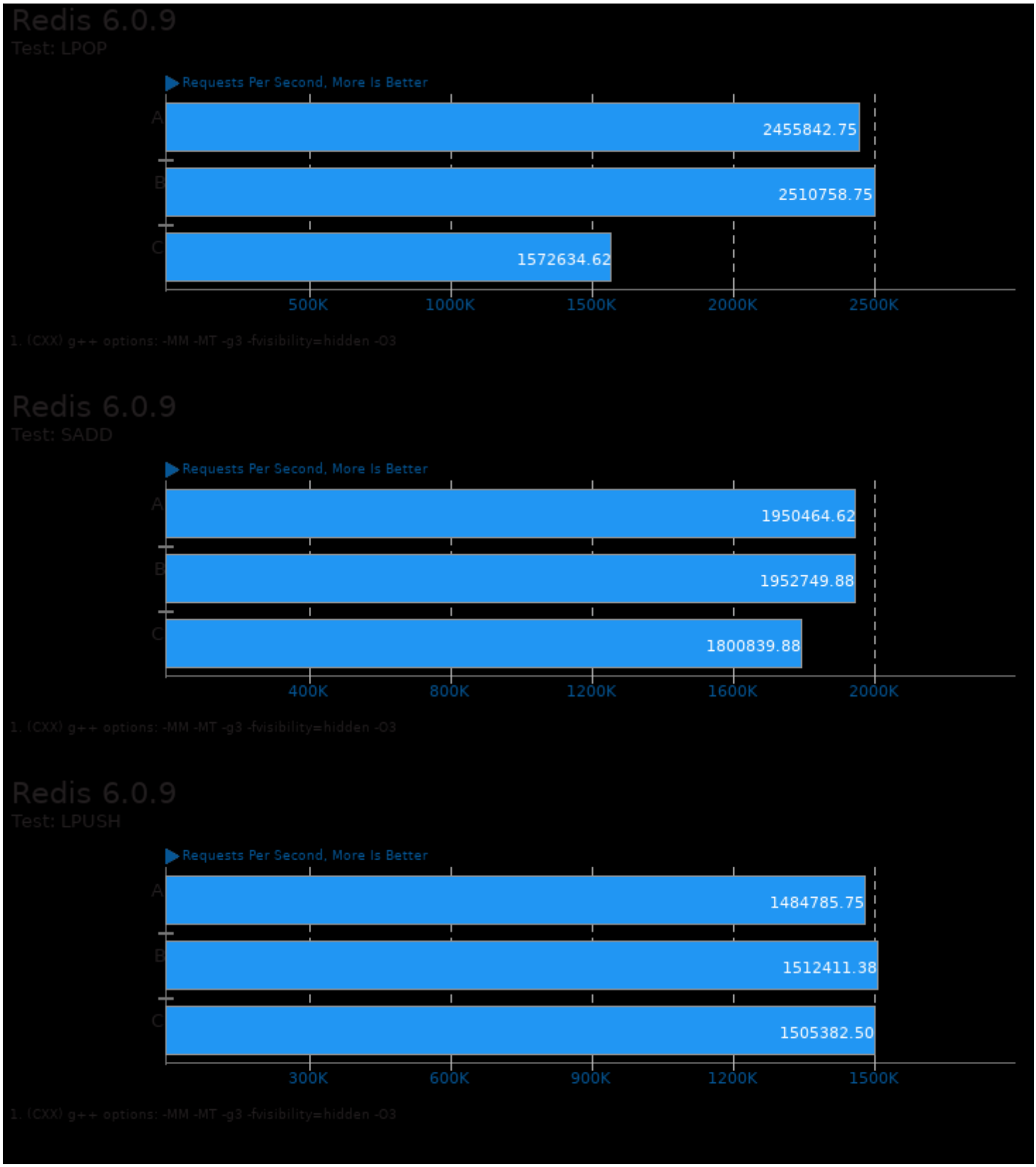
1. (CXX) g++ options: -O3

Google Draco 1.4.1

Model: Church Facade

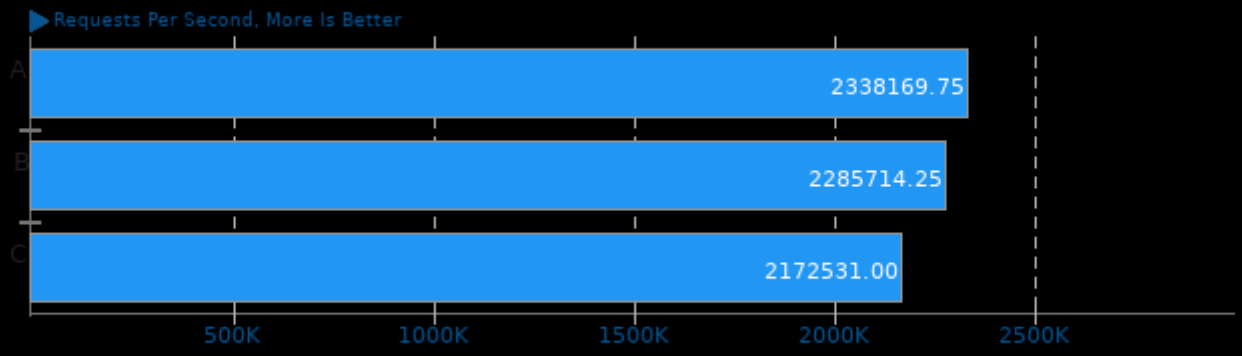


1. (CXX) g++ options: -O3


Redis 6.0.9
Test: LPOP
Requests Per Second, More Is Better
A
B
C
2455842.75
2510758.75
1572634.62
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: SADD
Requests Per Second, More Is Better
A
B
C
1950464.62
1952749.88
1800839.88
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: LPUSH
Requests Per Second, More Is Better
A
B
C
1484785.75
1512411.38
1505382.50
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

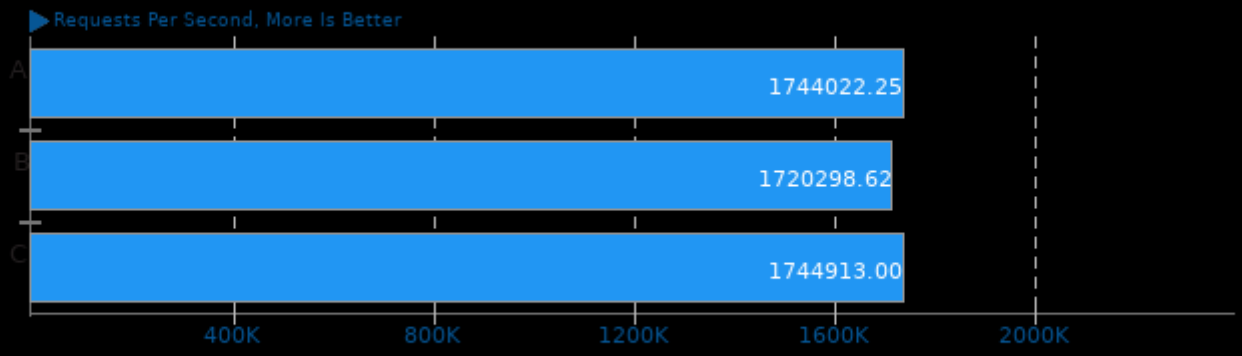
Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

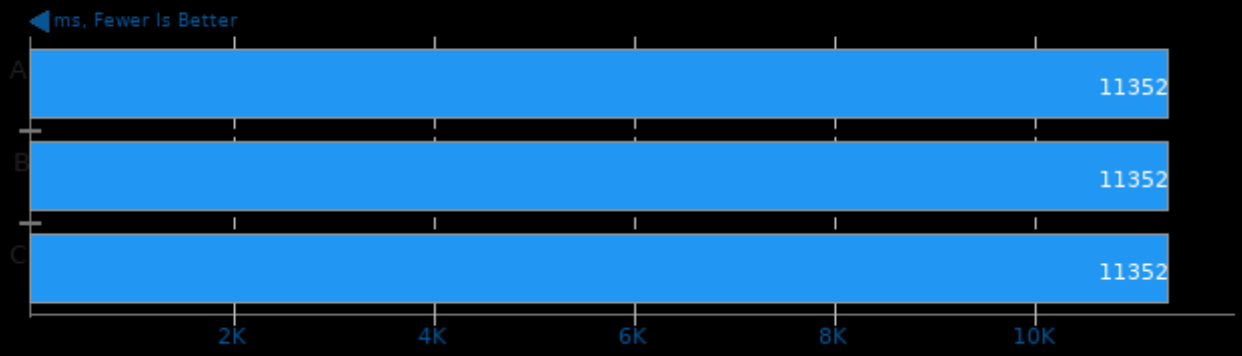
Test: SET

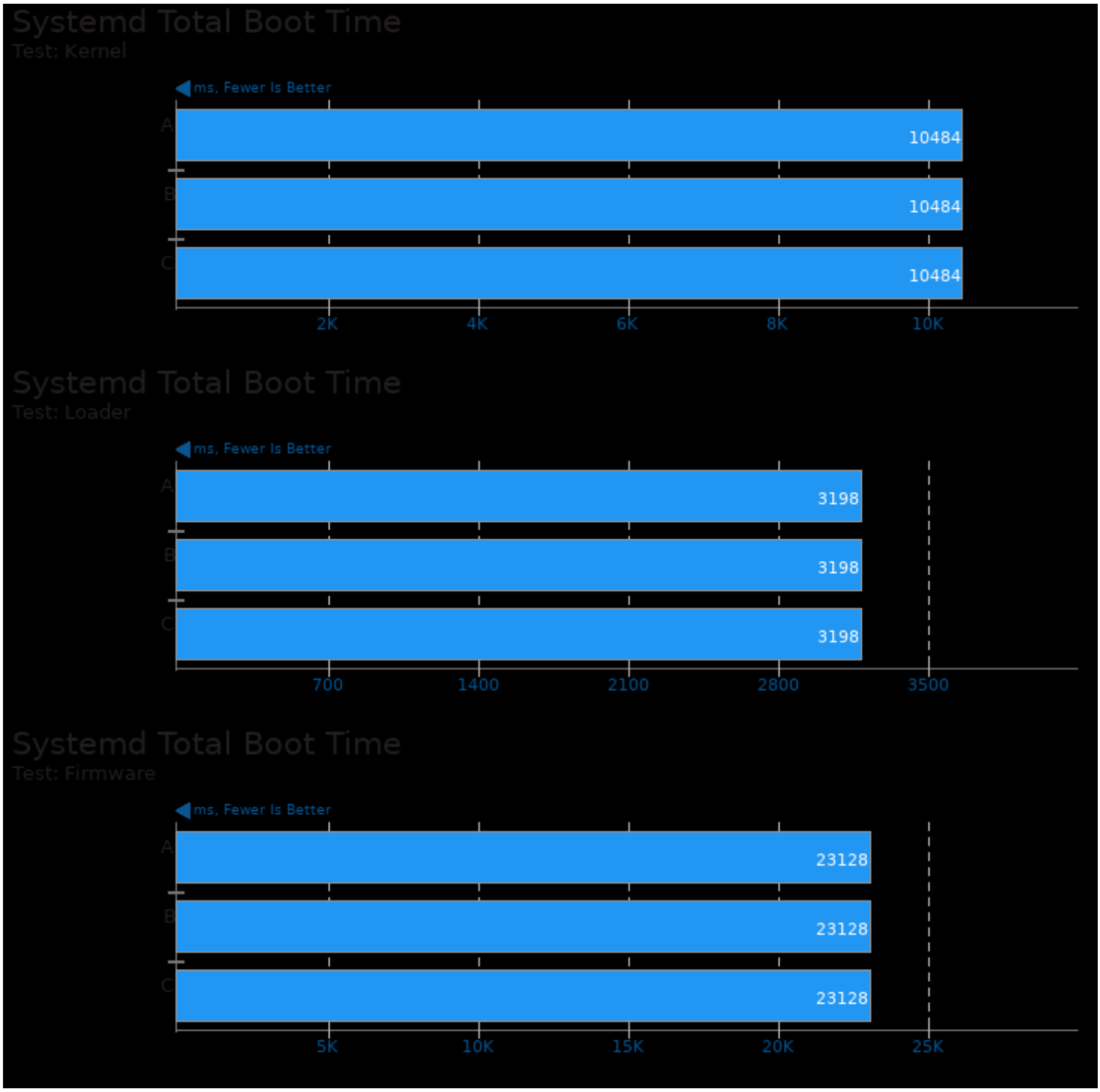


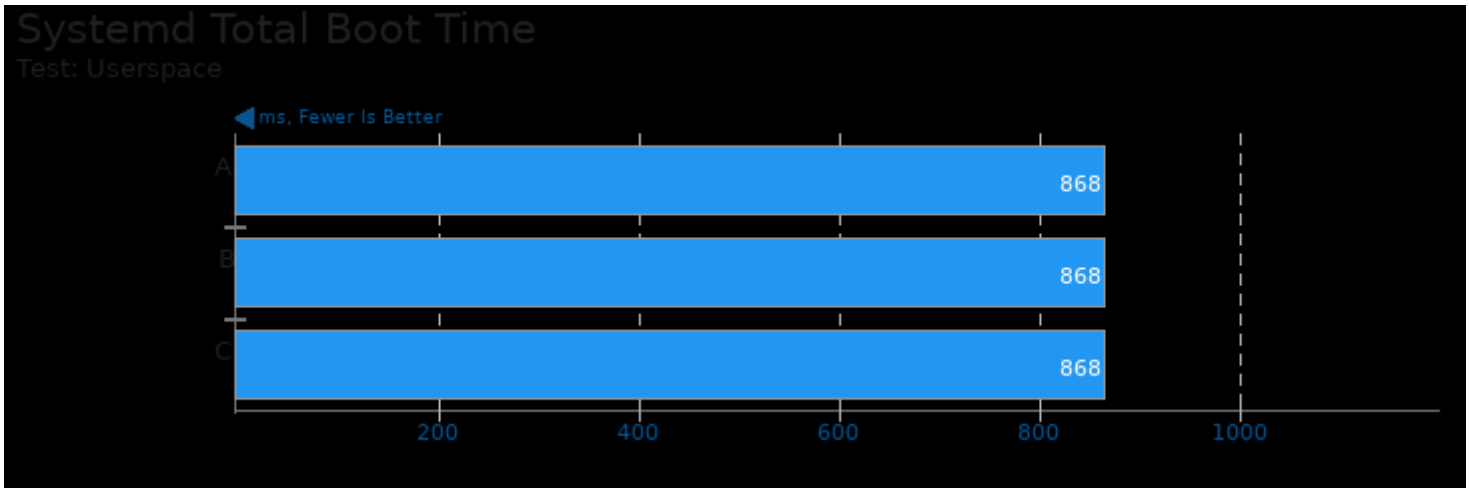
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Systemd Total Boot Time

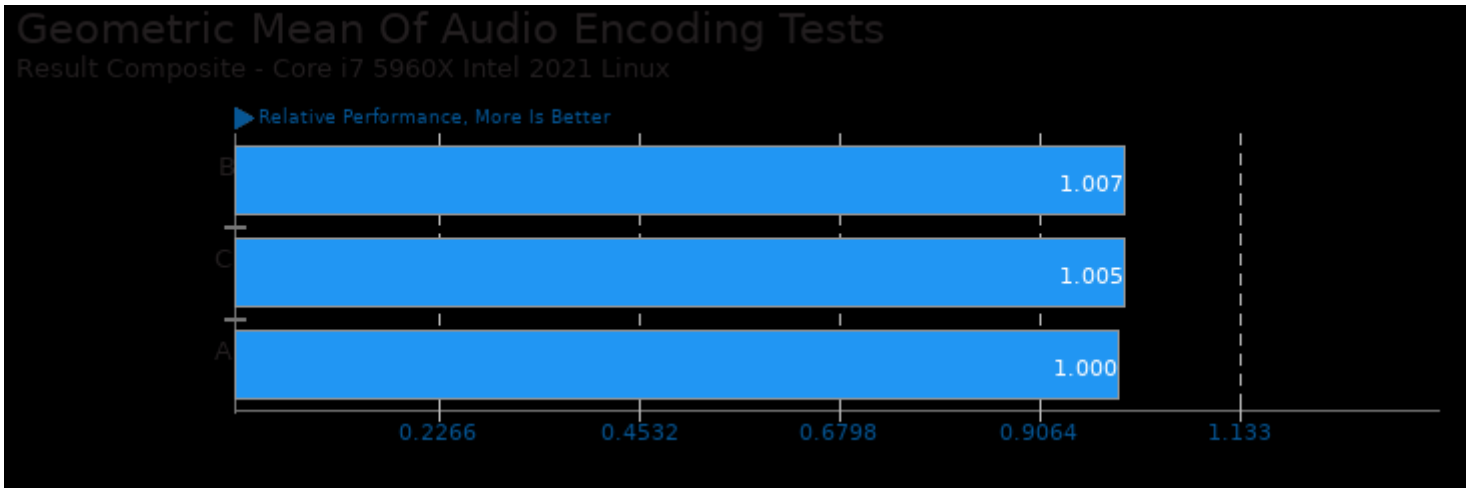
Test: Total



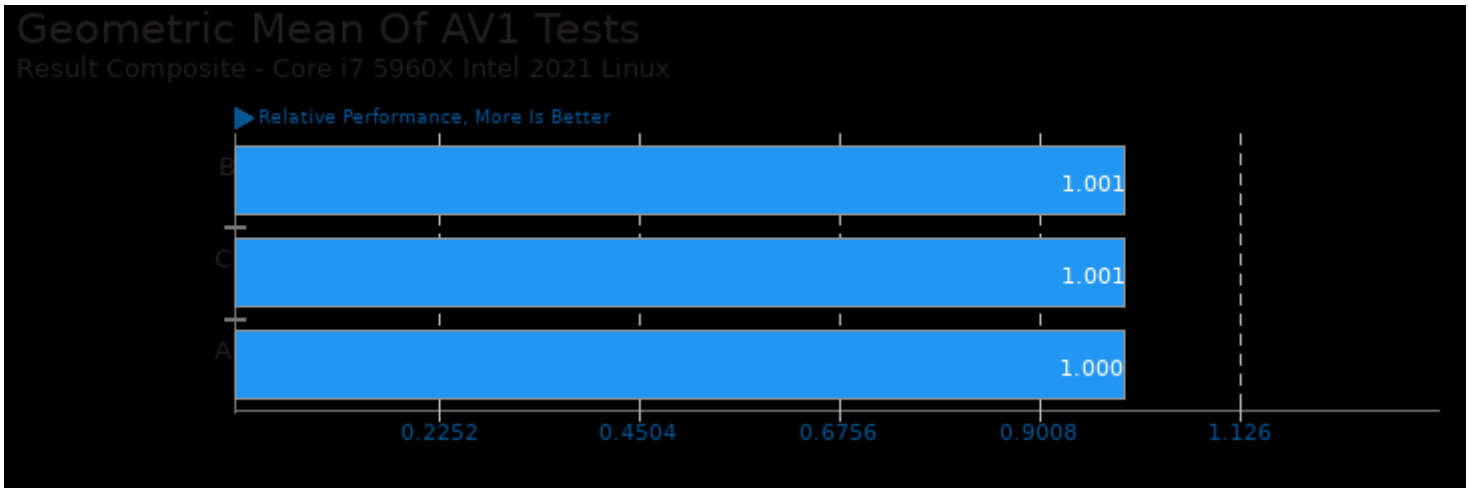

Systemd Total Boot Time
Test: Kernel
ms, Fewer Is Better
A
B
C
10484
10484
10484
2K
4K
6K
8K
10K
Systemd Total Boot Time
Test: Loader
ms, Fewer Is Better
A
B
C
3198
3198
3198
700
1400
2100
2800
3500
Systemd Total Boot Time
Test: Firmware
ms, Fewer Is Better
A
B
C
23128
23128
23128
5K
10K
15K
20K
25K


Systemd Total Boot Time
Test: Userspace
ms, Fewer Is Better
A
B
C
868
868
868
200
400
600
800
1000

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



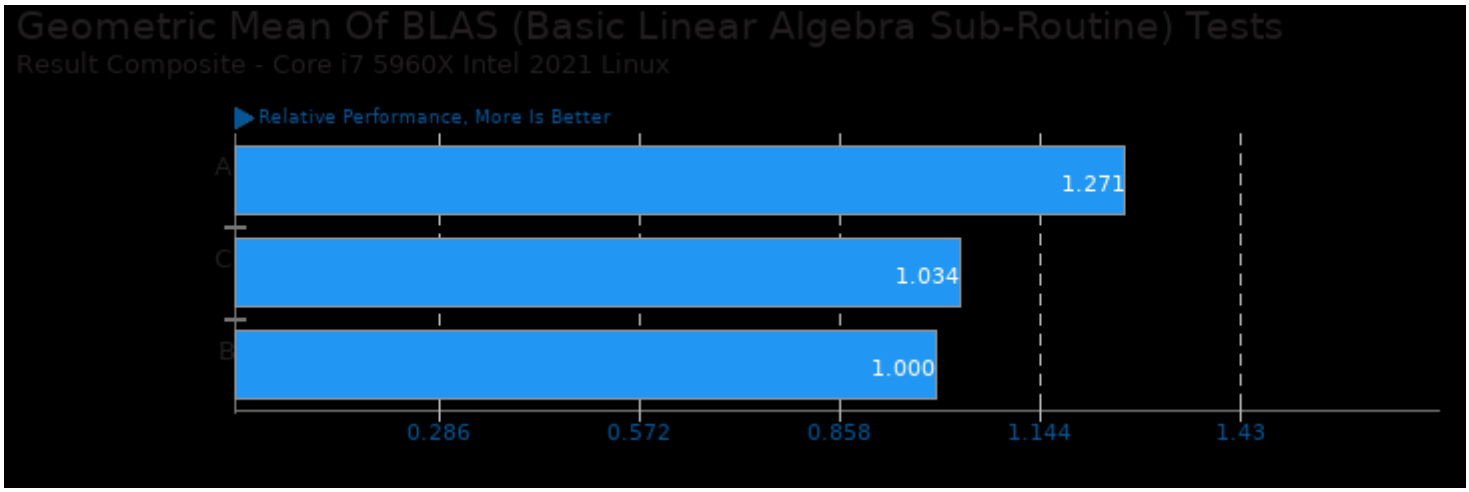
Geometric mean based upon tests: pts/encode-ogg, pts/encode-flac, pts/encode-wavpack, pts/encode-opus and pts/stargate



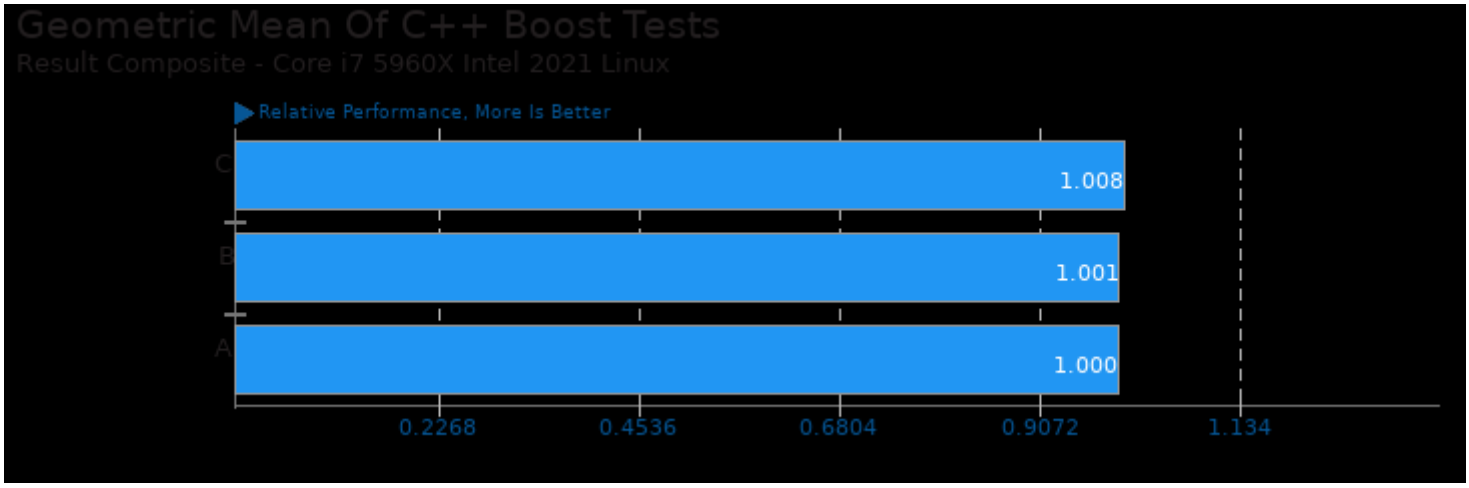
Geometric mean based upon tests: pts/aom-av1, pts/svt-av1, pts/libgav1 and pts/avifenc



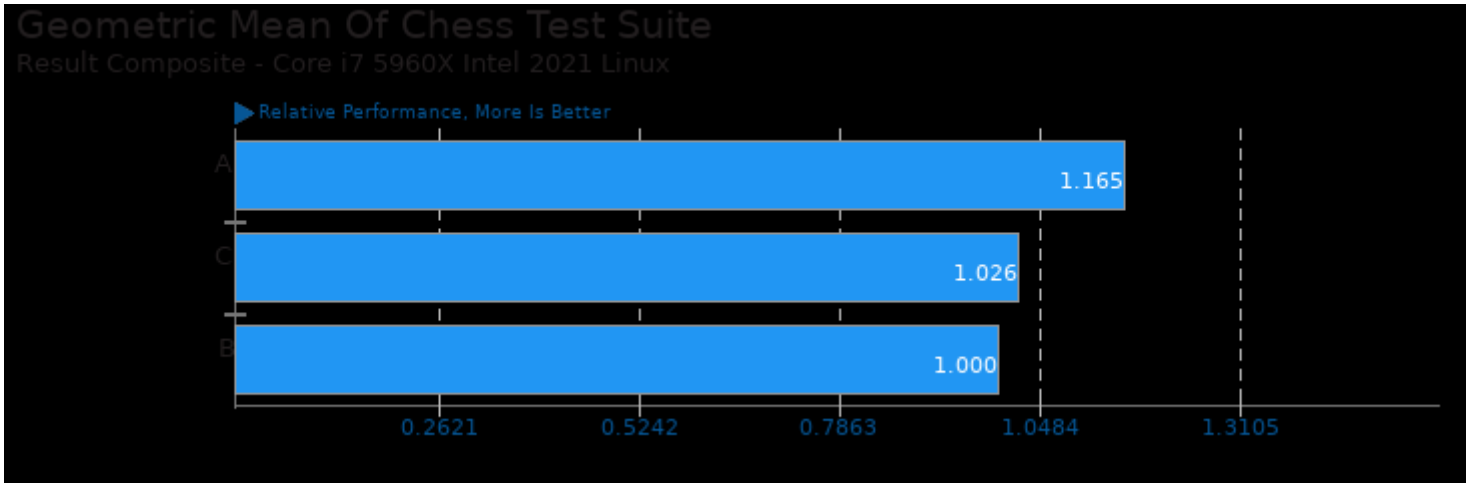
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



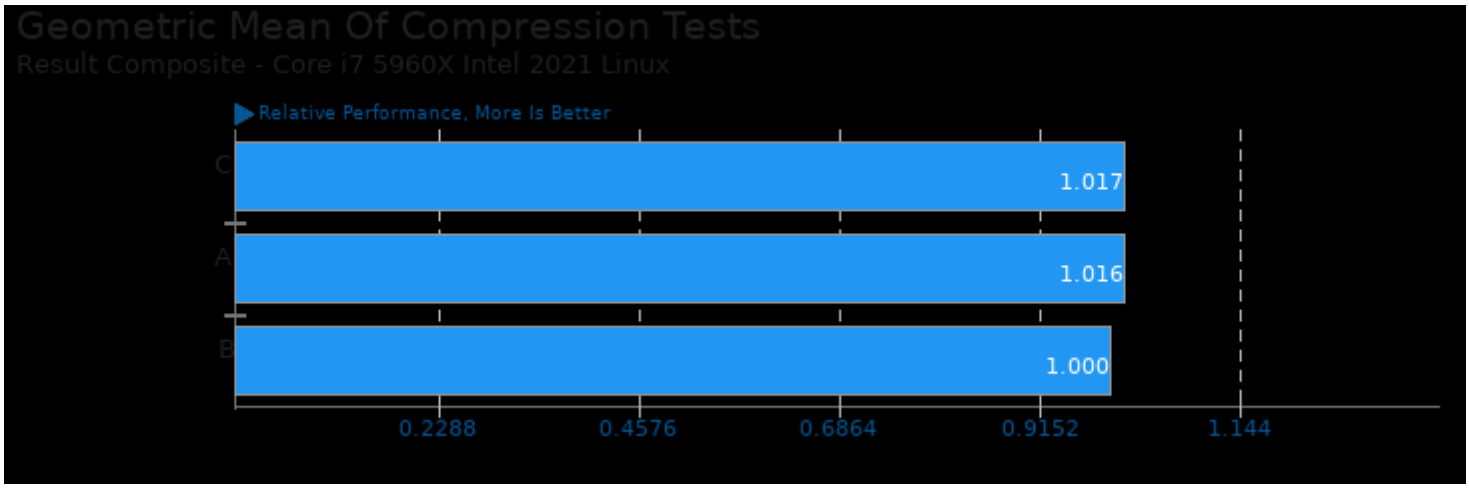
Geometric mean based upon tests: pts/lczero and pts/qe



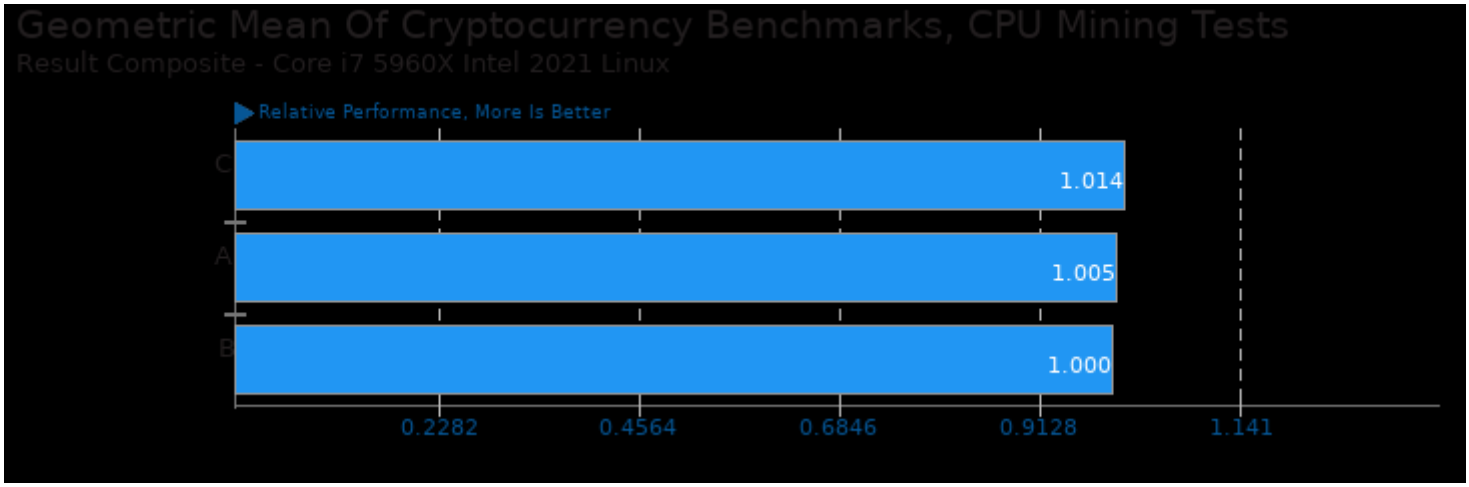
Geometric mean based upon tests: pts/quantlib and pts/srsran



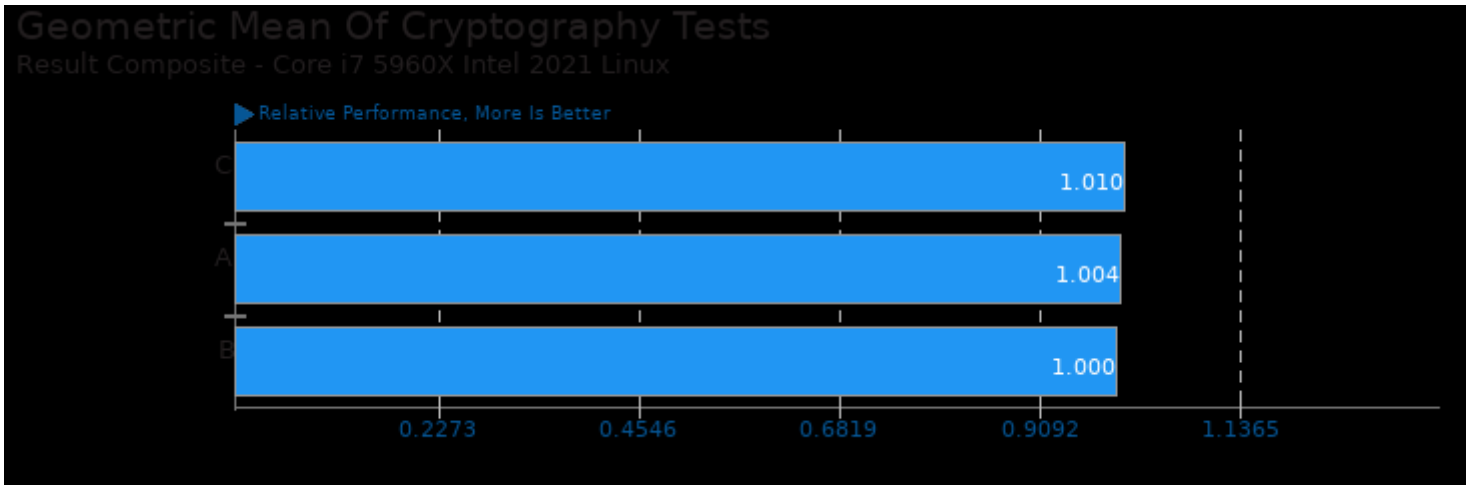
Geometric mean based upon tests: pts/lczero and pts/stockfish



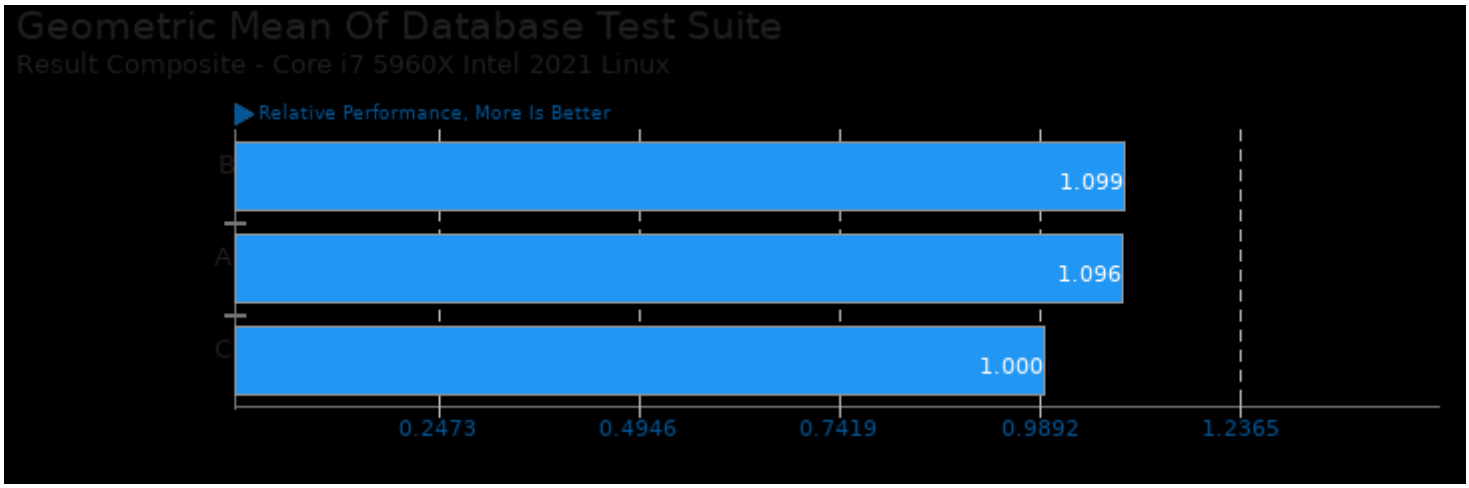
Geometric mean based upon tests: pts/compress-7zip, pts/compress-zstd, pts/compress-lz4, pts/compress-rar, pts/lzbench and pts/blosc



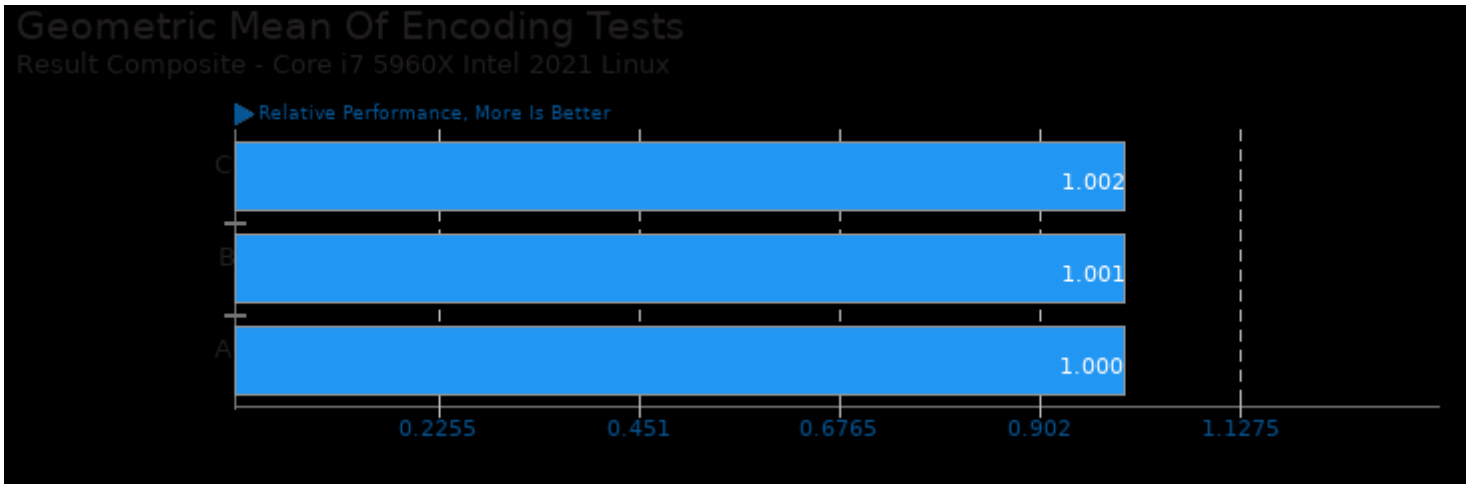
Geometric mean based upon tests: pts/cpuminer-opt and pts/xmrig



Geometric mean based upon tests: pts/gnupg, pts/openssl, pts/gcrypt, pts/blake2, pts/securemark, pts/cpuminer-opt and pts/xmrig



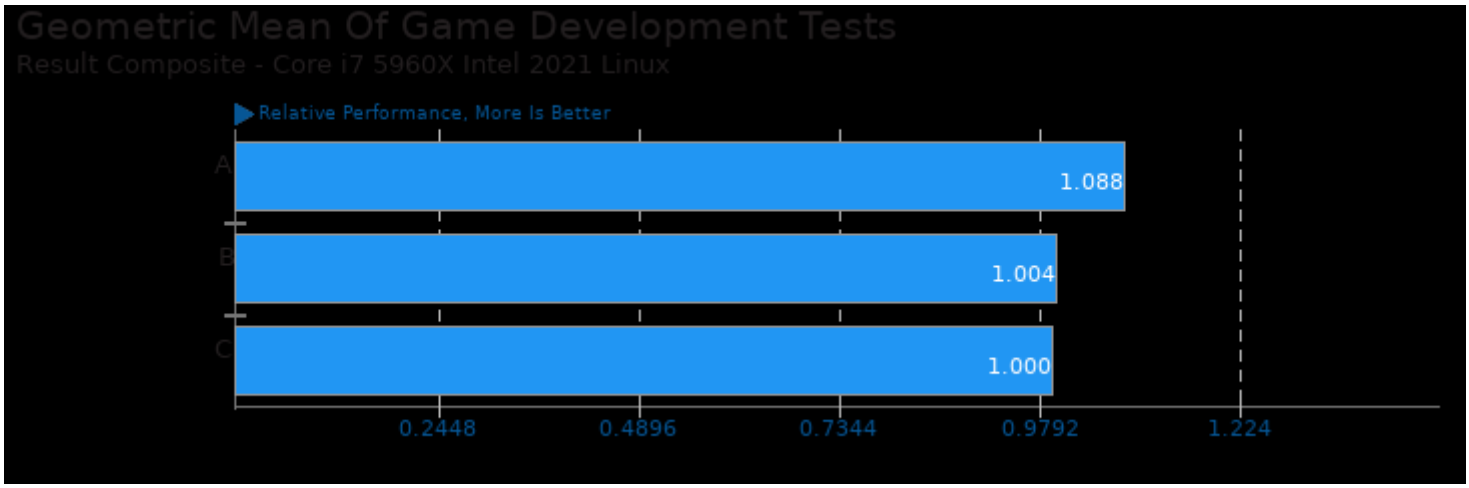
Geometric mean based upon tests: pts/redis and pts/cassandra



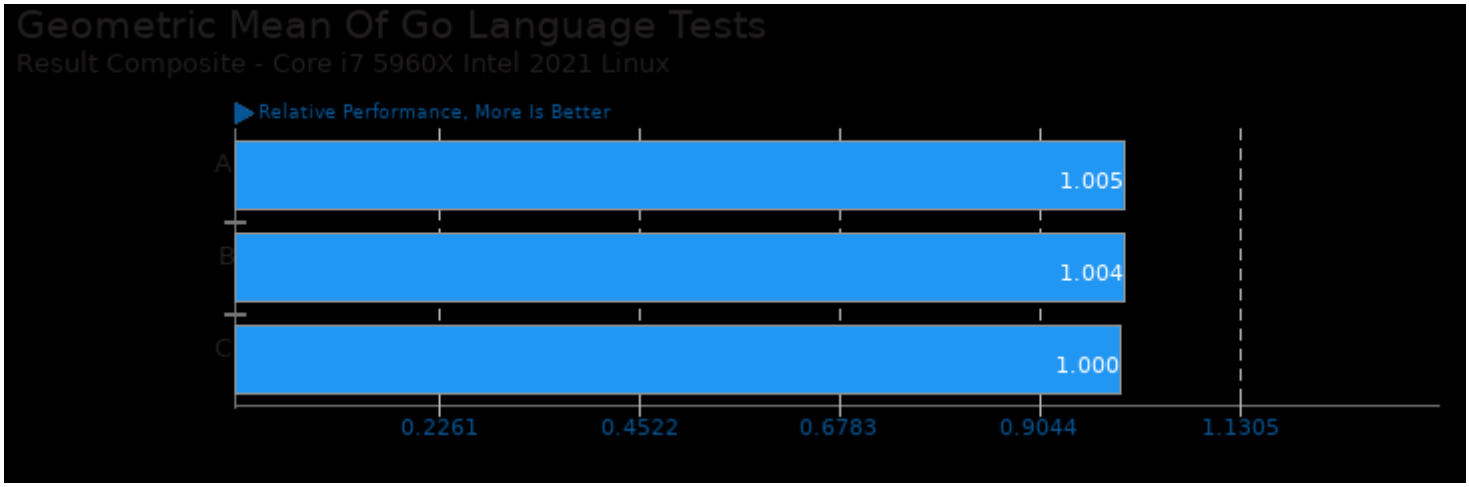
Geometric mean based upon tests: pts/encode-ogg, pts/encode-flac, pts/encode-wavpack, pts/encode-opus, pts/stargate, pts/svt-vp9, pts/svt-hevc, pts/kvazaar, pts/vpxenc, pts/aom-av1, pts/svt-av1, pts/libgav1 and pts/avifenc



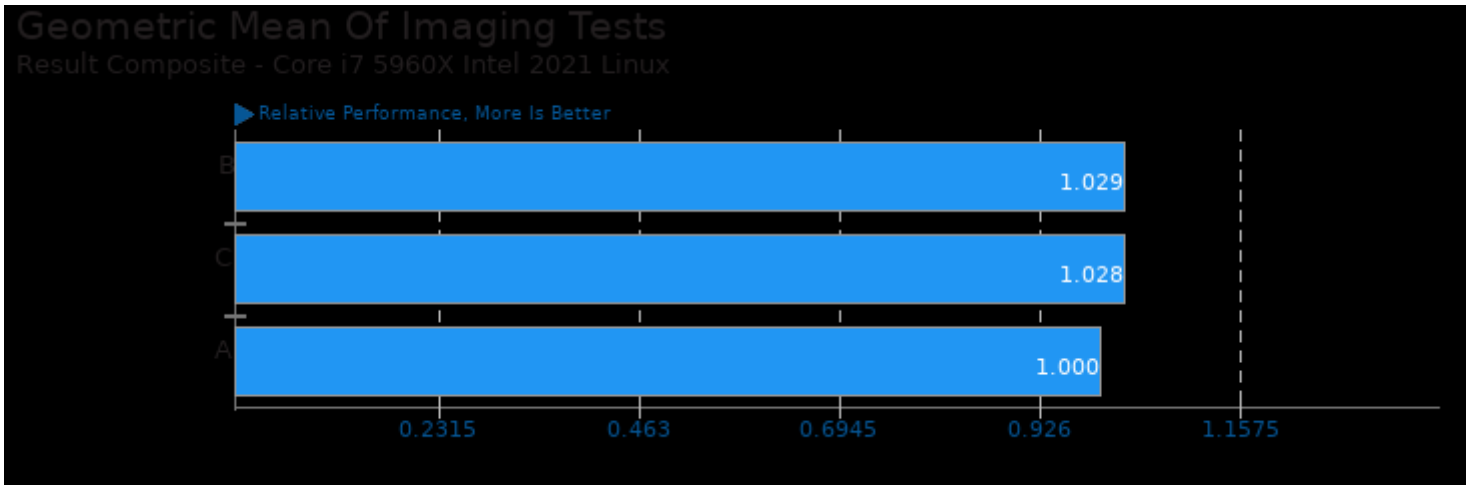
Geometric mean based upon tests: pts/hpcg, pts/npb, pts/qe, pts/incompact3d and pts/lammps



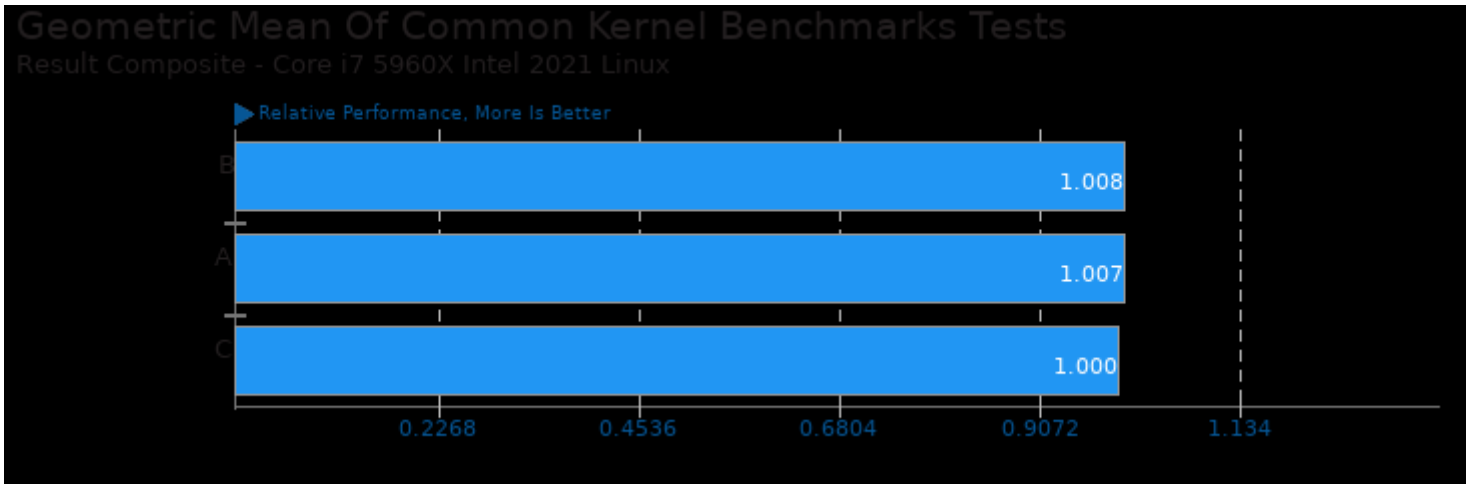
Geometric mean based upon tests: pts/basis, pts/astcenc, pts/etcpak, pts/toktx, pts/draco, pts/build-godot and pts/blender



Geometric mean based upon tests: pts/nginx and pts/apache



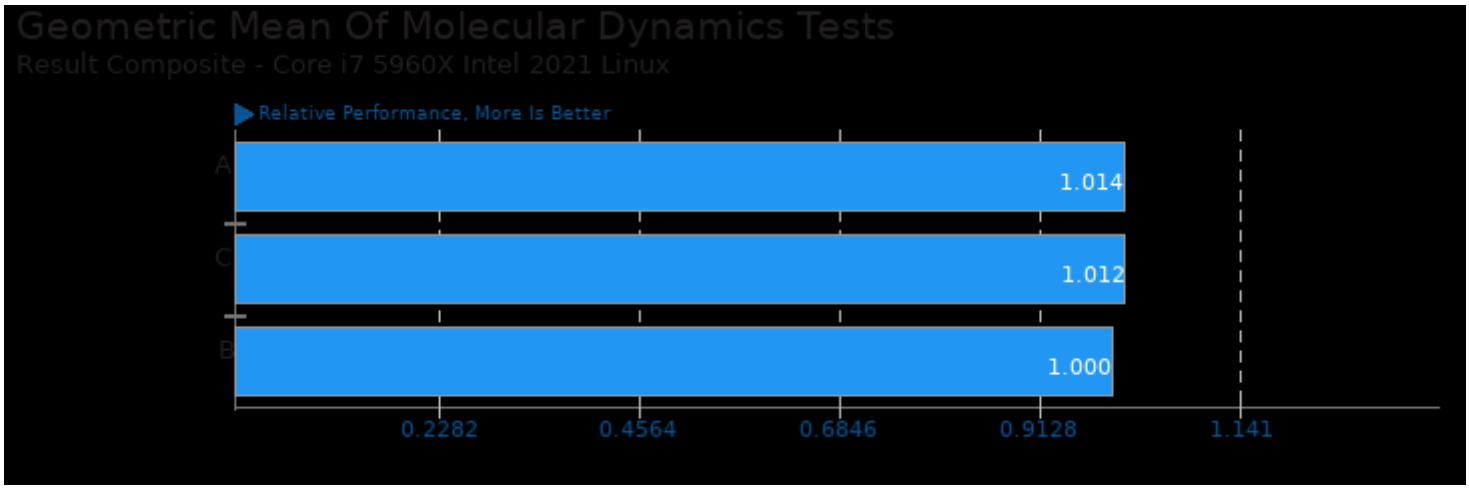
Geometric mean based upon tests: pts/jpegxl, pts/tjbench and pts/avifenc



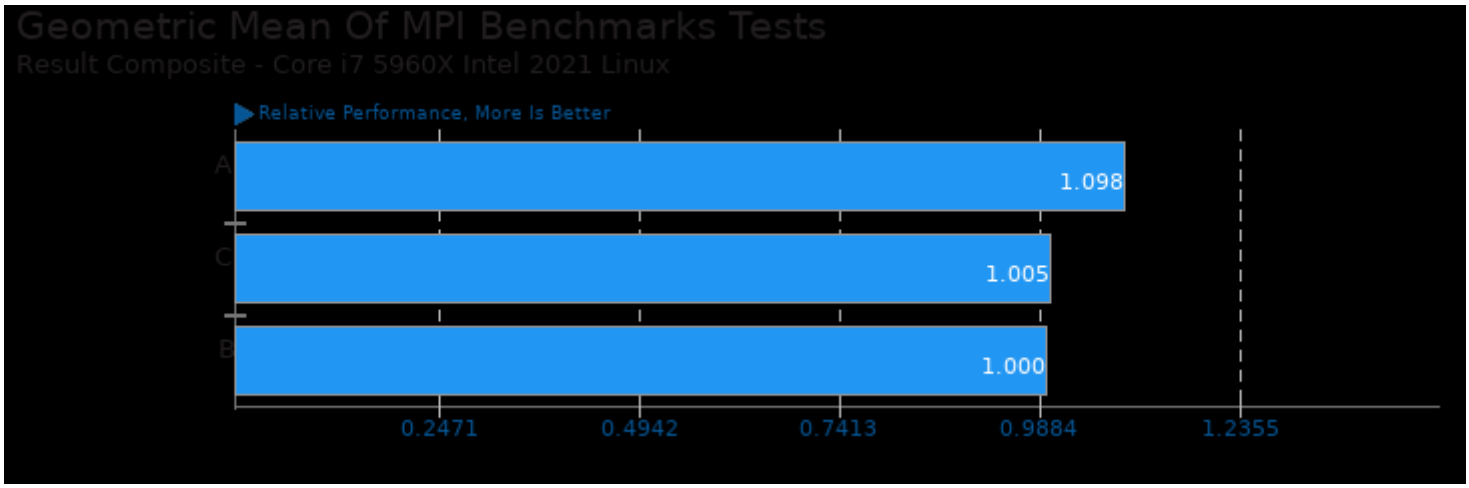
Geometric mean based upon tests: pts/apache, pts/openssl and pts/stress-ng



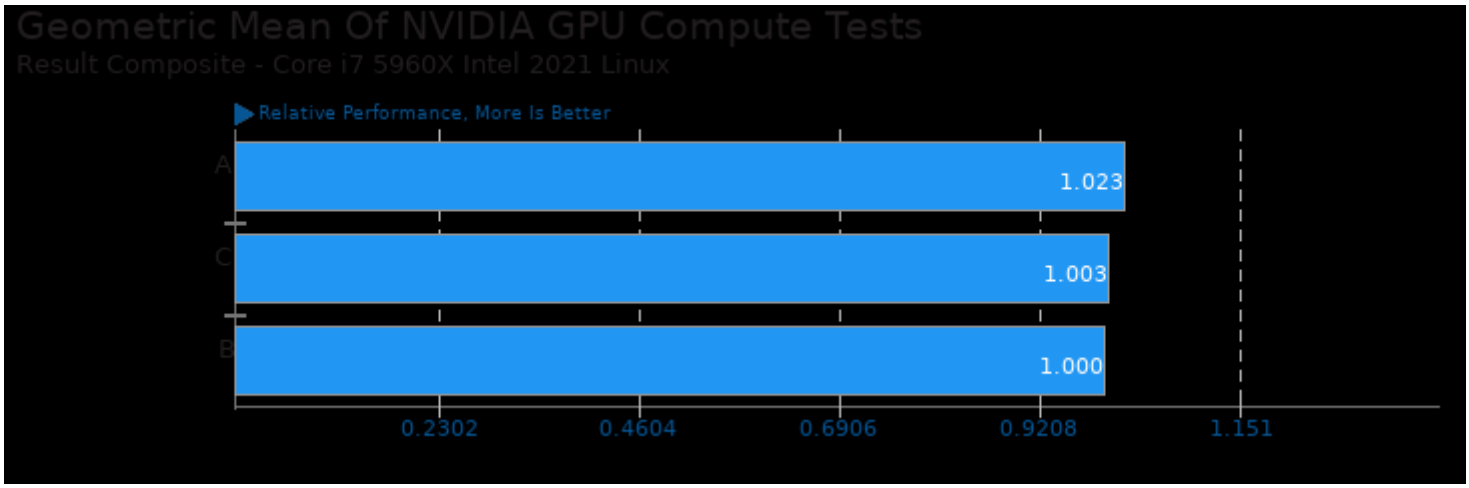
Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/opencv, pts/mlpack, pts/tensorflow-lite, pts/onnx and pts/lczero



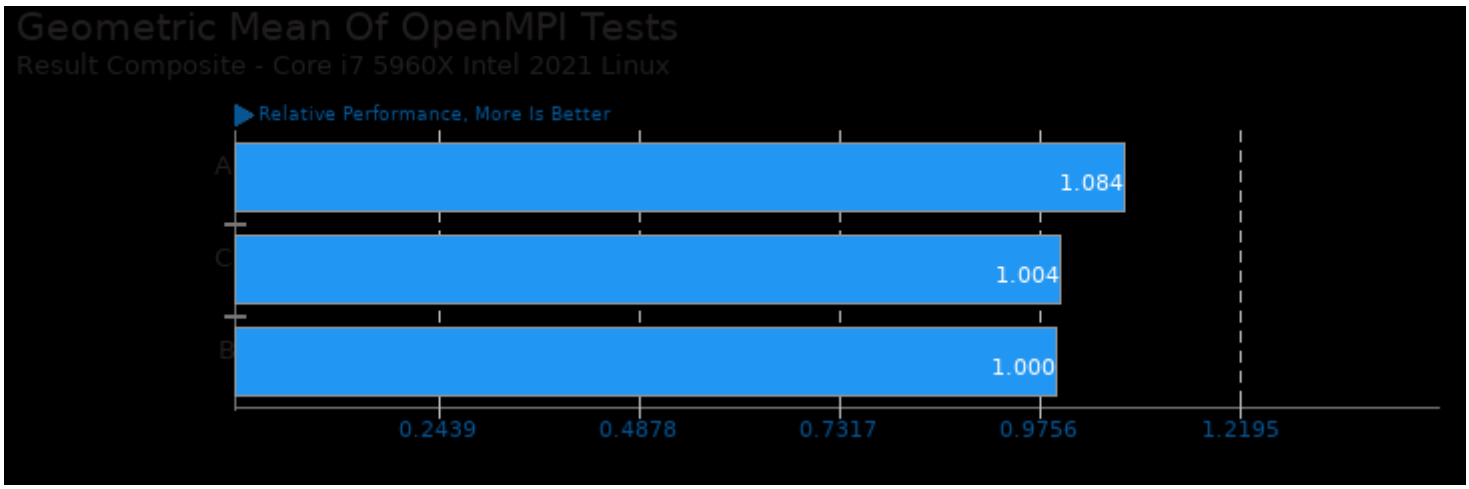
Geometric mean based upon tests: pts/namd, pts/lammps and pts/incompact3d



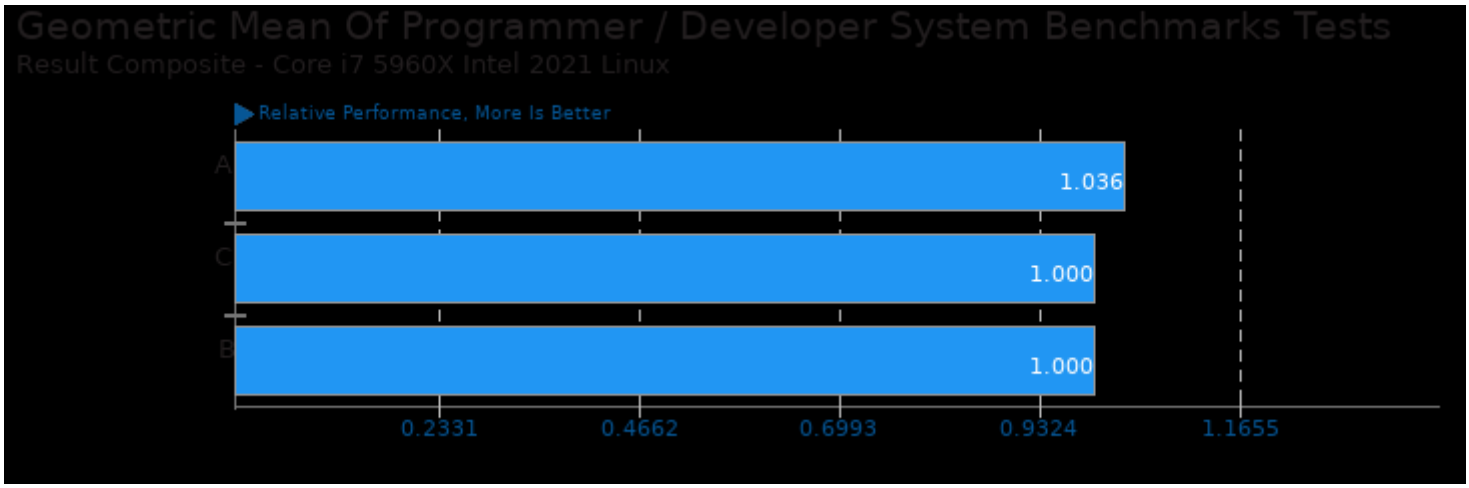
Geometric mean based upon tests: pts/askap, pts/lammps, pts/incompact3d, pts/hpcg, pts/mrbayes and pts/npb



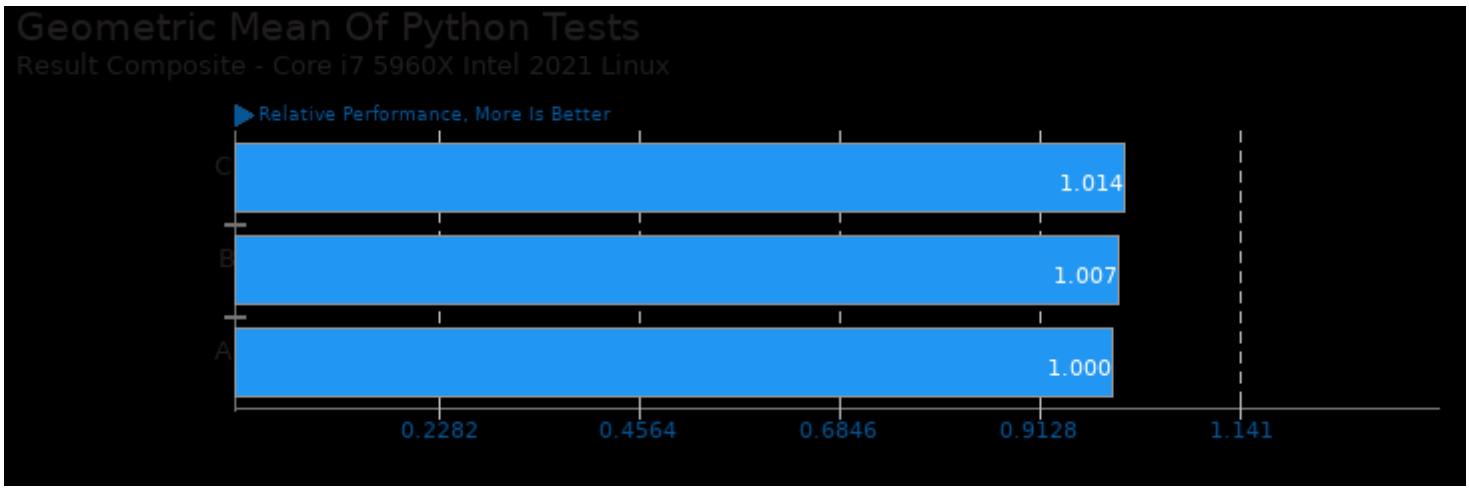
Geometric mean based upon tests: pts/luxcorerender, pts/rodinia, pts/lczero, pts/blender and pts/ncnn



Geometric mean based upon tests: pts/hpcg, pts/npb, pts/rodinia, pts/mrbayes, pts/hmmer, pts/qe, pts/amg, pts/incompact3d, pts/lammps and pts/askap



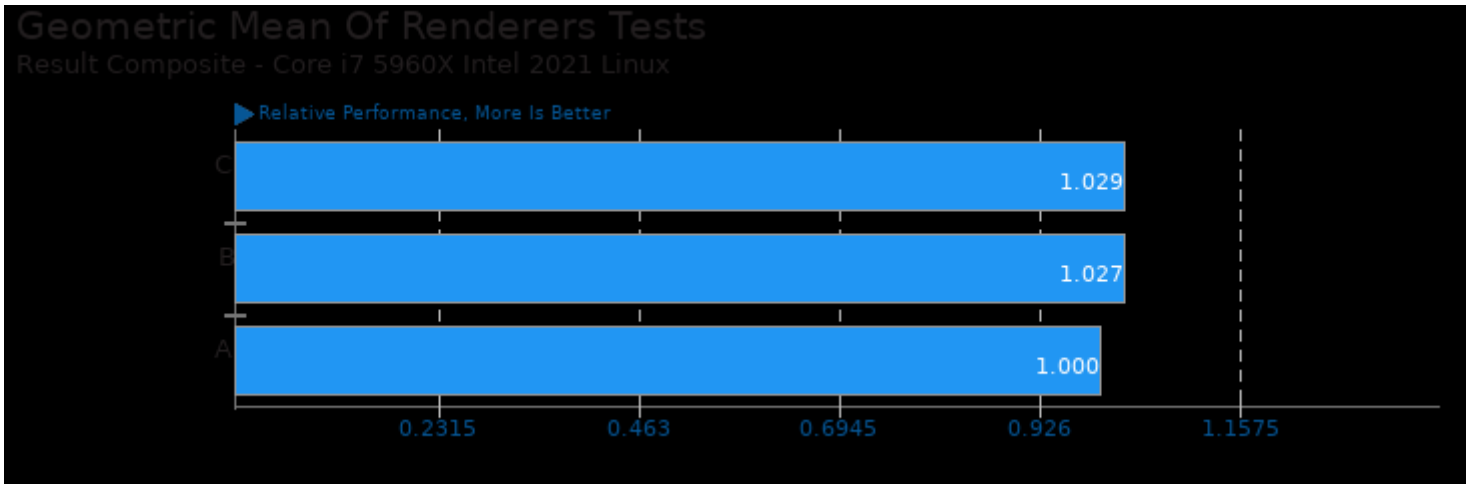
Geometric mean based upon tests: pts/simdjson, pts/node-web-tooling, pts/blosc, pts/compress-zstd, pts/build-linux-kernel, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build-godot, pts/build-erlang, pts/build-nodejs and pts/amg



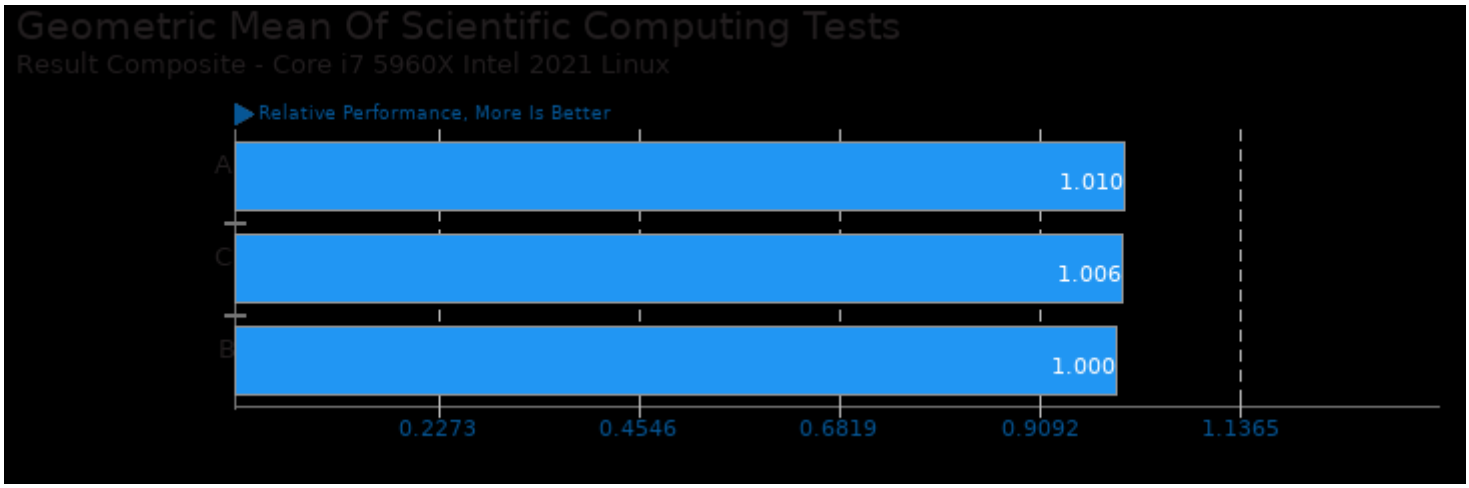
Geometric mean based upon tests: pts/mlpack and pts/pyhpc



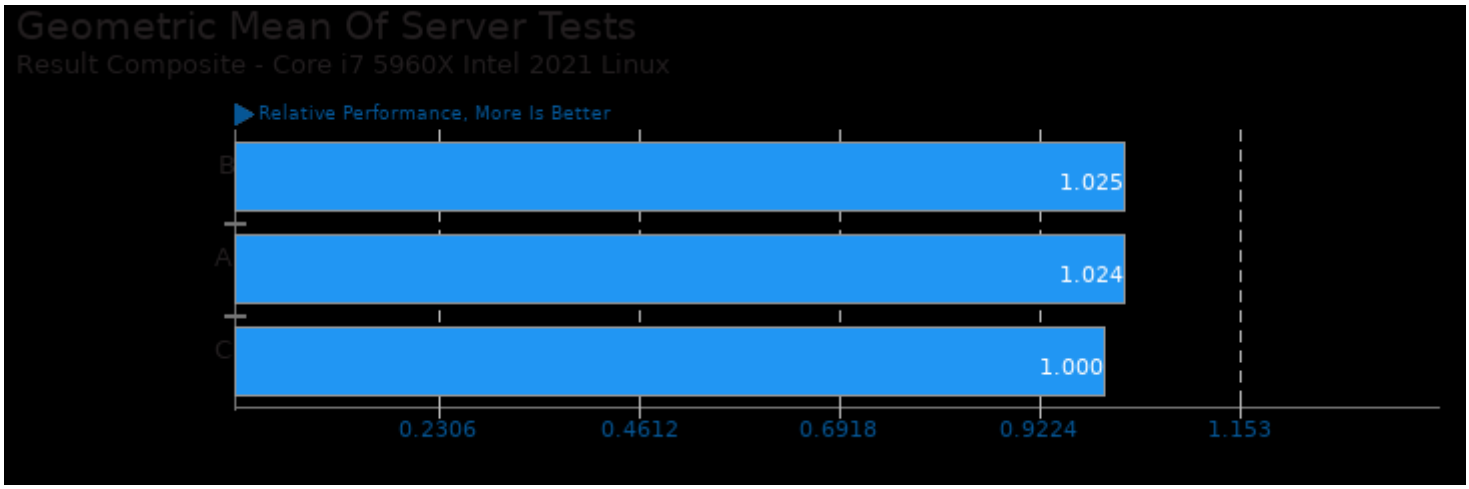
Geometric mean based upon tests: pts/tachyon and pts/yafaray



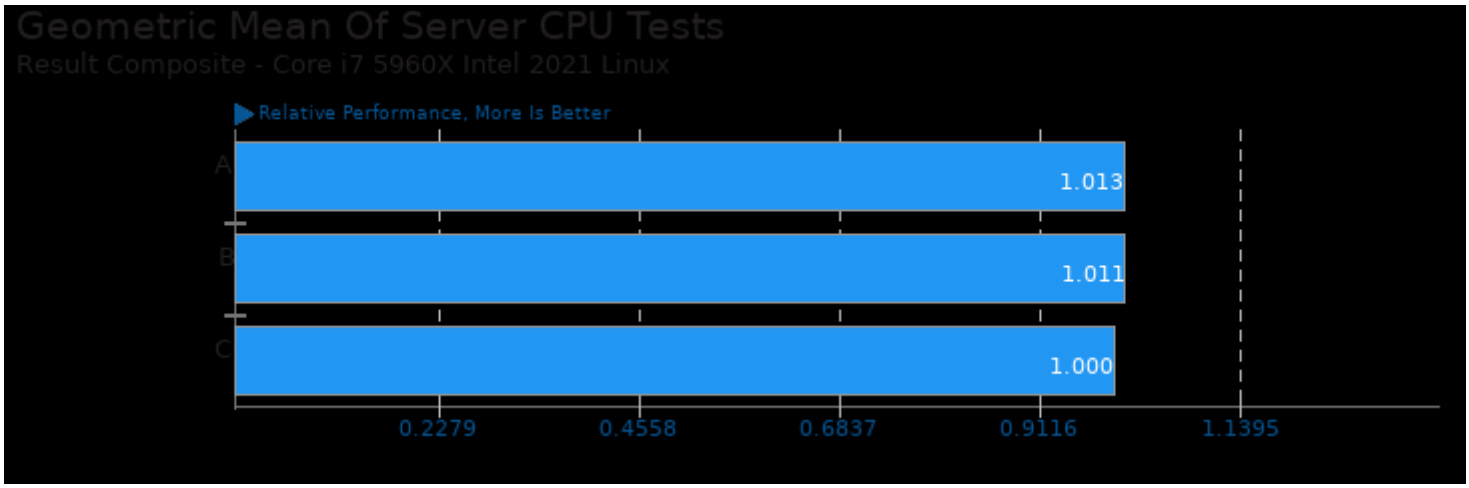
Geometric mean based upon tests: pts/tachyon, pts/yafaray, pts/blender, pts/luxcorerender and pts/natron



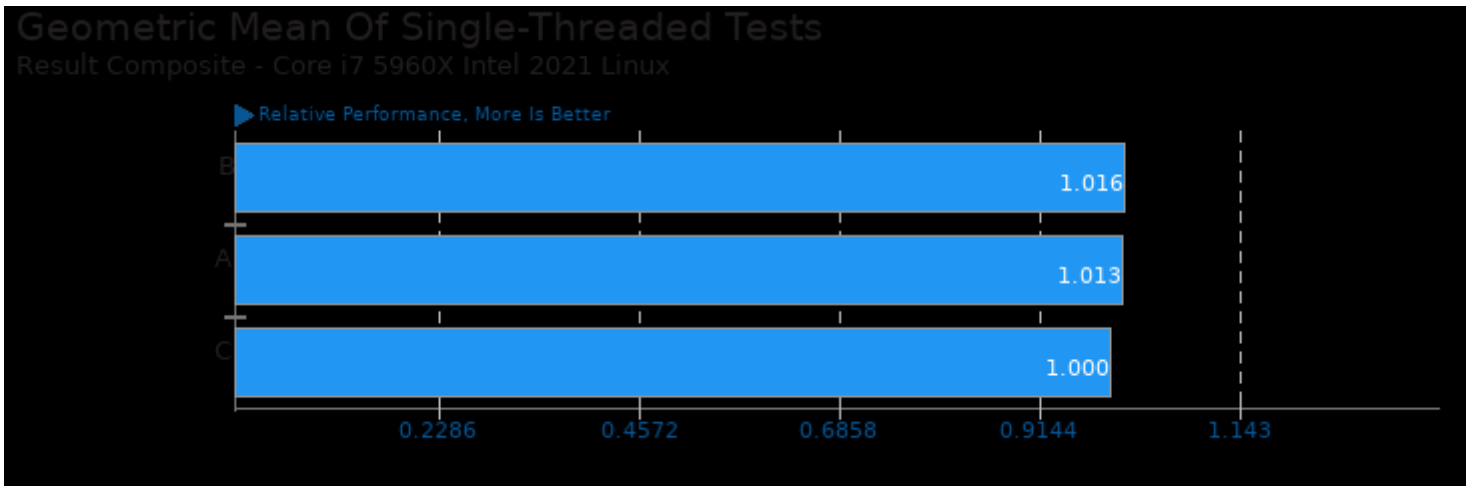
Geometric mean based upon tests: pts/amg, pts/namd, pts/lammps, pts/incompact3d, pts/mrbayes, pts/hmmer and pts/qe



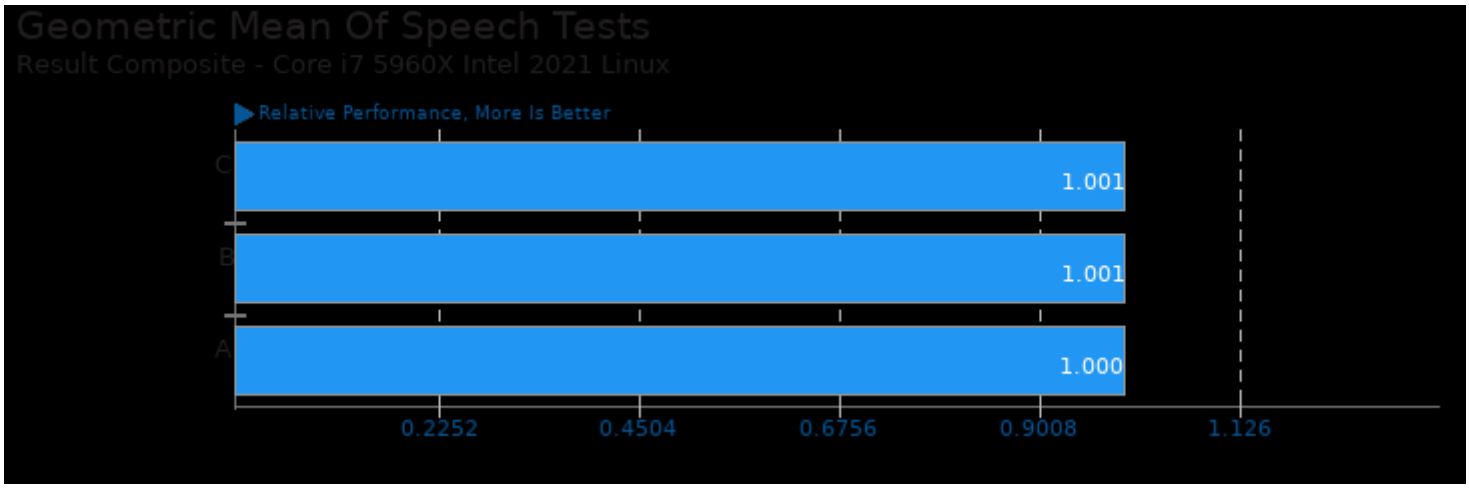
Geometric mean based upon tests: pts/apache, pts/nginx, pts/redis, pts/cassandra, pts/openssl, pts/simdjson and pts/node-web-tooling



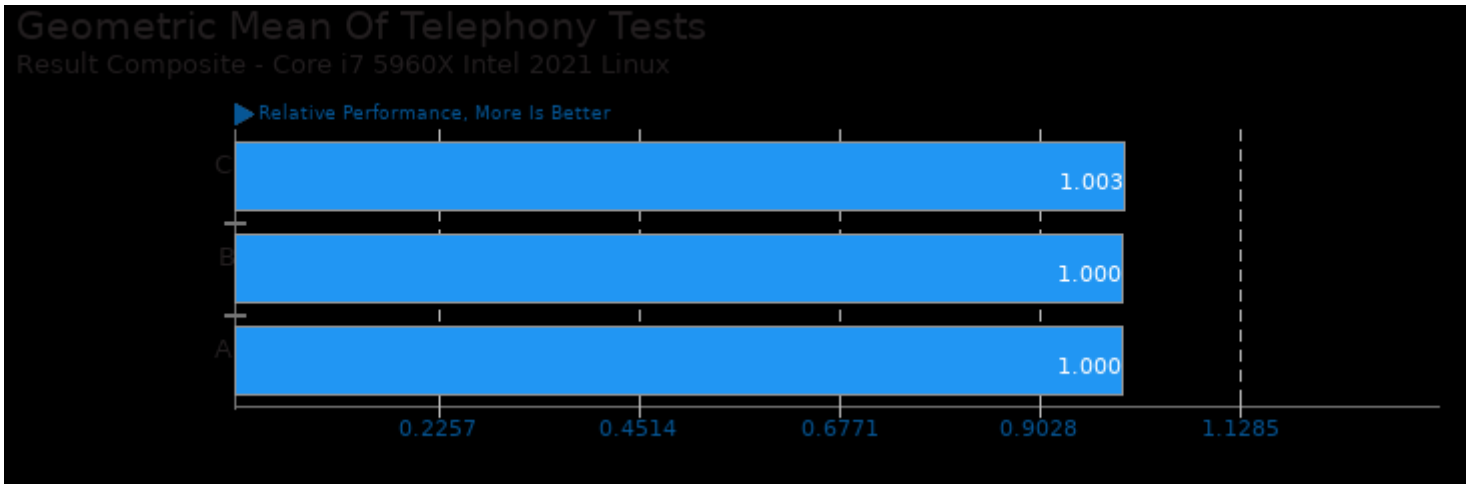
Geometric mean based upon tests: pts/npb, pts/rodinia, pts/namd, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/compress-7zip, pts/stockfish, pts/build-linux-kernel, pts/build-llvm, pts/compress-zstd, pts/openssl, pts/tjbench, pts/redis, pts/stress-ng, pts/blender and pts/cpuminer-opt



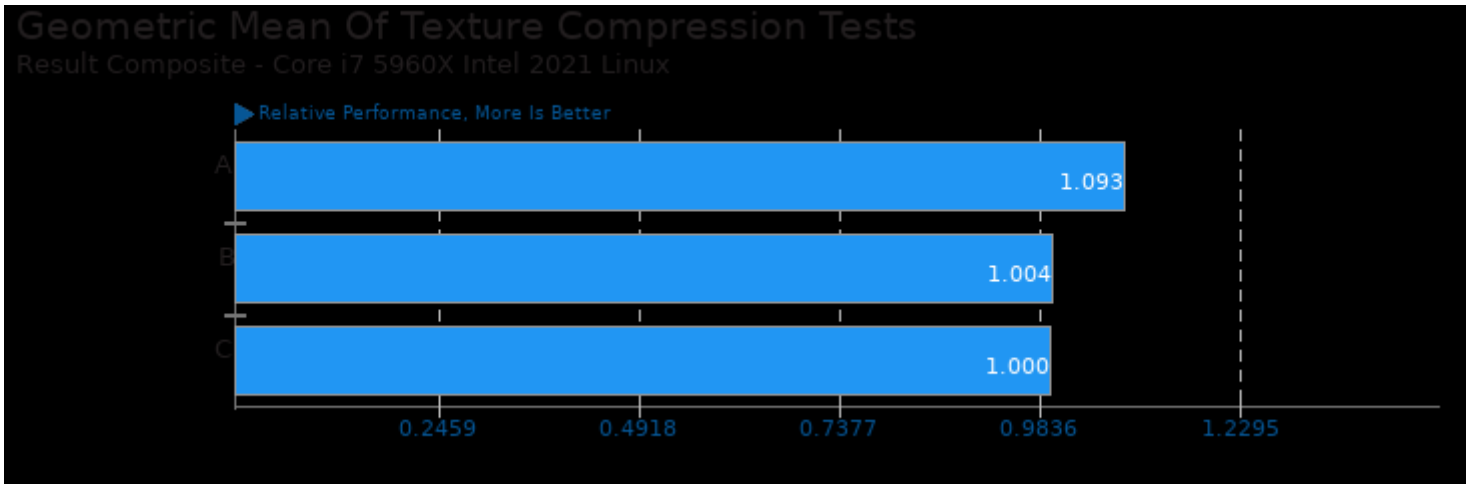
Geometric mean based upon tests: pts/lzbench, pts/blake2, pts/encode-flac, pts/encode-ogg, pts/gnupg, pts/tjbench, pts/redis and pts/nginx



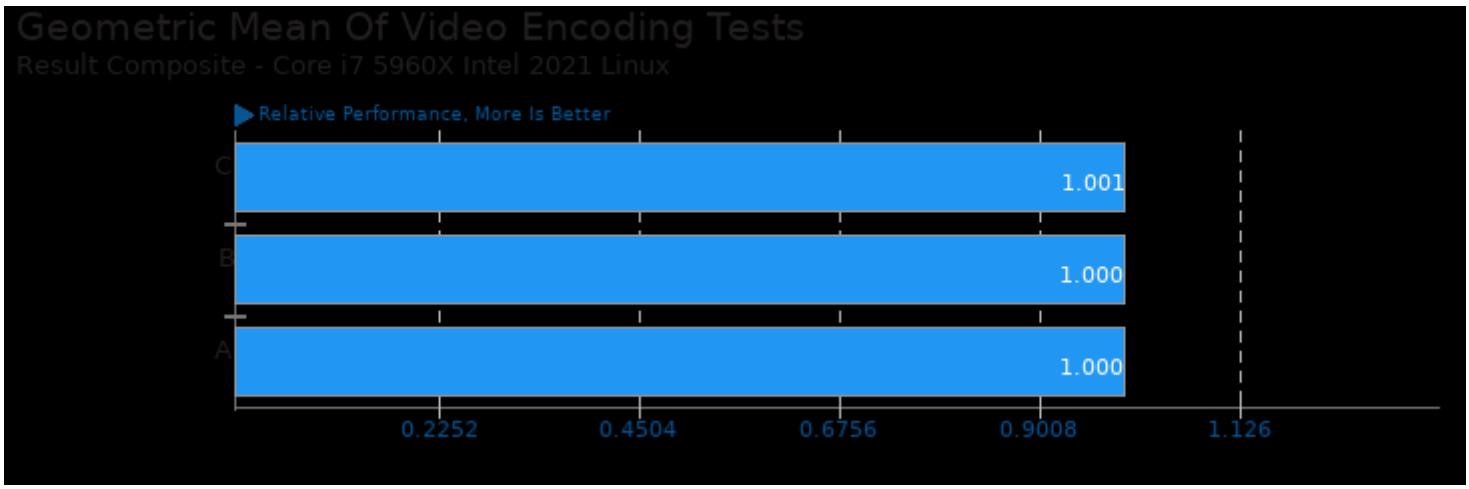
Geometric mean based upon tests: pts/vosk and pts/synthmark



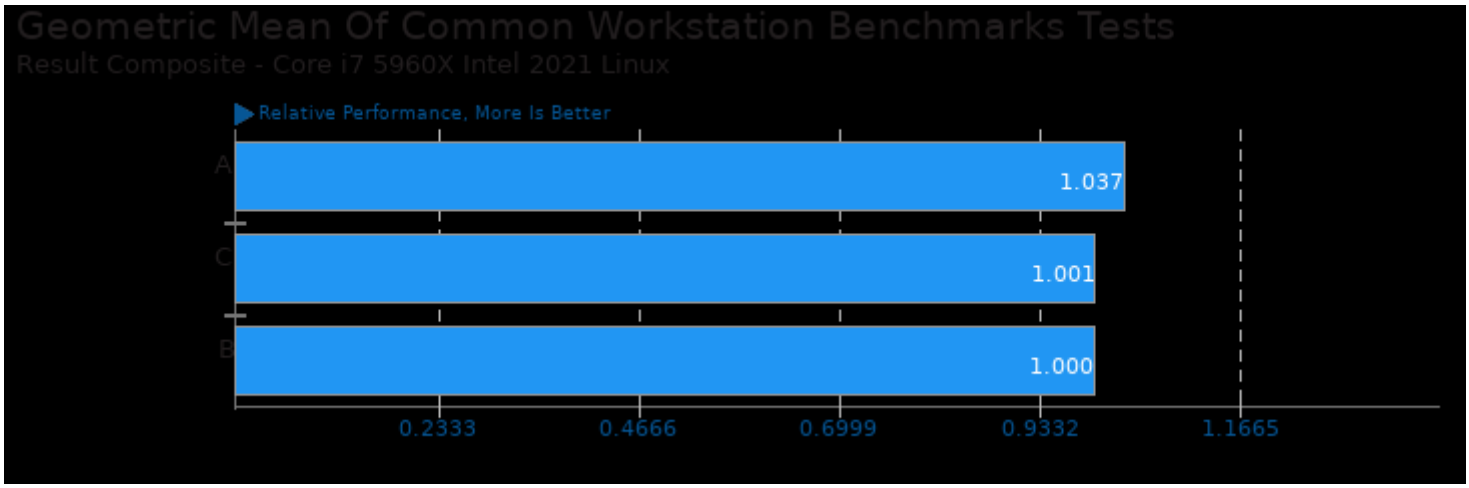
Geometric mean based upon tests: pts/pjsip, pts/vosk and pts/synthmark



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



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



Geometric mean based upon tests: pts/blender, pts/rodinia and pts/brl-cad

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:12.