

www.phoronix-test-suite.com

eptc-7f32

AMD EPYC 7F32 8-Core testing with a ASRockRack EPYCD8 (P2.40 BIOS) and ASPEED on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

AMD EPYC 7F32 had the most wins, coming in first place for 45% of the tests.

Based on the geometric mean of all complete results, the fastest (AMD EPYC 7F32) was 1.019x the speed of the slowest (7F32). EPYC 7F32 was 0.99x the speed of AMD EPYC 7F32 and 7F32 was 0.991x the speed of EPYC 7F32.

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

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU) at 1.661x
oneDNN (Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU) at 1.545x
OpenFOAM (Input: drivaerFastback, Small Mesh Size - Execution Time) at 1.466x
Mobile Neural Network (Model: mobilenet-v1-1.0) at 1.41x
oneDNN (Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU) at 1.352x
oneDNN (Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU) at 1.346x
Natron (Input: Spaceship) at 1.333x
JPEG XL Decoding libjxl (CPU Threads: All) at 1.239x
C-Blosc (Test: blosclz bitshuffle) at 1.237x

oneDNN (Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU) at 1.209x.

Test Systems:

EPYC 7F32

AMD EPYC 7F32

7F32

Processor: AMD EPYC 7F32 8-Core @ 3.70GHz (8 Cores / 16 Threads), Motherboard: ASRockRack EPYCD8 (P2.40 BIOS), Chipset: AMD Starship/Matisse, Memory: 28GB, Disk: Samsung SSD 970 EVO Plus 250GB, Graphics: ASPEED, Network: 2 x Intel I350

OS: Debian 11, Kernel: 5.10.0-10-amd64 (x86_64), Desktop: GNOME Shell 3.38.6, Display Server: X Server, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

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
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8301034
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	EPYC 7F32	AMD EPYC 7F32	7F32
Unpacking The Linux Kernel - linux-5.19.tar.xz (sec)	7.832	**7.814**	**7.896**
Normalized	99.77%	100%	98.96%
C-Blosc - blosclz shuffle (MB/s)	**15058**	15049	**14437**
Normalized	100%	99.94%	95.88%
C-Blosc - blosclz bitshuffle (MB/s)	**5663**	5399	**4579**
Normalized	100%	95.35%	80.87%
miniBUDE - OpenMP - BM1 (GFInst/s)	**270.67**	269.522	**269.315**
Normalized	100%	99.58%	99.5%
miniBUDE - OpenMP - BM1 (Billion Interactions/s)	**10.827**	10.781	**10.773**
Normalized	100%	99.58%	99.5%
miniBUDE - OpenMP - BM2 (GFInst/s)	**271.092**	**270.067**	270.907
Normalized	100%	99.62%	99.93%

miniBUDE - OpenMP - BM2 (Billion Interactions/s)	**10.844**	**10.803**	10.836
Normalized	100%	99.62%	99.93%
SMHasher - wyhash (MiB/sec)	**21044**	**21041**	21041
Normalized	100%	99.99%	99.99%
SMHasher - wyhash (cycles/hash)	28.387	28.387	28.387
SMHasher - SHA3-256 (MiB/sec)	**136.17**	136.22	**136.24**
Normalized	99.95%	99.99%	100%
SMHasher - SHA3-256 (cycles/hash)	2844	**2849**	**2840**
Normalized	99.89%	99.71%	100%
SMHasher - Spooky32 (MiB/sec)	**13215**	13216	**13220**
Normalized	99.96%	99.97%	100%
SMHasher - Spooky32 (cycles/hash)	**56.219**	**55.921**	56.139
Normalized	99.47%	100%	99.61%
SMHasher - fasthash32 (MiB/sec)	**6028**	6028	**6027**
Normalized	100%	100%	99.99%
SMHasher - fasthash32 (cycles/hash)	**40.676**	40.684	**40.686**
Normalized	100%	99.98%	99.98%
SMHasher - FarmHash128 (MiB/sec)	14312	**14313**	**14308**
Normalized	99.99%	100%	99.97%
SMHasher - FarmHash128 (cycles/hash)	**70.29**	**70.29**	**70.387**
Normalized	100%	100%	99.86%
SMHasher - t1ha2_atonce (MiB/sec)	**14595**	**14583**	14594
Normalized	100%	99.92%	99.99%
SMHasher - t1ha2_atonce (cycles/hash)	38.503	38.503	38.503
SMHasher - F.x.A (MiB/sec)	24495	**24385**	**24497**
Normalized	99.99%	99.54%	100%
SMHasher - F.x.A (cycles/hash)	47.677	47.677	47.677
SMHasher - t.x (MiB/sec)	59490	**59287**	**60753**
Normalized	97.92%	97.59%	100%
SMHasher - t.x (cycles/hash)	37.774	37.774	37.774
SMHasher - M.x.A.N (MiB/sec)	**34313**	**34206**	34311
Normalized	100%	99.69%	99.99%
SMHasher - M.x.A.N (cycles/hash)	**63.122**	**63.073**	63.111
Normalized	99.92%	100%	99.94%
OpenFOAM - d.S.M.S - Mesh Time (sec)	42.034545	**41.187216**	**44.371991**
Normalized	97.98%	100%	92.82%
OpenFOAM - d.S.M.S - Execution Time (sec)	212.63009	**184.11155**	**269.88197**
Normalized	86.59%	100%	68.22%
OpenRadioss - Bumper Beam (sec)	173.95	**174.04**	**173.25**
Normalized	99.6%	99.55%	100%
OpenRadioss - C.P.D.T (sec)	130.17	**122.99**	**135.8**
Normalized	94.48%	100%	90.57%
OpenRadioss - B.S.o.W (sec)	**330.91**	331.32	**334.58**
Normalized	100%	99.88%	98.9%
OpenRadioss - R.O.R.S.I (sec)	187.5	**188.19**	**186.74**
Normalized	99.59%	99.23%	100%
OpenRadioss - I.a.F.S.I.D.C (sec)	638.29	**627.35**	**659.67**
Normalized	98.29%	100%	95.1%
Xmrig - Monero - 1M (H/s)	**7090**	**7304**	7299
Normalized	97.07%	100%	99.93%
Xmrig - Wownero - 1M (H/s)	**7488**	**7636**	7619
Normalized	98.06%	100%	99.77%

JPEG XL libjxl - PNG - 80 (MP/s)	**8.44**	**8.71**	8.63
Normalized	96.9%	100%	99.08%
JPEG XL libjxl - PNG - 90 (MP/s)	**8.26**	**8.54**	8.52
Normalized	96.72%	100%	99.77%
JPEG XL libjxl - JPEG - 80 (MP/s)	**8.15**	**8.43**	8.35
Normalized	96.68%	100%	99.05%
JPEG XL libjxl - JPEG - 90 (MP/s)	**8.03**	**8.25**	8.22
Normalized	97.33%	100%	99.64%
JPEG XL libjxl - PNG - 100 (MP/s)	**0.59**	**0.59**	**0.58**
Normalized	100%	100%	98.31%
JPEG XL libjxl - JPEG - 100 (MP/s)	0.58	0.58	0.58
JPEG XL Decoding libjxl - 1 (MP/s)	43.36	**43.72**	**43.24**
Normalized	99.18%	100%	98.9%
JPEG XL Decoding libjxl - All (MP/s)	**198.76**	**246.32**	222.05
Normalized	80.69%	100%	90.15%
WebP Image Encode - Default (MP/s)	**15.80**	**15.83**	15.81
Normalized	99.81%	100%	99.87%
WebP Image Encode - Quality 100 (MP/s)	**9.90**	**9.93**	9.92
Normalized	99.7%	100%	99.9%
WebP Image Encode - Q.1.L (MP/s)	**1.46**	**1.46**	**1.45**
Normalized	100%	100%	99.32%
WebP Image Encode - Q.1.H.C (MP/s)	**3.18**	**3.18**	**3.19**
Normalized	99.69%	99.69%	100%
WebP Image Encode - Q.1.L.H.C (MP/s)	0.58	0.58	0.58
WebP2 Image Encode - Default (MP/s)	**6.29**	**6.22**	6.25
Normalized	100%	98.89%	99.36%
WebP2 Image Encode - Q.7.C.E.7 (MP/s)	0.12	0.12	0.12
WebP2 Image Encode - Q.9.C.E.7 (MP/s)	0.05	0.05	0.05
WebP2 Image Encode - Q.1.C.E.5 (MP/s)	3.25	3.25	3.25
WebP2 Image Encode - Q.1.L.C (MP/s)	0.01	0.01	0.01
srsRAN - OFDM_Test (Samples / Second)	**115600000**	**116100000**	115900000
Normalized	99.57%	100%	99.83%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	**328.5**	**327.5**	327.7
Normalized	100%	99.7%	99.76%
srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	133.3	**133.4**	**132.6**
Normalized	99.93%	100%	99.4%
srsRAN - 4.P.1.P.S.6.Q (eNb Mb/s)	**328.3**	**329.5**	328.8
Normalized	99.64%	100%	99.79%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	**144.6**	144.4	**143.3**
Normalized	100%	99.86%	99.1%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	**353.7**	**355.1**	354.9
Normalized	99.61%	100%	99.94%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	**143.3**	**143.3**	**142.5**
Normalized	100%	100%	99.44%
srsRAN - 4.P.1.P.S.2.Q (eNb Mb/s)	**353.7**	**354**	**354**
Normalized	99.92%	100%	100%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	152.3	**152.5**	**151.5**
Normalized	99.87%	100%	99.34%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	**95.1**	95.3	**95.4**
Normalized	99.69%	99.9%	100%
srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	**53.5**	**53.6**	**53.6**
Normalized	99.81%	100%	100%

eptc-7f32

GraphicsMagick - Swirl (Iterations/min)	444	443	444
Normalized	100%	99.77%	100%
GraphicsMagick - Rotate (Iterations/min)	739	739	729
Normalized	100%	100%	98.65%
GraphicsMagick - Sharpen (Iterations/min)	129	130	130
Normalized	99.23%	100%	100%
GraphicsMagick - Enhanced (Iterations/min)	205	206	206
Normalized	99.51%	100%	100%
GraphicsMagick - Resizing (Iterations/min)	1028	1046	1049
Normalized	98%	99.71%	100%
GraphicsMagick - Noise-Gaussian (Iterations/min)	271	271	272
Normalized	99.63%	99.63%	100%
GraphicsMagick - HWB Color Space (Iterations/min)	1184	1195	1226
Normalized	96.57%	97.47%	100%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.19	0.19	0.19
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	5.56	5.67	5.51
Normalized	98.06%	100%	97.18%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	20.97	21.44	21.33
Normalized	97.81%	100%	99.49%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	9.74	9.89	9.45
Normalized	98.48%	100%	95.55%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	30.22	30.97	30.82
Normalized	97.58%	100%	99.52%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	41.56	42.81	42.42
Normalized	97.08%	100%	99.09%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	42.08	43.34	42.49
Normalized	97.09%	100%	98.04%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.54	0.54	0.54
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	12.26	12.51	12.34
Normalized	98%	100%	98.64%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	43.34	42.43	42.89
Normalized	100%	97.9%	98.96%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	28.29	28.46	27.87
Normalized	99.4%	100%	97.93%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	75.1	76.92	76.16
Normalized	97.63%	100%	99.01%

eptc-7f32

AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**97.35**	**100.17**	99.91
Normalized	97.18%	100%	99.74%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	107.35	**102.07**	**108.32**
Normalized	99.1%	94.23%	100%
7-Zip Compression - Compression Rating (MIPS)	73076	**74973**	**71377**
Normalized	97.47%	100%	95.2%
7-Zip Compression - D.R (MIPS)	**58662**	58704	**58881**
Normalized	99.63%	99.7%	100%
libavif avifenc - 0 (sec)	**169.538**	169.306	**167.977**
Normalized	99.08%	99.22%	100%
libavif avifenc - 2 (sec)	**80.966**	80.886	**80.504**
Normalized	99.43%	99.53%	100%
libavif avifenc - 6 (sec)	**7.893**	7.856	**7.802**
Normalized	98.85%	99.31%	100%
libavif avifenc - 6, Lossless (sec)	**12.434**	12.293	**12.235**
Normalized	98.4%	99.53%	100%
libavif avifenc - 10, Lossless (sec)	**6.421**	**6.206**	6.252
Normalized	96.65%	100%	99.26%
Timed Node.js Compilation - Time To Compile (sec)	550.805	**549.975**	**554.104**
Normalized	99.85%	100%	99.25%
Timed PHP Compilation - Time To Compile (sec)	**65.041**	**65.201**	65.101
Normalized	100%	99.75%	99.91%
Timed CPython Compilation - Default (sec)	**19.15**	**19.027**	19.147
Normalized	99.36%	100%	99.37%
Timed CPython Compilation - R.B.P.L.O	**337.768**	338.978	**340.302**
Normalized	100%	99.64%	99.26%
Y-Cruncher - 1B (sec)	**45.22**	46.211	**46.501**
Normalized	100%	97.86%	97.25%
Y-Cruncher - 500M (sec)	**22.892**	**21.633**	21.766
Normalized	94.5%	100%	99.39%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	**3.48079**	**3.49229**	3.48771
Normalized	100%	99.67%	99.8%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	8.67144	**7.35671**	**11.365**
Normalized	84.84%	100%	64.73%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	**2.93735**		**2.70369**
Normalized	92.05%		100%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	**0.790351**		**0.775961**
Normalized	98.18%		100%
oneDNN - C.B.S.A - f32 - CPU (ms)	9.55502	**8.11567**	**13.4819**
Normalized	84.94%	100%	60.2%
oneDNN - D.B.s - f32 - CPU (ms)	**9.60921**	9.7682	**10.0398**
Normalized	100%	98.37%	95.71%
oneDNN - D.B.s - f32 - CPU (ms)	**6.50887**	**6.54697**	6.54145
Normalized	100%	99.42%	99.5%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	**12.2832**		**14.6766**
Normalized	100%		83.69%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	**3.93432**		**3.94084**
Normalized	100%		99.83%

eptc-7f32

oneDNN - D.B.s - u8s8f32 - CPU (ms)	**4.85806**		**4.86267**
Normalized	100%		99.91%
oneDNN - R.N.N.T - f32 - CPU (ms)	5083	**4813**	**6477**
Normalized	94.69%	100%	74.31%
oneDNN - R.N.N.I - f32 - CPU (ms)	1921	**1892**	**2084**
Normalized	98.49%	100%	90.78%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	**5252**		**6350**
Normalized	100%		82.71%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	**1881**		**2184**
Normalized	100%		86.13%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	**1.28**	1.26884	**1.26277**
Normalized	98.65%	99.52%	100%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	**5155**		**6968**
Normalized	100%		73.98%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	**1865**		**2028**
Normalized	100%		91.97%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	**1.42225**		**1.38568**
Normalized	97.43%		100%
Timed Erlang/OTP Compilation - Time To Compile (sec)	**120.664**	**118.859**	119.788
Normalized	98.5%	100%	99.22%
FLAC Audio Encoding - WAV To FLAC (sec)	**21.343**	**21.276**	21.319
Normalized	99.69%	100%	99.8%
FFmpeg - libx264 - Live (sec)	28.53	**28.16**	**28.64**
Normalized	98.7%	100%	98.32%
FFmpeg - libx264 - Live (FPS)	177.00	**179.34**	**176.34**
Normalized	98.7%	100%	98.33%
FFmpeg - libx265 - Live (sec)	68.46	**68.15**	**68.90**
Normalized	99.55%	100%	98.91%
FFmpeg - libx265 - Live (FPS)	73.77	**74.10**	**73.29**
Normalized	99.55%	100%	98.91%
FFmpeg - libx264 - Upload (sec)	**227.67**	228.158210067	**228.969381263**
Normalized	100%	99.79%	99.43%
FFmpeg - libx264 - Upload (FPS)	**11.09**	11.07	**11.03**
Normalized	100%	99.82%	99.46%
FFmpeg - libx265 - Upload (sec)	176.3322066	**175.58**	**176.342980832**
Normalized	99.57%	100%	99.57%
FFmpeg - libx265 - Upload (FPS)	**14.32**	**14.38**	**14.32**
Normalized	99.58%	100%	99.58%
FFmpeg - libx264 - Platform (sec)	180.15190048	**179.76**	**180.211979224**
Normalized	99.78%	100%	99.75%
FFmpeg - libx264 - Platform (FPS)	42.05	**42.14**	**42.03**
Normalized	99.79%	100%	99.74%
FFmpeg - libx265 - Platform (sec)	253.47	**252.19**	**253.811141688**
Normalized	99.5%	100%	99.36%
FFmpeg - libx265 - Platform (FPS)	29.88	**30.04**	**29.85**
Normalized	99.47%	100%	99.37%
FFmpeg - libx264 - Video On Demand (sec)	**180.64**	**180.54**	180.616513283
Normalized	99.94%	100%	99.96%
FFmpeg - libx264 - Video On Demand (FPS)	**41.93**	**41.96**	41.94
Normalized	99.93%	100%	99.95%
FFmpeg - libx265 - Video On Demand (sec)	253.56	**252.74**	**253.642923405**
Normalized	99.68%	100%	99.64%

eptc-7f32

FFmpeg - libx265 - Video On Demand (FPS)	29.88	**29.97**	**29.86**
Normalized	99.7%	100%	99.63%
Cpuminer-Opt - Magi (kH/s)	**413.8**	**423.63**	422.47
Normalized	97.68%	100%	99.73%
Cpuminer-Opt - x25x (kH/s)	401.99	**387.05**	**410.38**
Normalized	97.96%	94.32%	100%
Cpuminer-Opt - scrypt (kH/s)	145.88	**146.09**	**145.69**
Normalized	99.86%	100%	99.73%
Cpuminer-Opt - Deepcoin (kH/s)	**7495**	**7487**	7488
Normalized	100%	99.91%	99.92%
Cpuminer-Opt - Ringcoin (kH/s)	**1567**	**1612**	1576
Normalized	97.2%	100%	97.74%
Cpuminer-Opt - Blake-2 S (kH/s)	**349500**	348760	**324270**
Normalized	100%	99.79%	92.78%
Cpuminer-Opt - Garlicoin (kH/s)	2139	**2123**	**2148**
Normalized	99.6%	98.85%	100%
Cpuminer-Opt - Skeincoin (kH/s)	68290	**68130**	**68400**
Normalized	99.84%	99.61%	100%
Cpuminer-Opt - Myriad-Groestl (kH/s)	**12640**	**12640**	**12630**
Normalized	100%	100%	99.92%
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	**20140**	**20260**	20250
Normalized	99.41%	100%	99.95%
Cpuminer-Opt - Q.S.2.P (kH/s)	**66230**	**66230**	**66260**
Normalized	99.95%	99.95%	100%
Cpuminer-Opt - T.S.2.O (kH/s)	**132280**	132340	**132610**
Normalized	99.75%	99.8%	100%
TensorFlow - CPU - 16 - AlexNet	**53.09**		**50.79**
Normalized	100%		95.67%
TensorFlow - CPU - 32 - AlexNet	**65.36**		**59.61**
Normalized	100%		91.2%
TensorFlow - CPU - 64 - AlexNet	**74.8**		**70.71**
Normalized	100%		94.53%
TensorFlow - CPU - 256 - AlexNet	**82.48**		**78.62**
Normalized	100%		95.32%
TensorFlow - CPU - 512 - AlexNet	**83.98**		**80.98**
Normalized	100%		96.43%
TensorFlow - CPU - 16 - GoogLeNet (images/sec)	**32.89**		**29.73**
Normalized	100%		90.39%
TensorFlow - CPU - 16 - ResNet-50 (images/sec)	**9.98**		**9.12**
Normalized	100%		91.38%
TensorFlow - CPU - 32 - GoogLeNet (images/sec)	**32.58**		**30.75**
Normalized	100%		94.38%
TensorFlow - CPU - 32 - ResNet-50 (images/sec)	**10.22**		**9.4**
Normalized	100%		91.98%
TensorFlow - CPU - 64 - GoogLeNet (images/sec)	**32.75**		**31.39**
Normalized	100%		95.85%

TensorFlow - CPU - 64 - ResNet-50 (images/sec)	11.08		10.36
Normalized	100%		93.5%
TensorFlow - CPU - 256 - GoogLeNet (images/sec)	34.99		33.15
Normalized	100%		94.74%
TensorFlow - CPU - 256 - ResNet-50 (images/sec)	12.67		12.57
Normalized	100%		99.21%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (items/sec)		6.4357	6.3025
Normalized		100%	97.93%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (ms/batch)		619.198	627.2384
Normalized		100%	98.72%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (items/sec)		5.3725	5.1633
Normalized		100%	96.11%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (ms/batch)		186.1226	193.6627
Normalized		100%	96.11%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (items/sec)		22.5985	22.5733
Normalized		100%	99.89%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (ms/batch)		176.8383	176.8463
Normalized		100%	100%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (items/sec)		13.1116	12.8996
Normalized		100%	98.38%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (ms/batch)		76.2557	77.5095
Normalized		100%	98.38%
Neural Magic DeepSparse - C.D.Y.C - A.M.S (items/sec)		36.801	36.2042
Normalized		100%	98.38%
Neural Magic DeepSparse - C.D.Y.C - A.M.S (ms/batch)		108.5718	110.4165
Normalized		100%	98.33%
Neural Magic DeepSparse - C.D.Y.C - S.S.S (items/sec)		26.9827	26.7067
Normalized		100%	98.98%
Neural Magic DeepSparse - C.D.Y.C - S.S.S (ms/batch)		37.0454	37.429
Normalized		100%	98.98%
Neural Magic DeepSparse - C.C.R.5.I - A.M.S (items/sec)		70.0202	69.4795
Normalized		100%	99.23%
Neural Magic DeepSparse - C.C.R.5.I - A.M.S (ms/batch)		57.0733	57.5139
Normalized		100%	99.23%

Neural Magic DeepSparse - C.C.R.5.I - S.S.S (items/sec)	50.8038	49.6558
Normalized	100%	97.74%
Neural Magic DeepSparse - C.C.R.5.I - S.S.S (ms/batch)	19.6733	20.1274
Normalized	100%	97.74%
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (items/sec)	49.9119	49.6207
Normalized	100%	99.42%
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (ms/batch)	80.0283	80.5192
Normalized	100%	99.39%
Neural Magic DeepSparse - N.T.C.D.m - S.S.S (items/sec)	36.759	35.5064
Normalized	100%	96.59%
Neural Magic DeepSparse - N.T.C.D.m - S.S.S (ms/batch)	27.1948	28.1543
Normalized	100%	96.59%
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (items/sec)	25.2198	25.1166
Normalized	100%	99.59%
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (ms/batch)	158.3902	159.0606
Normalized	100%	99.58%
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (items/sec)	18.221	18.1954
Normalized	100%	99.86%
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (ms/batch)	54.8712	54.949
Normalized	100%	99.86%
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (items/sec)	6.3581	6.3119
Normalized	100%	99.27%
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (ms/batch)	623.1128	626.9997
Normalized	100%	99.38%
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (items/sec)	5.3593	5.08
Normalized	100%	94.79%
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (ms/batch)	186.5811	196.8418
Normalized	100%	94.79%
Stress-NG - MMAP (Bogo Ops/s)	141.82	144.76
Normalized	97.97%	100%
Stress-NG - NUMA (Bogo Ops/s)	236.71	236.87
Normalized	99.93%	100%
Stress-NG - Futex (Bogo Ops/s)	2310980	2404426
Normalized	96.11%	100%
Stress-NG - MEMFD (Bogo Ops/s)	371.54	385.73
Normalized	96.32%	100%
Stress-NG - Mutex (Bogo Ops/s)	5679683	5617446
Normalized	100%	98.9%

eptc-7f32

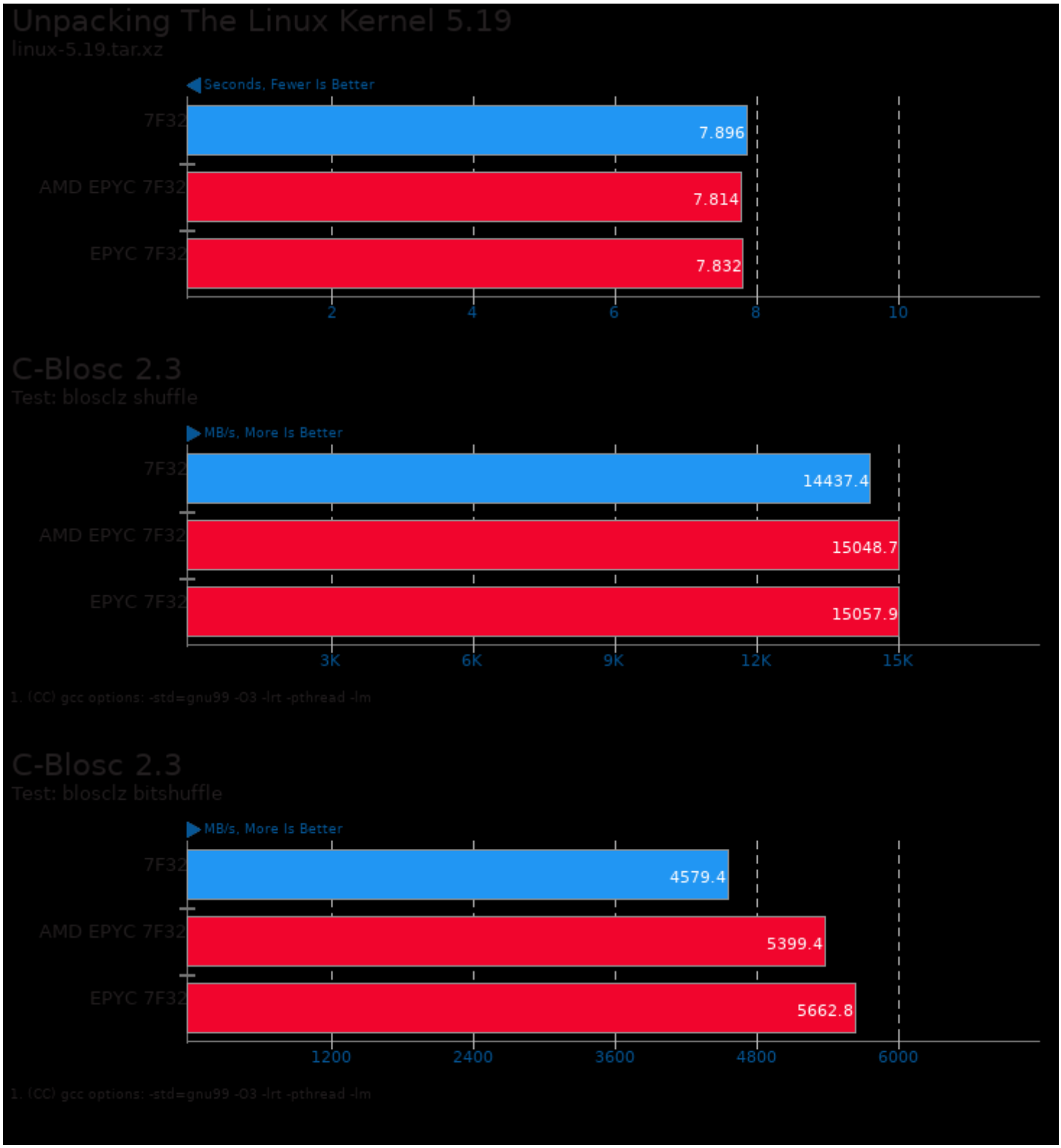
Stress-NG - Atomic (Bogo Ops/s)	**392426**	**392156**
Normalized	100%	99.93%
Stress-NG - Crypto (Bogo Ops/s)	**13694**	**13609**
Normalized	100%	99.38%
Stress-NG - Malloc (Bogo Ops/s)	**8923252**	**8973005**
Normalized	99.45%	100%
Stress-NG - Forking (Bogo Ops/s)	**22867**	**23802**
Normalized	96.07%	100%
Stress-NG - IO_uring (Bogo Ops/s)	**4365**	**4452**
Normalized	98.04%	100%
Stress-NG - SENDFILE (Bogo Ops/s)	**150426**	**149917**
Normalized	100%	99.66%
Stress-NG - CPU Cache (Bogo Ops/s)	**85.33**	**96.63**
Normalized	88.31%	100%
Stress-NG - CPU Stress (Bogo Ops/s)	**18123**	**18710**
Normalized	96.86%	100%
Stress-NG - Semaphores (Bogo Ops/s)	**1194195**	**1192572**
Normalized	100%	99.86%
Stress-NG - Matrix Math (Bogo Ops/s)	**35044**	**35440**
Normalized	98.88%	100%
Stress-NG - Vector Math (Bogo Ops/s)	**39578**	**39496**
Normalized	100%	99.79%
Stress-NG - Memory Copying (Bogo Ops/s)	**1919**	**1983**
Normalized	96.76%	100%
Stress-NG - Socket Activity (Bogo Ops/s)	**5665**	**5728**
Normalized	98.89%	100%
Stress-NG - Context Switching (Bogo Ops/s)	**5247399**	**5036771**
Normalized	100%	95.99%
Stress-NG - G.C.S.F (Bogo Ops/s)	**1327261**	**1299520**
Normalized	100%	97.91%
Stress-NG - G.Q.D.S (Bogo Ops/s)	**134.03**	**132.57**
Normalized	100%	98.91%
Stress-NG - S.V.M.P (Bogo Ops/s)	**3150571**	**3167586**
Normalized	99.46%	100%
spaCy - en_core_web_lg (tokens/sec)	**11288**	**11197**
Normalized	100%	99.19%
spaCy - en_core_web_trf (tokens/sec)	**618**	**632**
Normalized	97.78%	100%
Mobile Neural Network - nasnet (ms)	23.653	23.653
Mobile Neural Network - mobilenetV3 (ms)	**3.37**	**3.201**
Normalized	94.99%	100%
Mobile Neural Network - squeezenetv1.1	**5.78**	**6.713**
Normalized	100%	86.1%
Mobile Neural Network - resnet-v2-50 (ms)	**29.525**	**31.285**
Normalized	100%	94.37%
Mobile Neural Network - SqueezeNetV1.0	**9.2**	**10.361**
Normalized	100%	88.79%
Mobile Neural Network - MobileNetV2_224	**5.523**	**6.602**
Normalized	100%	83.66%
Mobile Neural Network - mobilenet-v1-1.0	**4.51**	**6.361**
Normalized	100%	70.9%
Mobile Neural Network - inception-v3 (ms)	**38.689**	**38.883**
Normalized	100%	99.5%

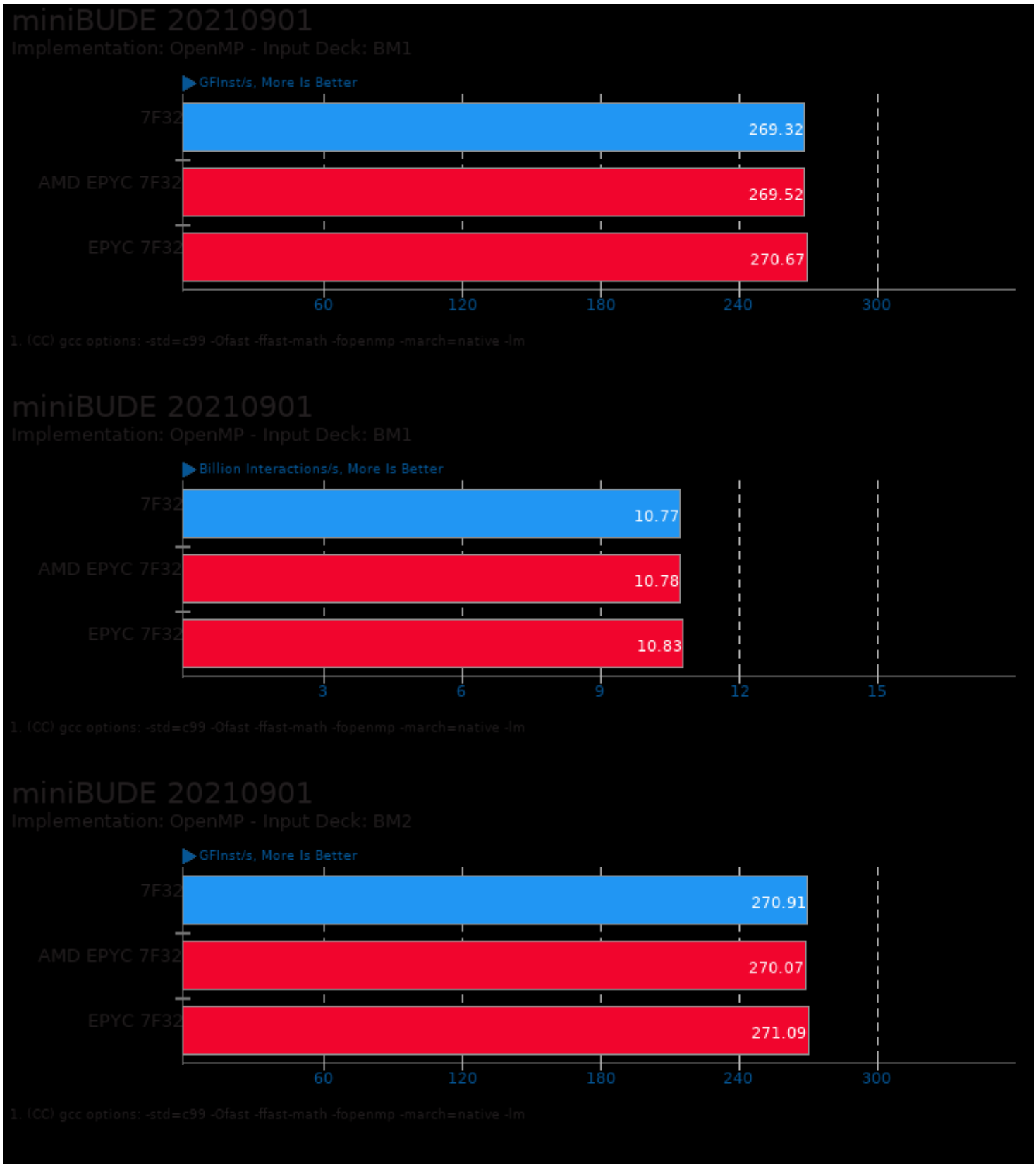
eptc-7f32

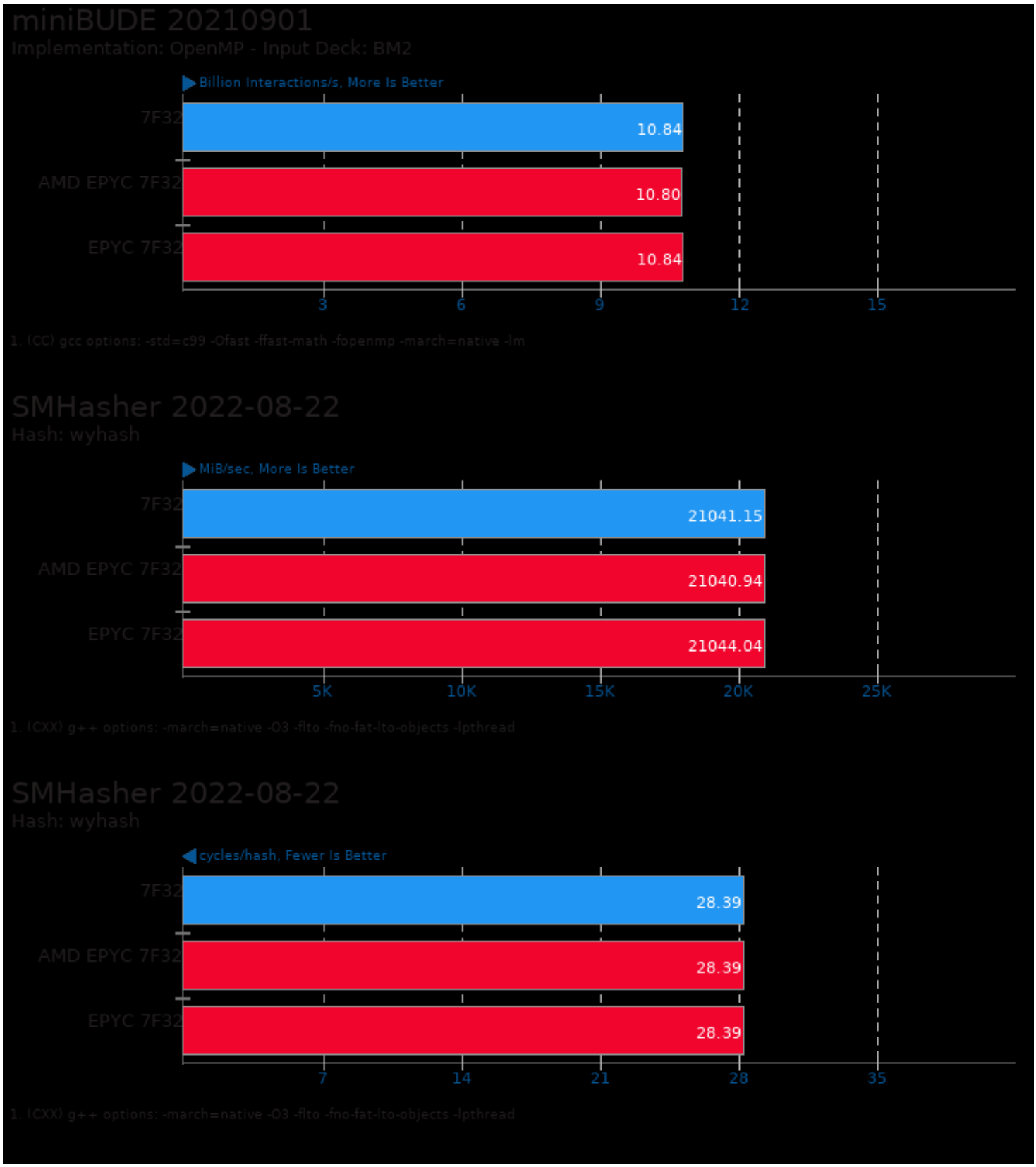
Blender - BMW27 - CPU-Only (sec)	149.11	148.42
Normalized	99.54%	100%
OpenVINO - F.D.F - CPU (FPS)	2.03	2.04
Normalized	99.51%	100%
OpenVINO - F.D.F - CPU (ms)	1958	1954
Normalized	99.8%	100%
OpenVINO - P.D.F - CPU (FPS)	1.55	1.6
Normalized	96.88%	100%
OpenVINO - P.D.F - CPU (ms)	2554	2491
Normalized	97.51%	100%
OpenVINO - P.D.F - CPU (FPS)	1.53	1.62
Normalized	94.44%	100%
OpenVINO - P.D.F - CPU (ms)	2583	2456
Normalized	95.08%	100%
OpenVINO - V.D.F - CPU (FPS)	162.3	165.72
Normalized	97.94%	100%
OpenVINO - V.D.F - CPU (ms)	24.63	24.12
Normalized	97.93%	100%
OpenVINO - F.D.F.I - CPU (FPS)	2.71	2.73
Normalized	99.27%	100%
OpenVINO - F.D.F.I - CPU (ms)	1468	1461
Normalized	99.53%	100%
OpenVINO - V.D.F.I - CPU (FPS)	219.4	220.62
Normalized	99.45%	100%
OpenVINO - V.D.F.I - CPU (ms)	18.22	18.12
Normalized	99.45%	100%
OpenVINO - W.P.D.F - CPU (FPS)	212.74	215.66
Normalized	98.65%	100%
OpenVINO - W.P.D.F - CPU (ms)	18.79	18.53
Normalized	98.62%	100%
OpenVINO - M.T.E.T.D.F - CPU (FPS)	24	24.91
Normalized	96.35%	100%
OpenVINO - M.T.E.T.D.F - CPU (ms)	166.48	160.49
Normalized	96.4%	100%
OpenVINO - W.P.D.F.I - CPU (FPS)	267.05	268.87
Normalized	99.32%	100%
OpenVINO - W.P.D.F.I - CPU (ms)	29.95	29.74
Normalized	99.3%	100%
OpenVINO - P.V.B.D.F - CPU (FPS)	224.93	232.94
Normalized	96.56%	100%
OpenVINO - P.V.B.D.F - CPU (ms)	17.77	17.15
Normalized	96.51%	100%
OpenVINO - A.G.R.R.0.F - CPU (FPS)	5763	5812
Normalized	99.16%	100%
OpenVINO - A.G.R.R.0.F - CPU (ms)	1.38	1.37
Normalized	99.28%	100%
OpenVINO - A.G.R.R.0.F.I - CPU (FPS)	6432	6444
Normalized	99.83%	100%
OpenVINO - A.G.R.R.0.F.I - CPU (ms)	1.24	1.23
Normalized	99.19%	100%
Facebook RocksDB - Rand Read (Op/s)	39007583	38208038
Normalized	100%	97.95%
Facebook RocksDB - Update Rand (Op/s)	352075	352648

eptc-7f32

Normalized	99.84%	100%
Facebook RocksDB - Read While Writing	**1565360**	**1527948**
Normalized	100%	97.61%
Facebook RocksDB - R.R.W.R (Op/s)	**1196904**	**1195887**
Normalized	100%	99.92%
nginx - 20 (Reqs/sec)	**46605**	**46954**
Normalized	99.26%	100%
nginx - 100 (Reqs/sec)	**51131**	**50822**
Normalized	100%	99.4%
nginx - 200 (Reqs/sec)	**51950**	**52189**
Normalized	99.54%	100%
nginx - 500 (Reqs/sec)	**52056**	**52631**
Normalized	98.91%	100%
nginx - 1000 (Reqs/sec)	**50516**	**51272**
Normalized	98.53%	100%
Natron - Spaceship (FPS)	**2.1**	**2.8**
Normalized	75%	100%
EnCodec - 3 kbps (sec)	**36.202**	**35.801**
Normalized	98.89%	100%
EnCodec - 6 kbps (sec)	**34.991**	**34.58**
Normalized	98.83%	100%
EnCodec - 24 kbps (sec)	**39.865**	**39.822**
Normalized	99.89%	100%
EnCodec - 1.5 kbps (sec)	**33.965**	**33.419**
Normalized	98.39%	100%
Scikit-Learn - MNIST Dataset (sec)	**119.569**	**119.78**
Normalized	100%	99.82%
Scikit-Learn - TSNE MNIST Dataset (sec)	**38.601**	**39.073**
Normalized	100%	98.79%
Scikit-Learn - S.R.P.1.I (sec)	**185.087**	**186.351**
Normalized	100%	99.32%
BRL-CAD - V.P.M (VGR Performance Metric)	**124747**	**125073**
Normalized	99.74%	100%


Unpacking The Linux Kernel 5.19
linux-5.19.tar.xz
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
7.896
7.814
7.832
2
4
6
8
10
C-Blosc 2.3
Test: blosclz shuffle
MB/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
14437.4
15048.7
15057.9
3K
6K
9K
12K
15K
1. (CC) gcc options: -std=gnu99 -O3 -lrt -pthread -lm
C-Blosc 2.3
Test: blosclz bitshuffle
MB/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
4579.4
5399.4
5662.8
1200
2400
3600
4800
6000
1. (CC) gcc options: -std=gnu99 -O3 -lrt -pthread -lm

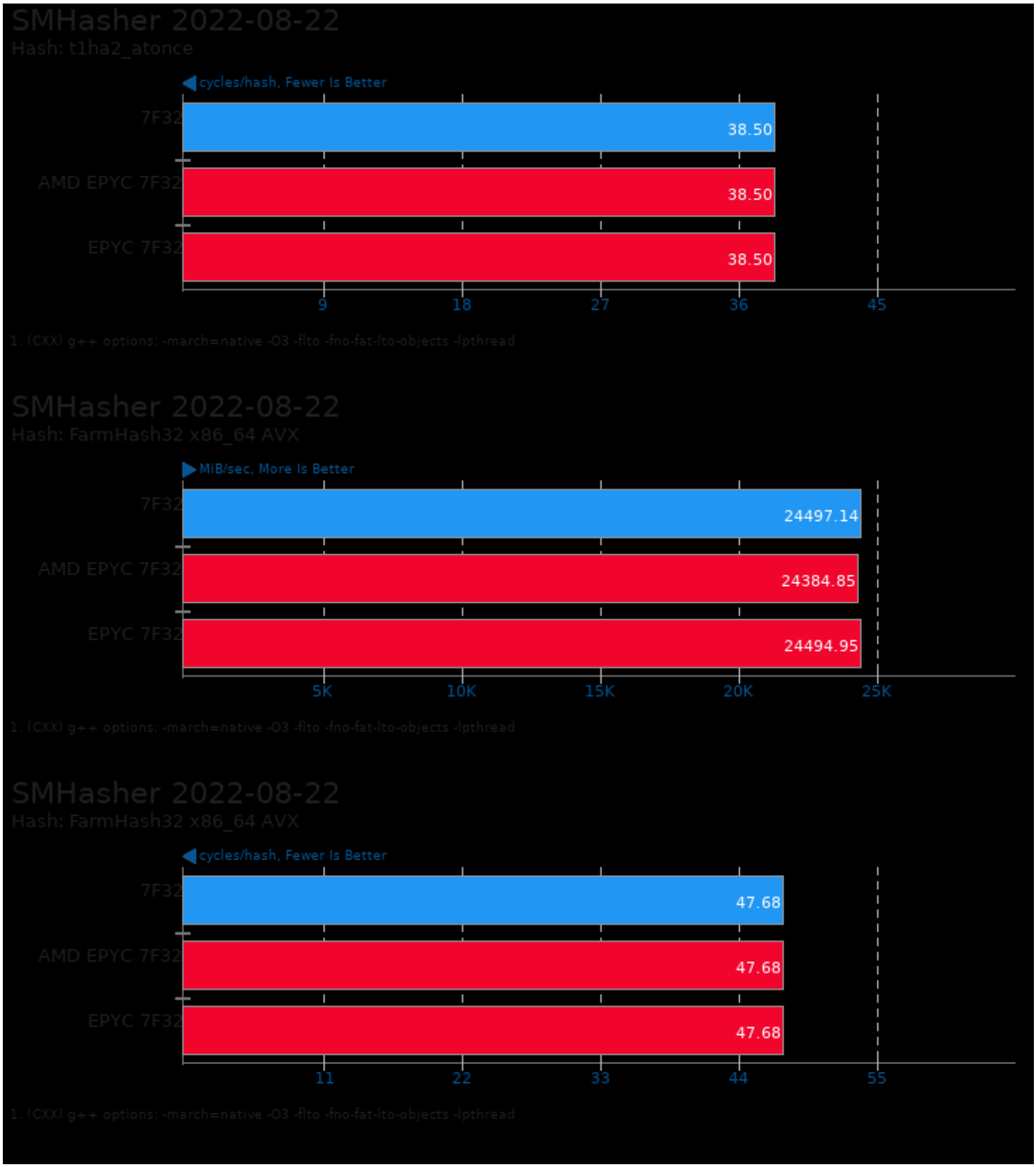

miniBUDE 20210901
Implementation: OpenMP - Input Deck: BM1
GFInst/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
269.32
269.52
270.67
60
120
180
240
300
1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm
miniBUDE 20210901
Implementation: OpenMP - Input Deck: BM1
Billion Interactions/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
10.77
10.78
10.83
3
6
9
12
15
1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm
miniBUDE 20210901
Implementation: OpenMP - Input Deck: BM2
GFInst/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
270.91
270.07
271.09
60
120
180
240
300
1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm

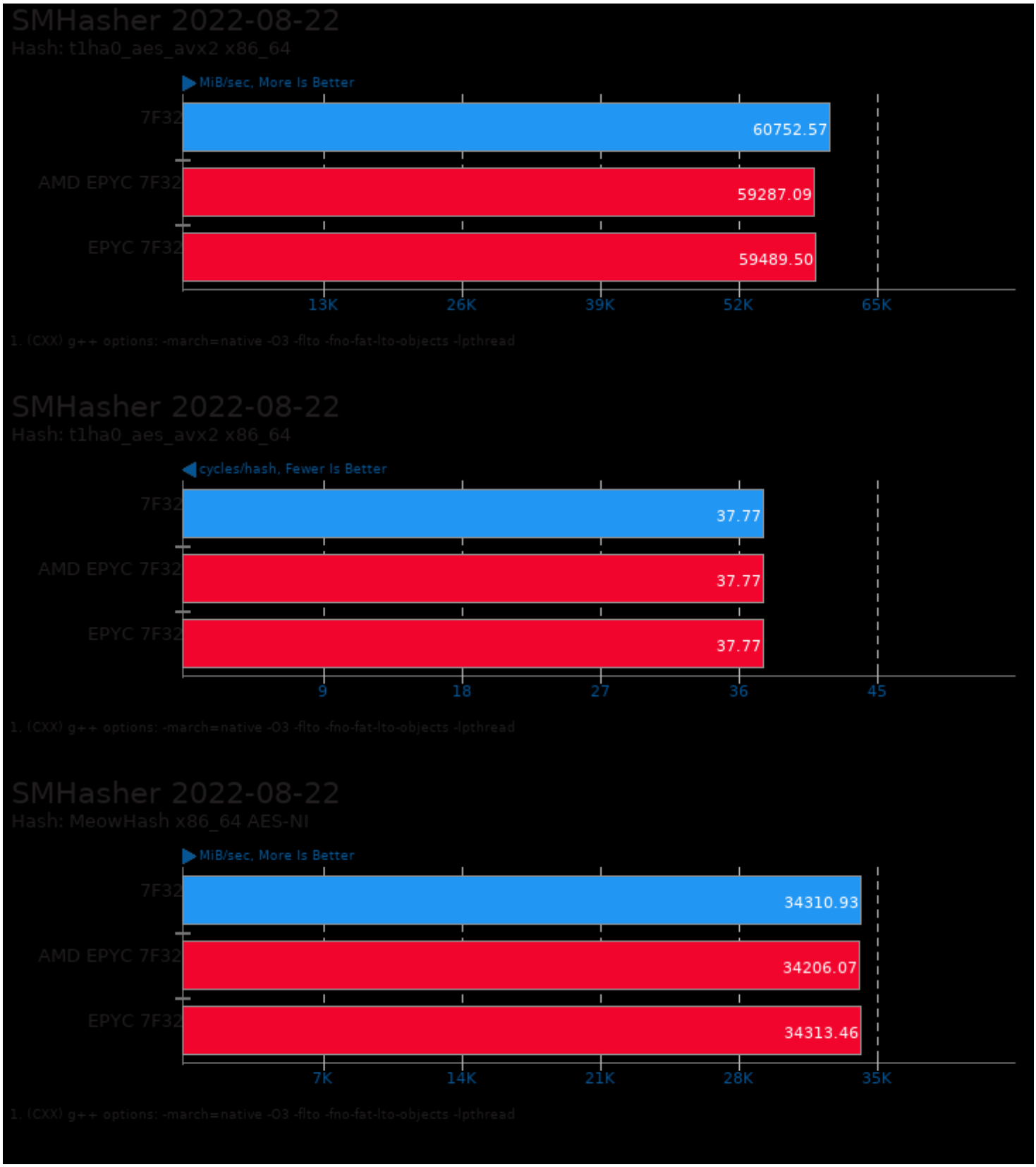

miniBUDE 20210901
Implementation: OpenMP - Input Deck: BM2
Billion Interactions/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
10.84
10.80
10.84
3
6
9
12
15
1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm
SMHasher 2022-08-22
Hash: wyhash
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
21041.15
21040.94
21044.04
5K
10K
15K
20K
25K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: wyhash
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
28.39
28.39
28.39
7
14
21
28
35
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread


SMHasher 2022-08-22
Hash: SHA3-256
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
136.24
136.22
136.17
30
60
90
120
150
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: SHA3-256
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
2840.32
2848.54
2843.50
600
1200
1800
2400
3000
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: Spooky32
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
13220.33
13216.41
13214.70
3K
6K
9K
12K
15K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread


SMHasher 2022-08-22
Hash: Spooky32
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
56.14
55.92
56.22
13
26
39
52
65
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: fasthash32
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
6027.12
6027.73
6027.75
1300
2600
3900
5200
6500
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: fasthash32
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
40.69
40.68
40.68
9
18
27
36
45
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread

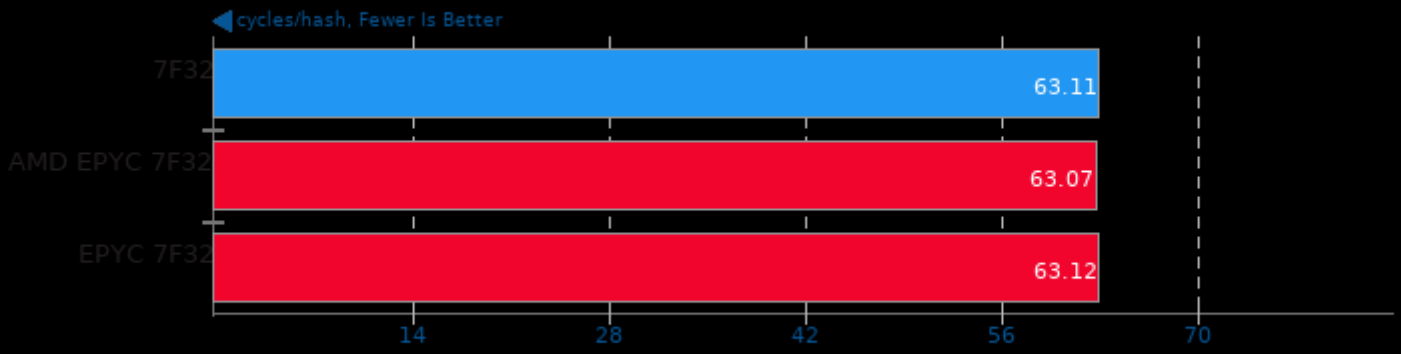

SMHasher 2022-08-22
Hash: FarmHash128
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
14307.94
14312.80
14311.97
3K
6K
9K
12K
15K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: FarmHash128
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
70.39
70.29
70.29
16
32
48
64
80
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: t1ha2_atonce
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
14594.36
14583.40
14595.36
3K
6K
9K
12K
15K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread


SMHasher 2022-08-22
Hash: t1ha2_atonce
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
38.50
38.50
38.50
9
18
27
36
45
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: FarmHash32 x86_64 AVX
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
24497.14
24384.85
24494.95
5K
10K
15K
20K
25K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: FarmHash32 x86_64 AVX
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
47.68
47.68
47.68
11
22
33
44
55
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread


SMHasher 2022-08-22
Hash: t1ha0_aes_avx2 x86_64
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
60752.57
59287.09
59489.50
13K
26K
39K
52K
65K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: t1ha0_aes_avx2 x86_64
cycles/hash, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
37.77
37.77
37.77
9
18
27
36
45
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread
SMHasher 2022-08-22
Hash: MeowHash x86_64 AES-NI
MiB/sec, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
34310.93
34206.07
34313.46
7K
14K
21K
28K
35K
1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread

SMHasher 2022-08-22

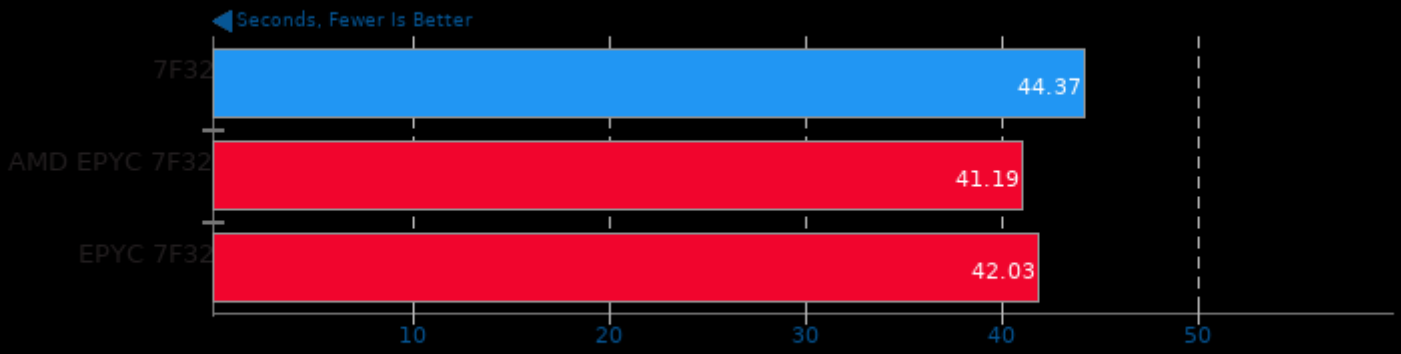
Hash: MeowHash x86_64 AES-NI



1. (CXX) g++ options: -march=native -O3 -flto -fno-fat-lto-objects -lpthread

OpenFOAM 10

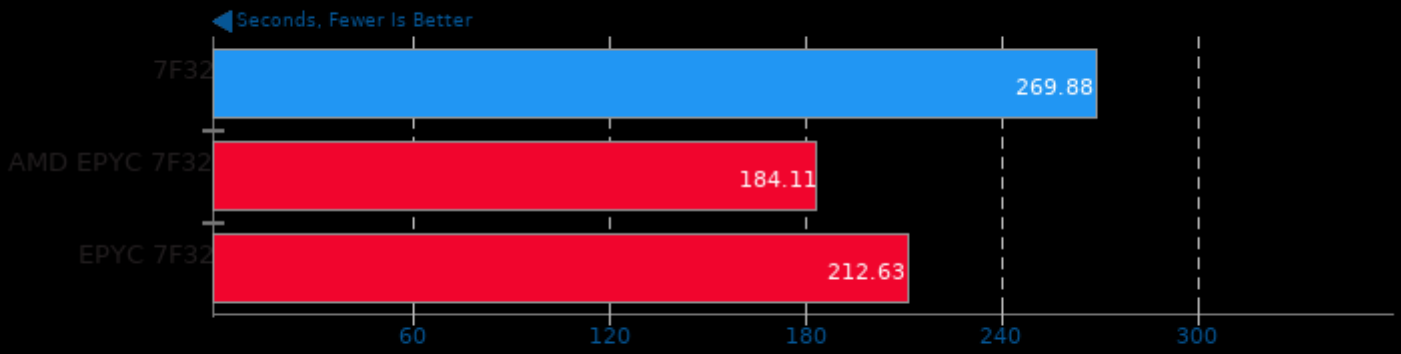
Input: drivaerFastback, Small Mesh Size - Mesh Time



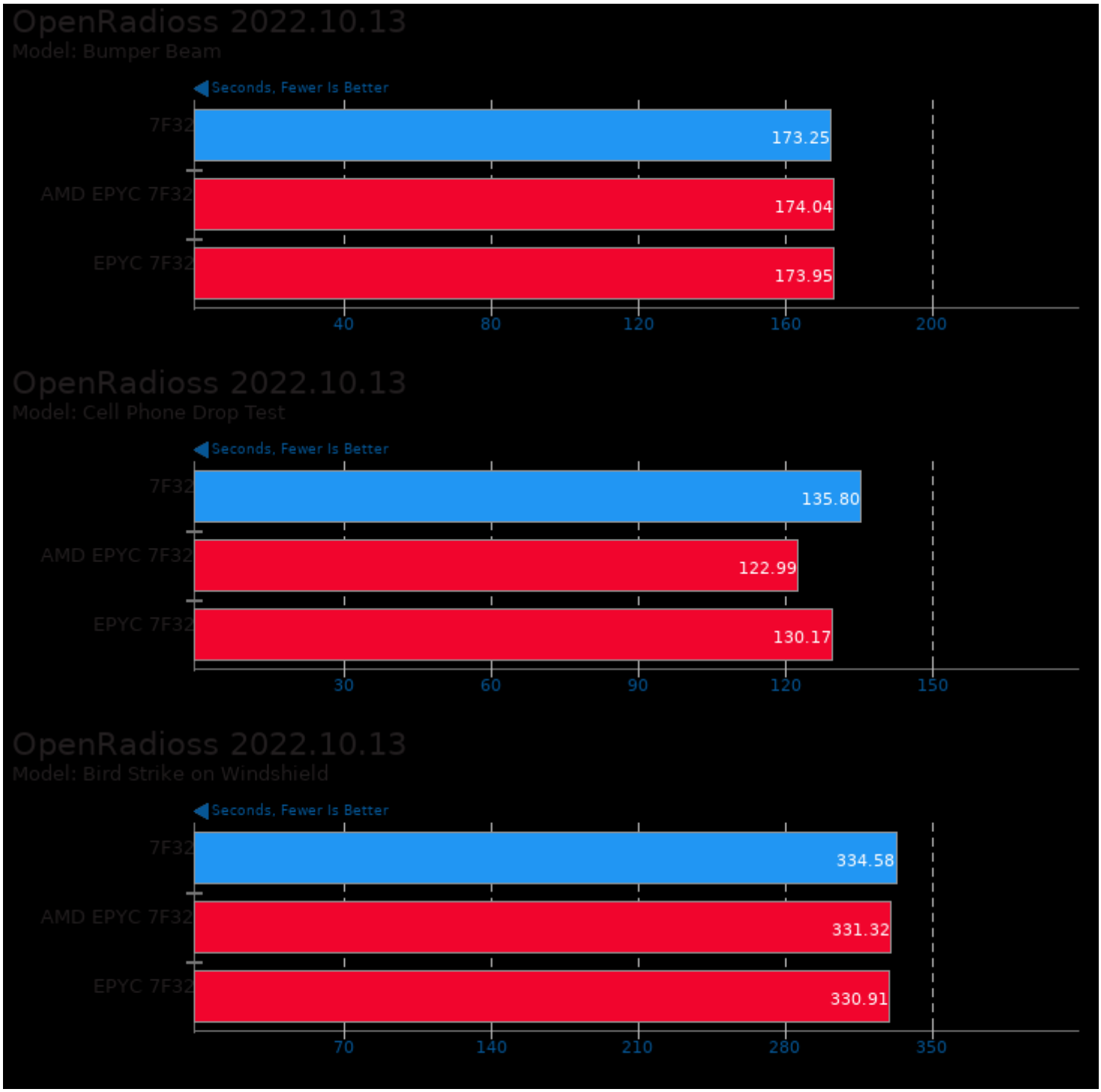
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lphysicalProperties -lspecie -

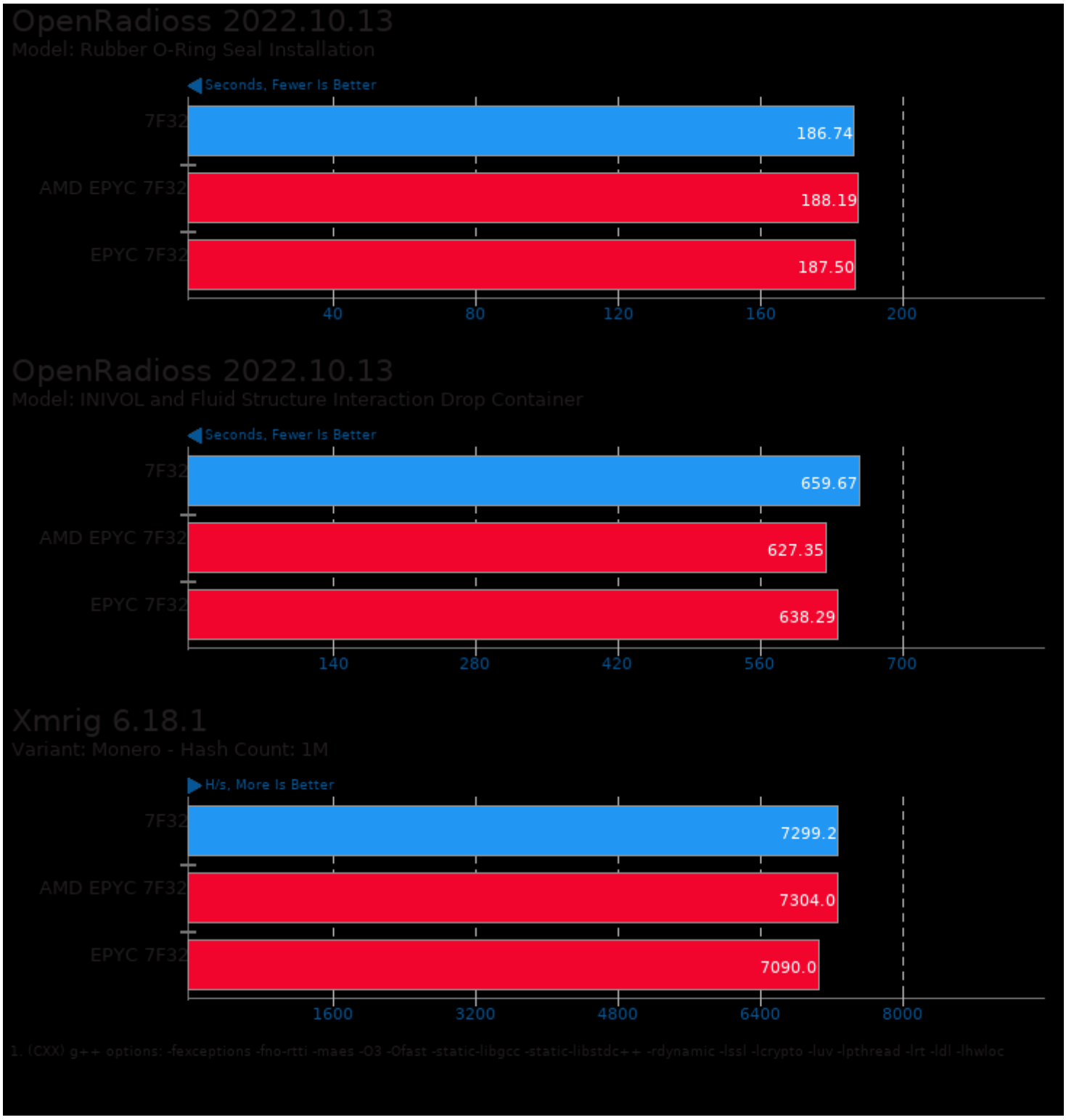
OpenFOAM 10

Input: drivaerFastback, Small Mesh Size - Execution Time



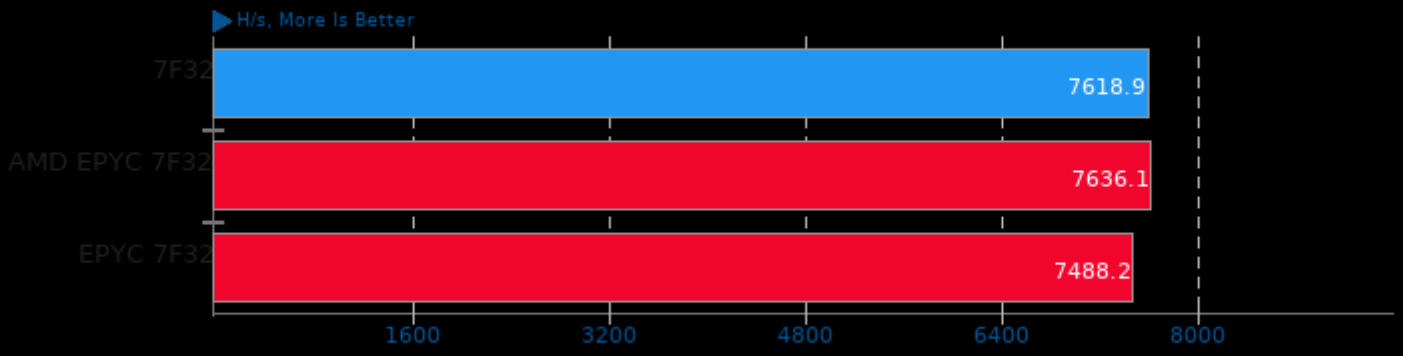
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lphysicalProperties -lspecie -


OpenRadioss 2022.10.13
Model: Bumper Beam
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
173.25
174.04
173.95
40
80
120
160
200
OpenRadioss 2022.10.13
Model: Cell Phone Drop Test
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
135.80
122.99
130.17
30
60
90
120
150
OpenRadioss 2022.10.13
Model: Bird Strike on Windshield
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
334.58
331.32
330.91
70
140
210
280
350


OpenRadioss 2022.10.13
Model: Rubber O-Ring Seal Installation
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
186.74
188.19
187.50
40
80
120
160
200
OpenRadioss 2022.10.13
Model: INIVOL and Fluid Structure Interaction Drop Container
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
659.67
627.35
638.29
140
280
420
560
700
Xmrig 6.18.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
7299.2
7304.0
7090.0
1600
3200
4800
6400
8000
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Xmrig 6.18.1

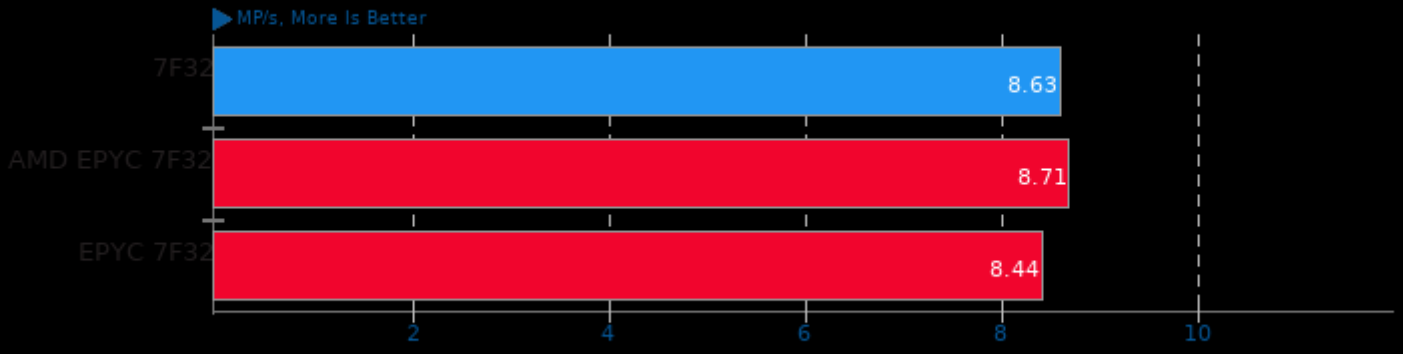
Variant: Wownero - Hash Count: 1M



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

JPEG XL libjxl 0.7

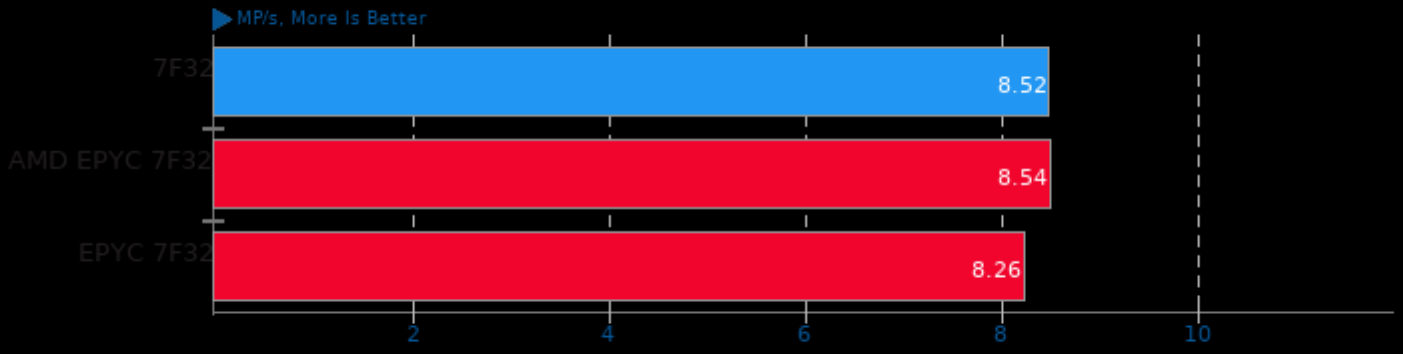
Input: PNG - Quality: 80



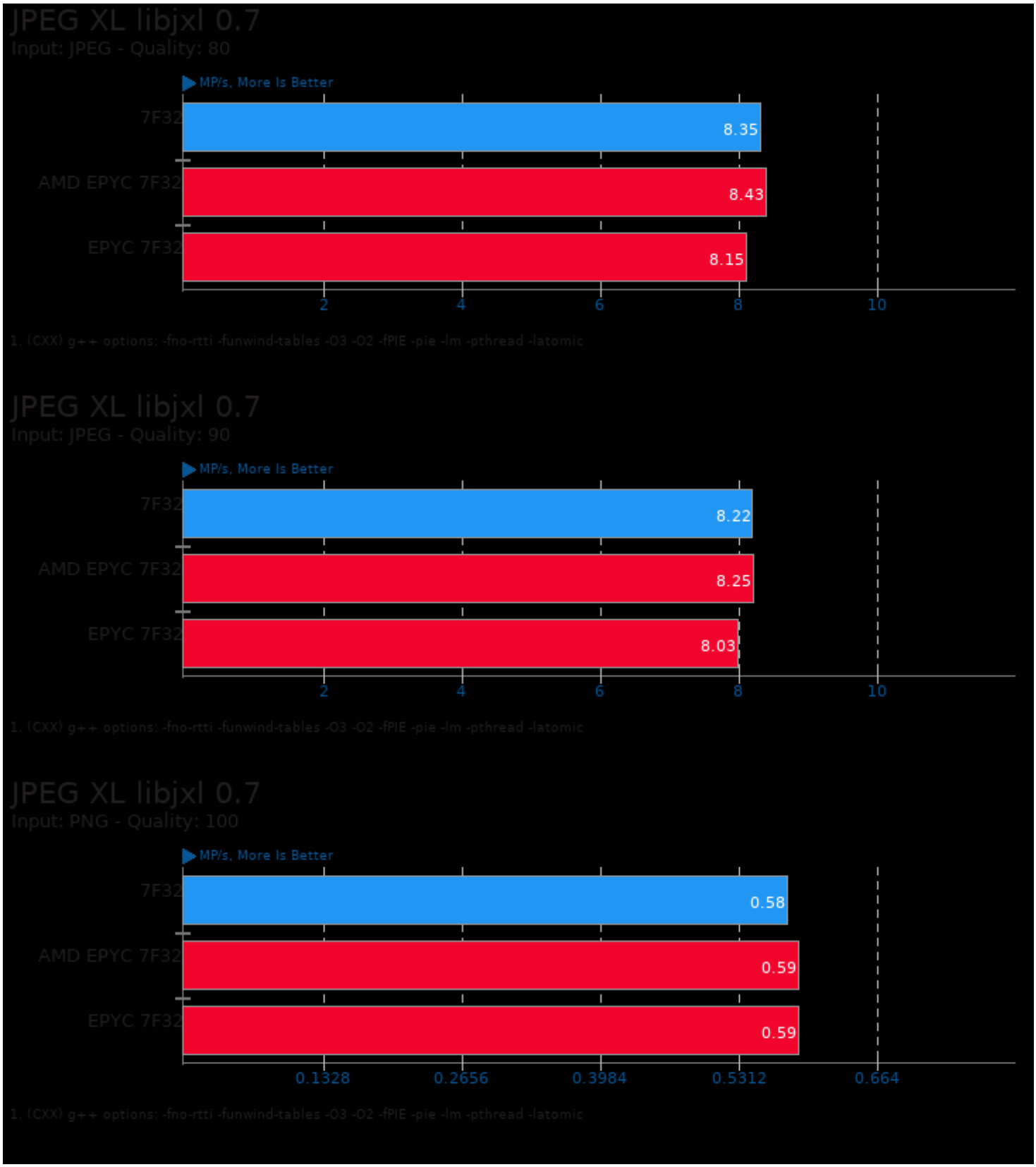
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic

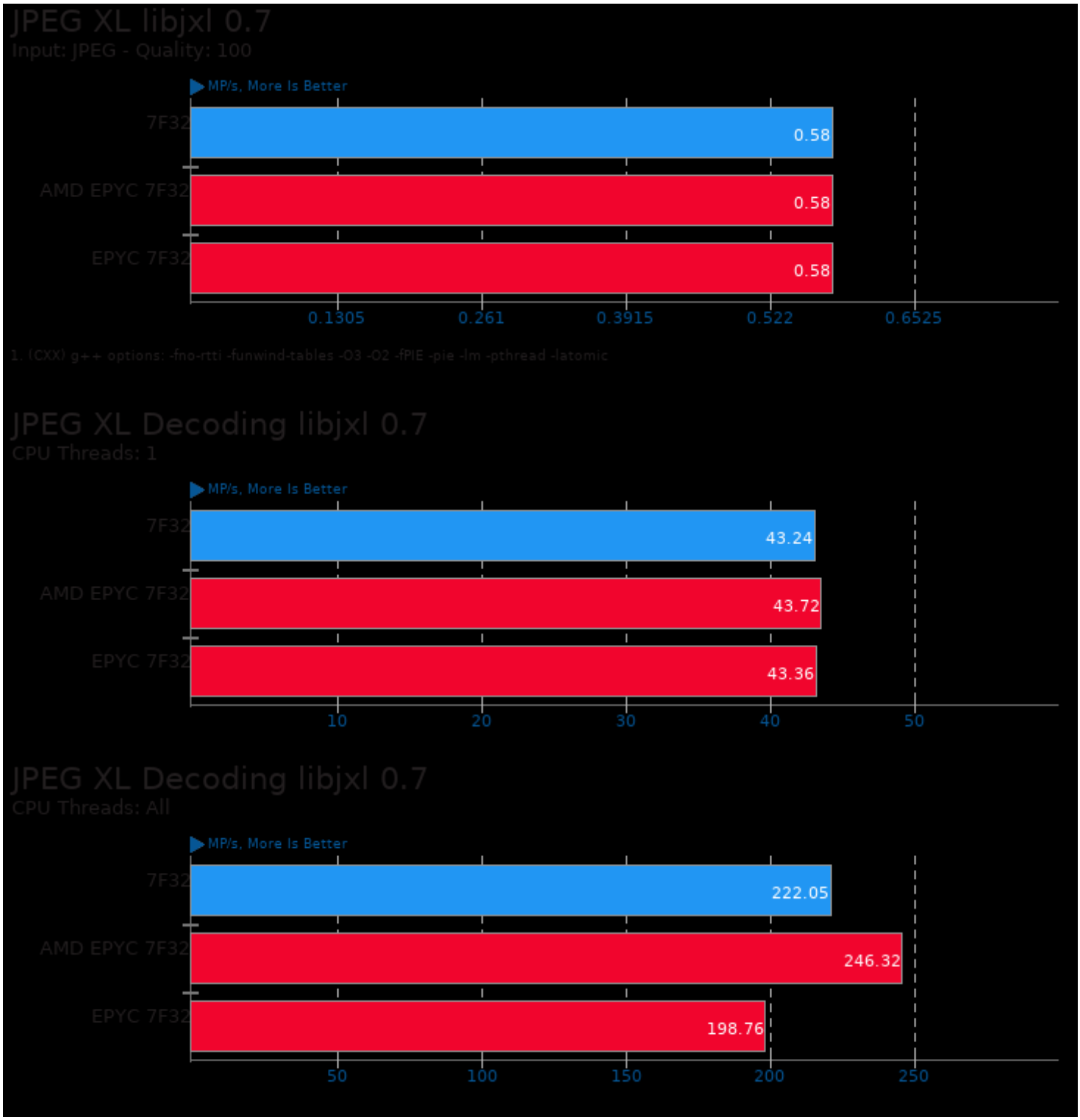
JPEG XL libjxl 0.7

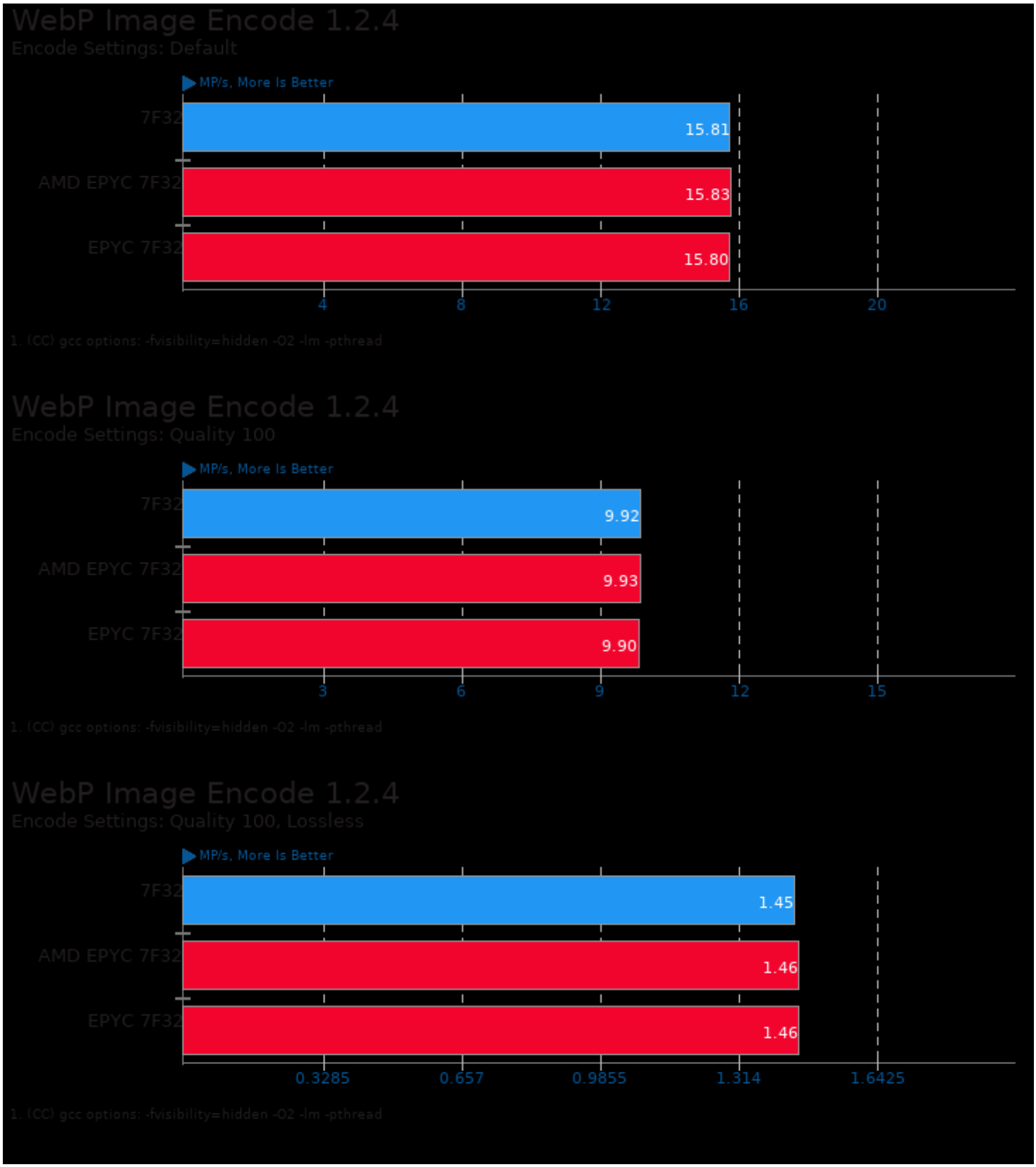
Input: PNG - Quality: 90



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

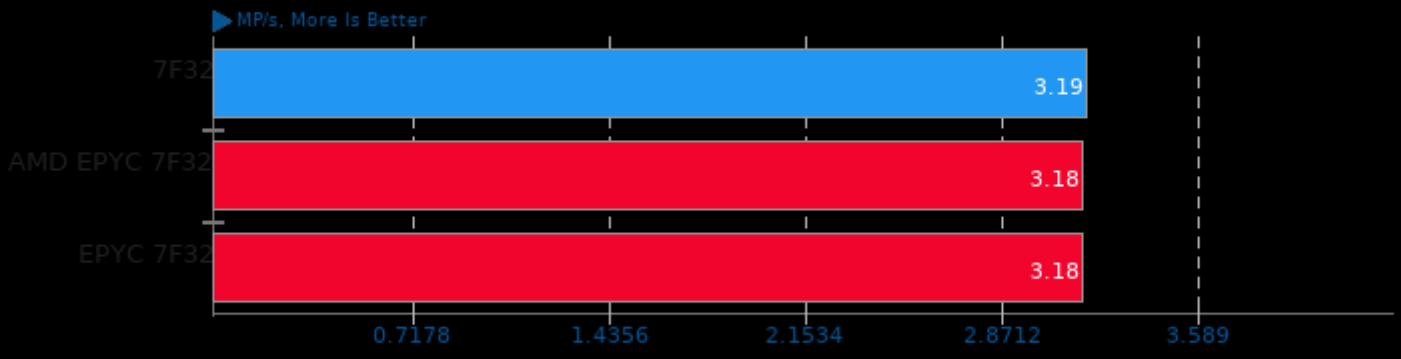

JPEG XL libjxl 0.7
Input: JPEG - Quality: 80
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
8.35
8.43
8.15
2
4
6
8
10
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL libjxl 0.7
Input: JPEG - Quality: 90
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
8.22
8.25
8.03
2
4
6
8
10
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL libjxl 0.7
Input: PNG - Quality: 100
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
0.58
0.59
0.59
0.1328
0.2656
0.3984
0.5312
0.664
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic


JPEG XL libjxl 0.7
Input: JPEG - Quality: 100
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
0.58
0.58
0.58
0.1305
0.261
0.3915
0.522
0.6525
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL Decoding libjxl 0.7
CPU Threads: 1
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
43.24
43.72
43.36
10
20
30
40
50
JPEG XL Decoding libjxl 0.7
CPU Threads: All
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
222.05
246.32
198.76
50
100
150
200
250


WebP Image Encode 1.2.4
Encode Settings: Default
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
15.81
15.83
15.80
4
8
12
16
20
1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread
WebP Image Encode 1.2.4
Encode Settings: Quality 100
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
9.92
9.93
9.90
3
6
9
12
15
1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread
WebP Image Encode 1.2.4
Encode Settings: Quality 100, Lossless
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
1.45
1.46
1.46
0.3285
0.657
0.9855
1.314
1.6425
1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

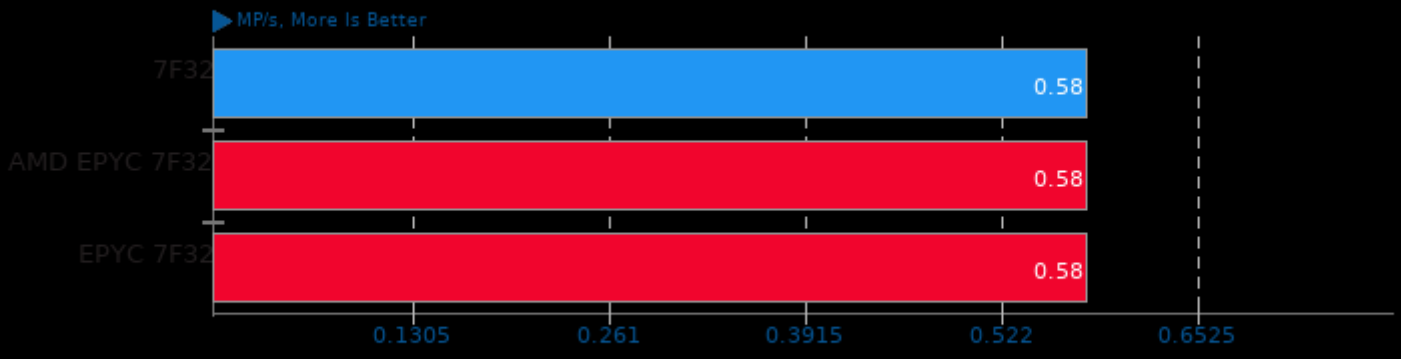
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

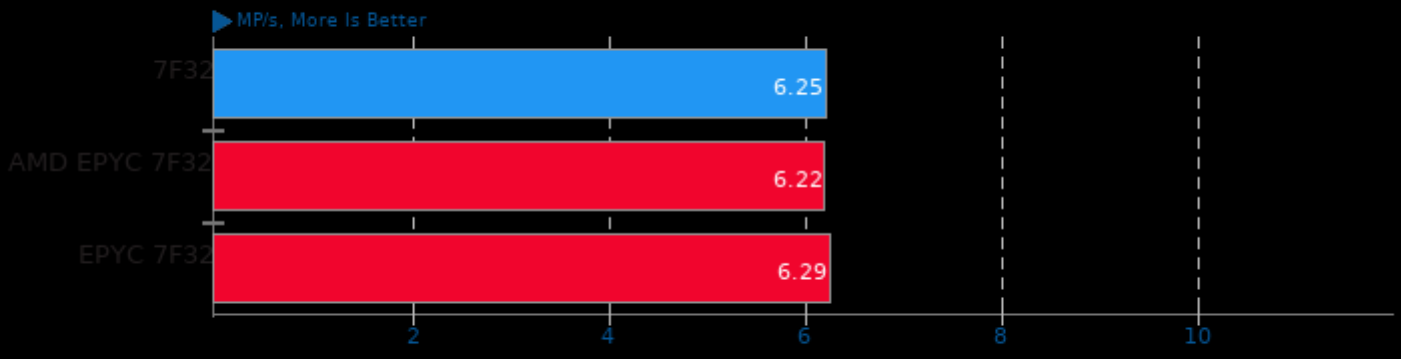
Encode Settings: Quality 100, Lossless, Highest Compression



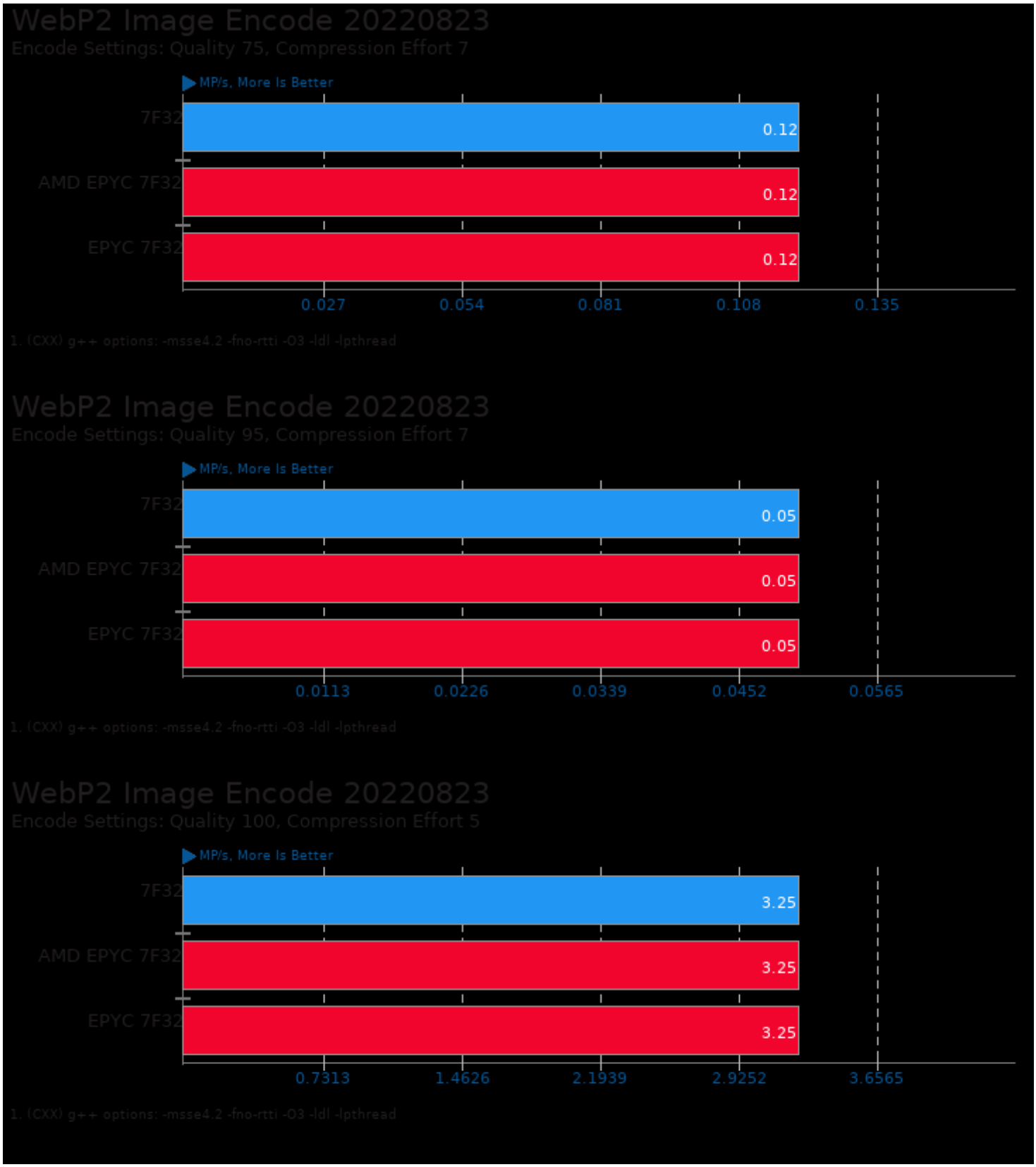
1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP2 Image Encode 20220823

Encode Settings: Default

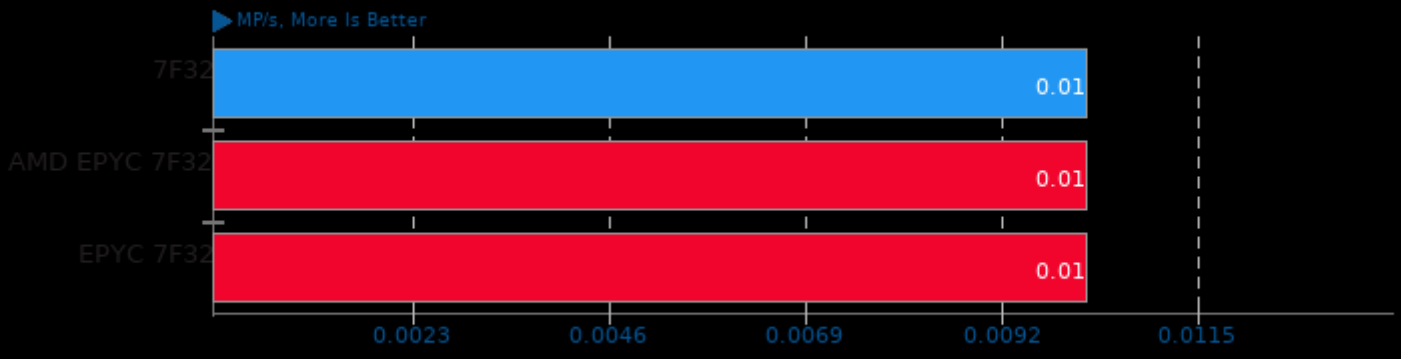


1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread


WebP2 Image Encode 20220823
Encode Settings: Quality 75, Compression Effort 7
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
0.12
0.12
0.12
0.027
0.054
0.081
0.108
0.135
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread
WebP2 Image Encode 20220823
Encode Settings: Quality 95, Compression Effort 7
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
0.05
0.05
0.05
0.0113
0.0226
0.0339
0.0452
0.0565
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread
WebP2 Image Encode 20220823
Encode Settings: Quality 100, Compression Effort 5
MP/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
3.25
3.25
3.25
0.7313
1.4626
2.1939
2.9252
3.6565
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220823

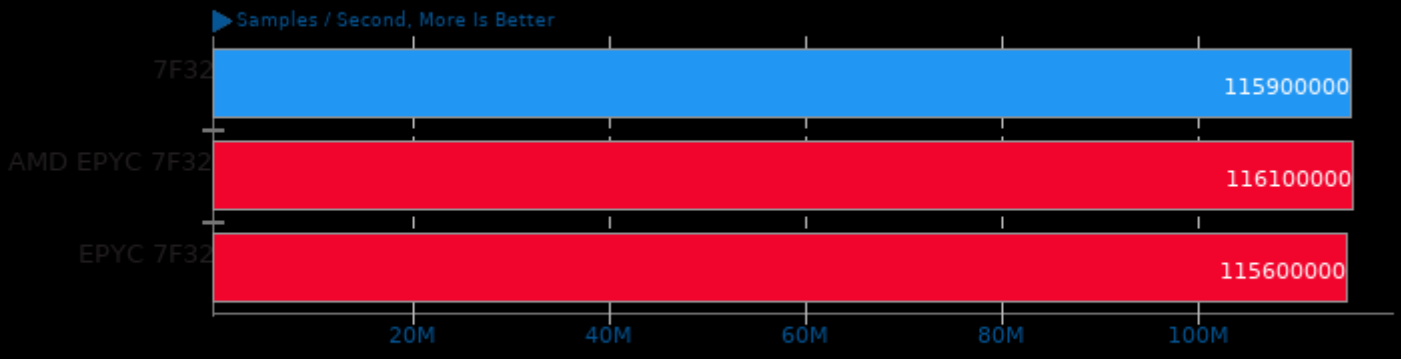
Encode Settings: Quality 100, Lossless Compression



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

srsRAN 22.04.1

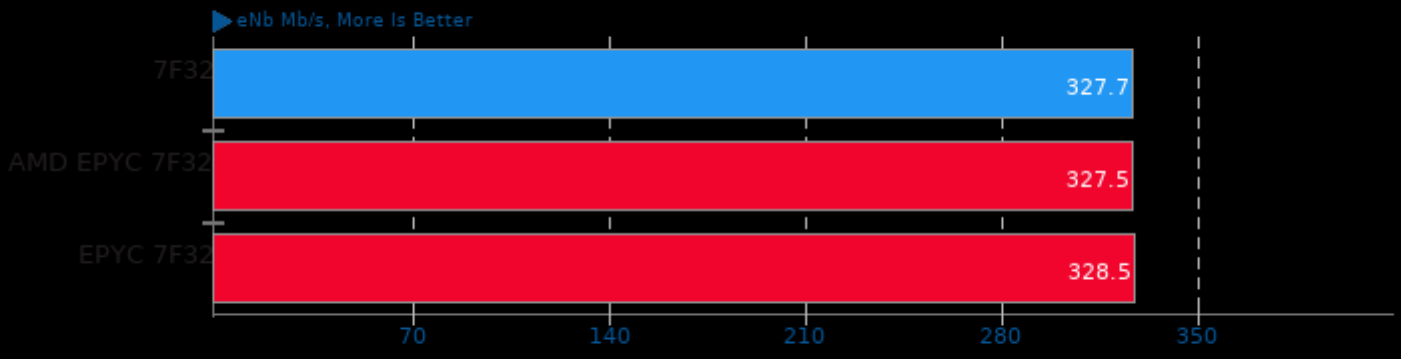
Test: OFDM_Test



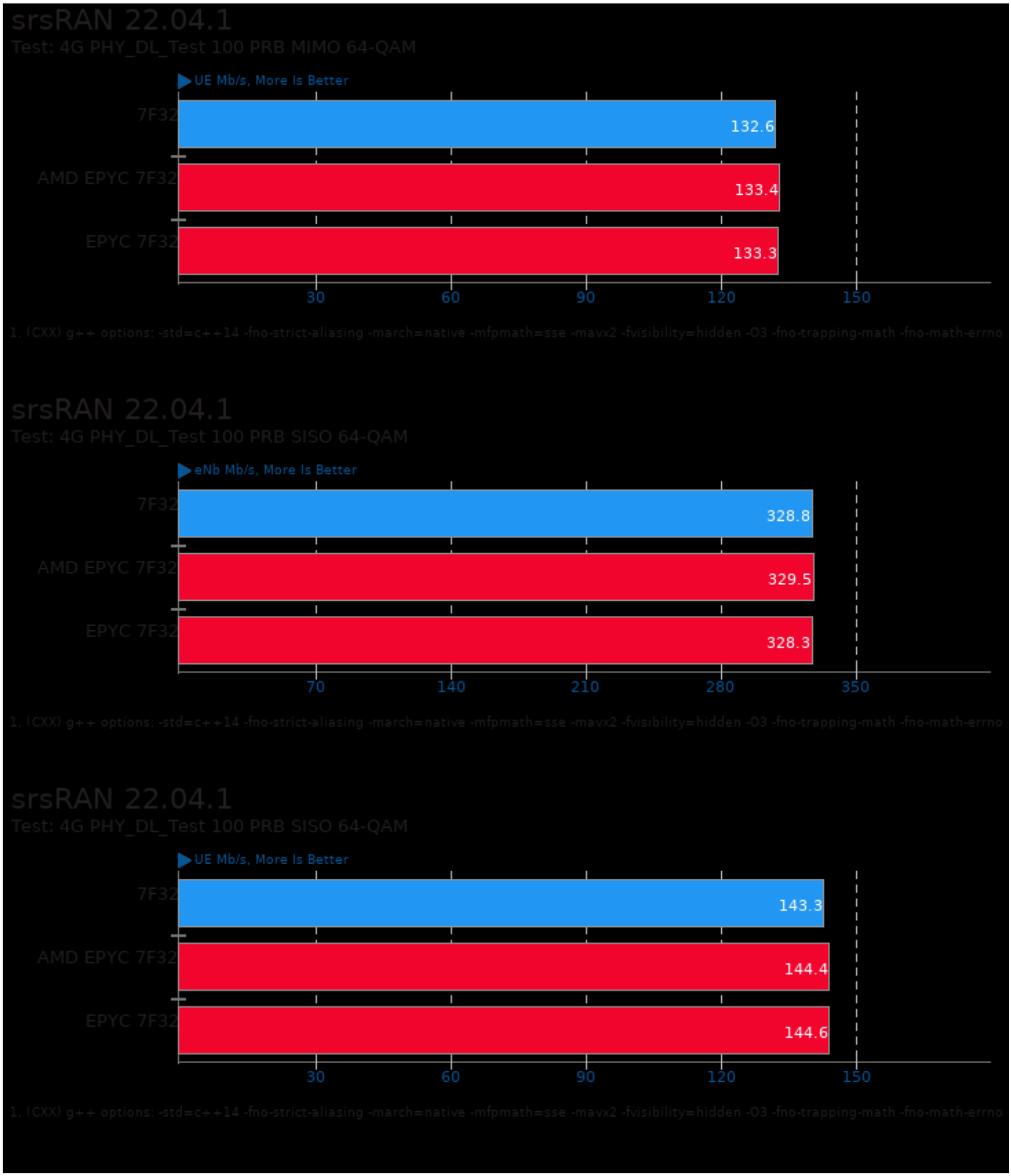
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

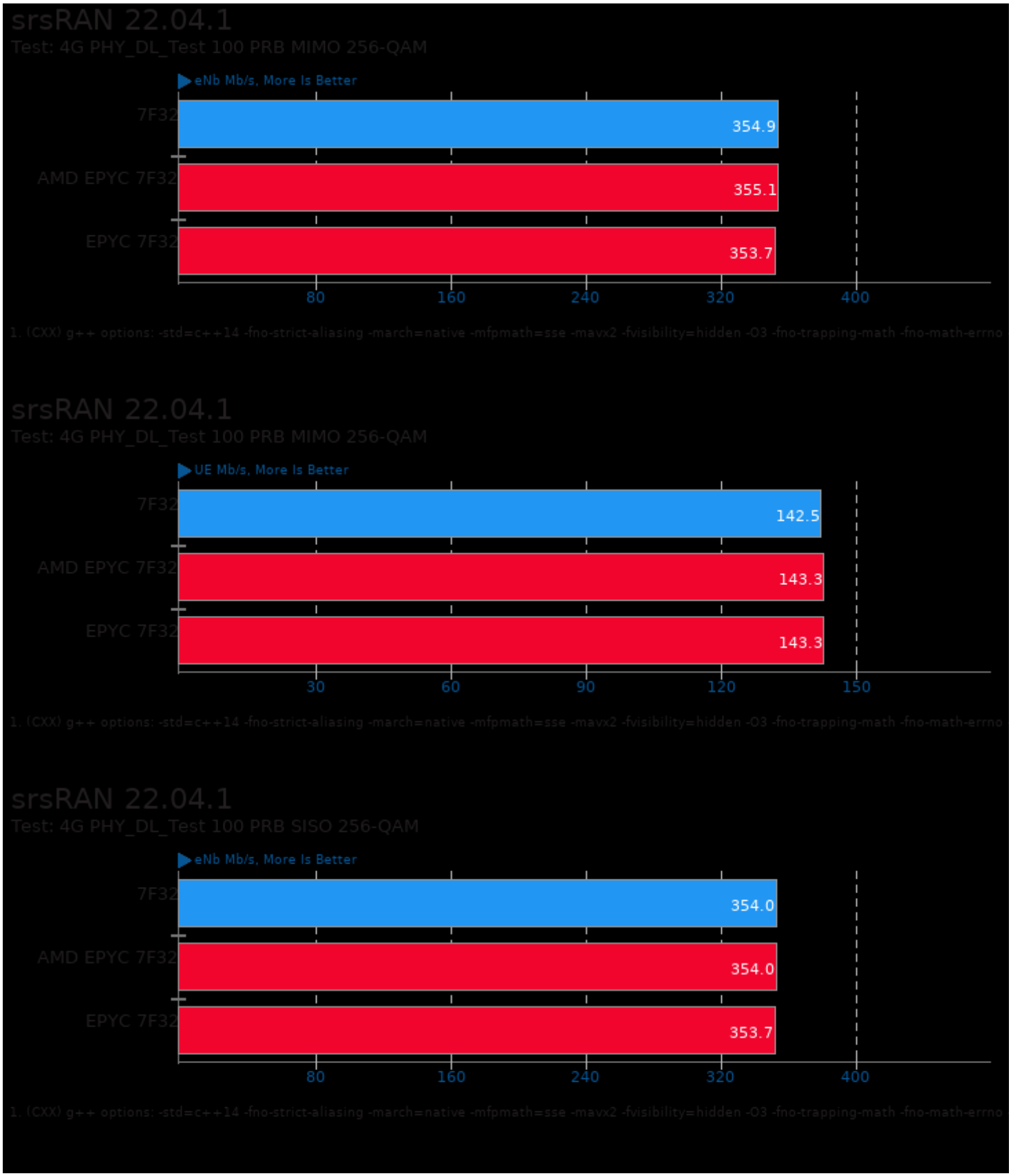
srsRAN 22.04.1

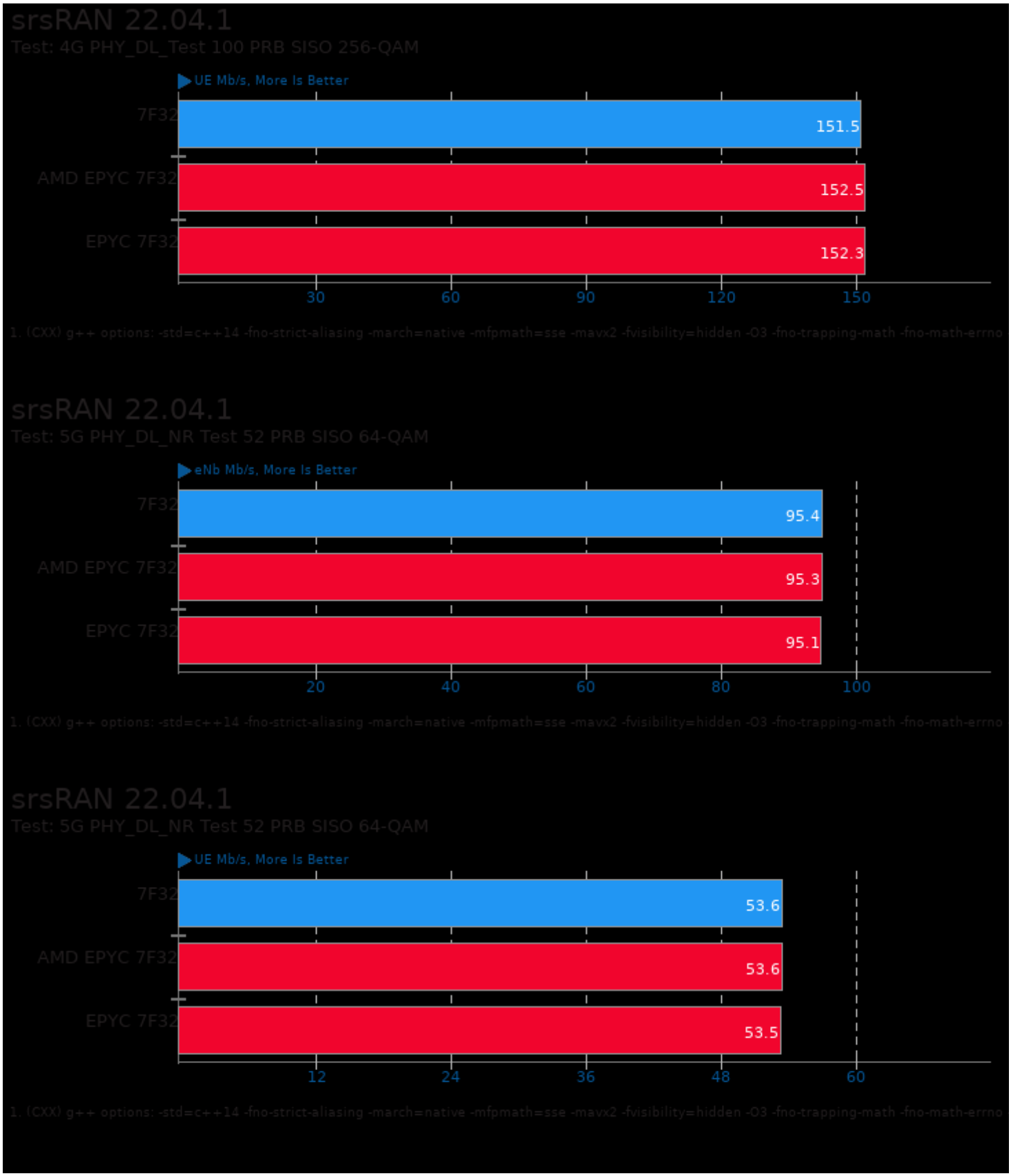
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM

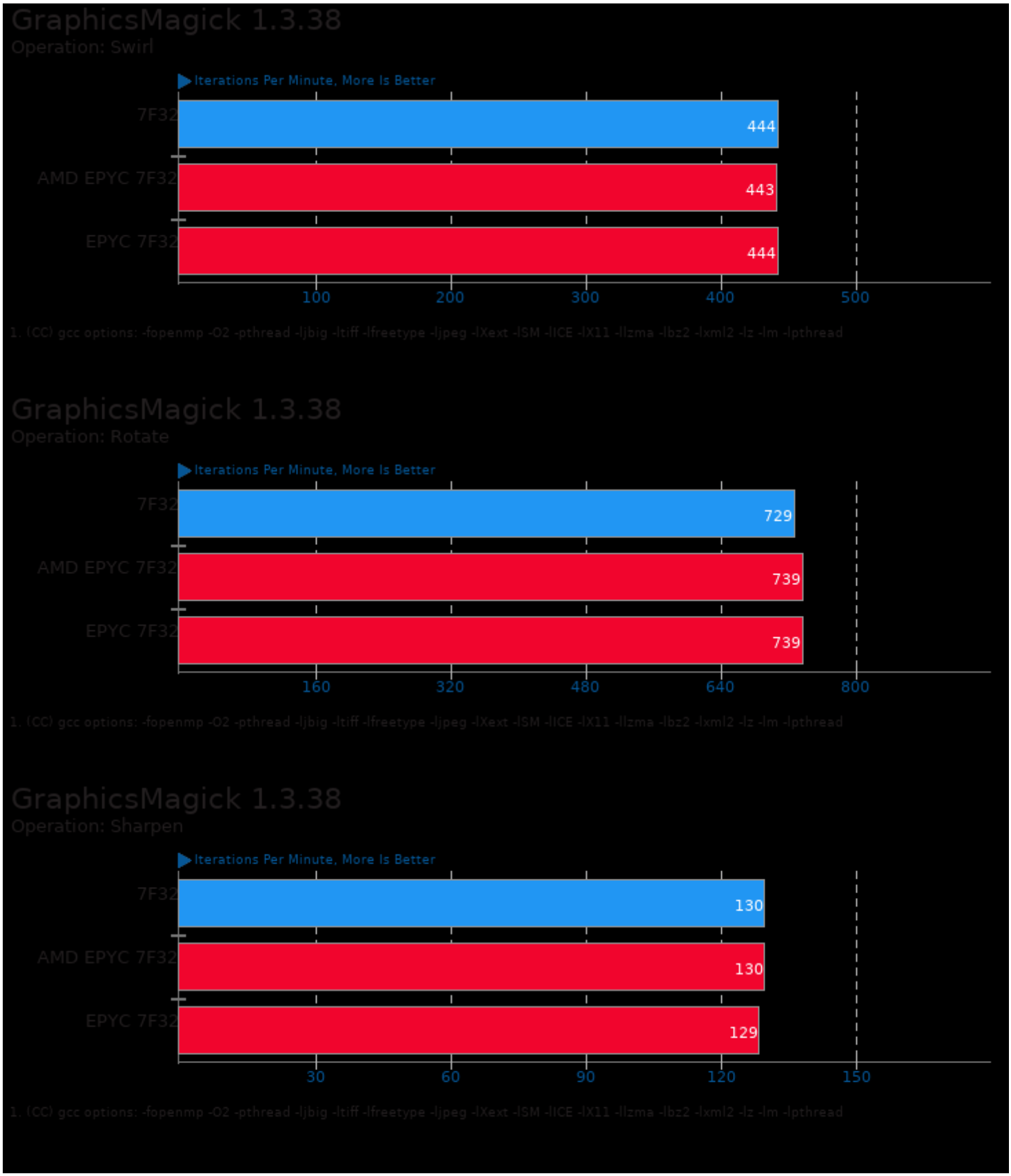


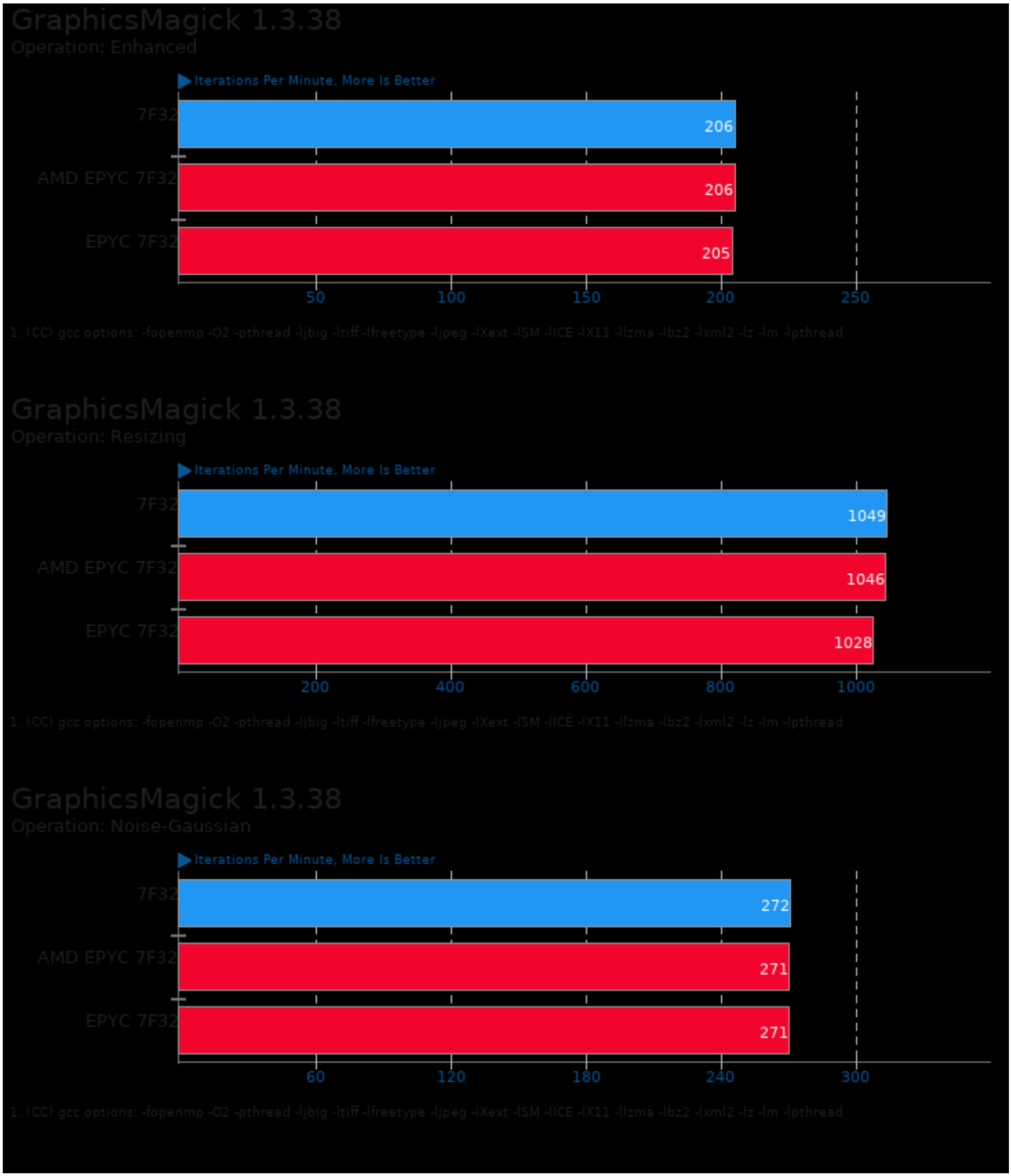
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM
UE Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
132.6
133.4
133.3
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
eNb Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
328.8
329.5
328.3
70
140
210
280
350
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
UE Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
143.3
144.4
144.6
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
eNb Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
354.9
355.1
353.7
80
160
240
320
400
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
UE Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
142.5
143.3
143.3
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
eNb Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
354.0
354.0
353.7
80
160
240
320
400
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

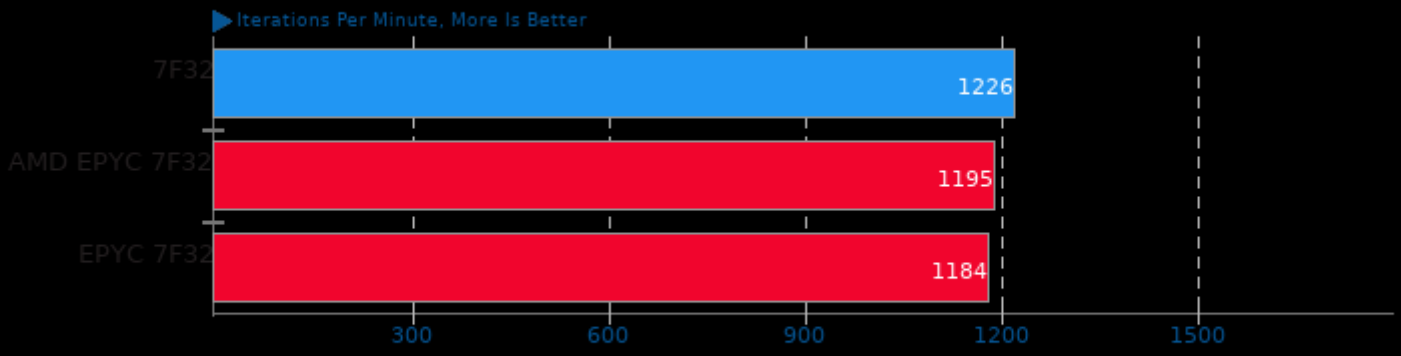

srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
UE Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
151.5
152.5
152.3
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
eNb Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
95.4
95.3
95.1
20
40
60
80
100
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
UE Mb/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
53.6
53.6
53.5
12
24
36
48
60
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


GraphicsMagick 1.3.38
Operation: Swirl
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
444
443
444
100
200
300
400
500
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Rotate
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
729
739
739
160
320
480
640
800
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Sharpen
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
130
130
129
30
60
90
120
150
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread


GraphicsMagick 1.3.38
Operation: Enhanced
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
206
206
205
50
100
150
200
250
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Resizing
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
1049
1046
1028
200
400
600
800
1000
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Noise-Gaussian
Iterations Per Minute, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
272
271
271
60
120
180
240
300
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.38

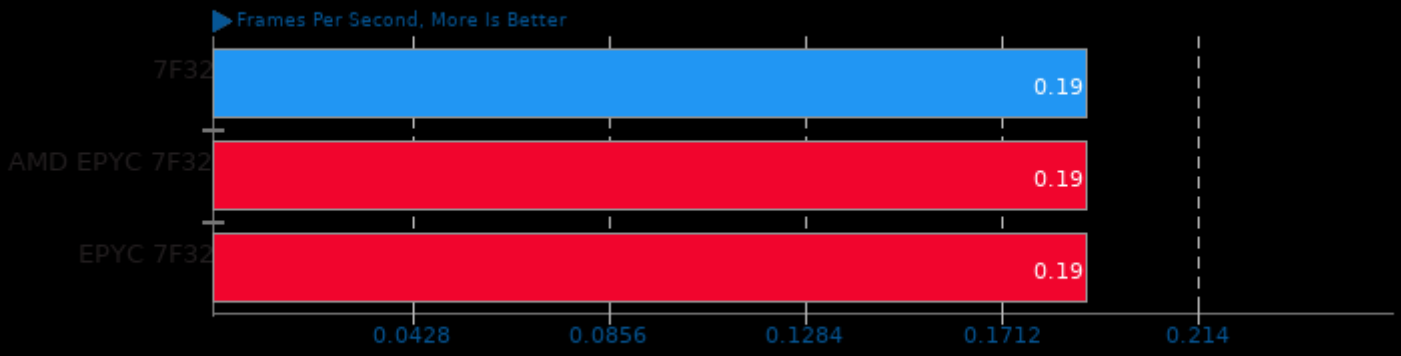
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

AOM AV1 3.5

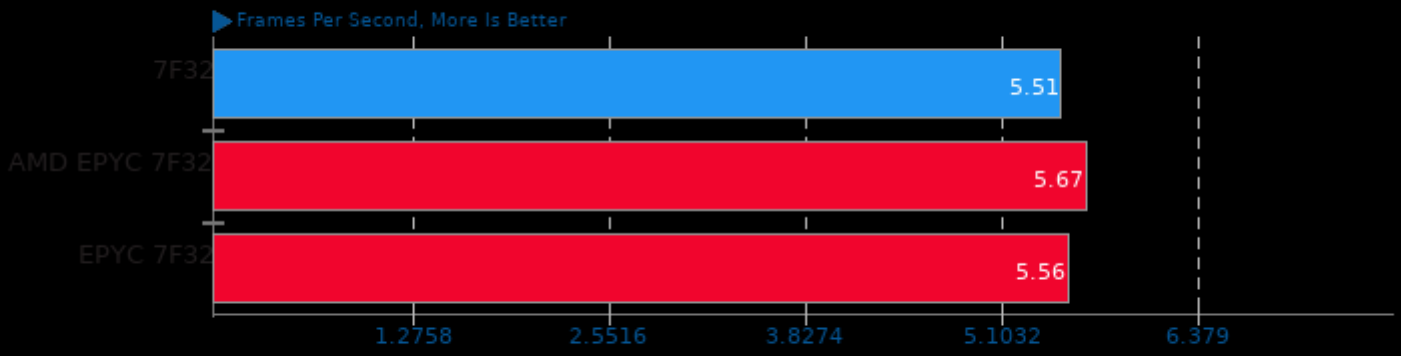
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K



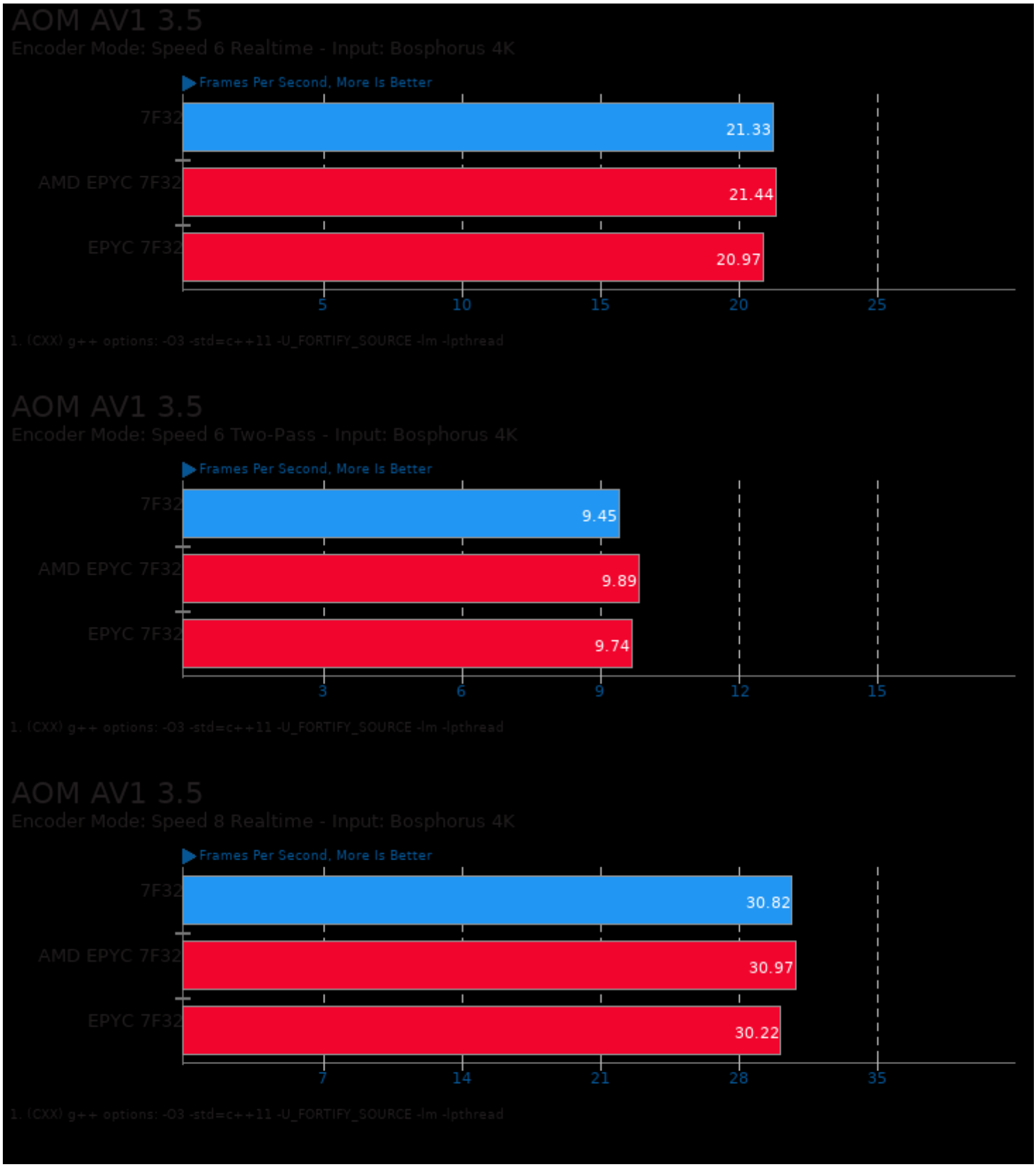
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.5

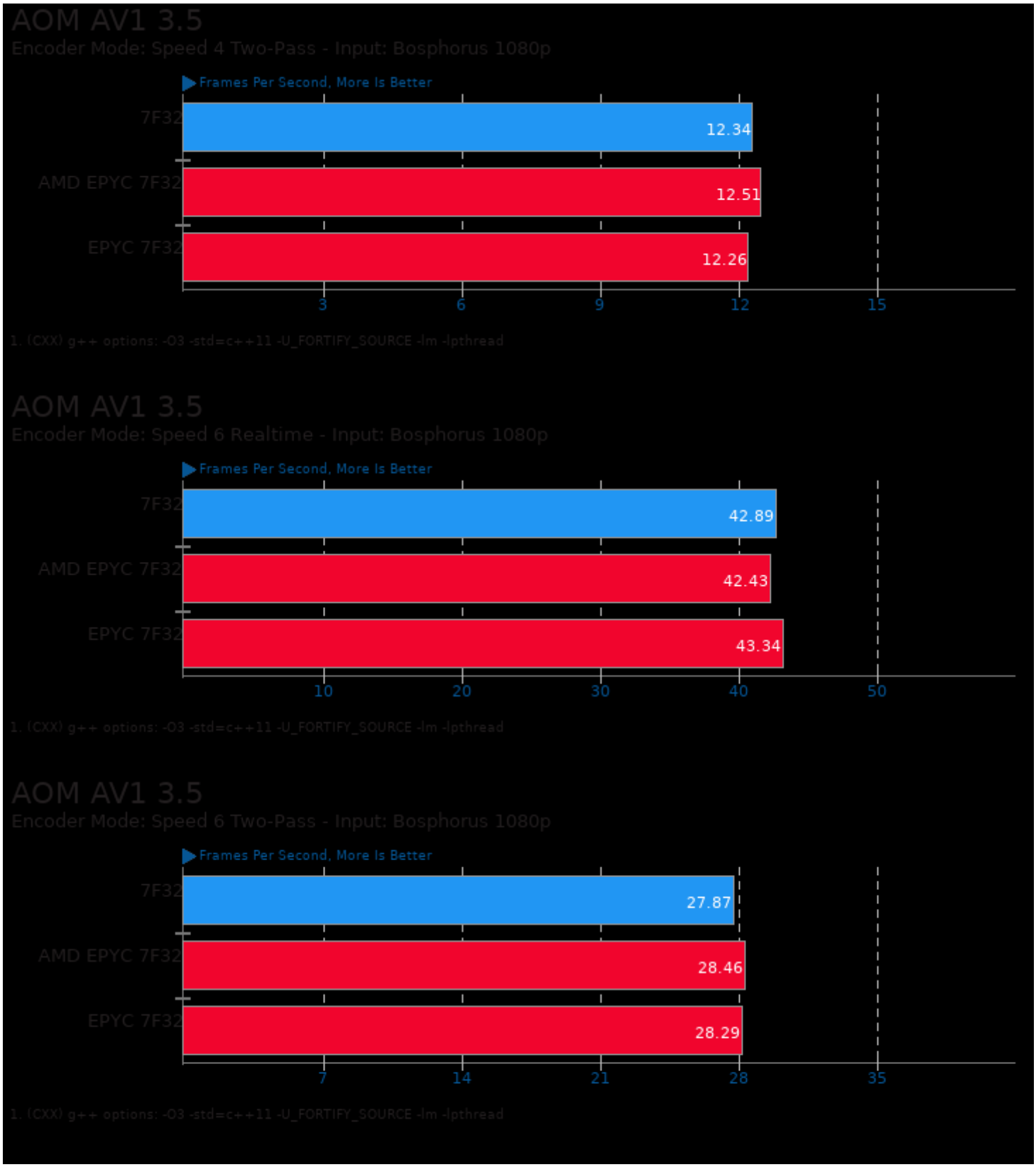
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K

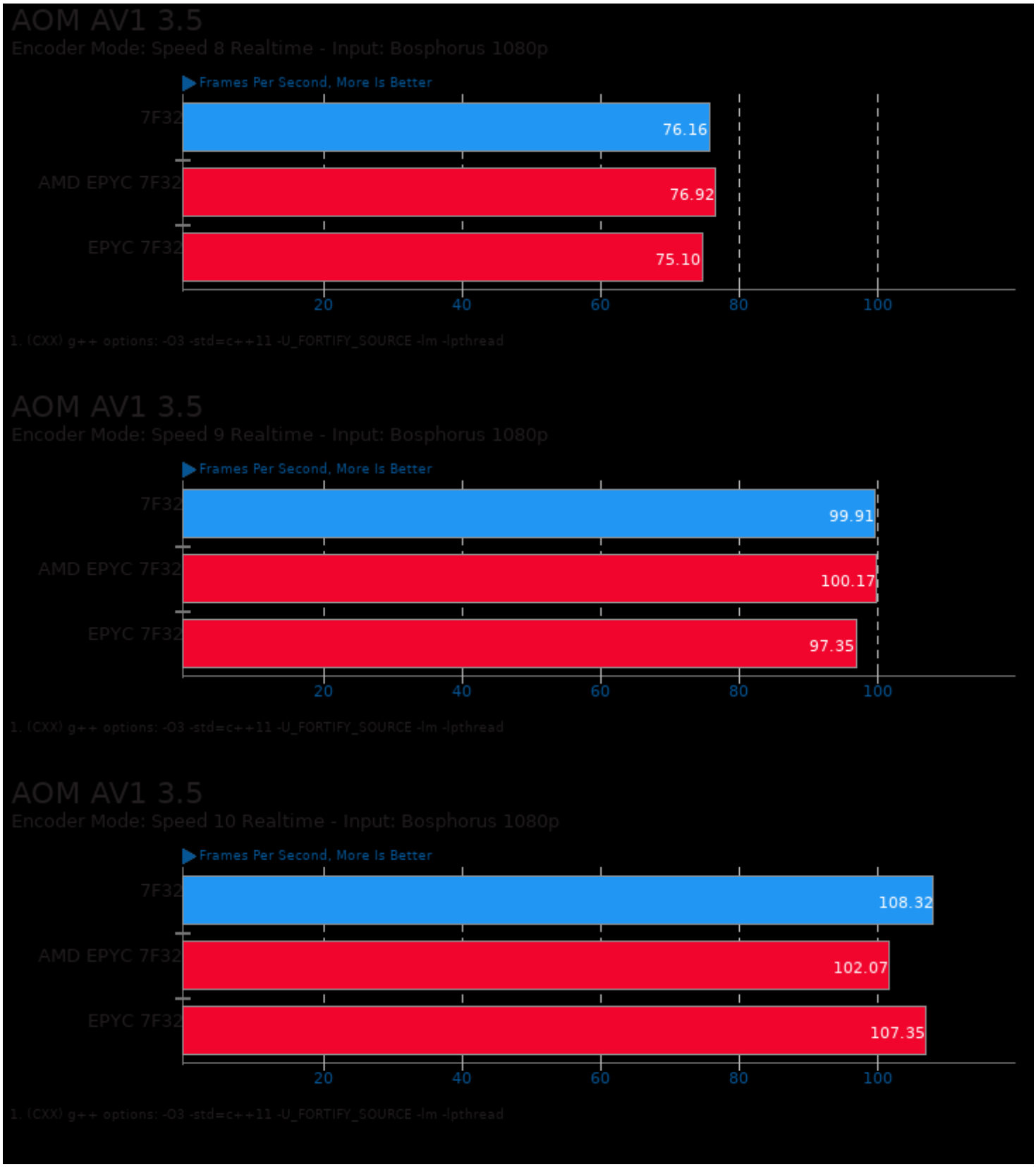


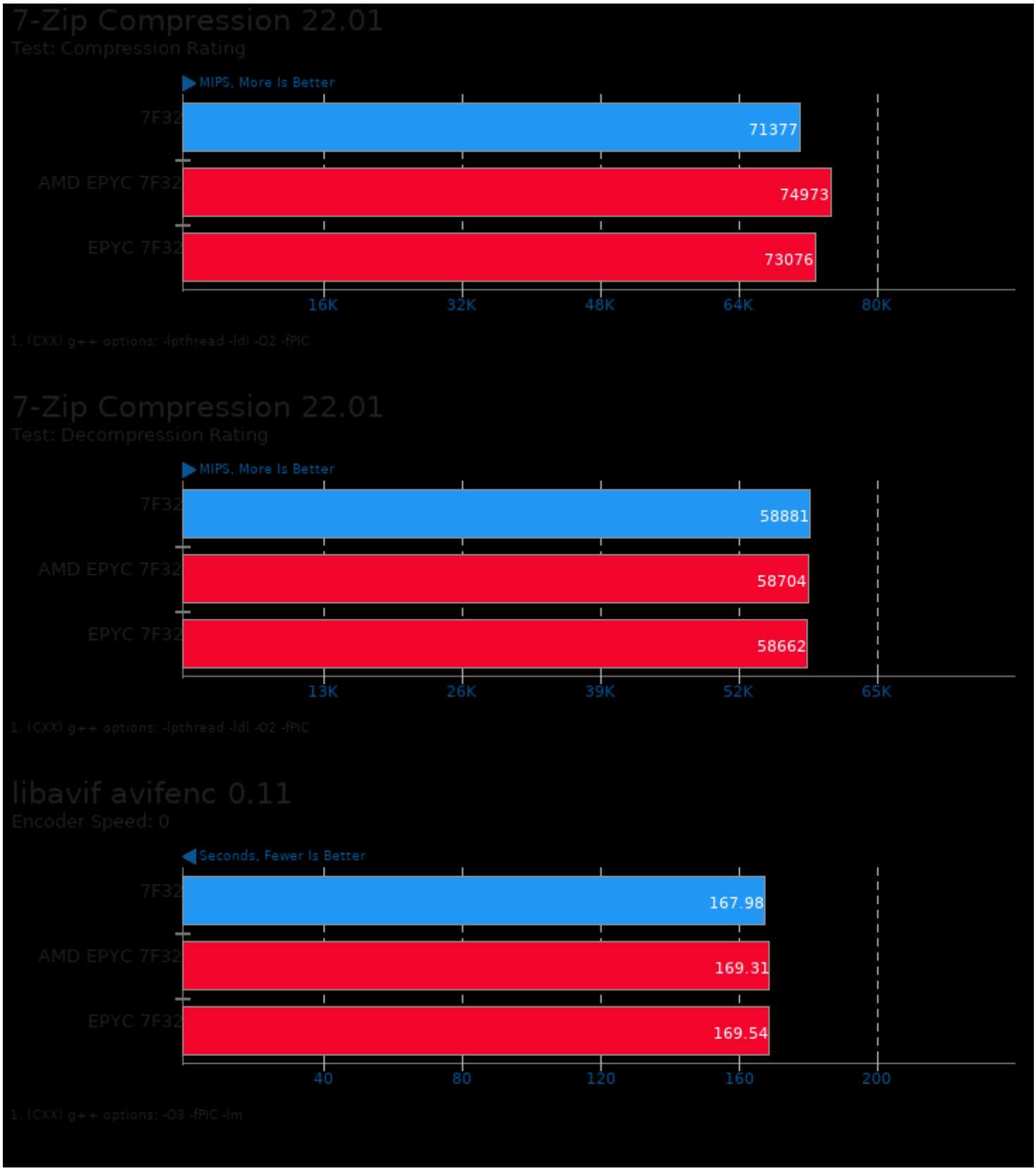
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.5
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
21.33
21.44
20.97
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
9.45
9.89
9.74
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
30.82
30.97
30.22
7
14
21
28
35
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

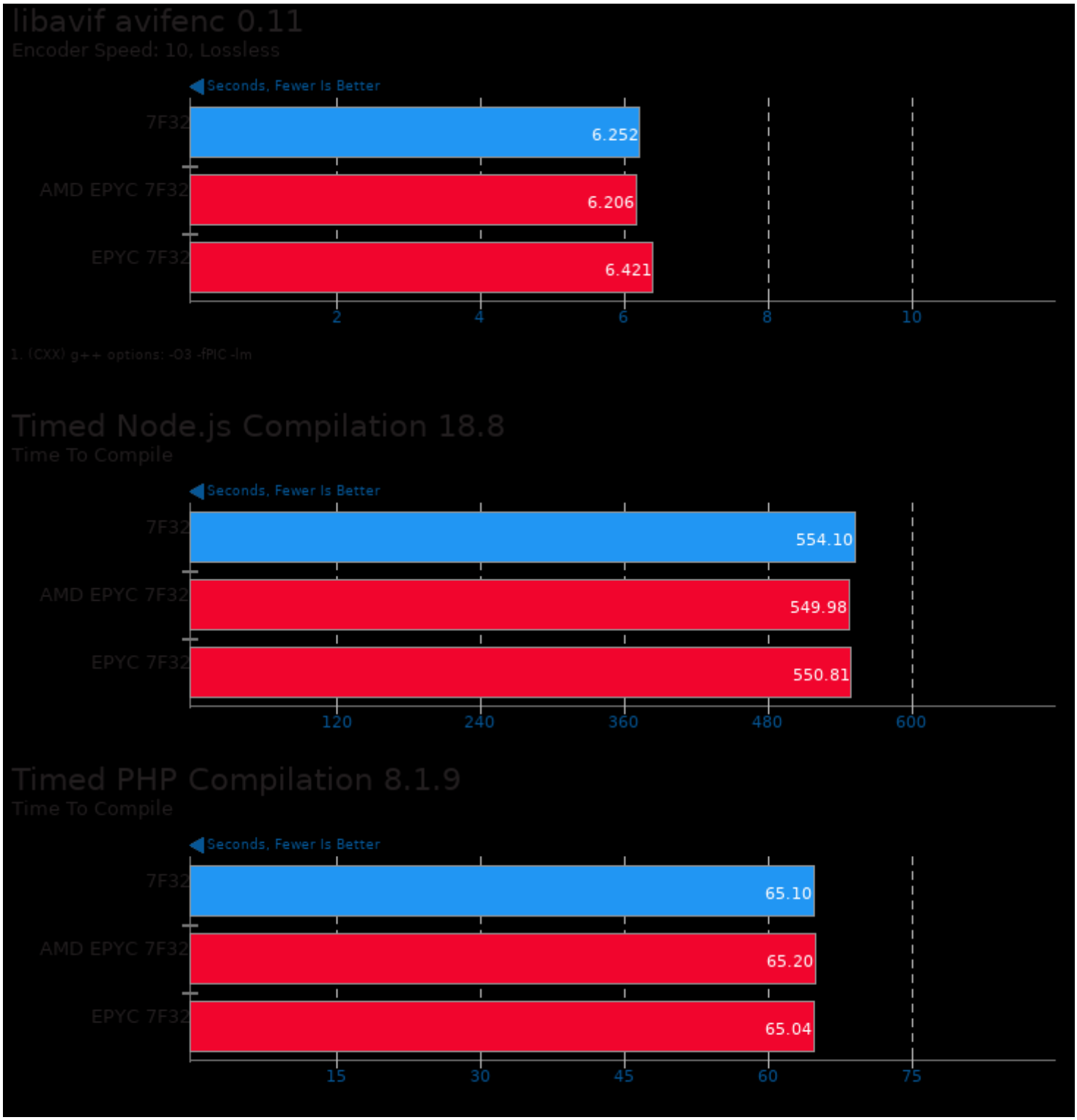

AOM AV1 3.5
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
42.42
42.81
41.56
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
42.49
43.34
42.08
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
0.54
0.54
0.54
0.1215
0.243
0.3645
0.486
0.6075
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

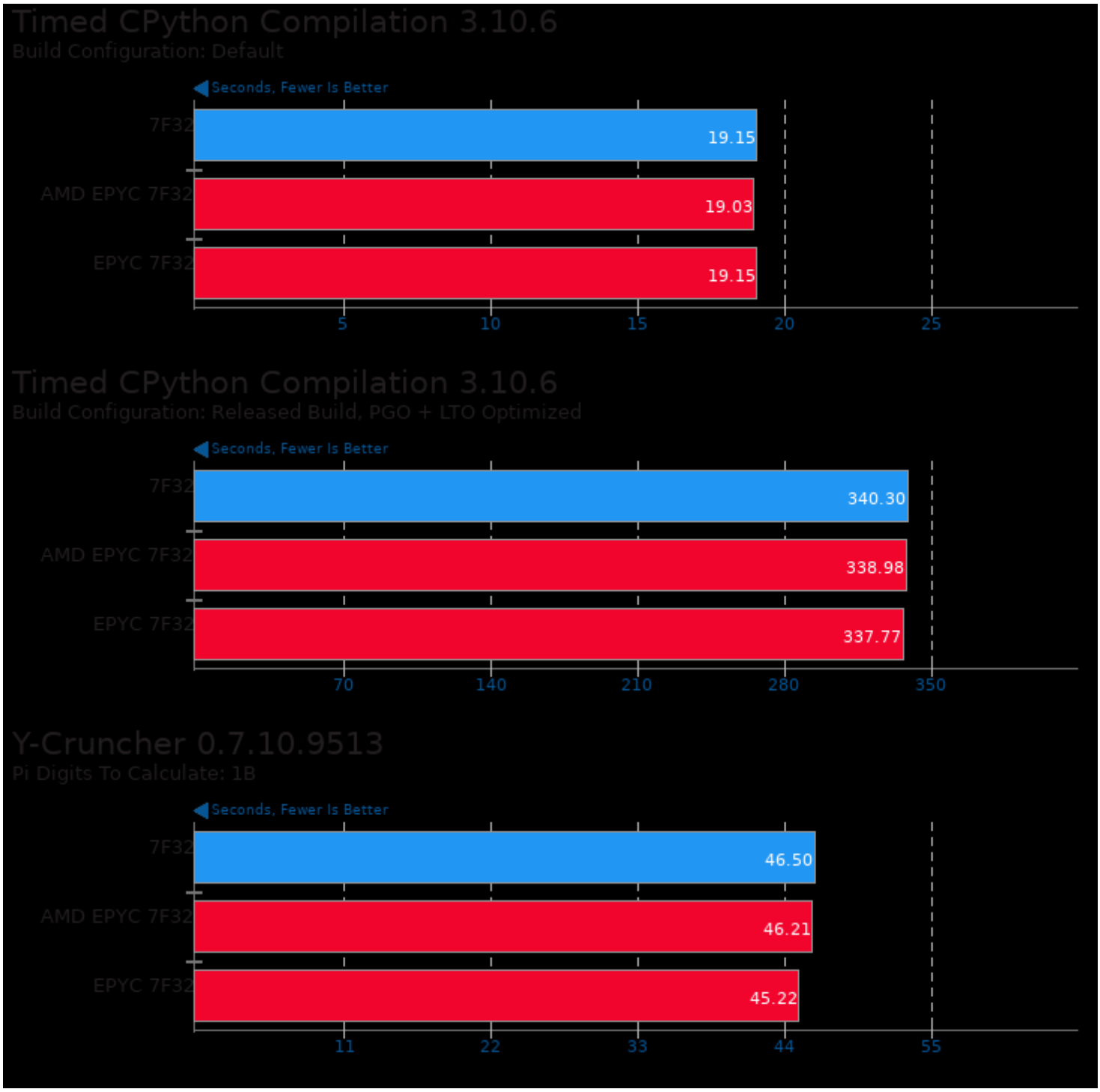

AOM AV1 3.5
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
12.34
12.51
12.26
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
42.89
42.43
43.34
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
27.87
28.46
28.29
7
14
21
28
35
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

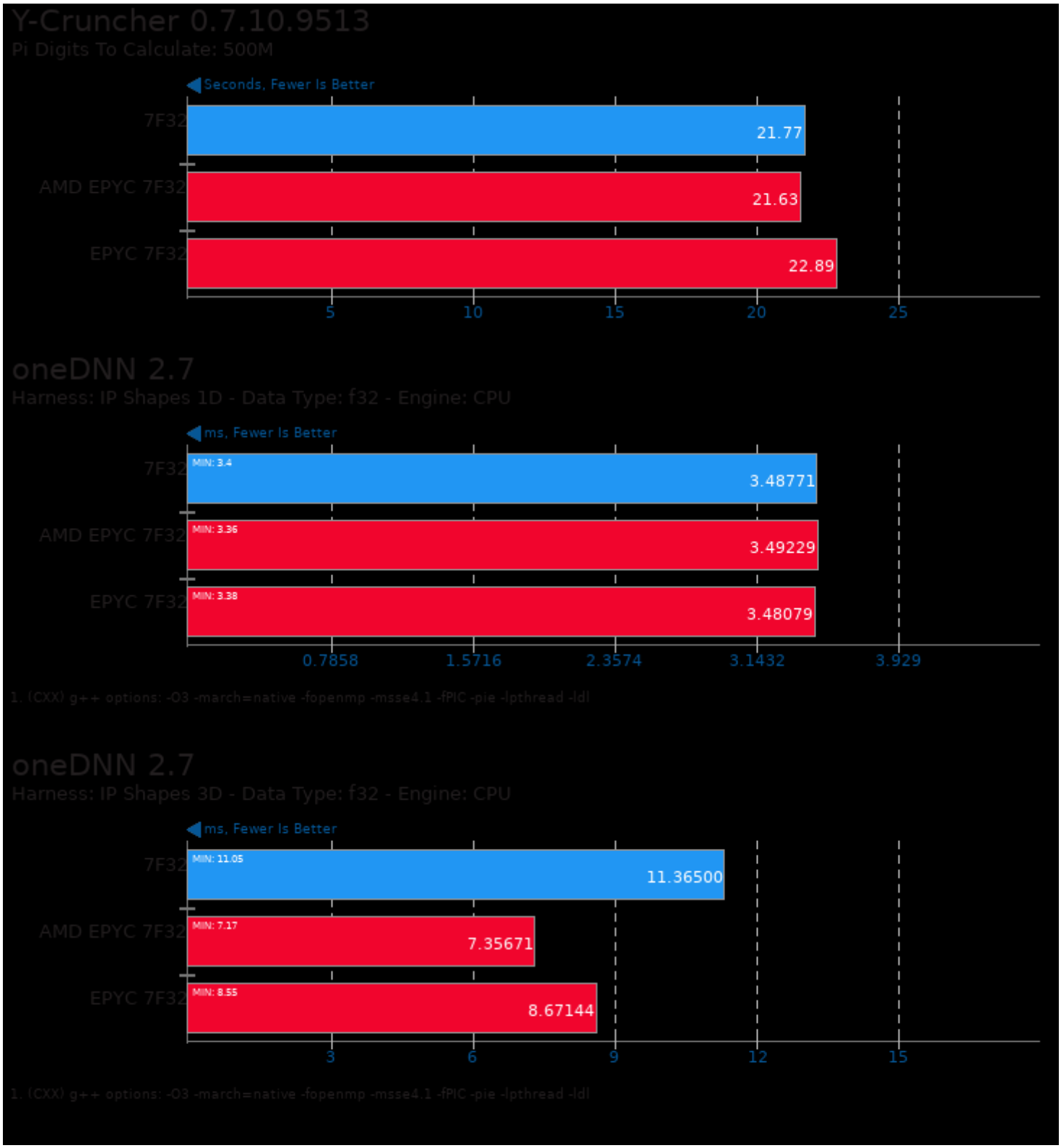

AOM AV1 3.5
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
76.16
76.92
75.10
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
99.91
100.17
97.35
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
108.32
102.07
107.35
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

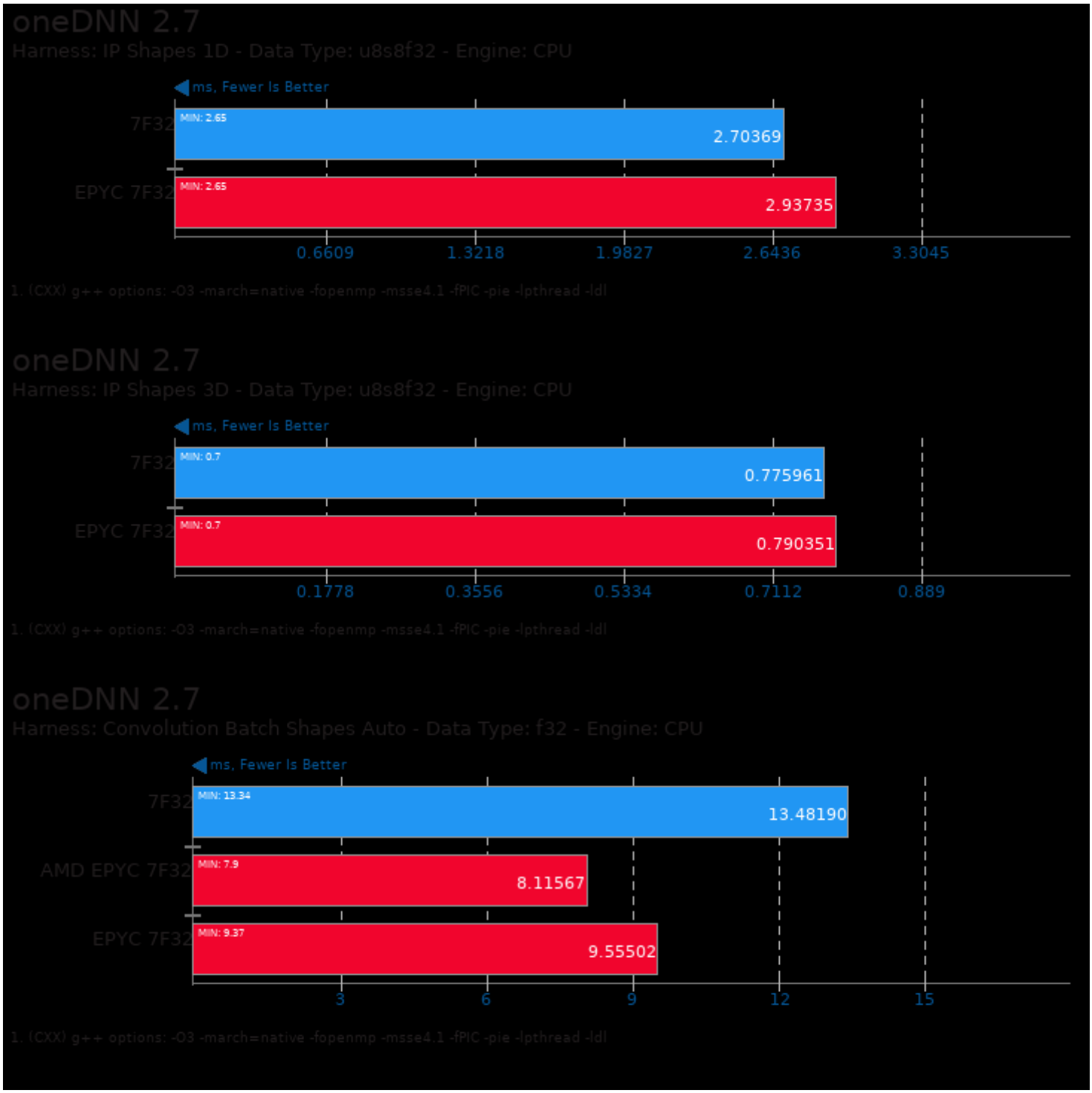

7-Zip Compression 22.01
Test: Compression Rating
MIPS, More Is Better
7F32
71377
AMD EPYC 7F32
74973
EPYC 7F32
73076
16K
32K
48K
64K
80K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
7-Zip Compression 22.01
Test: Decompression Rating
MIPS, More Is Better
7F32
58881
AMD EPYC 7F32
58704
EPYC 7F32
58662
13K
26K
39K
52K
65K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
libavif avifenc 0.11
Encoder Speed: 0
Seconds, Fewer Is Better
7F32
167.98
AMD EPYC 7F32
169.31
EPYC 7F32
169.54
40
80
120
160
200
1. (CXX) g++ options: -O3 -fPIC -lm

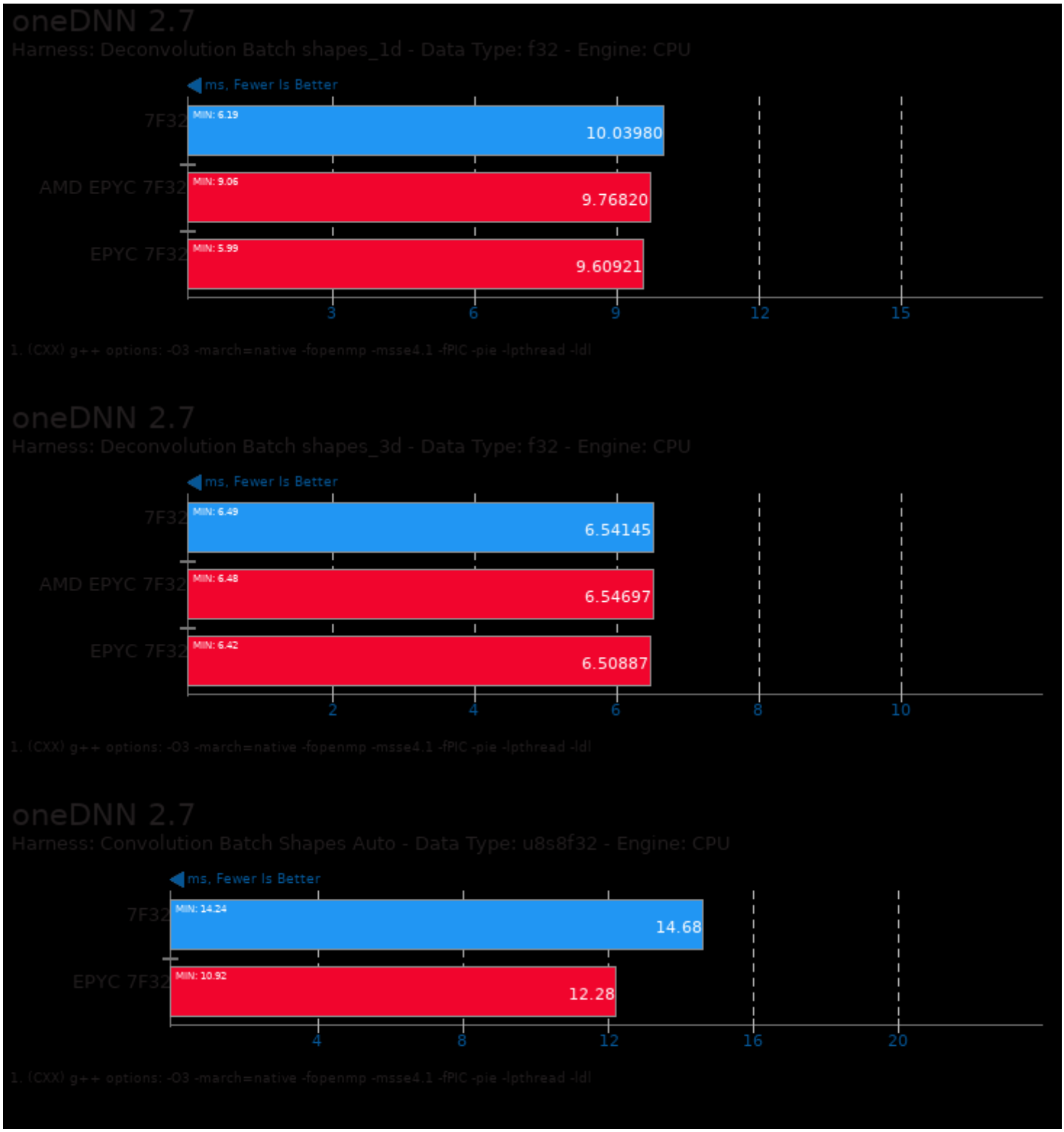

libavif avifenc 0.11
Encoder Speed: 2
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
80.50
80.89
80.97
20
40
60
80
100
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.11
Encoder Speed: 6
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
7.802
7.856
7.893
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.11
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
12.24
12.29
12.43
3
6
9
12
15
1. (CXX) g++ options: -O3 -fPIC -lm

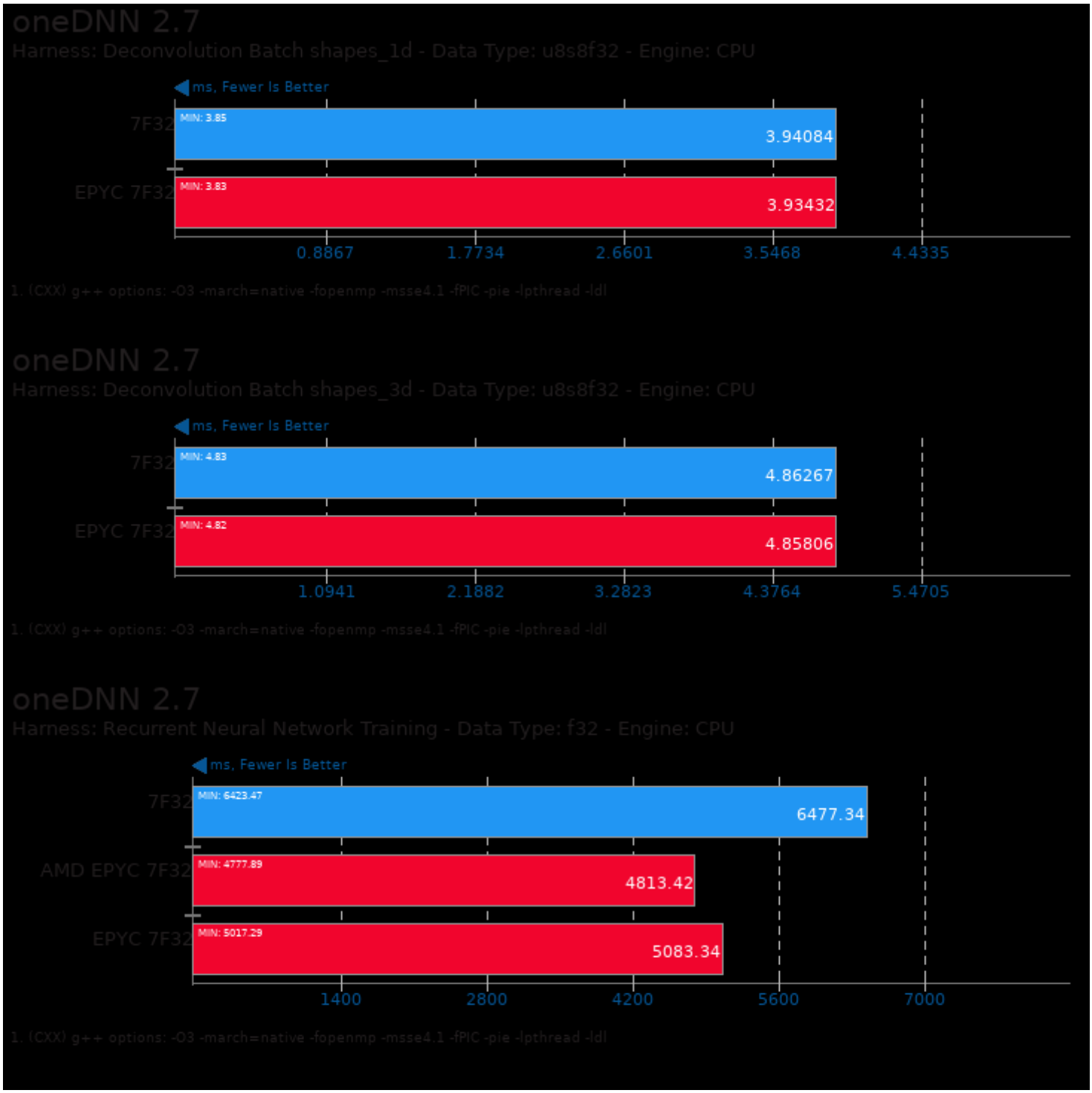

libavif avifenc 0.11
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
6.252
6.206
6.421
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm
Timed Node.js Compilation 18.8
Time To Compile
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
554.10
549.98
550.81
120
240
360
480
600
Timed PHP Compilation 8.1.9
Time To Compile
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
65.10
65.20
65.04
15
30
45
60
75

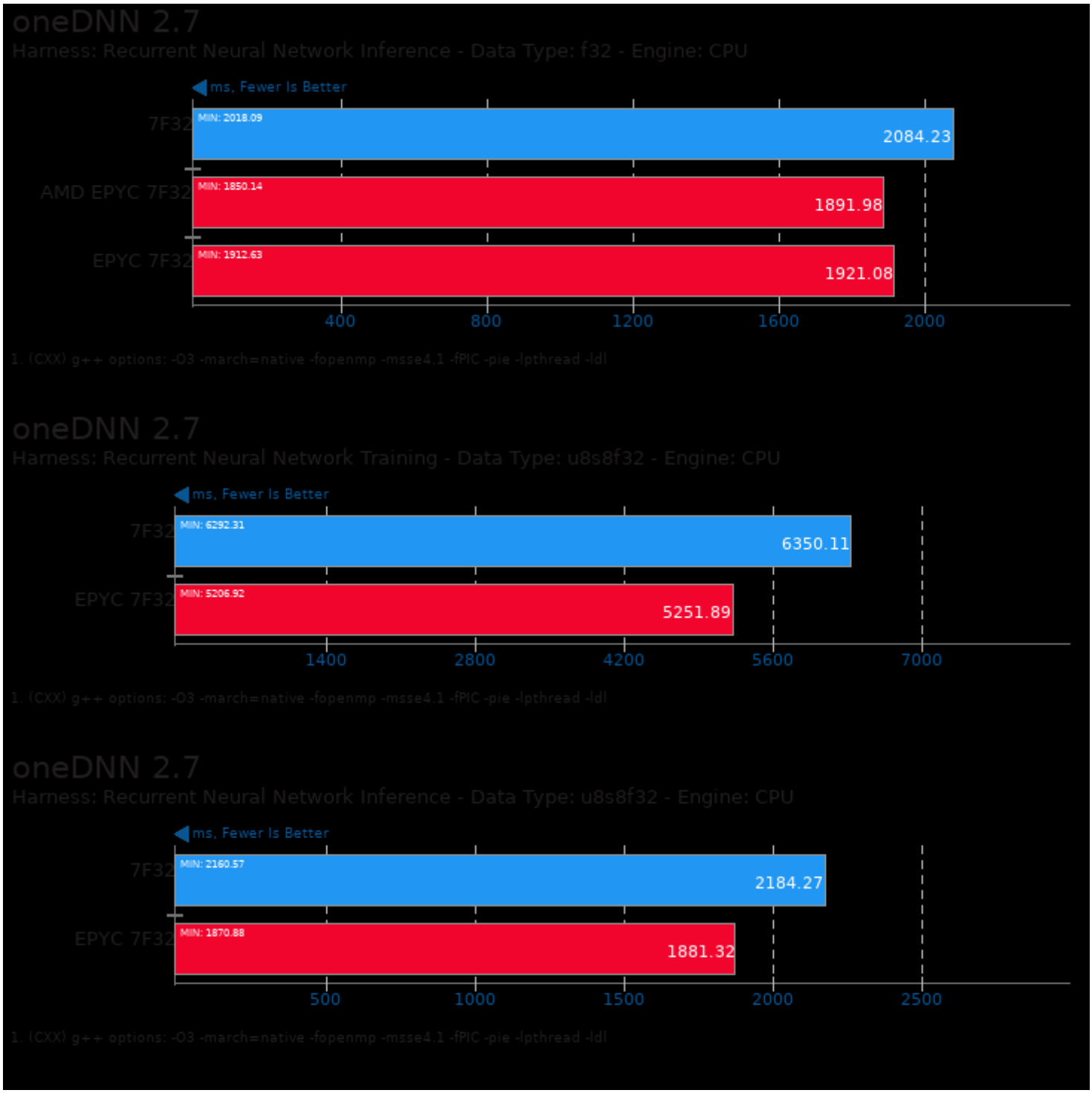

Timed CPython Compilation 3.10.6
Build Configuration: Default
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
19.15
19.03
19.15
5
10
15
20
25
Timed CPython Compilation 3.10.6
Build Configuration: Released Build, PGO + LTO Optimized
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
340.30
338.98
337.77
70
140
210
280
350
Y-Cruncher 0.7.10.9513
Pi Digits To Calculate: 1B
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
46.50
46.21
45.22
11
22
33
44
55

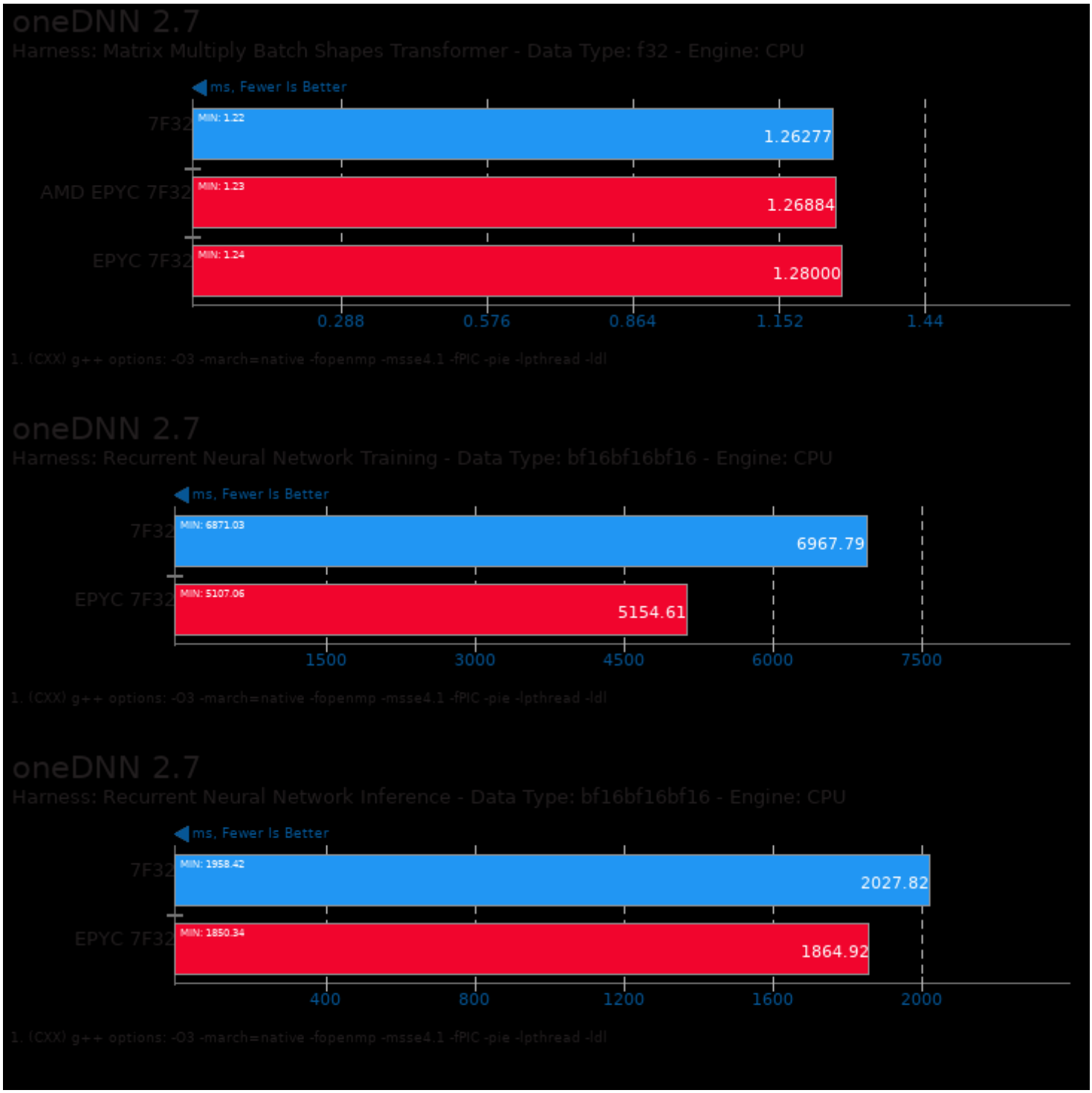

Y-Cruncher 0.7.10.9513
Pi Digits To Calculate: 500M
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
21.77
21.63
22.89
5
10
15
20
25
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
MIN: 3.4
MIN: 3.36
MIN: 3.38
3.48771
3.49229
3.48079
0.7858
1.5716
2.3574
3.1432
3.929
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
MIN: 11.05
MIN: 7.17
MIN: 8.55
11.36500
7.35671
8.67144
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

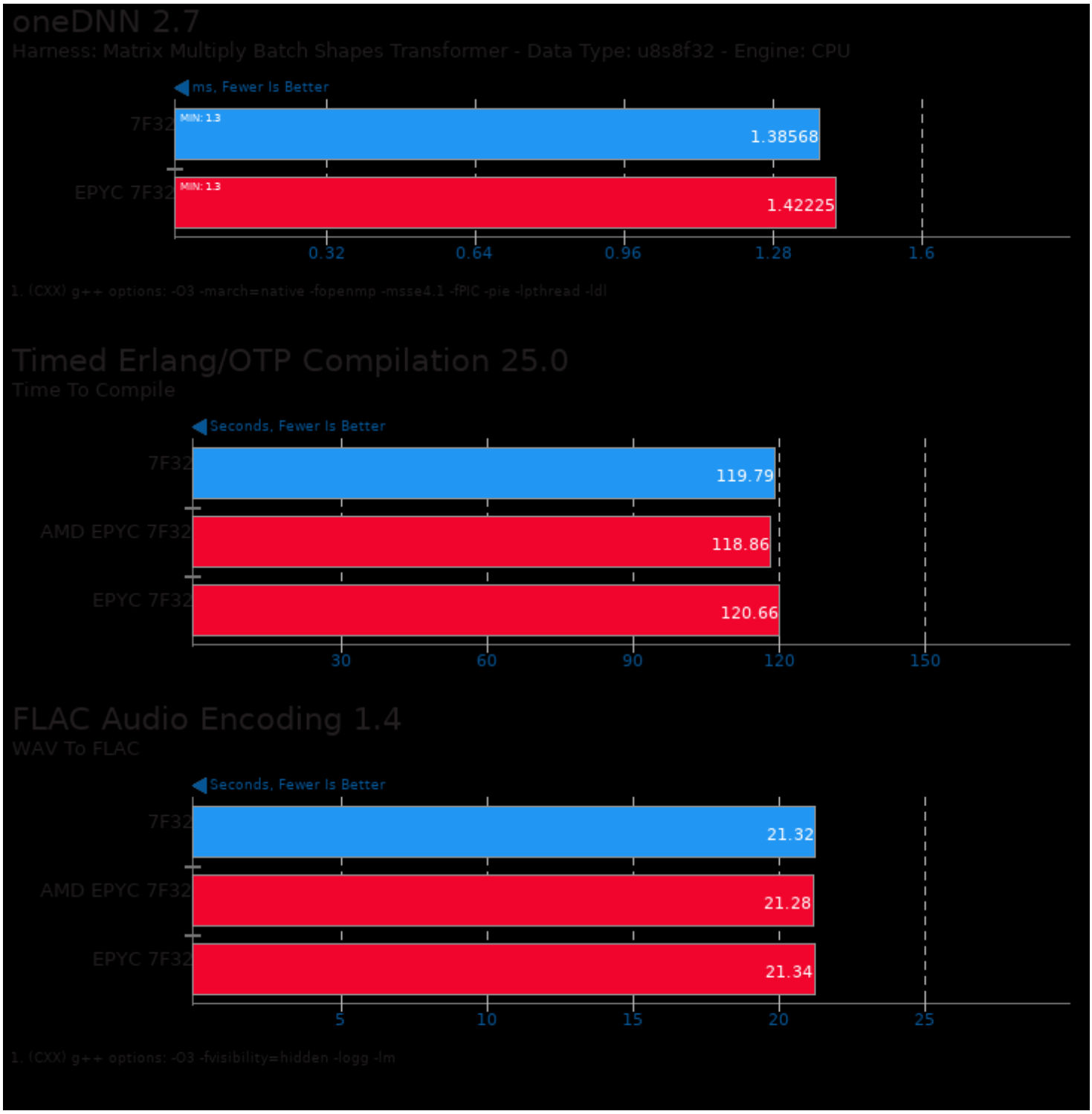

oneDNN 2.7
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 2.65
2.70369
EPYC 7F32
MIN: 2.65
2.93735
0.6609
1.3218
1.9827
2.6436
3.3045
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 0.7
0.775961
EPYC 7F32
MIN: 0.7
0.790351
0.1778
0.3556
0.5334
0.7112
0.889
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 13.34
13.48190
AMD EPYC 7F32
MIN: 7.9
8.11567
EPYC 7F32
MIN: 9.37
9.55502
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl


oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 6.19
10.03980
AMD EPYC 7F32
MIN: 9.06
9.76820
EPYC 7F32
MIN: 5.99
9.60921
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 6.49
6.54145
AMD EPYC 7F32
MIN: 6.48
6.54697
EPYC 7F32
MIN: 6.42
6.50887
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 14.24
14.68
EPYC 7F32
MIN: 10.92
12.28
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

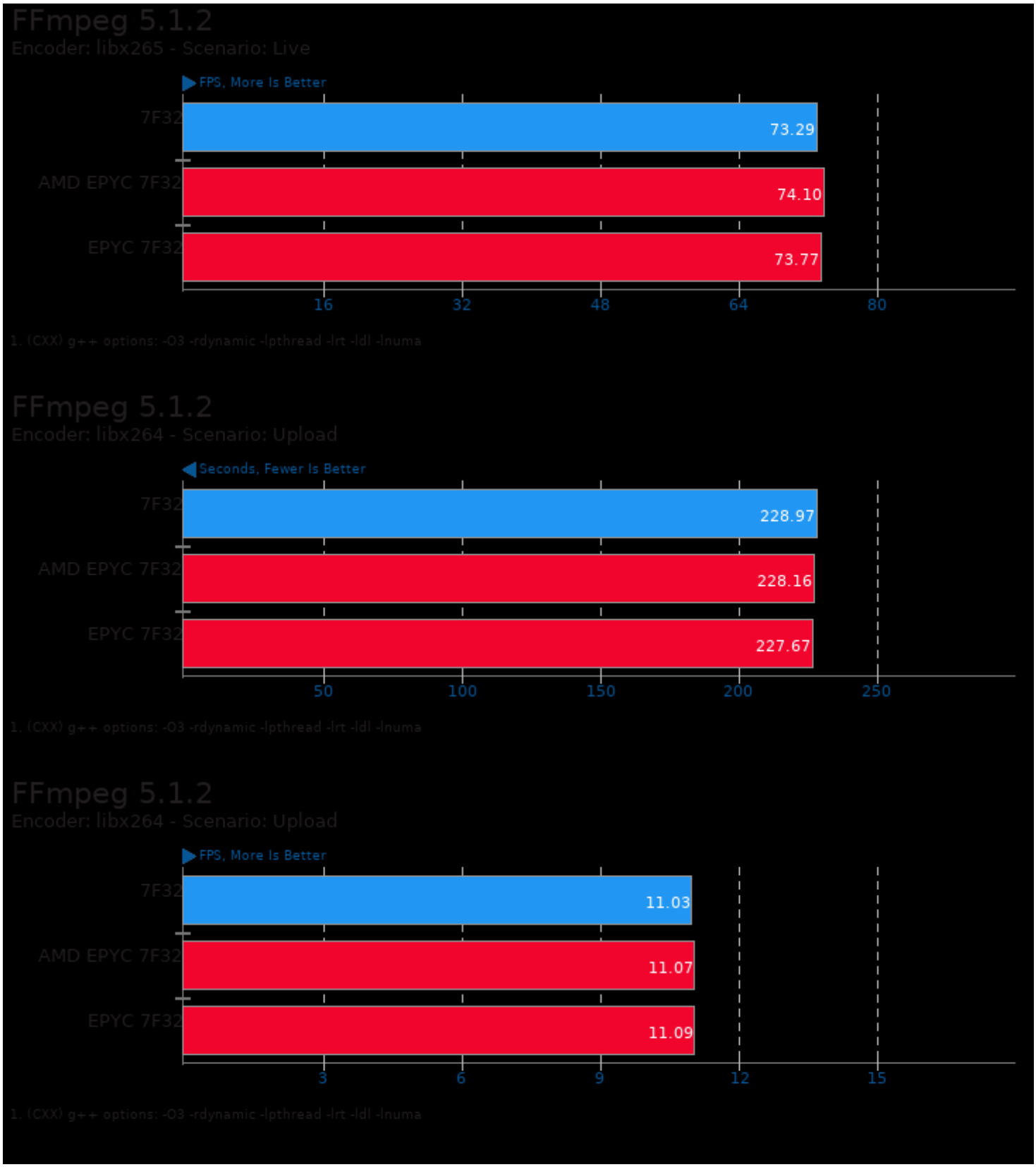

oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 3.85
3.94084
EPYC 7F32
MIN: 3.83
3.93432
0.8867
1.7734
2.6601
3.5468
4.4335
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 4.83
4.86267
EPYC 7F32
MIN: 4.82
4.85806
1.0941
2.1882
3.2823
4.3764
5.4705
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 6423.47
6477.34
AMD EPYC 7F32
MIN: 4777.89
4813.42
EPYC 7F32
MIN: 5017.29
5083.34
1400
2800
4200
5600
7000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

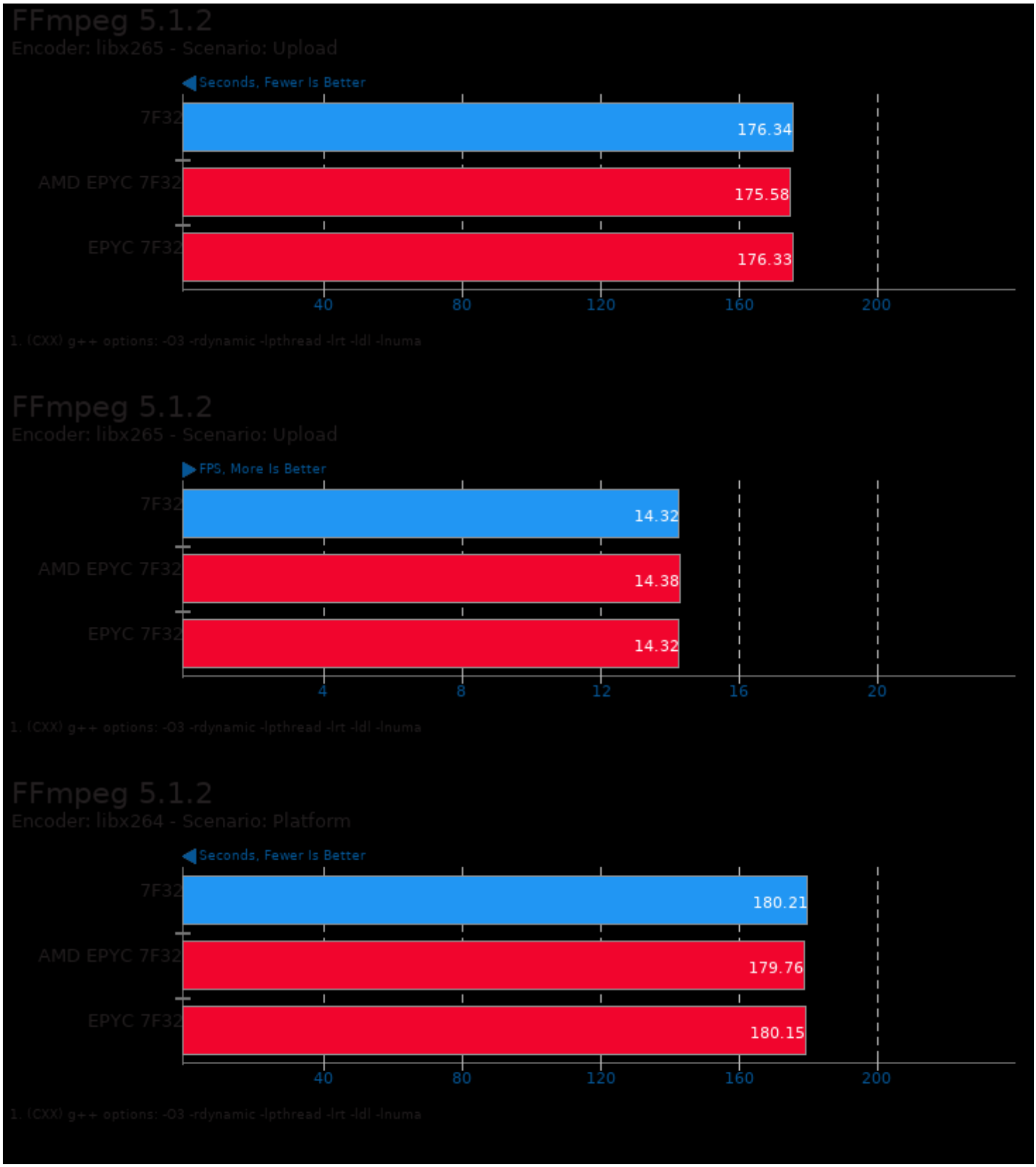

oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 2018.09
2084.23
AMD EPYC 7F32
MIN: 1850.14
1891.98
EPYC 7F32
MIN: 1912.63
1921.08
400
800
1200
1600
2000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 6292.31
6350.11
EPYC 7F32
MIN: 5206.92
5251.89
1400
2800
4200
5600
7000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 2160.57
2184.27
EPYC 7F32
MIN: 1870.88
1881.32
500
1000
1500
2000
2500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

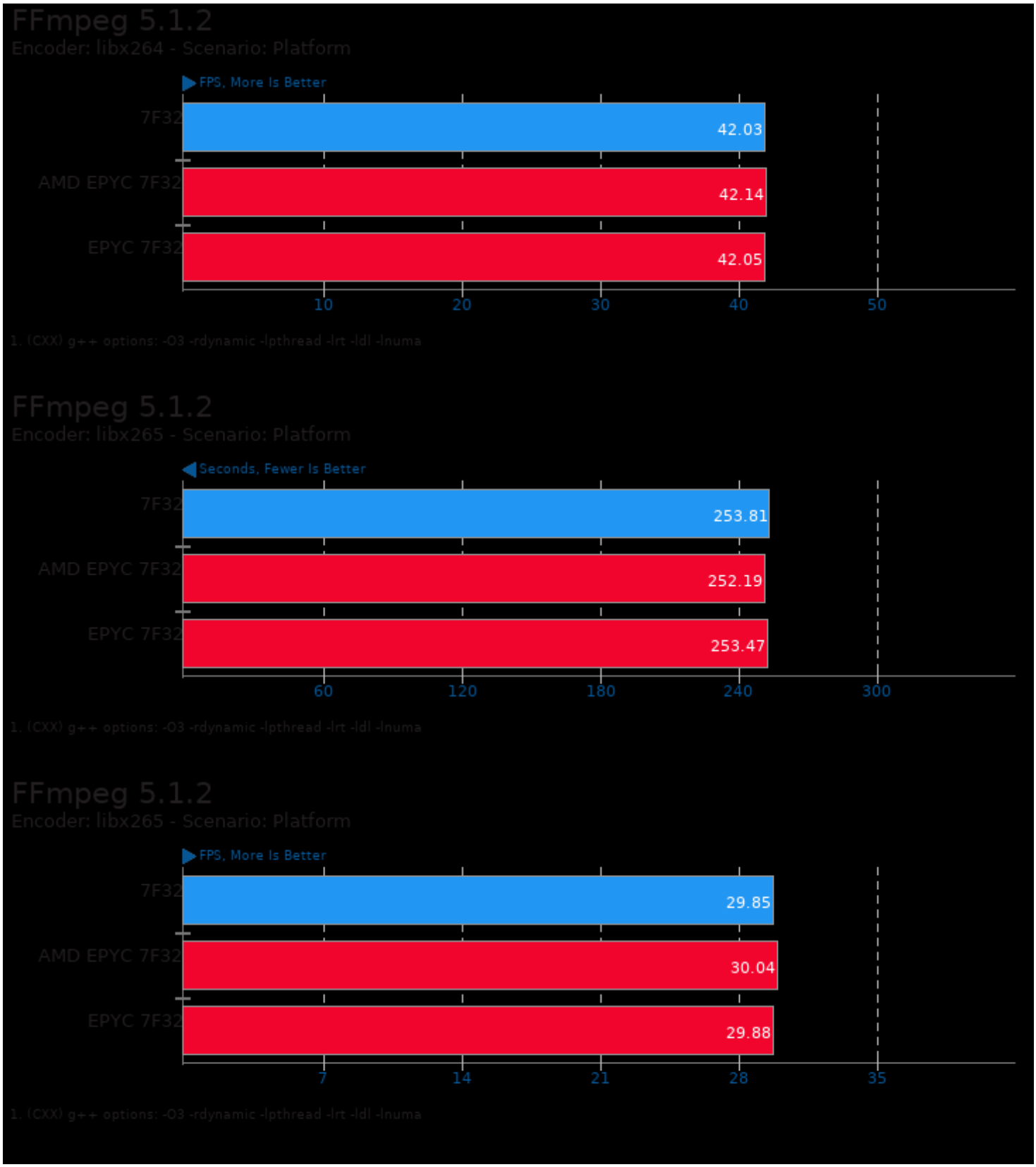

oneDNN 2.7
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 1.22
1.26277
AMD EPYC 7F32
MIN: 1.23
1.26884
EPYC 7F32
MIN: 1.24
1.28000
0.288
0.576
0.864
1.152
1.44
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 6871.03
6967.79
EPYC 7F32
MIN: 5107.06
5154.61
1500
3000
4500
6000
7500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 1958.42
2027.82
EPYC 7F32
MIN: 1850.34
1864.92
400
800
1200
1600
2000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

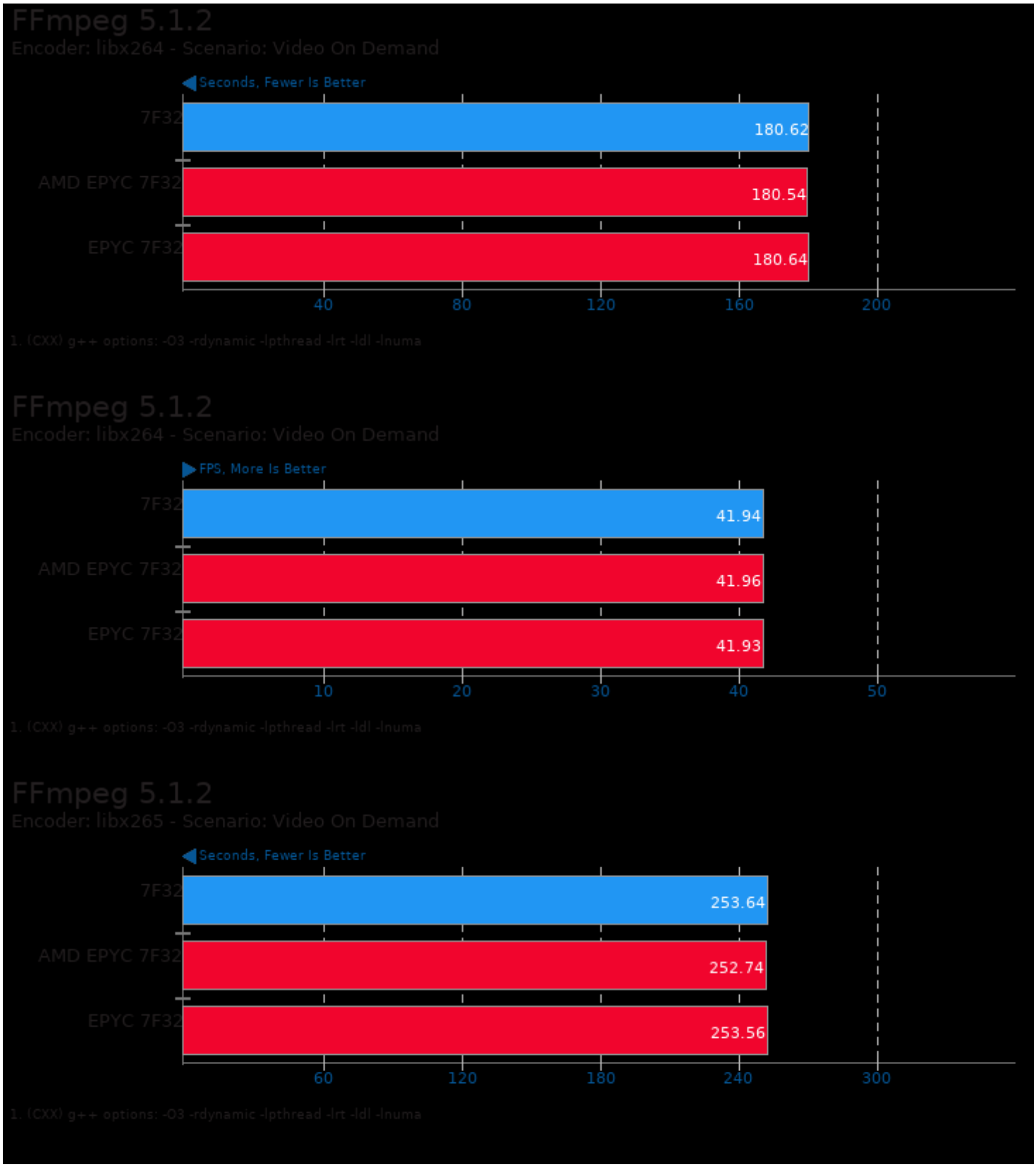

oneDNN 2.7
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
7F32
MIN: 1.3
1.38568
EPYC 7F32
MIN: 1.3
1.42225
0.32
0.64
0.96
1.28
1.6
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
Timed Erlang/OTP Compilation 25.0
Time To Compile
Seconds, Fewer Is Better
7F32
119.79
AMD EPYC 7F32
118.86
EPYC 7F32
120.66
30
60
90
120
150
FLAC Audio Encoding 1.4
WAV To FLAC
Seconds, Fewer Is Better
7F32
21.32
AMD EPYC 7F32
21.28
EPYC 7F32
21.34
5
10
15
20
25
1. (CXX) g++ options: -O3 -fvisibility=hidden -logg -lm


FFmpeg 5.1.2
Encoder: libx264 - Scenario: Live
Seconds, Fewer Is Better
7F32
28.64
AMD EPYC 7F32
28.16
EPYC 7F32
28.53
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx264 - Scenario: Live
FPS, More Is Better
7F32
176.34
AMD EPYC 7F32
179.34
EPYC 7F32
177.00
40
80
120
160
200
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx265 - Scenario: Live
Seconds, Fewer Is Better
7F32
68.90
AMD EPYC 7F32
68.15
EPYC 7F32
68.46
15
30
45
60
75
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

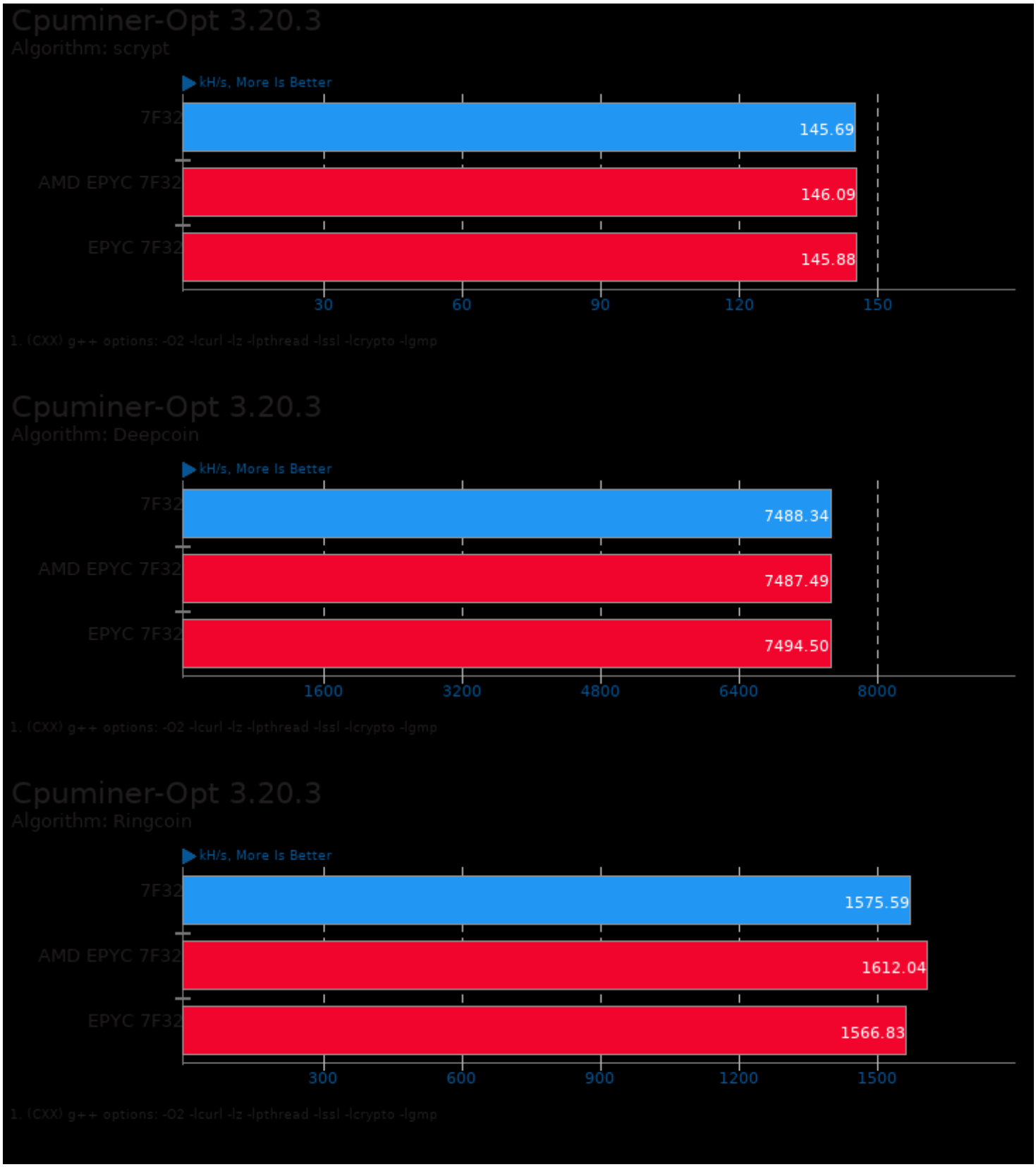

FFmpeg 5.1.2
Encoder: libx265 - Scenario: Live
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
73.29
74.10
73.77
16
32
48
64
80
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx264 - Scenario: Upload
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
228.97
228.16
227.67
50
100
150
200
250
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx264 - Scenario: Upload
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
11.03
11.07
11.09
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

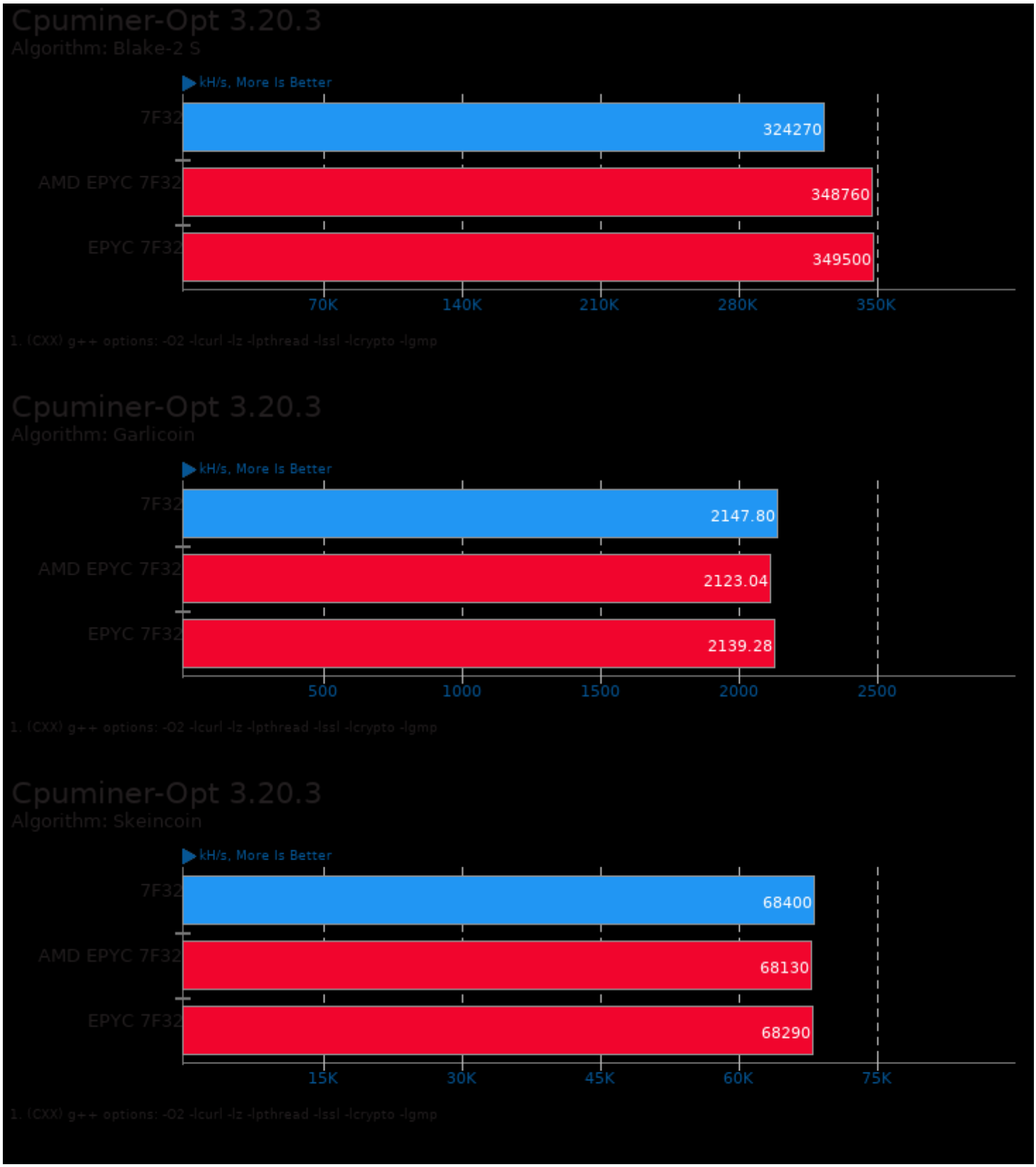

FFmpeg 5.1.2
Encoder: libx265 - Scenario: Upload
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
176.34
175.58
176.33
40
80
120
160
200
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx265 - Scenario: Upload
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
14.32
14.38
14.32
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx264 - Scenario: Platform
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
180.21
179.76
180.15
40
80
120
160
200
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

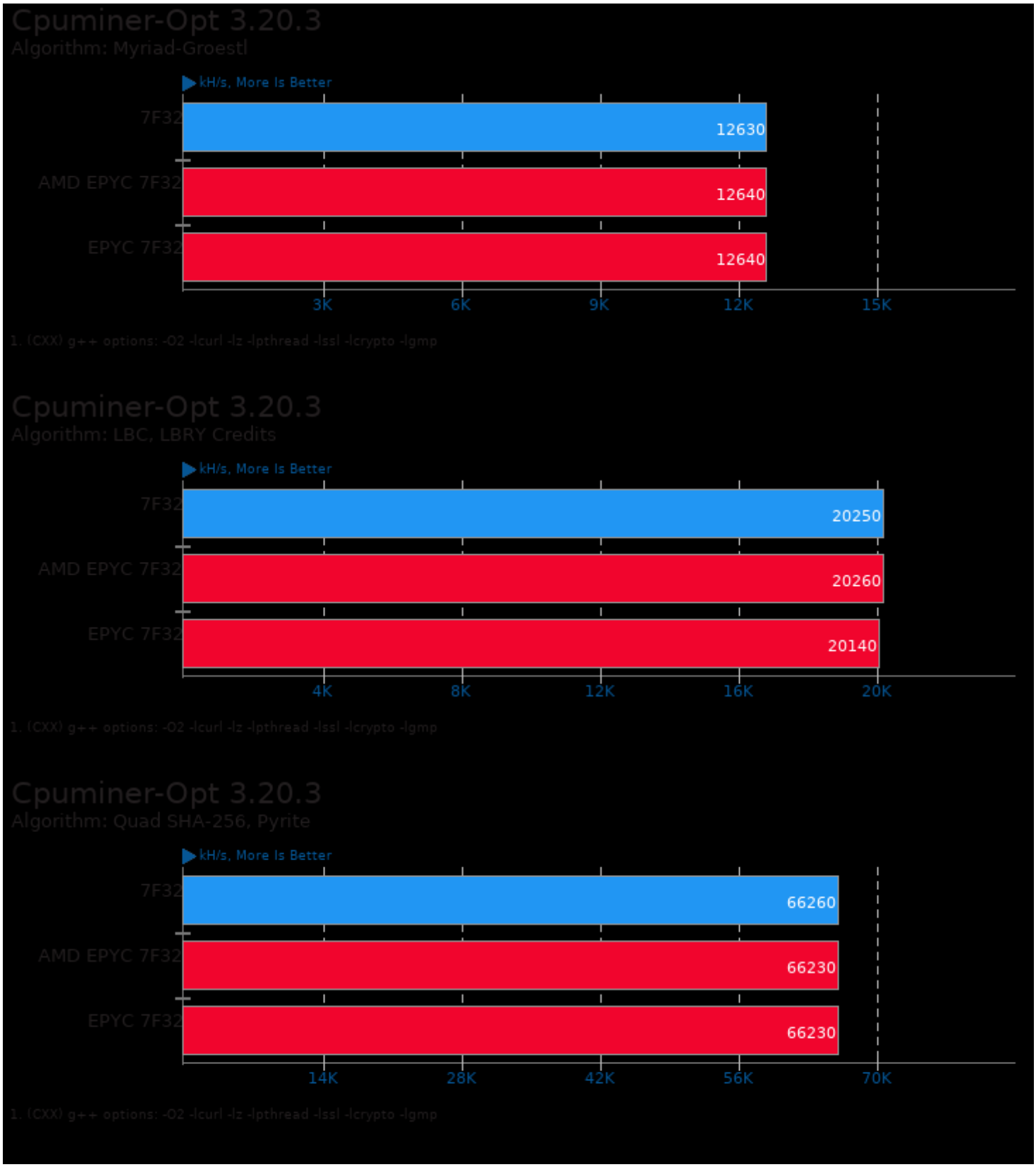

FFmpeg 5.1.2
Encoder: libx264 - Scenario: Platform
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
42.03
42.14
42.05
10
20
30
40
50
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx265 - Scenario: Platform
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
253.81
252.19
253.47
60
120
180
240
300
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx265 - Scenario: Platform
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
29.85
30.04
29.88
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma


FFmpeg 5.1.2
Encoder: libx264 - Scenario: Video On Demand
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
180.62
180.54
180.64
40
80
120
160
200
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx264 - Scenario: Video On Demand
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
41.94
41.96
41.93
10
20
30
40
50
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
FFmpeg 5.1.2
Encoder: libx265 - Scenario: Video On Demand
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
253.64
252.74
253.56
60
120
180
240
300
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma


FFmpeg 5.1.2
Encoder: libx265 - Scenario: Video On Demand
FPS, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
29.86
29.97
29.88
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma
Cpuminer-Opt 3.20.3
Algorithm: Magi
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
422.47
423.63
413.80
90
180
270
360
450
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: x25x
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
410.38
387.05
401.99
90
180
270
360
450
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

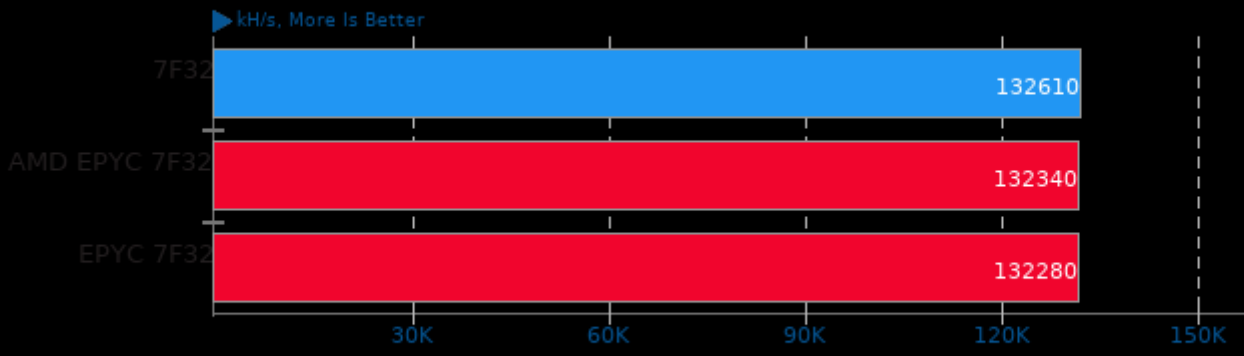

Cpuminer-Opt 3.20.3
Algorithm: scrypt
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
145.69
146.09
145.88
30
60
90
120
150
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: Deepcoin
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
7488.34
7487.49
7494.50
1600
3200
4800
6400
8000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: Ringcoin
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
1575.59
1612.04
1566.83
300
600
900
1200
1500
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp


Cpuminer-Opt 3.20.3
Algorithm: Blake-2 S
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
324270
348760
349500
70K
140K
210K
280K
350K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: Garlicoin
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
2147.80
2123.04
2139.28
500
1000
1500
2000
2500
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: Skeincoin
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
68400
68130
68290
15K
30K
45K
60K
75K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp


Cpuminer-Opt 3.20.3
Algorithm: Myriad-Groestl
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
12630
12640
12640
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: LBC, LBRY Credits
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
20250
20260
20140
4K
8K
12K
16K
20K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.20.3
Algorithm: Quad SHA-256, Pyrite
kH/s, More Is Better
7F32
AMD EPYC 7F32
EPYC 7F32
66260
66230
66230
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

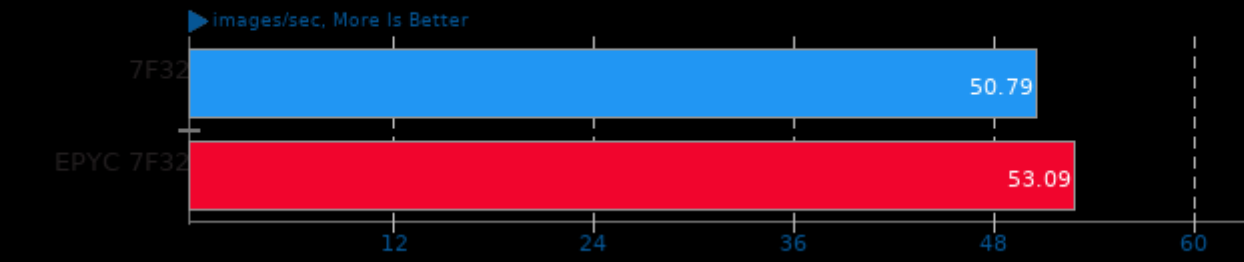
Algorithm: Triple SHA-256, Onecoin



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

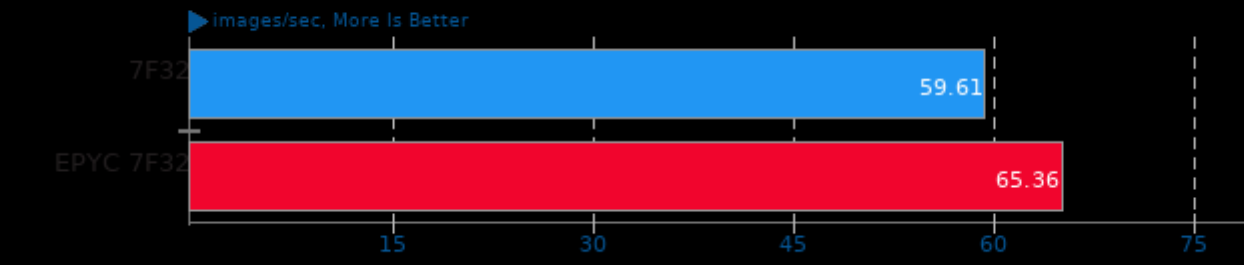
TensorFlow 2.10

Device: CPU - Batch Size: 16 - Model: AlexNet



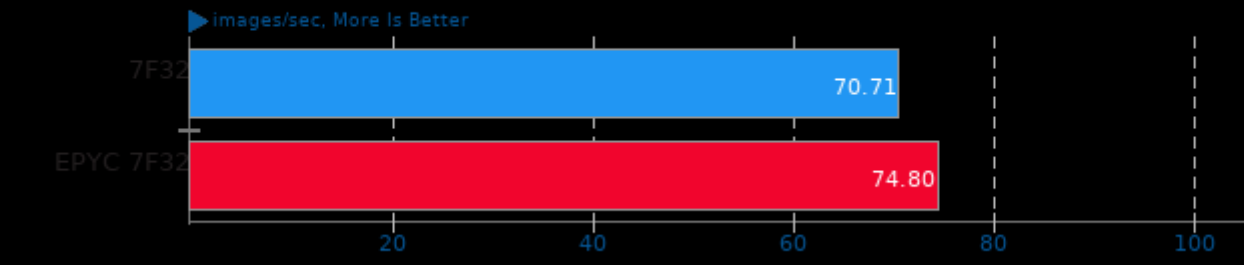
TensorFlow 2.10

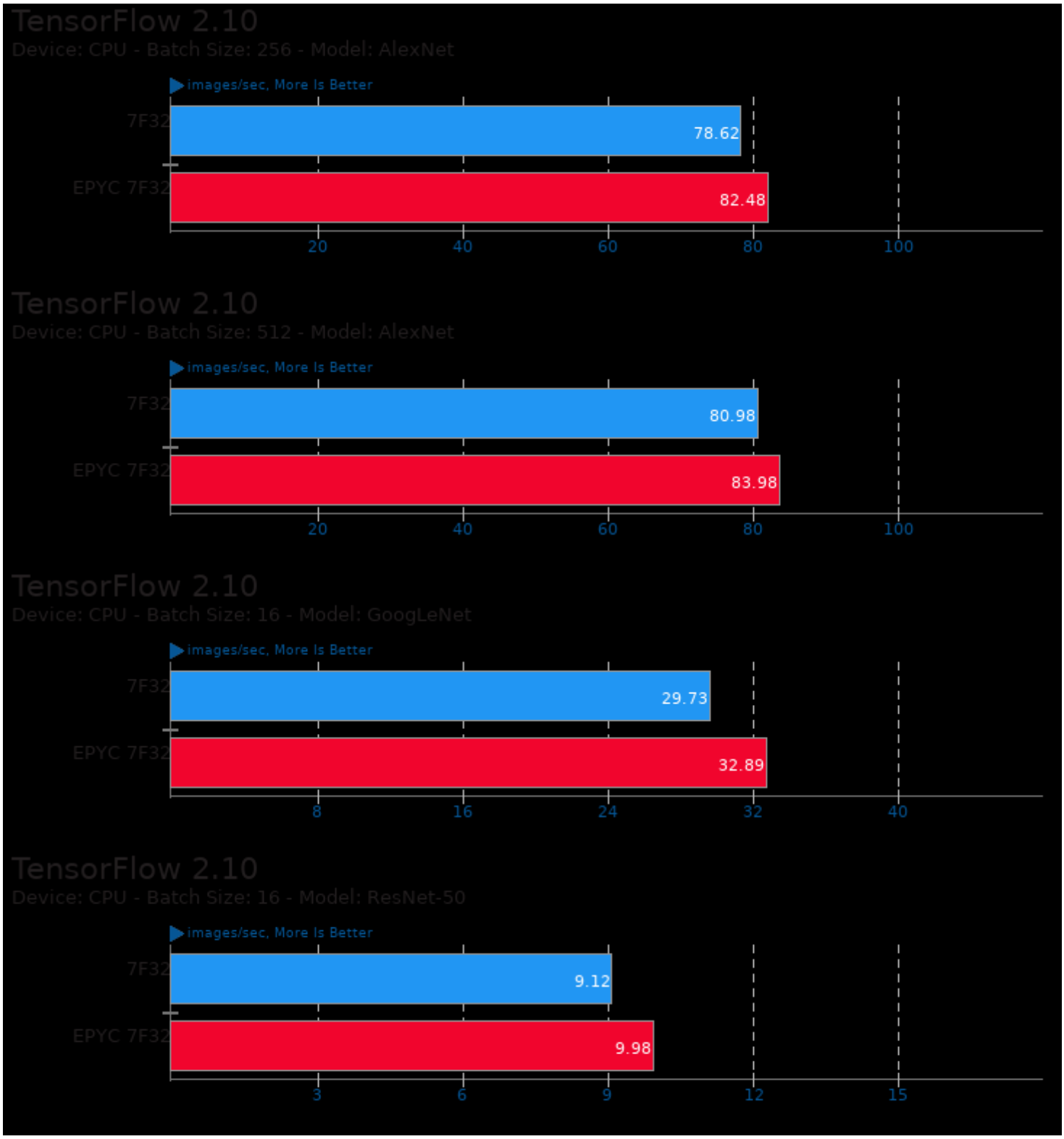
Device: CPU - Batch Size: 32 - Model: AlexNet

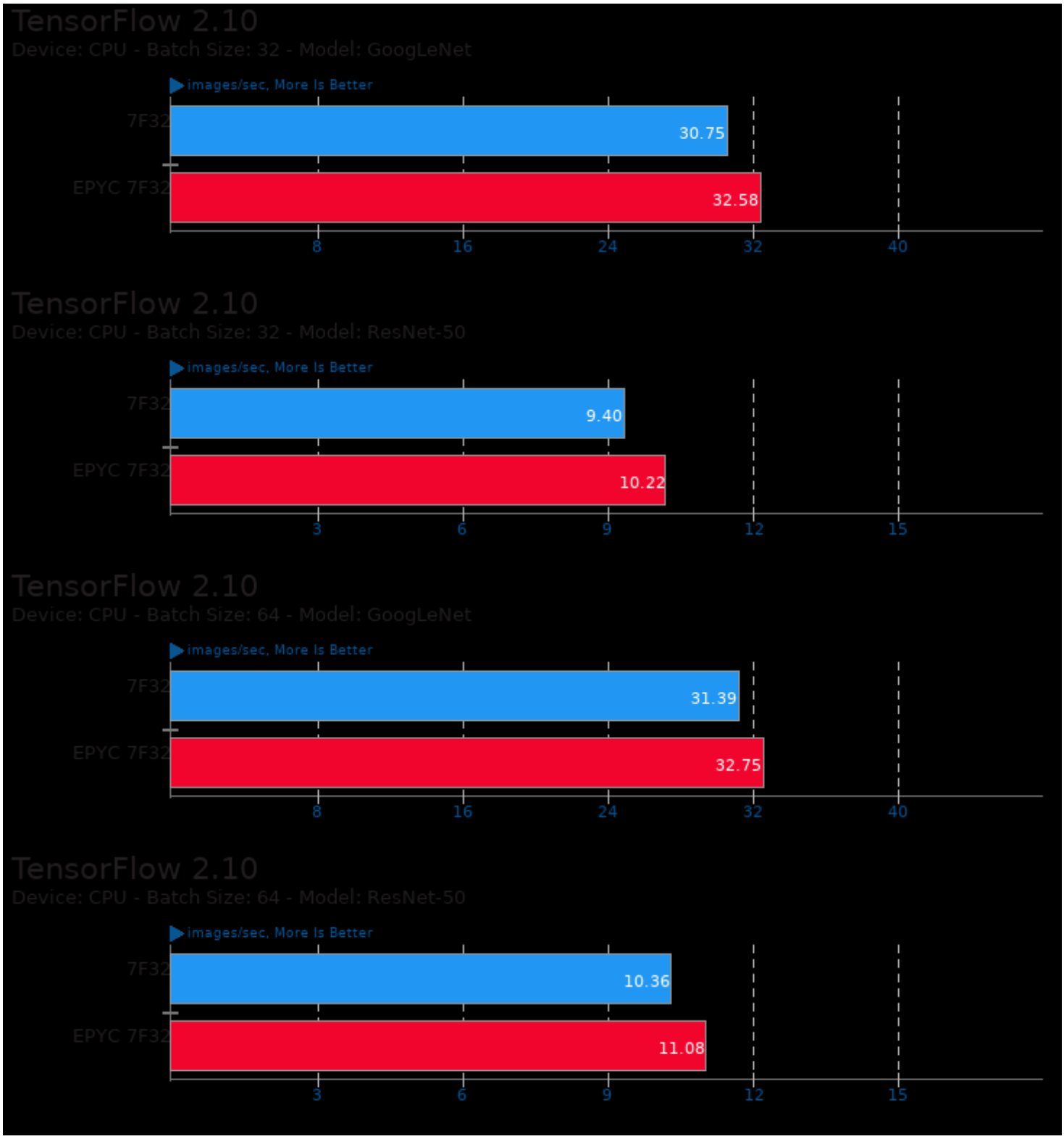


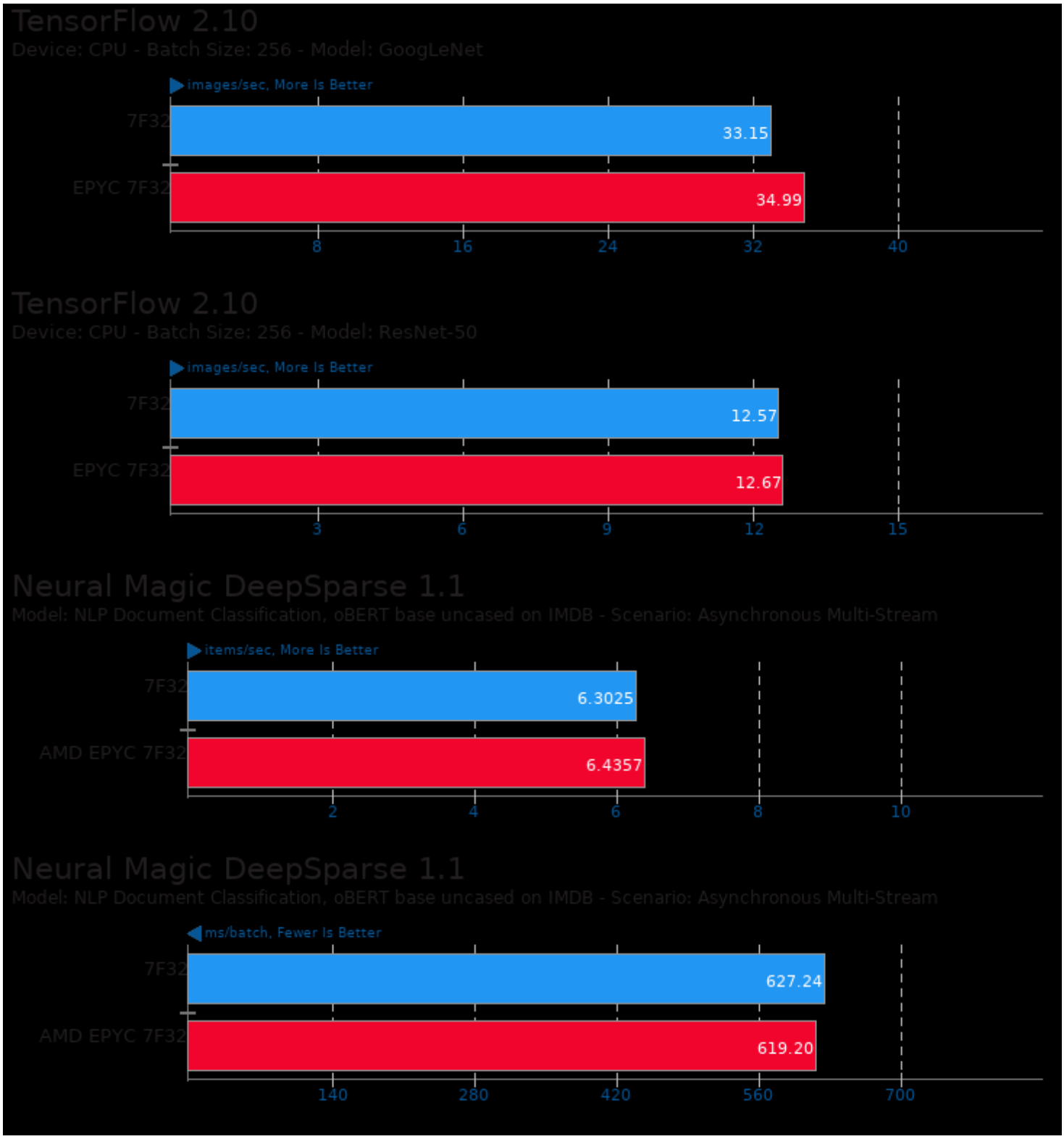
TensorFlow 2.10

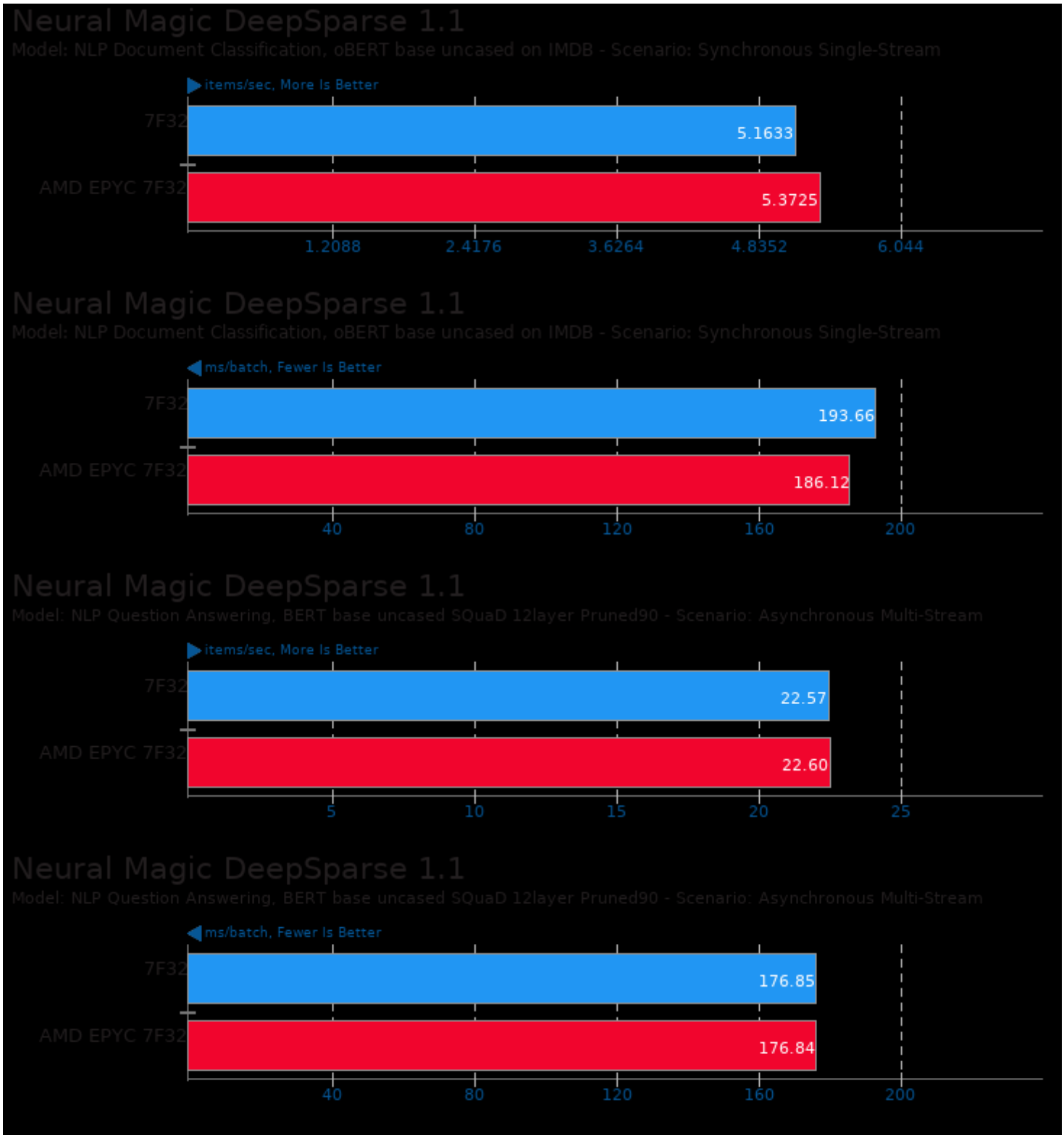
Device: CPU - Batch Size: 64 - Model: AlexNet

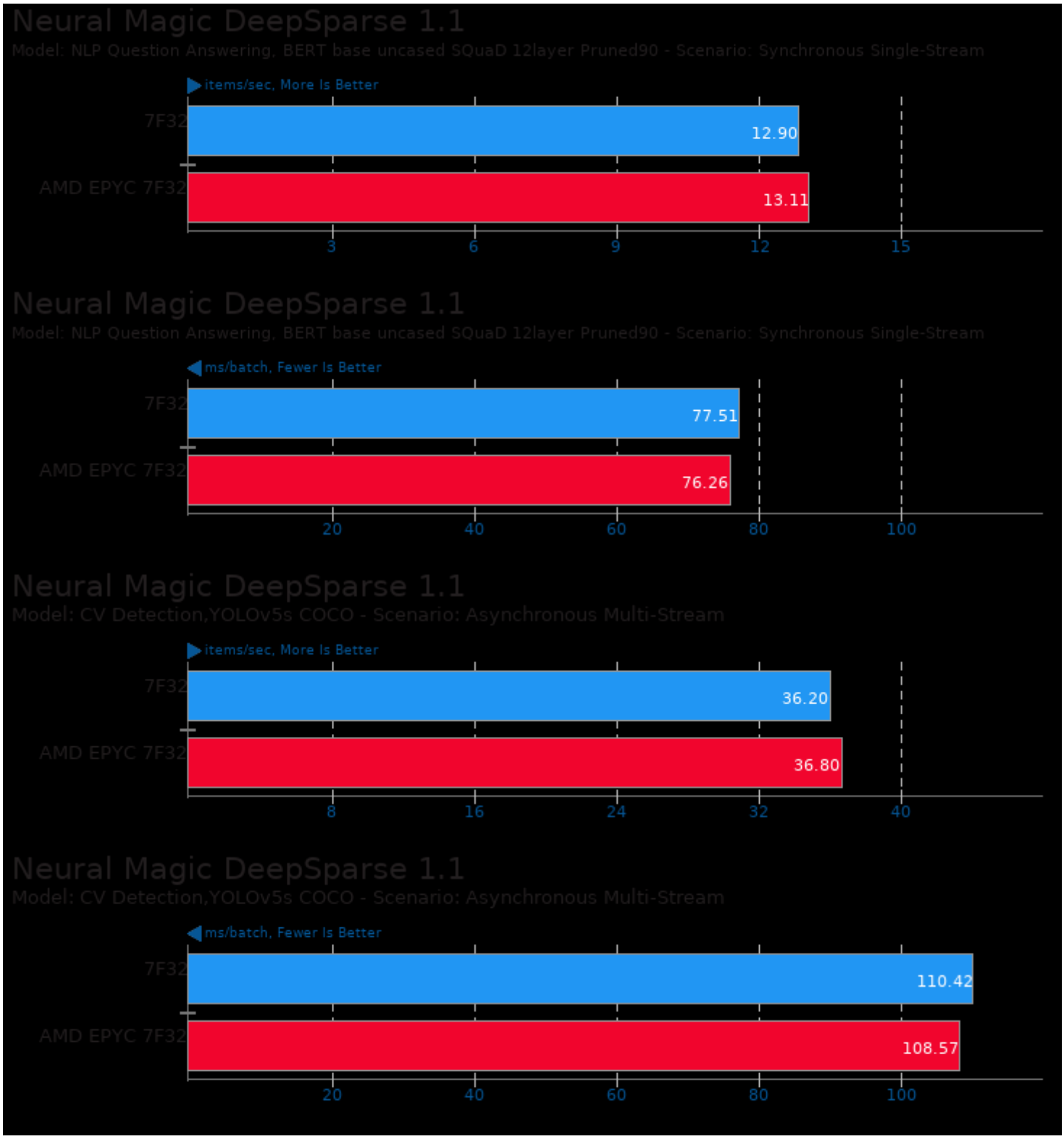


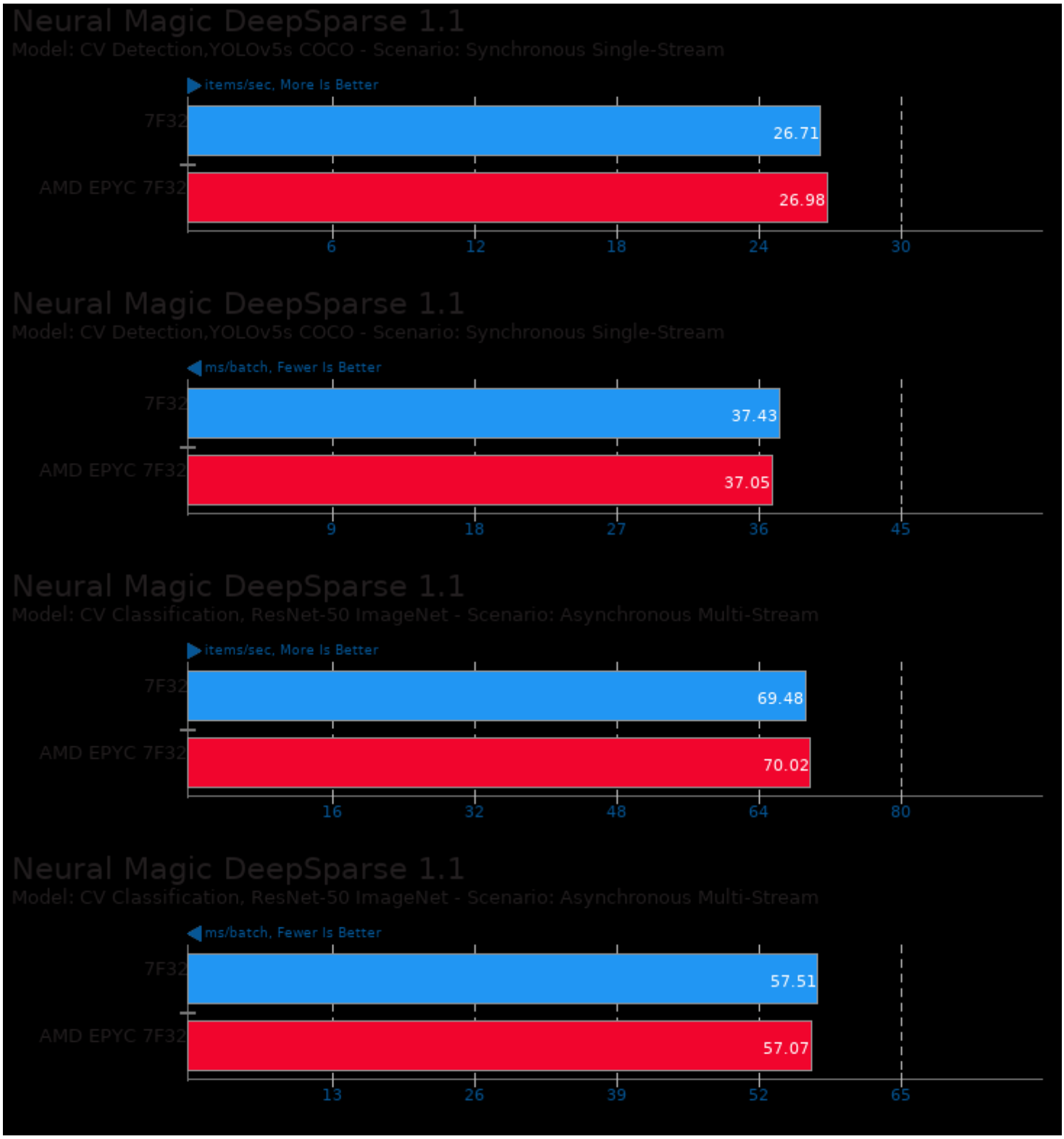

TensorFlow 2.10
Device: CPU - Batch Size: 256 - Model: AlexNet
images/sec, More Is Better
7F32
78.62
EPYC 7F32
82.48
20
40
60
80
100
TensorFlow 2.10
Device: CPU - Batch Size: 512 - Model: AlexNet
images/sec, More Is Better
7F32
80.98
EPYC 7F32
83.98
20
40
60
80
100
TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: GoogLeNet
images/sec, More Is Better
7F32
29.73
EPYC 7F32
32.89
8
16
24
32
40
TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: ResNet-50
images/sec, More Is Better
7F32
9.12
EPYC 7F32
9.98
3
6
9
12
15

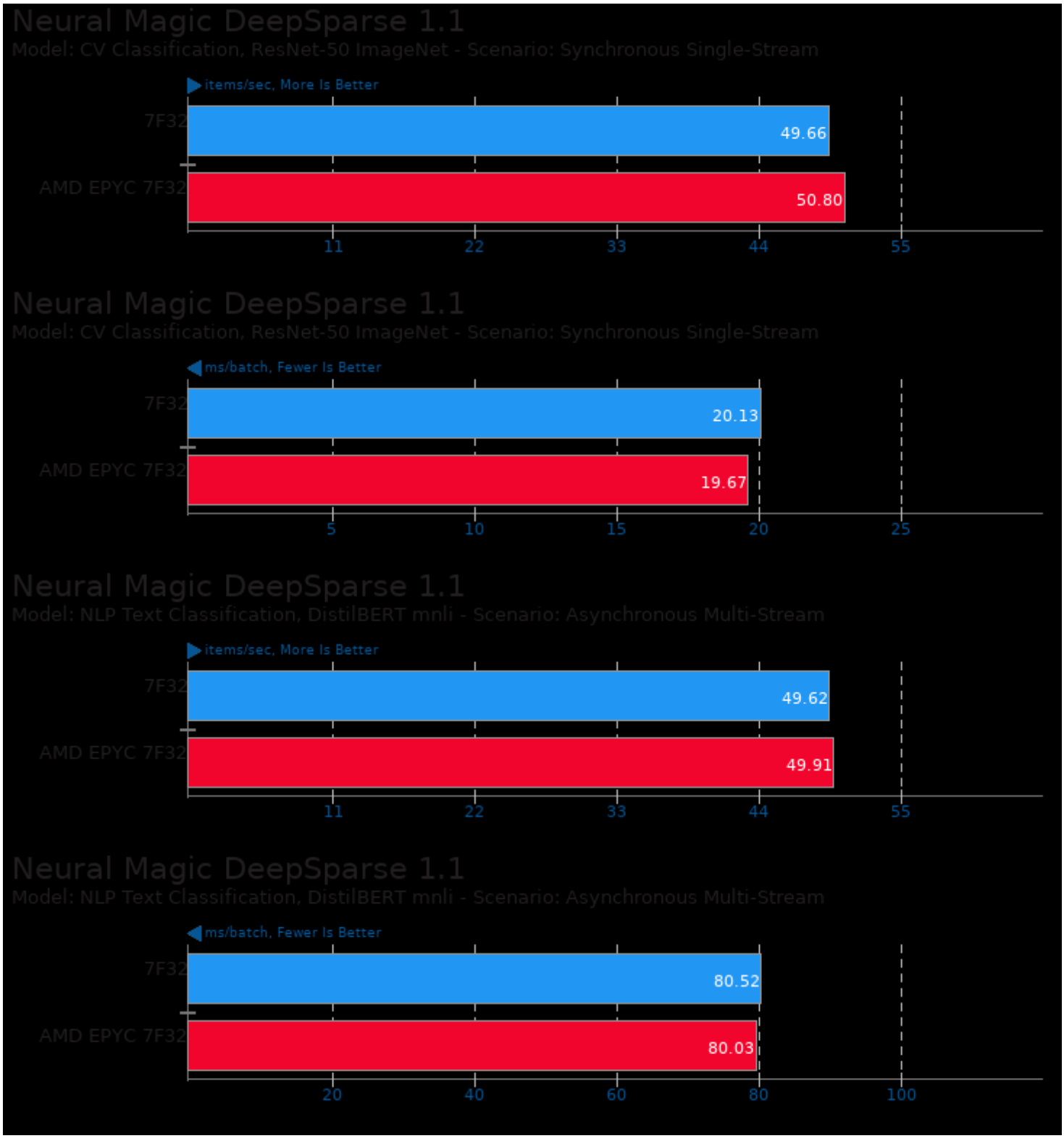

TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: GoogLeNet
images/sec, More Is Better
7F32
30.75
EPYC 7F32
32.58
8
16
24
32
40
TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: ResNet-50
images/sec, More Is Better
7F32
9.40
EPYC 7F32
10.22
3
6
9
12
15
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: GoogLeNet
images/sec, More Is Better
7F32
31.39
EPYC 7F32
32.75
8
16
24
32
40
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: ResNet-50
images/sec, More Is Better
7F32
10.36
EPYC 7F32
11.08
3
6
9
12
15

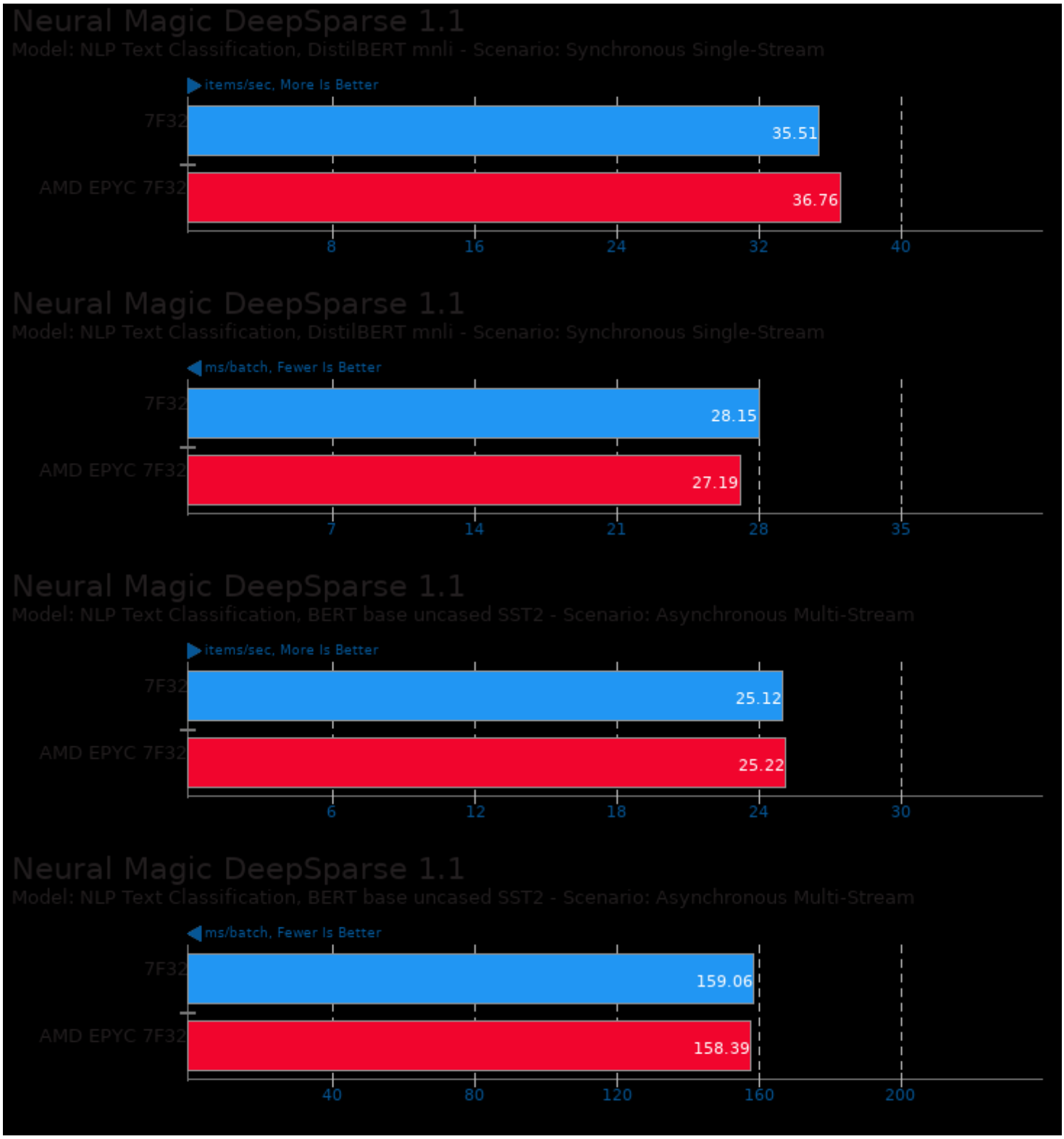

TensorFlow 2.10
Device: CPU - Batch Size: 256 - Model: GoogLeNet
images/sec, More Is Better
7F32
33.15
EPYC 7F32
34.99
8
16
24
32
40
TensorFlow 2.10
Device: CPU - Batch Size: 256 - Model: ResNet-50
images/sec, More Is Better
7F32
12.57
EPYC 7F32
12.67
3
6
9
12
15
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
6.3025
AMD EPYC 7F32
6.4357
2
4
6
8
10
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
627.24
AMD EPYC 7F32
619.20
140
280
420
560
700

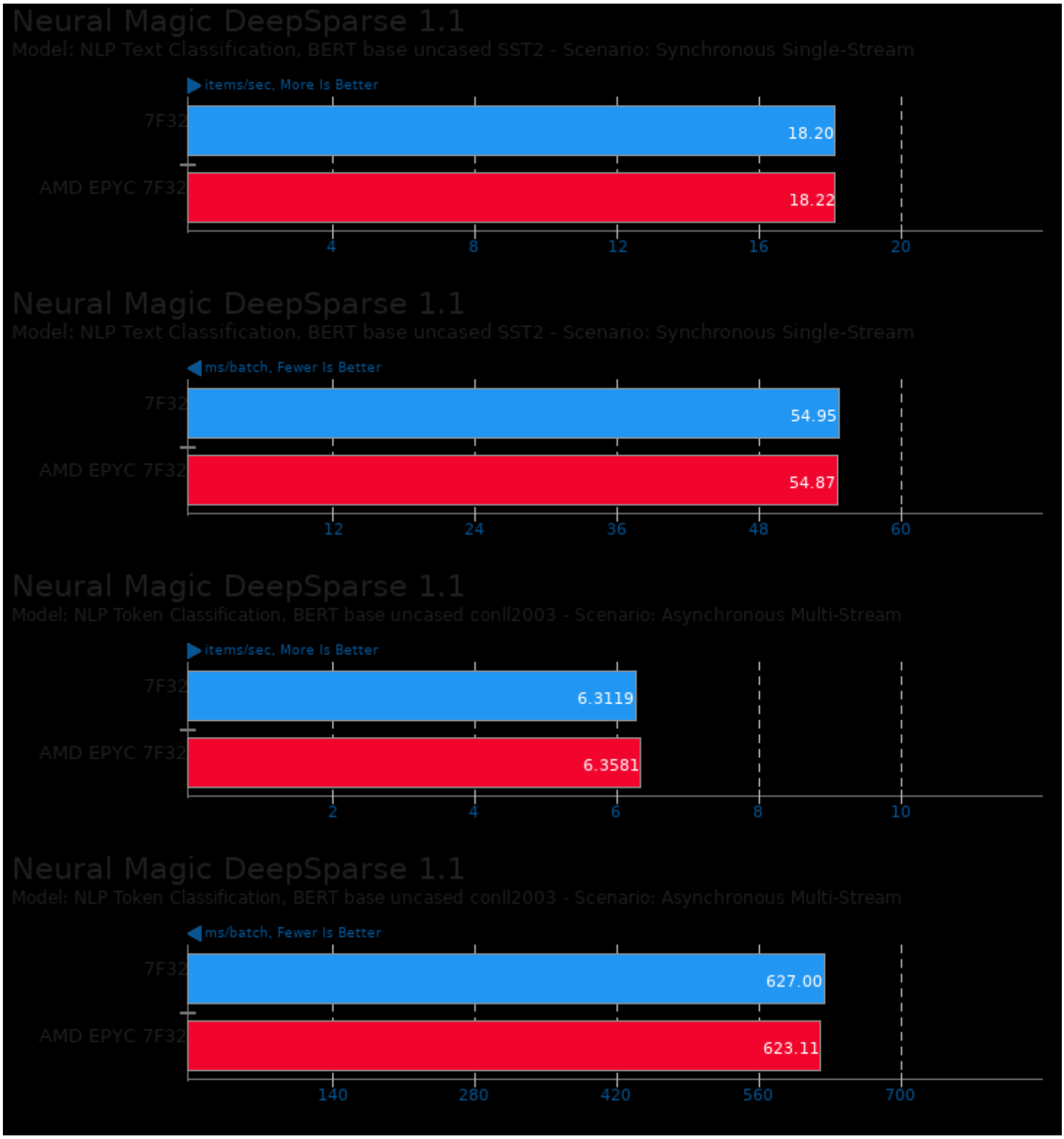

Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
5.1633
5.3725
1.2088
2.4176
3.6264
4.8352
6.044
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
193.66
186.12
40
80
120
160
200
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
22.57
22.60
5
10
15
20
25
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
176.85
176.84
40
80
120
160
200


Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
12.90
13.11
3
6
9
12
15
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
77.51
76.26
20
40
60
80
100
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
36.20
36.80
8
16
24
32
40
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
110.42
108.57
20
40
60
80
100


Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
26.71
26.98
6
12
18
24
30
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
37.43
37.05
9
18
27
36
45
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
69.48
70.02
16
32
48
64
80
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
57.51
57.07
13
26
39
52
65

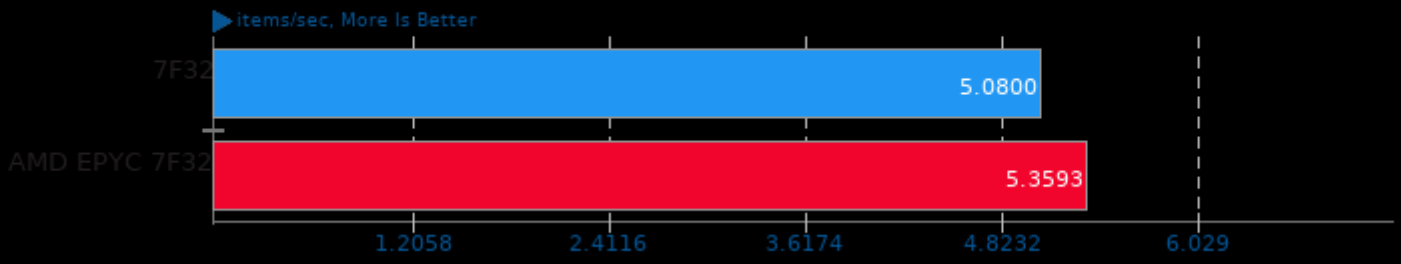

Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
49.66
50.80
11
22
33
44
55
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
20.13
19.67
5
10
15
20
25
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
49.62
49.91
11
22
33
44
55
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
80.52
80.03
20
40
60
80
100


Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
35.51
36.76
8
16
24
32
40
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
28.15
27.19
7
14
21
28
35
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
25.12
25.22
6
12
18
24
30
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
159.06
158.39
40
80
120
160
200


Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
18.20
18.22
4
8
12
16
20
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
54.95
54.87
12
24
36
48
60
Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
7F32
AMD EPYC 7F32
6.3119
6.3581
2
4
6
8
10
Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
7F32
AMD EPYC 7F32
627.00
623.11
140
280
420
560
700

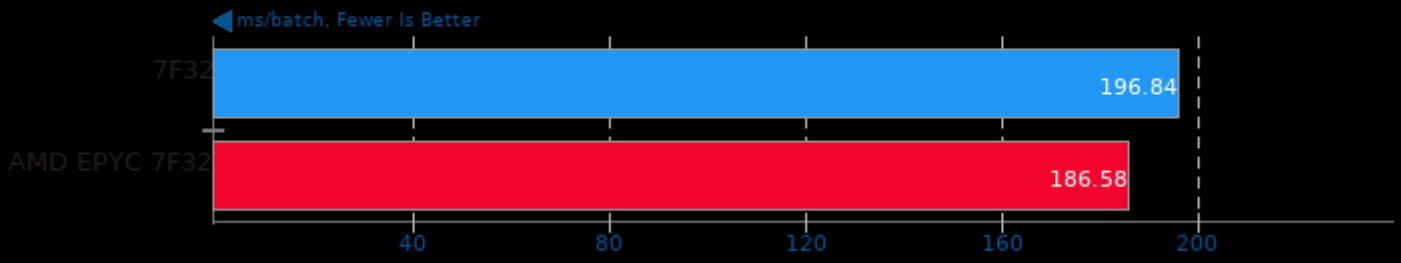
Neural Magic DeepSparse 1.1

Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Synchronous Single-Stream



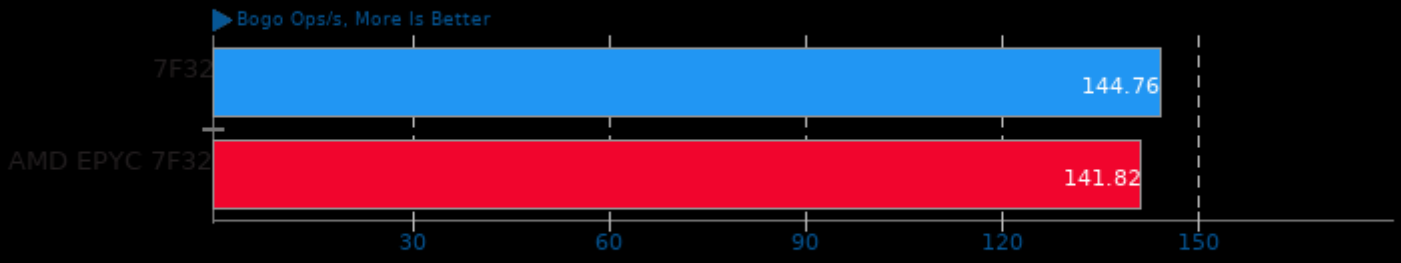
Neural Magic DeepSparse 1.1

Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Synchronous Single-Stream



Stress-NG 0.14.06

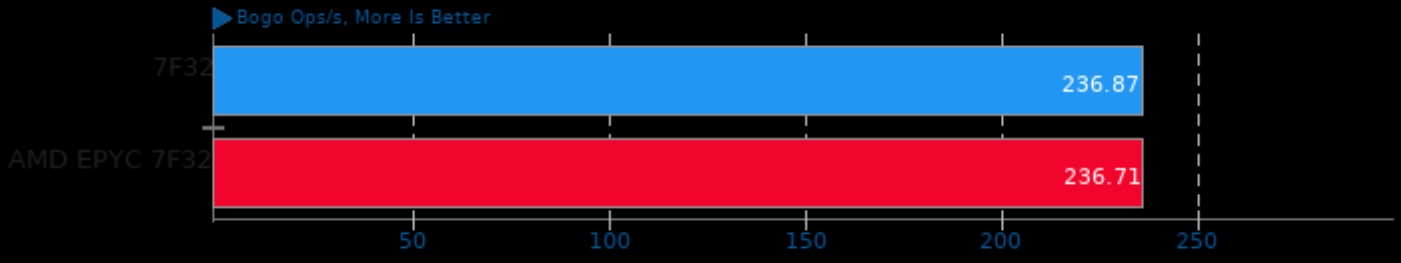
Test: MMAP



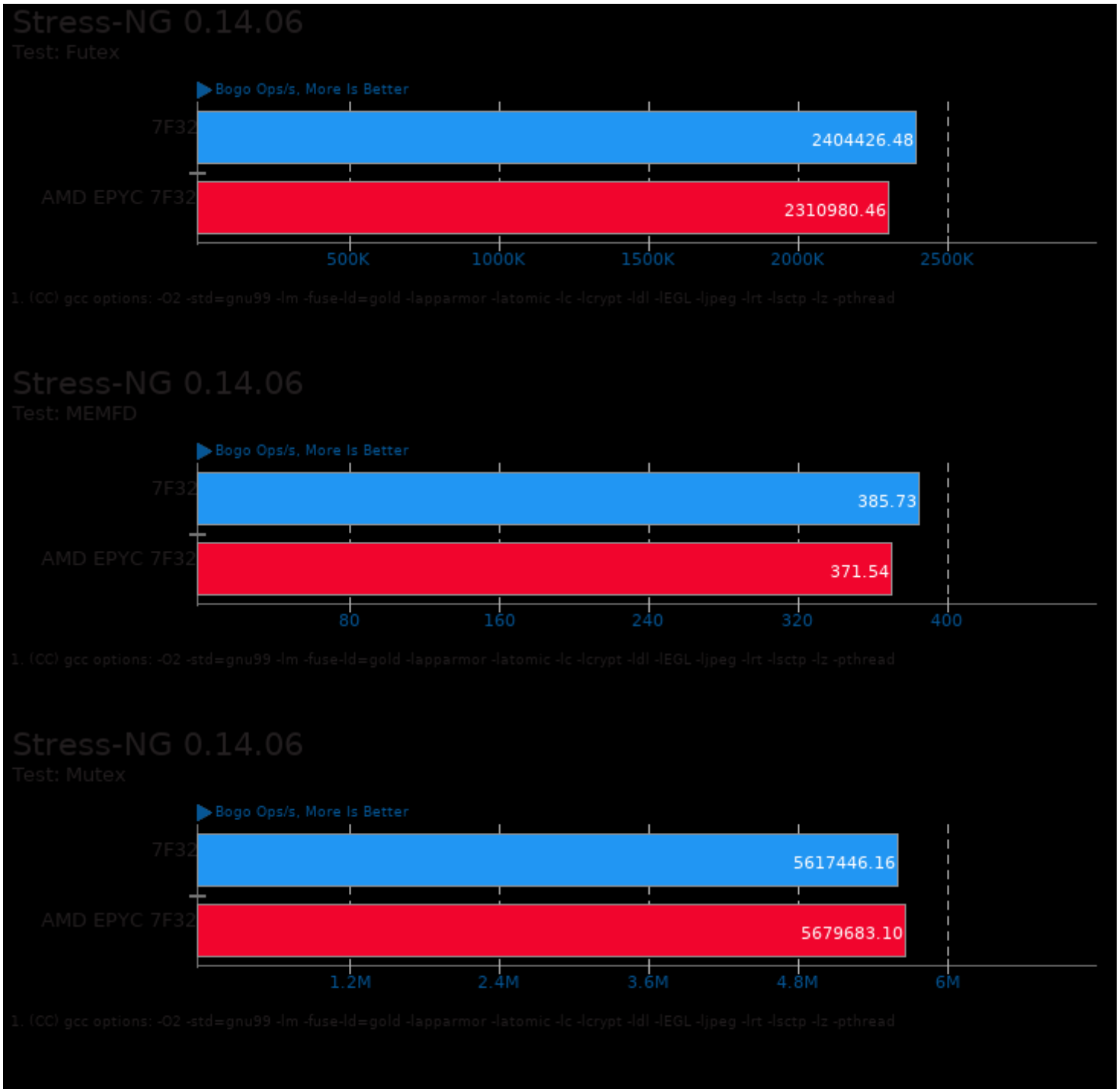
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

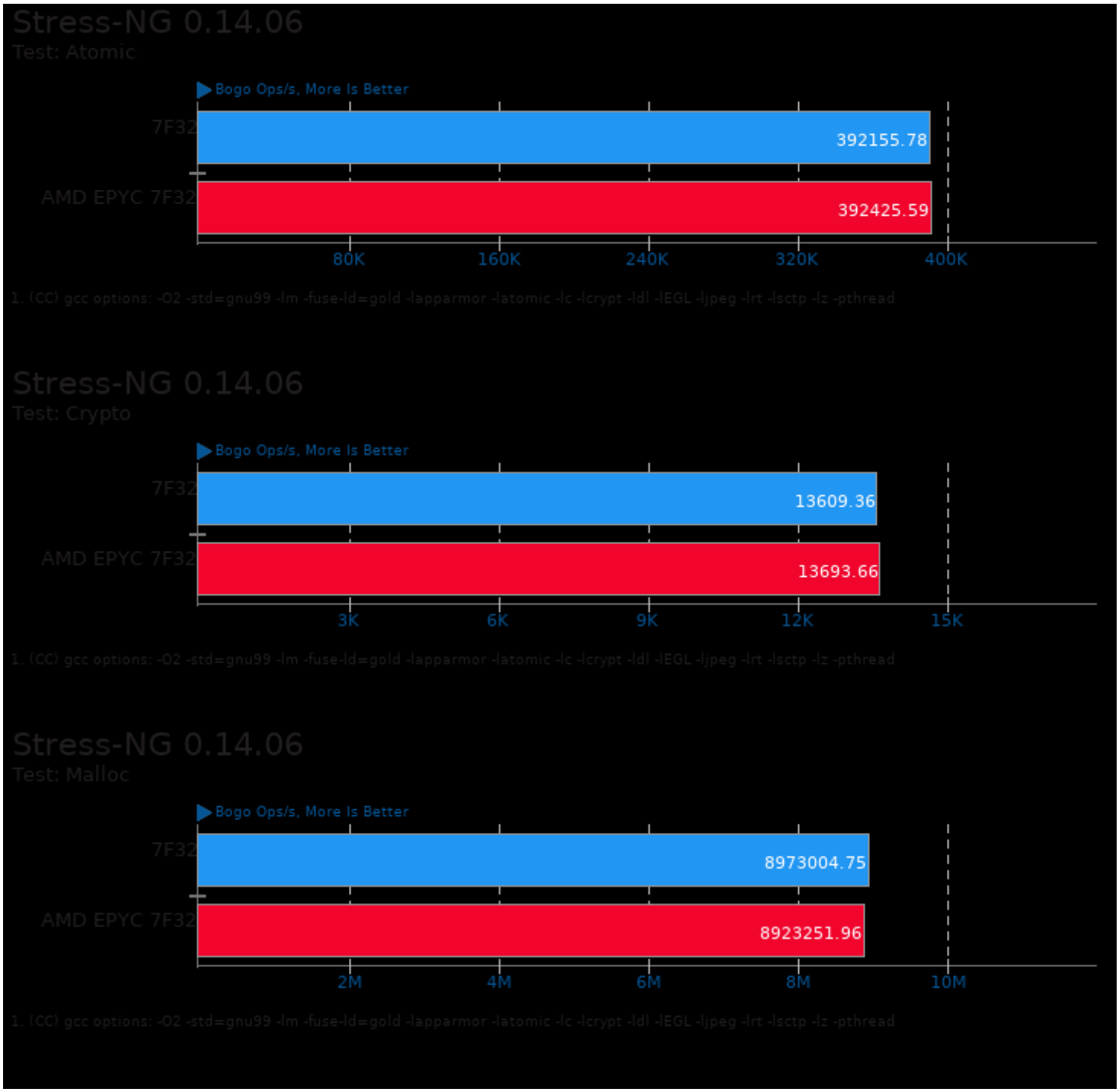
Test: NUMA

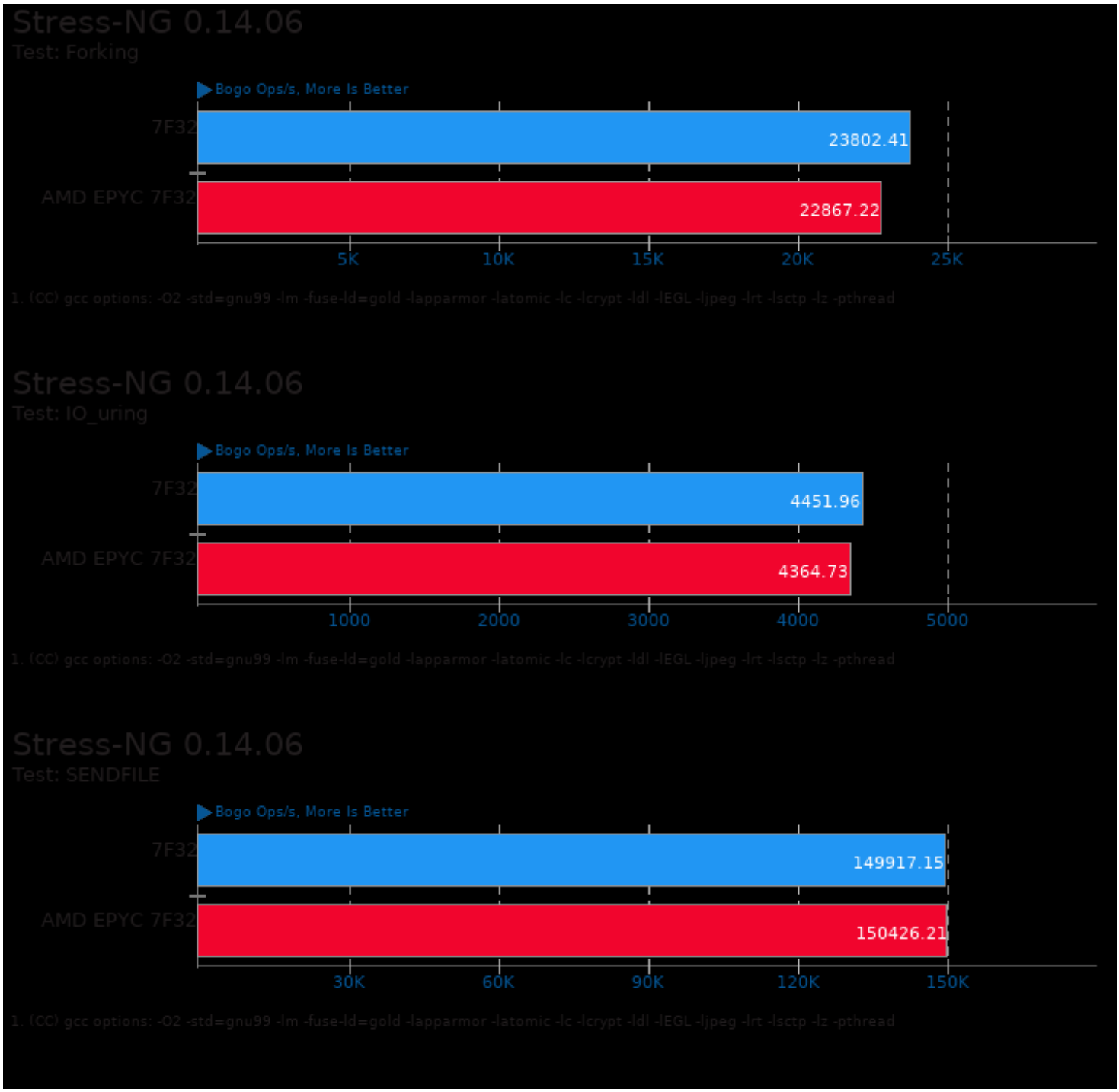


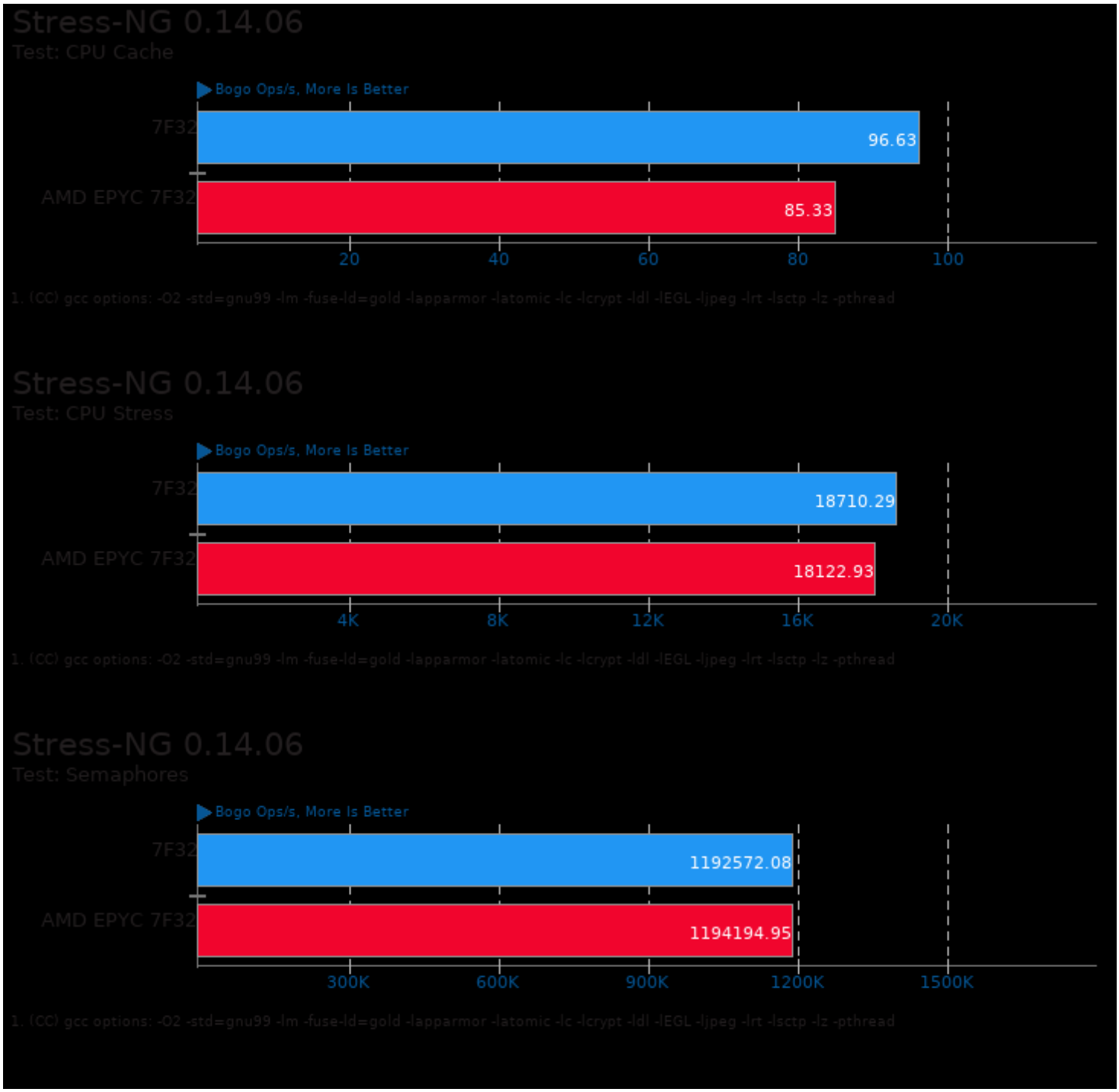
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

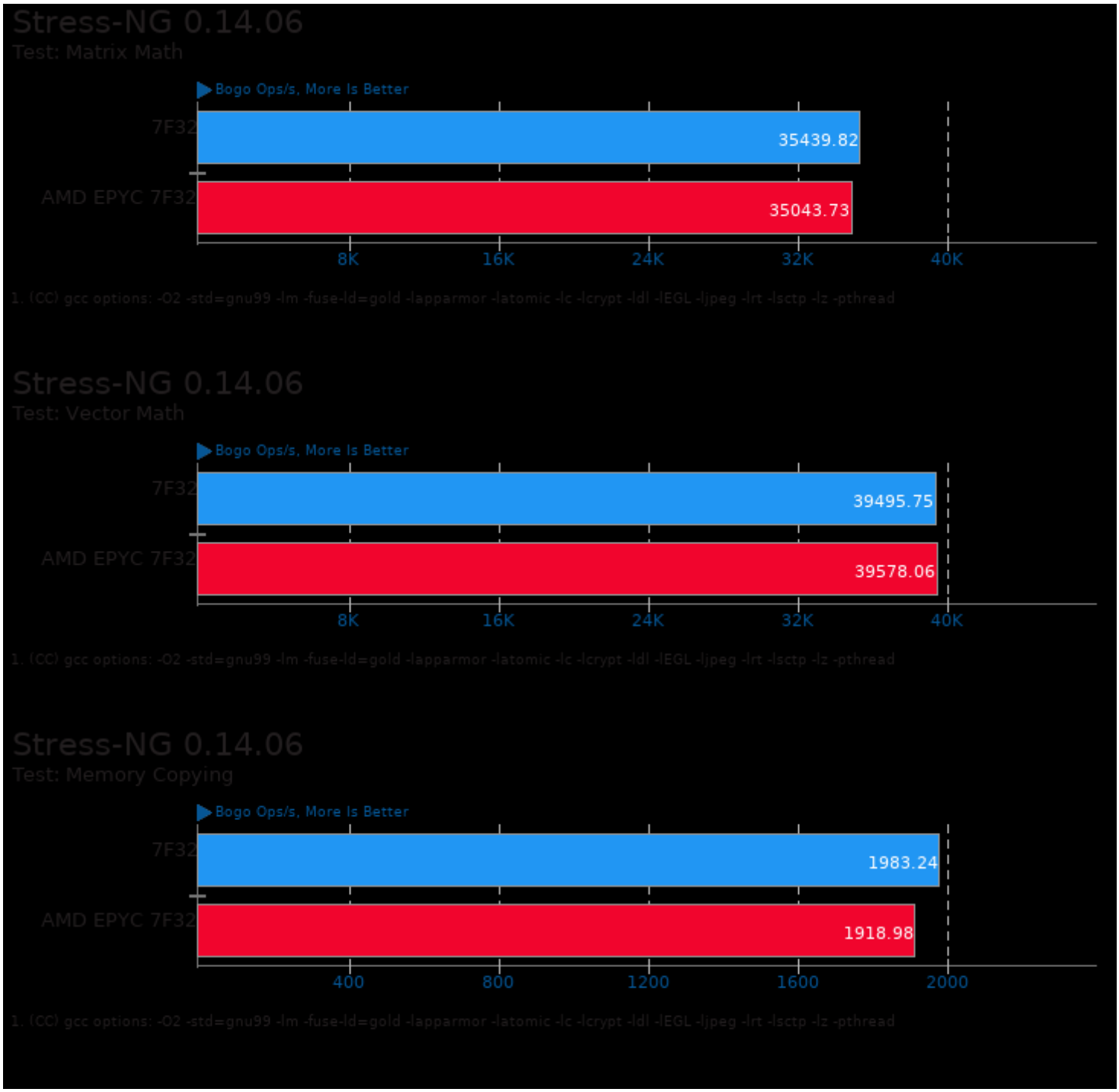

Stress-NG 0.14.06
Test: Futex
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
2404426.48
2310980.46
500K
1000K
1500K
2000K
2500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: MEMFD
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
385.73
371.54
80
160
240
320
400
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Mutex
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
5617446.16
5679683.10
1.2M
2.4M
3.6M
4.8M
6M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

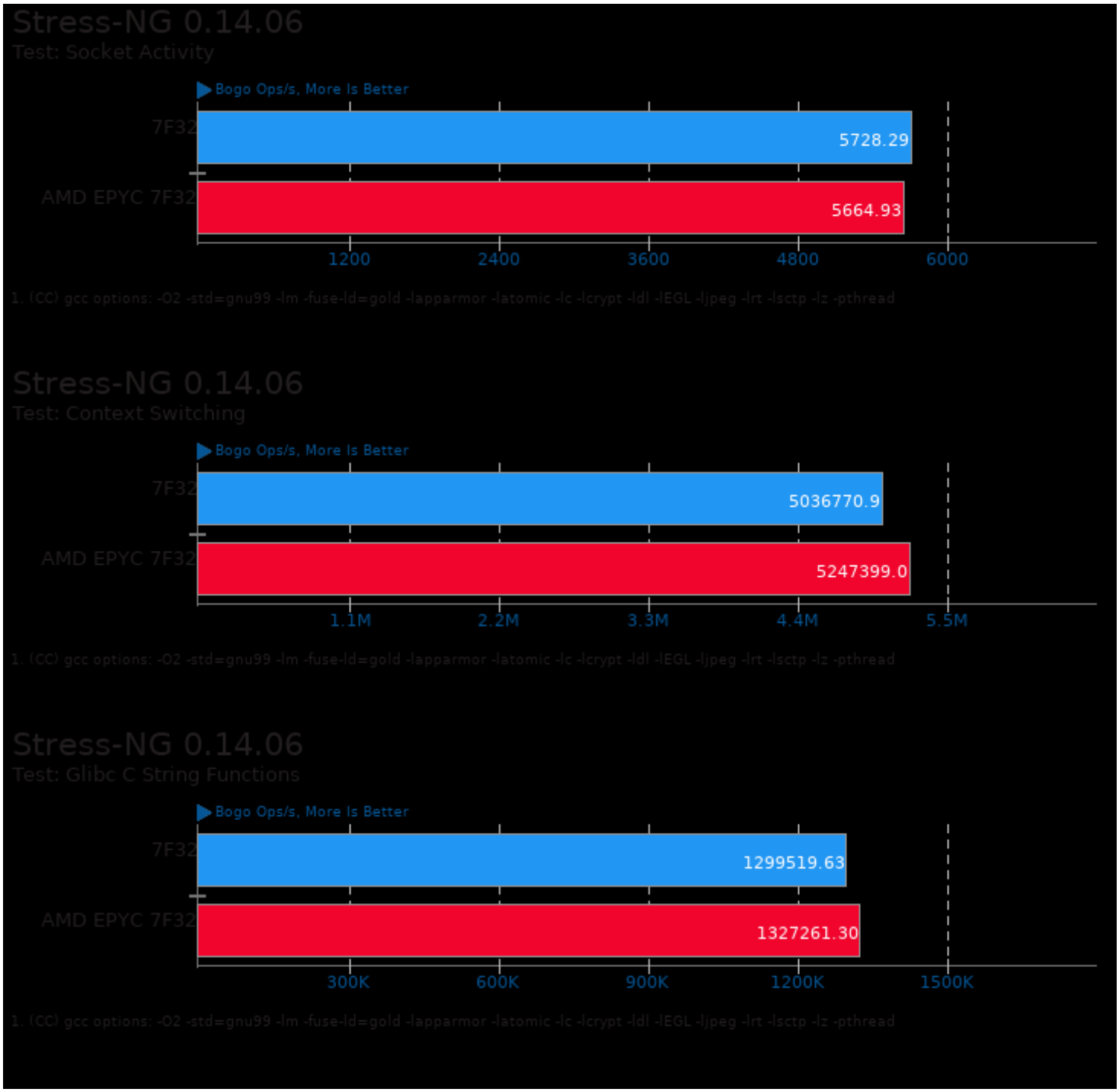
eptc-7f32


Stress-NG 0.14.06
Test: Atomic
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
392155.78
392425.59
80K
160K
240K
320K
400K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Crypto
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
13609.36
13693.66
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Malloc
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
8973004.75
8923251.96
2M
4M
6M
8M
10M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Forking
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
23802.41
22867.22
5K
10K
15K
20K
25K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: IO_uring
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
4451.96
4364.73
1000
2000
3000
4000
5000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: SENDFILE
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
149917.15
150426.21
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

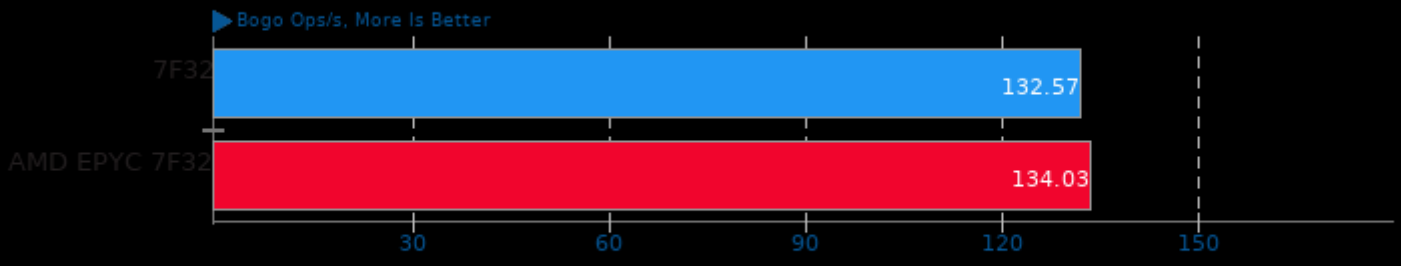

Stress-NG 0.14.06
Test: CPU Cache
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
96.63
85.33
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: CPU Stress
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
18710.29
18122.93
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Semaphores
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
1192572.08
1194194.95
300K
600K
900K
1200K
1500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Matrix Math
Bogo Ops/s, More Is Better
7F32
35439.82
AMD EPYC 7F32
35043.73
8K
16K
24K
32K
40K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Vector Math
Bogo Ops/s, More Is Better
7F32
39495.75
AMD EPYC 7F32
39578.06
8K
16K
24K
32K
40K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Memory Copying
Bogo Ops/s, More Is Better
7F32
1983.24
AMD EPYC 7F32
1918.98
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Socket Activity
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
5728.29
5664.93
1200
2400
3600
4800
6000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Context Switching
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
5036770.9
5247399.0
1.1M
2.2M
3.3M
4.4M
5.5M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
7F32
AMD EPYC 7F32
1299519.63
1327261.30
300K
600K
900K
1200K
1500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

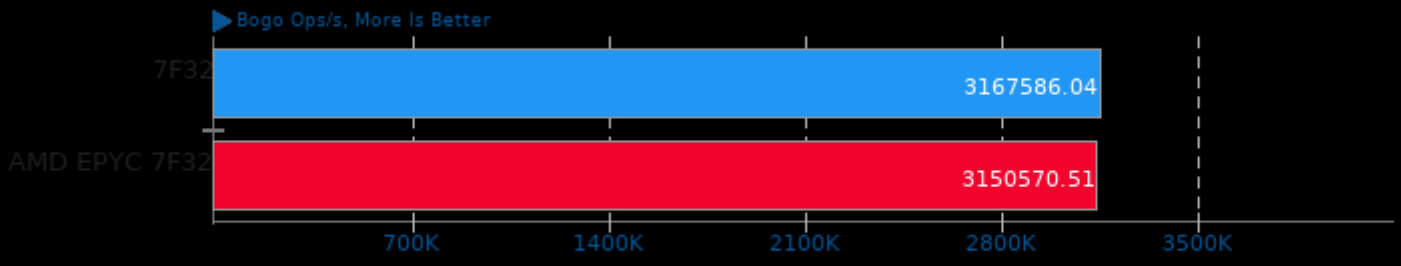
Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

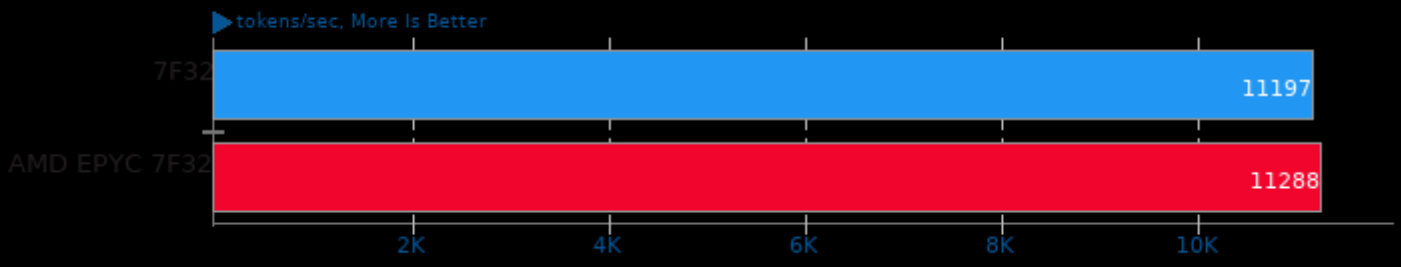
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -lapparmor -latomic -lc -lcrypt -ldl -lEGL -ljpeg -lrt -lsctp -lz -pthread

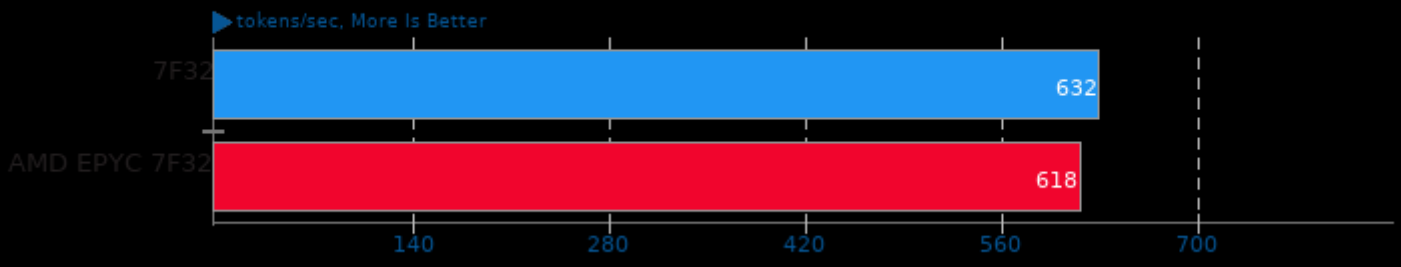
spaCy 3.4.1

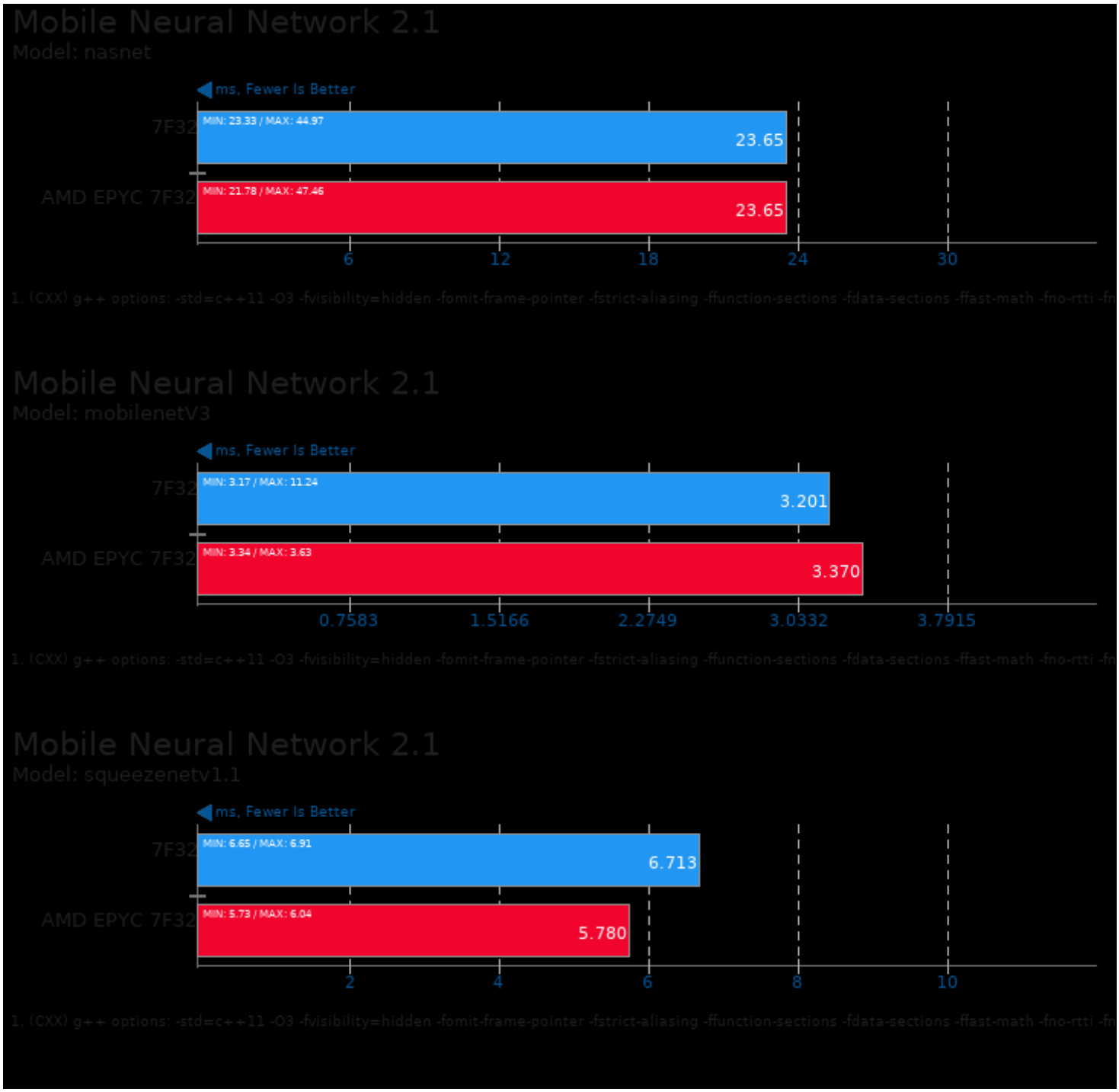
Model: en_core_web_lg

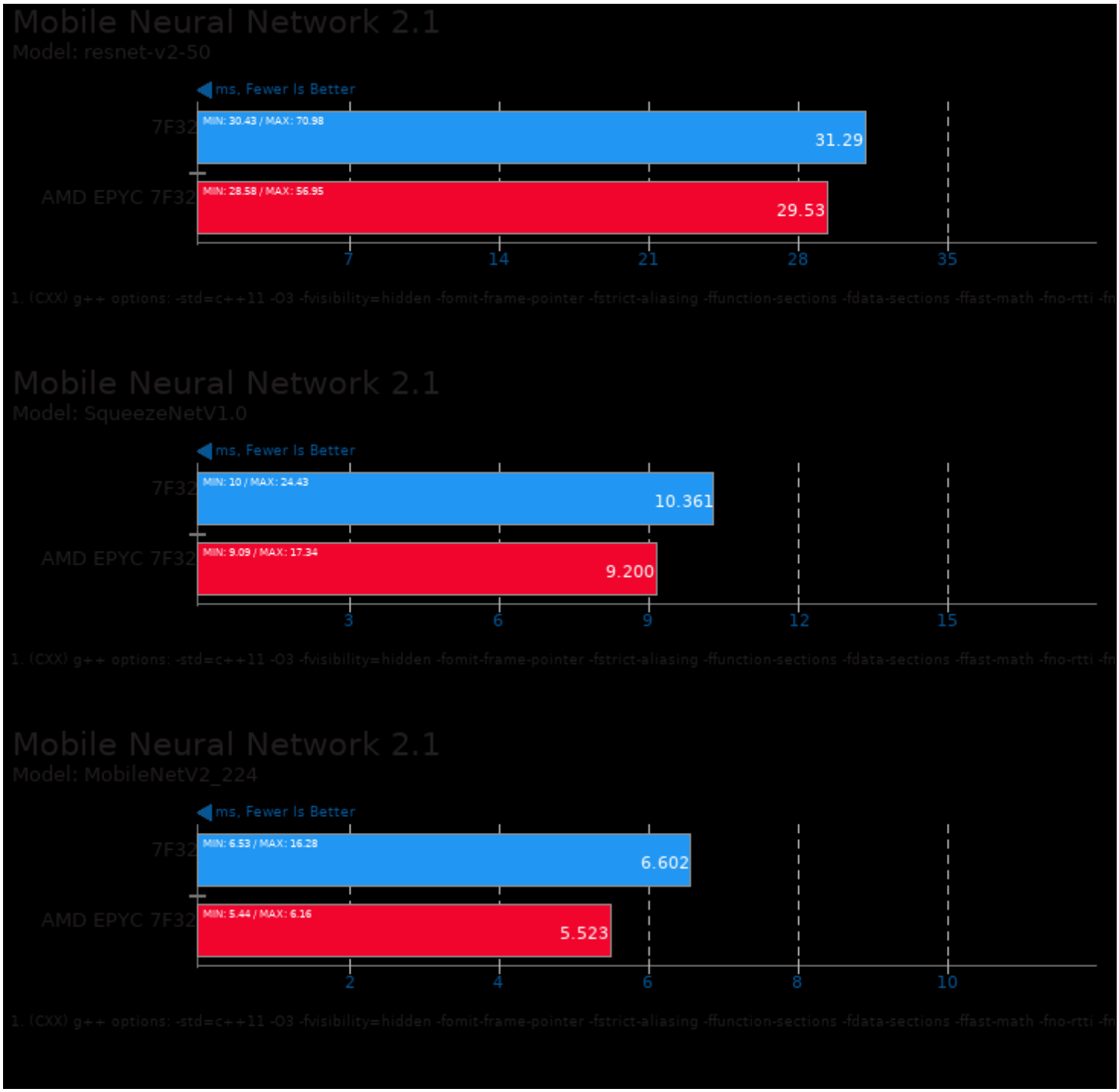


spaCy 3.4.1

Model: en_core_web_trf

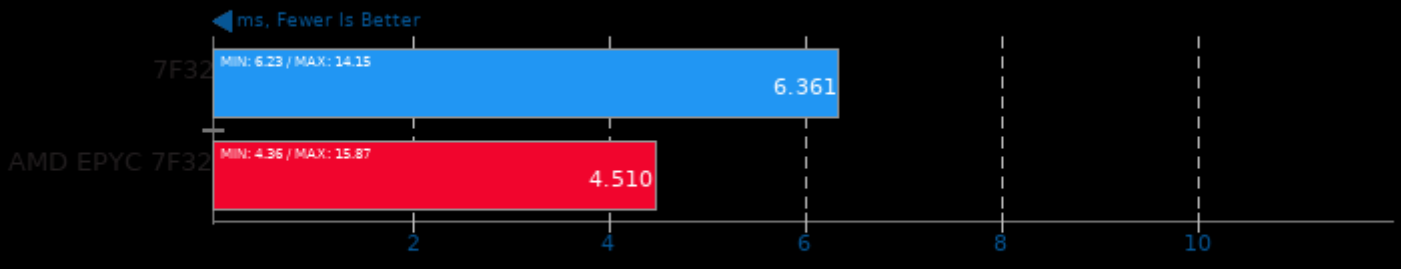



Mobile Neural Network 2.1
Model: nasnet
ms, Fewer Is Better
7F32
MIN: 23.33 / MAX: 44.97
23.65
AMD EPYC 7F32
MIN: 21.78 / MAX: 47.46
23.65
6
12
18
24
30
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 2.1
Model: mobilenetV3
ms, Fewer Is Better
7F32
MIN: 3.17 / MAX: 11.24
3.201
AMD EPYC 7F32
MIN: 3.34 / MAX: 3.63
3.370
0.7583
1.5166
2.2749
3.0332
3.7915
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 2.1
Model: squeezenetv1.1
ms, Fewer Is Better
7F32
MIN: 6.65 / MAX: 6.91
6.713
AMD EPYC 7F32
MIN: 5.73 / MAX: 6.04
5.780
2
4
6
8
10
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 2.1
Model: resnet-v2-50
ms, Fewer Is Better
7F32
MIN: 30.43 / MAX: 70.98
31.29
AMD EPYC 7F32
MIN: 28.58 / MAX: 56.95
29.53
7
14
21
28
35
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 2.1
Model: SqueezeNetV1.0
ms, Fewer Is Better
7F32
MIN: 10 / MAX: 24.43
10.361
AMD EPYC 7F32
MIN: 9.09 / MAX: 17.34
9.200
3
6
9
12
15
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 2.1
Model: MobileNetV2_224
ms, Fewer Is Better
7F32
MIN: 6.53 / MAX: 16.28
6.602
AMD EPYC 7F32
MIN: 5.44 / MAX: 6.16
5.523
2
4
6
8
10
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 2.1

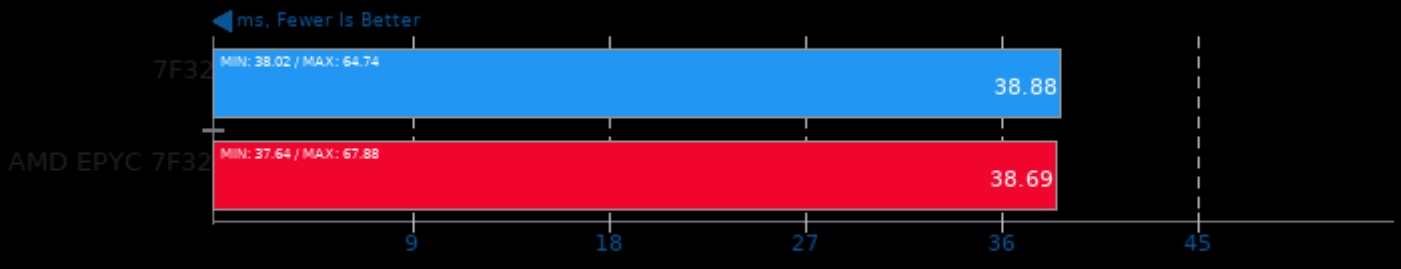
Model: mobilenet-v1-1.0



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 2.1

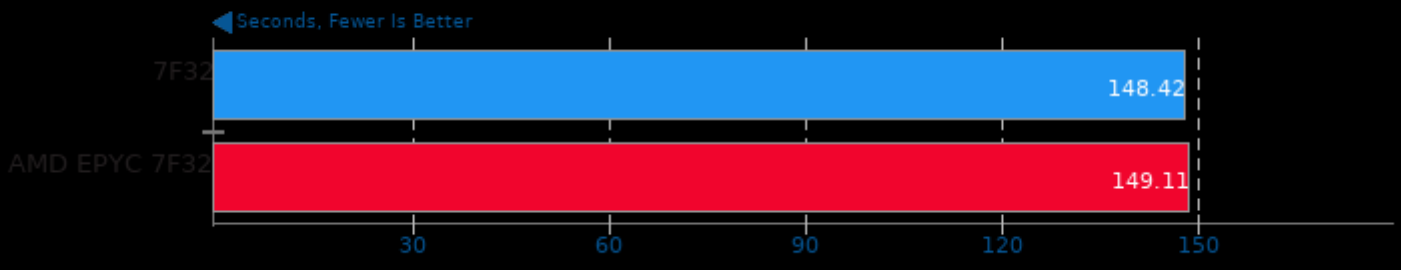
Model: inception-v3



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

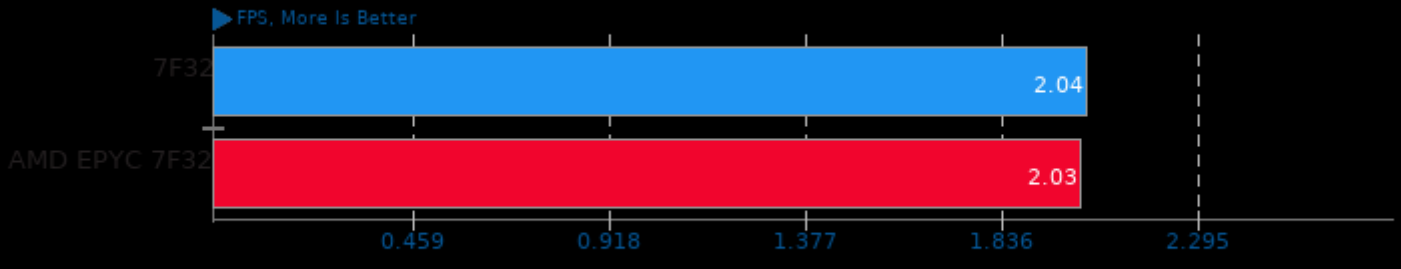
Blender 3.3

Blend File: BMW27 - Compute: CPU-Only

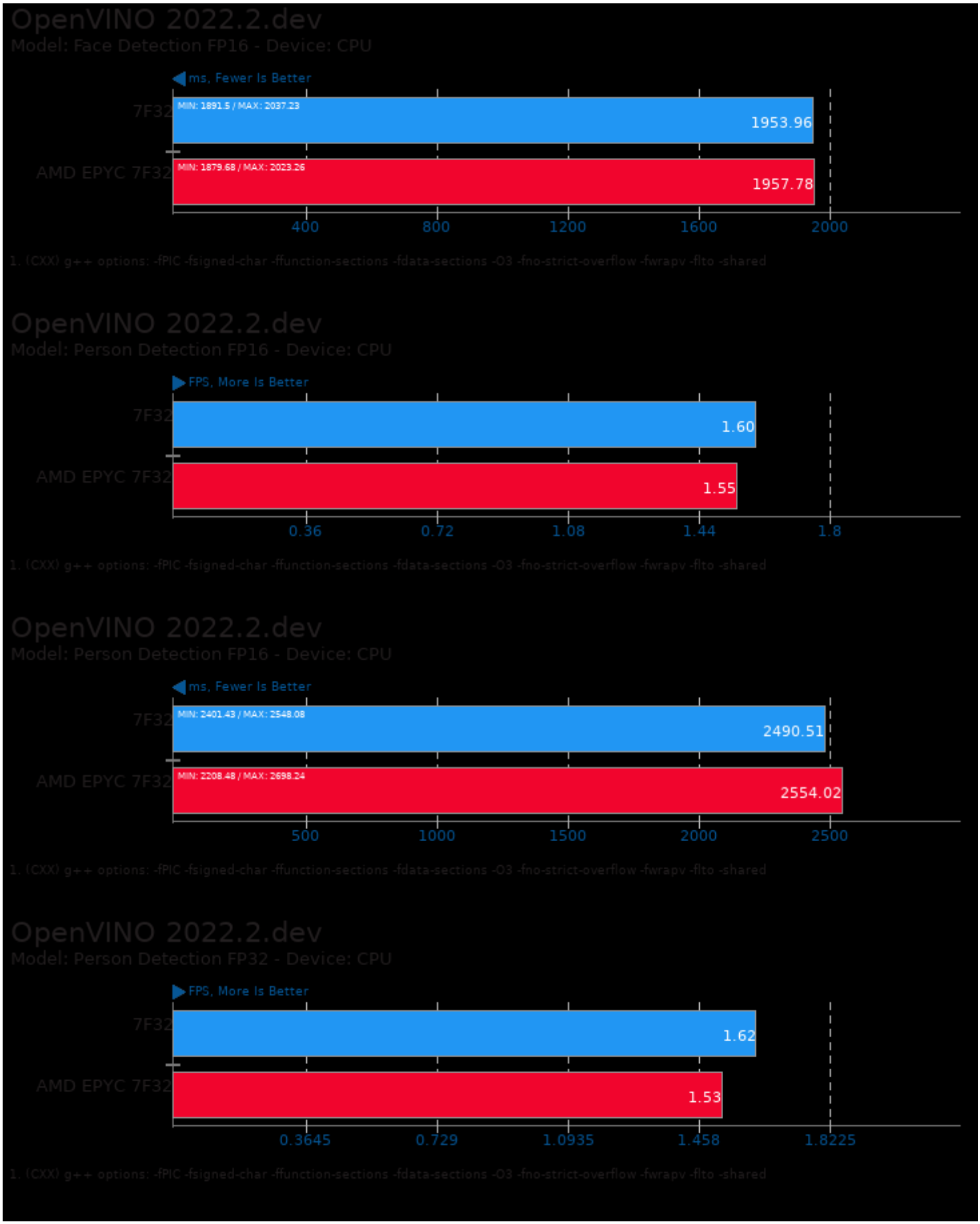


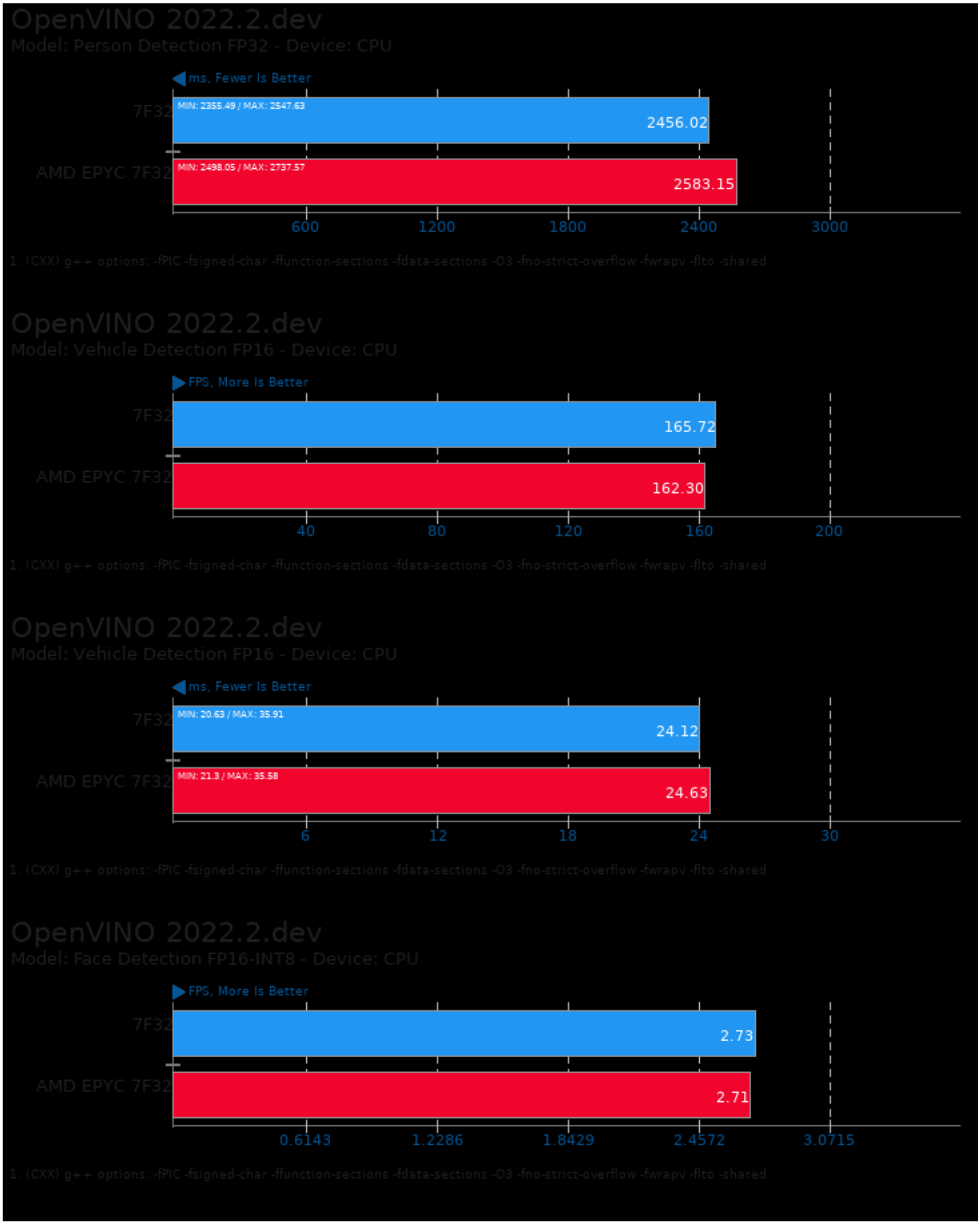
OpenVINO 2022.2.dev

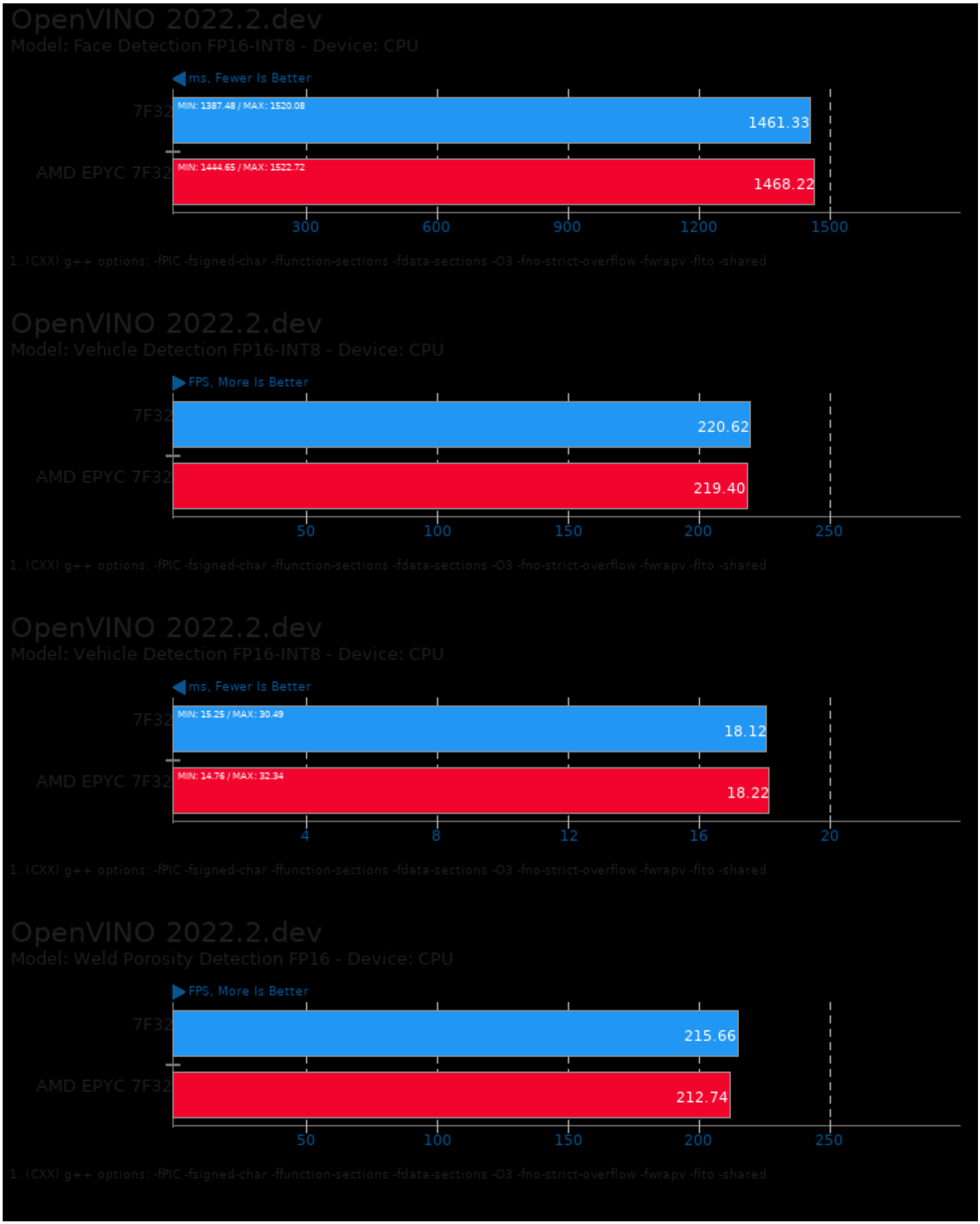
Model: Face Detection FP16 - Device: CPU

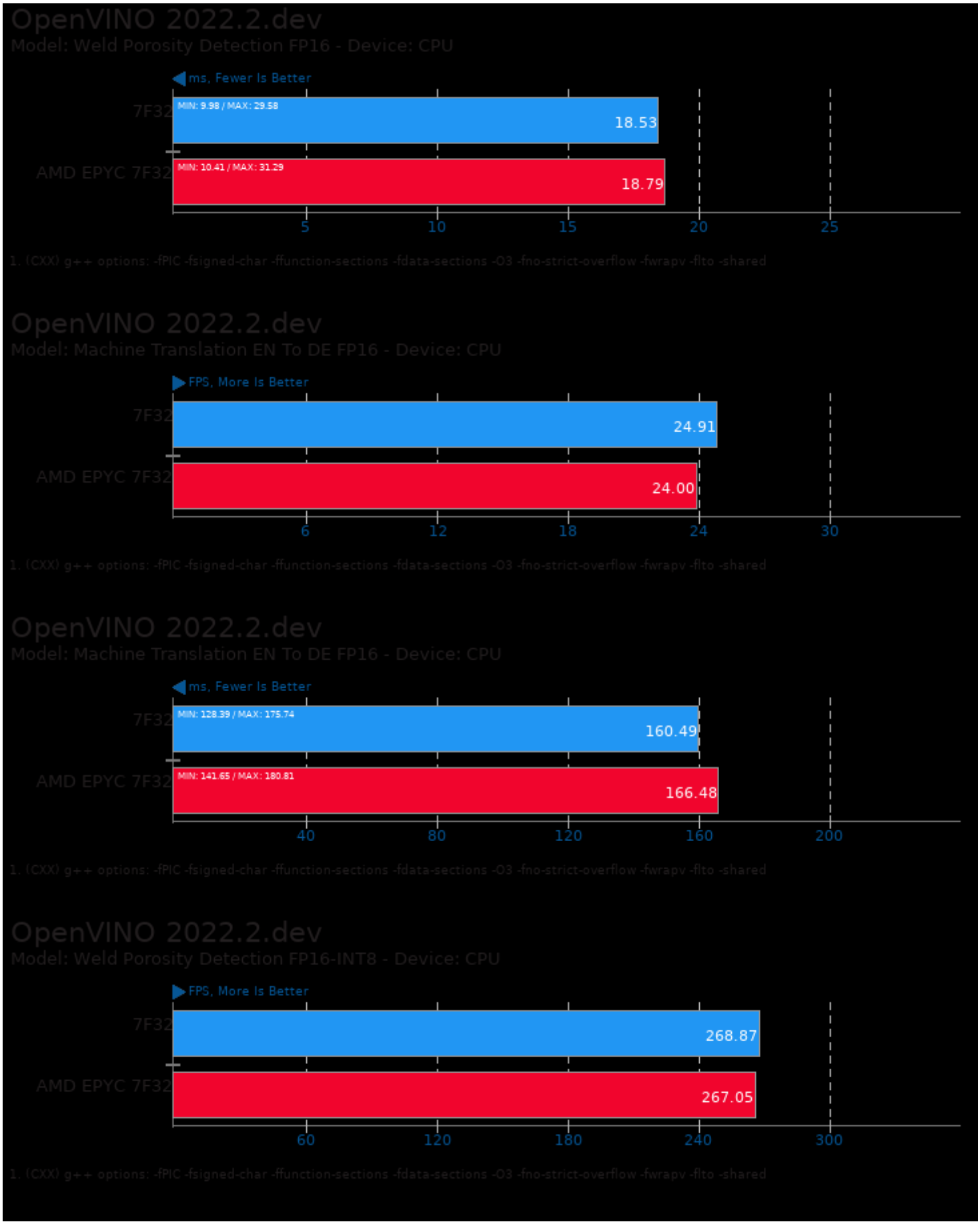


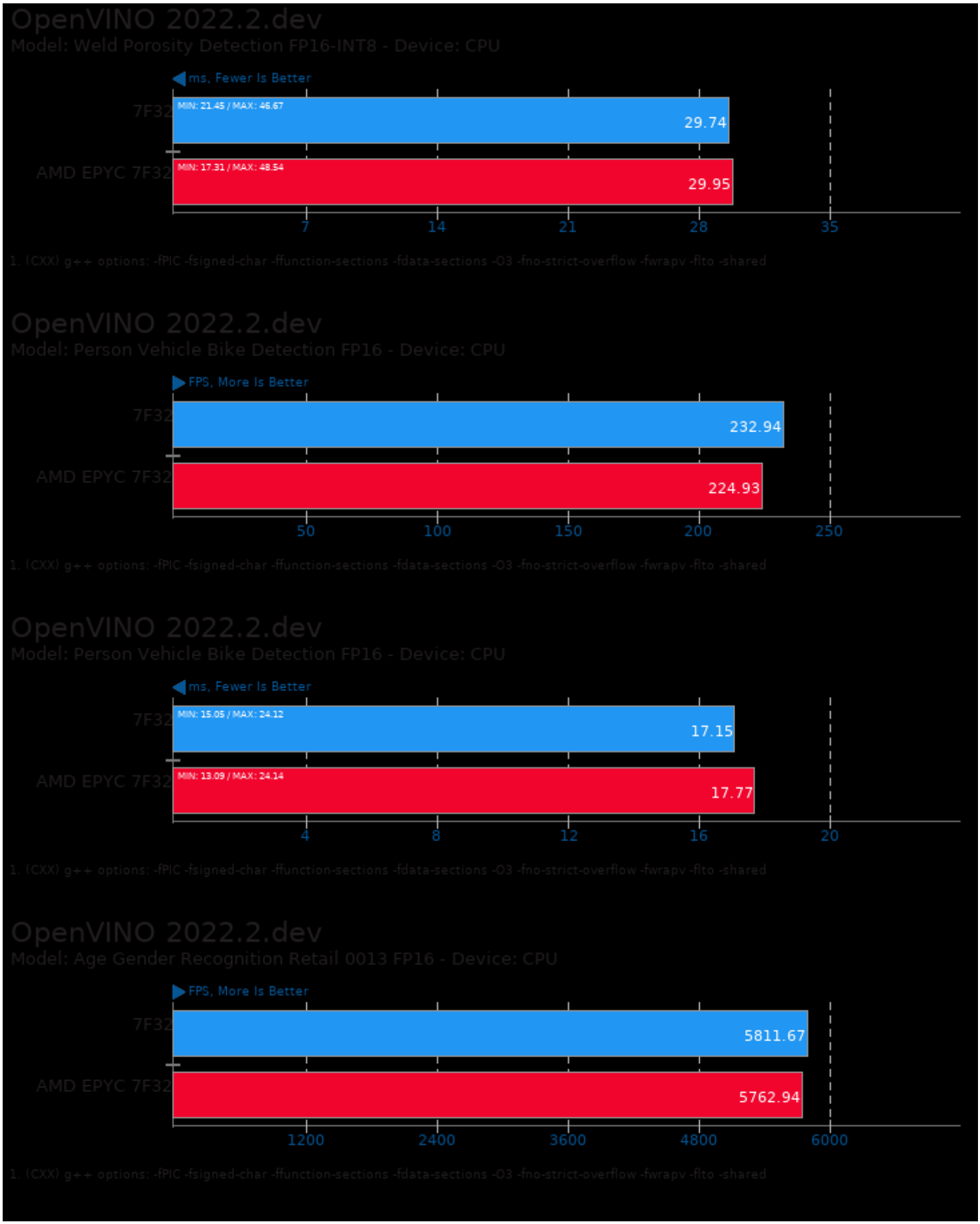
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Face Detection FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 1891.5 / MAX: 2037.23
1953.96
AMD EPYC 7F32
MIN: 1879.68 / MAX: 2023.26
1957.78
400
800
1200
1600
2000
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP16 - Device: CPU
FPS, More Is Better
7F32
1.60
AMD EPYC 7F32
1.55
0.36
0.72
1.08
1.44
1.8
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 2401.43 / MAX: 2548.08
2490.51
AMD EPYC 7F32
MIN: 2208.48 / MAX: 2698.24
2554.02
500
1000
1500
2000
2500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP32 - Device: CPU
FPS, More Is Better
7F32
1.62
AMD EPYC 7F32
1.53
0.3645
0.729
1.0935
1.458
1.8225
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Person Detection FP32 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 2355.49 / MAX: 2547.63
2456.02
AMD EPYC 7F32
MIN: 2498.05 / MAX: 2737.57
2583.15
600
1200
1800
2400
3000
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16 - Device: CPU
FPS, More Is Better
7F32
165.72
AMD EPYC 7F32
162.30
40
80
120
160
200
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 20.63 / MAX: 35.91
24.12
AMD EPYC 7F32
MIN: 21.3 / MAX: 35.58
24.63
6
12
18
24
30
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Face Detection FP16-INT8 - Device: CPU
FPS, More Is Better
7F32
2.73
AMD EPYC 7F32
2.71
0.6143
1.2286
1.8429
2.4572
3.0715
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

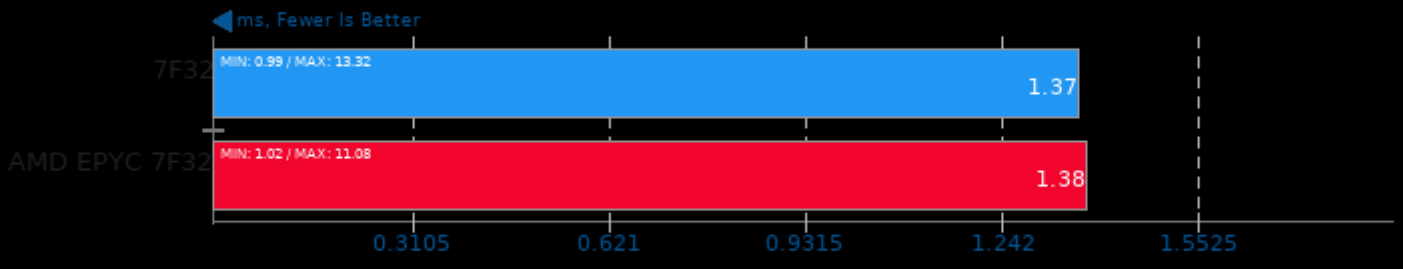

OpenVINO 2022.2.dev
Model: Face Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 1387.48 / MAX: 1520.08
1461.33
AMD EPYC 7F32
MIN: 1444.65 / MAX: 1522.72
1468.22
300
600
900
1200
1500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16-INT8 - Device: CPU
FPS, More Is Better
7F32
220.62
AMD EPYC 7F32
219.40
50
100
150
200
250
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 15.25 / MAX: 30.49
18.12
AMD EPYC 7F32
MIN: 14.76 / MAX: 32.34
18.22
4
8
12
16
20
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16 - Device: CPU
FPS, More Is Better
7F32
215.66
AMD EPYC 7F32
212.74
50
100
150
200
250
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 9.98 / MAX: 29.58
18.53
AMD EPYC 7F32
MIN: 10.41 / MAX: 31.29
18.79
5
10
15
20
25
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Machine Translation EN To DE FP16 - Device: CPU
FPS, More Is Better
7F32
24.91
AMD EPYC 7F32
24.00
6
12
18
24
30
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Machine Translation EN To DE FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 128.39 / MAX: 175.74
160.49
AMD EPYC 7F32
MIN: 141.65 / MAX: 180.81
166.48
40
80
120
160
200
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16-INT8 - Device: CPU
FPS, More Is Better
7F32
268.87
AMD EPYC 7F32
267.05
60
120
180
240
300
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 21.45 / MAX: 46.67
29.74
AMD EPYC 7F32
MIN: 17.31 / MAX: 48.54
29.95
7
14
21
28
35
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Vehicle Bike Detection FP16 - Device: CPU
FPS, More Is Better
7F32
232.94
AMD EPYC 7F32
224.93
50
100
150
200
250
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Vehicle Bike Detection FP16 - Device: CPU
ms, Fewer Is Better
7F32
MIN: 15.05 / MAX: 24.12
17.15
AMD EPYC 7F32
MIN: 13.09 / MAX: 24.14
17.77
4
8
12
16
20
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU
FPS, More Is Better
7F32
5811.67
AMD EPYC 7F32
5762.94
1200
2400
3600
4800
6000
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

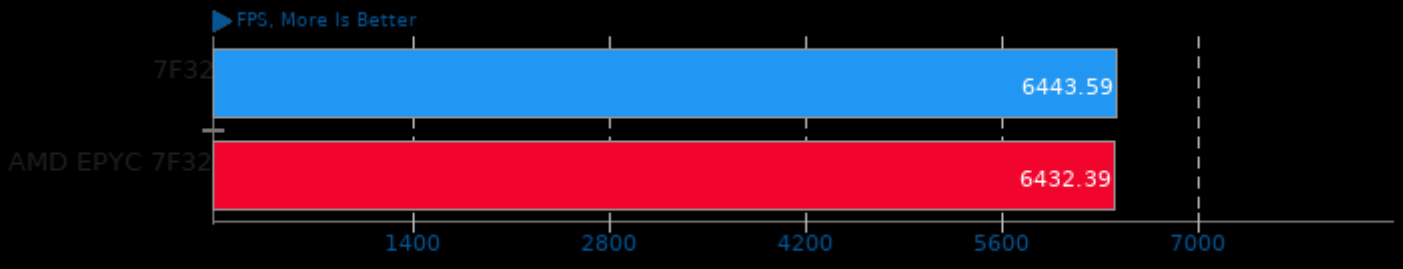
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

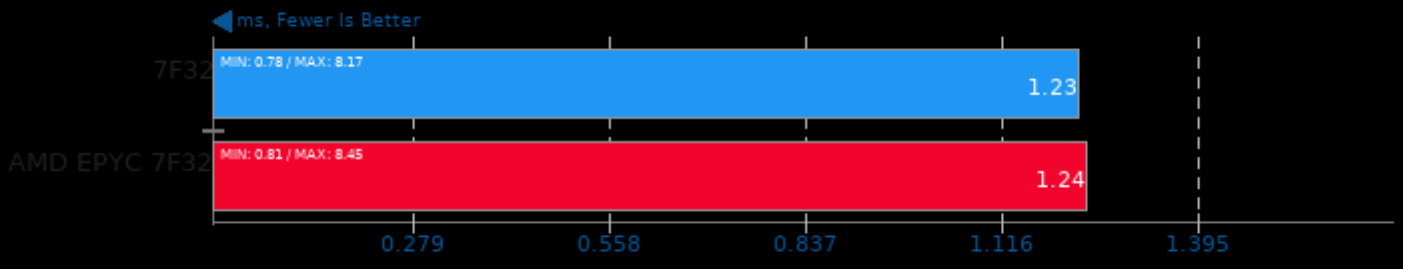
Model: Age Gender Recognition Retail 0013 FP16-INT8 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

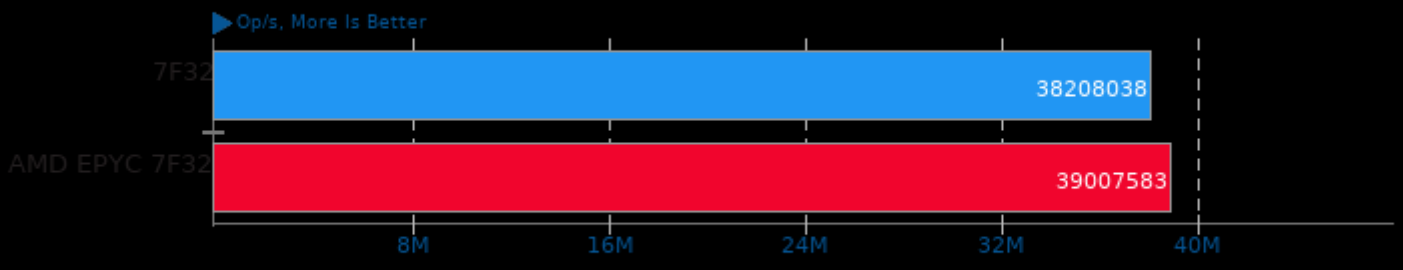
Model: Age Gender Recognition Retail 0013 FP16-INT8 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

Facebook RocksDB 7.5.3

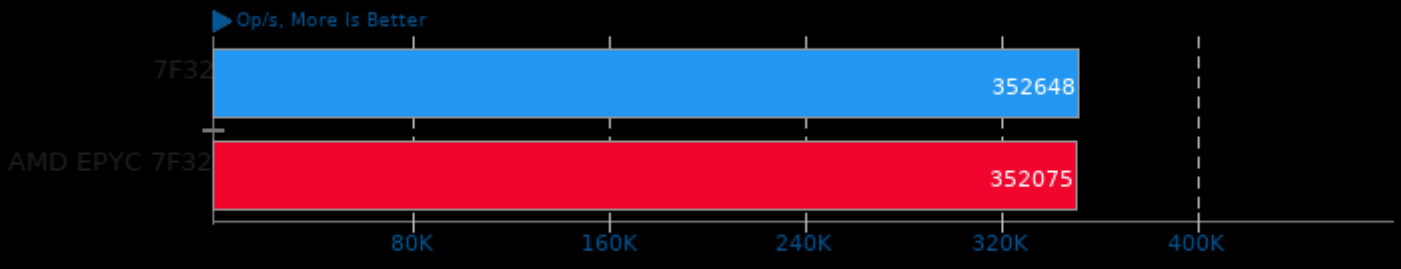
Test: Random Read



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

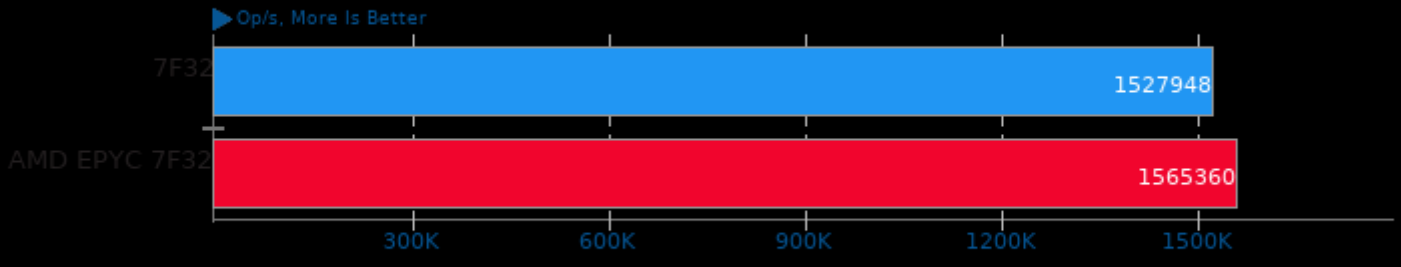
Test: Update Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

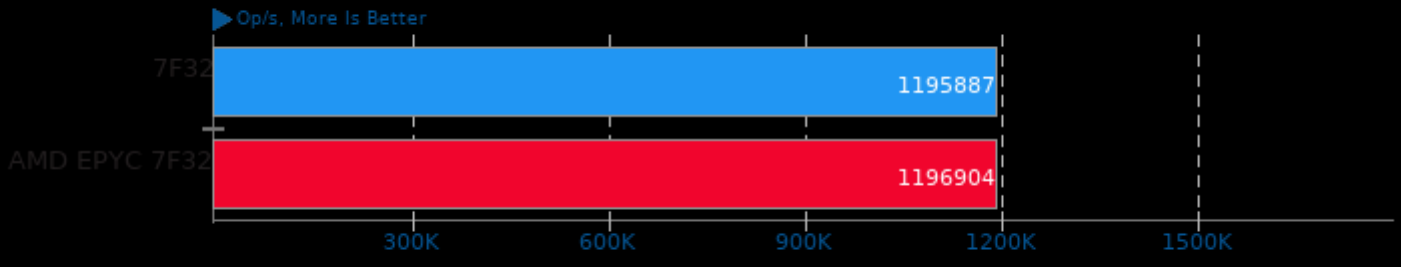
Test: Read While Writing



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

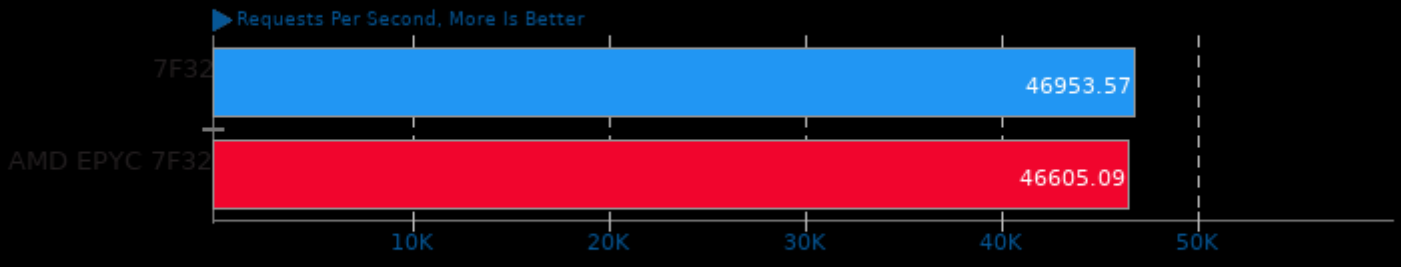
Test: Read Random Write Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

nginx 1.23.2

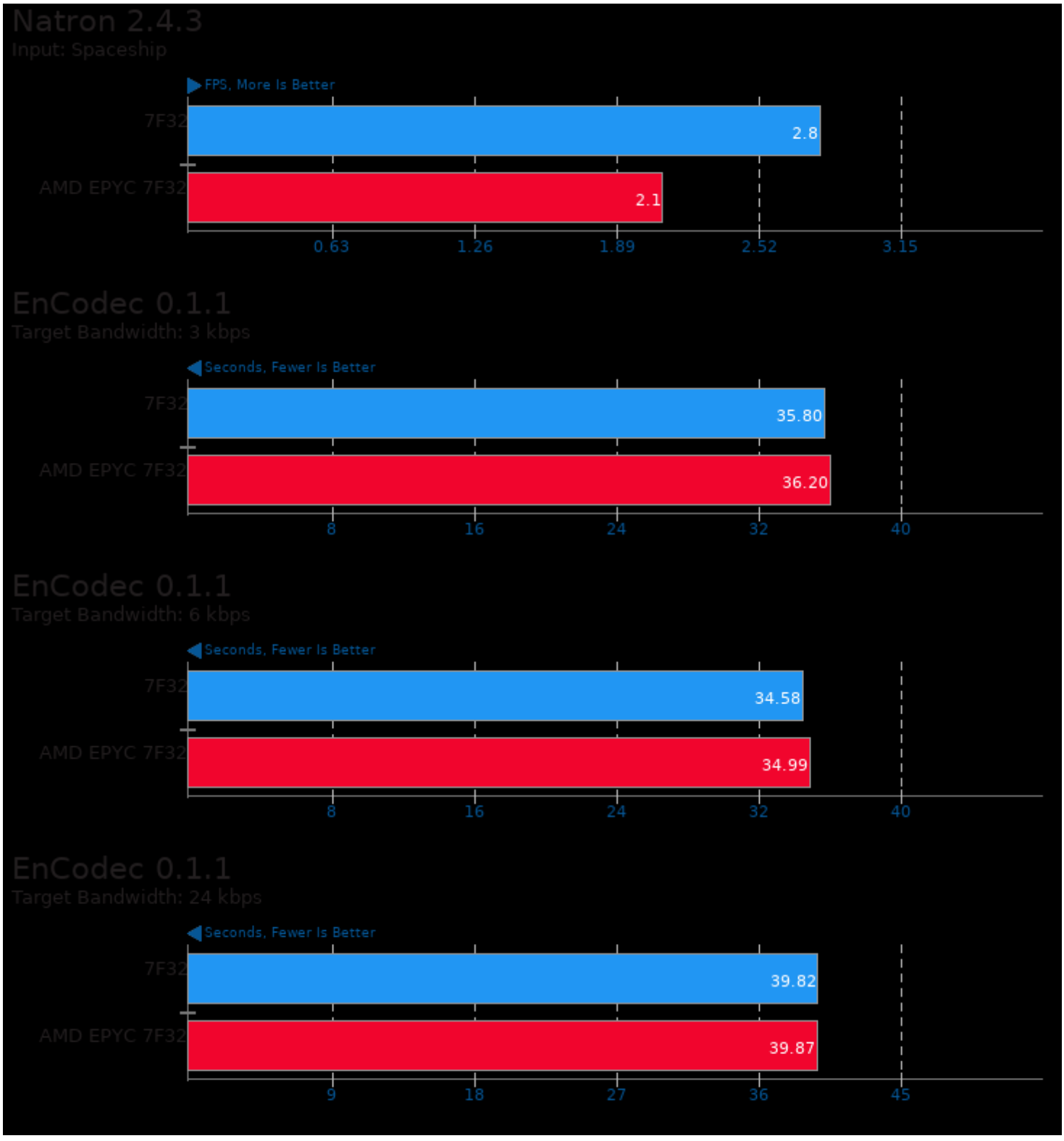
Connections: 20



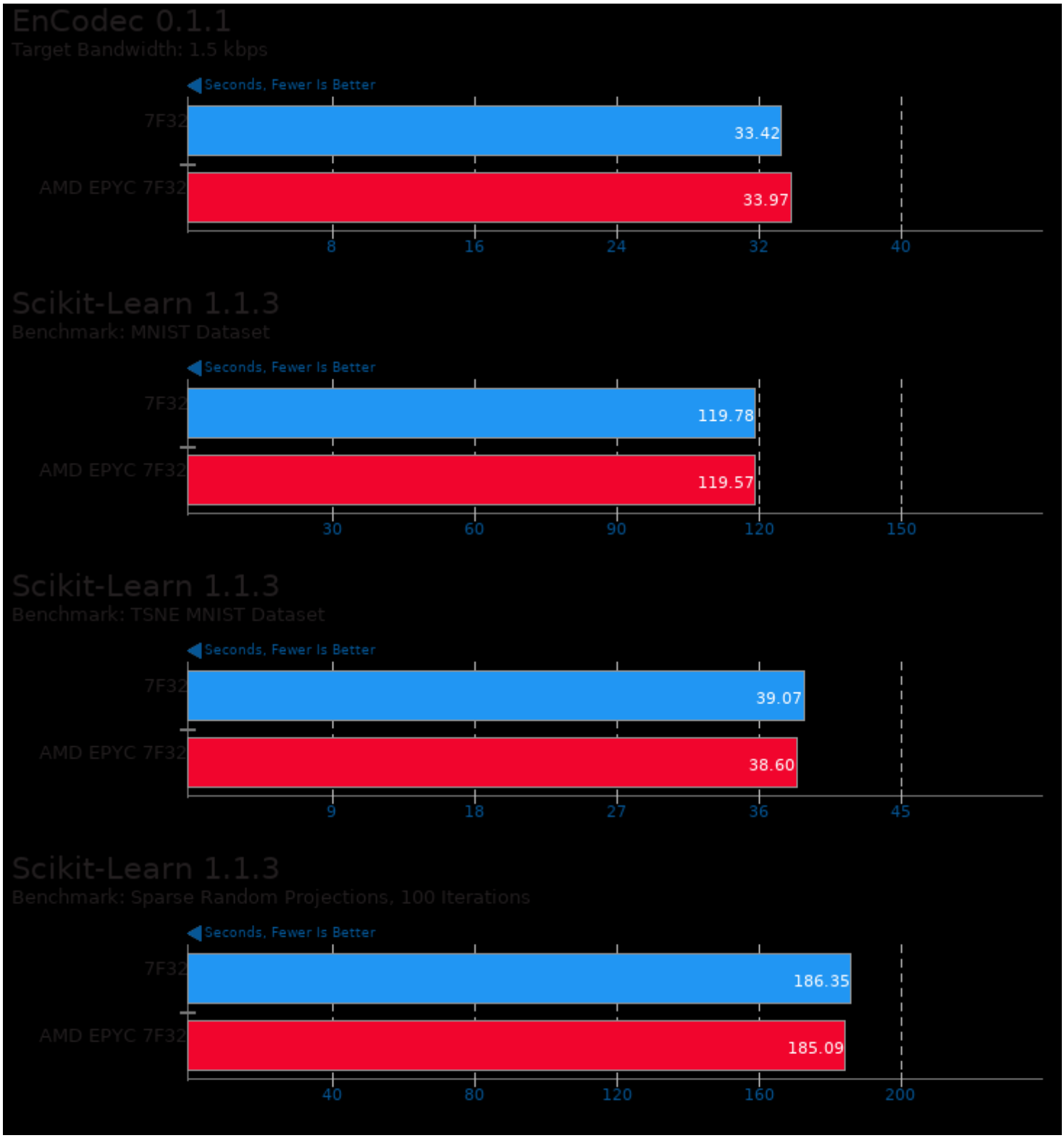
1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2

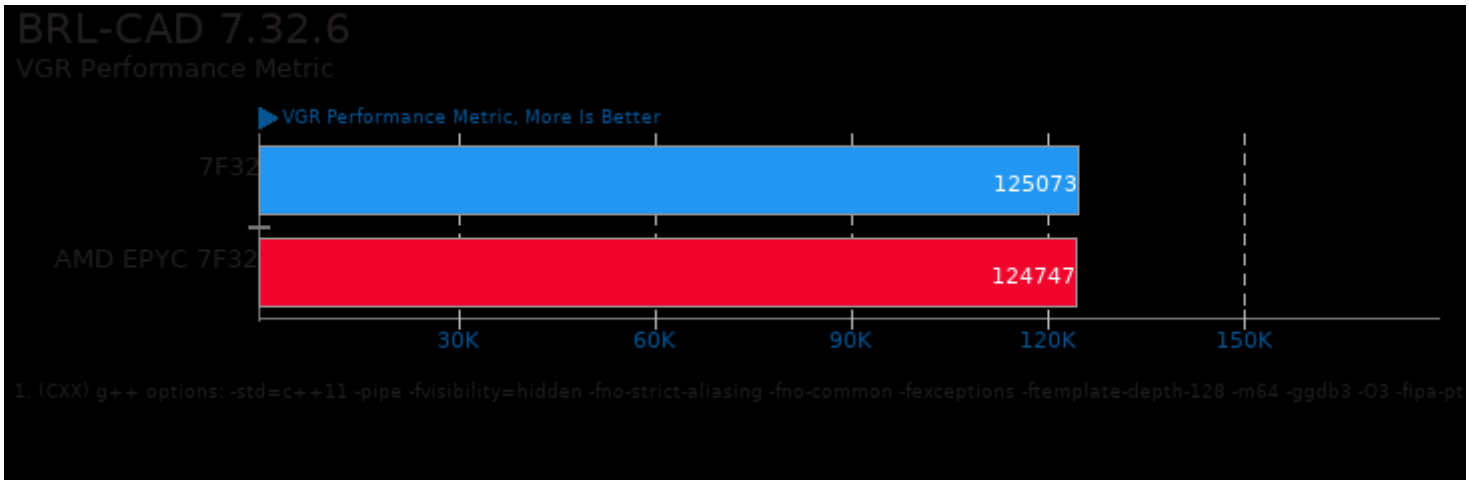

nginx 1.23.2
Connections: 100
Requests Per Second, More Is Better
7F32
AMD EPYC 7F32
50822.30
51130.85
11K
22K
33K
44K
55K
1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
nginx 1.23.2
Connections: 200
Requests Per Second, More Is Better
7F32
AMD EPYC 7F32
52189.35
51950.16
11K
22K
33K
44K
55K
1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
nginx 1.23.2
Connections: 500
Requests Per Second, More Is Better
7F32
AMD EPYC 7F32
52630.51
52055.66
11K
22K
33K
44K
55K
1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
nginx 1.23.2
Connections: 1000
Requests Per Second, More Is Better
7F32
AMD EPYC 7F32
51272.35
50516.45
11K
22K
33K
44K
55K
1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2

eptc-7f32

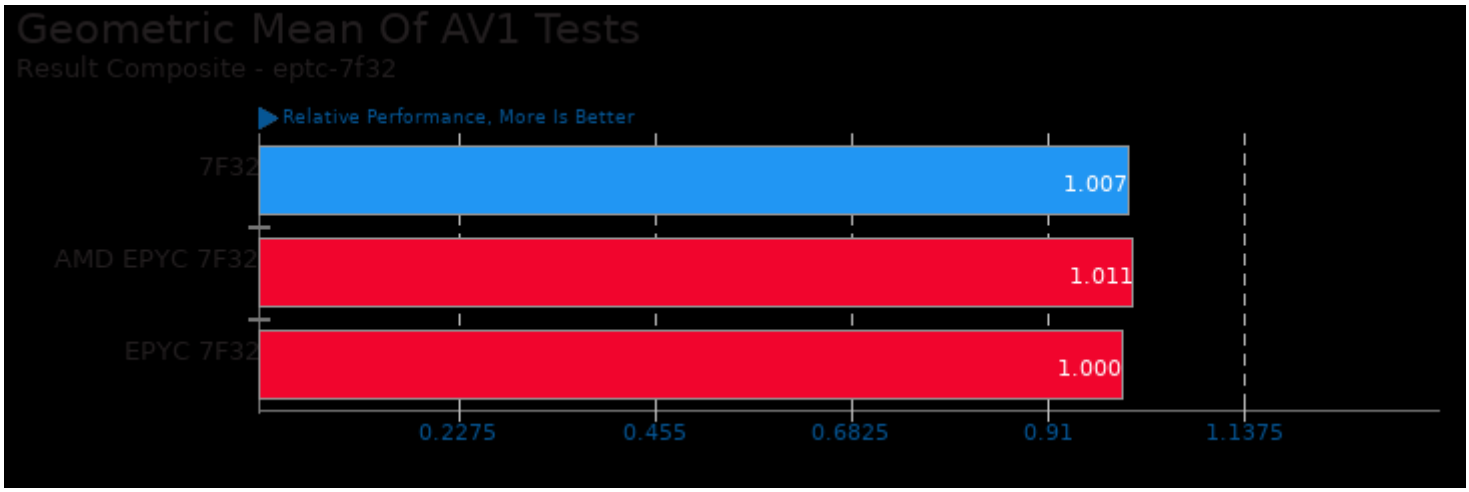

Natron 2.4.3
Input: Spaceship
FPS, More Is Better
7F32
AMD EPYC 7F32
2.8
2.1
0.63
1.26
1.89
2.52
3.15
EnCodec 0.1.1
Target Bandwidth: 3 kbps
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
35.80
36.20
8
16
24
32
40
EnCodec 0.1.1
Target Bandwidth: 6 kbps
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
34.58
34.99
8
16
24
32
40
EnCodec 0.1.1
Target Bandwidth: 24 kbps
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
39.82
39.87
9
18
27
36
45

eptc-7f32

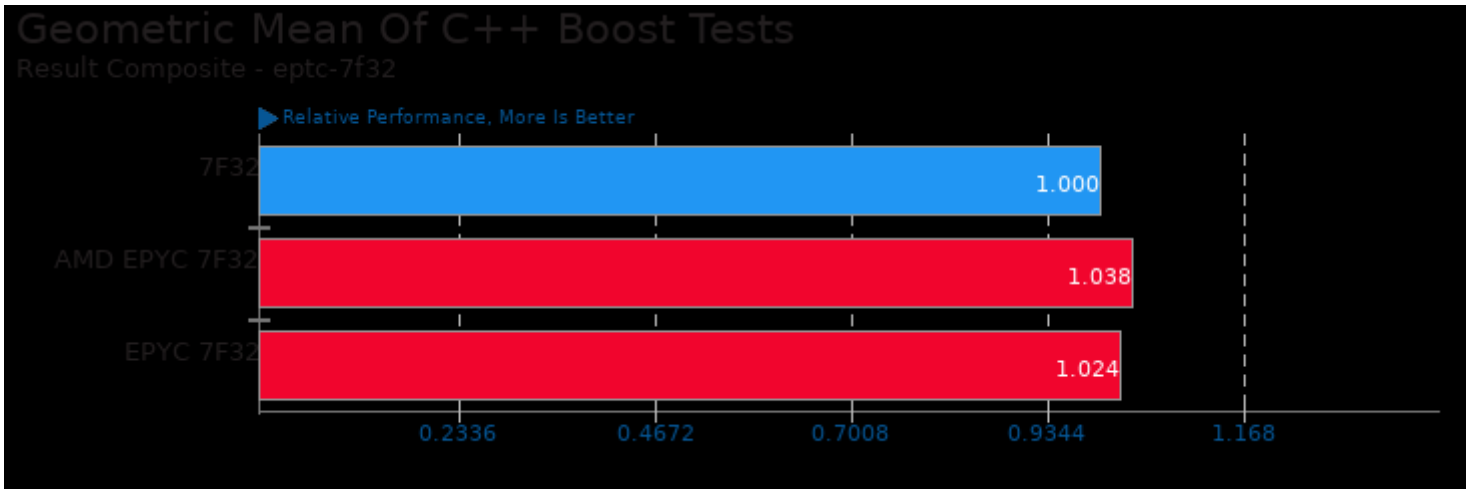

EnCodec 0.1.1
Target Bandwidth: 1.5 kbps
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
33.42
33.97
8
16
24
32
40
Scikit-Learn 1.1.3
Benchmark: MNIST Dataset
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
119.78
119.57
30
60
90
120
150
Scikit-Learn 1.1.3
Benchmark: TSNE MNIST Dataset
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
39.07
38.60
9
18
27
36
45
Scikit-Learn 1.1.3
Benchmark: Sparse Random Projections, 100 Iterations
Seconds, Fewer Is Better
7F32
AMD EPYC 7F32
186.35
185.09
40
80
120
160
200


BRL-CAD 7.32.6
VGR Performance Metric
VGR Performance Metric, More Is Better
7F32
125073
AMD EPYC 7F32
124747
30K
60K
90K
120K
150K
1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pt

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



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



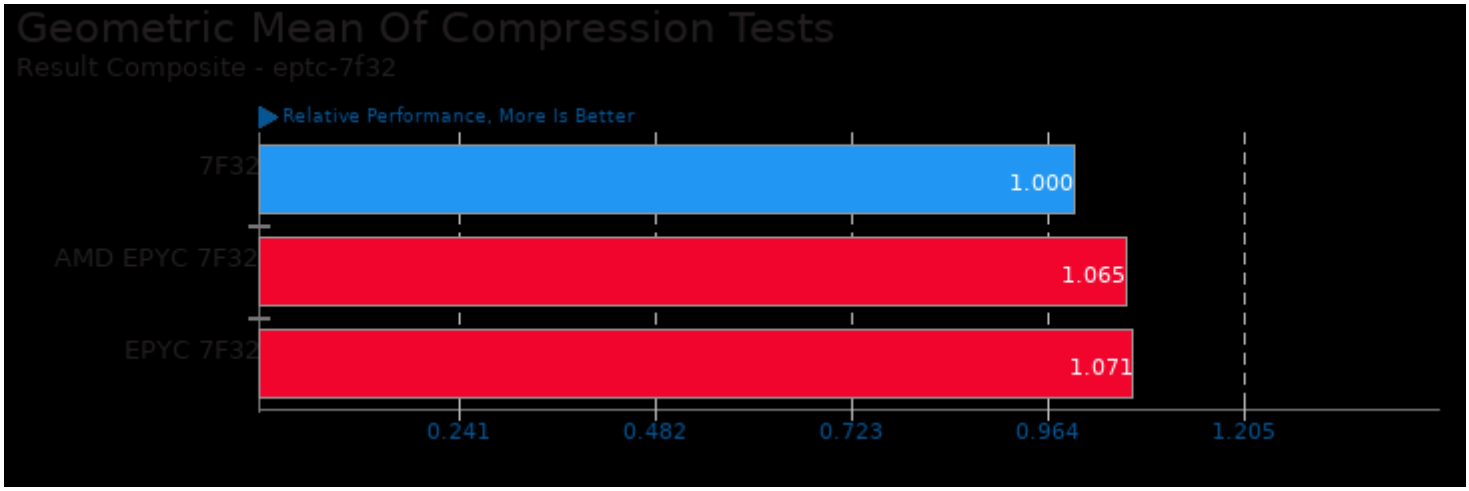
Geometric mean based upon tests: pts/openfoam and pts/srsran



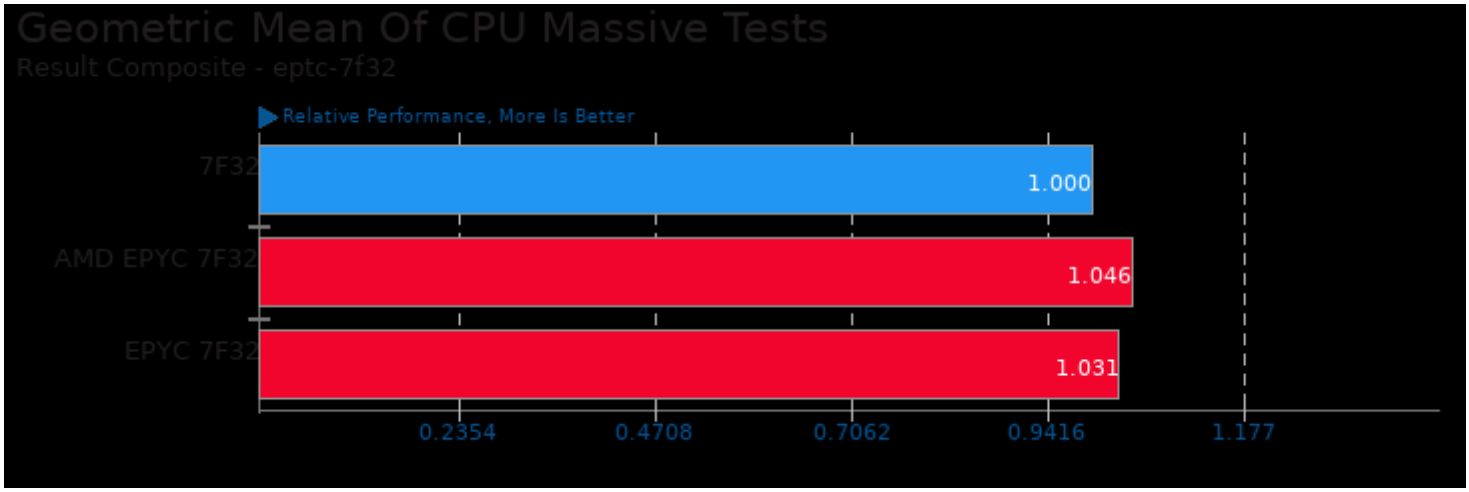
Geometric mean based upon tests: pts/build-php, pts/build-python, pts/build-erlang and pts/build-nodejs



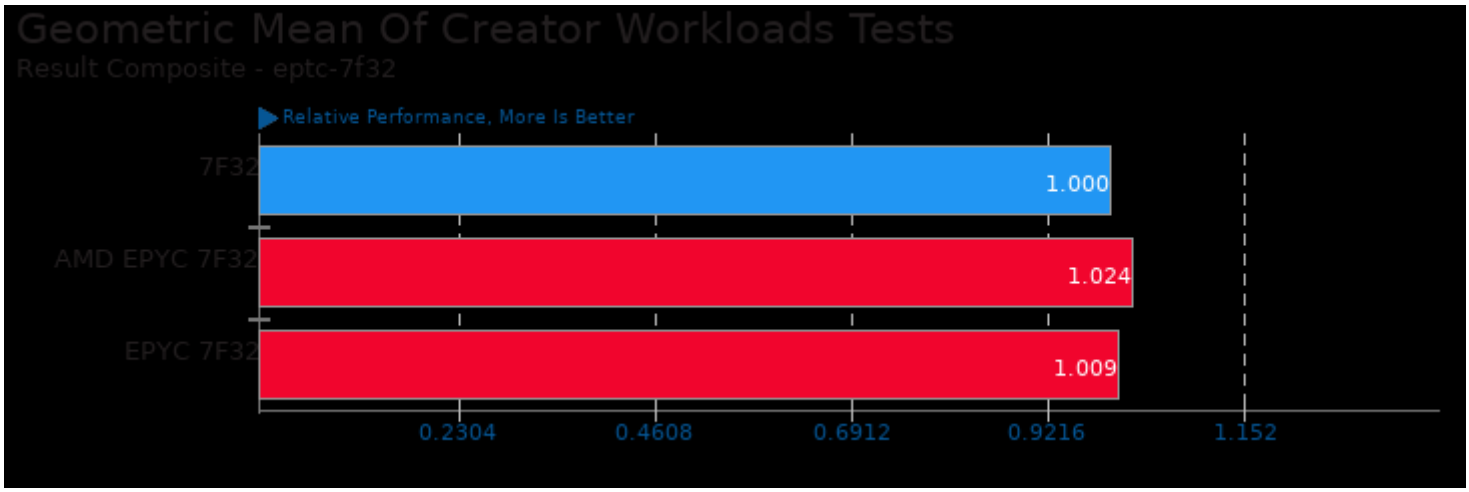
Geometric mean based upon tests: pts/graphics-magick, pts/build-php, pts/compress-7zip, pts/encode-flac, pts/nginx, pts/aom-av1 and pts/smhasher



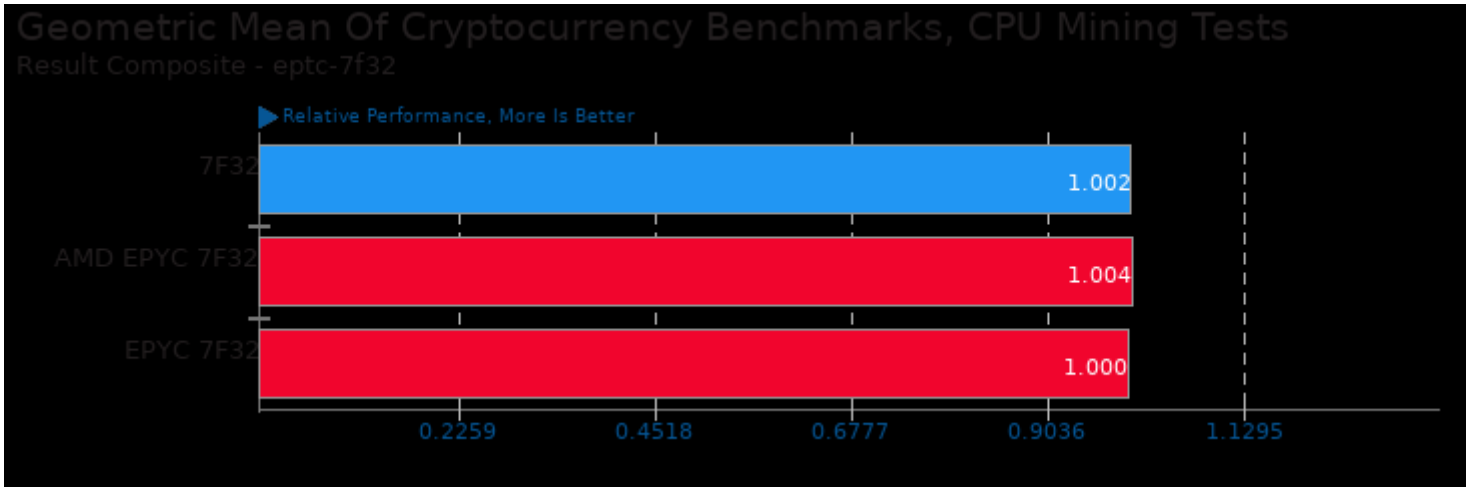
Geometric mean based upon tests: pts/compress-7zip and pts/blosc



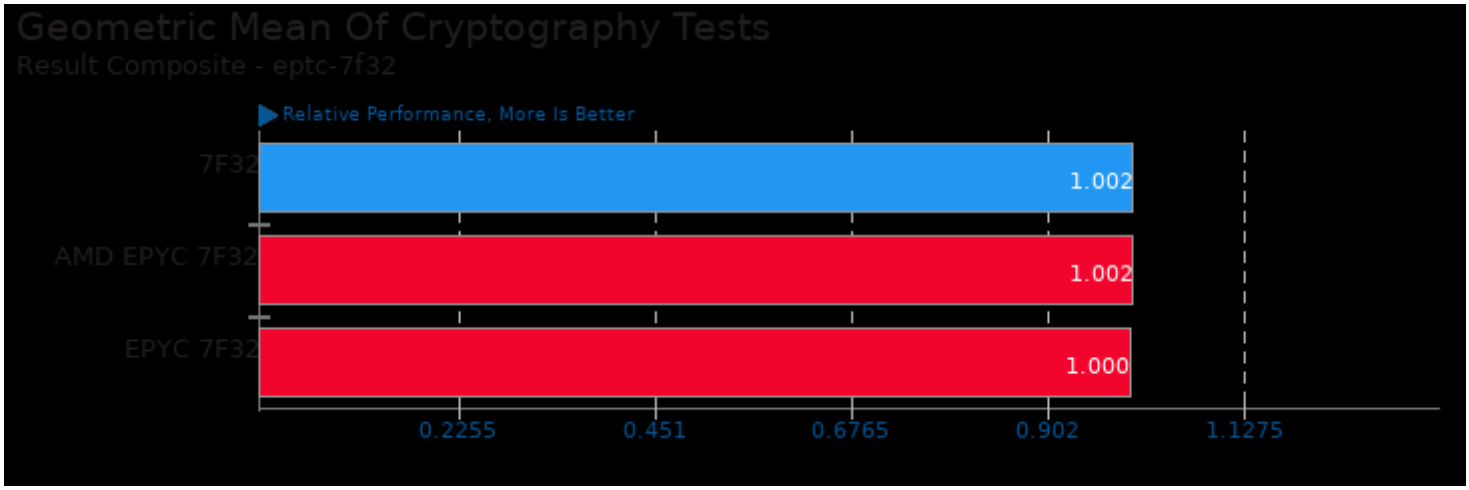
Geometric mean based upon tests: pts/brl-cad, pts/build-php, pts/compress-7zip, pts/encode-flac, pts/graphics-magick, pts/onednn, pts/nginx, pts/scikit-learn, pts/stress-ng, pts/tensorflow, pts/blender and pts/cpuminer-opt



Geometric mean based upon tests: pts/blender, pts/natron, pts/ffmpeg, pts/aom-av1, pts/avifenc, pts/encode-flac, pts/graphics-magick, pts/webp, pts/webp2, pts/jpegxl, pts/jpegxl-decode, pts/onednn, pts/openvino and pts/brl-cad



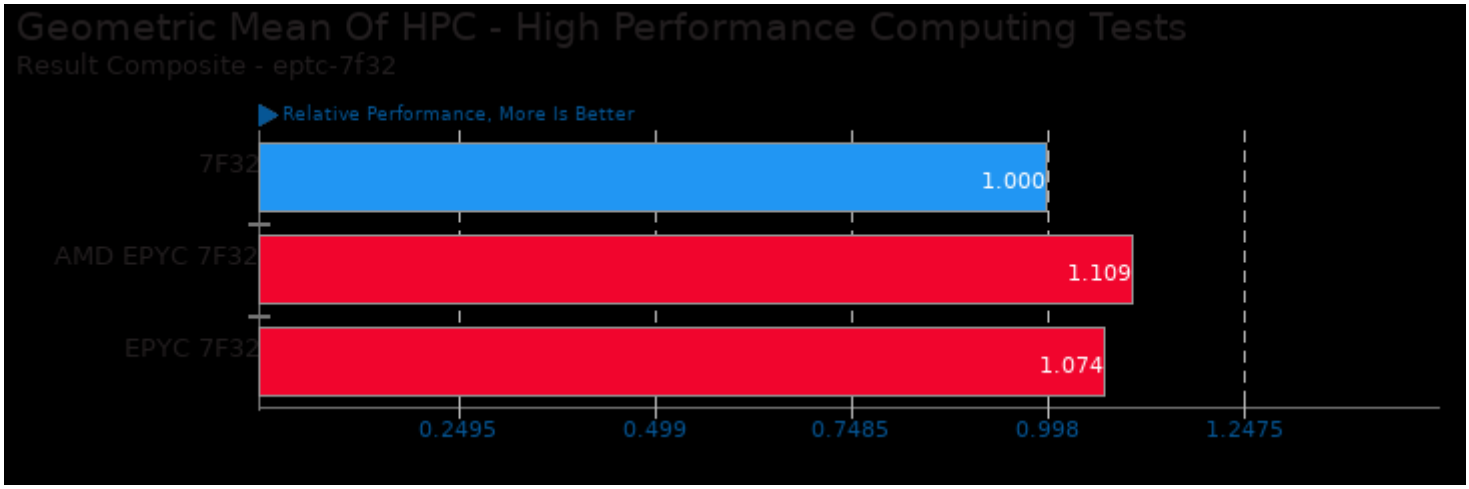
Geometric mean based upon tests: pts/cpuminer-opt and pts/xmrig



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



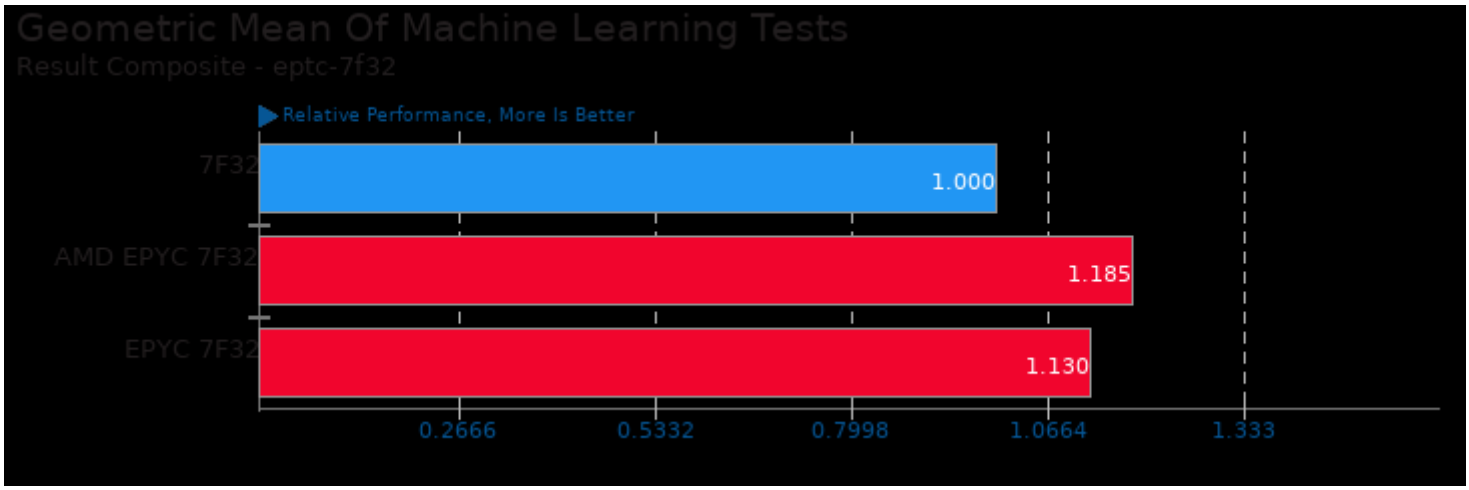
Geometric mean based upon tests: pts/encode-flac, pts/ffmpeg, pts/aom-av1 and pts/avifenc



Geometric mean based upon tests: pts/openfoam, pts/mnn, pts/scikit-learn, pts/tensorflow, pts/onednn, pts/openvino, pts/spacy, pts/deepsparse, pts/openradioss, pts/nekrs and pts/minibude



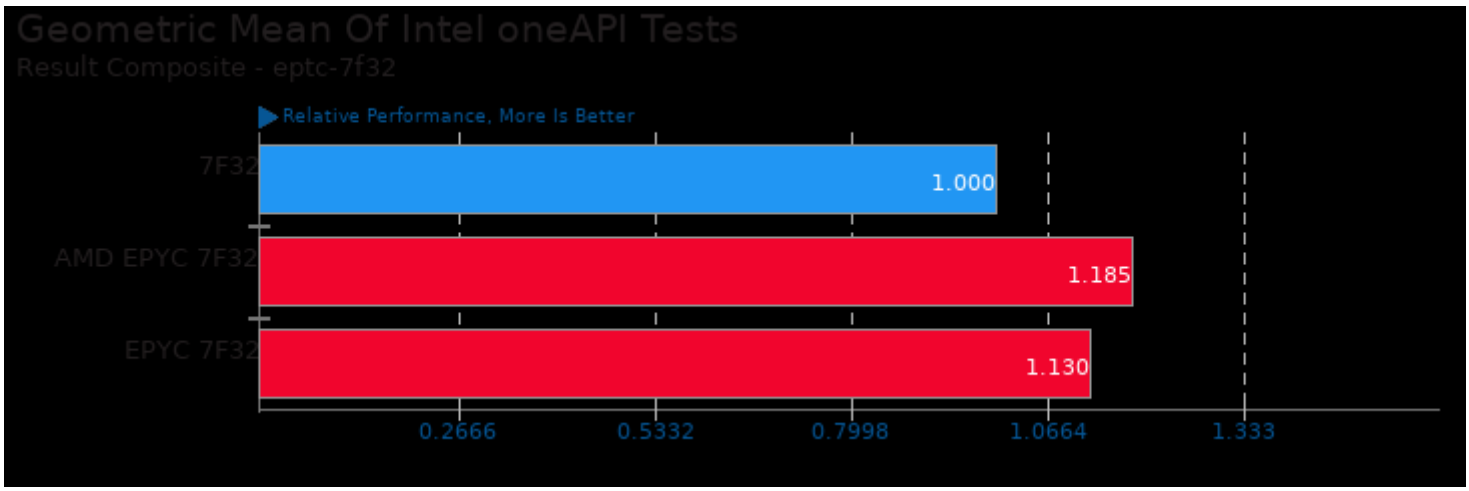
Geometric mean based upon tests: pts/graphics-magick, pts/webp, pts/webp2, pts/jpegxl, pts/jpegxl-decode and pts/avifenc



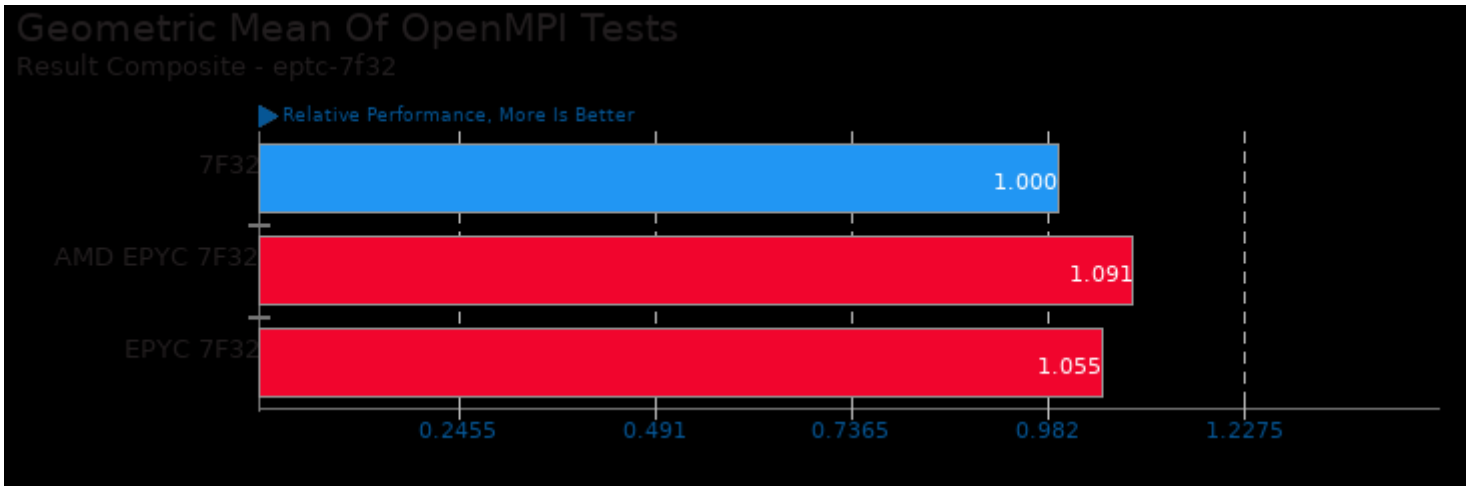
Geometric mean based upon tests: pts/mnn, pts/scikit-learn, pts/tensorflow, pts/onednn, pts/openvino, pts/spacy and pts/deepsparse



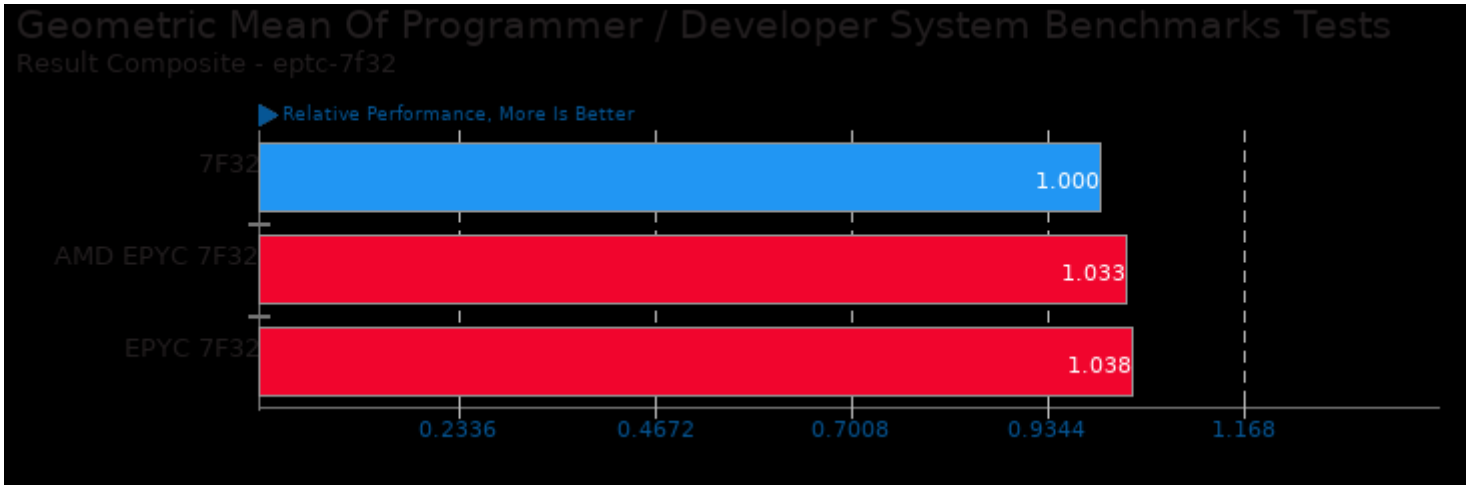
Geometric mean based upon tests: pts/blender, pts/cpuminer-opt, pts/ffmpeg, pts/aom-av1, pts/avifenc, pts/graphics-magick, pts/onednn, pts/compress-7zip, pts/build-php, pts/build-python, pts/build-erlang, pts/build-nodejs, pts/natron and pts/openvino



Geometric mean based upon tests: pts/onednn and pts/openvino



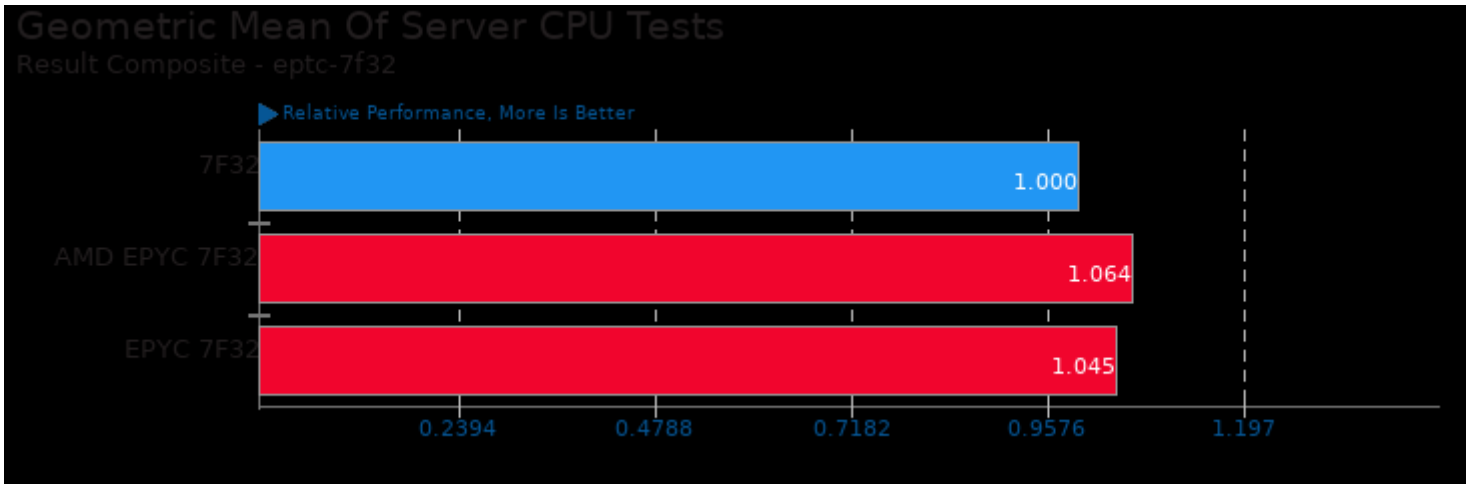
Geometric mean based upon tests: pts/nekrs, pts/openfoam and pts/openradioss



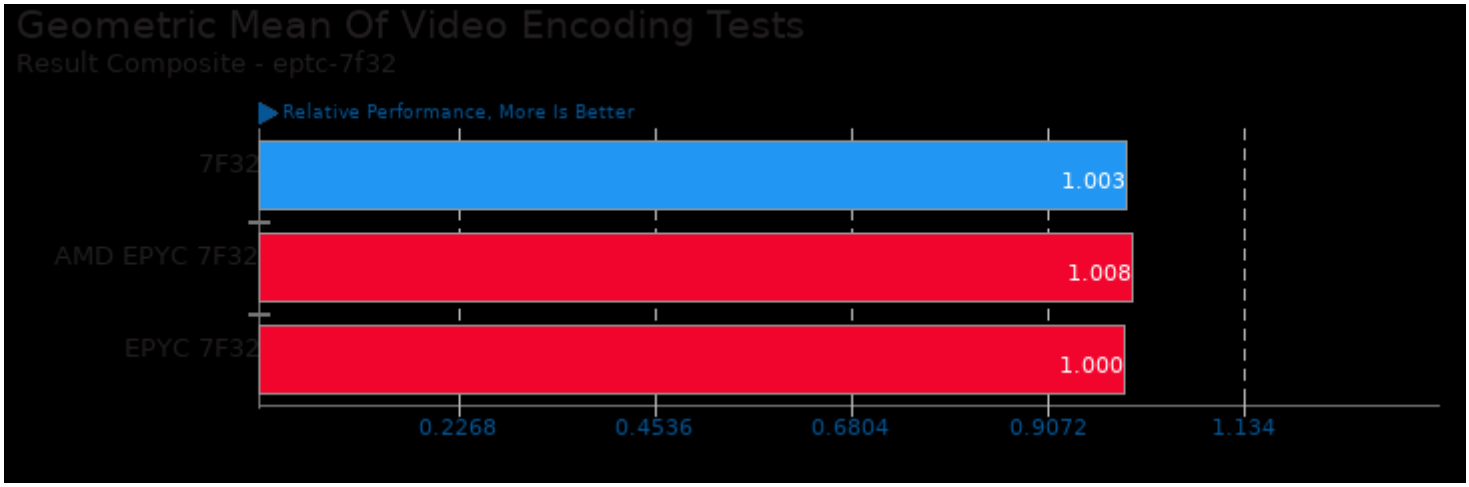
Geometric mean based upon tests: pts/blosc, pts/build-php, pts/build-python, pts/build-erlang and pts/build-nodejs



Geometric mean based upon tests: pts/build-nodejs, pts/ffmpeg, pts/tensorflow, pts/deepsparse, pts/spacy, pts/openvino, pts/encodec and pts/scikit-learn



Geometric mean based upon tests: pts/onednn, pts/compress-7zip, pts/build-php, pts/stress-ng, pts/blender, pts/scikit-learn and pts/cpuminer-opt



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 12:57.