

www.phoronix-test-suite.com

6500 May

Intel Core i5-6500 testing with a Gigabyte Z170M-D3H-CF (F22f BIOS) and Gigabyte Intel HD 530 SKL GT2 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 36% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.072x the speed of the slowest (2). 4 was 0.997x the speed of 1, 3 was 0.996x the speed of 4, 2 was 0.939x the speed of 3.

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

vkpeak (fp32-vec4) at 1.516x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.32x
AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K) at 1.213x
Zstd Compression (Compression Level: 8, Long Mode - Compression Speed) at 1.049x
AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K) at 1.043x
Zstd Compression (Compression Level: 8 - Compression Speed) at 1.04x
QMCPACK (Input: simple-H2O) at 1.037x
Embree (Binary: Pathtracer ISPC - Model: Asian Dragon Obj) at 1.028x
yquake2 (Renderer: OpenGL 3.x - Resolution: 1920 x 1080) at 1.027x

Zstd Compression (Compression Level: 3 - Compression Speed) at 1.027x.

Test Systems:

1

2

3

4

Processor: Intel Core i5-6500 @ 3.60GHz (4 Cores), Motherboard: Gigabyte Z170M-D3H-CF (F22f BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8GB, Disk: 250GB Samsung SSD 850, Graphics: Gigabyte Intel HD 530 SKL GT2 3GB (1050MHz), Audio: Realtek ALC892, Monitor: G237HL, Network: Intel I219-V

OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc7daily20200929-generic (x86_64) 20200928, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.0.8, OpenCL: OpenCL 2.1, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xe2 - Thermald 1.9.1
Python Notes: Python 3.8.5
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Mitigation of Clear buffers; SMT disabled

	1	2	3	4
vkpeak - fp32-scalar (GFLOPS)	**233.91**	**233.92**	**233.91**	**233.91**
Normalized	100%	100%	100%	100%
vkpeak - fp32-vec4 (GFLOPS)	**293.81**	**443.24**	**293.81**	**293.81**
Normalized	65.95%	99.49%	65.95%	65.95%
vkpeak - fp16-scalar (GFLOPS)	**388.08**		**388.08**	**388.04**
Normalized	100%		100%	99.99%
vkpeak - fp16-vec4 (GFLOPS)	721.46		**721.45**	**721.45**
Normalized	100%		100%	100%
vkpeak - fp64-scalar (GFLOPS)	87.59		87.59	87.59
yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	**291.8**	289.9	**285.5**	287.4
Normalized	100%	99.35%	97.84%	98.49%

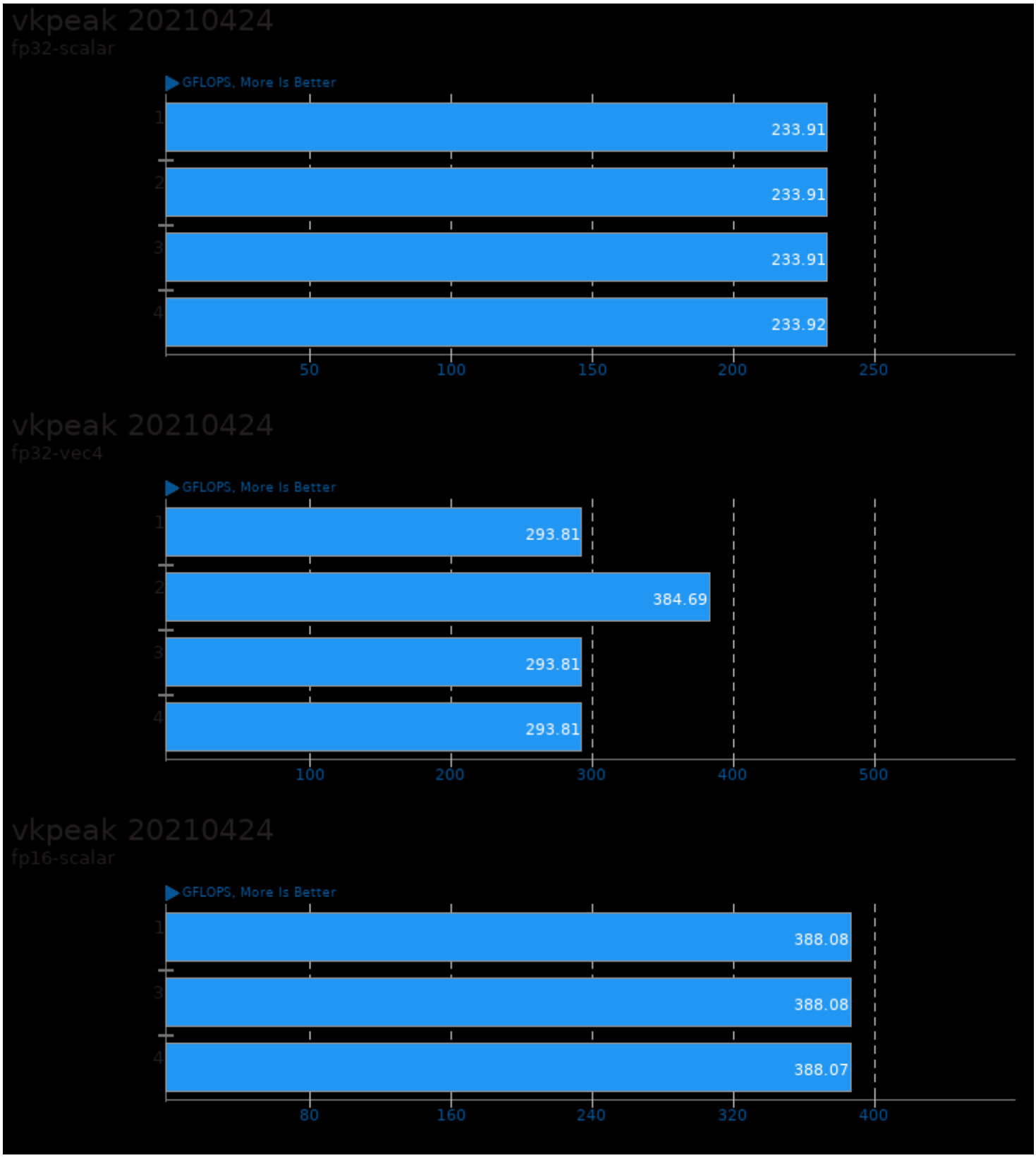
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	281.3	285.3	284.4	289
Normalized	97.34%	98.72%	98.41%	100%
yquake2 - Software CPU - 1920 x 1080 (FPS)	87.6	87.7	87.7	87.5
Normalized	99.89%	100%	100%	99.77%
Timed MrBayes Analysis - P.P.A (sec)	158.477	157.393	157.148	157.558
Normalized	99.16%	99.84%	100%	99.74%
QMCPACK - simple-H2O (Execution Time - sec)	34.739	34.738	33.496	33.605
Normalized	96.42%	96.42%	100%	99.68%
Timed HMMer Search - P.D.S (sec)	154.887	154.512	154.941	154.873
Normalized	99.76%	100%	99.72%	99.77%
libgav1 - Chimera 1080p (FPS)	118.01	118.38	117.9	117.1
Normalized	99.69%	100%	99.59%	98.92%
libgav1 - Summer Nature 4K (FPS)	36.56	36.67	36.61	36.63
Normalized	99.7%	100%	99.84%	99.89%
libgav1 - S.N.1 (FPS)	138.01	138.49	137.59	138.36
Normalized	99.65%	100%	99.35%	99.91%
libgav1 - C.1.1.b (FPS)	31.44	31.53	31.56	31.57
Normalized	99.59%	99.87%	99.97%	100%
Xmrig - Monero - 1M (H/s)	1253	1269	1267	1269
Normalized	98.75%	99.99%	99.87%	100%
Xmrig - Wownero - 1M (H/s)	1702	1709	1710	1717
Normalized	99.1%	99.5%	99.55%	100%
Chia Blockchain VDF - Square Plain C++ (IPS)	110800	110400	110600	111000
Normalized	99.82%	99.46%	99.64%	100%
Chia Blockchain VDF - S.A.O (IPS)	162900	162700	162500	163400
Normalized	99.69%	99.57%	99.45%	100%
Zstd Compression - 3 - Compression Speed (MB/s)	1240	1248	1256	1223
Normalized	98.69%	99.32%	100%	97.36%
Zstd Compression - 3 - D.S (MB/s)	2976	2980	2930	2978
Normalized	99.85%	100%	98.33%	99.93%
Zstd Compression - 8 - Compression Speed (MB/s)	178.3	184	182.1	176.9
Normalized	96.9%	100%	98.97%	96.14%
Zstd Compression - 8 - D.S (MB/s)	3072	3073	3079	3066
Normalized	99.78%	99.81%	100%	99.58%
Zstd Compression - 19 - Compression Speed (MB/s)	14	14	14	14
Zstd Compression - 19 - D.S (MB/s)	2593	2590	2593	2603
Normalized	99.62%	99.49%	99.62%	100%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	712.3	711.7	722.7	711.9
Normalized	98.56%	98.48%	100%	98.51%
Zstd Compression - 3, Long Mode - D.S (MB/s)	3185	3185	3183	3185
Normalized	99.99%	100%	99.92%	99.98%

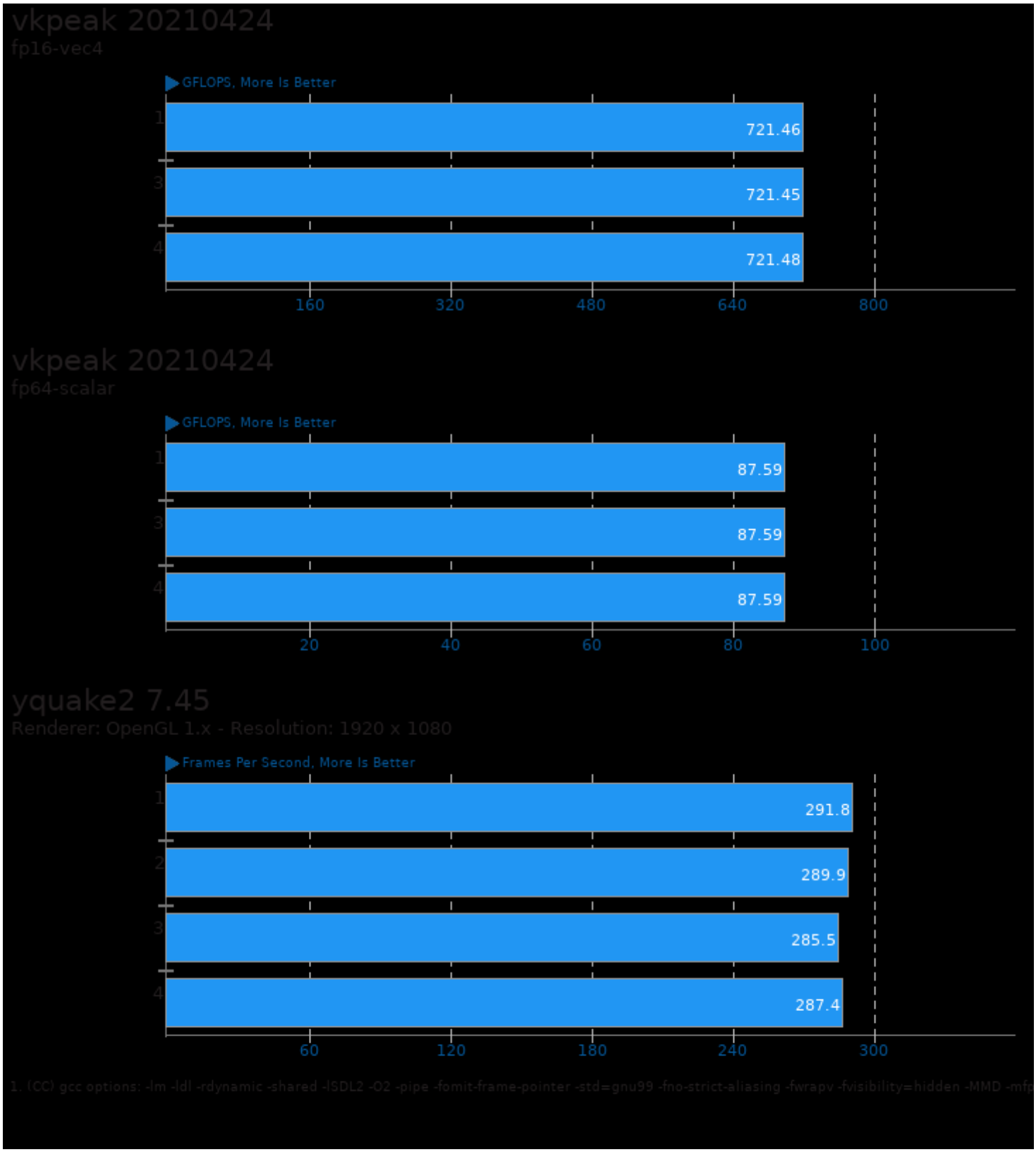
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**183.7**	184.1	**192.7**	186.7
Normalized	95.33%	95.54%	100%	96.89%
Zstd Compression - 8, Long Mode - D.S (MB/s)	**3278**	3275	**3270**	3272
Normalized	100%	99.91%	99.76%	99.81%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**11.9**	**11.9**	**11.8**	**11.9**
Normalized	100%	100%	99.16%	100%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**2654**	2665	**2667**	2658
Normalized	99.49%	99.9%	100%	99.65%
srsRAN - OFDM_Test (Samples / Second)	93000000	**93100000**	**92300000**	92900000
Normalized	99.89%	100%	99.14%	99.79%
srsRAN - PHY_DL_Test (eNb Mb/s)	198.7	**198.6**	**199.4**	199.2
Normalized	99.65%	99.6%	100%	99.9%
srsRAN - PHY_DL_Test (UE Mb/s)	**78.5**	**78**	78.2	78.4
Normalized	100%	99.36%	99.62%	99.87%
dav1d - Chimera 1080p (FPS)	**233.25**	**234.91**	234.79	234.46
Normalized	99.29%	100%	99.95%	99.81%
dav1d - Summer Nature 4K (FPS)	**63.63**	**64.05**	63.88	64.04
Normalized	99.34%	100%	99.73%	99.98%
dav1d - S.N.1 (FPS)	**216.54**	**217.81**	217.13	216.92
Normalized	99.42%	100%	99.69%	99.59%
dav1d - C.1.1.b (FPS)	**180.21**	180.65	181.16	**182**
Normalized	99.02%	99.26%	99.54%	100%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.05	0.05	0.05	0.05
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**1.47**	**1.47**	**1.48**	**1.47**
Normalized	99.32%	99.32%	100%	99.32%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**5.54**	5.53	**5.31**	5.49
Normalized	100%	99.82%	95.85%	99.1%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**2.74**	**2.74**	**2.72**	2.73
Normalized	100%	100%	99.27%	99.64%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**17.78**	17.53	**14.66**	17.07
Normalized	100%	98.59%	82.45%	96.01%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**26.18**	22.02	**19.83**	22.43
Normalized	100%	84.11%	75.74%	85.68%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.17	0.17	0.17	0.17
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**3.37**	**3.37**	**3.36**	**3.37**
Normalized	100%	100%	99.7%	100%

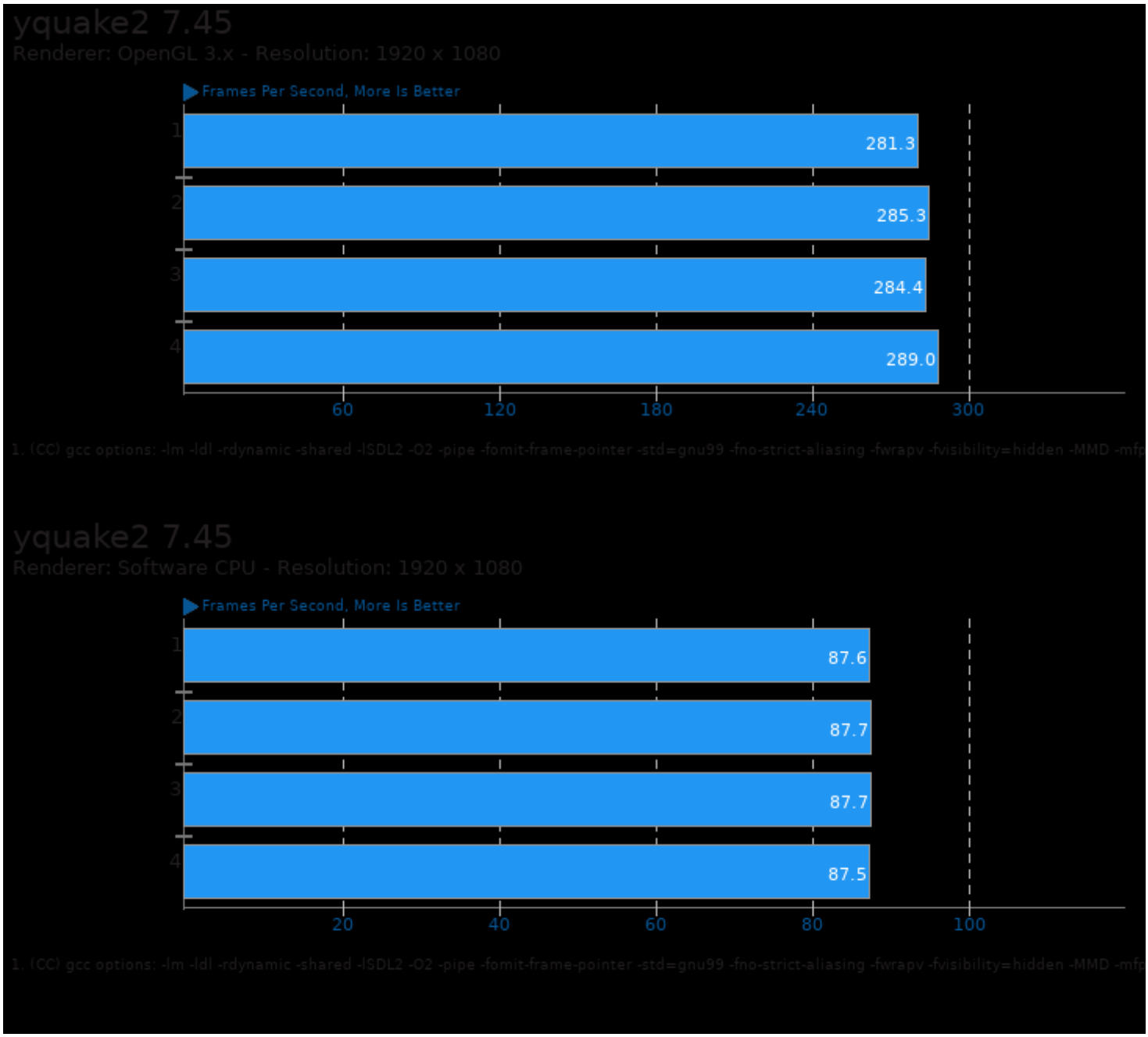
6500 May

AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**10.5**	10.51	**10.53**	10.52
Normalized	99.72%	99.81%	100%	99.91%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**8.86**	8.88	**8.9**	8.87
Normalized	99.55%	99.78%	100%	99.66%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	62.25	**61.98**	62.11	**62.43**
Normalized	99.71%	99.28%	99.49%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**77.01**	77.22	77.32	**77.37**
Normalized	99.53%	99.81%	99.94%	100%
Embree - Pathtracer - Crown (FPS)	**2.6072**	**2.5387**	2.5546	2.5494
Normalized	100%	97.37%	97.98%	97.78%
Embree - Pathtracer ISPC - Crown (FPS)	2.911	**2.8948**	2.896	**2.9144**
Normalized	99.88%	99.33%	99.37%	100%
Embree - Pathtracer - Asian Dragon (FPS)	**3.1523**	3.1437	3.145	**3.135**
Normalized	100%	99.73%	99.77%	99.45%
Embree - Pathtracer - Asian Dragon Obj (FPS)	**2.8998**	2.8455	2.8513	**2.8351**
Normalized	100%	98.13%	98.33%	97.77%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	**3.7765**	**3.72**	3.7393	3.7207
Normalized	100%	98.5%	99.01%	98.52%
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)	**3.3402**	3.2726	**3.2493**	3.2528
Normalized	100%	97.98%	97.28%	97.38%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	**0.531**	0.529	**0.518**	0.53
Normalized	100%	99.62%	97.55%	99.81%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	**5.181**	5.186	5.199	**5.206**
Normalized	99.52%	99.62%	99.87%	100%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	1.754	**1.752**	**1.756**	1.753
Normalized	99.89%	99.77%	100%	99.83%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	19.599	19.567	**19.528**	**19.6**
Normalized	99.99%	99.83%	99.63%	100%
Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)	0.16	0.16	0.16	0.16
Intel Open Image Denoise - RT.ldr_alb_nrm.3840x2160 (Images / Sec)	0.16	0.16	0.16	0.16

Intel Open Image Denoise - RTLightmap.hdr.4096x4096 (Images / Sec)	0.08	0.08	0.08	0.08
PJSIP - INVITE (Responses/sec)	3611	3604	3611	3604
Normalized	100%	99.81%	100%	99.81%
PJSIP - OPTIONS, Stateful (Responses/sec)	7431	7412	7425	7400
Normalized	100%	99.74%	99.92%	99.58%
PJSIP - OPTIONS, Stateless (Responses/sec)	46919	46300	46736	46345
Normalized	100%	98.68%	99.61%	98.78%
Timed LLVM Compilation - Ninja (sec)	2326	2326	2328	2331
Normalized	99.97%	100%	99.9%	99.79%
Timed LLVM Compilation - Unix Makefiles (sec)	2349	2359	2350	2359
Normalized	100%	99.58%	99.95%	99.58%
Helsing - 12 digit (sec)	18.109	18.2	18.13	18.162
Normalized	100%	99.5%	99.88%	99.71%
Helsing - 14 digit (sec)	1876	1874	1874	1879
Normalized	99.88%	99.99%	100%	99.74%
VOSK Speech Recognition Toolkit	24.969	25.065		24.935
Normalized	99.86%	99.48%		100%
SecureMark - SecureMark-TLS	205220	205274		204830
Normalized	99.97%	100%		99.78%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	160.655076	160.138828		161.00594
Normalized	99.78%	99.46%		100%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	0.467	0.468		0.469
Normalized	99.57%	99.79%		100%
KTX-Software toktx - UASTC 3 (sec)	38.618	38.635		38.688
Normalized	100%	99.96%		99.82%
KTX-Software toktx - Zstd Compression 9 (sec)	3.866	3.861		3.89
Normalized	99.87%	100%		99.25%
KTX-Software toktx - Z.C.1 (sec)	24.563	24.55		24.559
Normalized	99.95%	100%		99.96%
KTX-Software toktx - U.3.Z.C.1 (sec)	45.094	45.029		45.104
Normalized	99.86%	100%		99.83%
KTX-Software toktx - U.4.Z.C.1 (sec)	1093	1099		1093
Normalized	100%	99.42%		99.99%
vkpeak - fp64-vec4 (GFLOPS)			84	84
vkpeak - int32-scalar (GIOPS)			115.57	115.57
vkpeak - int32-vec4 (GIOPS)			124.52	124.52

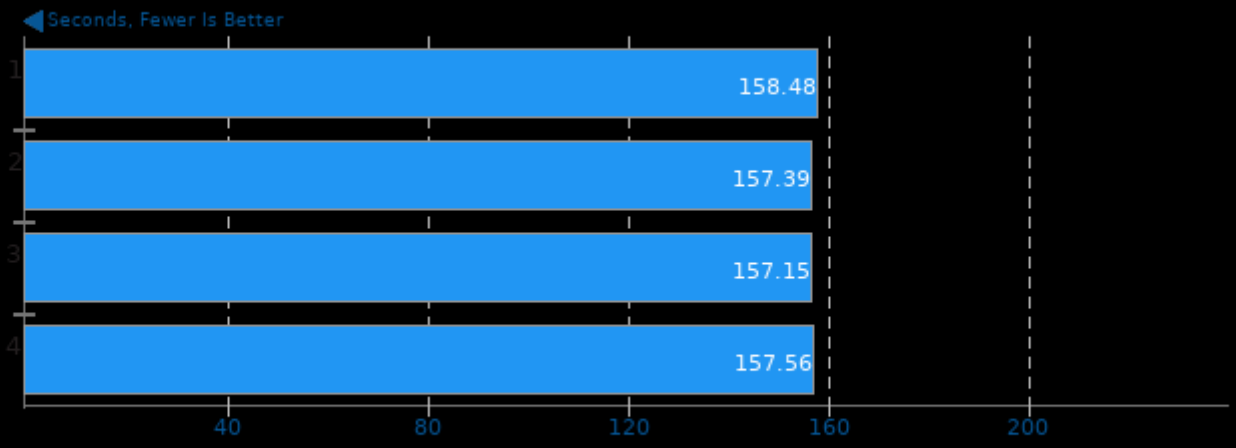

vkpeak 20210424
fp32-scalar
GFLOPS, More Is Better
1
233.91
2
233.91
3
233.91
4
233.92
50
100
150
200
250
vkpeak 20210424
fp32-vec4
GFLOPS, More Is Better
1
293.81
2
384.69
3
293.81
4
293.81
100
200
300
400
500
vkpeak 20210424
fp16-scalar
GFLOPS, More Is Better
1
388.08
3
388.08
4
388.07
80
160
240
320
400


vkpeak 20210424
fp16-vec4
GFLOPS, More Is Better
1
3
4
721.46
721.45
721.48
160
320
480
640
800
vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
1
3
4
87.59
87.59
87.59
20
40
60
80
100
yquake2 7.45
Renderer: OpenGL 1.x - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
2
3
4
291.8
289.9
285.5
287.4
60
120
180
240
300
1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf


yquake2 7.45
Renderer: OpenGL 3.x - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
2
3
4
281.3
285.3
284.4
289.0
60
120
180
240
300
1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 7.45
Renderer: Software CPU - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
2
3
4
87.6
87.7
87.7
87.5
20
40
60
80
100
1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

Timed MrBayes Analysis 3.2.7

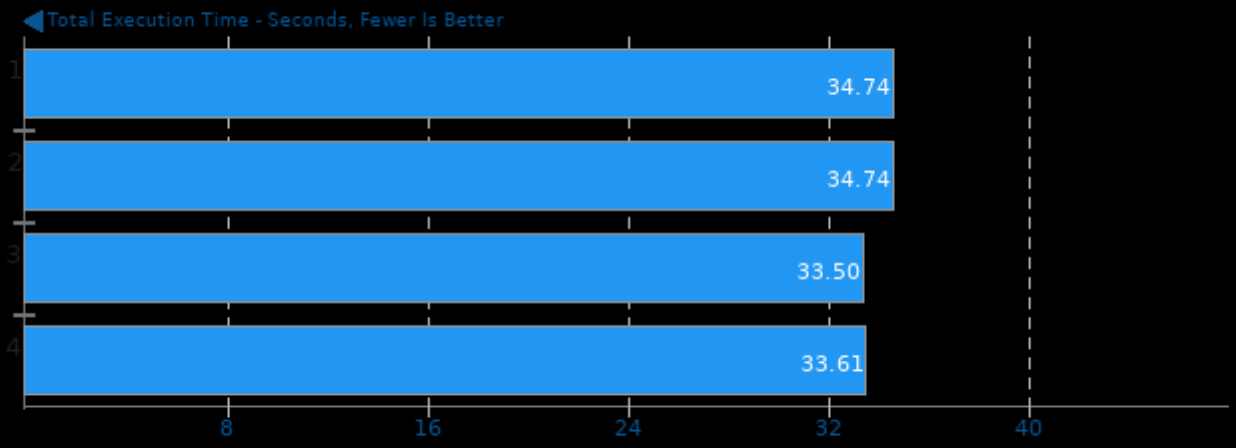
Primate Phylogeny Analysis



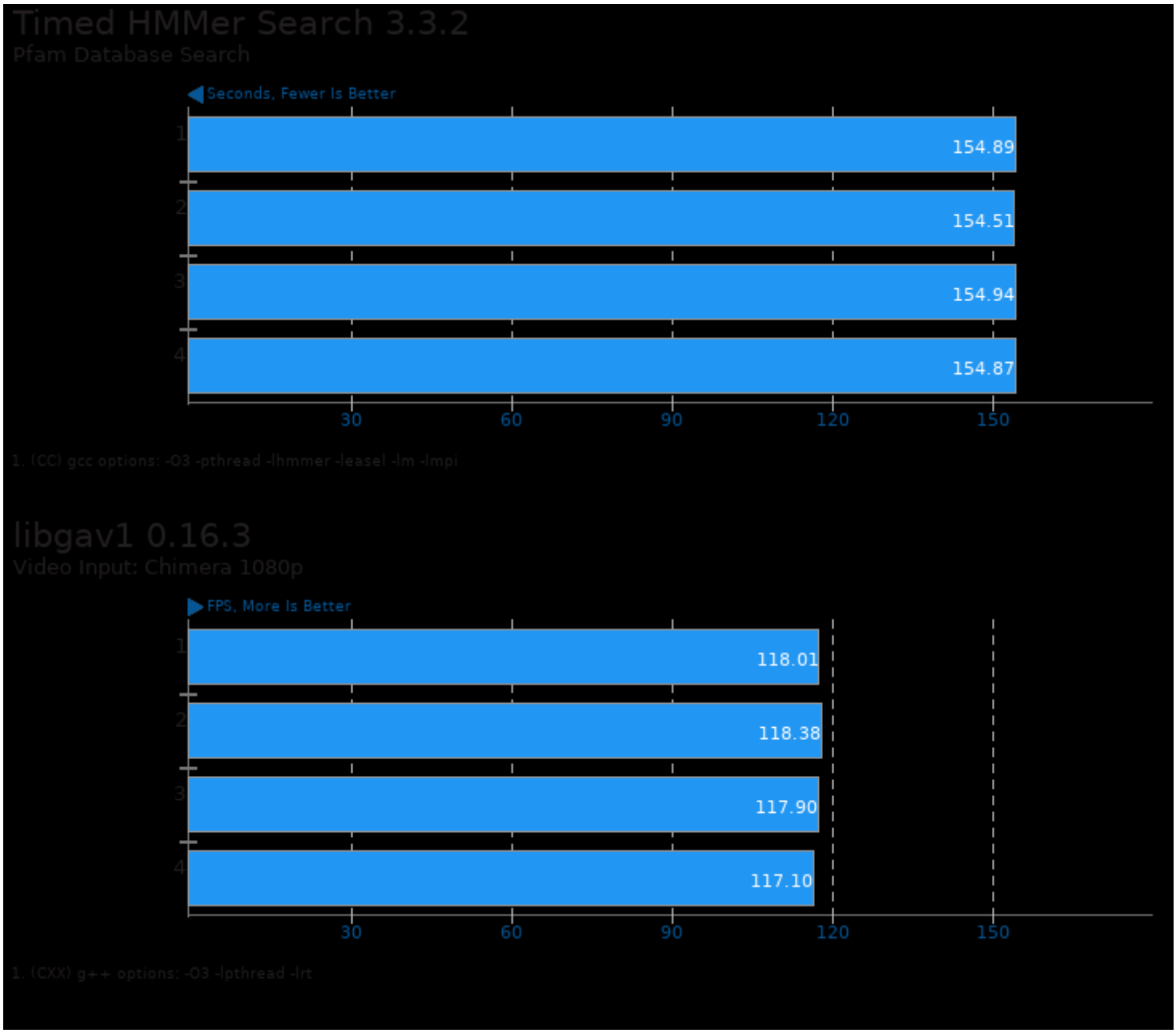
1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx -mmpx -mabm -

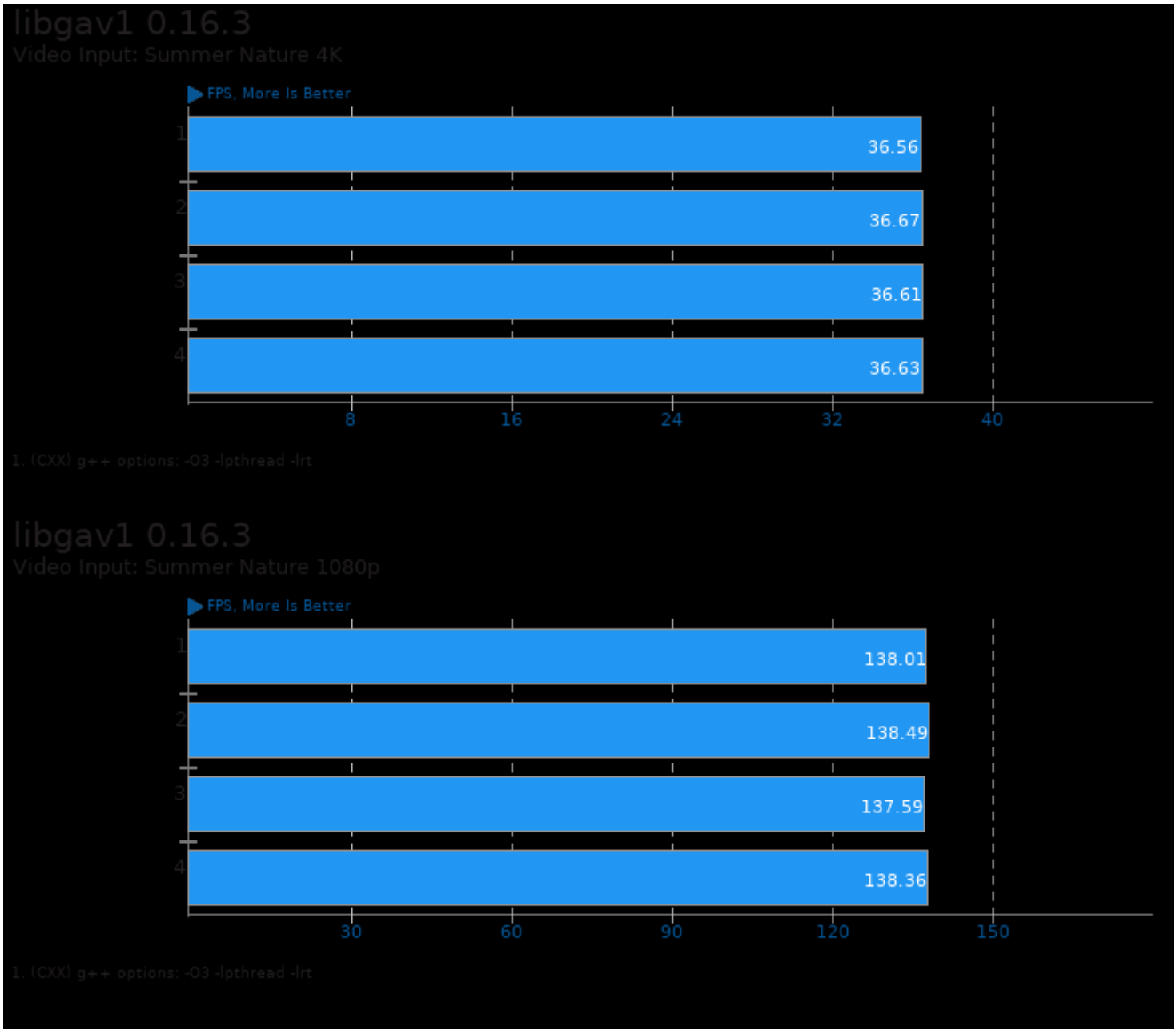
QMCPACK 3.11

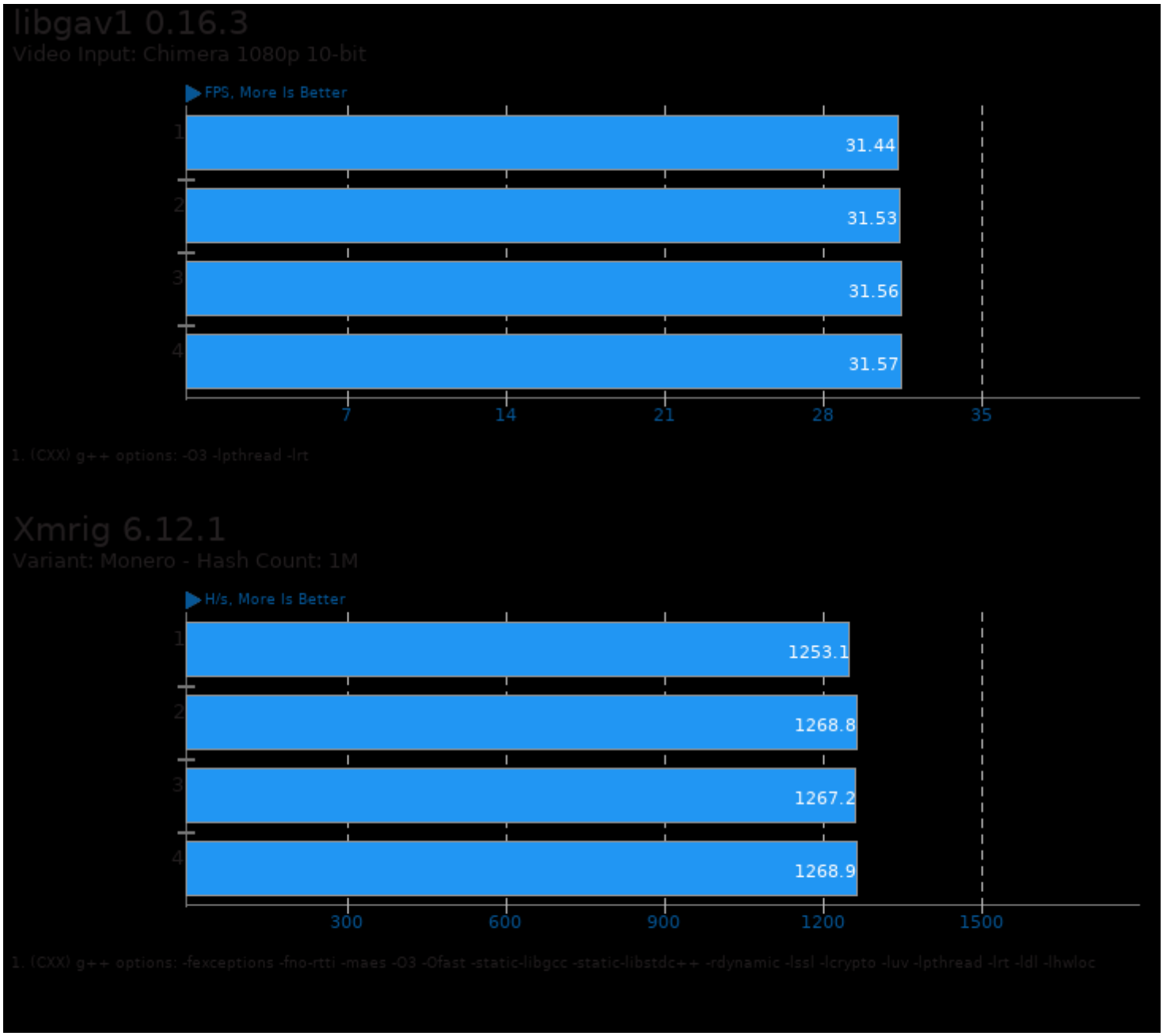
Input: simple-H2O



1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -march=native -O3 -fomit-frame-pointer -ffast-math -pthread -lm

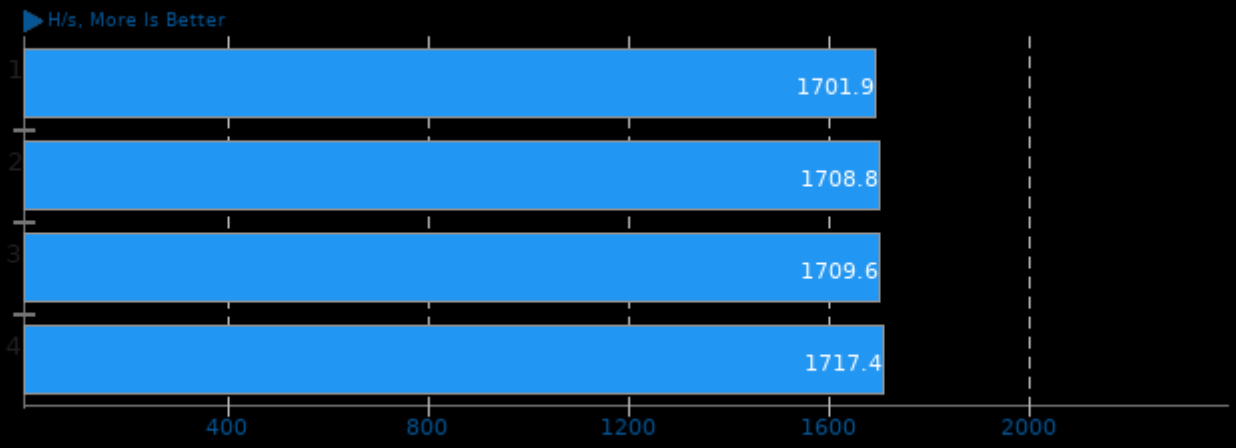

Timed HMMer Search 3.3.2
Pfam Database Search
Seconds, Fewer Is Better
1
2
3
4
154.89
154.51
154.94
154.87
30
60
90
120
150
1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm -lmpi
libgav1 0.16.3
Video Input: Chimera 1080p
FPS, More Is Better
1
2
3
4
118.01
118.38
117.90
117.10
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt


libgav1 0.16.3
Video Input: Summer Nature 4K
FPS, More Is Better
1
2
3
4
36.56
36.67
36.61
36.63
8
16
24
32
40
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.16.3
Video Input: Summer Nature 1080p
FPS, More Is Better
1
2
3
4
138.01
138.49
137.59
138.36
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt


libgav1 0.16.3
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
1
2
3
4
31.44
31.53
31.56
31.57
7
14
21
28
35
1. (CXX) g++ options: -O3 -lpthread -lrt
Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
1
2
3
4
1253.1
1268.8
1267.2
1268.9
300
600
900
1200
1500
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Xmrig 6.12.1

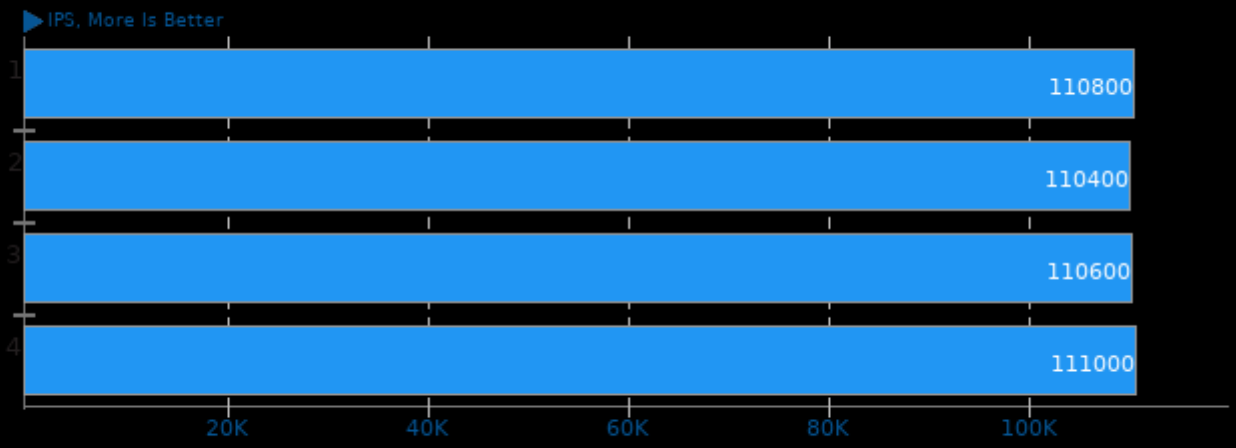
Variant: Wownero - Hash Count: 1M



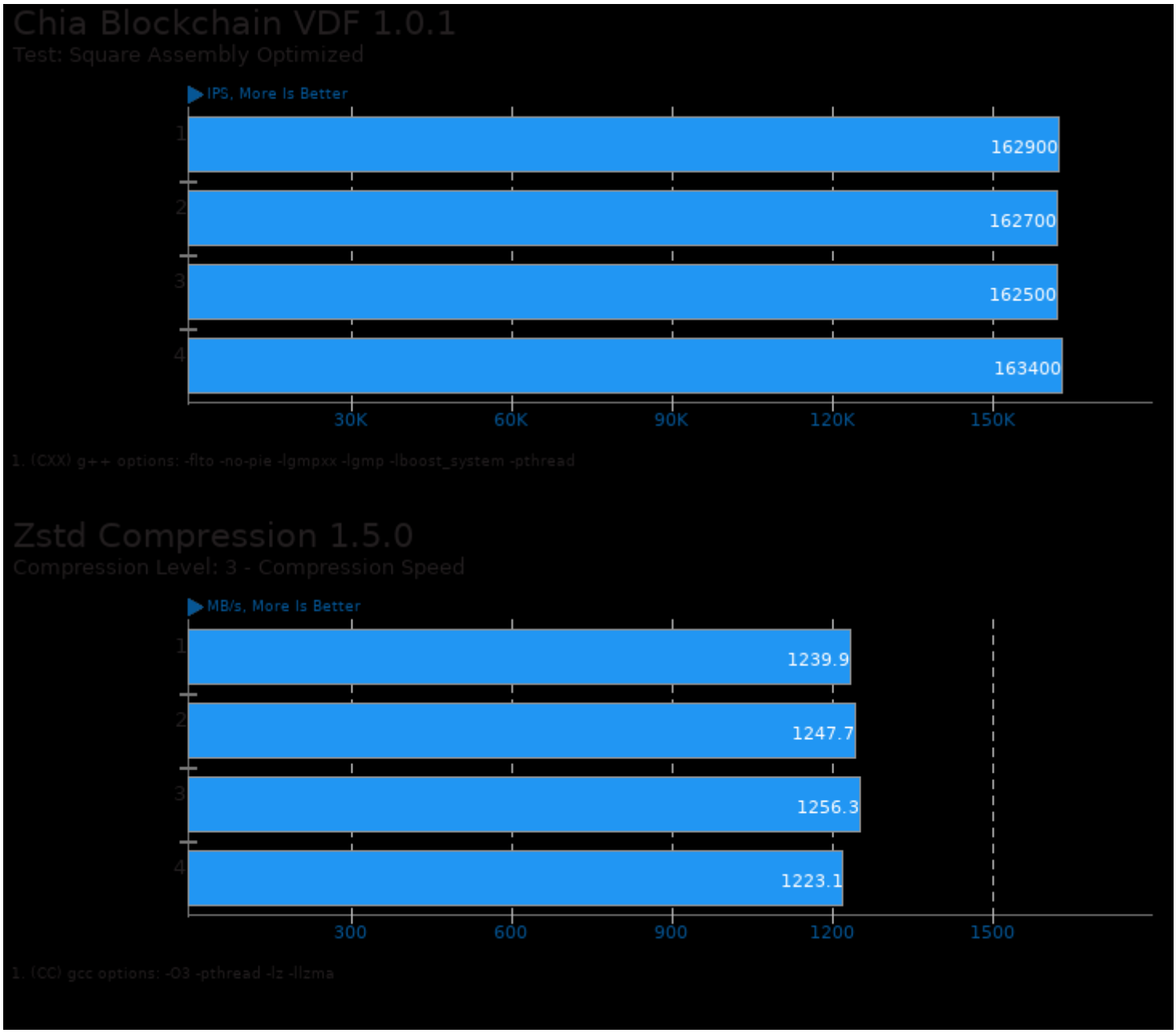
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Chia Blockchain VDF 1.0.1

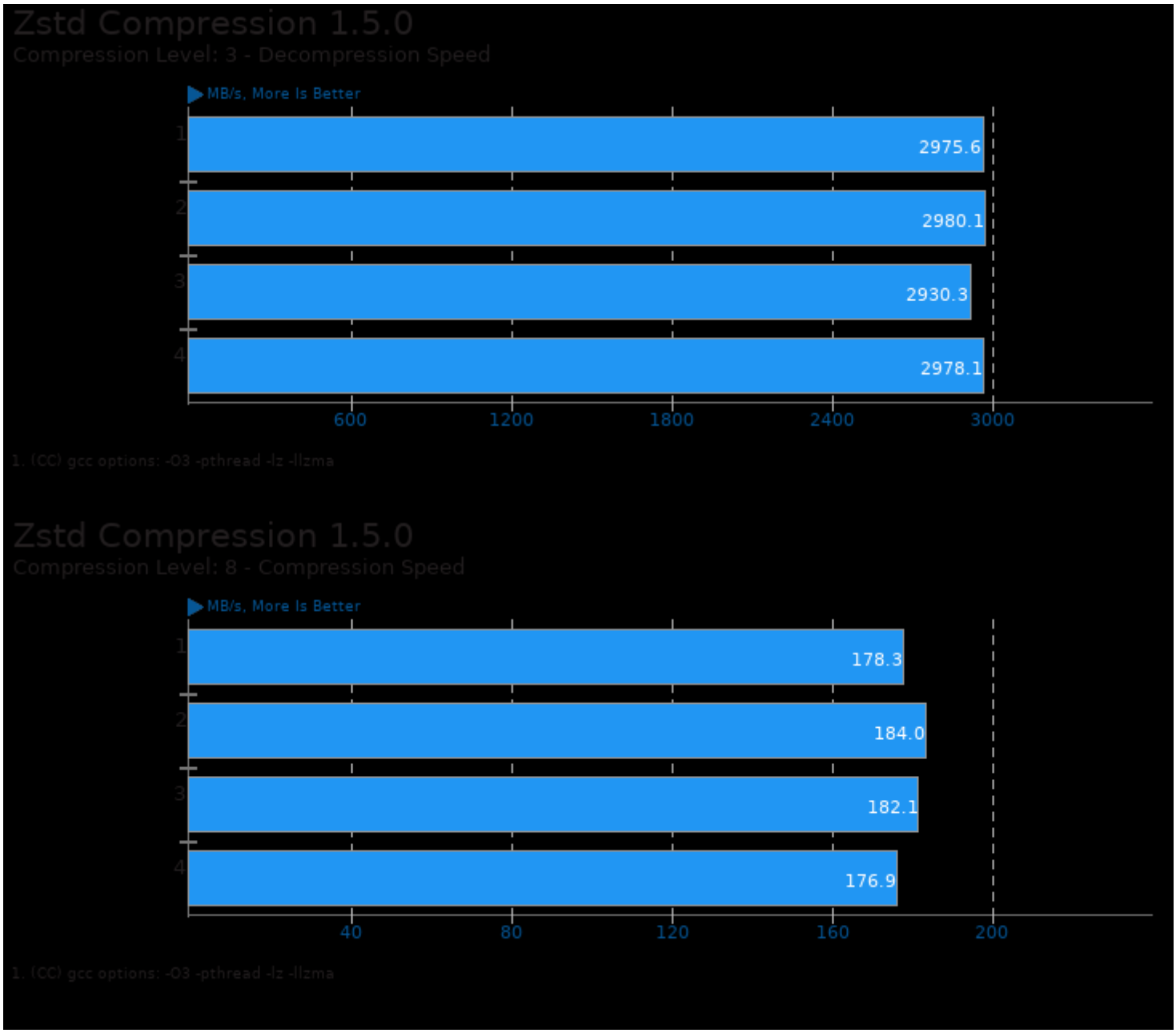
Test: Square Plain C++

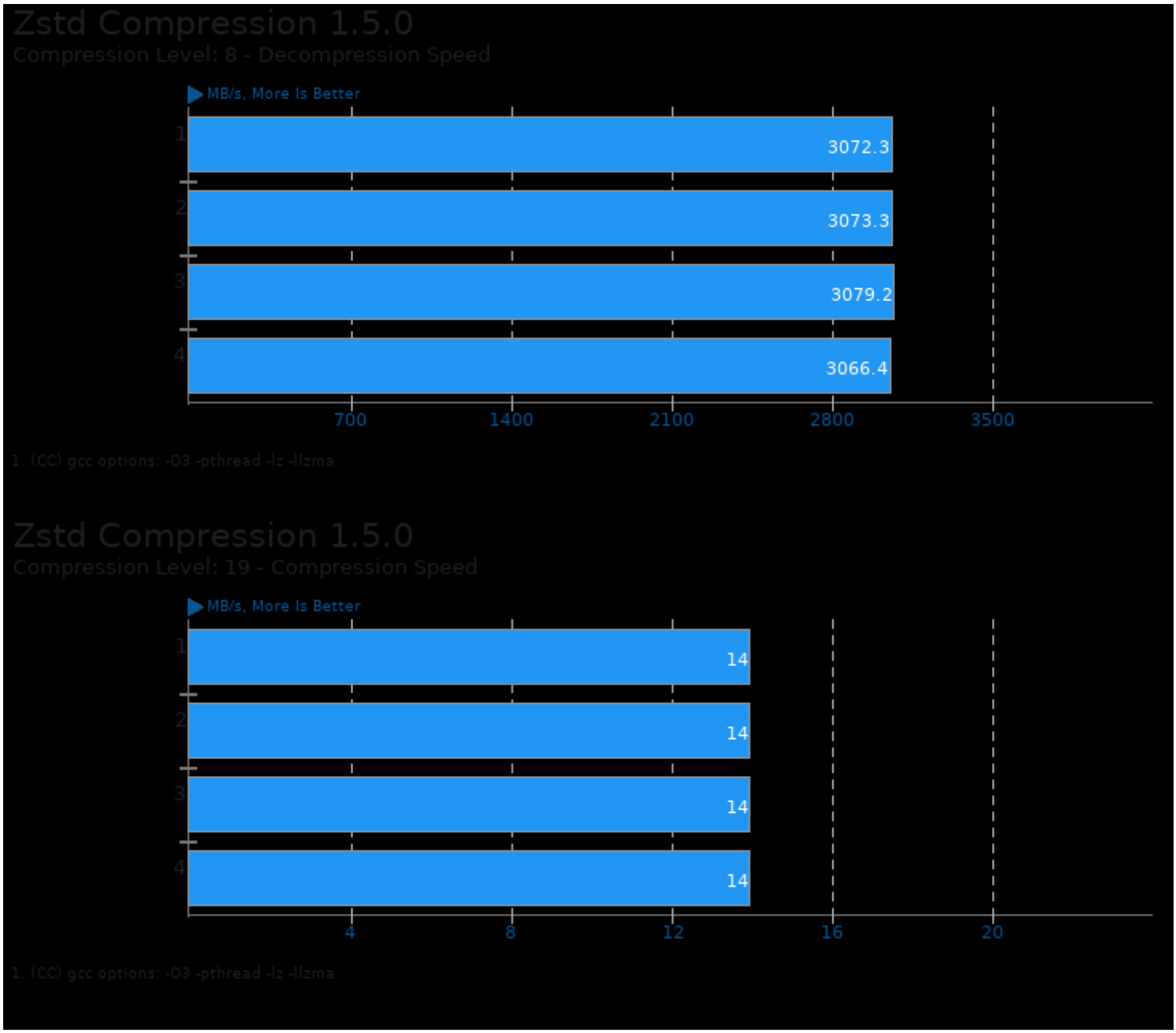


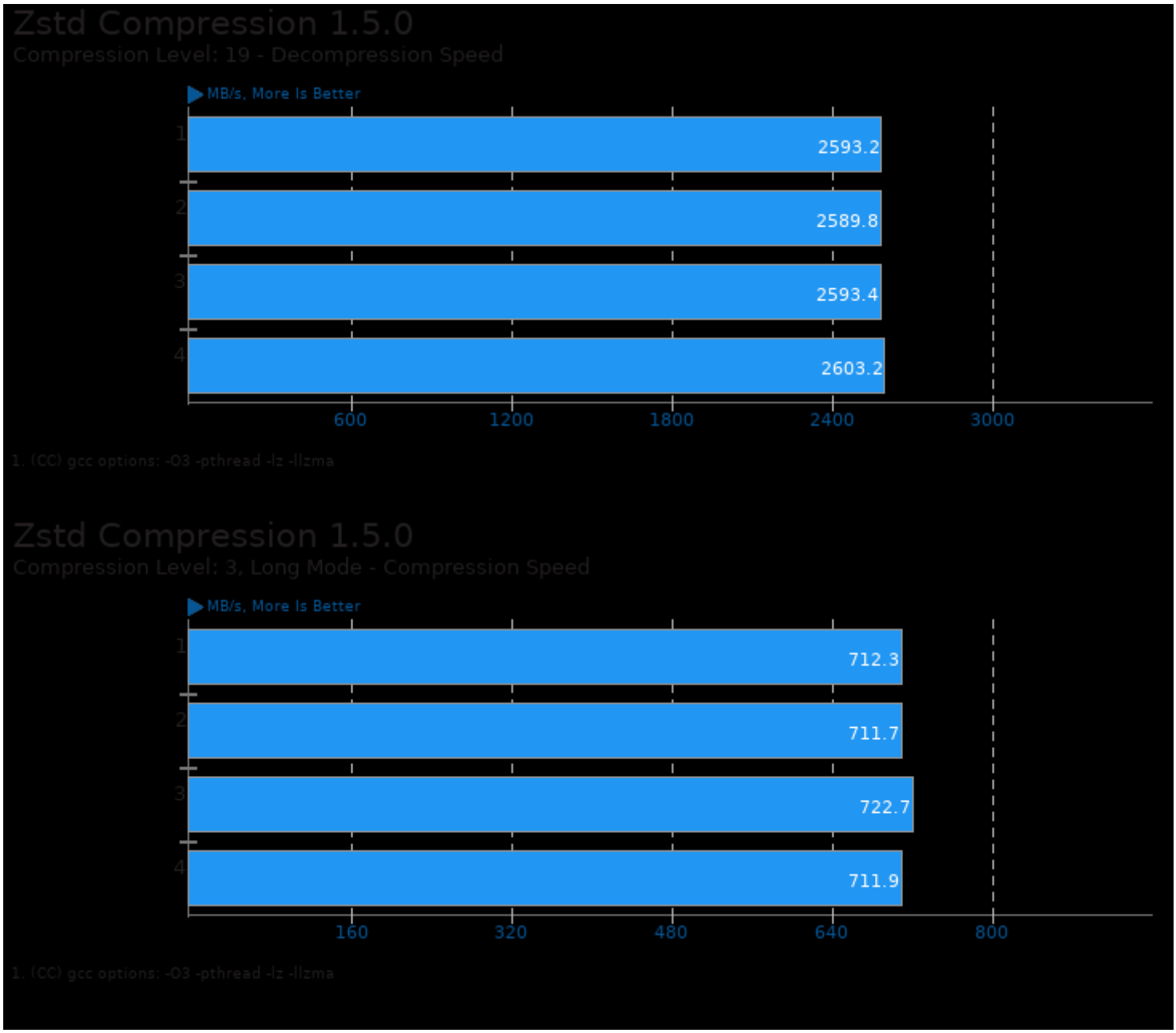
1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

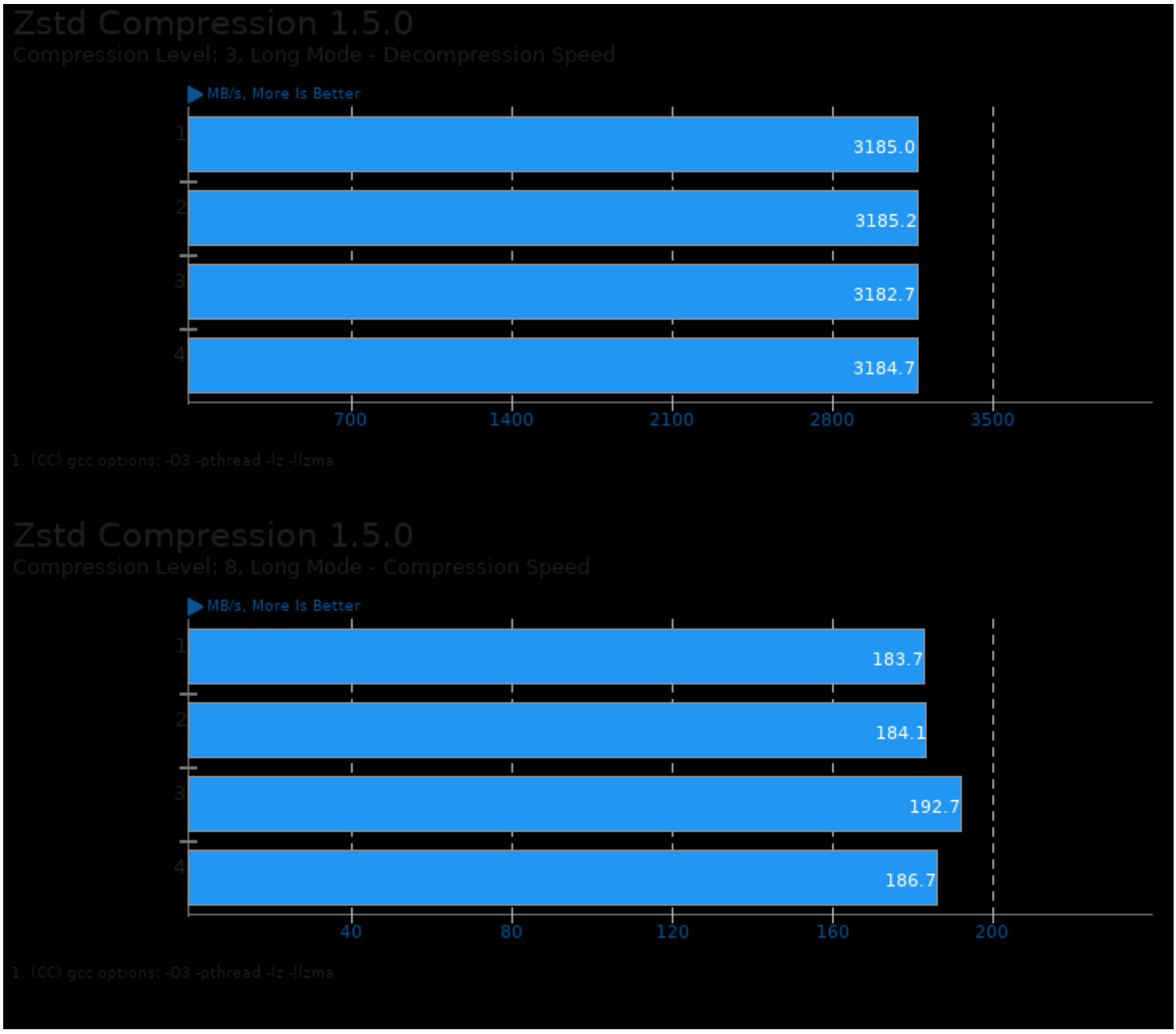

Chia Blockchain VDF 1.0.1
Test: Square Assembly Optimized
IPS, More Is Better
1
162900
2
162700
3
162500
4
163400
30K
60K
90K
120K
150K
1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

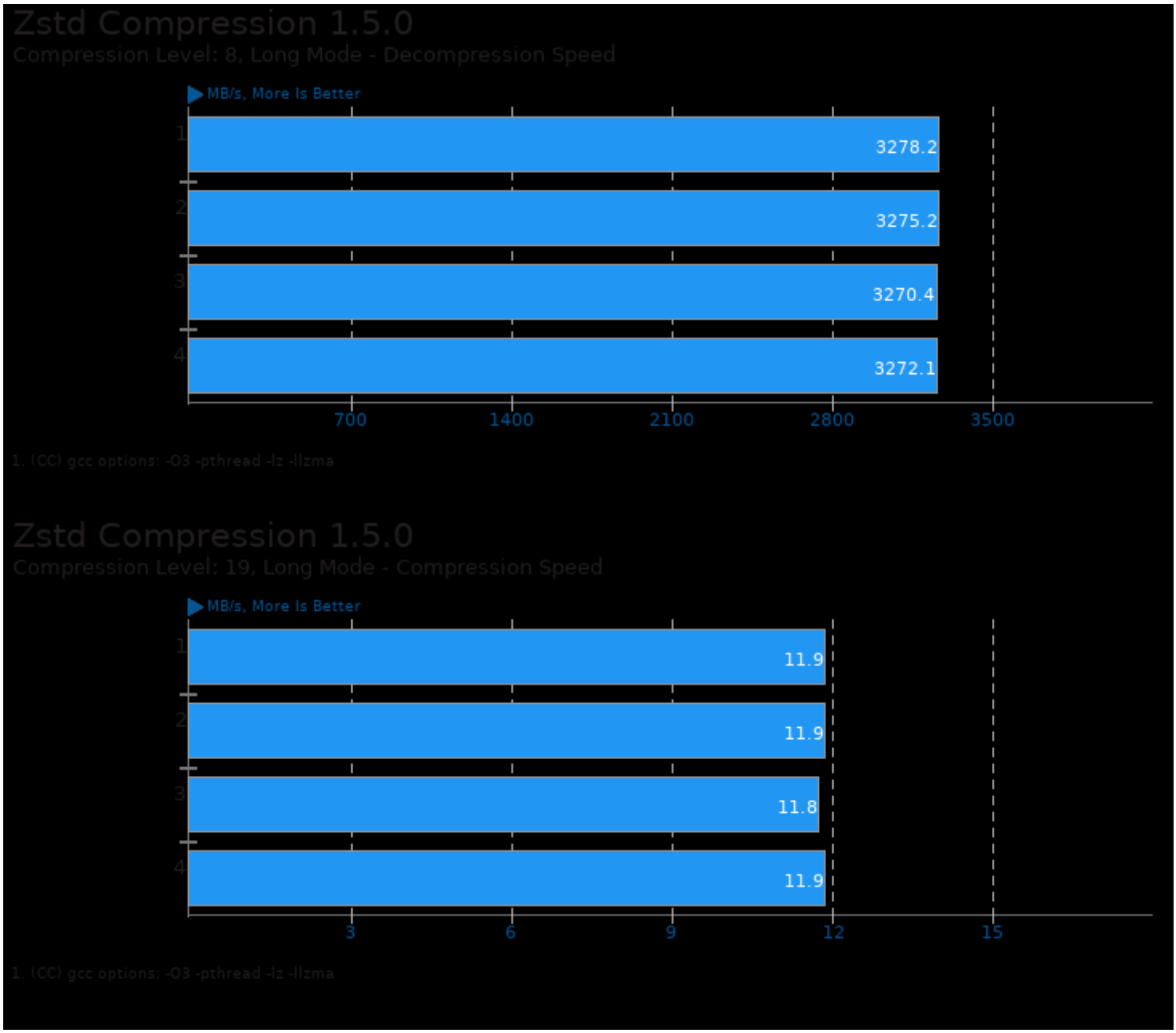
Zstd Compression 1.5.0
Compression Level: 3 - Compression Speed
MB/s, More Is Better
1
1239.9
2
1247.7
3
1256.3
4
1223.1
300
600
900
1200
1500
1. (CC) gcc options: -O3 -pthread -lz -llzma

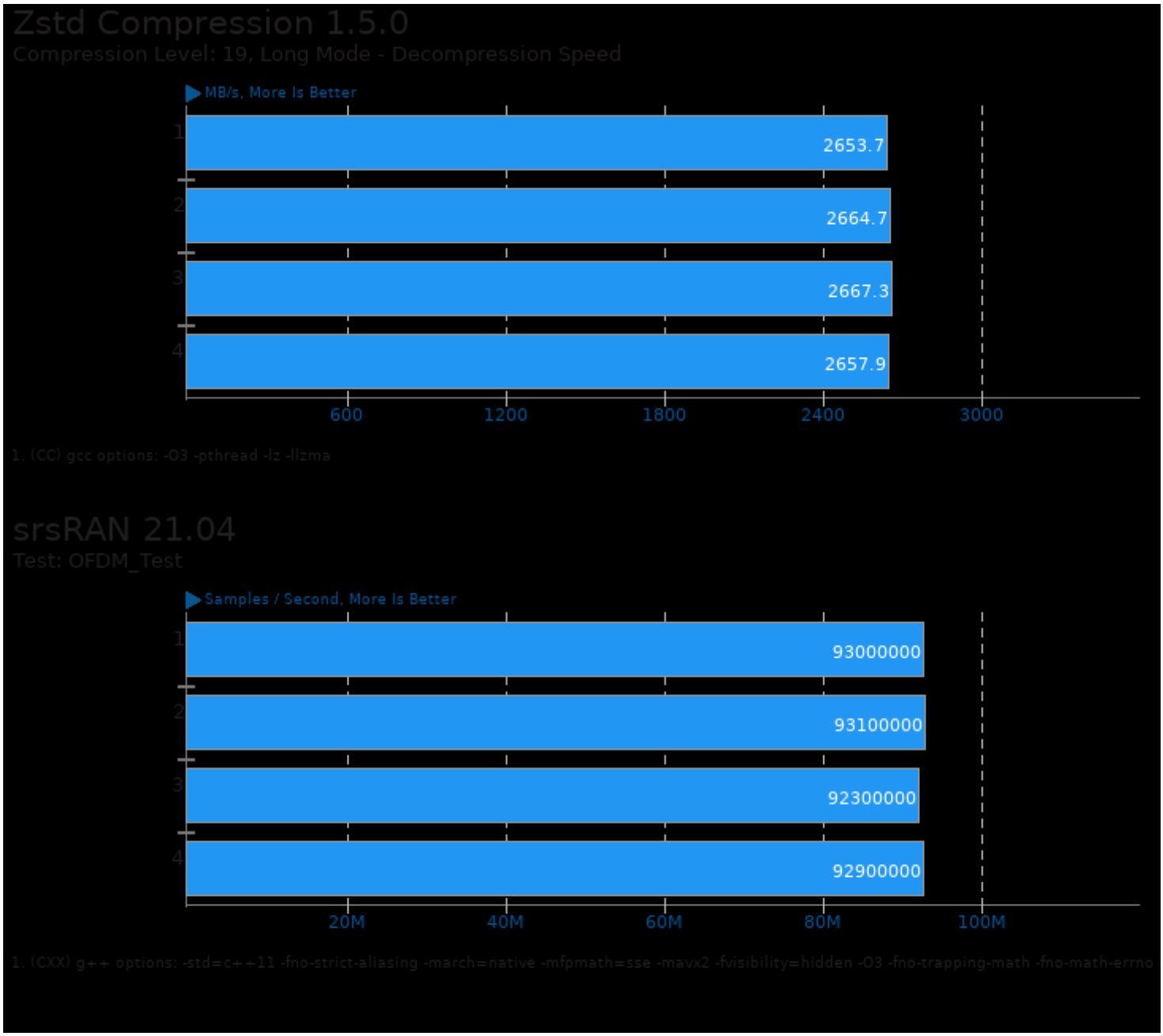

Zstd Compression 1.5.0
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
1
2
3
4
2975.6
2980.1
2930.3
2978.1
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8 - Compression Speed
MB/s, More Is Better
1
2
3
4
178.3
184.0
182.1
176.9
40
80
120
160
200
1. (CC) gcc options: -O3 -pthread -lz -llzma

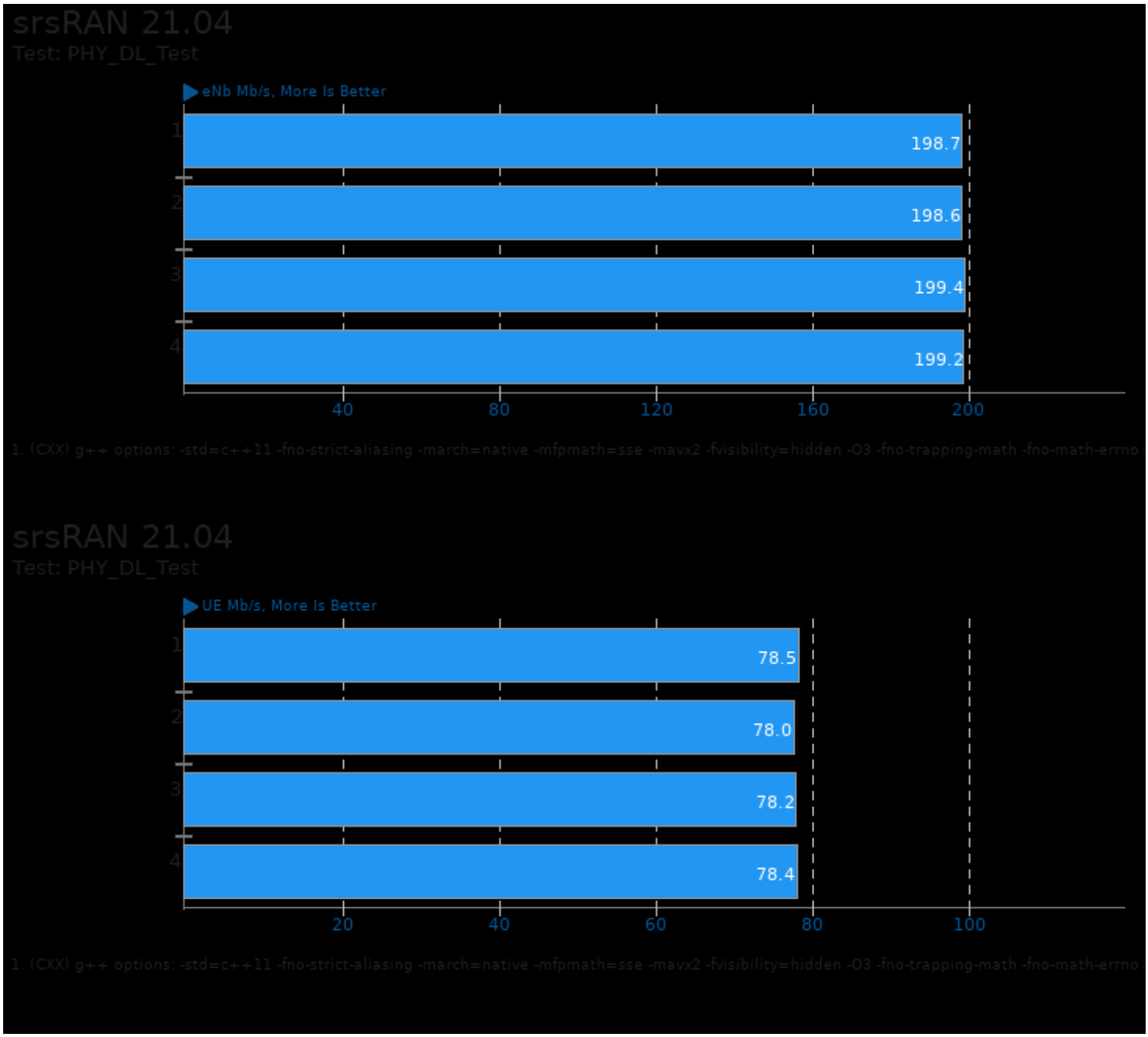

Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
1
2
3
4
3072.3
3073.3
3079.2
3066.4
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
1
2
3
4
14
14
14
14
4
8
12
16
20
1. (CC) gcc options: -O3 -pthread -lz -llzma

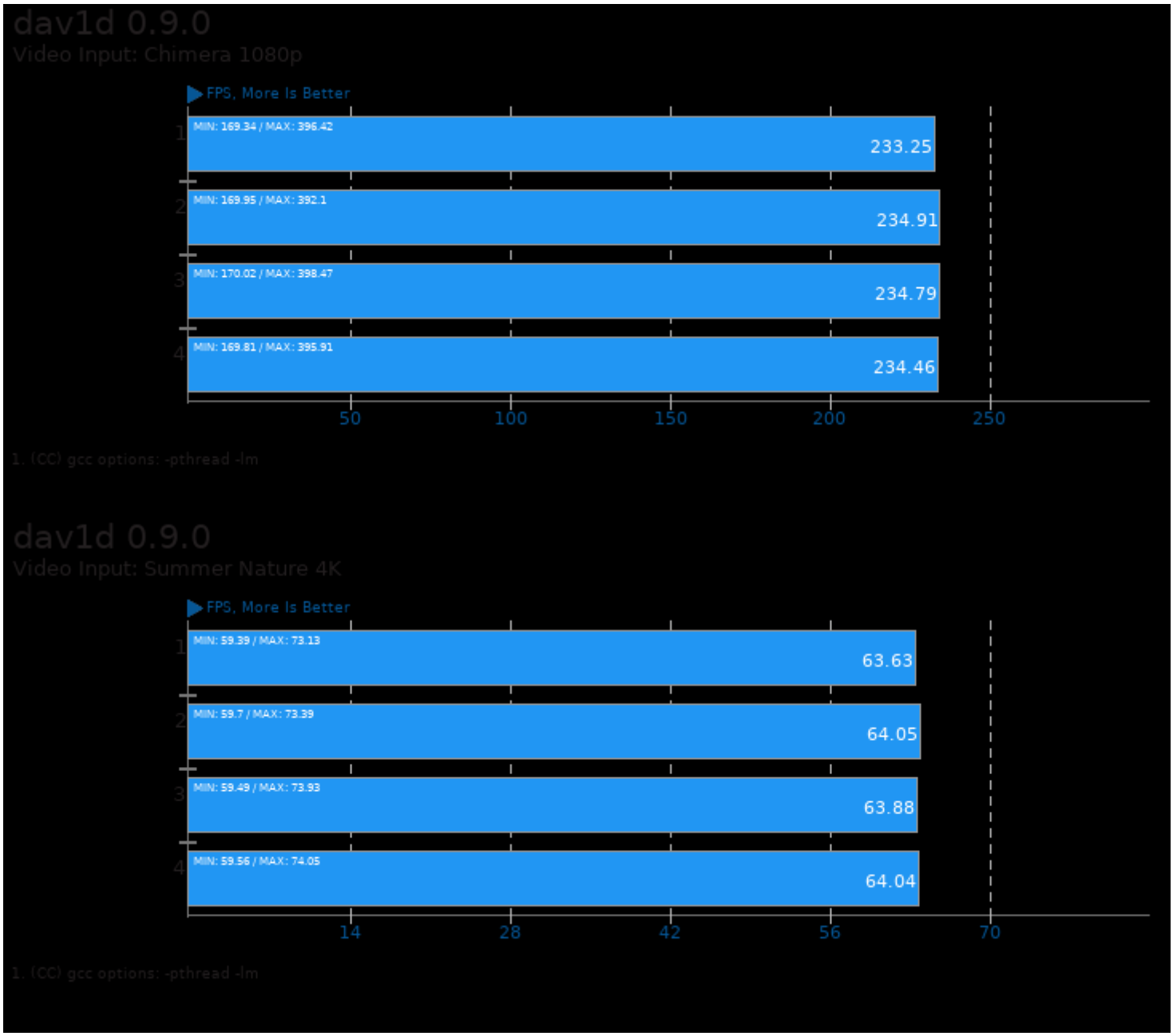

Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
1
2593.2
2
2589.8
3
2593.4
4
2603.2
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
1
712.3
2
711.7
3
722.7
4
711.9
160
320
480
640
800
1. (CC) gcc options: -O3 -pthread -lz -llzma

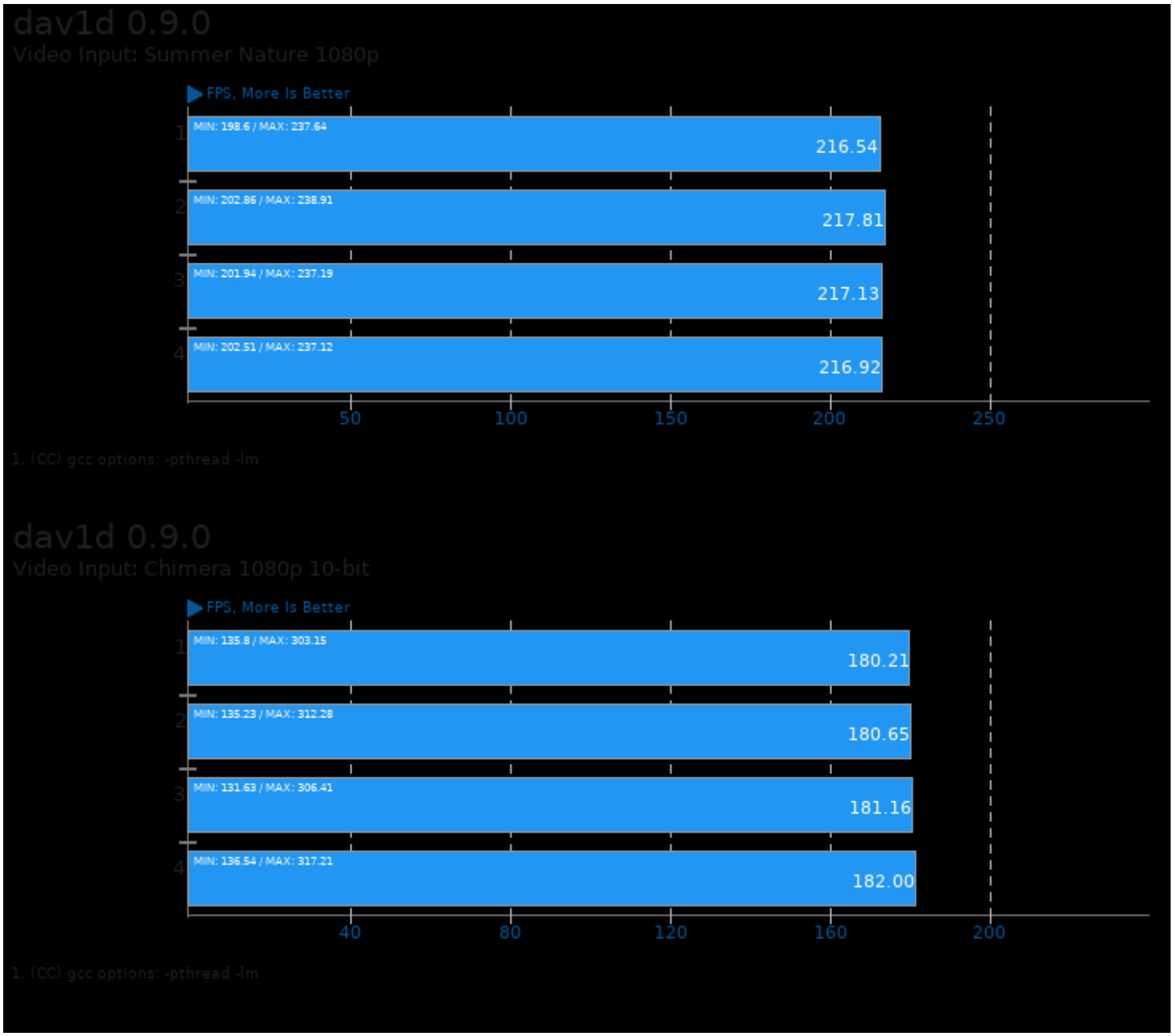

Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
1
2
3
4
3185.0
3185.2
3182.7
3184.7
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
1
2
3
4
183.7
184.1
192.7
186.7
40
80
120
160
200
1. (CC) gcc options: -O3 -pthread -lz -llzma

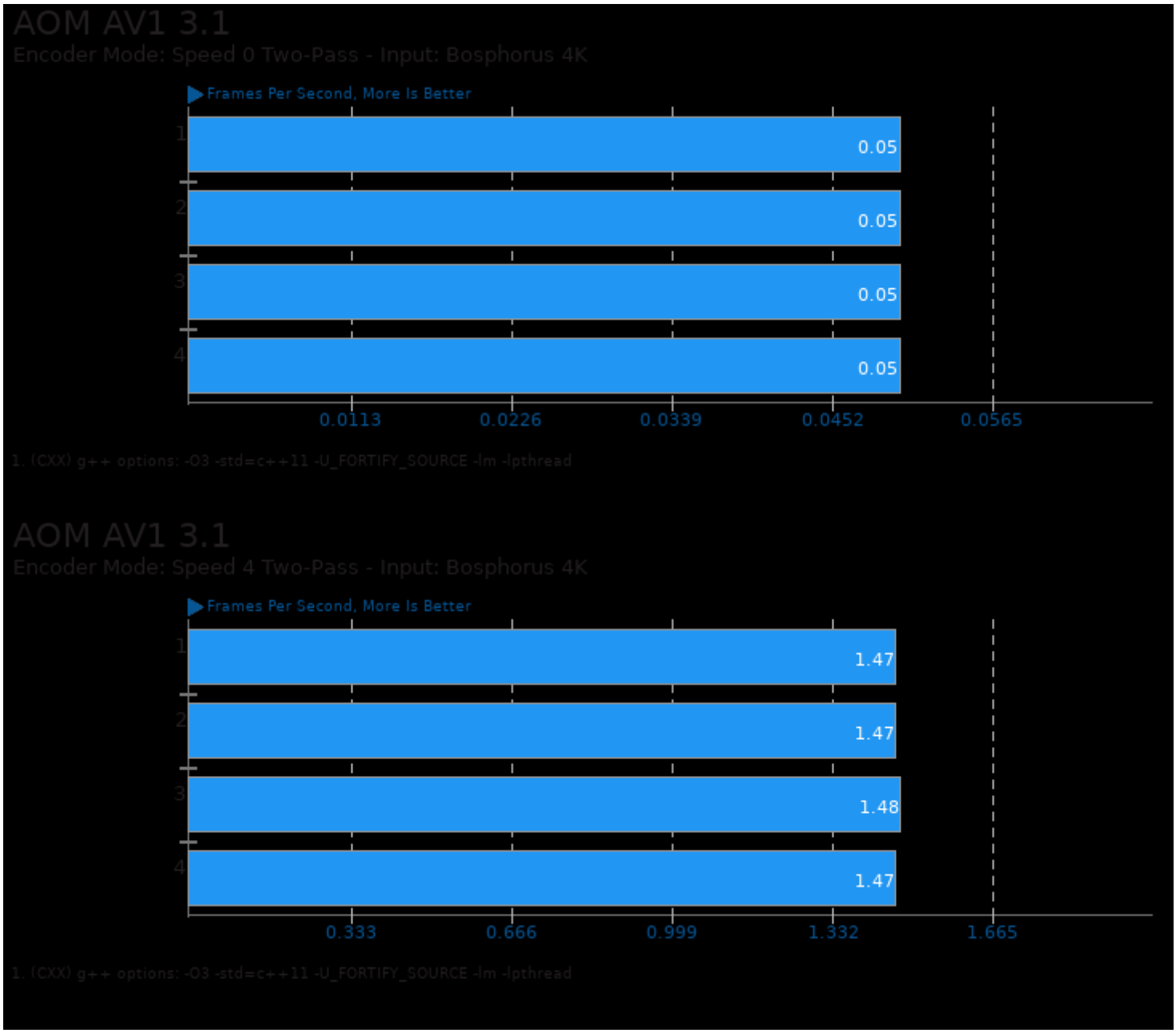

Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
1
2
3
4
3278.2
3275.2
3270.4
3272.1
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
1
2
3
4
11.9
11.9
11.8
11.9
3
6
9
12
15
1. (CC) gcc options: -O3 -pthread -lz -llzma

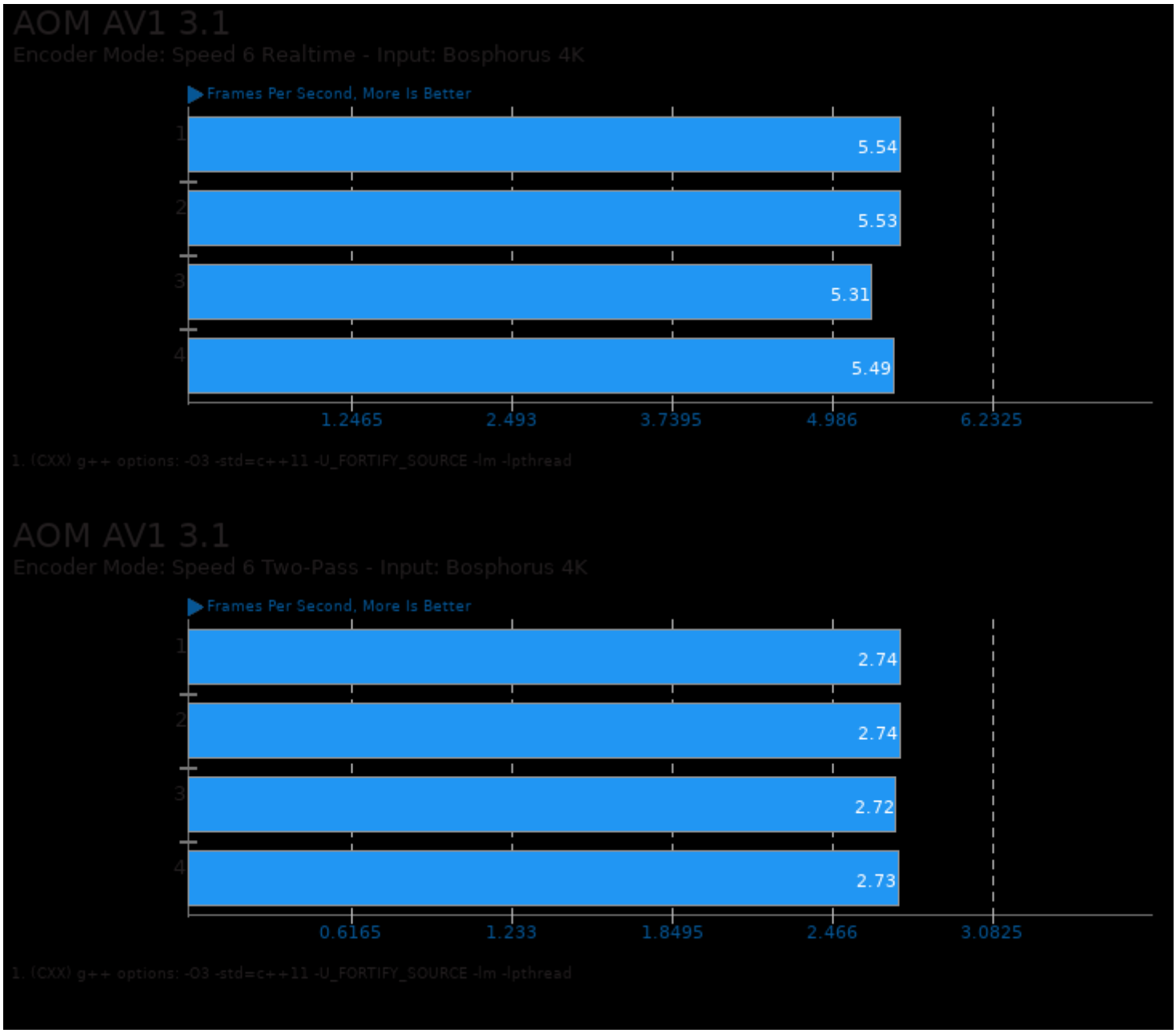

Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
1
2653.7
2
2664.7
3
2667.3
4
2657.9
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
srsRAN 21.04
Test: OFDM_Test
Samples / Second, More Is Better
1
93000000
2
93100000
3
92300000
4
92900000
20M
40M
60M
80M
100M
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

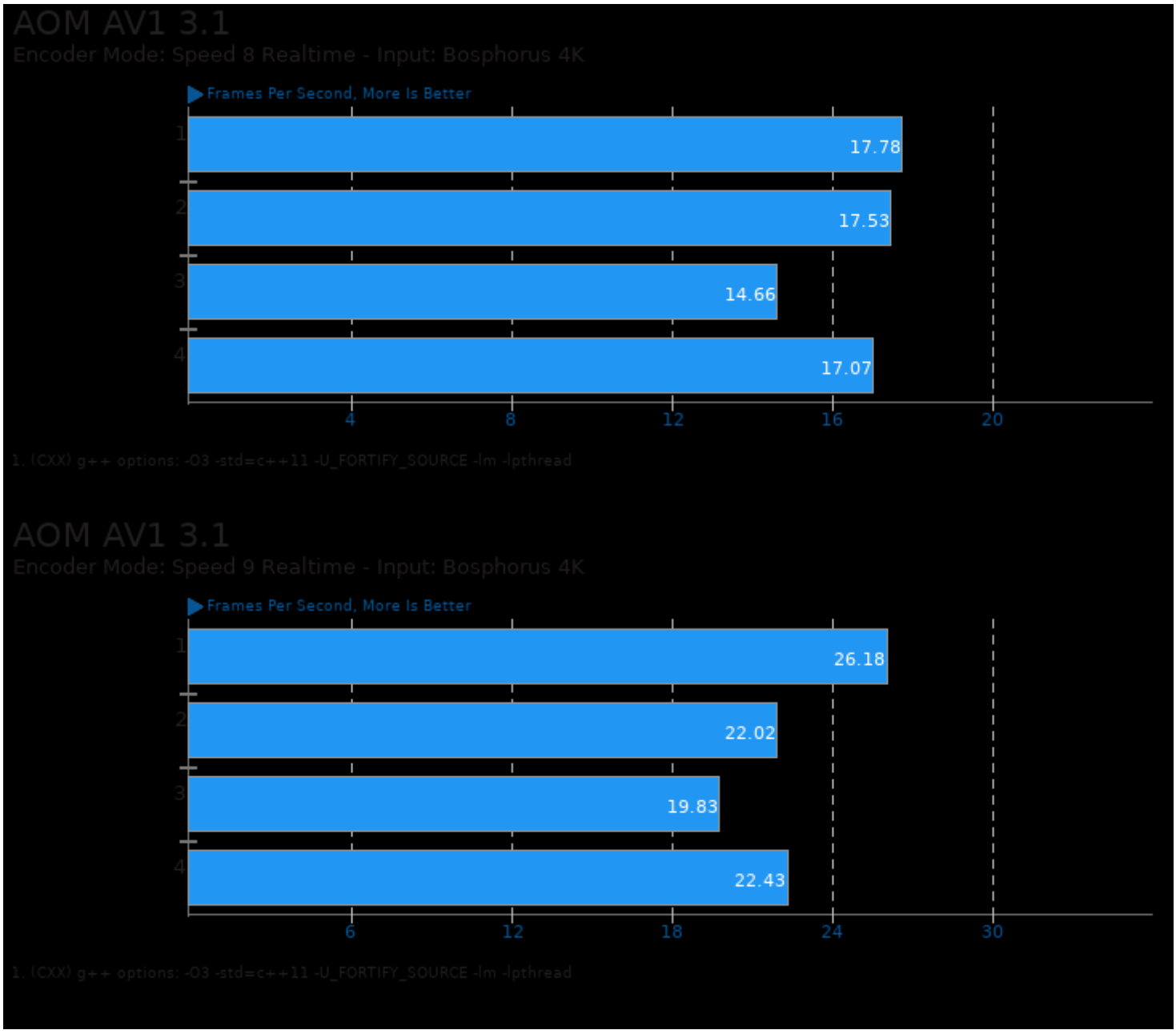

srsRAN 21.04
Test: PHY_DL_Test
eNb Mb/s, More Is Better
1
198.7
2
198.6
3
199.4
4
199.2
40
80
120
160
200
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: PHY_DL_Test
UE Mb/s, More Is Better
1
78.5
2
78.0
3
78.2
4
78.4
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

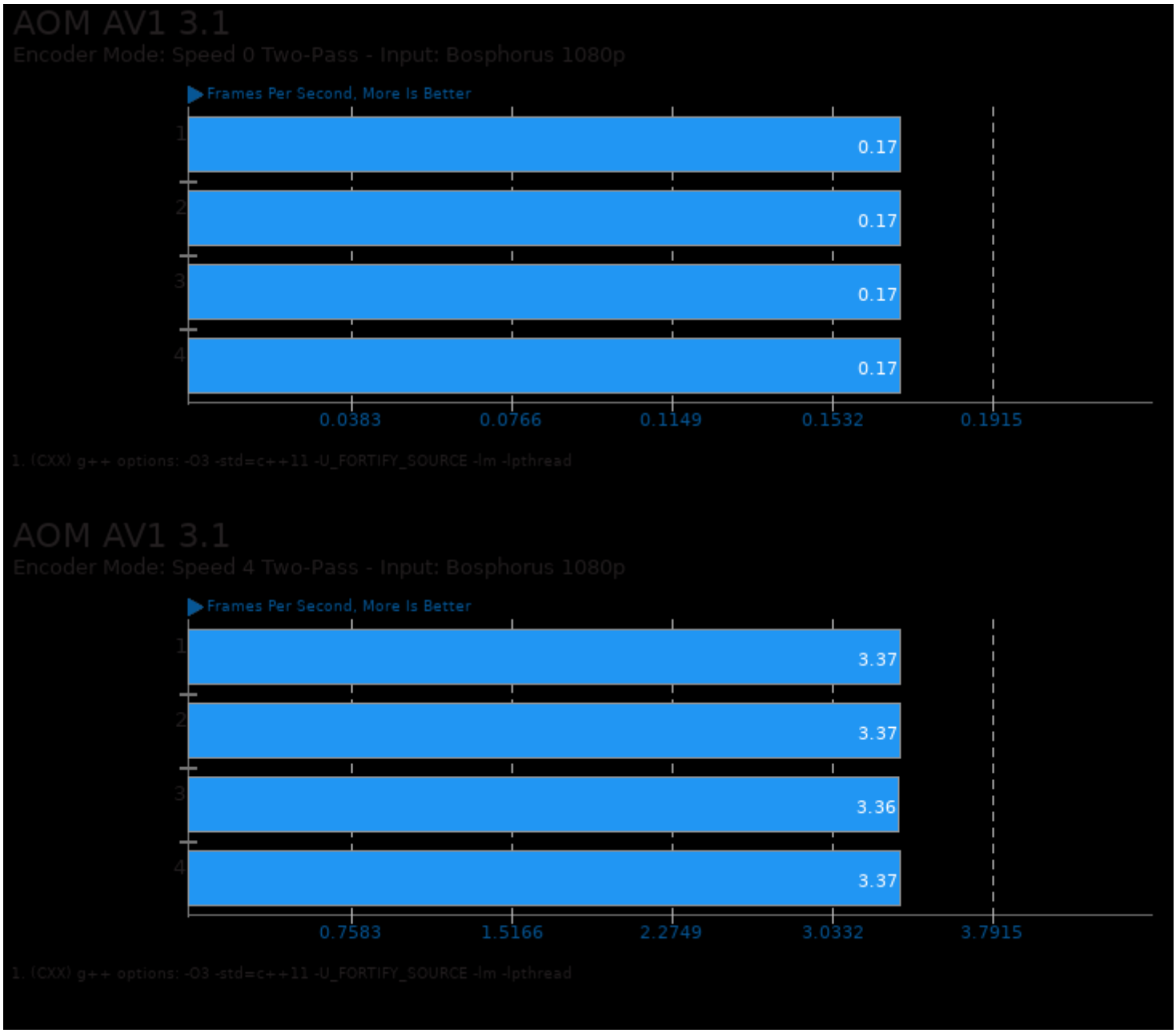

dav1d 0.9.0
Video Input: Chimera 1080p
FPS, More Is Better
1
MIN: 169.34 / MAX: 396.42
233.25
2
MIN: 169.95 / MAX: 392.1
234.91
3
MIN: 170.02 / MAX: 398.47
234.79
4
MIN: 169.81 / MAX: 395.91
234.46
50
100
150
200
250
1. (CC) gcc options: -pthread -lm
dav1d 0.9.0
Video Input: Summer Nature 4K
FPS, More Is Better
1
MIN: 59.39 / MAX: 73.13
63.63
2
MIN: 59.7 / MAX: 73.39
64.05
3
MIN: 59.49 / MAX: 73.93
63.88
4
MIN: 59.56 / MAX: 74.05
64.04
14
28
42
56
70
1. (CC) gcc options: -pthread -lm

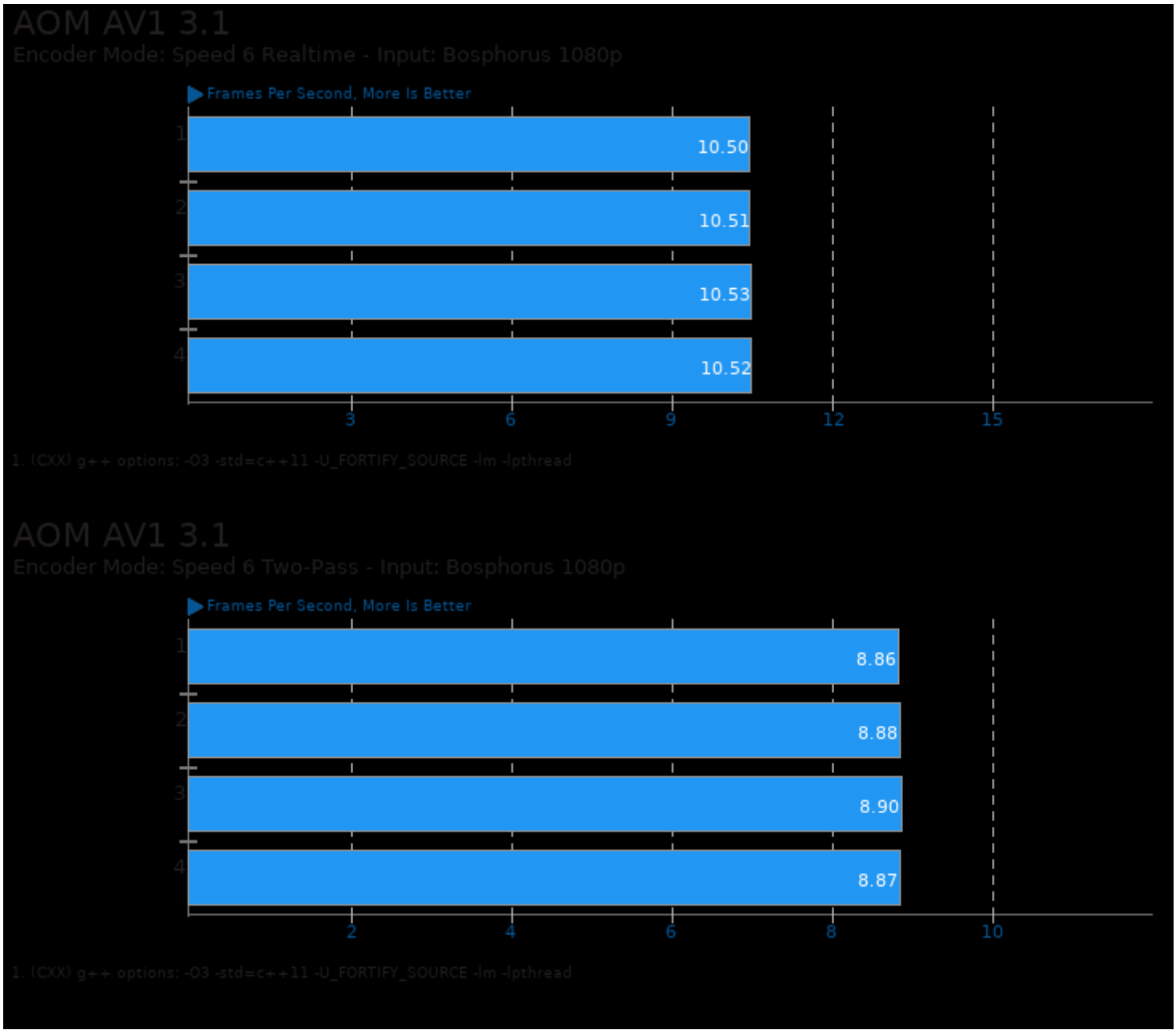

dav1d 0.9.0
Video Input: Summer Nature 1080p
FPS, More Is Better
1
MIN: 198.6 / MAX: 237.64
216.54
2
MIN: 202.86 / MAX: 238.91
217.81
3
MIN: 201.94 / MAX: 237.19
217.13
4
MIN: 202.51 / MAX: 237.12
216.92
50
100
150
200
250
1. (CC) gcc options: -pthread -lm
dav1d 0.9.0
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
1
MIN: 135.8 / MAX: 303.15
180.21
2
MIN: 135.23 / MAX: 312.28
180.65
3
MIN: 131.63 / MAX: 306.41
181.16
4
MIN: 136.54 / MAX: 317.21
182.00
40
80
120
160
200
1. (CC) gcc options: -pthread -lm


AOM AV1 3.1
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
0.05
0.05
0.05
0.05
0.0113
0.0226
0.0339
0.0452
0.0565
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
1.47
1.47
1.48
1.47
0.333
0.666
0.999
1.332
1.665
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.1
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
5.54
5.53
5.31
5.49
1.2465
2.493
3.7395
4.986
6.2325
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
2.74
2.74
2.72
2.73
0.6165
1.233
1.8495
2.466
3.0825
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

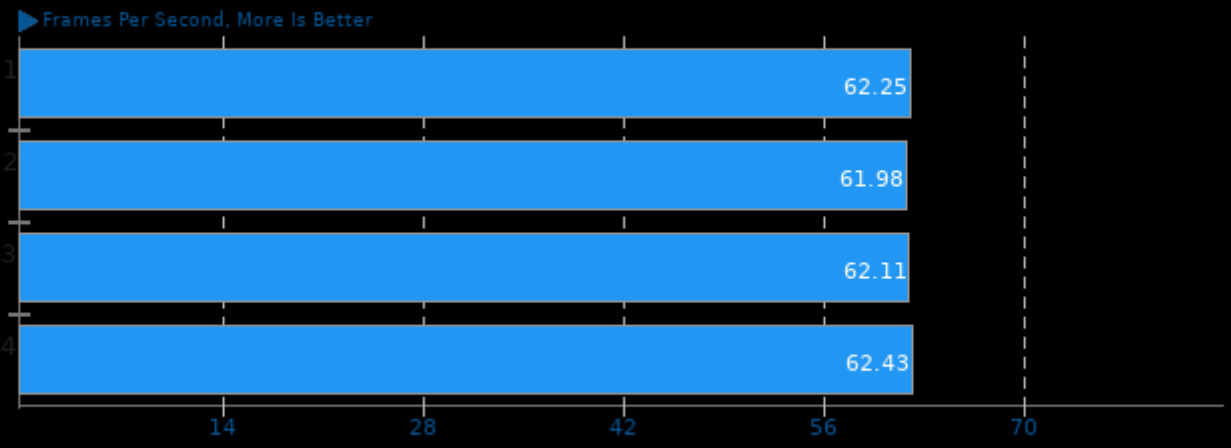

AOM AV1 3.1
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
17.78
17.53
14.66
17.07
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
26.18
22.02
19.83
22.43
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.1
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
0.17
0.17
0.17
0.17
0.0383
0.0766
0.1149
0.1532
0.1915
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
3.37
3.37
3.36
3.37
0.7583
1.5166
2.2749
3.0332
3.7915
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.1
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
10.50
10.51
10.53
10.52
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
8.86
8.88
8.90
8.87
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

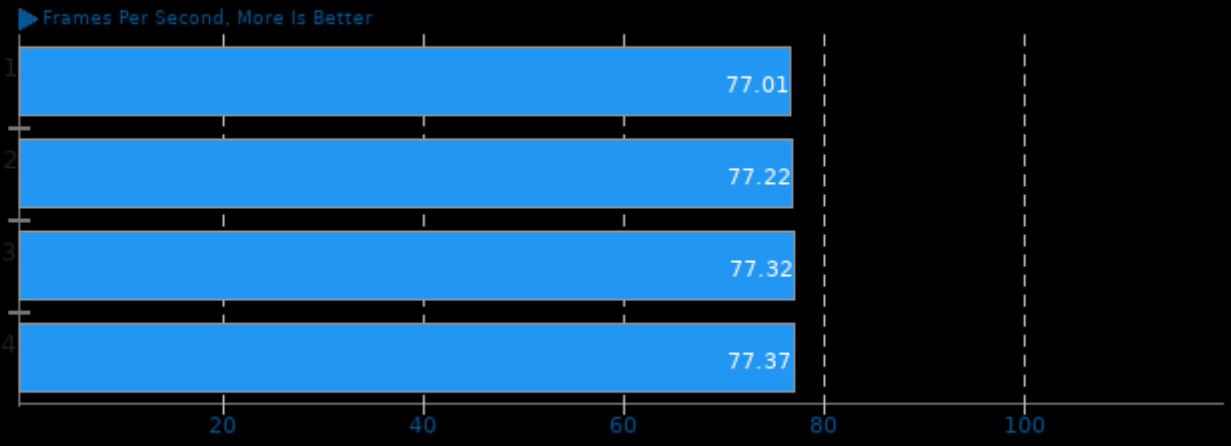
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



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

AOM AV1 3.1

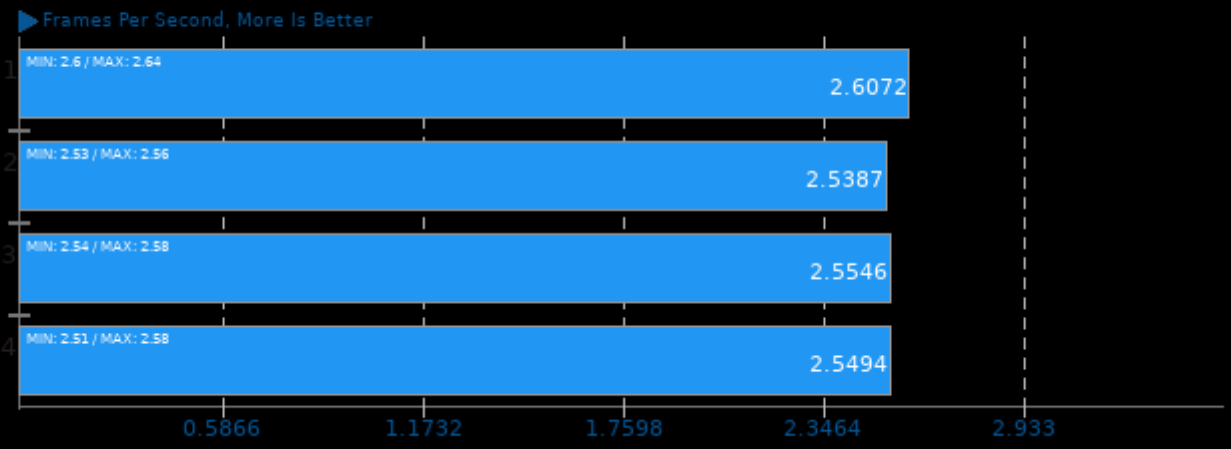
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p

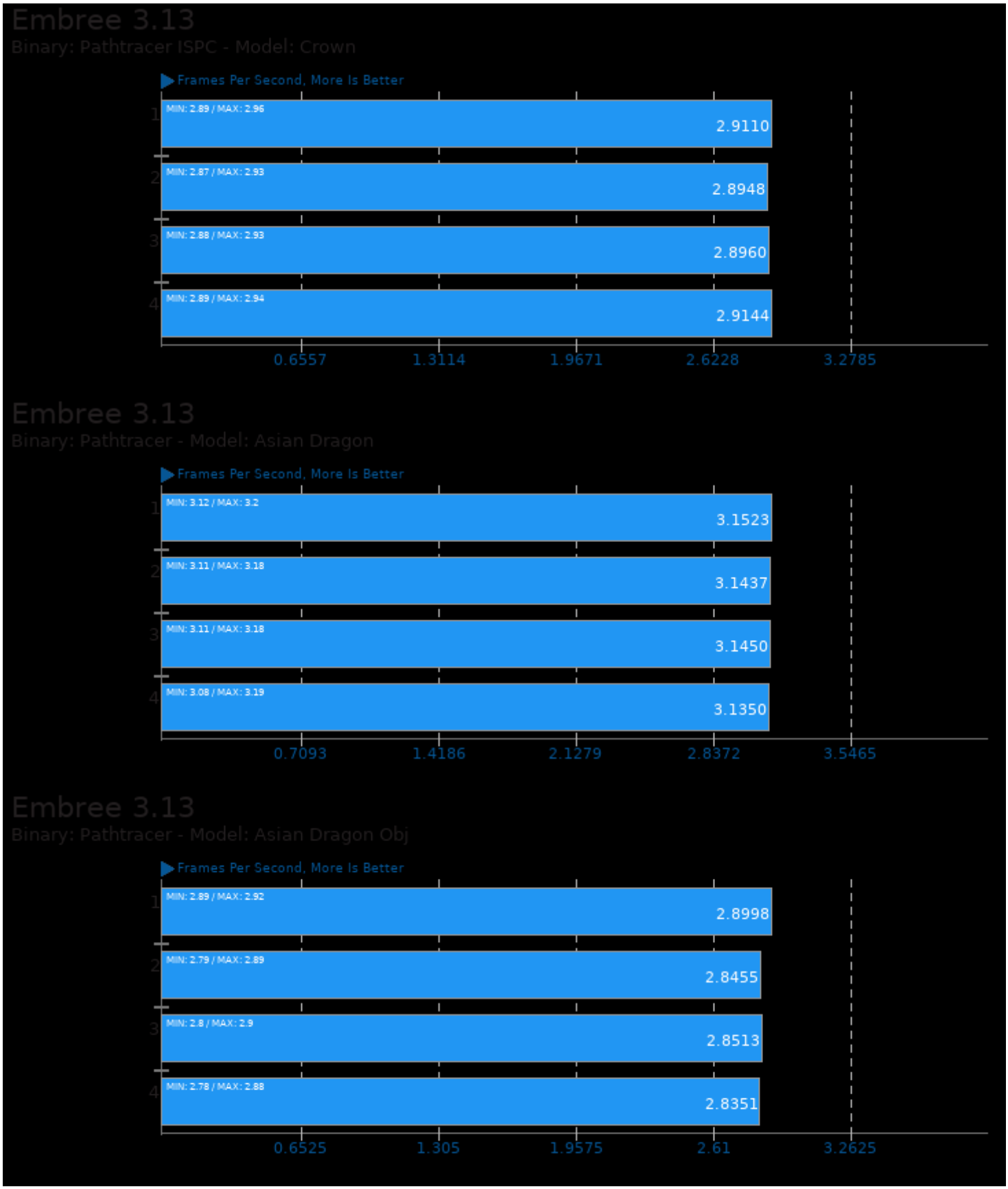


1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

Embree 3.13

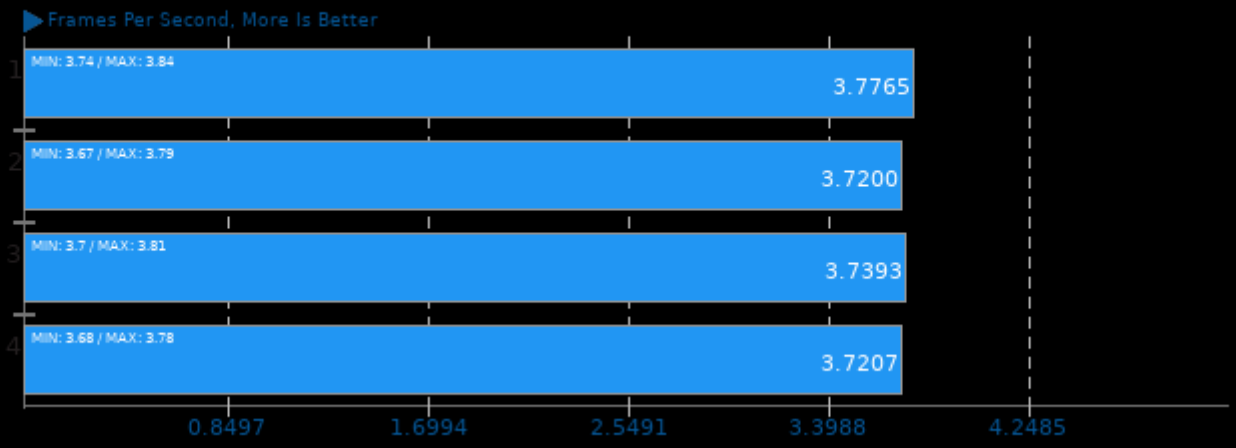
Binary: Pathtracer - Model: Crown




Embree 3.13
Binary: Pathtracer ISPC - Model: Crown
Frames Per Second, More Is Better
1
MIN: 2.89 / MAX: 2.96
2.9110
2
MIN: 2.87 / MAX: 2.93
2.8948
3
MIN: 2.88 / MAX: 2.93
2.8960
4
MIN: 2.89 / MAX: 2.94
2.9144
0.6557
1.3114
1.9671
2.6228
3.2785
Embree 3.13
Binary: Pathtracer - Model: Asian Dragon
Frames Per Second, More Is Better
1
MIN: 3.12 / MAX: 3.2
3.1523
2
MIN: 3.11 / MAX: 3.18
3.1437
3
MIN: 3.11 / MAX: 3.18
3.1450
4
MIN: 3.08 / MAX: 3.19
3.1350
0.7093
1.4186
2.1279
2.8372
3.5465
Embree 3.13
Binary: Pathtracer - Model: Asian Dragon Obj
Frames Per Second, More Is Better
1
MIN: 2.89 / MAX: 2.92
2.8998
2
MIN: 2.79 / MAX: 2.89
2.8455
3
MIN: 2.8 / MAX: 2.9
2.8513
4
MIN: 2.78 / MAX: 2.88
2.8351
0.6525
1.305
1.9575
2.61
3.2625

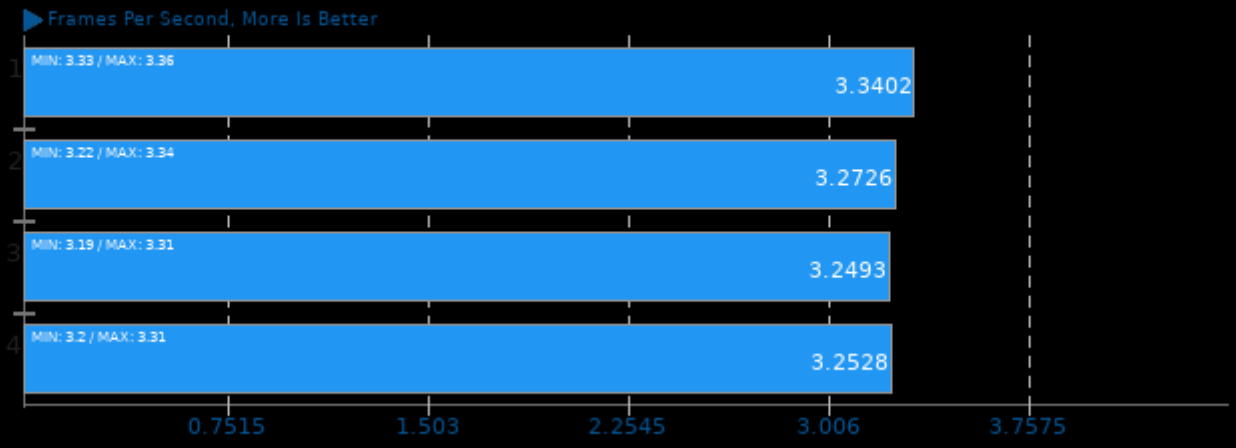
Embree 3.13

Binary: Pathtracer ISPC - Model: Asian Dragon



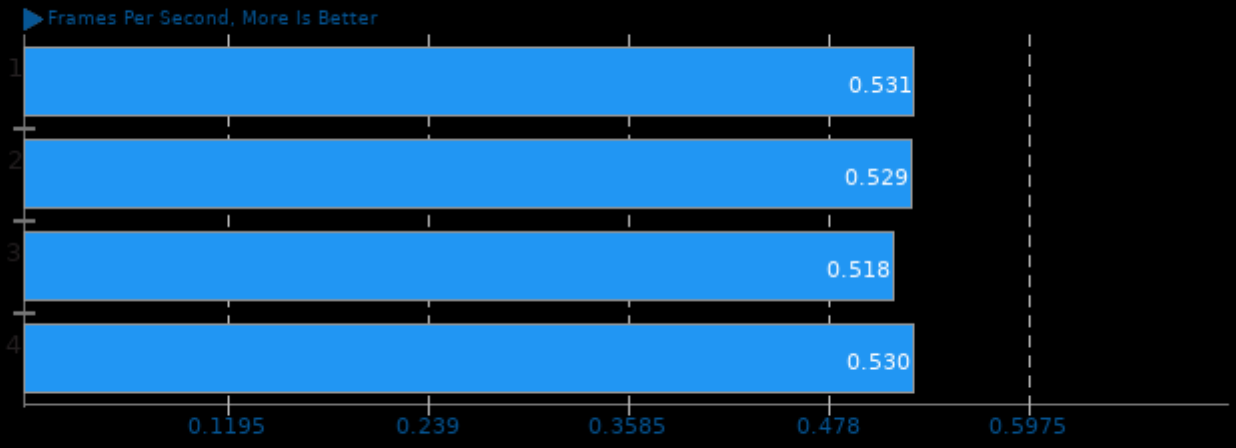
Embree 3.13

Binary: Pathtracer ISPC - Model: Asian Dragon Obj

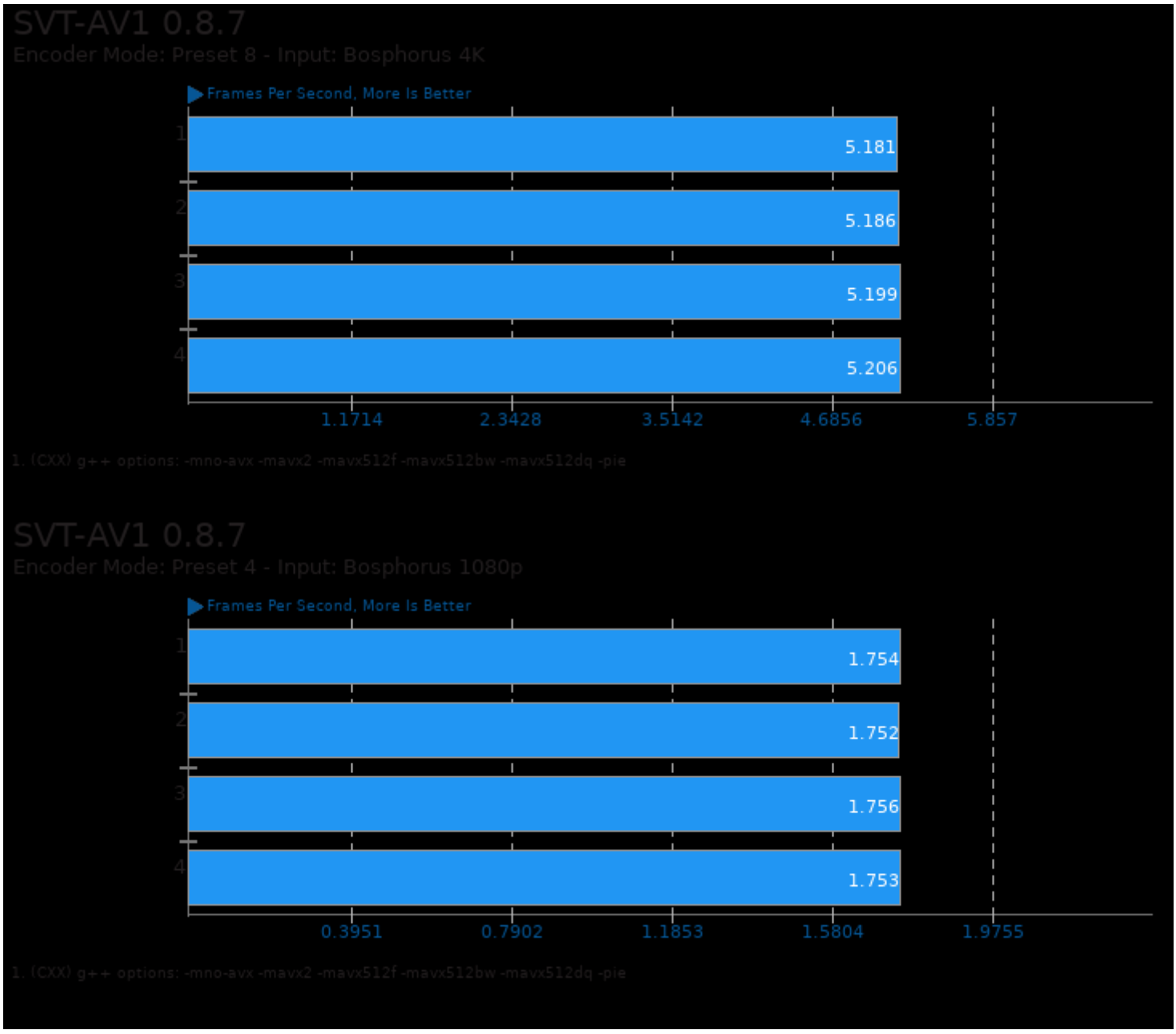


SVT-AV1 0.8.7

Encoder Mode: Preset 4 - Input: Bosphorus 4K

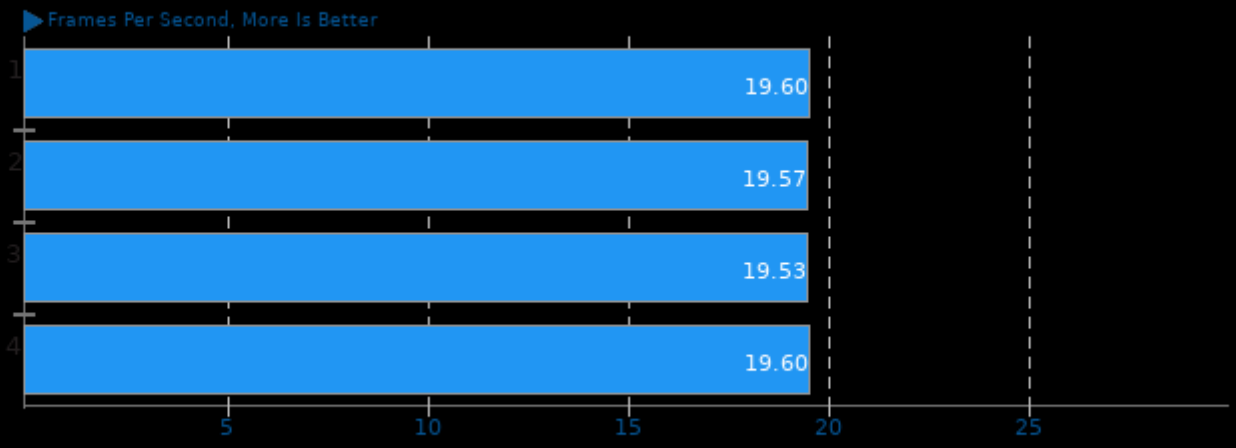


1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie


SVT-AV1 0.8.7
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
5.181
5.186
5.199
5.206
1.1714
2.3428
3.5142
4.6856
5.857
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
1.754
1.752
1.756
1.753
0.3951
0.7902
1.1853
1.5804
1.9755
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 0.8.7

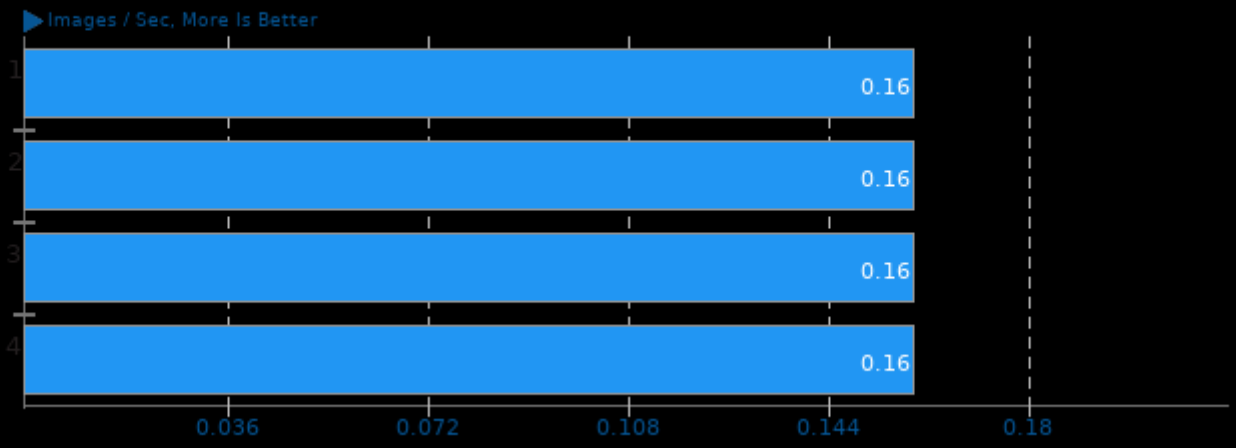
Encoder Mode: Preset 8 - Input: Bosphorus 1080p



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

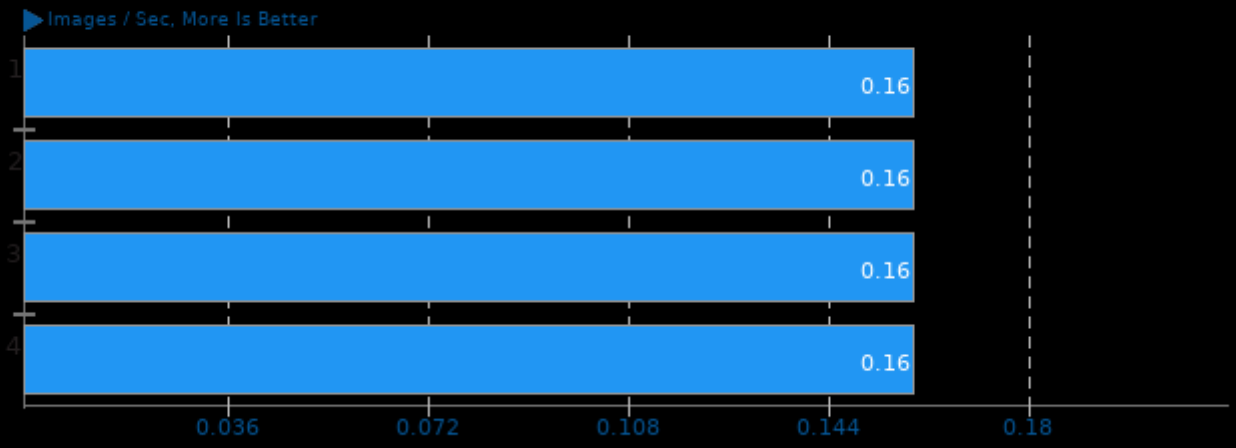
Intel Open Image Denoise 1.4.0

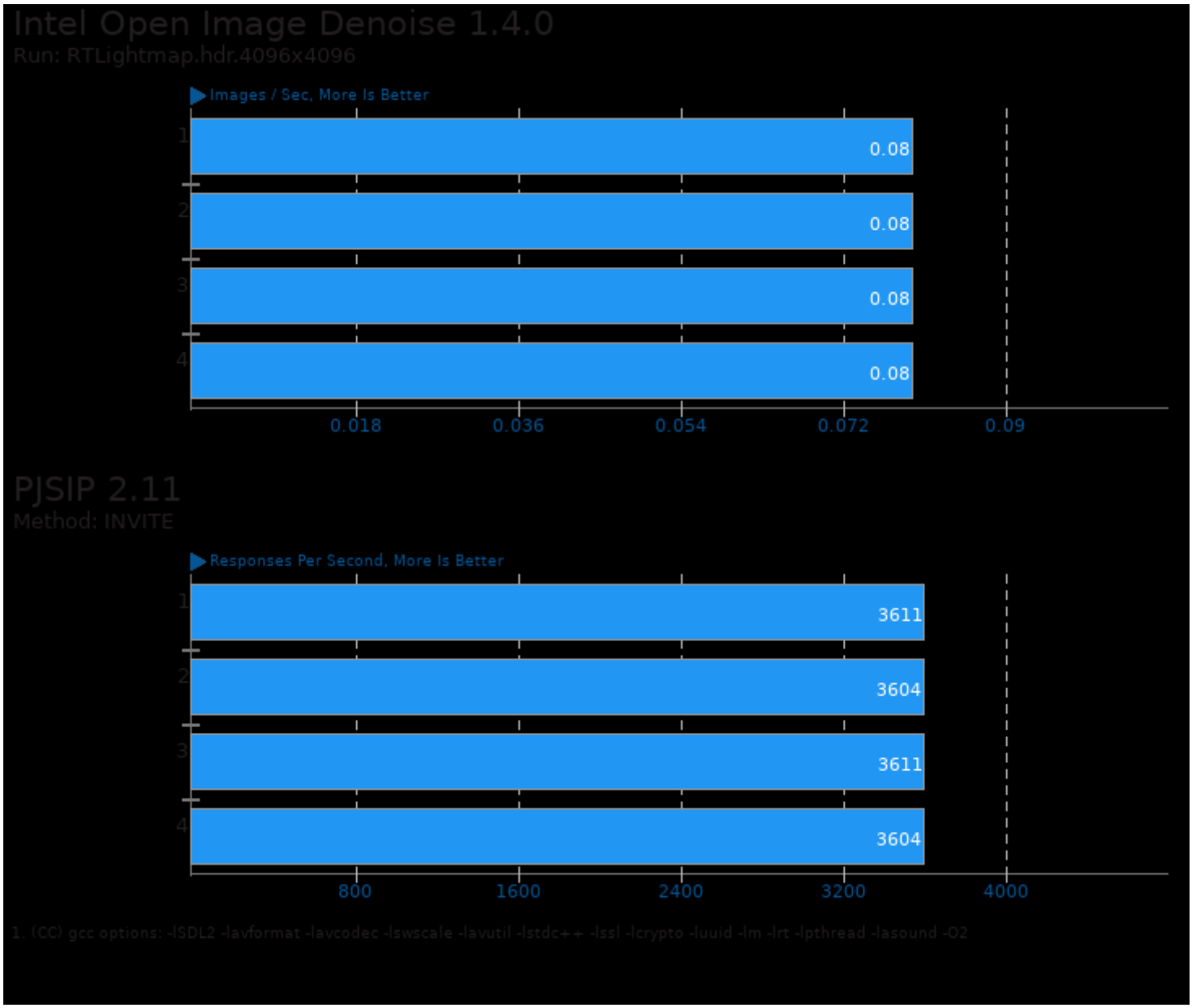
Run: RT.hdr_alb_nrm.3840x2160

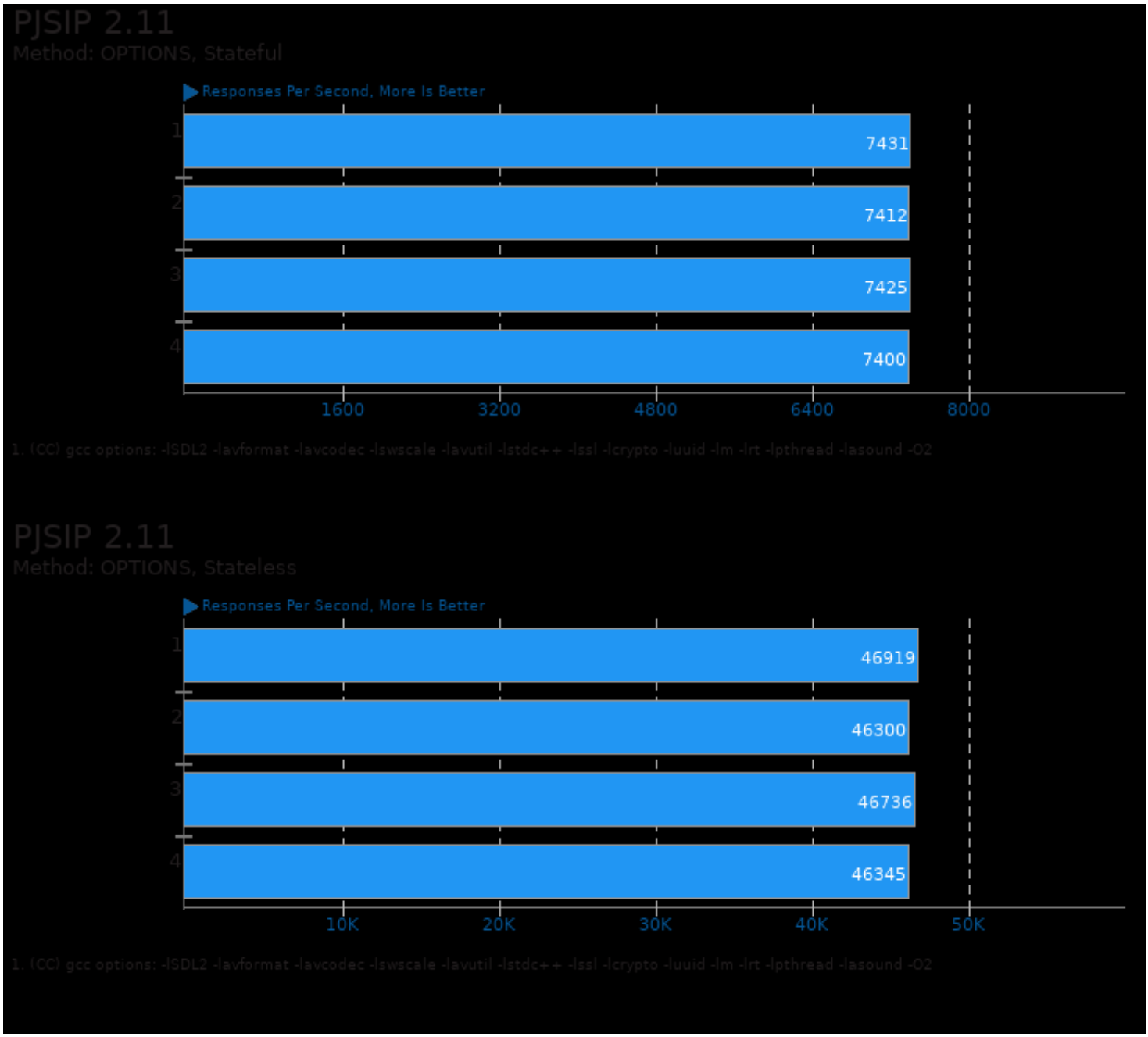


Intel Open Image Denoise 1.4.0

Run: RT.ldr_alb_nrm.3840x2160

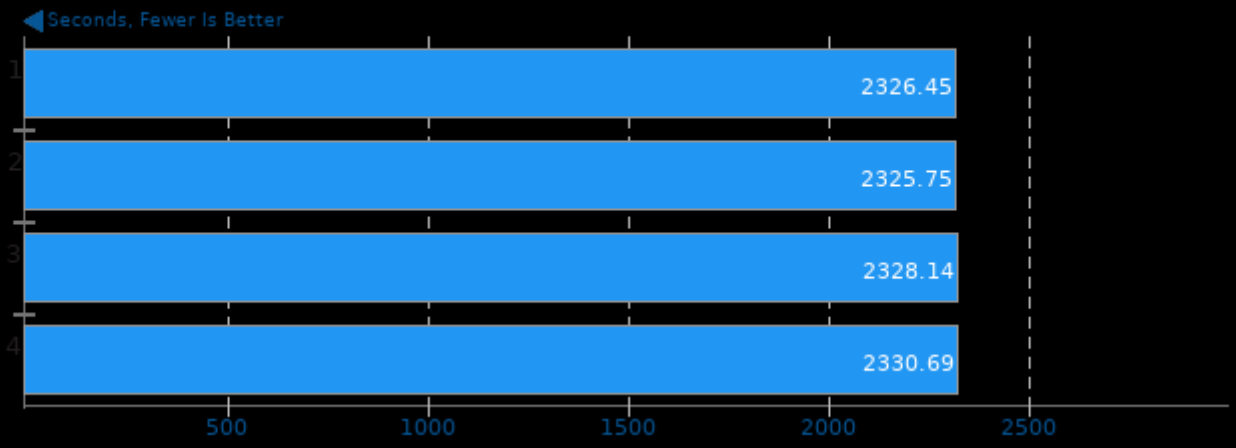



Intel Open Image Denoise 1.4.0
Run: RTLightmap.hdr.4096x4096
Images / Sec, More Is Better
1
2
3
4
0.08
0.08
0.08
0.08
0.018
0.036
0.054
0.072
0.09
PJSIP 2.11
Method: INVITE
Responses Per Second, More Is Better
1
2
3
4
3611
3604
3611
3604
800
1600
2400
3200
4000
1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2


PJSIP 2.11
Method: OPTIONS, Stateful
Responses Per Second, More Is Better
1
2
3
4
7431
7412
7425
7400
1600
3200
4800
6400
8000
1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2
PJSIP 2.11
Method: OPTIONS, Stateless
Responses Per Second, More Is Better
1
2
3
4
46919
46300
46736
46345
10K
20K
30K
40K
50K
1. (CC) gcc options: -lSDL2 -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

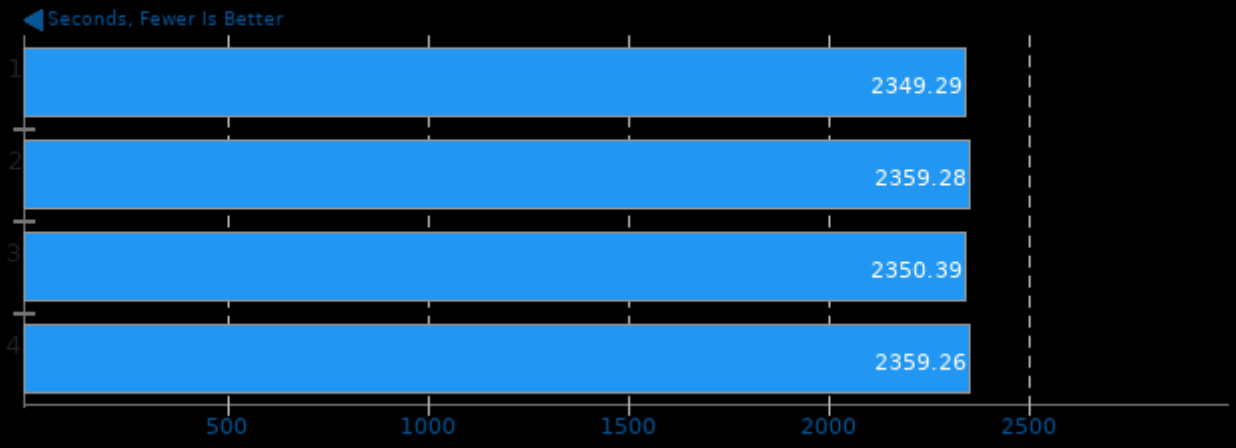
Timed LLVM Compilation 12.0

Build System: Ninja



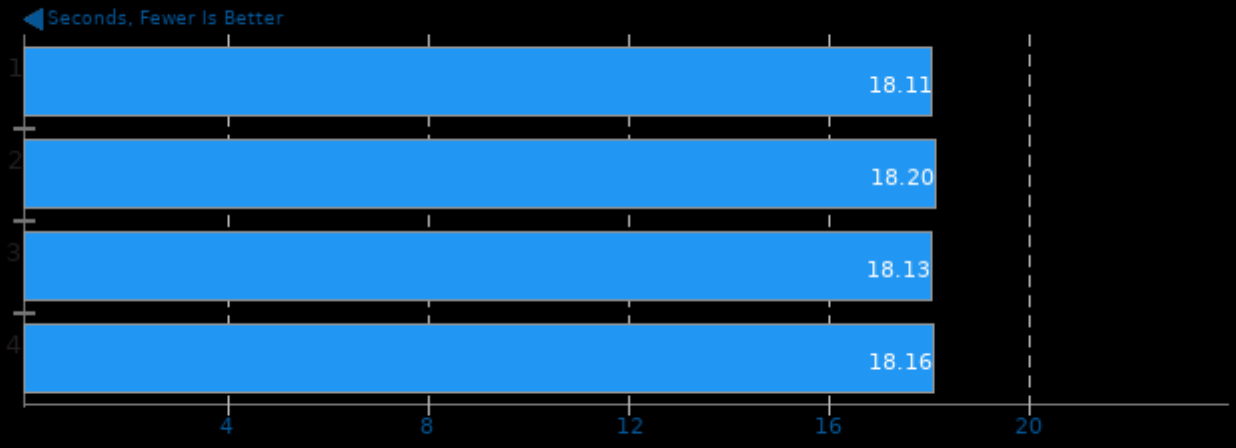
Timed LLVM Compilation 12.0

Build System: Unix Makefiles



Helsing 1.0-beta

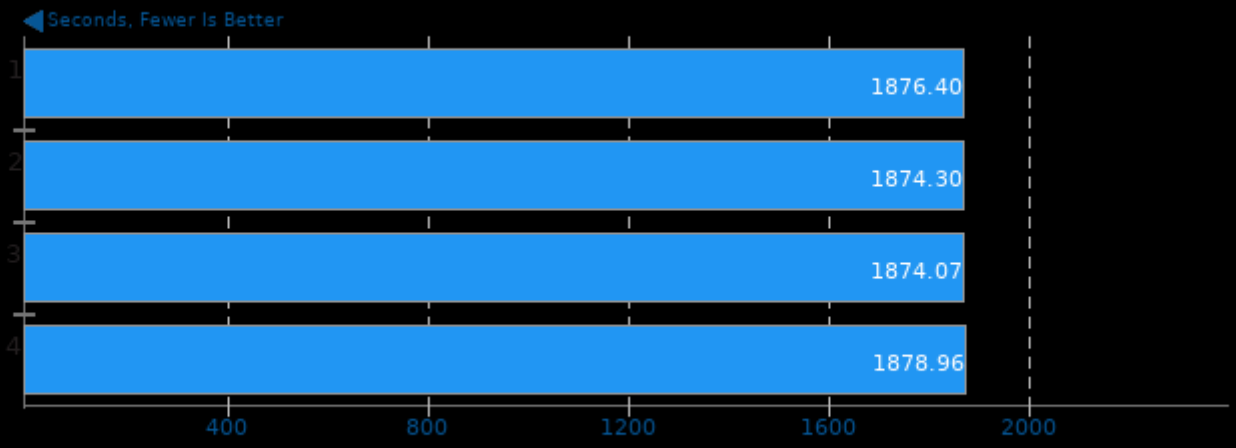
Digit Range: 12 digit



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

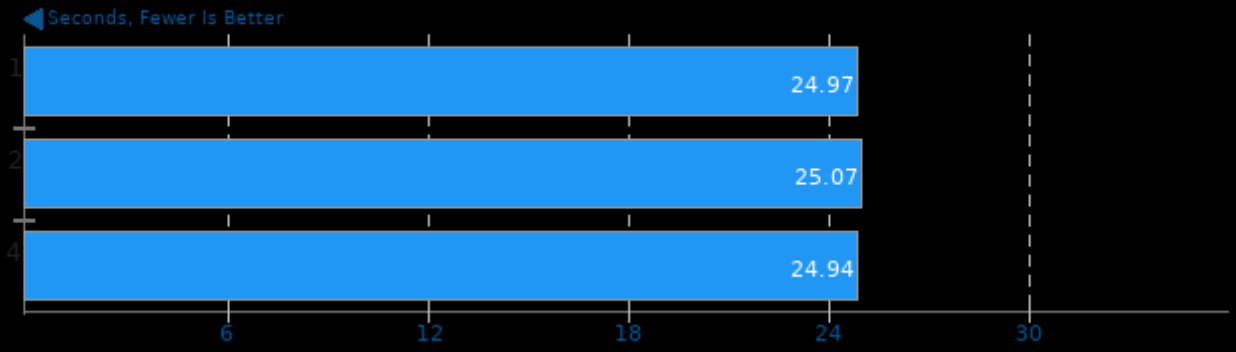
Helsing 1.0-beta

Digit Range: 14 digit



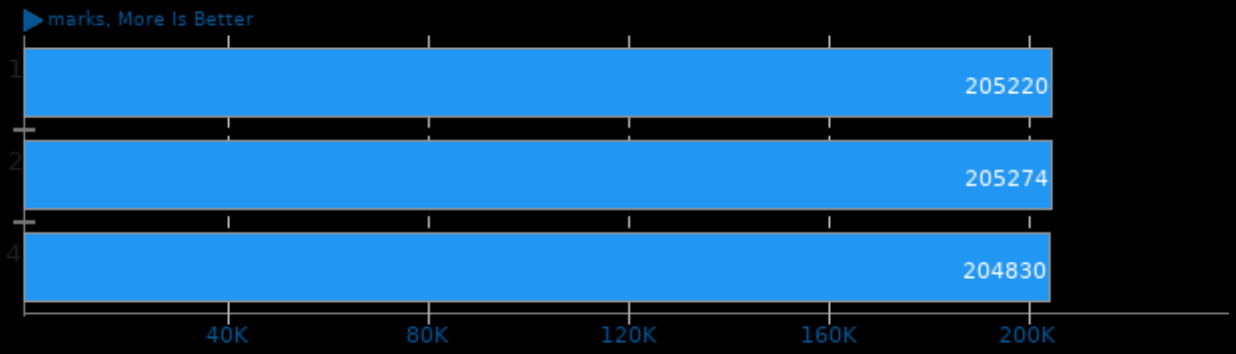
1. (CC) gcc options: -O2 -pthread

VOSK Speech Recognition Toolkit 0.3.21



SecureMark 1.0.4

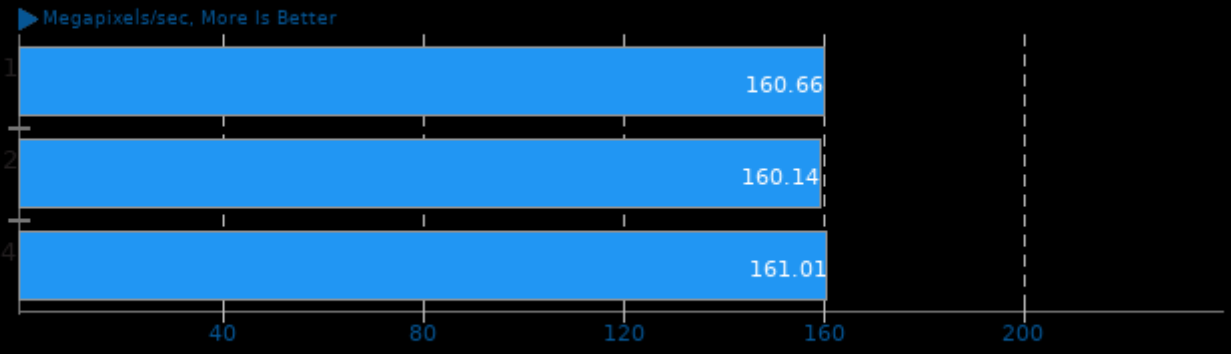
Benchmark: SecureMark-TLS



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

libjpeg-turbo tjbench 2.1.0

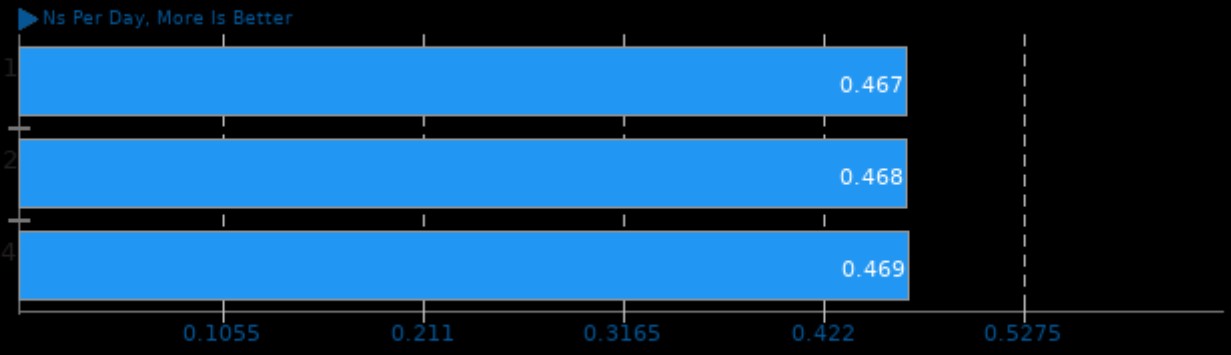
Test: Decompression Throughput



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

GROMACS 2021.2

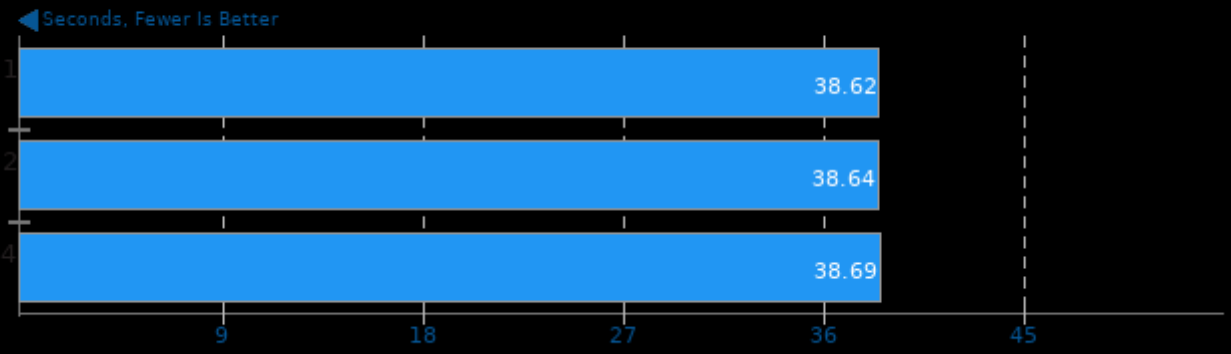
Implementation: MPI CPU - Input: water_GMX50_bare

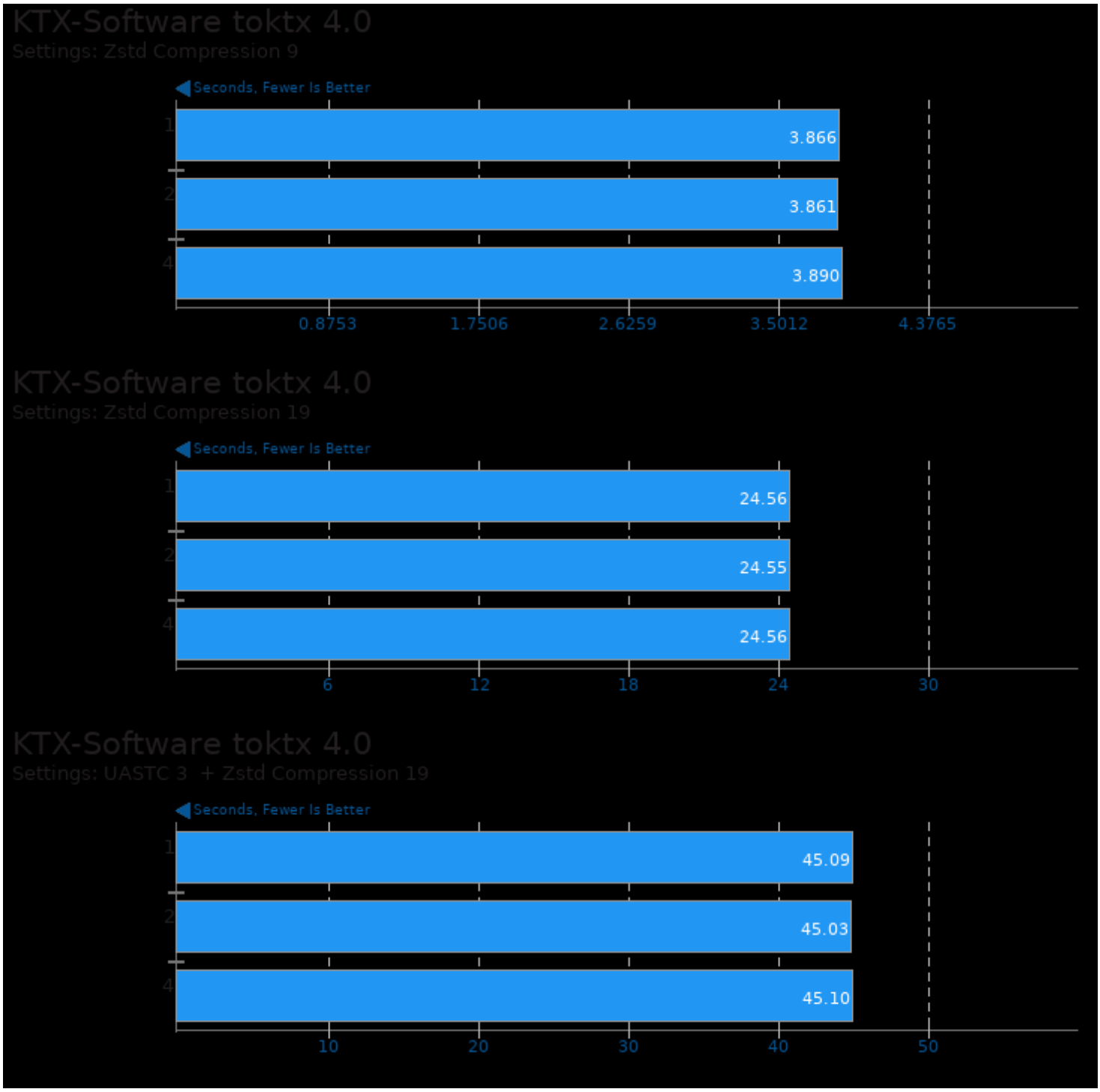


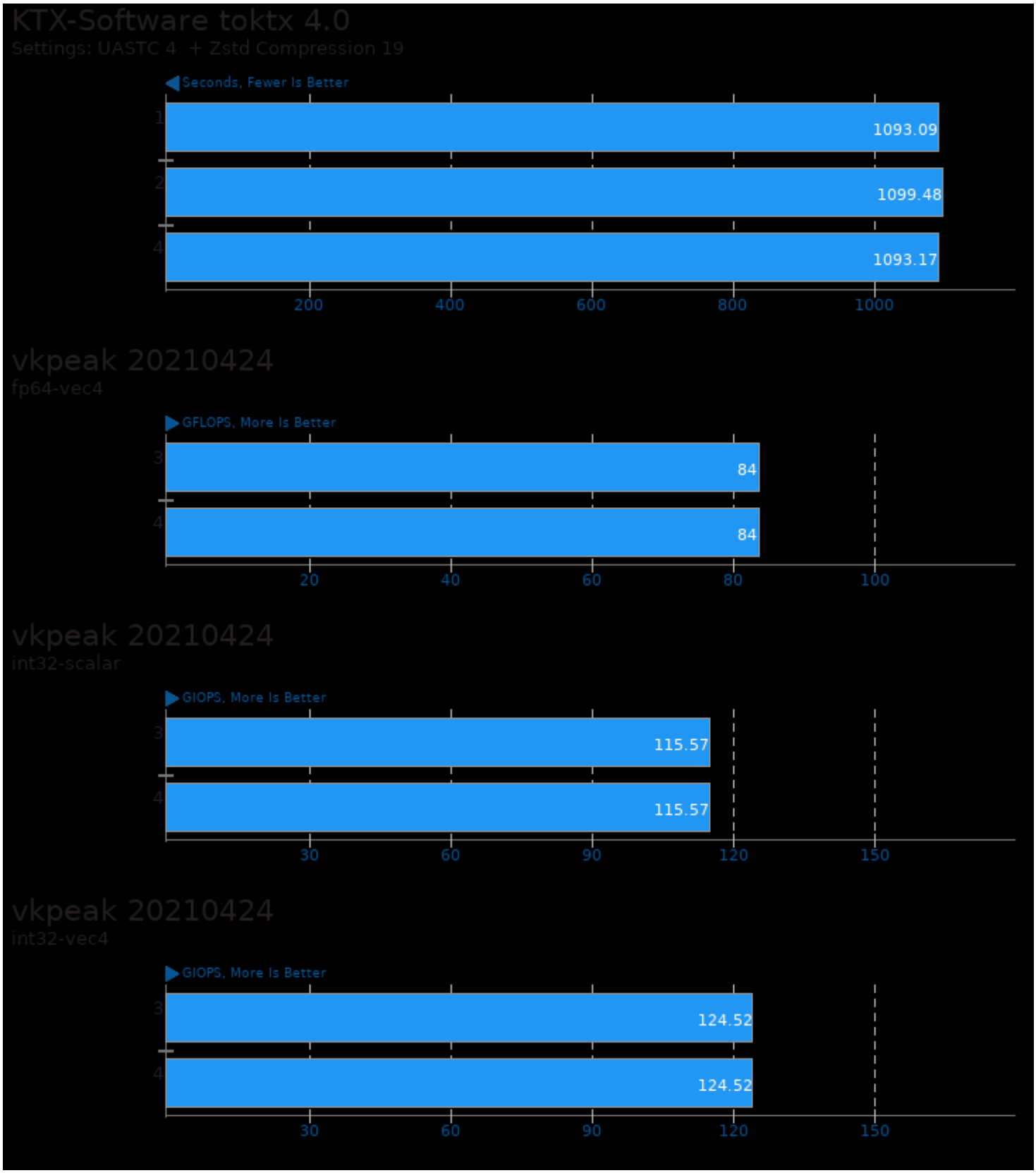
1. (CXX) g++ options: -O3 -pthread

KTX-Software toktx 4.0

Settings: UASTC 3




KTX-Software toktx 4.0
Settings: Zstd Compression 9
Seconds, Fewer Is Better
1
2
4
3.866
3.861
3.890
0.8753
1.7506
2.6259
3.5012
4.3765
KTX-Software toktx 4.0
Settings: Zstd Compression 19
Seconds, Fewer Is Better
1
2
4
24.56
24.55
24.56
6
12
18
24
30
KTX-Software toktx 4.0
Settings: UASTC 3 + Zstd Compression 19
Seconds, Fewer Is Better
1
2
4
45.09
45.03
45.10
10
20
30
40
50

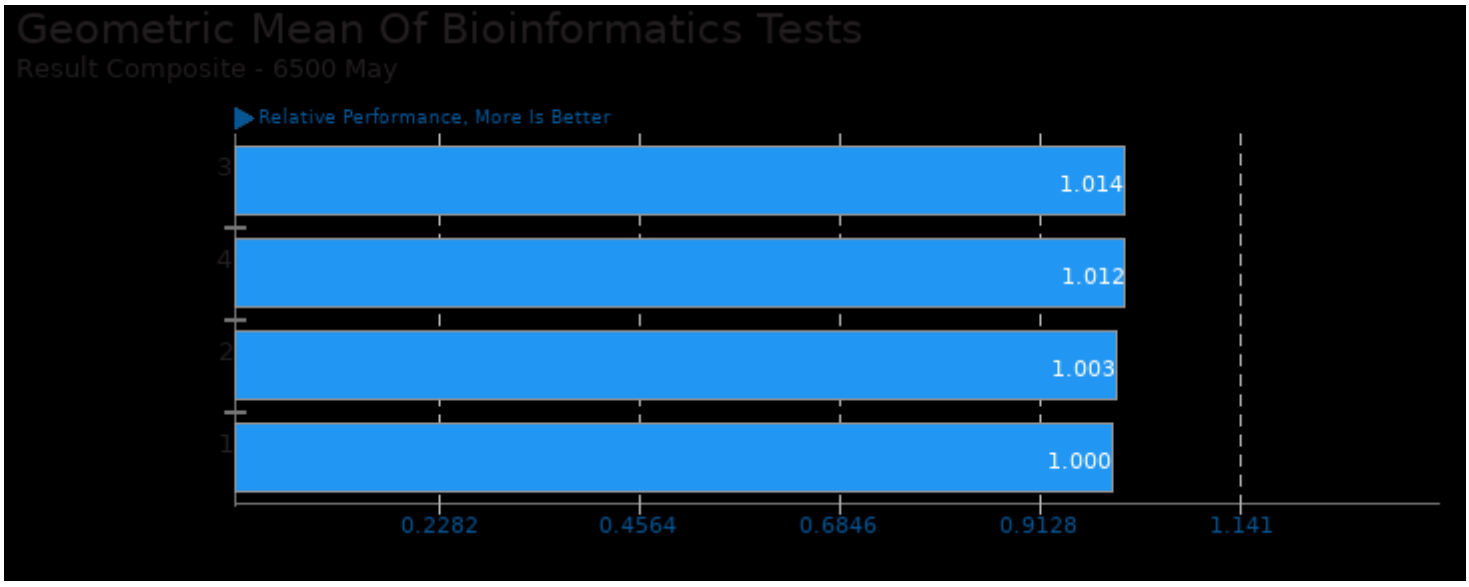

KTX-Software toktx 4.0
Settings: UASTC 4 + Zstd Compression 19
Seconds, Fewer Is Better
1
1093.09
2
1099.48
4
1093.17
200
400
600
800
1000
vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
3
84
4
84
20
40
60
80
100
vkpeak 20210424
int32-scalar
GIOPS, More Is Better
3
115.57
4
115.57
30
60
90
120
150
vkpeak 20210424
int32-vec4
GIOPS, More Is Better
3
124.52
4
124.52
30
60
90
120
150

6500 May

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



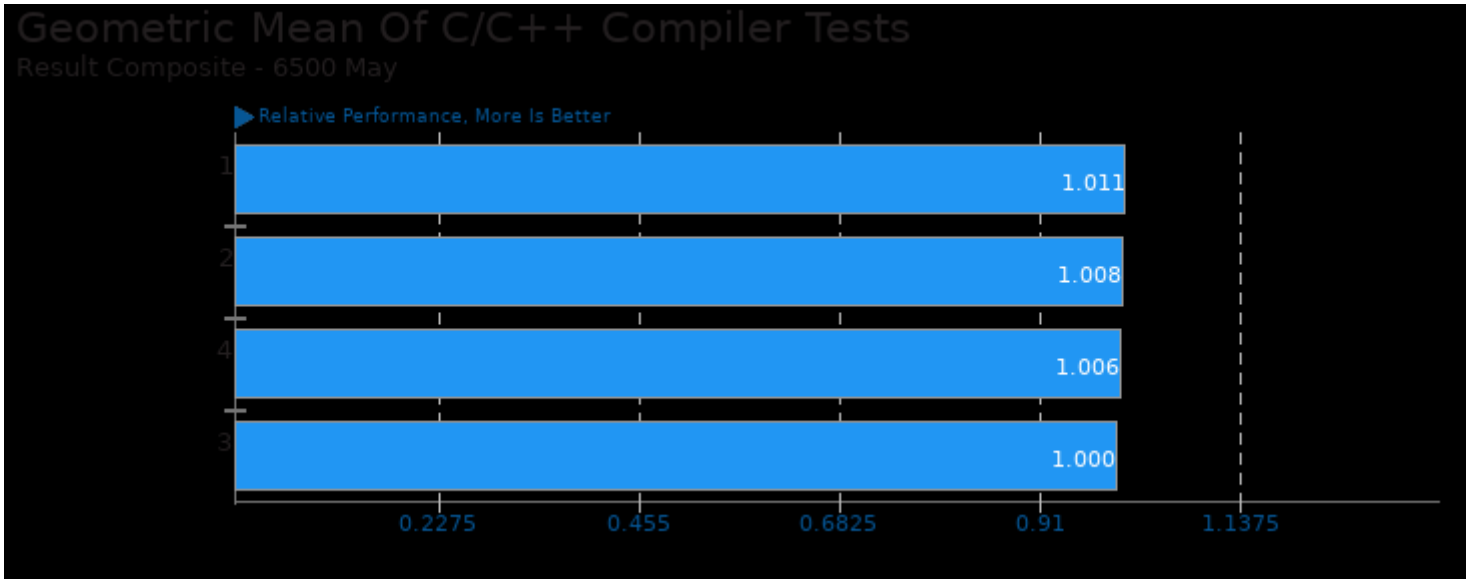
Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1



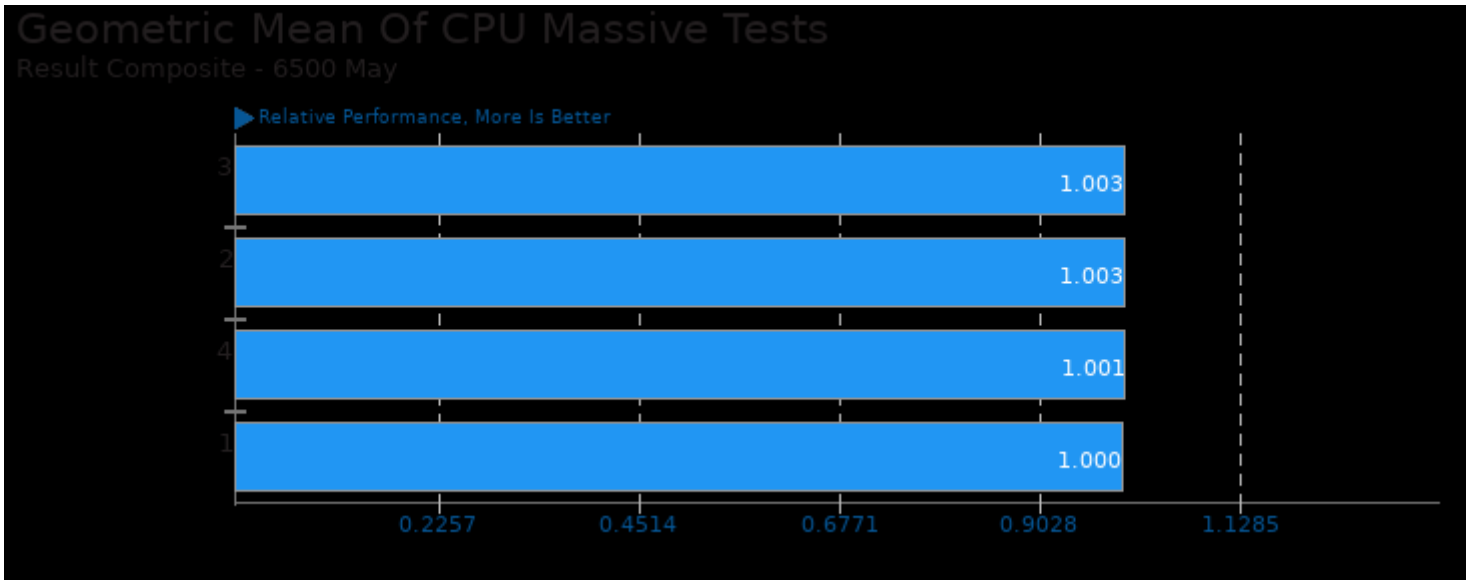
Geometric mean based upon tests: pts/mrbayes, pts/hmmer and pts/qmcpack



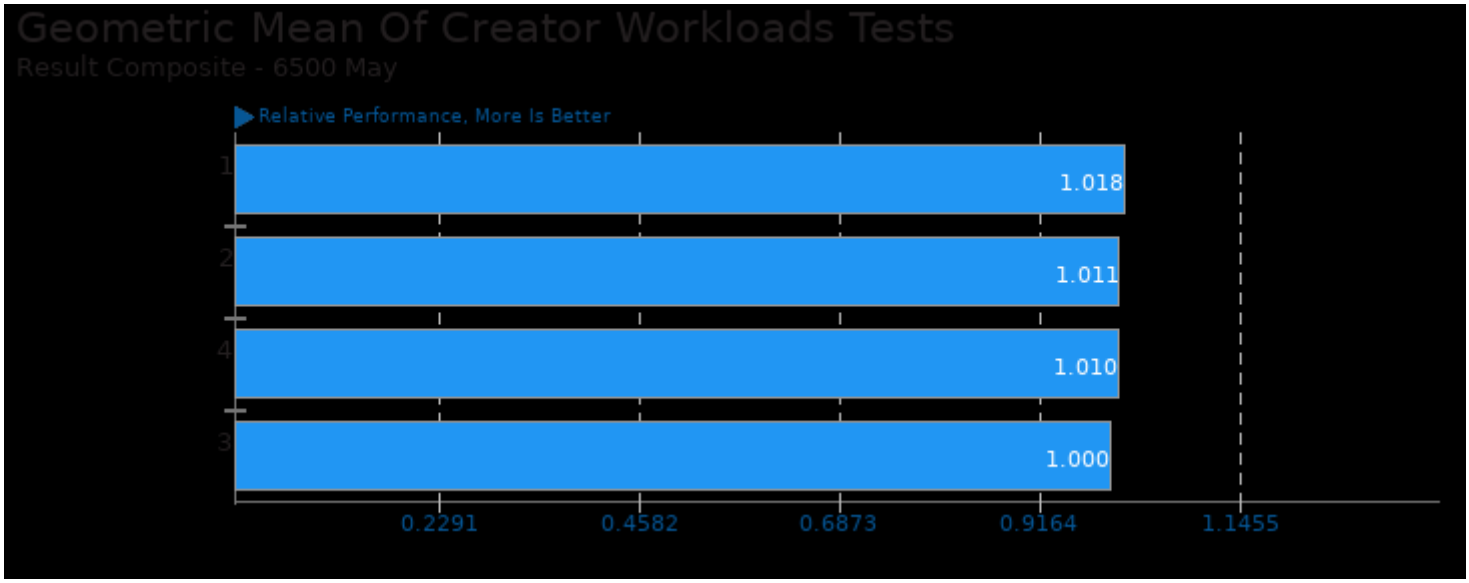
Geometric mean based upon tests: pts/qmcpack, pts/chia-vdf and pts/srsran



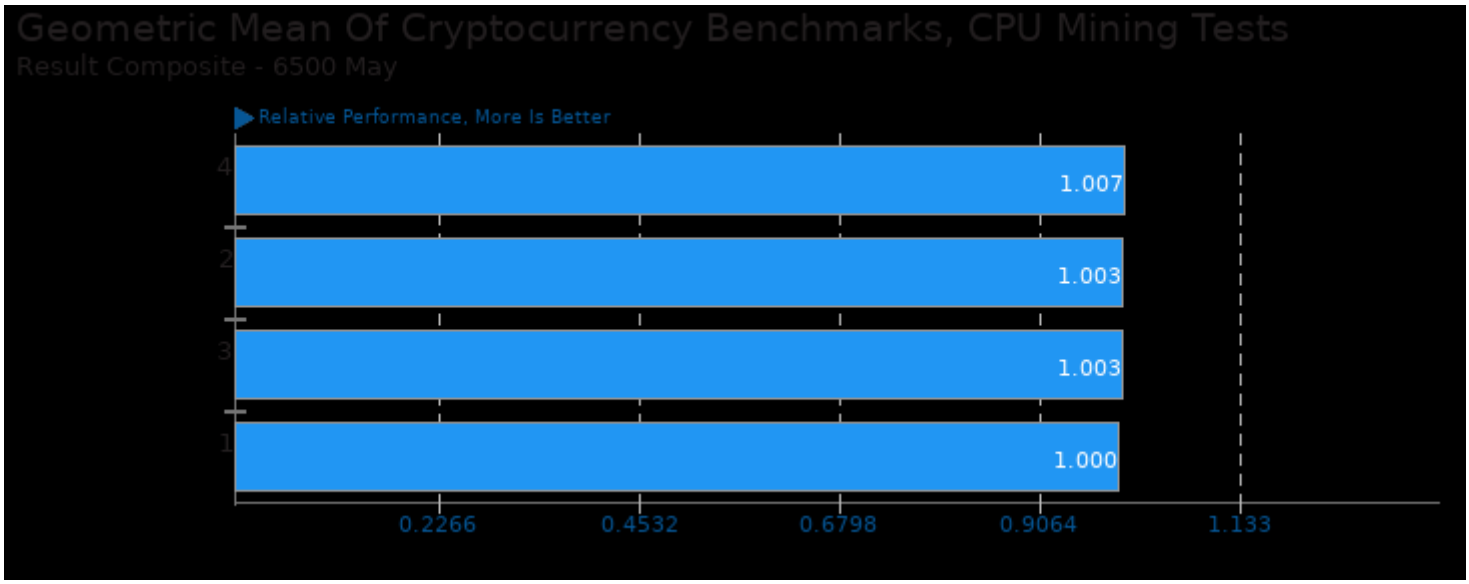
Geometric mean based upon tests: pts/hmmer, pts/build-llvm, pts/mrbayes, pts/libgav1, pts/dav1d, pts/compress-zstd, pts/aom-av1, pts/svt-av1 and pts/gromacs



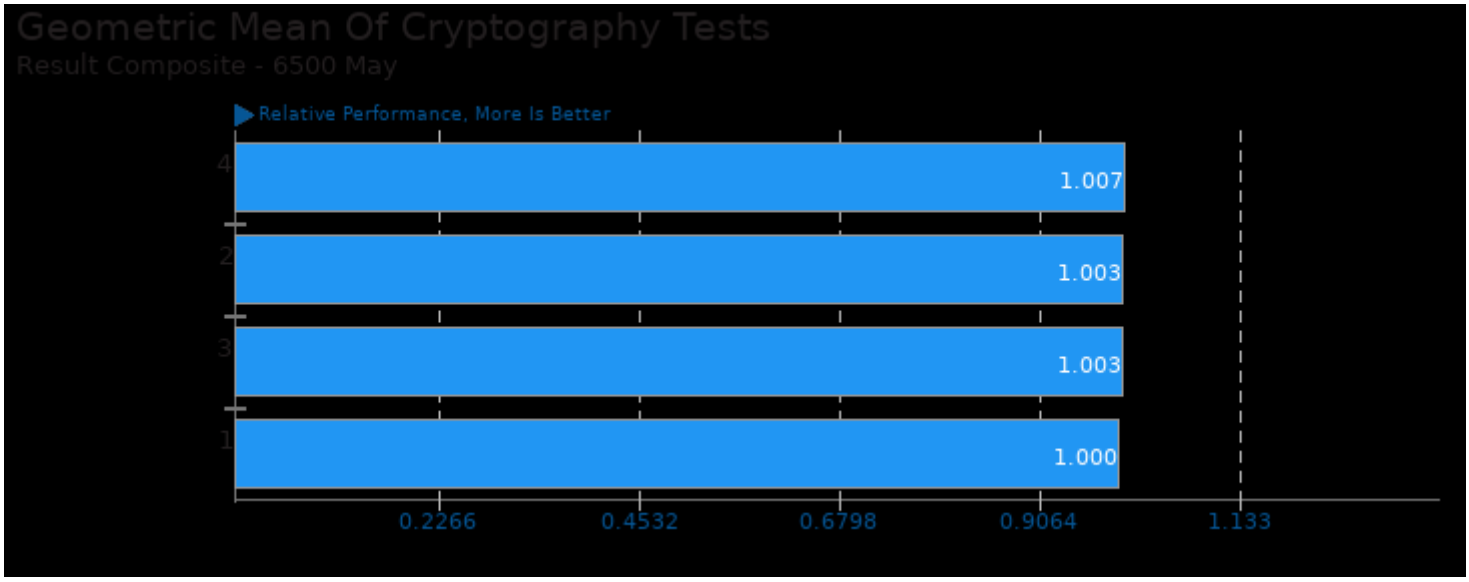
Geometric mean based upon tests: pts/build-llvm, pts/compress-zstd, pts/dav1d, pts/svt-av1, pts/hmmer, pts/mrbayes and pts/tjbench



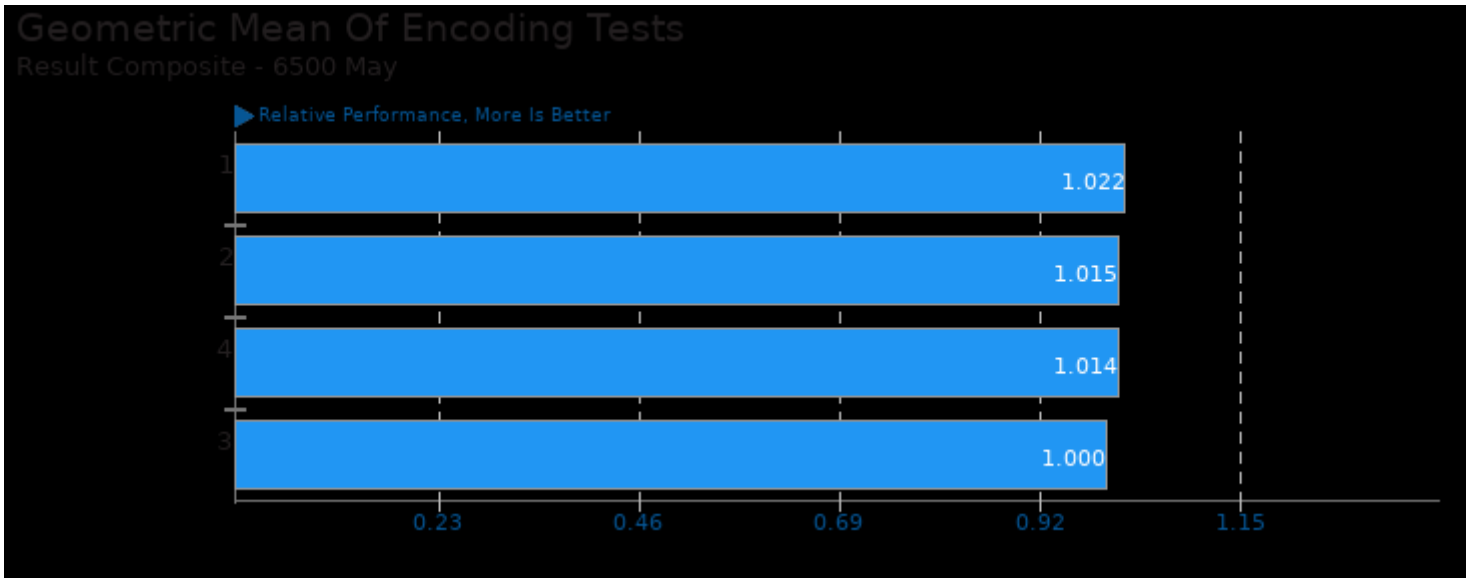
Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1, pts/libgav1, pts/tjbench, pts/embree, pts/oidn, pts/toktx and pts/vosk



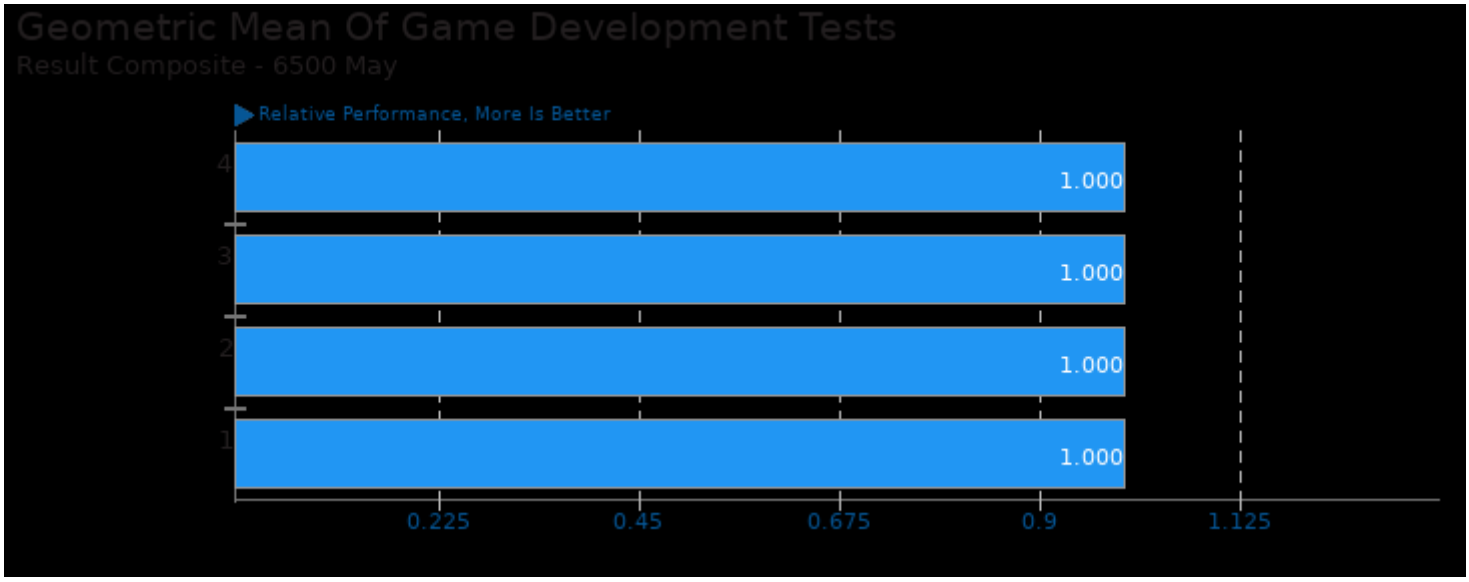
Geometric mean based upon tests: pts/xmrig and pts/chia-vdf



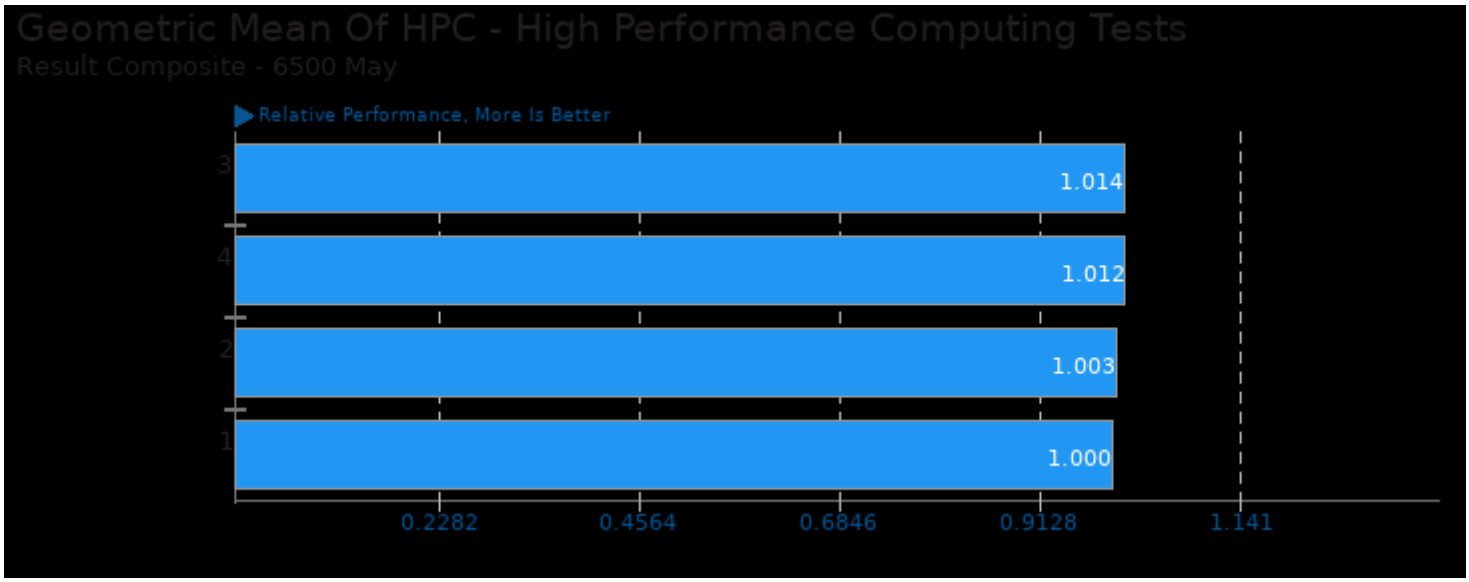
Geometric mean based upon tests: pts/securemark, pts/xmrig and pts/chia-vdf



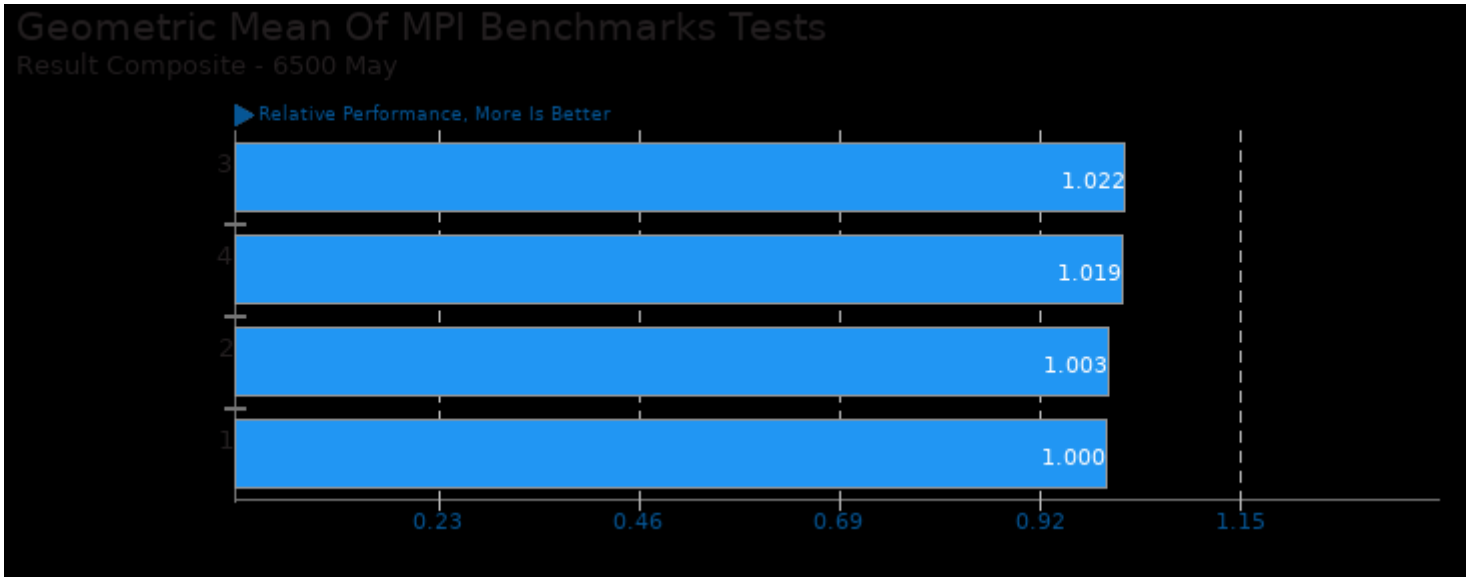
Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1



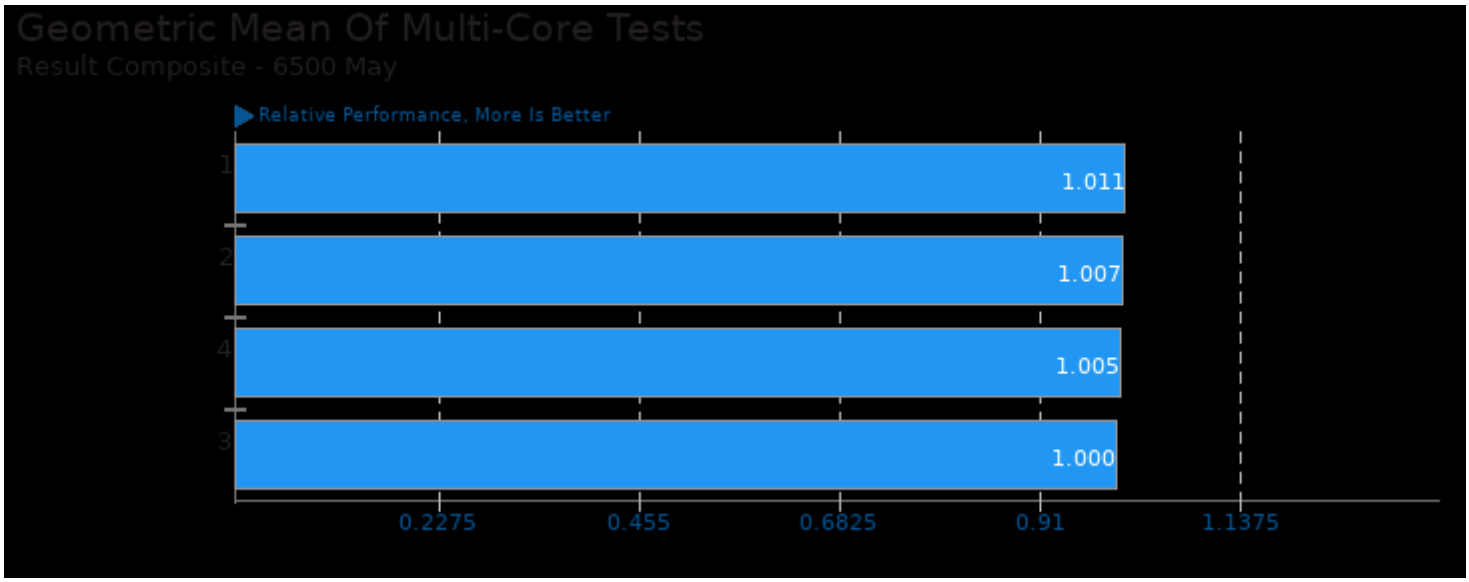
Geometric mean based upon tests: pts/toktx and pts/oidn



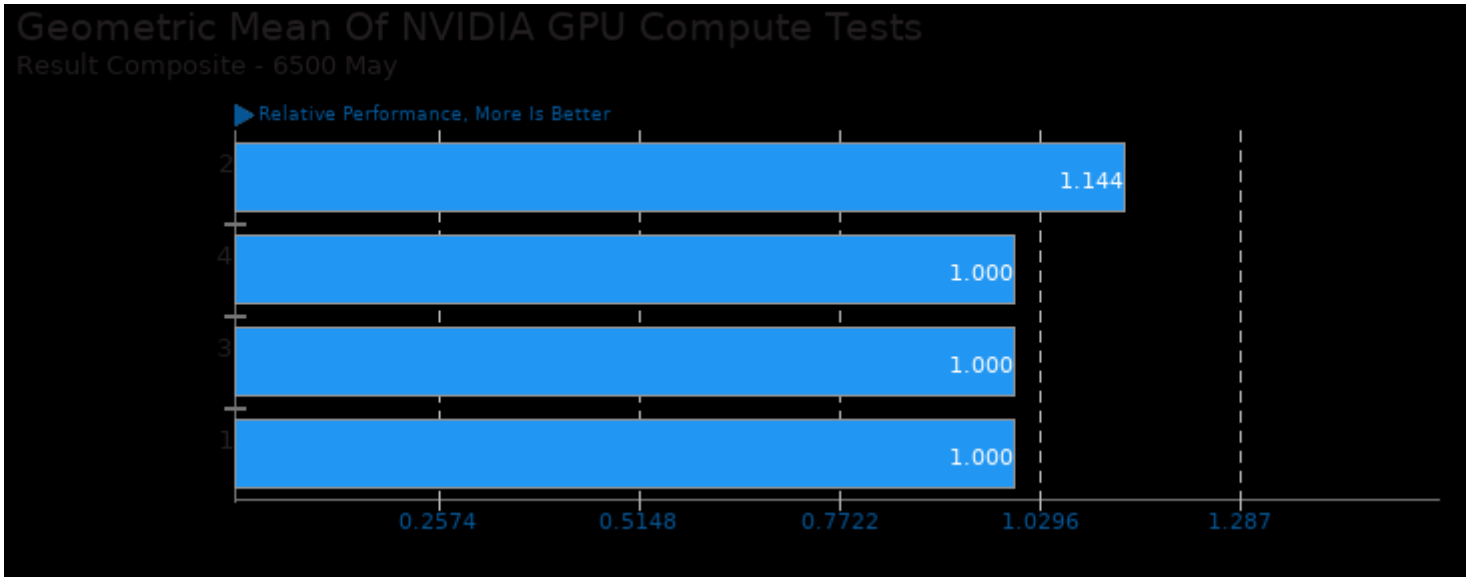
Geometric mean based upon tests: pts/gromacs, pts/mrbayes, pts/hmmer and pts/qmcpack



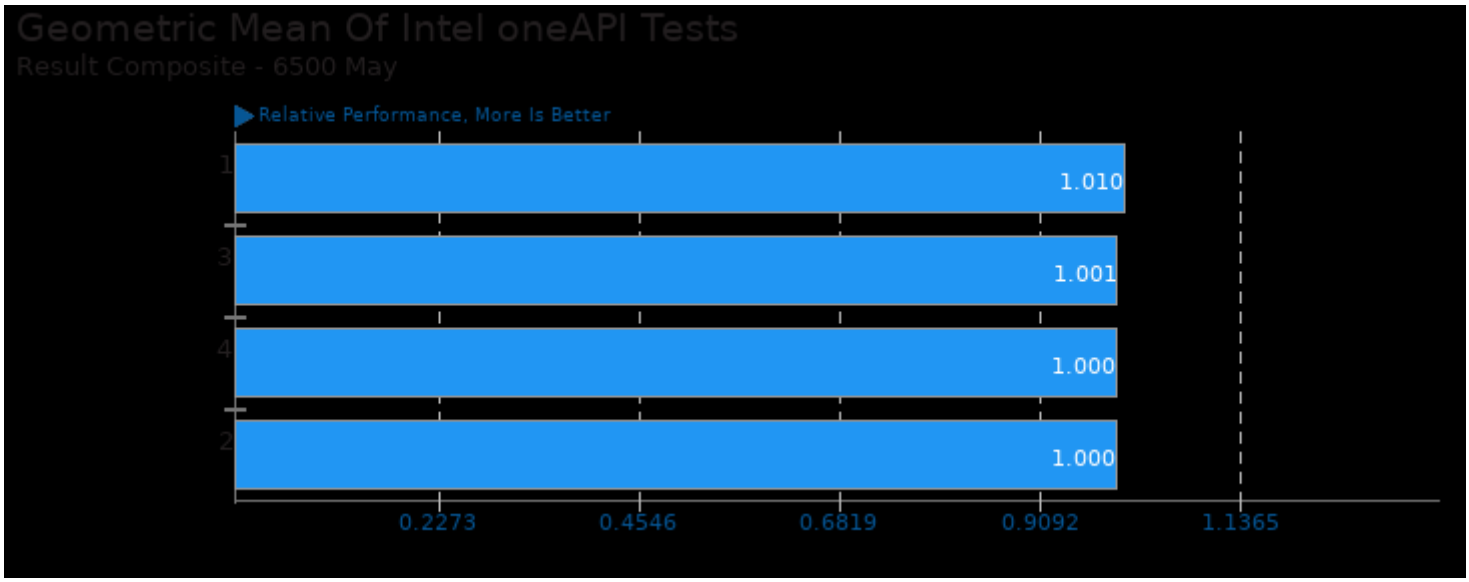
Geometric mean based upon tests: pts/gromacs, pts/qmcpack and pts/mrbayes



Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1, pts/libgav1, pts/gromacs, pts/compress-zstd, pts/build-llvm, pts/embree and pts/oidn



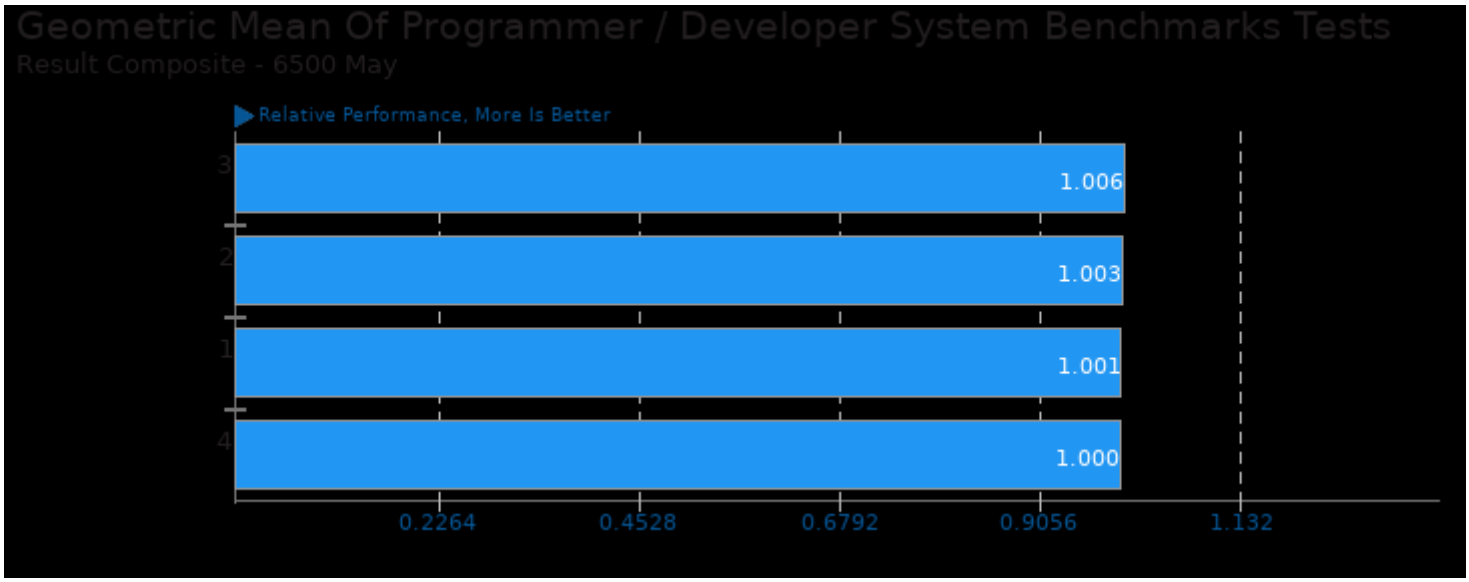
Geometric mean based upon tests: pts/gromacs and pts/vkpeak



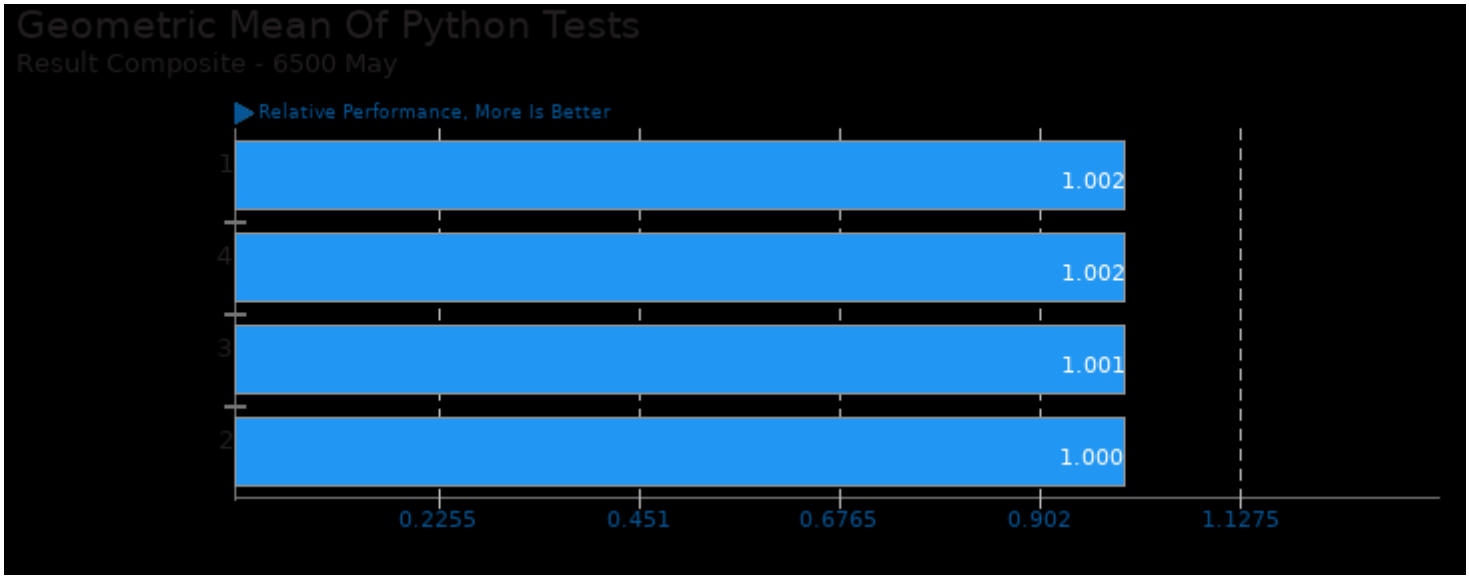
Geometric mean based upon tests: pts/embree and pts/oidn



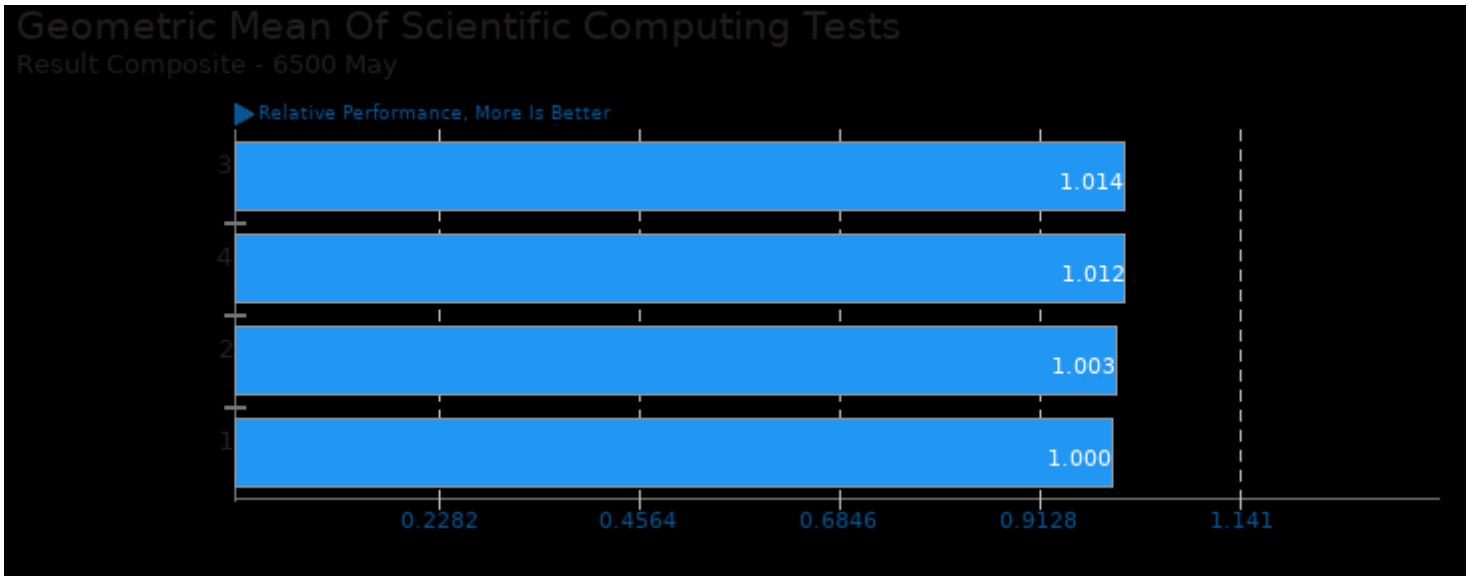
Geometric mean based upon tests: pts/mrbayes, pts/qmcpack, pts/hmmer and pts/gromacs



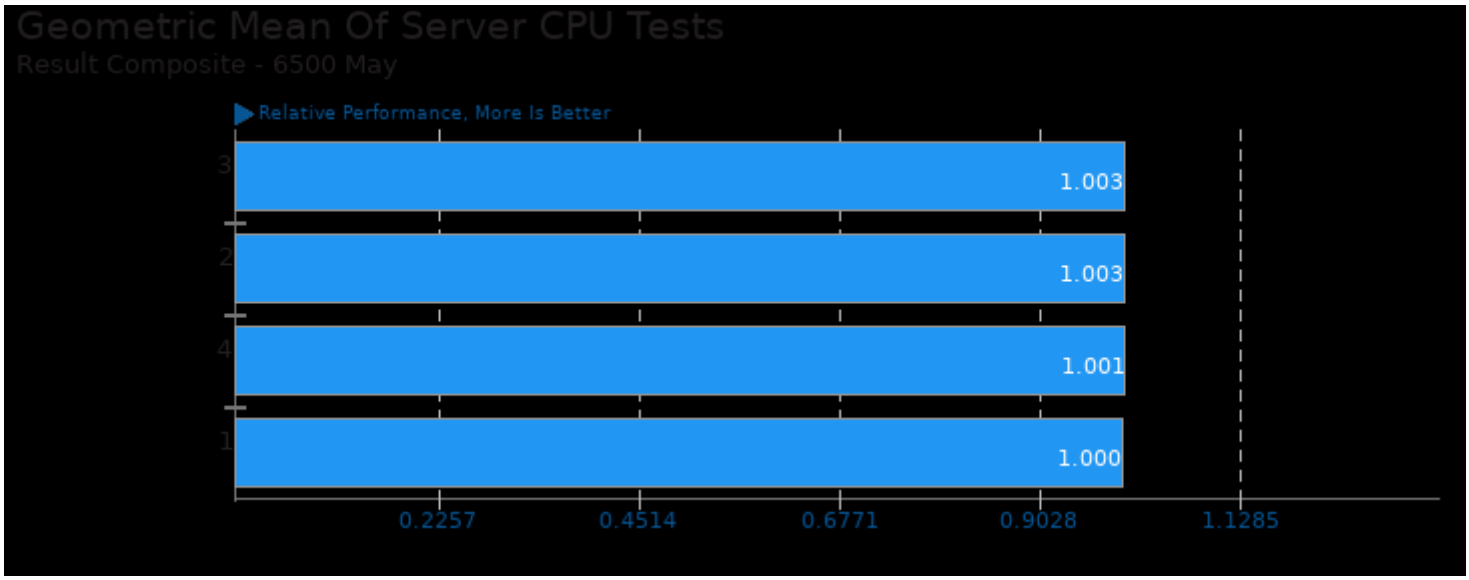
Geometric mean based upon tests: pts/compress-zstd and pts/build-llvm



Geometric mean based upon tests: pts/chia-vdf, pts/build-llvm and pts/vosk

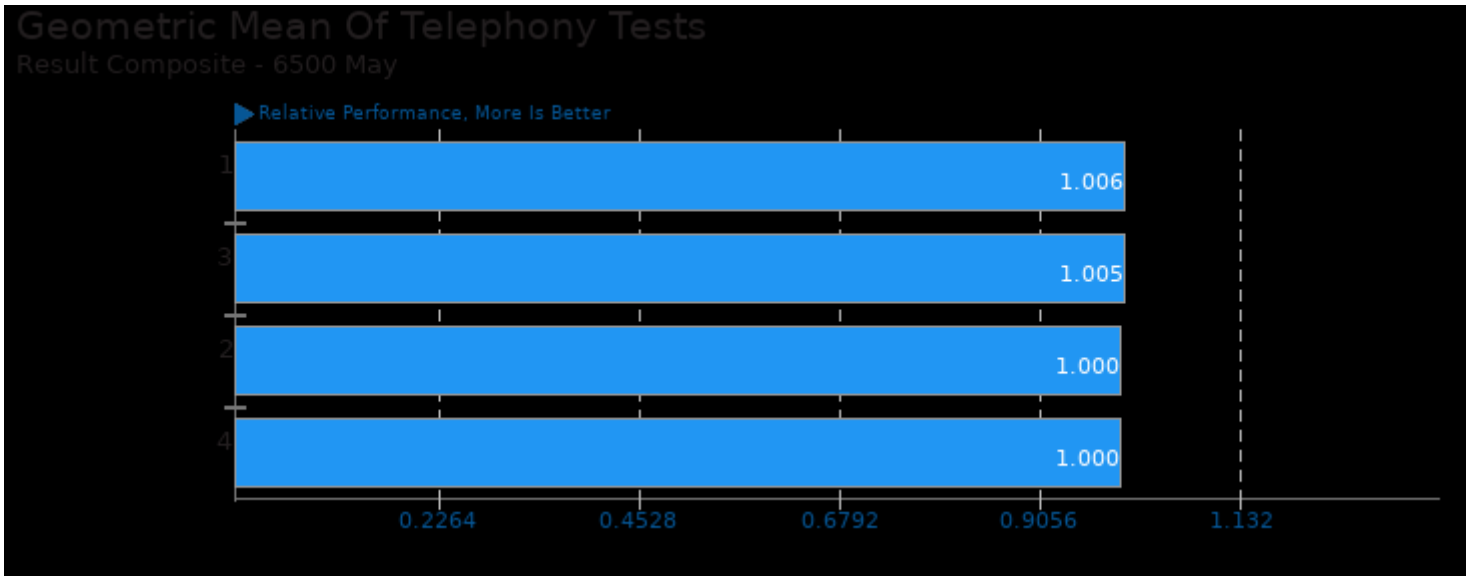


Geometric mean based upon tests: pts/gromacs, pts/mrbayes, pts/hmmer and pts/qmcpack

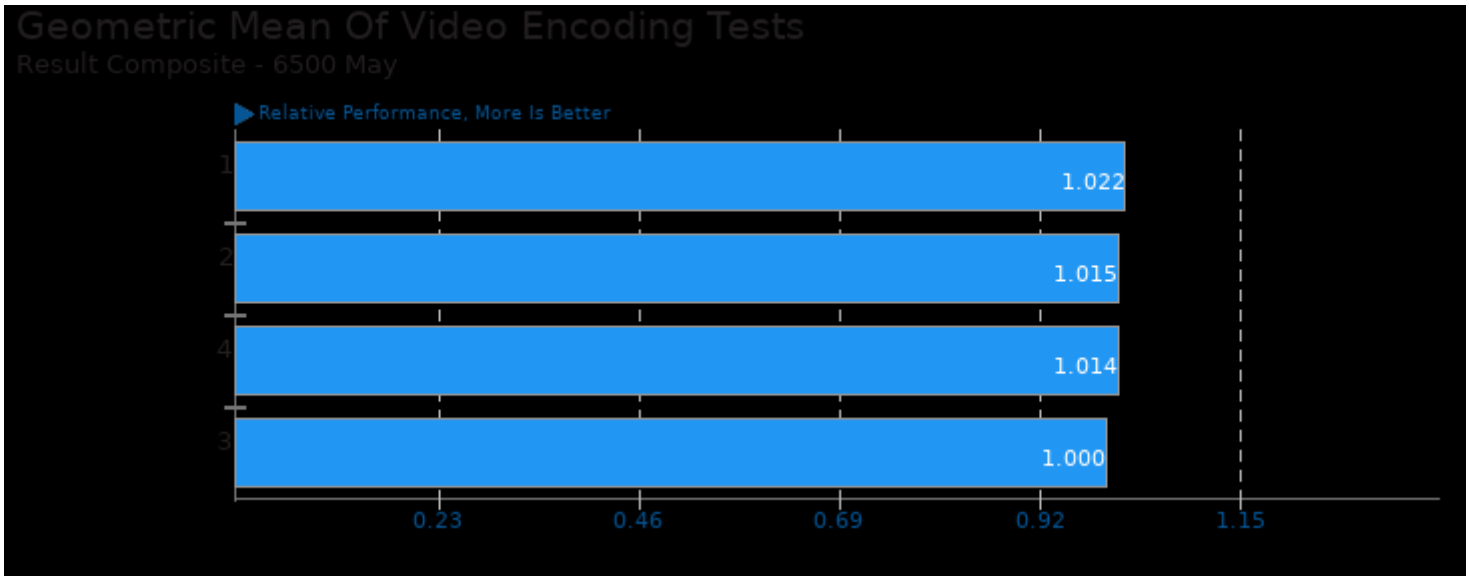


Geometric mean based upon tests: pts/svt-av1, pts/dav1d, pts/build-llvm, pts/compress-zstd and pts/tjbench

6500 May



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



Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 15:09.