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10100 Linux Feb

Intel Core i3-10100 testing with a Gigabyte B460M DS3H (F2 BIOS) and Gigabyte Intel UHD 630 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 47% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.001x the speed of the slowest (2). 1 was 1x the speed of 3 and 2 was 0.999x the speed of 1.

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

libavif avifenc (Encoder Speed: 6) at 1.009x
JPEG XL (Input: JPEG - Encode Speed: 5) at 1.008x
libavif avifenc (Encoder Speed: 0) at 1.007x
libavif avifenc (Encoder Speed: 10, Lossless) at 1.005x
libavif avifenc (Encoder Speed: 2) at 1.005x
dav1d (Video Input: Chimera 1080p) at 1.004x
dav1d (Video Input: Summer Nature 1080p) at 1.004x
libavif avifenc (Encoder Speed: 10) at 1.004x
libavif avifenc (Encoder Speed: 6, Lossless) at 1.004x

dav1d (Video Input: Summer Nature 4K) at 1.003x.

Test Systems:

1

2

3

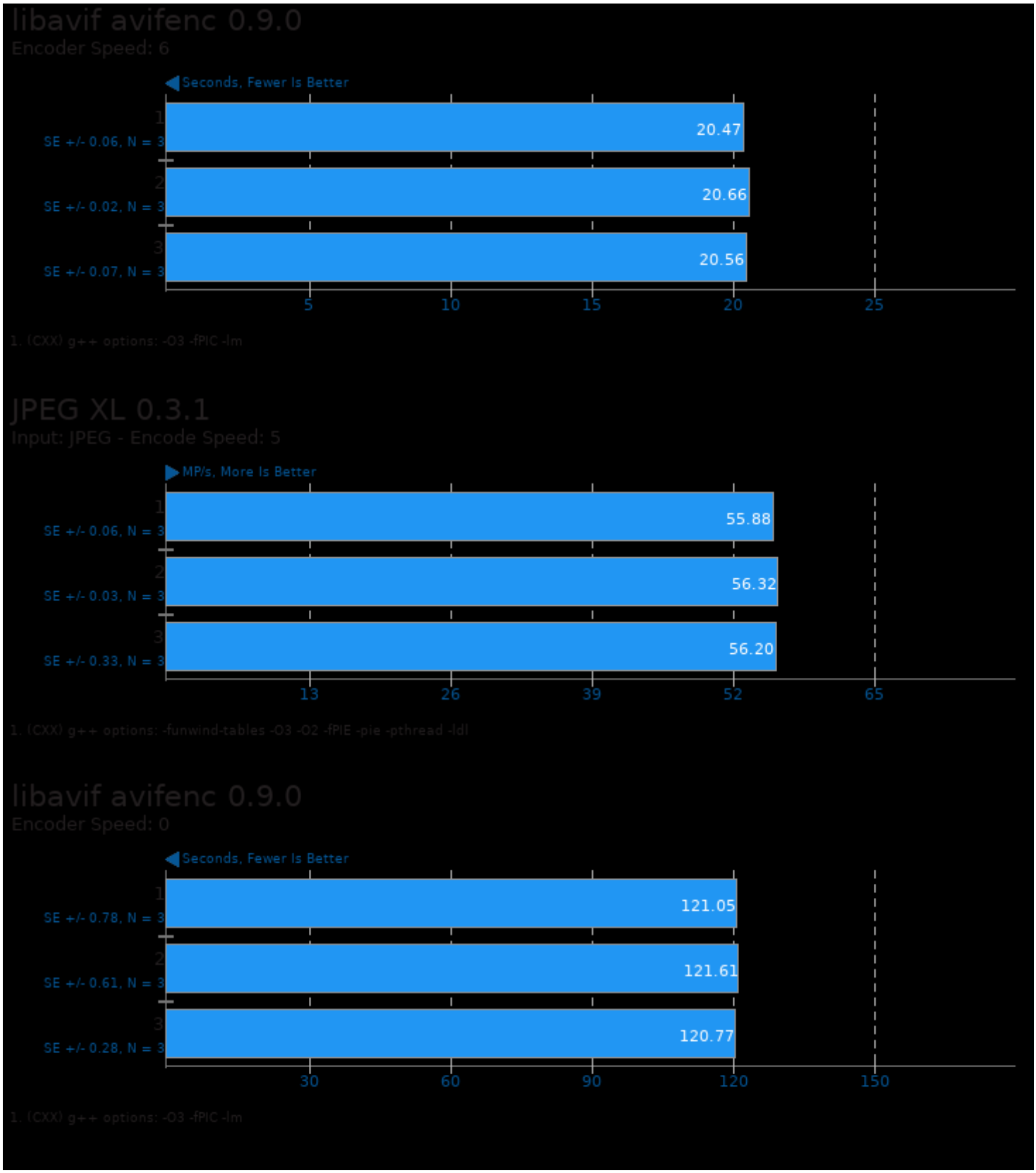
Processor: Intel Core i3-10100 @ 4.30GHz (4 Cores / 8 Threads), Motherboard: Gigabyte B460M DS3H (F2 BIOS), Chipset: Intel Device 9b63, Memory: 16GB, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: Gigabyte Intel UHD 630 3GB (1100MHz), Audio: Realtek ALC887-VD, Monitor: G237HL, Network: Realtek RTL8111/8168/8411

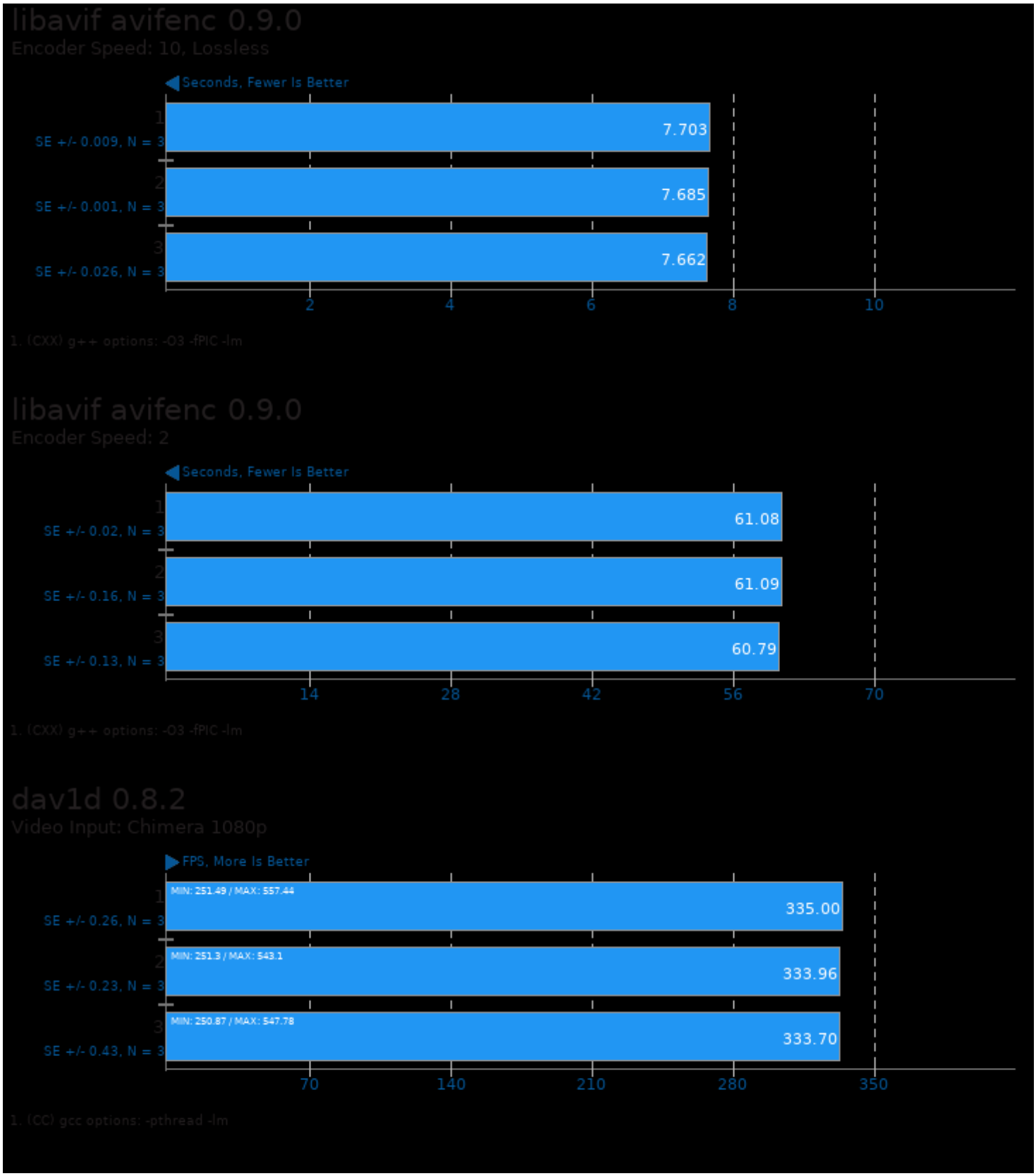
OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc7daily20201002-generic (x86_64) 20201001, Desktop: GNOME Shell 3.36.3, Display Server: X Server 1.20.8, OpenGL: 4.6 Mesa 20.0.8, Vulkan: 1.2.131, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

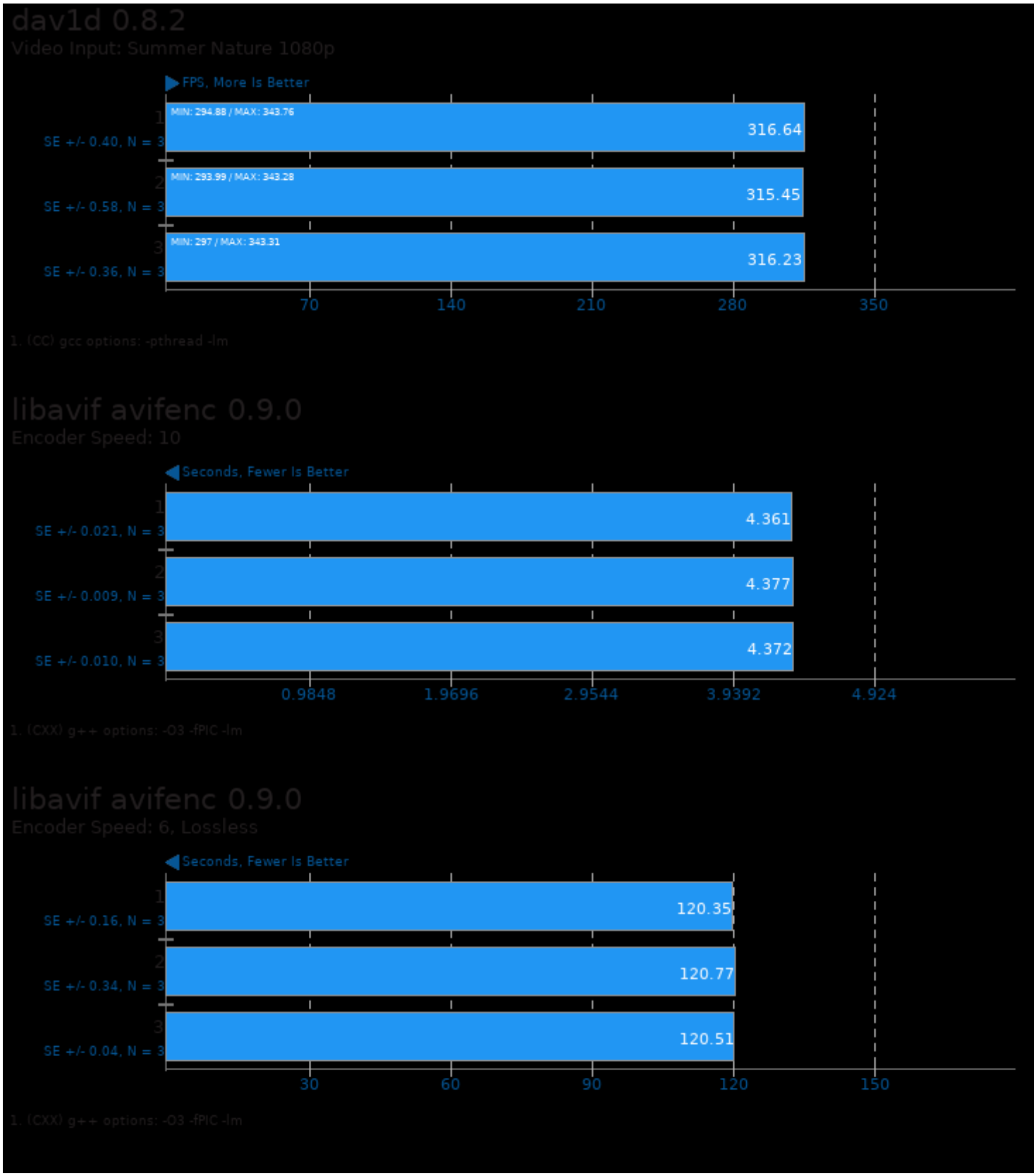
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,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: 0xcc
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

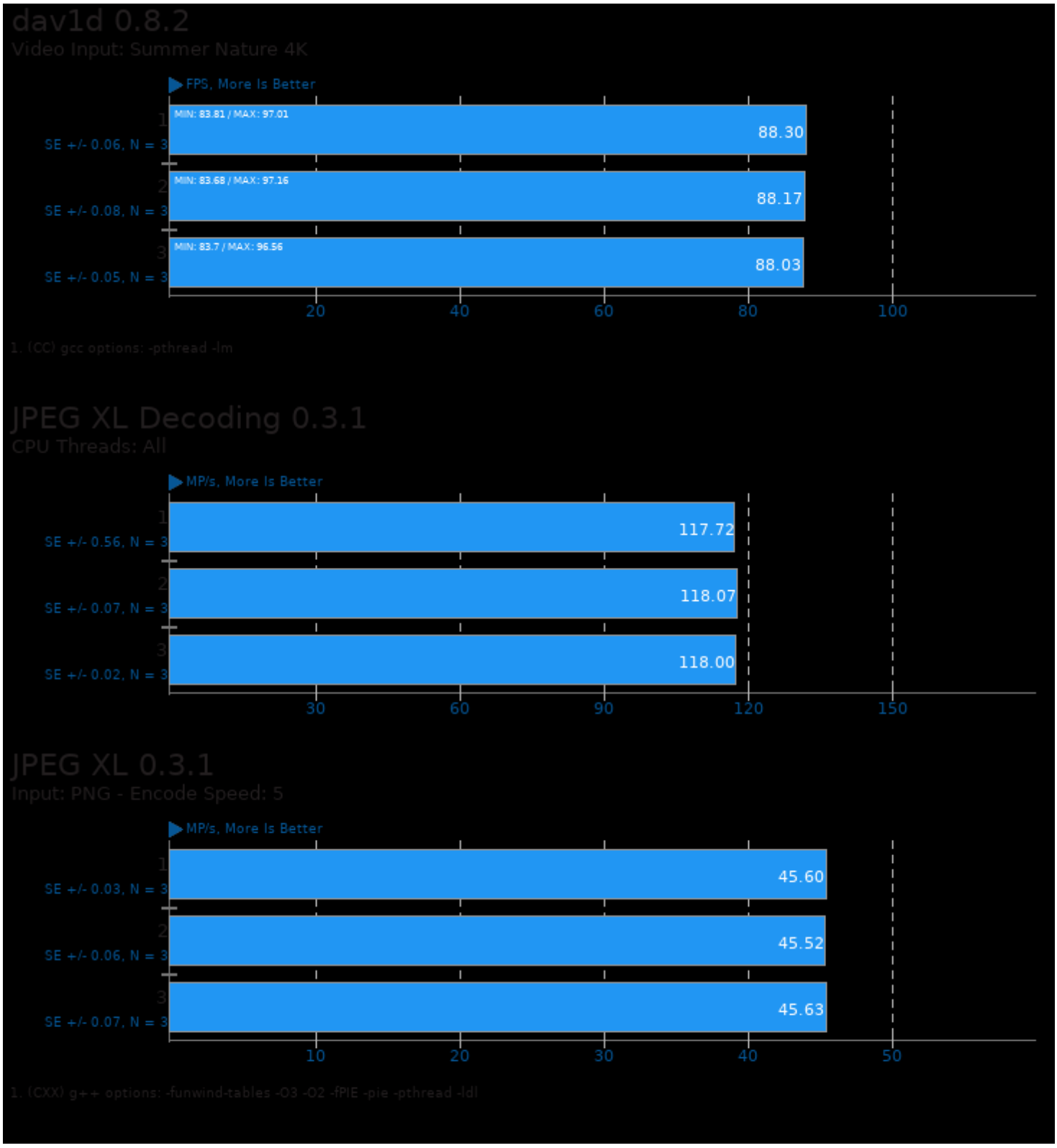
	1	2	3
libavif avifenc - 6 (sec)	**20.469**	**20.658**	20.559
Normalized	100%	99.09%	99.56%
Standard Deviation	0.5%	0.2%	0.6%
JPEG XL - JPEG - 5 (MP/s)	**55.88**	**56.32**	56.20
Normalized	99.22%	100%	99.79%
Standard Deviation	0.2%	0.1%	1%
libavif avifenc - 0 (sec)	121.050	**121.605**	**120.770**
Normalized	99.77%	99.31%	100%
Standard Deviation	1.1%	0.9%	0.4%
libavif avifenc - 10, Lossless (sec)	**7.703**	7.685	**7.662**
Normalized	99.47%	99.7%	100%
Standard Deviation	0.2%	0%	0.6%
libavif avifenc - 2 (sec)	61.077	**61.090**	**60.787**
Normalized	99.53%	99.5%	100%
Standard Deviation	0.1%	0.4%	0.4%
dav1d - Chimera 1080p (FPS)	**335.00**	333.96	**333.70**

Normalized	100%	99.69%	99.61%
Standard Deviation	0.1%	0.1%	0.2%
dav1d - S.N.1 (FPS)	**316.64**	**315.45**	316.23
Normalized	100%	99.62%	99.87%
Standard Deviation	0.2%	0.3%	0.2%
libavif avifenc - 10 (sec)	**4.361**	**4.377**	4.372
Normalized	100%	99.63%	99.75%
Standard Deviation	0.8%	0.3%	0.4%
libavif avifenc - 6, Lossless (sec)	**120.351**	**120.773**	120.514
Normalized	100%	99.65%	99.86%
Standard Deviation	0.2%	0.5%	0.1%
dav1d - Summer Nature 4K (FPS)	**88.3**	88.17	**88.03**
Normalized	100%	99.85%	99.69%
Standard Deviation	0.1%	0.2%	0.1%
JPEG XL Decoding - All (MP/s)	**117.72**	**118.07**	118.00
Normalized	99.7%	100%	99.94%
Standard Deviation	0.8%	0.1%	0%
JPEG XL - PNG - 5 (MP/s)	45.60	**45.52**	**45.63**
Normalized	99.93%	99.76%	100%
Standard Deviation	0.1%	0.2%	0.3%
JPEG XL Decoding - 1 (MP/s)	41.10	**41.13**	**41.04**
Normalized	99.93%	100%	99.78%
Standard Deviation	0.2%	0.2%	0%
dav1d - C.1.1.b (FPS)	**92.84**	**92.66**	92.71
Normalized	100%	99.81%	99.86%
Standard Deviation	0.1%	0.1%	0.1%
JPEG XL - JPEG - 8 (MP/s)	**25.94**	**25.90**	**25.90**
Normalized	100%	99.85%	99.85%
Standard Deviation	0.2%	0.2%	0.7%
JPEG XL - JPEG - 7 (MP/s)	**56.17**	56.22	**56.25**
Normalized	99.86%	99.95%	100%
Standard Deviation	0.4%	0.1%	0.2%
JPEG XL - PNG - 7 (MP/s)	**8.28**	**8.29**	**8.28**
Normalized	99.88%	100%	99.88%
Standard Deviation	0.1%	0.1%	0.3%
toyBrot Fractal Generator - C++ Tasks (ms)	**98559**	**98489**	98517
Normalized	99.93%	100%	99.97%
Standard Deviation	0.1%	0%	0%
toyBrot Fractal Generator - C++ Threads	**98056**	98047	**98030**
Normalized	99.97%	99.98%	100%
Standard Deviation	0.1%	0.1%	0%
toyBrot Fractal Generator - OpenMP (ms)	**98408**	98427	**98434**
Normalized	100%	99.98%	99.97%
Standard Deviation	0%	0%	0%
JPEG XL - PNG - 8 (MP/s)	0.75	0.75	0.75
Standard Deviation	0%	0.8%	0.8%

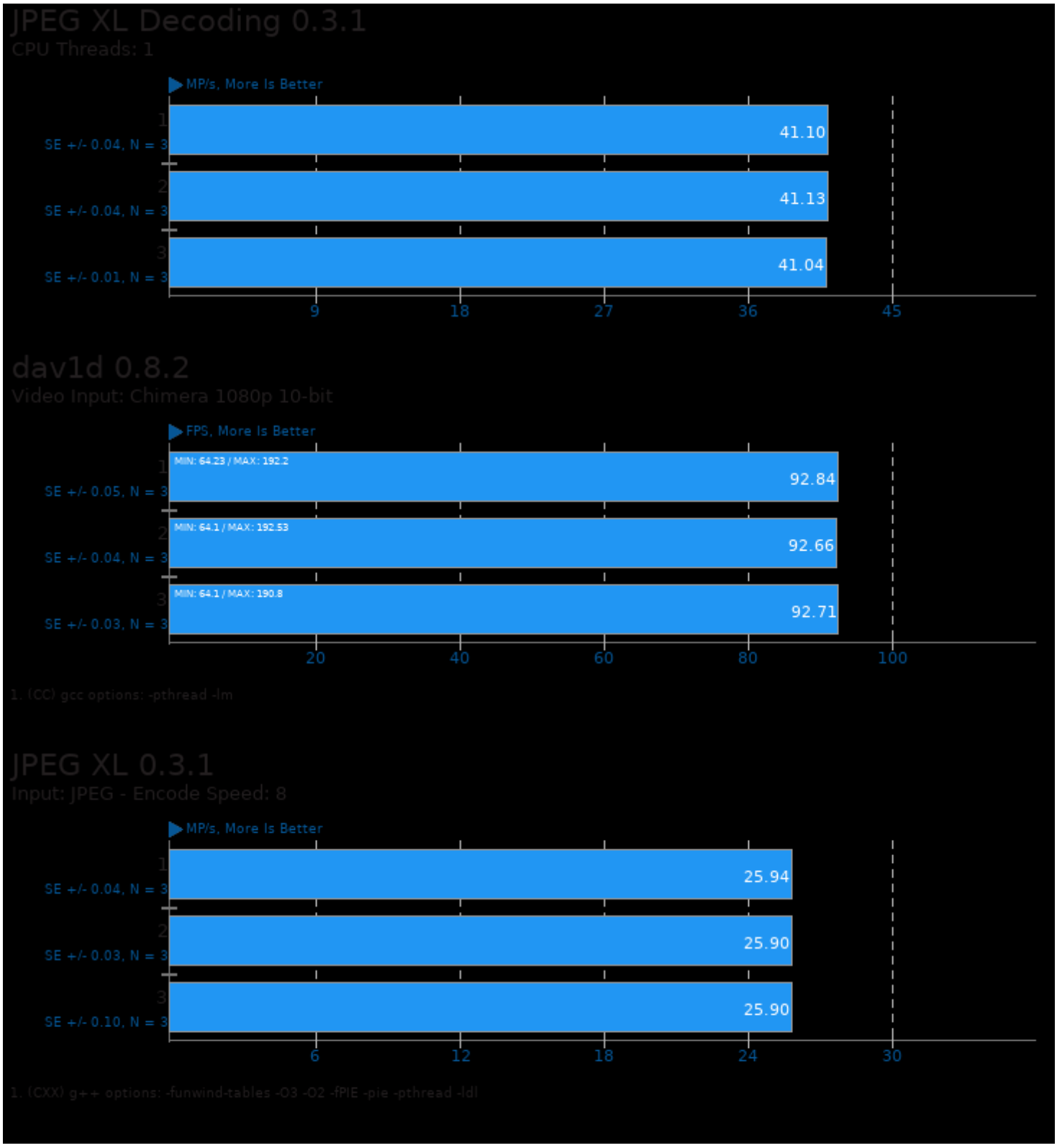

libavif avifenc 0.9.0
Encoder Speed: 6
Seconds, Fewer Is Better
1
SE +/- 0.06, N = 3
20.47
2
SE +/- 0.02, N = 3
20.66
3
SE +/- 0.07, N = 3
20.56
5
10
15
20
25
1. (CXX) g++ options: -O3 -fPIC -lm
JPEG XL 0.3.1
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
1
SE +/- 0.06, N = 3
55.88
2
SE +/- 0.03, N = 3
56.32
3
SE +/- 0.33, N = 3
56.20
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
libavif avifenc 0.9.0
Encoder Speed: 0
Seconds, Fewer Is Better
1
SE +/- 0.78, N = 3
121.05
2
SE +/- 0.61, N = 3
121.61
3
SE +/- 0.28, N = 3
120.77
30
60
90
120
150
1. (CXX) g++ options: -O3 -fPIC -lm

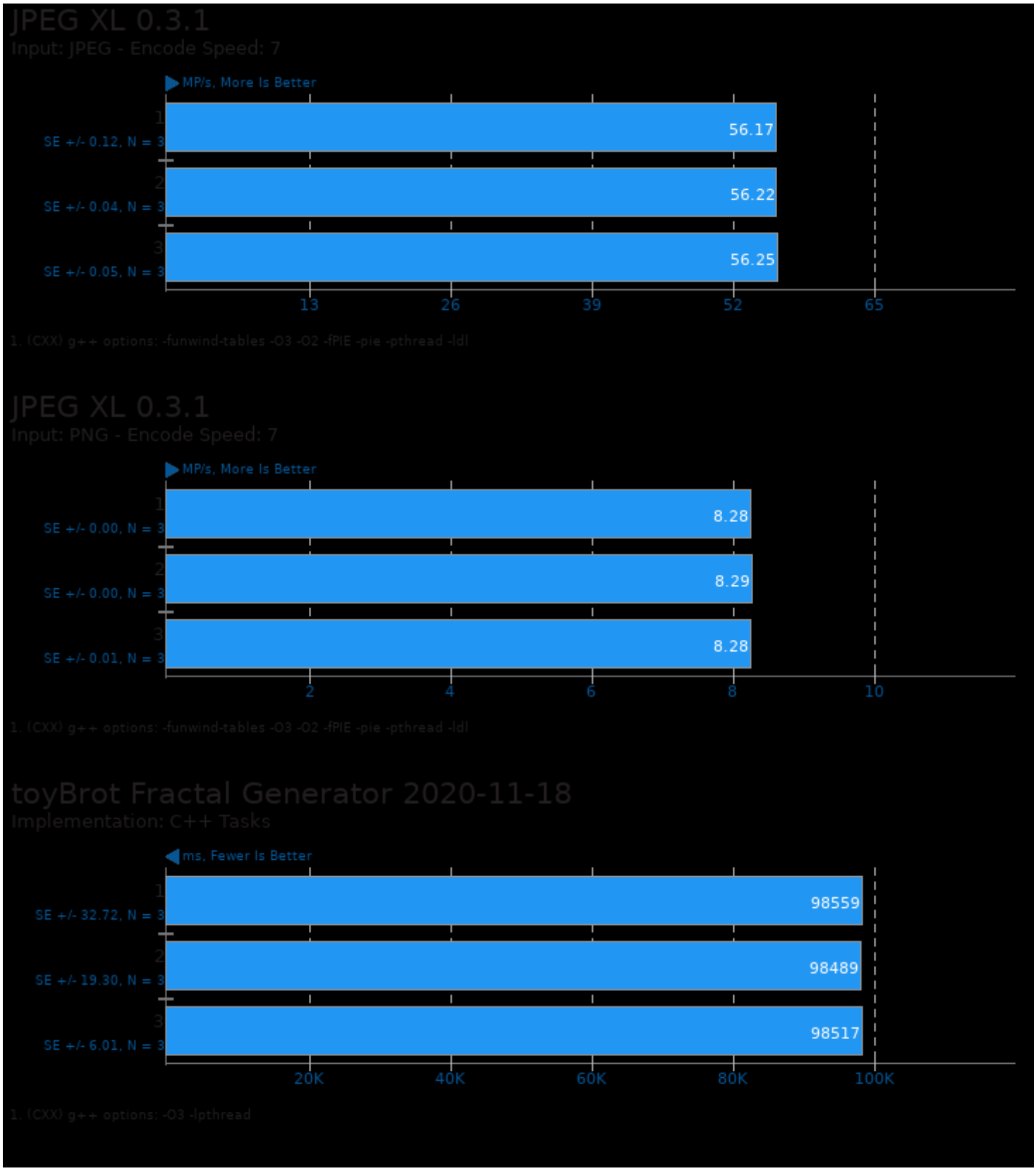

libavif avifenc 0.9.0
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
1
SE +/- 0.009, N = 3
7.703
2
SE +/- 0.001, N = 3
7.685
3
SE +/- 0.026, N = 3
7.662
2
4
6
8
10
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.9.0
Encoder Speed: 2
Seconds, Fewer Is Better
1
SE +/- 0.02, N = 3
61.08
2
SE +/- 0.16, N = 3
61.09
3
SE +/- 0.13, N = 3
60.79
14
28
42
56
70
1. (CXX) g++ options: -O3 -fPIC -lm
dav1d 0.8.2
Video Input: Chimera 1080p
FPS, More Is Better
1
SE +/- 0.26, N = 3
MIN: 251.49 / MAX: 557.44
335.00
2
SE +/- 0.23, N = 3
MIN: 251.3 / MAX: 543.1
333.96
3
SE +/- 0.43, N = 3
MIN: 250.87 / MAX: 547.78
333.70
70
140
210
280
350
1. (CC) gcc options: -pthread -lm

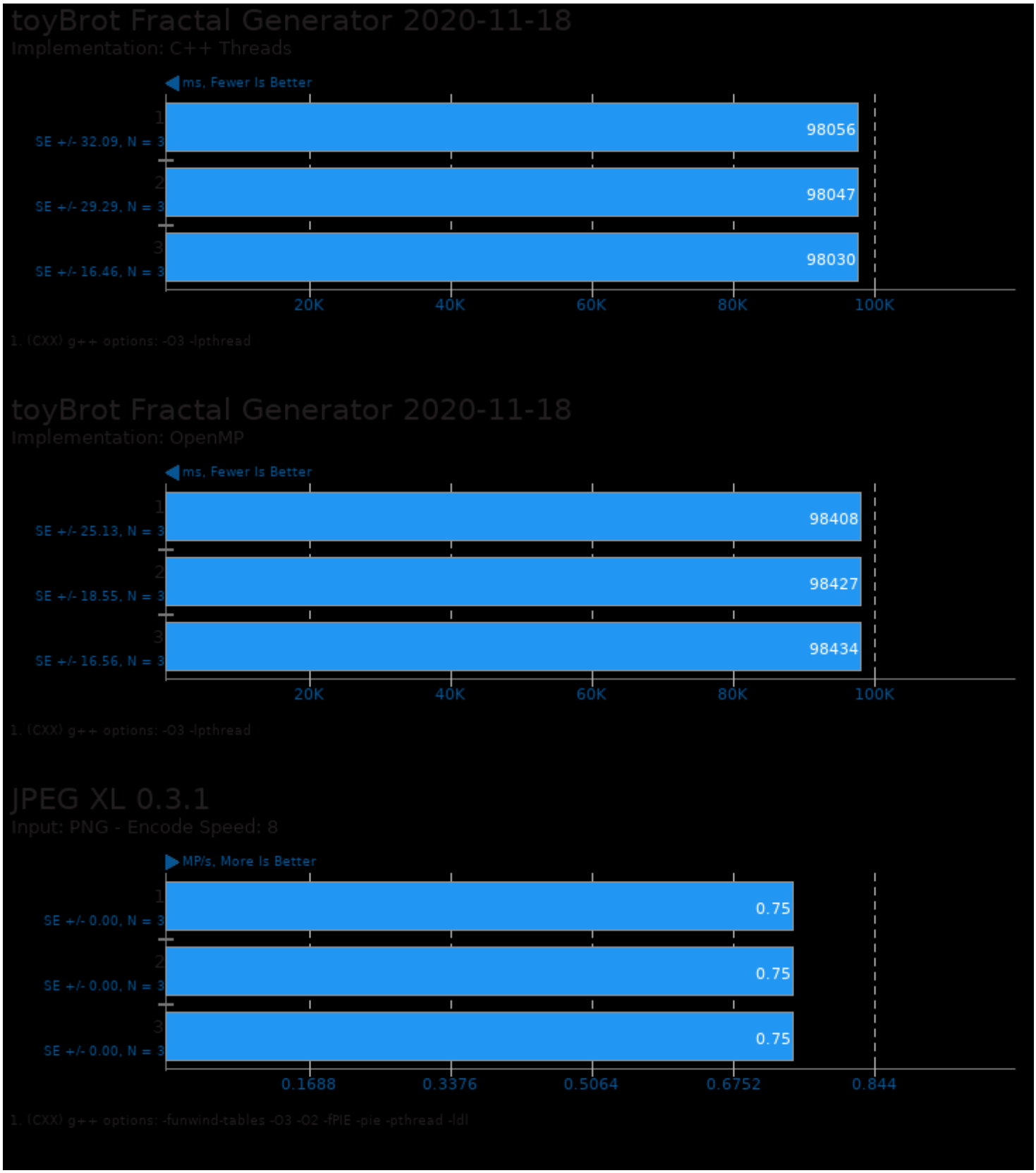

dav1d 0.8.2
Video Input: Summer Nature 1080p
FPS, More Is Better
1
SE +/- 0.40, N = 3
MIN: 294.88 / MAX: 343.76
316.64
2
SE +/- 0.58, N = 3
MIN: 293.99 / MAX: 343.28
315.45
3
SE +/- 0.36, N = 3
MIN: 297 / MAX: 343.31
316.23
70
140
210
280
350
1. (CC) gcc options: -pthread -lm
libavif avifenc 0.9.0
Encoder Speed: 10
Seconds, Fewer Is Better
1
SE +/- 0.021, N = 3
4.361
2
SE +/- 0.009, N = 3
4.377
3
SE +/- 0.010, N = 3
4.372
0.9848
1.9696
2.9544
3.9392
4.924
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.9.0
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
1
SE +/- 0.16, N = 3
120.35
2
SE +/- 0.34, N = 3
120.77
3
SE +/- 0.04, N = 3
120.51
30
60
90
120
150
1. (CXX) g++ options: -O3 -fPIC -lm


dav1d 0.8.2
Video Input: Summer Nature 4K
FPS, More Is Better
1
MIN: 83.81 / MAX: 97.01
88.30
SE +/- 0.06, N = 3
2
MIN: 83.68 / MAX: 97.16
88.17
SE +/- 0.08, N = 3
3
MIN: 83.7 / MAX: 96.56
88.03
SE +/- 0.05, N = 3
20
40
60
80
100
1. (CC) gcc options: -pthread -lm
JPEG XL Decoding 0.3.1
CPU Threads: All
MP/s, More Is Better
1
117.72
SE +/- 0.56, N = 3
2
118.07
SE +/- 0.07, N = 3
3
118.00
SE +/- 0.02, N = 3
30
60
90
120
150
JPEG XL 0.3.1
Input: PNG - Encode Speed: 5
MP/s, More Is Better
1
45.60
SE +/- 0.03, N = 3
2
45.52
SE +/- 0.06, N = 3
3
45.63
SE +/- 0.07, N = 3
10
20
30
40
50
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl

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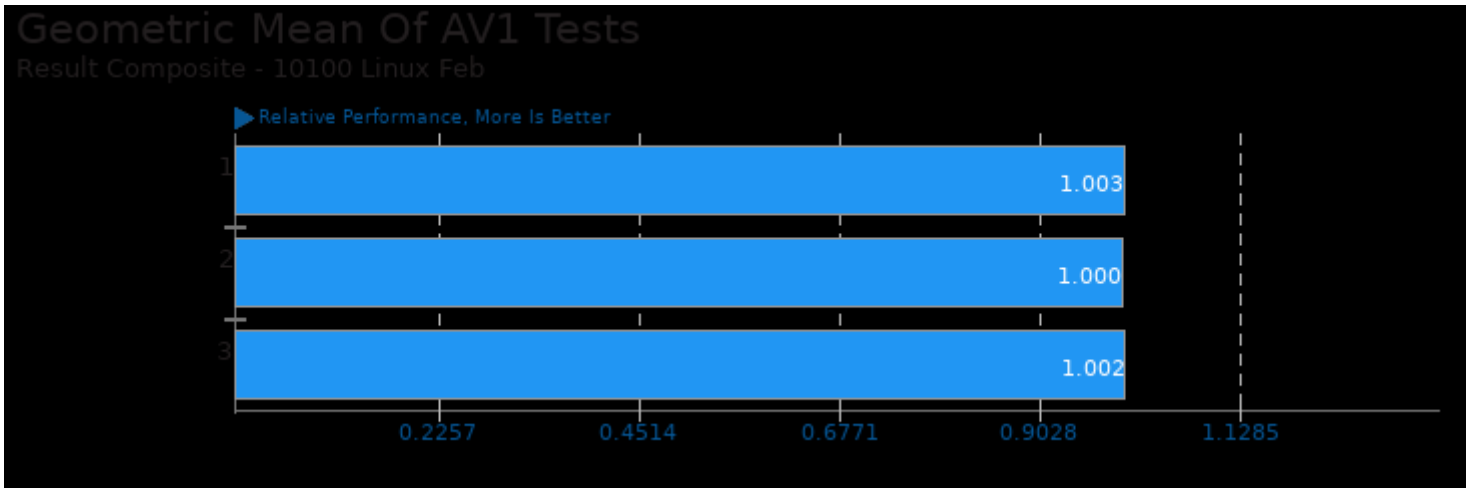



JPEG XL 0.3.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
1
SE +/- 0.12, N = 3
56.17
2
SE +/- 0.04, N = 3
56.22
3
SE +/- 0.05, N = 3
56.25
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
JPEG XL 0.3.1
Input: PNG - Encode Speed: 7
MP/s, More Is Better
1
SE +/- 0.00, N = 3
8.28
2
SE +/- 0.00, N = 3
8.29
3
SE +/- 0.01, N = 3
8.28
2
4
6
8
10
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
toyBrot Fractal Generator 2020-11-18
Implementation: C++ Tasks
ms, Fewer Is Better
1
SE +/- 32.72, N = 3
98559
2
SE +/- 19.30, N = 3
98489
3
SE +/- 6.01, N = 3
98517
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -lpthread

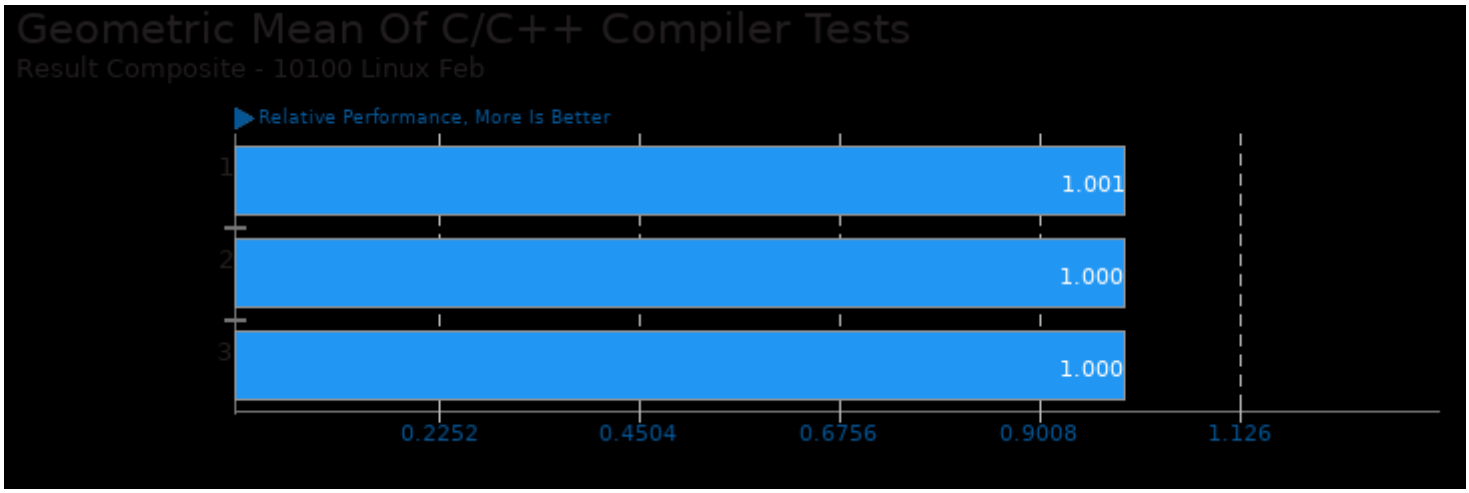

toyBrot Fractal Generator 2020-11-18
Implementation: C++ Threads
ms, Fewer Is Better
1
SE +/- 32.09, N = 3
98056
2
SE +/- 29.29, N = 3
98047
3
SE +/- 16.46, N = 3
98030
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -lpthread
toyBrot Fractal Generator 2020-11-18
Implementation: OpenMP
ms, Fewer Is Better
1
SE +/- 25.13, N = 3
98408
2
SE +/- 18.55, N = 3
98427
3
SE +/- 16.56, N = 3
98434
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -lpthread
JPEG XL 0.3.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
1
SE +/- 0.00, N = 3
0.75
2
SE +/- 0.00, N = 3
0.75
3
SE +/- 0.00, N = 3
0.75
0.1688
0.3376
0.5064
0.6752
0.844
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl

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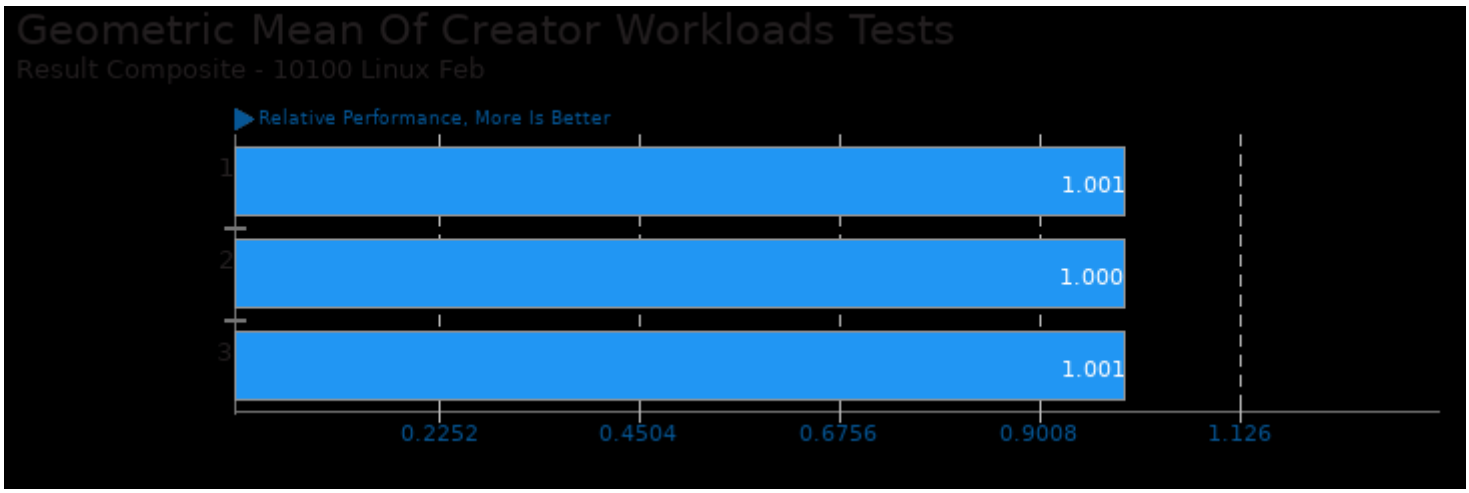
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/dav1d and pts/avifenc

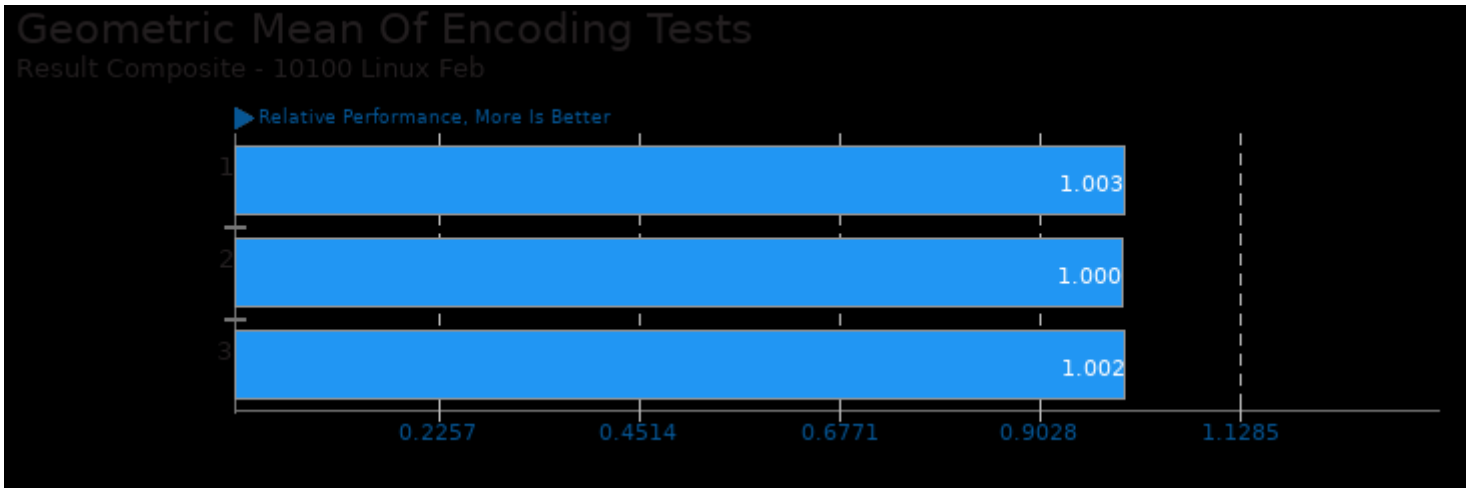


Geometric mean based upon tests: pts/dav1d and pts/toybrot

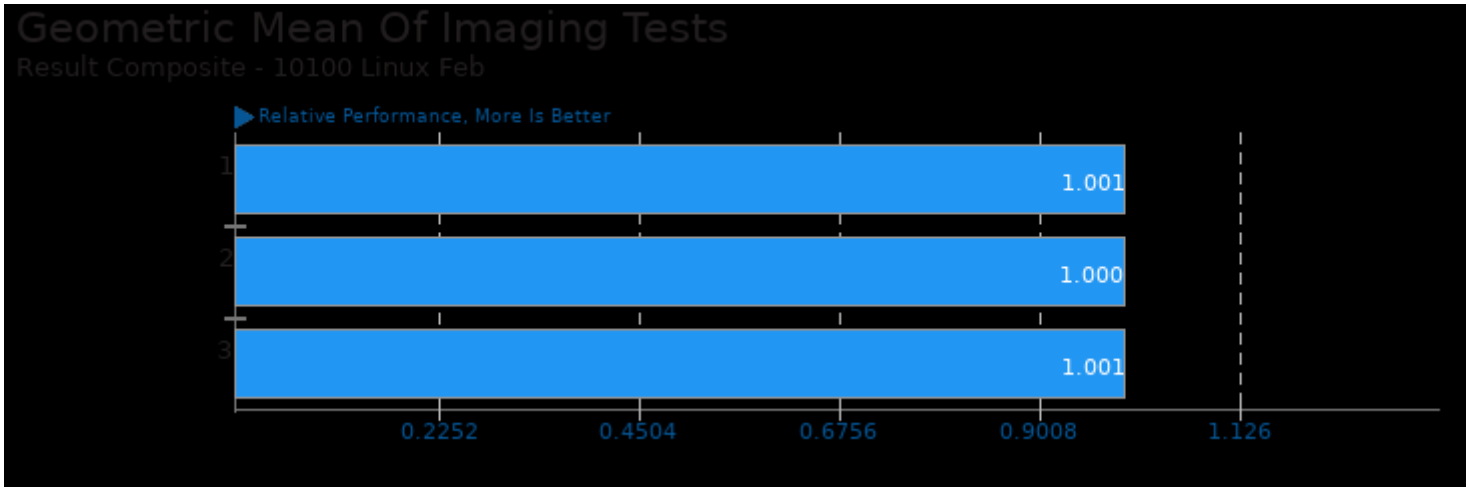


Geometric mean based upon tests: pts/dav1d, pts/avifenc, pts/jpegxl and pts/jpegxl-decode

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Geometric mean based upon tests: pts/dav1d and pts/avifenc

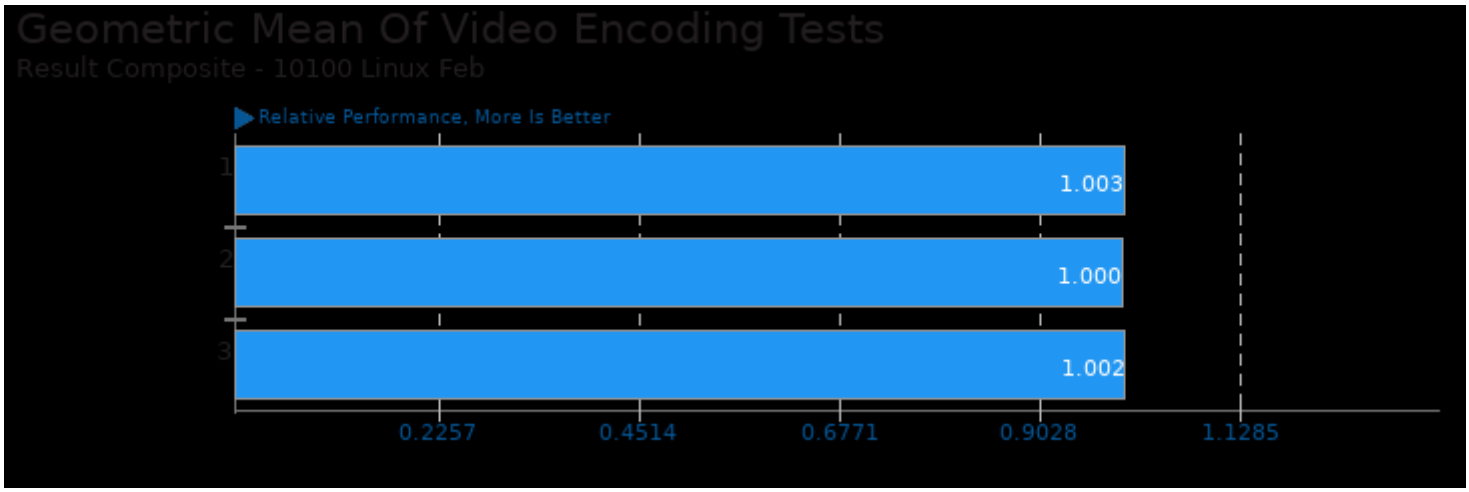


Geometric mean based upon tests: pts/jpegxl, pts/jpegxl-decode and pts/avifenc



Geometric mean based upon tests: pts/dav1d and pts/avifenc

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Geometric mean based upon tests: pts/dav1d and pts/avifenc

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 12:03.