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Intel Core i7-8700B testing with a Apple Macmini8 1 [Mac-7BA5B2DFE22DDD8C] (1715.60.5.0.0 iBridge: 19.16.10647.0.0 0 BIOS) and Intel UHD 630 1GB on Microsoft Windows 10 Pro Build 19044 via the Phoronix Test Suite.

Automated Executive Summary

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

Based on the geometric mean of all complete results, the fastest (C) was 1.013x the speed of the slowest (A). B was 0.995x the speed of C and A was 0.992x the speed of B.

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

JPEG XL libjxl (Input: PNG - Encode Speed: 5) at 1.133x
JPEG XL libjxl (Input: PNG - Encode Speed: 7) at 1.044x
GraphicsMagick (Operation: Rotate) at 1.038x
WebP Image Encode (Encode Settings: Quality 100, Highest Compression) at 1.031x
WebP Image Encode (Encode Settings: Quality 100, Lossless, Highest Compression) at 1.026x
GraphicsMagick (Operation: Sharpen) at 1.026x
libavif avifenc (Encoder Speed: 2) at 1.021x
WebP Image Encode (Encode Settings: Default) at 1.017x
libavif avifenc (Encoder Speed: 10, Lossless) at 1.015x

OpenJPEG (Encode: NASA Curiosity Panorama M34) at 1.013x.

Test Systems:

A

Processor: Intel Core i7-8700B @ 3.20GHz (6 Cores / 12 Threads), Motherboard: Apple Macmini8 1 [Mac-7BA5B2DFE22DDD8C] (1715.60.5.0.0 iBridge: 19.16.10647.0.0 0 BIOS), Memory: 2 x 4096 MB 2667MHz Micron 4ATF51264HZ-2G6E3, Disk: 234GB Apple APPLE SSD AP0256 Disk, Graphics: Intel UHD 630 1GB, Audio: Intel Display Audio + Apple Audio Device, Monitor: DELL 415Q, Network: Broadcom 802.11ac + ASIX AX88772B USB2.0 + Broadcom NetXtreme Gigabit + Bluetooth Device (Personal Area)

OS: Microsoft Windows 10 Pro Build 19044, Kernel: 10.0.19044.1415 (x86_64), Display Driver: 27.20.100.8681, Compiler: GCC 8.3.0, File-System: NTFS, Screen Resolution: 3840x2160

Security Notes: __user pointer sanitization: Disabled + IBPB: Always + IBRS: Enabled + STIBP: Enabled + KPTI Enabled: Yes + PTE Inversion: Yes + VBS: Disabled

B

C

Processor: Intel Core i7-8700B @ 3.20GHz (6 Cores / 12 Threads), Motherboard: Apple Macmini8 1 [Mac-7BA5B2DFE22DDD8C] (1715.60.5.0.0 iBridge: 19.16.10647.0.0 0 BIOS), Memory: 2 x 4096 MB 2667MHz Micron 4ATF51264HZ-2G6E3, Disk: 234GB Apple APPLE SSD AP0256 Disk, Graphics: Intel UHD 630 1GB, Audio: Intel Display Audio + Apple Audio Device, Monitor: DELL 415Q, Network: Broadcom 802.11ac + ASIX AX88772B USB2.0 + Broadcom NetXtreme Gigabit + Bluetooth Device (Personal Area)

OS: Microsoft Windows 10 Pro Build 19044, Kernel: 10.0.19044.1466 (x86_64), Display Driver: 27.20.100.8681, Compiler: GCC 8.3.0, File-System: NTFS, Screen Resolution: 3840x2160

Security Notes: __user pointer sanitization: Disabled + IBPB: Always + IBRS: Enabled + STIBP: Enabled + KPTI Enabled: Yes + PTE Inversion: Yes + VBS: Disabled

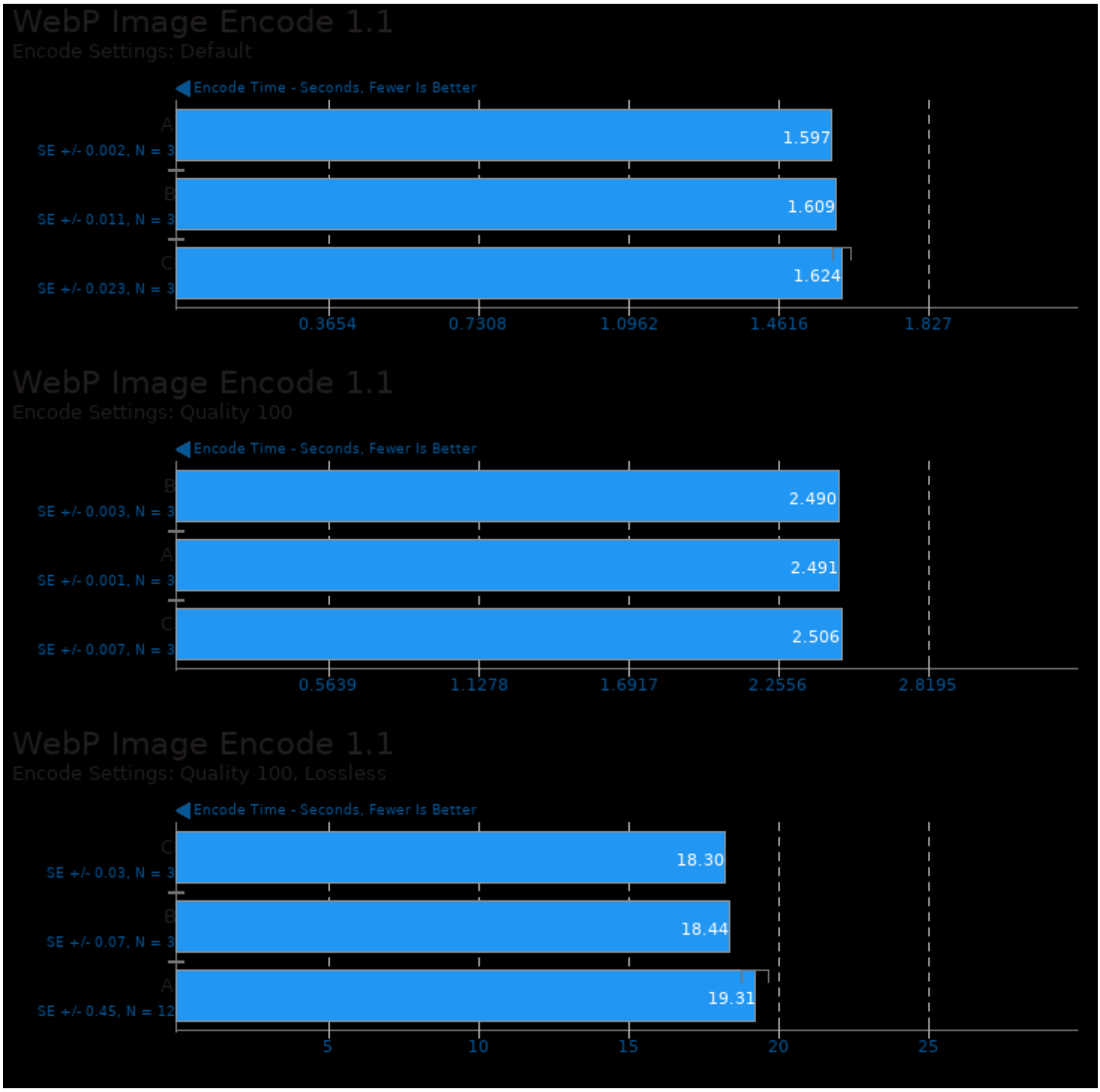
	A	B	C
WebP Image Encode - Default (Encode Time - sec)	**1.597**	1.609	**1.624**
Normalized	100%	99.25%	98.34%
Standard Deviation	0.2%	1.2%	2.4%
WebP Image Encode - Quality 100 (Encode Time - sec)	2.491	**2.490**	**2.506**
Normalized	99.96%	100%	99.36%
Standard Deviation	0%	0.2%	0.4%

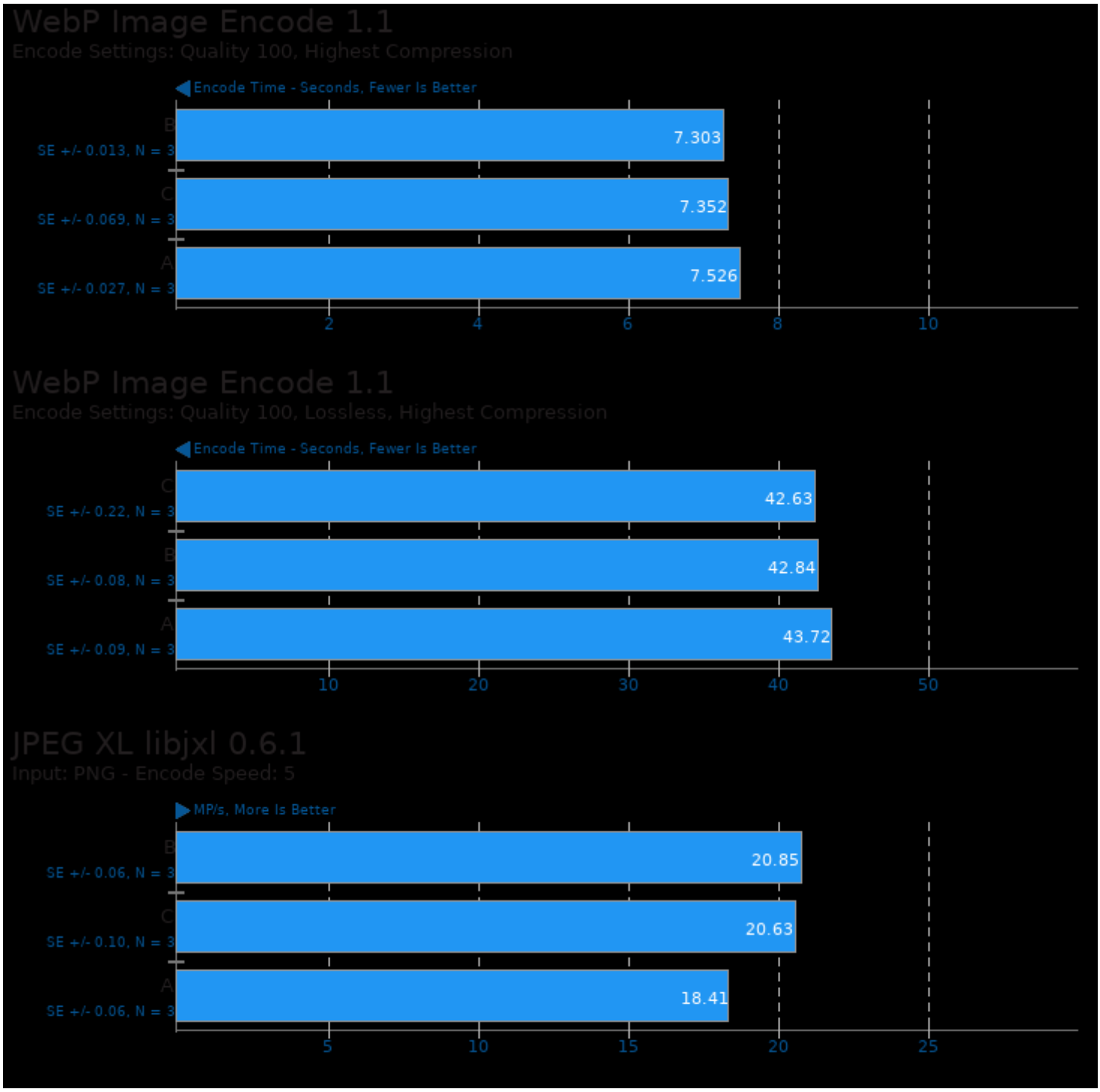
imaging windows

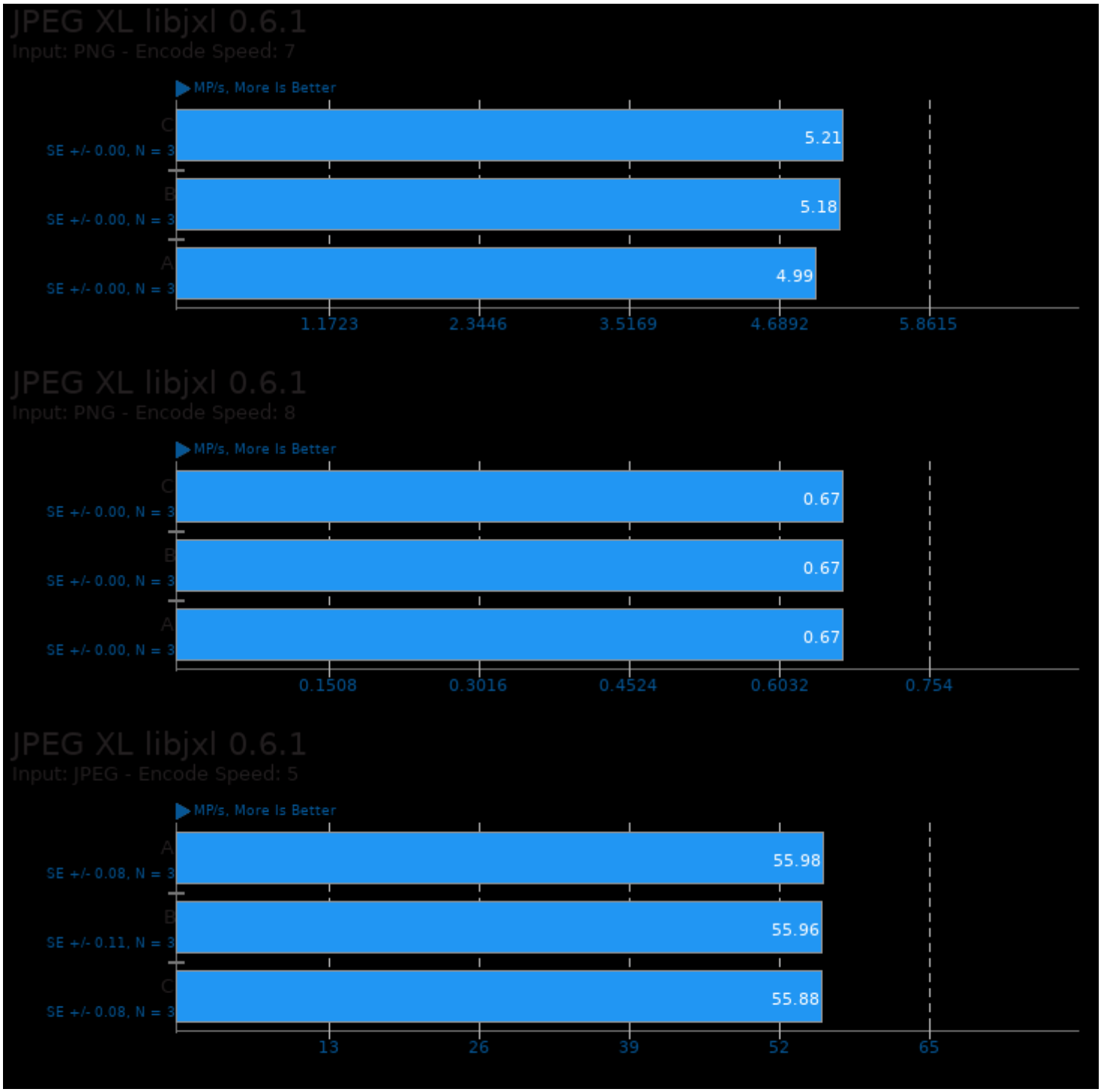
WebP Image Encode - Q.1.L (Encode Time - sec)	**19.310**	18.442	**18.297**
Normalized	94.75%	99.21%	100%
Standard Deviation	8.1%	0.7%	0.3%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	**7.526**	**7.303**	7.352
Normalized	97.04%	100%	99.33%
Standard Deviation	0.6%	0.3%	1.6%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	**43.722**	42.835	**42.627**
Normalized	97.5%	99.51%	100%
Standard Deviation	0.4%	0.3%	0.9%
JPEG XL libjxl - PNG - 5 (MP/s)	**18.41**	**20.85**	20.63
Normalized	88.3%	100%	98.94%
Standard Deviation	0.6%	0.5%	0.9%
JPEG XL libjxl - PNG - 7 (MP/s)	**4.99**	5.18	**5.21**
Normalized	95.78%	99.42%	100%
Standard Deviation	0.1%	0.1%	0%
JPEG XL libjxl - PNG - 8 (MP/s)	0.67	0.67	0.67
Standard Deviation	0.9%	0%	0%
JPEG XL libjxl - JPEG - 5 (MP/s)	**55.98**	55.96	**55.88**
Normalized	100%	99.96%	99.82%
Standard Deviation	0.2%	0.3%	0.2%
JPEG XL libjxl - JPEG - 7 (MP/s)	55.87	**55.84**	**55.98**
Normalized	99.8%	99.75%	100%
Standard Deviation	0.2%	0.4%	0.2%
JPEG XL libjxl - JPEG - 8 (MP/s)	**22.81**	22.84	**22.85**
Normalized	99.82%	99.96%	100%
Standard Deviation	0.3%	0.3%	0.3%
JPEG XL Decoding libjxl - 1 (MP/s)	**43.54**	43.55	**43.79**
Normalized	99.43%	99.45%	100%
Standard Deviation	1.1%	1.5%	1.1%
JPEG XL Decoding libjxl - All (MP/s)	**120.29**	120.61	**120.85**
Normalized	99.54%	99.8%	100%
Standard Deviation	0.2%	0.1%	0%
LibRaw - P.P.B (Mpix/sec)	**9.32**	**9.31**	**9.32**
Normalized	100%	99.89%	100%
Standard Deviation	0%	0.1%	0.1%
GraphicsMagick - Swirl (Iterations/min)	**199**	**199**	**197**
Normalized	100%	100%	98.99%
Standard Deviation	0.8%	0.6%	1.1%
GraphicsMagick - Rotate (Iterations/min)	**290**	**301**	**301**
Normalized	96.35%	100%	100%
Standard Deviation	0.8%	0.3%	0.2%
GraphicsMagick - Sharpen (Iterations/min)	**40**	**39**	**40**
Normalized	100%	97.5%	100%
Standard Deviation	0%	1.5%	1.5%
GraphicsMagick - Enhanced (Iterations/min)	**119**	**118**	**118**
Normalized	100%	99.16%	99.16%
Standard Deviation	1.3%	0.8%	0.8%
GraphicsMagick - Resizing (Iterations/min)	**374**	**372**	**374**
Normalized	100%	99.47%	100%
Standard Deviation	0.2%	0.3%	0.2%

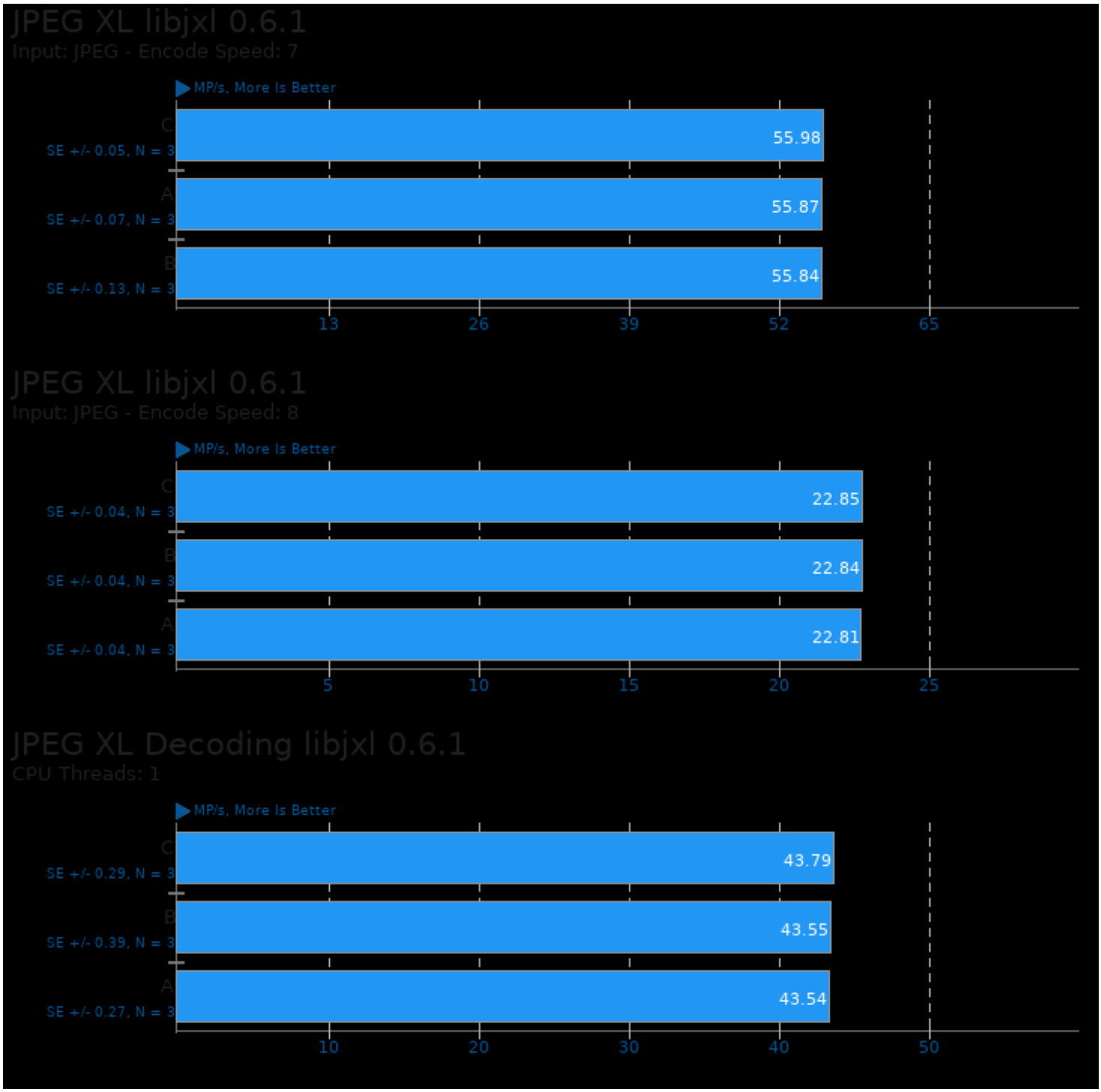
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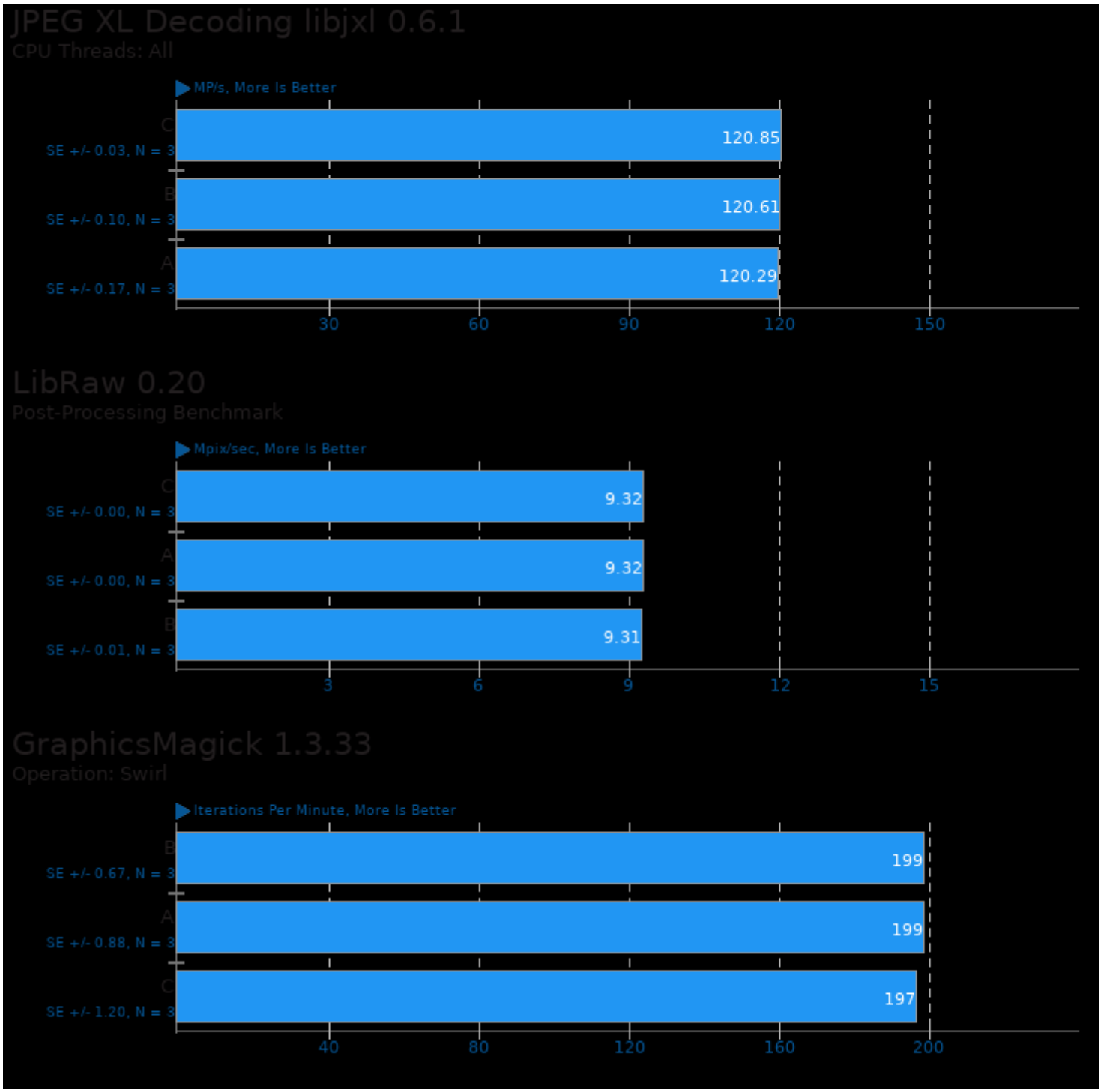
GraphicsMagick - Noise-Gaussian (Iterations/min)	96	96	96
Standard Deviation	0.6%	0%	0%
GraphicsMagick - HWB Color Space (Iterations/min)	319	323	322
Normalized	98.76%	100%	99.69%
Standard Deviation	0.2%	0.2%	0.2%
libavif avifenc - 0 (sec)	114.372	115.102	115.283
Normalized	100%	99.37%	99.21%
Standard Deviation	1.2%	0.7%	0.3%
libavif avifenc - 2 (sec)	56.926	58.021	56.854
Normalized	99.87%	97.99%	100%
Standard Deviation	1.1%	0.5%	0.5%
libavif avifenc - 6 (sec)	19.087	19.243	19.145
Normalized	100%	99.19%	99.7%
Standard Deviation	1%	0.2%	0.5%
libavif avifenc - 10 (sec)	4.580	4.570	4.575
Normalized	99.78%	100%	99.89%
Standard Deviation	1.4%	0.7%	1.6%
libavif avifenc - 6, Lossless (sec)	101.208	101.078	100.297
Normalized	99.1%	99.23%	100%
Standard Deviation	2.1%	2%	1.2%
libavif avifenc - 10, Lossless (sec)	7.662	7.595	7.549
Normalized	98.53%	99.39%	100%
Standard Deviation	0.7%	0.6%	0.3%
OpenJPEG - N.C.P.M (ms)	8507	8399	8424
Normalized	98.73%	100%	99.7%
Standard Deviation	2.5%	2.5%	2.5%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	205.767244	207.897250	205.709975
Normalized	98.98%	100%	98.95%
Standard Deviation	1.1%	0.1%	0.7%
GIMP - resize (sec)	3.680	3.912	3.576
Normalized	97.17%	91.41%	100%
Standard Deviation	16.9%	45.2%	8.8%
GIMP - rotate (sec)	3.466	3.634	3.473
Normalized	100%	95.38%	99.8%
Standard Deviation	0.4%	7.4%	5.4%
GIMP - auto-levels (sec)	3.748	3.554	3.544
Normalized	94.56%	99.72%	100%
Standard Deviation	12.7%	0.7%	7%
GIMP - unsharp-mask (sec)	3.626	3.429	3.492
Normalized	94.57%	100%	98.2%
Standard Deviation	11.6%	1.3%	5.2%

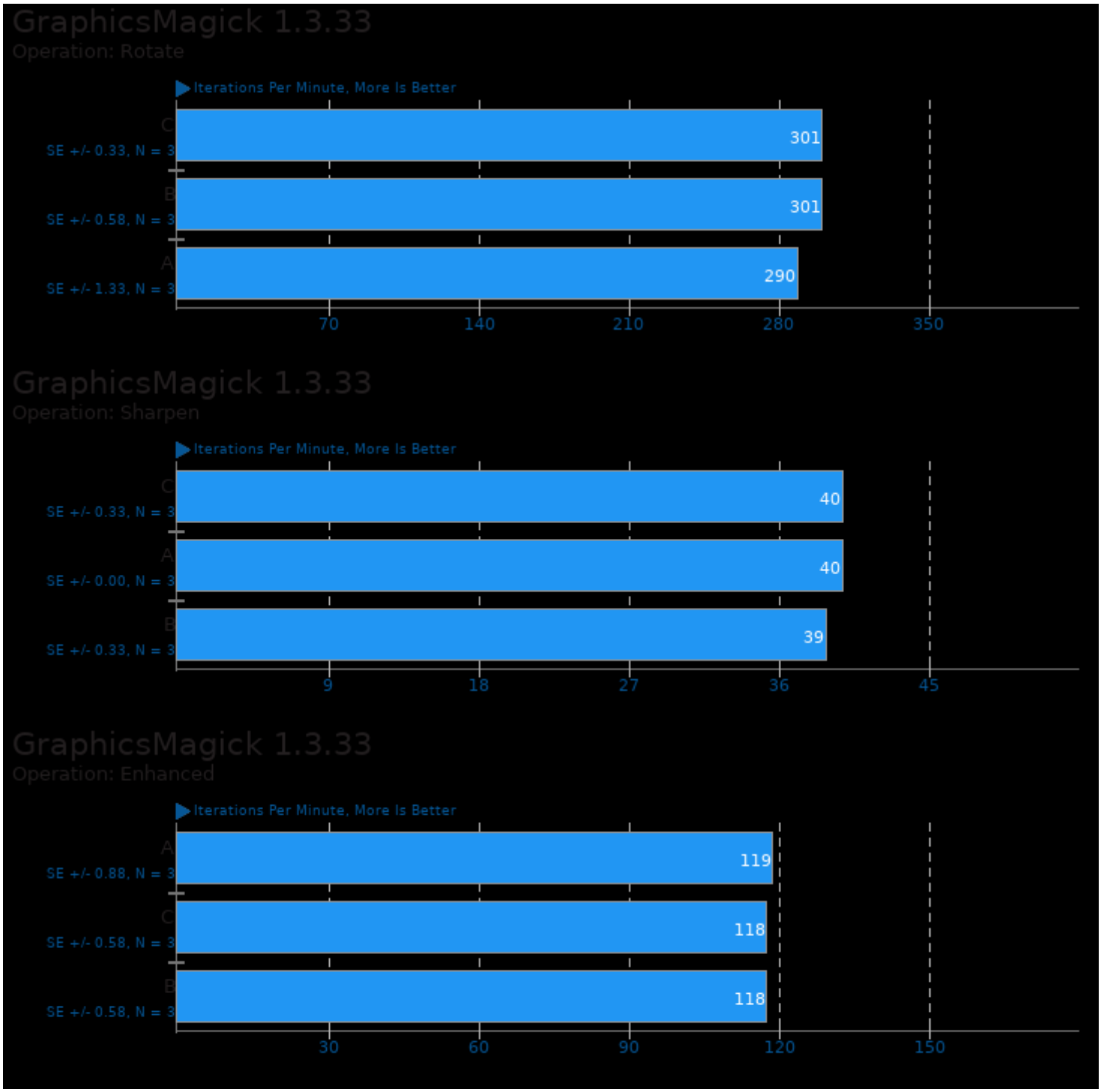

WebP Image Encode 1.1
Encode Settings: Default
Encode Time - Seconds, Fewer Is Better
A
SE +/- 0.002, N = 3
1.597
B
SE +/- 0.011, N = 3
1.609
C
SE +/- 0.023, N = 3
1.624
0.3654
0.7308
1.0962
1.4616
1.827
WebP Image Encode 1.1
Encode Settings: Quality 100
Encode Time - Seconds, Fewer Is Better
B
SE +/- 0.003, N = 3
2.490
A
SE +/- 0.001, N = 3
2.491
C
SE +/- 0.007, N = 3
2.506
0.5639
1.1278
1.6917
2.2556
2.8195
WebP Image Encode 1.1
Encode Settings: Quality 100, Lossless
Encode Time - Seconds, Fewer Is Better
C
SE +/- 0.03, N = 3
18.30
B
SE +/- 0.07, N = 3
18.44
A
SE +/- 0.45, N = 12
19.31
5
10
15
20
25

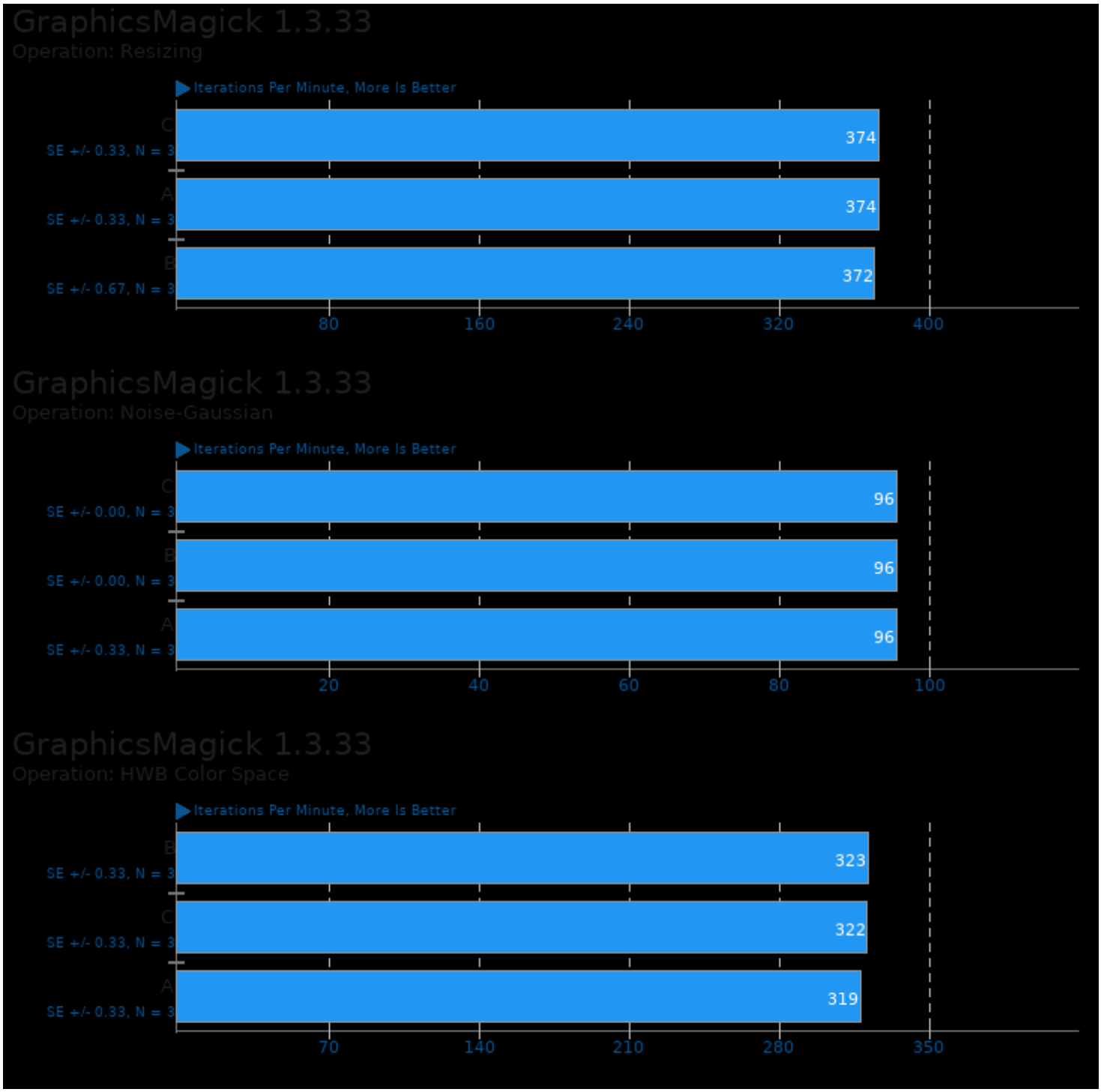

WebP Image Encode 1.1
Encode Settings: Quality 100, Highest Compression
Encode Time - Seconds, Fewer Is Better
B
SE +/- 0.013, N = 3
7.303
C
SE +/- 0.069, N = 3
7.352
A
SE +/- 0.027, N = 3
7.526
2
4
6
8
10
WebP Image Encode 1.1
Encode Settings: Quality 100, Lossless, Highest Compression
Encode Time - Seconds, Fewer Is Better
C
SE +/- 0.22, N = 3
42.63
B
SE +/- 0.08, N = 3
42.84
A
SE +/- 0.09, N = 3
43.72
10
20
30
40
50
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 5
MP/s, More Is Better
B
SE +/- 0.06, N = 3
20.85
C
SE +/- 0.10, N = 3
20.63
A
SE +/- 0.06, N = 3
18.41
5
10
15
20
25

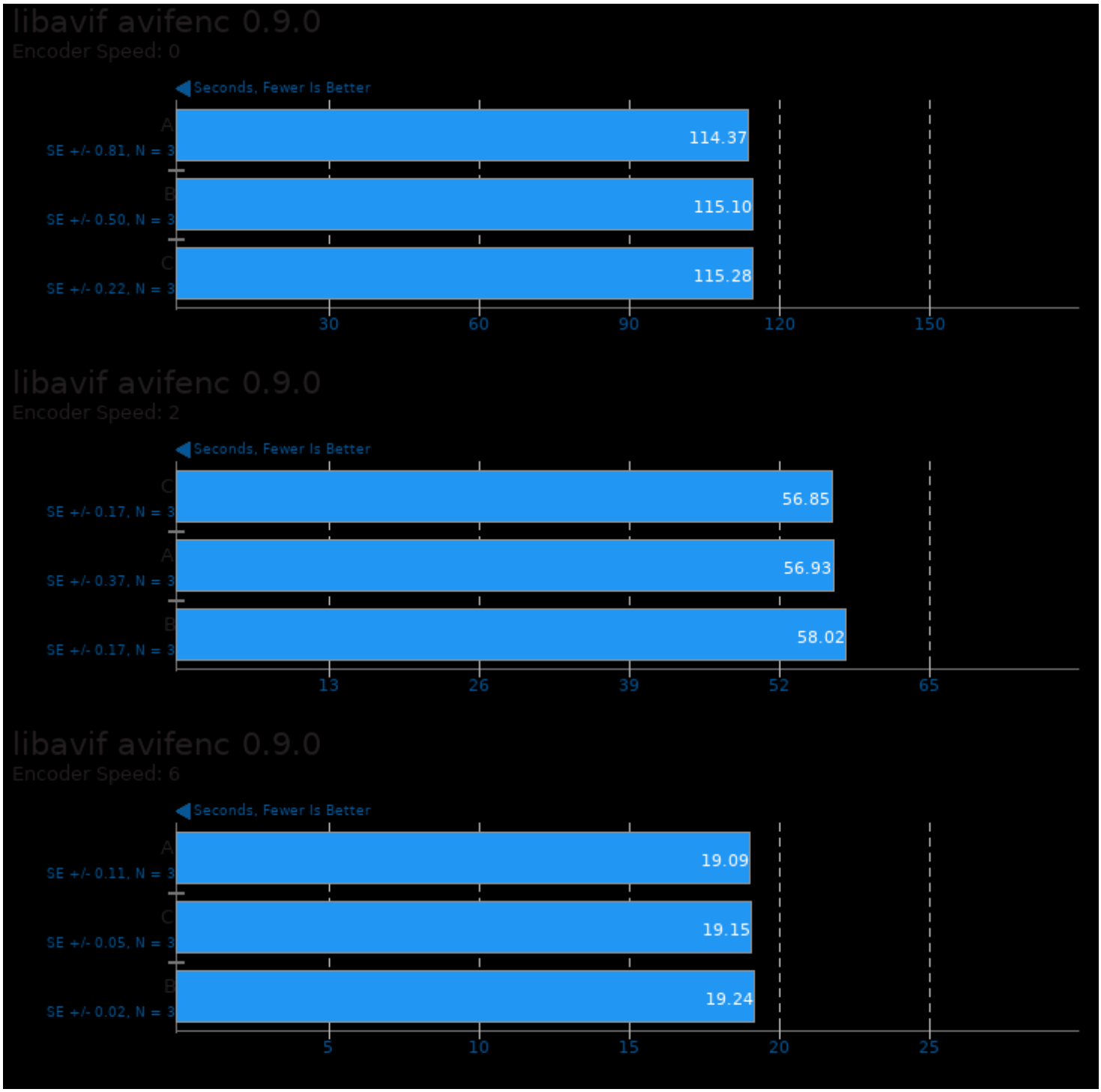

JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 7
MP/s, More Is Better
C
SE +/- 0.00, N = 3
5.21
B
SE +/- 0.00, N = 3
5.18
A
SE +/- 0.00, N = 3
4.99
1.1723
2.3446
3.5169
4.6892
5.8615
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
C
SE +/- 0.00, N = 3
0.67
B
SE +/- 0.00, N = 3
0.67
A
SE +/- 0.00, N = 3
0.67
0.1508
0.3016
0.4524
0.6032
0.754
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
A
SE +/- 0.08, N = 3
55.98
B
SE +/- 0.11, N = 3
55.96
C
SE +/- 0.08, N = 3
55.88
13
26
39
52
65

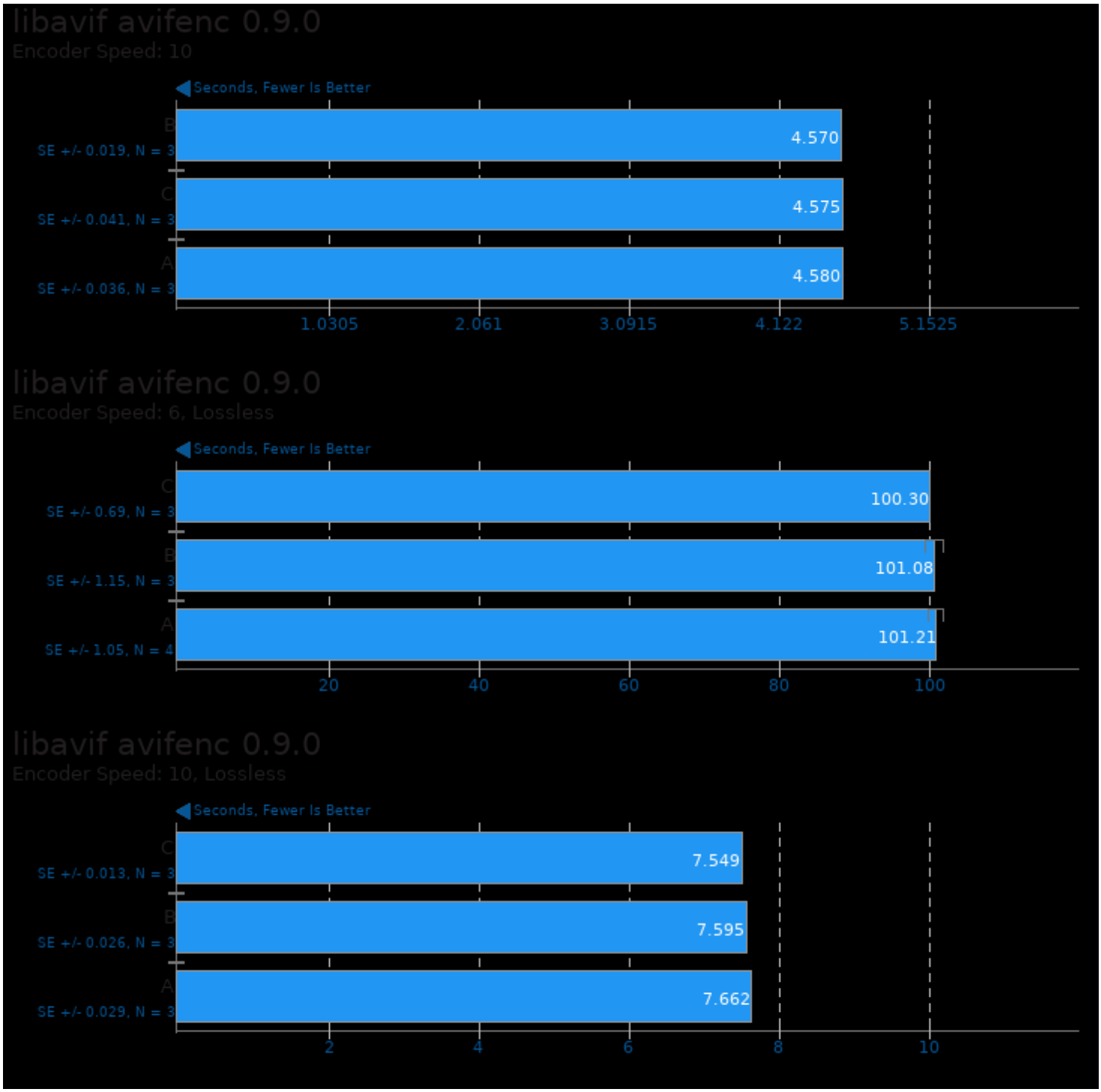

JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
C
SE +/- 0.05, N = 3
55.98
A
SE +/- 0.07, N = 3
55.87
B
SE +/- 0.13, N = 3
55.84
13
26
39
52
65
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
C
SE +/- 0.04, N = 3
22.85
B
SE +/- 0.04, N = 3
22.84
A
SE +/- 0.04, N = 3
22.81
5
10
15
20
25
JPEG XL Decoding libjxl 0.6.1
CPU Threads: 1
MP/s, More Is Better
C
SE +/- 0.29, N = 3
43.79
B
SE +/- 0.39, N = 3
43.55
A
SE +/- 0.27, N = 3
43.54
10
20
30
40
50

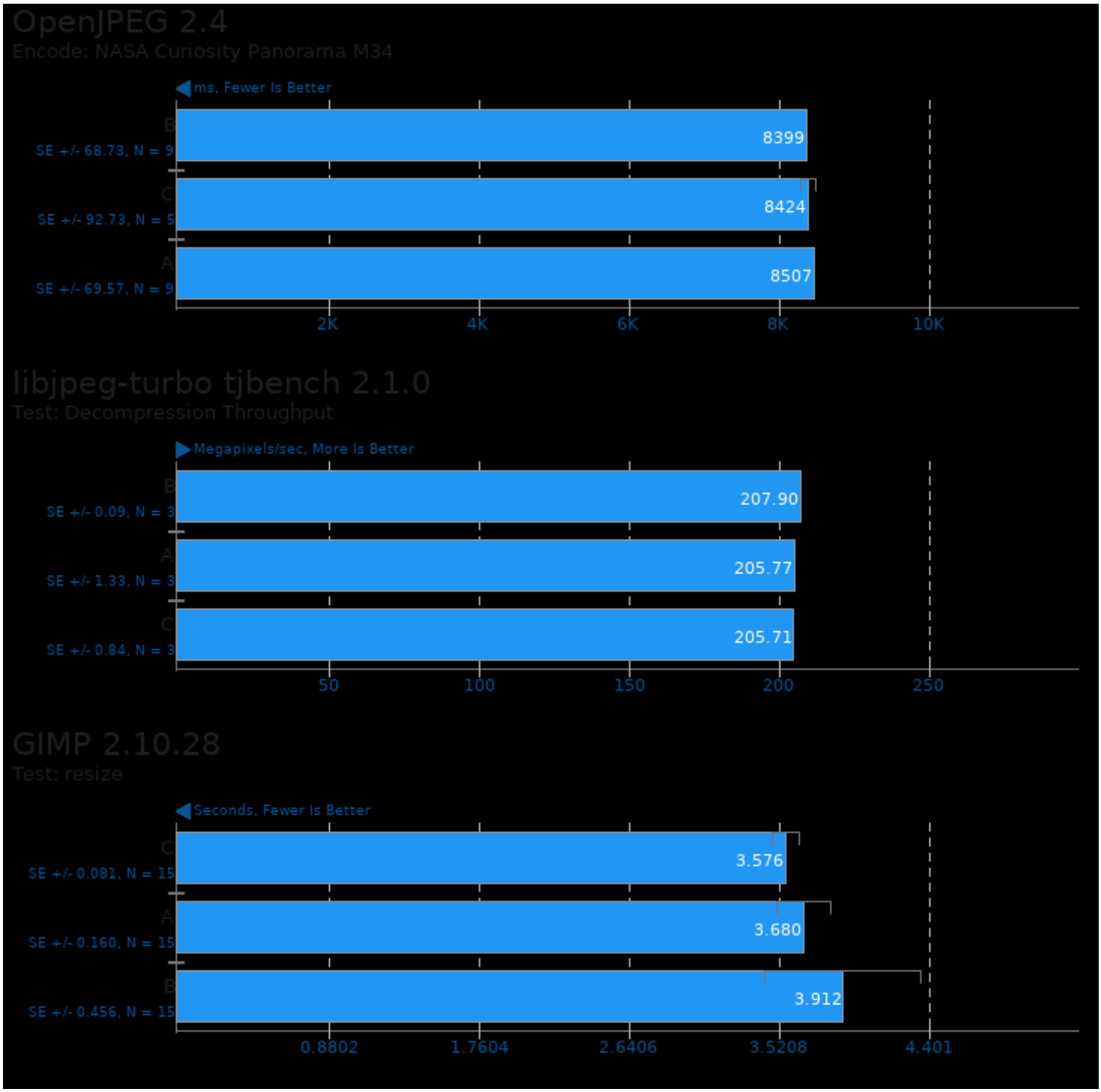

JPEG XL Decoding libjxl 0.6.1
CPU Threads: All
MP/s, More Is Better
C
SE +/- 0.03, N = 3
120.85
B
SE +/- 0.10, N = 3
120.61
A
SE +/- 0.17, N = 3
120.29
30
60
90
120
150
LibRaw 0.20
Post-Processing Benchmark
Mpix/sec, More Is Better
C
SE +/- 0.00, N = 3
9.32
A
SE +/- 0.00, N = 3
9.32
B
SE +/- 0.01, N = 3
9.31
3
6
9
12
15
GraphicsMagick 1.3.33
Operation: Swirl
Iterations Per Minute, More Is Better
B
SE +/- 0.67, N = 3
199
A
SE +/- 0.88, N = 3
199
C
SE +/- 1.20, N = 3
197
40
80
120
160
200


GraphicsMagick 1.3.33
Operation: Rotate
Iterations Per Minute, More Is Better
C
SE +/- 0.33, N = 3
301
B
SE +/- 0.58, N = 3
301
A
SE +/- 1.33, N = 3
290
70
140
210
280
350
GraphicsMagick 1.3.33
Operation: Sharpen
Iterations Per Minute, More Is Better
C
SE +/- 0.33, N = 3
40
A
SE +/- 0.00, N = 3
40
B
SE +/- 0.33, N = 3
39
9
18
27
36
45
GraphicsMagick 1.3.33
Operation: Enhanced
Iterations Per Minute, More Is Better
A
SE +/- 0.88, N = 3
119
C
SE +/- 0.58, N = 3
118
B
SE +/- 0.58, N = 3
118
30
60
90
120
150

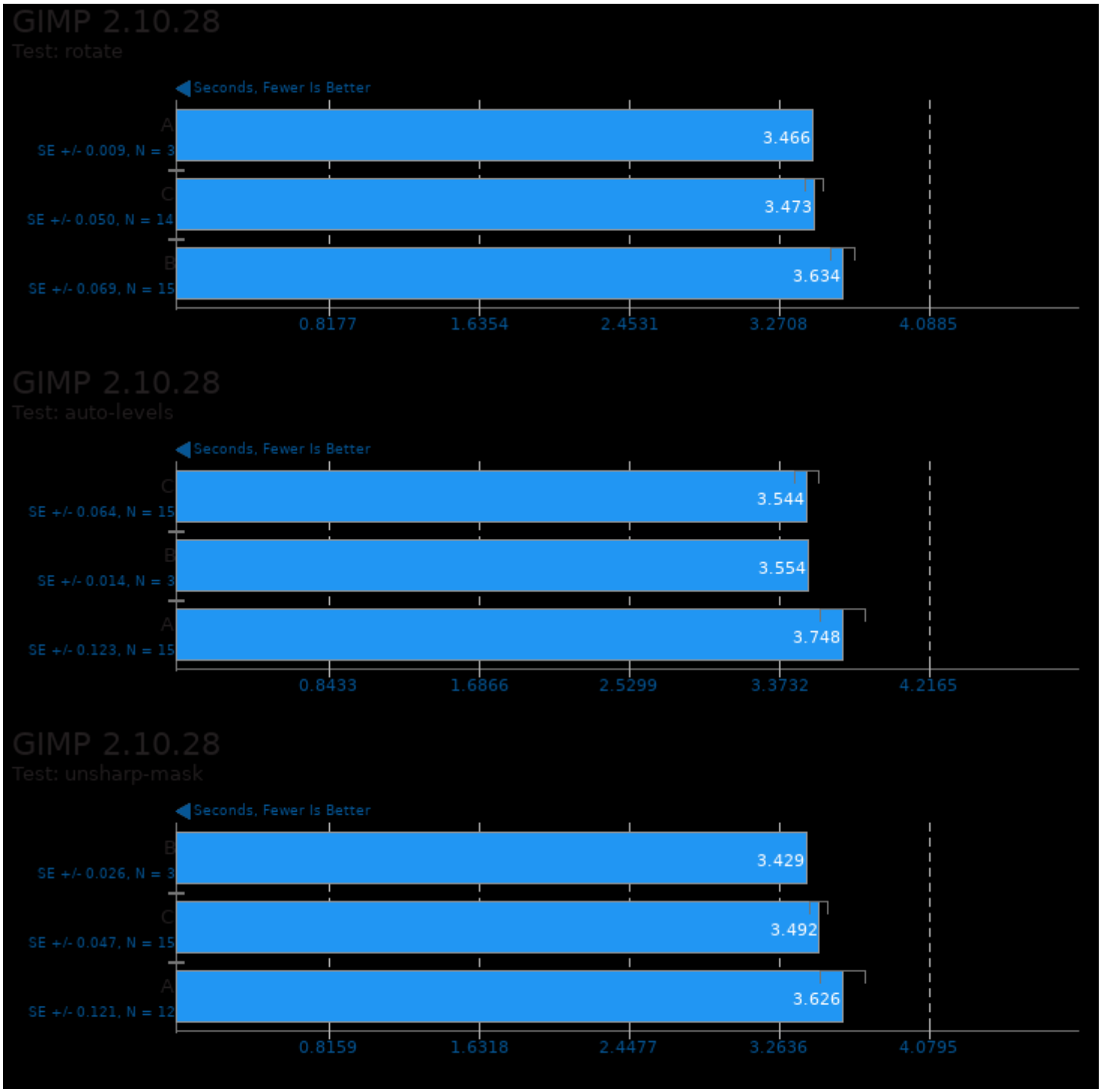

GraphicsMagick 1.3.33
Operation: Resizing
Iterations Per Minute, More Is Better
C
SE +/- 0.33, N = 3
374
A
SE +/- 0.33, N = 3
374
B
SE +/- 0.67, N = 3
372
80
160
240
320
400
GraphicsMagick 1.3.33
Operation: Noise-Gaussian
Iterations Per Minute, More Is Better
C
SE +/- 0.00, N = 3
96
B
SE +/- 0.00, N = 3
96
A
SE +/- 0.33, N = 3
96
20
40
60
80
100
GraphicsMagick 1.3.33
Operation: HWB Color Space
Iterations Per Minute, More Is Better
B
SE +/- 0.33, N = 3
323
C
SE +/- 0.33, N = 3
322
A
SE +/- 0.33, N = 3
319
70
140
210
280
350


libavif avifenc 0.9.0
Encoder Speed: 0
Seconds, Fewer Is Better
A
SE +/- 0.81, N = 3
114.37
B
SE +/- 0.50, N = 3
115.10
C
SE +/- 0.22, N = 3
115.28
30
60
90
120
150
libavif avifenc 0.9.0
Encoder Speed: 2
Seconds, Fewer Is Better
C
SE +/- 0.17, N = 3
56.85
A
SE +/- 0.37, N = 3
56.93
B
SE +/- 0.17, N = 3
58.02
13
26
39
52
65
libavif avifenc 0.9.0
Encoder Speed: 6
Seconds, Fewer Is Better
A
SE +/- 0.11, N = 3
19.09
C
SE +/- 0.05, N = 3
19.15
B
SE +/- 0.02, N = 3
19.24
5
10
15
20
25


libavif avifenc 0.9.0
Encoder Speed: 10
Seconds, Fewer Is Better
B
SE +/- 0.019, N = 3
4.570
C
SE +/- 0.041, N = 3
4.575
A
SE +/- 0.036, N = 3
4.580
1.0305
2.061
3.0915
4.122
5.1525
libavif avifenc 0.9.0
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
C
SE +/- 0.69, N = 3
100.30
B
SE +/- 1.15, N = 3
101.08
A
SE +/- 1.05, N = 4
101.21
20
40
60
80
100
libavif avifenc 0.9.0
Encoder Speed: 10, Lossless
Seconds, Fewer Is Better
C
SE +/- 0.013, N = 3
7.549
B
SE +/- 0.026, N = 3
7.595
A
SE +/- 0.029, N = 3
7.662
2
4
6
8
10


OpenJPEG 2.4
Encode: NASA Curiosity Panorama M34
ms, Fewer Is Better
B
SE +/- 68.73, N = 9
8399
C
SE +/- 92.73, N = 5
8424
A
SE +/- 69.57, N = 9
8507
2K
4K
6K
8K
10K
libjpeg-turbo tjbench 2.1.0
Test: Decompression Throughput
Megapixels/sec, More Is Better
B
SE +/- 0.09, N = 3
207.90
A
SE +/- 1.33, N = 3
205.77
C
SE +/- 0.84, N = 3
205.71
50
100
150
200
250
GIMP 2.10.28
Test: resize
Seconds, Fewer Is Better
C
SE +/- 0.081, N = 15
3.576
A
SE +/- 0.160, N = 15
3.680
B
SE +/- 0.456, N = 15
3.912
0.8802
1.7604
2.6406
3.5208
4.401

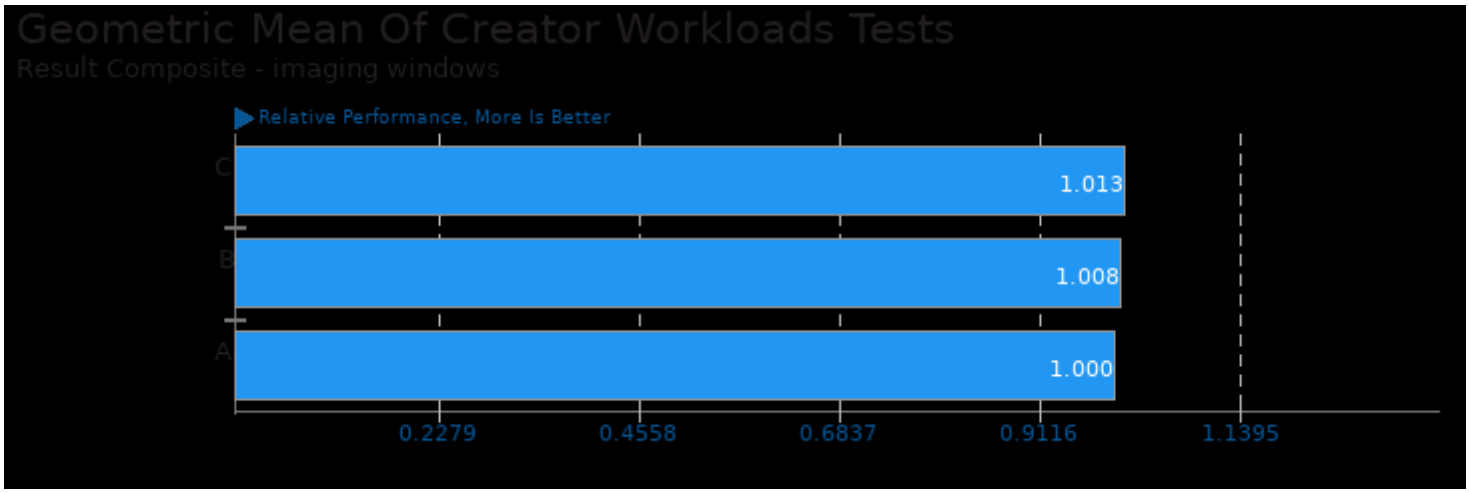
imaging windows



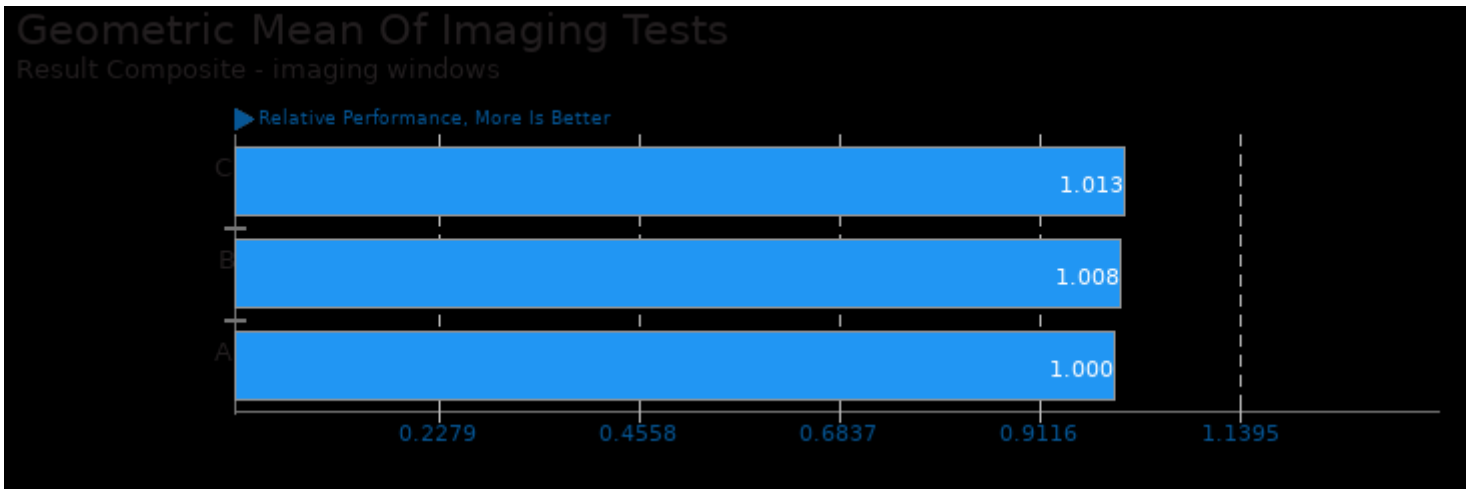
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/graphics-magick, system/darktable and pts/tjbench



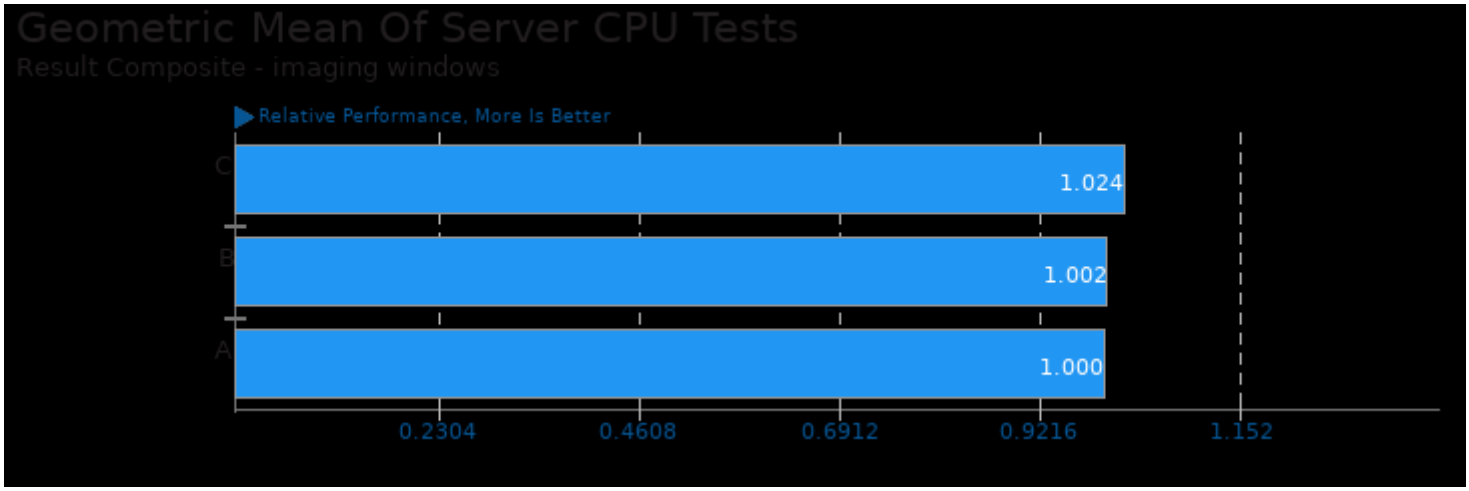
Geometric mean based upon tests: pts/avifenc, pts/graphics-magick, pts/openjpeg, pts/libraw, pts/webp, pts/jpegxl, pts/jpegxl-decode, pts/tjbench, system/gimp and system/darktable



Geometric mean based upon tests: pts/graphics-magick, pts/openjpeg, pts/libraw, pts/webp, pts/jpegxl, pts/jpegxl-decode, pts/tjbench, system/gimp, system/darktable and pts/avifenc



Geometric mean based upon tests: pts/avifenc and pts/graphics-magick



Geometric mean based upon tests: pts/tjbench and system/gimp

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 01:46.