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2700 september

AMD Ryzen 7 2700 Eight-Core testing with a Gigabyte AB350N-Gaming WIFI-CF (F20 BIOS) and HIS AMD Radeon HD 6450/7450/8450 / R5 230 OEM 1GB on Ubuntu 19.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 43% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.003x the speed of the slowest (3). 4 was 1x the speed of 1, 2 was 0.998x the speed of 4, 3 was 0.999x the speed of 2.

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

Stress-NG (Test: CPU Cache) at 1.12x
Stress-NG (Test: Glibc C String Functions) at 1.057x
Stress-NG (Test: NUMA) at 1.041x
JPEG XL libjxl (Input: JPEG - Encode Speed: 7) at 1.031x
Stress-NG (Test: Glibc Qsort Data Sorting) at 1.027x
yquake2 (Renderer: Software CPU - Resolution: 1920 x 1080) at 1.025x
Stress-NG (Test: Forking) at 1.023x
Stress-NG (Test: Context Switching) at 1.022x
JPEG XL libjxl (Input: JPEG - Encode Speed: 8) at 1.021x

Stress-NG (Test: Vector Math) at 1.021x.

Test Systems:

1

2

3

4

Processor: AMD Ryzen 7 2700 Eight-Core @ 3.20GHz (8 Cores / 16 Threads), Motherboard: Gigabyte AB350N-Gaming WIFI-CF (F20 BIOS), Chipset: AMD 17h, Memory: 16GB, Disk: 120GB ADATA SU700, Graphics: HIS AMD Radeon HD 6450/7450/8450 / R5 230 OEM 1GB, Audio: AMD Caicos HDMI Audio, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411 + Intel 3165

OS: Ubuntu 19.10, Kernel: 5.9.0-050900rc7daily20201004-generic (x86_64) 20201003, Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, OpenGL: 3.3 Mesa 19.2.8 (LLVM 9.0.0), Compiler: GCC 9.2.1 20191008, 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-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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --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: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x800820b
Graphics Notes: GLAMOR
Python Notes: Python 2.7.17 + Python 3.7.5
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 STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

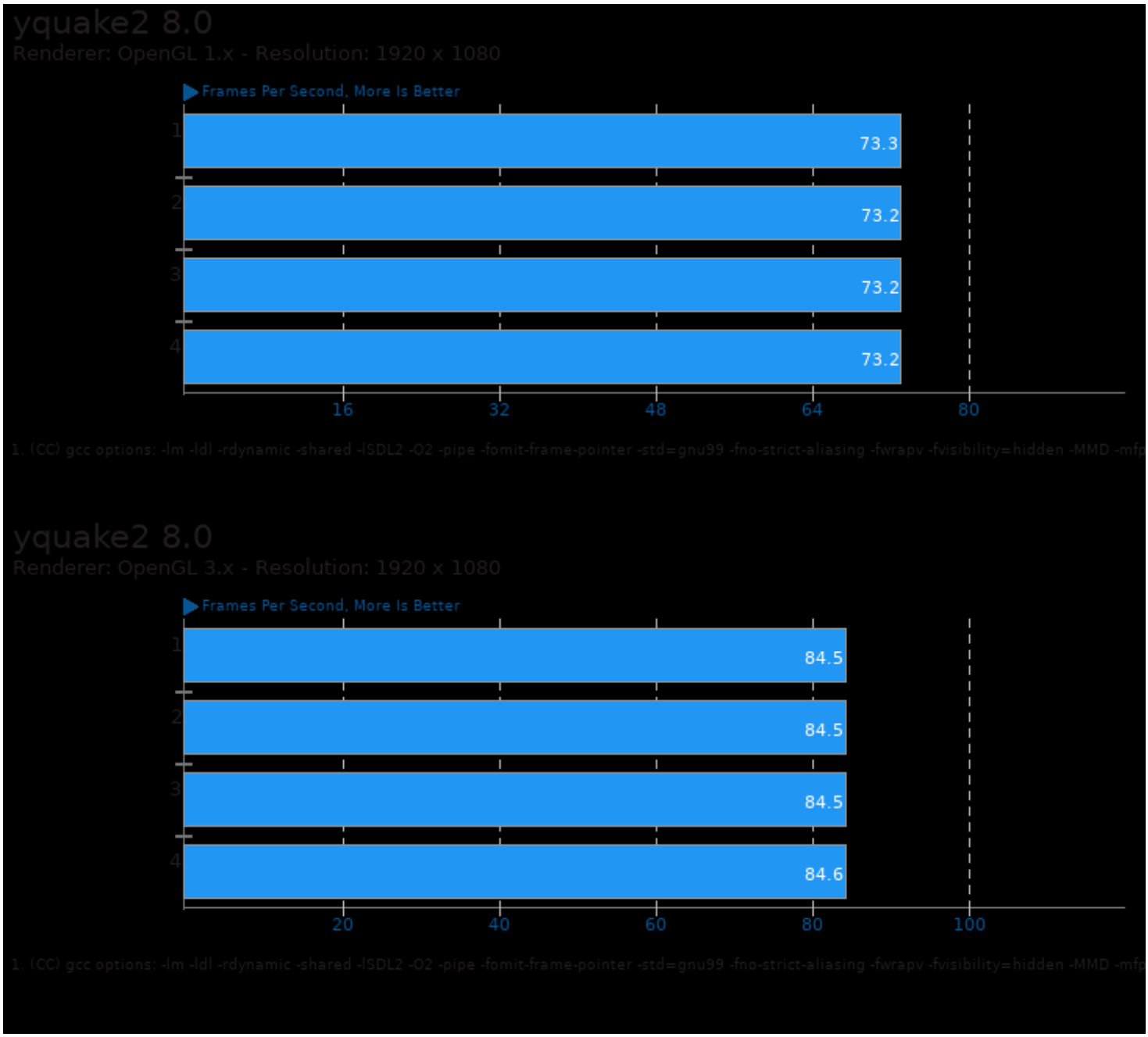
	1	2	3	4
yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	**73.3**	**73.2**	**73.2**	**73.2**
Normalized	100%	99.86%	99.86%	99.86%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	**84.5**	**84.5**	**84.5**	**84.6**
Normalized	99.88%	99.88%	99.88%	100%
yquake2 - Software CPU - 1920 x 1080 (FPS)	100.3	100.9	**102.6**	**100.1**
Normalized	97.76%	98.34%	100%	97.56%
GLmark2 - 800 x 600 (Score)	**787**	**787**	**787**	**788**
Normalized	99.87%	99.87%	99.87%	100%

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GLmark2 - 1024 x 768 (Score)	495	495	495	495
GLmark2 - 1280 x 1024 (Score)	299	299	299	299
GLmark2 - 1920 x 1080 (Score)	202	202	202	201
Normalized	100%	100%	100%	99.5%
JPEG XL libjxl - PNG - 5 (MP/s)	25.12	25.01	25.07	25.02
Normalized	100%	99.56%	99.8%	99.6%
JPEG XL libjxl - PNG - 7 (MP/s)	7.38	7.38	7.4	7.4
Normalized	99.73%	99.73%	100%	100%
JPEG XL libjxl - PNG - 8 (MP/s)	0.67	0.67	0.66	0.67
Normalized	100%	100%	98.51%	100%
JPEG XL libjxl - JPEG - 5 (MP/s)	55.82	56.42	56.13	56.17
Normalized	98.94%	100%	99.49%	99.56%
JPEG XL libjxl - JPEG - 7 (MP/s)	54.98	55.83	55.18	56.7
Normalized	96.97%	98.47%	97.32%	100%
JPEG XL libjxl - JPEG - 8 (MP/s)	21.9	21.85	21.65	21.44
Normalized	100%	99.77%	98.86%	97.9%
JPEG XL Decoding libjxl - 1 (MP/s)	40	39.92	39.9	39.71
Normalized	100%	99.8%	99.75%	99.28%
JPEG XL Decoding libjxl - All (MP/s)	125.16	124.67	124.27	124.49
Normalized	100%	99.61%	99.29%	99.46%
dav1d - Chimera 1080p (FPS)	379.77	377.15	378.08	380.37
Normalized	99.84%	99.15%	99.4%	100%
dav1d - Summer Nature 4K (FPS)	118.87	118.83	118.79	118.9
Normalized	99.97%	99.94%	99.91%	100%
dav1d - S.N.1 (FPS)	342.94	339.75	339.89	342.13
Normalized	100%	99.07%	99.11%	99.76%
dav1d - C.1.1.b (FPS)	277.43	276.15	275.39	276.19
Normalized	100%	99.54%	99.26%	99.55%
OpenSSL - SHA256 (byte/s)	9893463780	9956538760	10016917050	9998197500
Normalized	98.77%	99.4%	100%	99.81%
OpenSSL - RSA4096 (sign/s)	1438	1438	1438	1439
Normalized	99.9%	99.88%	99.93%	100%
OpenSSL - RSA4096 (verify/s)	93091	92383	93001	92970
Normalized	100%	99.24%	99.9%	99.87%
Stress-NG - MMAP (Bogo Ops/s)	165.55	166.01	164.68	165.28
Normalized	99.72%	100%	99.2%	99.56%
Stress-NG - NUMA (Bogo Ops/s)	137.79	140.38	134.82	139.75
Normalized	98.16%	100%	96.04%	99.55%
Stress-NG - MEMFD (Bogo Ops/s)	527.86	517.85	521.7	517.32
Normalized	100%	98.1%	98.83%	98%
Stress-NG - Atomic (Bogo Ops/s)	196006	195549	195667	195975
Normalized	100%	99.77%	99.83%	99.98%
Stress-NG - Crypto (Bogo Ops/s)	1895	1899	1897	1896
Normalized	99.83%	100%	99.93%	99.86%
Stress-NG - Malloc (Bogo Ops/s)	42396428	42422136	42438742	42494653
Normalized	99.77%	99.83%	99.87%	100%
Stress-NG - Forking (Bogo Ops/s)	35227	35197	34435	35149
Normalized	100%	99.91%	97.75%	99.78%
Stress-NG - SENDFILE (Bogo Ops/s)	115142	116324	116322	116441
Normalized	98.88%	99.9%	99.9%	100%
Stress-NG - CPU Cache (Bogo Ops/s)	278.93	255.58	262.59	286.36
Normalized	97.41%	89.25%	91.7%	100%
Stress-NG - CPU Stress (Bogo Ops/s)	16371	16528	16376	16526

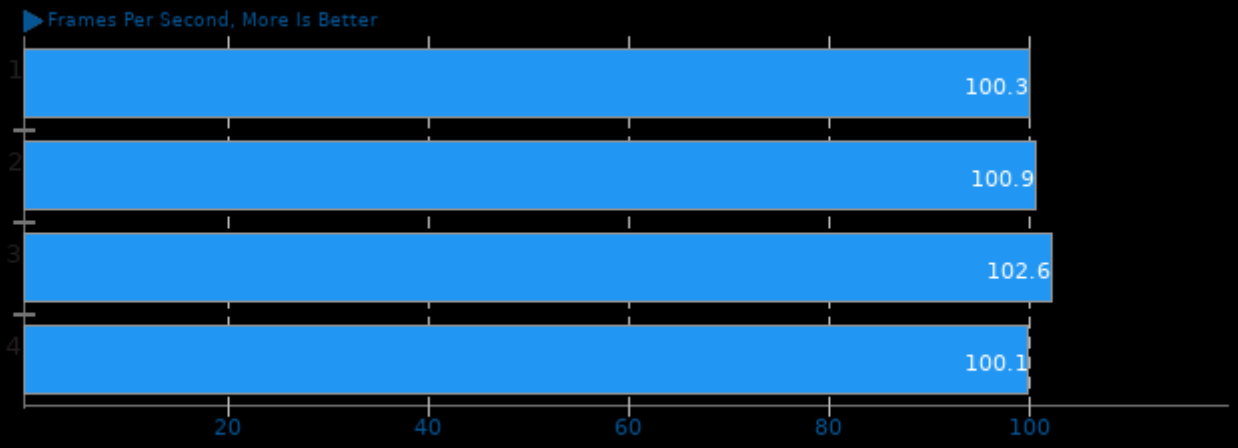
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Normalized	99.05%	100%	99.08%	99.99%
Stress-NG - Semaphores (Bogo	1086619	1080326	1080329	1079737
Normalized	100%	99.42%	99.42%	99.37%
Stress-NG - Matrix Math (Bogo Ops/s)	40927	40880	40911	40978
Normalized	99.87%	99.76%	99.84%	100%
Stress-NG - Vector Math (Bogo Ops/s)	31208	31215	31212	31866
Normalized	97.93%	97.96%	97.95%	100%
Stress-NG - Memory Copying (Bogo Ops/s)	1074	1072	1090	1072
Normalized	98.59%	98.4%	100%	98.38%
Stress-NG - Socket Activity (Bogo	5278	5191	5205	5256
Normalized	100%	98.35%	98.61%	99.57%
Stress-NG - Context Switching (Bogo Ops/s)	3336233	3374934	3355833	3409373
Normalized	97.85%	98.99%	98.43%	100%
Stress-NG - G.C.S.F (Bogo Ops/s)	832719	832680	832847	787928
Normalized	99.98%	99.98%	100%	94.61%
Stress-NG - G.Q.D.S (Bogo Ops/s)	112.93	112.23	111.47	110
Normalized	100%	99.38%	98.71%	97.41%
Stress-NG - S.V.M.P (Bogo Ops/s)	5596201	5609565	5612170	5576410
Normalized	99.72%	99.95%	100%	99.36%


yquake2 8.0
Renderer: OpenGL 1.x - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
2
3
4
73.3
73.2
73.2
73.2
16
32
48
64
80
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 8.0
Renderer: OpenGL 3.x - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
2
3
4
84.5
84.5
84.5
84.6
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

yquake2 8.0

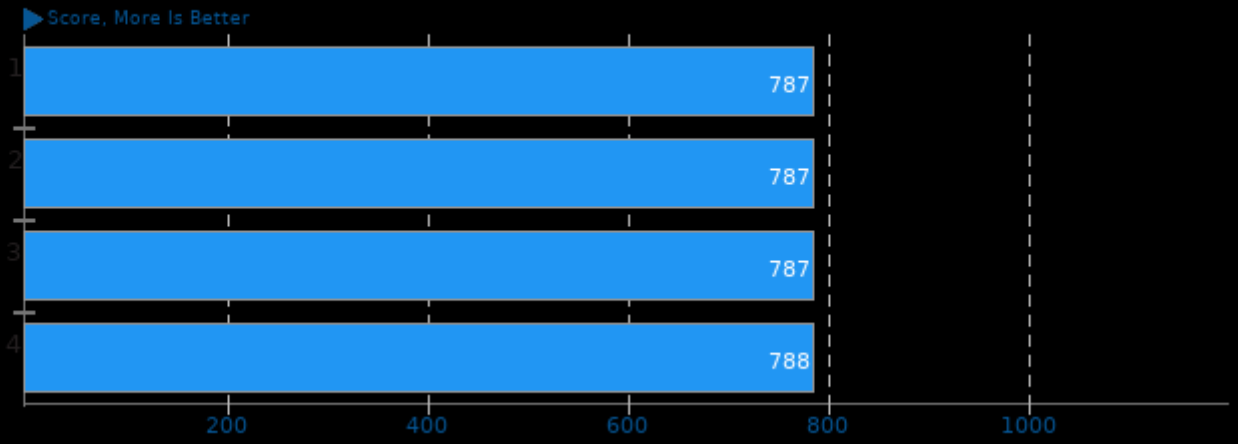
Renderer: Software CPU - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

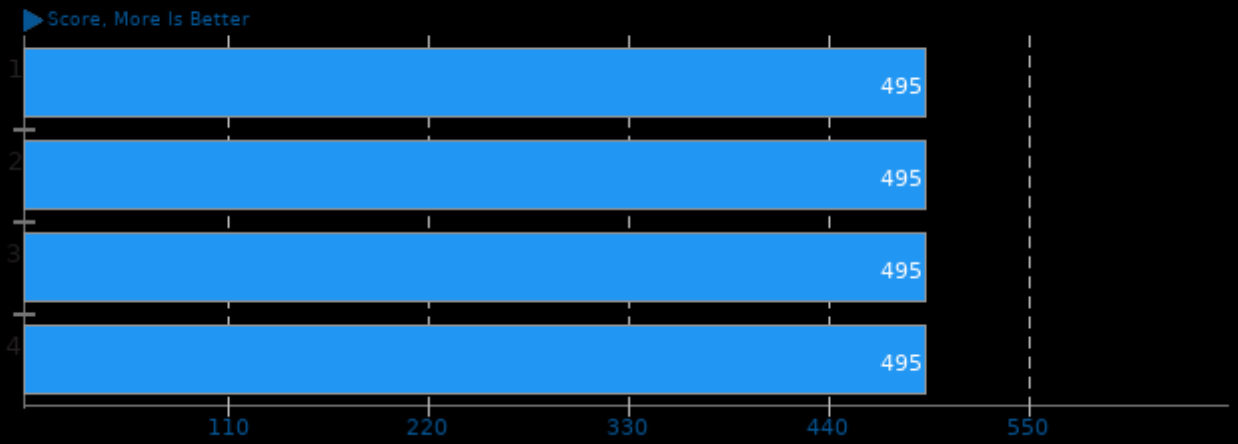
GLmark2 2021.08.30

Resolution: 800 x 600



GLmark2 2021.08.30

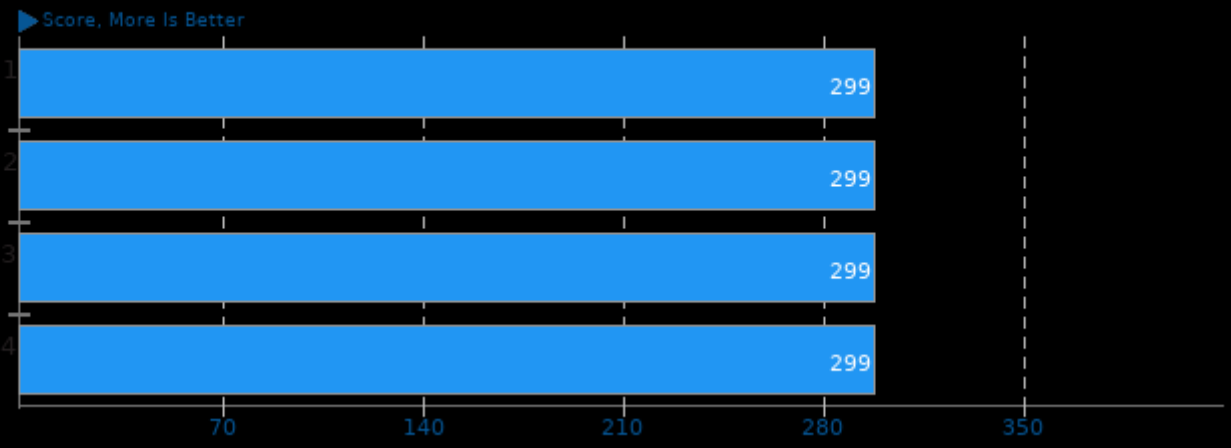
Resolution: 1024 x 768



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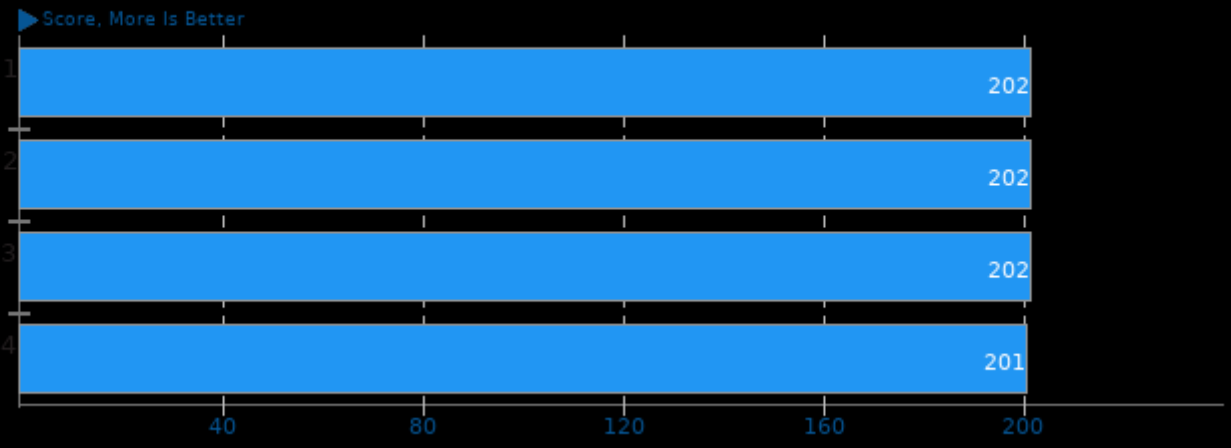
GLmark2 2021.08.30

Resolution: 1280 x 1024



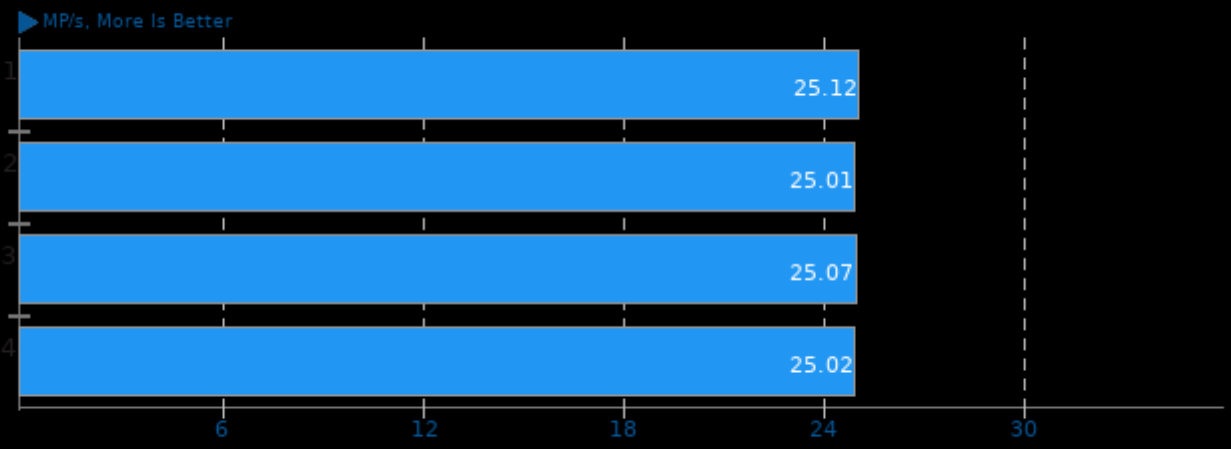
GLmark2 2021.08.30

Resolution: 1920 x 1080

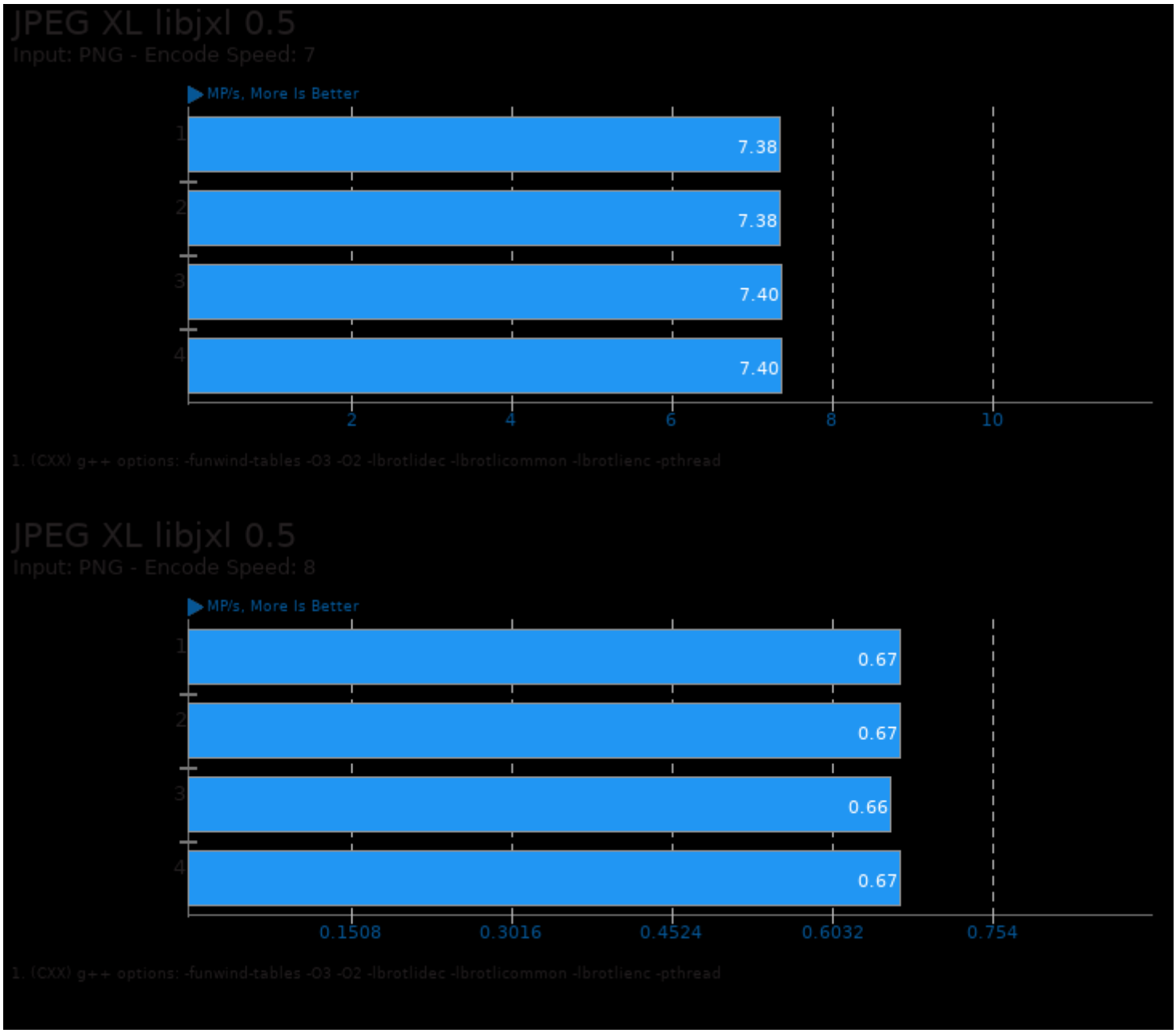


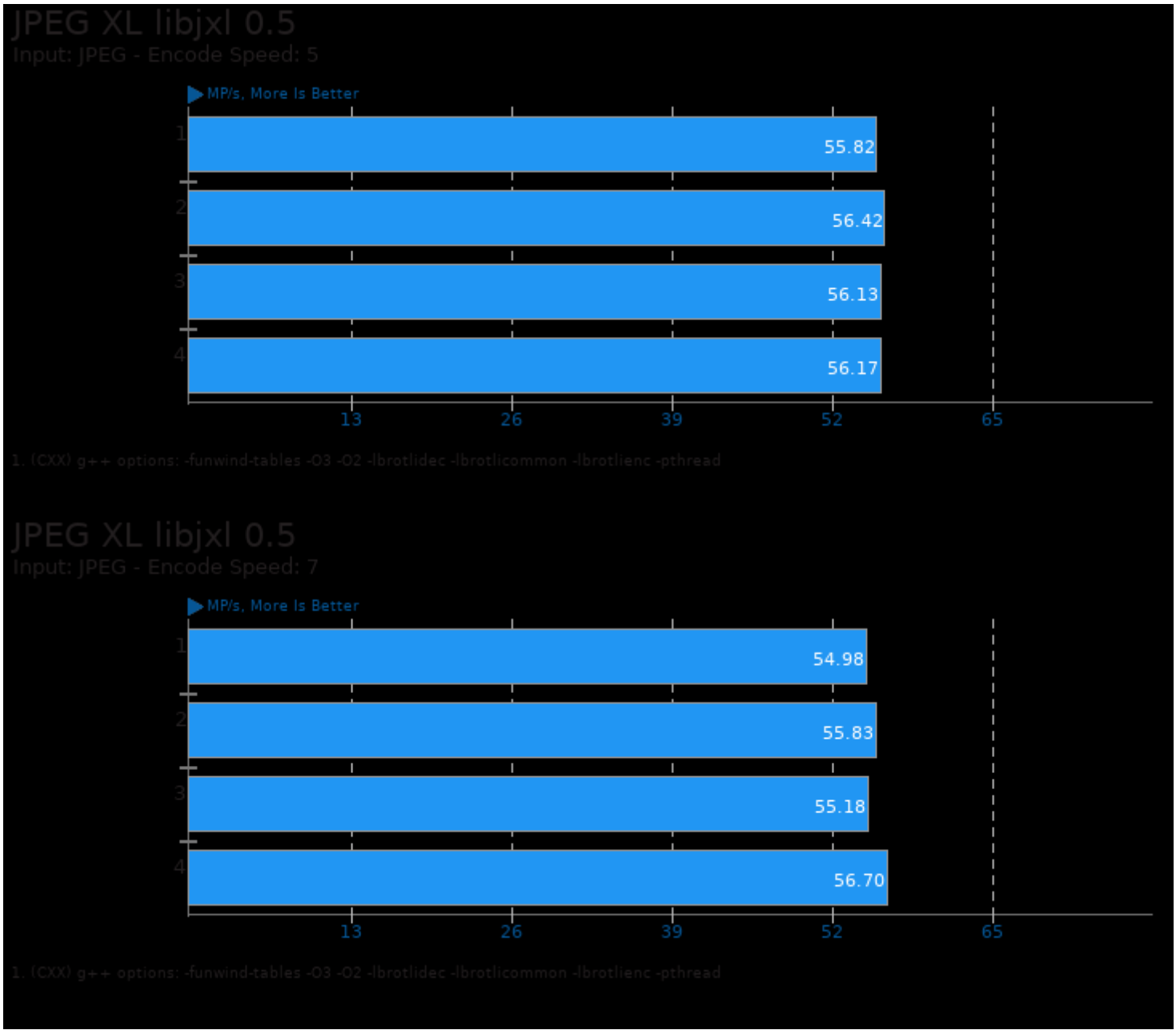
JPEG XL libjxl 0.5

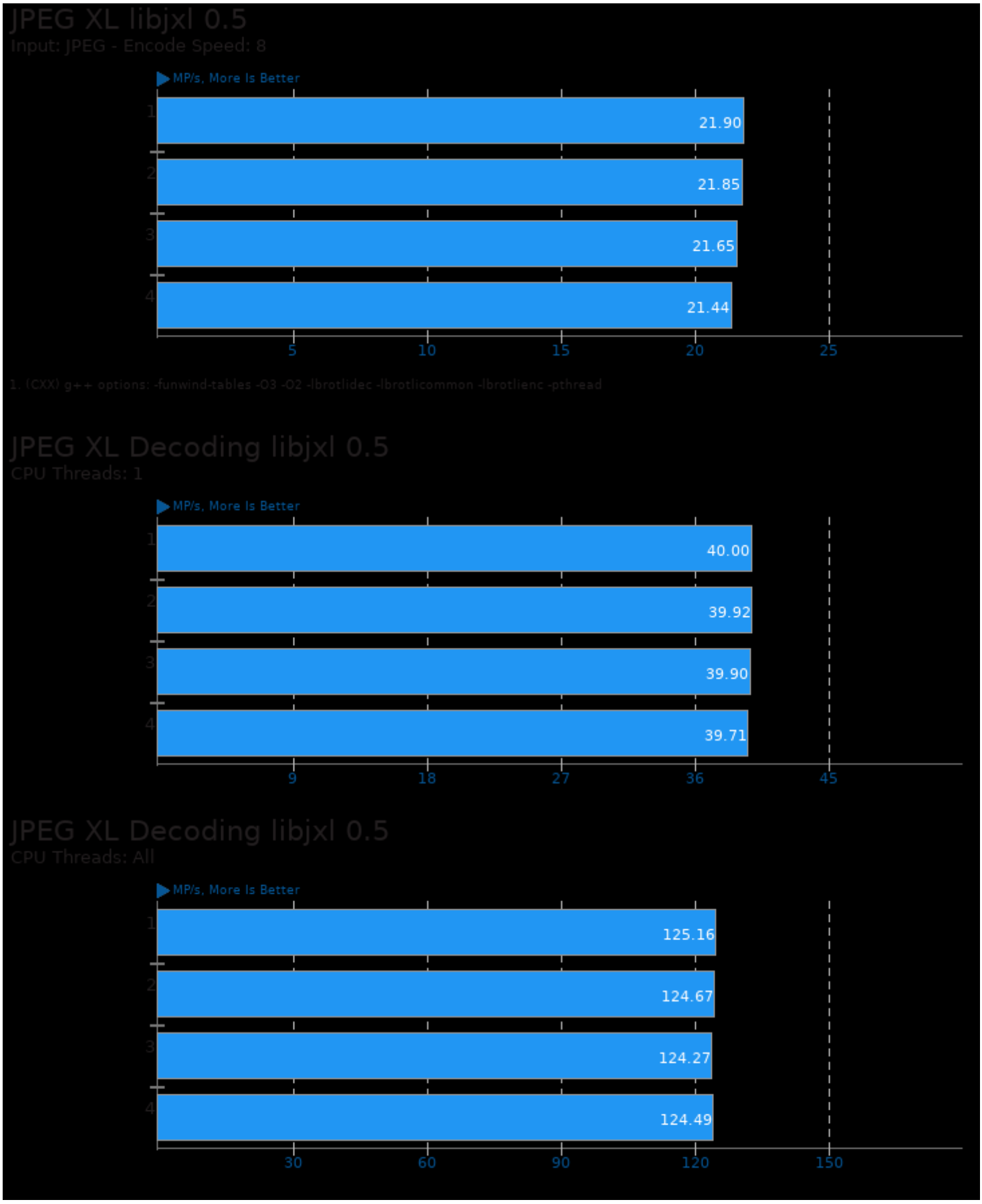
Input: PNG - Encode Speed: 5

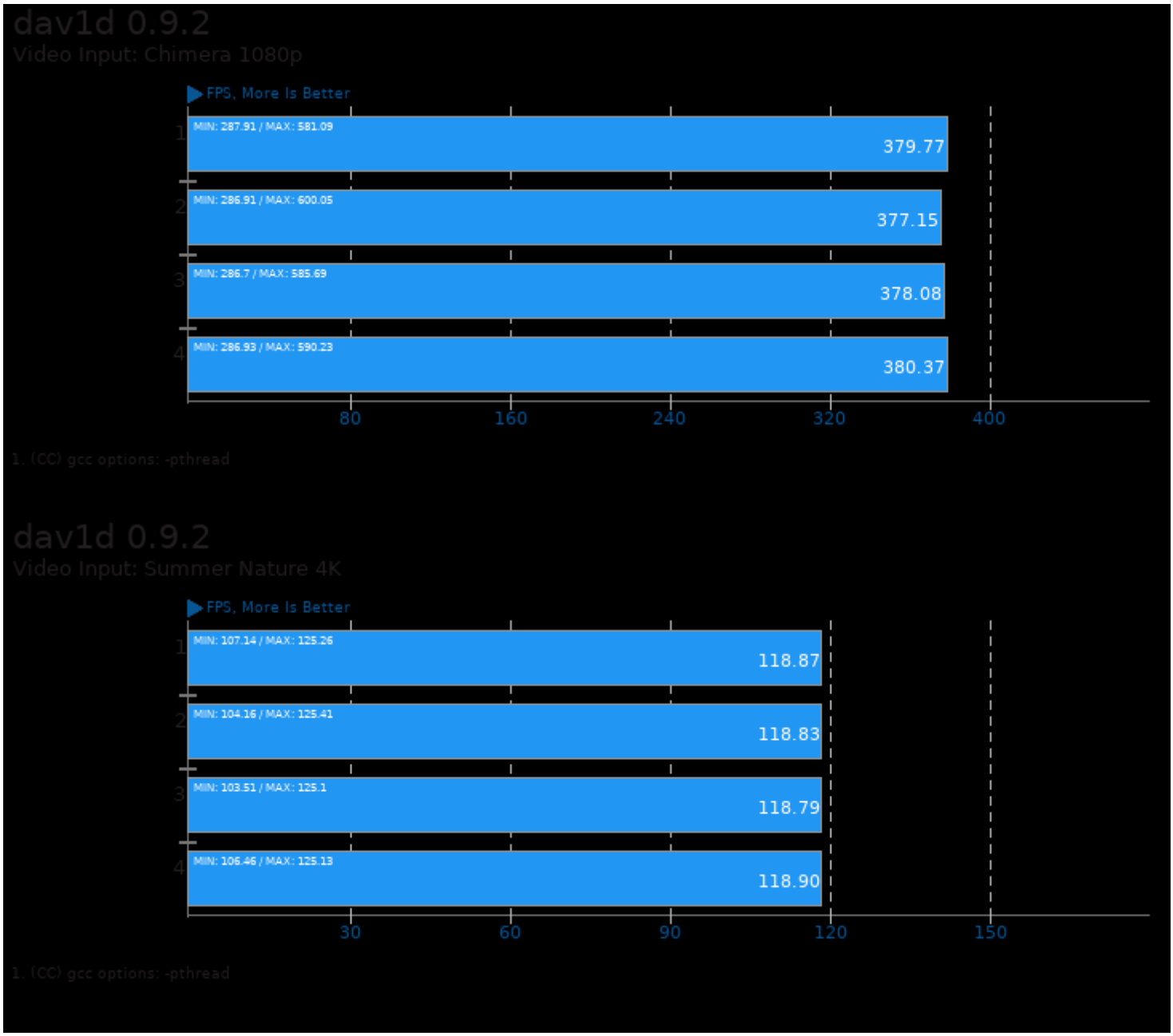


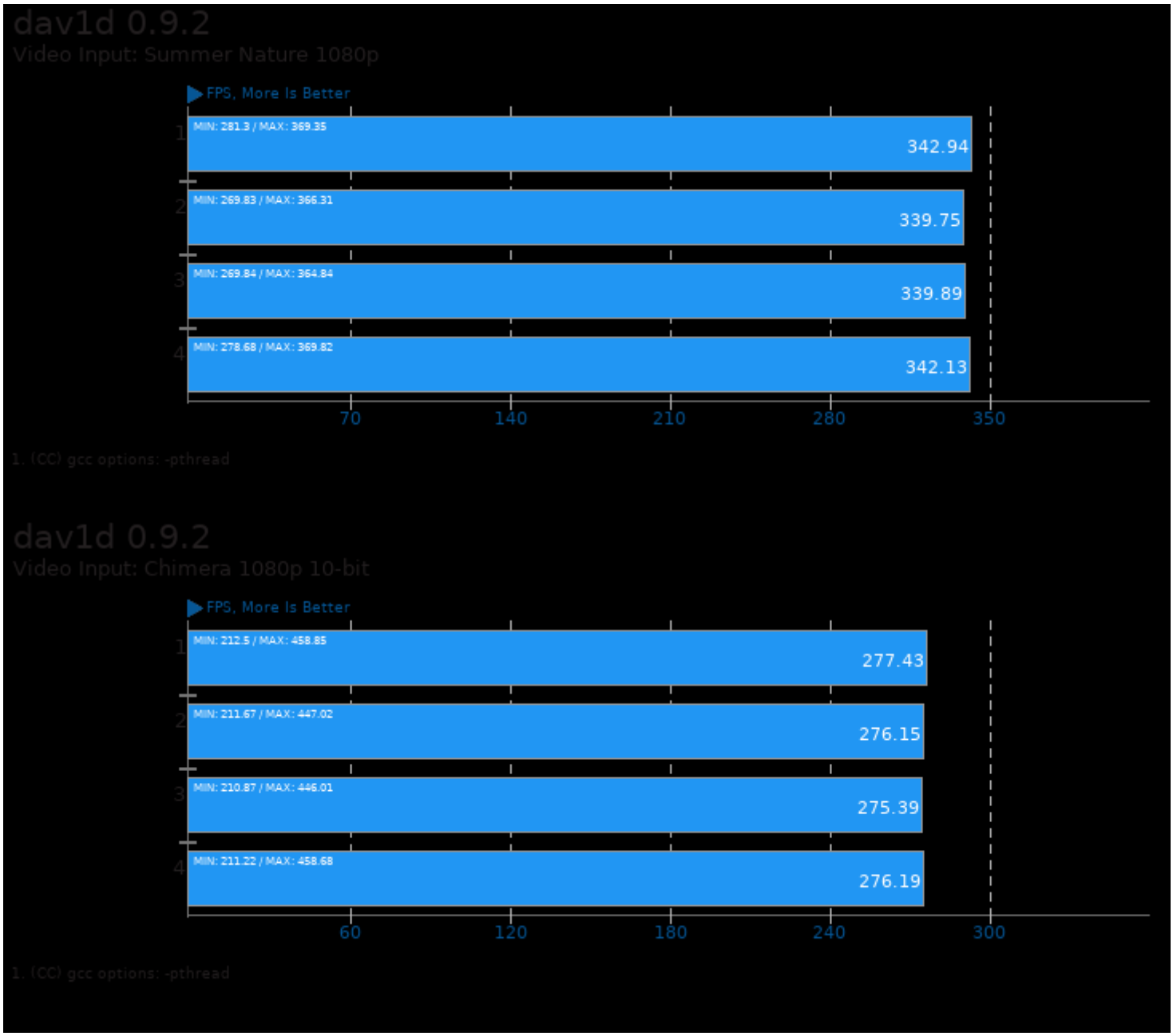
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread


JPEG XL libjxl 0.5
Input: PNG - Encode Speed: 7
MP/s, More Is Better
1
2
3
4
7.38
7.38
7.40
7.40
2
4
6
8
10
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread
JPEG XL libjxl 0.5
Input: PNG - Encode Speed: 8
MP/s, More Is Better
1
2
3
4
0.67
0.67
0.66
0.67
0.1508
0.3016
0.4524
0.6032
0.754
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread

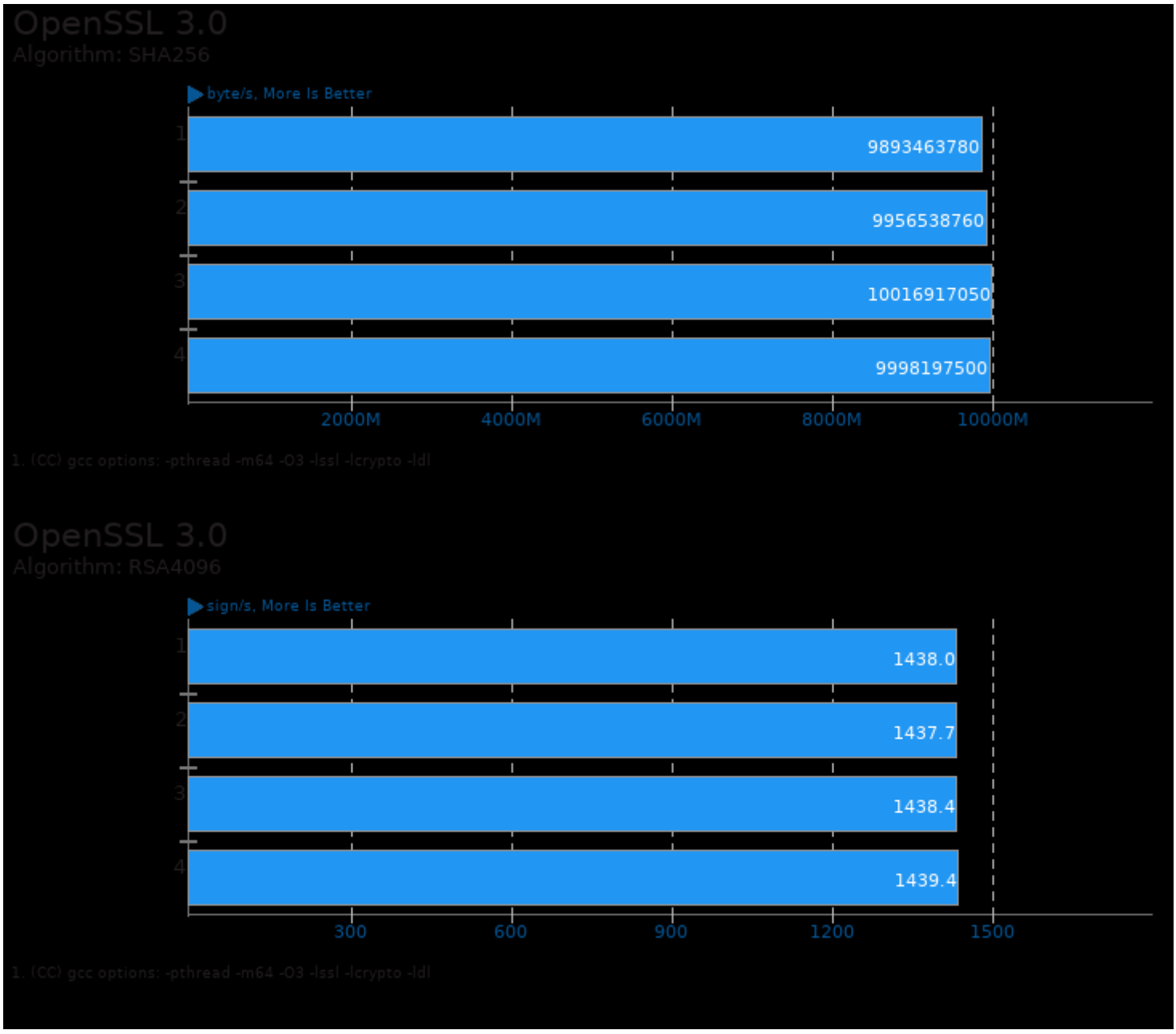

JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
1
2
3
4
55.82
56.42
56.13
56.17
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread
JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
1
2
3
4
54.98
55.83
55.18
56.70
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread

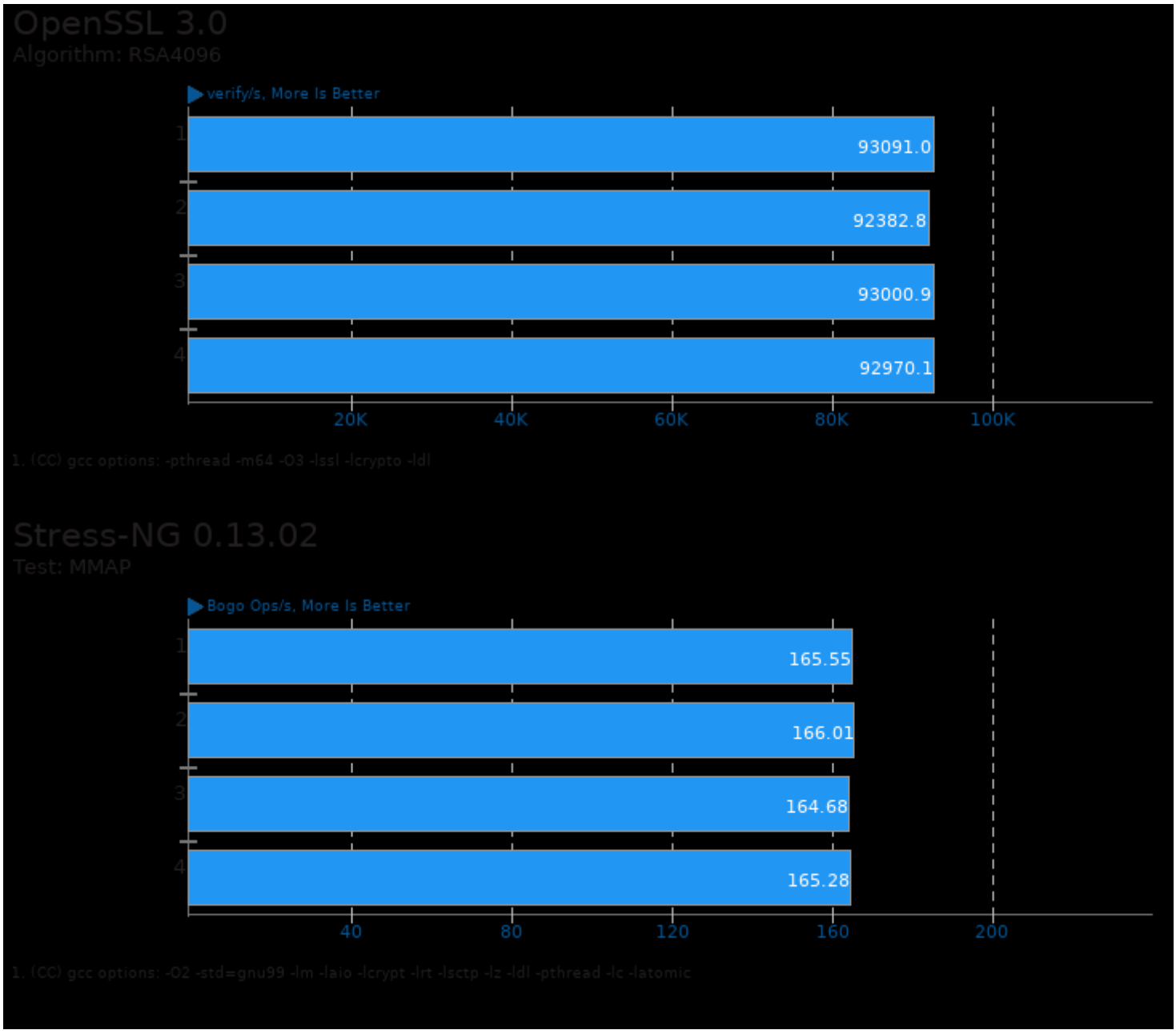

JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
1
2
3
4
21.90
21.85
21.65
21.44
5
10
15
20
25
1. (CXX) g++ options: -funwind-tables -O3 -O2 -lbrotlidec -lbrotlicommon -lbrotlienc -pthread
JPEG XL Decoding libjxl 0.5
CPU Threads: 1
MP/s, More Is Better
1
2
3
4
40.00
39.92
39.90
39.71
9
18
27
36
45
JPEG XL Decoding libjxl 0.5
CPU Threads: All
MP/s, More Is Better
1
2
3
4
125.16
124.67
124.27
124.49
30
60
90
120
150

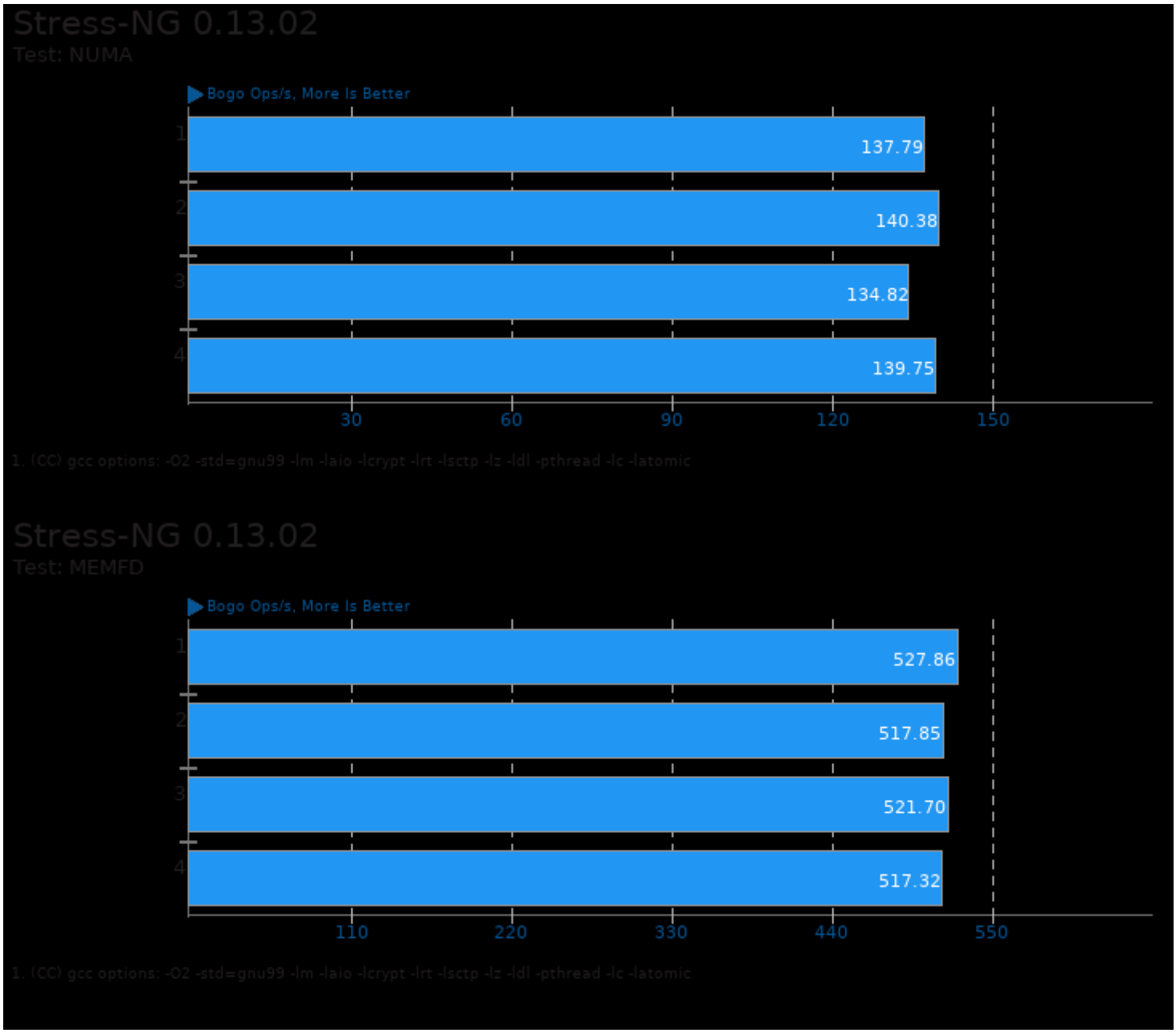

dav1d 0.9.2
Video Input: Chimera 1080p
FPS, More Is Better
1
MIN: 287.91 / MAX: 581.09
379.77
2
MIN: 286.91 / MAX: 600.05
377.15
3
MIN: 286.7 / MAX: 585.69
378.08
4
MIN: 286.93 / MAX: 590.23
380.37
80
160
240
320
400
1. (CC) gcc options: -pthread
dav1d 0.9.2
Video Input: Summer Nature 4K
FPS, More Is Better
1
MIN: 107.14 / MAX: 125.26
118.87
2
MIN: 104.16 / MAX: 125.41
118.83
3
MIN: 103.51 / MAX: 125.1
118.79
4
MIN: 106.46 / MAX: 125.13
118.90
30
60
90
120
150
1. (CC) gcc options: -pthread

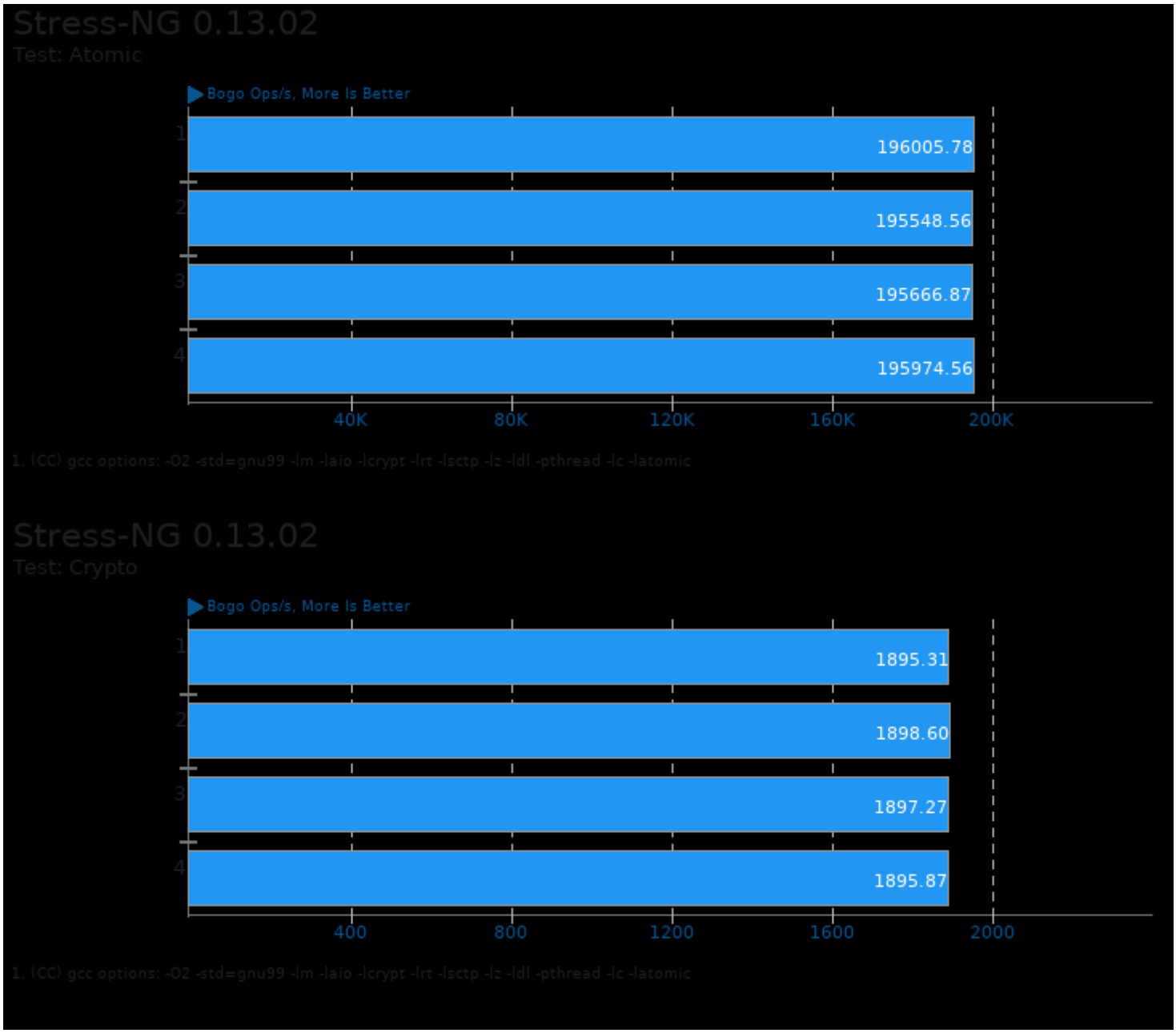

dav1d 0.9.2
Video Input: Summer Nature 1080p
FPS, More Is Better
1
MIN: 281.3 / MAX: 369.35
342.94
2
MIN: 269.83 / MAX: 366.31
339.75
3
MIN: 269.84 / MAX: 364.84
339.89
4
MIN: 278.68 / MAX: 369.82
342.13
70
140
210
280
350
1. (CC) gcc options: -pthread
dav1d 0.9.2
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
1
MIN: 212.5 / MAX: 458.85
277.43
2
MIN: 211.67 / MAX: 447.02
276.15
3
MIN: 210.87 / MAX: 446.01
275.39
4
MIN: 211.22 / MAX: 458.68
276.19
60
120
180
240
300
1. (CC) gcc options: -pthread

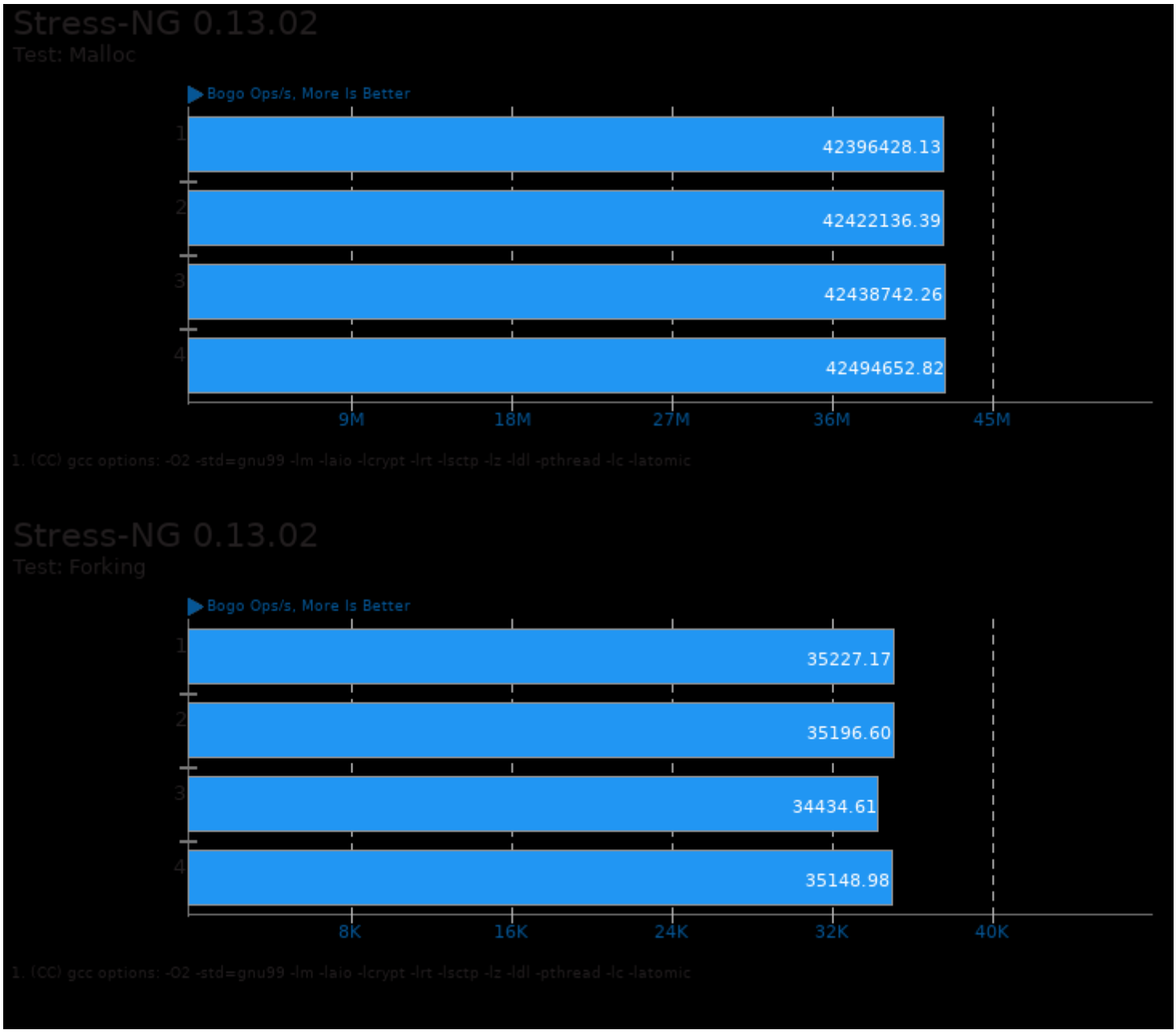
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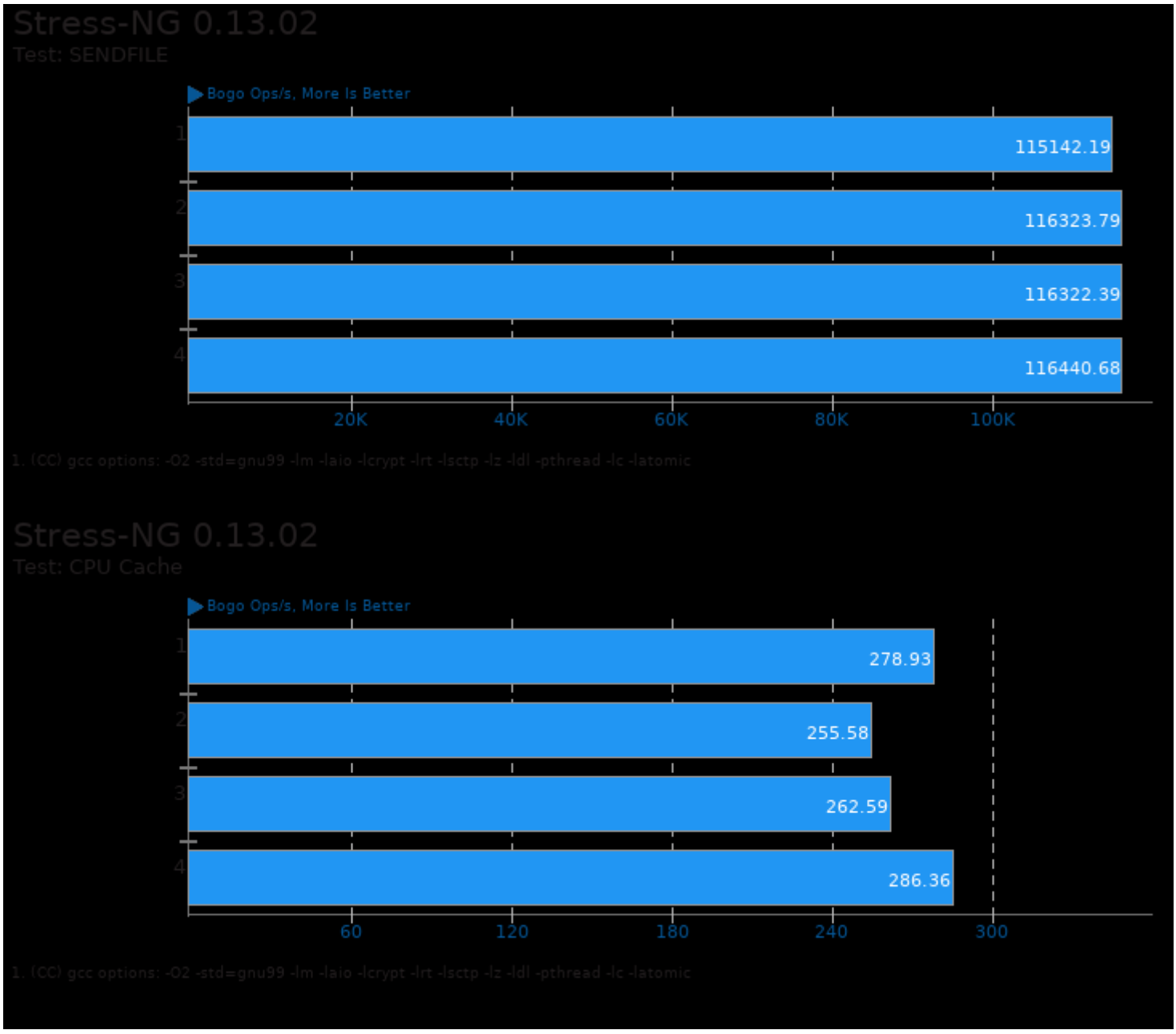


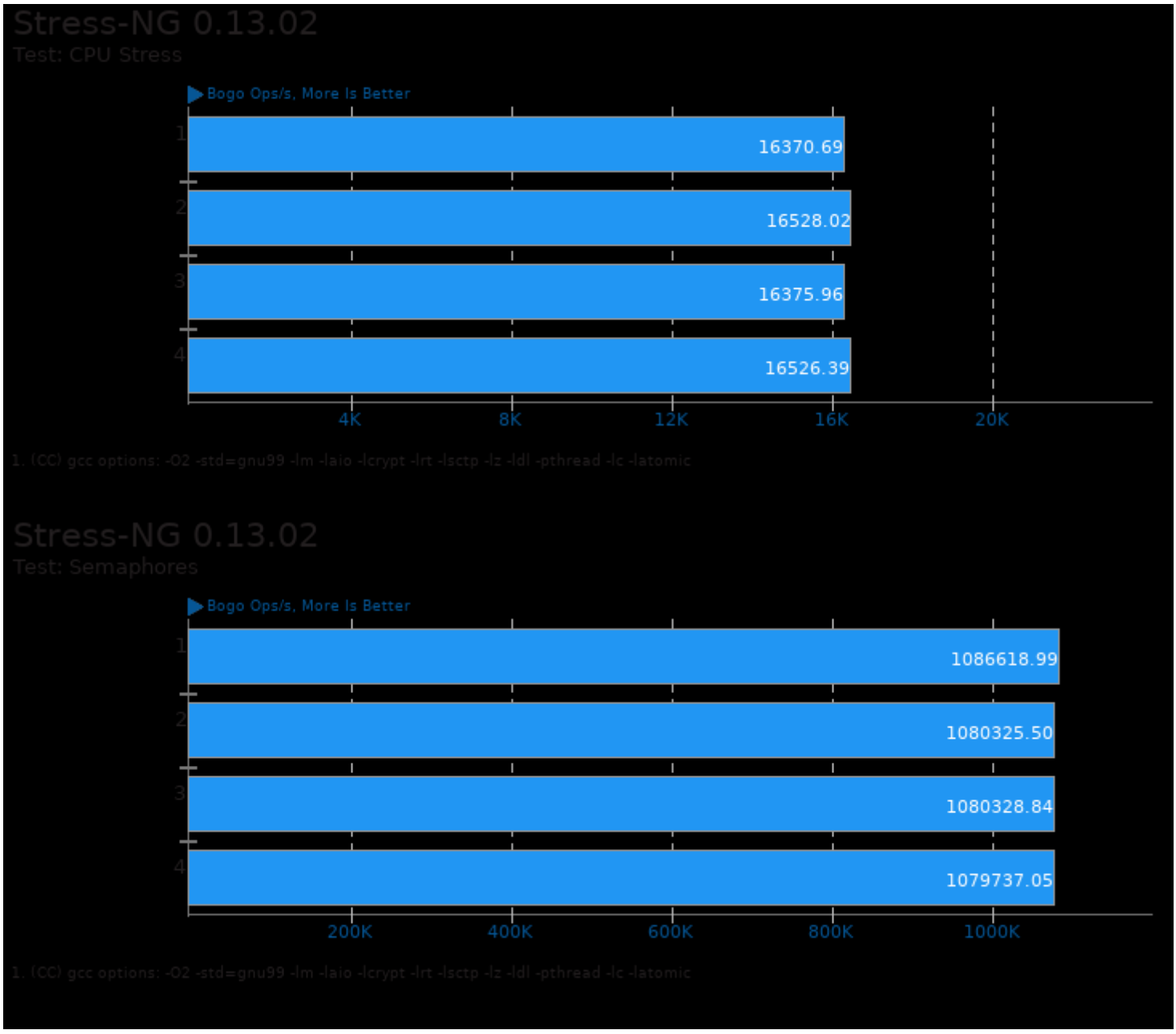

OpenSSL 3.0
Algorithm: RSA4096
verify/s, More Is Better
1
2
3
4
93091.0
92382.8
93000.9
92970.1
20K
40K
60K
80K
100K
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
Stress-NG 0.13.02
Test: MMAP
Bogo Ops/s, More Is Better
1
2
3
4
165.55
166.01
164.68
165.28
40
80
120
160
200
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

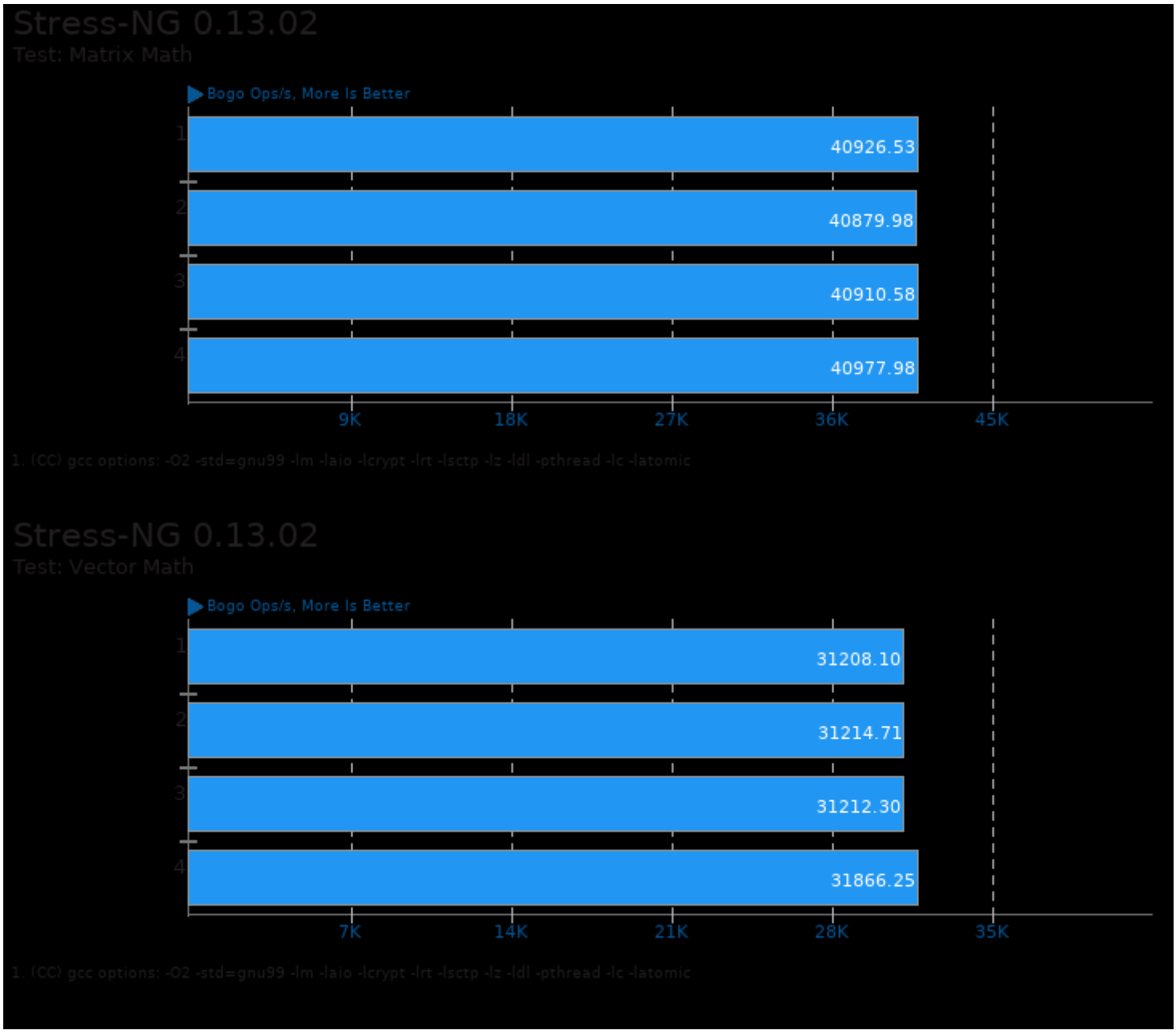

Stress-NG 0.13.02
Test: NUMA
Bogo Ops/s, More Is Better
1
2
3
4
137.79
140.38
134.82
139.75
30
60
90
120
150
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: MEMFD
Bogo Ops/s, More Is Better
1
2
3
4
527.86
517.85
521.70
517.32
110
220
330
440
550
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

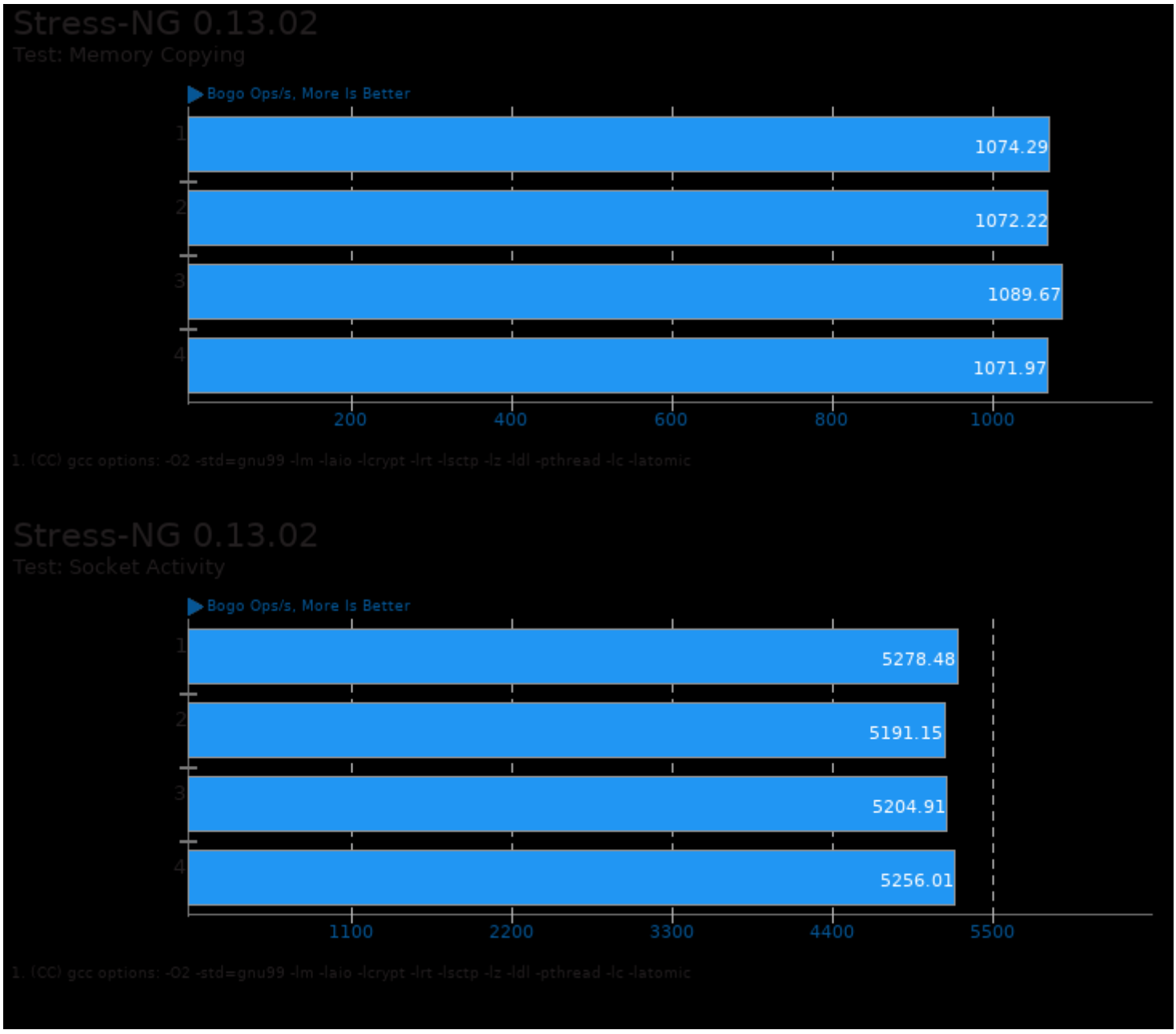

Stress-NG 0.13.02
Test: Atomic
Bogo Ops/s, More Is Better
1
2
3
4
196005.78
195548.56
195666.87
195974.56
40K
80K
120K
160K
200K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Crypto
Bogo Ops/s, More Is Better
1
2
3
4
1895.31
1898.60
1897.27
1895.87
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

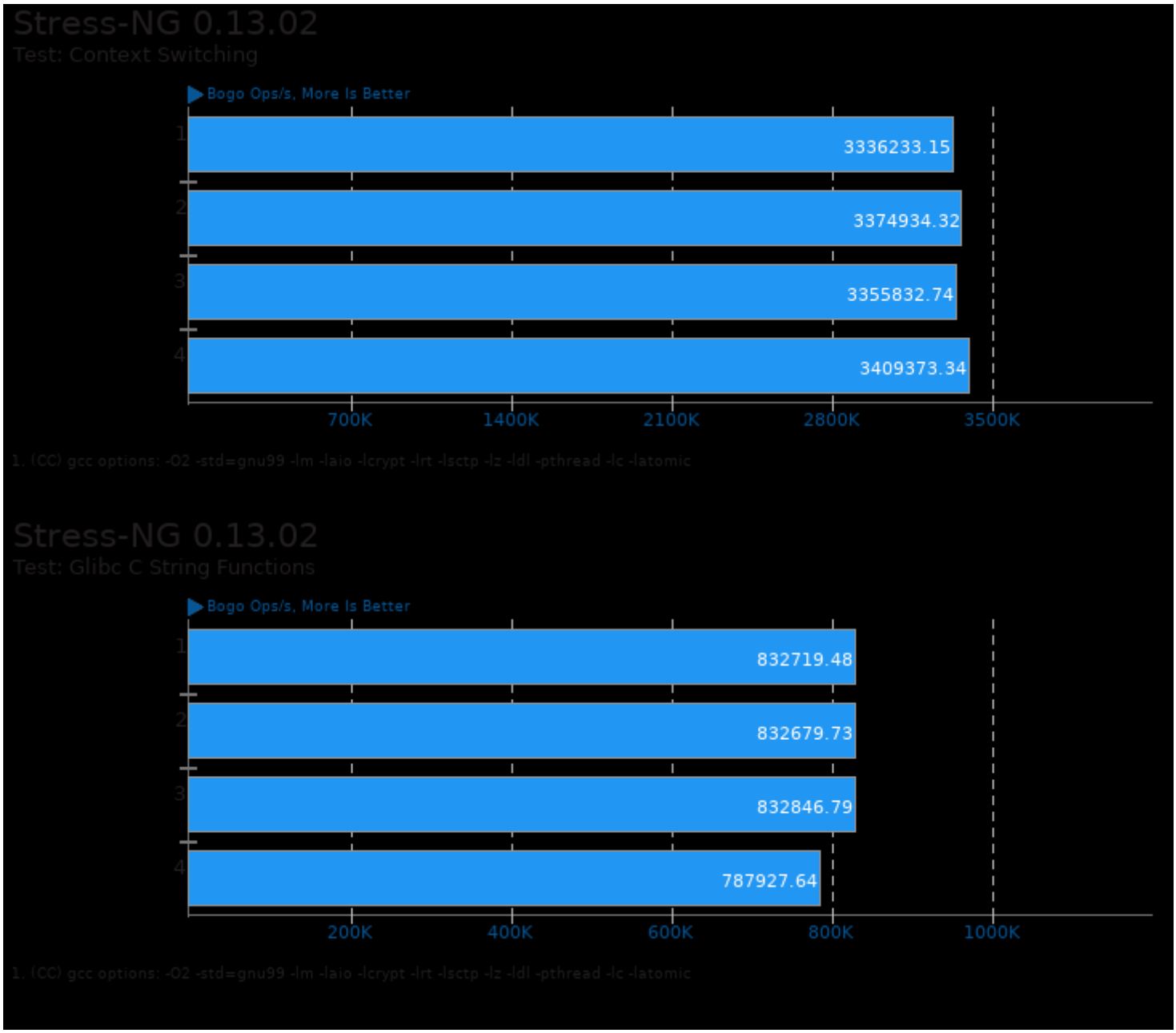

Stress-NG 0.13.02
Test: Malloc
Bogo Ops/s, More Is Better
1
2
3
4
42396428.13
42422136.39
42438742.26
42494652.82
9M
18M
27M
36M
45M
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Forking
Bogo Ops/s, More Is Better
1
2
3
4
35227.17
35196.60
34434.61
35148.98
8K
16K
24K
32K
40K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

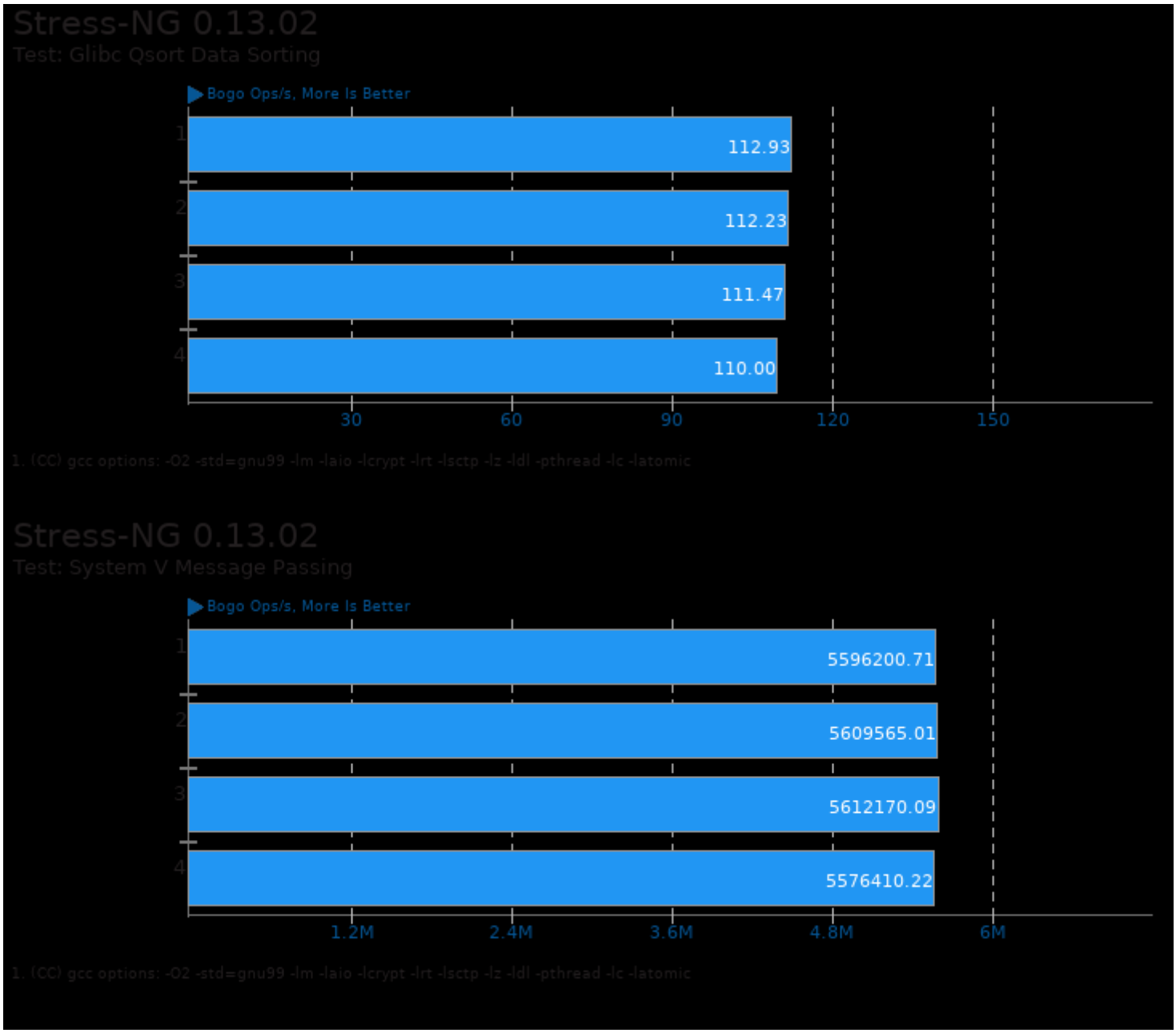

Stress-NG 0.13.02
Test: SENDFILE
Bogo Ops/s, More Is Better
1
2
3
4
115142.19
116323.79
116322.39
116440.68
20K
40K
60K
80K
100K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: CPU Cache
Bogo Ops/s, More Is Better
1
2
3
4
278.93
255.58
262.59
286.36
60
120
180
240
300
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: CPU Stress
Bogo Ops/s, More Is Better
1
16370.69
2
16528.02
3
16375.96
4
16526.39
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Semaphores
Bogo Ops/s, More Is Better
1
1086618.99
2
1080325.50
3
1080328.84
4
1079737.05
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: Matrix Math
Bogo Ops/s, More Is Better
1
2
3
4
40926.53
40879.98
40910.58
40977.98
9K
18K
27K
36K
45K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Vector Math
Bogo Ops/s, More Is Better
1
2
3
4
31208.10
31214.71
31212.30
31866.25
7K
14K
21K
28K
35K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

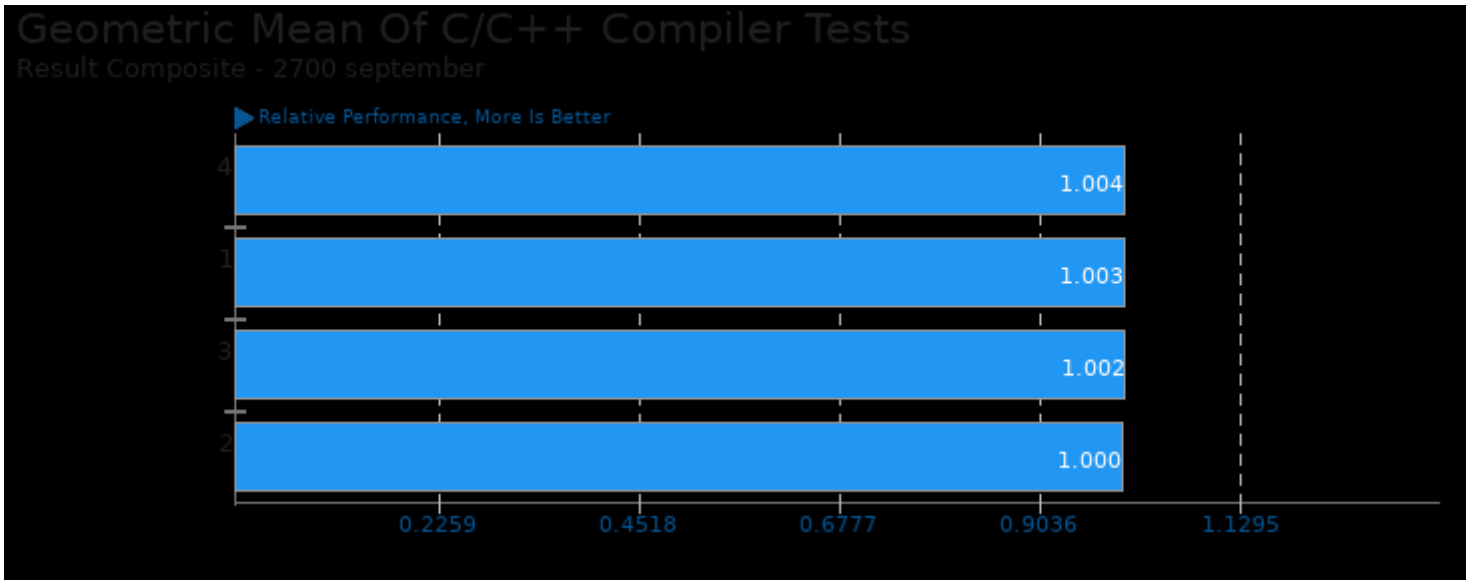

Stress-NG 0.13.02
Test: Memory Copying
Bogo Ops/s, More Is Better
1
2
3
4
1074.29
1072.22
1089.67
1071.97
200
400
600
800
1000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Socket Activity
Bogo Ops/s, More Is Better
1
2
3
4
5278.48
5191.15
5204.91
5256.01
1100
2200
3300
4400
5500
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: Context Switching
Bogo Ops/s, More Is Better
1
2
3
4
3336233.15
3374934.32
3355832.74
3409373.34
700K
1400K
2100K
2800K
3500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
1
2
3
4
832719.48
832679.73
832846.79
787927.64
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

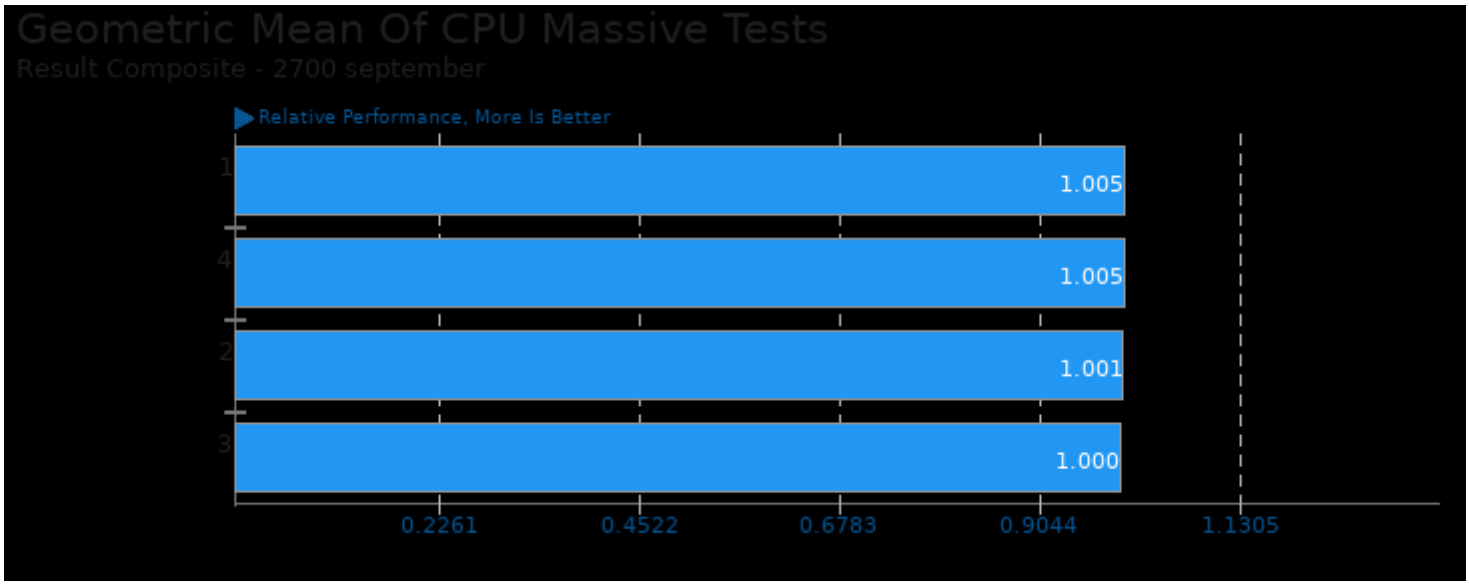

Stress-NG 0.13.02
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
1
2
3
4
112.93
112.23
111.47
110.00
30
60
90
120
150
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: System V Message Passing
Bogo Ops/s, More Is Better
1
2
3
4
5596200.71
5609565.01
5612170.09
5576410.22
1.2M
2.4M
3.6M
4.8M
6M
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

2700 september

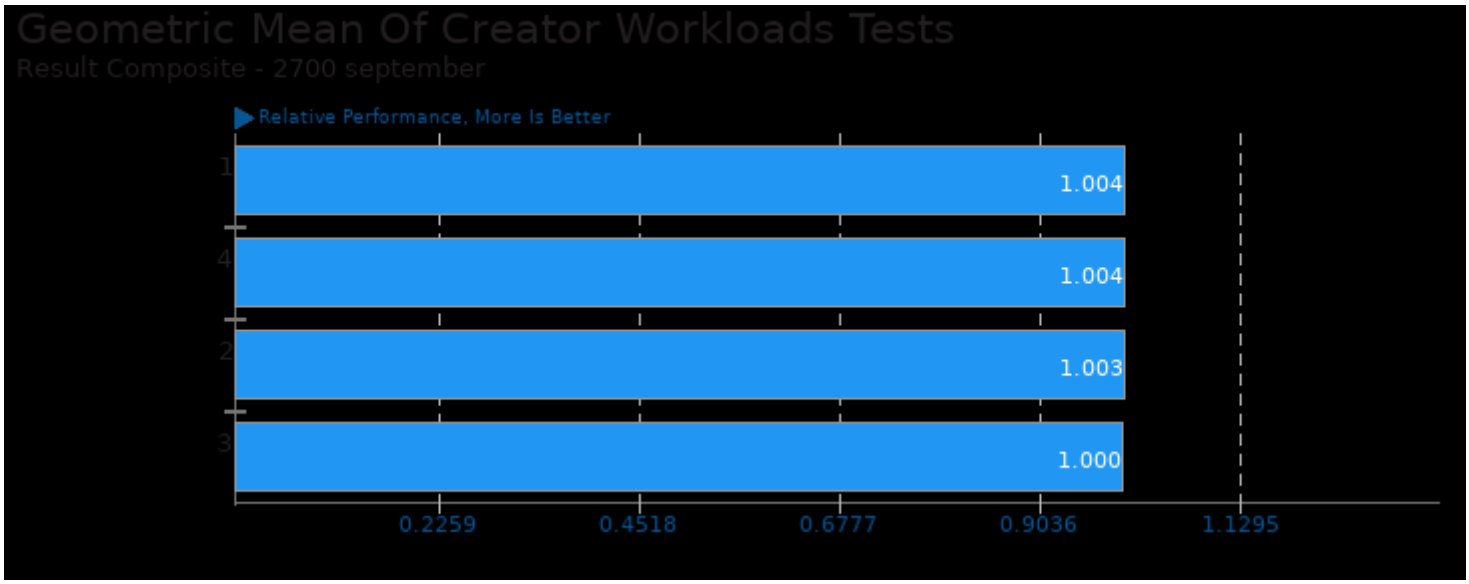
These geometric means are based upon test groupings / test suites for this result file.



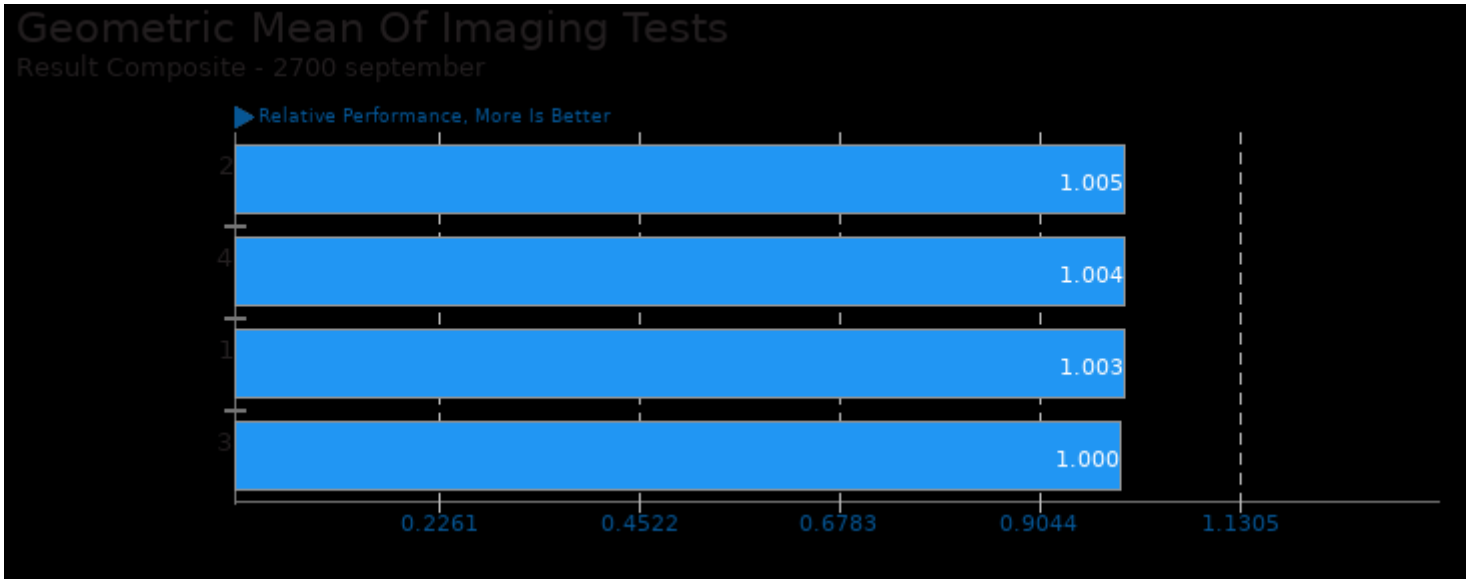
Geometric mean based upon tests: pts/dav1d and pts/openssl



Geometric mean based upon tests: pts/dav1d, pts/openssl and pts/stress-ng

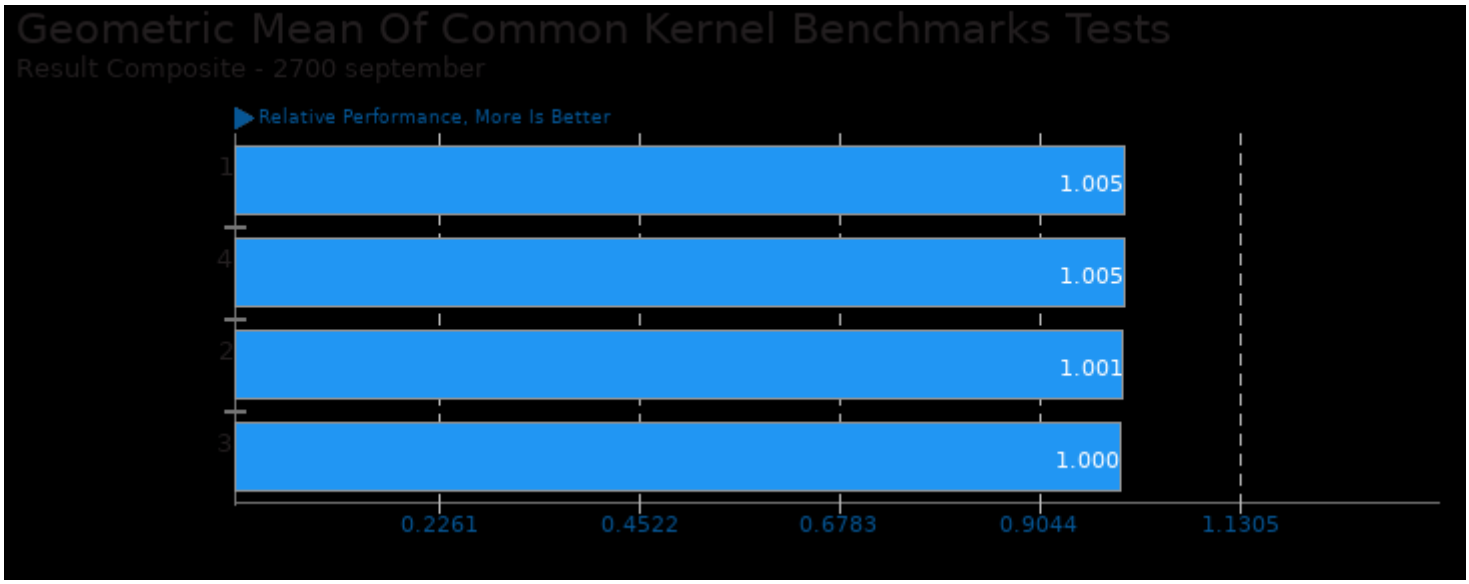


Geometric mean based upon tests: pts/dav1d, pts/jpegxl and pts/jpegxl-decode

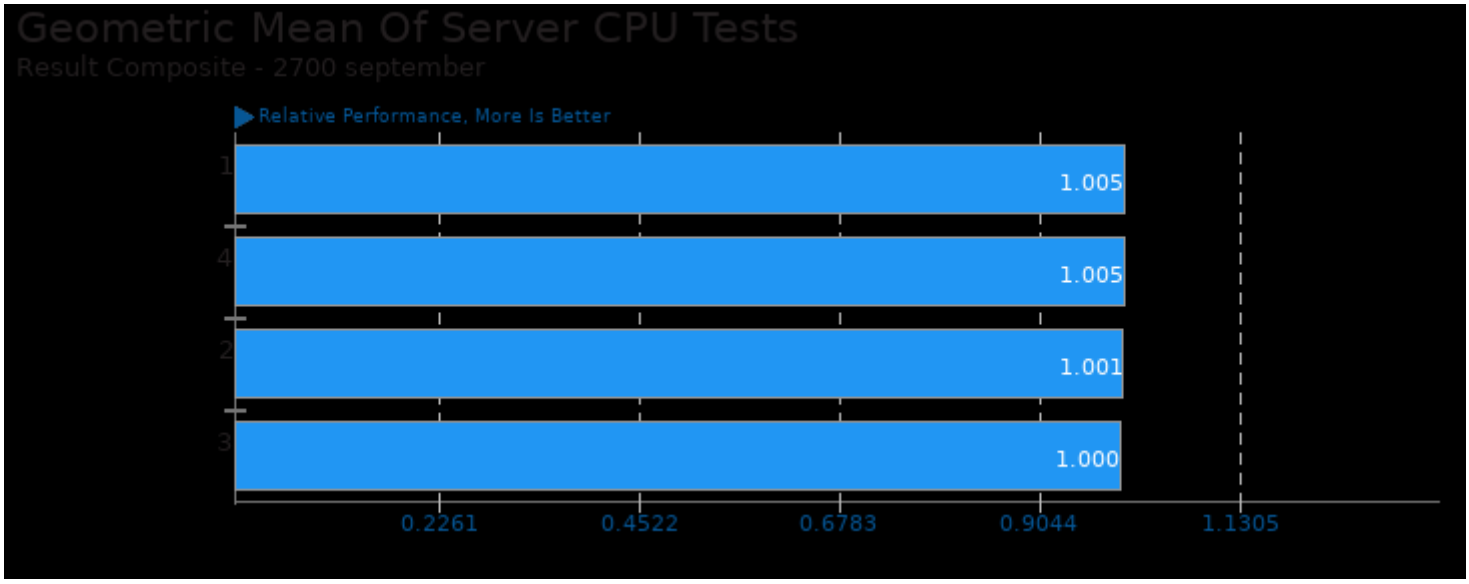


Geometric mean based upon tests: pts/jpegxl and pts/jpegxl-decode

2700 september



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



Geometric mean based upon tests: pts/dav1d, pts/openssl and pts/stress-ng

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:09.