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AMD EPYC 7551 32-Core testing with a GIGABYTE MZ31-AR0-00 v01010101 (F10 BIOS) and ASPEED on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

B had the most wins, coming in first place for 57% of the tests.

Based on the geometric mean of all complete results, the fastest (B) was 1.038x the speed of the slowest (A). C was 0.99x the speed of B and A was 0.973x the speed of C.

Test Systems:

A

B

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C

Processor: AMD EPYC 7551 32-Core @ 2.00GHz (32 Cores / 64 Threads), Motherboard: GIGABYTE MZ31-AR0-00 v01010101 (F10 BIOS), Chipset: AMD 17h, Memory: 8 x 4 GB DDR4-2667MT/s 9ASF51272PZ-2G6E1, Disk: Samsung SSD 960 EVO 500GB + 31GB SanDisk 3.2Gen1, Graphics: ASPEED, Network: Realtek RTL8111/8168/8411 + 2 x Broadcom NetXtreme II BCM57810 10

OS: Debian 11, Kernel: 5.10.0-9-amd64 (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

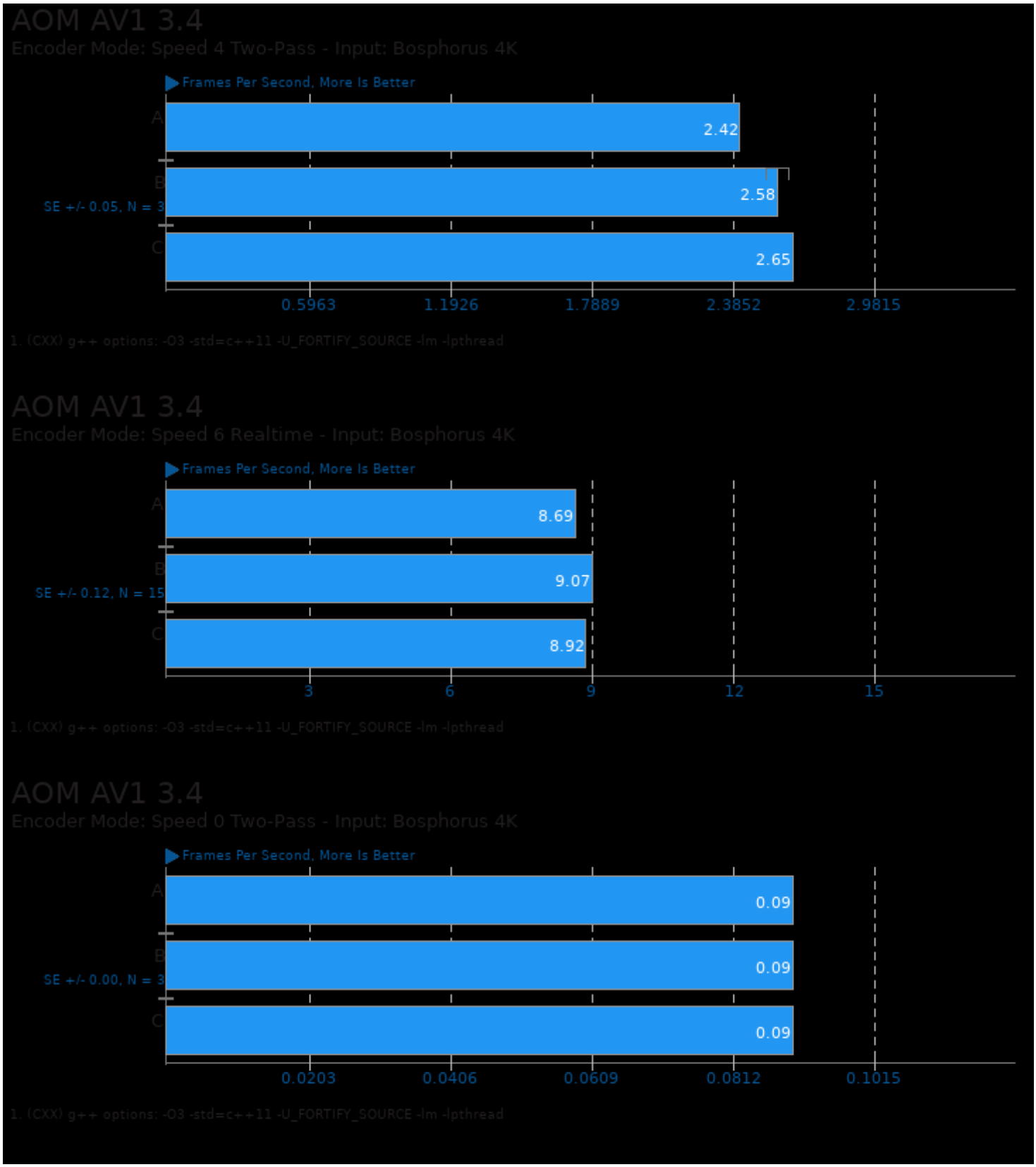
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8001227
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

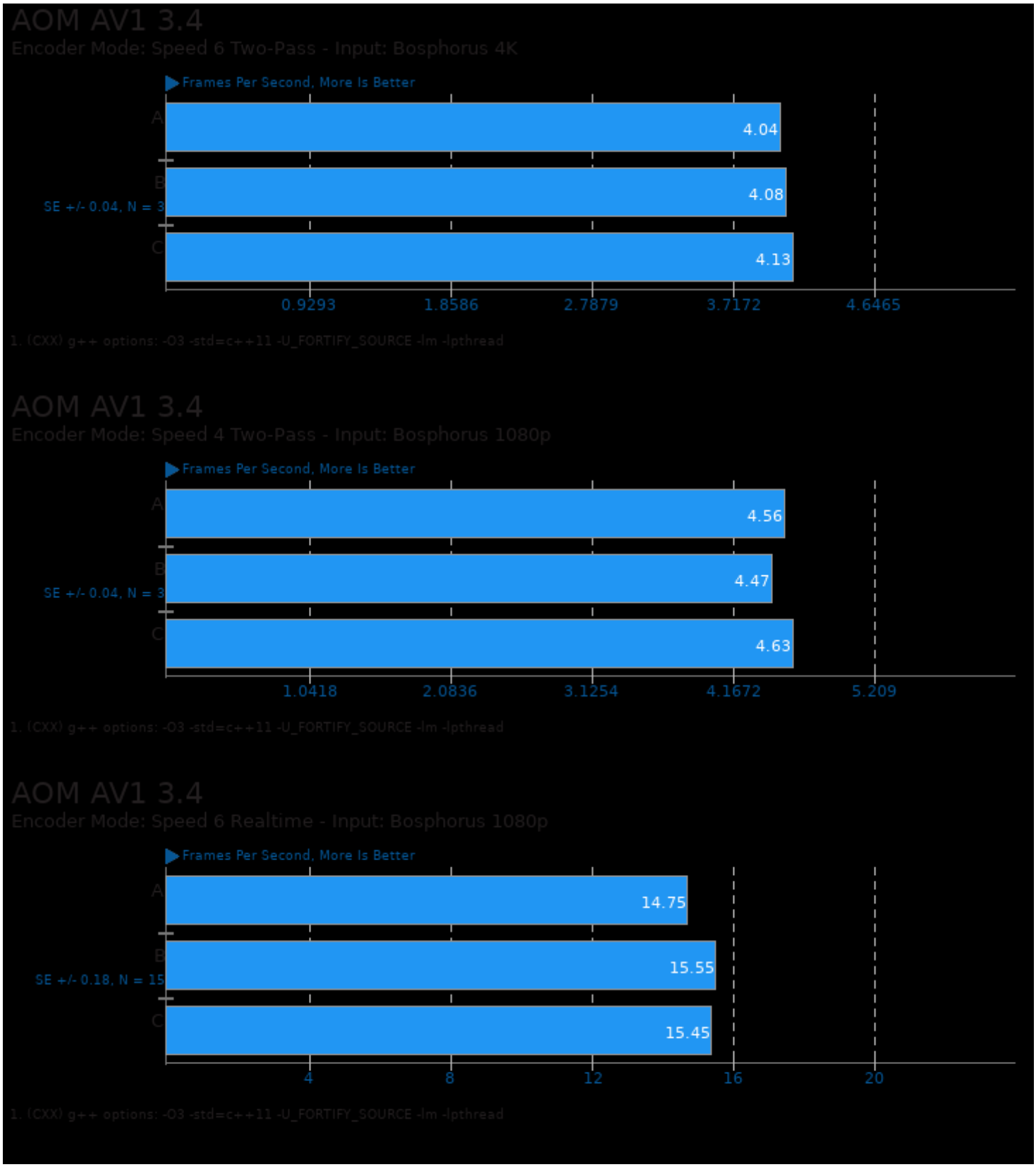
	A	B	C
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**2.42**	2.58	**2.65**
Normalized	91.32%	97.36%	100%
Standard Deviation		3.1%	
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**8.69**	**9.07**	8.92
Normalized	95.81%	100%	98.35%
Standard Deviation		5.3%	
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.09	0.09	0.09
Standard Deviation		0%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**4.04**	4.08	**4.13**
Normalized	97.82%	98.79%	100%
Standard Deviation		1.7%	
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	4.56	**4.47**	**4.63**
Normalized	98.49%	96.54%	100%
Standard Deviation		1.5%	
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**14.75**	**15.55**	15.45
Normalized	94.86%	100%	99.36%
Standard Deviation		4.5%	
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.24	0.24	0.24
Standard Deviation		2.4%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**9.78**	9.55	**9.53**
Normalized	100%	97.65%	97.44%

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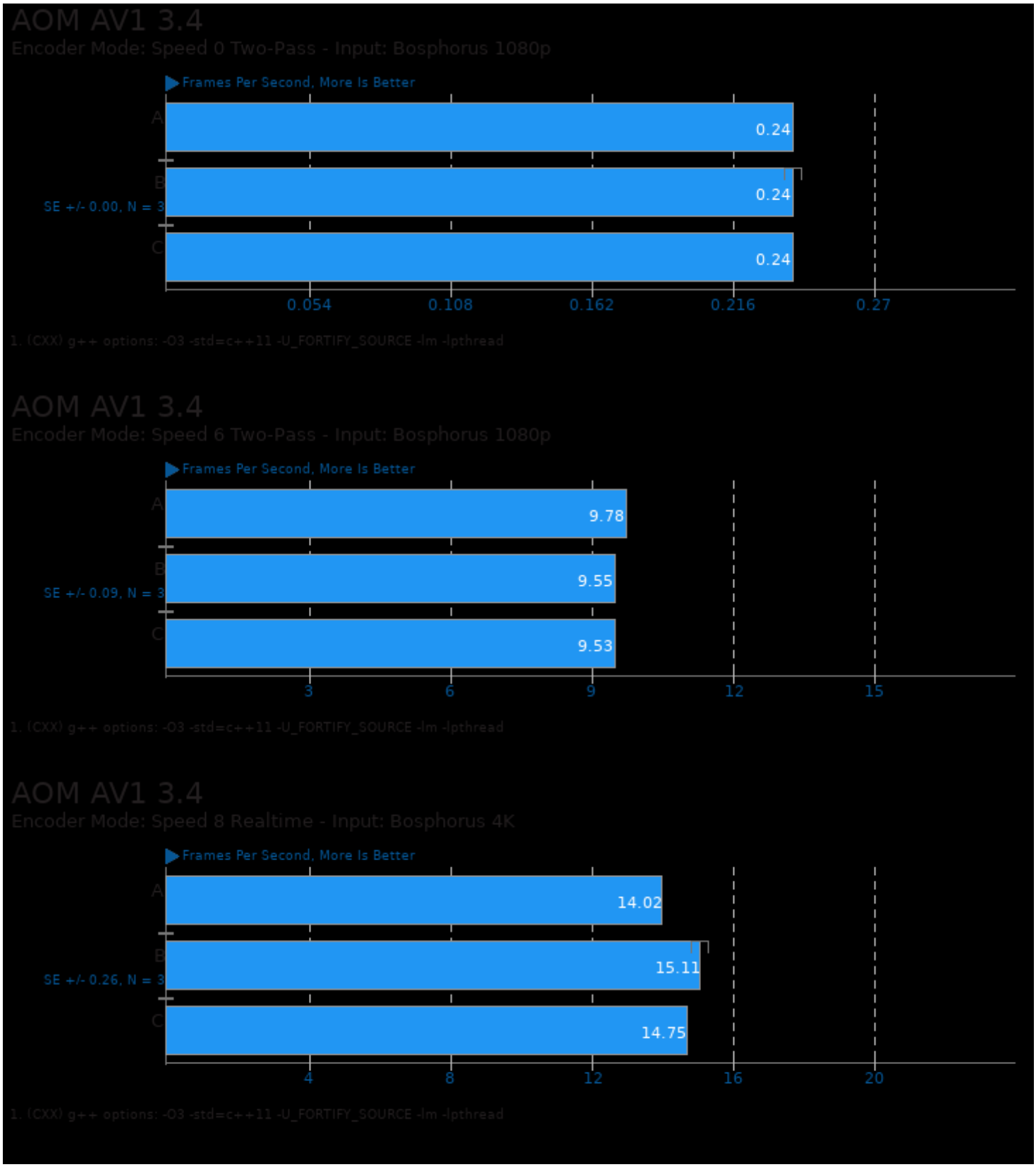
Standard Deviation		1.6%	
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	14.02	15.11	14.75
Normalized	92.79%	100%	97.62%
Standard Deviation		2.9%	
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	19.78	21.34	21.14
Normalized	92.69%	100%	99.06%
Standard Deviation		0.7%	
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	19.7	22.46	21.89
Normalized	87.71%	100%	97.46%
Standard Deviation		2.7%	
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	39.08	40.67	39.02
Normalized	96.09%	100%	95.94%
Standard Deviation		1.4%	
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	49.72	53.14	52.31
Normalized	93.56%	100%	98.44%
Standard Deviation		0.9%	
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	56.73	57.12	52.95
Normalized	99.32%	100%	92.7%
Standard Deviation		1.6%	

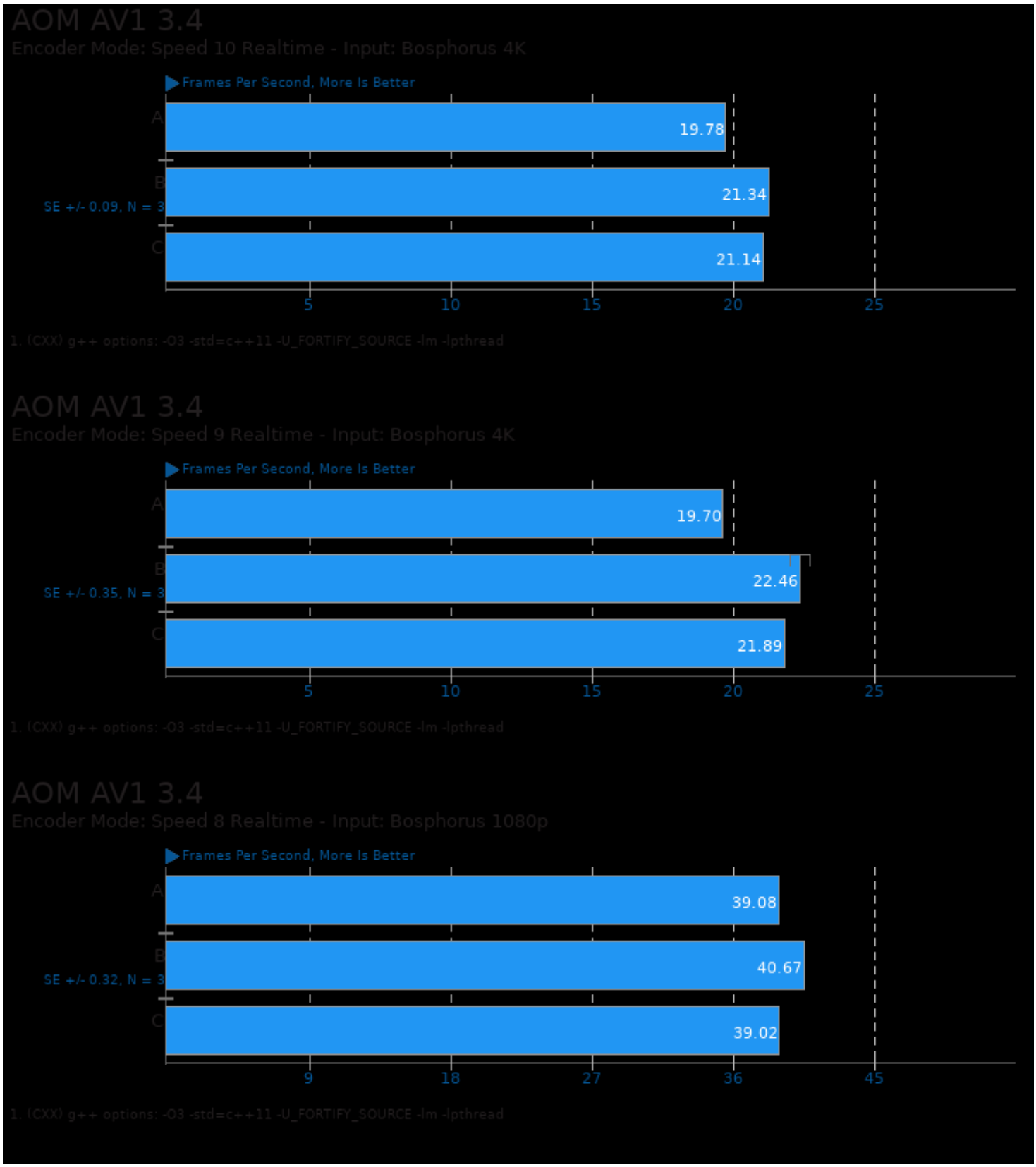
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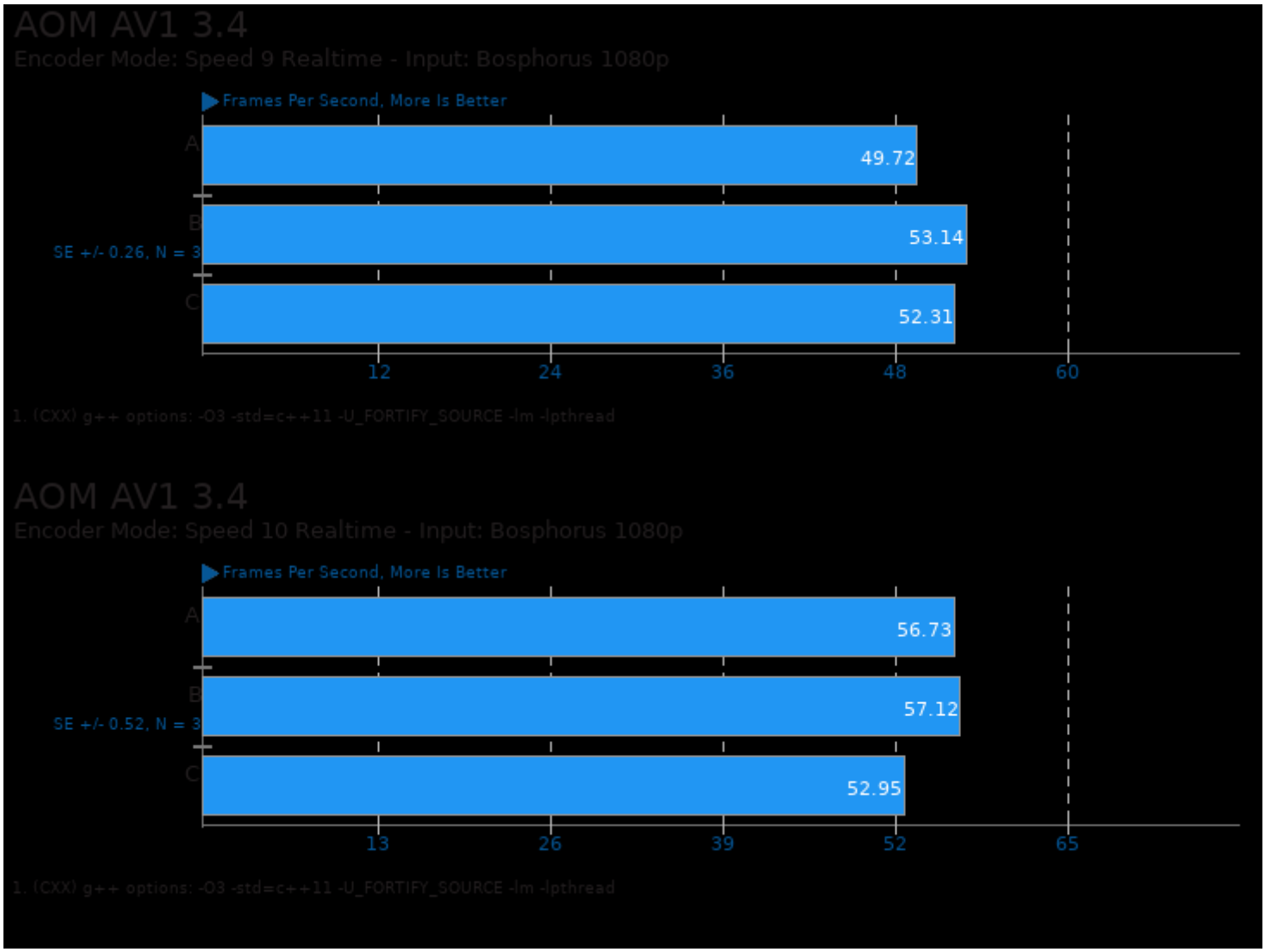

AOM AV1 3.4
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
4.04
B
4.08
SE +/- 0.04, N = 3
C
4.13
0.9293
1.8586
2.7879
3.7172
4.6465
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
4.56
B
4.47
SE +/- 0.04, N = 3
C
4.63
1.0418
2.0836
3.1254
4.1672
5.209
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
14.75
B
15.55
SE +/- 0.18, N = 15
C
15.45
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

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AOM AV1 3.4
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
19.78
B
21.34
C
21.14
SE +/- 0.09, N = 3
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
19.70
B
22.46
C
21.89
SE +/- 0.35, N = 3
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
39.08
B
40.67
C
39.02
SE +/- 0.32, N = 3
9
18
27
36
45
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

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This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:43.