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aom av1 threadripper

AMD Ryzen Threadripper 3990X 64-Core testing with a Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS) and AMD Radeon RX 5700 8GB on Pop 22.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 78% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.017x the speed of the slowest (C). B was 0.994x the speed of A and C was 0.989x the speed of B.

Test Systems:

A

B

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C

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 22.04, Kernel: 5.17.5-76051705-generic (x86_64), Desktop: GNOME Shell 42.0, Display Server: X Server, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.2.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

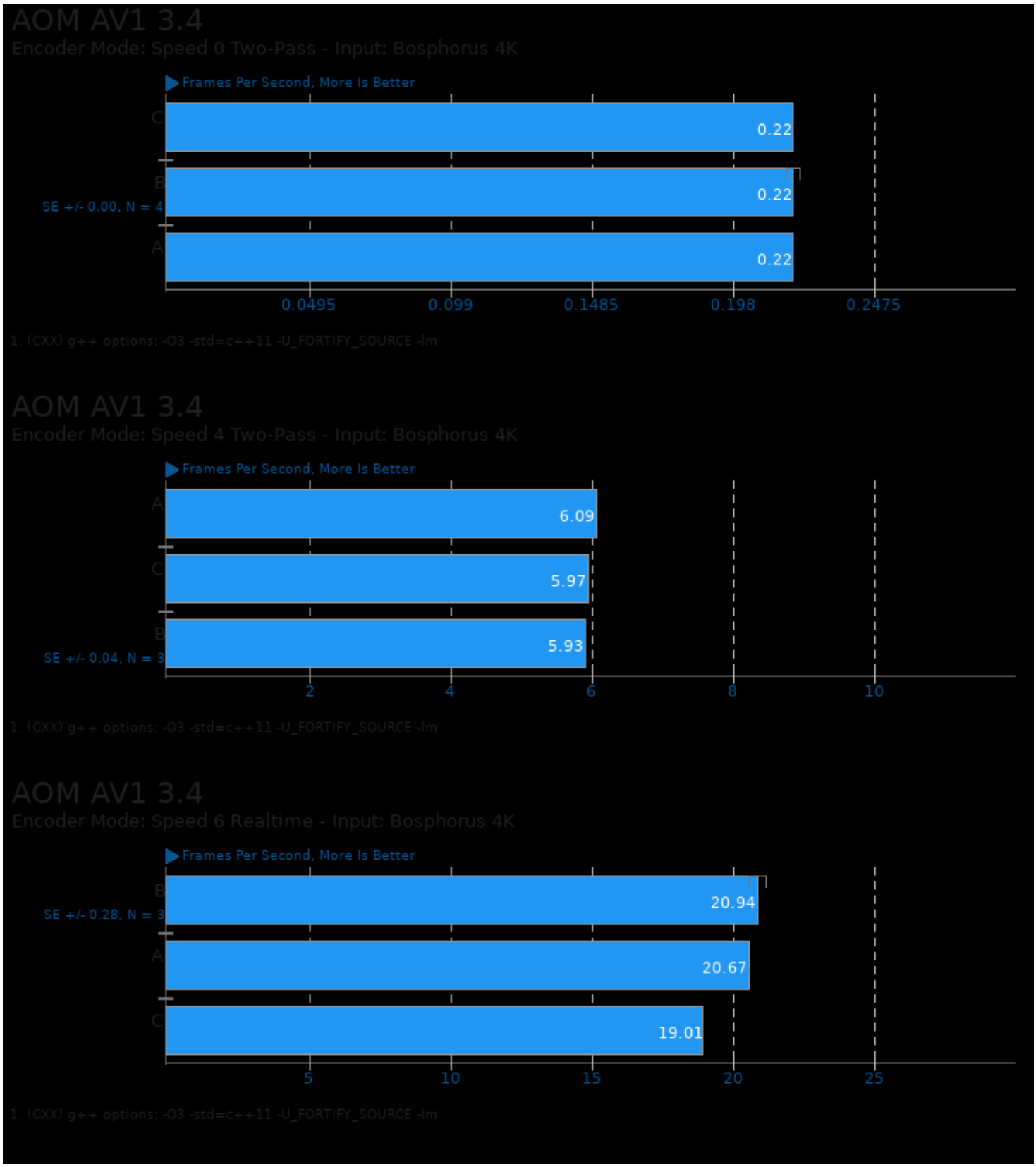
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --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: 0x8301039
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.22	0.22	0.22
Standard Deviation		2.2%	
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**6.09**	**5.93**	5.97
Normalized	100%	97.37%	98.03%
Standard Deviation		1.2%	
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	20.67	**20.94**	**19.01**
Normalized	98.71%	100%	90.78%
Standard Deviation		2.3%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**11.12**	10.86	**10.76**
Normalized	100%	97.66%	96.76%
Standard Deviation		0.9%	
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**33.48**	**34.82**	34.02
Normalized	96.15%	100%	97.7%
Standard Deviation		0.7%	
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**48.44**	46.82	**46.78**
Normalized	100%	96.66%	96.57%
Standard Deviation		0.8%	
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	**47.36**	46.05	**46.01**
Normalized	100%	97.23%	97.15%
Standard Deviation		0.4%	

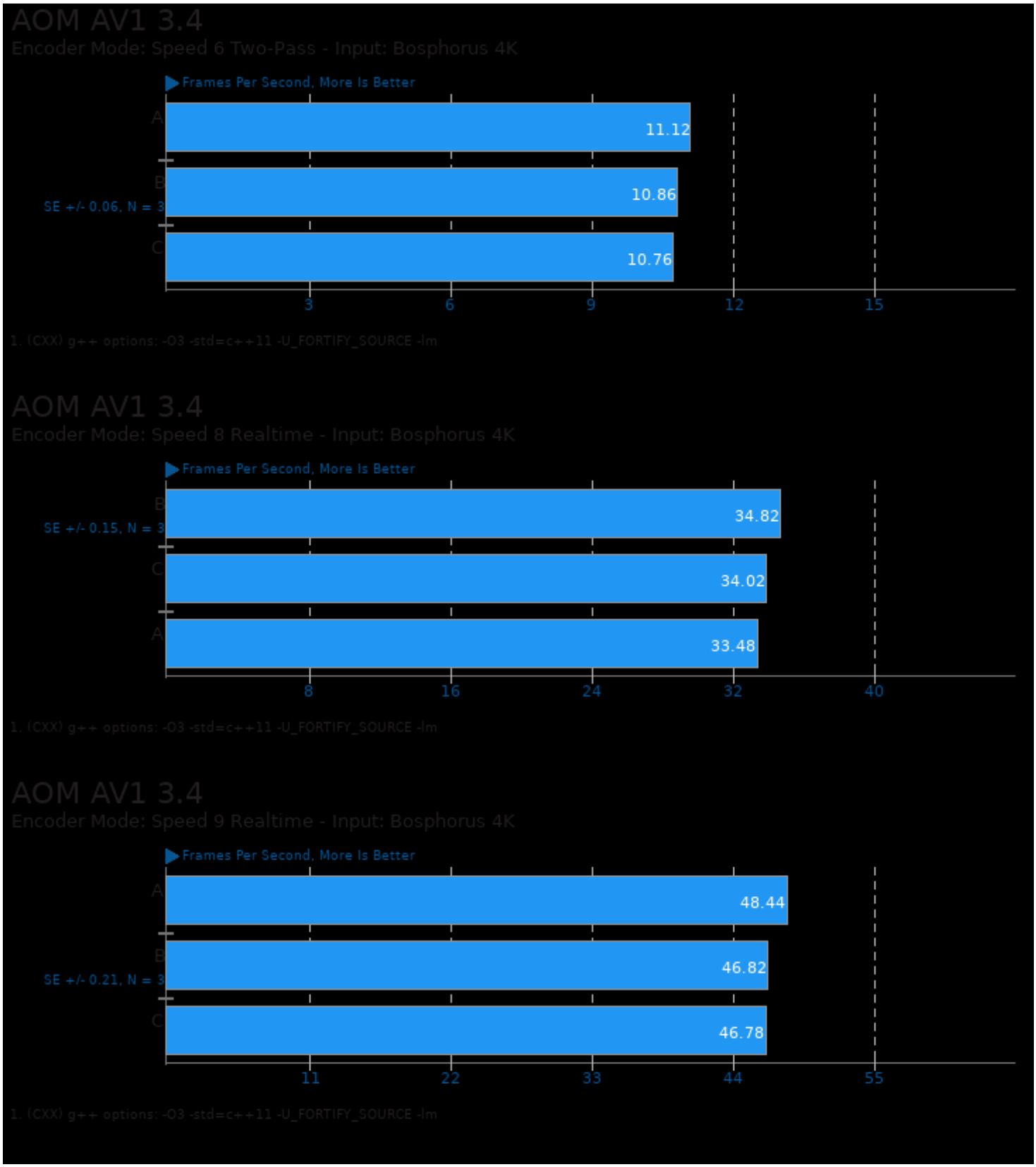
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AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.53	0.53	0.53
Standard Deviation		1.1%	
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**10.1**	9.98	**9.7**
Normalized	100%	98.81%	96.04%
Standard Deviation		1.3%	
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**33.55**	33.30	**33.04**
Normalized	100%	99.25%	98.48%
Standard Deviation		2.4%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**24.18**	23.96	**23.91**
Normalized	100%	99.09%	98.88%
Standard Deviation		0.4%	
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**87.91**	90.02	**90.73**
Normalized	96.89%	99.22%	100%
Standard Deviation		1%	
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**114.94**	**113.98**	114.91
Normalized	100%	99.16%	99.97%
Standard Deviation		1.4%	
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**119.28**	117.19	**116.69**
Normalized	100%	98.25%	97.83%
Standard Deviation		2.3%	

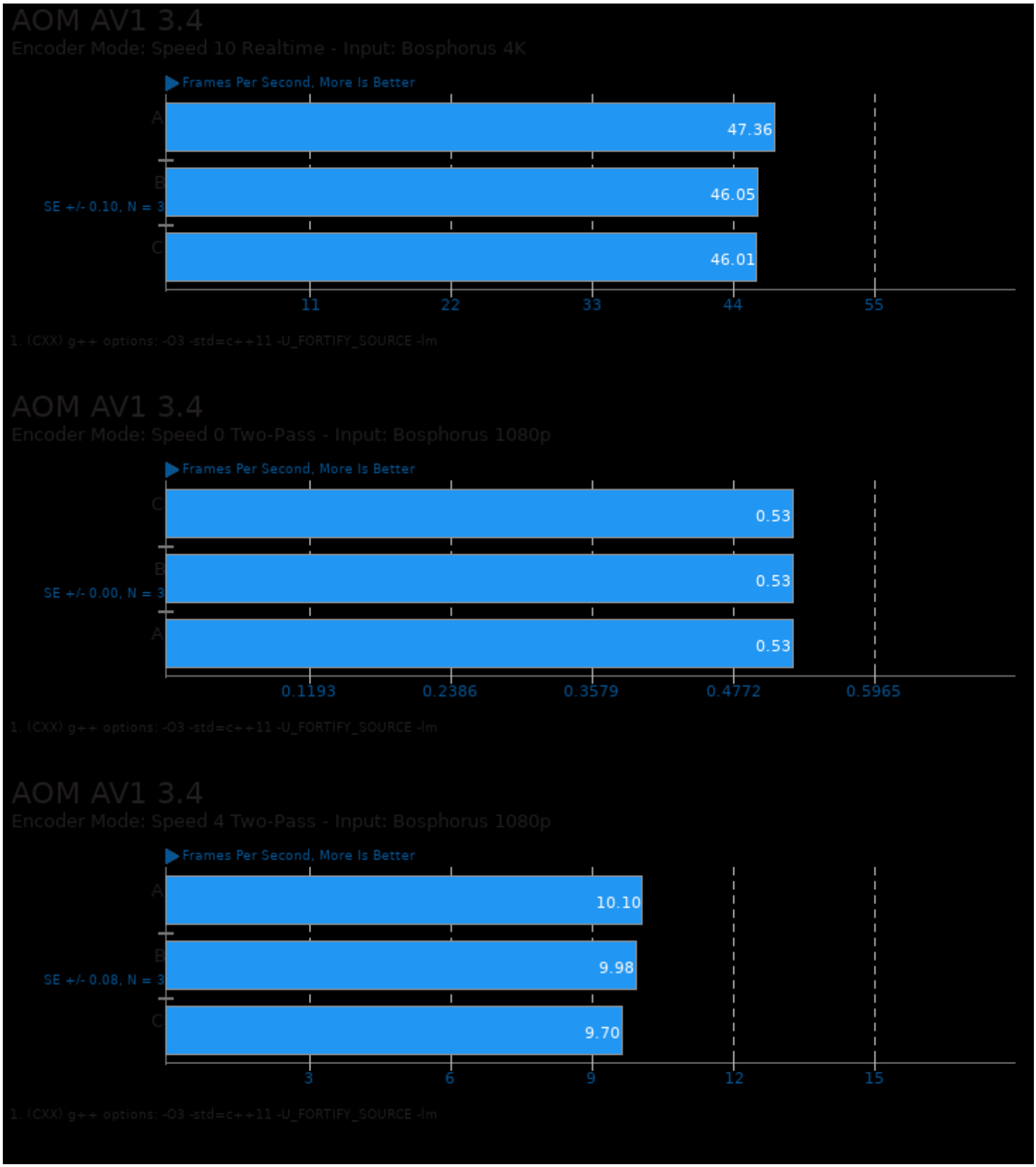
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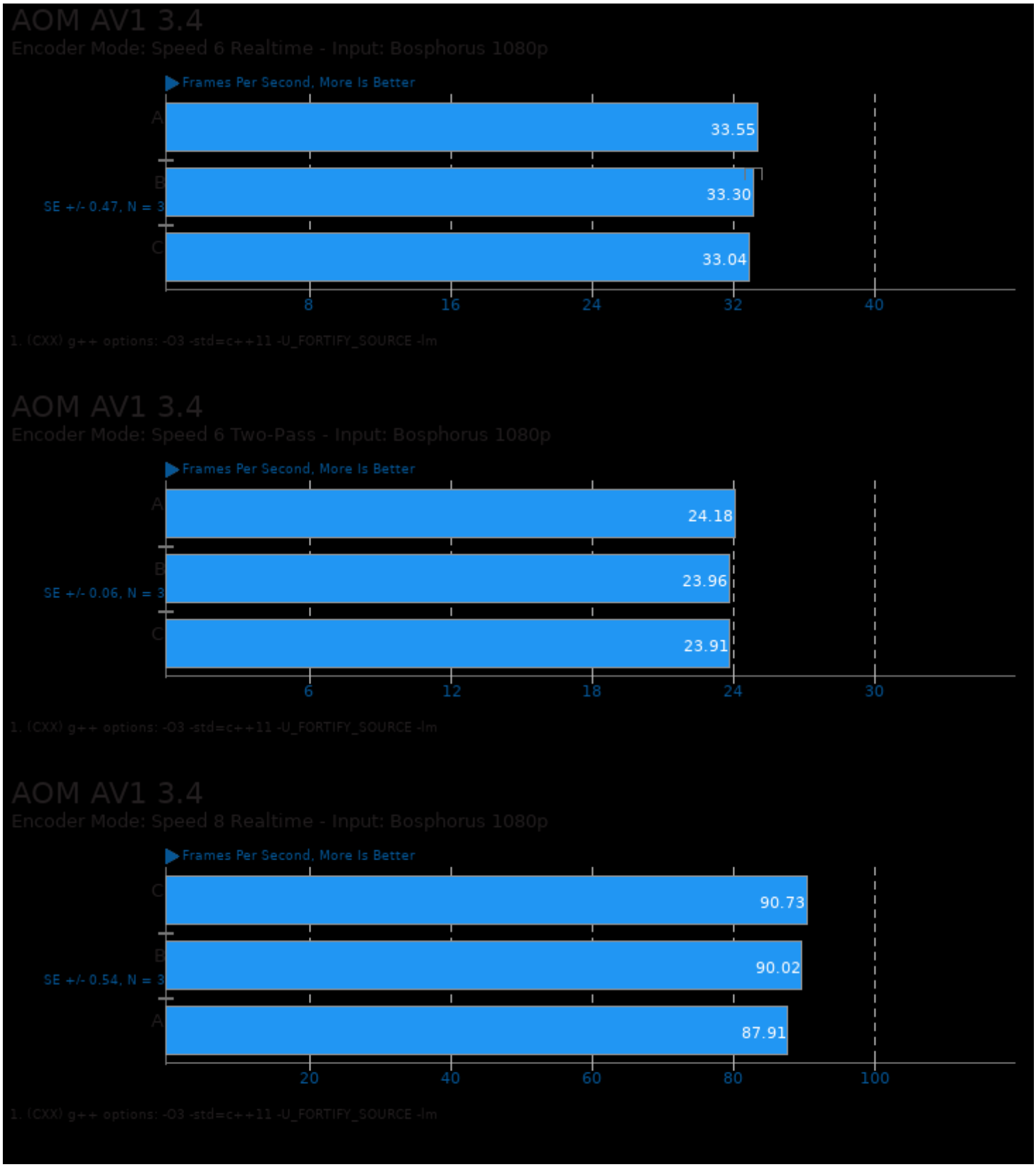
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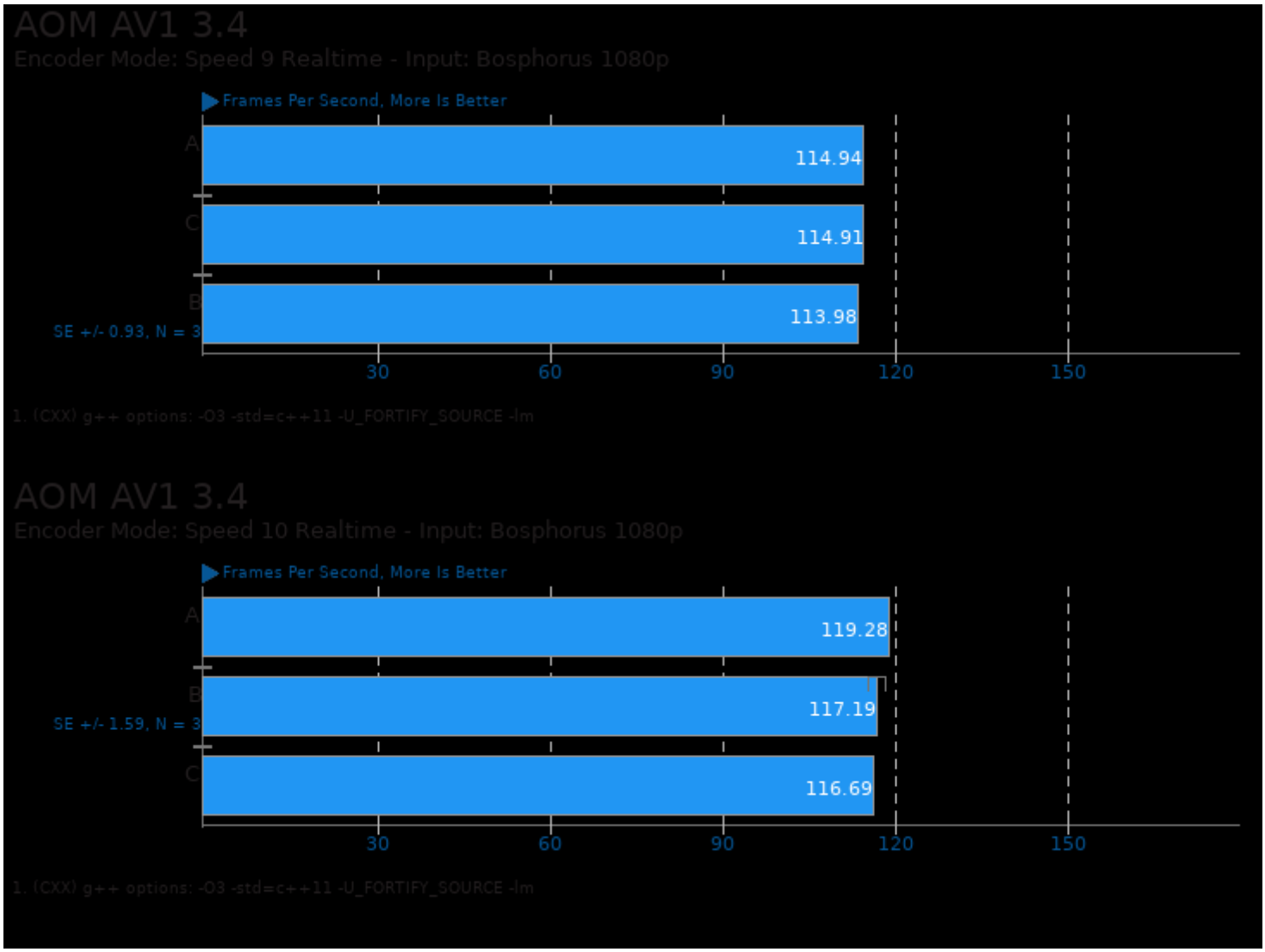
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