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AMD Ryzen 5 4500U testing with a LENOVO LNVNB161216 (EECN20WW BIOS) and AMD Renoir 512MB on Pop 22.04 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 75% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.02x the speed of the slowest (A). B was 0.993x the speed of C and A was 0.988x the speed of B.

Test Systems:

A

B

Processor: AMD Ryzen 5 4500U @ 2.38GHz (6 Cores), Motherboard: LENOVO LNVNB161216 (EECN20WW BIOS),

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Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 256GB SK hynix HFM256GDHTNI-87A0B, Graphics: AMD Renoir 512MB (1500/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8822CE 802.11ac PCIe

OS: Pop 22.04, Kernel: 5.17.5-76051705-generic (x86_64), Desktop: GNOME Shell 42.1, Display Server: X Server 1.21.1.3, 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: 1920x1080

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) - Platform Profile: balanced - CPU Microcode: 0x8600102 - ACPI Profile: balanced
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 IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

C

Processor: AMD Ryzen 5 4500U @ 2.38GHz (6 Cores), Motherboard: LENOVO LNVNB161216 (EECN20WW BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 256GB SK hynix HFM256GDHTNI-87A0B, Graphics: AMD Renoir 512MB (1500MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8822CE 802.11ac PCIe

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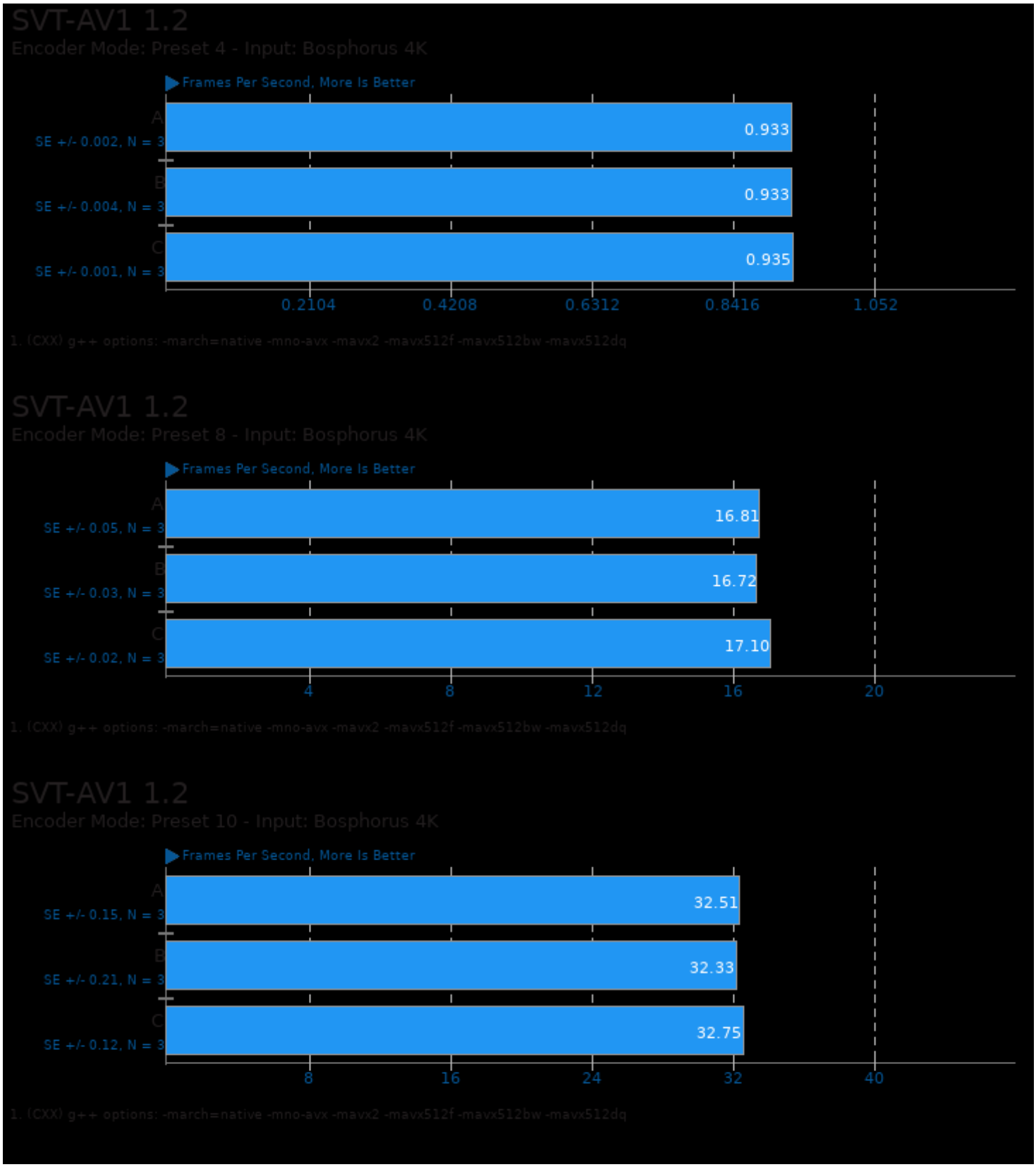
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	A	B	C
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	**0.933**	**0.933**	**0.935**
Normalized	99.79%	99.79%	100%
Standard Deviation	0.4%	0.8%	0.2%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	16.810	**16.717**	**17.098**
Normalized	98.32%	97.77%	100%
Standard Deviation	0.5%	0.3%	0.2%
SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)	32.509	**32.328**	**32.749**
Normalized	99.27%	98.71%	100%
Standard Deviation	0.8%	1.1%	0.6%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	44.746	**44.241**	**45.427**
Normalized	98.5%	97.39%	100%
Standard Deviation	0.4%	1.3%	0.5%

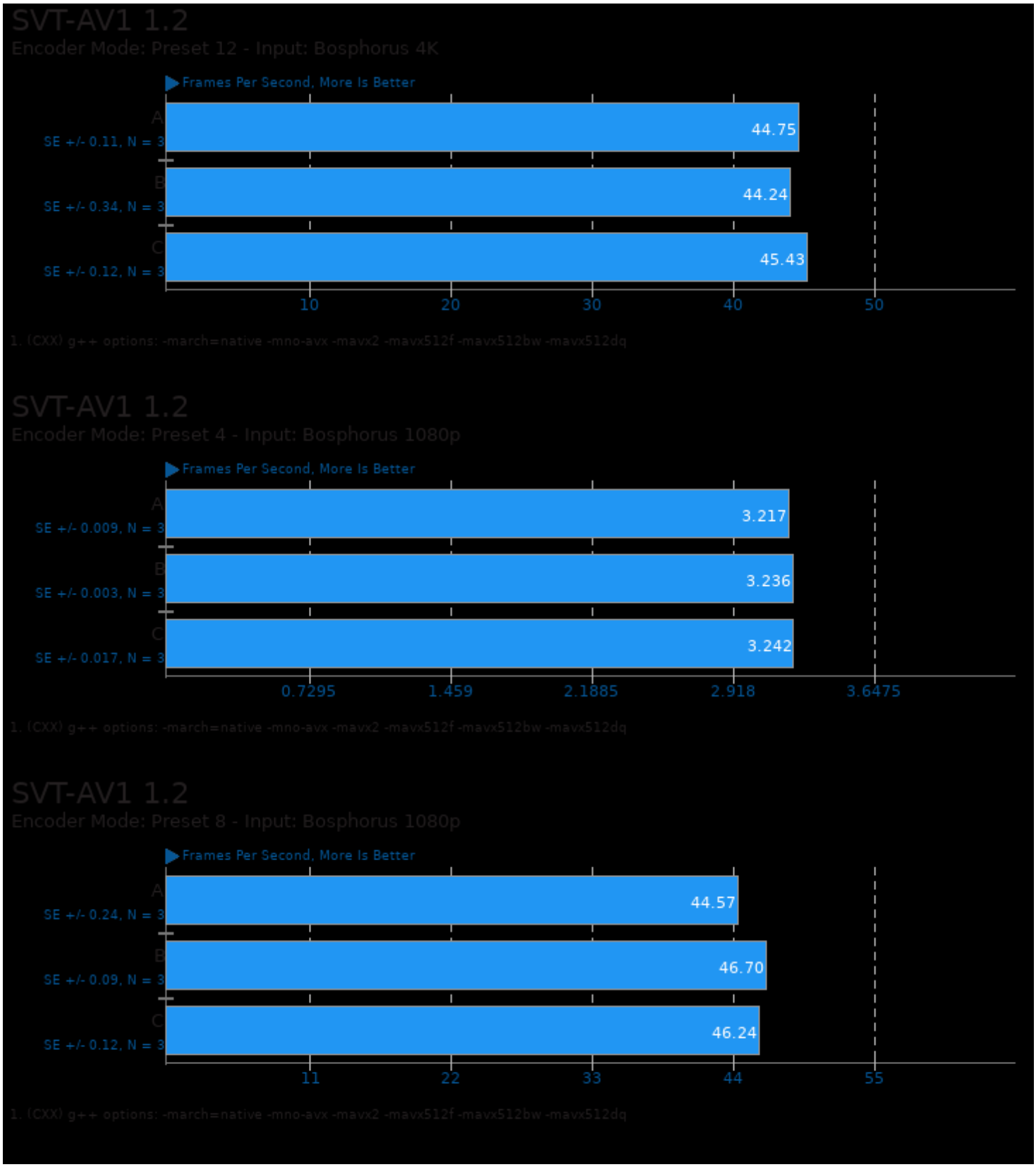
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SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	**3.217**	3.236	**3.242**
Normalized	99.23%	99.81%	100%
Standard Deviation	0.5%	0.2%	0.9%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	**44.568**	**46.703**	46.242
Normalized	95.43%	100%	99.01%
Standard Deviation	0.9%	0.3%	0.4%
SVT-AV1 - Preset 10 - Bosphorus 1080p	**95.891**	100.093	**100.412**
Normalized	95.5%	99.68%	100%
Standard Deviation	2.2%	1%	0.9%
SVT-AV1 - Preset 12 - Bosphorus 1080p	**168.841**	**173.531**	173.118
Normalized	97.3%	100%	99.76%
Standard Deviation	0.7%	1.1%	1.9%

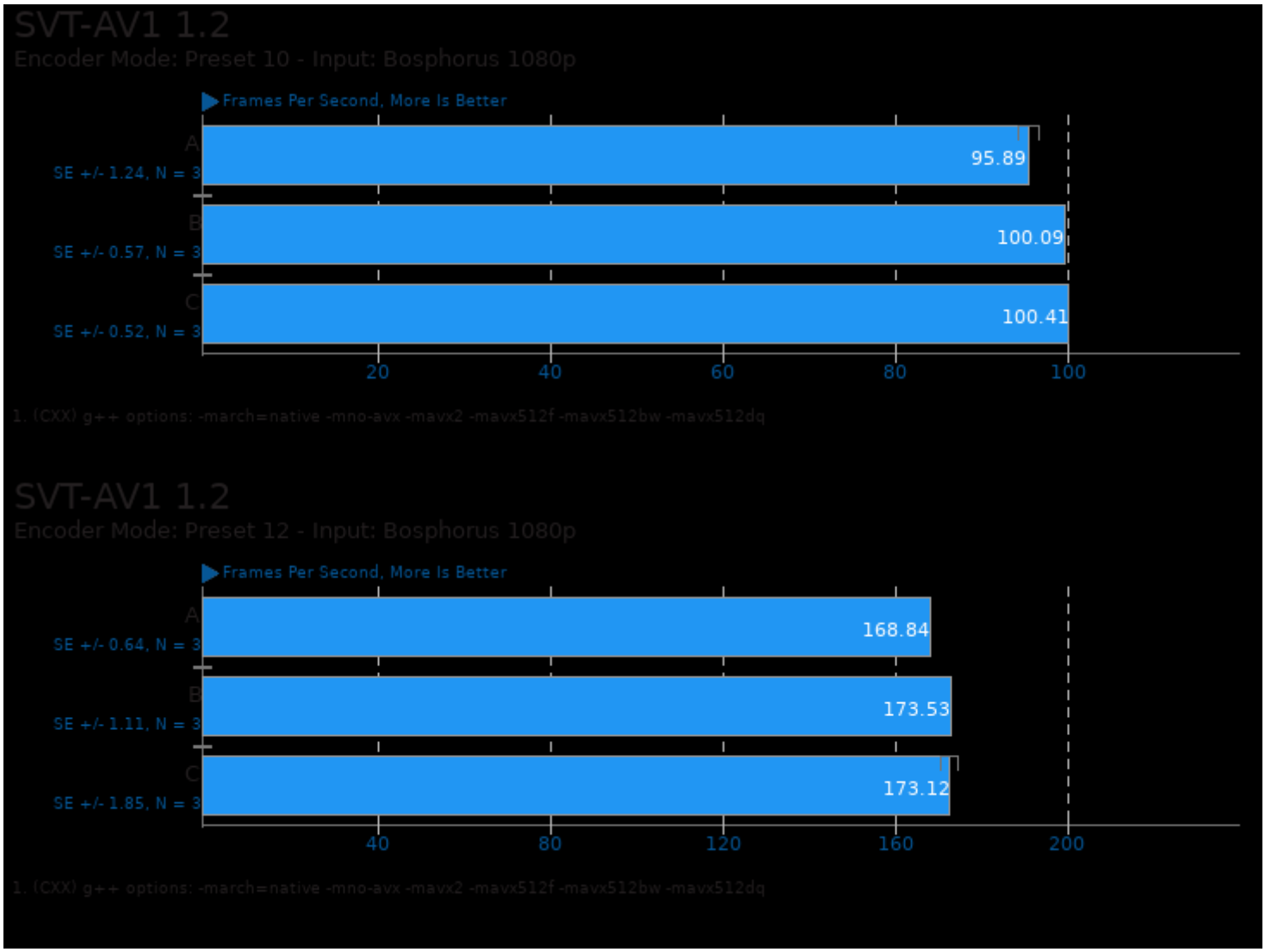
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