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tigerlake yquake2 aom

Intel Core i7-1165G7 testing with a Dell 0GG9PT (3.3.0 BIOS) and Intel Xe TGL GT2 3GB on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 44% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.003x the speed of the slowest (A). B was 0.999x the speed of C and A was 0.997x the speed of B.

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

AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p) at 1.178x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.143x
AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K) at 1.061x
AOM AV1 (Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K) at 1.058x
AOM AV1 (Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p) at 1.045x
yquake2 (Renderer: OpenGL 3.x - AF: Off - MSAA: Off - Resolution: 1920 x 1080) at 1.045x
AOM AV1 (Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K) at 1.037x
AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K) at 1.037x
AOM AV1 (Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p) at 1.031x

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yquake2 (Renderer: OpenGL ES 3.x - AF: On - MSAA: On - Resolution: 1920 x 1080) at 1.02x.

Test Systems:

A

B

C

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0GG9PT (3.3.0 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 16GB, Disk: Kioxia KBG40ZNS256G NVMe 256GB, Graphics: Intel Xe TGL GT2 3GB (1300MHz), Audio: Realtek ALC289, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 21.10, Kernel: 5.13.0-48-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.2.2, Vulkan: 1.2.182, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1200

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-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/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: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0x88 - Thermald 2.4.6
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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.07	0.07	0.07
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**2.41**	**2.39**	2.4
Normalized	100%	99.17%	99.59%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	16.67	**16.41**	**17.01**
Normalized	98%	96.47%	100%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	4.44	**4.34**	**4.5**
Normalized	98.67%	96.44%	100%

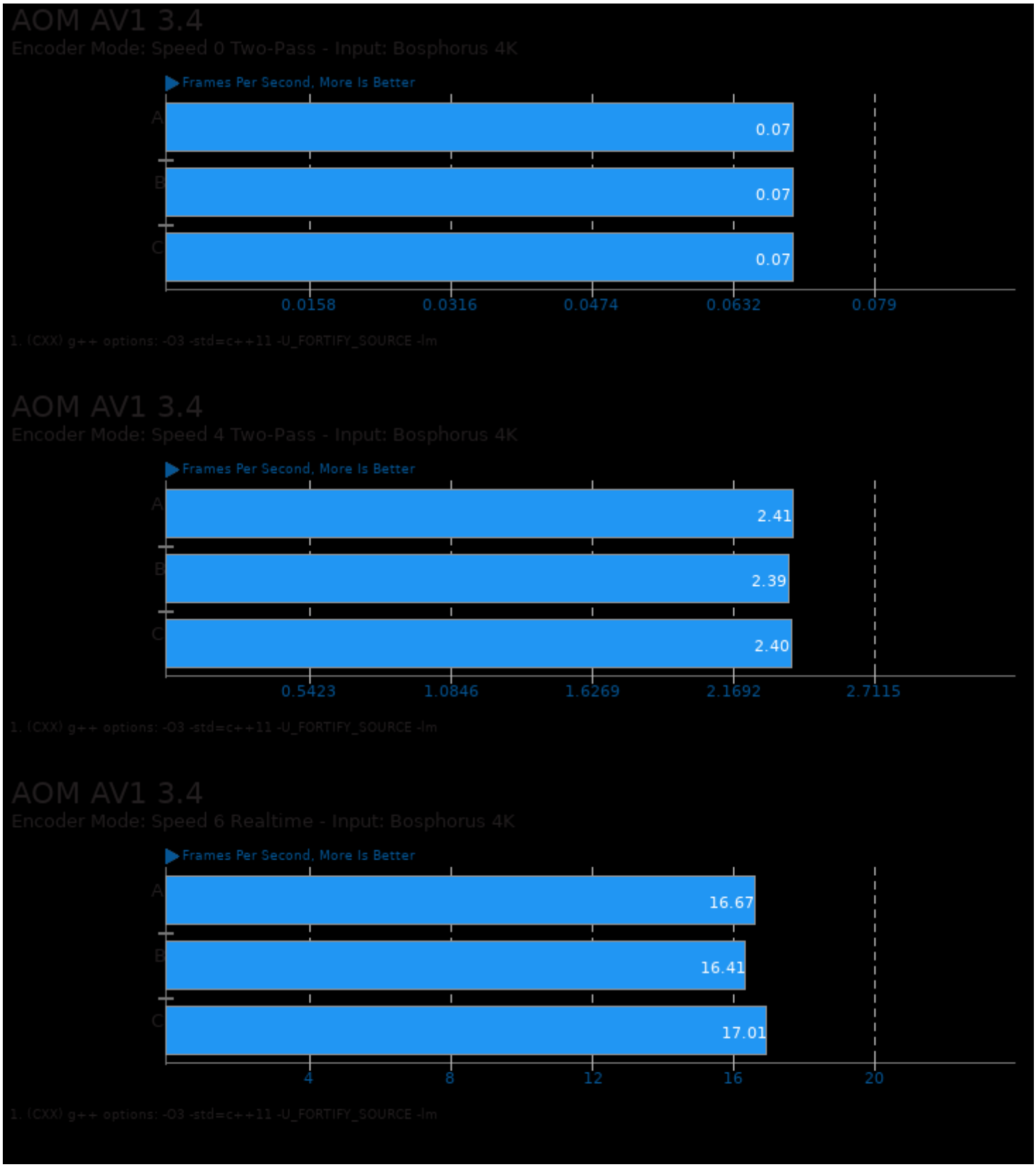
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AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	25.69	**24.84**	**26.35**
Normalized	97.5%	94.27%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	38.75	**41.66**	**36.45**
Normalized	93.01%	100%	87.49%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	**39.25**	**41.51**	40.94
Normalized	94.56%	100%	98.63%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	**0.23**	**0.22**	**0.22**
Normalized	100%	95.65%	95.65%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**6.26**	**6.07**	**6.07**
Normalized	100%	96.96%	96.96%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**28.87**	33.82	**34.01**
Normalized	84.89%	99.44%	100%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	15.96	**15.9**	**16.04**
Normalized	99.5%	99.13%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	96.58	**95.12**	**96.64**
Normalized	99.94%	98.43%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**127.29**	**125.42**	126.4
Normalized	100%	98.53%	99.3%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**137.26**	**136.6**	137.02
Normalized	100%	99.52%	99.83%
yquake2 - Vulkan - On - On - 1920 x 1080 (FPS)	84.1	**83.9**	**84.3**
Normalized	99.76%	99.53%	100%
yquake2 - Vulkan - Off - On - 1920 x 1080 (FPS)	**84.3**	**84.3**	**85.1**
Normalized	99.06%	99.06%	100%
yquake2 - Vulkan - On - Off - 1920 x 1080 (FPS)	**619.6**	**622.7**	620.8
Normalized	99.5%	100%	99.69%
yquake2 - Vulkan - Off - Off - 1920 x 1080 (FPS)	628.2	**627.6**	**634.5**
Normalized	99.01%	98.91%	100%
yquake2 - OpenGL 3.x - On - On - 1920 x 1080 (FPS)	**298.4**	300.5	**301.2**
Normalized	99.07%	99.77%	100%
yquake2 - OpenGL 3.x - Off - On - 1920 x 1080 (FPS)	**300.1**	**302**	300.8
Normalized	99.37%	100%	99.6%
yquake2 - OpenGL 3.x - On - Off - 1920 x 1080 (FPS)	**906.7**	904.1	**897.7**
Normalized	100%	99.71%	99.01%

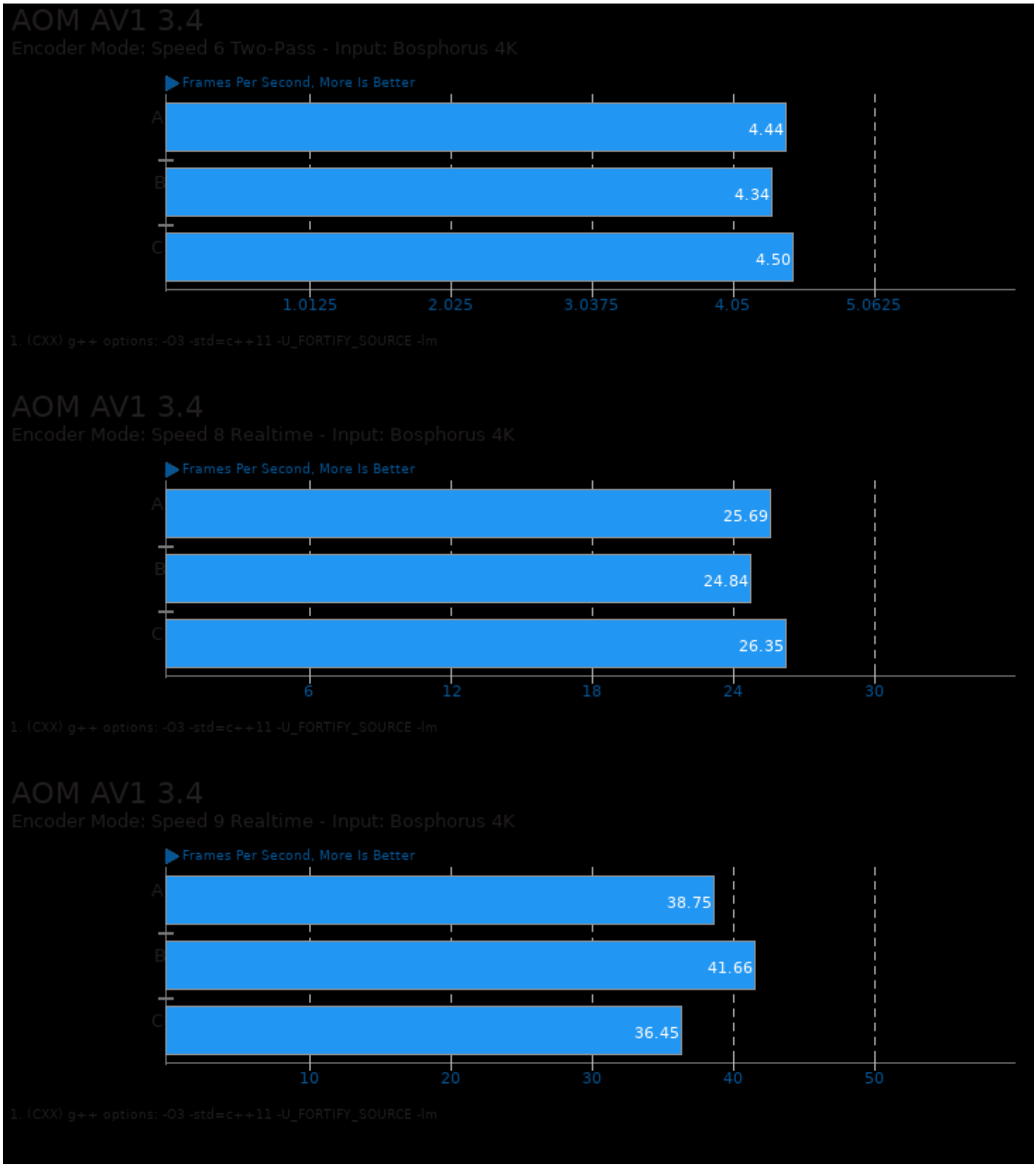
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yquake2 - OpenGL 3.x - Off - Off - 1920 x 1080 (FPS)	912	904.1	872.9
Normalized	100%	99.13%	95.71%
yquake2 - Software CPU - On - On - 1920 x 1080 (FPS)	118.2	118.2	118
Normalized	100%	100%	99.83%
yquake2 - OpenGL ES 3.x - On - On - 1920 x 1080 (FPS)	294.6	299.8	300.5
Normalized	98.04%	99.77%	100%
yquake2 - Software CPU - Off - On - 1920 x 1080 (FPS)	121.5	121.5	121.7
Normalized	99.84%	99.84%	100%
yquake2 - Software CPU - On - Off - 1920 x 1080 (FPS)	117.3	118.4	117.6
Normalized	99.07%	100%	99.32%
yquake2 - OpenGL ES 3.x - Off - On - 1920 x 1080 (FPS)	304.1	301.4	300.5
Normalized	100%	99.11%	98.82%
yquake2 - OpenGL ES 3.x - On - Off - 1920 x 1080 (FPS)	901.6	888.9	904.1
Normalized	99.72%	98.32%	100%
yquake2 - Software CPU - Off - Off - 1920 x 1080 (FPS)	120.5	121.2	122.1
Normalized	98.69%	99.26%	100%
yquake2 - OpenGL ES 3.x - Off - Off - 1920 x 1080 (FPS)	939.1	929.4	926.7
Normalized	100%	98.97%	98.68%
yquake2 - S.C.C.L - On - On - 1920 x 1080 (FPS)	111.4	110.5	110.6
Normalized	100%	99.19%	99.28%
yquake2 - S.C.C.L - Off - On - 1920 x 1080 (FPS)	113.5	112.8	113
Normalized	100%	99.38%	99.56%
yquake2 - S.C.C.L - On - Off - 1920 x 1080 (FPS)	109.9	111.2	110.6
Normalized	98.83%	100%	99.46%
yquake2 - S.C.C.L - Off - Off - 1920 x 1080 (FPS)	113.9	114.3	114.4
Normalized	99.56%	99.91%	100%

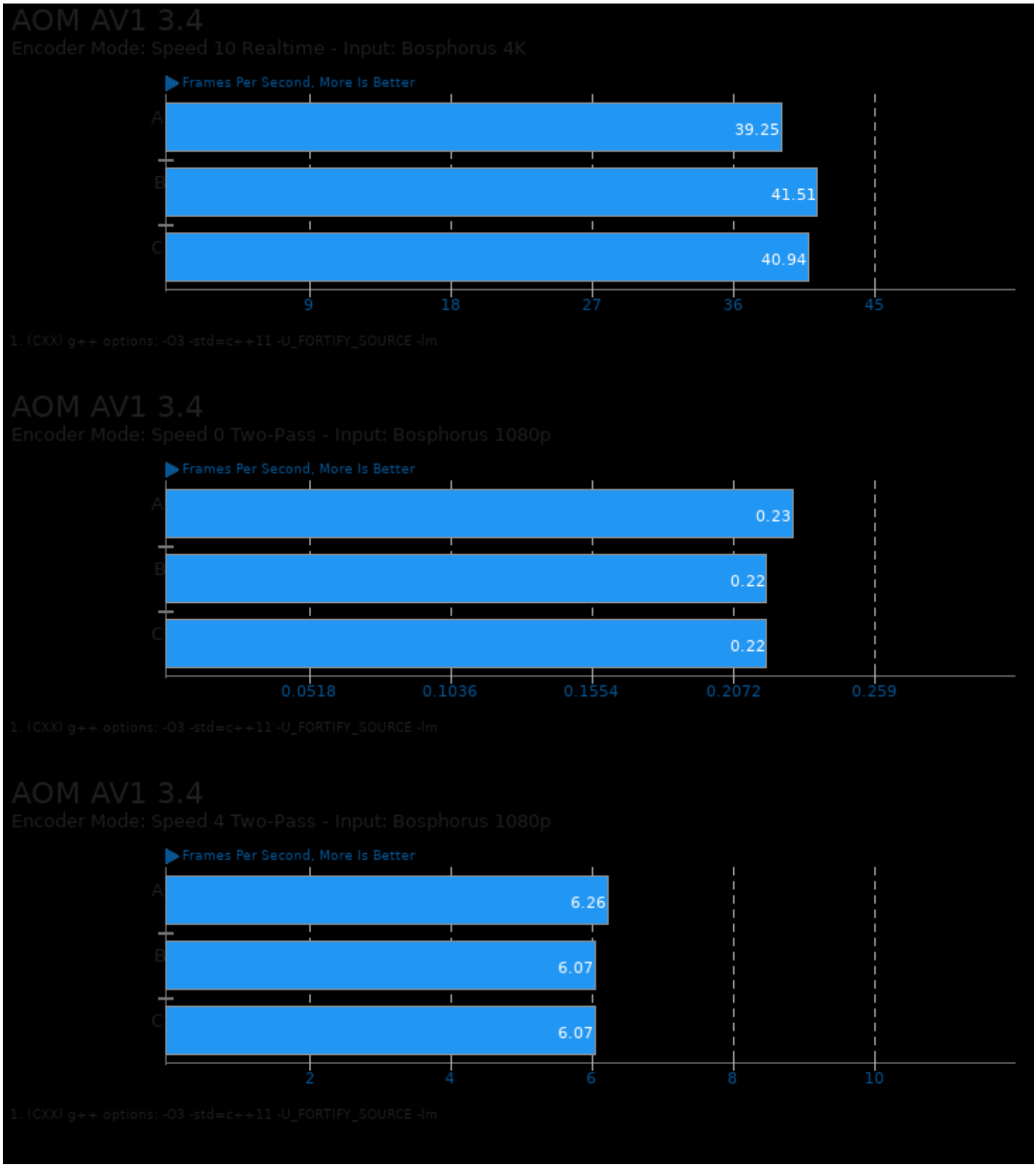
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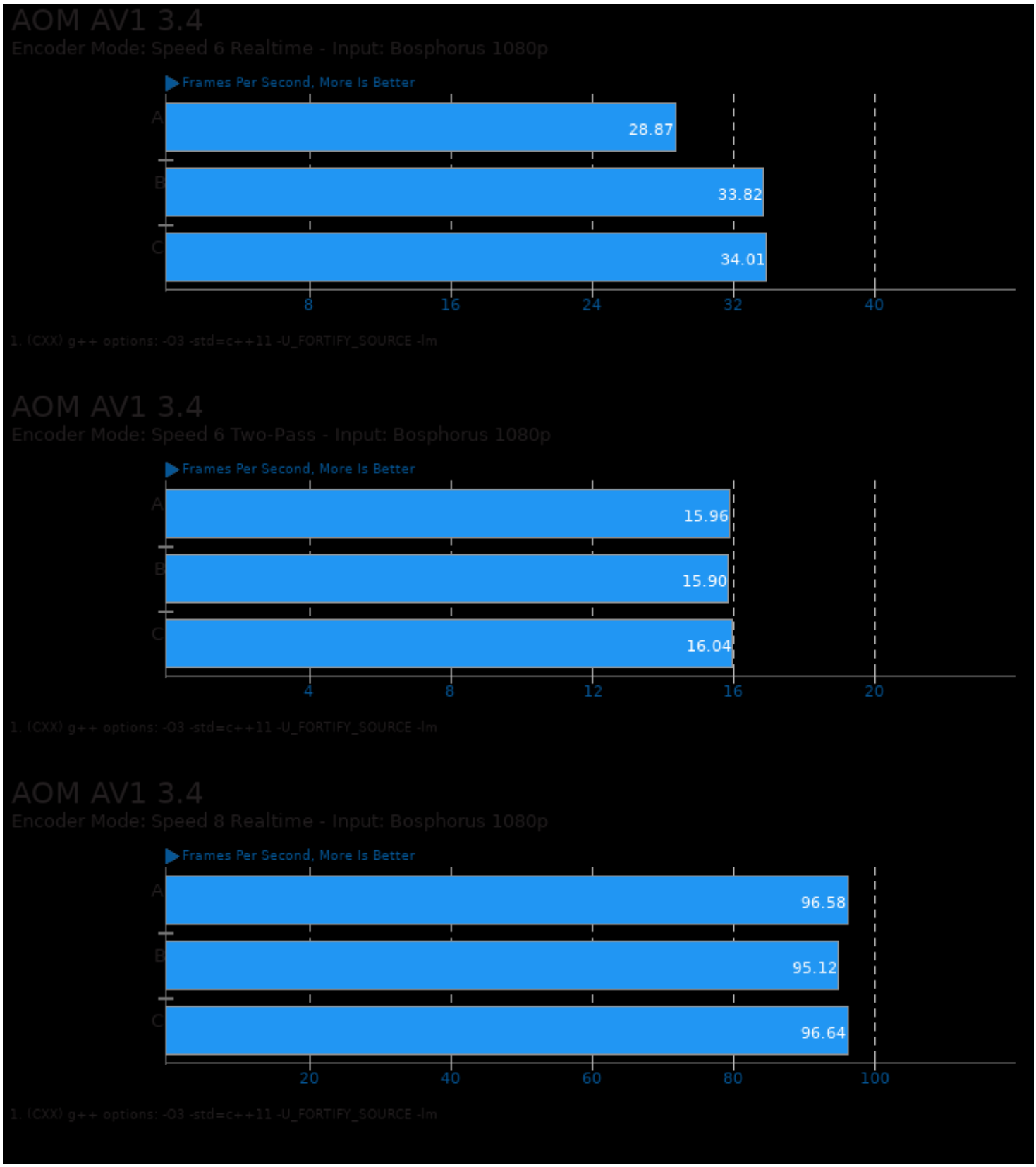
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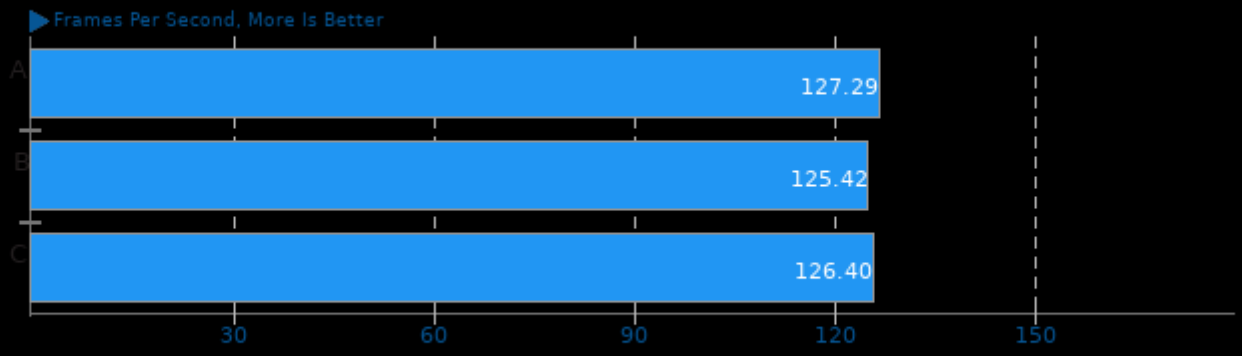
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AOM AV1 3.4

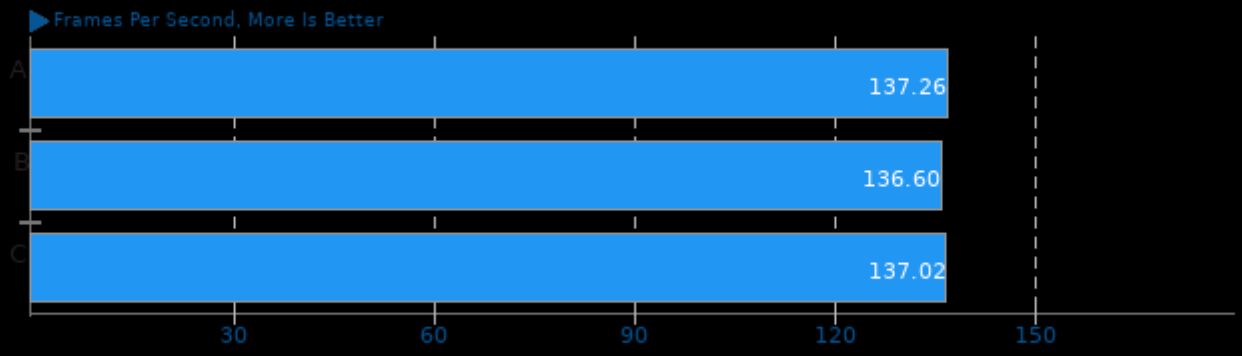
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

AOM AV1 3.4

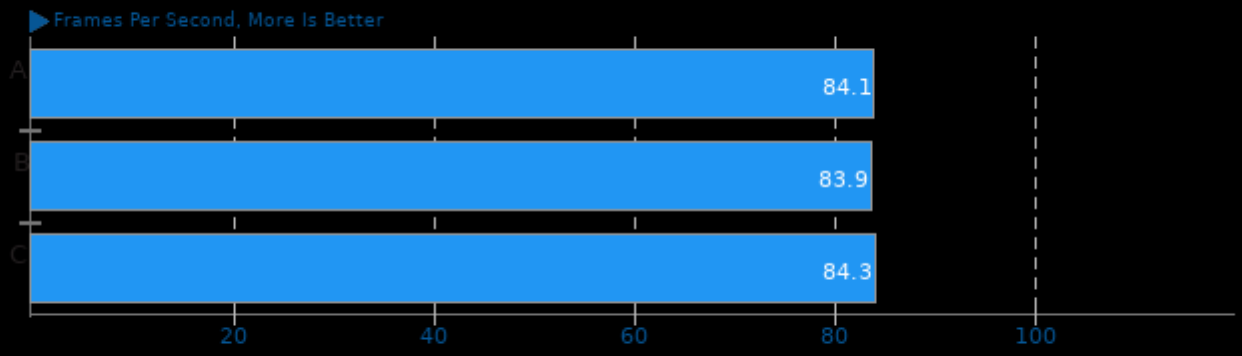
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

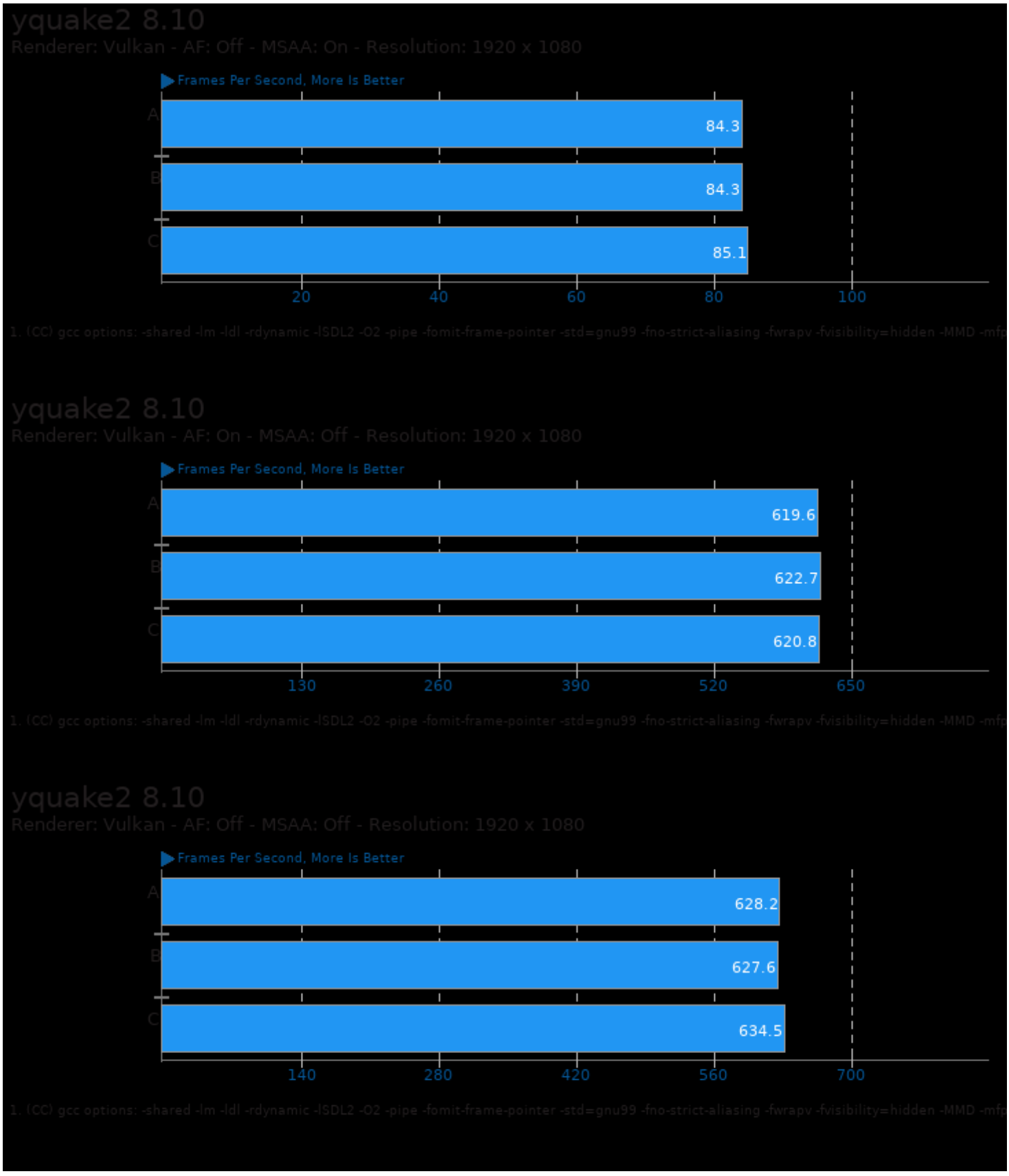
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Renderer: Vulkan - AF: On - MSAA: On - Resolution: 1920 x 1080

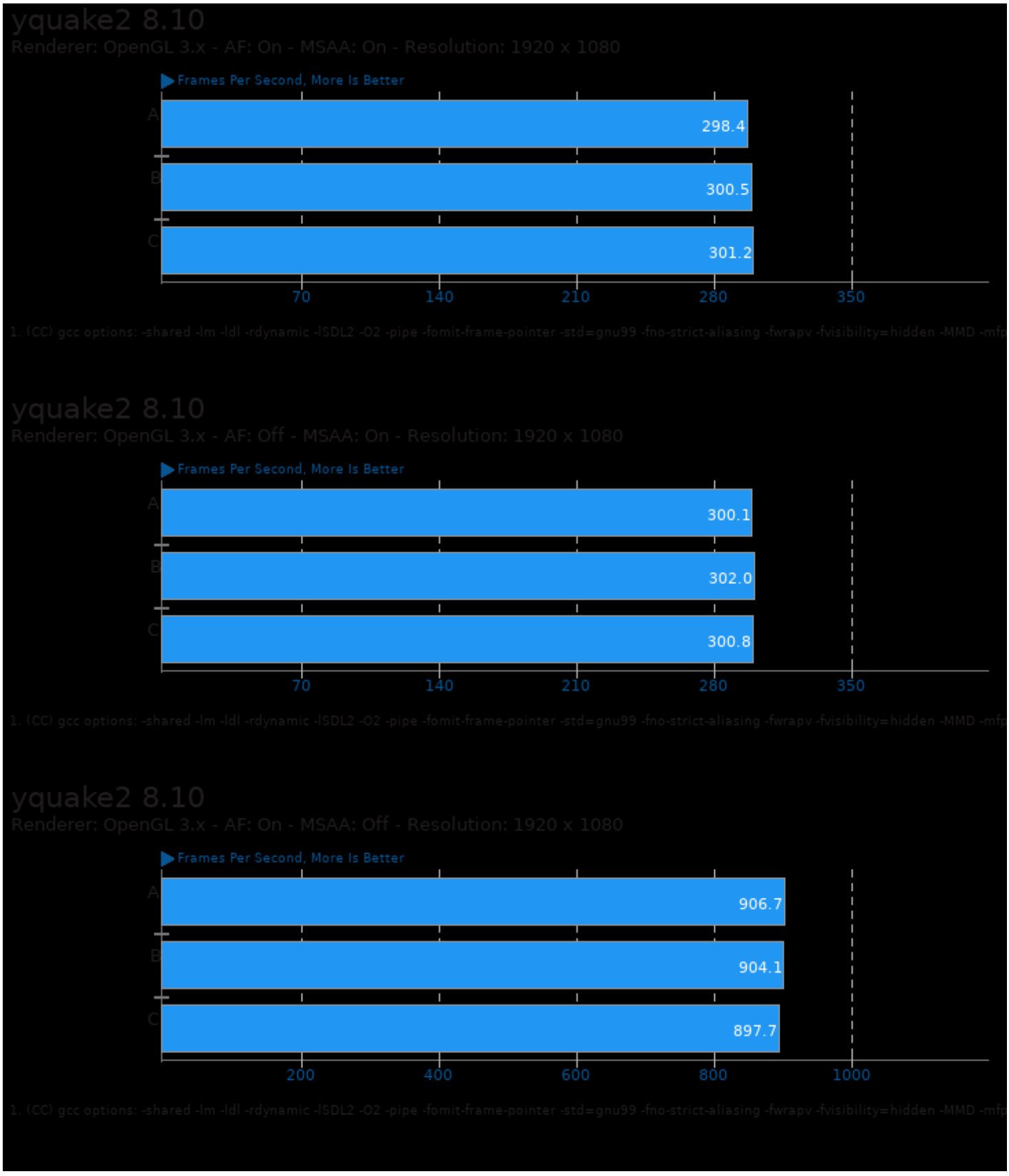


1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

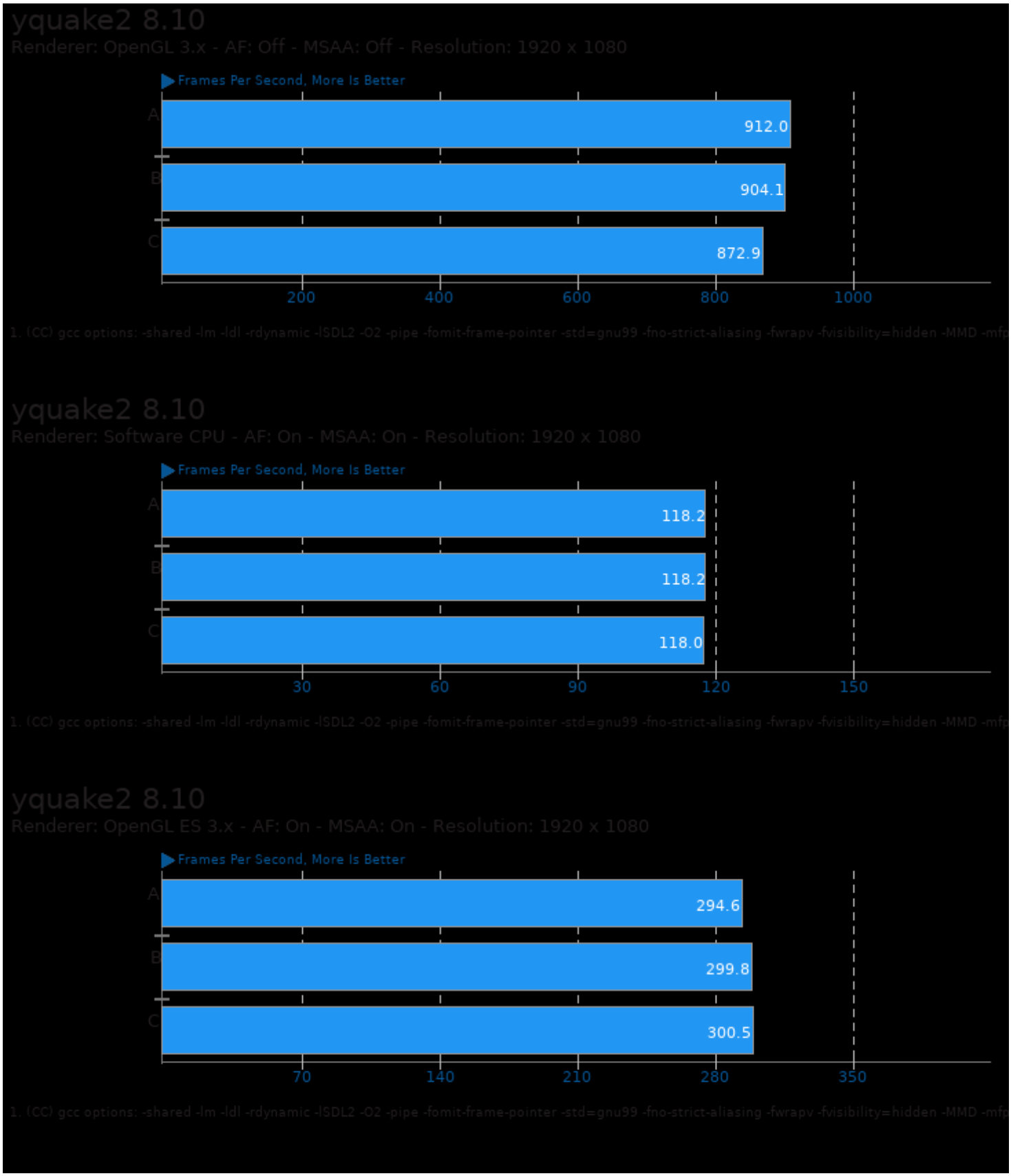
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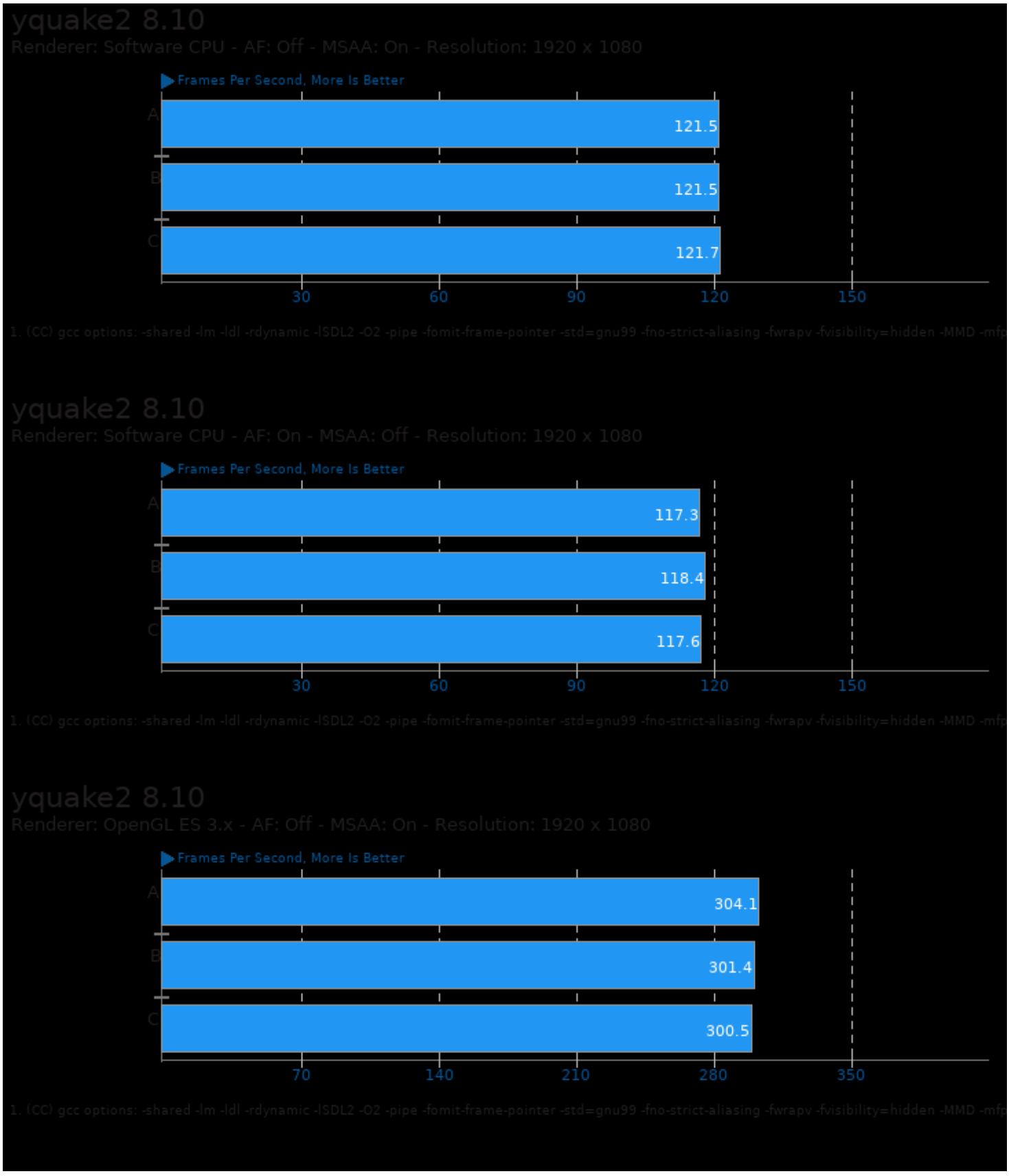


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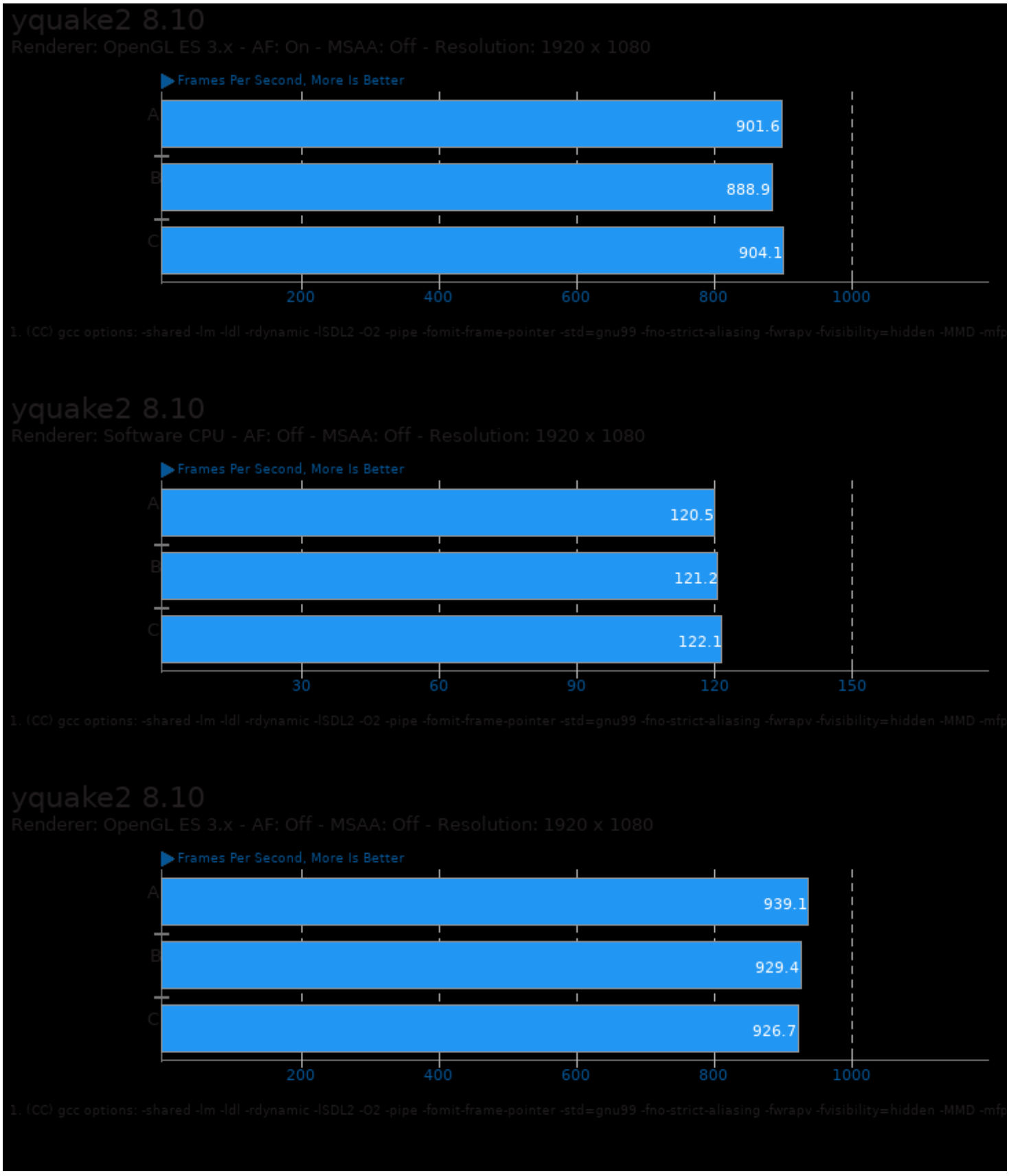


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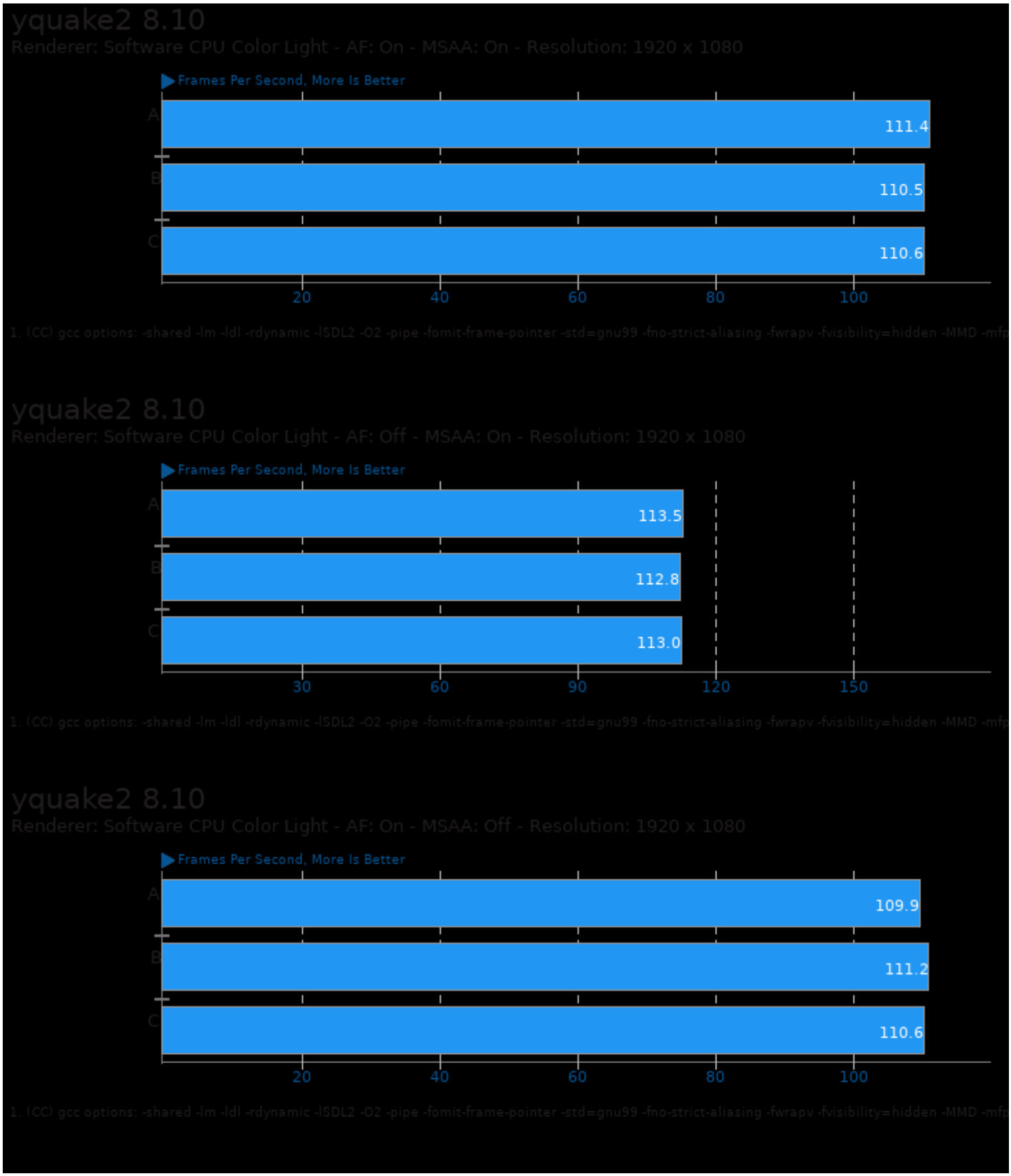



yquake2 8.10
Renderer: Software CPU - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
121.5
B
121.5
C
121.7
30
60
90
120
150
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Software CPU - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
117.3
B
118.4
C
117.6
30
60
90
120
150
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: OpenGL ES 3.x - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
304.1
B
301.4
C
300.5
70
140
210
280
350
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

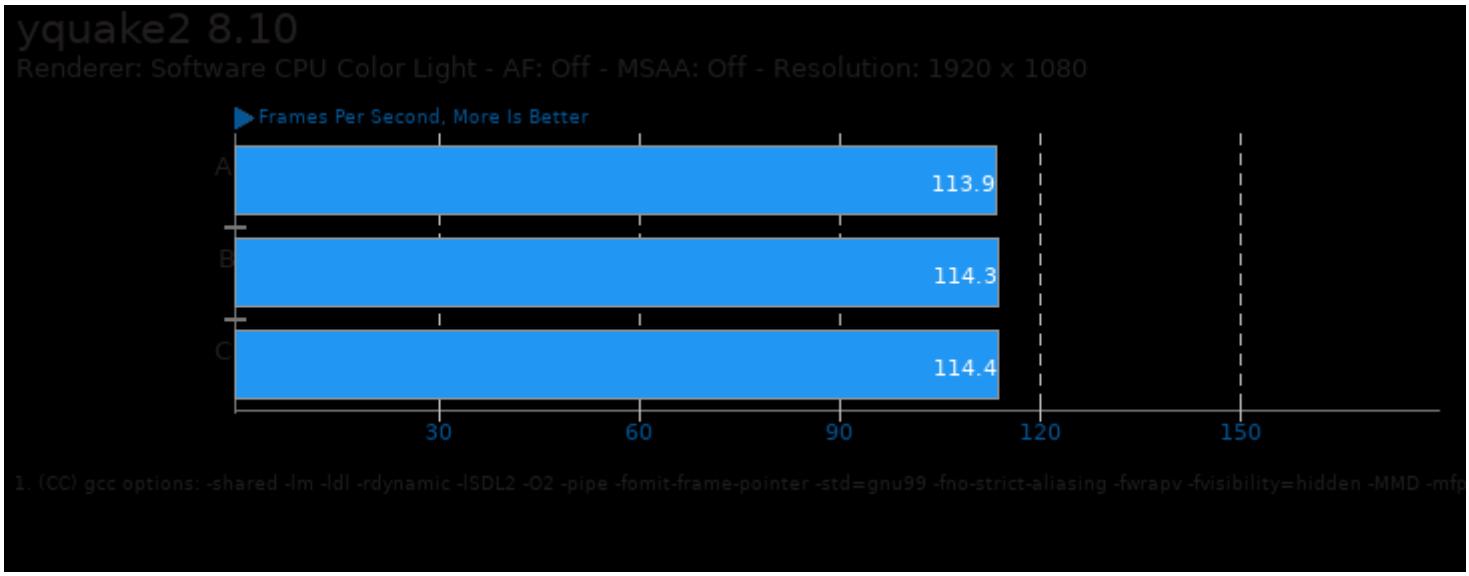
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