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yquake2 more

Intel Core i9-12900K testing with a ASUS ROG STRIX Z690-E GAMING WIFI (1003 BIOS) and NVIDIA GeForce GTX 1070 8GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

GTX 1070 had the most wins, coming in first place for 38% of the tests.

Based on the geometric mean of all complete results, the fastest (GTX 1070) was 1.001x the speed of the slowest (GTX 1070 3). GTX 1070 2 was 1x the speed of GTX 1070 and GTX 1070 3 was 1x the speed of GTX 1070 2.

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

yquake2 (Renderer: OpenGL ES 3.x - AF: Off - MSAA: Off - Resolution: 2560 x 1440) at 1.024x
yquake2 (Renderer: OpenGL 3.x - AF: On - MSAA: Off - Resolution: 2560 x 1440) at 1.017x
yquake2 (Renderer: OpenGL ES 3.x - AF: On - MSAA: Off - Resolution: 3840 x 2160) at 1.016x
yquake2 (Renderer: OpenGL ES 3.x - AF: On - MSAA: Off - Resolution: 1920 x 1080) at 1.016x
yquake2 (Renderer: OpenGL 3.x - AF: On - MSAA: Off - Resolution: 3840 x 2160) at 1.014x
yquake2 (Renderer: Vulkan - AF: Off - MSAA: Off - Resolution: 1920 x 1080) at 1.014x
yquake2 (Renderer: OpenGL 3.x - AF: Off - MSAA: On - Resolution: 2560 x 1440) at 1.012x
yquake2 (Renderer: Vulkan - AF: On - MSAA: Off - Resolution: 2560 x 1440) at 1.012x
yquake2 (Renderer: OpenGL ES 3.x - AF: On - MSAA: On - Resolution: 1920 x 1080) at 1.01x

yquake2 (Renderer: OpenGL ES 3.x - AF: Off - MSAA: Off - Resolution: 1920 x 1080) at 1.01x.

Test Systems:

GTX 1070

GTX 1070 2

GTX 1070 3

Processor: Intel Core i9-12900K @ 5.20GHz (16 Cores / 24 Threads), Motherboard: ASUS ROG STRIX Z690-E GAMING WIFI (1003 BIOS), Chipset: Intel Device 7aa7, Memory: 32GB, Disk: 1000GB Western Digital WDS100T1X0E-00AFY0 + 2000GB, Graphics: NVIDIA GeForce GTX 1070 8GB, Audio: Intel Device 7ad0, Monitor: ASUS VP28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 5.18.0-051800-generic (x86_64), Desktop: GNOME Shell 42.1, Display Server: X Server 1.21.1.3, Display Driver: NVIDIA 515.48.07, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.89, Vulkan: 1.3.205, 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: intel_pstate performance (EPP: performance) - CPU Microcode: 0x18 - Thermald 2.4.9
Graphics Notes: BAR1 / Visible vRAM Size: 256 MiB - vBIOS Version: 86.04.1e.00.01
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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	GTX 1070	GTX 1070 2	GTX 1070 3
yquake2 - Vulkan - On - On - 1920 x 1080 (FPS)	**372.8**	**370.5**	372.2
Normalized	100%	99.38%	99.84%
Standard Deviation	0.2%	0.6%	0.3%
yquake2 - Vulkan - On - On - 2560 x 1440 (FPS)	216.9	**217.0**	**216.5**
Normalized	99.95%	100%	99.77%
Standard Deviation	0.1%	0.1%	0.4%
yquake2 - Vulkan - On - On - 3840 x 2160 (FPS)	98.0	**98.1**	**97.3**
Normalized	99.9%	100%	99.18%
Standard Deviation	0.4%	0.8%	1%

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yquake2 - Vulkan - Off - On - 1920 x 1080 (FPS)	**374.4**	373.9	**373.7**
Normalized	100%	99.87%	99.81%
Standard Deviation	0.2%	0.4%	0.2%
yquake2 - Vulkan - Off - On - 2560 x 1440 (FPS)	**217.1**	**216.9**	**216.9**
Normalized	100%	99.91%	99.91%
Standard Deviation	0.3%	0.2%	0.3%
yquake2 - Vulkan - Off - On - 3840 x 2160 (FPS)	**98.2**	**98.8**	98.5
Normalized	99.39%	100%	99.7%
Standard Deviation	1%	0.2%	0.4%
yquake2 - Vulkan - On - Off - 1920 x 1080 (FPS)	**1291**	1289	**1286**
Normalized	100%	99.87%	99.67%
Standard Deviation	0.2%	0.7%	1%
yquake2 - Vulkan - On - Off - 2560 x 1440 (FPS)	**804.7**	803.7	**795.4**
Normalized	100%	99.88%	98.84%
Standard Deviation	0.2%	0.2%	1.7%
yquake2 - Vulkan - On - Off - 3840 x 2160 (FPS)	**393.1**	392.9	**392.6**
Normalized	100%	99.95%	99.87%
Standard Deviation	0%	0%	0.1%
yquake2 - Vulkan - Off - Off - 1920 x 1080 (FPS)	**1302**	**1285**	1301
Normalized	100%	98.64%	99.93%
Standard Deviation	0.1%	2.5%	0.1%
yquake2 - Vulkan - Off - Off - 2560 x 1440 (FPS)	**799.7**	804.1	**804.4**
Normalized	99.42%	99.96%	100%
Standard Deviation	0.7%	1%	0.6%
yquake2 - Vulkan - Off - Off - 3840 x 2160 (FPS)	**393.3**	**393.8**	393.5
Normalized	99.87%	100%	99.92%
Standard Deviation	0.2%	0%	0.1%
yquake2 - OpenGL 3.x - On - On - 1920 x 1080 (FPS)	941.0	**942.9**	**936.4**
Normalized	99.8%	100%	99.31%
Standard Deviation	1%	1.4%	1.4%
yquake2 - OpenGL 3.x - On - On - 2560 x 1440 (FPS)	**611.4**	**611.4**	**611.6**
Normalized	99.97%	99.97%	100%
Standard Deviation	0.2%	0.6%	0.4%
yquake2 - OpenGL 3.x - On - On - 3840 x 2160 (FPS)	**304.2**	303.6	**303.5**
Normalized	100%	99.8%	99.77%
Standard Deviation	0.8%	0.7%	0.5%
yquake2 - OpenGL 3.x - Off - On - 1920 x 1080 (FPS)	**951.9**	956.6	**958.6**
Normalized	99.3%	99.79%	100%
Standard Deviation	1.4%	0.5%	0.5%

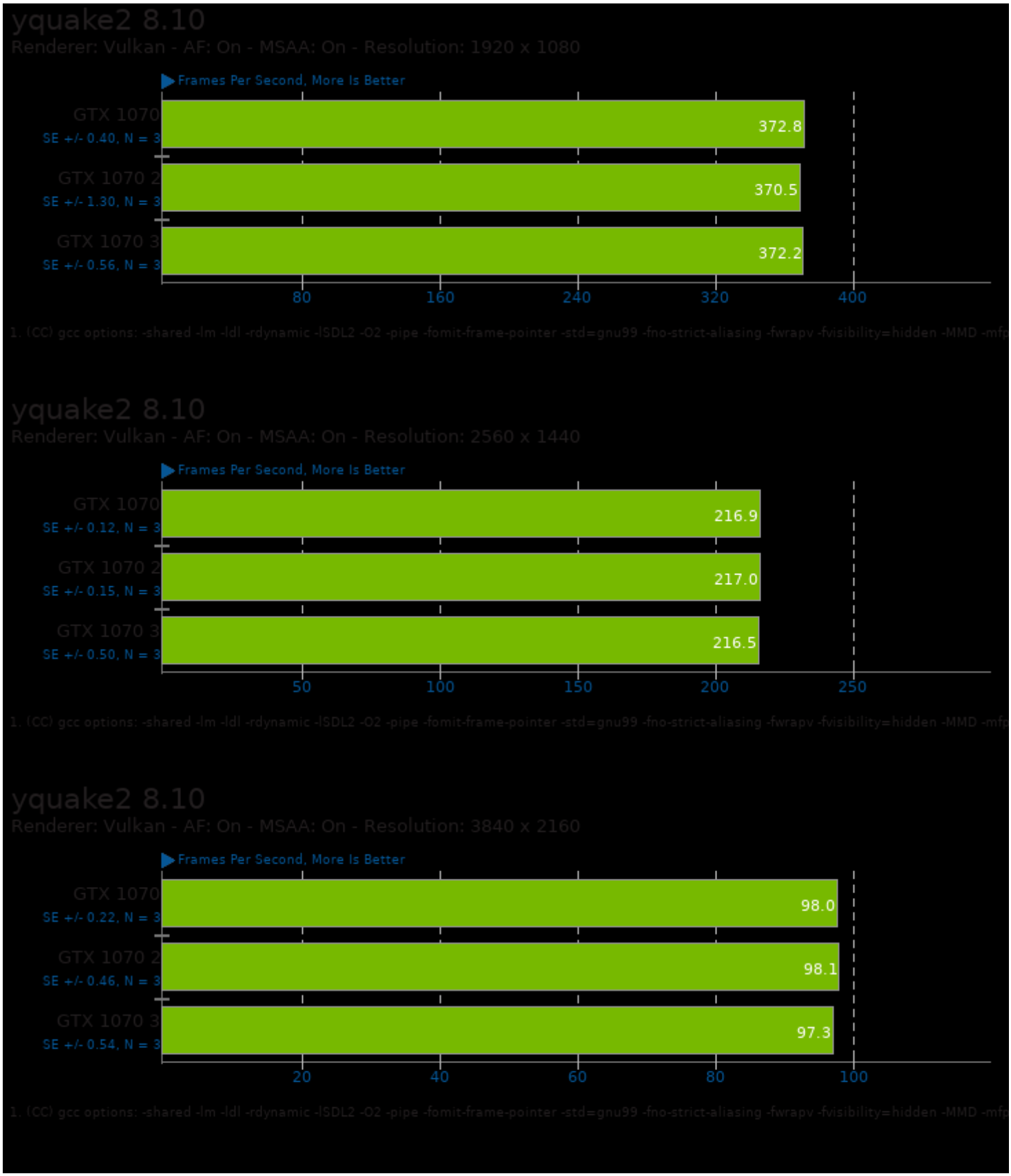
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yquake2 - OpenGL 3.x - Off - On - 2560 x 1440 (FPS)	616.4	**617.6**	**610.1**
Normalized	99.81%	100%	98.79%
Standard Deviation	0.4%	1.1%	1.2%
yquake2 - OpenGL 3.x - Off - On - 3840 x 2160 (FPS)	306.7	**306.8**	**305.0**
Normalized	99.97%	100%	99.41%
Standard Deviation	0.1%	0.5%	0.1%
yquake2 - OpenGL 3.x - On - Off - 1920 x 1080 (FPS)	**2286**	2272	**2272**
Normalized	100%	99.39%	99.35%
Standard Deviation	2.4%	2.3%	2.4%
yquake2 - OpenGL 3.x - On - Off - 2560 x 1440 (FPS)	**1793**	1814	**1823**
Normalized	98.34%	99.52%	100%
Standard Deviation	2.3%	0.7%	0.2%
yquake2 - OpenGL 3.x - On - Off - 3840 x 2160 (FPS)	**1139**	**1123**	1131
Normalized	100%	98.59%	99.35%
Standard Deviation	0.5%	1.1%	0.7%
yquake2 - OpenGL 3.x - Off - Off - 1920 x 1080 (FPS)	**2345**	2355	**2364**
Normalized	99.2%	99.63%	100%
Standard Deviation	2.4%	0.8%	0.2%
yquake2 - OpenGL 3.x - Off - Off - 2560 x 1440 (FPS)	**1836**	**1851**	1838
Normalized	99.23%	100%	99.32%
Standard Deviation	2.5%	2.3%	2.5%
yquake2 - OpenGL 3.x - Off - Off - 3840 x 2160 (FPS)	**1153**	**1155**	**1155**
Normalized	99.82%	100%	100%
Standard Deviation	0.3%	0.4%	0.3%
yquake2 - OpenGL ES 3.x - On - On - 1920 x 1080 (FPS)	**950.8**	946.1	**941.4**
Normalized	100%	99.51%	99.01%
Standard Deviation	0.3%	0.5%	0.8%
yquake2 - OpenGL ES 3.x - On - On - 2560 x 1440 (FPS)	**611.0**	**613.2**	611.4
Normalized	99.64%	100%	99.71%
Standard Deviation	0.6%	0.3%	0.6%
yquake2 - OpenGL ES 3.x - On - On - 3840 x 2160 (FPS)	304.6	**304.2**	**305.1**
Normalized	99.84%	99.71%	100%
Standard Deviation	0.4%	0.6%	0.5%
yquake2 - OpenGL ES 3.x - Off - On - 1920 x 1080 (FPS)	**955.1**	961.0	**961.5**
Normalized	99.33%	99.95%	100%
Standard Deviation	0.2%	0.4%	0.8%
yquake2 - OpenGL ES 3.x - Off - On - 2560 x 1440 (FPS)	**619.4**	**616.0**	618.4
Normalized	100%	99.45%	99.84%
Standard Deviation	0.2%	1%	0.2%

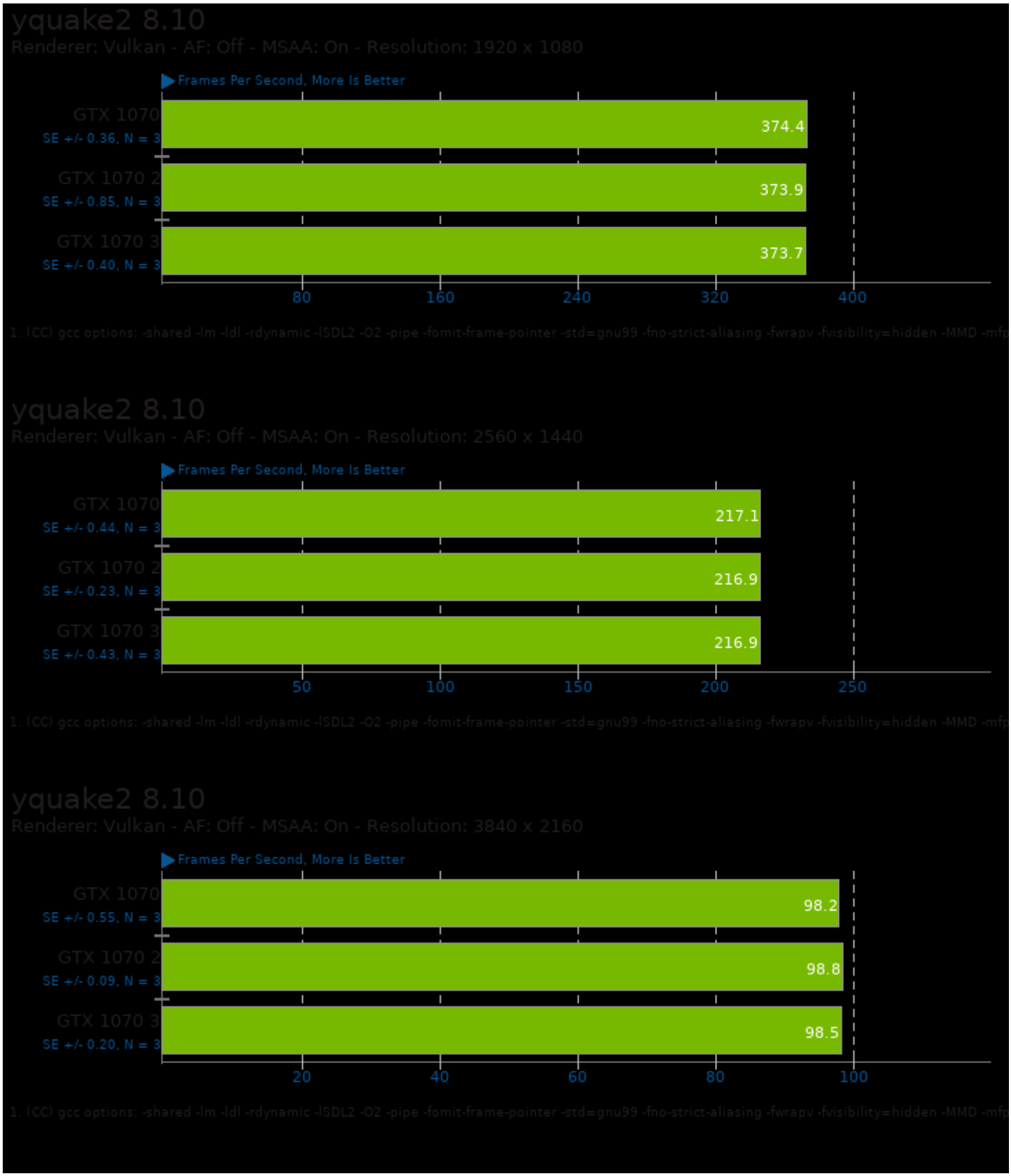
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yquake2 - OpenGL ES 3.x - Off - On - 3840 x 2160 (FPS)	**306.8**	307.4	**309.2**
Normalized	99.22%	99.42%	100%
Standard Deviation	0.4%	1%	0.3%
yquake2 - OpenGL ES 3.x - On - Off - 1920 x 1080 (FPS)	**2307**	2276	**2271**
Normalized	100%	98.68%	98.47%
Standard Deviation	0.4%	2.4%	1.8%
yquake2 - OpenGL ES 3.x - On - Off - 2560 x 1440 (FPS)	1813	**1814**	**1806**
Normalized	99.9%	100%	99.52%
Standard Deviation	0.4%	0.7%	0%
yquake2 - OpenGL ES 3.x - On - Off - 3840 x 2160 (FPS)	1126	**1115**	**1133**
Normalized	99.36%	98.39%	100%
Standard Deviation	1.6%	2%	0.4%
yquake2 - OpenGL ES 3.x - Off - Off - 1920 x 1080 (FPS)	**2373**	2355	**2350**
Normalized	100%	99.26%	99.02%
Standard Deviation	0.2%	0.4%	1.1%
yquake2 - OpenGL ES 3.x - Off - Off - 2560 x 1440 (FPS)	**1825**	1856	**1868**
Normalized	97.68%	99.33%	100%
Standard Deviation	2.4%	1.8%	0.7%
yquake2 - OpenGL ES 3.x - Off - Off - 3840 x 2160 (FPS)	1155	**1159**	**1151**
Normalized	99.7%	100%	99.34%
Standard Deviation	0.2%	0.2%	0.8%

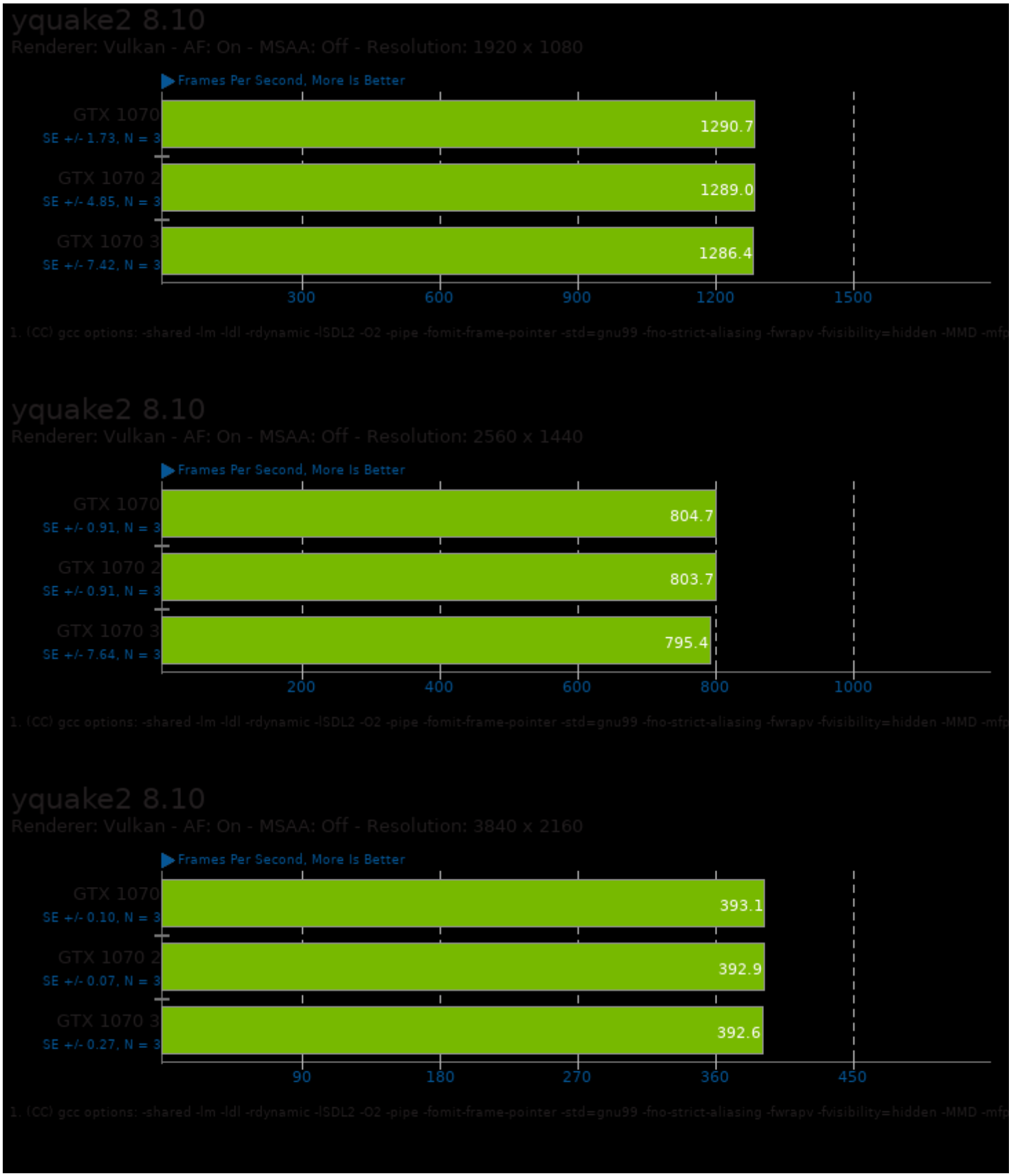
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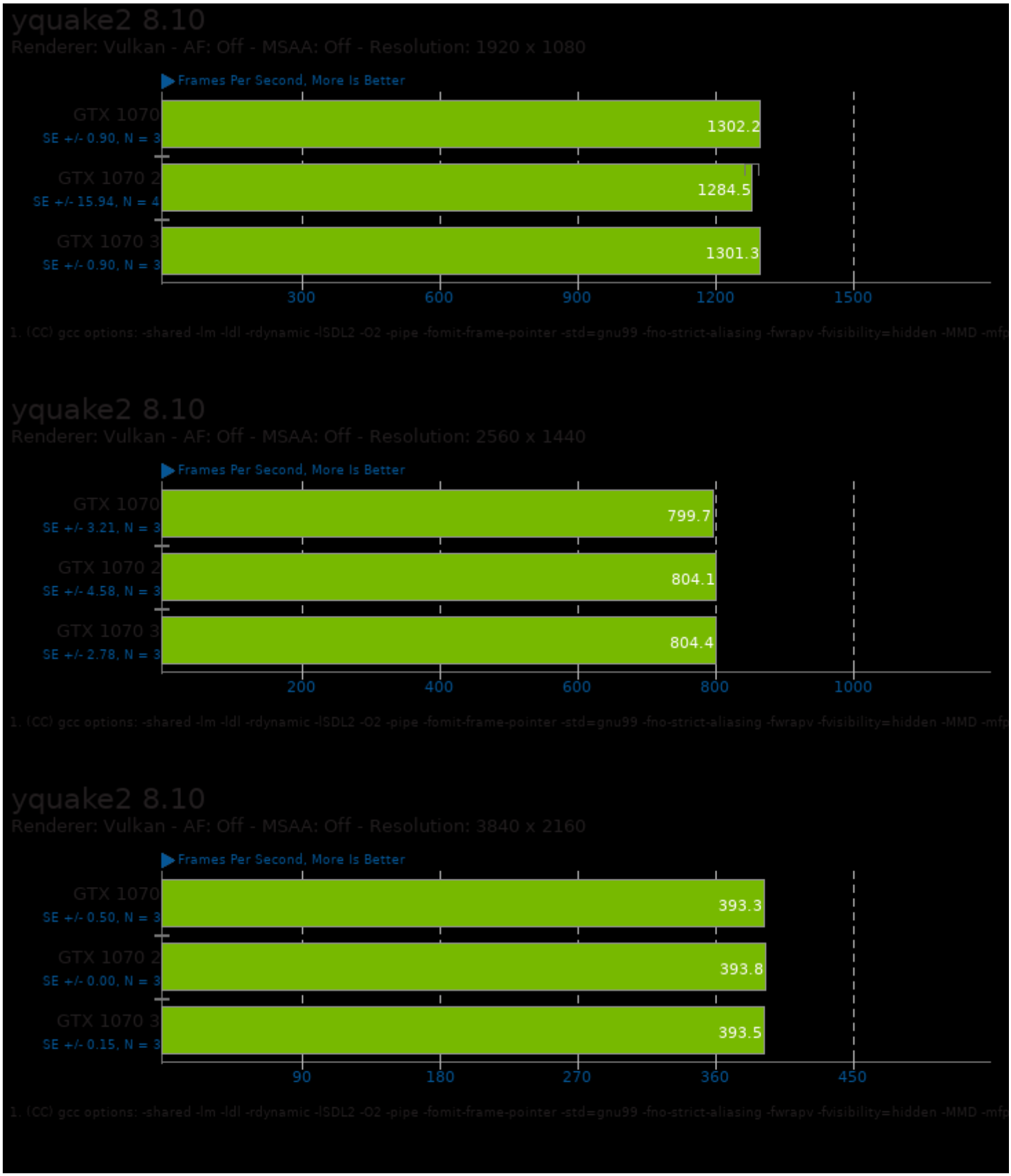
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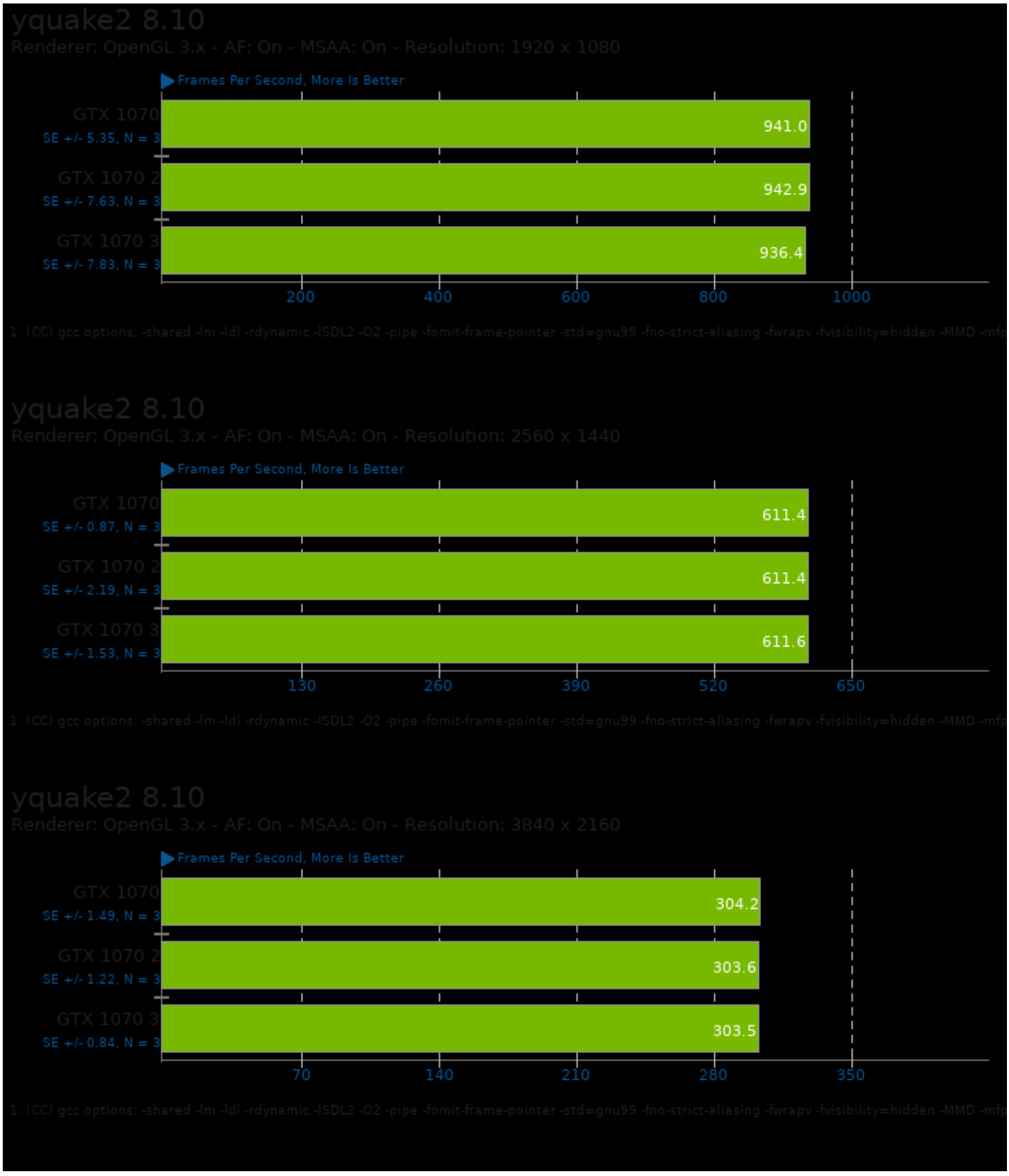
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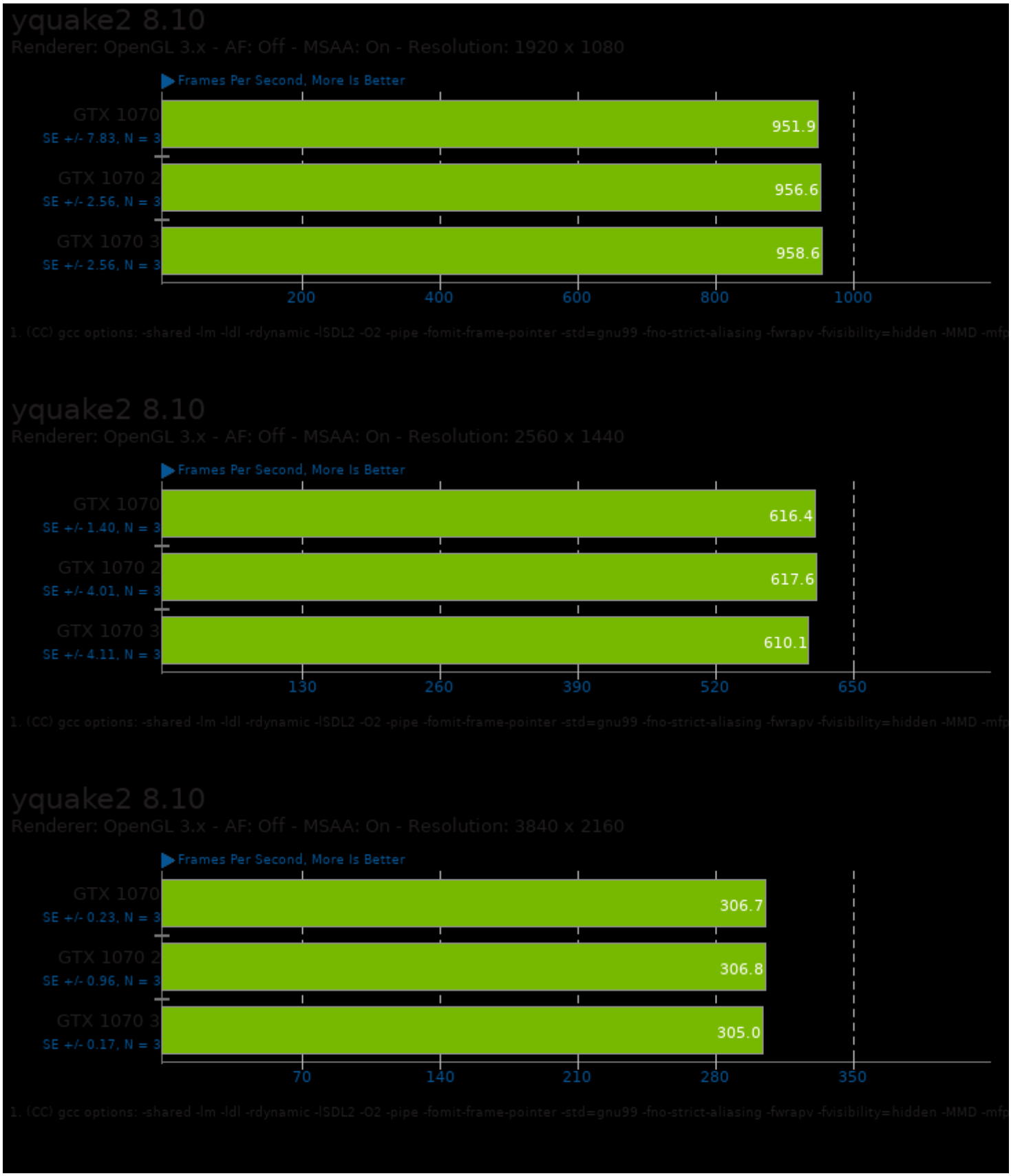
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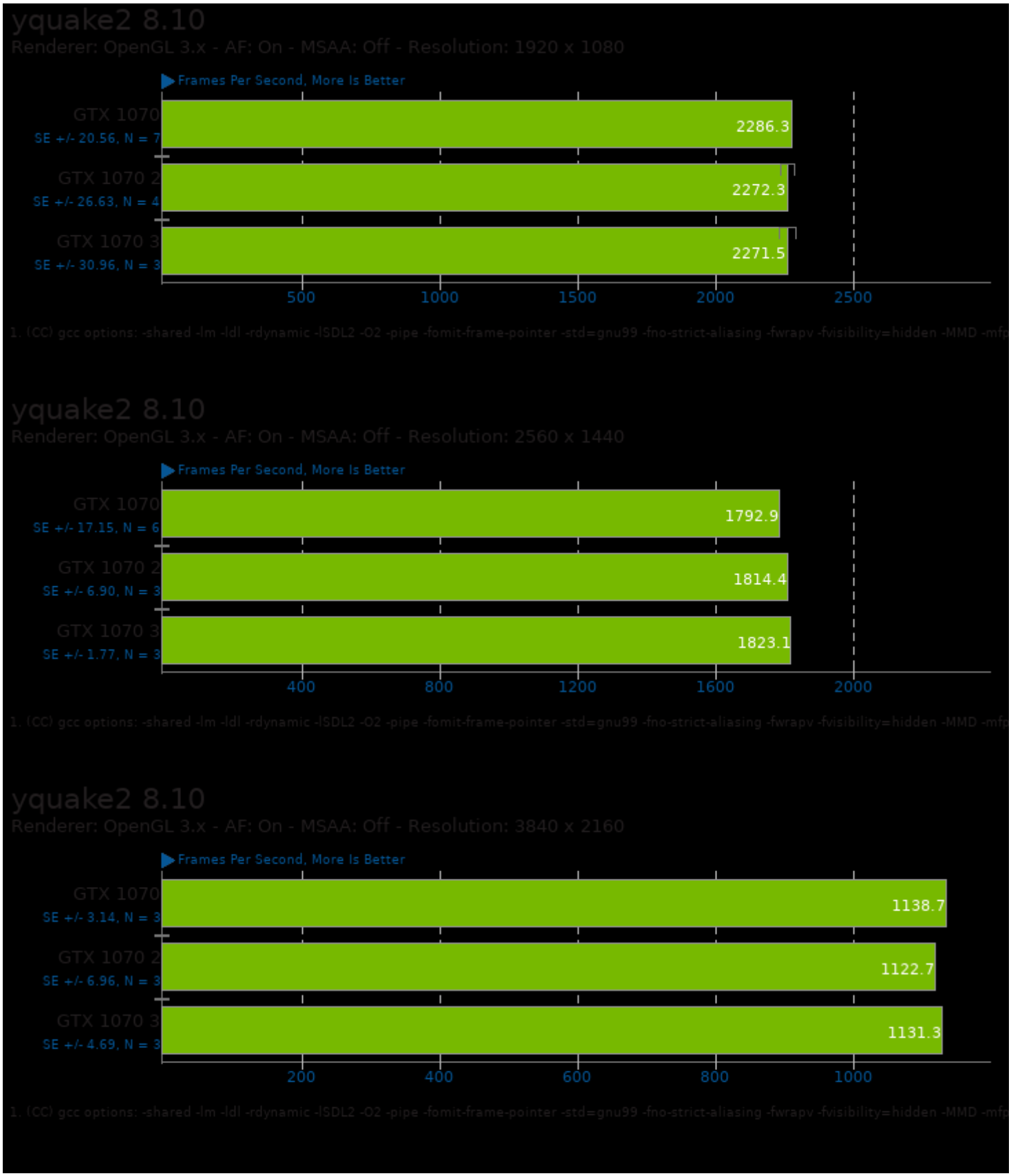
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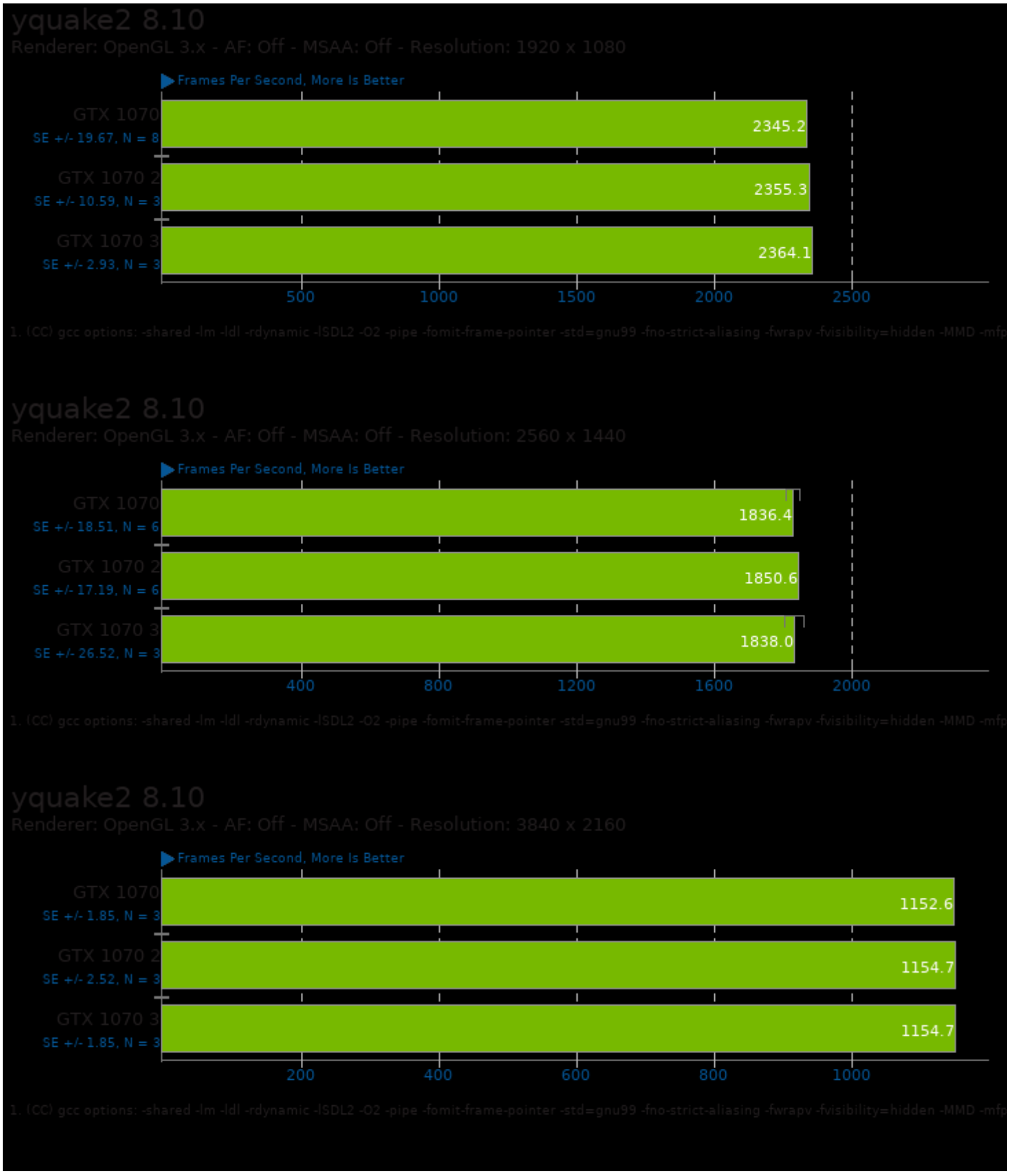
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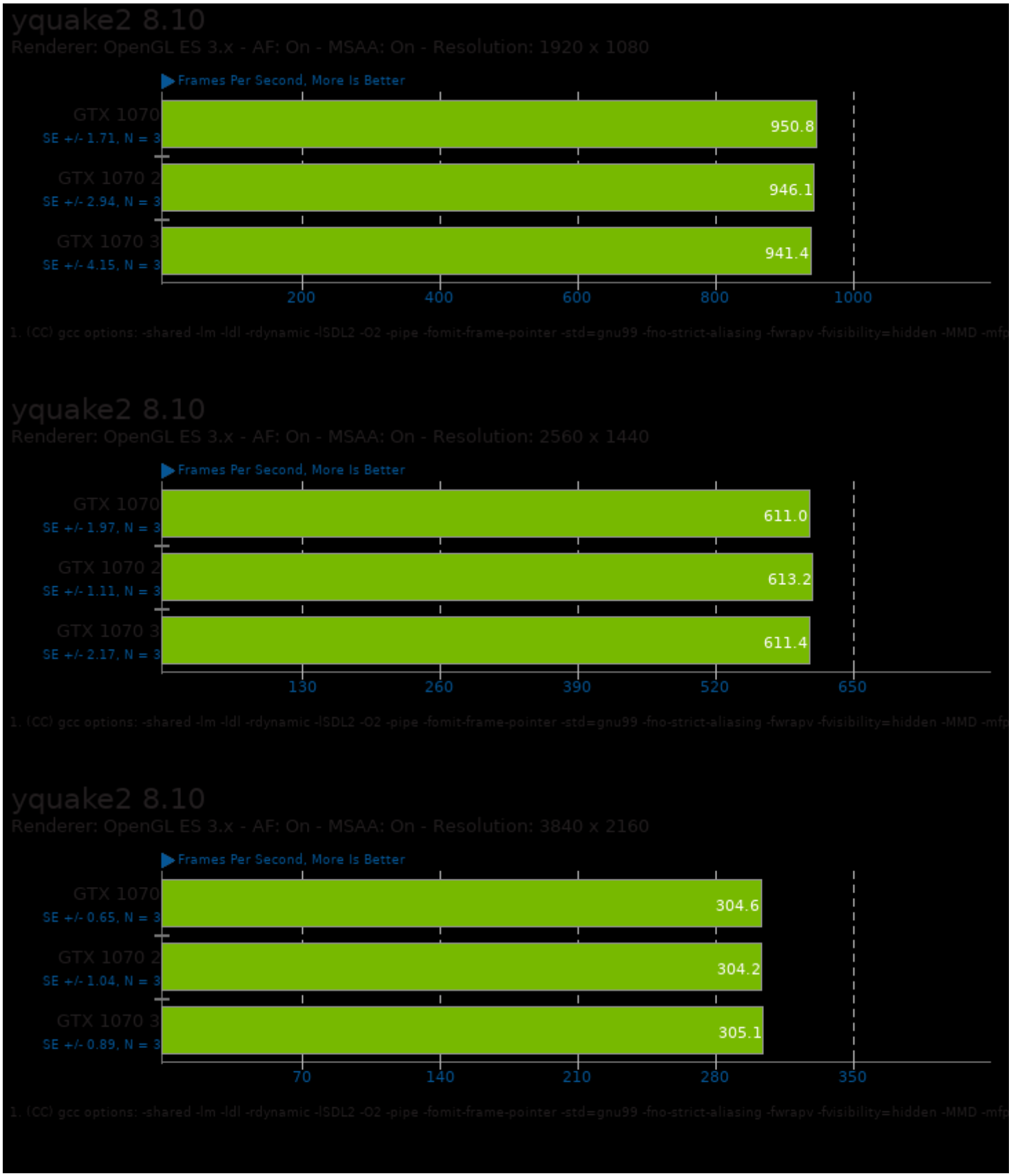
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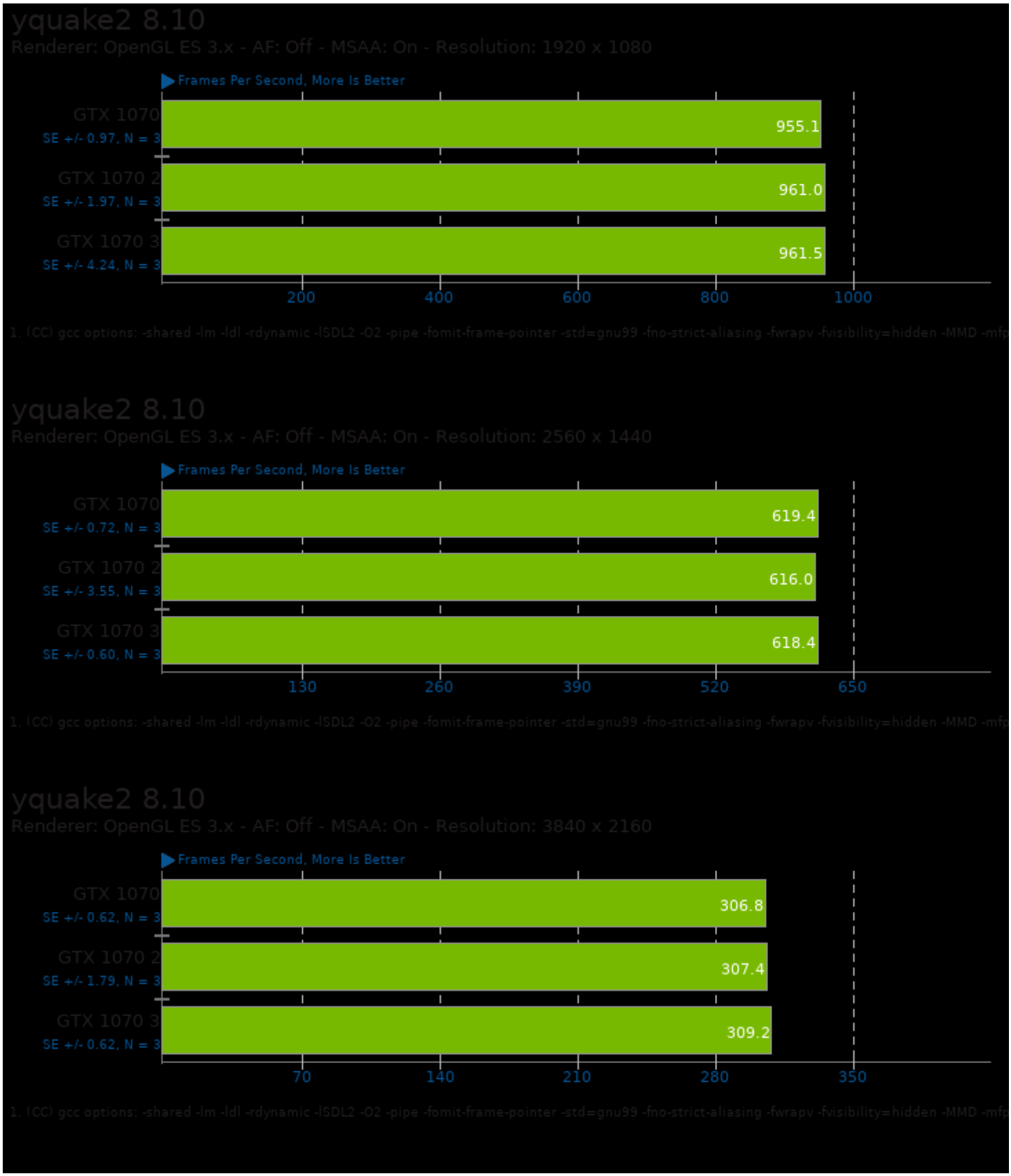
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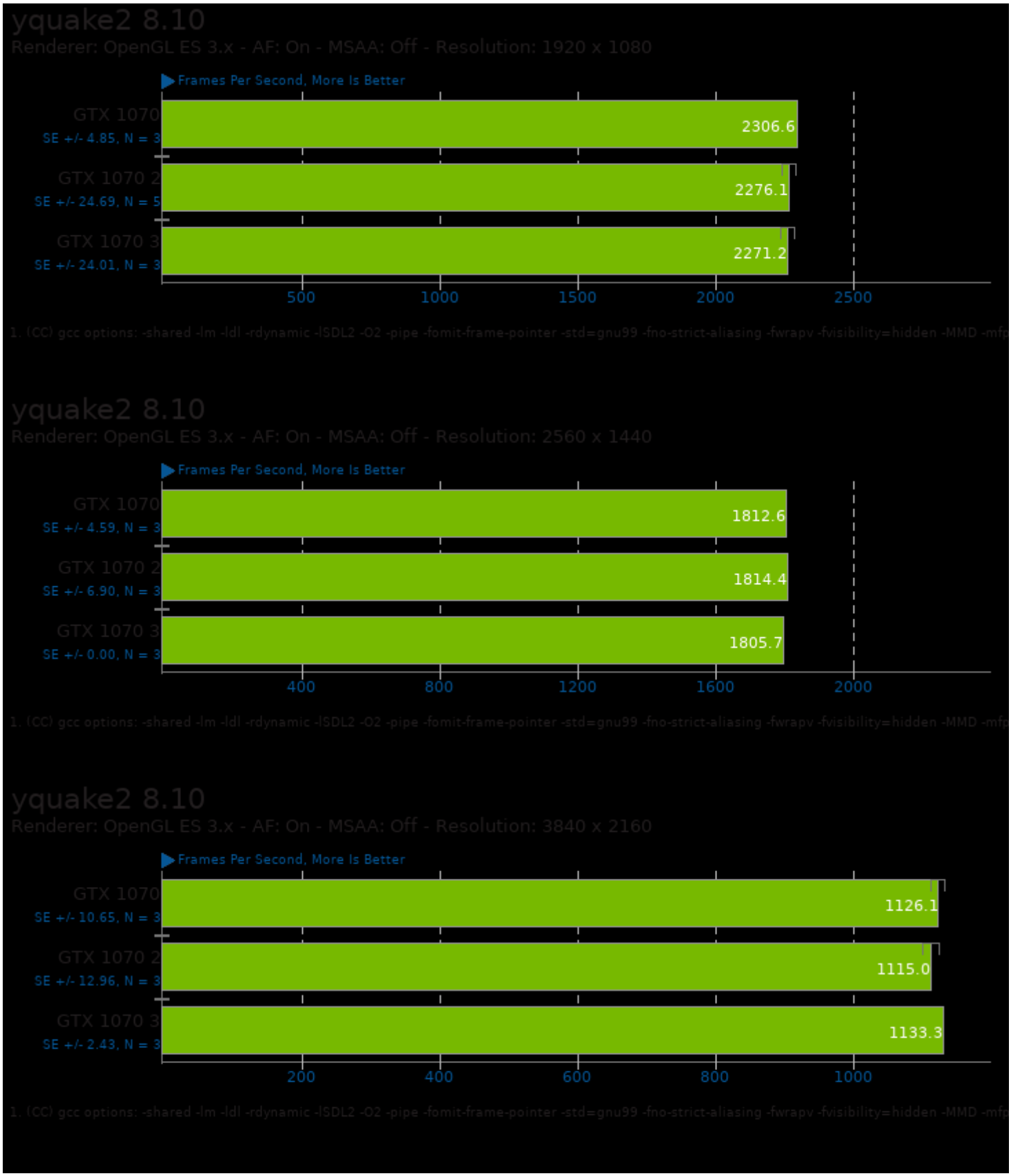
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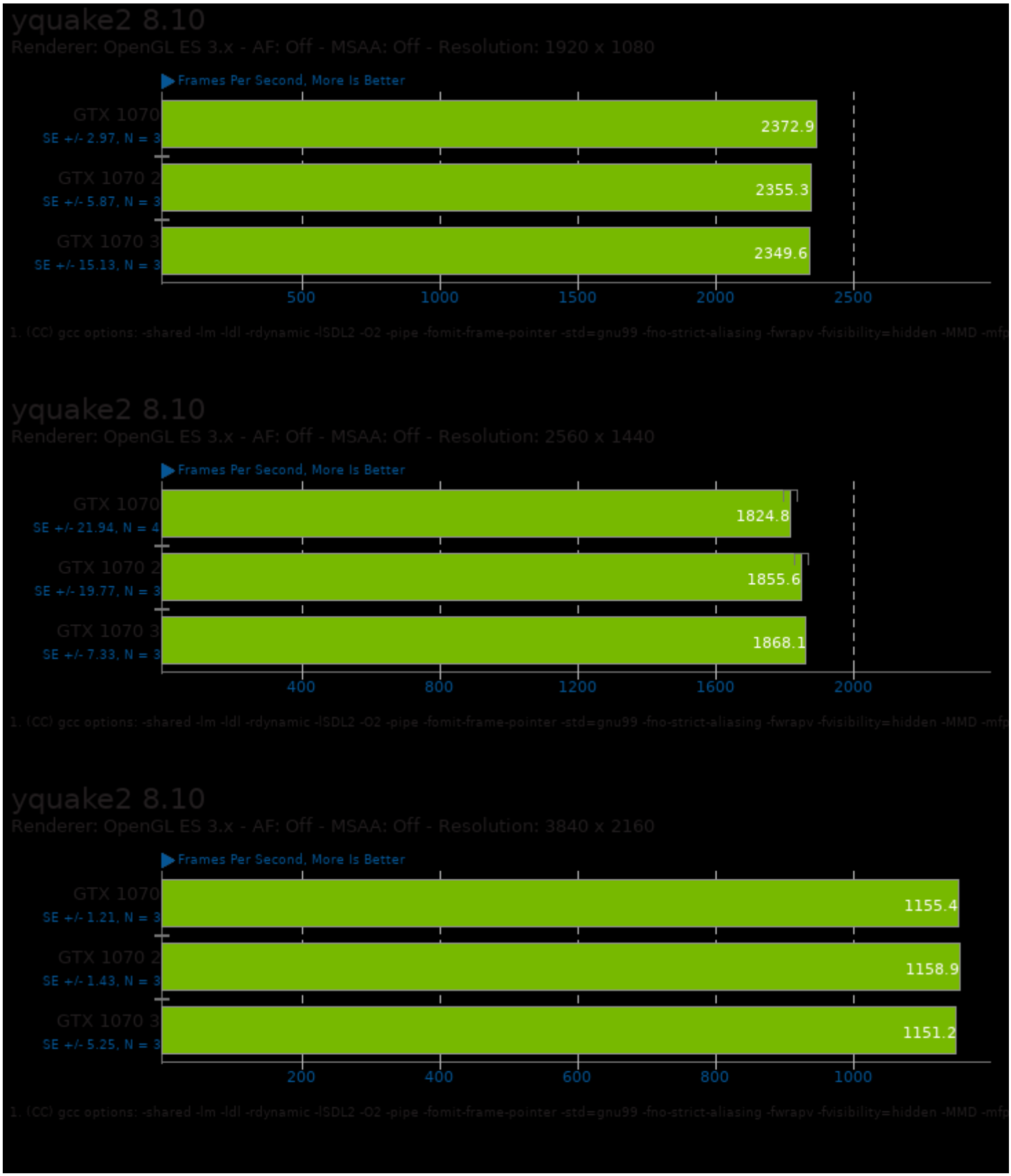
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