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Ice Lake ASKAP

Intel Core i7-1065G7 testing with a Dell 06CDVY (1.0.9 BIOS) and Intel Iris Plus G7 3GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

3 had the most wins, coming in first place for 85% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.107x the speed of the slowest (2). 4 was 0.996x the speed of 3, 1 was 0.976x the speed of 4, 5 was 0.951x the speed of 1, 2 was 0.977x the speed of 5.

Test Systems:

1

2

3

4

5

Processor: Intel Core i7-1065G7 @ 3.90GHz (4 Cores / 8 Threads), Motherboard: Dell 06CDVY (1.0.9 BIOS), Chipset: Intel Device 34ef, Memory: 16GB, Disk: Toshiba KBG40ZPZ512G NVMe 512GB, Graphics: Intel Iris Plus G7 3GB (1100MHz), Audio: Realtek ALC289, Network: Intel Killer Wi-Fi 6 AX1650i 160MHz

OS: Ubuntu 20.10, Kernel: 5.8.0-38-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.1, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1200

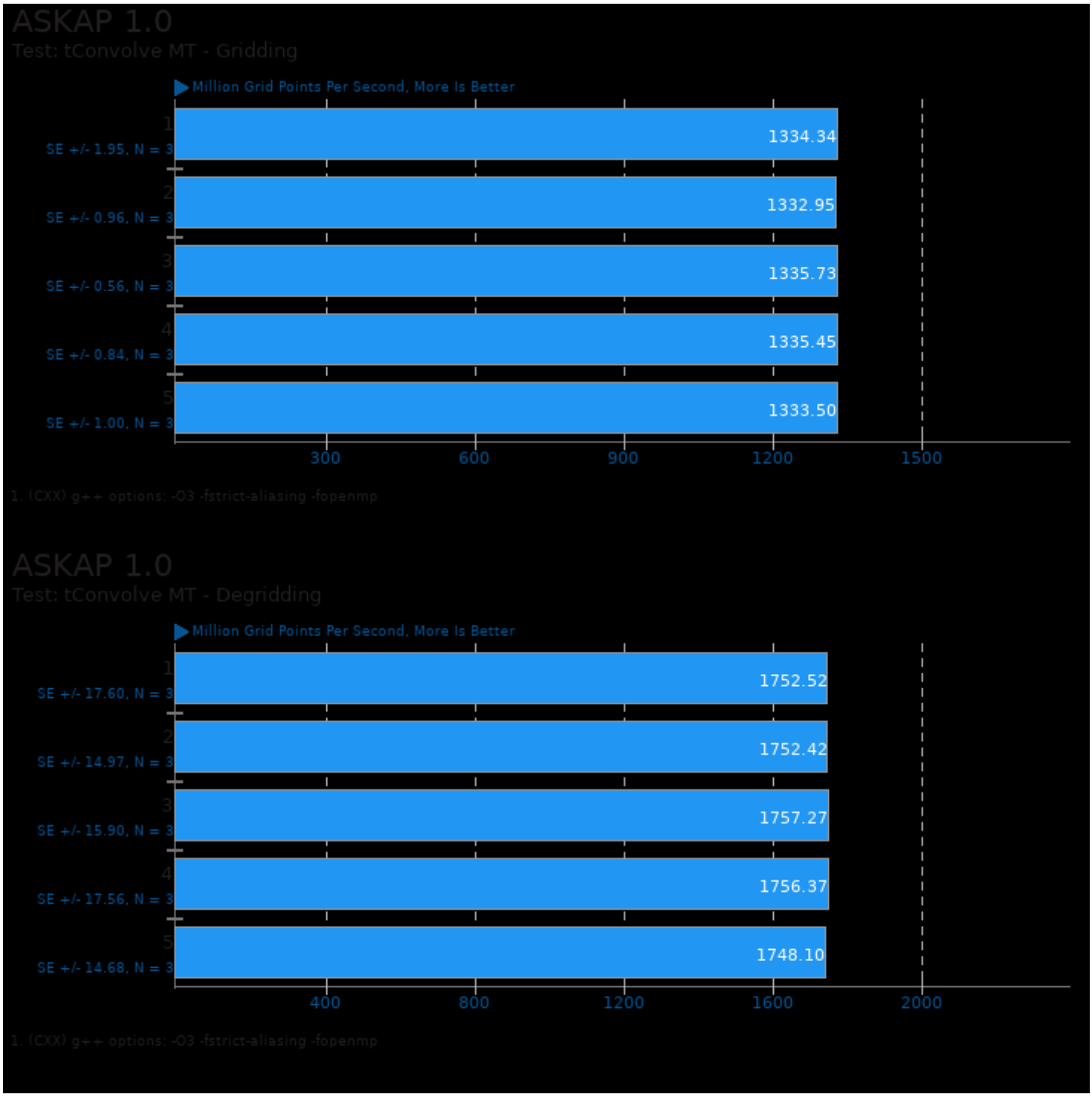
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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 - CPU Microcode: 0xa0 - Thermald 2.3
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + 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

	1	2	3	4	5
ASKAP - tConvolve MT - Gridding (Million Grid	1334	**1333**	**1336**	1335	1334
Normalized	99.9%	99.79%	100%	99.98%	99.83%
Standard Deviation	0.3%	0.1%	0.1%	0.1%	0.1%
ASKAP - tConvolve MT - Degridding (Million Grid	1753	1752	**1757**	1756	**1748**
Normalized	99.73%	99.72%	100%	99.95%	99.48%
Standard Deviation	1.7%	1.5%	1.6%	1.7%	1.5%
ASKAP - tConvolve MPI - Degridding (Mpix/sec)	1238	**996.795**	**1246**	1226	1026
Normalized	99.36%	80.02%	100%	98.43%	82.4%
Standard Deviation	0%	2.3%	1.4%	0%	6.2%
ASKAP - tConvolve MPI - Gridding (Mpix/sec)	1452	**1211**	**1458**	1447	1229
Normalized	99.63%	83.08%	100%	99.27%	84.3%
Standard Deviation	0.6%	1.1%	0%	0.6%	5.2%
ASKAP - tConvolve OpenMP - Gridding (Million Grid	**1104**	**1086**	1093	1096	1099
Normalized	100%	98.38%	99.01%	99.29%	99.55%
Standard Deviation	2.4%	2.7%	0.9%	1.5%	0.2%
ASKAP - tConvolve OpenMP - Degridding (Million Grid	1824	**1790**	**1916**	1906	1833
Normalized	95.21%	93.45%	100%	99.52%	95.7%
Standard Deviation	8.1%	10.8%	0%	0.4%	6.5%

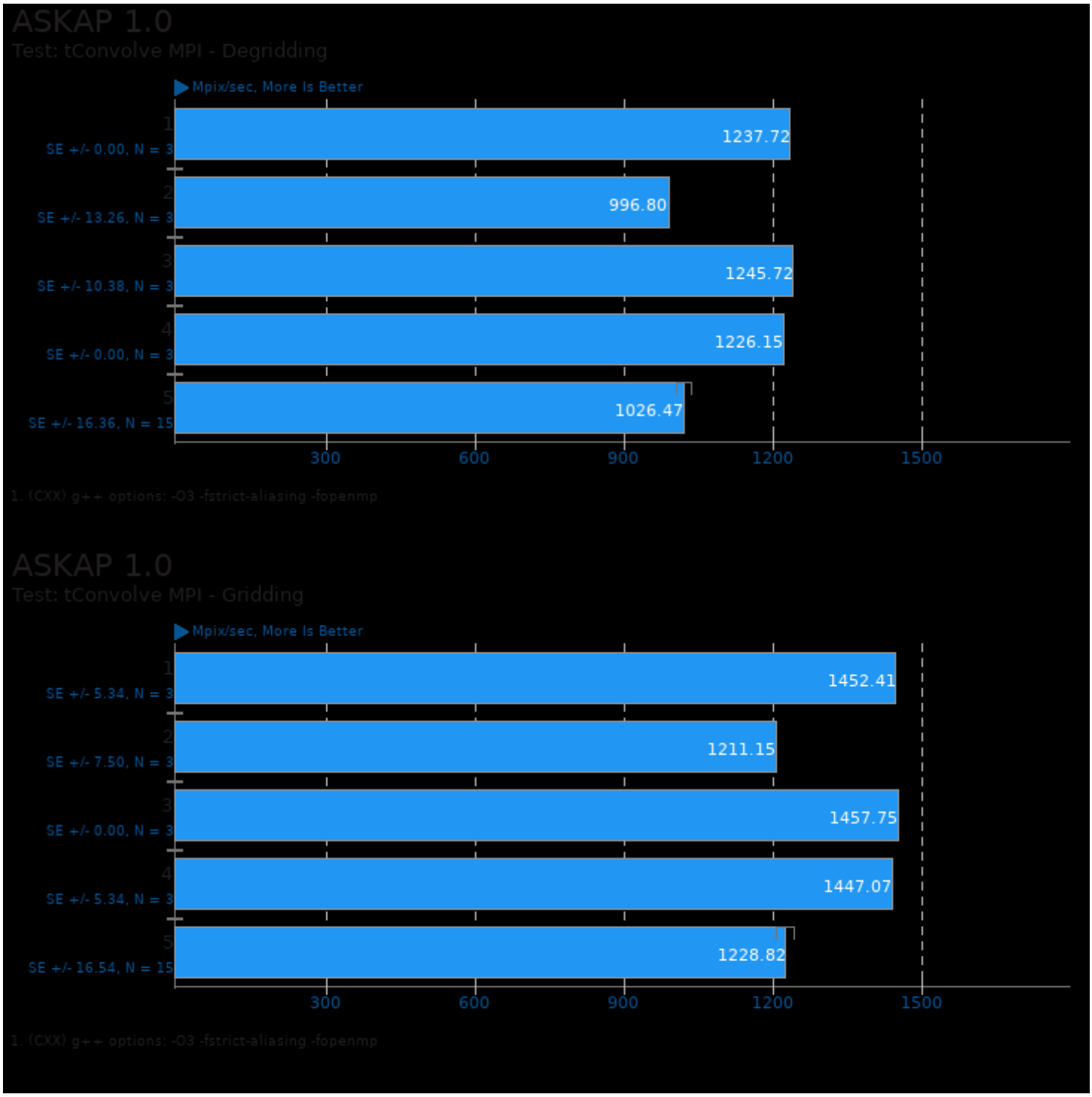
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ASKAP - H.C.O (Iterations/sec)	172.303	**158.954**	**198.807**	198.676	173.219
Normalized	86.67%	79.95%	100%	99.93%	87.13%
Standard Deviation	3%	7.8%	0%	0.2%	4.2%

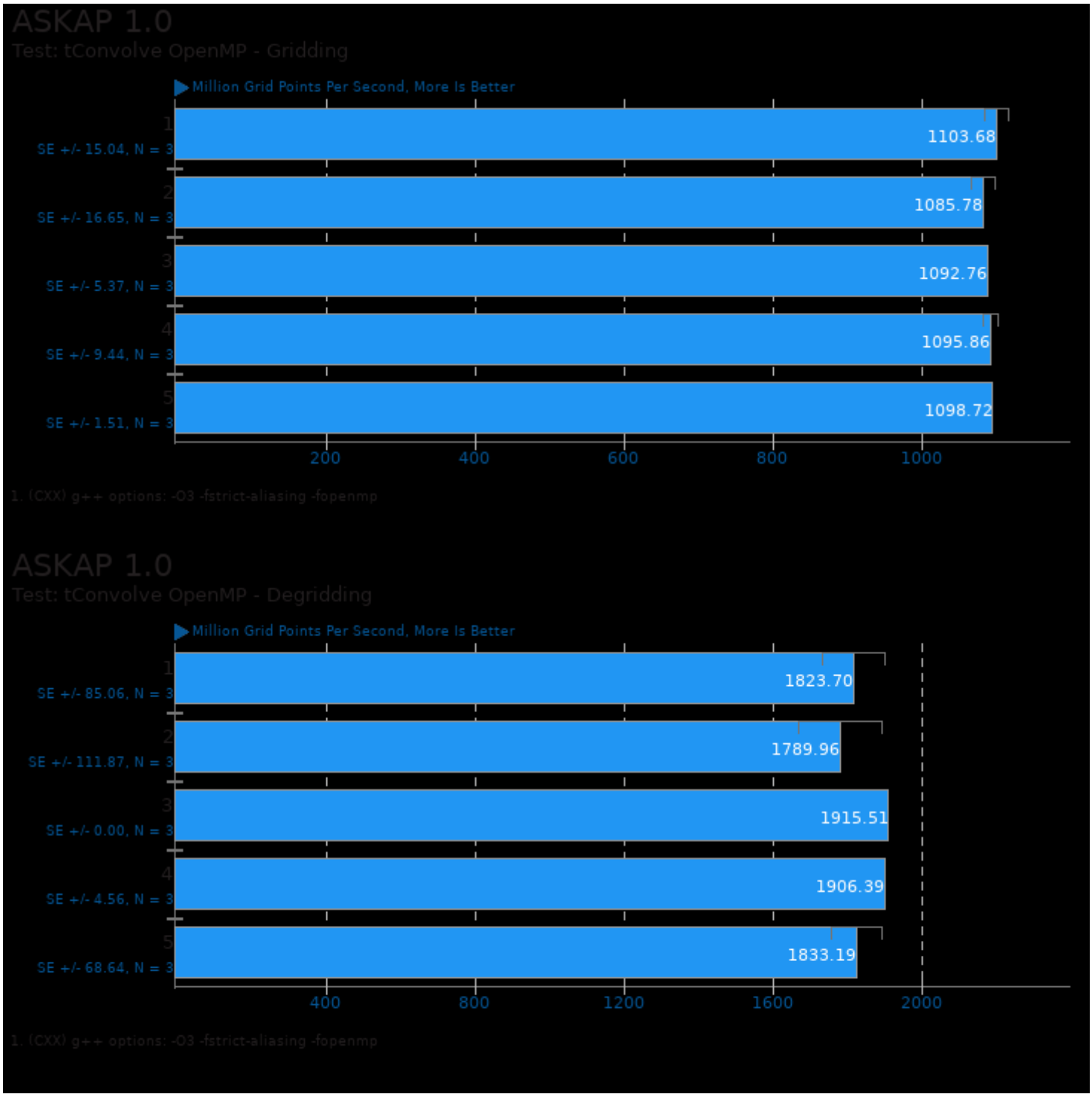
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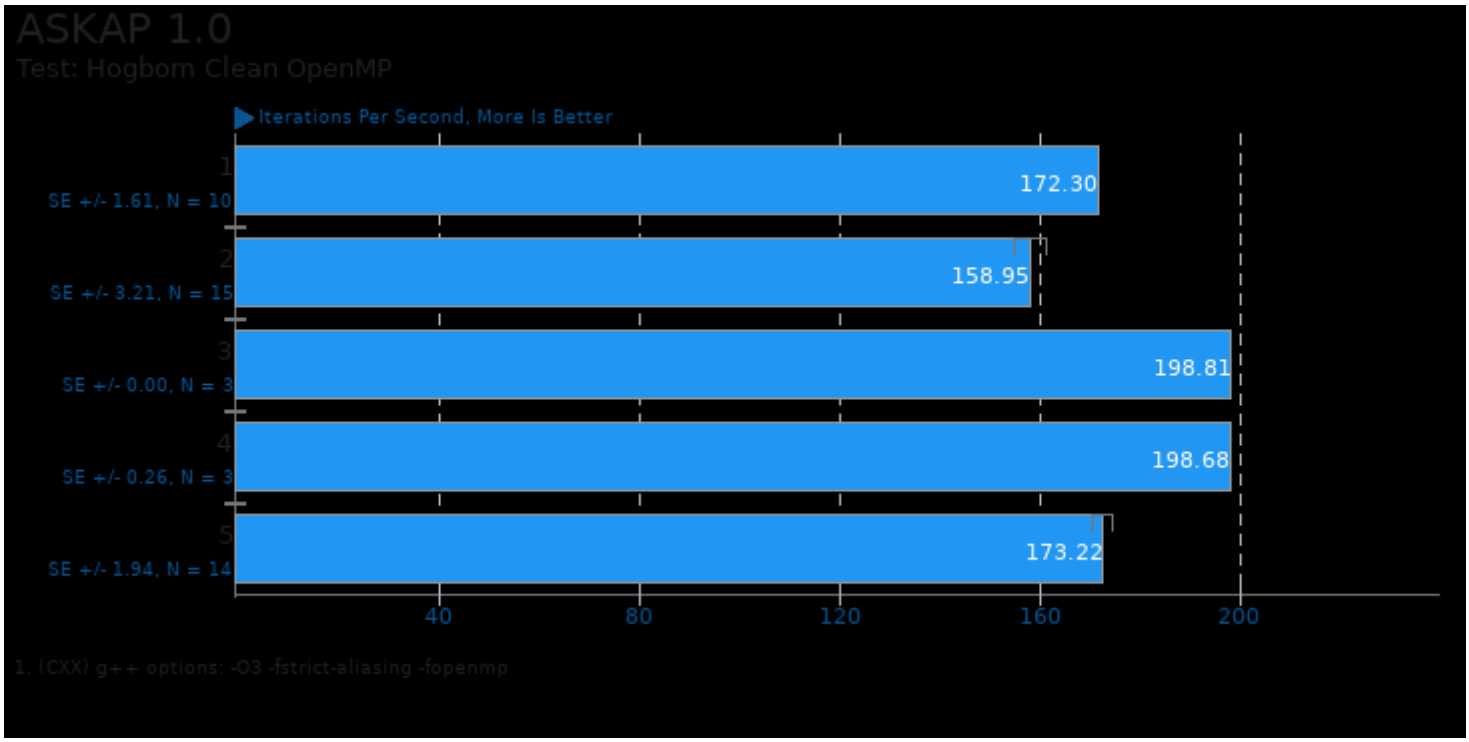
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