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AMD Athlon 200GE - Integrated Graphics Benchmarks

AMD Athlon 200GE testing on Ubuntu Linux for a future article on phoronix.com.

Automated Executive Summary

Ryzen 3 2200G had the most wins, coming in first place for 76% of the tests.

Test Systems:

A10-7850K

Processor: AMD A10-7850K APU @ 3.70GHz (2 Cores / 4 Threads), Motherboard: Gigabyte F2A88XM-D3H (F5 BIOS), Chipset: AMD Family 15h, Memory: 7168MB, Disk: 525GB 2115 + 120GB KINGSTON SV300S3, Graphics: AMD Radeon R7 1024MB, Audio: AMD Kaveri HDMI/DP, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5 (LLVM 6.0.1), Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: GLAMOR
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: __user pointer sanitization + Full AMD retpoline + SSB disabled via prctl and seccomp

A10-7870K

Processor: AMD A10-7870K Radeon R7 12 Compute Cores 4C+8G @ 3.90GHz (2 Cores / 4 Threads), Motherboard: ASUS A88XM-E (2001 BIOS), Chipset: AMD Family 15h, Memory: 15360MB, Disk: 525GB 2115 + 250GB Samsung SSD 850, Graphics: ASUS AMD Radeon R7 1024MB, Audio: AMD Kaveri HDMI/DP, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5 (LLVM 6.0.1), Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: GLAMOR
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: __user pointer sanitization + Full AMD retpoline + SSB disabled via prctl and seccomp

Athlon 200GE

Processor: AMD Athlon 200GE @ 3.20GHz (2 Cores / 4 Threads), Motherboard: Gigabyte A320M-S2H-CF (F23 BIOS), Chipset: AMD Device 15d0, Memory: 7168MB, Disk: 525GB 2115 + 240GB TOSHIBA-RC100, Graphics: Gigabyte AMD Radeon Vega / Radeon Vega Mobile 1GB, Audio: AMD Device 15de, Monitor: DELL P2415Q, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5 (LLVM 6.0.1), Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

Ryzen 3 2200G

Processor: AMD Ryzen 3 2200G @ 3.50GHz (4 Cores), Motherboard: MSI B350M GAMING PRO (MS-7A39) v1.0 (2.H0 BIOS), Chipset: AMD Device 15d0, Memory: 7168MB, Disk: 525GB 2115 + 32GB Flash Disk + 29GB INTEL MEMPEK1W032GA, Graphics: MSI AMD Radeon Vega / Radeon Vega Mobile 1024MB, Audio: AMD Device 15de, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5 (LLVM 6.0.1), Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes

--enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: GLAMOR
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

Core i3 4130

Processor: Intel Core i3-4130 @ 3.40GHz (2 Cores / 4 Threads), Motherboard: Intel DH87RL (RLH8710H.86A.0317.2013.0426.1724 BIOS), Chipset: Intel 4th Gen Core DRAM, Memory: 1536MB, Disk: 128GB TOSHIBA THNSNH12 + 525GB 2115, Graphics: Intel Haswell 1536MB (1150MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: DELL S2409W, Network: Intel Connection I217-V

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT vulnerable

Core i3 7100

Processor: Intel Core i3-7100 @ 3.90GHz (2 Cores / 4 Threads), Motherboard: Gigabyte B250M-DS3H-CF (F9 BIOS), Chipset: Intel Xeon E3-1200 v6/7th + B250, Memory: 8192MB, Disk: 525GB 2115 + 250GB Western Digital WDS250G1B0A-, Graphics: Intel HD 630 3072MB (1100MHz), Audio: Realtek ALC887-VD, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT vulnerable

Core i3 8100

Processor: Intel Core i3-8100 @ 3.60GHz (4 Cores), Motherboard: ASRock Z370M-ITX/ac (P3.10 BIOS), Chipset: Intel 8th Gen Core, Memory: 8192MB, Disk: 525GB 2115 + 60GB DREVO X1 SSD, Graphics: Intel UHD 630 3072MB (1100MHz), Audio: Realtek ALC892, Monitor: DELL S2409W, Network: Intel Connection + Intel Dual Band Wireless-AC 3168NGW

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT disabled

Core i5 3470

Processor: Intel Core i5-3470 @ 3.60GHz (4 Cores), Motherboard: ECS H61H2-I3 v1.0 (4.6.5 BIOS), Chipset: Intel Xeon E3-1200 v2/3rd, Memory: 4096MB, Disk: 120GB Samsung SSD 850 + 525GB 2115, Graphics: Intel Ivybridge Desktop 1536MB (1100MHz), Audio: VIA VT1705, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.2 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT disabled

Core i5 8400

Processor: Intel Core i5-8400 @ 4.00GHz (6 Cores), Motherboard: MSI Z370M MORTAR (MS-7B54) v1.0 (1.40 BIOS), Chipset: Intel 8th Gen Core, Memory: 8192MB, Disk: 525GB 2115 + 128GB ADATA SX6000NP, Graphics: Intel UHD 630 3072MB (1050MHz), Audio: Realtek ALC892, Monitor: DELL S2409W, Network: Intel Connection

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT disabled

Core i7 5775C

Processor: Intel Core i7-5775C @ 3.70GHz (4 Cores / 8 Threads), Motherboard: MSI Z97-G45 GAMING (MS-7821) v1.0 (V2.9 BIOS), Chipset: Intel Broadwell-U- DMI, Memory: 16384MB, Disk: 120GB CT120BX100SSD1 + 525GB 2115, Graphics: Intel Iris Pro 6200 3072MB (1150MHz), Audio: Intel Broadwell-U Audio, Monitor: DELL S2409W, Network: Qualcomm Atheros Killer E220x Gigabit

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v

Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT vulnerable

Core i7 8700K

Processor: Intel Core i7-8700K @ 4.70GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF Z370-PLUS GAMING (1002 BIOS), Chipset: Intel 8th Gen Core, Memory: 16384MB, Disk: 525GB 2115 + 128GB THNSN5128GPU7 TOSHIBA, Graphics: Intel UHD 630 3072MB (1200MHz), Audio: Realtek ALC887-VD, Monitor: DELL P2415Q, Network: Intel Connection

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion

Pentium G3258

Processor: Intel Pentium G3258 @ 3.20GHz (2 Cores), Motherboard: Gigabyte H97M-D3H (F2 BIOS), Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 250GB SAMSUNG HD253GJ + 525GB 2115, Graphics: Intel Haswell Desktop 1536MB (1100MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT disabled

Pentium G4400

Processor: Intel Pentium G4400 @ 3.30GHz (2 Cores), Motherboard: MSI B150M MORTAR (MS-7972) v2.0 (C.40 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8192MB, Disk: 120GB Samsung SSD 850 + 525GB 2115, Graphics: Intel HD 510 3072MB (1000MHz), Audio: Realtek ALC892, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 18.10, Kernel: 4.18.0-7-generic (x86_64), Desktop: GNOME Shell 3.30.0, Display Server: X Server 1.20.1, Display Driver: modesetting 1.20.1, OpenGL: 4.5 Mesa 18.1.5, Compiler: GCC 8.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes

--enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave
Python Notes: Python 2.7.15+ + Python 3.6.6+
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW + SSB disabled via prctl and seccomp + PTE Inversion; VMX: conditional cache flushes SMT disabled

200GE-P1-3200

Processor: AMD Athlon 200GE @ 3.20GHz (2 Cores / 4 Threads), Motherboard: Gigabyte B450 I AORUS PRO WIFI-CF (F50 BIOS), Chipset: AMD Raven/Raven2, Memory: 30GB, Disk: 1000GB Samsung SSD 970 EVO 1TB + 6001GB Western Digital WD60EZAZ-00S + 2 x 5001GB Seagate ST5000LM000-2AN1, Graphics: llvmpipe (1000/1600MHz), Audio: AMD Raven/Raven2/Fenghuang, Network: Intel I211 + Intel-AC 9260

OS: ManjaroLinux 21.3.7, Kernel: 5.4.210-1-MANJARO (x86_64), Desktop: KDE Plasma 5.24.6, Display Server: X Server 1.21.1.4, OpenGL: 4.5 Mesa 22.1.6 (LLVM 14.0.6 256 bits), Compiler: GCC 12.1.1 20220730 + Clang 14.0.6 + LLVM 14.0.6, File-System: ext4, Screen Resolution: 1920x1200

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-werror --enable-__cxa_atexit --enable-bootstrap --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-libstdcxx-backtrace --enable-link-serialization=1 --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-build-config=bootstrap-lto --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8101016
Graphics Notes: GLAMOR - vBIOS Version: 113-RAVEN-114
Python Notes: Python 3.10.5
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: 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 Retpolines IBPB: conditional STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

200GE-P1

Processor: AMD Athlon 200GE @ 3.20GHz (2 Cores / 4 Threads), Motherboard: Gigabyte B450 I AORUS PRO WIFI-CF (F50 BIOS), Chipset: AMD Raven/Raven2, Memory: 30GB, Disk: 1000GB Samsung SSD 970 EVO 1TB + 6001GB Western Digital WD60EZAZ-00S + 2 x 5001GB Seagate ST5000LM000-2AN1, Graphics: AMD Radeon Vega 3 2GB (1000/1600MHz), Audio: AMD Raven/Raven2/Fenghuang, Network: Intel I211 + Intel-AC 9260

OS: ManjaroLinux 21.3.7, Kernel: 5.4.210-1-MANJARO (x86_64), Desktop: KDE Plasma 5.24.6, Display Server: X Server 1.21.1.4, OpenGL: 4.6 Mesa 22.1.6 (LLVM 14.0.6 DRM 3.35), Vulkan: 1.3.211, Compiler: GCC 12.1.1 20220730 + Clang 14.0.6 + LLVM 14.0.6, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-werror --enable-__cxa_atexit --enable-bootstrap --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-libstdcxx-backtrace --enable-link-serialization=1 --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-build-config=bootstrap-lto --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8101016
Graphics Notes: GLAMOR - BAR1 / Visible vRAM Size: 2048 MB - vBIOS Version: 113-RAVEN-114
Python Notes: Python 3.10.5
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: 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 Retpolines IBPB: conditional STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

AMD Athlon 200GE - Integrated Graphics Benchmarks

Phoronix Test Suite

	A10-7850K	A10-7870K	Athlon 200GE	Ryzen 3 2200G	Core i3 4130	Core i3 7100	Core i3 8100	Core i5 3470	Core i5 8400	Core i7 5775C	Core i7 8700K	Pentium G3258	Pentium G4400	200GE-P1-3200	200GE-P1
ET: Legacy - Renderer2 - 1920 x 1080 (FPS)	74.60	81.03	115.50	143.83	65.03	80.13	93.60	45.03	105.73	118.10	116.27	49.60	52.27		138.2
Normalized	51.87%	56.34%	80.3%	100%	45.21%	55.71%	65.08%	31.31%	73.51%	82.11%	80.84%	34.49%	36.34%		96.09%
Standard Deviation	0.4%	0.3%	1%	0.6%	3.1%	0.3%	0.2%	0.1%	0.5%	0.3%	0.4%	0.3%	0.1%		1%
Tesseract - 1920 x 1080 (FPS)	60.50	67.67	78.75	159.83	41.56	57.87	62.33	21.54	62.38	101.76	71.34	27.45	34.26		80.29225
Normalized	37.85%	42.34%	49.27%	100%	26%	36.21%	39%	13.48%	39.03%	63.67%	44.63%	17.17%	21.44%		50.24%
Standard Deviation	1.3%	0.5%	0.3%	0.7%	1.1%	0.8%	0.7%	0.1%	0.7%	0.3%	2%	0.4%	0.9%		0.1%
Unigine Superposition - 1920 x 1080 - Fullscreen - Low - OpenGL	7.80	9	10.60	25.20		9.40	10.20		10	14.70	11.60	4	5.70		13.1
Normalized	30.95%	35.71%	42.06%	100%		37.3%	40.48%		39.68%	58.33%	46.03%	15.87%	22.62%		51.98%
Standard Deviation															0%
Xonotic - 1920 x 1080 - Low (FPS)	172	183	237	308	156	181	210	109	261	309	297	116	126		284.219905 3
Normalized	55.66%	59.22%	76.7%	99.68%	50.49%	58.58%	67.96%	35.28%	84.47%	100%	96.12%	37.54%	40.78%		91.98%
Standard Deviation	0.4%	0.3%	0.2%	0.7%	2%	0.8%	0.3%	0.1%	0.2%	0.4%	0.6%	0.8%	0%		0.4%
Xonotic - 1920 x 1080 - High (FPS)	105.86	120.27	140.72	220.47	76.24	113	126	44.78	133.11	215.56	151.21	51.60	62.12		171.227910 3
Normalized	48.02%	54.55%	63.83%	100%	34.58%	51.25%	57.15%	20.31%	60.38%	97.77%	68.59%	23.4%	28.18%		77.66%
Standard Deviation	0.3%	0%	1.8%	0.3%	0.1%	0%	0.1%	0%	0.2%	0.5%	0.8%	0.4%	0.1%		0.3%
Xonotic - 1920 x 1080 - Ultra (FPS)	90.96	104.22	106.64	186.11	60.14	88.96	97.50	20.23	100.73	174.14	116.49	40.20	48.29		123.536746 2
Normalized	48.87%	56%	57.3%	100%	32.31%	47.8%	52.39%	10.87%	54.12%	93.57%	62.59%	21.6%	25.95%		66.38%
Standard Deviation	0.3%	0%	0.7%	0.4%	0.3%	0.1%	0.2%	0.1%	0.1%	0.6%	0.2%	0.3%	0.1%		0.4%

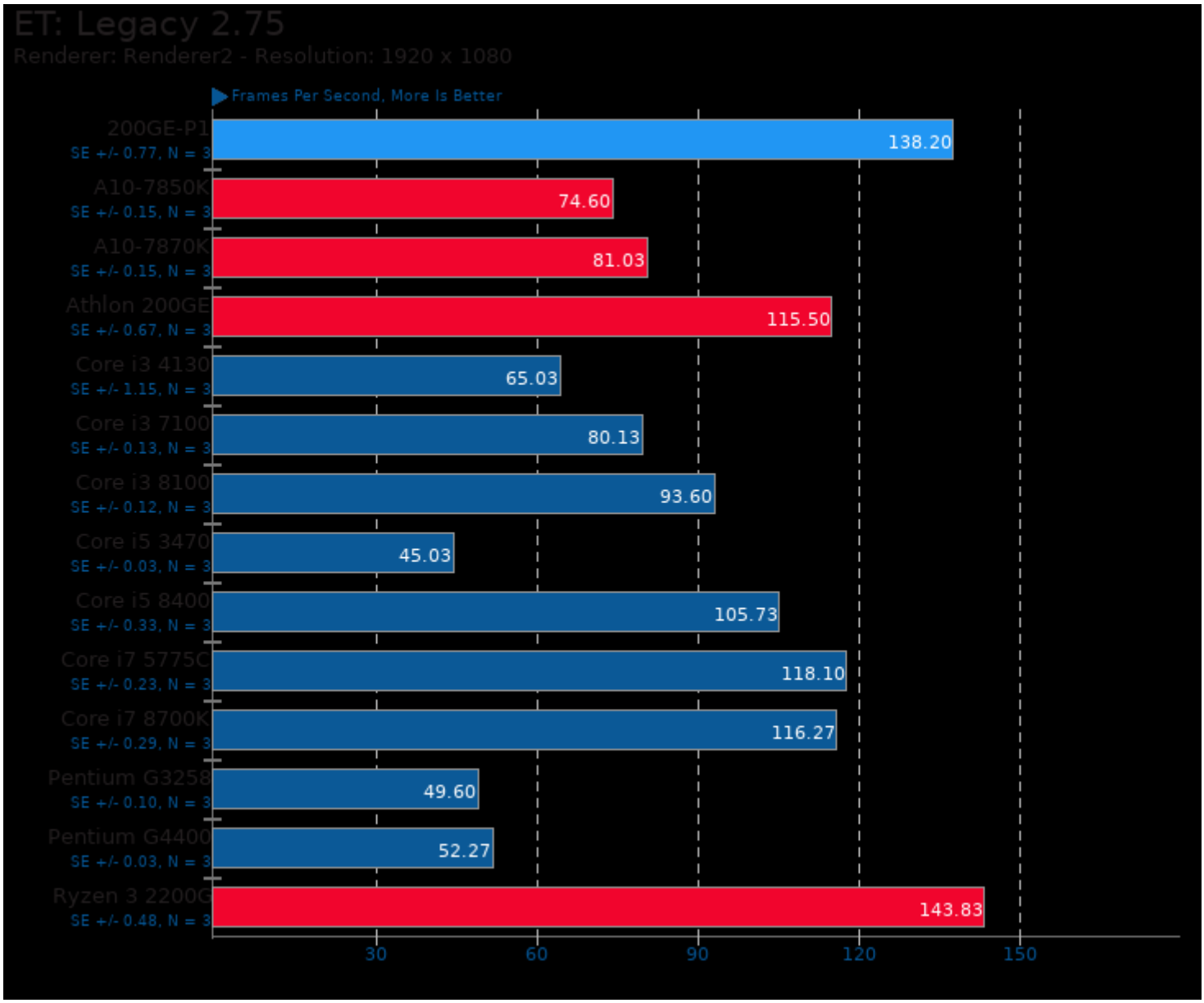
AMD Athlon 200GE - Integrated Graphics Benchmarks

Xonotic - 1920 x 1080 - Ultimate (FPS)	65.43	75.53	70.39	**137.58**	42.70	64.32	70.11	**11.64**	71.02	122.77	81.52	27.75	35.24	80.15 94779
Normalized	47.56%	54.9%	51.16%	100%	31.04%	46.75%	50.96%	8.46%	51.62%	89.24%	59.25%	20.17%	25.61%	58.26%
Standard Deviation	1.9%	0.1%	0.6%	0.3%	0.4%	0%	0.1%	0%	0.1%	0.4%	0.2%	0.1%	0%	0.1%
GLmark2 - 1920 x 1080 (Score)	481	571	732	**1163**	463	487	565	313	595	936	688	307	**171**	
Normalized	41.36%	49.1%	62.94%	100%	39.81%	41.87%	48.58%	26.91%	51.16%	80.48%	59.16%	26.4%	14.7%	
GpuTest - Furmark - 1920 x 1080 - Fullscreen (Points)	453	497	679	**1340**	355	592	663	**203**	658	1074	817	259	330	721
Normalized	33.81%	37.09%	50.67%	100%	26.49%	44.18%	49.48%	15.15%	49.1%	80.15%	60.97%	19.33%	24.63%	53.81%
Standard Deviation	0.3%	0.8%			0.7%					0.2%		1.4%		0%
GpuTest - Triangle - 1920 x 1080 - Fullscreen (Points)	67350	80674	108022	**194493**	42565	38546	44538	26626	54247	80327	63997	29549	**14783**	107525
Normalized	34.63%	41.48%	55.54%	100%	21.89%	19.82%	22.9%	13.69%	27.89%	41.3%	32.9%	15.19%	7.6%	55.28%
Standard Deviation	0%	0%	0%	0.1%	2.1%	0.1%	0.1%	0%	0.2%	4.8%	0.8%	0.1%	0%	0%
GpuTest - Pixmark Piano - 1920 x 1080 - Fullscreen (Points)	163	197	97	**289**	77	119	125	**34**	119	280	155	59	62	120
Normalized	56.4%	68.17%	33.56%	100%	26.64%	41.18%	43.25%	11.76%	41.18%	96.89%	53.63%	20.42%	21.45%	41.52%
Standard Deviation			0.6%											0%
GpuTest - Pixmark Volplosion - 1920 x 1080 - Fullscreen (Points)	429	517	245	719	230	316	732	**102**	317	**778**	413	177	163	298
Normalized	55.14%	66.45%	31.49%	92.42%	29.56%	40.62%	94.09%	13.11%	40.75%	100%	53.08%	22.75%	20.95%	38.3%
Standard Deviation							189.7%							0%

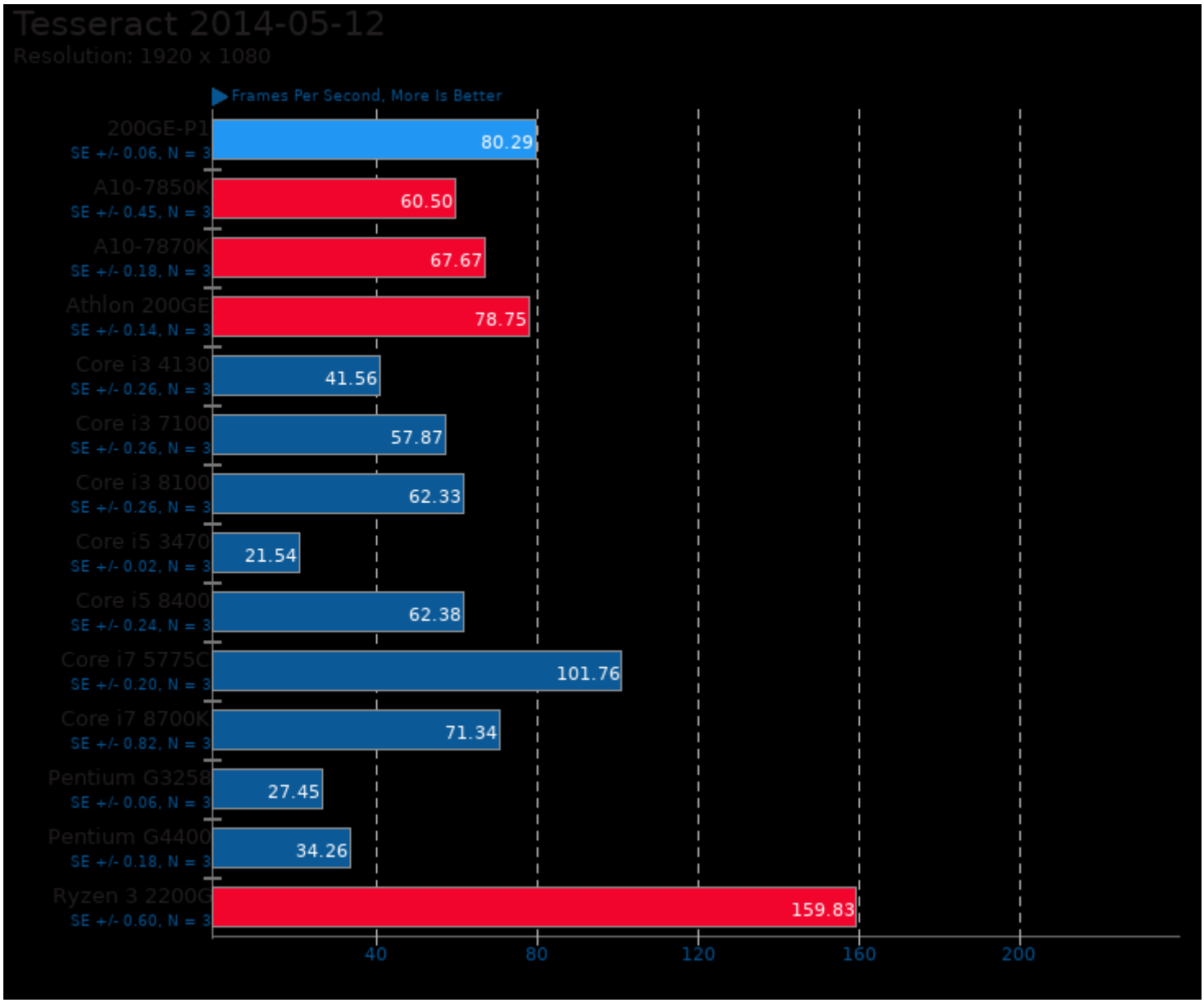
AMD Athlon 200GE - Integrated Graphics Benchmarks

VKMark - 1920 x 1080 (VKMark Score)	1140	1913	706	1420	1694	1814	**2604**	2008	**439**	984
Normalized	43.78%	73.46%	27.11%	54.53%	65.05%	69.66%	100%	77.11%	16.86%	37.79%
Standard Deviation	7.8%	14.2%	0.1%	0.4%	0.2%	0.4%	0.5%	0.2%	0.9%	0.1%

AMD Athlon 200GE - Integrated Graphics Benchmarks



AMD Athlon 200GE - Integrated Graphics Benchmarks



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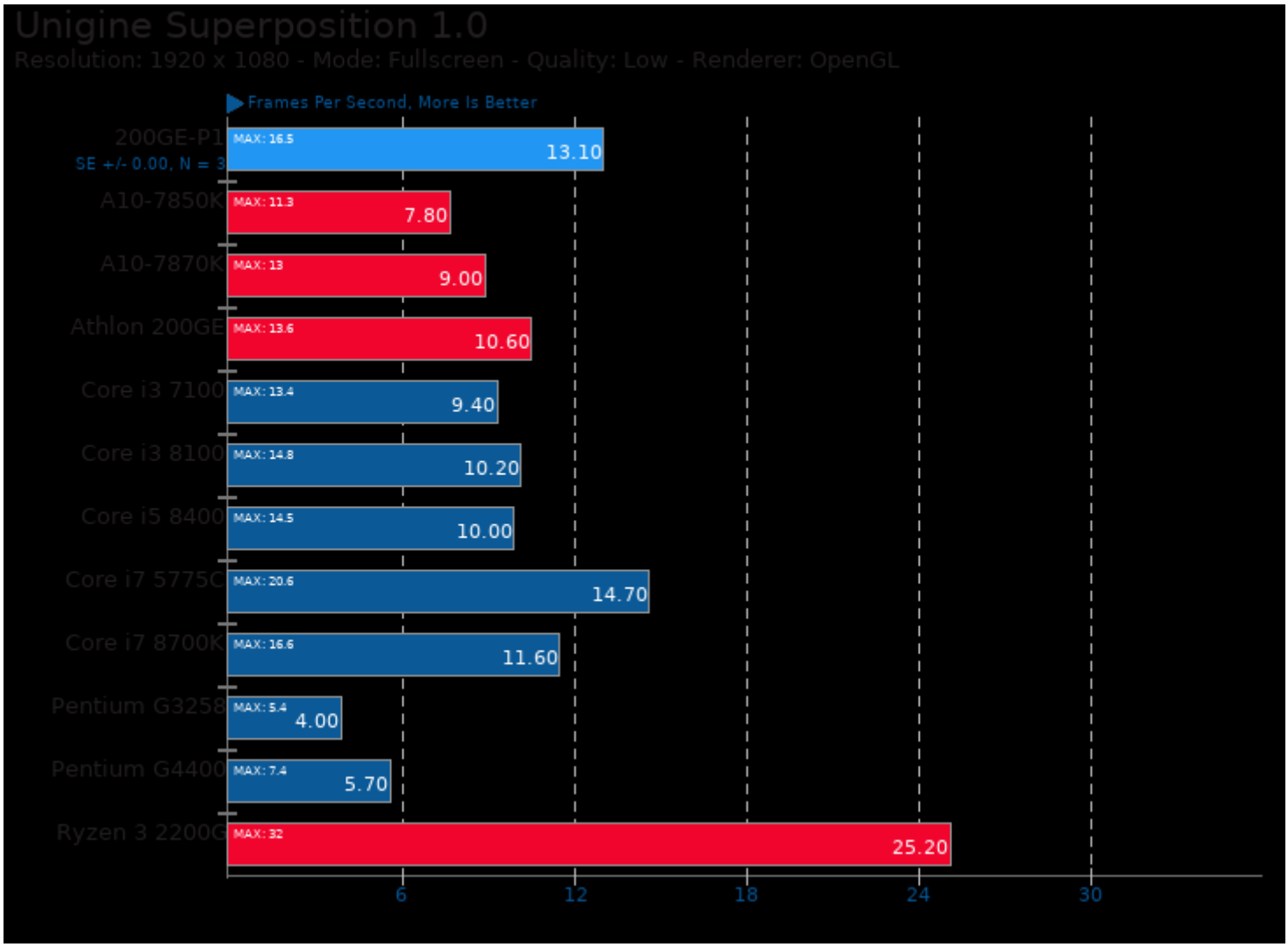

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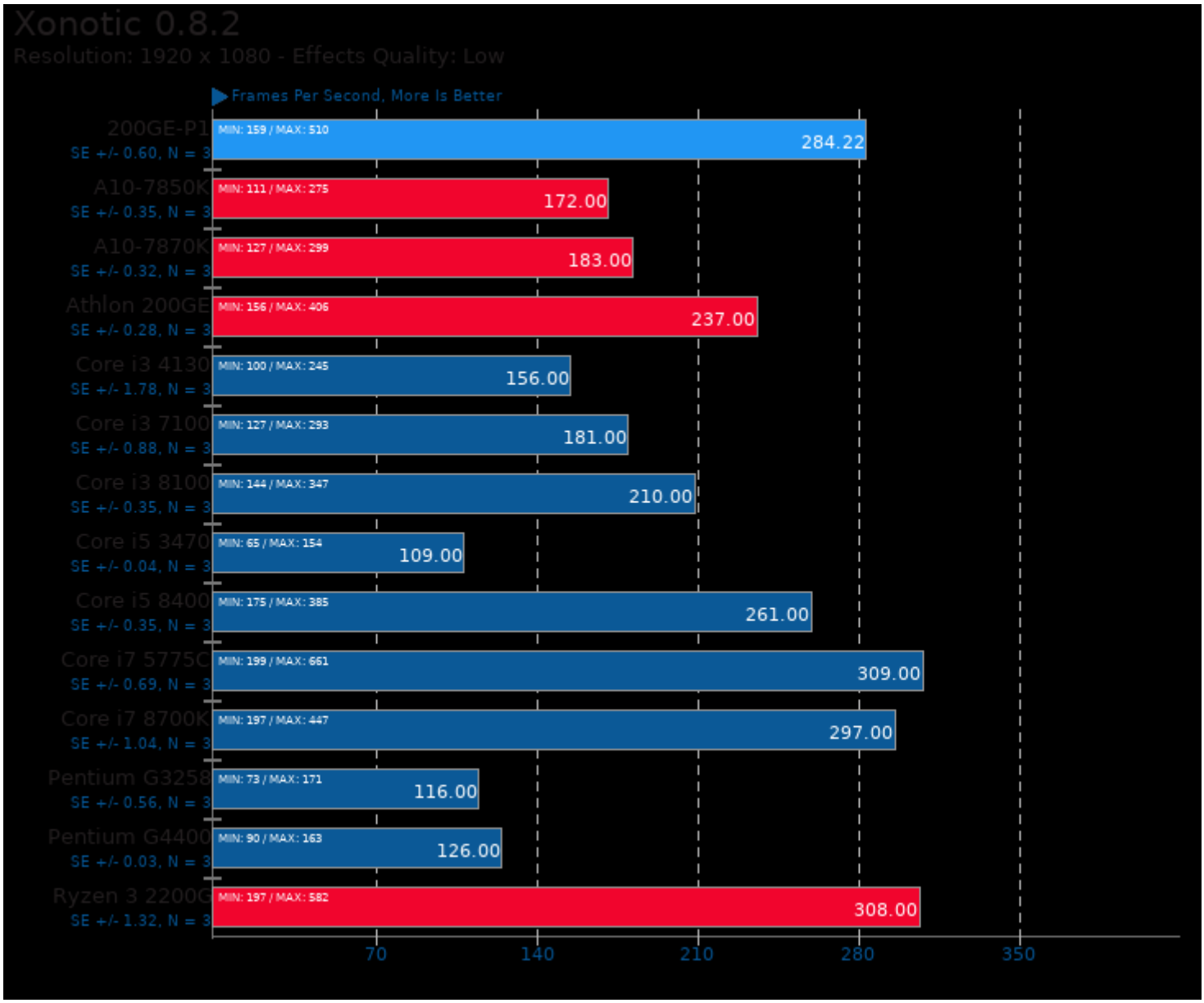

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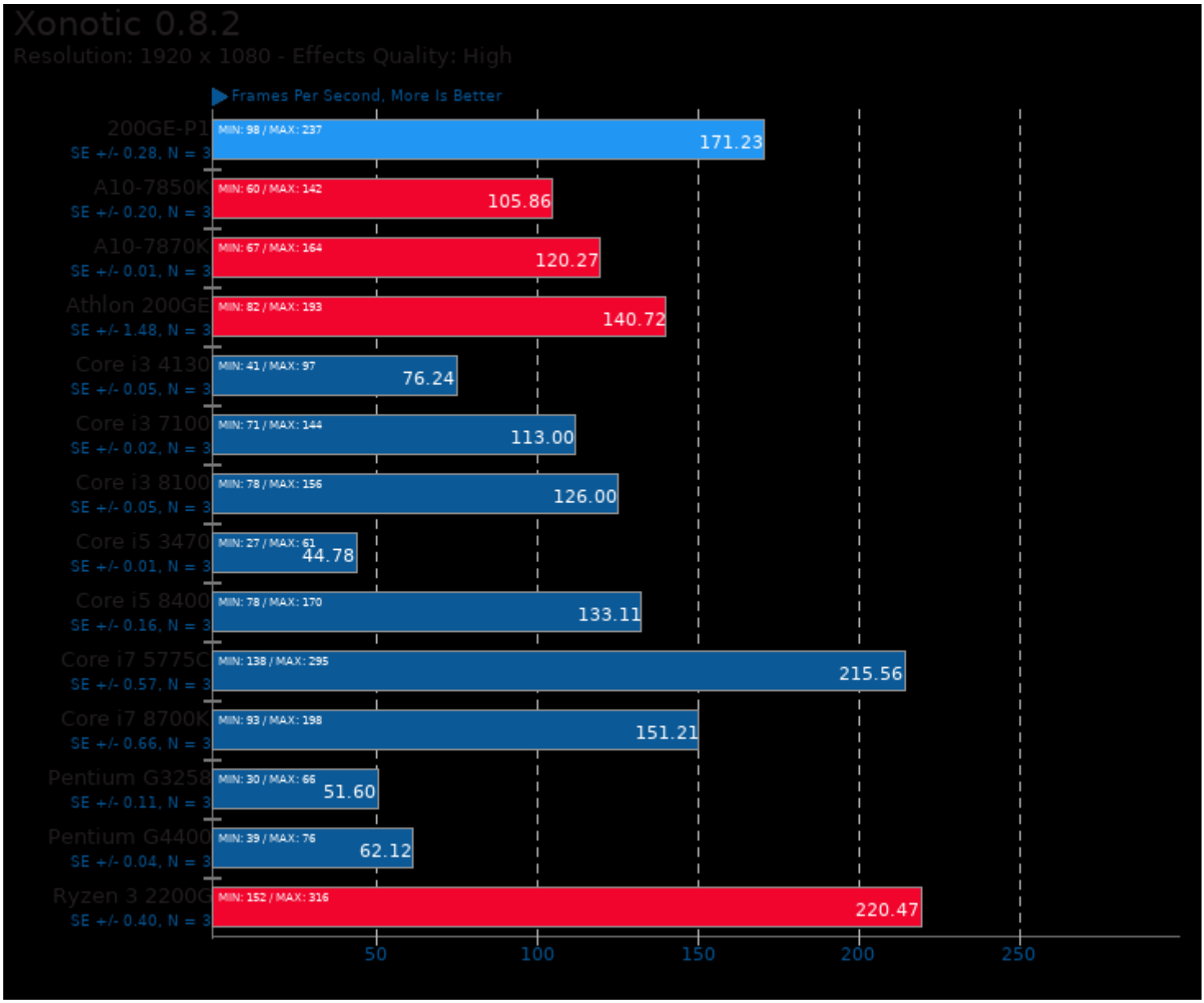

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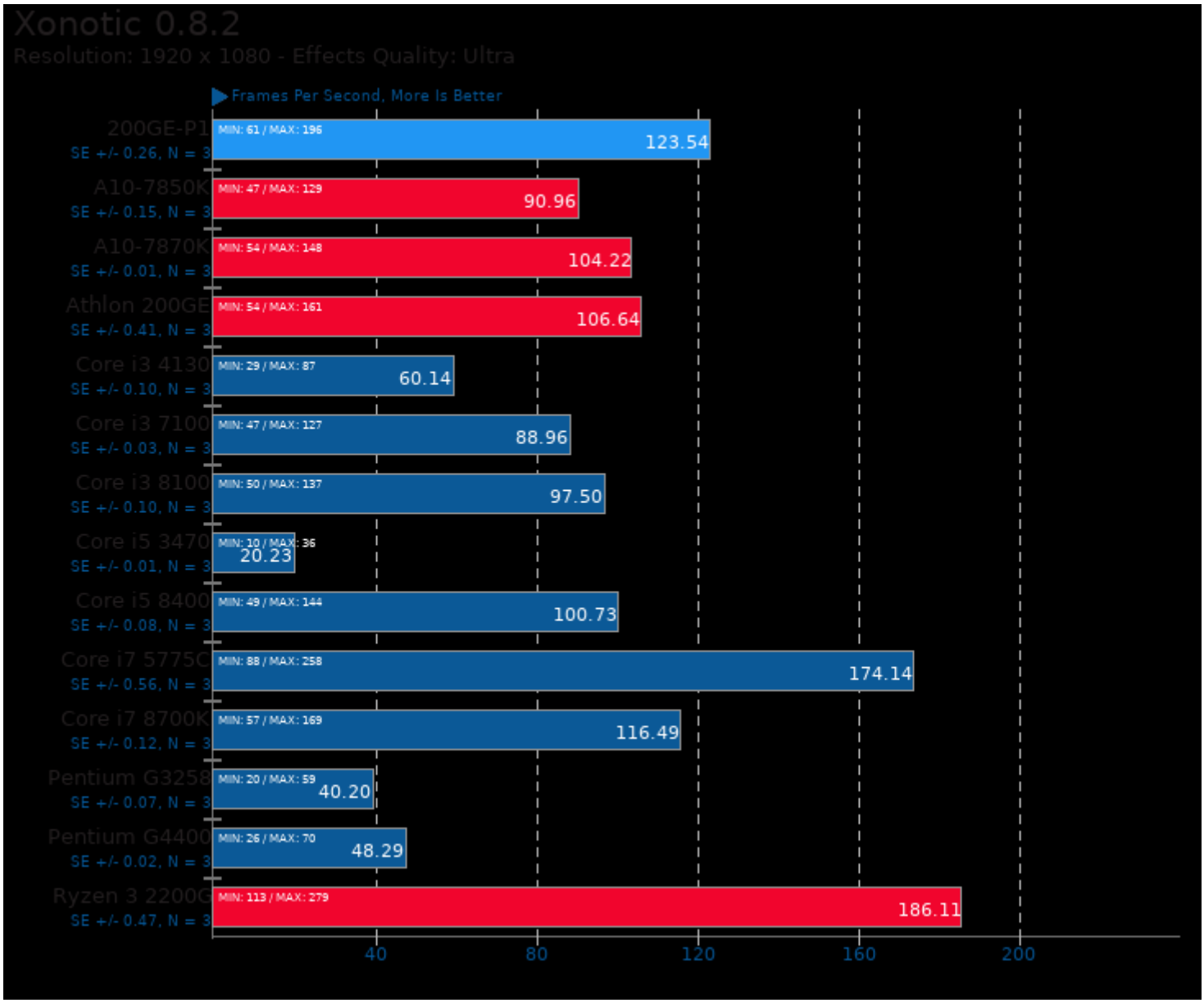

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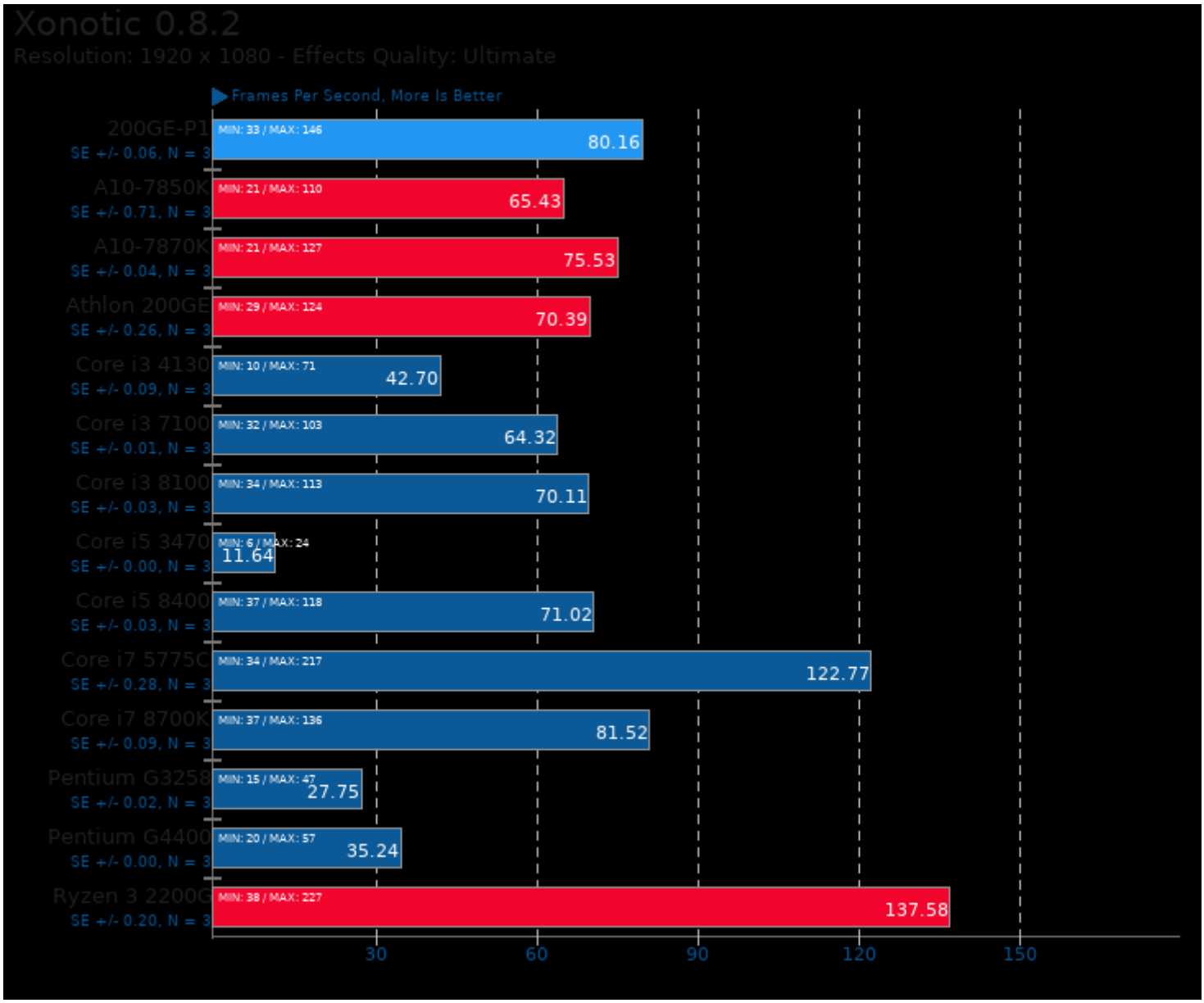

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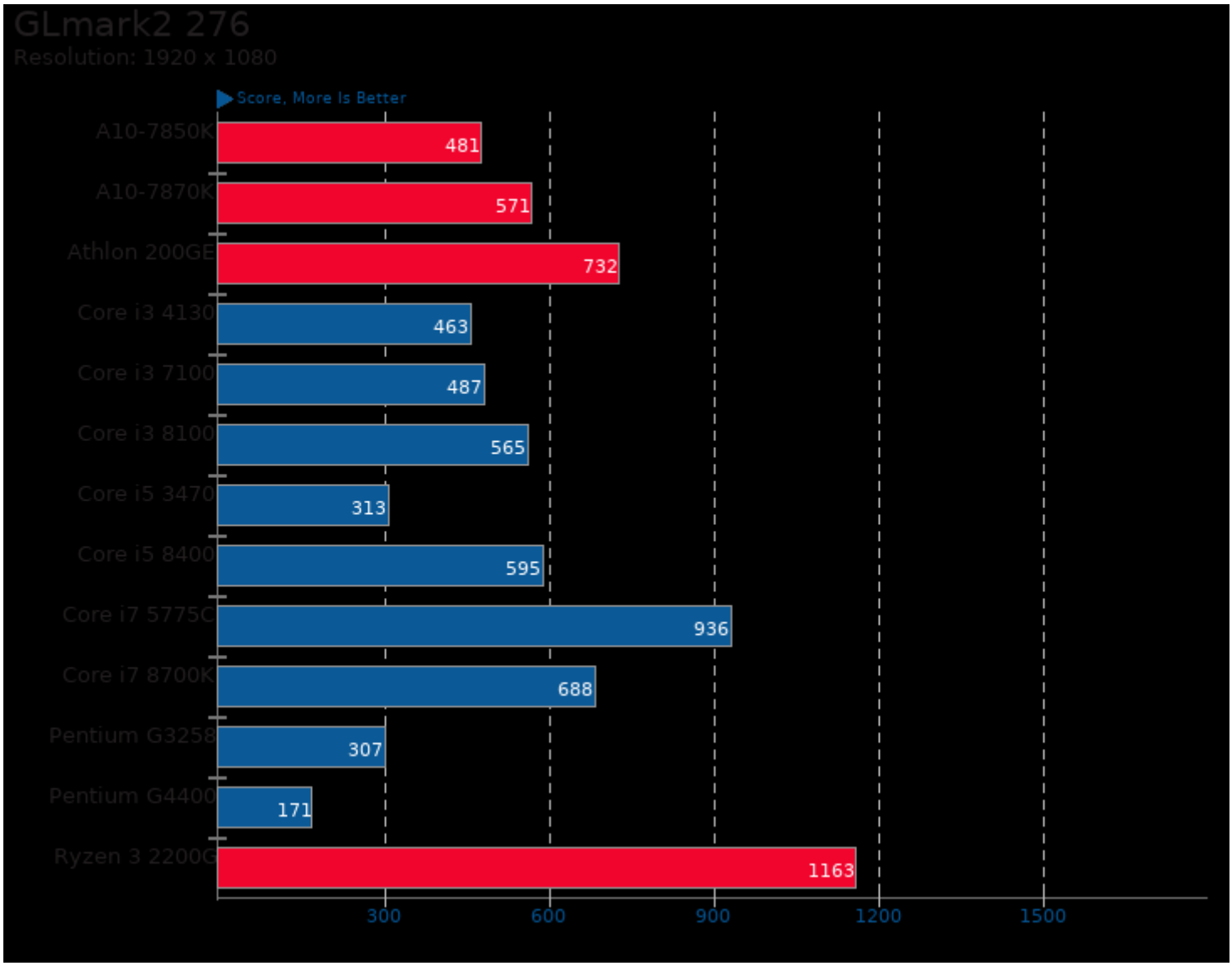

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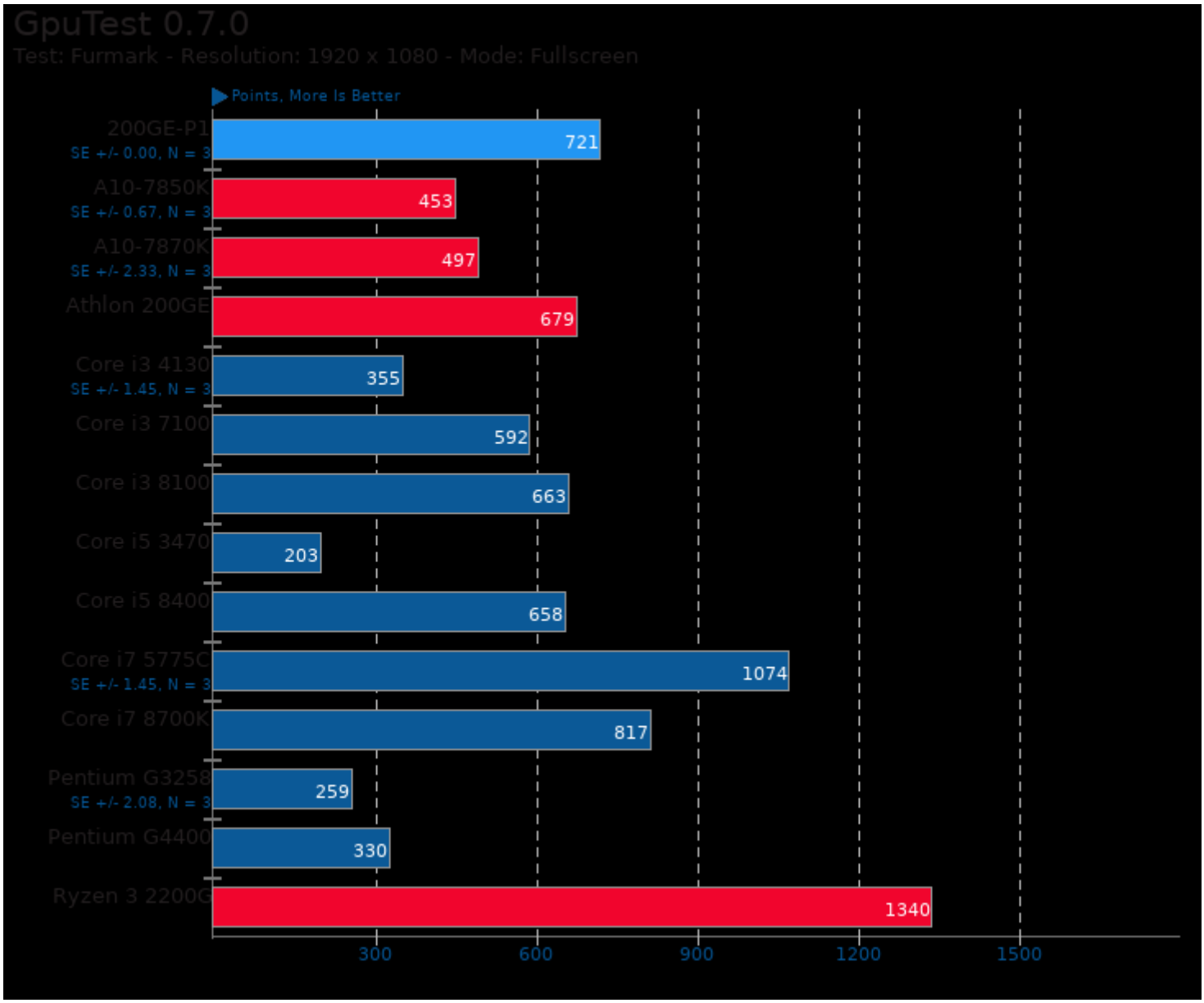

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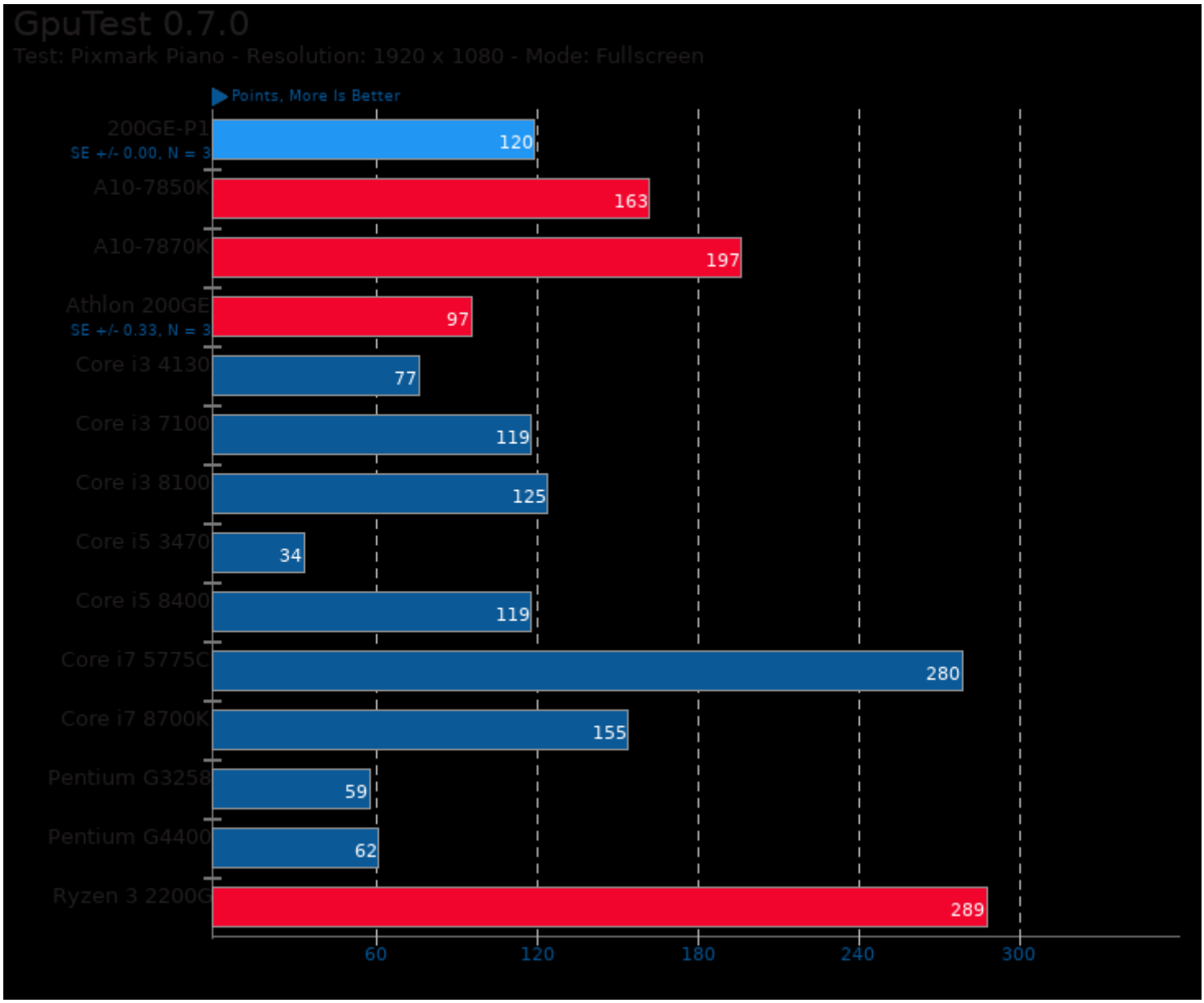

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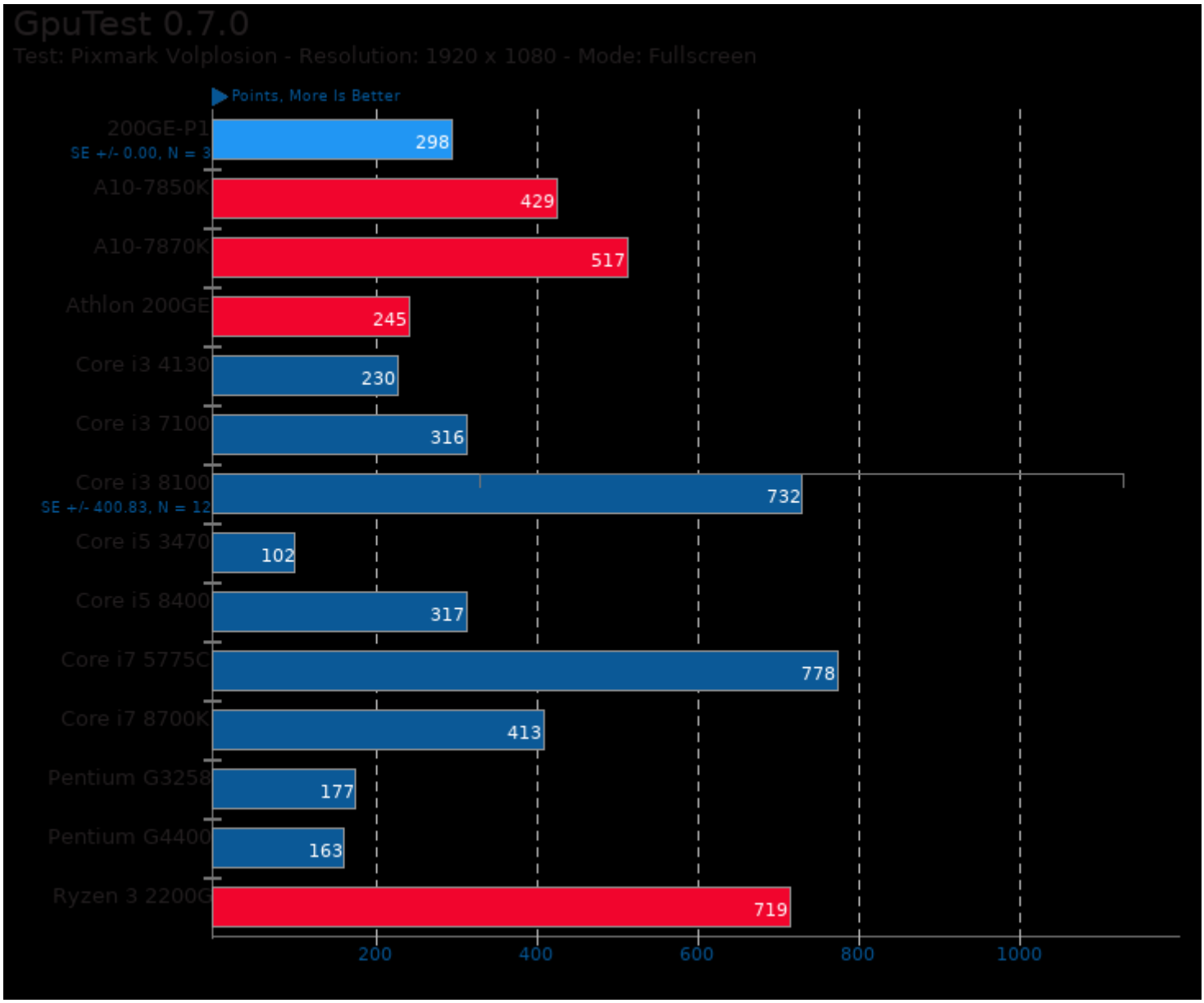

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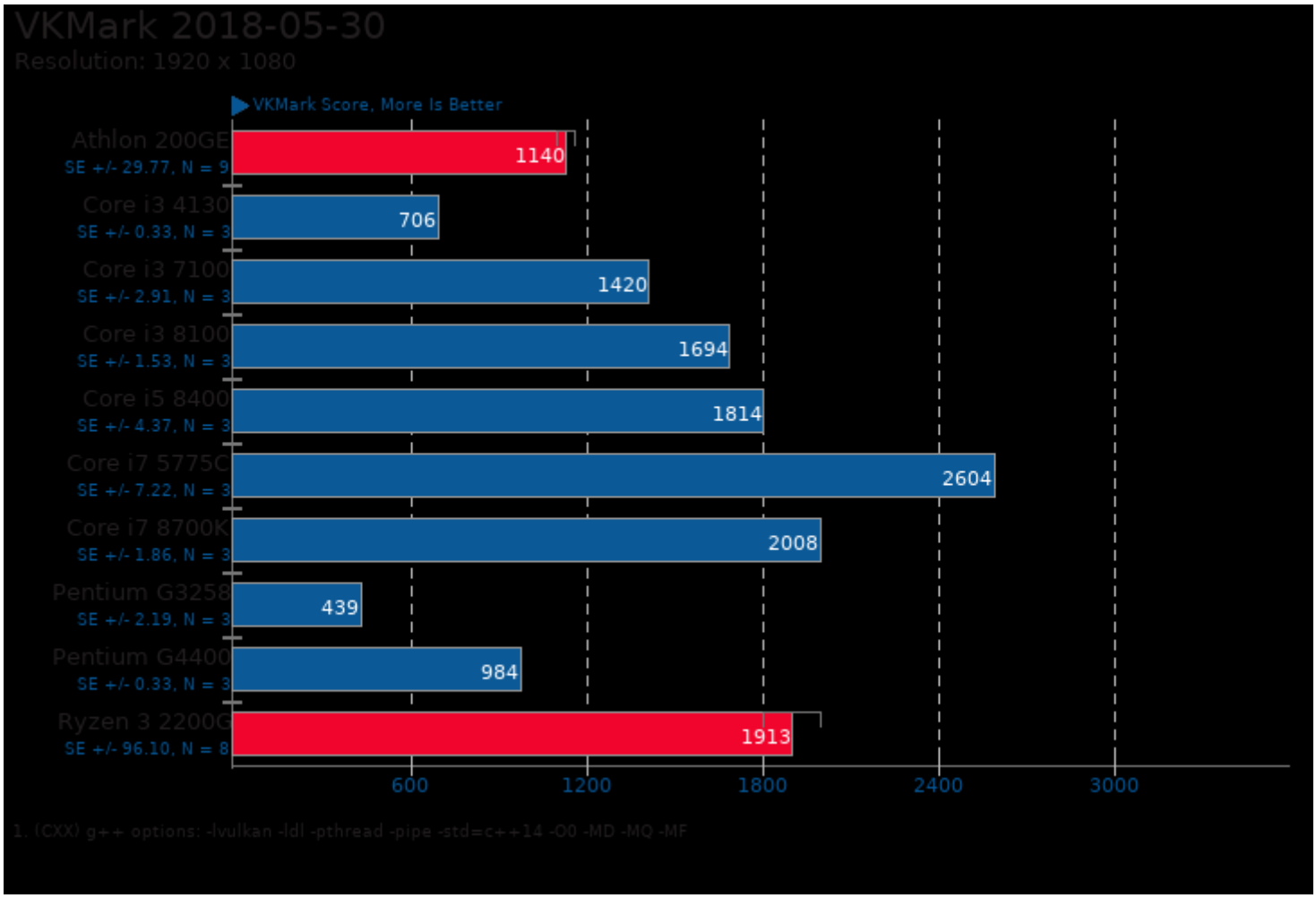

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