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3950X OpenVINO

AMD Ryzen 9 3950X 16-Core testing with a ASUS ROG CROSSHAIR VIII HERO (WI-FI) (1302 BIOS) and NVIDIA GeForce RTX 3080 10GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 33% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.002x the speed of the slowest (1). 2 was 1x the speed of 3 and 1 was 0.998x the speed of 2.

Test Systems:

1

Processor: AMD Ryzen 9 3950X 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (1302 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 2000GB Corsair Force MP600 + 2000GB, Graphics: NVIDIA GeForce RTX 3080 10GB (1710/9501MHz), Audio: NVIDIA Device 1aef, Monitor: DELL

P2415Q, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.4.0-48-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Display Driver: NVIDIA 455.23.05, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.1.70, Vulkan: 1.2.142, Compiler: GCC 9.3.0 + CUDA 11.1, File-System: ext4, Screen Resolution: 3840x2160

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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,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: acpi-cpufreq performance - CPU Microcode: 0x8701013
Python Notes: Python 3.8.2
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 Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

2

Processor: AMD Ryzen 9 3950X 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (1302 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 2000GB Corsair Force MP600 + 2000GB, Graphics: NVIDIA GeForce RTX 3080 10GB (360/405MHz), Audio: NVIDIA Device 1aef, Monitor: DELL P2415Q, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

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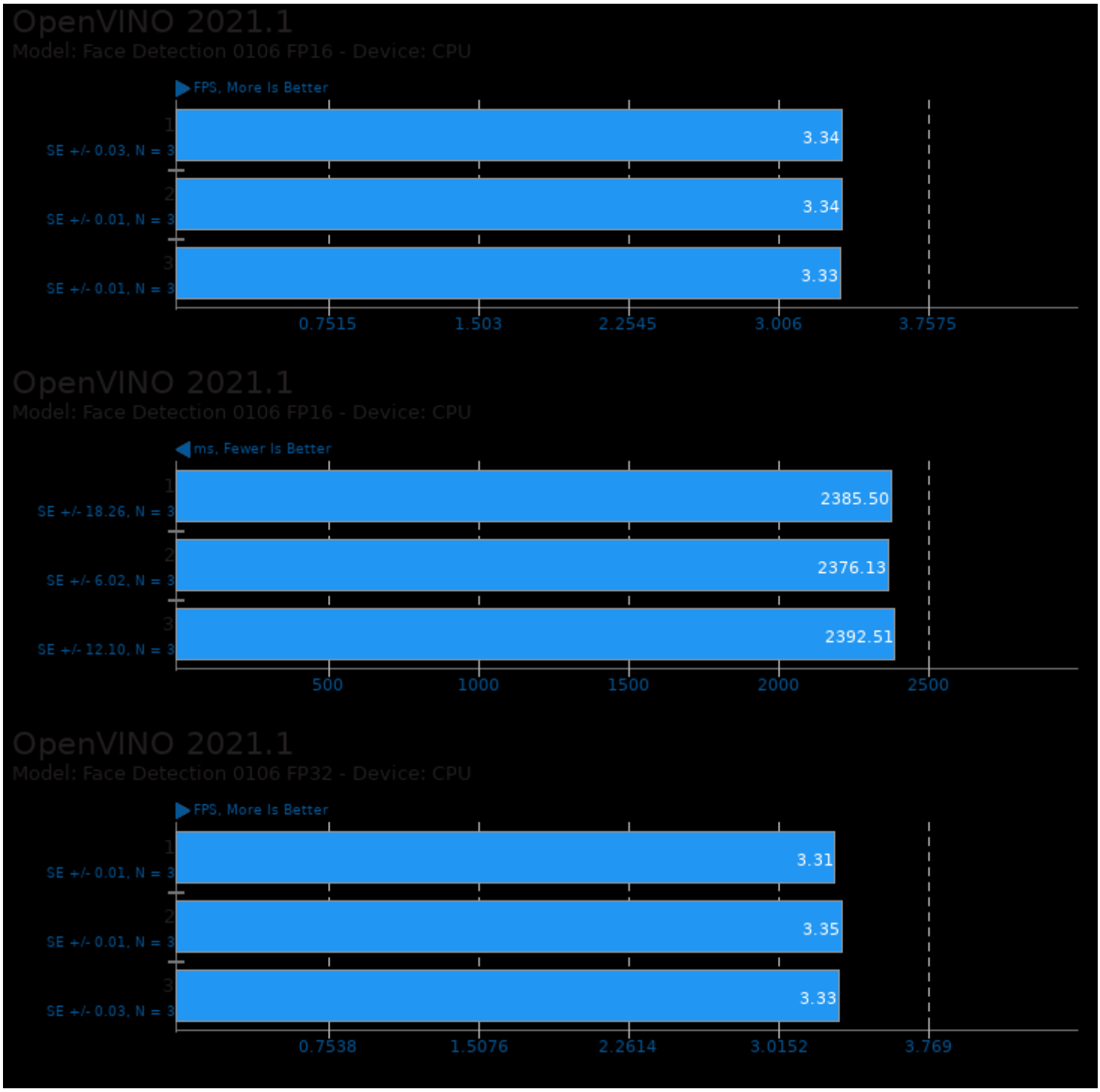
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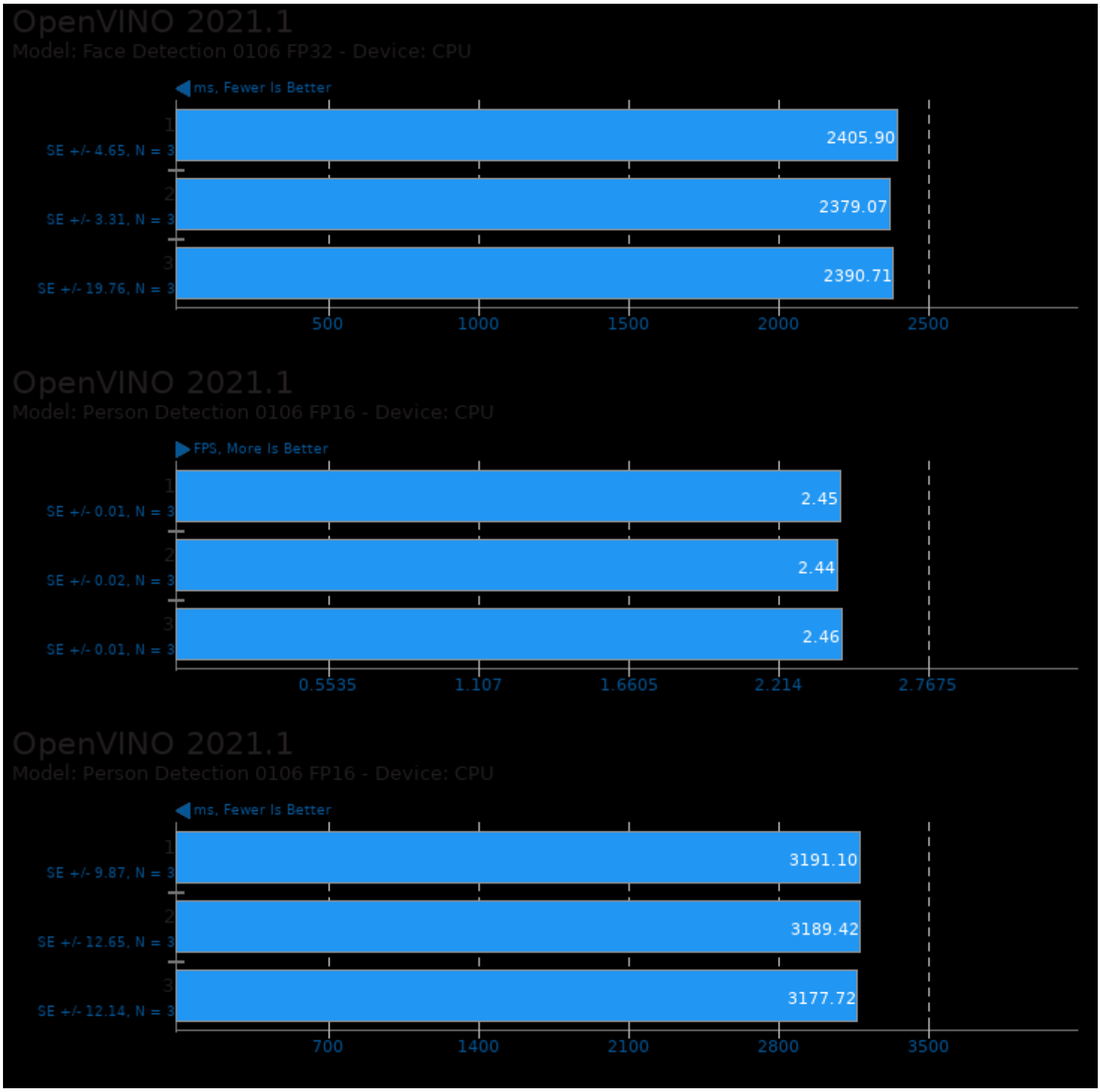
3950X OpenVINO

	1	2	3
OpenVINO - F.D.0.F - CPU (FPS)	**3.34**	**3.34**	**3.33**
Normalized	100%	100%	99.7%
Standard Deviation	1.5%	0.6%	0.5%
OpenVINO - F.D.0.F - CPU (ms)	2386	**2376**	**2393**
Normalized	99.61%	100%	99.32%
Standard Deviation	1.3%	0.4%	0.9%
OpenVINO - F.D.0.F - CPU (FPS)	**3.31**	**3.35**	3.33
Normalized	98.81%	100%	99.4%
Standard Deviation	0.3%	0.3%	1.4%
OpenVINO - F.D.0.F - CPU (ms)	**2406**	**2379**	2391
Normalized	98.88%	100%	99.51%
Standard Deviation	0.3%	0.2%	1.4%
OpenVINO - P.D.0.F - CPU (FPS)	2.45	**2.44**	**2.46**
Normalized	99.59%	99.19%	100%
Standard Deviation	0.4%	1.2%	0.6%
OpenVINO - P.D.0.F - CPU (ms)	**3191**	3189	**3178**
Normalized	99.58%	99.63%	100%
Standard Deviation	0.5%	0.7%	0.7%
OpenVINO - P.D.0.F - CPU (FPS)	**2.42**	2.43	**2.45**
Normalized	98.78%	99.18%	100%
Standard Deviation	1.7%	1%	0.2%
OpenVINO - P.D.0.F - CPU (ms)	3213	**3214**	**3184**
Normalized	99.08%	99.06%	100%
Standard Deviation	0.5%	0.7%	0.6%
OpenVINO - A.G.R.R.0.F - CPU (FPS)	**12372**	12368	**12310**
Normalized	100%	99.96%	99.5%
Standard Deviation	0.6%	0.1%	0.4%
OpenVINO - A.G.R.R.0.F - CPU (ms)	0.63	0.63	0.63
Standard Deviation	0.9%	0%	0%
OpenVINO - A.G.R.R.0.F - CPU (FPS)	12400	**12412**	**12386**
Normalized	99.9%	100%	99.79%
Standard Deviation	0.1%	0.2%	0.2%
OpenVINO - A.G.R.R.0.F - CPU (ms)	0.63	0.63	0.63
Standard Deviation	0%	0%	0%

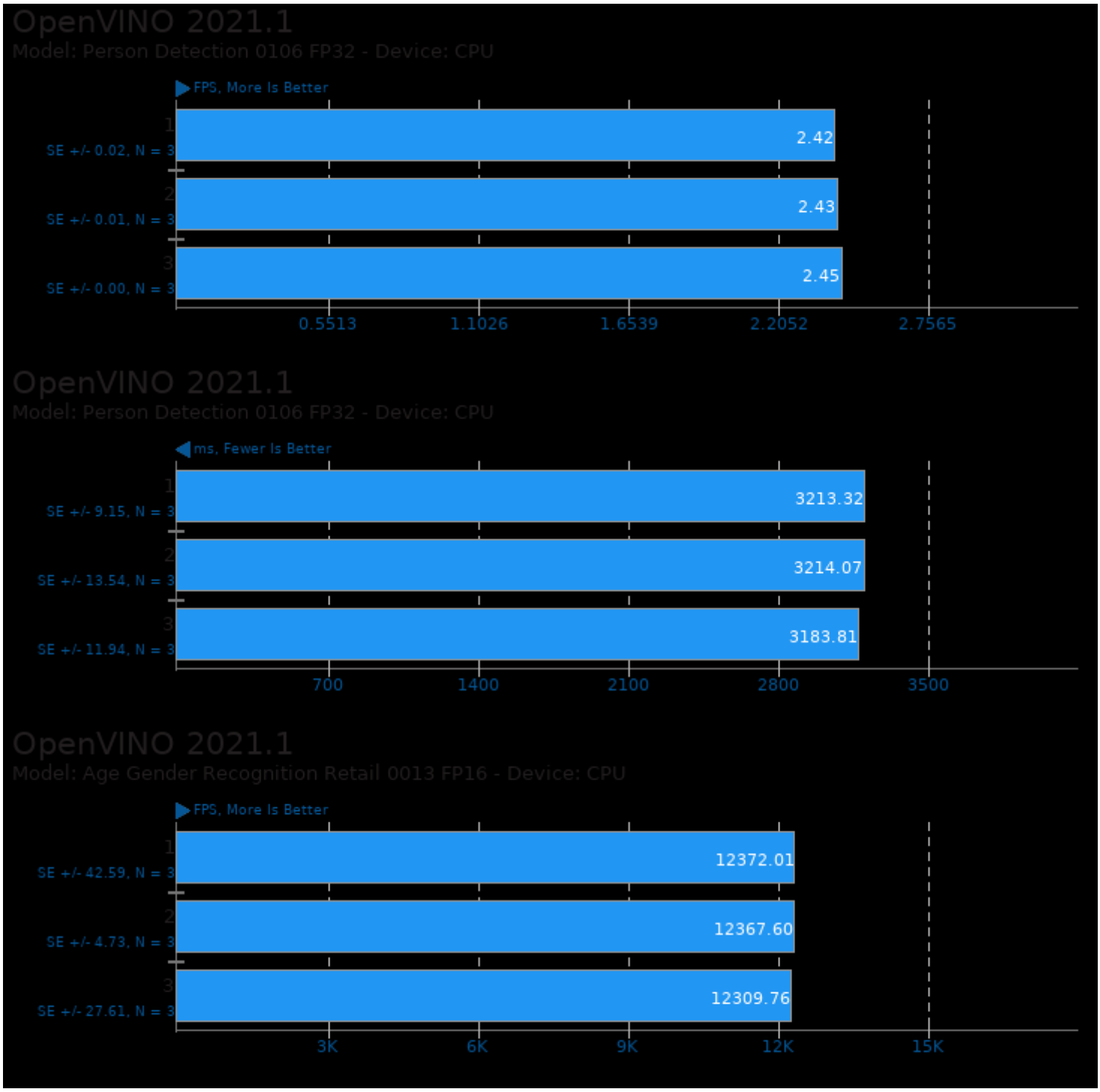
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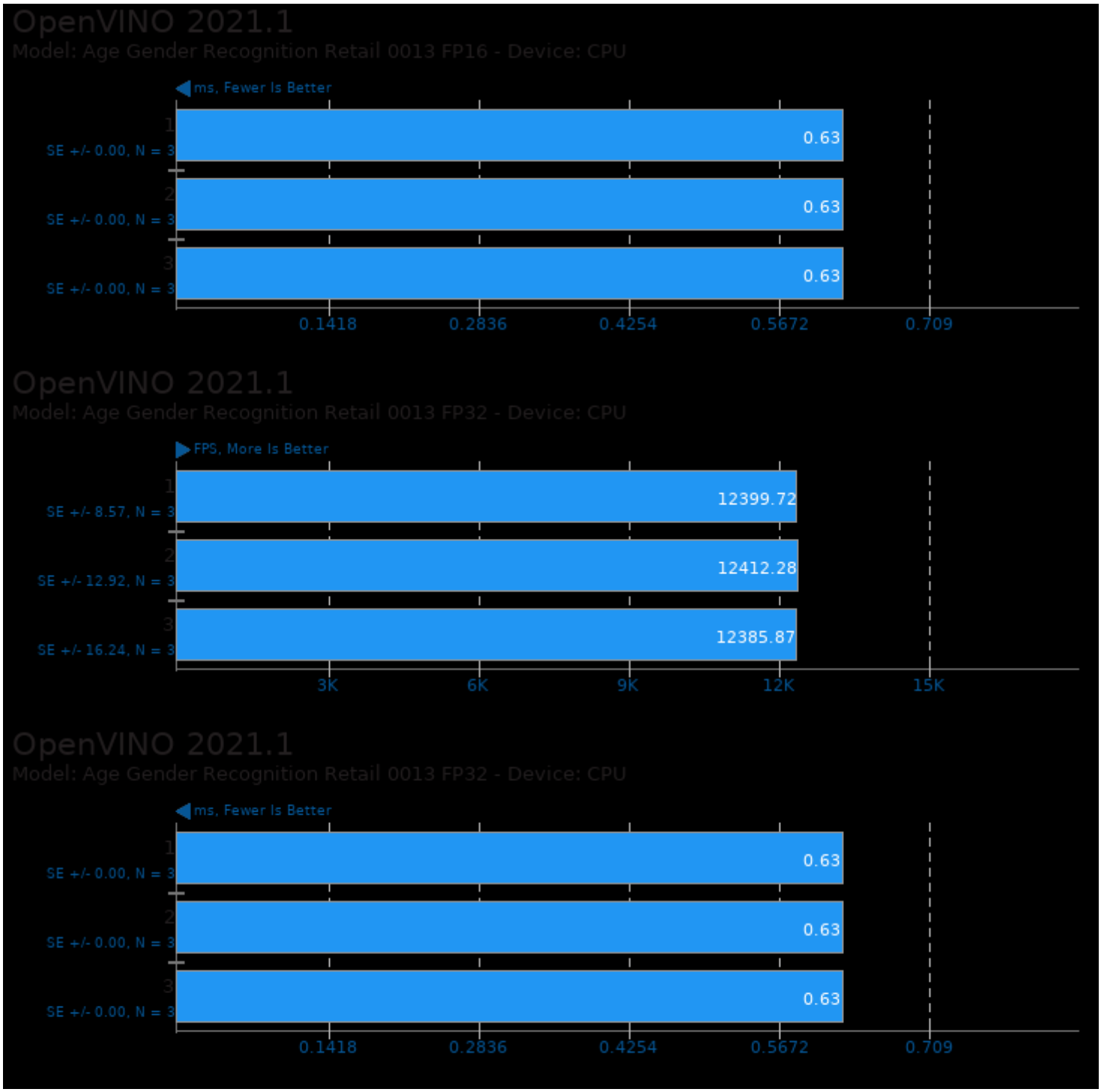
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