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Xavier_012_32_3_1

ARMv8 rev 0 testing with a Jetson-AGX and NVIDIA Tegra Xavier on Ubuntu 18.04 via the Phoronix Test Suite.

Automated Executive Summary

SSD_760PJ517 had the most wins, coming in first place for 37% of the tests.

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

Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory) at 77.25x
Flexible IO Tester (Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory) at 70x
Flexible IO Tester (Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory) at 39.777x
Flexible IO Tester (Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory) at 29.87x
Flexible IO Tester (Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 13.291x
Flexible IO Tester (Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 13.279x
CUDA Mini-Nbody (Test: Original) at 1x

CUDA Mini-Nbody (Test: Cache Blocking) at 1x
CUDA Mini-Nbody (Test: Loop Unrolling) at 1x
CUDA Mini-Nbody (Test: SOA Data Layout) at 1x.

Test Systems:

eMMC

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 16GB USB Drive 3ME + 31GB HBG4a2, Graphics: NVIDIA TEGRA, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 1.0.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

USB 3.0 Inno disk

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 16GB USB Drive 3ME + 31GB HBG4a2, Graphics: NVIDIA TEGRA, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 1.0.0, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_C 583

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_c 583

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB + 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: fuseblk, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_C 583 Run3

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB + 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_C 583 Run4

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB Generic + 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

USB 2.0_inno disk

SD Card Innodisk

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 8GB USB Drive 2SE + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_760P J517

SSD_760P J1

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 8GB USB Drive 2SE + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_760PJ517

SSD_760PJ517 run2

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_PX2569M9PJ517

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB PLEXTOR PX-256M9PeGN + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v

Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_760PJ517run 5

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_760PJ1

SSD_760PJ1run 2

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 8GB USB Drive 2SE + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

SSD_760PJ1run 3

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: none / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Inno_S80_mSATA J1

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 63GB M.2 (S80)

3MG2-P + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

CPU Stress

LPDDR4

GPU Stress

CPU_7ZIP

CUDA-Mini-nbody

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 256GB PLEXTOR PX-256M9PeGN + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

CPU-TTSIOD

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 256GB PLEXTOR PX-256M9PeGN + 16GB USB Drive 3ME + 62GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_C SANDISK SDDDC2

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 62GB Ultra USB 3.0 +

31GB Ultra USB 3.0 + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

Type_C 583 run5

Type_C 593 Run 6

Type_C 583 run 6

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6

OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

	eMMC	USB 3.0 Inno disk	Type_C583	Type_c583	Type_C583 Run 3	Type_C583 Run 4	USB 2.0_ inno disk	SDCard Inno disk	SSD_760PJ517	SSD_760PJ517 run2	SSD_760PJ517 run3	SSD_P X2569M 9PJ517	SSD_760PJ517r un5	SSD_760PJ1	SSD_760PJ1r un2	SSD_760PJ1r un3	Inno_S80_ mSATA J1	CPU Stress	LPDDR4	GPU Stress	CPU_7ZIP	CUDA-Mini-nbody	CPU-TTSIOD	Type_CSANDISKSDDDC2	Type_C583 run5	Type_C593 Run 6	Type_C583 run 6
CUDA Mini-Nbody - Original ((NBody^2)/s)																						46.693					
Standard Deviation																						0%					
CUDA Mini-Nbody - Cache Blocking ((NBody^2)/s)																						55.546					
Standard Deviation																						0%					

CUDA Mini-Nbody - Loop Unrolling ((NBody^2)/s)		54.724
Standard Deviation		0%
CUDA Mini-Nbody - SOA Data Layout ((NBody^2)/s)		47.639
Standard Deviation		0.2%
CUDA Mini-Nbody - F.D.T.Z ((NBody^2)/s)		54.974
Standard Deviation		0.1%
Stress-NG - Crypto (Bogo	12.55	
Standard Deviation	0.9%	

Stress-NG - Bsearch (Bogo Ops/s)	19 90
Standard Deviation	2%
Stress-NG - CPU Stress (Bogo Ops/s)	80 5. 16
Standard Deviation	2.9 %
Stress-NG - Matrix Math (Bogo Ops/s)	14 00 2
Standard Deviation	21. 8%
Stress-NG - Vector Math (Bogo Ops/s)	11 76 9
Standard Deviation	0.1 %

Stress-NG - Memory Copying (Bogo Ops/s)	37 19		
Standard Deviation	0.7 %		
Stress-NG - G.C.S.F (Bogo Ops/s)	16 25 43		
Standard Deviation	2.8 %		
Stress-NG - G.Q.D.S (Bogo Ops/s)	38 .9 8		
Standard Deviation	12. 1%		
TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)		14 4. 20 8	
Standard Deviation		0.4 %	

Xavier_012_32_3_1

Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (IOPS)	25 2509 3	24 66 7	38 92 5	**71 52**	24 58 0	25 17 3	24 83 3	24 19 3	24 79 3	90 60 0	24 87 3	88 00 0	92 96 7	95 50 0	**97 90 0**	95 27 1	51 23 3		32 56 7		
Normalized	25.63%	25.2%	39.76%	7.3 1%	25.11%	25.71%	25.37%	24.71%	25.32%	92.54%	25.41%	89.89%	94.96%	97.55%	100%	97.31%	52.33%		33.27%		
Standard Deviation	28.6%	2.3%	3%	0.2%	28%	25.9%	20.5%	25.3%	30.2%	1%	30.6%	3%	1.3%	0.9%	2.5%	3.1%	1.3%		0.2%		
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (IOPS)	34 12		29 5	**4**	35	34	35	34	35	**30 9**	35	25 1	**30 9**	19 1	19 1	19 1	50		19		12 3
Normalized	11%	3.8%	95.47%	1.2 9%	11.33%	11%	11.33%	11%	11.33%	10 0%	11.33%	81.23%	10 0%	61.81%	61.81%	61.81%	16.18%		6.1 5%		39.81%
Standard Deviation			0.7%			1.7%					1.7%		0.2%		0.3%	0.3%					

Xavier_012_32_3_1

| | | |

Flexible IO Tester - Seq Read - Linux AIO - No - No - 4KB (IOPS)	92
Standard Deviation	20 7 3.6 %
Flexible IO Tester - Seq Read - Linux AIO - No - No - 8MB (IOPS)	30 9
Flexible IO Tester - Seq Read - Linux AIO - Yes - No - 4KB (IOPS)	24 86 67
Standard Deviation	3%

Flexible IO Tester - Seq Read - Linux AIO - Yes - No - 8MB (IOPS)	18 6
Flexible IO Tester - Seq Write - Linux AIO - No - No - 4KB (IOPS)	75 36 7
Standard Deviation	3%
Flexible IO Tester - Seq Write - Linux AIO - No - No - 8MB (IOPS)	10 4
Standard Deviation	16. 9%

Flexible IO Tester - Seq Read - Linux AIO - Yes - Yes - 4KB (IOPS)	25 76 67
Standard Deviation	2.7 %
Flexible IO Tester - Seq Read - Linux AIO - Yes - Yes - 8MB (IOPS)	18 9
Flexible IO Tester - Seq Write - Linux AIO - Yes - No - 4KB (IOPS)	13 13 33
Standard Deviation	2.4 %

Flexible IO Tester - Seq Write - Linux AIO - Yes - No - 8MB (IOPS)	10 2
Standard Deviation	14.8%
Flexible IO Tester - Seq Write - Linux AIO - Yes - Yes - 4KB (IOPS)	13 26 67
Standard Deviation	2.6%

Xavier_012_32_3_1

Flexible IO Tester - Seq Write - Linux AIO - Yes - Yes - 8MB (IOPS)										10 8								
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (MB/s)	98.0	97.7	152	**27.9**	96.4	98.3	96.9	94.9	97.1	355	97.9	344	364	373	**383**	372	200	127
Normalized	25.59%	25.51%	39.69%	7.28%	25.17%	25.67%	25.3%	24.78%	25.35%	92.69%	25.56%	89.82%	95.04%	97.39%	10.0%	97.13%	52.22%	33.16%
Standard Deviation	28.7%	0.2%	2.8%	0.2%	28.1%	26%	20.4%	24.9%	30.1%	1.3%	30.5%	2.9%	0.9%	1%	2.7%	3%	1.3%	

Xavier_012_32_3_1

Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (MB/s)	30	12	23	**62**	31	29	30	30	30	**25**	30	20	25	15	15	15	42	18	10
	0	2	87	**.9**	1	7	7	4	9	**02**	5	40	00	54	53	54	7	3	12
Normalized	11.99%	4.8%	95.4%	2.5%	12.43%	11.87%	12.27%	12.15%	12.35%	10.0%	12.19%	81.53%	99.92%	62.11%	62.07%	62.11%	17.07%	7.3%	40.45%
Standard Deviation	0.8%	0.5%	0.8%	0%		0.6%				0.1%	0.7%		0.2%	0.4%	0.2%	0.4%			0.1%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (MB/s)	80	**24**	68	28	90	91	93	93	96	30	92	31	31	**32**	32	32	85	29	
	.1	**.7**	.7	.4	.1	.6	.2	.7	.3	2	.7	1	8	**8**	3	0	.4	.6	
Normalized	24.42%	7.5%	20.95%	8.6%	27.47%	27.93%	28.41%	28.57%	29.36%	92.07%	28.26%	94.82%	96.95%	10.0%	98.48%	97.56%	26.04%	9.0%	
Standard Deviation	0.5%	0.2%	1.6%	0.2%	6.3%	0.6%	2.2%	2.6%	2.6%	3.7%	1.7%	0.5%	2.9%	2.8%		3%	0.1%	1.7%	

Xavier_012_32_3_1

Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB (MB/s)	136	38.5		66.2	135	134	136	136	134	1147	136	1021	**1150**	1089	1101	1106	1033	45.9	941
Normalized	11.83%	3.35%		5.76%	11.74%	11.65%	11.83%	11.83%	11.65%	99.74%	11.83%	88.78%	100%	94.7%	95.74%	96.17%	8.96%	3.99%	81.83%
Standard Deviation	0.4%	1.4%		0%	2.1%	1.5%	0.8%		1.1%	1.6%	0.8%	0.1%	1.1%	1.9%	0.2%	1.8%		7.5%	

Flexible IO Tester - Seq Read - Linux AIO - No - No - 4KB (MB/s)										360									
Standard Deviation										3.5%									

Flexible IO Tester - Seq Read - Linux AIO - No - No - 8MB (MB/s)	25 04
Standard Deviation	0.1 %
Flexible IO Tester - Seq Read - Linux AIO - Yes - No - 4KB (MB/s)	97 1
Standard Deviation	3%

Flexible IO Tester - Seq Read - Linux AIO - Yes - No - 8MB (MB/s)	15 18
Standard Deviation	0.2 %
Flexible IO Tester - Seq Write - Linux AIO - No - No - 4KB (MB/s)	29 5
Standard Deviation	3%

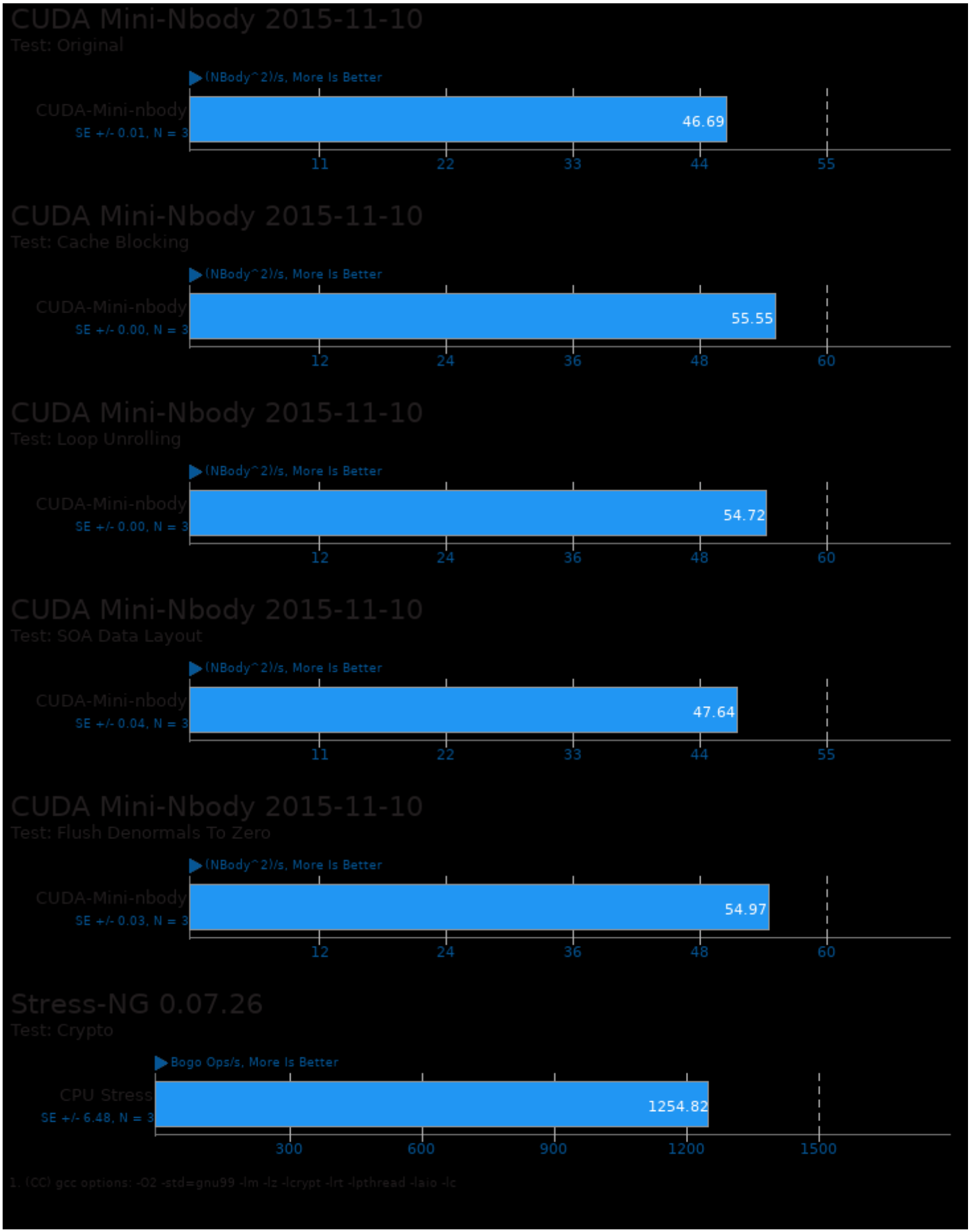
Flexible IO Tester - Seq Write - Linux AIO - No - No - 8MB (MB/s)	86
Standard Deviation	1 16.5%
Flexible IO Tester - Seq Read - Linux AIO - Yes - Yes - 4KB (MB/s)	10 07
Standard Deviation	2.8 %

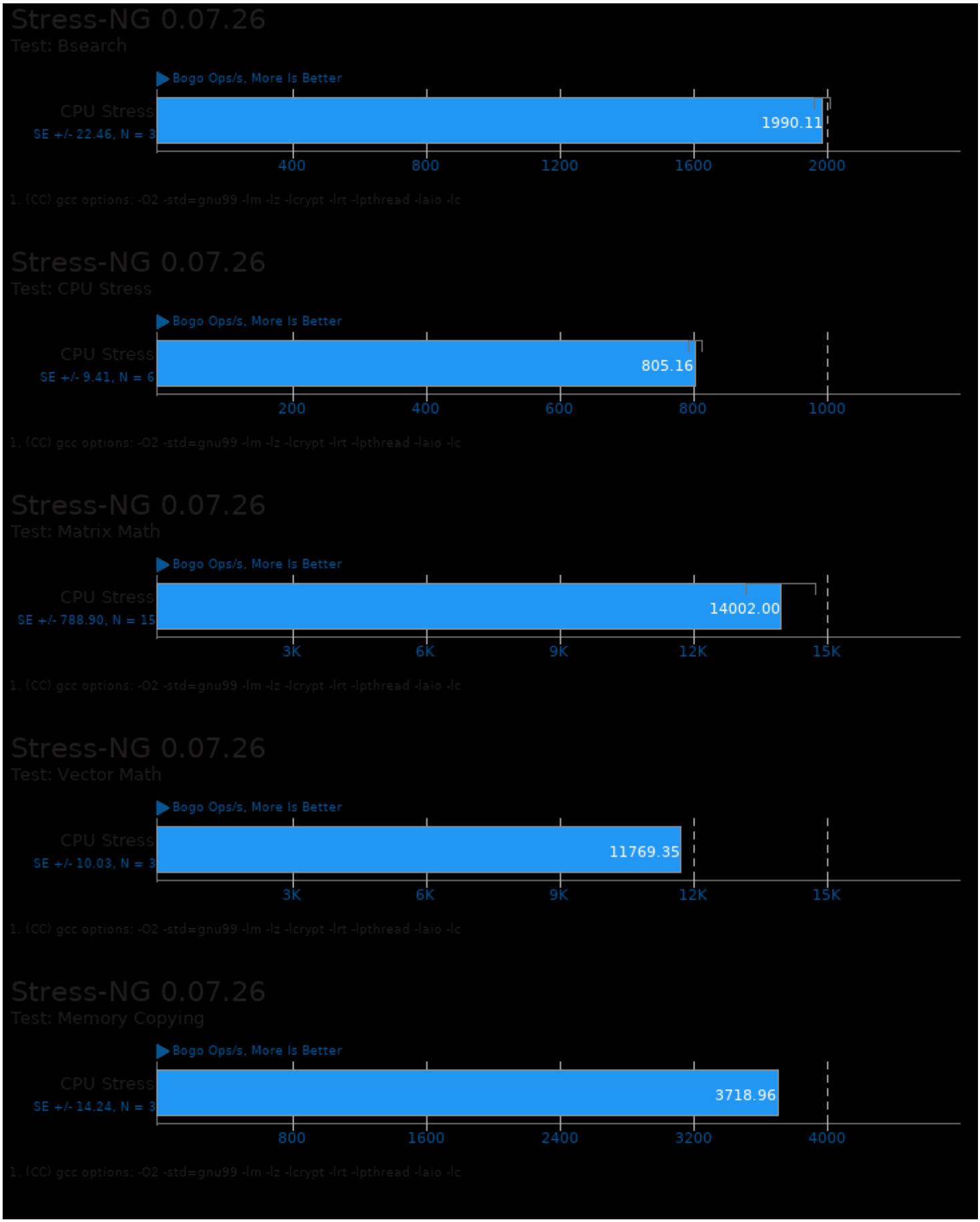
Flexible IO Tester - Seq Read - Linux AIO - Yes - Yes - 8MB (MB/s)	15 38
Standard Deviation	0.1 %
Flexible IO Tester - Seq Write - Linux AIO - Yes - No - 4KB (MB/s)	51 2
Standard Deviation	2.8 %

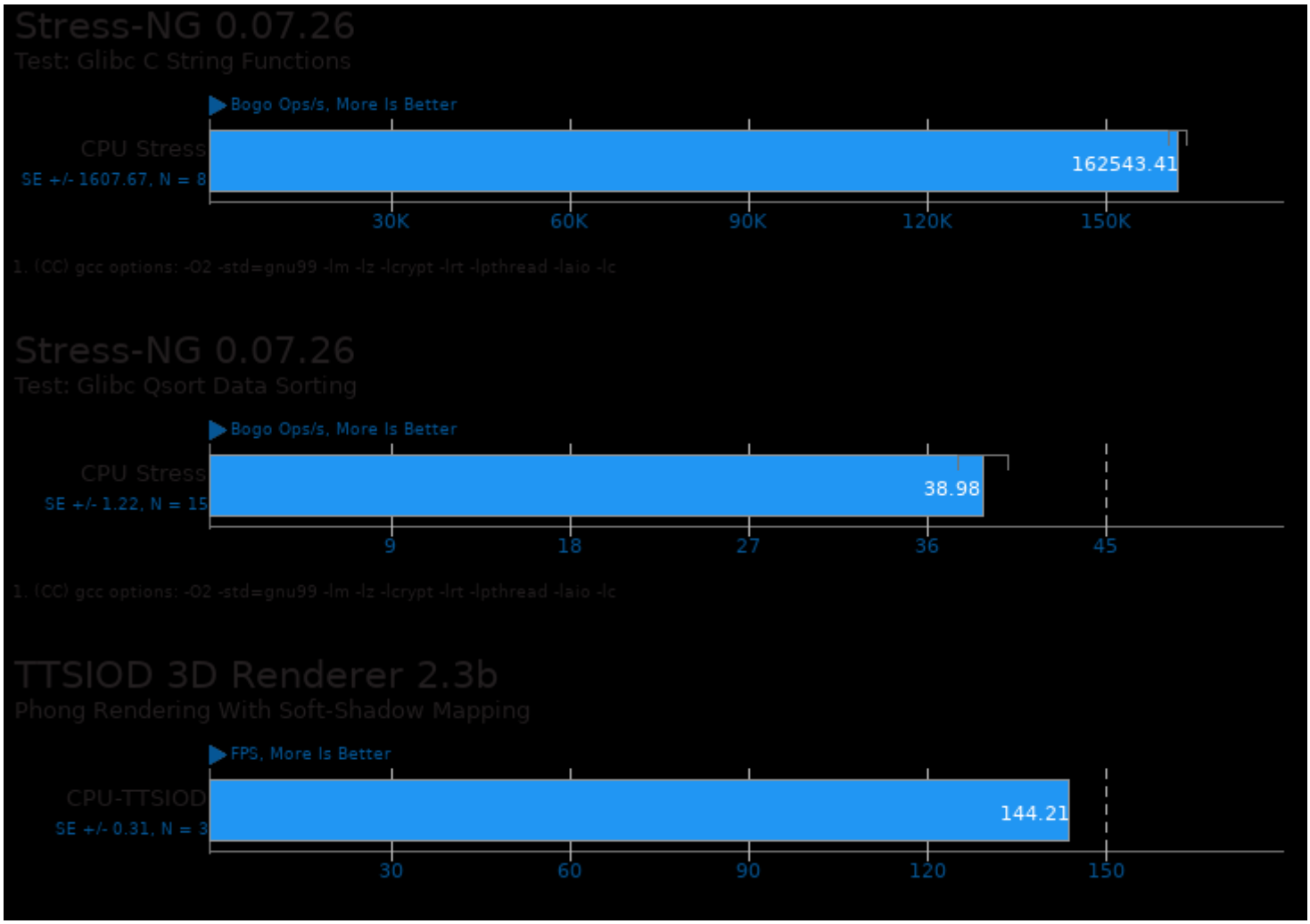
Flexible IO Tester - Seq Write - Linux AIO - Yes - No - 8MB (MB/s)	84
Standard Deviation	7 14.4%
Flexible IO Tester - Seq Write - Linux AIO - Yes - Yes - 4KB (MB/s)	51 8
Standard Deviation	2.8%

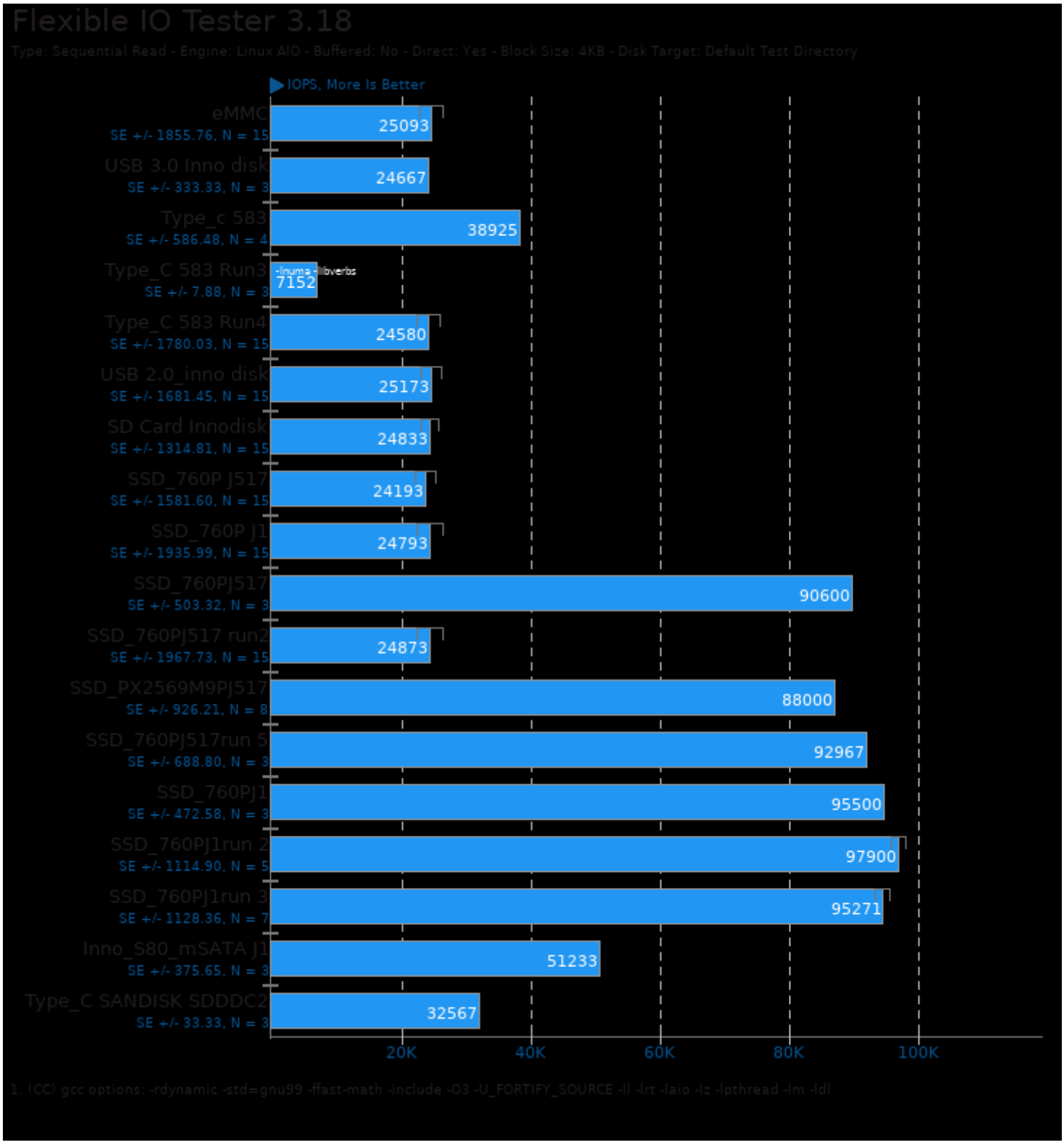
Flexible IO Tester - Seq Write - Linux AIO - Yes - Yes - 8MB (MB/s)	89		
Standard Deviation	2		
Stream - Copy (MB/s)	7%	67023	
Standard Deviation		0.6%	
Stream - Scale (MB/s)		66144	
Standard Deviation		0.6%	
Stream - Triad (MB/s)		60109	
Standard Deviation		0.4%	
Stream - Add (MB/s)		59753	
Standard Deviation		0.2%	

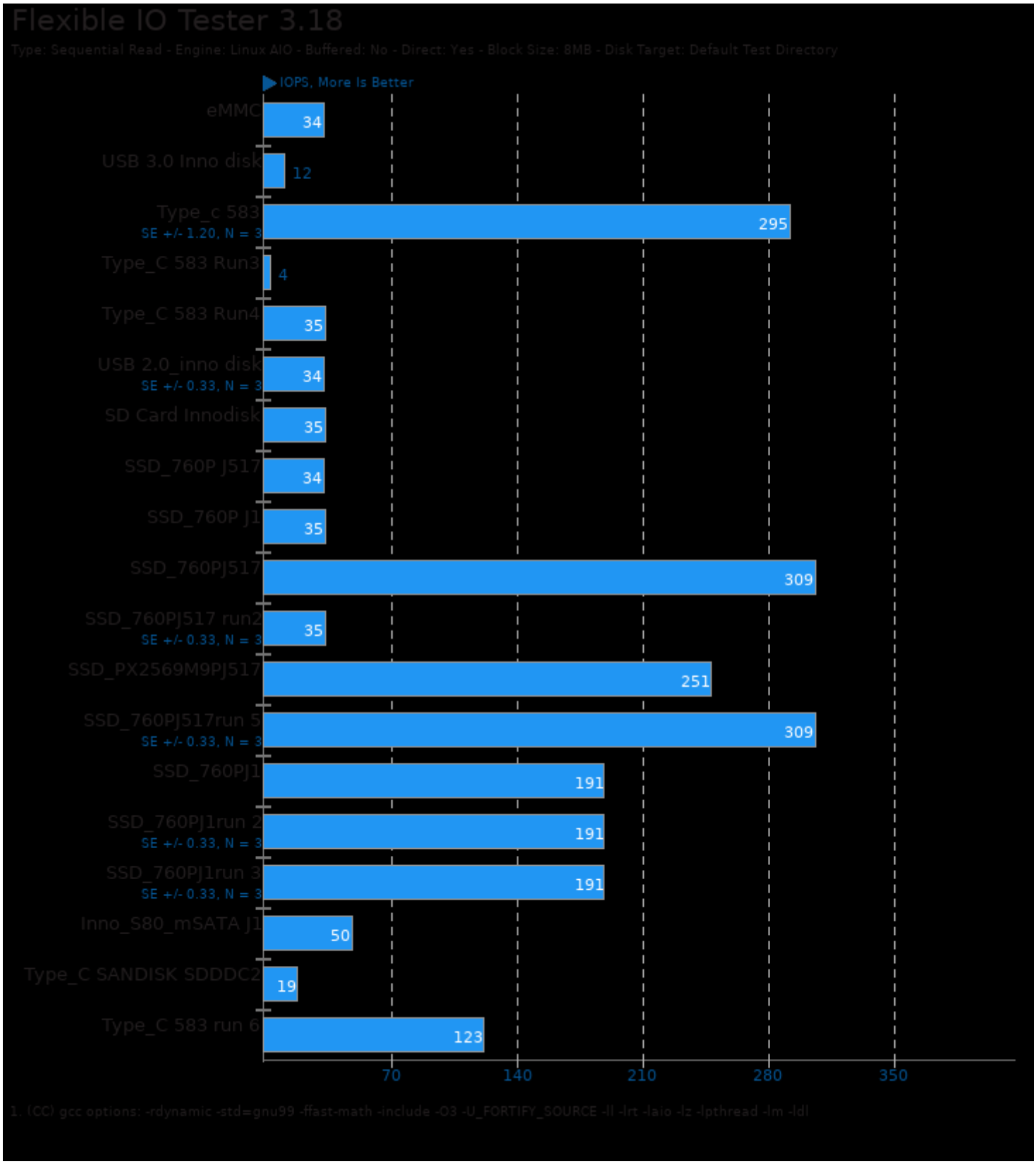
7-Zip Compression - C.S.T (MIPS)	21029
Standard Deviation	2.9%
GLmark2 - 800 x 600 (Score)	6251
GLmark2 - 1024 x 768 (Score)	4963
GLmark2 - 1280 x 1024 (Score)	3553
GLmark2 - 1920 x 1080 (Score)	2831

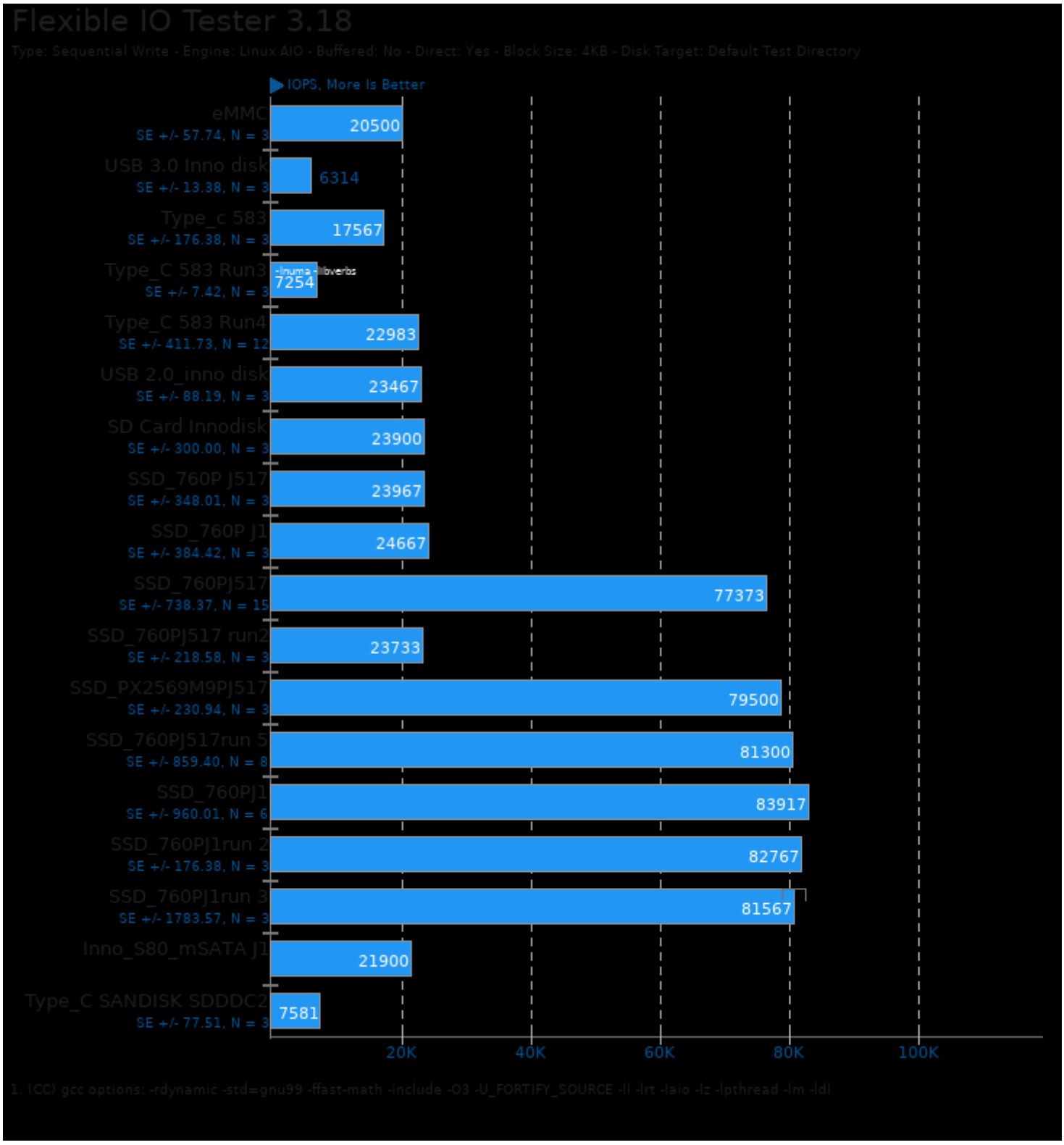

CUDA Mini-Nbody 2015-11-10
Test: Original
(NBody^2)/s, More Is Better
CUDA-Mini-nbody
SE +/- 0.01, N = 3
46.69
11
22
33
44
55
CUDA Mini-Nbody 2015-11-10
Test: Cache Blocking
(NBody^2)/s, More Is Better
CUDA-Mini-nbody
SE +/- 0.00, N = 3
55.55
12
24
36
48
60
CUDA Mini-Nbody 2015-11-10
Test: Loop Unrolling
(NBody^2)/s, More Is Better
CUDA-Mini-nbody
SE +/- 0.00, N = 3
54.72
12
24
36
48
60
CUDA Mini-Nbody 2015-11-10
Test: SOA Data Layout
(NBody^2)/s, More Is Better
CUDA-Mini-nbody
SE +/- 0.04, N = 3
47.64
11
22
33
44
55
CUDA Mini-Nbody 2015-11-10
Test: Flush Denormals To Zero
(NBody^2)/s, More Is Better
CUDA-Mini-nbody
SE +/- 0.03, N = 3
54.97
12
24
36
48
60
Stress-NG 0.07.26
Test: Crypto
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 6.48, N = 3
1254.82
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

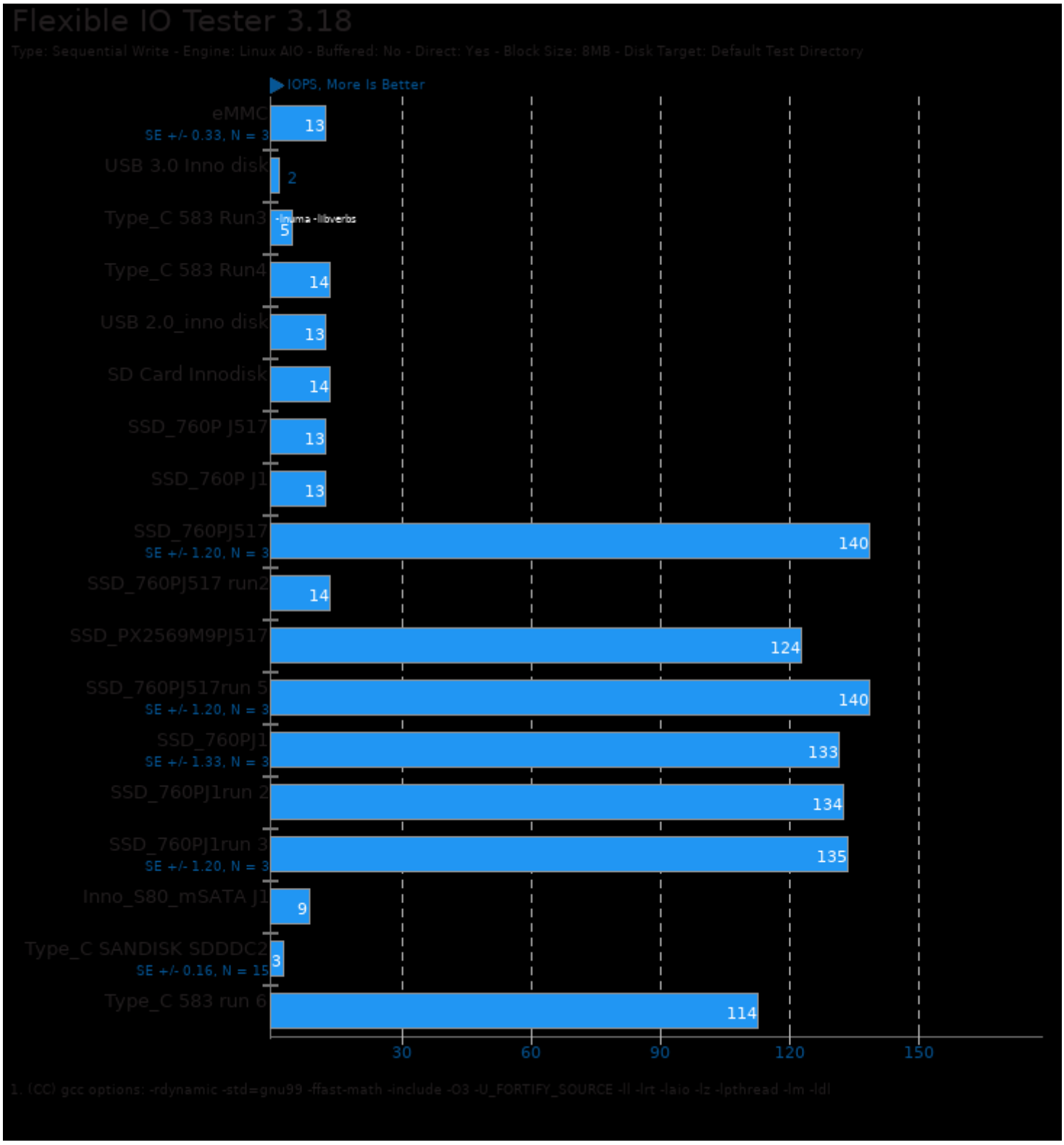

Stress-NG 0.07.26
Test: Bsearch
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 22.46, N = 3
1990.11
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
Stress-NG 0.07.26
Test: CPU Stress
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 9.41, N = 6
805.16
200
400
600
800
1000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
Stress-NG 0.07.26
Test: Matrix Math
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 788.90, N = 15
14002.00
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
Stress-NG 0.07.26
Test: Vector Math
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 10.03, N = 3
11769.35
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
Stress-NG 0.07.26
Test: Memory Copying
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 14.24, N = 3
3718.96
800
1600
2400
3200
4000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc

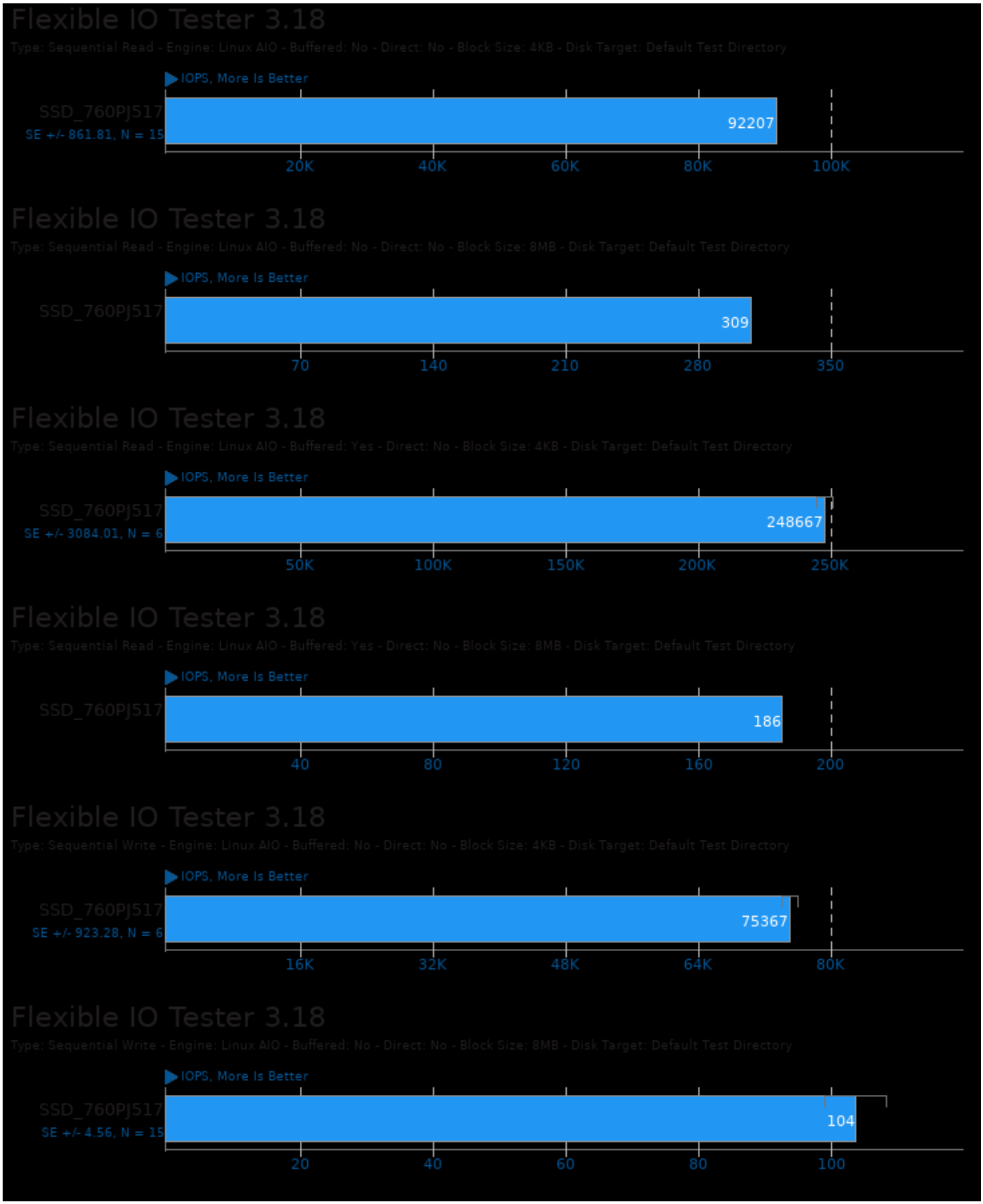

Stress-NG 0.07.26
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 1607.67, N = 8
162543.41
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
Stress-NG 0.07.26
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 1.22, N = 15
38.98
9
18
27
36
45
1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -laio -lc
TTSIOD 3D Renderer 2.3b
Phong Rendering With Soft-Shadow Mapping
FPS, More Is Better
CPU-TTSIOD
SE +/- 0.31, N = 3
144.21
30
60
90
120
150

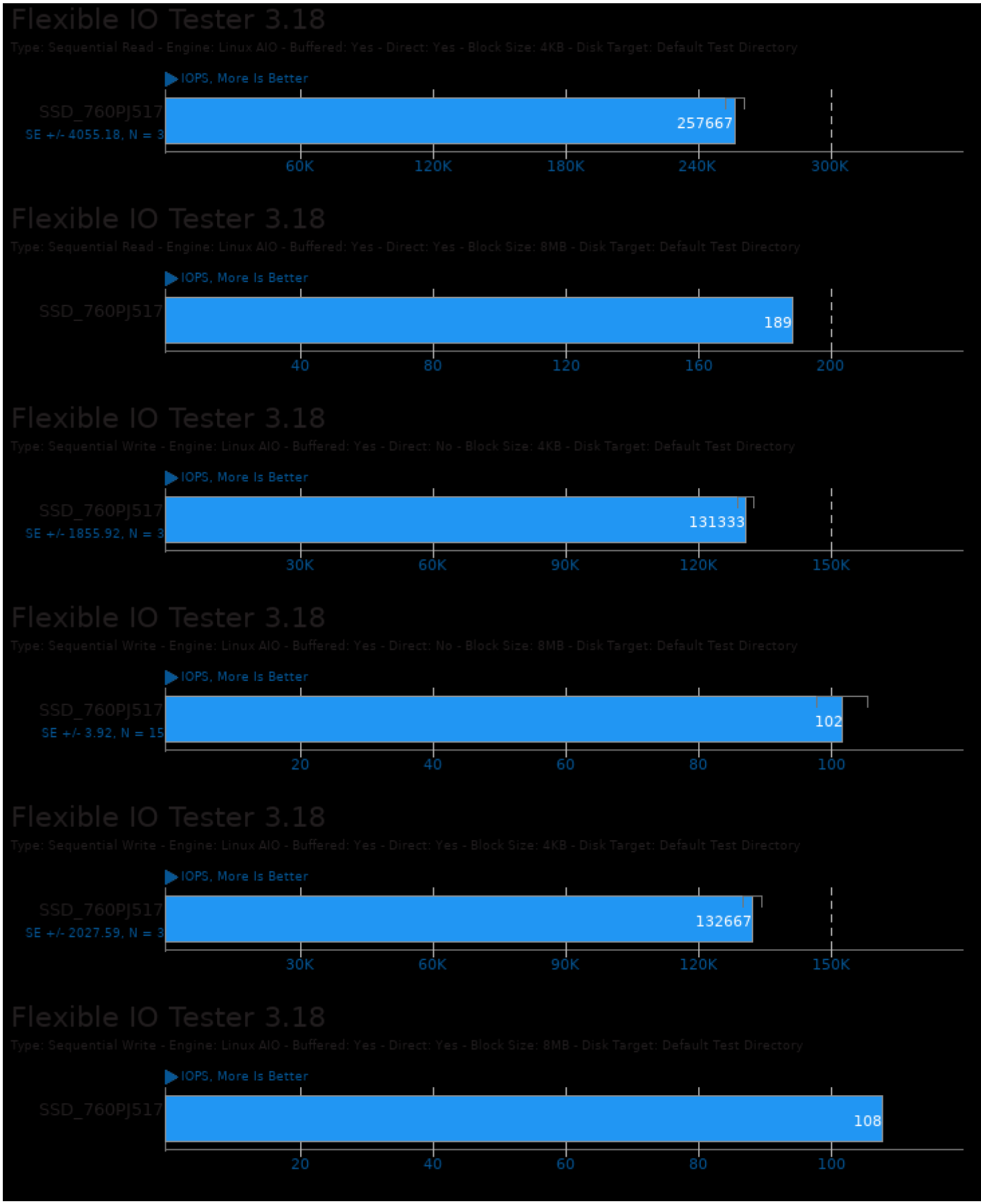

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 1855.76, N = 15
25093
USB 3.0 Inno disk
SE +/- 333.33, N = 3
24667
Type_c 583
SE +/- 586.48, N = 4
38925
Type_C 583 Run3
SE +/- 7.88, N = 3
-lnuma -lboverlos
7152
Type_C 583 Run4
SE +/- 1780.03, N = 15
24580
USB 2.0_inno disk
SE +/- 1681.45, N = 15
25173
SD Card Innodisk
SE +/- 1314.81, N = 15
24833
SSD_760P J517
SE +/- 1581.60, N = 15
24193
SSD_760P J1
SE +/- 1935.99, N = 15
24793
SSD_760PJ517
SE +/- 503.32, N = 3
90600
SSD_760PJ517 run2
SE +/- 1967.73, N = 15
24873
SSD_PX2569M9PJ517
SE +/- 926.21, N = 8
88000
SSD_760PJ517run 5
SE +/- 688.80, N = 3
92967
SSD_760PJ1
SE +/- 472.58, N = 3
95500
SSD_760PJ1run 2
SE +/- 1114.90, N = 5
97900
SSD_760PJ1run 3
SE +/- 1128.36, N = 7
95271
Inno_S80_mSATA J1
SE +/- 375.65, N = 3
51233
Type_C SANDISK SDDDC2
SE +/- 33.33, N = 3
32567
20K
40K
60K
80K
100K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

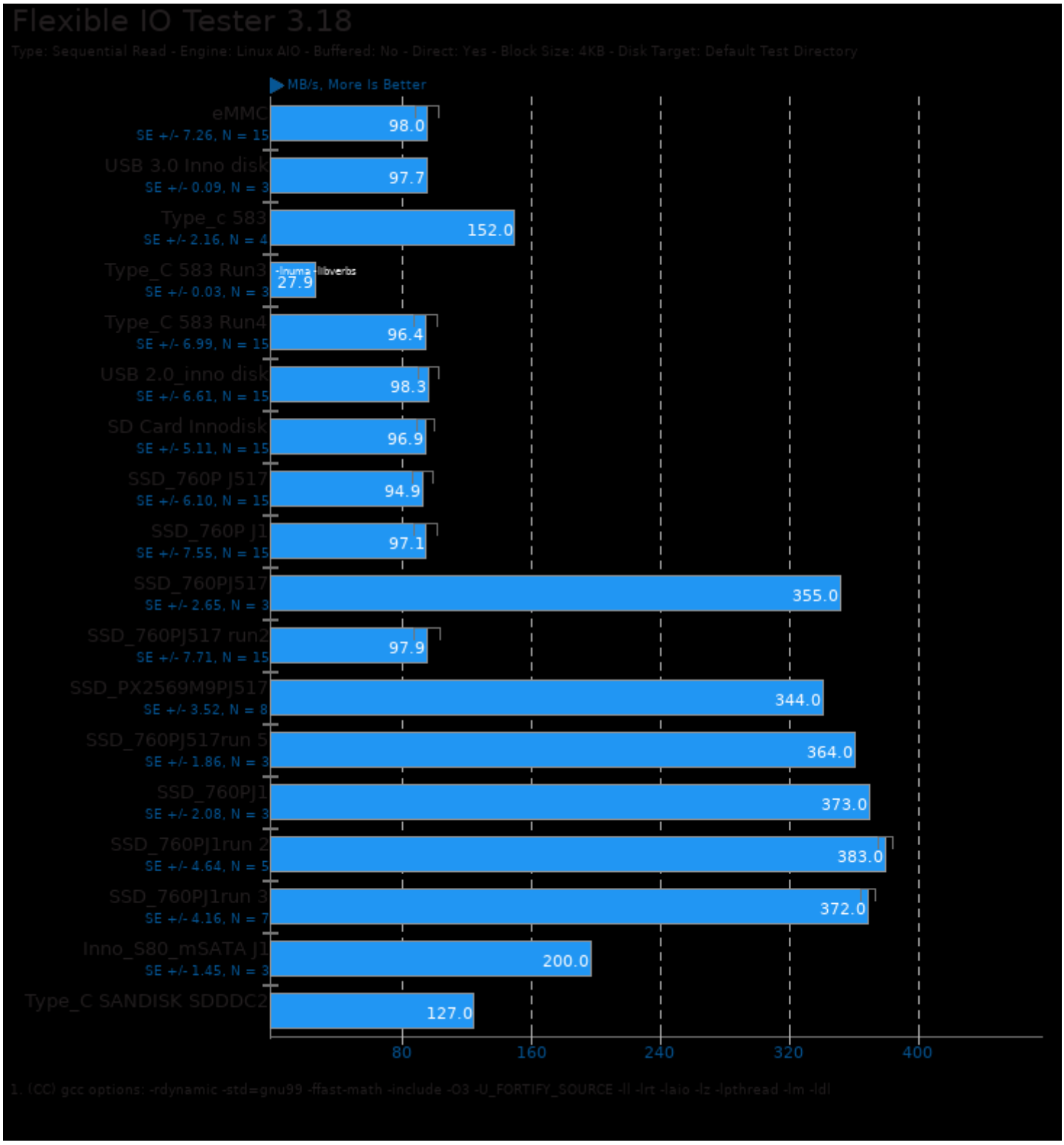

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
34
USB 3.0 Inno disk
12
Type_c 583
SE +/- 1.20, N = 3
295
Type_C 583 Run3
4
Type_C 583 Run4
35
USB 2.0_inno disk
SE +/- 0.33, N = 3
34
SD Card Innodisk
35
SSD_760P J517
34
SSD_760P J1
35
SSD_760PJ517
309
SSD_760PJ517 run2
SE +/- 0.33, N = 3
35
SSD_PX2569M9PJ517
251
SSD_760PJ517run 5
SE +/- 0.33, N = 3
309
SSD_760PJ1
191
SSD_760PJ1run 2
SE +/- 0.33, N = 3
191
SSD_760PJ1run 3
SE +/- 0.33, N = 3
191
Inno_S80_mSATA J1
50
Type_C SANDISK SDDDC2
19
Type_C 583 run 6
123
70
140
210
280
350
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

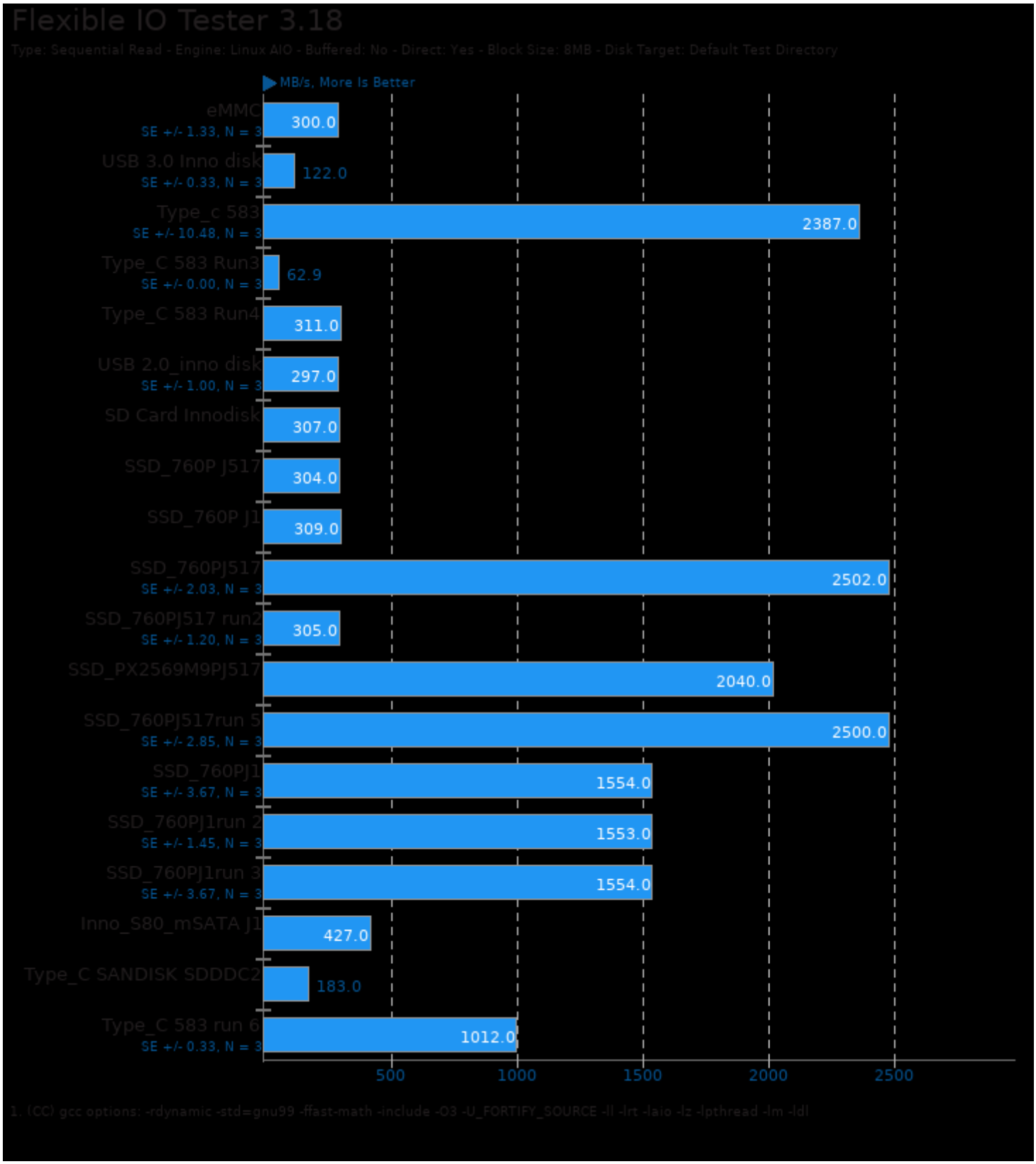

Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 57.74, N = 3
20500
USB 3.0 Inno disk
SE +/- 13.38, N = 3
6314
Type_c 583
SE +/- 176.38, N = 3
17567
Type_C 583 Run3
SE +/- 7.42, N = 3
7254
Type_C 583 Run4
SE +/- 411.73, N = 12
22983
USB 2.0_inno disk
SE +/- 88.19, N = 3
23467
SD Card Innodisk
SE +/- 300.00, N = 3
23900
SSD_760P J517
SE +/- 348.01, N = 3
23967
SSD_760P J1
SE +/- 384.42, N = 3
24667
SSD_760PJ517
SE +/- 738.37, N = 15
77373
SSD_760PJ517 run2
SE +/- 218.58, N = 3
23733
SSD_PX2569M9PJ517
SE +/- 230.94, N = 3
79500
SSD_760PJ517run 5
SE +/- 859.40, N = 8
81300
SSD_760PJ1
SE +/- 960.01, N = 6
83917
SSD_760PJ1run 2
SE +/- 176.38, N = 3
82767
SSD_760PJ1run 3
SE +/- 1783.57, N = 3
81567
Inno_S80_mSATA J1
21900
Type_C SANDISK SDDDC2
SE +/- 77.51, N = 3
7581
20K
40K
60K
80K
100K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

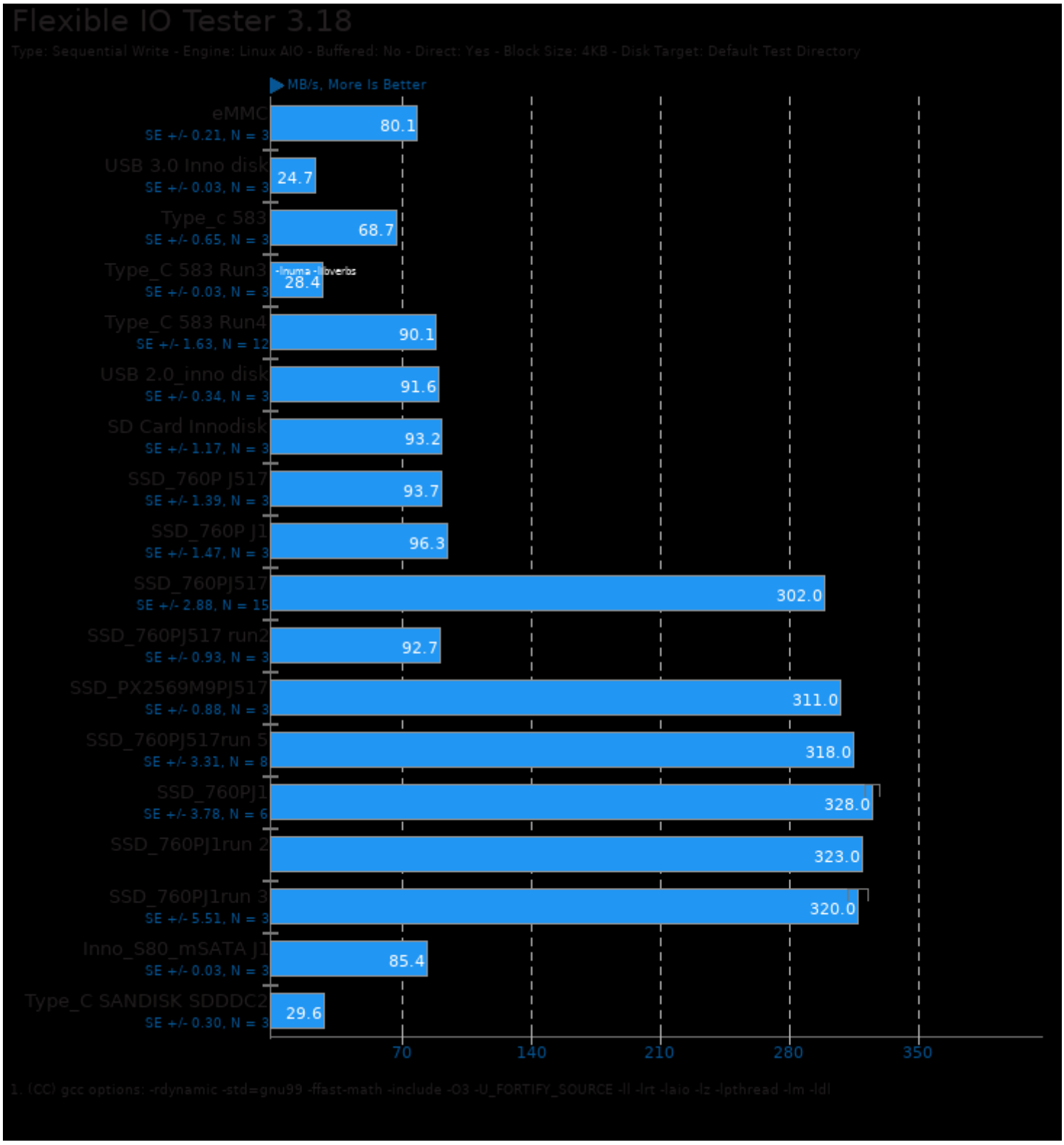

Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 0.33, N = 3
13
USB 3.0 Inno disk
2
Type_C 583 Run3
5
Type_C 583 Run4
14
USB 2.0_inno disk
13
SD Card Innodisk
14
SSD_760P J517
13
SSD_760P J1
13
SSD_760PJ517
SE +/- 1.20, N = 3
140
SSD_760PJ517 run2
14
SSD_PX2569M9PJ517
124
SSD_760PJ517run 5
SE +/- 1.20, N = 3
140
SSD_760PJ1
SE +/- 1.33, N = 3
133
SSD_760PJ1run 2
134
SSD_760PJ1run 3
SE +/- 1.20, N = 3
135
Inno_S80_mSATA J1
9
Type_C SANDISK SDDDC2
SE +/- 0.16, N = 15
3
Type_C 583 run 6
114
30
60
90
120
150
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

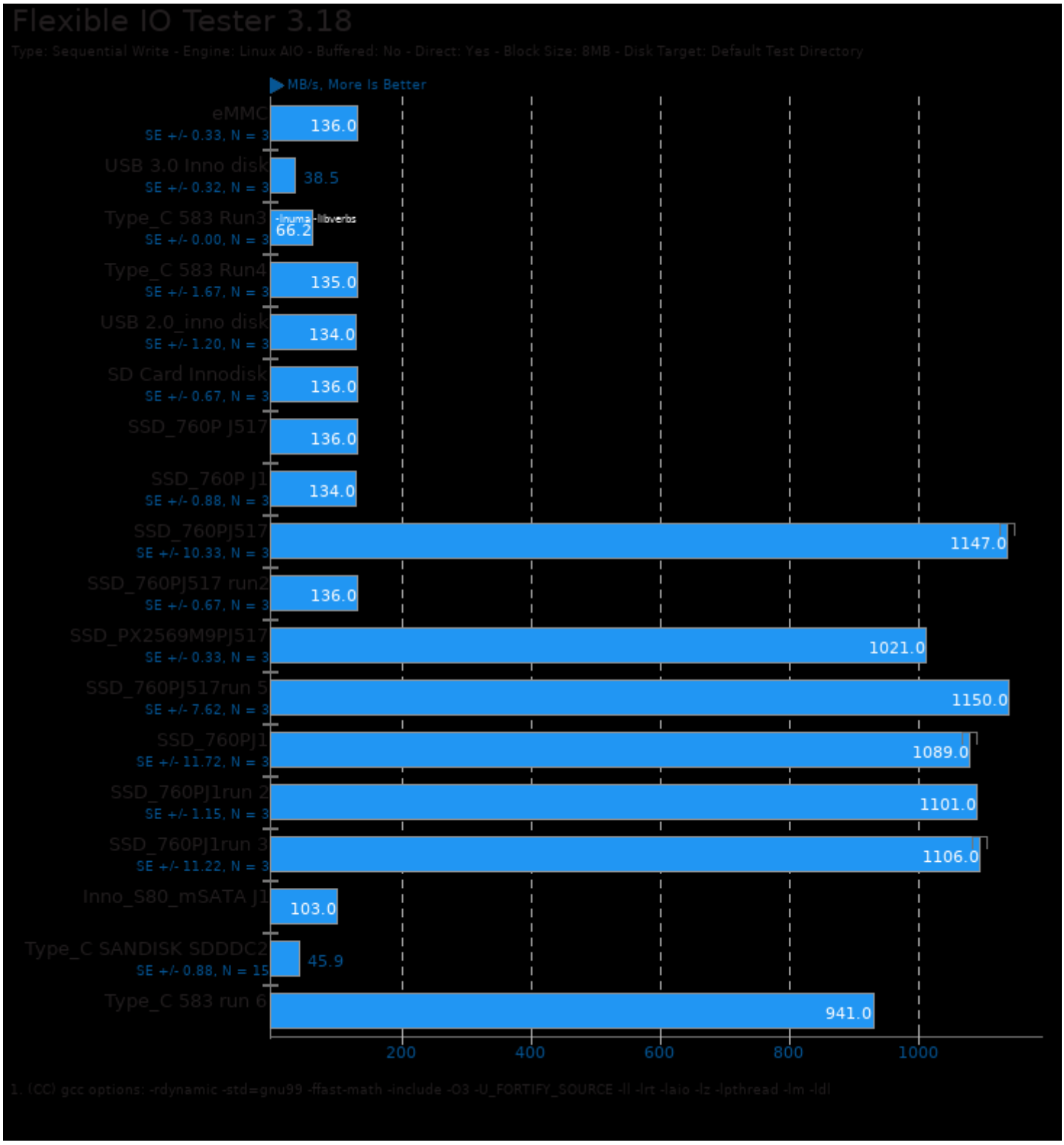

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 861.81, N = 15
92207
20K
40K
60K
80K
100K
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
309
70
140
210
280
350
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 3084.01, N = 6
248667
50K
100K
150K
200K
250K
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
186
40
80
120
160
200
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 923.28, N = 6
75367
16K
32K
48K
64K
80K
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 4.56, N = 15
104
20
40
60
80
100

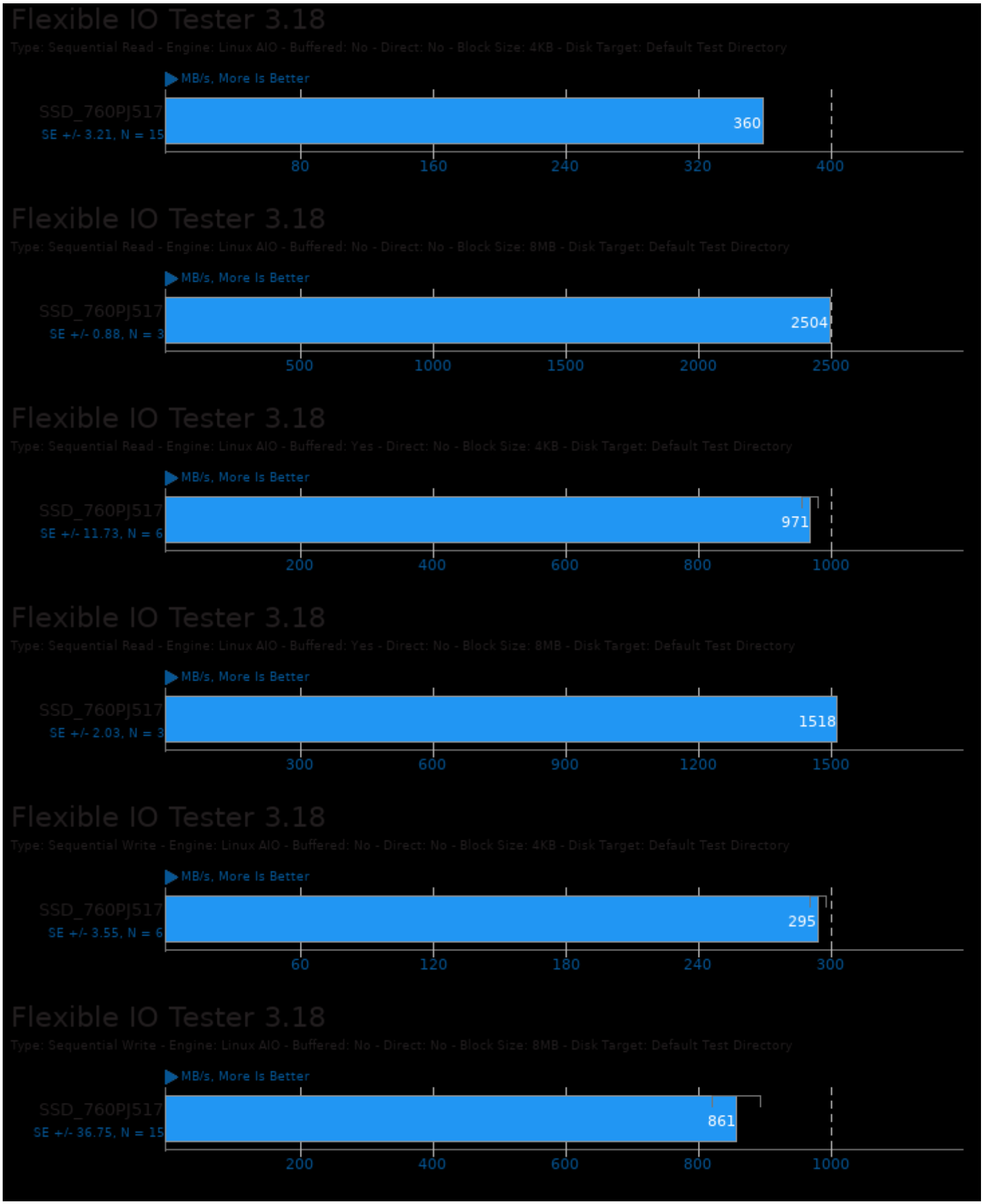

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 4055.18, N = 3
257667
60K
120K
180K
240K
300K
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
189
40
80
120
160
200
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 1855.92, N = 3
131333
30K
60K
90K
120K
150K
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 3.92, N = 15
102
20
40
60
80
100
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
SE +/- 2027.59, N = 3
132667
30K
60K
90K
120K
150K
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
SSD_760PJ517
108
20
40
60
80
100

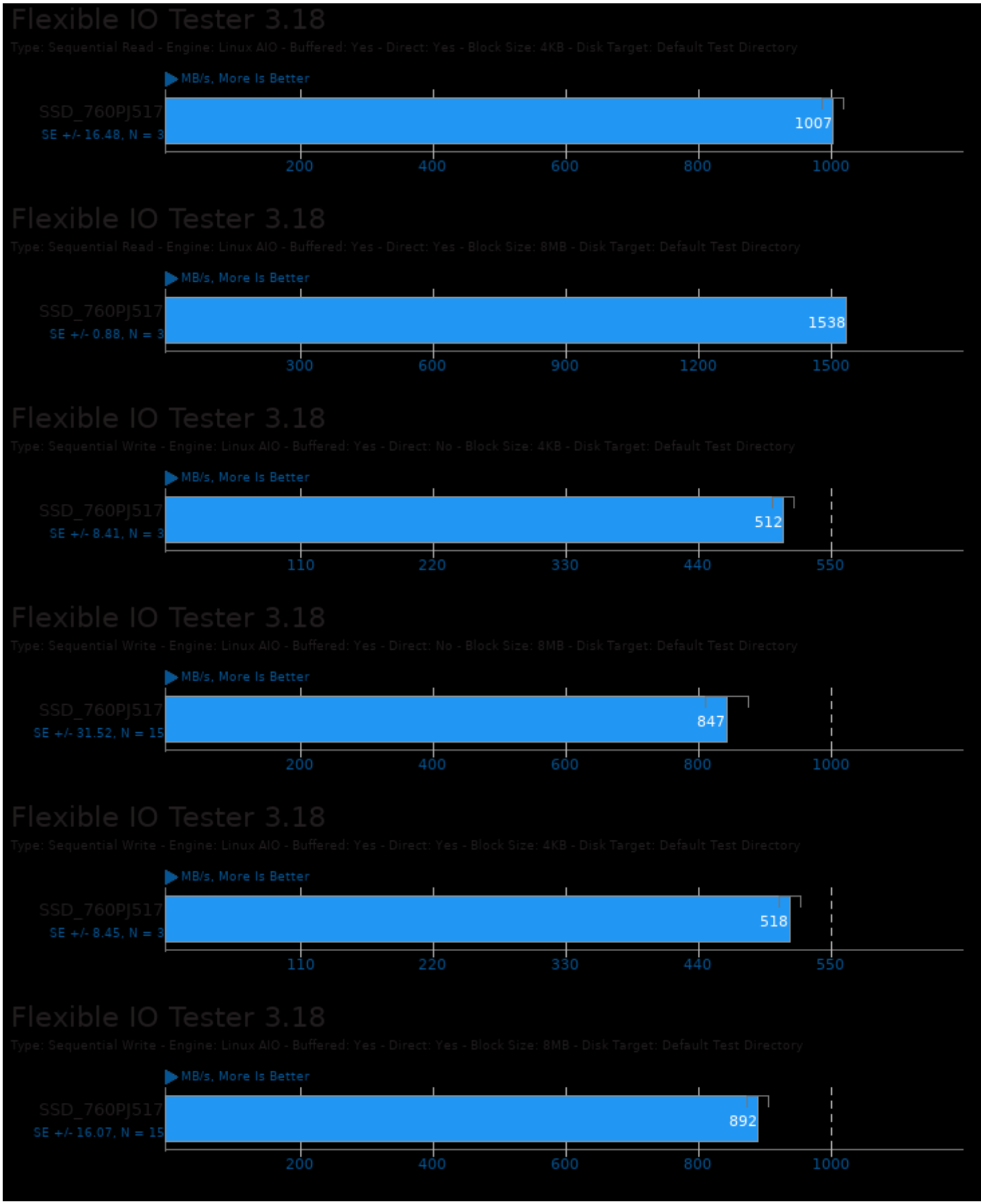

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
SE +/- 7.26, N = 15
98.0
USB 3.0 Inno disk
SE +/- 0.09, N = 3
97.7
Type_c 583
SE +/- 2.16, N = 4
152.0
Type_C 583 Run3
SE +/- 0.03, N = 3
-lnuma -libverbs
27.9
Type_C 583 Run4
SE +/- 6.99, N = 15
96.4
USB 2.0_inno disk
SE +/- 6.61, N = 15
98.3
SD Card Innodisk
SE +/- 5.11, N = 15
96.9
SSD_760P J517
SE +/- 6.10, N = 15
94.9
SSD_760P J1
SE +/- 7.55, N = 15
97.1
SSD_760PJ517
SE +/- 2.65, N = 3
355.0
SSD_760PJ517 run2
SE +/- 7.71, N = 15
97.9
SSD_PX2569M9PJ517
SE +/- 3.52, N = 8
344.0
SSD_760PJ517run 5
SE +/- 1.86, N = 3
364.0
SSD_760PJ1
SE +/- 2.08, N = 3
373.0
SSD_760PJ1run 2
SE +/- 4.64, N = 5
383.0
SSD_760PJ1run 3
SE +/- 4.16, N = 7
372.0
Inno_S80_mSATA J1
SE +/- 1.45, N = 3
200.0
Type_C SANDISK SDDDC2
127.0
80
160
240
320
400
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

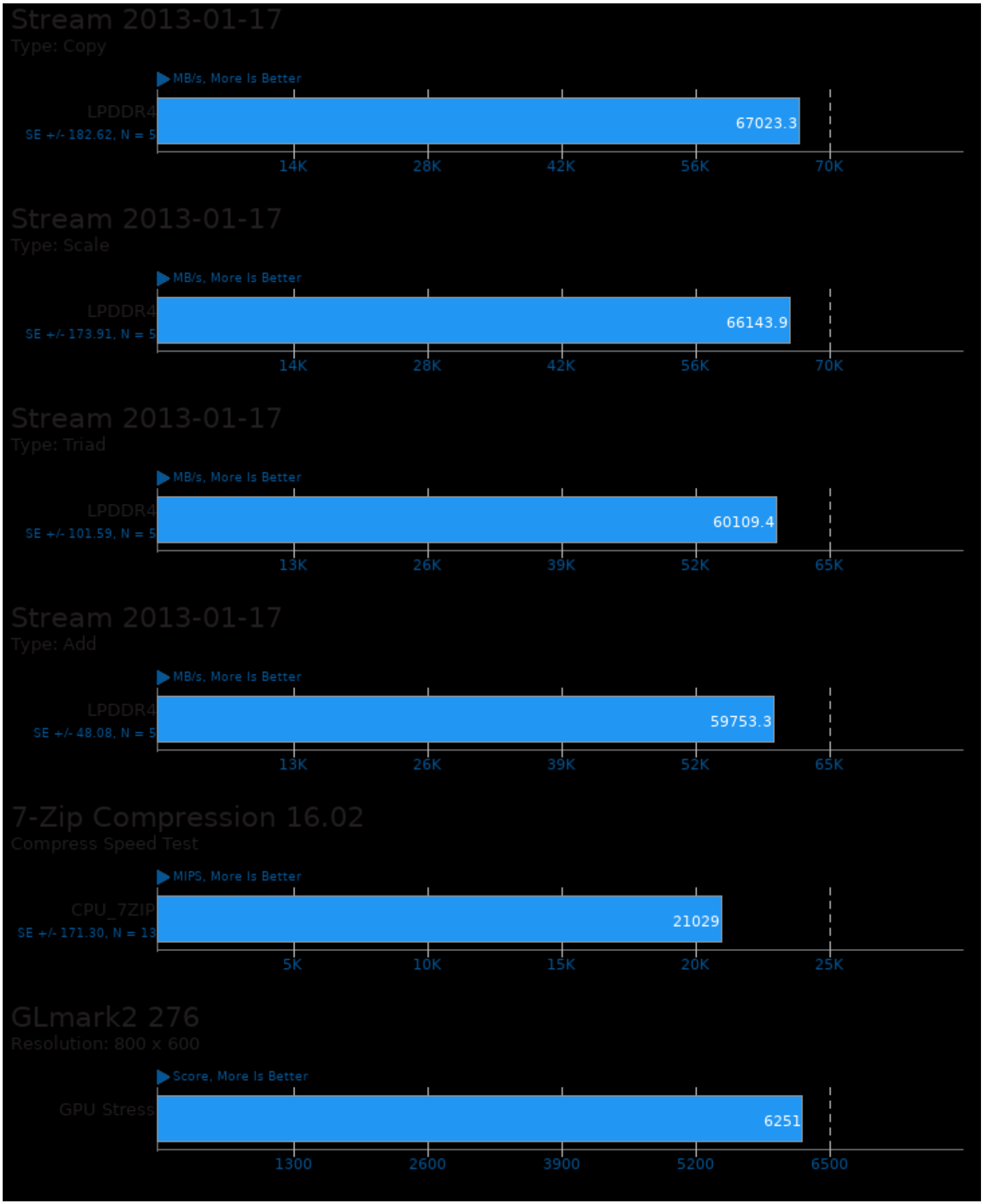

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
SE +/- 1.33, N = 3
300.0
USB 3.0 Inno disk
SE +/- 0.33, N = 3
122.0
Type_c 583
SE +/- 10.48, N = 3
2387.0
Type_C 583 Run3
SE +/- 0.00, N = 3
62.9
Type_C 583 Run4
311.0
USB 2.0_inno disk
SE +/- 1.00, N = 3
297.0
SD Card Innodisk
307.0
SSD_760P J517
304.0
SSD_760P J1
309.0
SSD_760PJ517
SE +/- 2.03, N = 3
2502.0
SSD_760PJ517 run2
SE +/- 1.20, N = 3
305.0
SSD_PX2569M9PJ517
2040.0
SSD_760PJ517run 5
SE +/- 2.85, N = 3
2500.0
SSD_760PJ1
SE +/- 3.67, N = 3
1554.0
SSD_760PJ1run 2
SE +/- 1.45, N = 3
1553.0
SSD_760PJ1run 3
SE +/- 3.67, N = 3
1554.0
Inno_S80_mSATA J1
427.0
Type_C SANDISK SDDDC2
183.0
Type_C 583 run 6
SE +/- 0.33, N = 3
1012.0
500
1000
1500
2000
2500
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

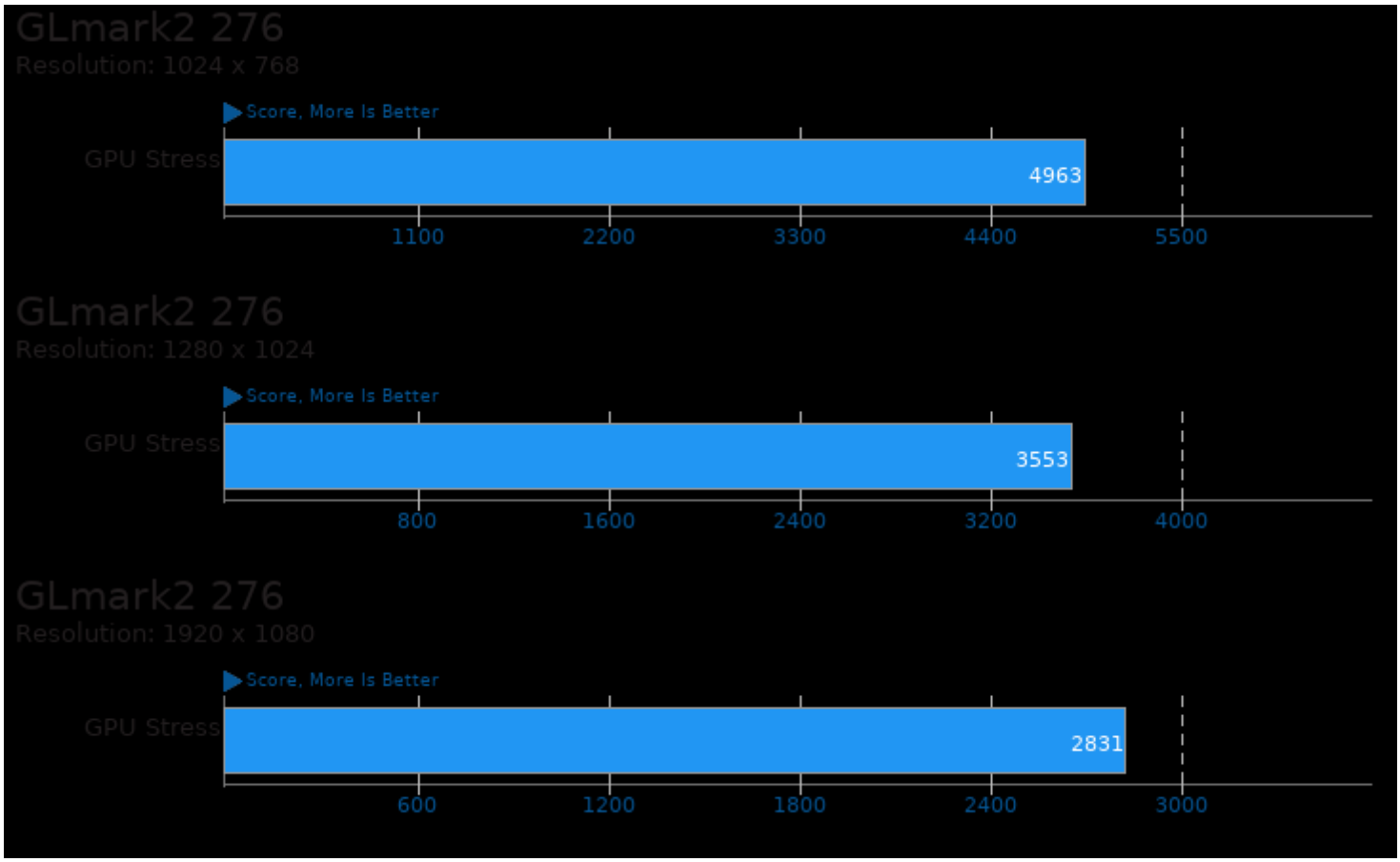

Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
SE +/- 0.21, N = 3
80.1
USB 3.0 Inno disk
SE +/- 0.03, N = 3
24.7
Type_c 583
SE +/- 0.65, N = 3
68.7
Type_C 583 Run3
SE +/- 0.03, N = 3
-lnuma -lboverlos
28.4
Type_C 583 Run4
SE +/- 1.63, N = 12
90.1
USB 2.0_inno disk
SE +/- 0.34, N = 3
91.6
SD Card Innodisk
SE +/- 1.17, N = 3
93.2
SSD_760P J517
SE +/- 1.39, N = 3
93.7
SSD_760P J1
SE +/- 1.47, N = 3
96.3
SSD_760PJ517
SE +/- 2.88, N = 15
302.0
SSD_760PJ517 run2
SE +/- 0.93, N = 3
92.7
SSD_PX2569M9PJ517
SE +/- 0.88, N = 3
311.0
SSD_760PJ517run 5
SE +/- 3.31, N = 8
318.0
SSD_760PJ1
SE +/- 3.78, N = 6
328.0
SSD_760PJ1run 2
323.0
SSD_760PJ1run 3
SE +/- 5.51, N = 3
320.0
Inno_S80_mSATA J1
SE +/- 0.03, N = 3
85.4
Type_C SANDISK SDDDC2
SE +/- 0.30, N = 3
29.6
70
140
210
280
350
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl


Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
SE +/- 0.33, N = 3
136.0
USB 3.0 Inno disk
SE +/- 0.32, N = 3
38.5
Type_C 583 Run3
SE +/- 0.00, N = 3
-lnuma -libverbs
66.2
Type_C 583 Run4
SE +/- 1.67, N = 3
135.0
USB 2.0_inno disk
SE +/- 1.20, N = 3
134.0
SD Card Innodisk
SE +/- 0.67, N = 3
136.0
SSD_760P J517
136.0
SSD_760P J1
SE +/- 0.88, N = 3
134.0
SSD_760PJ517
SE +/- 10.33, N = 3
1147.0
SSD_760PJ517 run2
SE +/- 0.67, N = 3
136.0
SSD_PX2569M9PJ517
SE +/- 0.33, N = 3
1021.0
SSD_760PJ517run 5
SE +/- 7.62, N = 3
1150.0
SSD_760PJ1
SE +/- 11.72, N = 3
1089.0
SSD_760PJ1run 2
SE +/- 1.15, N = 3
1101.0
SSD_760PJ1run 3
SE +/- 11.22, N = 3
1106.0
Inno_S80_mSATA J1
103.0
Type_C SANDISK SDDDC2
SE +/- 0.88, N = 15
45.9
Type_C 583 run 6
941.0
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl


Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 3.21, N = 15
360
80
160
240
320
400
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 0.88, N = 3
2504
500
1000
1500
2000
2500
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 11.73, N = 6
971
200
400
600
800
1000
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 2.03, N = 3
1518
300
600
900
1200
1500
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 3.55, N = 6
295
60
120
180
240
300
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 36.75, N = 15
861
200
400
600
800
1000


Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 16.48, N = 3
1007
200
400
600
800
1000
Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 0.88, N = 3
1538
300
600
900
1200
1500
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 8.41, N = 3
512
110
220
330
440
550
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 31.52, N = 15
847
200
400
600
800
1000
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 8.45, N = 3
518
110
220
330
440
550
Flexible IO Tester 3.18
Type: Sequential Write - Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
SSD_760PJ517
SE +/- 16.07, N = 15
892
200
400
600
800
1000


Stream 2013-01-17
Type: Copy
MB/s, More Is Better
LPDDR4
SE +/- 182.62, N = 5
67023.3
14K
28K
42K
56K
70K
Stream 2013-01-17
Type: Scale
MB/s, More Is Better
LPDDR4
SE +/- 173.91, N = 5
66143.9
14K
28K
42K
56K
70K
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
LPDDR4
SE +/- 101.59, N = 5
60109.4
13K
26K
39K
52K
65K
Stream 2013-01-17
Type: Add
MB/s, More Is Better
LPDDR4
SE +/- 48.08, N = 5
59753.3
13K
26K
39K
52K
65K
7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
CPU_7ZIP
SE +/- 171.30, N = 13
21029
5K
10K
15K
20K
25K
GLmark2 276
Resolution: 800 x 600
Score, More Is Better
GPU Stress
6251
1300
2600
3900
5200
6500



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