www.phoronix-test-suite.com

JS-E02_AX720_R32_3_1

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

Test Systems:

eMMC

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 62GB Ultra USB 3.0 + 31GB HBG4a2, Graphics: NVIDIA TEGRA, Monitor: PHL 247E6, Network: 2 x Intel I210

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

USB3.0 Innodisk

USB2.0 Innodisk

SD Card innodisk

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 62GB Ultra USB 3.0 + 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6, Network: 2 x Intel I210

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

mSATA Innodisk

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, Network: 2 x Intel I210

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

Digifusion M.2 SSD

Micro AB USB2.0_inno

Type C Digifusion

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB PLEXTOR PX-256M9PeGN + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6, Network: 2 x Intel I210

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

Type C Digifusion run 2

JS-E02_AX720_R32_3_1

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB PLEXTOR PX-256M9PeGN + 256GB Generic + 31GB HBG4a2 + 15GB i-TF, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6, Network: 2 x Intel I210

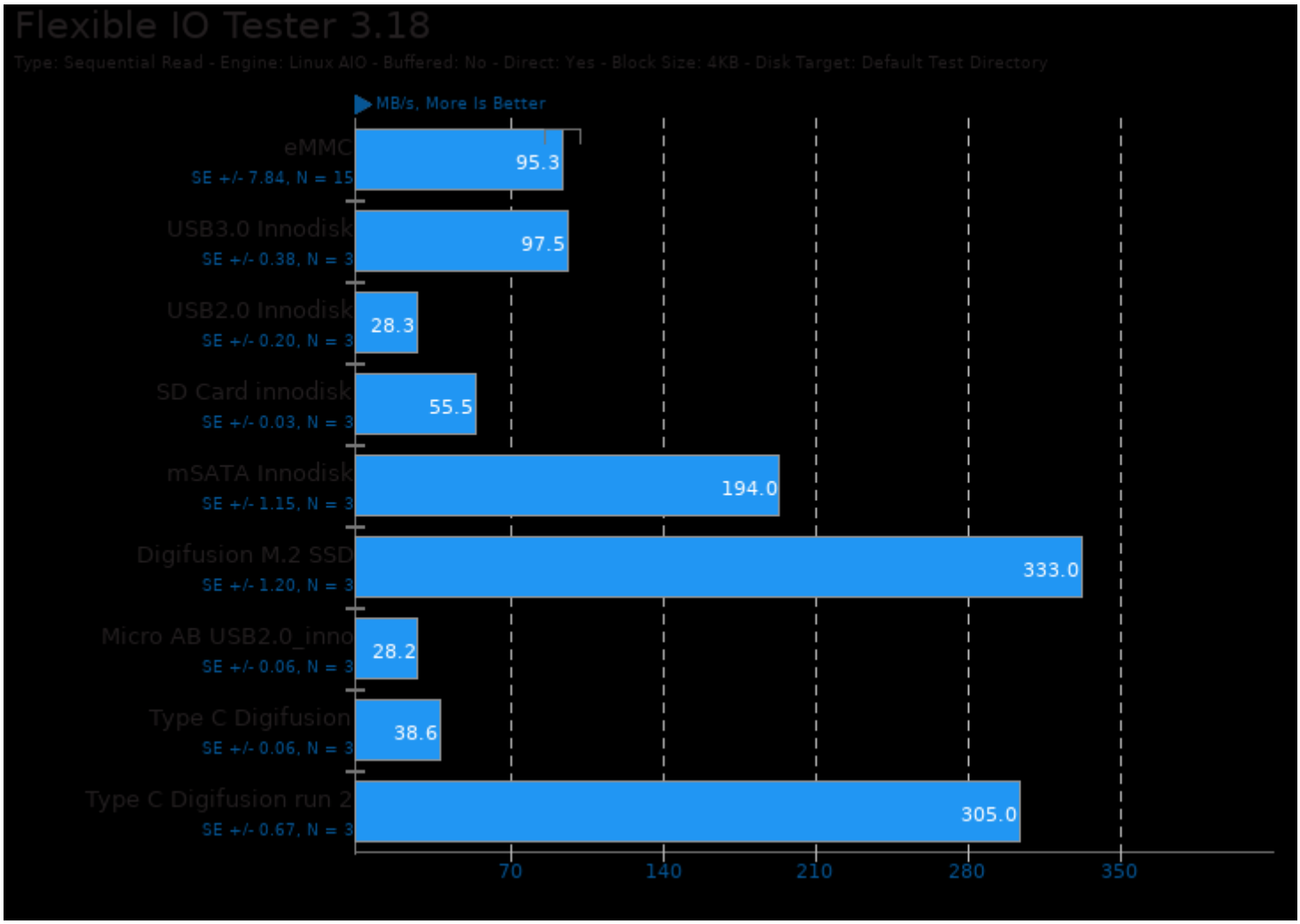
OS: Ubuntu 18.04, Kernel: 4.9.140-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.3.1, OpenGL: 4.6.0, Vulkan: 1.1.85, Compiler: GCC 7.5.0 + CUDA 10.0, File-System: ext4, Screen Resolution: 1920x1080

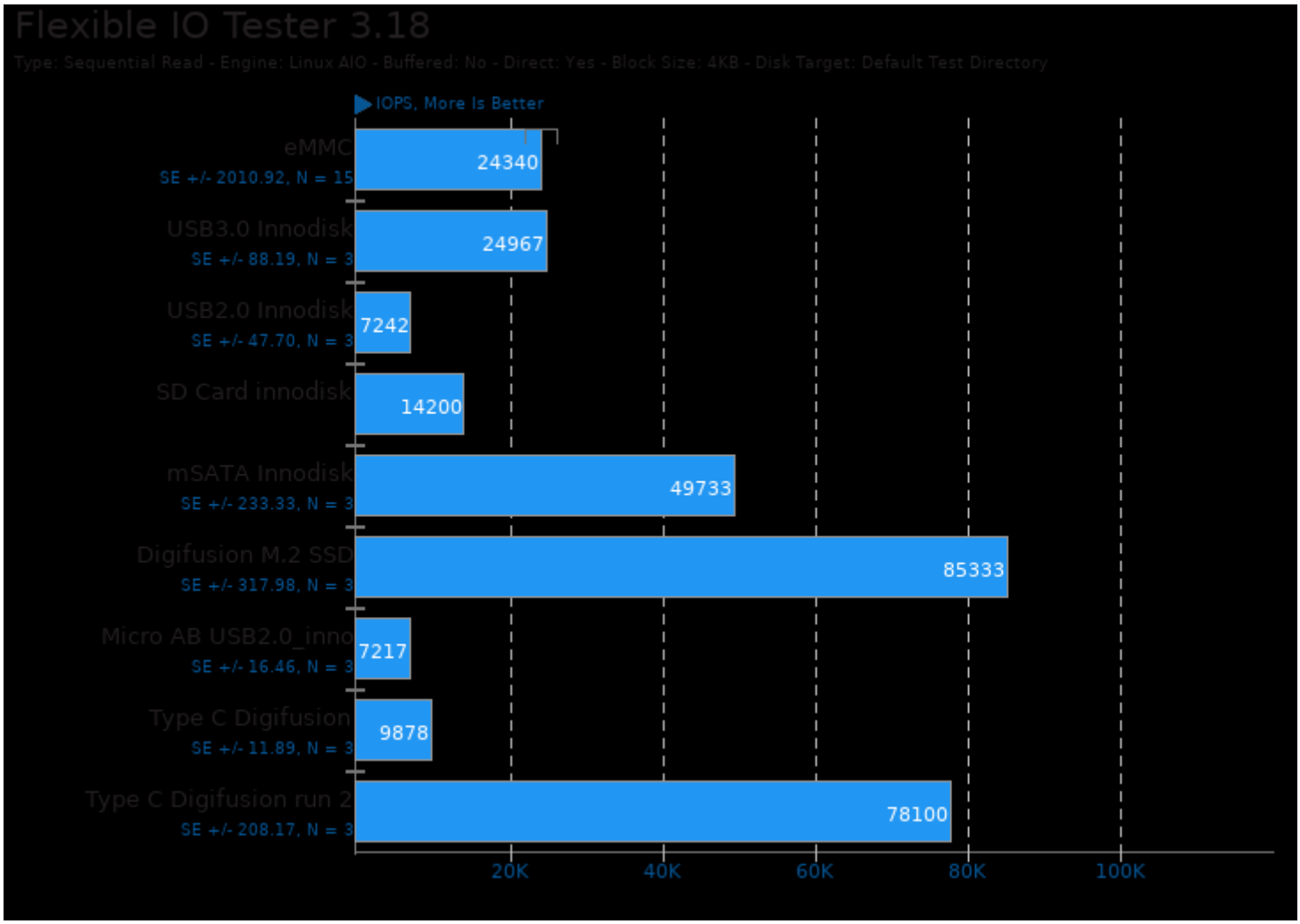
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --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

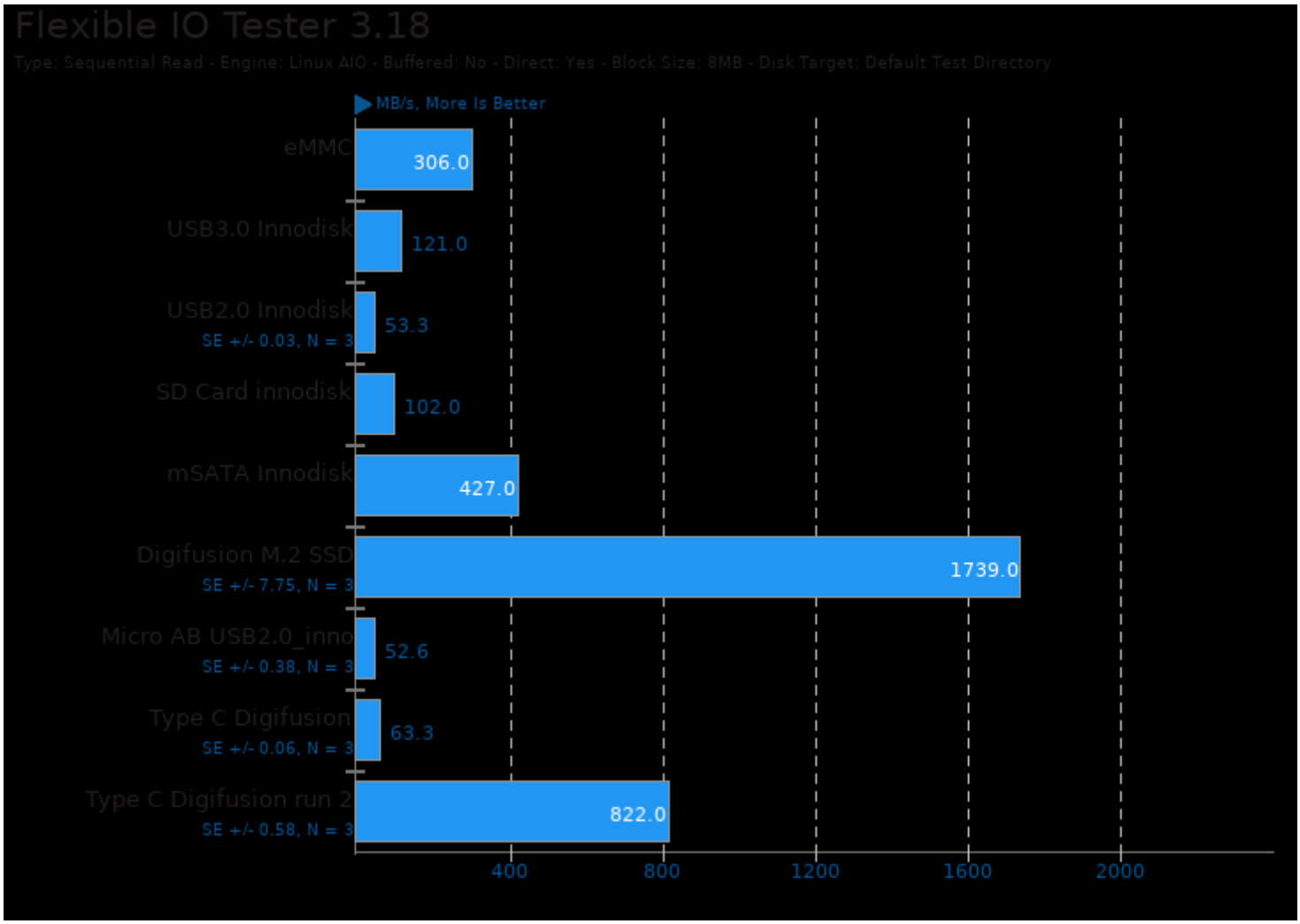
	eMMC	USB3.0 Innodisk	USB2.0 Innodisk	SD Card innodisk	mSATA Innodisk	Digifusion M.2 SSD	Micro AB USB2.0_inno	Type C Digifusion	Type C Digifusion run 2
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (MB/s)	95.3	97.5	28.3	55.5	194	**333**	**28.2**	38.6	305
Normalized	28.62%	29.28%	8.5%	16.67%	58.26%	100%	8.47%	11.59%	91.59%
Standard Deviation	31.9%	0.7%	1.2%	0.1%	1%	0.6%	0.4%	0.3%	0.4%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (IOPS)	24340	24967	7242	14200	49733	**85333**	**7217**	9878	78100
Normalized	28.52%	29.26%	8.49%	16.64%	58.28%	100%	8.46%	11.58%	91.52%
Standard Deviation	32%	0.6%	1.1%		0.8%	0.6%	0.4%	0.2%	0.5%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (MB/s)	306	121	53.3	102	427	**1739**	**52.6**	63.3	822
Normalized	17.6%	6.96%	3.06%	5.87%	24.55%	100%	3.02%	3.64%	47.27%
Standard Deviation			0.1%			0.8%	1.3%	0.2%	0.1%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (IOPS)	35	12	**3**	9	50	**214**	**3**	4	99
Normalized	16.36%	5.61%	1.4%	4.21%	23.36%	100%	1.4%	1.87%	46.26%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (MB/s)	81.2	24.7	25.0	21.9	85.5	**268**	25.1	39.0	**0.621**
Normalized	30.3%	9.22%	9.33%	8.17%	31.9%	100%	9.37%	14.55%	0.23%
Standard Deviation	0.2%	0.4%	1.2%	1.3%	0.1%	2.1%	1.1%	0.1%	59.4%

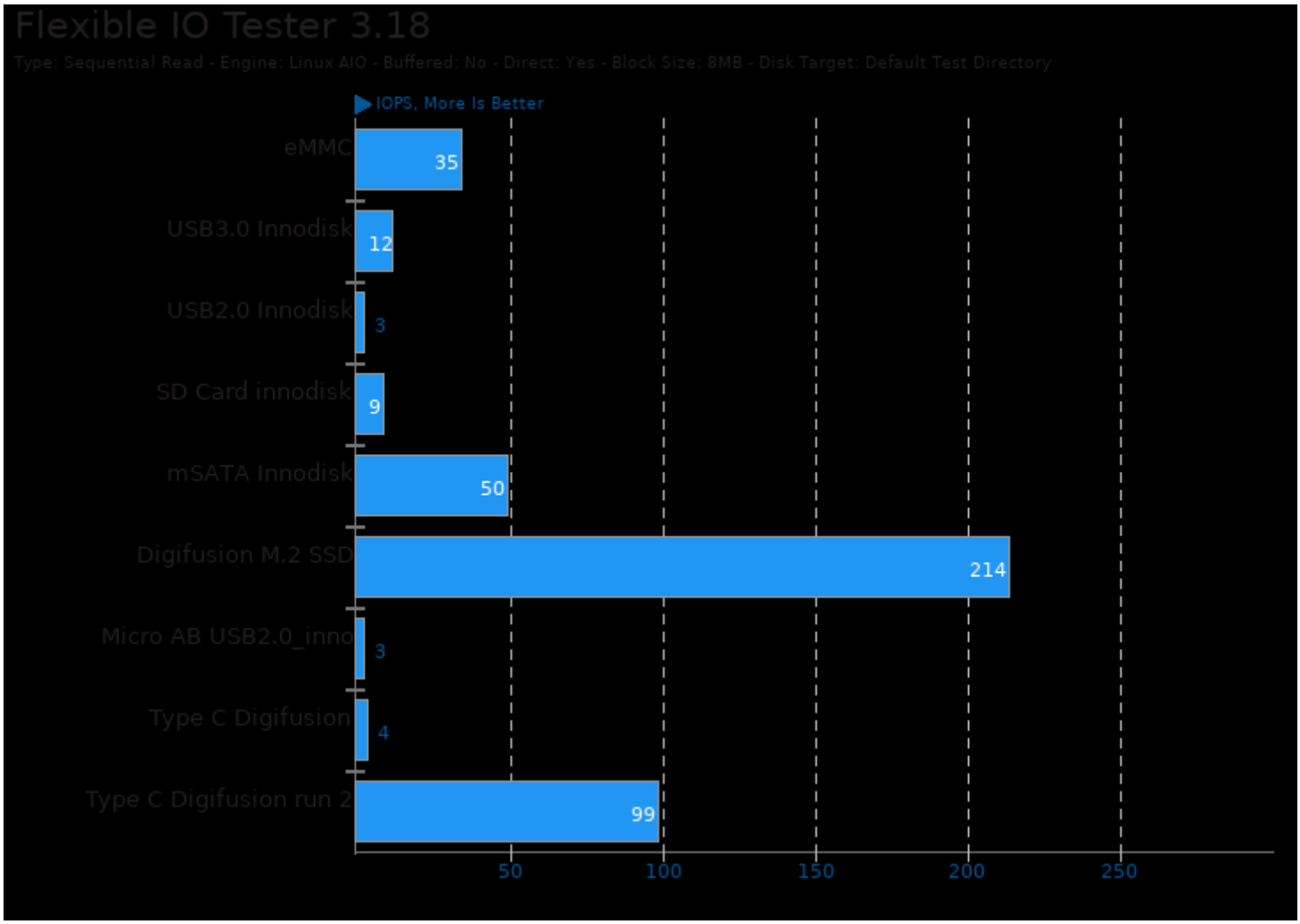
JS-E02_AX720_R32_3_1

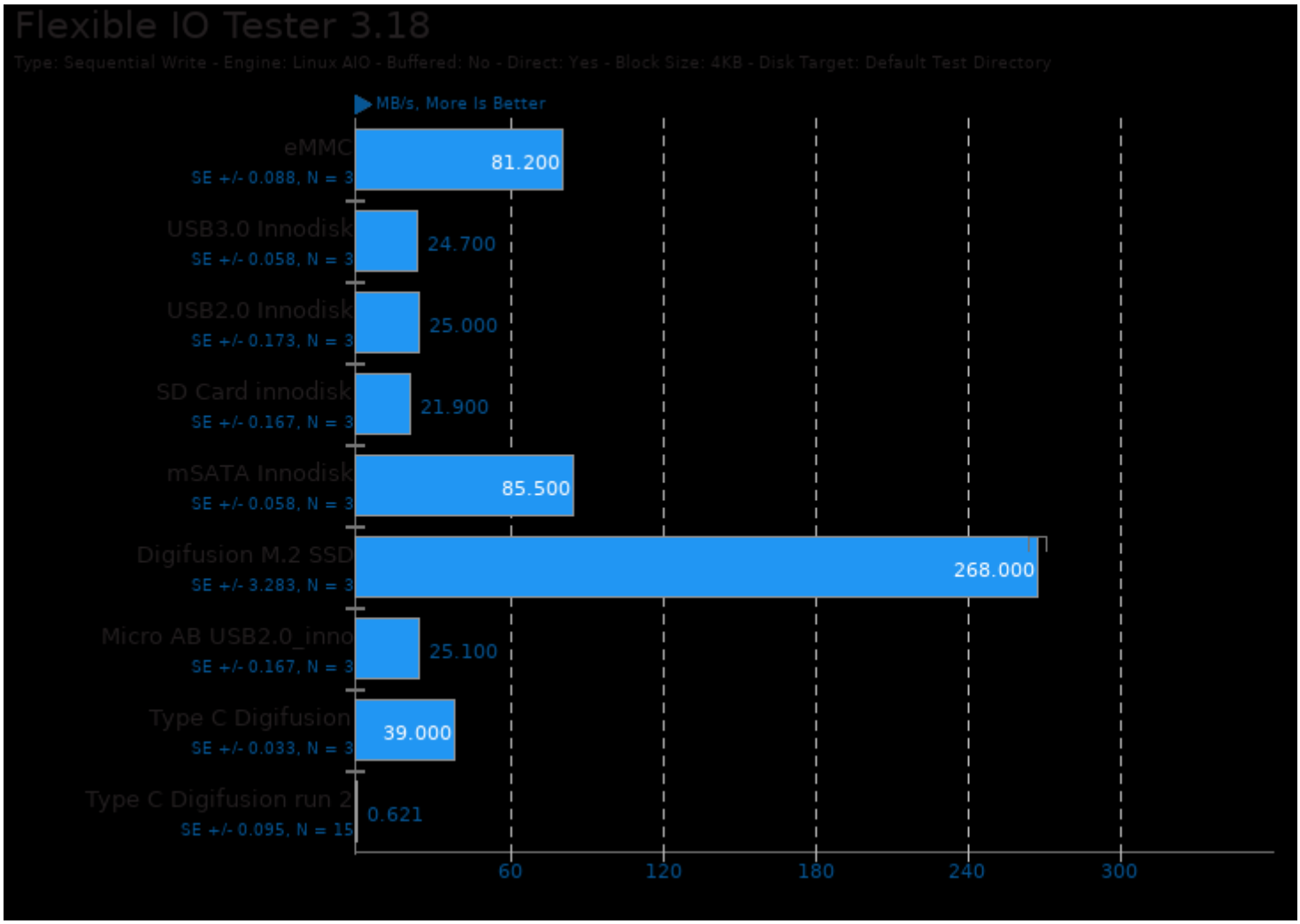
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (IOPS)	20767	6320	6399	5594	21867	**68300**	6432	9990	**152**
Normalized	30.41%	9.25%	9.37%	8.19%	32.02%	100%	9.42%	14.63%	0.22%
Standard Deviation	0.3%	0.4%	1.2%	1.4%	0.3%	3%	1.2%	0.1%	60.6%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB (MB/s)	135	39.0	49.3	66.3	103	**281**	49.3	63.7	**8.880**
Normalized	48.04%	13.88%	17.54%	23.59%	36.65%	100%	17.54%	22.67%	3.16%
Standard Deviation	0.9%	1.9%	0.7%	0.1%		0.7%	1.1%	0.1%	27.2%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB (IOPS)	13	**2**	3	5	9	**32**	3	4	
Normalized	40.63%	6.25%	9.38%	15.63%	28.13%	100%	9.38%	12.5%	
Standard Deviation	4.3%					1.8%			

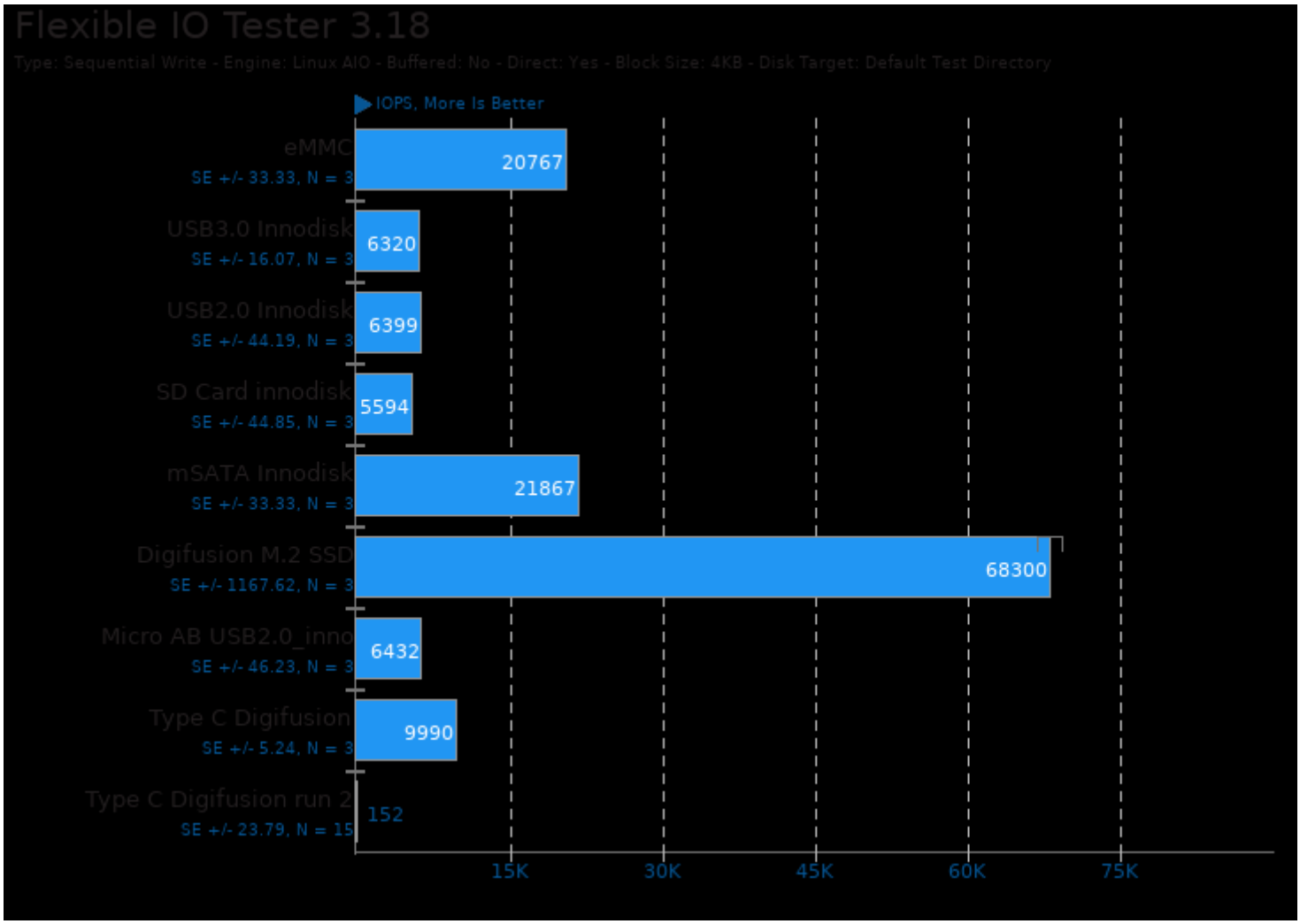

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
SE +/- 7.84, N = 15
95.3
USB3.0 Innodisk
SE +/- 0.38, N = 3
97.5
USB2.0 Innodisk
SE +/- 0.20, N = 3
28.3
SD Card innodisk
SE +/- 0.03, N = 3
55.5
mSATA Innodisk
SE +/- 1.15, N = 3
194.0
Digifusion M.2 SSD
SE +/- 1.20, N = 3
333.0
Micro AB USB2.0_inno
SE +/- 0.06, N = 3
28.2
Type C Digifusion
SE +/- 0.06, N = 3
38.6
Type C Digifusion run 2
SE +/- 0.67, N = 3
305.0
70
140
210
280
350

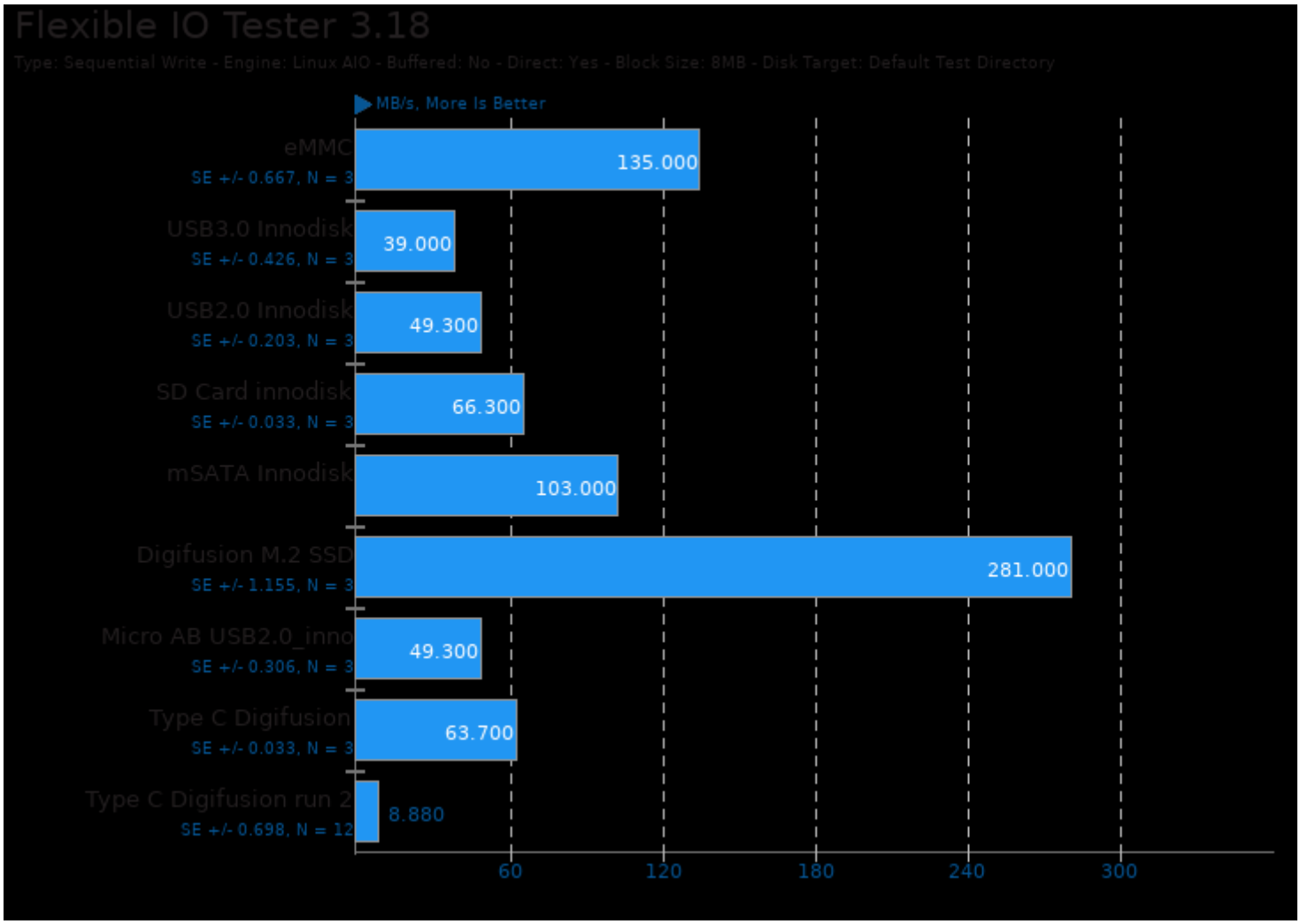

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 2010.92, N = 15
24340
USB3.0 Innodisk
SE +/- 88.19, N = 3
24967
USB2.0 Innodisk
SE +/- 47.70, N = 3
7242
SD Card innodisk
14200
mSATA Innodisk
SE +/- 233.33, N = 3
49733
Digifusion M.2 SSD
SE +/- 317.98, N = 3
85333
Micro AB USB2.0_inno
SE +/- 16.46, N = 3
7217
Type C Digifusion
SE +/- 11.89, N = 3
9878
Type C Digifusion run 2
SE +/- 208.17, N = 3
78100
20K
40K
60K
80K
100K

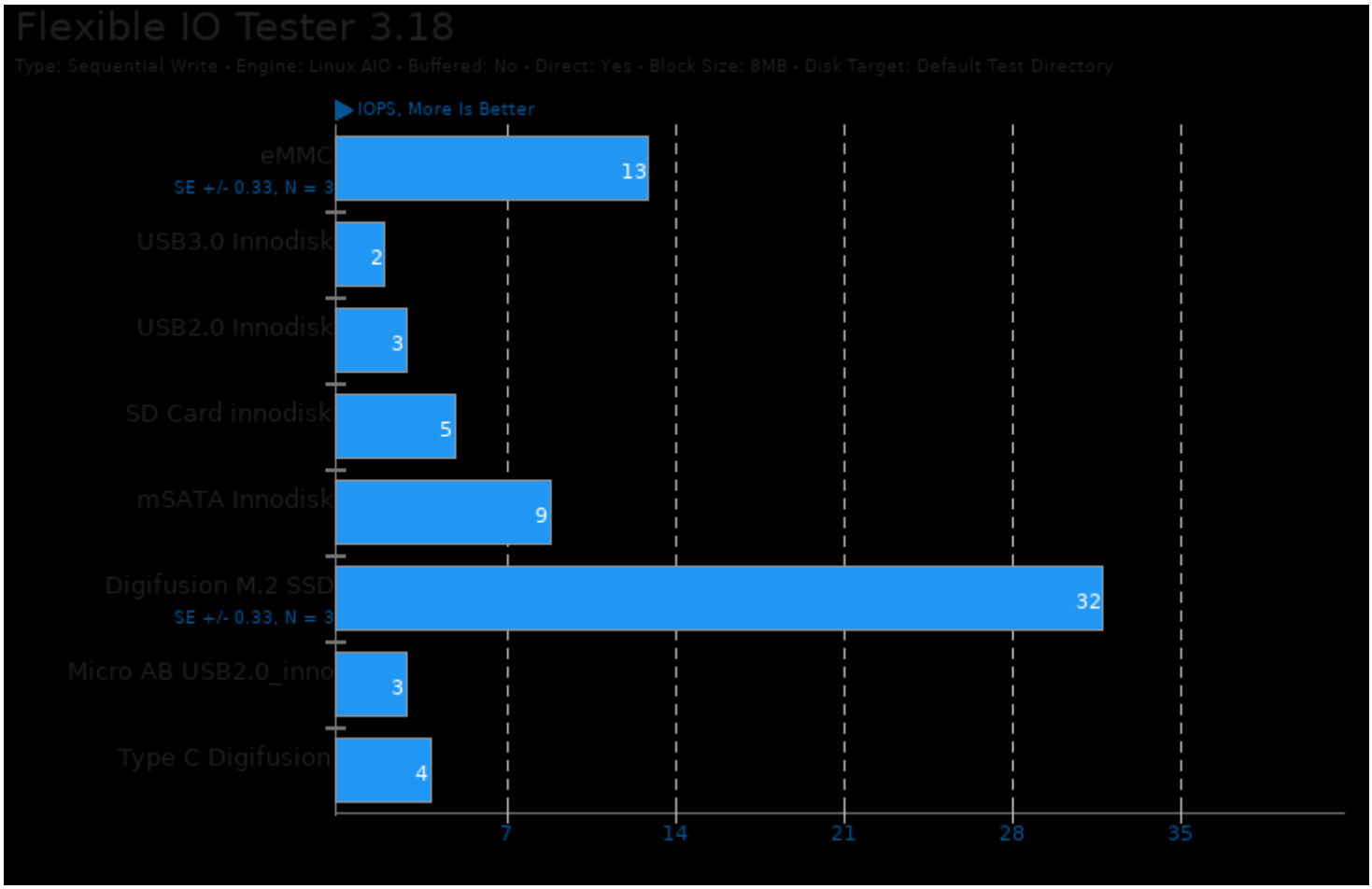

Flexible IO Tester 3.18
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
306.0
USB3.0 Innodisk
121.0
USB2.0 Innodisk
SE +/- 0.03, N = 3
53.3
SD Card innodisk
102.0
mSATA Innodisk
427.0
Digifusion M.2 SSD
SE +/- 7.75, N = 3
1739.0
Micro AB USB2.0_inno
SE +/- 0.38, N = 3
52.6
Type C Digifusion
SE +/- 0.06, N = 3
63.3
Type C Digifusion run 2
SE +/- 0.58, N = 3
822.0
400
800
1200
1600
2000


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
35
USB3.0 Innodisk
12
USB2.0 Innodisk
3
SD Card innodisk
9
mSATA Innodisk
50
Digifusion M.2 SSD
214
Micro AB USB2.0_inno
3
Type C Digifusion
4
Type C Digifusion run 2
99
50
100
150
200
250


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 +/- 0.088, N = 3
81.200
USB3.0 Innodisk
SE +/- 0.058, N = 3
24.700
USB2.0 Innodisk
SE +/- 0.173, N = 3
25.000
SD Card innodisk
SE +/- 0.167, N = 3
21.900
mSATA Innodisk
SE +/- 0.058, N = 3
85.500
Digifusion M.2 SSD
SE +/- 3.283, N = 3
268.000
Micro AB USB2.0_inno
SE +/- 0.167, N = 3
25.100
Type C Digifusion
SE +/- 0.033, N = 3
39.000
Type C Digifusion run 2
SE +/- 0.095, N = 15
0.621
60
120
180
240
300


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 +/- 33.33, N = 3
20767
USB3.0 Innodisk
SE +/- 16.07, N = 3
6320
USB2.0 Innodisk
SE +/- 44.19, N = 3
6399
SD Card innodisk
SE +/- 44.85, N = 3
5594
mSATA Innodisk
SE +/- 33.33, N = 3
21867
Digifusion M.2 SSD
SE +/- 1167.62, N = 3
68300
Micro AB USB2.0_inno
SE +/- 46.23, N = 3
6432
Type C Digifusion
SE +/- 5.24, N = 3
9990
Type C Digifusion run 2
SE +/- 23.79, N = 15
152
15K
30K
45K
60K
75K


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 +/- 0.667, N = 3
135.000
USB3.0 Innodisk
SE +/- 0.426, N = 3
39.000
USB2.0 Innodisk
SE +/- 0.203, N = 3
49.300
SD Card innodisk
SE +/- 0.033, N = 3
66.300
mSATA Innodisk
103.000
Digifusion M.2 SSD
SE +/- 1.155, N = 3
281.000
Micro AB USB2.0_inno
SE +/- 0.306, N = 3
49.300
Type C Digifusion
SE +/- 0.033, N = 3
63.700
Type C Digifusion run 2
SE +/- 0.698, N = 12
8.880
60
120
180
240
300



This file was automatically generated via the Phoronix Test Suite benchmarking software on Monday, 21 October 2024 01:05.