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R32_5_1_Xavier_AX720_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: 4.9.201-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Vulkan: 1.2.131, Compiler: GCC 7.5.0 + CUDA 10.2, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
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 / Block Size: 4096
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

M.2 SSD

USB 3.0

USB2.0

Micro SD Card

Processor: ARMv8 rev 0 @ 2.27GHz (8 Cores), Motherboard: Jetson-AGX, Memory: 16GB, Disk: 256GB INTEL SSDPEKKW256G8 + 62GB Ultra USB 3.0 + 31GB HBG4a2, Graphics: NVIDIA Tegra Xavier, Monitor: PHL 247E6, Network: 2 x Intel I210

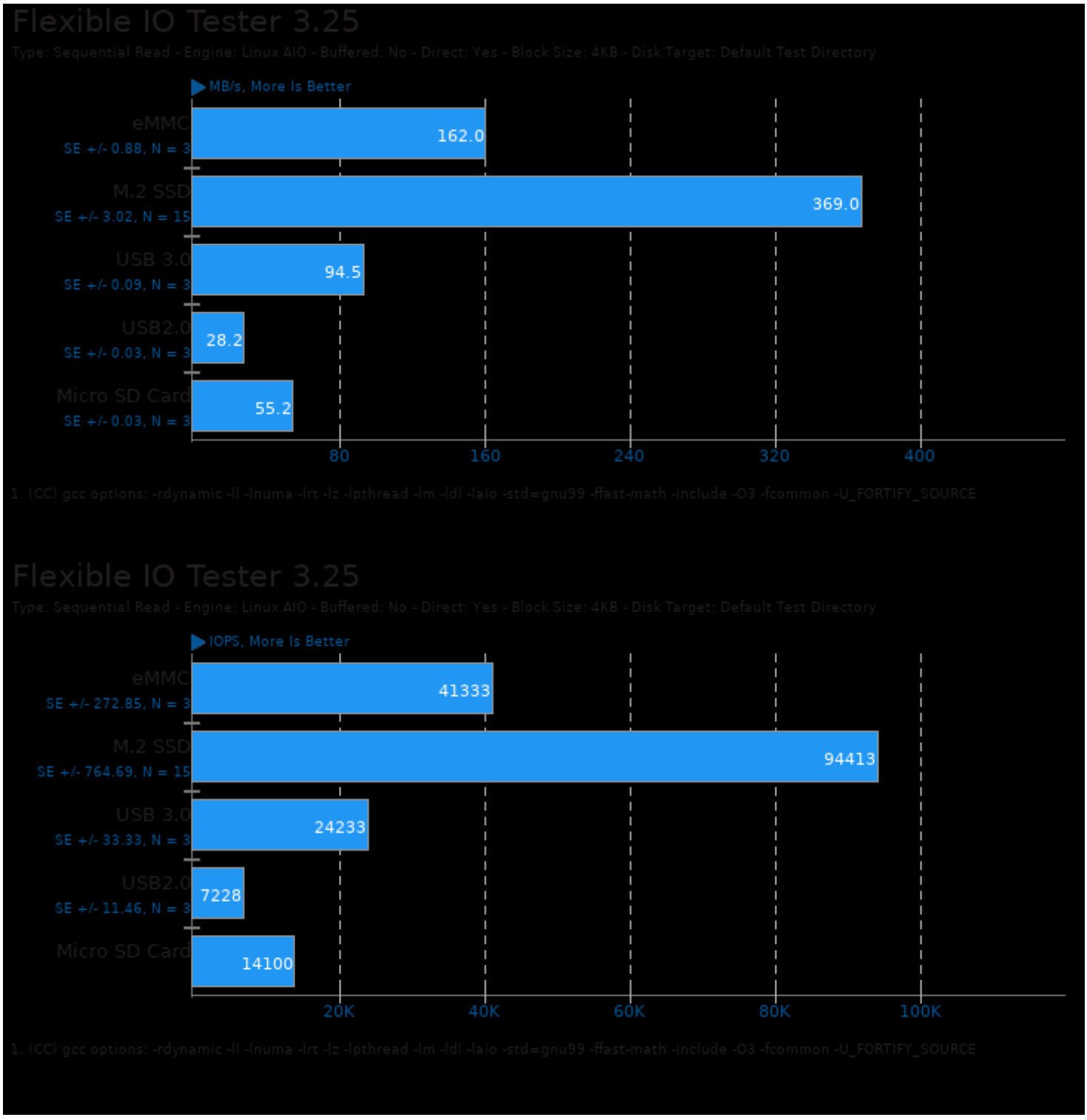
OS: Ubuntu 18.04, Kernel: 4.9.201-tegra (aarch64), Desktop: Unity 7.5.0, Display Server: X Server 1.19.6, Display Driver: NVIDIA 32.5.1, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0 + CUDA 10.2, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
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 / Block Size: 4096
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

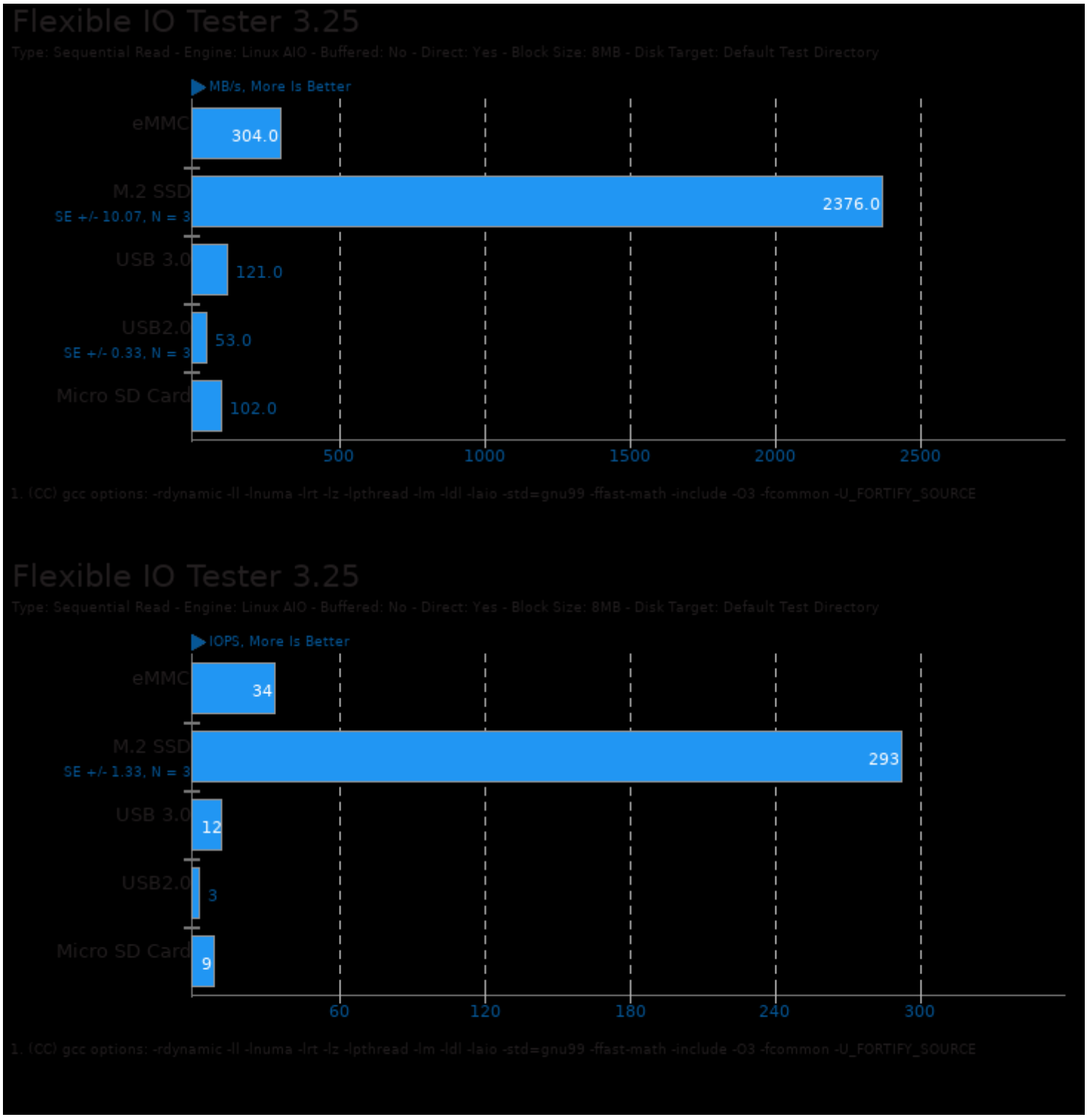
	eMMC	M.2 SSD	USB 3.0	USB2.0	Micro SD Card
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB	162	**369**	94.5	**28.2**	55.2
Normalized	43.9%	100%	25.61%	7.64%	14.96%
Standard Deviation	0.9%	3.2%	0.2%	0.2%	0.1%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB	41333	**94413**	24233	**7228**	14100
Normalized	43.78%	100%	25.67%	7.66%	14.93%
Standard Deviation	1.1%	3.1%	0.2%	0.3%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB	304	**2376**	121	**53.0**	102
Normalized	12.79%	100%	5.09%	2.23%	4.29%
Standard Deviation		0.7%		1.1%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB	34	**293**	12	**3**	9
Normalized	11.6%	100%	4.1%	1.02%	3.07%
Standard Deviation		0.8%			
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB	93.2	**222**	24.6	25.1	**23.6**
Normalized	41.98%	100%	11.08%	11.31%	10.63%
Standard Deviation	5.1%	0.3%	2%	0.5%	4.4%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB	23846	**56900**	6364	6426	**6054**
Normalized	41.91%	100%	11.18%	11.29%	10.64%
Standard Deviation	5.1%	0.2%	0.4%	0.3%	4.6%

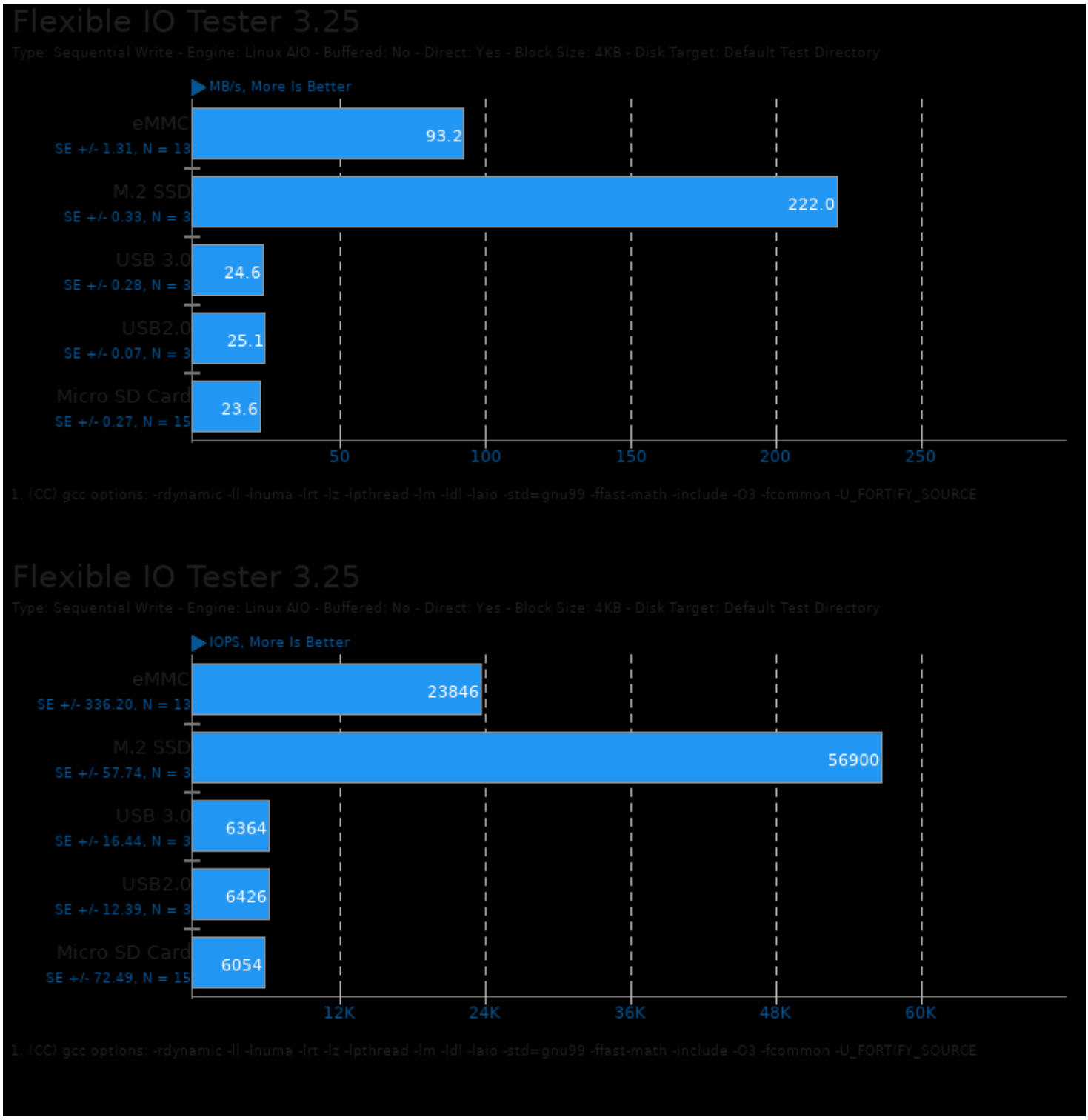
R32_5_1_Xavier_AX720_1

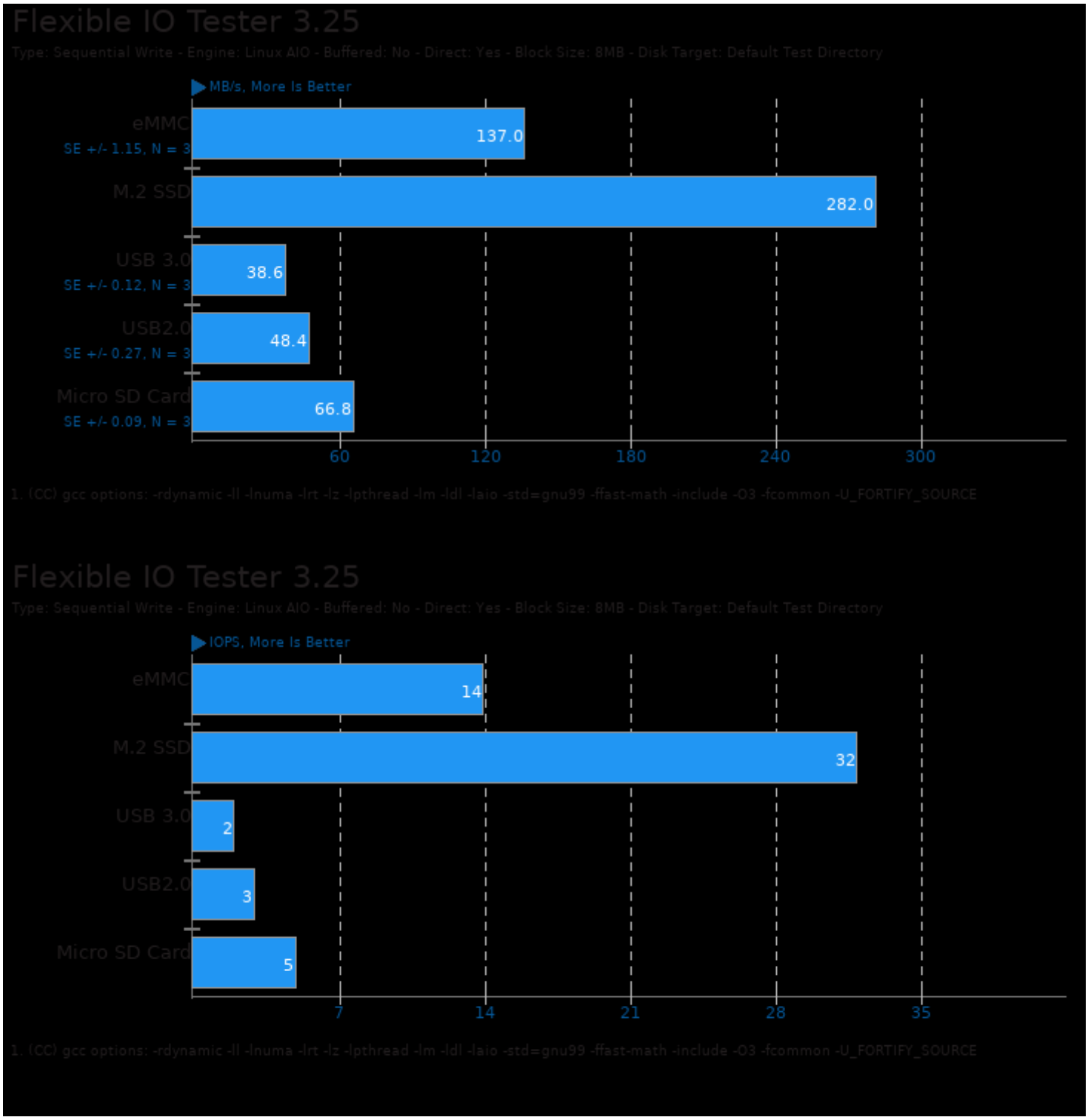
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB	137	282	38.6	48.4	66.8
Normalized	48.58%	100%	13.69%	17.16%	23.69%
Standard Deviation	1.5%		0.5%	1%	0.2%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB	14	32	2	3	5
Normalized	43.75%	100%	6.25%	9.38%	15.63%


Flexible IO Tester 3.25
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 +/- 0.88, N = 3
162.0
M.2 SSD
SE +/- 3.02, N = 15
369.0
USB 3.0
SE +/- 0.09, N = 3
94.5
USB2.0
SE +/- 0.03, N = 3
28.2
Micro SD Card
SE +/- 0.03, N = 3
55.2
80
160
240
320
400
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE

Flexible IO Tester 3.25
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 272.85, N = 3
41333
M.2 SSD
SE +/- 764.69, N = 15
94413
USB 3.0
SE +/- 33.33, N = 3
24233
USB2.0
SE +/- 11.46, N = 3
7228
Micro SD Card
14100
20K
40K
60K
80K
100K
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE


Flexible IO Tester 3.25
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
eMMC
304.0
M.2 SSD
SE +/- 10.07, N = 3
2376.0
USB 3.0
121.0
USB2.0
SE +/- 0.33, N = 3
53.0
Micro SD Card
102.0
500
1000
1500
2000
2500
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE
Flexible IO Tester 3.25
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
34
M.2 SSD
SE +/- 1.33, N = 3
293
USB 3.0
12
USB2.0
3
Micro SD Card
9
60
120
180
240
300
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE


Flexible IO Tester 3.25
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 +/- 1.31, N = 13
93.2
M.2 SSD
SE +/- 0.33, N = 3
222.0
USB 3.0
SE +/- 0.28, N = 3
24.6
USB2.0
SE +/- 0.07, N = 3
25.1
Micro SD Card
SE +/- 0.27, N = 15
23.6
50
100
150
200
250
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE
Flexible IO Tester 3.25
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
eMMC
SE +/- 336.20, N = 13
23846
M.2 SSD
SE +/- 57.74, N = 3
56900
USB 3.0
SE +/- 16.44, N = 3
6364
USB2.0
SE +/- 12.39, N = 3
6426
Micro SD Card
SE +/- 72.49, N = 15
6054
12K
24K
36K
48K
60K
1. (CC) gcc options: -rdynamic -ll -lnuma -lrt -lz -lpthread -lm -ldl -laio -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 14:30.