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R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1

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

Test Systems:

eMMC

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB Storage Media + 16GB DG4016, Graphics: NVIDIA TEGRA, Monitor: Acer KG241Q

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: 1.2.131, Compiler: GCC 7.5.0 + CUDA 10.2, 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_W

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB Storage Media + 16GB DG4016, Graphics: NVIDIA TEGRA, Monitor: Acer KG241Q

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: 1.2.131, Compiler: GCC 7.5.0 + CUDA 10.2, 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
Disk Mount Options Notes: data=ordered,relatime,rw

usb3.0

usb3.0_w

usb2.0

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB Storage Media + 16GB DG4016, Graphics: NVIDIA TEGRA, Monitor: Acer KG241Q

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: 1.2.131, Compiler: GCC 7.5.0, 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

sd

sd_w

Memory

cpu

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016 + 31GB SD32G, Graphics: NVIDIA Tegra Xavier, Monitor: Acer KG241Q

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, 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

RS232_UART

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: Acer KG241Q

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 1920x1080

Processor Notes: Scaling Governor: tegra_cpufreq schedutil

gpu

Lan

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: LG Ultra HD

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 3840x2160

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

Wlan

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: ASUS VN248, Network: Intel 8265 / 8275

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, 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

USB2.0

USB2.0_W

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 8GB FLASH DRIVE + 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: Acer KG241Q

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, 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

cuda

Processor: ARMv8 rev 0 @ 1.42GHz (6 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016 + 31GB SD32G, Graphics: NVIDIA Tegra Xavier, Monitor: LG Ultra HD

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 32.4.4, OpenGL: 4.6.0, Vulkan: 1.2.131, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 5760x2160

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

	eMMC	eMMC_W	usb3.0	usb3.0_w	usb2.0	sd	sd_w	Memory	cpu	RS232_UART	gpu	Lan	Wlan	USB2.0	USB2.0_W	cuda
Stress-NG - Crypto (Bogo Ops/s)									596.84							
Standard Deviation									1.5%							
Stress-NG - Forking (Bogo Ops/s)									4092							
Standard Deviation									1.2%							
Stress-NG - CPU Stress (Bogo Ops/s)									463.57							
Standard Deviation									3.6%							
Stress-NG - Matrix Math (Bogo Ops/s)									6698							
Standard Deviation									0.6%							
Stress-NG - Vector Math (Bogo Ops/s)									25479							
Standard Deviation									0.3%							

Stress-NG - Memory Copying (Bogo Ops/s)														1841	
Standard Deviation														0.2%	
Stress-NG - G.C.S.F (Bogo Ops/s)														12031	
Standard Deviation														3.9%	
Stress-NG - G.Q.D.S (Bogo Ops/s)														28.35	
Standard Deviation														10.9%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (IOPS)	37527		26100		4510	14100									4805
Normalized	100%		69.55%		12.02%	37.57%									12.8%
Standard Deviation	3.8%		0.8%		0%	0.7%									4%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (IOPS)	35		17			9									2
Normalized	100%		48.57%			25.71%									5.71%
Standard Deviation	4.4%														
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (IOPS)		17860		4855			3812								1551
Normalized		100%		27.18%			21.34%								8.68%
Standard Deviation		6.6%		36.3%			2.6%								2.9%

R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1

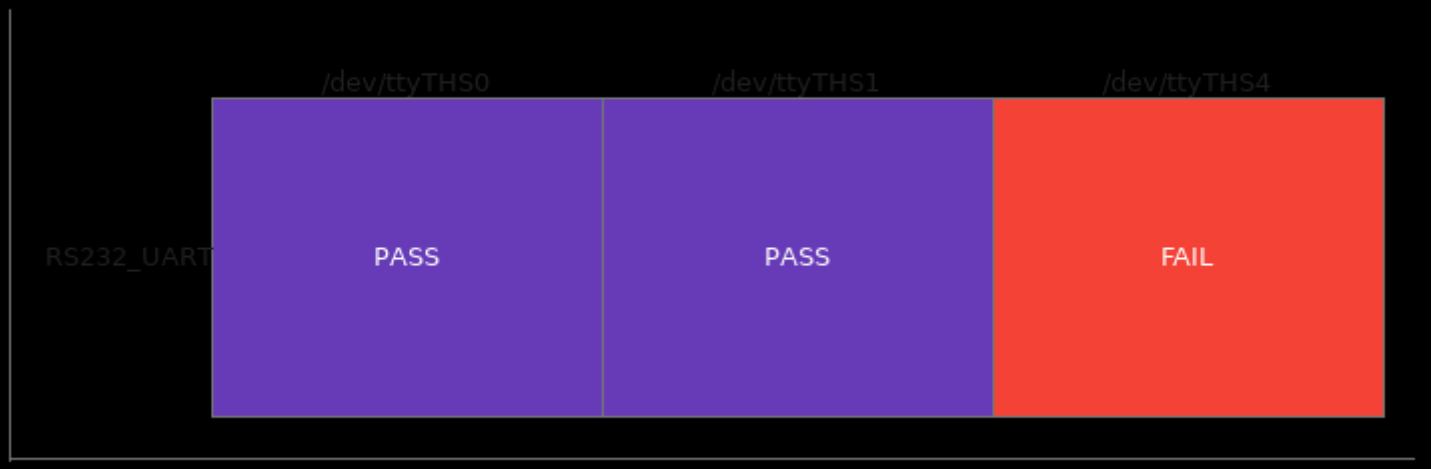
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB (IOPS)		**8**		**1**		4														
Normalized		100%		12.5%		50%														
Standard Deviation		7.9%		43.3%																
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (MB/s)	**147**		102		**17.6**	55.1										18.8				
Normalized	100%		69.39%		11.97%	37.48%										12.79%				
Standard Deviation	3.7%		1%		0%	0.5%										4%				
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (MB/s)	**305**		163			102										**43.4**				
Normalized	100%		53.44%			33.44%										14.23%				
Standard Deviation	3%					1%										0.1%				
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (MB/s)		**69.9**		18.8		14.9												**6.217**		
Normalized		100%		26.9%		21.32%												8.89%		
Standard Deviation		6.5%		36.6%		2.3%												2.9%		
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB (MB/s)		**92.9**		33.9		57.6												**27.5**		
Normalized		100%		36.49%		62%												29.6%		
Standard Deviation		4.7%		1.7%		1.5%												1.3%		
Stream - Copy (MB/s)								29759												
Standard Deviation								1.1%												

Stream - Scale (MB/s)	29456			
Standard Deviation	2.4%			
Stream - Triad (MB/s)	28934			
Standard Deviation	1.1%			
Stream - Add (MB/s)	28591			
Standard Deviation	1.3%			
iPerf - 192.168.1.2 - 5201 - 10 Seconds - UDP - 100Mbit Objective - 1 (Mbits/s)			100	100
iPerf - 192.168.1.2 - 5201 - 10 Seconds - UDP - 1000Mbit Objective - 1 (Mbits/s)			**941**	**127**
Normalized			100%	13.5%
Standard Deviation			0.3%	6.5%
GLmark2 - 800 x 600 (Score)		4359		
GLmark2 - 1024 x 768 (Score)		3318		
GLmark2 - 1280 x 1024 (Score)		2320		
GLmark2 - 1600 x 1200 (Score)		1813		
GLmark2 - 1920 x 1080 (Score)		1787		

GLmark2 - 1920 x 1200 (Score)	1634
GLmark2 - 2560 x 1440 (Score)	1137
GLmark2 - 3840 x 2160 (Score)	551

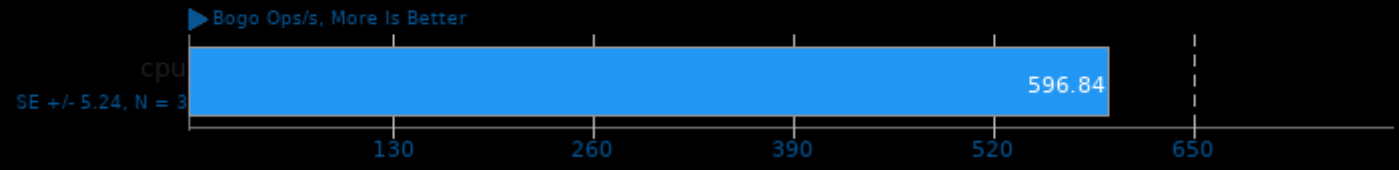
Serial Loopback Test

/dev/ttyTHS0, /dev/ttyTHS1, /dev/ttyTHS4



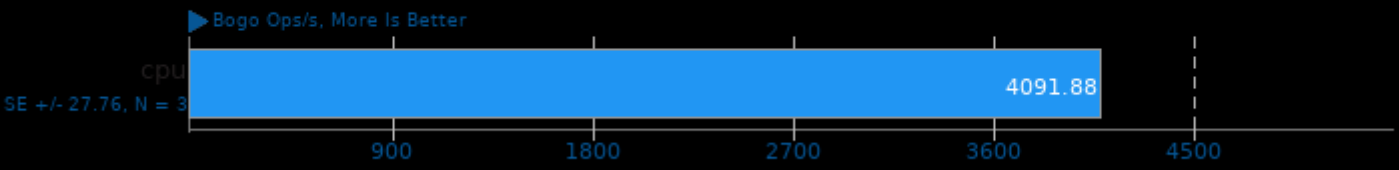
Stress-NG 0.11.07

Test: Crypto



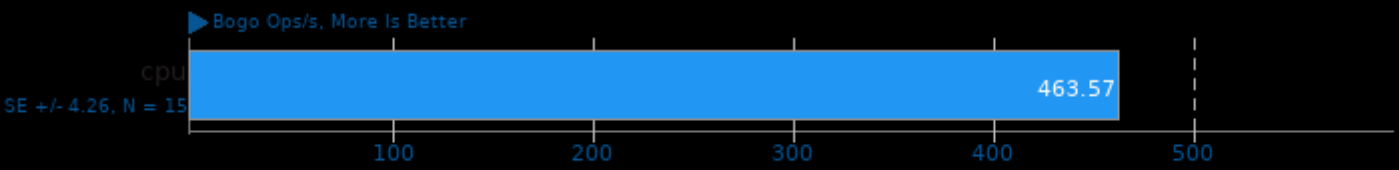
Stress-NG 0.11.07

Test: Forking



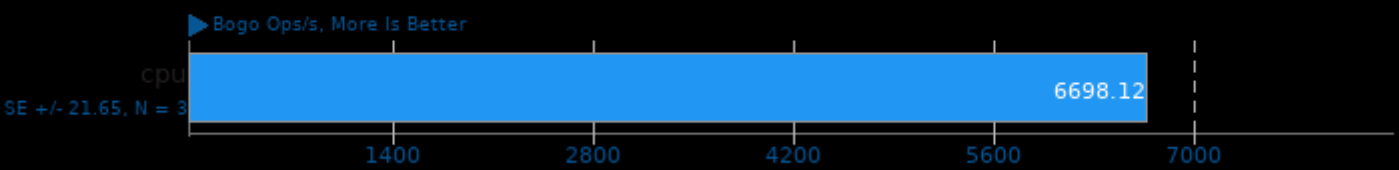
Stress-NG 0.11.07

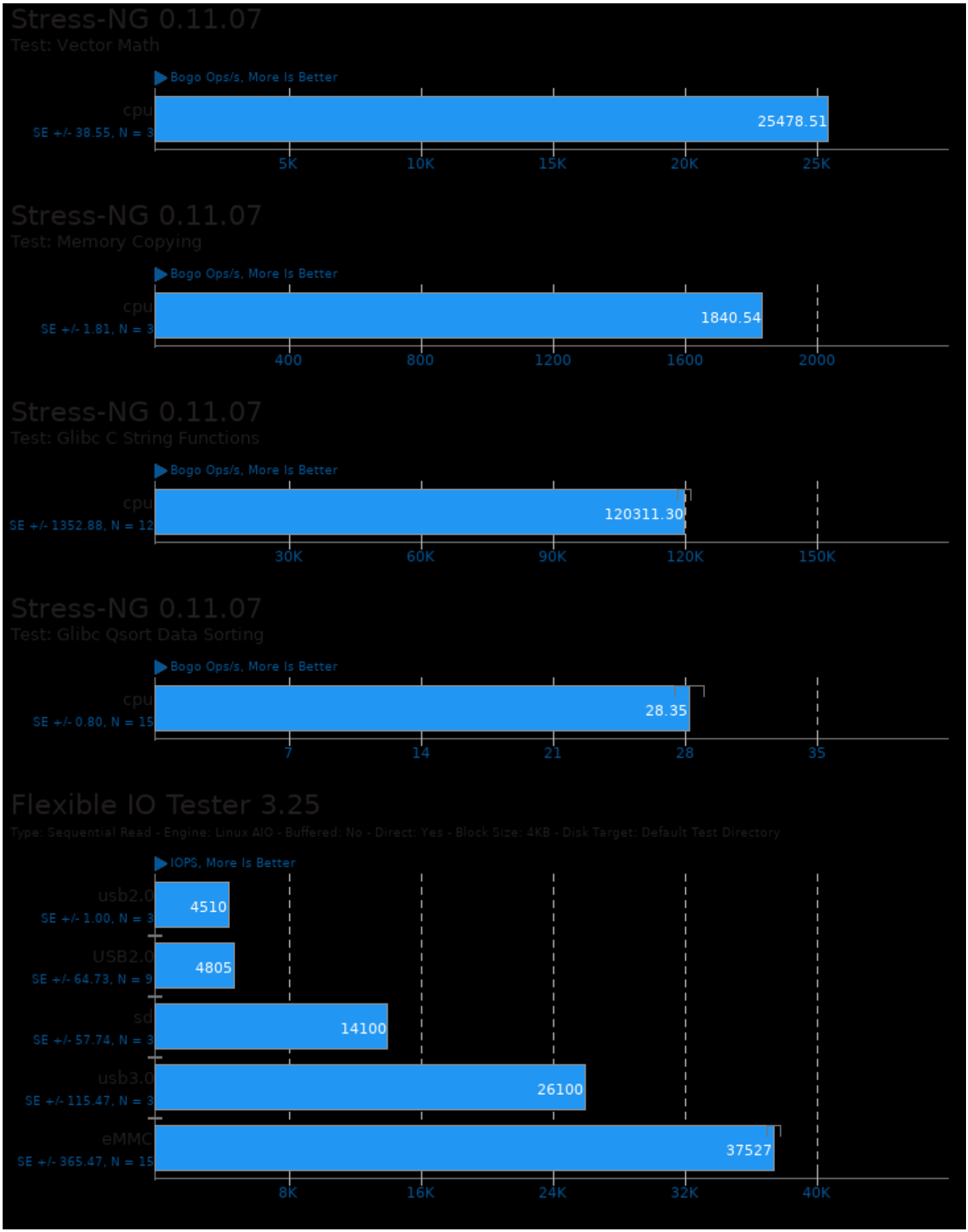
Test: CPU Stress

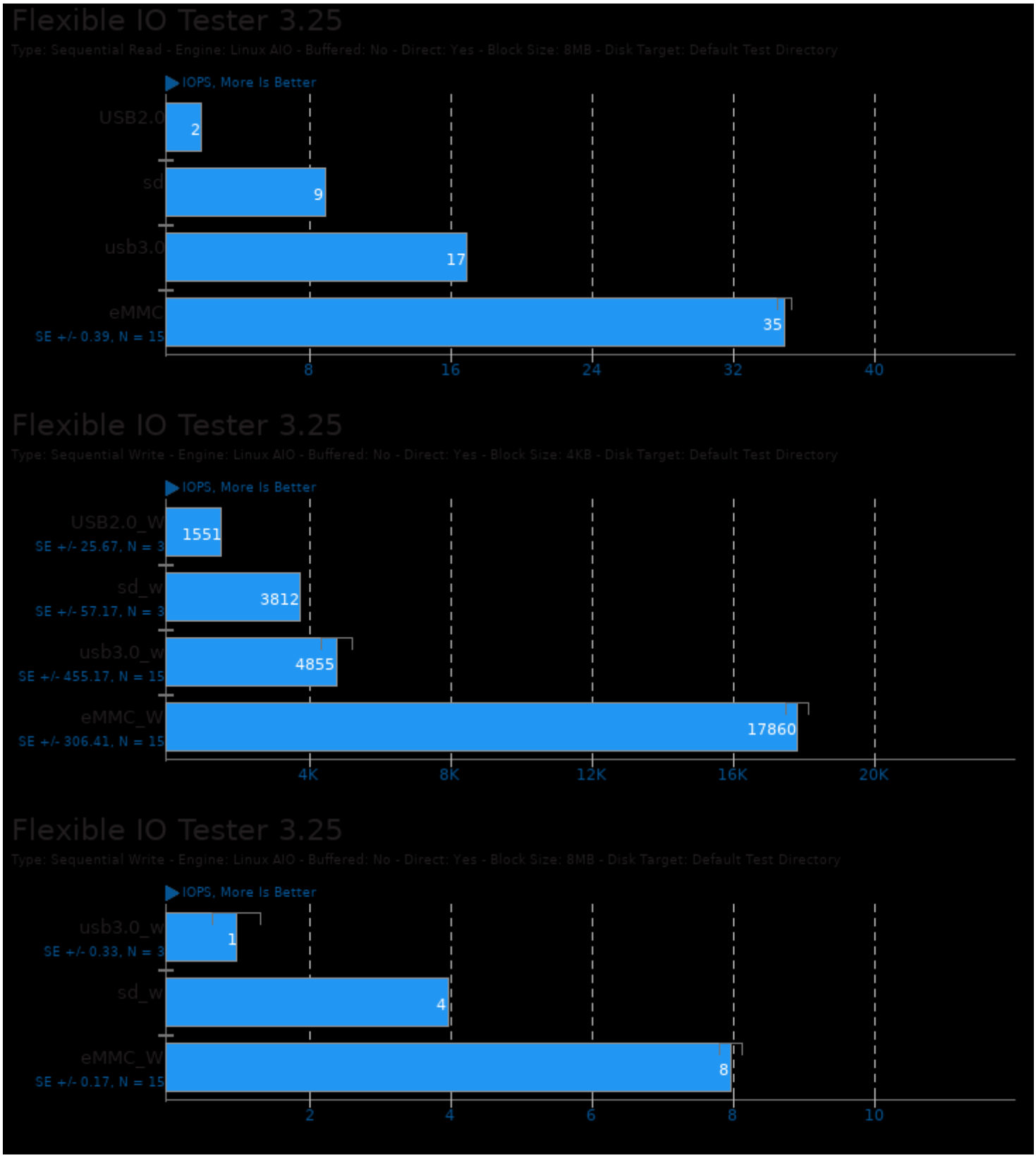


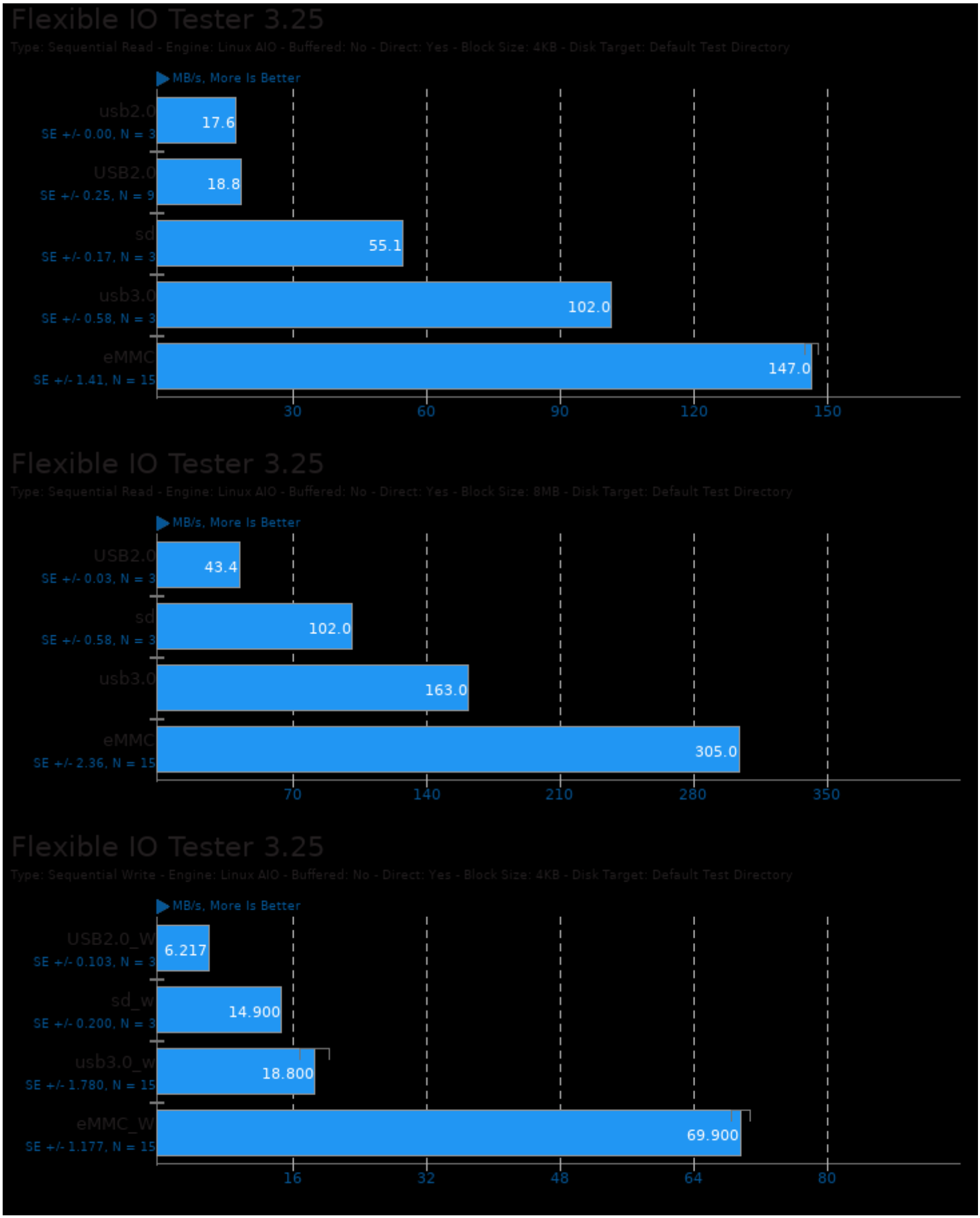
Stress-NG 0.11.07

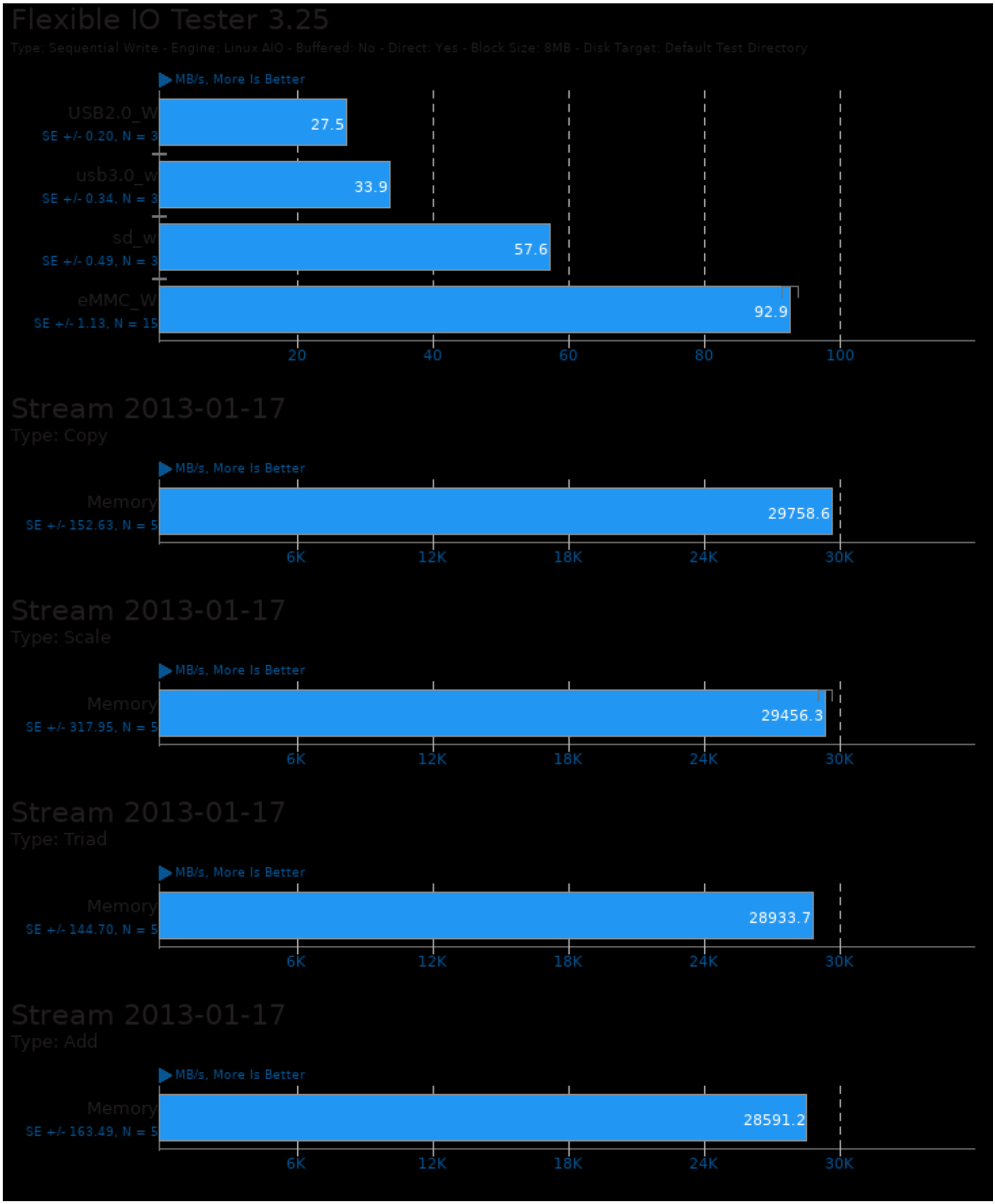
Test: Matrix Math



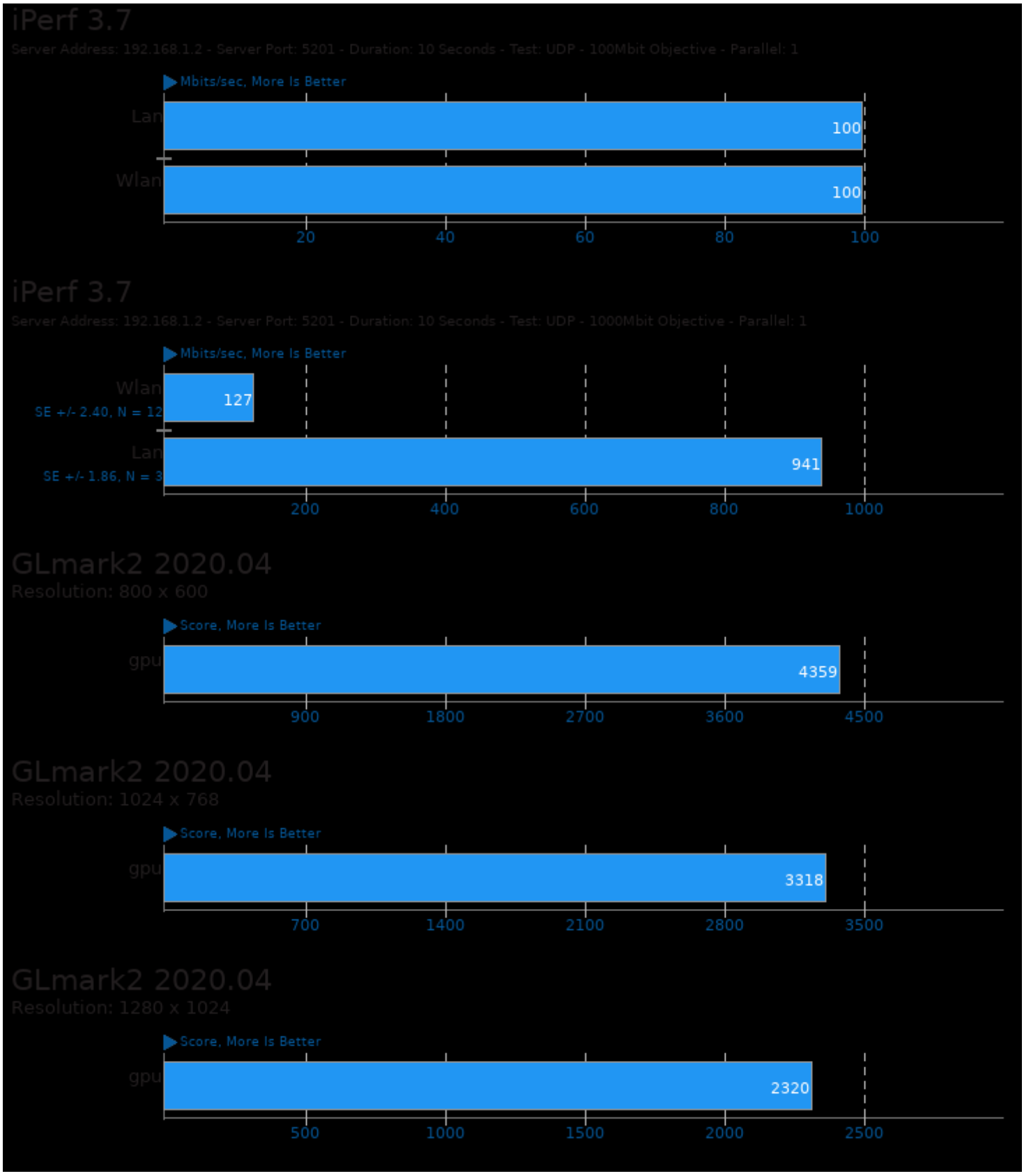

Stress-NG 0.11.07
Test: Vector Math
Bogo Ops/s, More Is Better
cpu
SE +/- 38.55, N = 3
25478.51
5K
10K
15K
20K
25K
Stress-NG 0.11.07
Test: Memory Copying
Bogo Ops/s, More Is Better
cpu
SE +/- 1.81, N = 3
1840.54
400
800
1200
1600
2000
Stress-NG 0.11.07
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
cpu
SE +/- 1352.88, N = 12
120311.30
30K
60K
90K
120K
150K
Stress-NG 0.11.07
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
cpu
SE +/- 0.80, N = 15
28.35
7
14
21
28
35
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
usb2.0
SE +/- 1.00, N = 3
4510
USB2.0
SE +/- 64.73, N = 9
4805
sd
SE +/- 57.74, N = 3
14100
usb3.0
SE +/- 115.47, N = 3
26100
eMMC
SE +/- 365.47, N = 15
37527
8K
16K
24K
32K
40K

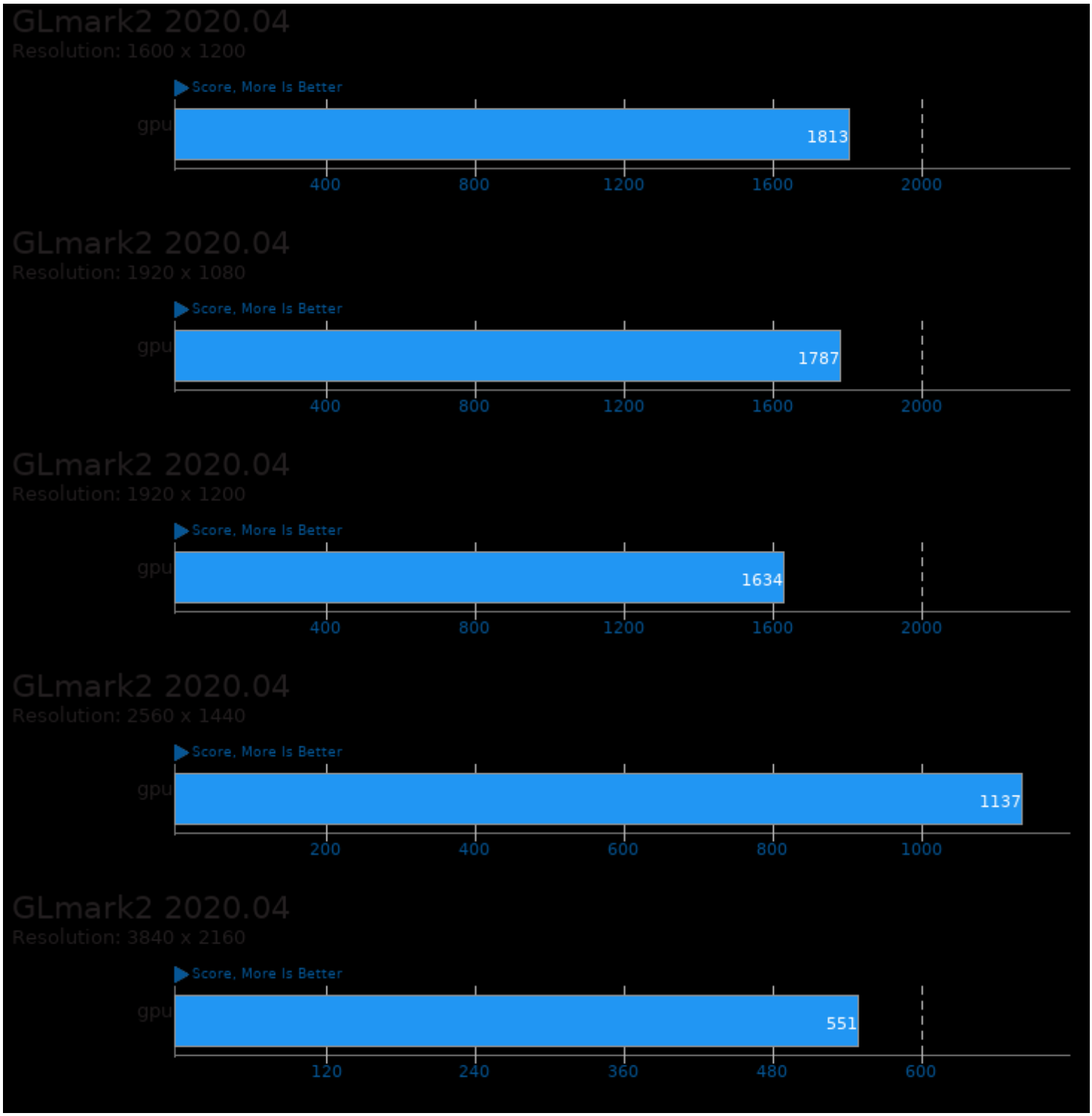

Flexible IO Tester 3.25
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
USB2.0
2
sd
9
usb3.0
17
eMMC
35
SE +/- 0.39, N = 15
8
16
24
32
40
Flexible IO Tester 3.25
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
USB2.0_W
1551
SE +/- 25.67, N = 3
sd_w
3812
SE +/- 57.17, N = 3
usb3.0_w
4855
SE +/- 455.17, N = 15
eMMC_W
17860
SE +/- 306.41, N = 15
4K
8K
12K
16K
20K
Flexible IO Tester 3.25
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
IOPS, More Is Better
usb3.0_w
1
SE +/- 0.33, N = 3
sd_w
4
eMMC_W
8
SE +/- 0.17, N = 15
2
4
6
8
10


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
usb2.0
SE +/- 0.00, N = 3
17.6
USB2.0
SE +/- 0.25, N = 9
18.8
sd
SE +/- 0.17, N = 3
55.1
usb3.0
SE +/- 0.58, N = 3
102.0
eMMC
SE +/- 1.41, N = 15
147.0
30
60
90
120
150
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
USB2.0
SE +/- 0.03, N = 3
43.4
sd
SE +/- 0.58, N = 3
102.0
usb3.0
163.0
eMMC
SE +/- 2.36, N = 15
305.0
70
140
210
280
350
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
USB2.0_W
SE +/- 0.103, N = 3
6.217
sd_w
SE +/- 0.200, N = 3
14.900
usb3.0_w
SE +/- 1.780, N = 15
18.800
eMMC_W
SE +/- 1.177, N = 15
69.900
16
32
48
64
80


Flexible IO Tester 3.25
Type: Sequential Write - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory
MB/s, More Is Better
USB2.0_W
SE +/- 0.20, N = 3
27.5
usb3.0_w
SE +/- 0.34, N = 3
33.9
sd_w
SE +/- 0.49, N = 3
57.6
eMMC_W
SE +/- 1.13, N = 15
92.9
20
40
60
80
100
Stream 2013-01-17
Type: Copy
MB/s, More Is Better
Memory
SE +/- 152.63, N = 5
29758.6
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Scale
MB/s, More Is Better
Memory
SE +/- 317.95, N = 5
29456.3
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
Memory
SE +/- 144.70, N = 5
28933.7
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Add
MB/s, More Is Better
Memory
SE +/- 163.49, N = 5
28591.2
6K
12K
18K
24K
30K

R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1





This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 06:44.