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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
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 - 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%		

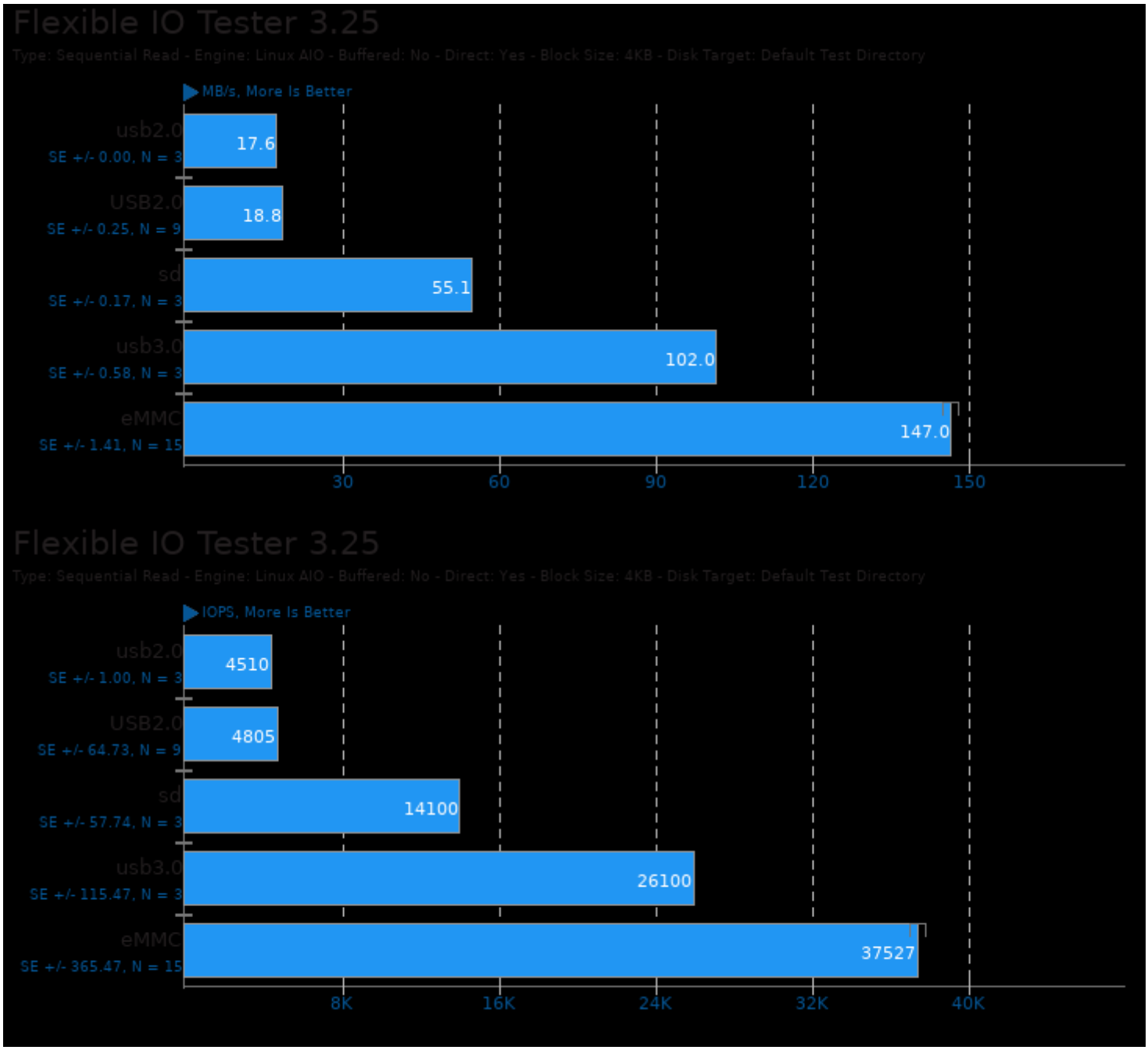
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (MB/s)	**305**	163	102					**43.4**	
Normalized	100%	53.44%	33.44%					14.23%	
Standard Deviation	3%		1%					0.1%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB (IOPS)	**35**	17	9					**2**	
Normalized	100%	48.57%	25.71%					5.71%	
Standard Deviation	4.4%								
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (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 - 4KB (IOPS)		**17860**	4855	3812					**1551**
Normalized		100%	27.18%	21.34%					8.68%
Standard Deviation		6.6%	36.3%	2.6%					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%

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%					
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			
iPerf - 192.168.1.2 - 5201 - 10 Seconds - UDP - 100Mbit Objective - 1 (Mbits/s)					100	100	

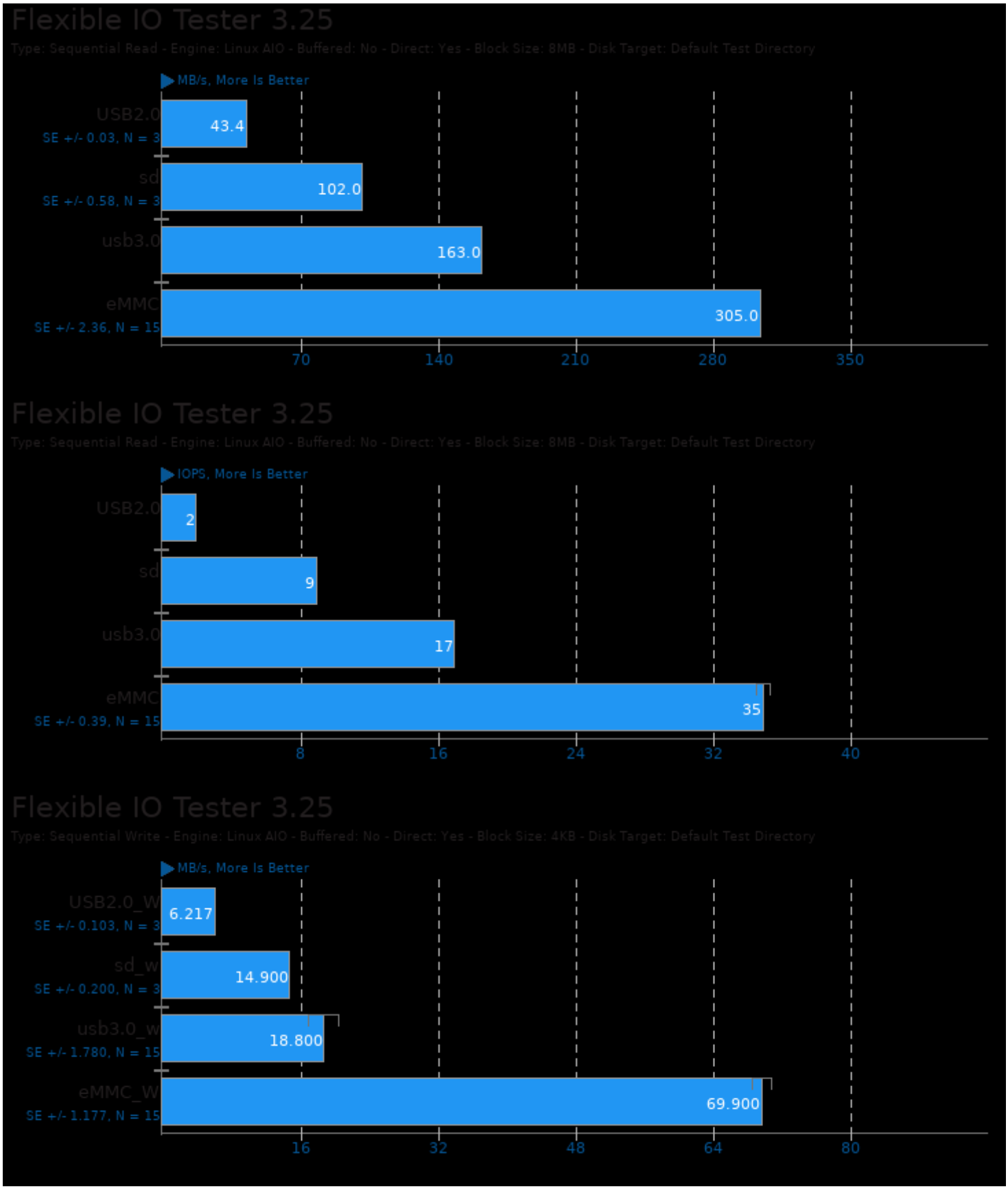
R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1

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%
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%				
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%			

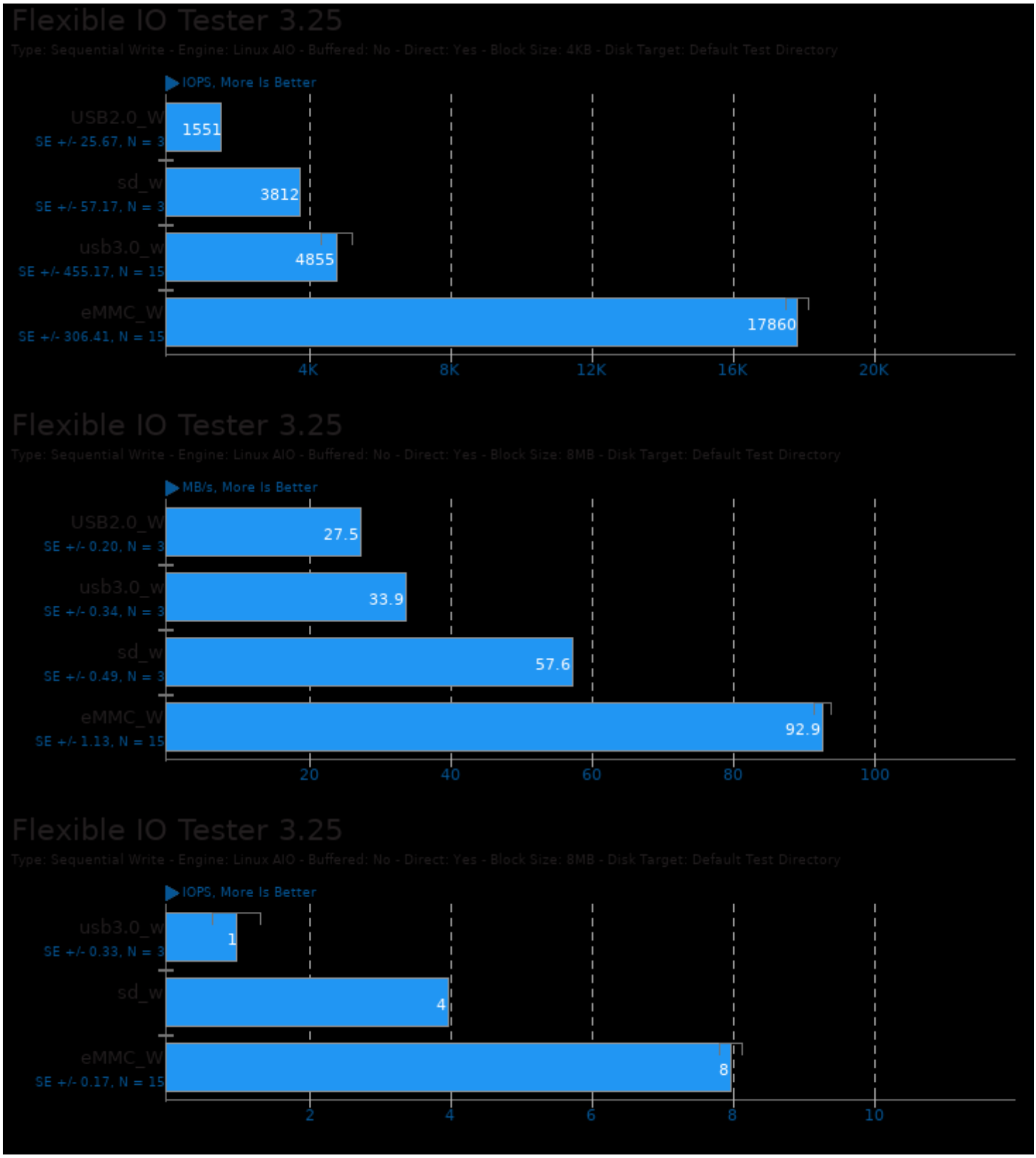
Stress-NG - Vector Math (Bogo Ops/s)	25479
Standard Deviation	0.3%
Stress-NG - Memory Copying (Bogo Ops/s)	1841
Standard Deviation	0.2%
Stress-NG - G.C.S.F (Bogo Ops/s)	12031 1
Standard Deviation	3.9%
Stress-NG - G.Q.D.S (Bogo Ops/s)	28.35
Standard Deviation	10.9%

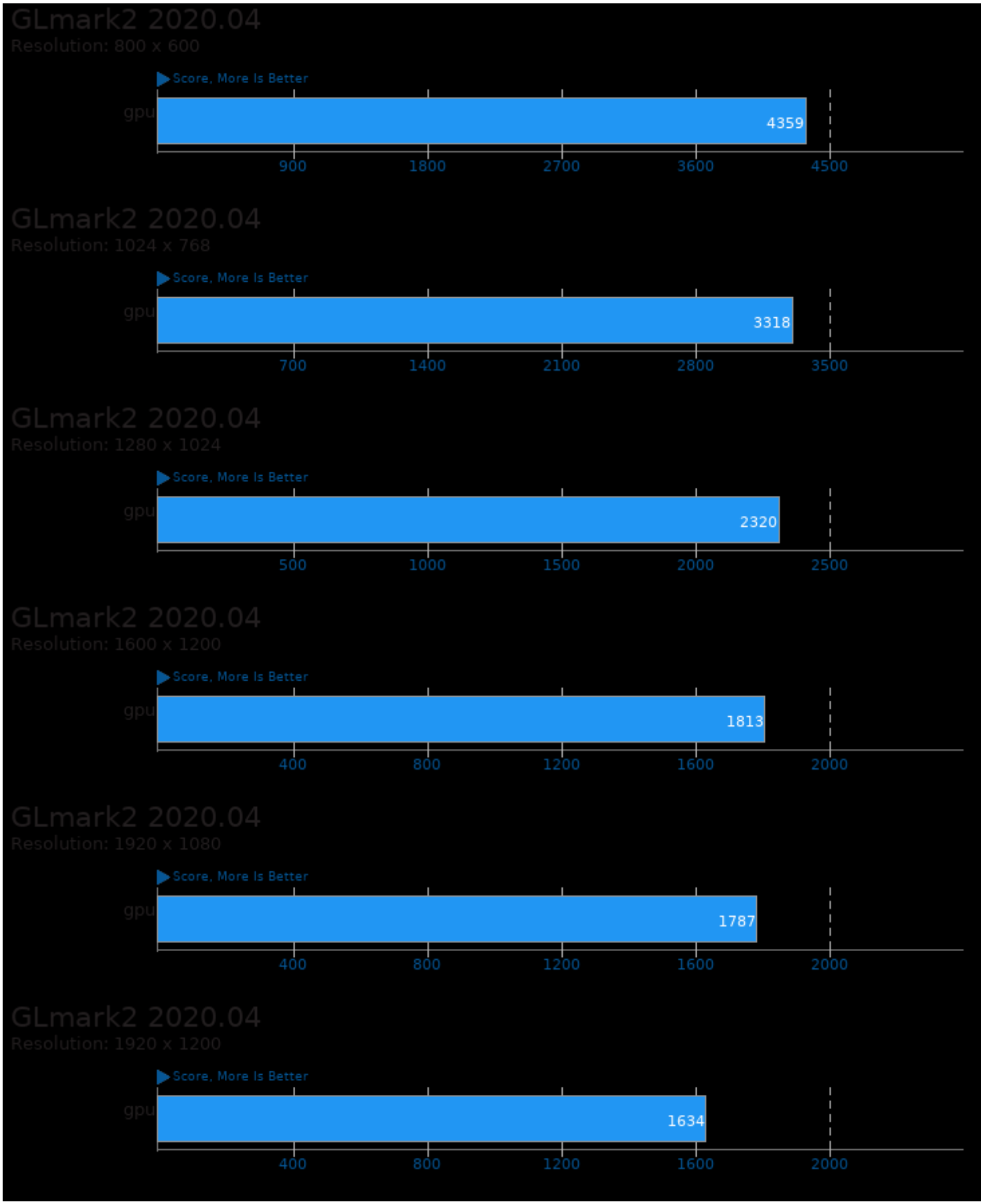

Flexible IO Tester 3.25
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
usb2.0
SE +/- 0.00, N = 3
17.6
USB2.0
SE +/- 0.25, N = 9
18.8
sd
SE +/- 0.17, N = 3
55.1
usb3.0
SE +/- 0.58, N = 3
102.0
eMMC
SE +/- 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: 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

R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1

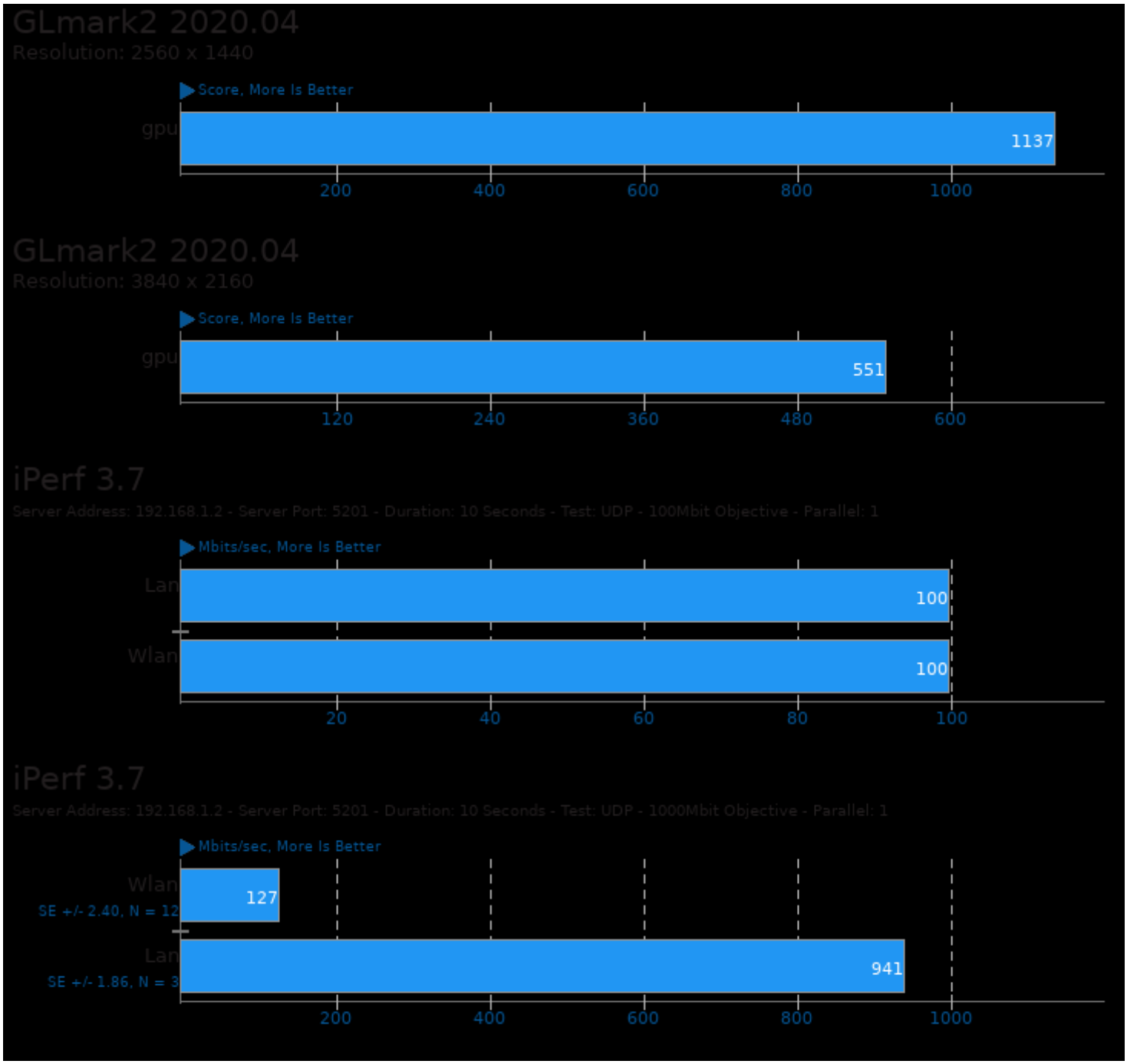


R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1



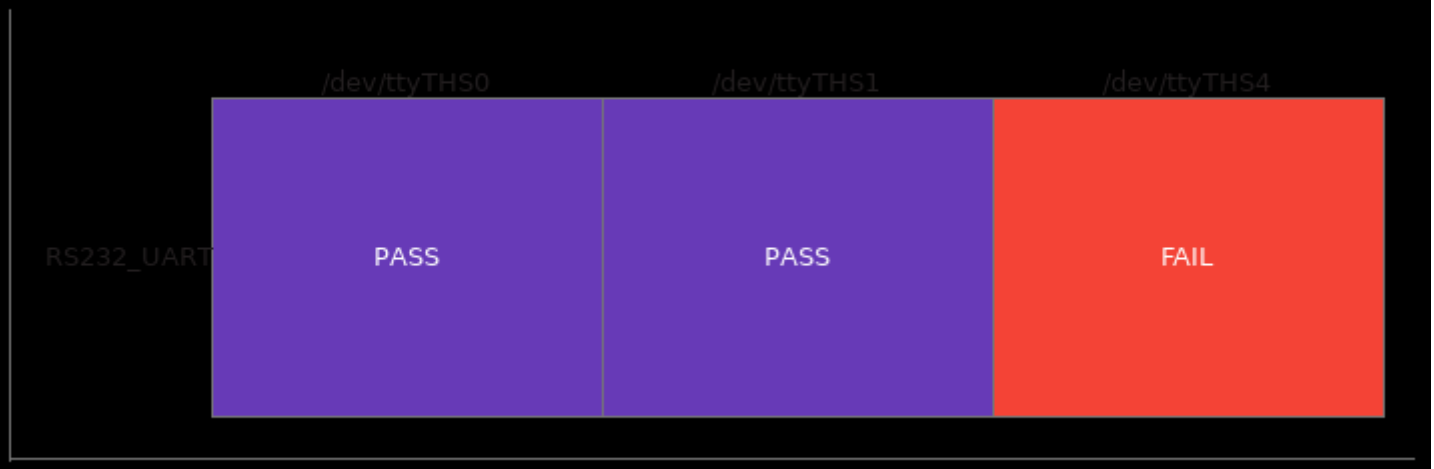

GLmark2 2020.04
Resolution: 800 x 600
Score, More Is Better
gpu
4359
900
1800
2700
3600
4500
GLmark2 2020.04
Resolution: 1024 x 768
Score, More Is Better
gpu
3318
700
1400
2100
2800
3500
GLmark2 2020.04
Resolution: 1280 x 1024
Score, More Is Better
gpu
2320
500
1000
1500
2000
2500
GLmark2 2020.04
Resolution: 1600 x 1200
Score, More Is Better
gpu
1813
400
800
1200
1600
2000
GLmark2 2020.04
Resolution: 1920 x 1080
Score, More Is Better
gpu
1787
400
800
1200
1600
2000
GLmark2 2020.04
Resolution: 1920 x 1200
Score, More Is Better
gpu
1634
400
800
1200
1600
2000

R32_4_4_Xavier-NX_AN110_Camera_IMX290_Dual_1



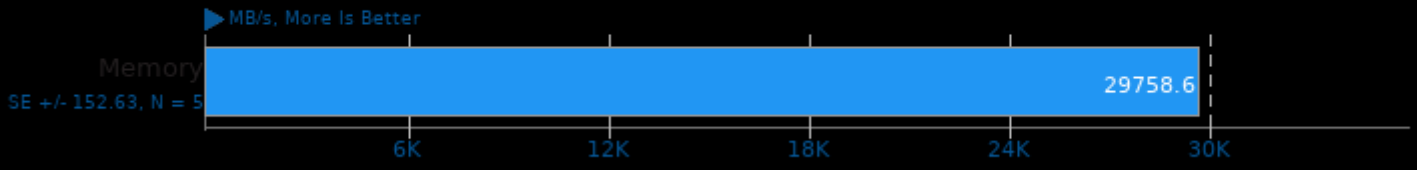
Serial Loopback Test

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



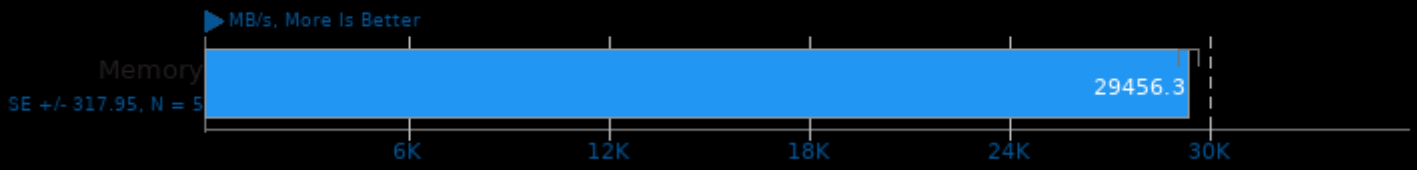
Stream 2013-01-17

Type: Copy



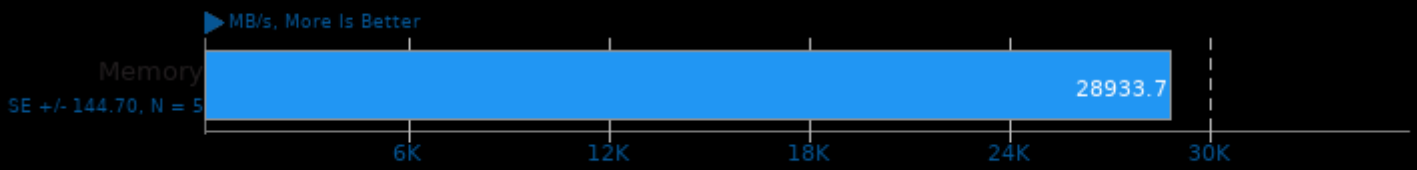
Stream 2013-01-17

Type: Scale



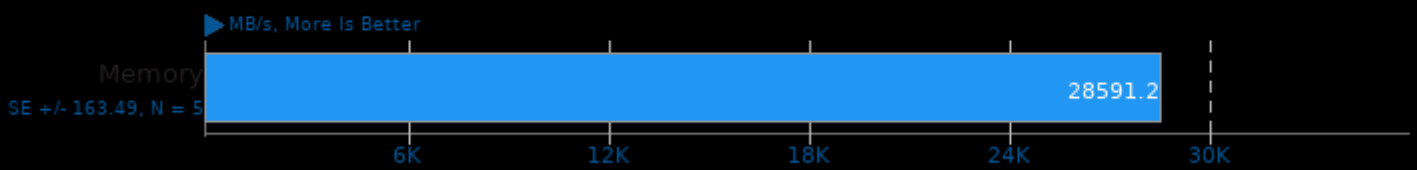
Stream 2013-01-17

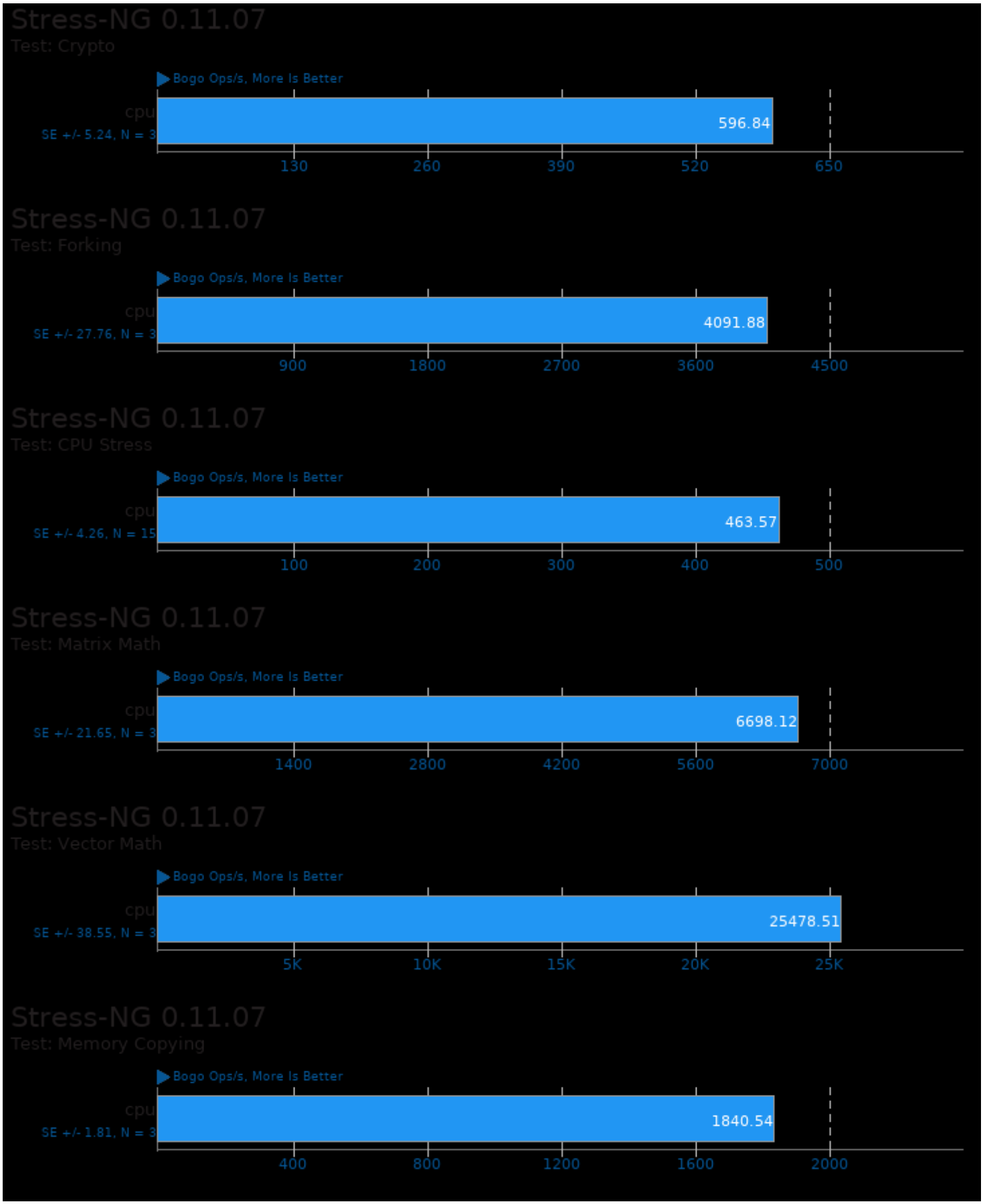
Type: Triad

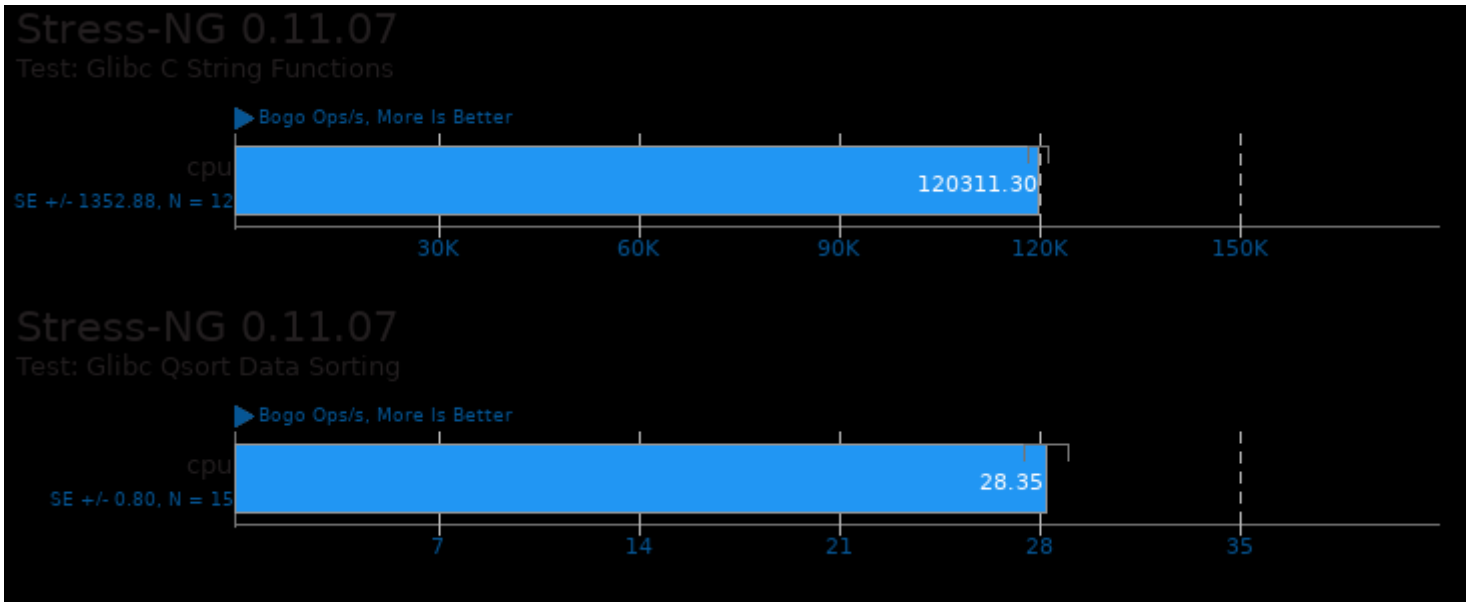


Stream 2013-01-17

Type: Add




Stress-NG 0.11.07
Test: Crypto
Bogo Ops/s, More Is Better
cpu
SE +/- 5.24, N = 3
596.84
130
260
390
520
650
Stress-NG 0.11.07
Test: Forking
Bogo Ops/s, More Is Better
cpu
SE +/- 27.76, N = 3
4091.88
900
1800
2700
3600
4500
Stress-NG 0.11.07
Test: CPU Stress
Bogo Ops/s, More Is Better
cpu
SE +/- 4.26, N = 15
463.57
100
200
300
400
500
Stress-NG 0.11.07
Test: Matrix Math
Bogo Ops/s, More Is Better
cpu
SE +/- 21.65, N = 3
6698.12
1400
2800
4200
5600
7000
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



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 14:06.