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R32.4.3_AN110_IMX290

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

USB3.0

USB2.0

SD Card

LPDDR4

CPU Stress

GPU Stress

LAN

Processor: ARMv8 rev 0 @ 1.50GHz (2 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB USB Drive 3ME + 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: ASUS VN248

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 32.4.3, 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

DG4016

Processor: ARMv8 rev 0 @ 1.50GHz (2 Cores), Motherboard: NVIDIA Jetson Xavier NX Developer Kit, Memory: 8GB, Disk: 16GB DG4016, Graphics: NVIDIA Tegra Xavier, Monitor: ASUS VN248

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 32.4.3, 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

WLAN

test

Processor: ARMv8 rev 0 @ 1.50GHz (2 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 32.4.3, 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

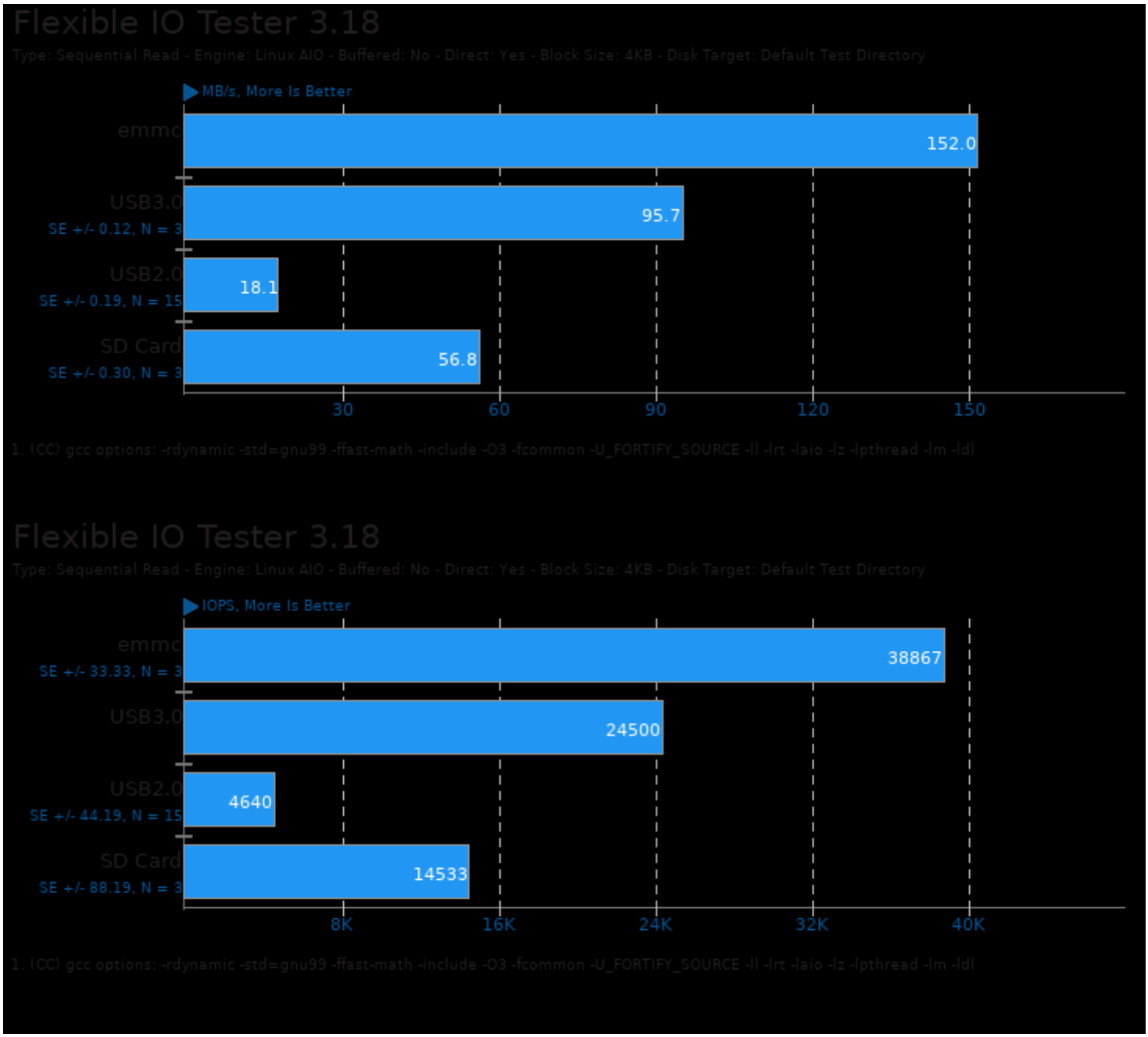
	emmc	USB3.0	USB2.0	SD Card	LPDDR4	CPU Stress	GPU Stress	LAN	RS232, UART	DG4016	WLAN	test

Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB	**152**	95.7	**18.1**	56.8				
Normalized	100%	62.96%	11.91%	37.37%				
Standard Deviation		0.2%	4%	0.9%				
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB	**38867**	24500	**4640**	14533				
Normalized	100%	63.04%	11.94%	37.39%				
Standard Deviation	0.1%		3.7%	1.1%				
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB	**315**	121	**41.8**	103				
Normalized	100%	38.41%	13.27%	32.7%				
Standard Deviation			1.9%	0.6%				
Stress-NG - G.C.S.F (Bogo Ops/s)					**36835**		**102489**	
Normalized					35.94%		100%	
Standard Deviation					3.4%		3.6%	
Stress-NG - Matrix Math (Bogo Ops/s)					**2282**		**5748**	
Normalized					39.71%		100%	
Standard Deviation					4.8%		0.5%	
Stress-NG - Crypto (Bogo Ops/s)					**204.32**		**514.21**	
Normalized					39.73%		100%	
Standard Deviation					2.9%		1.3%	
Stress-NG - Vector Math (Bogo Ops/s)					**8810**		**21220**	
Normalized					41.51%		100%	
Standard Deviation					0.6%		1.9%	
Stress-NG - Memory Copying (Bogo Ops/s)					**714.62**		**1691**	
Normalized					42.25%		100%	
Standard Deviation					0.2%		0.7%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 8MB	**36**	12	**2**	9				
Normalized	100%	33.33%	5.56%	25%				
Stream - Copy (MB/s)					**15423**		**30233**	
Normalized					51.01%		100%	
Standard Deviation					0.1%		1.5%	

R32.4.3_AN110_IMX290

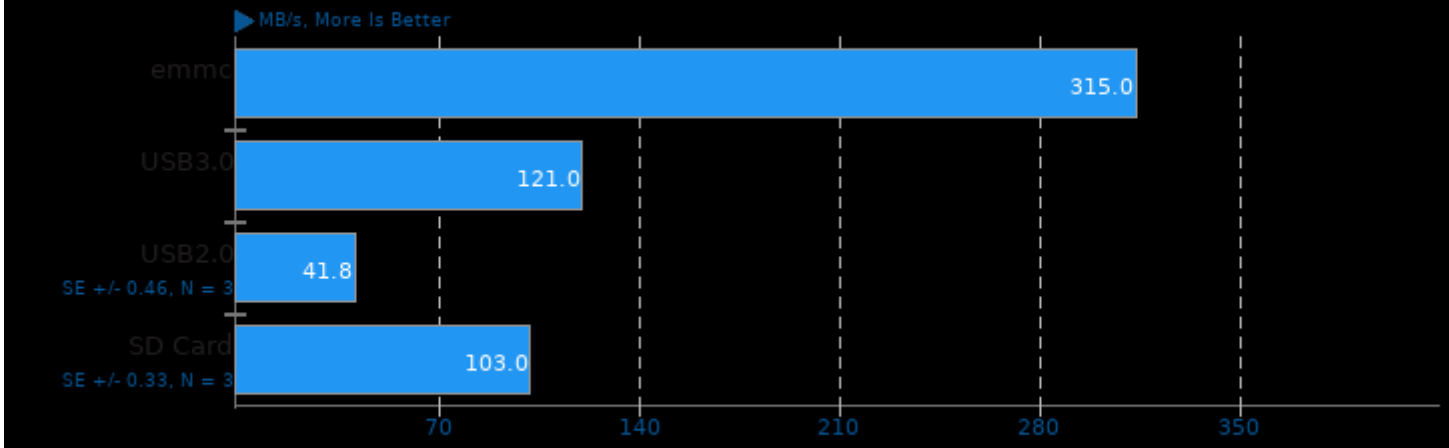
Stream - Scale (MB/s)	15604				29374		
Normalized	53.12%				100%		
Standard Deviation	0.1%				0.6%		
Stream - Triad (MB/s)	15105				28271		
Normalized	53.43%				100%		
Standard Deviation	0.1%				0.3%		
Stream - Add (MB/s)	15068				27676		
Normalized	54.44%				100%		
Standard Deviation	0%				0.7%		
Stress-NG - Forking (Bogo Ops/s)		2486			3551		
Normalized		70.02%			100%		
Standard Deviation		3.2%			1.3%		
GLmark2 - 1920 x 1080 (Score)			1475				
GLmark2 - 1280 x 1024 (Score)			1970				
GLmark2 - 1024 x 768 (Score)			2747				
GLmark2 - 800 x 600 (Score)			3404				
iPerf - 192.168.1.2 - 5201 - 10 Seconds - UDP - 1000Mbit Objective - 10 (Mbits/s)					946	134	
Normalized					100%	14.16%	
Standard Deviation						8.3%	
iPerf - 192.168.1.2 - 5201 - 10 Seconds - UDP - 100Mbit Objective - 10					943	136	
Normalized					100%	14.42%	
Standard Deviation					0.5%	9.1%	
Stress-NG - G.Q.D.S (Bogo Ops/s)		7.50			19.07		
Normalized		39.33%			100%		
Standard Deviation		20.1%			6.8%		

Stress-NG - CPU Stress (Bogo Ops/s)					130.44	389.51
Normalized					33.49%	100%
Standard Deviation					25%	3.4%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB	9	2		4		
Normalized	100%	22.22%		44.44%		
Standard Deviation				18.1%		
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 8MB	101	38.9	29.5	54.5		
Normalized	100%	38.51%	29.21%	53.96%		
Standard Deviation		2.1%	2.2%	7%		
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB	20400	6362	1848	4008		
Normalized	100%	31.19%	9.06%	19.65%		
Standard Deviation		0.4%	6.2%	11.9%		
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB	79.8	24.6	7.407	15.5		
Normalized	100%	30.83%	9.28%	19.42%		
Standard Deviation	0.1%	2%	6.2%	12%		


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
152.0
USB3.0
SE +/- 0.12, N = 3
95.7
USB2.0
SE +/- 0.19, N = 15
18.1
SD Card
SE +/- 0.30, N = 3
56.8
30
60
90
120
150
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -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: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
emmc
SE +/- 33.33, N = 3
38867
USB3.0
24500
USB2.0
SE +/- 44.19, N = 15
4640
SD Card
SE +/- 88.19, N = 3
14533
8K
16K
24K
32K
40K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

Flexible IO Tester 3.18

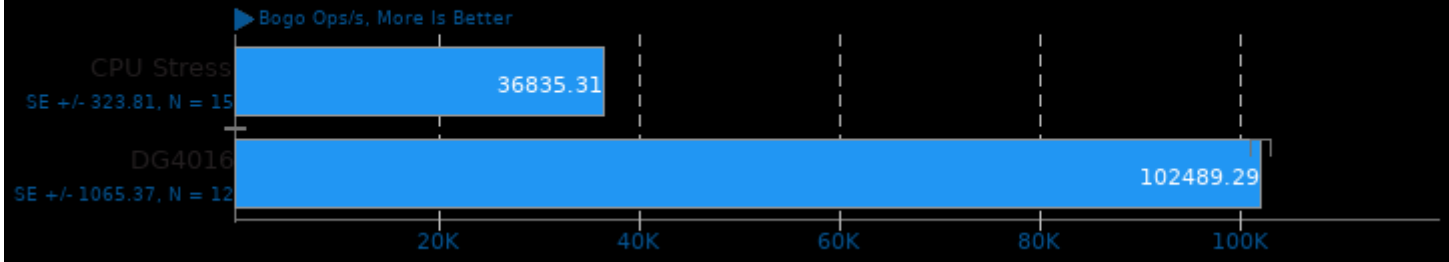
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

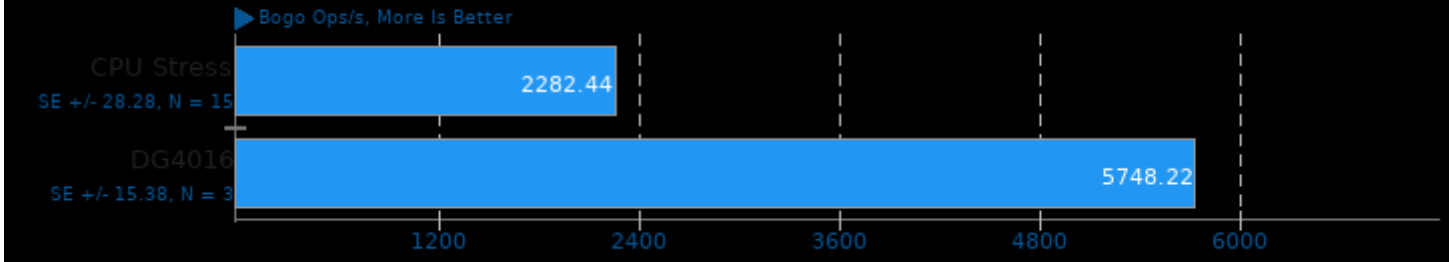
Stress-NG 0.11.07

Test: Glibc C String Functions



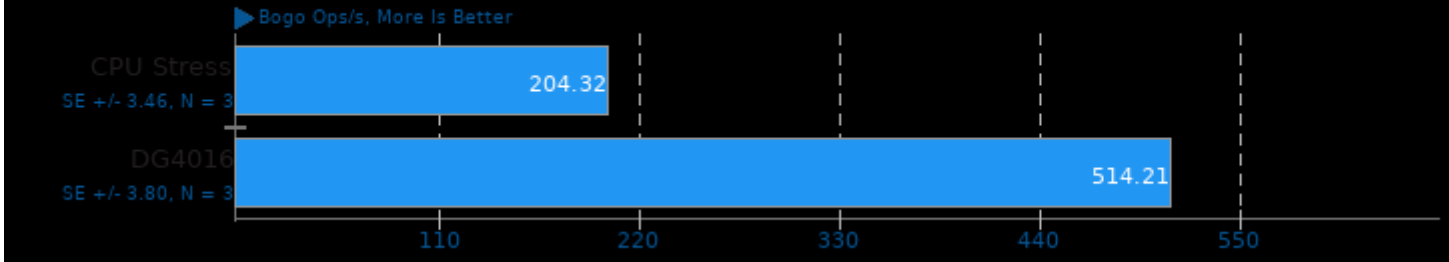
Stress-NG 0.11.07

Test: Matrix Math



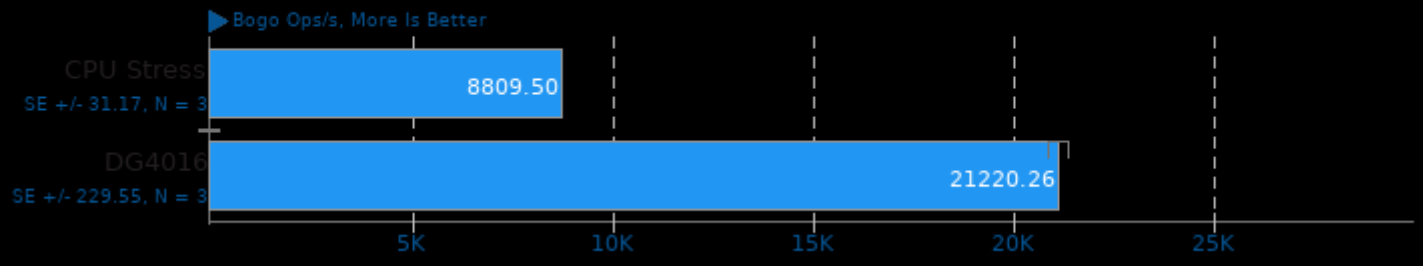
Stress-NG 0.11.07

Test: Crypto



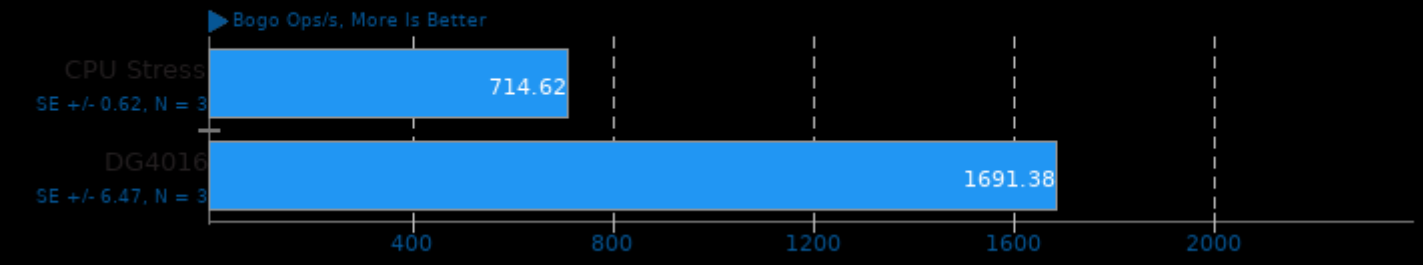
Stress-NG 0.11.07

Test: Vector Math



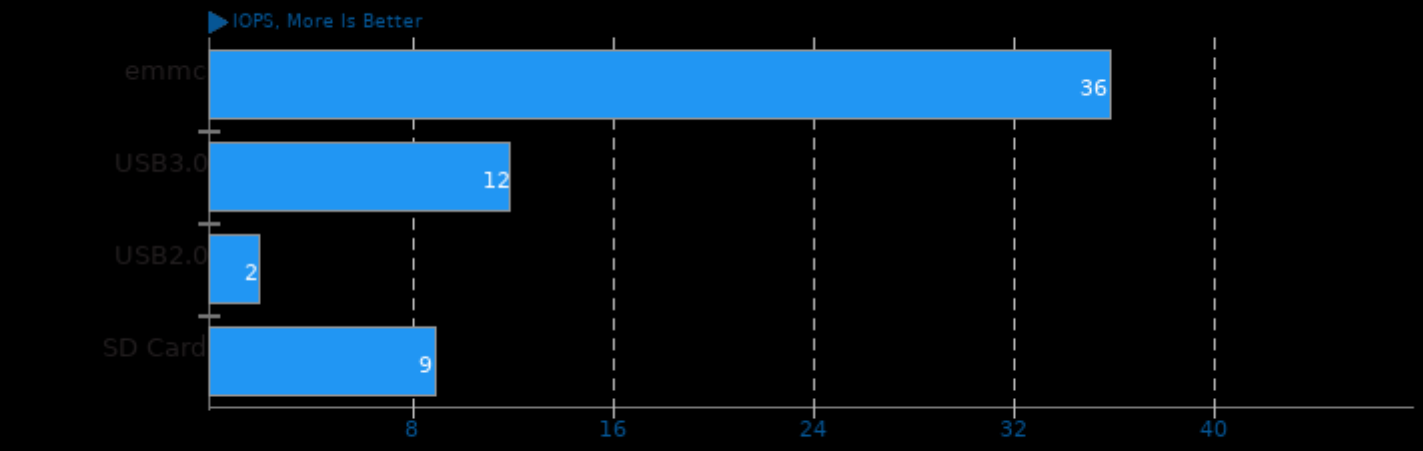
Stress-NG 0.11.07

Test: Memory Copying



Flexible IO Tester 3.18

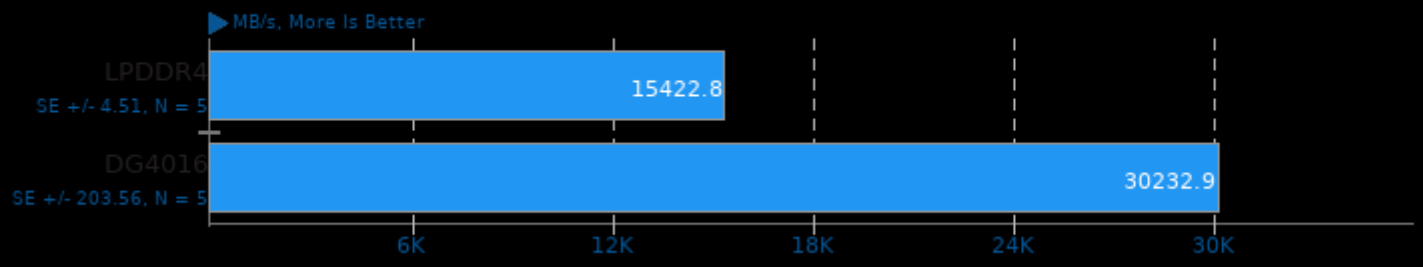
Type: Sequential Read - Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 8MB - Disk Target: Default Test Directory

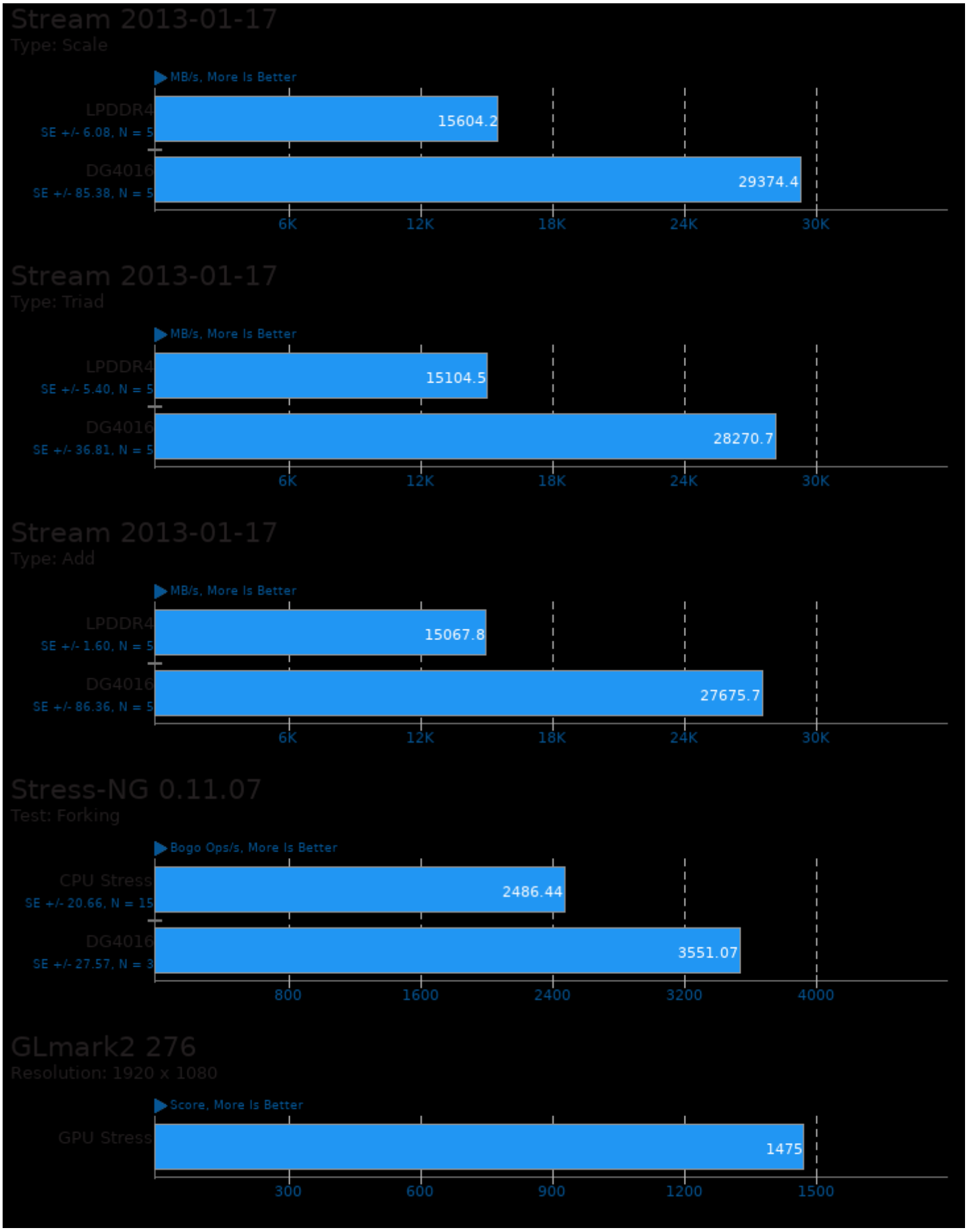


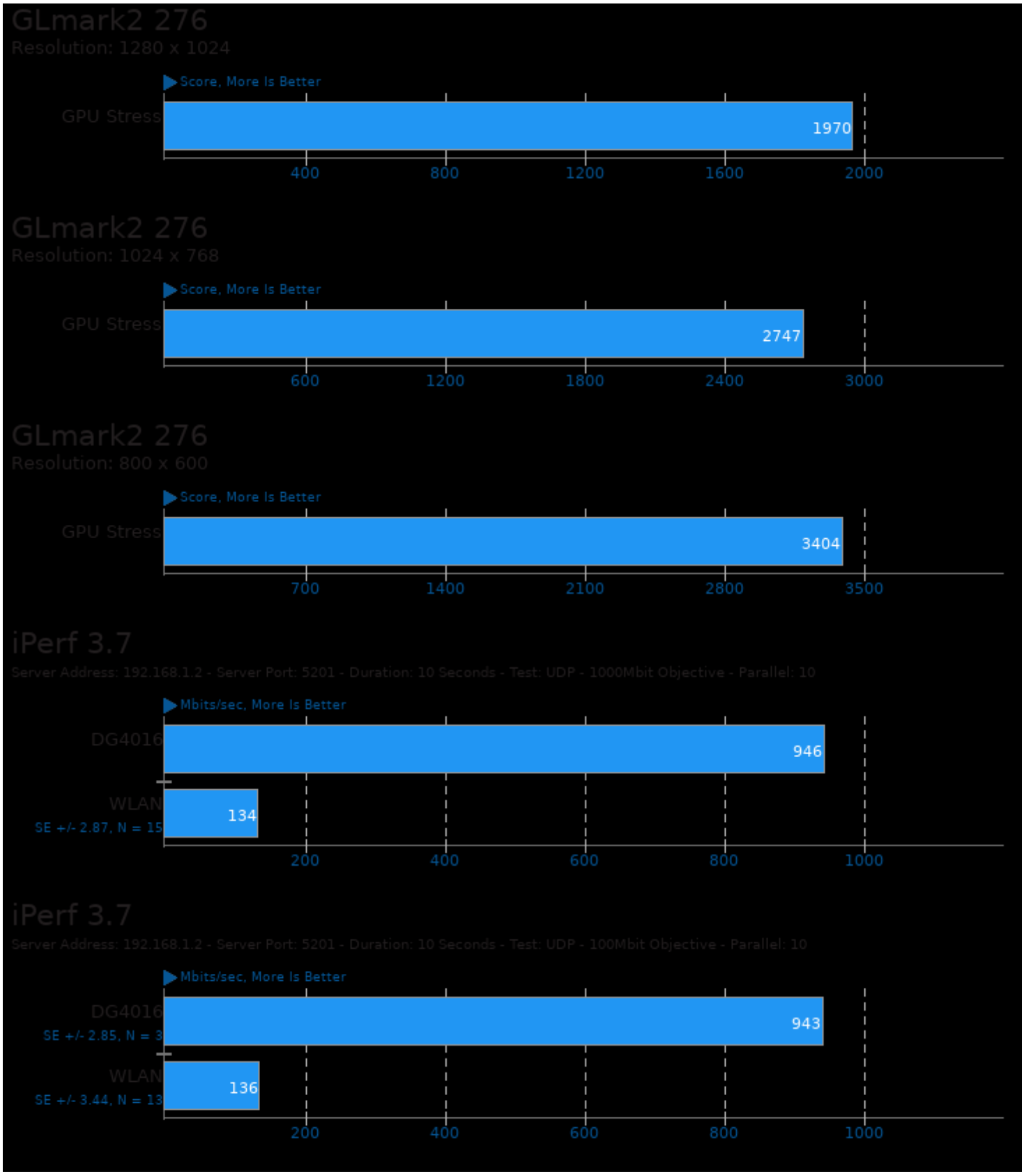
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl

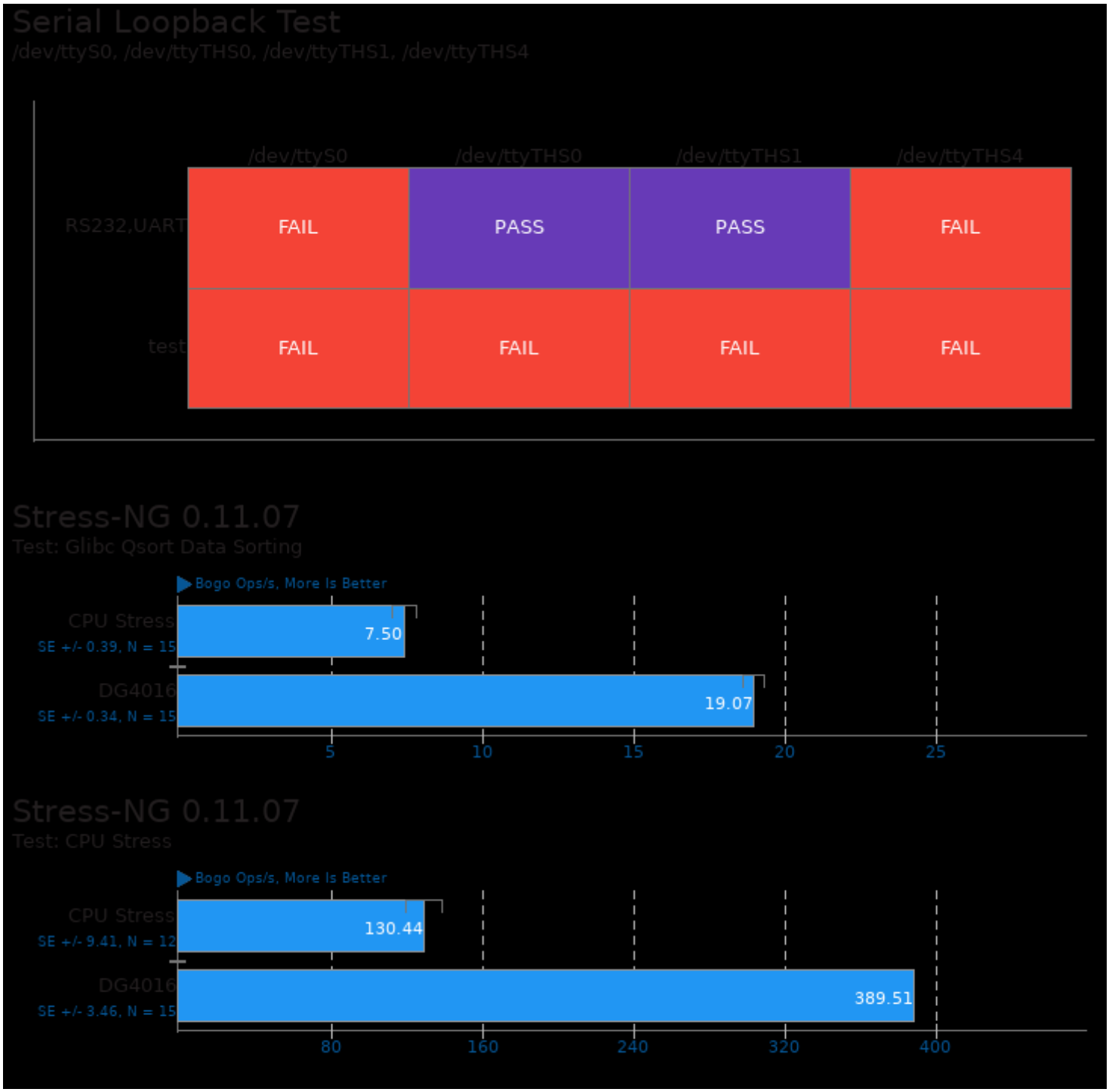
Stream 2013-01-17

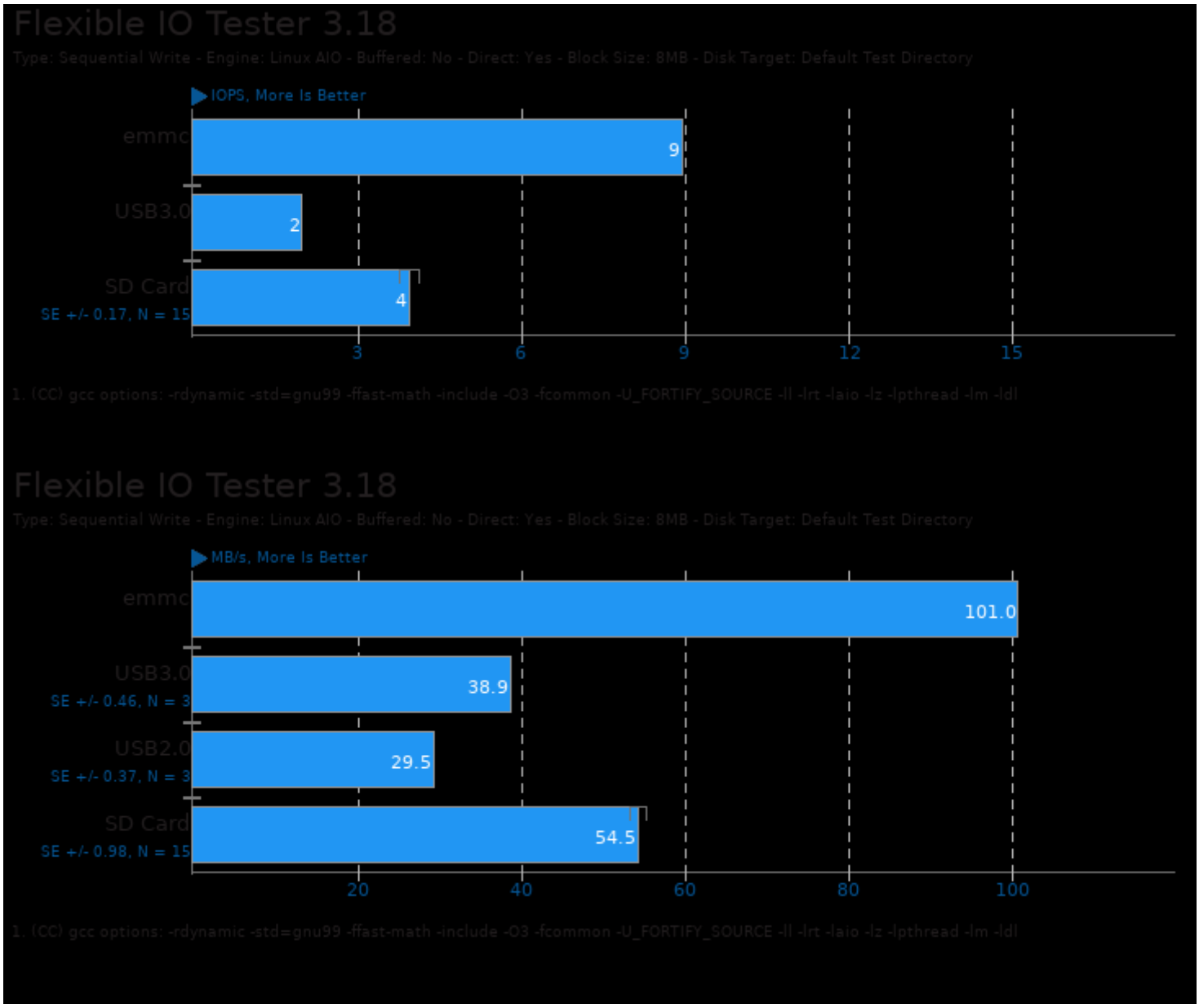
Type: Copy

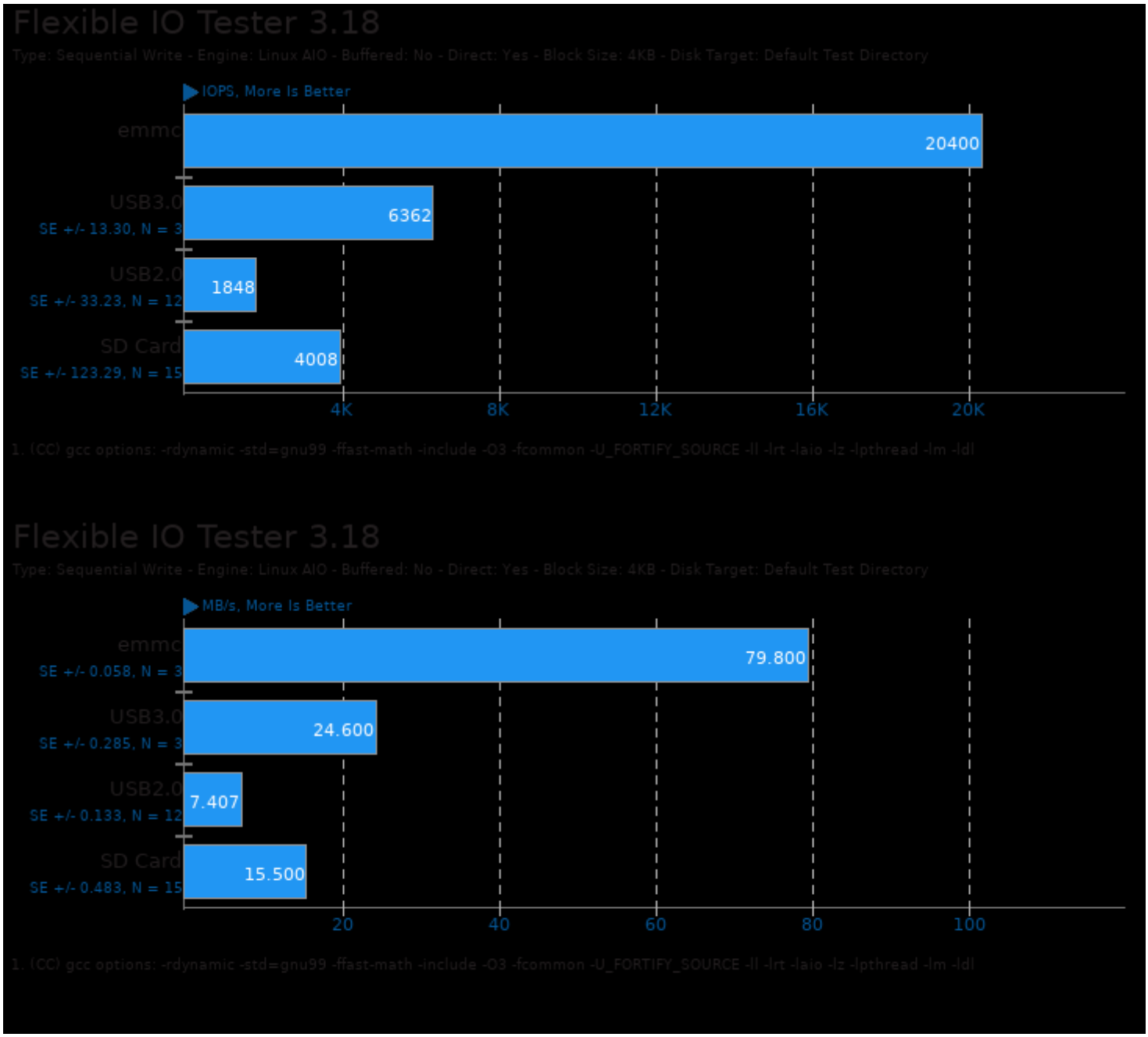



Stream 2013-01-17
Type: Scale
MB/s, More Is Better
LPDDR4
SE +/- 6.08, N = 5
15604.2
DG4016
SE +/- 85.38, N = 5
29374.4
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
LPDDR4
SE +/- 5.40, N = 5
15104.5
DG4016
SE +/- 36.81, N = 5
28270.7
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Add
MB/s, More Is Better
LPDDR4
SE +/- 1.60, N = 5
15067.8
DG4016
SE +/- 86.36, N = 5
27675.7
6K
12K
18K
24K
30K
Stress-NG 0.11.07
Test: Forking
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 20.66, N = 15
2486.44
DG4016
SE +/- 27.57, N = 3
3551.07
800
1600
2400
3200
4000
GLmark2 276
Resolution: 1920 x 1080
Score, More Is Better
GPU Stress
1475
300
600
900
1200
1500


GLmark2 276
Resolution: 1280 x 1024
Score, More Is Better
GPU Stress
1970
400
800
1200
1600
2000
GLmark2 276
Resolution: 1024 x 768
Score, More Is Better
GPU Stress
2747
600
1200
1800
2400
3000
GLmark2 276
Resolution: 800 x 600
Score, More Is Better
GPU Stress
3404
700
1400
2100
2800
3500
iPerf 3.7
Server Address: 192.168.1.2 - Server Port: 5201 - Duration: 10 Seconds - Test: UDP - 1000Mbit Objective - Parallel: 10
Mbits/sec, More Is Better
DG4016
946
WLAN
134
SE +/- 2.87, N = 15
200
400
600
800
1000
iPerf 3.7
Server Address: 192.168.1.2 - Server Port: 5201 - Duration: 10 Seconds - Test: UDP - 100Mbit Objective - Parallel: 10
Mbits/sec, More Is Better
DG4016
943
SE +/- 2.85, N = 3
WLAN
136
SE +/- 3.44, N = 13
200
400
600
800
1000


Serial Loopback Test
/dev/ttyS0, /dev/ttyTHS0, /dev/ttyTHS1, /dev/ttyTHS4
/dev/ttyS0
/dev/ttyTHS0
/dev/ttyTHS1
/dev/ttyTHS4
RS232,UART
FAIL
PASS
PASS
FAIL
test
FAIL
FAIL
FAIL
FAIL
Stress-NG 0.11.07
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 0.39, N = 15
7.50
DG4016
SE +/- 0.34, N = 15
19.07
5
10
15
20
25
Stress-NG 0.11.07
Test: CPU Stress
Bogo Ops/s, More Is Better
CPU Stress
SE +/- 9.41, N = 12
130.44
DG4016
SE +/- 3.46, N = 15
389.51
80
160
240
320
400


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
9
USB3.0
2
SD Card
4
SE +/- 0.17, N = 15
3
6
9
12
15
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -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
101.0
USB3.0
38.9
SE +/- 0.46, N = 3
USB2.0
29.5
SE +/- 0.37, N = 3
SD Card
54.5
SE +/- 0.98, N = 15
20
40
60
80
100
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -fcommon -U_FORTIFY_SOURCE -ll -lrt -laio -lz -lpthread -lm -ldl



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 06:25.