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mini computers

ARMv6-compatible rev 7 testing on Debian Linux 7.0 via the Phoronix Test Suite.

Automated Executive Summary

intel sandy i5 had the most wins, coming in first place for 96% of the tests.

Based on the geometric mean of all complete results, the fastest (intel sandy i5) was 28.156x the speed of the slowest (raspberry newer os). Odroid-X2 new OS was 0.241x the speed of intel sandy i5, odroid-x2 was 0.88x the speed of Odroid-X2 new OS, measy U4A Linuxium Trusty Tahr was 0.97x the speed of odroid-x2, Radxa Rock was 0.974x the speed of measy U4A Linuxium Trusty Tahr, measy U4A Linuxium was 0.986x the speed of Radxa Rock, measy U4A Picuntu was 0.926x the speed of measy U4A Linuxium, cubieboard was 0.342x the speed of measy U4A Picuntu, beaglebone black was 0.773x the speed of cubieboard, raspberry was 0.759x the speed of beaglebone black, raspberry newer os was 0.969x the speed of raspberry.

The results with the greatest spread from best to worst included:

x11perf (Test: Fill 300 x 300px AA Trapezoid) at 777.778x
x11perf (Test: Char in 80-char aa line) at 512.093x
x11perf (Test: PutImage XY 500x500 Square) at 202.5x
C-Ray (Total Time) at 117.427x
RAMspeed SMP (Type: Triad - Benchmark: Floating Point) at 70.211x

RAMspeed SMP (Type: Add - Benchmark: Floating Point) at 69.213x
RAMspeed SMP (Type: Add - Benchmark: Integer) at 62.811x
RAMspeed SMP (Type: Triad - Benchmark: Integer) at 62.17x
RAMspeed SMP (Type: Average - Benchmark: Floating Point) at 59.832x
RAMspeed SMP (Type: Average - Benchmark: Integer) at 59.677x.

Test Systems:

raspberry

Processor: ARMv6-compatible rev 7 @ 0.70GHz (1 Core), Motherboard: BCM2708, Memory: 438MB, Disk: 16GB SU16G

OS: Debian Linux 7.0, Kernel: 3.6.11+ (armv6l), Desktop: LXDE 0.5.10, Display Server: X Server 1.12.4, Compiler: GCC 4.6, File-System: ext4, Screen Resolution: 1366x768

Compiler Notes: --build=arm-linux-gnueabihf --disable-sjlj-exceptions --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv6 --with-float=hard --with-fpu=vfp -v
Processor Notes: Scaling Governor: powersave
System Notes: Python 2.7.3.

intel sandy i5

Processor: Intel Core i5-2410M @ 2.30GHz (4 Cores), Motherboard: ASUS N53SV v1.0, Chipset: Intel 2nd Generation Core Family DRAM, Memory: 8192MB, Disk: 500GB Seagate ST9500325AS, Graphics: Intel 2nd Generation Core Family IGP, Audio: Realtek ALC269VB, Monitor: IPS224, Network: Realtek RTL8111/8168 + Atheros AR9285 Wireless

OS: Ubuntu 13.04, Kernel: 3.9.0-030900rc8-generic (x86_64), Desktop: Xfce 4.10, Display Server: X Server 1.13.3, Display Driver: intel 2.21.6, OpenGL: 3.0 Mesa 9.2.0 (git-3900a0e quantal-oibaf-ppa), Compiler: GCC 4.7, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-cloog-version-check --disable-ppl-version-check --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-cloog --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: ondemand
Graphics Notes: SNA
System Notes: Python 2.7.4.

odroid-x2

Processor: ARMv7 rev 0 @ 1.60GHz (1 Core), Motherboard: ODROIDX2, Memory: 2048MB, Disk: 16GB SU16G

OS: Ubuntu 12.11, Kernel: 3.0.60-odroidx2 (armv7l), Desktop: Unity 2D, Display Server: X Server 1.11.3, OpenGL: 2.1 Mesa 8.0.4, Compiler: GCC 4.6, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: ondemand
System Notes: Python 2.7.3.

cubieboard

Processor: ARMv7 rev 2 @ 1.20GHz (1 Core), Motherboard: sun4i, Memory: 814MB, Disk: 4GB 00000

OS: Linaro 13.02, Kernel: 3.0.62 (armv7l), Desktop: LXDE 0.5.11, Display Server: X Server 1.13.0, OpenGL: 2.1 Mesa 9.0, Compiler: GCC 4.7, File-System: ext4, Screen Resolution: 1280x720

Compiler Notes: --build=arm-linux-gnueabihf --disable-libitm --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: ondemand
System Notes: Python 2.7.3.

measy U4A Picuntu

Processor: ARMv7 rev 0 @ 1.61GHz (4 Cores), Motherboard: RK30board, Memory: 853MB, Disk: 4GB

OS: Ubuntu 13.04, Kernel: 3.0.36+ (armv7l), Desktop: Xfce 4.10, Display Server: X Server 1.13.3, Compiler: GCC 4.7, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-cloog-version-check --disable-libitm --disable-ppl-version-check --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-cloog --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: interactive
System Notes: Python 2.7.4.

Odroid-X2 new OS

Processor: Exynos ARMv7 rev 0 @ 1.70GHz (4 Cores), Motherboard: ODROIDX2, Memory: 2048MB, Disk: 16GB SU16G

OS: Ubuntu 14.04, Kernel: 3.8.13.23 (armv7l), Desktop: LXDE 0.6.1, Display Server: X Server 1.15.1, OpenGL: 2.1 Mesa 10.1.3, Compiler: GCC 4.8, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libmudflap --disable-libquadmath --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch-directory=arm --with-arch=armv7-a --with-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-float=hard --with-fpu=vfpv3-d16 --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-armhf/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-armhf --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-armhf --with-mode=thumb -v
Processor Notes: Scaling Governor: exynos_cpufreq performance
Graphics Notes: EXA
System Notes: Python 2.7.6.

measy U4A Linuxium

Processor: ARMv7 rev 0 @ 1.61GHz (4 Cores), Motherboard: RK30board, Memory: 853MB, Disk: 8GB SU08G

OS: Ubuntu 13.04, Kernel: 3.0.36+ (armv7l), Desktop: Xfce 4.10, Display Server: X Server 1.13.3, OpenGL: 2.1 Mesa 9.1.4, Compiler: GCC 4.7, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-cloog-version-check --disable-libitm --disable-ppl-version-check --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-cloog --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: interactive
System Notes: Python 2.7.4.

measy U4A Linuxium Trusty Tahr

Processor: ARMv7 rev 0 @ 1.61GHz (4 Cores), Motherboard: RK30board, Memory: 853MB, Disk: 8GB SU08G

OS: Ubuntu 14.04, Kernel: 3.0.36+ (armv7l), Desktop: Xfce 4.10, Display Server: X Server 1.15.1, OpenGL: 2.1 Mesa 10.1.3, Compiler: GCC 4.8, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libmudflap --disable-libquadmath --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch-directory=arm --with-arch=armv7-a --with-ecj-jar=/usr/share/java/eclipse-ecj.jar --with-float=hard --with-fpu=vfpv3-d16 --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-4.8-armhf/jre --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-4.8-armhf --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-4.8-armhf --with-mode=thumb -v
Processor Notes: Scaling Governor: rk3188 interactive
System Notes: Python 2.7.6.

Radxa Rock

Processor: ARMv7 rev 0 @ 1.61GHz (4 Cores), Motherboard: RK30board, Memory: 2048MB, Disk: 8GB

OS: Linaro 13.09, Kernel: 3.0.36+ (armv7l), Desktop: LXDE 0.5.12, Display Server: X Server 1.13.3, OpenGL: 2.1 Mesa 9.1.1, Compiler: GCC 4.7, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-cloog-version-check --disable-libitm --disable-ppl-version-check --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-cloog --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: interactive
System Notes: Python 2.7.4.

raspberry newer os

Processor: ARMv6-compatible rev 7 @ 0.70GHz (1 Core), Motherboard: BCM2708, Memory: 437MB, Disk: 16GB SU16G

OS: Debian Linux 7.5, Kernel: 3.12.22+ (armv6l), Desktop: LXDE, Display Server: X Server 1.12.4, Compiler: GCC 4.6, File-System: ext4, Screen Resolution: 1824x984

Compiler Notes: --build=arm-linux-gnueabihf --disable-sjlj-exceptions --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv6 --with-float=hard --with-fpu=vfp -v
System Notes: Python 2.7.3.

beaglebone black

Processor: ARMv7 rev 2 @ 1.00GHz (1 Core), Motherboard: Generic AM33XX (Flattened Device Tree), Memory: 497MB, Disk: 4GB MMC04G

OS: Debian 7.5, Kernel: 3.8.13-bone47 (armv7l), Desktop: LXDE, Display Server: X Server 1.12.4, Compiler: GCC 4.6, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=arm-linux-gnueabihf --disable-sjlj-exceptions --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
System Notes: Python 2.7.3.

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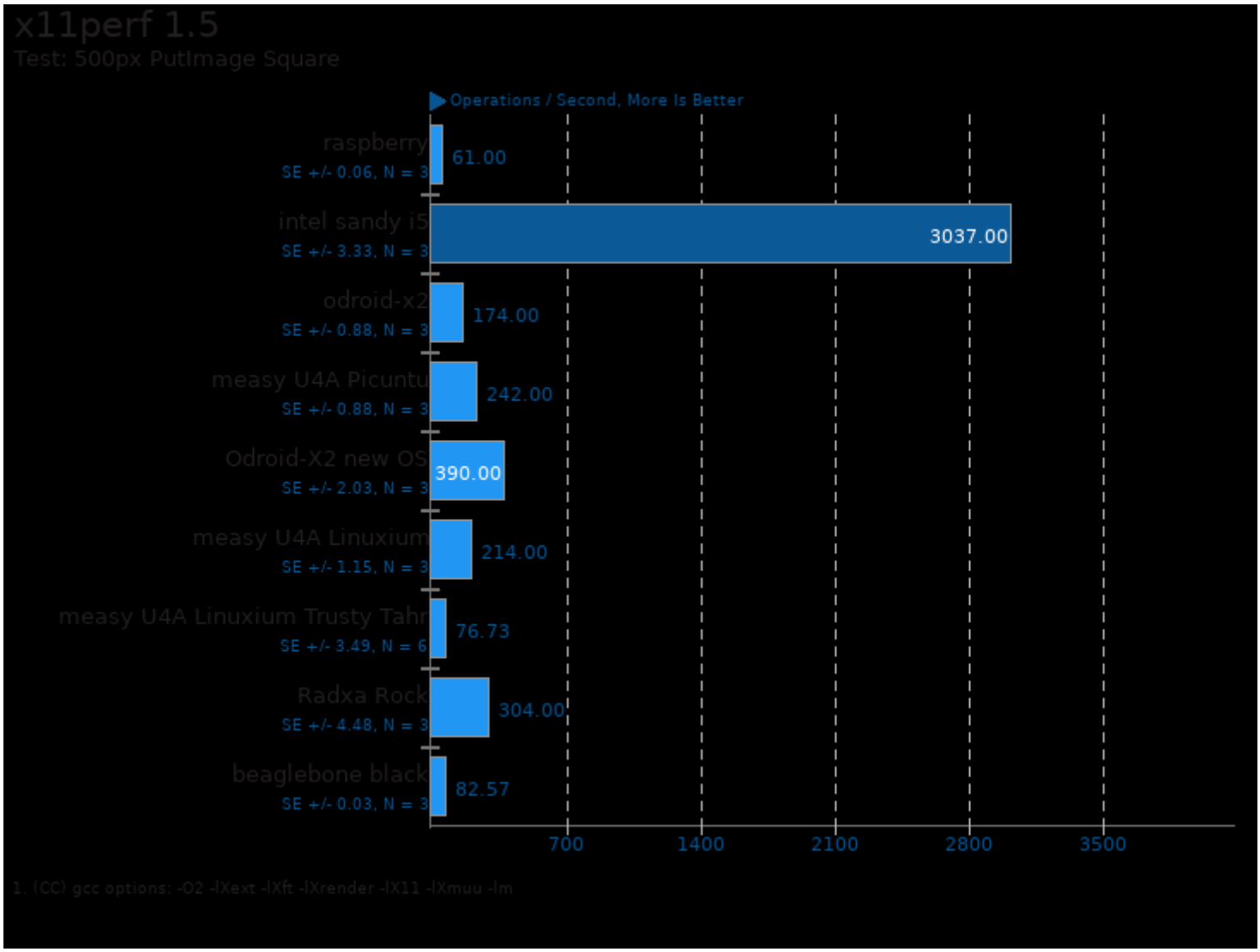
	raspberry	intel sandy i5	odroid-x2	cubieboard	measy U4A Picuntu	Odroid-X2 new OS	measy U4A Linuxium	measy U4A Linuxium Trusty	Radxa Rock	raspberry newer os	beagleboneblack
x11perf - 5.P.S (Operations / Second)	61.00	3037	174		242	390	214	76.73	304		82.57
Normalized	2.01%	100%	5.73%		7.97%	12.84%	7.05%	2.53%	10.01%		2.72%
Standard Deviation	0.2%	0.2%	0.9%		0.6%	0.9%	0.9%	11.1%	2.6%		0.1%
x11perf - S.5.x.5.p (Operations / Second)	290	3580	3970		1498	208	1353	532	1533		666
Normalized	7.3%	90.18%	100%		37.73%	5.24%	34.08%	13.4%	38.61%		16.78%
Standard Deviation	0.2%	0%	1.6%		4.3%	0.6%	0.4%	0.4%	2%		0.9%
x11perf - C.i.8.c.a.l (Operations / Second)	31700	16233333	241333		238667	132333	202000	292667	240667		100000
Normalized	0.2%	100%	1.49%		1.47%	0.82%	1.24%	1.8%	1.48%		0.62%
Standard Deviation	0.3%	1.3%	2.8%		1.5%	0.4%	1.5%	0.7%	2.4%		0%
x11perf - P.X.5.S (Operations / Second)	6.60	162	32.17		31.23	0.80	28.77	18.90	32.30		12.90
Normalized	4.07%	100%	19.86%		19.28%	0.49%	17.76%	11.67%	19.94%		7.96%
Standard Deviation	0%	0%	1.7%		2.4%	0%	0.2%	0.5%	0.8%		0%
x11perf - F.3.x.3.A.T (Operations / Second)	333	259000	1087		1390	2030	2472	1870	1413		656
Normalized	0.13%	100%	0.42%		0.54%	0.78%	0.95%	0.72%	0.55%		0.25%
Standard Deviation	0.2%	2%	0.5%		2.5%	0%	82.4%	1.4%	0.4%		0%
x11perf - 5.C.F.W.T.W (Operations / Second)	170	3590	1487		785	62	916	298	893		414
Normalized	4.74%	100%	41.42%		21.87%	1.73%	25.52%	8.3%	24.87%		11.53%
Standard Deviation	0.3%	0%	0.4%		3.3%	0%	83.9%	0.8%	0.2%		0%
x11perf - C.5.F.P.T.P (Operations / Second)	199	4367	1940		887	1160	604	859	930		493
Normalized	4.56%	100%	44.42%		20.31%	26.56%	13.83%	19.67%	21.3%		11.29%
Standard Deviation	0%	25%	1.4%		0.1%	0.9%	17.7%	0.1%	0.6%		0.1%
x11perf - 5.C.F.P.T.W (Operations / Second)	261	3610	1833		1157	182	871	419	1220		735
Normalized	7.23%	100%	50.78%		32.05%	5.04%	24.13%	11.61%	33.8%		20.36%
Standard Deviation	0%	1%	2.1%		2.8%	0.3%	3.6%	0.6%	0%		0.4%

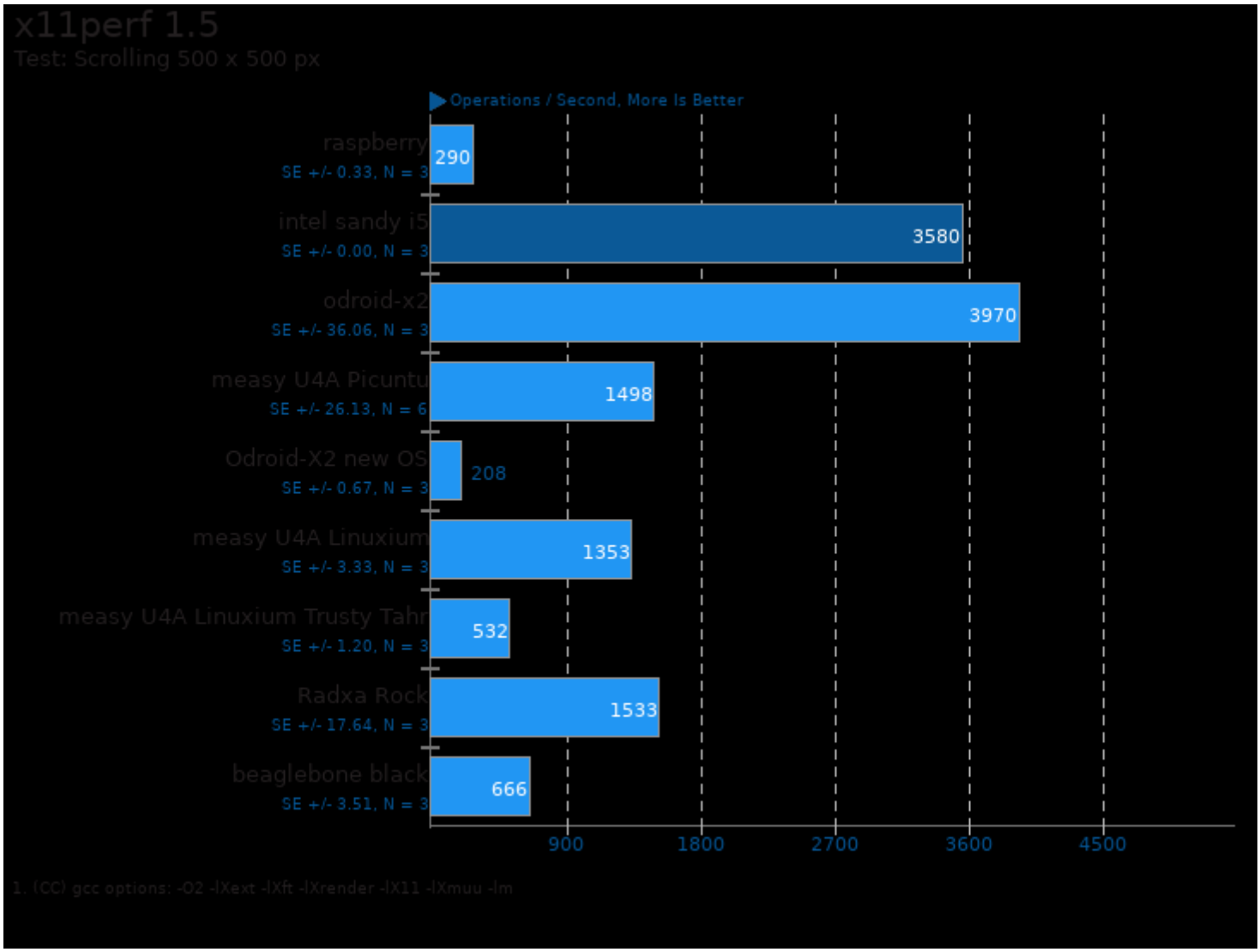
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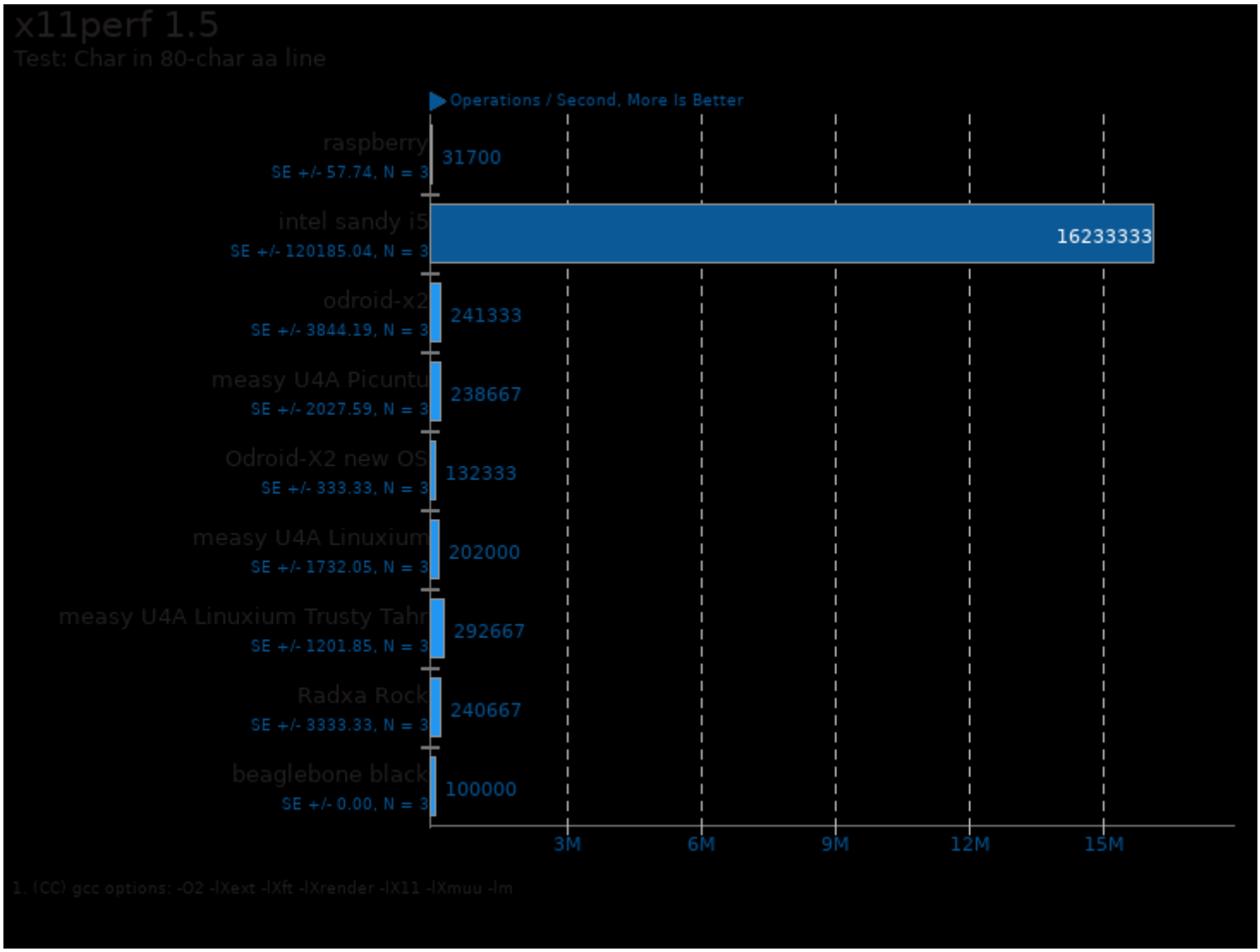
x11perf - 5.C.F.W.T.W (Operations / Second)	268	**3590**	3510	1267	**111**	980	482	1380		715
Normalized	7.47%	100%	97.77%	35.29%	3.09%	27.3%	13.43%	38.44%		19.92%
Standard Deviation	0.2%	0%	1.7%	3.2%	0%	2.7%	0.6%	3.2%		0.2%
RAMspeed SMP - Add - Integer (MB/s)	187.92	**11136**	1576	1635		1324	1666	1748	**177.30**	226.43
Normalized	1.69%	100%	14.15%	14.69%		11.89%	14.96%	15.7%	1.59%	2.03%
RAMspeed SMP - Copy - Integer (MB/s)	206.23	**11222**	2733	1609		1411	1704	1726	**195.59**	405.54
Normalized	1.84%	100%	24.36%	14.34%		12.57%	15.18%	15.38%	1.74%	3.61%
RAMspeed SMP - Scale - Integer (MB/s)	207.46	**11223**	2662	1255		1342	1576	1554	**196.93**	331.53
Normalized	1.85%	100%	23.72%	11.18%		11.96%	14.05%	13.84%	1.75%	2.95%
RAMspeed SMP - Triad - Integer (MB/s)	189.40	**11108**	1593	1151		1293	1653	1689	**178.68**	213.47
Normalized	1.71%	100%	14.34%	10.36%		11.64%	14.88%	15.2%	1.61%	1.92%
RAMspeed SMP - Average - Integer (MB/s)	197.73	**11161**	2149	1197		1305	1646	1701	**187.03**	294.22
Normalized	1.77%	100%	19.25%	10.72%		11.69%	14.75%	15.24%	1.68%	2.64%
RAMspeed SMP - Add - Floating Point (MB/s)	191.38	**12550**	1796	1166		1359	1690	1774	**181.32**	413.92
Normalized	1.52%	100%	14.31%	9.29%		10.83%	13.47%	14.14%	1.44%	3.3%
RAMspeed SMP - Copy - Floating Point (MB/s)	241.79	**11032**	2216	1029		1161	1529	1580	**230.71**	401.22
Normalized	2.19%	100%	20.09%	9.32%		10.53%	13.86%	14.32%	2.09%	3.64%
RAMspeed SMP - Scale - Floating Point (MB/s)	214	**11236**	2687	1065		1354	1535	1573	**203.13**	358.71
Normalized	1.9%	100%	23.92%	9.48%		12.05%	13.67%	14%	1.81%	3.19%
RAMspeed SMP - Triad - Floating Point (MB/s)	191.27	**12729**	1848	1157		1365	1674	1750	**181.30**	347.20
Normalized	1.5%	100%	14.51%	9.09%		10.73%	13.15%	13.75%	1.42%	2.73%
RAMspeed SMP - Average - Floating Point (MB/s)	209.55	**11893**	2150	1140		1319	1614	1666	**198.77**	379.47
Normalized	1.76%	100%	18.08%	9.59%		11.09%	13.57%	14.01%	1.67%	3.19%
C-Ray - Total Time (sec)	5394	**97.00**	390.48	7457	365.69	206.19	363.98	357.52	427.60	5712	**11390**
Normalized	1.8%	100%	24.84%	1.3%	26.53%	47.04%	26.65%	27.13%	22.68%	1.7%	0.85%
Standard Deviation	0.3%	0%	0.5%	0.1%	0.5%	0%	0.6%	0.6%	0.1%	0.2%	0%

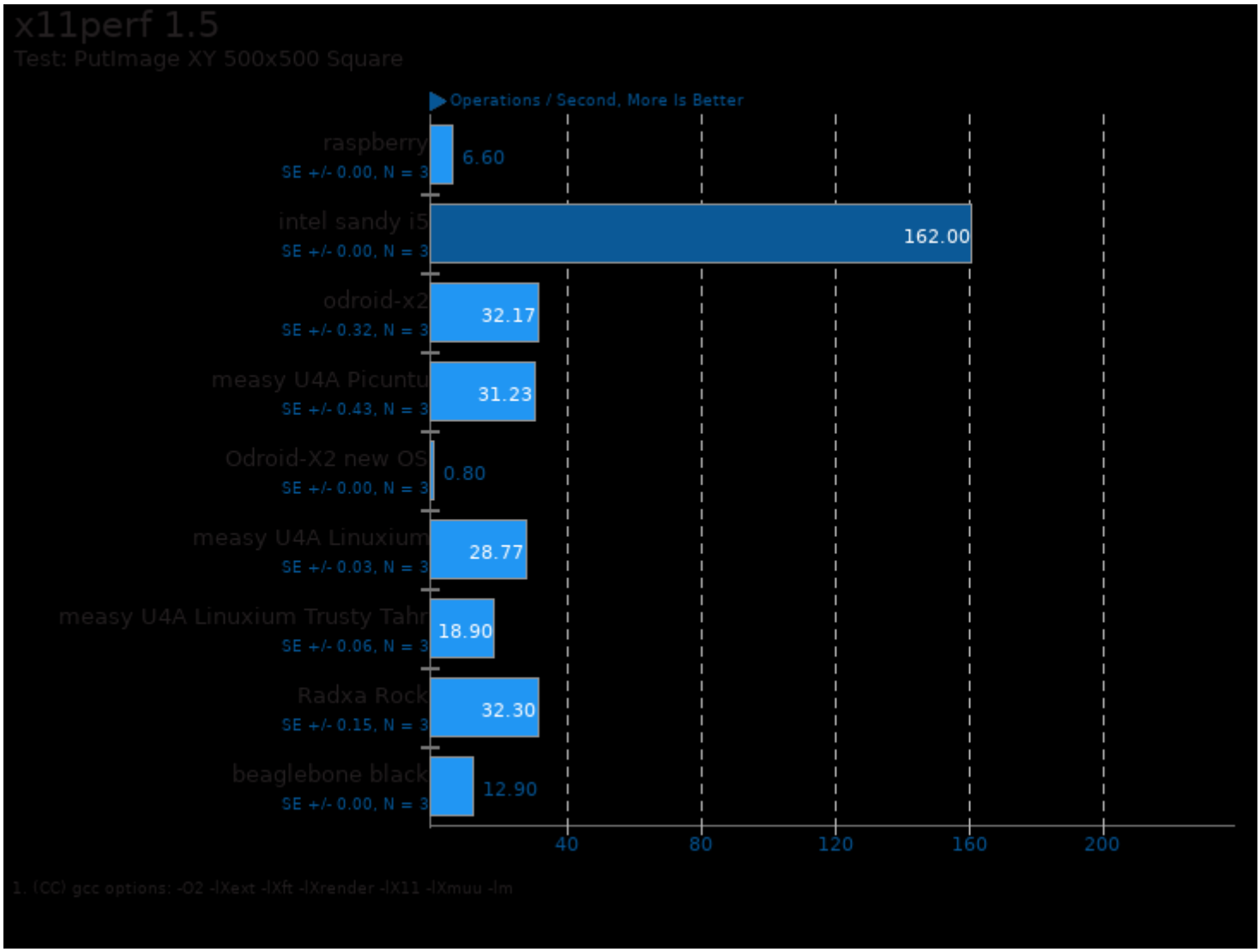
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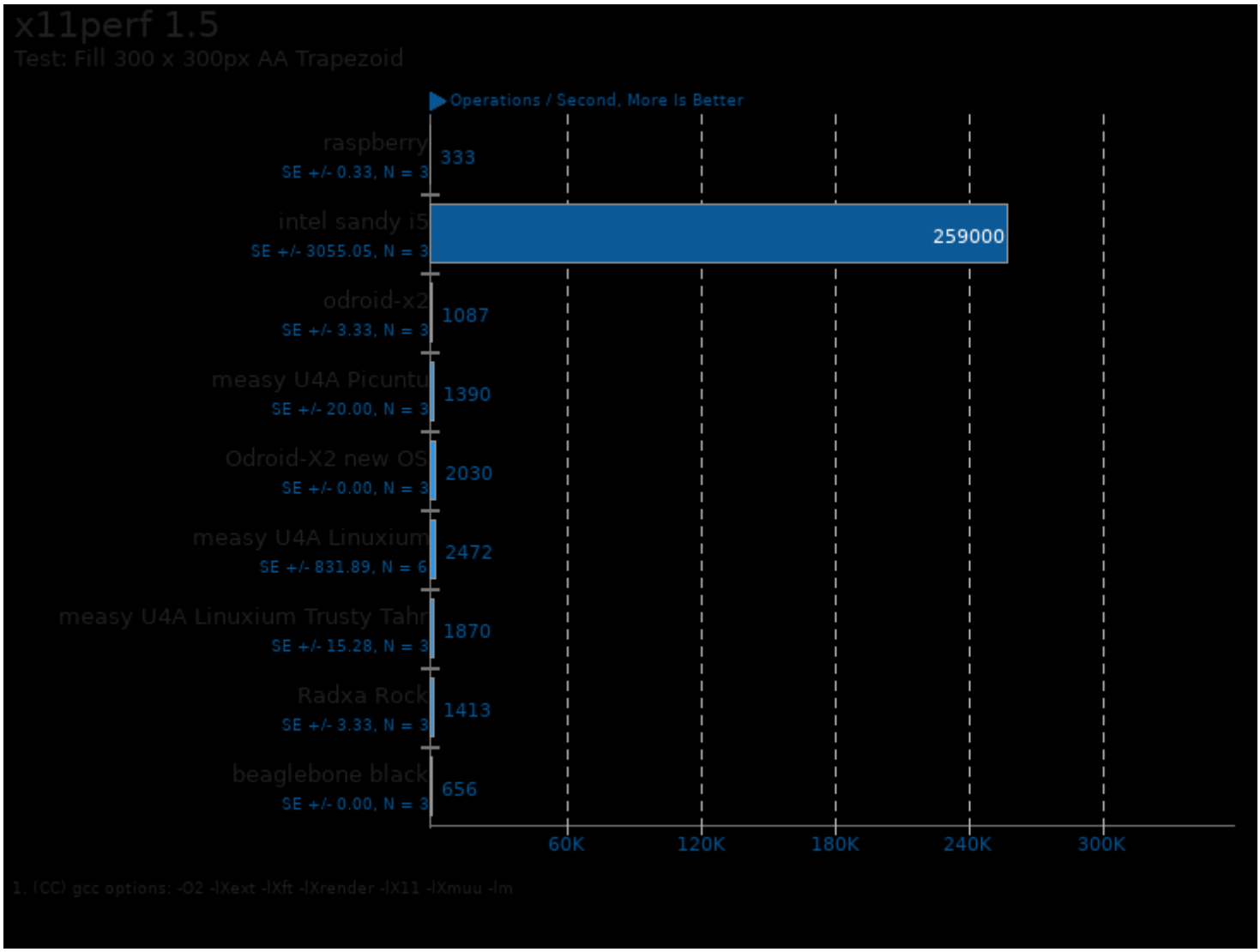
dcraw - R.T.P.I.C (sec)	1713	**80.47**	438.81	859.92	595.25	483.90	551.63	526.10	514.70	**1754**	929.00
Normalized	4.7%	100%	18.34%	9.36%	13.52%	16.63%	14.59%	15.3%	15.63%	4.59%	8.66%
Standard Deviation	0.3%	0.9%	0.1%	1.5%	0.4%	0%	7.2%	0.3%	0.2%	0.4%	0.9%
LAME MP3 Encoding - WAV To MP3 (sec)	389.13	**18.40**	79.11	320.29	99.17	72.08	82.17	81.84	83.09	406.71	**415.07**
Normalized	4.73%	100%	23.26%	5.74%	18.55%	25.53%	22.39%	22.48%	22.14%	4.52%	4.43%
Standard Deviation	2.3%	0.8%	0.1%	0.3%	1.5%	0.3%	1.9%	0.9%	1.2%	1.8%	0.2%
Sample Pi Program -	91.76	**4.80**	21.21	82.79	31.26	24.59	27.74	25.75	27.79	93.32	**108.01**
Normalized	5.23%	100%	22.63%	5.8%	15.36%	19.52%	17.3%	18.64%	17.27%	5.14%	4.44%
Standard Deviation	0.2%	0.1%	0%	0.2%	0%	0%	2%	0.3%	2.5%	0.1%	0.1%
PyBench - T.F.A.T.T (Milliseconds)	79878	**2645**	12200	22907	13398	11190	12059	11762	11900	**80866**	29678
Normalized	3.31%	100%	21.68%	11.55%	19.74%	23.64%	21.93%	22.49%	22.23%	3.27%	8.91%
Standard Deviation	4.1%	0.3%	0.1%	0.5%	0.1%	0.5%	2.4%	0%	2.4%	0.6%	0.7%
NGINX Benchmark - S.W.P.S	377.34	**18183**	6206			5901	1805	2927		**318.33**	879.86
Normalized	2.08%	100%	34.13%			32.45%	9.93%	16.09%		1.75%	4.84%
Standard Deviation	0.1%	3.3%	0.3%			0.5%	3.9%	1.7%		0.2%	0.2%
PHPBench - P.B.S (Score)	3103	**88727**	15480	11308	16395	18811	15925	17133	18992	**2996**	8598
Normalized	3.5%	100%	17.45%	12.74%	18.48%	21.2%	17.95%	19.31%	21.4%	3.38%	9.69%
Standard Deviation	1.9%	0.3%	0%	0.4%	1.2%	0%	1.7%	0.2%	2.6%	2.9%	0.7%

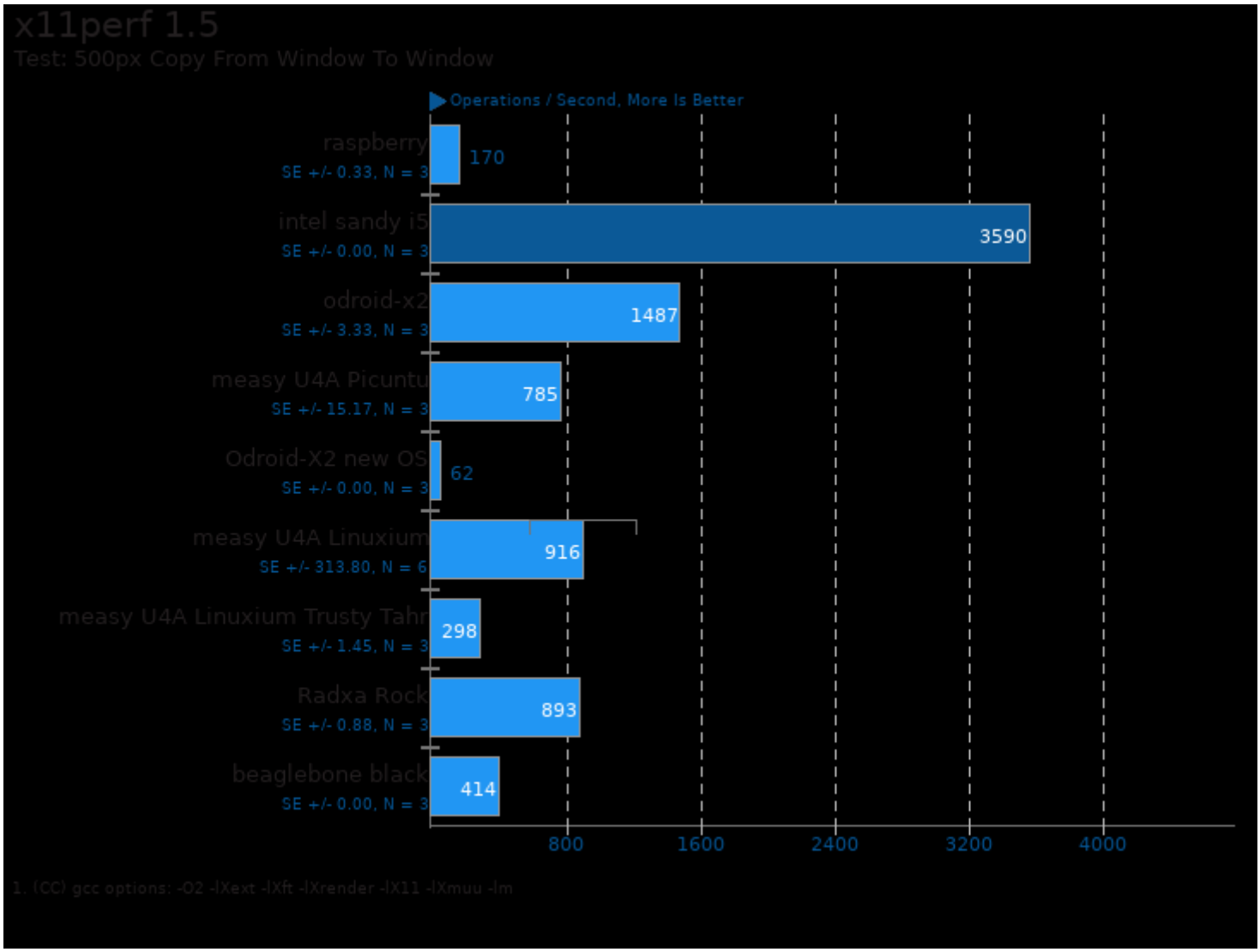

x11perf 1.5
Test: 500px PutImage Square
Operations / Second, More Is Better
raspberry
SE +/- 0.06, N = 3
61.00
intel sandy i5
SE +/- 3.33, N = 3
3037.00
odroid-x2
SE +/- 0.88, N = 3
174.00
measy U4A Picuntu
SE +/- 0.88, N = 3
242.00
Odroid-X2 new OS
SE +/- 2.03, N = 3
390.00
measy U4A Linuxium
SE +/- 1.15, N = 3
214.00
measy U4A Linuxium Trusty Tahr
SE +/- 3.49, N = 6
76.73
Radxa Rock
SE +/- 4.48, N = 3
304.00
beaglebone black
SE +/- 0.03, N = 3
82.57
700
1400
2100
2800
3500
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

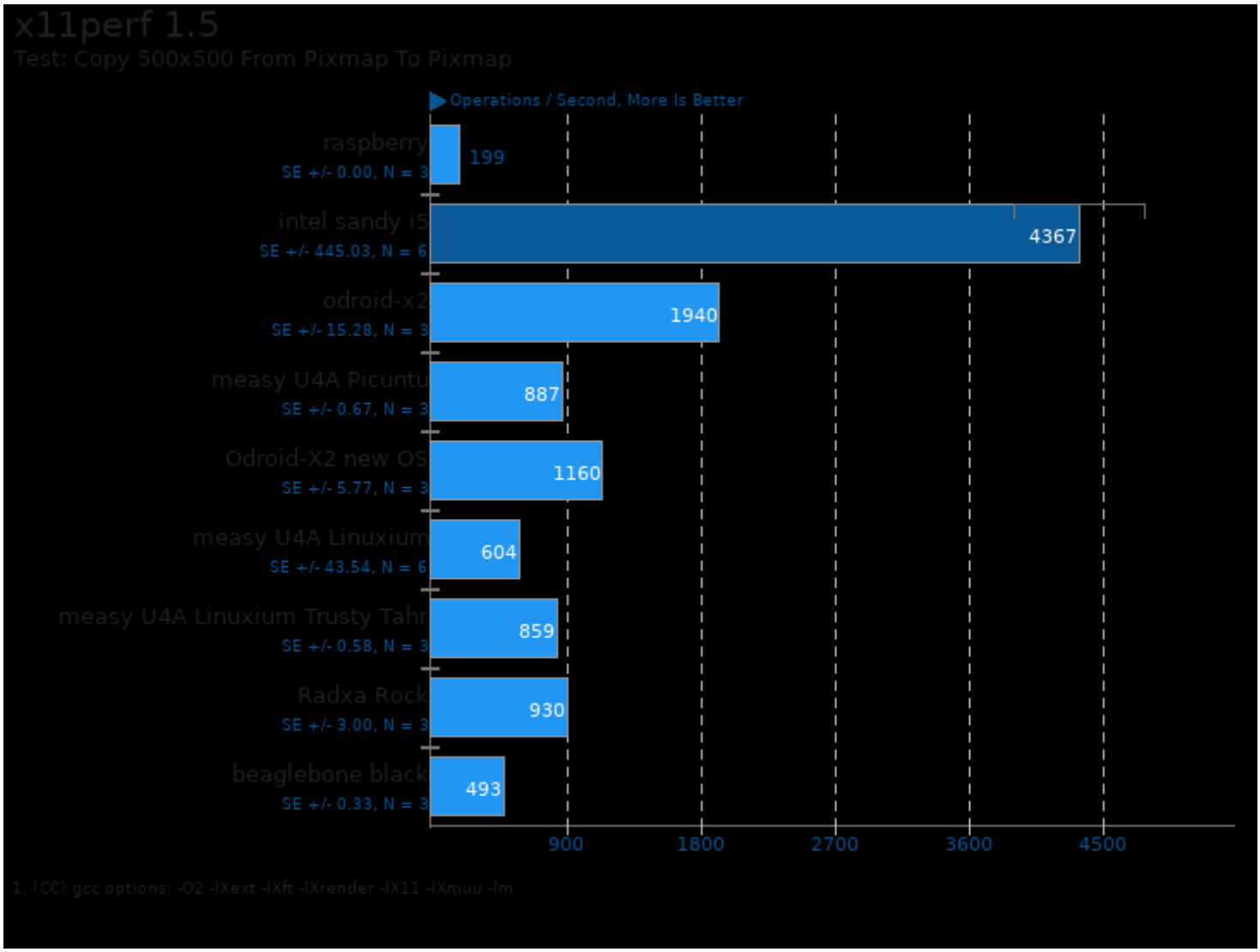

x11perf 1.5
Test: Scrolling 500 x 500 px
Operations / Second, More Is Better
raspberry
SE +/- 0.33, N = 3
290
intel sandy i5
SE +/- 0.00, N = 3
3580
odroid-x2
SE +/- 36.06, N = 3
3970
measy U4A Picuntu
SE +/- 26.13, N = 6
1498
Odroid-X2 new OS
SE +/- 0.67, N = 3
208
measy U4A Linuxium
SE +/- 3.33, N = 3
1353
measy U4A Linuxium Trusty Tahr
SE +/- 1.20, N = 3
532
Radxa Rock
SE +/- 17.64, N = 3
1533
beaglebone black
SE +/- 3.51, N = 3
666
900
1800
2700
3600
4500
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

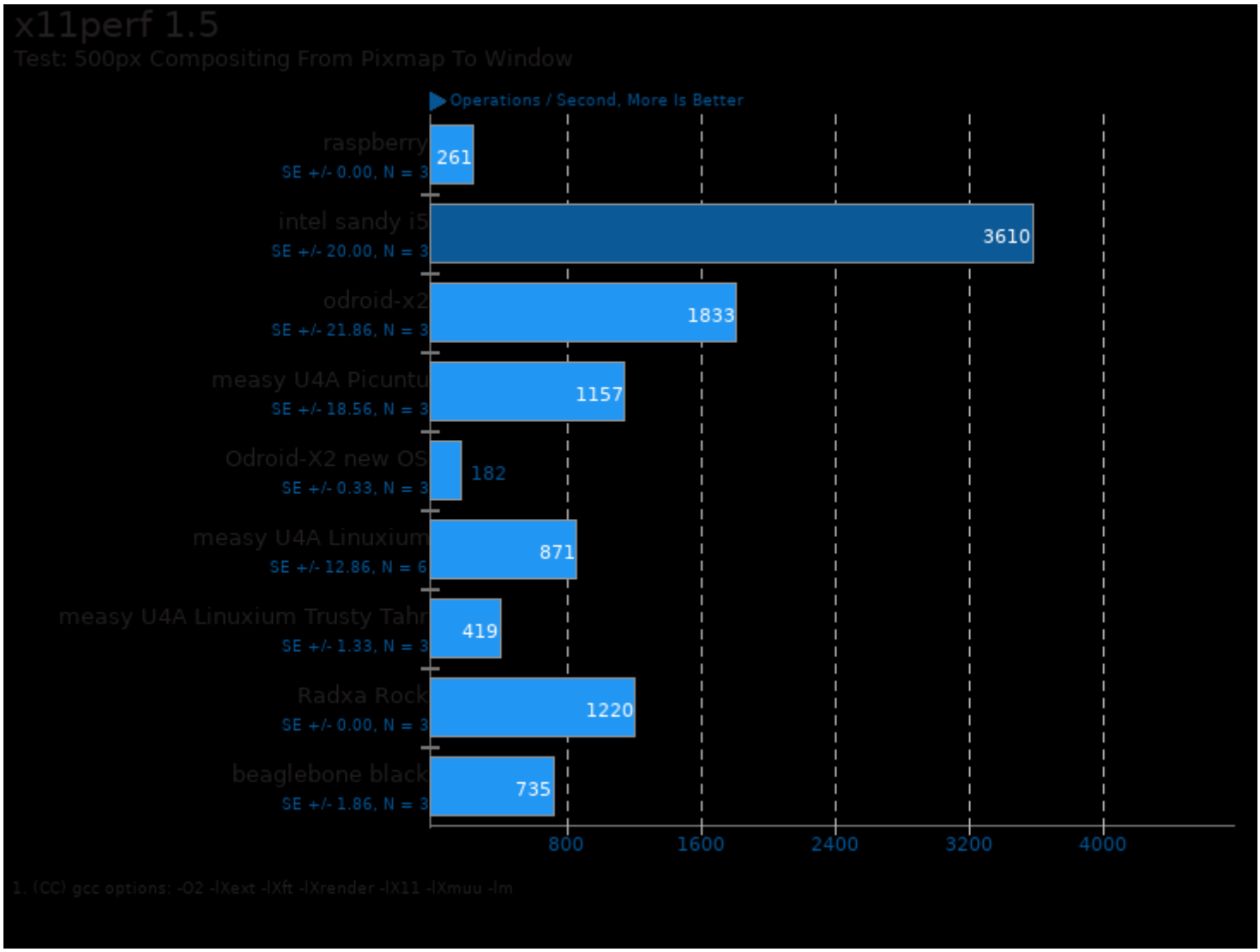

x11perf 1.5
Test: Char in 80-char aa line
Operations / Second, More Is Better
raspberry
SE +/- 57.74, N = 3
31700
intel sandy i5
SE +/- 120185.04, N = 3
16233333
odroid-x2
SE +/- 3844.19, N = 3
241333
measy U4A Picuntu
SE +/- 2027.59, N = 3
238667
Odroid-X2 new OS
SE +/- 333.33, N = 3
132333
measy U4A Linuxium
SE +/- 1732.05, N = 3
202000
measy U4A Linuxium Trusty Tahr
SE +/- 1201.85, N = 3
292667
Radxa Rock
SE +/- 3333.33, N = 3
240667
beaglebone black
SE +/- 0.00, N = 3
100000
3M
6M
9M
12M
15M
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

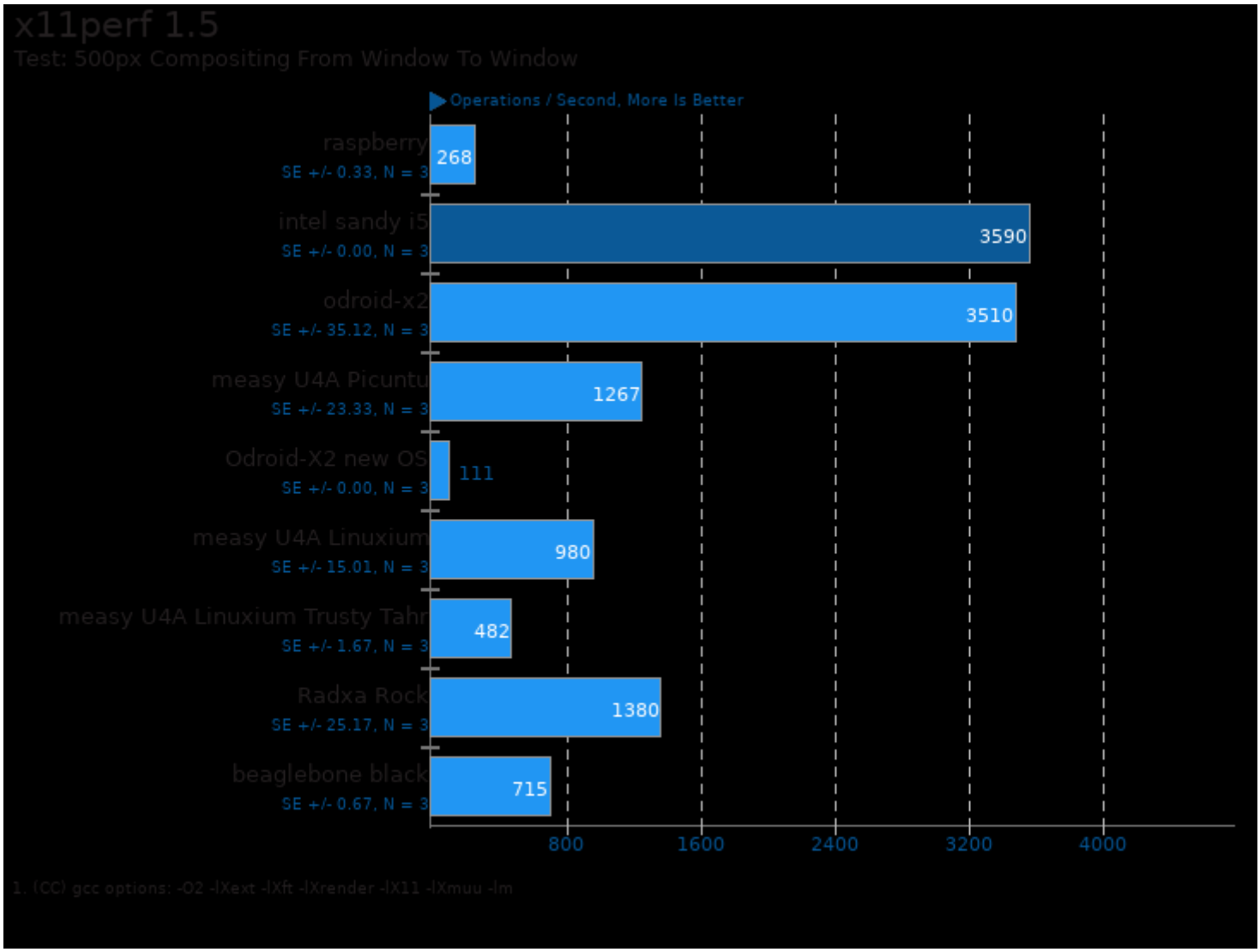

x11perf 1.5
Test: PutImage XY 500x500 Square
Operations / Second, More Is Better
raspberry
SE +/- 0.00, N = 3
6.60
intel sandy i5
SE +/- 0.00, N = 3
162.00
odroid-x2
SE +/- 0.32, N = 3
32.17
measy U4A Picuntu
SE +/- 0.43, N = 3
31.23
Odroid-X2 new OS
SE +/- 0.00, N = 3
0.80
measy U4A Linuxium
SE +/- 0.03, N = 3
28.77
measy U4A Linuxium Trusty Tahr
SE +/- 0.06, N = 3
18.90
Radxa Rock
SE +/- 0.15, N = 3
32.30
beaglebone black
SE +/- 0.00, N = 3
12.90
40
80
120
160
200
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm


x11perf 1.5
Test: Fill 300 x 300px AA Trapezoid
Operations / Second, More Is Better
raspberry
SE +/- 0.33, N = 3
333
intel sandy i5
SE +/- 3055.05, N = 3
259000
odroid-x2
SE +/- 3.33, N = 3
1087
measy U4A Picuntu
SE +/- 20.00, N = 3
1390
Odroid-X2 new OS
SE +/- 0.00, N = 3
2030
measy U4A Linuxium
SE +/- 831.89, N = 6
2472
measy U4A Linuxium Trusty Tahr
SE +/- 15.28, N = 3
1870
Radxa Rock
SE +/- 3.33, N = 3
1413
beaglebone black
SE +/- 0.00, N = 3
656
60K
120K
180K
240K
300K
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

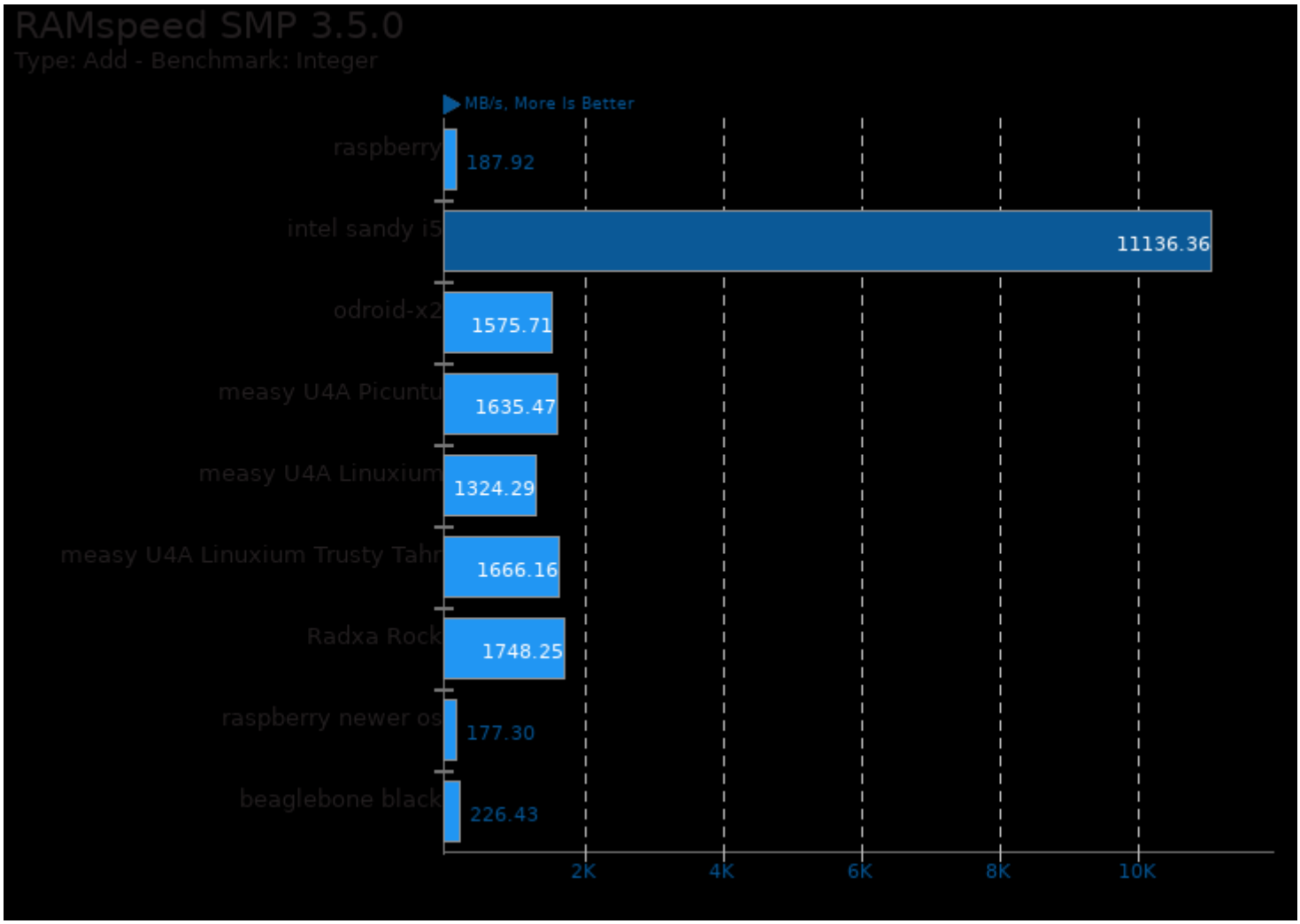

x11perf 1.5
Test: 500px Copy From Window To Window
Operations / Second, More Is Better
raspberry
SE +/- 0.33, N = 3
170
intel sandy i5
SE +/- 0.00, N = 3
3590
odroid-x2
SE +/- 3.33, N = 3
1487
measy U4A Picuntu
SE +/- 15.17, N = 3
785
Odroid-X2 new OS
SE +/- 0.00, N = 3
62
measy U4A Linuxium
SE +/- 313.80, N = 6
916
measy U4A Linuxium Trusty Tahr
SE +/- 1.45, N = 3
298
Radxa Rock
SE +/- 0.88, N = 3
893
beaglebone black
SE +/- 0.00, N = 3
414
800
1600
2400
3200
4000
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

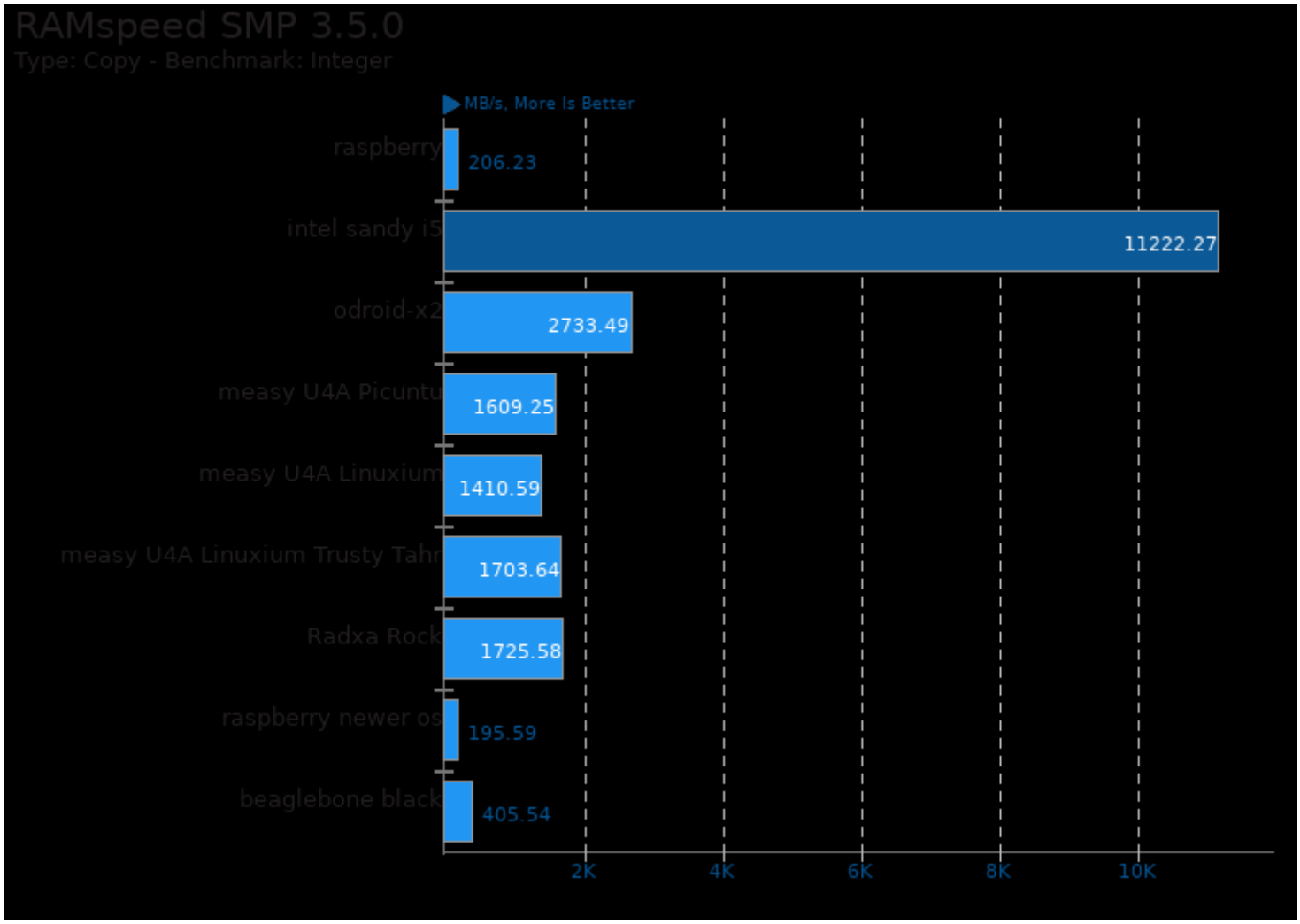

x11perf 1.5
Test: Copy 500x500 From Pixmap To Pixmap
Operations / Second, More Is Better
raspberry
SE +/- 0.00, N = 3
199
intel sandy i5
SE +/- 445.03, N = 6
4367
odroid-x2
SE +/- 15.28, N = 3
1940
measy U4A Picuntu
SE +/- 0.67, N = 3
887
Odroid-X2 new OS
SE +/- 5.77, N = 3
1160
measy U4A Linuxium
SE +/- 43.54, N = 6
604
measy U4A Linuxium Trusty Tahr
SE +/- 0.58, N = 3
859
Radxa Rock
SE +/- 3.00, N = 3
930
beaglebone black
SE +/- 0.33, N = 3
493
900
1800
2700
3600
4500
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

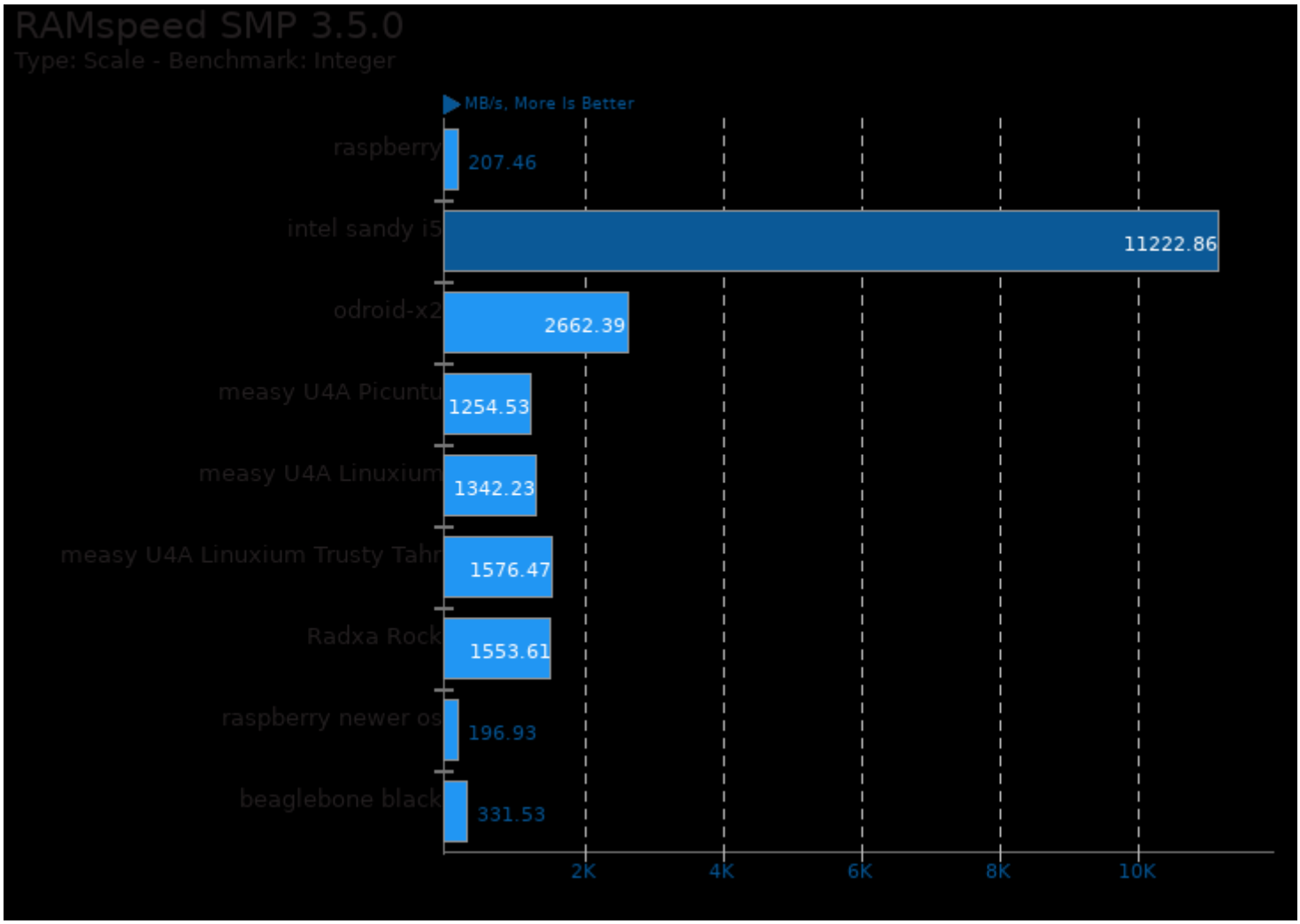

x11perf 1.5
Test: 500px Compositing From Pixmap To Window
Operations / Second, More Is Better
raspberry
SE +/- 0.00, N = 3
261
intel sandy i5
SE +/- 20.00, N = 3
3610
odroid-x2
SE +/- 21.86, N = 3
1833
measy U4A Picuntu
SE +/- 18.56, N = 3
1157
Odroid-X2 new OS
SE +/- 0.33, N = 3
182
measy U4A Linuxium
SE +/- 12.86, N = 6
871
measy U4A Linuxium Trusty Tahr
SE +/- 1.33, N = 3
419
Radxa Rock
SE +/- 0.00, N = 3
1220
beaglebone black
SE +/- 1.86, N = 3
735
800
1600
2400
3200
4000
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

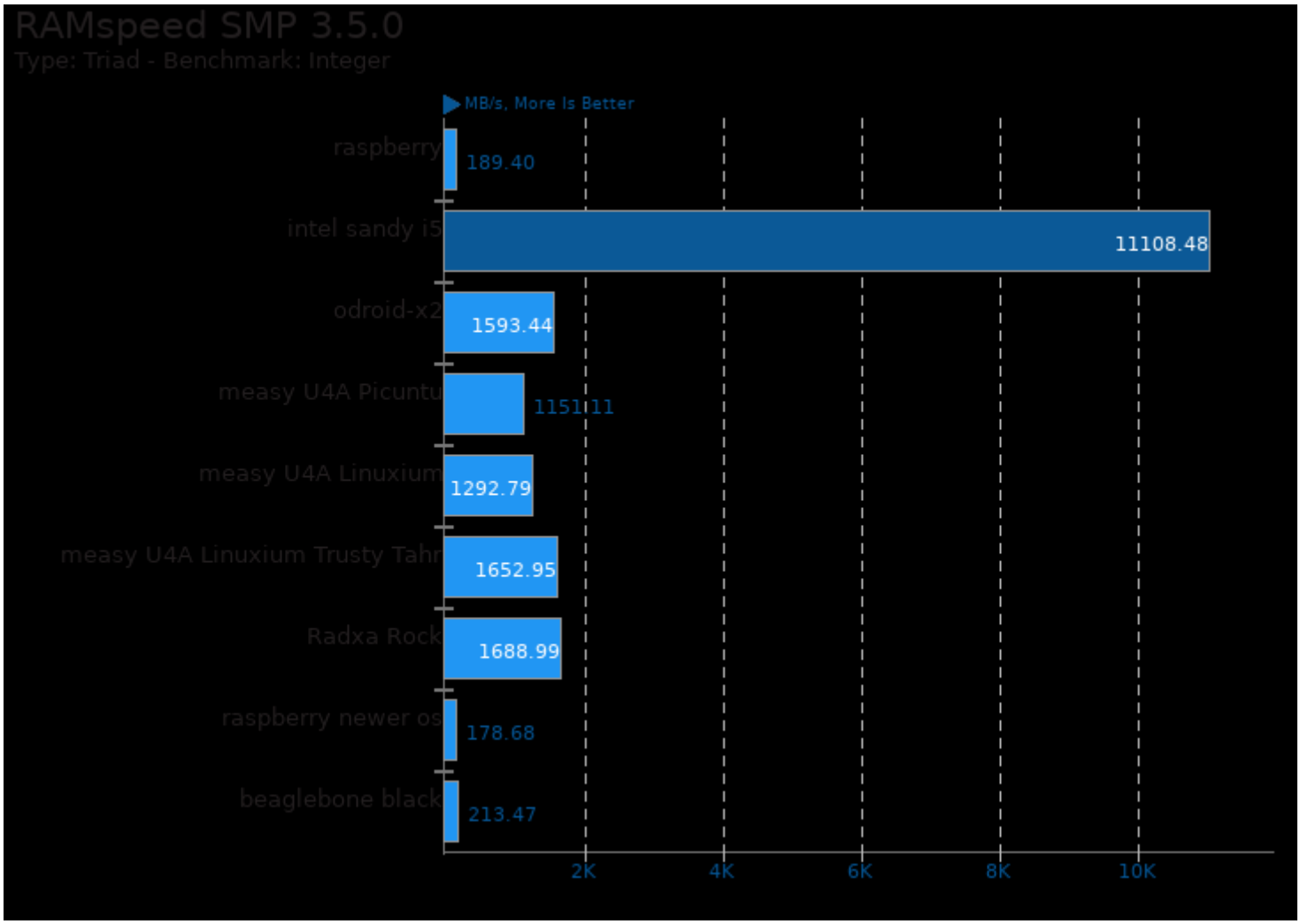

x11perf 1.5
Test: 500px Compositing From Window To Window
Operations / Second, More Is Better
raspberry
SE +/- 0.33, N = 3
268
intel sandy i5
SE +/- 0.00, N = 3
3590
odroid-x2
SE +/- 35.12, N = 3
3510
measy U4A Picuntu
SE +/- 23.33, N = 3
1267
Odroid-X2 new OS
SE +/- 0.00, N = 3
111
measy U4A Linuxium
SE +/- 15.01, N = 3
980
measy U4A Linuxium Trusty Tahr
SE +/- 1.67, N = 3
482
Radxa Rock
SE +/- 25.17, N = 3
1380
beaglebone black
SE +/- 0.67, N = 3
715
800
1600
2400
3200
4000
1. (CC) gcc options: -O2 -lXext -lXft -lXrender -lX11 -lXmuu -lm

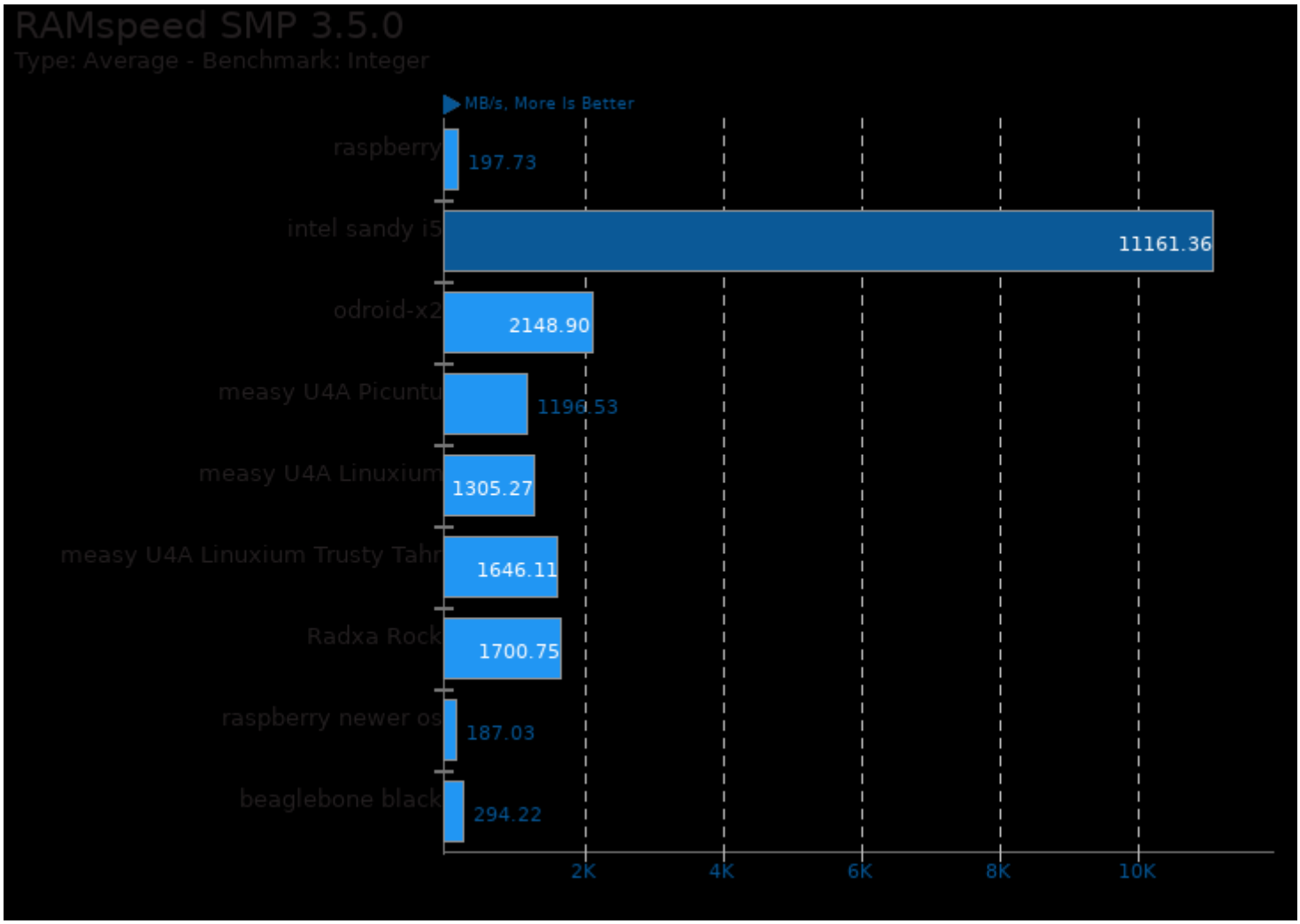
mini computers

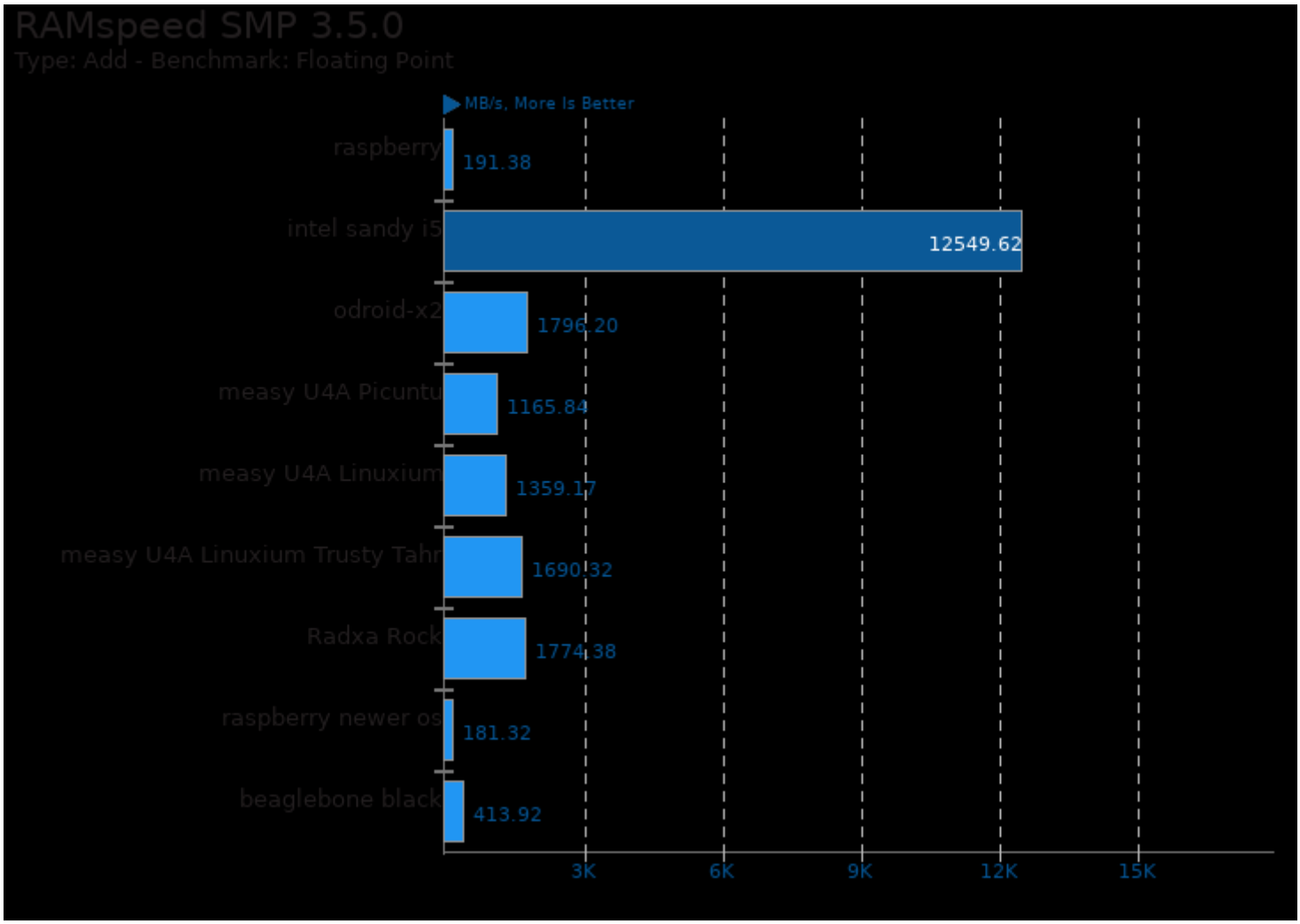


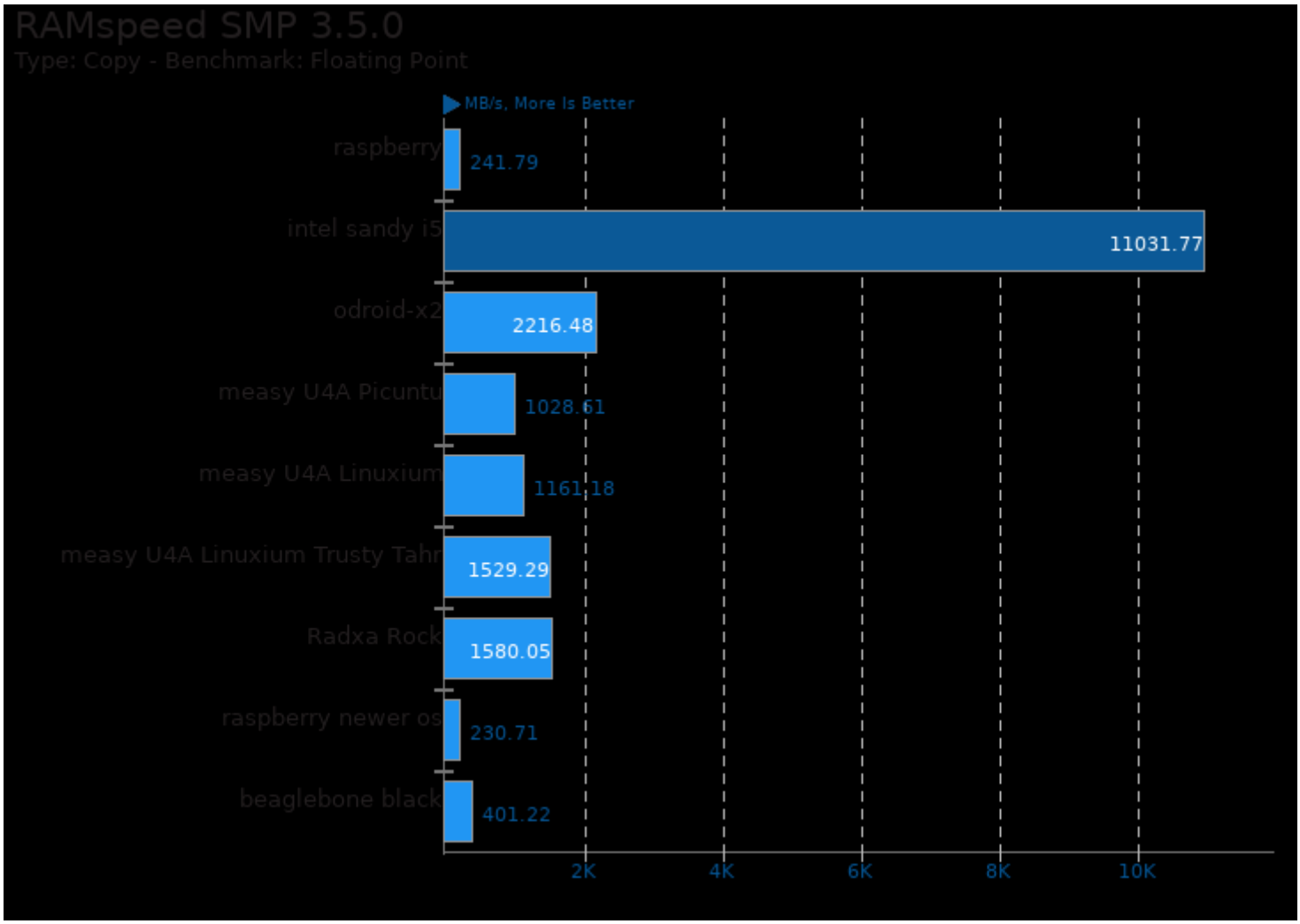

RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
raspberry
206.23
intel sandy i5
11222.27
odroid-x2
2733.49
measy U4A Picuntu
1609.25
measy U4A Linuxium
1410.59
measy U4A Linuxium Trusty Tahr
1703.64
Radxa Rock
1725.58
raspberry newer os
195.59
beaglebone black
405.54
2K
4K
6K
8K
10K

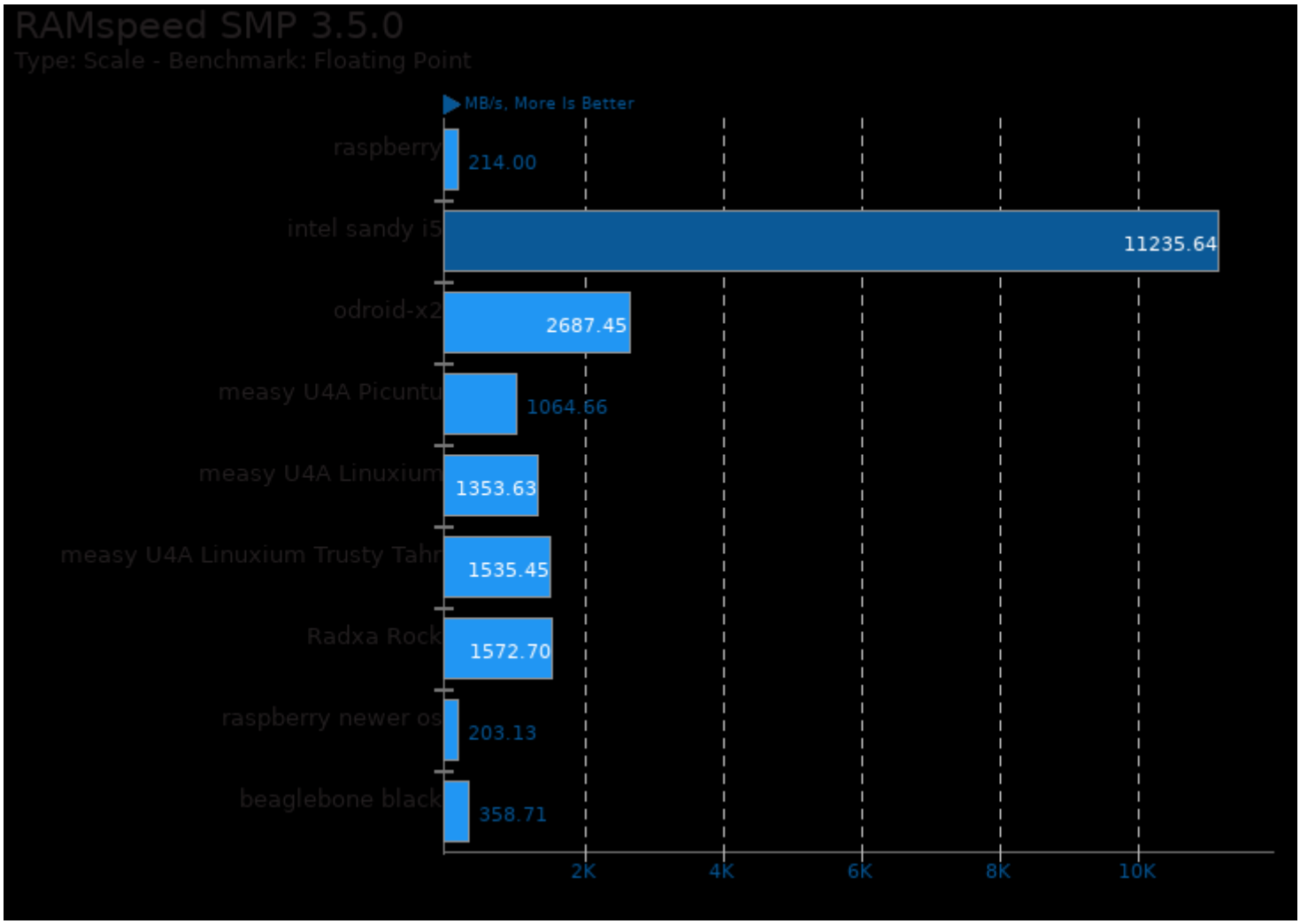

RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
raspberry
207.46
intel sandy i5
11222.86
odroid-x2
2662.39
measy U4A Picuntu
1254.53
measy U4A Linuxium
1342.23
measy U4A Linuxium Trusty Tahr
1576.47
Radxa Rock
1553.61
raspberry newer os
196.93
beaglebone black
331.53
2K
4K
6K
8K
10K

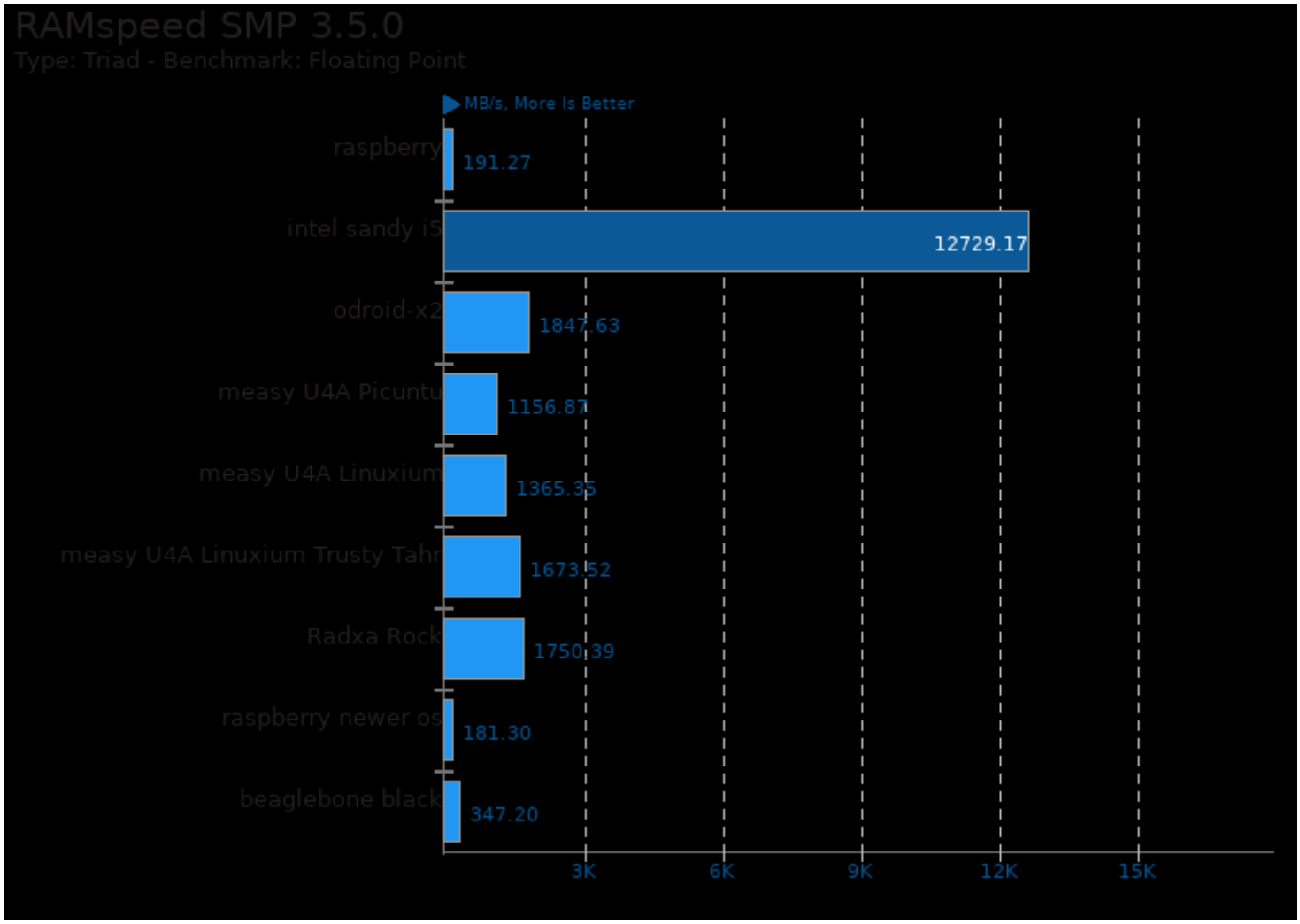

RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
raspberry
189.40
intel sandy i5
11108.48
odroid-x2
1593.44
measy U4A Picuntu
1151.11
measy U4A Linuxium
1292.79
measy U4A Linuxium Trusty Tahr
1652.95
Radxa Rock
1688.99
raspberry newer os
178.68
beaglebone black
213.47
2K
4K
6K
8K
10K

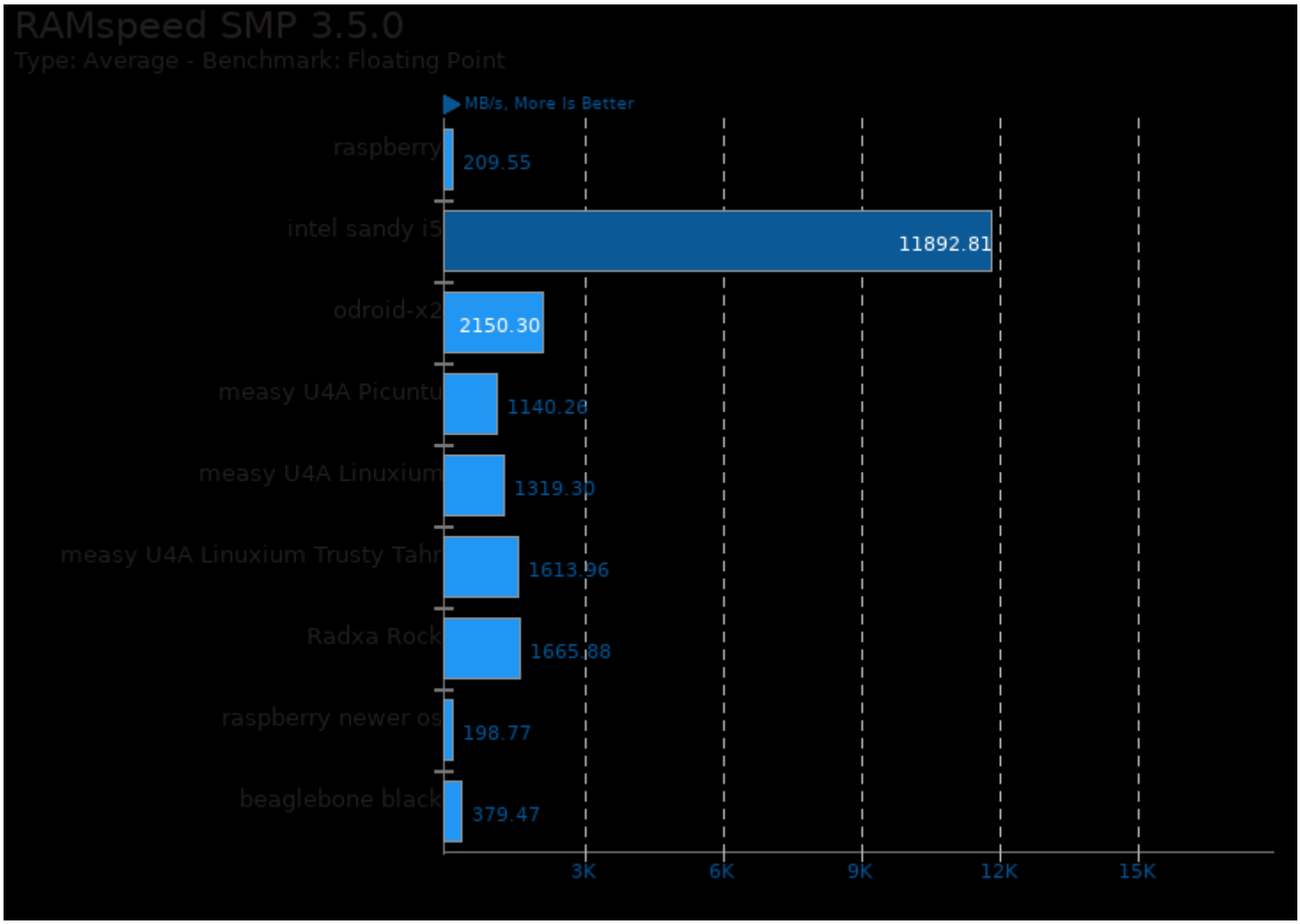

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
raspberry
197.73
intel sandy i5
11161.36
odroid-x2
2148.90
measy U4A Picuntu
1190.53
measy U4A Linuxium
1305.27
measy U4A Linuxium Trusty Tahr
1646.11
Radxa Rock
1700.75
raspberry newer os
187.03
beaglebone black
294.22
2K
4K
6K
8K
10K

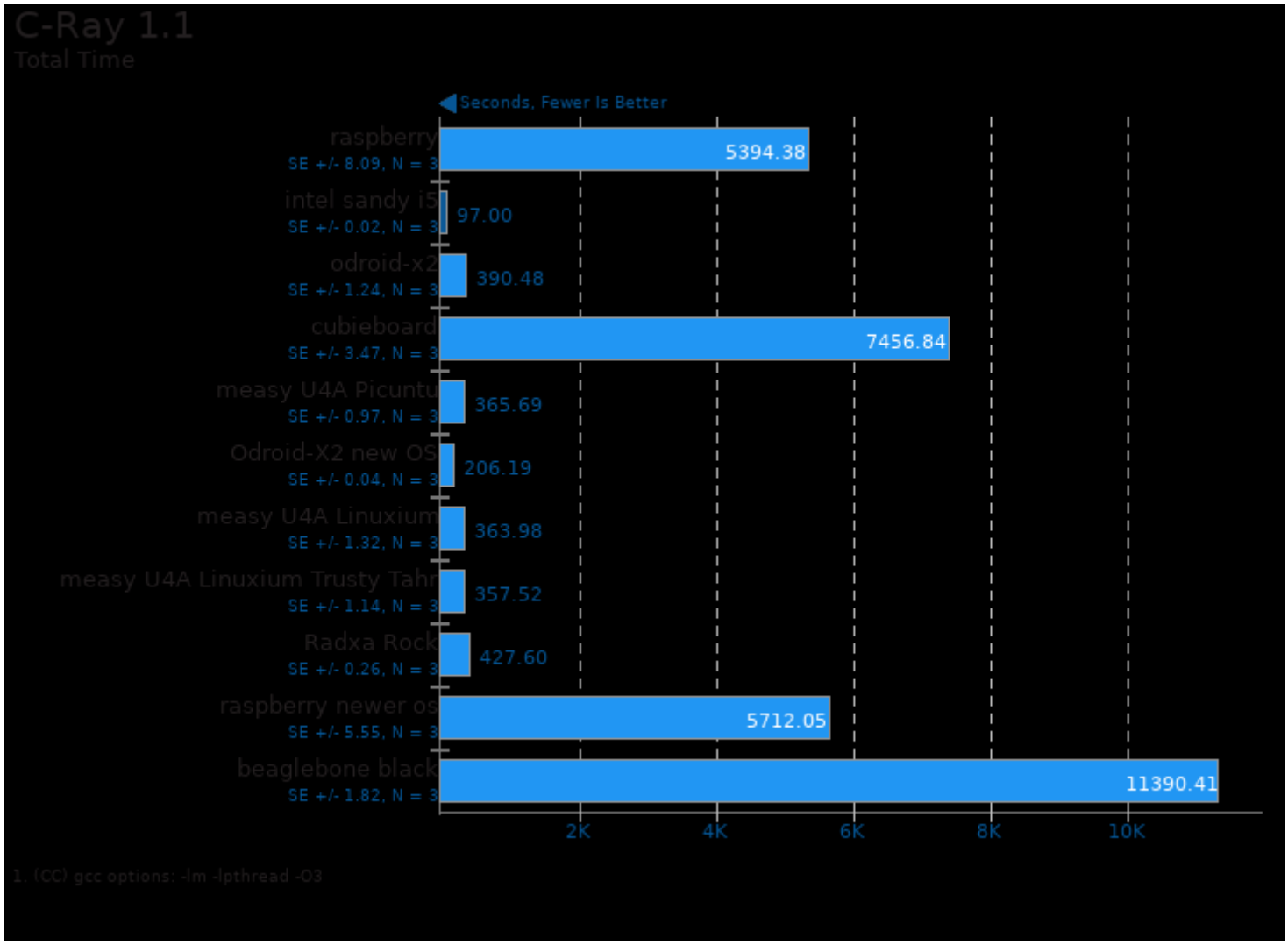

RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
raspberry
191.38
intel sandy i5
12549.62
odroid-x2
1796.20
measy U4A Picuntu
1165.84
measy U4A Linuxium
1359.17
measy U4A Linuxium Trusty Tahr
1690.32
Radxa Rock
1774.38
raspberry newer os
181.32
beaglebone black
413.92
3K
6K
9K
12K
15K

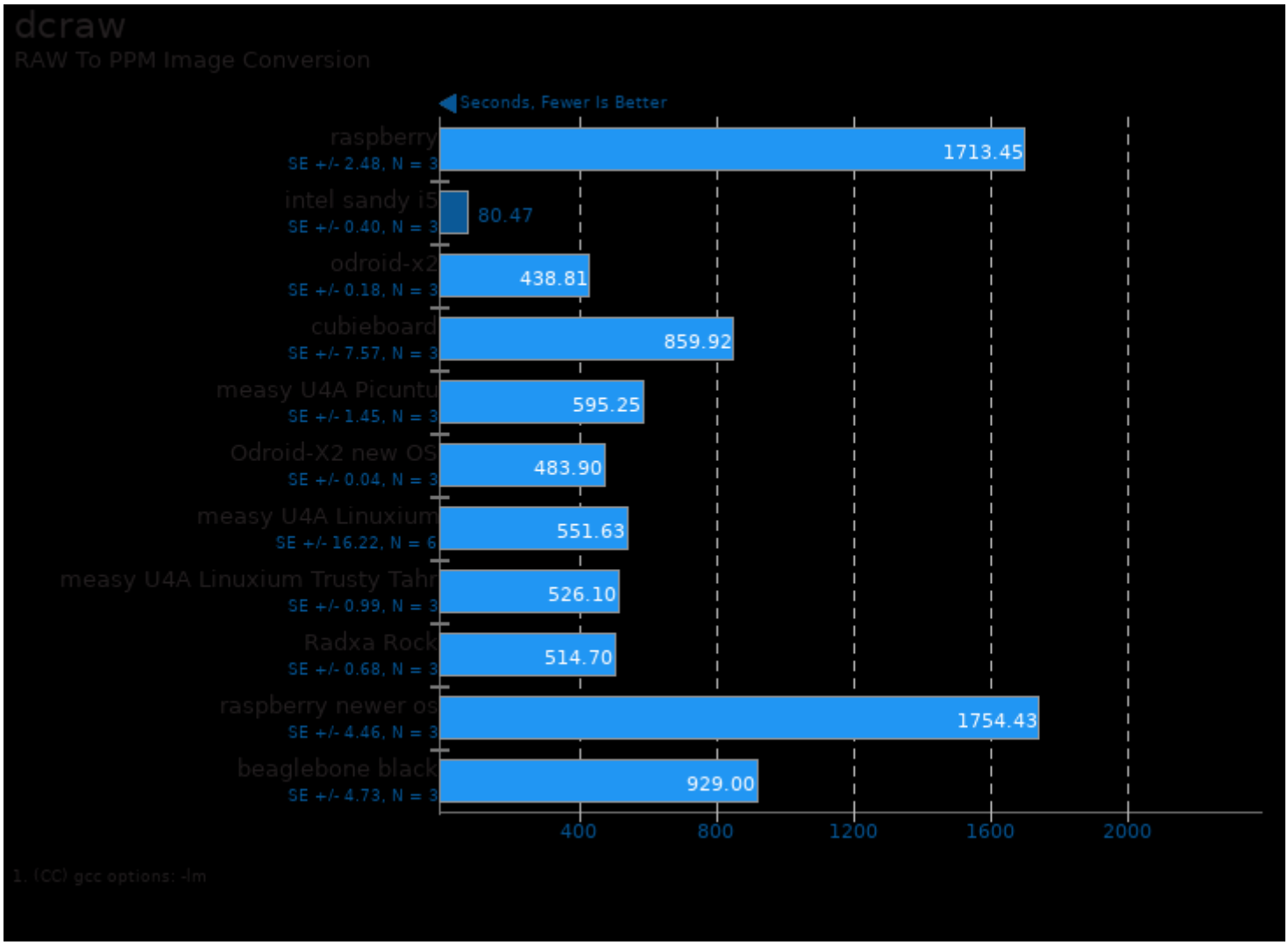

RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Floating Point
MB/s, More Is Better
raspberry
241.79
intel sandy i5
11031.77
odroid-x2
2216.48
measy U4A Picuntu
1028.61
measy U4A Linuxium
1161.18
measy U4A Linuxium Trusty Tahr
1529.29
Radxa Rock
1580.05
raspberry newer os
230.71
beaglebone black
401.22
2K
4K
6K
8K
10K

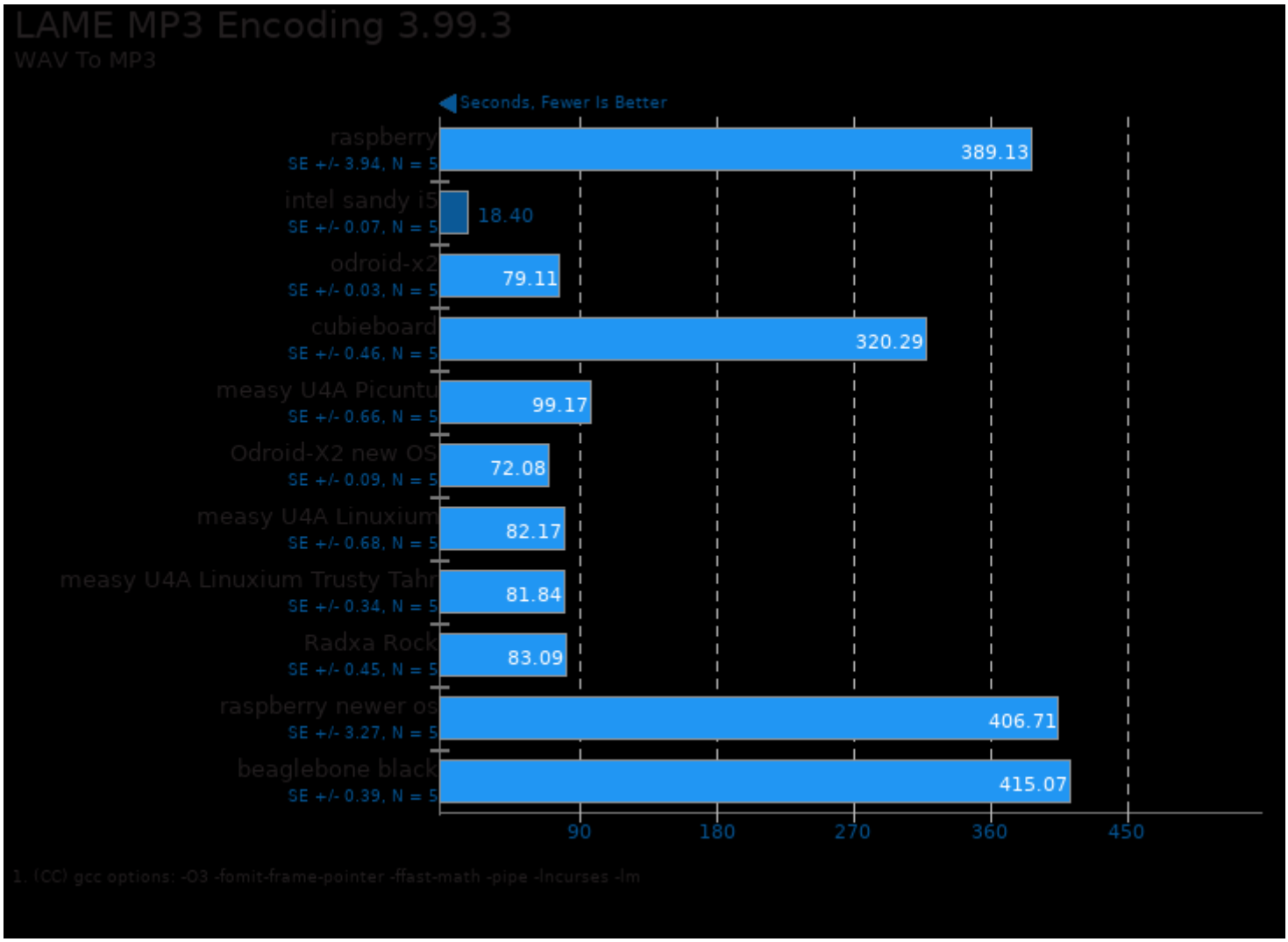

RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
raspberry
214.00
intel sandy i5
11235.64
odroid-x2
2687.45
measy U4A Picuntu
1064.66
measy U4A Linuxium
1353.63
measy U4A Linuxium Trusty Tahr
1535.45
Radxa Rock
1572.70
raspberry newer os
203.13
beaglebone black
358.71
2K
4K
6K
8K
10K

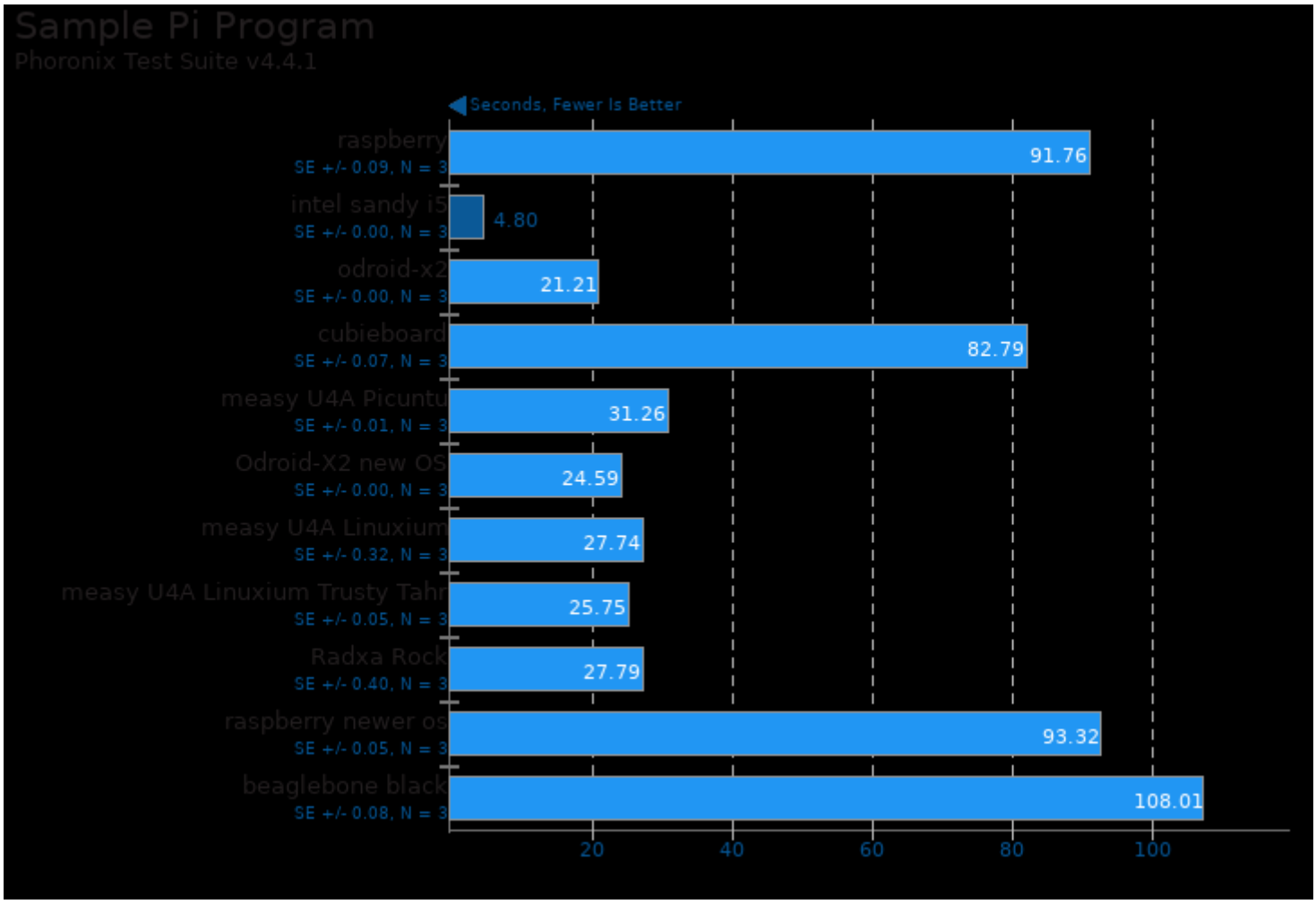

RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Floating Point
MB/s, More Is Better
raspberry
191.27
intel sandy i5
12729.17
odroid-x2
1847.63
measy U4A Picuntu
1156.87
measy U4A Linuxium
1365.35
measy U4A Linuxium Trusty Tahr
1673.52
Radxa Rock
1750.39
raspberry newer os
181.30
beaglebone black
347.20
3K
6K
9K
12K
15K

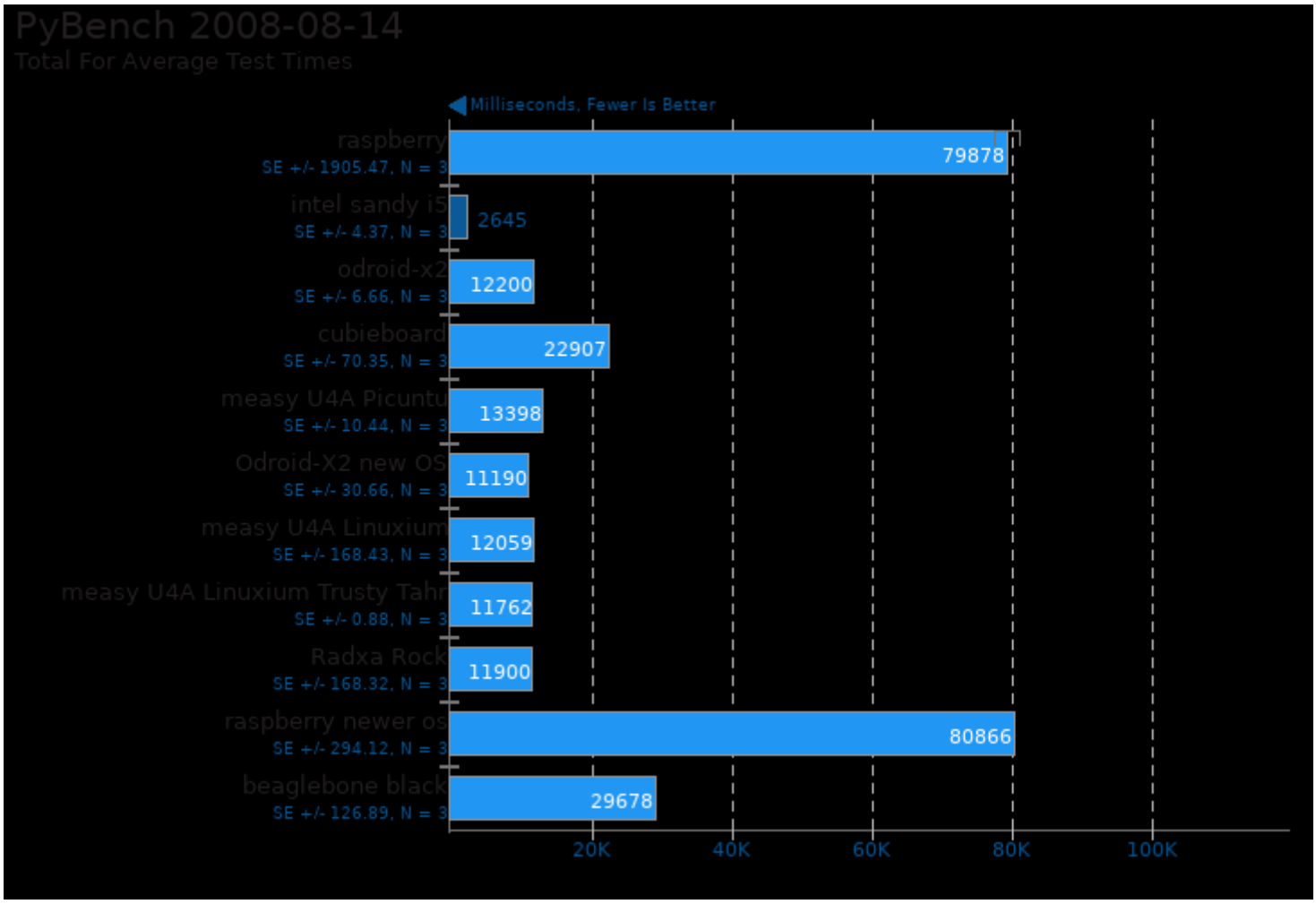

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Floating Point
MB/s, More Is Better
raspberry
209.55
intel sandy i5
11892.81
odroid-x2
2150.30
measy U4A Picuntu
1140.20
measy U4A Linuxium
1319.30
measy U4A Linuxium Trusty Tahr
1613.96
Radxa Rock
1665.88
raspberry newer os
198.77
beaglebone black
379.47
3K
6K
9K
12K
15K

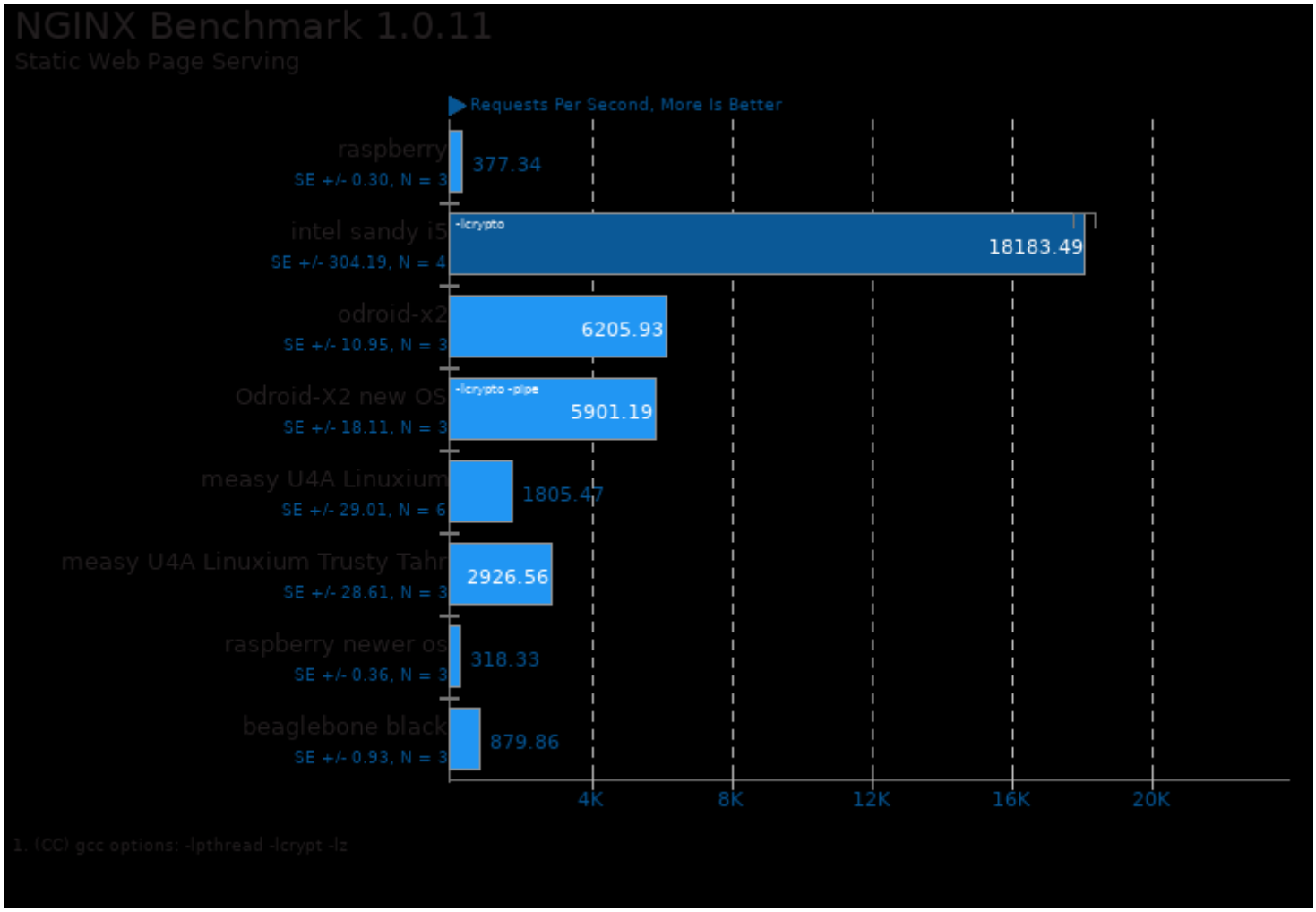

C-Ray 1.1
Total Time
Seconds, Fewer Is Better
raspberry
SE +/- 8.09, N = 3
5394.38
intel sandy i5
SE +/- 0.02, N = 3
97.00
odroid-x2
SE +/- 1.24, N = 3
390.48
cubieboard
SE +/- 3.47, N = 3
7456.84
measy U4A Picuntu
SE +/- 0.97, N = 3
365.69
Odroid-X2 new OS
SE +/- 0.04, N = 3
206.19
measy U4A Linuxium
SE +/- 1.32, N = 3
363.98
measy U4A Linuxium Trusty Tahr
SE +/- 1.14, N = 3
357.52
Radxa Rock
SE +/- 0.26, N = 3
427.60
raspberry newer os
SE +/- 5.55, N = 3
5712.05
beaglebone black
SE +/- 1.82, N = 3
11390.41
2K
4K
6K
8K
10K
1. (CC) gcc options: -lm -lpthread -O3

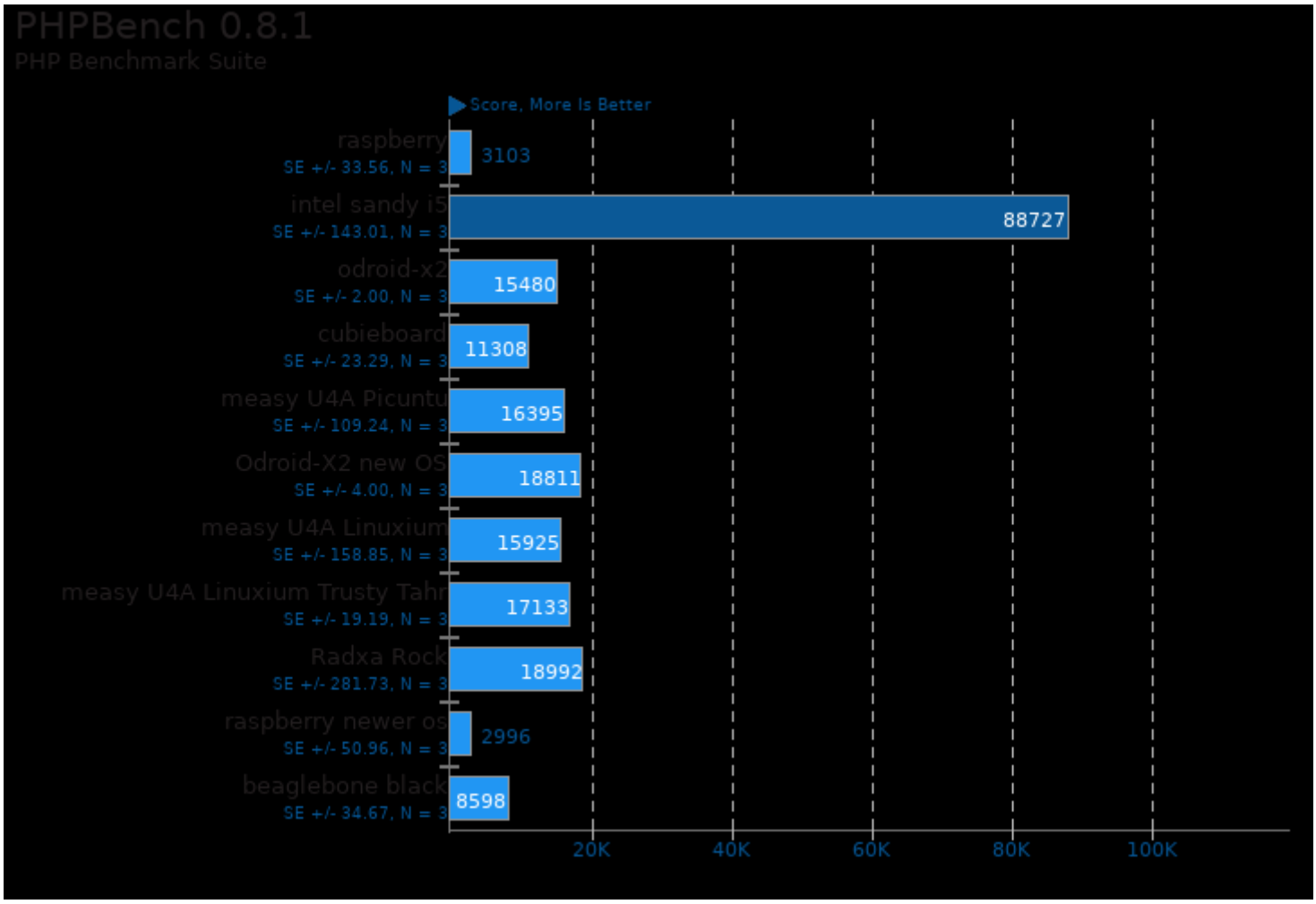

dcraw
RAW To PPM Image Conversion
Seconds, Fewer Is Better
raspberry
SE +/- 2.48, N = 3
1713.45
intel sandy i5
SE +/- 0.40, N = 3
80.47
odroid-x2
SE +/- 0.18, N = 3
438.81
cubieboard
SE +/- 7.57, N = 3
859.92
measy U4A Picuntu
SE +/- 1.45, N = 3
595.25
Odroid-X2 new OS
SE +/- 0.04, N = 3
483.90
measy U4A Linuxium
SE +/- 16.22, N = 6
551.63
measy U4A Linuxium Trusty Tahr
SE +/- 0.99, N = 3
526.10
Radxa Rock
SE +/- 0.68, N = 3
514.70
raspberry newer os
SE +/- 4.46, N = 3
1754.43
beaglebone black
SE +/- 4.73, N = 3
929.00
400
800
1200
1600
2000
1. (CC) gcc options: -lm


LAME MP3 Encoding 3.99.3
WAV To MP3
Seconds, Fewer Is Better
raspberry
SE +/- 3.94, N = 5
389.13
intel sandy i5
SE +/- 0.07, N = 5
18.40
odroid-x2
SE +/- 0.03, N = 5
79.11
cubieboard
SE +/- 0.46, N = 5
320.29
measy U4A Picuntu
SE +/- 0.66, N = 5
99.17
Odroid-X2 new OS
SE +/- 0.09, N = 5
72.08
measy U4A Linuxium
SE +/- 0.68, N = 5
82.17
measy U4A Linuxium Trusty Tahr
SE +/- 0.34, N = 5
81.84
Radxa Rock
SE +/- 0.45, N = 5
83.09
raspberry newer os
SE +/- 3.27, N = 5
406.71
beaglebone black
SE +/- 0.39, N = 5
415.07
90
180
270
360
450
1. (CC) gcc options: -O3 -fomit-frame-pointer -ffast-math -pipe -lncurses -lm

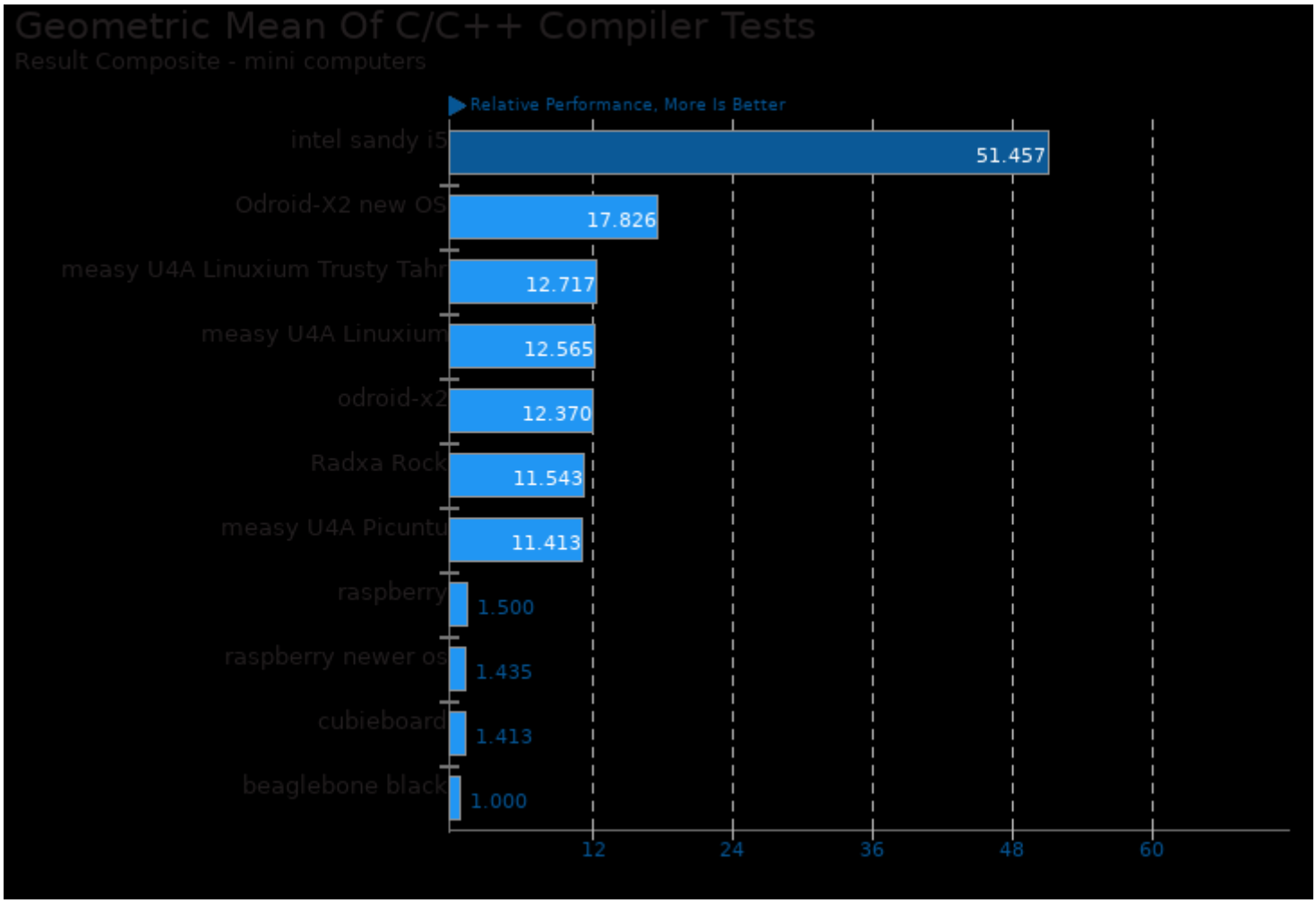

Sample Pi Program
Phoronix Test Suite v4.4.1
Seconds, Fewer Is Better
raspberry
SE +/- 0.09, N = 3
91.76
intel sandy i5
SE +/- 0.00, N = 3
4.80
odroid-x2
SE +/- 0.00, N = 3
21.21
cubieboard
SE +/- 0.07, N = 3
82.79
measy U4A Picuntu
SE +/- 0.01, N = 3
31.26
Odroid-X2 new OS
SE +/- 0.00, N = 3
24.59
measy U4A Linuxium
SE +/- 0.32, N = 3
27.74
measy U4A Linuxium Trusty Tahr
SE +/- 0.05, N = 3
25.75
Radxa Rock
SE +/- 0.40, N = 3
27.79
raspberry newer os
SE +/- 0.05, N = 3
93.32
beaglebone black
SE +/- 0.08, N = 3
108.01
20
40
60
80
100


PyBench 2008-08-14
Total For Average Test Times
Milliseconds, Fewer Is Better
raspberry
SE +/- 1905.47, N = 3
79878
intel sandy i5
SE +/- 4.37, N = 3
2645
odroid-x2
SE +/- 6.66, N = 3
12200
cubieboard
SE +/- 70.35, N = 3
22907
measy U4A Picuntu
SE +/- 10.44, N = 3
13398
Odroid-X2 new OS
SE +/- 30.66, N = 3
11190
measy U4A Linuxium
SE +/- 168.43, N = 3
12059
measy U4A Linuxium Trusty Tahr
SE +/- 0.88, N = 3
11762
Radxa Rock
SE +/- 168.32, N = 3
11900
raspberry newer os
SE +/- 294.12, N = 3
80866
beaglebone black
SE +/- 126.89, N = 3
29678
20K
40K
60K
80K
100K

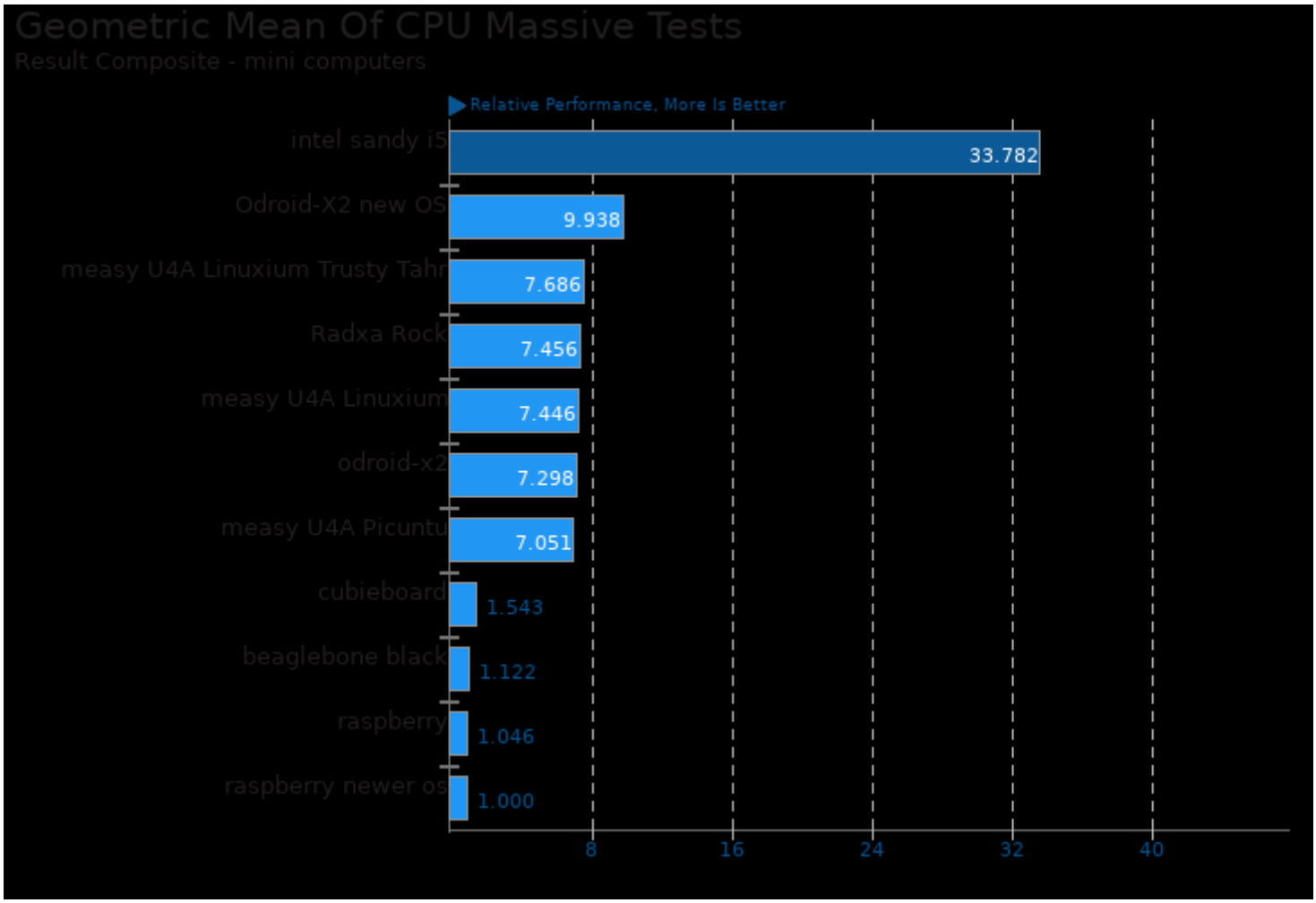

NGINX Benchmark 1.0.11
Static Web Page Serving
Requests Per Second, More Is Better
raspberry
SE +/- 0.30, N = 3
377.34
intel sandy i5
SE +/- 304.19, N = 4
-lcrypto
18183.49
odroid-x2
SE +/- 10.95, N = 3
6205.93
Odroid-X2 new OS
SE +/- 18.11, N = 3
-lcrypto -pipe
5901.19
measy U4A Linuxium
SE +/- 29.01, N = 6
1805.47
measy U4A Linuxium Trusty Tahr
SE +/- 28.61, N = 3
2926.56
raspberry newer os
SE +/- 0.36, N = 3
318.33
beaglebone black
SE +/- 0.93, N = 3
879.86
4K
8K
12K
16K
20K
1. (CC) gcc options: -lpthread -lcrypt -lz


PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
raspberry
SE +/- 33.56, N = 3
3103
intel sandy i5
SE +/- 143.01, N = 3
88727
odroid-x2
SE +/- 2.00, N = 3
15480
cubieboard
SE +/- 23.29, N = 3
11308
measy U4A Picuntu
SE +/- 109.24, N = 3
16395
Odroid-X2 new OS
SE +/- 4.00, N = 3
18811
measy U4A Linuxium
SE +/- 158.85, N = 3
15925
measy U4A Linuxium Trusty Tahr
SE +/- 19.19, N = 3
17133
Radxa Rock
SE +/- 281.73, N = 3
18992
raspberry newer os
SE +/- 50.96, N = 3
2996
beaglebone black
SE +/- 34.67, N = 3
8598
20K
40K
60K
80K
100K

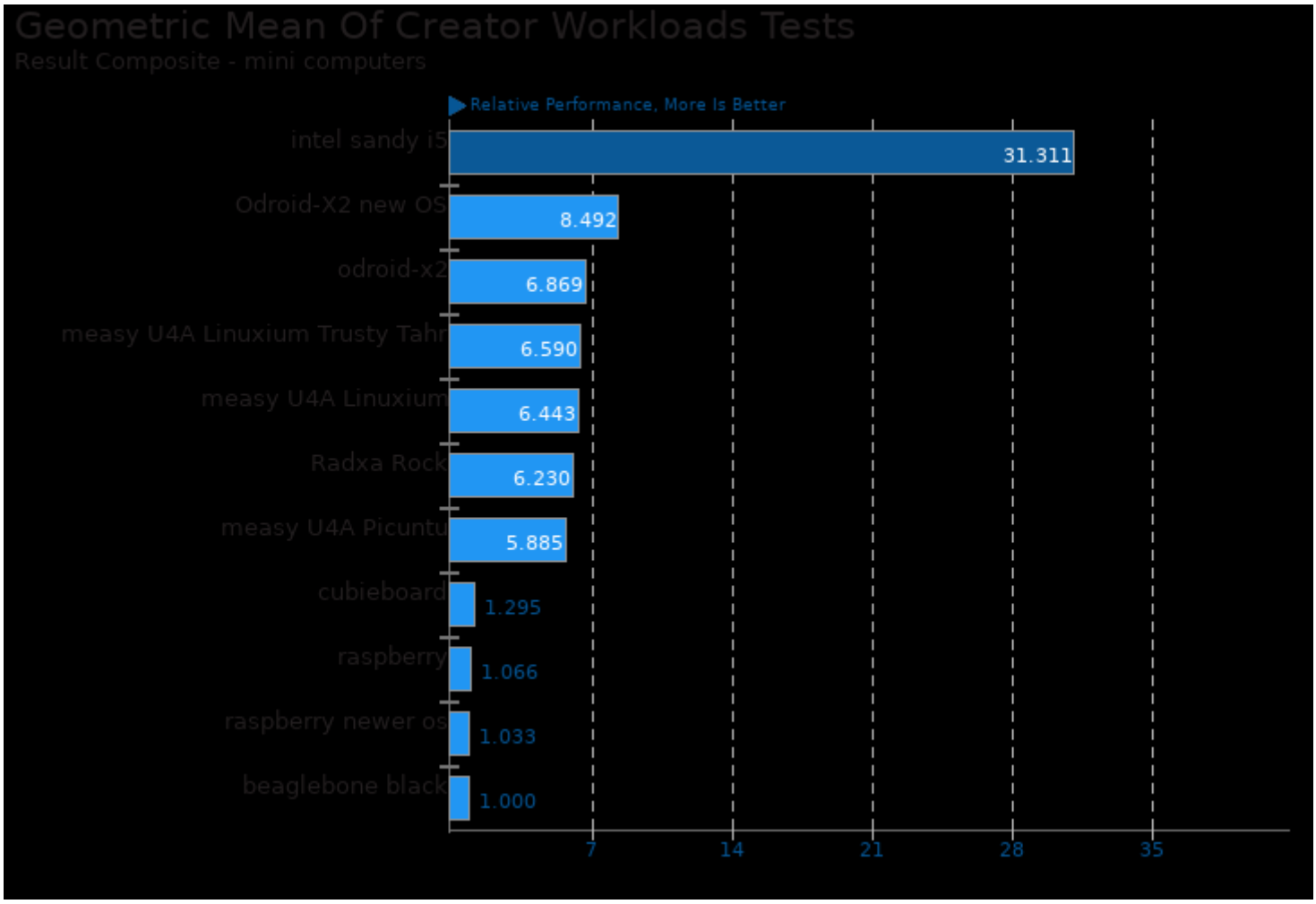
These geometric means are based upon test groupings / test suites for this result file.



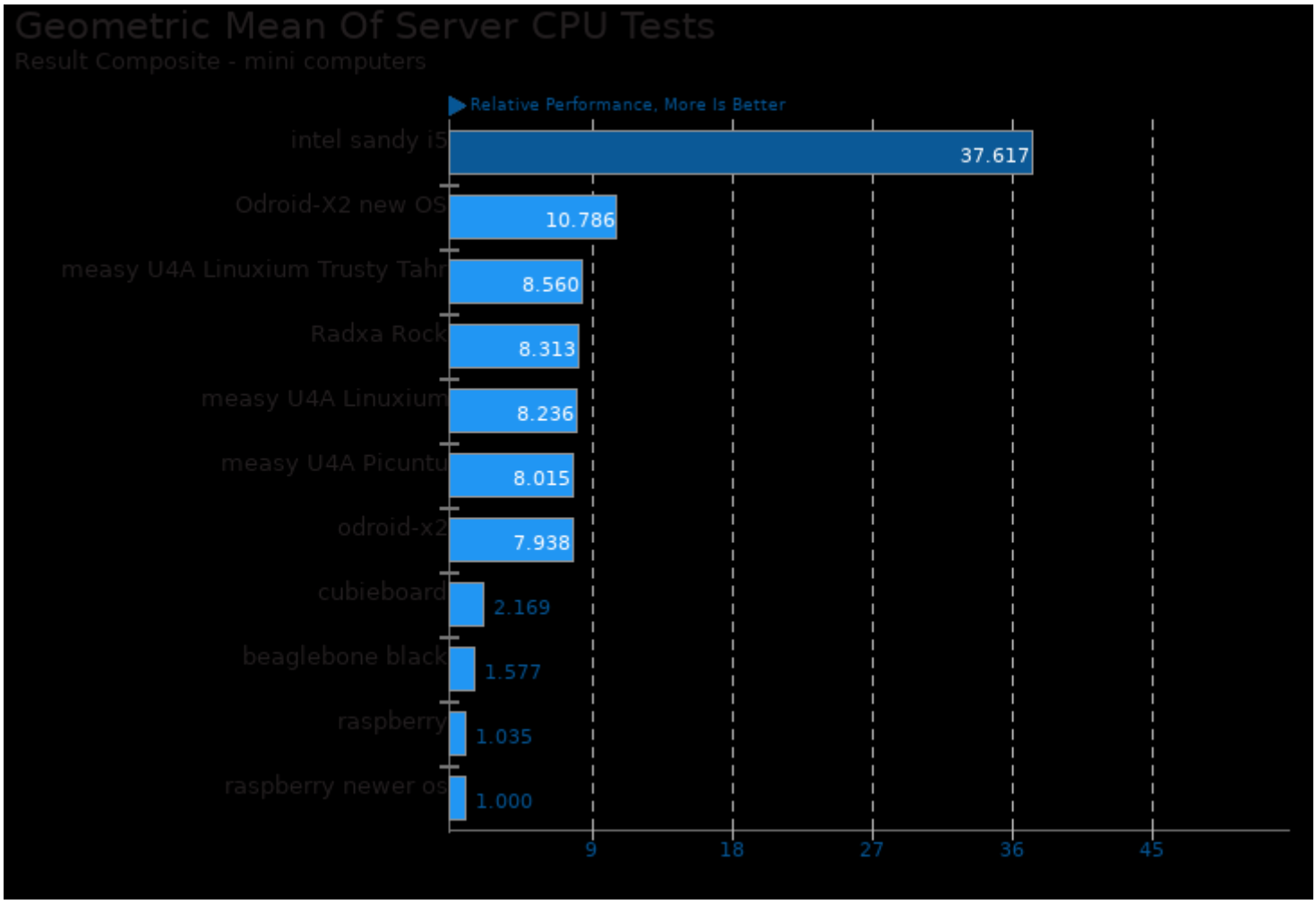
Geometric mean based upon tests: pts/c-ray, pts/encode-mp3 and pts/nginx



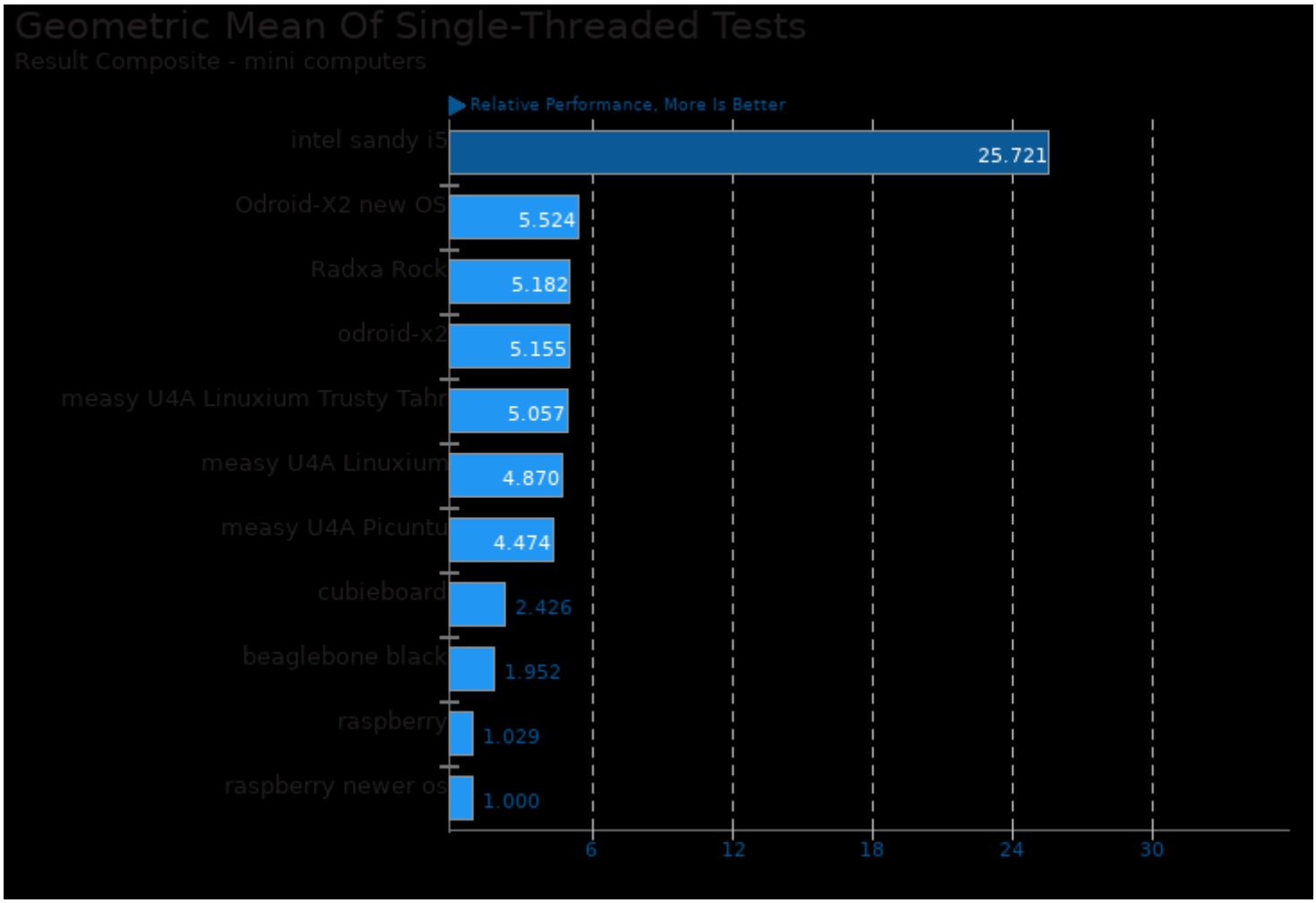
Geometric mean based upon tests: pts/c-ray, pts/encode-mp3, pts/nginx, pts/phpbench and pts/ramspeed



Geometric mean based upon tests: pts/c-ray, pts/encode-mp3 and pts/dcraw



Geometric mean based upon tests: pts/c-ray, pts/pybench, pts/phpbench and pts/ramspeed



Geometric mean based upon tests: pts/dcraw, pts/encode-mp3, pts/pybench, pts/phpbench and pts/nginx

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 14:16.