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Raspberry Pi vs Orange Pi vs Banana Pi 2016-03 Showdown by LoveRPi

DragonBoard 410c (Snapdragon 410) running Reference Build Platform 16.03 by Linaro (Debian)

Automated Executive Summary

Banana Pi M3 by LoveRPi had the most wins, coming in first place for 71% of the tests.

Based on the geometric mean of all complete results, the fastest (MiQi on Lubuntu 14.04) was 7.063x the speed of the slowest (Banana Pi M2+ SinoVoip).

Test Systems:

Orange Pi One on Armbian

Processor: ARMv7 rev 5 @ 1.20GHz (4 Cores), Motherboard: sun8i, Memory: 494MB, Disk: 32GB 00000

OS: Debian 8.3, Kernel: 3.4.110-sun8i (armv7l), Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1280x1440

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Orange Pi PC on Armbian

Processor: ARMv7 rev 5 @ 1.30GHz (4 Cores), Motherboard: sun8i, Memory: 1024MB, Disk: 32GB 00000

OS: Debian 8.3, Kernel: 3.4.110-sun8i (armv7l), Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1280x1440

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Orange Pi Plus on Armbian

Processor: ARMv7 rev 5 @ 1.30GHz (4 Cores), Motherboard: sun8i, Memory: 1024MB, Disk: 32GB 00000 + 8GB M8G1GC

OS: Debian 8.3, Kernel: 3.4.110-sun8i (armv7l), Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1280x1440

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Raspberry Pi 2 on Raspbian

Processor: ARMv7 rev 5 @ 0.90GHz (4 Cores), Motherboard: BCM2709 Raspberry Pi 2 Model B Rev 1.1, Memory: 925MB, Disk: 8GB SD

OS: Raspbian 8.0, Kernel: 4.1.13-v7+ (armv7l), Desktop: LXDE 0.7.2, Display Server: X Server 1.16.4, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1824x984

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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=armv6 --with-float=hard --with-fpu=vfp -v
Processor Notes: Scaling Governor: BCM2835 Freq ondemand

Raspberry Pi 3 on Raspbian

Processor: ARMv7 rev 4 @ 1.20GHz (4 Cores), Motherboard: BCM2709 Raspberry Pi 3 Model B Rev 1.2, Memory: 925MB, Disk: 63GB 00000

OS: Raspbian GNU/Linux 8, Kernel: 4.1.20-v7+ (armv7l), Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1824x984

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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=armv6 --with-float=hard --with-fpu=vfp -v
Processor Notes: Scaling Governor: BCM2835 Freq ondemand

Banana Pi M2 by LoveRPi

Processor: ARMv7 rev 3 @ 1.01GHz (4 Cores), Motherboard: Allwinner sun6i (A31) Family Sinovoip BPI-M2, Memory: 1024MB, Disk: 129GB 00000

OS: Ubuntu 14.04, Kernel: 4.4.1-sunxi (armv7l), Compiler: GCC 4.8.4, File-System: ext4

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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

Banana Pi M3 by LoveRPi

Processor: ARMv7 rev 5 @ 1.80GHz (8 Cores), Motherboard: sun8i, Memory: 2048MB, Disk: 8GB M8G1GC + 129GB TO

OS: Ubuntu 15.10, Kernel: 3.4.39-BPI-M3-aufs (armv7l), Compiler: GCC 5.2.1 20151010, File-System: aufs, Screen Resolution: 1920x2160

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --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,ada,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --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-default-libstdcxx-abi=new --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: sunxi-iks interactive

Banana Pi M2+ SinoVoip

Processor: ARMv7 rev 5 @ 1.20GHz (1 Core), Motherboard: sun8i, Memory: 745MB, Disk: 64GB 00000 + 8GB 8WMB3R

OS: Debian 8.4, Kernel: 3.4.111-sun8i (armv7l), Desktop: Xfce, Display Driver: modesetting 0.9.0, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1280x720

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Banana Pi M2+ on Armbian

Processor: ARMv7 rev 5 @ 1.20GHz (4 Cores), Motherboard: sun8i, Memory: 745MB, Disk: 64GB 00000 + 8GB 8WMB3R

OS: Debian 8.4, Kernel: 3.4.111-sun8i (armv7l), Desktop: Xfce, Display Driver: modesetting 0.9.0, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Banana Pi M2+ Raspbian 8.0

Processor: ARMv7 rev 5 @ 1.20GHz (3 Cores), Motherboard: sun8i, Memory: 1024MB, Disk: 8GB SU08G + 8GB 8WMB3R

OS: Raspbian 8.0, Kernel: 3.4.39-02-lobo (armv7l), Desktop: LXDE, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1280x720

Compiler Notes: --build=arm-linux-gnueabihf --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-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=armv6 --with-float=hard --with-fpu=vfp -v
Processor Notes: Scaling Governor: cpufreq-sunxi ondemand

MiQi on Lubuntu 14.04

Processor: ARMv7 rev 1 @ 1.80GHz (4 Cores), Motherboard: Rockchip RK3288 (Flattened Device Tree), Memory: 2048MB, Disk: 31GB BIWIN

OS: Ubuntu 14.04, Kernel: 3.10.0 (armv7l), Desktop: LXDE, Compiler: GCC 4.8.4, 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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: rockchip interactive

DragonBoard 410c on Debian RPB 16.03

Processor: Unknown @ 1.21GHz (4 Cores), Memory: 833MB, Disk: 8GB DS2008, Monitor: TX-NR636

OS: Debian 8.3, Kernel: 4.4.0-104-arm64 (aarch64), Desktop: LXDE, Compiler: GCC 4.9.2, File-System: ext4, Screen Resolution: 1920x1080

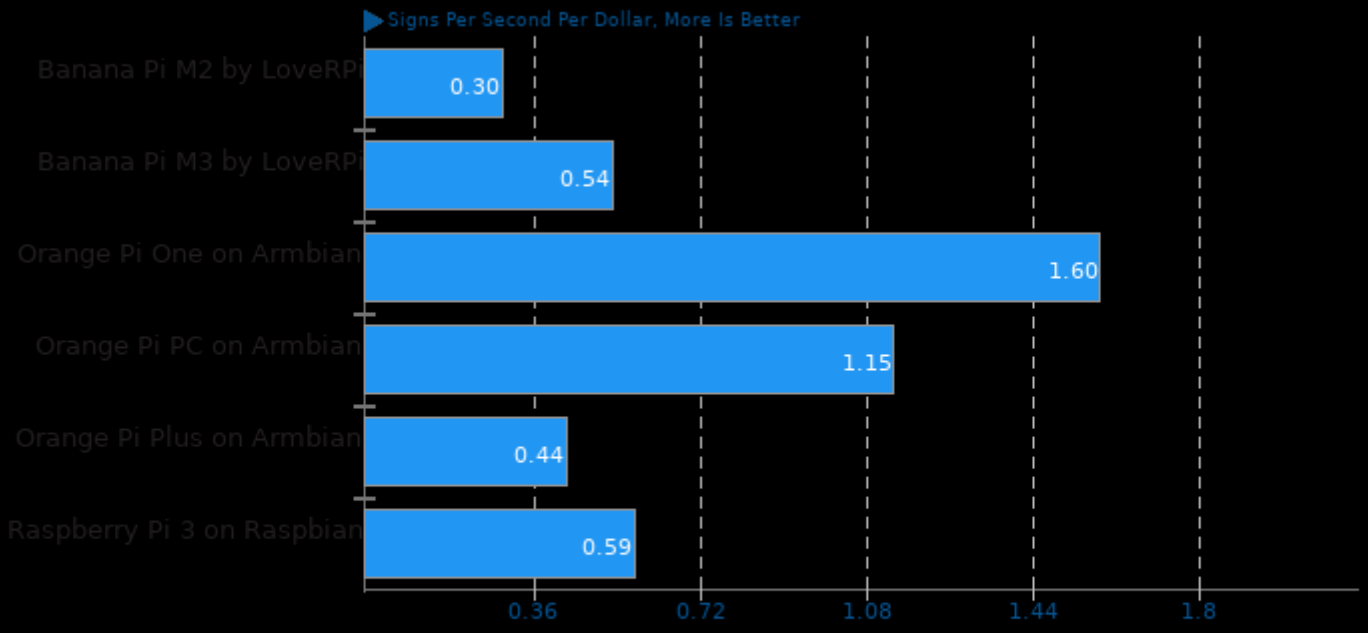
Compiler Notes: --build=aarch64-linux-gnu --disable-browser-plugin --disable-libquadmath --disable-libsanitizer --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --target=aarch64-linux-gnu --with-arch-directory=arm64 -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

	Orange Pi One on Armbian	Orange Pi PC on Armbian	Orange Pi Plus on Armbian	Raspberry Pi 2 on Raspbian	Raspberry Pi 3 on Raspbian	Banana Pi M2 by LoveRPi	Banana Pi M3 by LoveRPi	Banana Pi M2+ SinoVoip	Banana Pi M2+ on Armbian	Banana Pi M2+ Raspbian 8.0	MiQi on Lubuntu 14.04	Dragon Board 410c on Debian RPB 16.03
OpenSSL - Performance / Cost - R.4.b.P (Signs/sec/Dollar	**1.60**	1.15	0.44		0.59	**0.30**	0.54					
Normalized	100%	71.88%	27.5%		36.88%	18.75%	33.75%					

John The Ripper - Performance / Cost - Blowfish (Real C/S/Dollar)	50.90	36.67	13.85		17.11	9.73	17.60					
Normalized	100%	72.04%	27.21%		33.61%	19.12%	34.58%					
Meta Performance Per Dollar - P.P.D (Performance/Dollar)	19.65	14.12	5.34		6.48	3.80	6.18					
Normalized	100%	71.86%	27.18%		32.98%	19.34%	31.45%					
FLAC Audio Encoding - WAV To FLAC (sec)	229.54	228.09	231.38	314.58	237.30	288.16		279.95	230.20	282.60	81.96	198.14
Normalized	35.71%	35.93%	35.42%	26.05%	34.54%	28.44%		29.28%	35.6%	29%	100%	41.36%
Standard Deviation	0.2%	1%	1.4%	0.9%	1.6%	0.1%		0.2%	0.3%	0.3%	0.9%	3.3%
Himeno Benchmark - P.P.S (MFLOPS)	64.38	68.23	68.01	33.29	60.28	61.26	31.80	56.83	64.35	63.04	89.84	66.91
Normalized	71.66%	75.95%	75.7%	37.05%	67.1%	68.19%	35.4%	63.26%	71.63%	70.17%	100%	74.48%
Standard Deviation	0.4%	0.8%	0.1%	2.4%	1.1%	0.2%	2.7%	1.4%	1%	1.5%	3%	1.2%
Himeno Benchmark - Performance / Cost - P.P.S (MFLOPS/Dollar)	6.44	4.55	1.74		1.72	1.36	0.40					
Normalized	100%	70.65%	27.02%		26.71%	21.12%	6.21%					
John The Ripper - Blowfish (Real C/S)	509	550	540	387	599	438	1408	104	390	323	1055	535
Normalized	36.15%	39.06%	38.35%	27.49%	42.54%	31.11%	100%	7.39%	27.7%	22.94%	74.93%	38%
Standard Deviation	0.1%	0%	0%	0.3%	0.6%	0.1%	0.6%	3%	14.2%	0.8%	0.2%	11.2%
OpenSSL - R.4.b.P (Signs/sec)	16	17.20	17.13	11.93	20.60	13.40	43.30	3.30	10.48	6.67	29.70	10.90
Normalized	36.95%	39.72%	39.56%	27.55%	47.58%	30.95%	100%	7.62%	24.2%	15.4%	68.59%	25.17%
Standard Deviation	0%	0%	0.3%	0.5%	8.9%	0%	2%	0%	14.2%	0.9%	0%	9%
Smallpt - G.I.R.1.S (sec)	1665	1547	1549	2175	1390	1954	621	8127	2483	3906	866	2341
Normalized	37.3%	40.14%	40.09%	28.55%	44.68%	31.78%	100%	7.64%	25.01%	15.9%	71.71%	26.53%
Standard Deviation	0%	0.4%	0.1%	0.5%	0.2%	0.1%	0.4%	0.5%	0%	0.3%	0.5%	11%
C-Ray - Total Time (sec)	365.94	344.52	350.07	505.44	250.79	431.10	136.14	1778	581.37	893.24	136.96	341.80
Normalized	37.2%	39.52%	38.89%	26.93%	54.28%	31.58%	100%	7.66%	23.42%	15.24%	99.4%	39.83%
Standard Deviation	0.2%	1.5%	0.5%	0.3%	0.1%	0%	0.3%	0.4%	3.6%	2.3%	4.3%	3.8%
Timed MAFFT Alignment - M.S.A (sec)		62.45	63.17	75.46	61.06	70.58	29.72	210.62	81.13	121.86	42.84	73.91
Normalized		47.59%	47.05%	39.39%	48.67%	42.11%	100%	14.11%	36.63%	24.39%	69.37%	40.21%
Standard Deviation		8.2%	2.1%	2.3%	10.4%	2%	0.8%	0%	8.4%	9.5%	4.6%	8.1%

OpenSSL 1.0.1g

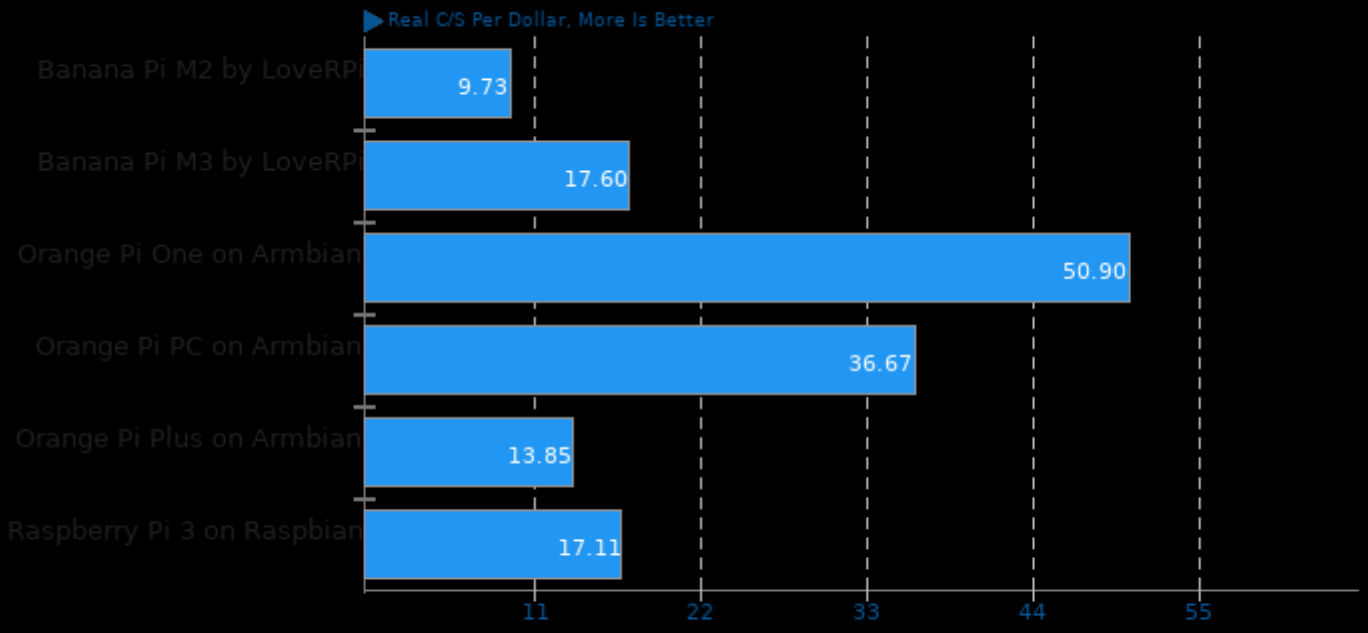
Performance / Cost - RSA 4096-bit Performance



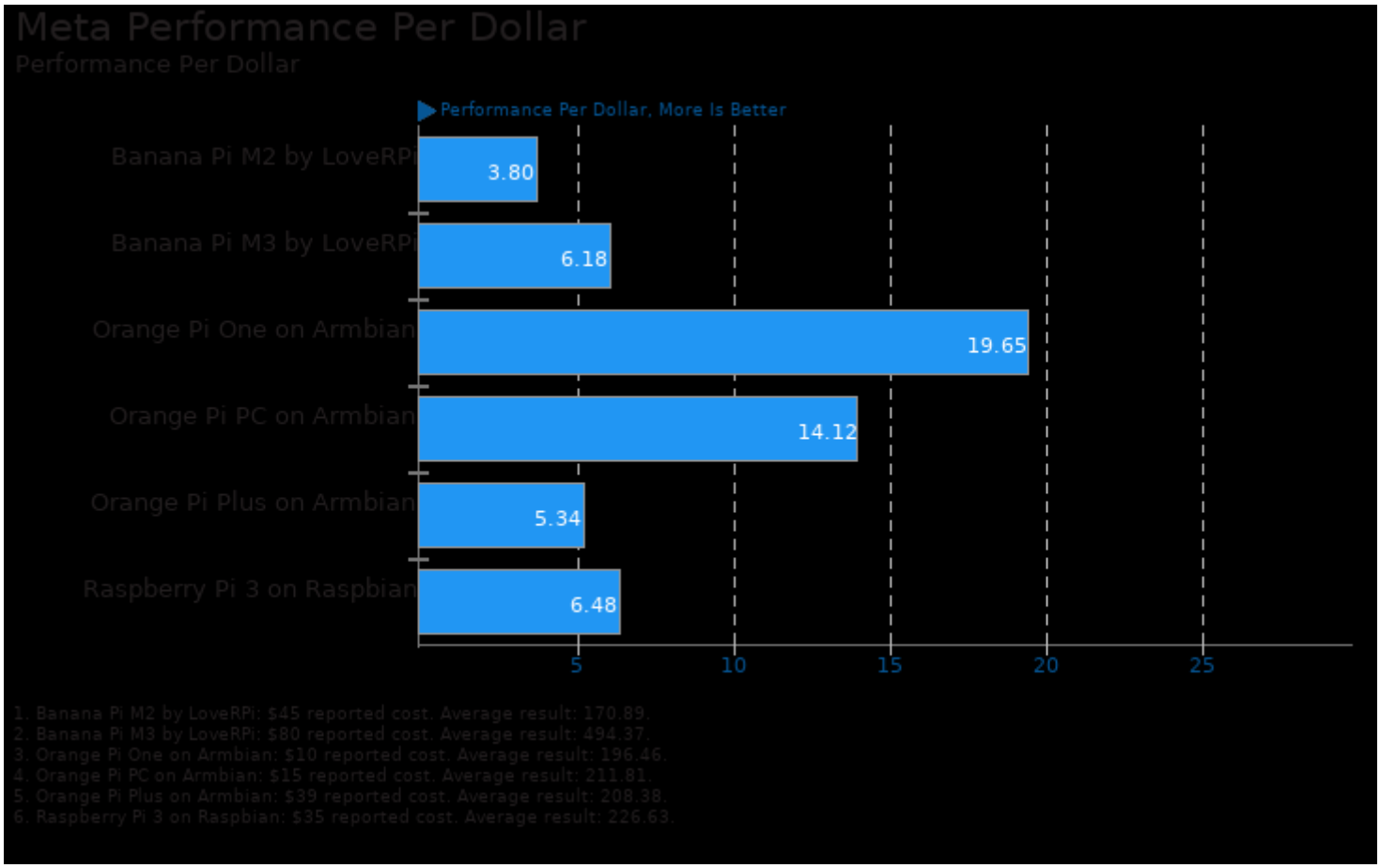
1. Banana Pi M2 by LoveRPi: $45 reported cost.
2. Banana Pi M3 by LoveRPi: $80 reported cost.
3. Orange Pi One on Armbian: $10 reported cost.
4. Orange Pi PC on Armbian: $15 reported cost.
5. Orange Pi Plus on Armbian: $39 reported cost.
6. Raspberry Pi 3 on Raspbian: $35 reported cost.

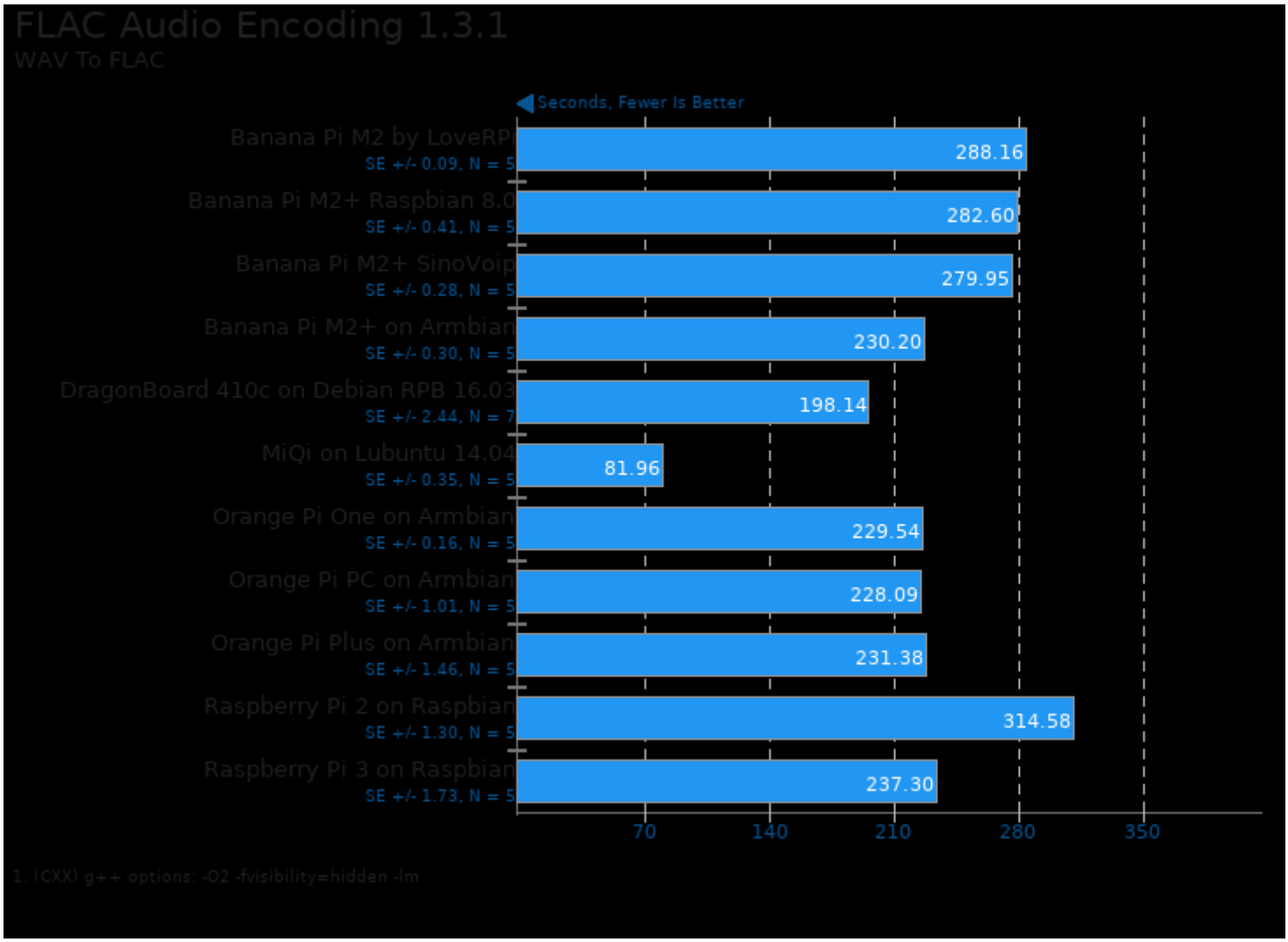
John The Ripper 1.8.0

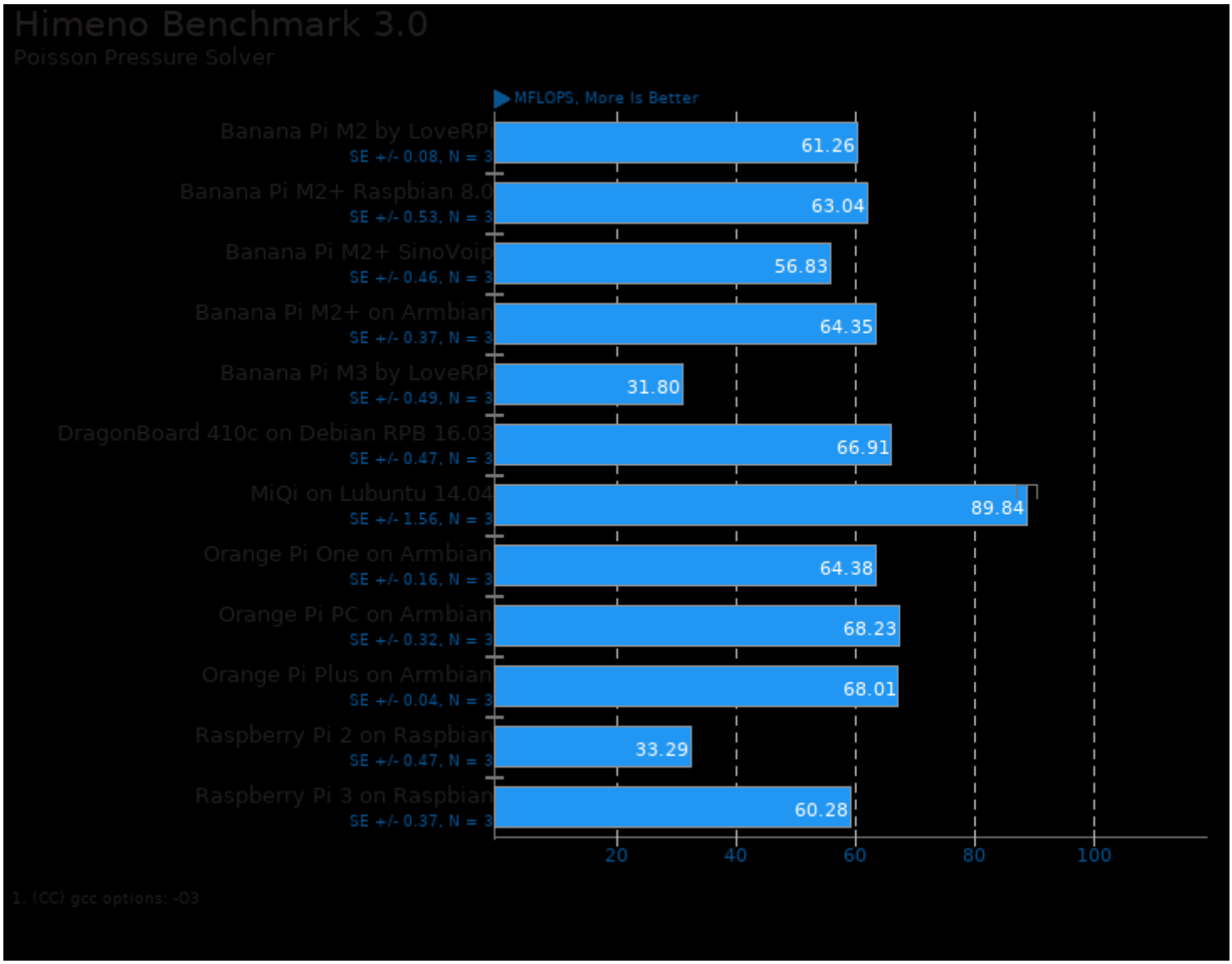
Performance / Cost - Test: Blowfish

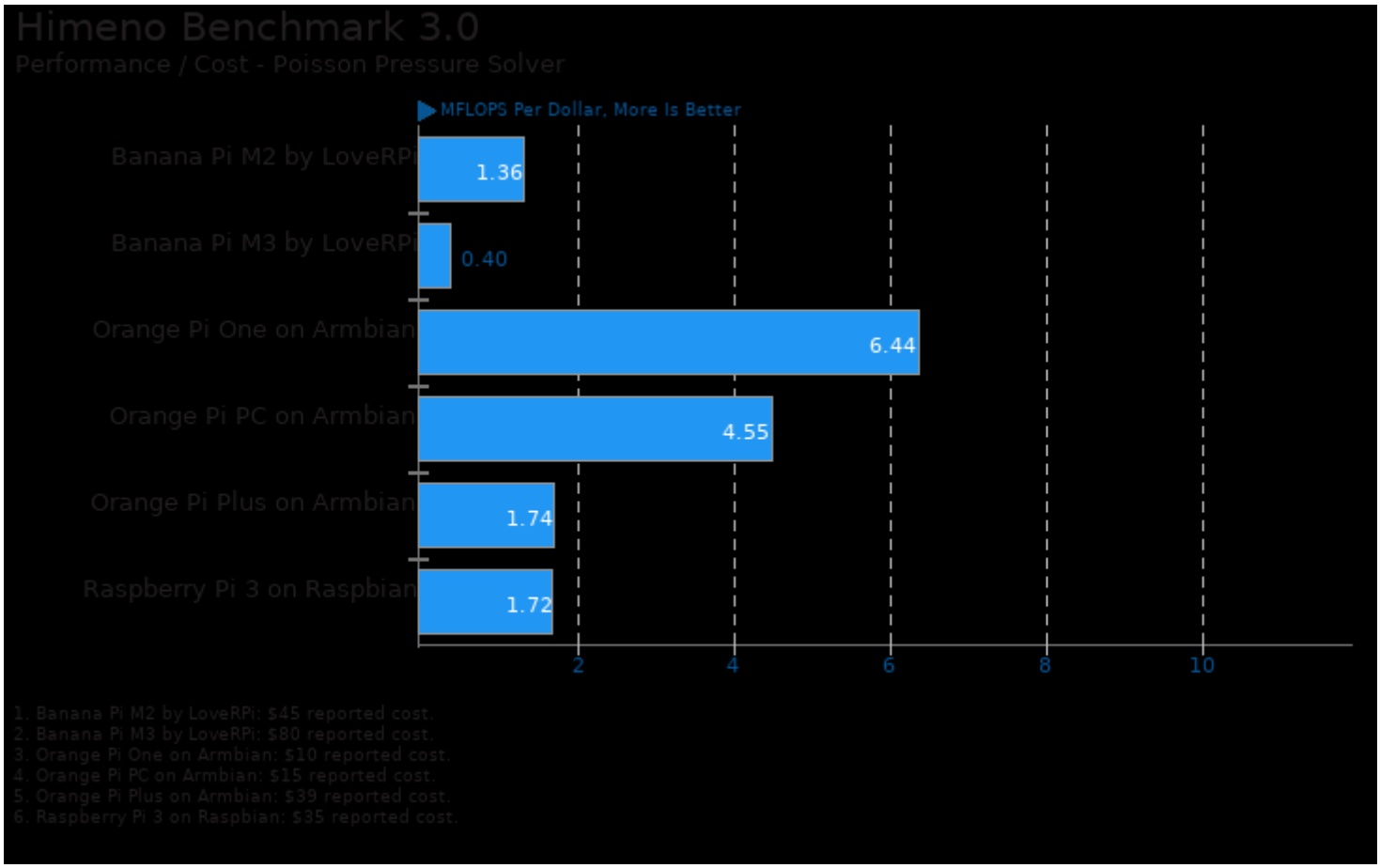


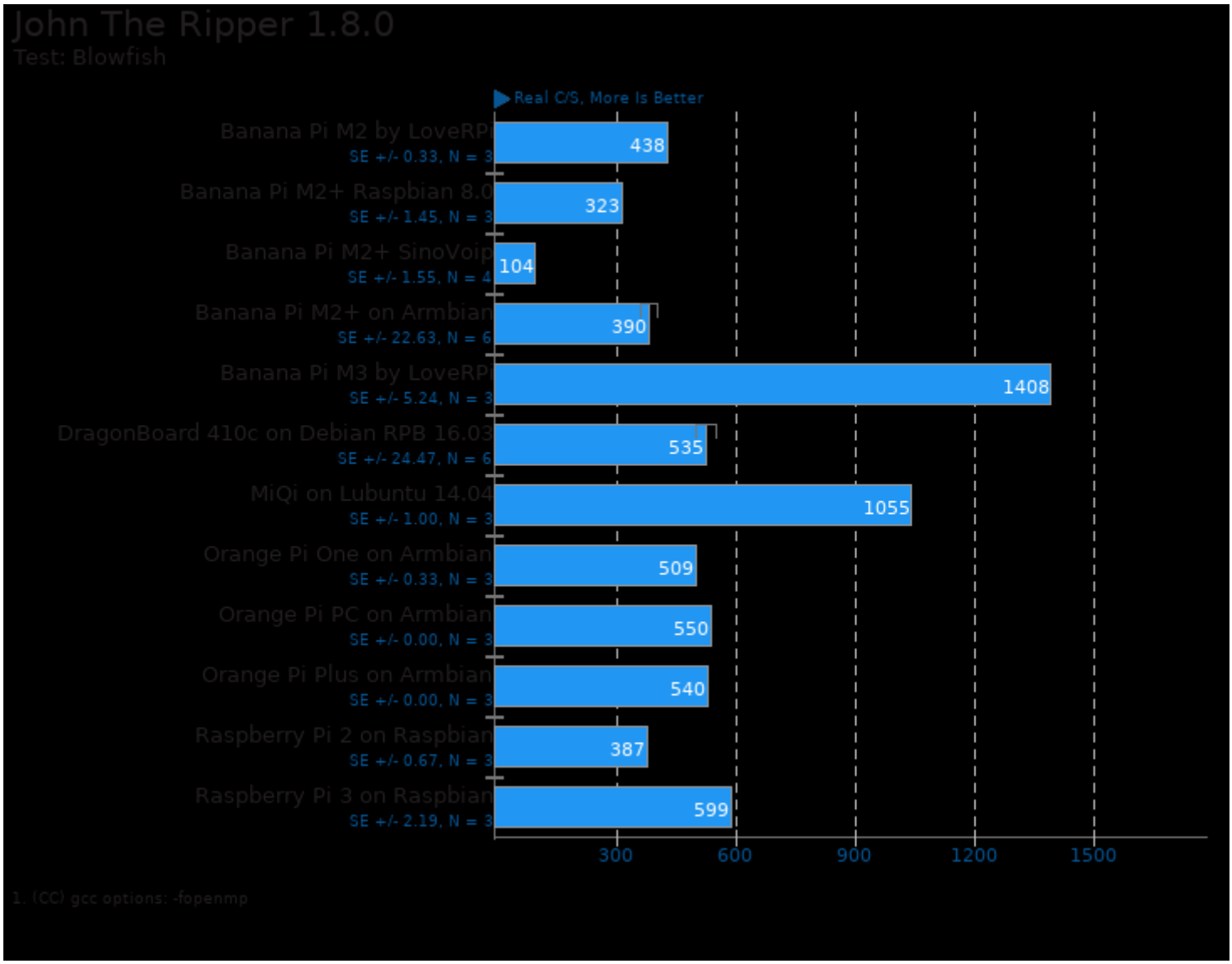
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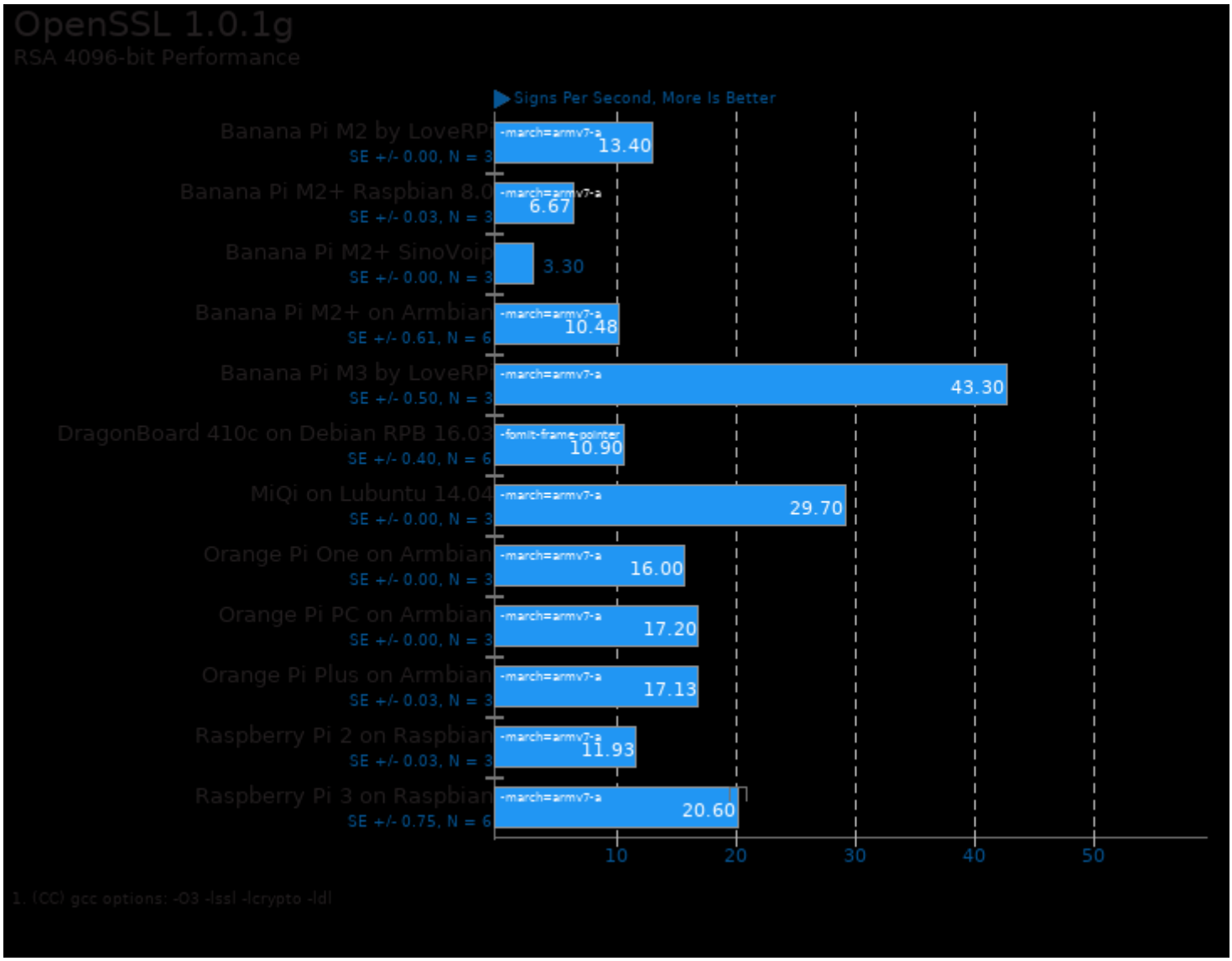

Meta Performance Per Dollar
Performance Per Dollar
Performance Per Dollar, More Is Better
Banana Pi M2 by LoveRPi
3.80
Banana Pi M3 by LoveRPi
6.18
Orange Pi One on Armbian
19.65
Orange Pi PC on Armbian
14.12
Orange Pi Plus on Armbian
5.34
Raspberry Pi 3 on Raspbian
6.48
5
10
15
20
25
1. Banana Pi M2 by LoveRPi: $45 reported cost. Average result: 170.89.
2. Banana Pi M3 by LoveRPi: $80 reported cost. Average result: 494.37.
3. Orange Pi One on Armbian: $10 reported cost. Average result: 196.46.
4. Orange Pi PC on Armbian: $15 reported cost. Average result: 211.81.
5. Orange Pi Plus on Armbian: $39 reported cost. Average result: 208.38.
6. Raspberry Pi 3 on Raspbian: $35 reported cost. Average result: 226.63.

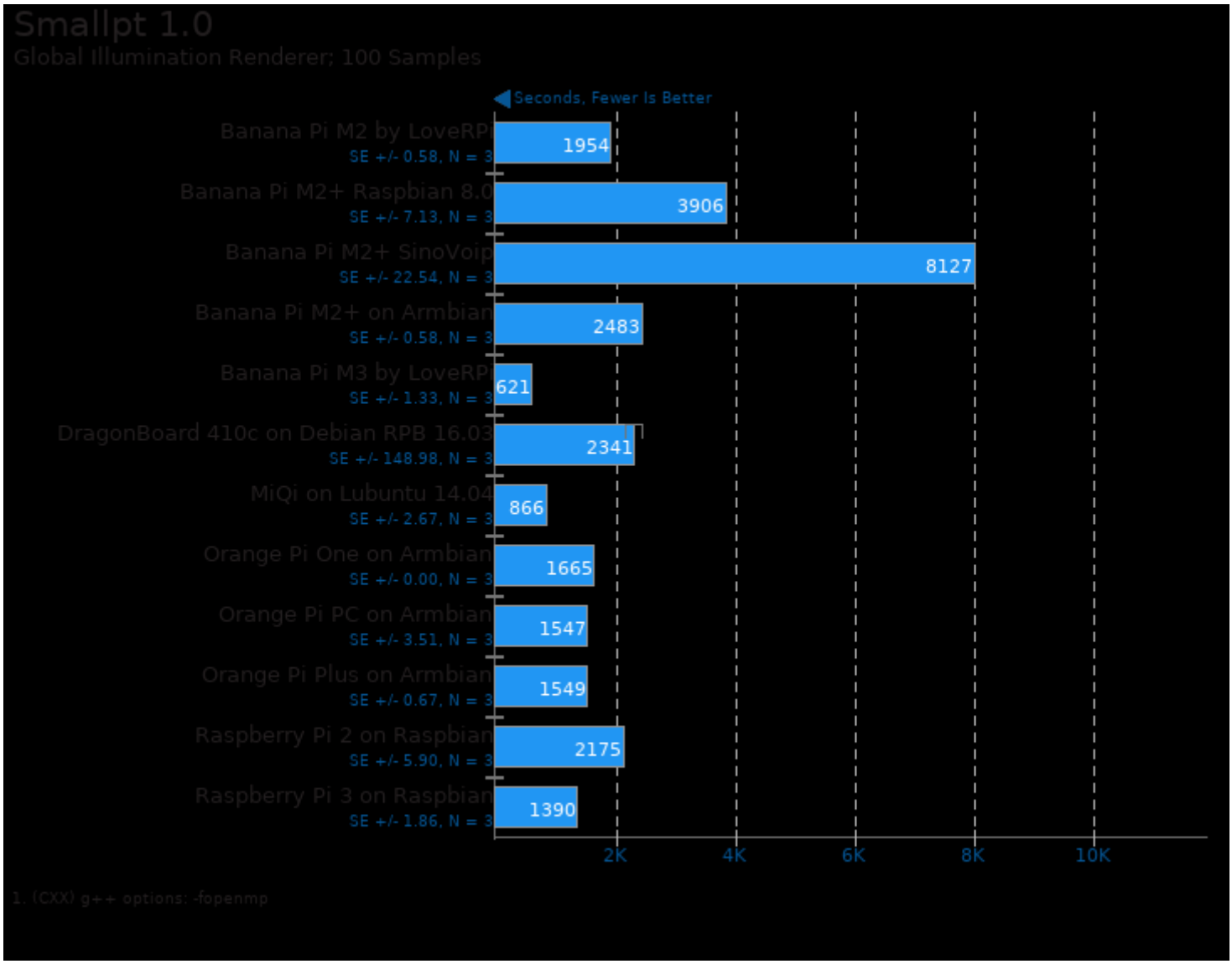

FLAC Audio Encoding 1.3.1
WAV To FLAC
Seconds, Fewer Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.09, N = 5
288.16
Banana Pi M2+ Raspbian 8.0
SE +/- 0.41, N = 5
282.60
Banana Pi M2+ SinoVoip
SE +/- 0.28, N = 5
279.95
Banana Pi M2+ on Armbian
SE +/- 0.30, N = 5
230.20
DragonBoard 410c on Debian RPB 16.03
SE +/- 2.44, N = 7
198.14
MiQi on Lubuntu 14.04
SE +/- 0.35, N = 5
81.96
Orange Pi One on Armbian
SE +/- 0.16, N = 5
229.54
Orange Pi PC on Armbian
SE +/- 1.01, N = 5
228.09
Orange Pi Plus on Armbian
SE +/- 1.46, N = 5
231.38
Raspberry Pi 2 on Raspbian
SE +/- 1.30, N = 5
314.58
Raspberry Pi 3 on Raspbian
SE +/- 1.73, N = 5
237.30
70
140
210
280
350
1. (CXX) g++ options: -O2 -fvisibility=hidden -lm

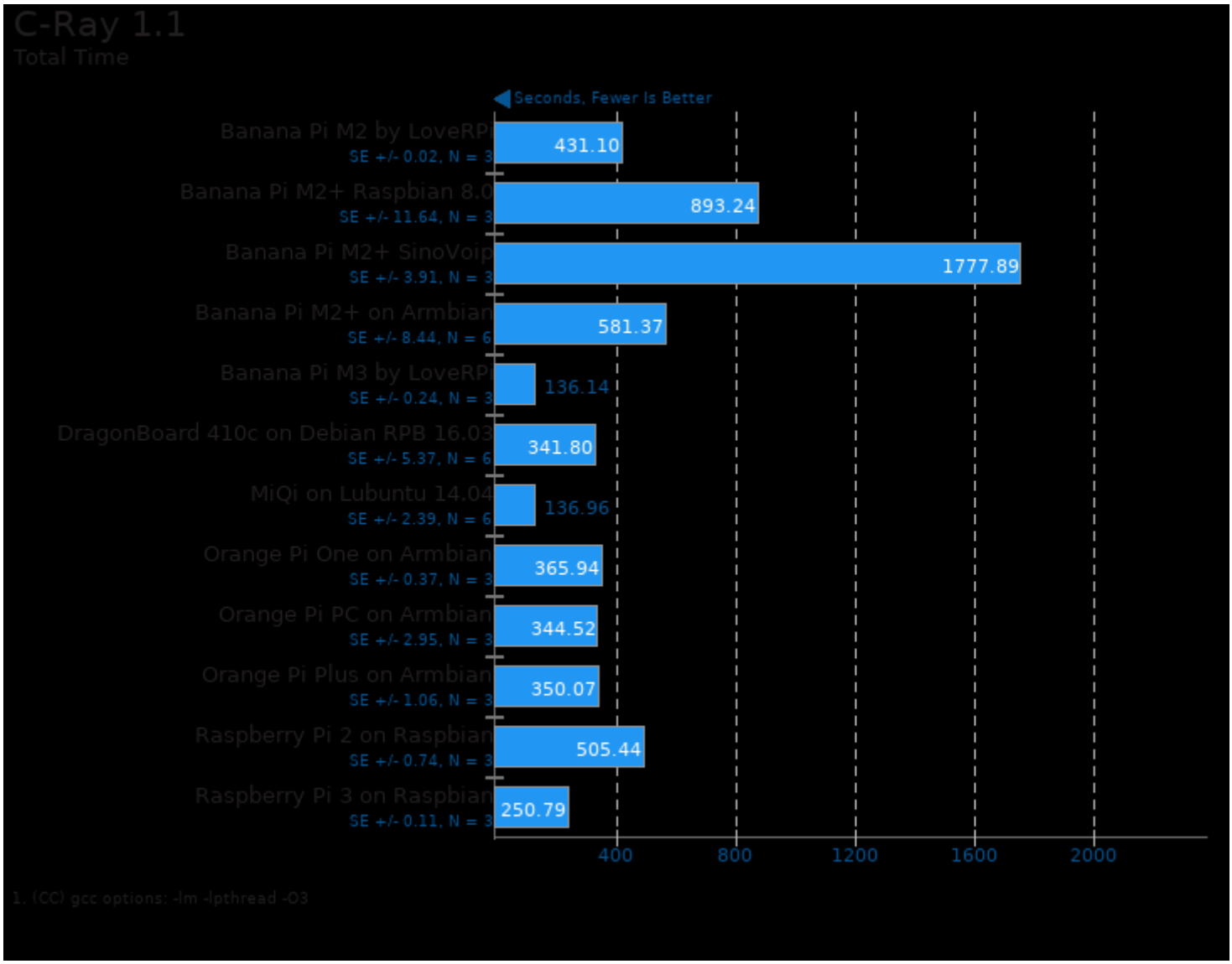

Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.08, N = 3
61.26
Banana Pi M2+ Raspbian 8.0
SE +/- 0.53, N = 3
63.04
Banana Pi M2+ SinoVoip
SE +/- 0.46, N = 3
56.83
Banana Pi M2+ on Armbian
SE +/- 0.37, N = 3
64.35
Banana Pi M3 by LoveRPi
SE +/- 0.49, N = 3
31.80
DragonBoard 410c on Debian RPB 16.03
SE +/- 0.47, N = 3
66.91
MiQi on Lubuntu 14.04
SE +/- 1.56, N = 3
89.84
Orange Pi One on Armbian
SE +/- 0.16, N = 3
64.38
Orange Pi PC on Armbian
SE +/- 0.32, N = 3
68.23
Orange Pi Plus on Armbian
SE +/- 0.04, N = 3
68.01
Raspberry Pi 2 on Raspbian
SE +/- 0.47, N = 3
33.29
Raspberry Pi 3 on Raspbian
SE +/- 0.37, N = 3
60.28
20
40
60
80
100
1. (CC) gcc options: -O3

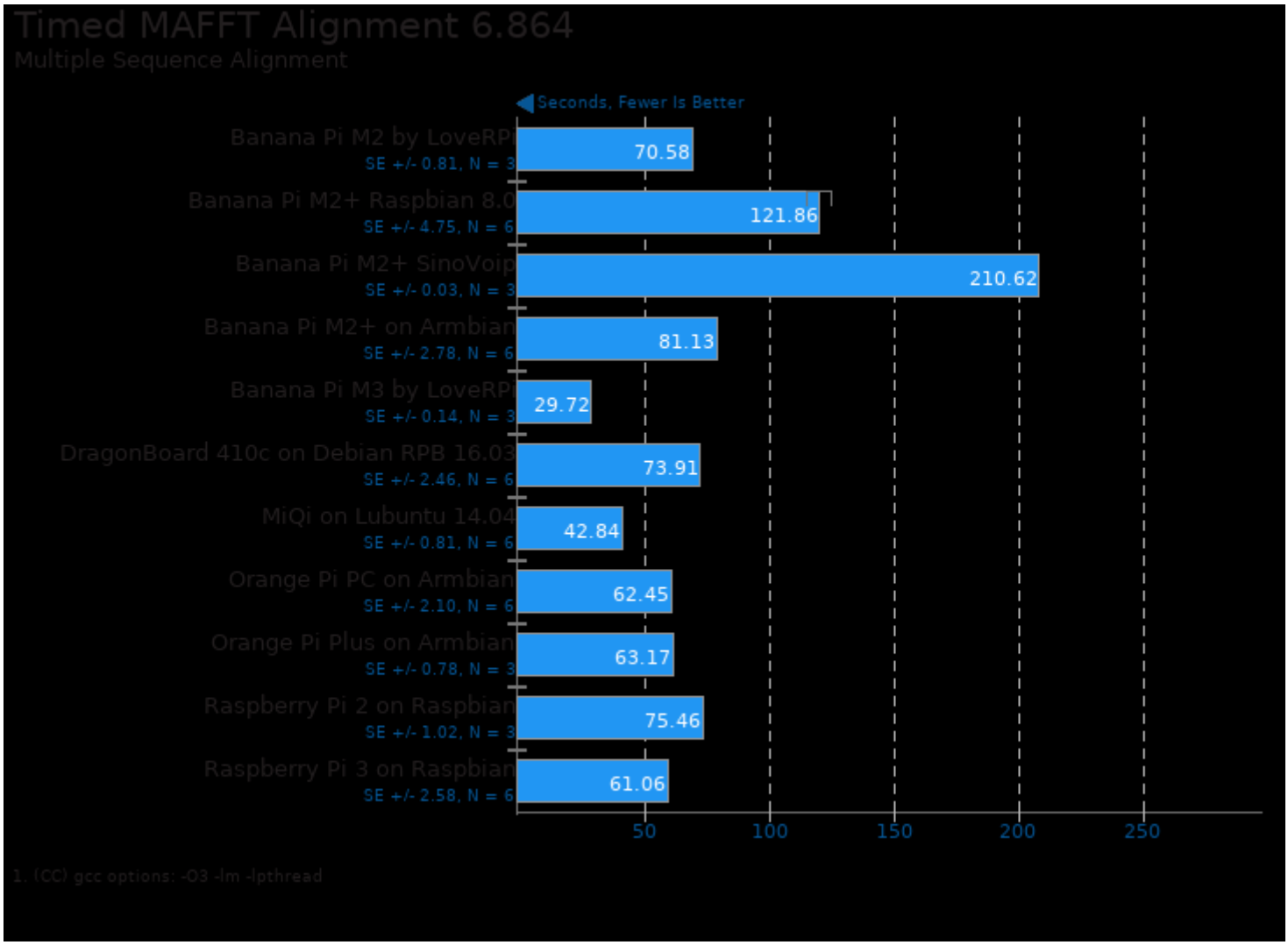

Himeno Benchmark 3.0
Performance / Cost - Poisson Pressure Solver
MFLOPS Per Dollar, More Is Better
Banana Pi M2 by LoveRPi
1.36
Banana Pi M3 by LoveRPi
0.40
Orange Pi One on Armbian
6.44
Orange Pi PC on Armbian
4.55
Orange Pi Plus on Armbian
1.74
Raspberry Pi 3 on Raspbian
1.72
2
4
6
8
10
1. Banana Pi M2 by LoveRPi: $45 reported cost.
2. Banana Pi M3 by LoveRPi: $80 reported cost.
3. Orange Pi One on Armbian: $10 reported cost.
4. Orange Pi PC on Armbian: $15 reported cost.
5. Orange Pi Plus on Armbian: $39 reported cost.
6. Raspberry Pi 3 on Raspbian: $35 reported cost.


John The Ripper 1.8.0
Test: Blowfish
Real C/S, More Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.33, N = 3
438
Banana Pi M2+ Raspbian 8.0
SE +/- 1.45, N = 3
323
Banana Pi M2+ SinoVoip
SE +/- 1.55, N = 4
104
Banana Pi M2+ on Armbian
SE +/- 22.63, N = 6
390
Banana Pi M3 by LoveRPi
SE +/- 5.24, N = 3
1408
DragonBoard 410c on Debian RPB 16.03
SE +/- 24.47, N = 6
535
MiQi on Lubuntu 14.04
SE +/- 1.00, N = 3
1055
Orange Pi One on Armbian
SE +/- 0.33, N = 3
509
Orange Pi PC on Armbian
SE +/- 0.00, N = 3
550
Orange Pi Plus on Armbian
SE +/- 0.00, N = 3
540
Raspberry Pi 2 on Raspbian
SE +/- 0.67, N = 3
387
Raspberry Pi 3 on Raspbian
SE +/- 2.19, N = 3
599
300
600
900
1200
1500
1. (CC) gcc options: -fopenmp

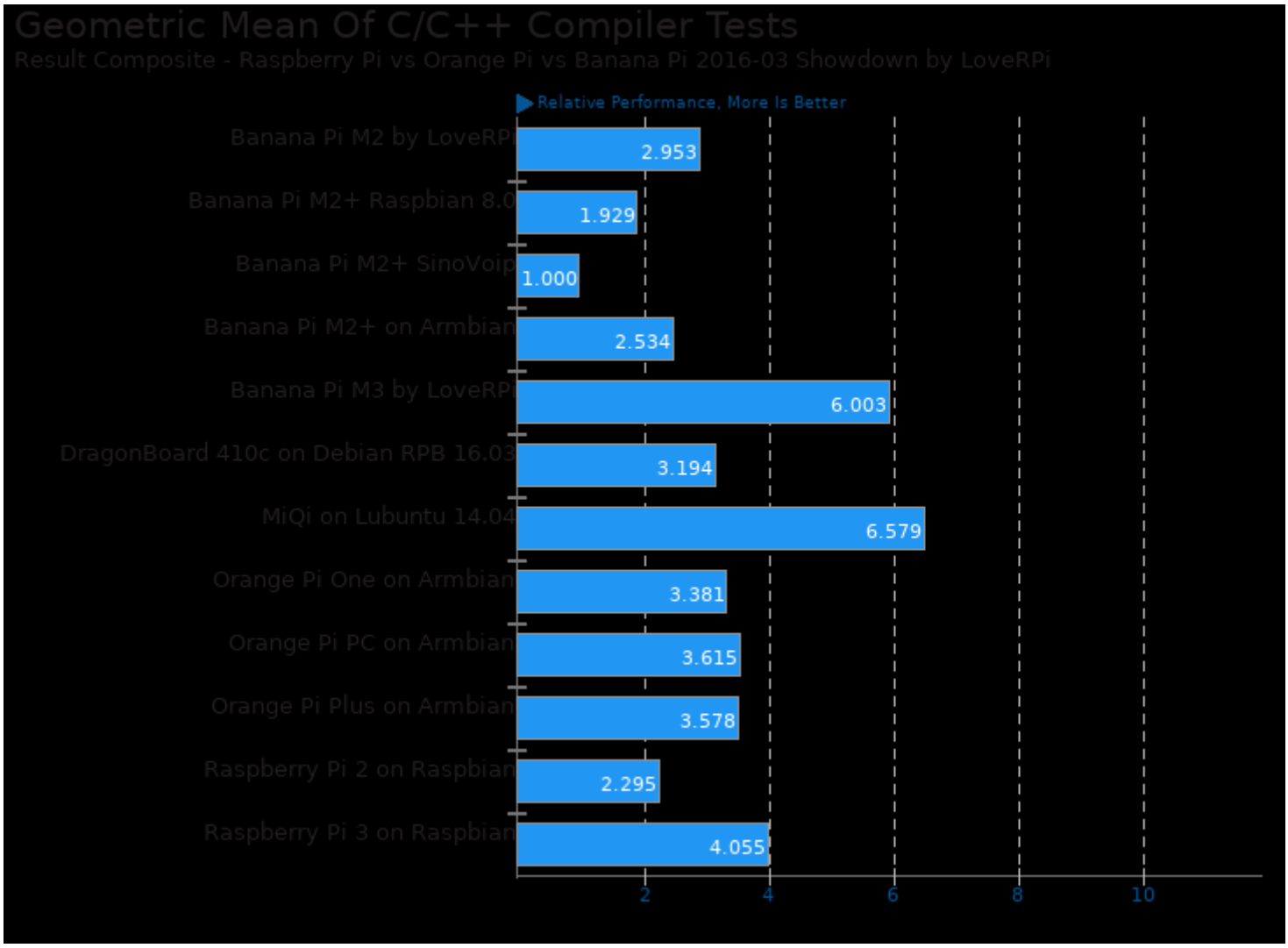

OpenSSL 1.0.1g
RSA 4096-bit Performance
Signs Per Second, More Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.00, N = 3
-march=armv7-a
13.40
Banana Pi M2+ Raspbian 8.0
SE +/- 0.03, N = 3
-march=armv7-a
6.67
Banana Pi M2+ SinoVoip
SE +/- 0.00, N = 3
3.30
Banana Pi M2+ on Armbian
SE +/- 0.61, N = 6
-march=armv7-a
10.48
Banana Pi M3 by LoveRPi
SE +/- 0.50, N = 3
-march=armv7-a
43.30
DragonBoard 410c on Debian RPB 16.03
SE +/- 0.40, N = 6
-fomit-frame-pointer
10.90
MiQi on Lubuntu 14.04
SE +/- 0.00, N = 3
-march=armv7-a
29.70
Orange Pi One on Armbian
SE +/- 0.00, N = 3
-march=armv7-a
16.00
Orange Pi PC on Armbian
SE +/- 0.00, N = 3
-march=armv7-a
17.20
Orange Pi Plus on Armbian
SE +/- 0.03, N = 3
-march=armv7-a
17.13
Raspberry Pi 2 on Raspbian
SE +/- 0.03, N = 3
-march=armv7-a
11.93
Raspberry Pi 3 on Raspbian
SE +/- 0.75, N = 6
-march=armv7-a
20.60
10
20
30
40
50
1. (CC) gcc options: -O3 -lssl -lcrypto -ldl


Smallpt 1.0
Global Illumination Renderer; 100 Samples
Seconds, Fewer Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.58, N = 3
1954
Banana Pi M2+ Raspbian 8.0
SE +/- 7.13, N = 3
3906
Banana Pi M2+ SinoVoip
SE +/- 22.54, N = 3
8127
Banana Pi M2+ on Armbian
SE +/- 0.58, N = 3
2483
Banana Pi M3 by LoveRPi
SE +/- 1.33, N = 3
621
DragonBoard 410c on Debian RPB 16.03
SE +/- 148.98, N = 3
2341
MiQi on Lubuntu 14.04
SE +/- 2.67, N = 3
866
Orange Pi One on Armbian
SE +/- 0.00, N = 3
1665
Orange Pi PC on Armbian
SE +/- 3.51, N = 3
1547
Orange Pi Plus on Armbian
SE +/- 0.67, N = 3
1549
Raspberry Pi 2 on Raspbian
SE +/- 5.90, N = 3
2175
Raspberry Pi 3 on Raspbian
SE +/- 1.86, N = 3
1390
2K
4K
6K
8K
10K
1. (CXX) g++ options: -fopenmp

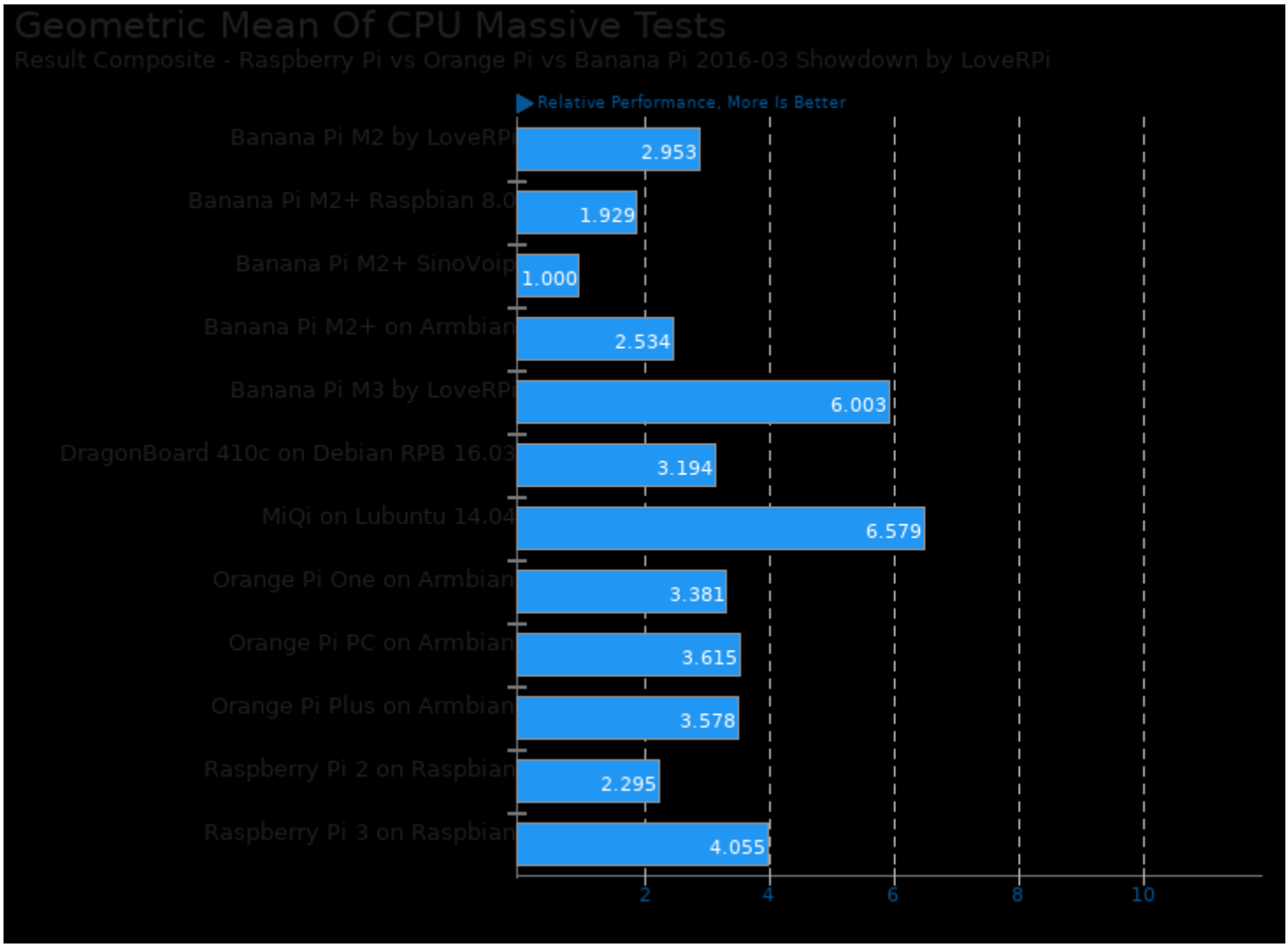

C-Ray 1.1
Total Time
Seconds, Fewer Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.02, N = 3
431.10
Banana Pi M2+ Raspbian 8.0
SE +/- 11.64, N = 3
893.24
Banana Pi M2+ SinoVoip
SE +/- 3.91, N = 3
1777.89
Banana Pi M2+ on Armbian
SE +/- 8.44, N = 6
581.37
Banana Pi M3 by LoveRPi
SE +/- 0.24, N = 3
136.14
DragonBoard 410c on Debian RPB 16.03
SE +/- 5.37, N = 6
341.80
MiQi on Lubuntu 14.04
SE +/- 2.39, N = 6
136.96
Orange Pi One on Armbian
SE +/- 0.37, N = 3
365.94
Orange Pi PC on Armbian
SE +/- 2.95, N = 3
344.52
Orange Pi Plus on Armbian
SE +/- 1.06, N = 3
350.07
Raspberry Pi 2 on Raspbian
SE +/- 0.74, N = 3
505.44
Raspberry Pi 3 on Raspbian
SE +/- 0.11, N = 3
250.79
400
800
1200
1600
2000
1. (CC) gcc options: -lm -lpthread -O3


Timed MAFFT Alignment 6.864
Multiple Sequence Alignment
Seconds, Fewer Is Better
Banana Pi M2 by LoveRPi
SE +/- 0.81, N = 3
70.58
Banana Pi M2+ Raspbian 8.0
SE +/- 4.75, N = 6
121.86
Banana Pi M2+ SinoVoip
SE +/- 0.03, N = 3
210.62
Banana Pi M2+ on Armbian
SE +/- 2.78, N = 6
81.13
Banana Pi M3 by LoveRPi
SE +/- 0.14, N = 3
29.72
DragonBoard 410c on Debian RPB 16.03
SE +/- 2.46, N = 6
73.91
MiQi on Lubuntu 14.04
SE +/- 0.81, N = 6
42.84
Orange Pi PC on Armbian
SE +/- 2.10, N = 6
62.45
Orange Pi Plus on Armbian
SE +/- 0.78, N = 3
63.17
Raspberry Pi 2 on Raspbian
SE +/- 1.02, N = 3
75.46
Raspberry Pi 3 on Raspbian
SE +/- 2.58, N = 6
61.06
50
100
150
200
250
1. (CC) gcc options: -O3 -lm -lpthread

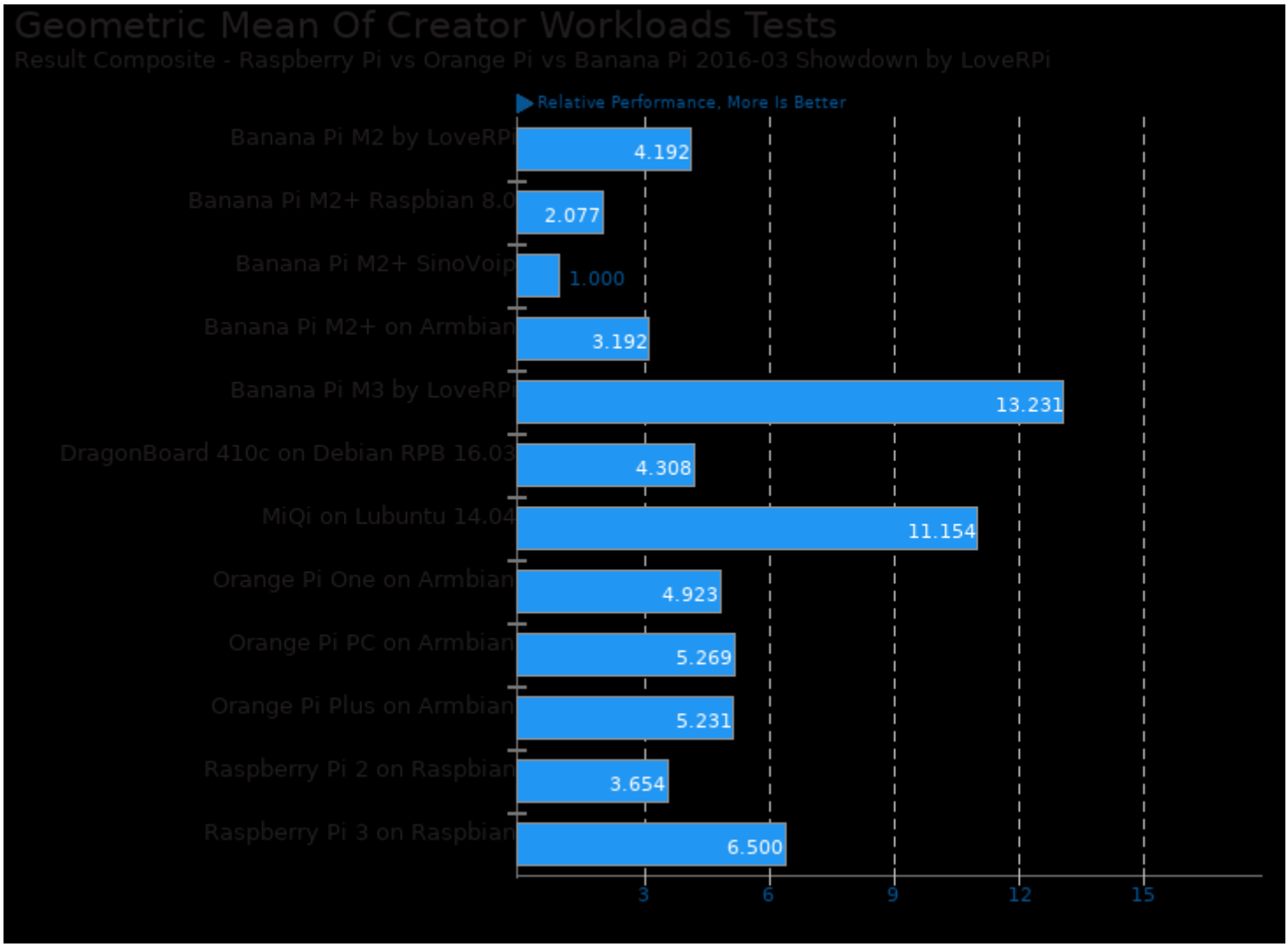
These geometric means are based upon test groupings / test suites for this result file.



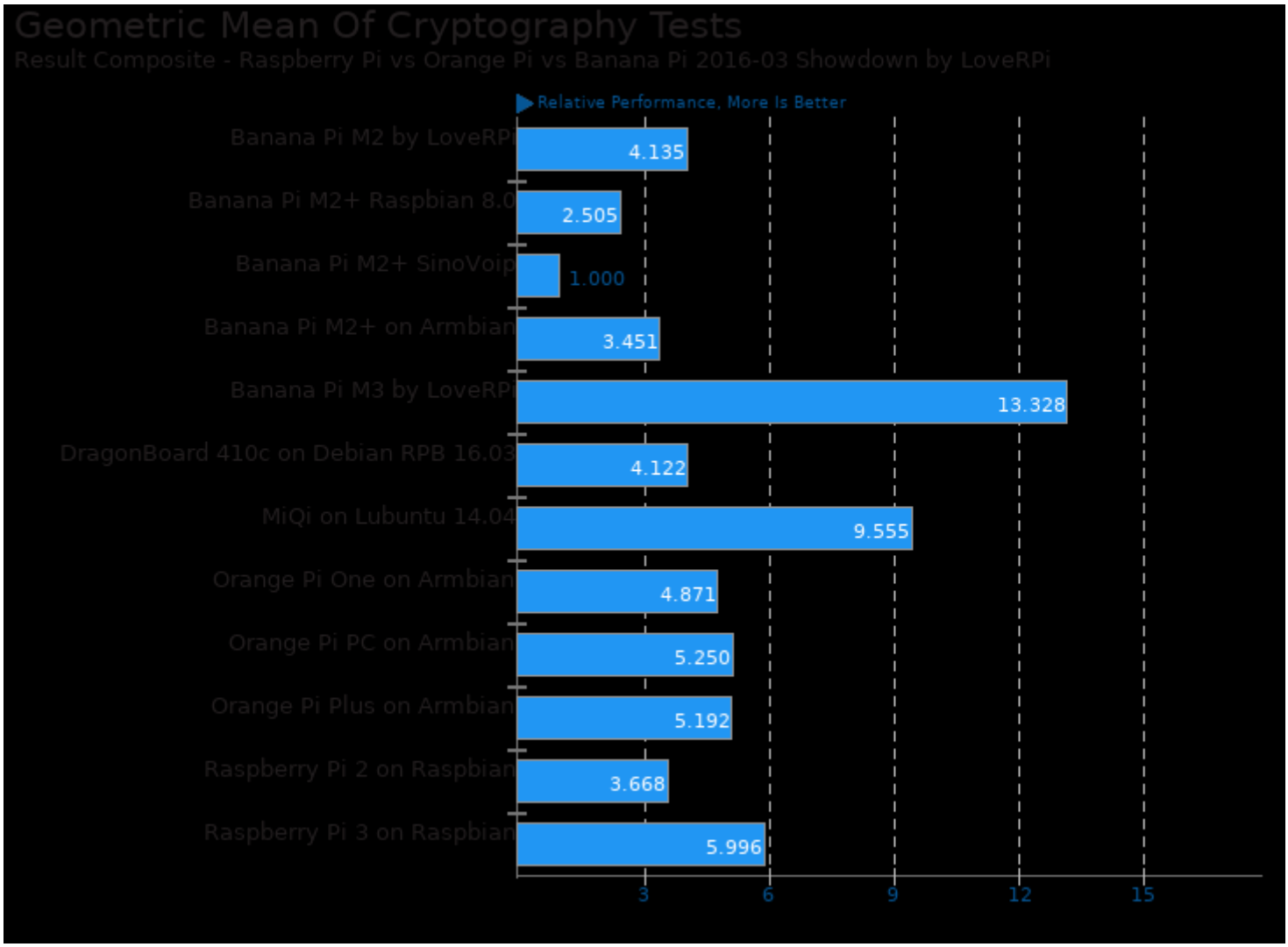
Geometric mean based upon tests: pts/mafft, pts/himeno, pts/c-ray, pts/encode-flac, pts/john-the-ripper and pts/openssl



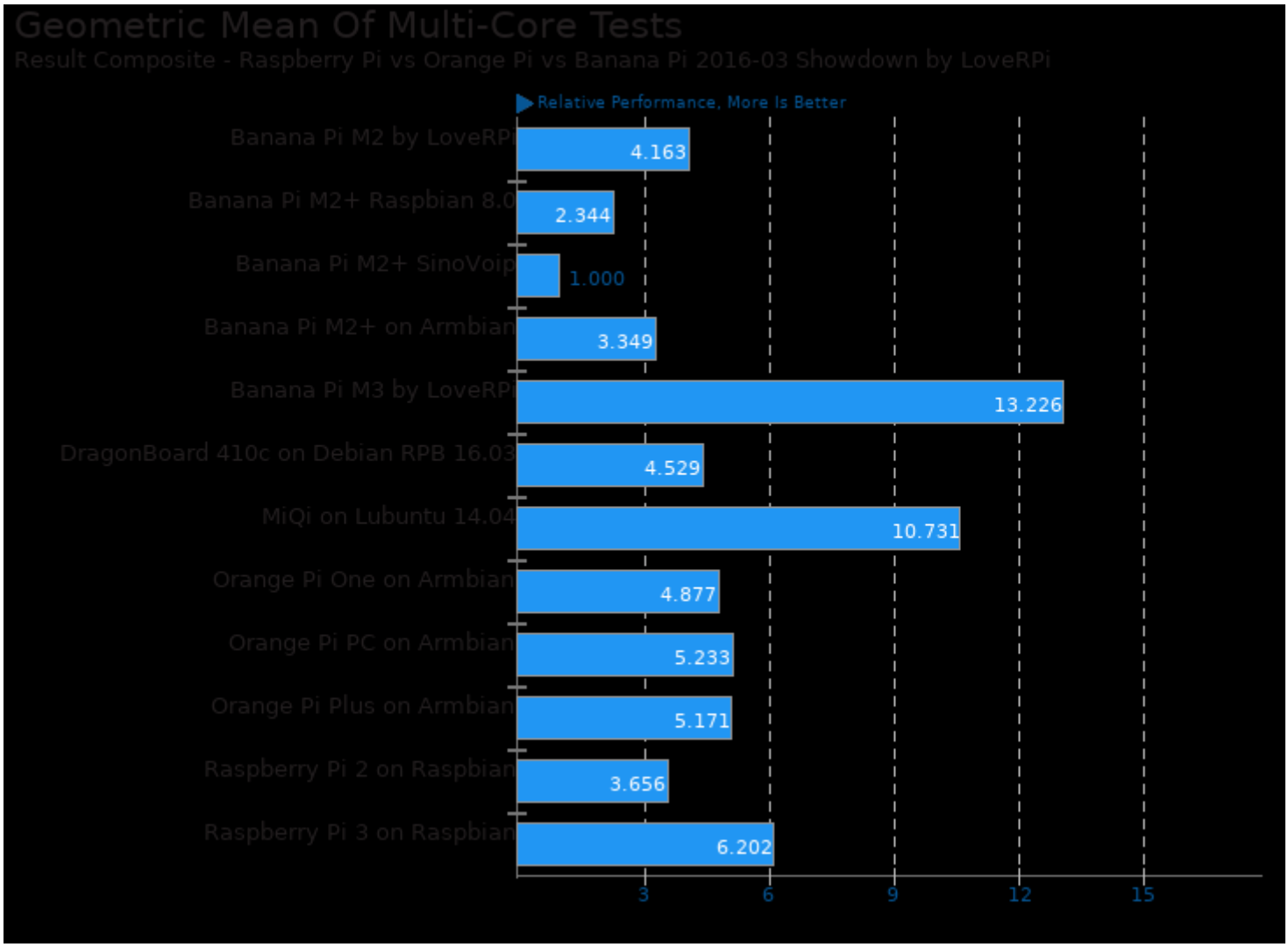
Geometric mean based upon tests: pts/c-ray, pts/encode-flac, pts/himeno, pts/john-the-ripper, pts/openssl and pts/mafft



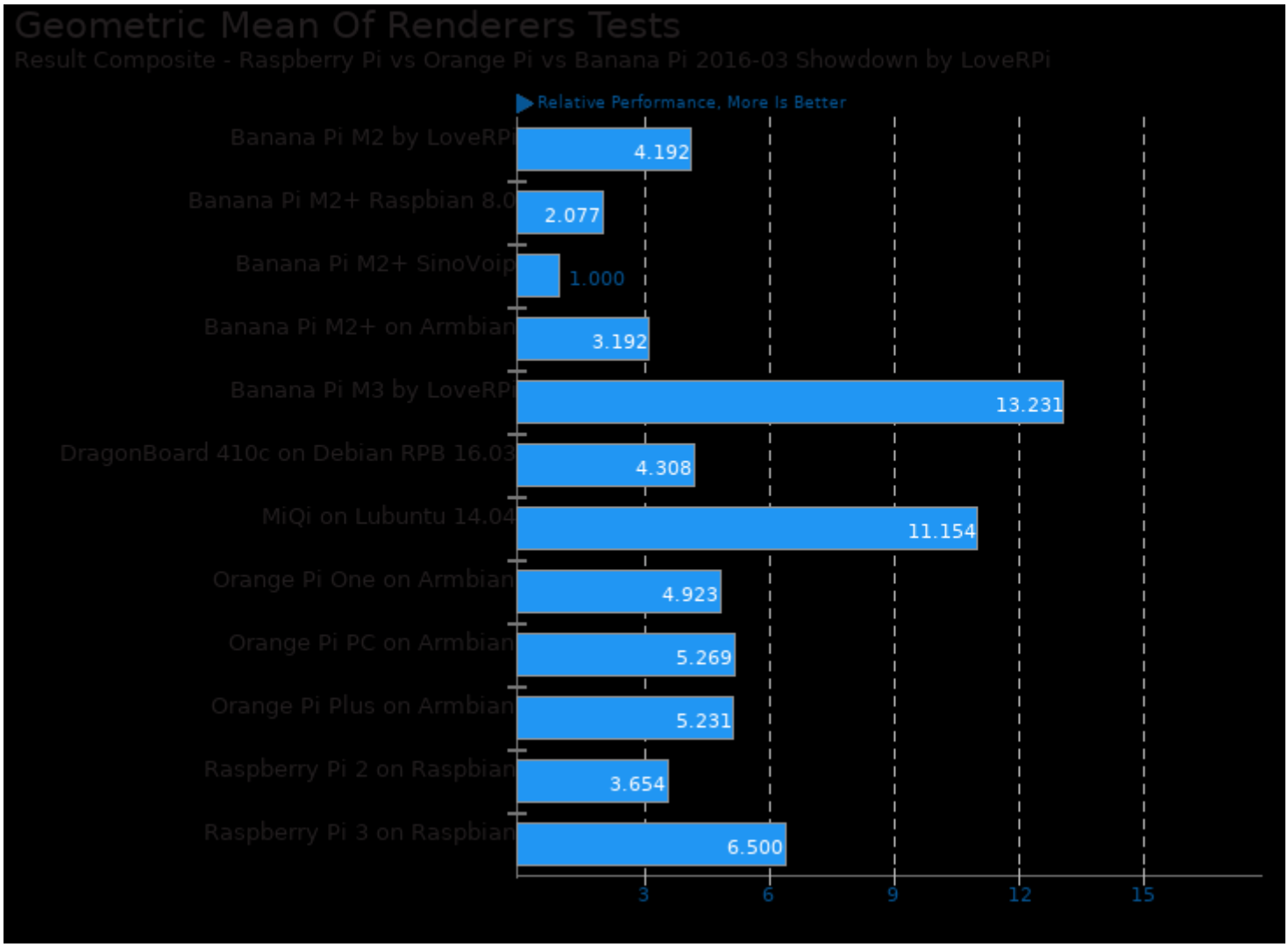
Geometric mean based upon tests: pts/c-ray, pts/smallpt and pts/encode-flac



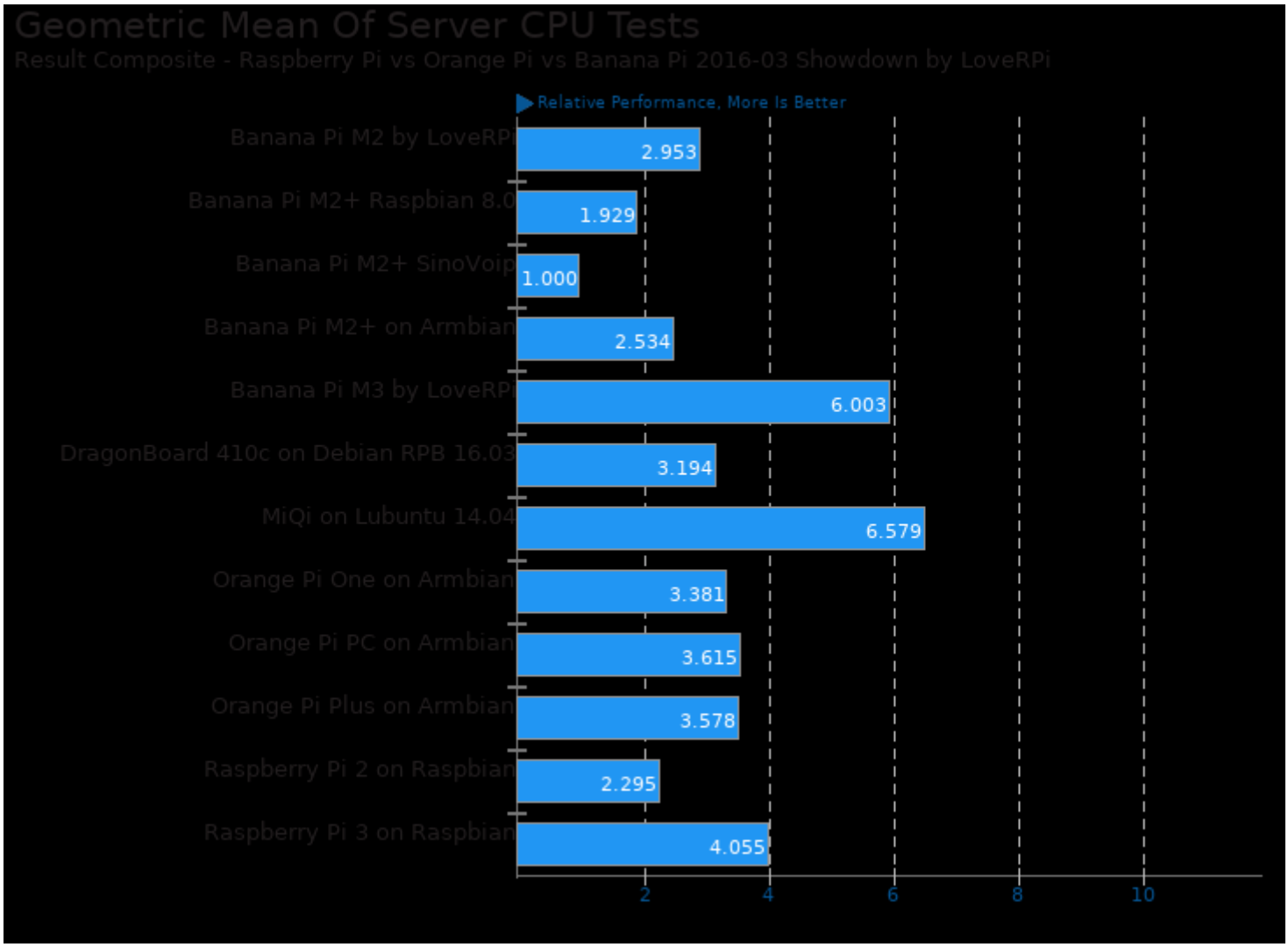
Geometric mean based upon tests: pts/openssl and pts/john-the-ripper



Geometric mean based upon tests: pts/c-ray, pts/john-the-ripper and pts/smallpt



Geometric mean based upon tests: pts/c-ray and pts/smallpt



Geometric mean based upon tests: pts/john-the-ripper, pts/himeno, pts/c-ray and pts/openssl

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 05:36.