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Jetson vs. Raspberry Pi vs. Other ARM CPU Comparison

Jetson vs. Raspberry Pi vs. AMD Jaguar vs. Intel Atom x7

Automated Executive Summary

PC Xeon X3460 had the most wins, coming in first place for 80% of the tests.

Based on the geometric mean of all complete results, the fastest (PC Xeon X3460) was 38.684x the speed of the slowest (Orange Pi One).

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

C-Ray (Total Time) at 49.785x
OpenSSL (RSA 4096-bit Performance) at 49.091x
John The Ripper (Test: Blowfish) at 36.377x
FFTW (Build: Stock - Size: 2D FFT Size 256) at 35.868x
FLAC Audio Encoding (WAV To FLAC) at 35.072x
Himeno Benchmark (Poisson Pressure Solver) at 23.069x
Smallpt (Global Illumination Renderer; 100 Samples) at 16.3x
Himeno Benchmark (Performance / Cost - Poisson Pressure Solver) at 15.205x
Redis (Test: GET) at 12.489x
Redis (Test: SET) at 12.46x.

Test Systems:

Banana Pi M3

Processor: ARMv7 rev 5 @ 1.61GHz (8 Cores), Motherboard: sun8i, Memory: 2048MB, Disk: 8GB SD + 8GB M8G1GC, Graphics: PowerVR

OS: Ubuntu 16.04, Kernel: 3.4.39-BPI-M3-Kernel (armv7l), Desktop: MATE 1.12.1, Display Server: X Server 1.18.3, Display Driver: modesetting 1.18.3, OpenGL: 2.1 Mesa 10.5.4, Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 1280x720

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

Jetson TX1

Processor: ARMv8 rev 1 @ 1.73GHz (4 Cores), Motherboard: jetson_tx1, Memory: 4096MB, Disk: 16GB 016G32, Graphics: NVIDIA Tegra X1 (nvgpu)/

OS: Ubuntu 16.04, Kernel: 3.10.96-tegra (aarch64), Desktop: Unity 7.4.0, Display Server: X Server 1.18.3, Display Driver: NVIDIA 24.2.1, OpenGL: 4.5.0, Vulkan: 1.0.8, Compiler: GCC 5.4.0 20160609 + CUDA 8.0, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes: __GL_PERFMON_MODE=1
Compiler Notes: --build=aarch64-linux-gnu --disable-browser-plugin --disable-libquadmath --disable-werror --enable-checking=release --enable-clocale=gnu --enable-fix-cortex-a53-843419 --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-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --target=aarch64-linux-gnu --with-arch-directory=aarch64 --with-default-libstdcxx-abi=new -v
Processor Notes: Scaling Governor: tegra interactive

Jetson TX2

Processor: ARMv8 rev 3 @ 2.00GHz (6 Cores), Motherboard: quill, Memory: 8192MB, Disk: 31GB 032G34, Graphics: GP10B (nvgpu)/

OS: Ubuntu 16.04, Kernel: 4.4.15-tegra (aarch64), Desktop: Unity 7.4.0, Display Server: X Server 1.18.3, Display Driver: NVIDIA 27.1.0, OpenGL: 4.5.0, Vulkan: 1.0.8, Compiler: GCC 5.4.0 20160609 + CUDA 8.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=aarch64-linux-gnu --disable-browser-plugin --disable-libquadmath --disable-werror --enable-checking=release --enable-clocale=gnu --enable-fix-cortex-a53-843419 --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-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --target=aarch64-linux-gnu --with-arch-directory=aarch64 --with-default-libstdcxx-abi=new -v
Processor Notes: Scaling Governor: tegra_cpufreq schedutil

ODROID-C1

Processor: ARMv7 rev 1 @ 1.54GHz (4 Cores), Motherboard: ODROIDC, Memory: 836MB, Disk: 8GB SD, Graphics: ARM Mali

OS: Ubuntu 14.04, Kernel: 3.10.80-135 (armv7l), Desktop: LXDE 0.6.1, Display Server: X Server 1.15.1, OpenGL: 2.1 Mesa 10.1.3, Compiler: GCC 4.9.3, File-System: ext4, Screen Resolution: 1920x1080

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,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-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: meson_cpufreq performance

ODROID-C2

Processor: Unknown @ 1.54GHz (4 Cores), Motherboard: ODROID-C2, Memory: 2048MB, Disk: 16GB SD16G, Graphics: LLVMpipe

OS: Ubuntu 16.04, Kernel: 3.14.79-108 (aarch64), Desktop: MATE 1.12.1, Display Server: X Server 1.18.4, OpenGL: 3.3 Mesa 12.0.6 Gallium 0.4 (LLVM 3.8 128 bits), Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=aarch64-linux-gnu --disable-browser-plugin --disable-libquadmath --disable-werror --enable-checking=release --enable-clocale=gnu --enable-fix-cortex-a53-843419 --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-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --target=aarch64-linux-gnu --with-arch-directory=aarch64 --with-default-libstdcxx-abi=new -v
Processor Notes: Scaling Governor: meson_cpufreq interactive

Orange Pi One

Processor: ARMv7 rev 5 @ 1.54GHz (4 Cores), Motherboard: sun8i, Memory: 495MB, Disk: 16GB SL16G

OS: Raspbian GNU/Linux 7, Kernel: 3.4.39 (armv7l), Desktop: LXDE 0.5.10, Display Server: X Server 1.12.4, Compiler: GCC 4.6.3, File-System: ext4, Screen Resolution: 1280x720

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: cpufreq-sunxi interactive

Orange Pi PC

Processor: ARMv7 rev 5 @ 1.20GHz (4 Cores), Motherboard: sun8i, Memory: 1024MB, Disk: 16GB SL16G

OS: Raspbian GNU/Linux 7, Kernel: 3.4.39 (armv7l), Desktop: LXDE 0.7.1, Display Server: X Server 1.12.4, Compiler: GCC 4.6.3, File-System: ext4, Screen Resolution: 1280x720

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: cpufreq-sunxi ondemand

Orange Pi Plus

Processor: ARMv7 rev 5 @ 1.20GHz (4 Cores), Motherboard: sun8i, Memory: 1024MB, Disk: 8GB SD

OS: Ubuntu 14.04, Kernel: 3.4.39 (armv7l), Desktop: LXDE 0.6.1, Display Server: X Server 1.15.1, OpenGL: 2.1 Mesa 10.1.3, Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1280x720

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-sunxi interactive

PINE 64+

Processor: AArch64 rev 4 @ 1.15GHz (4 Cores), Motherboard: sun50iw1p1, Memory: 1024MB, Disk: 8GB SL08G, Graphics: LLVMpipe

OS: Ubuntu 16.04, Kernel: 3.10.104 (aarch64), Desktop: MATE 1.12.1, Display Server: X Server 1.18.4, OpenGL: 3.3 Mesa 11.2.0 Gallium 0.4 (LLVM 3.8 128 bits), Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=aarch64-linux-gnu --disable-browser-plugin --disable-libquadmath --disable-werror --enable-checking=release --enable-clocale=gnu --enable-fix-cortex-a53-843419 --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-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --target=aarch64-linux-gnu --with-arch-directory=aarch64 --with-default-libstdcxx-abi=new -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

Raspberry Pi 2 Model B

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

OS: Raspbian 8.0, Kernel: 4.4.50-v7+ (armv7l), Desktop: LXDE 0.7.2, Display Server: X Server 1.18.4, OpenGL: 3.3 Mesa 13.0.0 Gallium 0.4 (LLVM 3.9 128 bits), 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 Model B

Processor: ARMv7 rev 4 @ 1.20GHz (4 Cores), Motherboard: BCM2709 Raspberry Pi 3 Model B Rev 1.2, Memory: 925MB, Disk: 16GB SD16G, Graphics: LLVMpipe

OS: Raspbian 8.0, Kernel: 4.4.50-v7+ (armv7l), Desktop: LXDE 0.7.2, Display Server: X Server 1.18.4, OpenGL: 3.3 Mesa 13.0.0 Gallium 0.4 (LLVM 3.9 128 bits), 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

AMD Jaguar

Processor: AMD Athlon 5350 APU with Radeon R3 @ 2.21GHz (4 Cores), Motherboard: ASUS AM1M-A, Chipset: AMD Family 16h Root Complex, Memory: 3584MB, Disk: 1000GB Western Digital WD10EZEX-08R, Graphics: ASUS AMD Radeon HD 8400 / R3 512MB, Audio: AMD Kabini HDMI/DP, Monitor: IPS236, Network: Realtek RTL8111/8168/8411

OS: Debian 9.0, Kernel: 4.9.0-2-amd64 (x86_64), Desktop: Openbox 3.6.1, Display Server: X Server 1.19.3, Display Driver: modesetting 1.17.3, OpenGL: 4.3 Mesa 13.0.5 Gallium 0.4 (LLVM 3.9.1), Compiler: GCC 6.3.0 20170316, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --enable-checking=release --enable-clocale=gnu --enable-default-pie --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-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic -v

Atom x7-Z8700

Processor: Intel Atom x7-Z8700 @ 2.40GHz (4 Cores), Motherboard: AMI Cherry Trail FFD, Chipset: Intel Device 2280, Memory: 2 x 2048 MB DDR3-1600MHz 00000000, Disk: 63GB 064G70, Graphics: Intel Device 22b0, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 16.04, Kernel: 4.10.2-041002-generic (x86_64), Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 1280x1024

Kernel Notes: i915.modeset=1 drm.vblankoffdelay=1
Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --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-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --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-arch-directory=amd64 --with-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave

PI4-Raspbian-10

Processor: ARMv7 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: BCM2711 Raspberry Pi 4 Model B Rev 1.1, Memory: 2048MB, Disk: 2 x 31GB Seagate STORE N GO + 16GB SL16G

OS: Raspbian 10, Kernel: 5.4.72-v7l-s3515162-g2054a03e7 (armv7l), Desktop: LXDE, Display Server: X Server 1.20.4, Compiler: GCC 8.3.0, File-System: ext4

Compiler Notes: --build=arm-linux-gnueabihf --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-sjlj-exceptions --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --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-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --program-prefix=arm-linux-gnueabihf- --target=arm-linux-gnueabihf --with-arch=armv6 --with-default-libstdcxx-abi=new --with-float=hard --with-fpu=vfp --with-gcc-major-version-only --with-target-system-zlib -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

TW51 Atom Z3735G

Processor: Intel Atom Z3735G @ 1.83GHz (4 Cores), Motherboard: IRBIS TW51 (WI101C.IRBIS.A002 BIOS), Chipset: Intel Atom Z36xxx/Z37xxx, Memory: 1 x GB DDR3-1333MT/s, Disk: 31GB 032G74, Graphics: Intel Atom Z36xxx/Z37xxx & Display (646MHz)

OS: Debian 11, Kernel: 5.10.0-17-686-pae (i686), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 800x1280

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=i686-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-targets=all --enable-threads=posix --host=i686-linux-gnu --program-prefix=i686-linux-gnu- --target=i686-linux-gnu --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic -v
Processor Notes: Scaling Governor: intel_cpufreq performance - CPU Microcode: 0x82f
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Vulnerable: Clear buffers attempted no microcode; SMT disabled + meltdown: Mitigation of PTI + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Not affected + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

PC Xeon X3460

Processor: Intel Xeon X3460 (4 Cores / 8 Threads), Memory: 14GB, Disk: 2 x 275GB Virtual Disk, Graphics: NVIDIA GeForce GTX 1060 3GB

OS: Ubuntu 20.04, Kernel: 5.10.16.3-microsoft-standard-WSL2 (x86_64), Vulkan: 1.1.182, Compiler: GCC 9.4.0, File-System: ext4, System Layer: wsl

Jetson vs. Raspberry Pi vs. Other ARM CPU Comparison

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: CPU Microcode: 0xffffffff
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + l1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

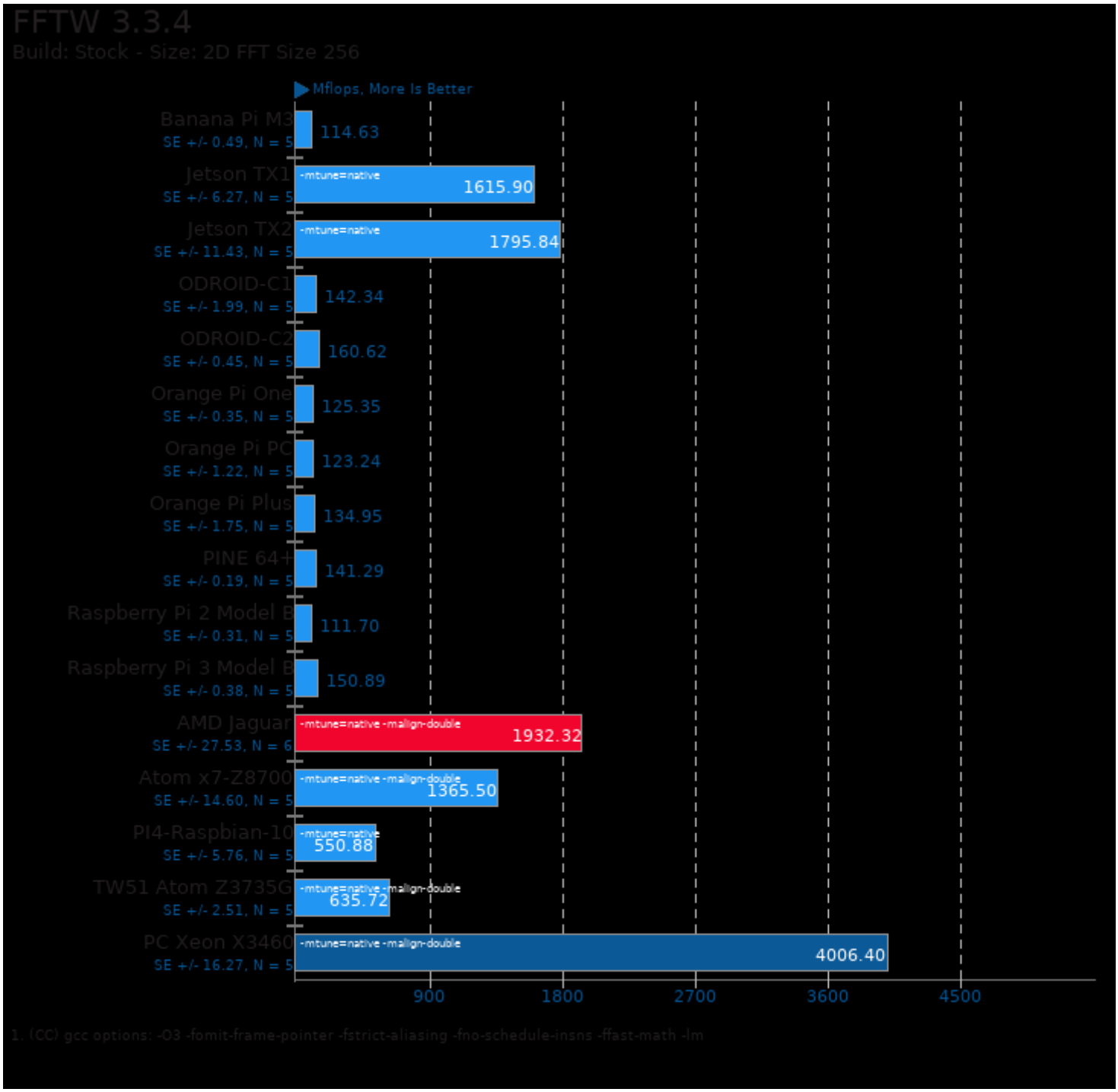
	Banana Pi M3	Jetson TX1	Jetson TX2	ODROID-C1	ODROID-C2	Orange Pi One	Orange Pi PC	Orange Pi Plus	PINE64+	Raspberry Pi 2 Model B	Raspberry Pi 3 Model B	AMD Jaguar	Atom x7-Z8700	PI4-Raspbian-10	TW51 Atom Z3735G	PC Xeon X3460
FFTW - Stock - 2D FFT Size 256	114.63	1616	1796	142.34	160.62	125.35	123.24	134.95	141.29	**111.70**	150.89	1932	1366	550.88	635.72	**4006**
Normalized	2.86%	40.33%	44.82%	3.55%	4.01%	3.13%	3.08%	3.37%	3.53%	2.79%	3.77%	48.23%	34.08%	13.75%	15.87%	100%
Standard Deviation	1%	0.9%	1.4%	3.1%	0.6%	0.6%	2.2%	2.9%	0.3%	0.6%	0.6%	3.5%	2.4%	2.3%	0.9%	0.9%
FFTW - Performance / Cost - Stock - 2D FFT Size 256 (Mflops/Dollar)	**1.45**	3.24	3.00	4.07	3.49	**12.54**			7.44	3.19	4.31					
Normalized	11.56%	25.84%	23.92%	32.46%	27.83%	100%			59.33%	25.44%	34.37%					
John The Ripper - Blowfish (Real C/S)	1045	1354	1525	493	861	**122**	329	389	596	388	510	2209	1964	1108	1105	**4438**
Normalized	23.55%	30.51%	34.36%	11.11%	19.4%	2.75%	7.41%	8.77%	13.43%	8.74%	11.49%	49.77%	44.25%	24.97%	24.9%	100%
Standard Deviation	0.3%	4.2%	1.8%	0.2%	0.2%	2.2%		0.3%	3%			0.1%	0.2%	3.4%	0.1%	0.1%

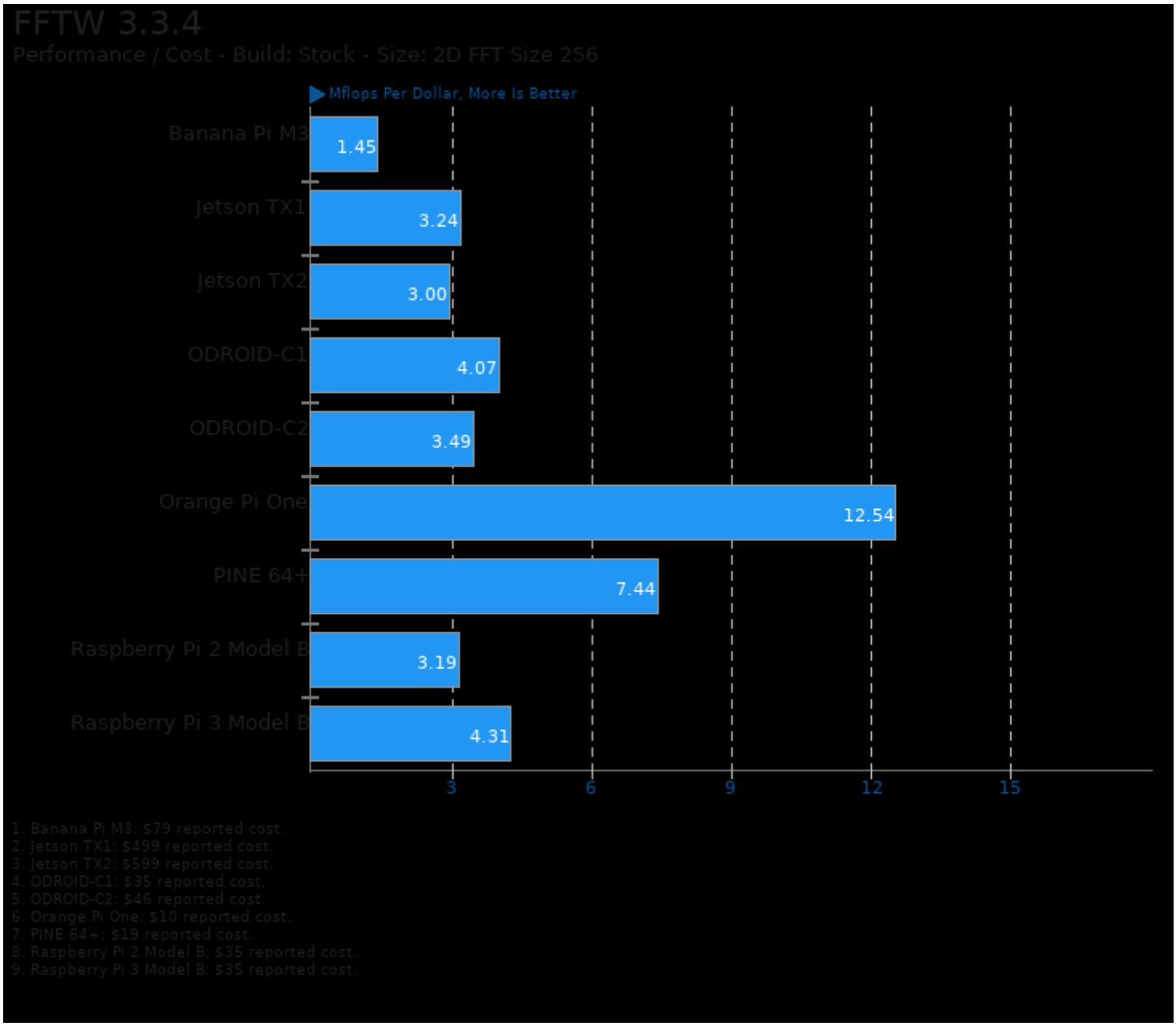
Jetson vs. Raspberry Pi vs. Other ARM CPU Comparison

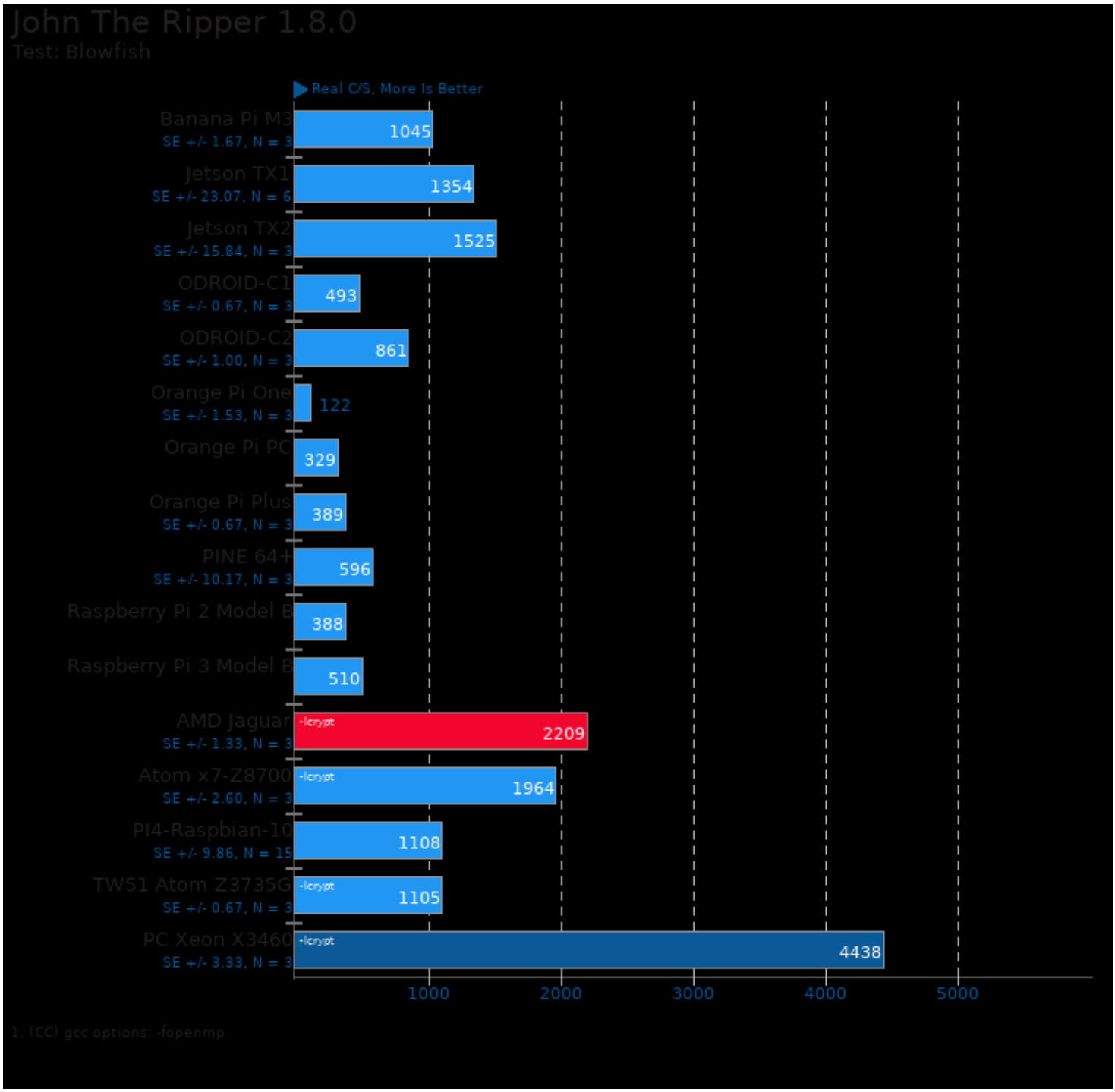
John The Ripper - Performance / Cost - Blowfish (Real C/S/Dollar)	13.23	2.71	**2.55**	14.09	18.72	12.20			**31.37**	11.09	14.57					
Normalized	42.17%	8.64%	8.13%	44.92%	59.67%	38.89%			100%	35.35%	46.45%					
C-Ray - Total Time (sec)	183.84	107.22	102.53	317.48	185.44	**1444**	948.96	493.13	267.73	505.56	254.13	73.26	102.15	74.760	282.600	**29.011**
Normalized	15.78%	27.06%	28.3%	9.14%	15.64%	2.01%	3.06%	5.88%	10.84%	5.74%	11.42%	39.6%	28.4%	38.81%	10.27%	100%
Standard Deviation	0.1%	22.6%	28.9%	0.1%	0.1%	0.1%	0.8%	1.6%	1%	0.4%	1.4%	0%	0.2%	3%	0%	1.3%
Smallpt - G.I.R.1.S (sec)	822	441	400	1590	692	**4026**	1984	2190	1005	2175	1400	**247**	365	447	683	
Normalized	30.05%	56.01%	61.75%	15.53%	35.69%	6.14%	12.45%	11.28%	24.58%	11.36%	17.64%	100%	67.67%	55.26%	36.16%	
Standard Deviation			0.1%	0.1%		0.1%	0.2%		0.2%	0.4%	0.9%	0.2%	0.3%	0.8%		
FLAC Audio Encoding - WAV To FLAC (sec)	161.94	43.81	40.05	203.92	160.88	266.25	253.47		206.94	**315.51**	228.74	19.14	25.76	58.455	33.764	**8.996**
Normalized	5.56%	20.53%	22.46%	4.41%	5.59%	3.38%	3.55%		4.35%	2.85%	3.93%	47%	34.92%	15.39%	26.64%	100%
Standard Deviation	2.3%	0.3%	0.3%	3.3%	2.1%	0.9%	1%		0.1%	0.7%	0.3%	0%	0.1%	0.3%	0.1%	1.5%
Redis - SET (Reqs/sec)	136521	396906	503869	115488	178664	758841	838816		170958	**756581**	138794	463642	396721	211737	224369	**942696**
Normalized	14.48%	42.1%	53.45%	12.25%	18.95%	8.05%	8.9%		18.13%	8.03%	14.72%	49.18%	42.08%	22.46%	23.8%	100%
Standard Deviation	1.3%	3.3%	0.4%	4.9%	3.6%	0.9%	1.1%		0.8%	0.6%	0.4%	5.1%	0.2%	1.9%	0.5%	1.7%
Redis - Performance / Cost - SET (Reqs/sec/Dollar)	1728	**795.40**	841.18	3300	3884	7588			**8998**	2162	3966					
Normalized	19.21%	8.84%	9.35%	36.67%	43.17%	84.34%			100%	24.02%	44.07%					
Redis - GET (Reqs/sec)	170632	484972	652115	140370	228613	975935	109905		225582	**942272**	170020	557499	491725	262429	285344	**1176804**
Normalized	14.5%	41.21%	55.41%	11.93%	19.43%	8.29%	9.34%		19.17%	8.01%	14.45%	47.37%	41.78%	22.3%	24.25%	100%
Standard Deviation	2.8%	7.7%	1.4%	3.2%	1.2%	2.3%	1.4%		1.1%	2%	1.6%	6.2%	0.3%	0.7%	0.7%	6.8%
Redis - Performance / Cost - GET (Reqs/sec/Dollar)	2160	**971.89**	1089	4011	4970	9759			**11873**	2692	4858					
Normalized	18.19%	8.19%	9.17%	33.78%	41.86%	82.2%			100%	22.68%	40.91%					

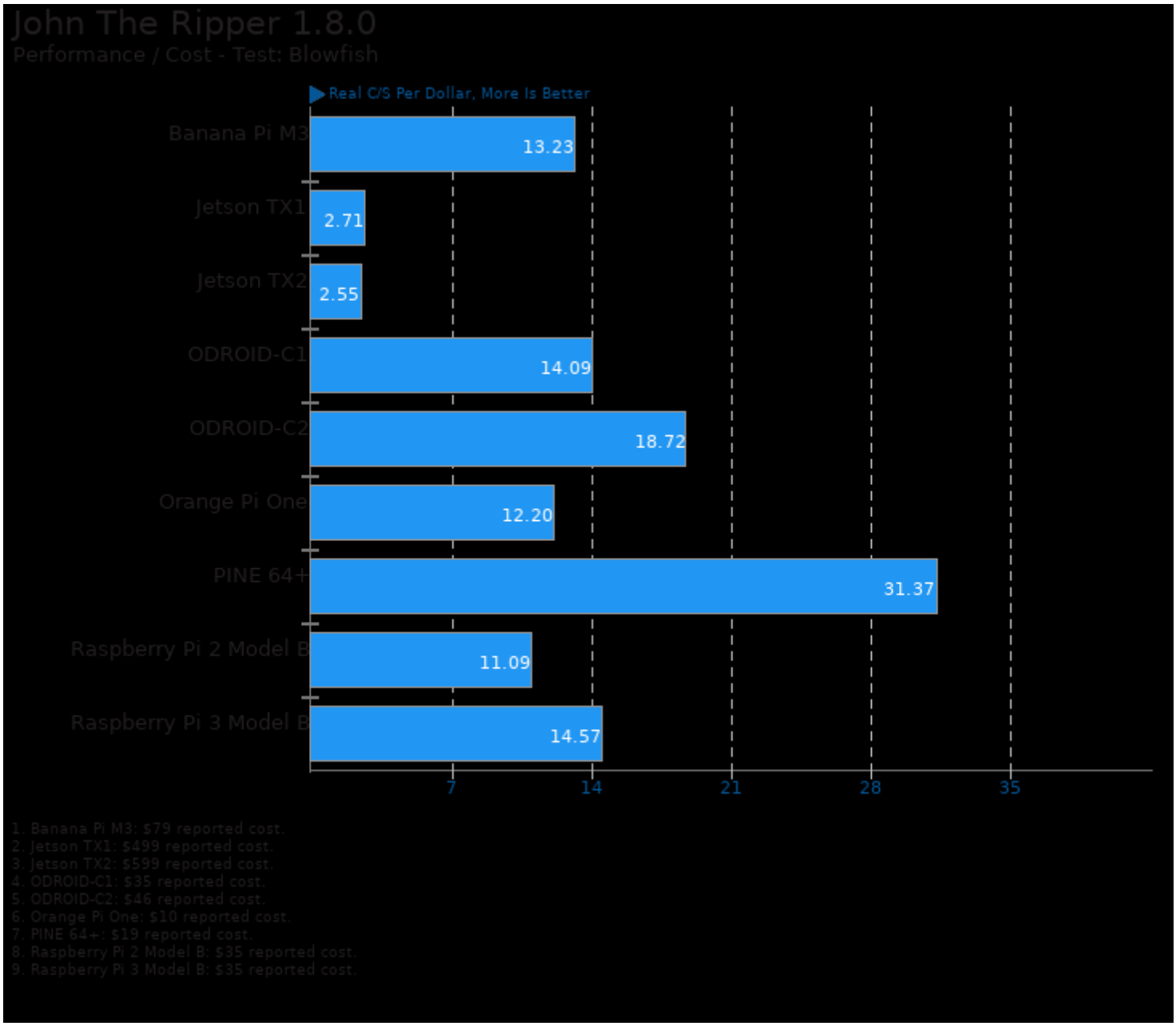
Jetson vs. Raspberry Pi vs. Other ARM CPU Comparison

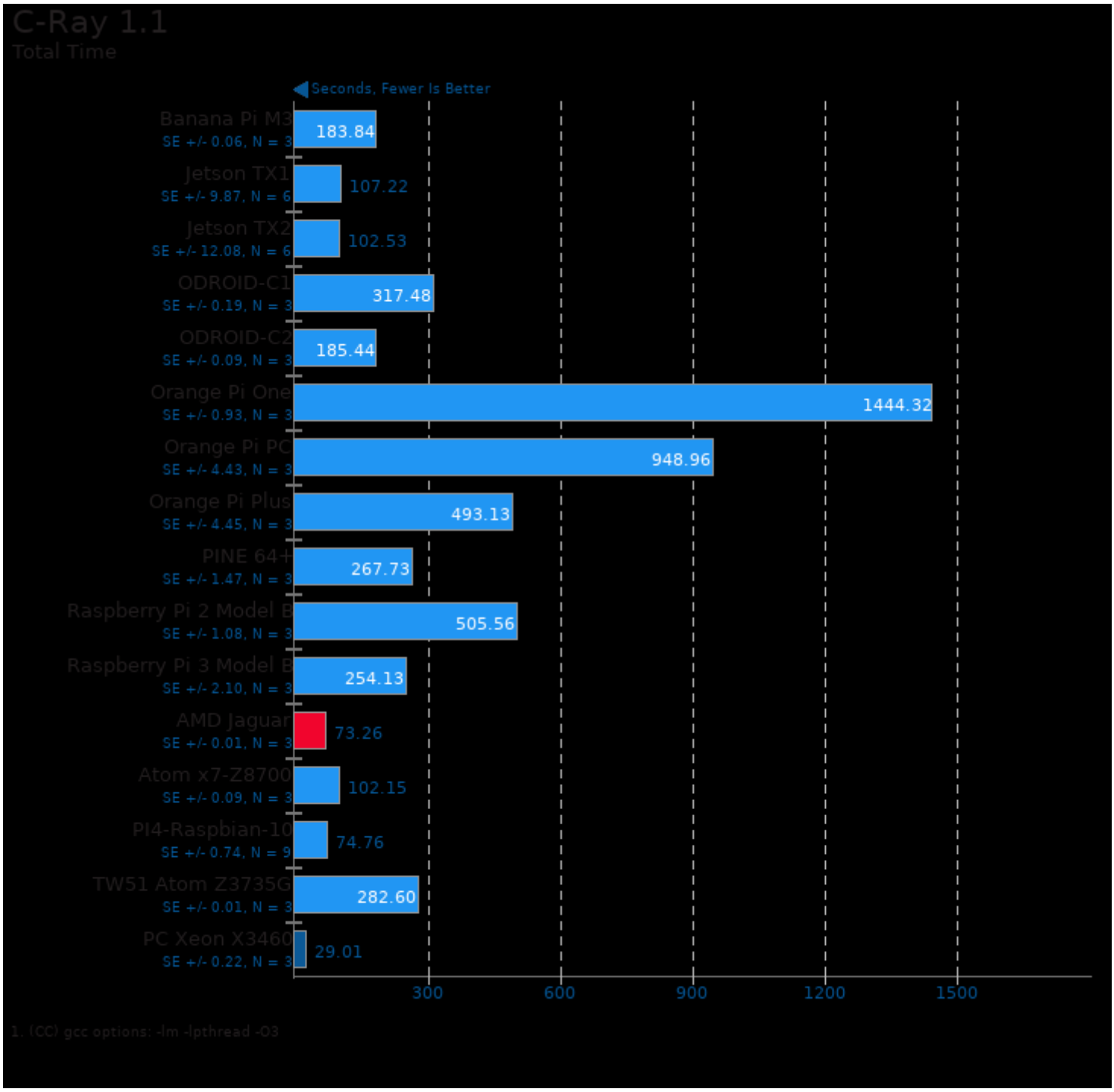
Timed MAFFT Alignment - M.S.A (sec)	37.85	16.88	**15.10**	50.33	36.59		72.19	49.93	**78.34**	54.92	17.77	18.80	21.569	39.223	
Normalized	39.89%	89.45%	100%	30%	41.27%		20.92%	30.24%	19.27%	27.49%	84.97%	80.32%	70.01%	38.5%	
Standard Deviation	6.6%	5.3%	7.9%	0.2%	4.3%		8.4%	2.1%	4.5%	2.8%	8.6%	0.2%	6%	2.7%	
Himeno Benchmark - P.P.S (MFLOPS)	74.51	229.56	236.02	88.36	65.09	59.25	63.44	72.18	56.82	**56.51**	317.59	610.18	233.259797	402.241026	**1304**
Normalized	5.72%	17.61%	18.11%	6.78%	4.99%	4.55%	4.87%	5.54%	4.36%	4.33%	24.36%	46.81%	17.89%	30.86%	100%
Standard Deviation	2.9%	0.7%	13.2%	4.1%	1.7%	3.2%	1.1%	0.4%	2.2%	0.4%	0.2%	0.1%	12.9%	0.2%	2.2%
Himeno Benchmark - Performance / Cost - P.P.S (MFLOPS/Dollar)	0.94	0.46	**0.39**	2.52	1.42	**5.93**		3.80	1.62	1.61					
Normalized	15.85%	7.76%	6.58%	42.5%	23.95%	100%		64.08%	27.32%	27.15%					
OpenSSL - R.4.b.P (Signs/sec)	32.23	39.07	42.87	18.77	21	**6.27**	11.93	15.05	12	19.98	175.20		39.7	16.8	**307.8**
Normalized	10.47%	12.69%	13.93%	6.1%	6.82%	2.04%	3.88%	4.89%	3.9%	6.49%	56.92%		12.9%	5.46%	100%
Standard Deviation	3.3%	0.6%	0.3%	0.3%		5.9%	0.5%	3.5%		9.2%	0.1%		0%	0%	1.9%
OpenSSL - Performance / Cost - R.4.b.P (Signs/sec/D	0.41	0.08	**0.07**	0.54	0.46	0.63		**0.79**	0.34	0.57					
Normalized	51.9%	10.13%	8.86%	68.35%	58.23%	79.75%		100%	43.04%	72.15%					
Meta Performance Per Dollar - P.P.D (Performance/Dollar)	650.67	**295.63**	322.64	1222	1480	2897		**3486**	811.68	1474					
Normalized	18.67%	8.48%	9.26%	35.06%	42.45%	83.1%		100%	23.29%	42.29%					

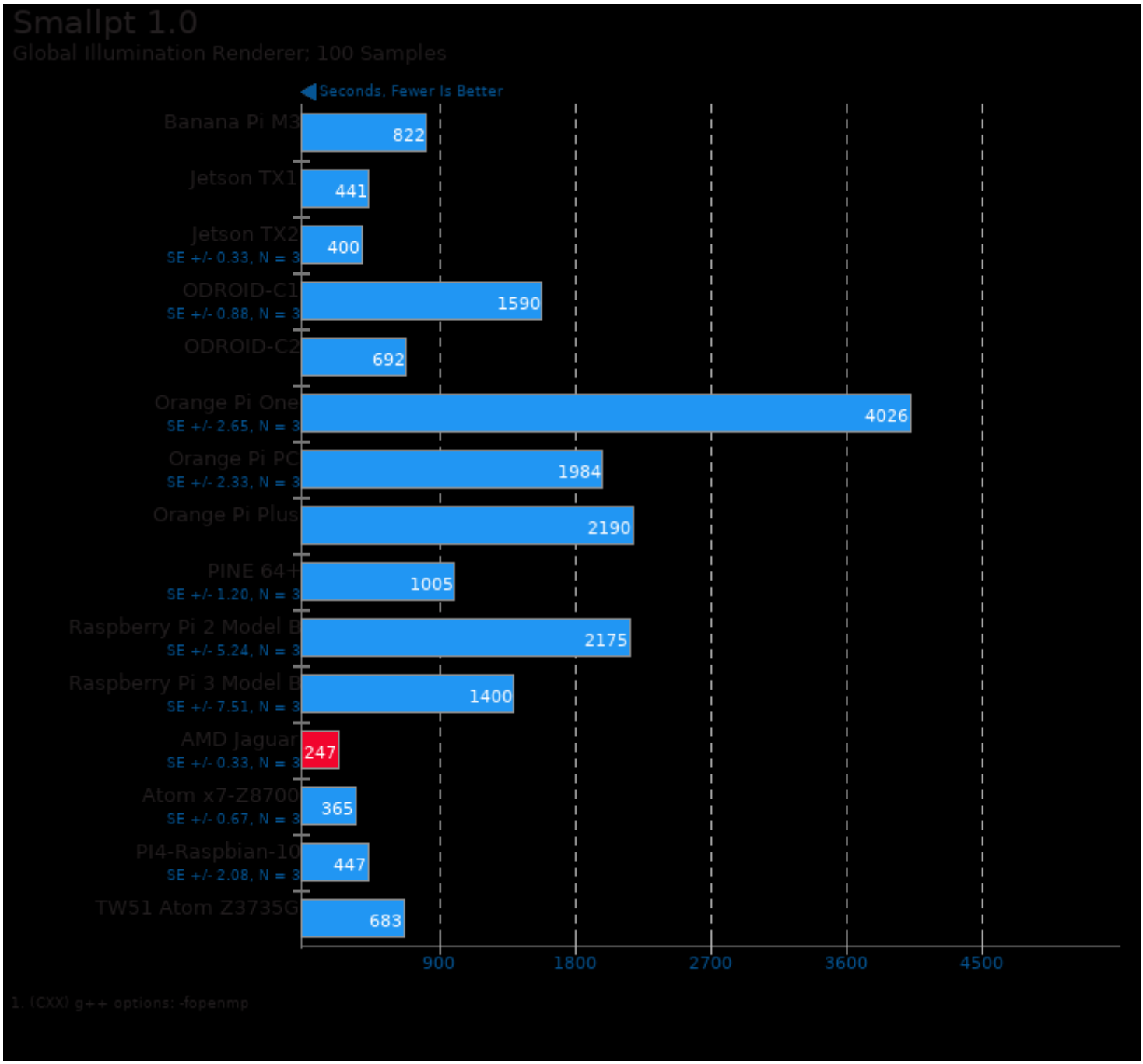

FFTW 3.3.4
Build: Stock - Size: 2D FFT Size 256
Mflops, More Is Better
Banana Pi M3
SE +/- 0.49, N = 5
114.63
Jetson TX1
SE +/- 6.27, N = 5
-mtune=native
1615.90
Jetson TX2
SE +/- 11.43, N = 5
-mtune=native
1795.84
ODROID-C1
SE +/- 1.99, N = 5
142.34
ODROID-C2
SE +/- 0.45, N = 5
160.62
Orange Pi One
SE +/- 0.35, N = 5
125.35
Orange Pi PC
SE +/- 1.22, N = 5
123.24
Orange Pi Plus
SE +/- 1.75, N = 5
134.95
PINE 64+
SE +/- 0.19, N = 5
141.29
Raspberry Pi 2 Model B
SE +/- 0.31, N = 5
111.70
Raspberry Pi 3 Model B
SE +/- 0.38, N = 5
150.89
AMD Jaguar
SE +/- 27.53, N = 6
-mtune=native -malign-double
1932.32
Atom x7-Z8700
SE +/- 14.60, N = 5
-mtune=native -malign-double
1365.50
PI4-Raspbian-10
SE +/- 5.76, N = 5
-mtune=native
550.88
TW51 Atom Z3735G
SE +/- 2.51, N = 5
-mtune=native -malign-double
635.72
PC Xeon X3460
SE +/- 16.27, N = 5
-mtune=native -malign-double
4006.40
900
1800
2700
3600
4500
1. (CC) gcc options: -O3 -fomit-frame-pointer -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

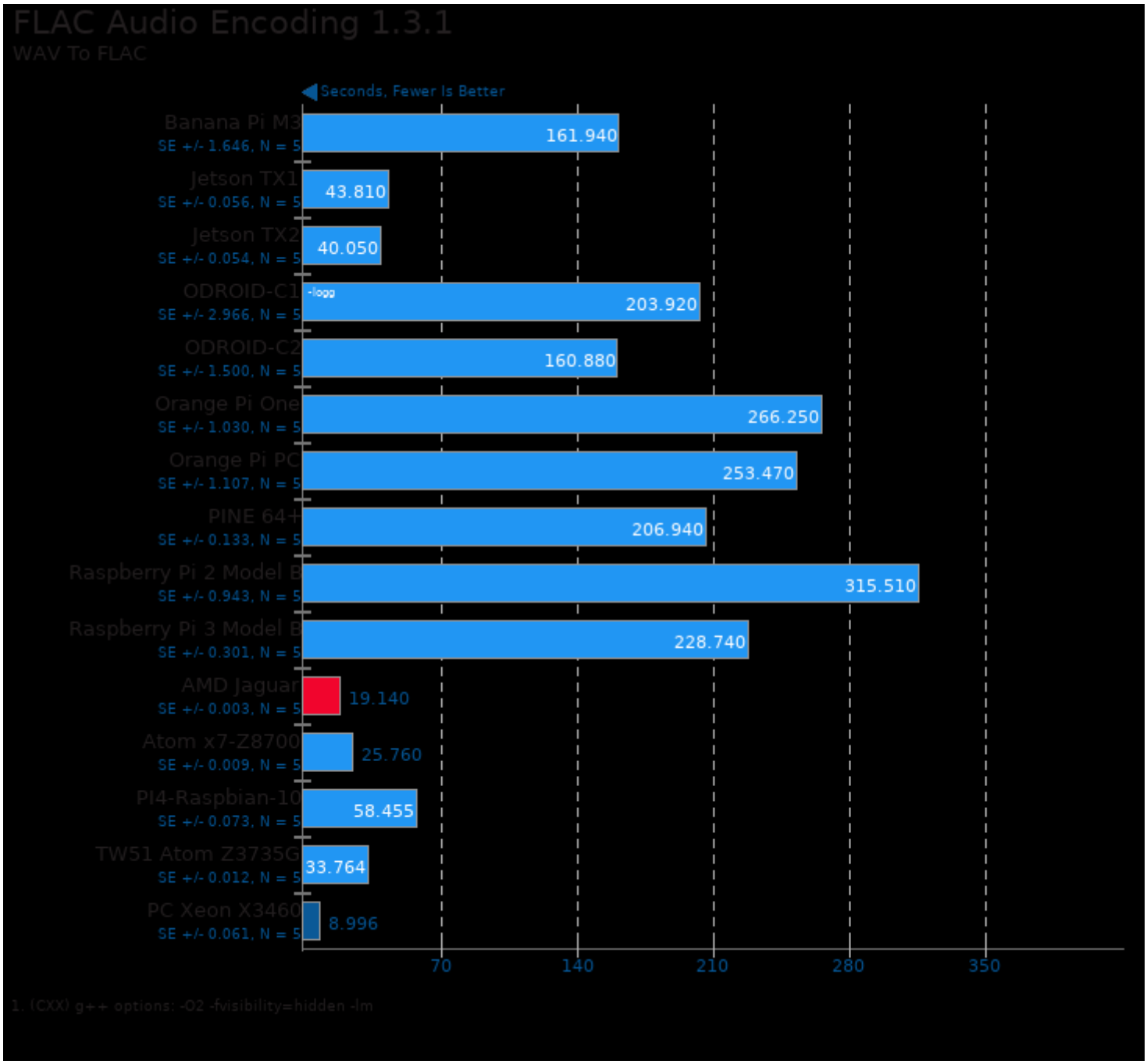

FFTW 3.3.4
Performance / Cost - Build: Stock - Size: 2D FFT Size 256
Mflops Per Dollar, More Is Better
Banana Pi M3
1.45
Jetson TX1
3.24
Jetson TX2
3.00
ODROID-C1
4.07
ODROID-C2
3.49
Orange Pi One
12.54
PINE 64+
7.44
Raspberry Pi 2 Model B
3.19
Raspberry Pi 3 Model B
4.31
3
6
9
12
15
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.

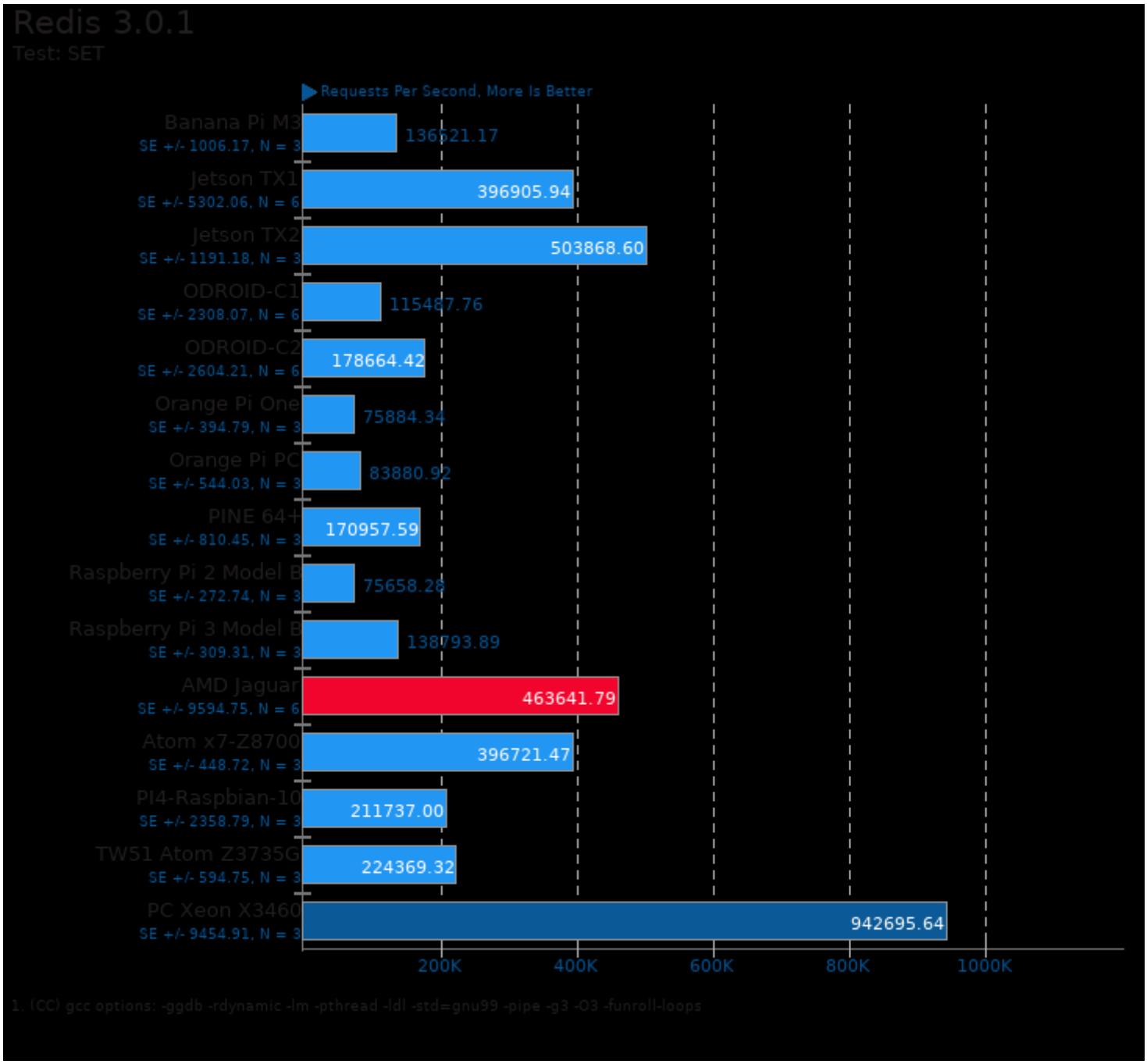

John The Ripper 1.8.0
Test: Blowfish
Real C/S, More Is Better
Banana Pi M3
SE +/- 1.67, N = 3
1045
Jetson TX1
SE +/- 23.07, N = 6
1354
Jetson TX2
SE +/- 15.84, N = 3
1525
ODROID-C1
SE +/- 0.67, N = 3
493
ODROID-C2
SE +/- 1.00, N = 3
861
Orange Pi One
SE +/- 1.53, N = 3
122
Orange Pi PC
329
Orange Pi Plus
SE +/- 0.67, N = 3
389
PINE 64+
SE +/- 10.17, N = 3
596
Raspberry Pi 2 Model B
388
Raspberry Pi 3 Model B
510
AMD Jaguar
SE +/- 1.33, N = 3
-lcrypt
2209
Atom x7-Z8700
SE +/- 2.60, N = 3
-lcrypt
1964
PI4-Raspbian-10
SE +/- 9.86, N = 15
1108
TW51 Atom Z3735G
SE +/- 0.67, N = 3
-lcrypt
1105
PC Xeon X3460
SE +/- 3.33, N = 3
-lcrypt
4438
1000
2000
3000
4000
5000
1. (CC) gcc options: -fopenmp

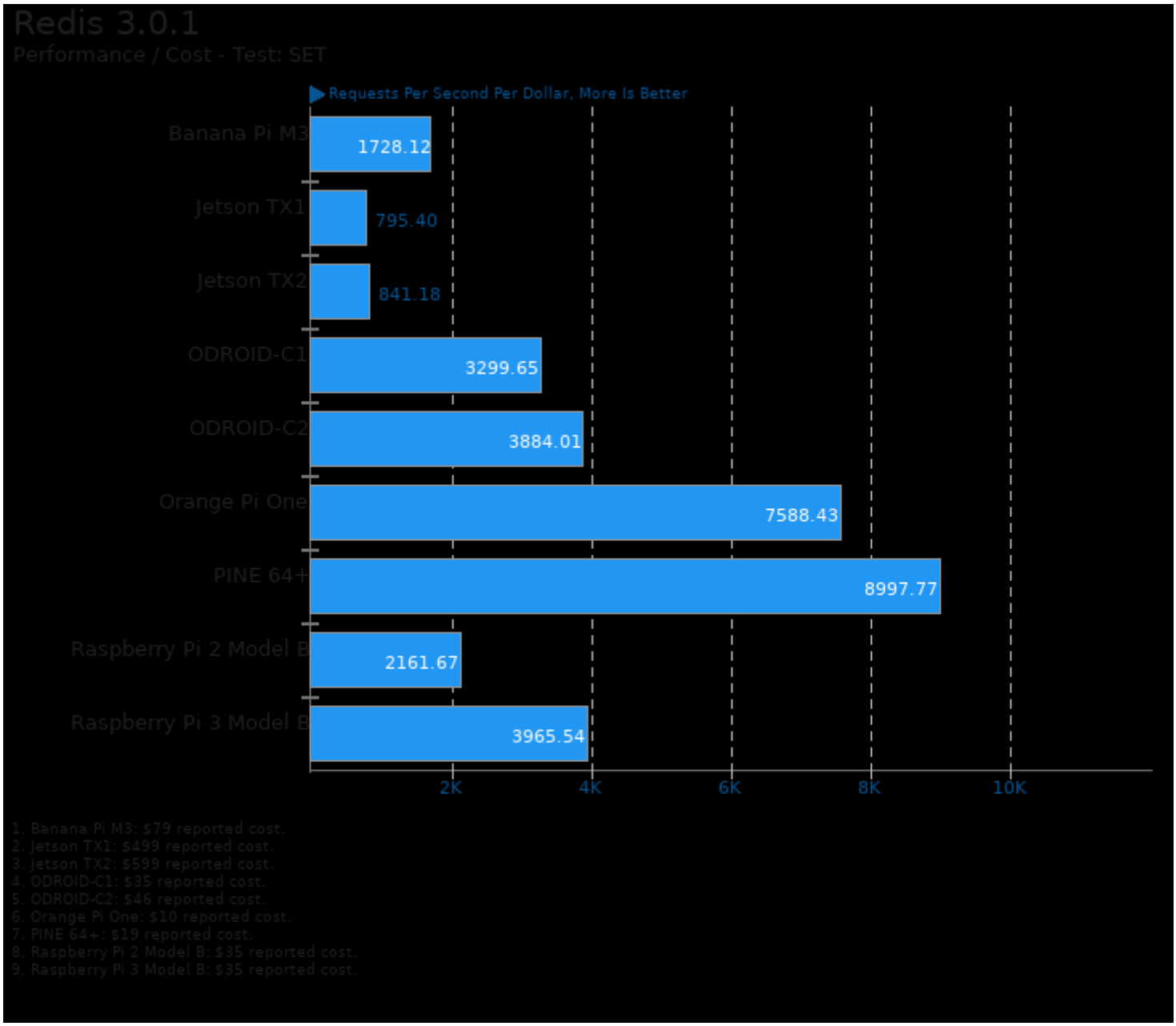

John The Ripper 1.8.0
Performance / Cost - Test: Blowfish
Real C/S Per Dollar, More Is Better
Banana Pi M3
13.23
Jetson TX1
2.71
Jetson TX2
2.55
ODROID-C1
14.09
ODROID-C2
18.72
Orange Pi One
12.20
PINE 64+
31.37
Raspberry Pi 2 Model B
11.09
Raspberry Pi 3 Model B
14.57
7
14
21
28
35
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.

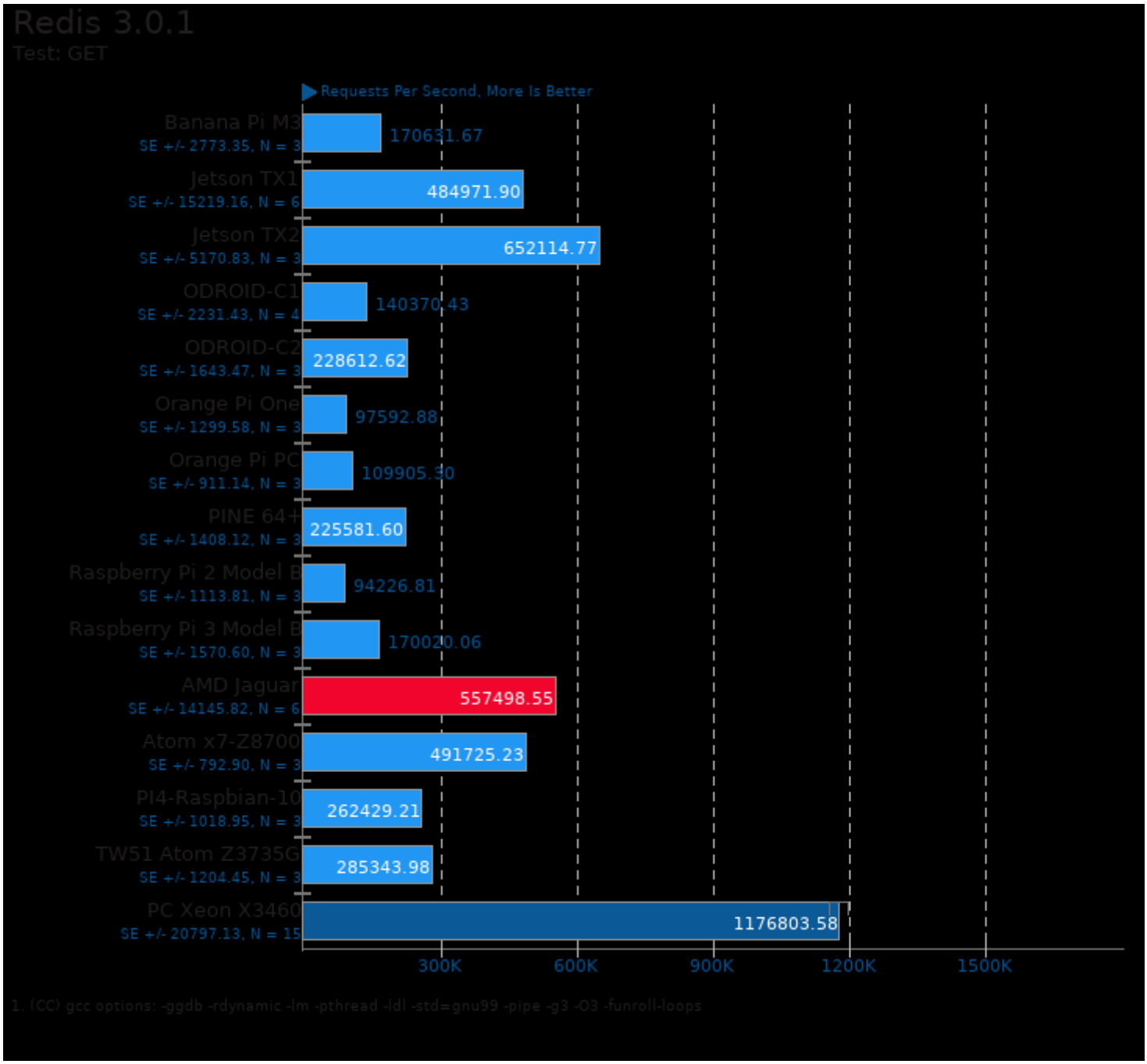

C-Ray 1.1
Total Time
Seconds, Fewer Is Better
Banana Pi M3
SE +/- 0.06, N = 3
183.84
Jetson TX1
SE +/- 9.87, N = 6
107.22
Jetson TX2
SE +/- 12.08, N = 6
102.53
ODROID-C1
SE +/- 0.19, N = 3
317.48
ODROID-C2
SE +/- 0.09, N = 3
185.44
Orange Pi One
SE +/- 0.93, N = 3
1444.32
Orange Pi PC
SE +/- 4.43, N = 3
948.96
Orange Pi Plus
SE +/- 4.45, N = 3
493.13
PINE 64+
SE +/- 1.47, N = 3
267.73
Raspberry Pi 2 Model B
SE +/- 1.08, N = 3
505.56
Raspberry Pi 3 Model B
SE +/- 2.10, N = 3
254.13
AMD Jaguar
SE +/- 0.01, N = 3
73.26
Atom x7-Z8700
SE +/- 0.09, N = 3
102.15
PI4-Raspbian-10
SE +/- 0.74, N = 9
74.76
TW51 Atom Z3735G
SE +/- 0.01, N = 3
282.60
PC Xeon X3460
SE +/- 0.22, N = 3
29.01
300
600
900
1200
1500
1. (CC) gcc options: -lm -lpthread -O3

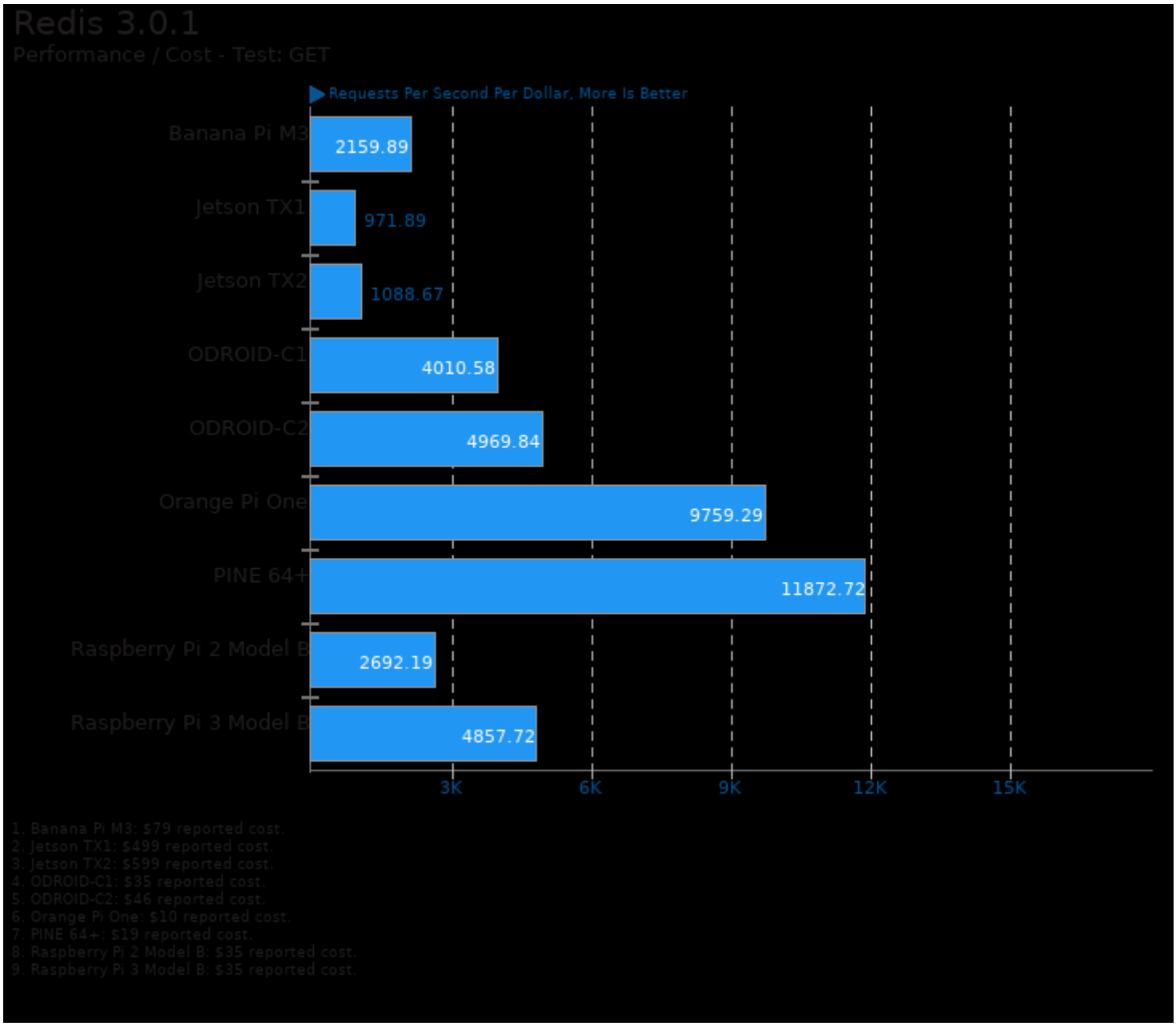

Smallpt 1.0
Global Illumination Renderer; 100 Samples
Seconds, Fewer Is Better
Banana Pi M3
822
Jetson TX1
441
Jetson TX2
SE +/- 0.33, N = 3
400
ODROID-C1
SE +/- 0.88, N = 3
1590
ODROID-C2
692
Orange Pi One
SE +/- 2.65, N = 3
4026
Orange Pi PC
SE +/- 2.33, N = 3
1984
Orange Pi Plus
2190
PINE 64+
SE +/- 1.20, N = 3
1005
Raspberry Pi 2 Model B
SE +/- 5.24, N = 3
2175
Raspberry Pi 3 Model B
SE +/- 7.51, N = 3
1400
AMD Jaguar
SE +/- 0.33, N = 3
247
Atom x7-Z8700
SE +/- 0.67, N = 3
365
PI4-Raspbian-10
SE +/- 2.08, N = 3
447
TW51 Atom Z3735G
683
900
1800
2700
3600
4500
1. (CXX) g++ options: -fopenmp

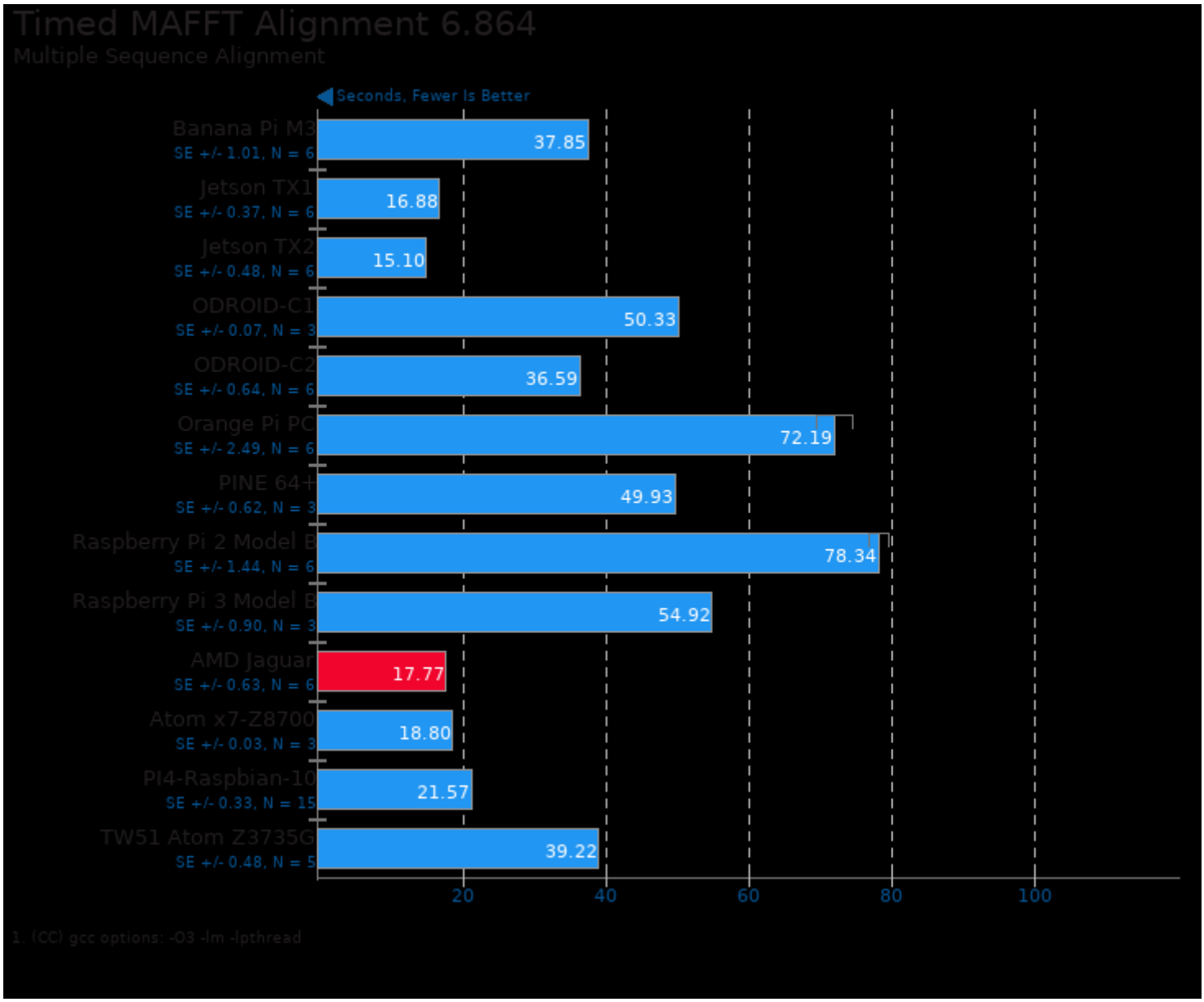

FLAC Audio Encoding 1.3.1
WAV To FLAC
Seconds, Fewer Is Better
Banana Pi M3
SE +/- 1.646, N = 5
161.940
Jetson TX1
SE +/- 0.056, N = 5
43.810
Jetson TX2
SE +/- 0.054, N = 5
40.050
ODROID-C1
SE +/- 2.966, N = 5
-logg
203.920
ODROID-C2
SE +/- 1.500, N = 5
160.880
Orange Pi One
SE +/- 1.030, N = 5
266.250
Orange Pi PC
SE +/- 1.107, N = 5
253.470
PINE 64+
SE +/- 0.133, N = 5
206.940
Raspberry Pi 2 Model B
SE +/- 0.943, N = 5
315.510
Raspberry Pi 3 Model B
SE +/- 0.301, N = 5
228.740
AMD Jaguar
SE +/- 0.003, N = 5
19.140
Atom x7-Z8700
SE +/- 0.009, N = 5
25.760
PI4-Raspbian-10
SE +/- 0.073, N = 5
58.455
TW51 Atom Z3735G
SE +/- 0.012, N = 5
33.764
PC Xeon X3460
SE +/- 0.061, N = 5
8.996
70
140
210
280
350
1. (CXX) g++ options: -O2 -fvisibility=hidden -lm

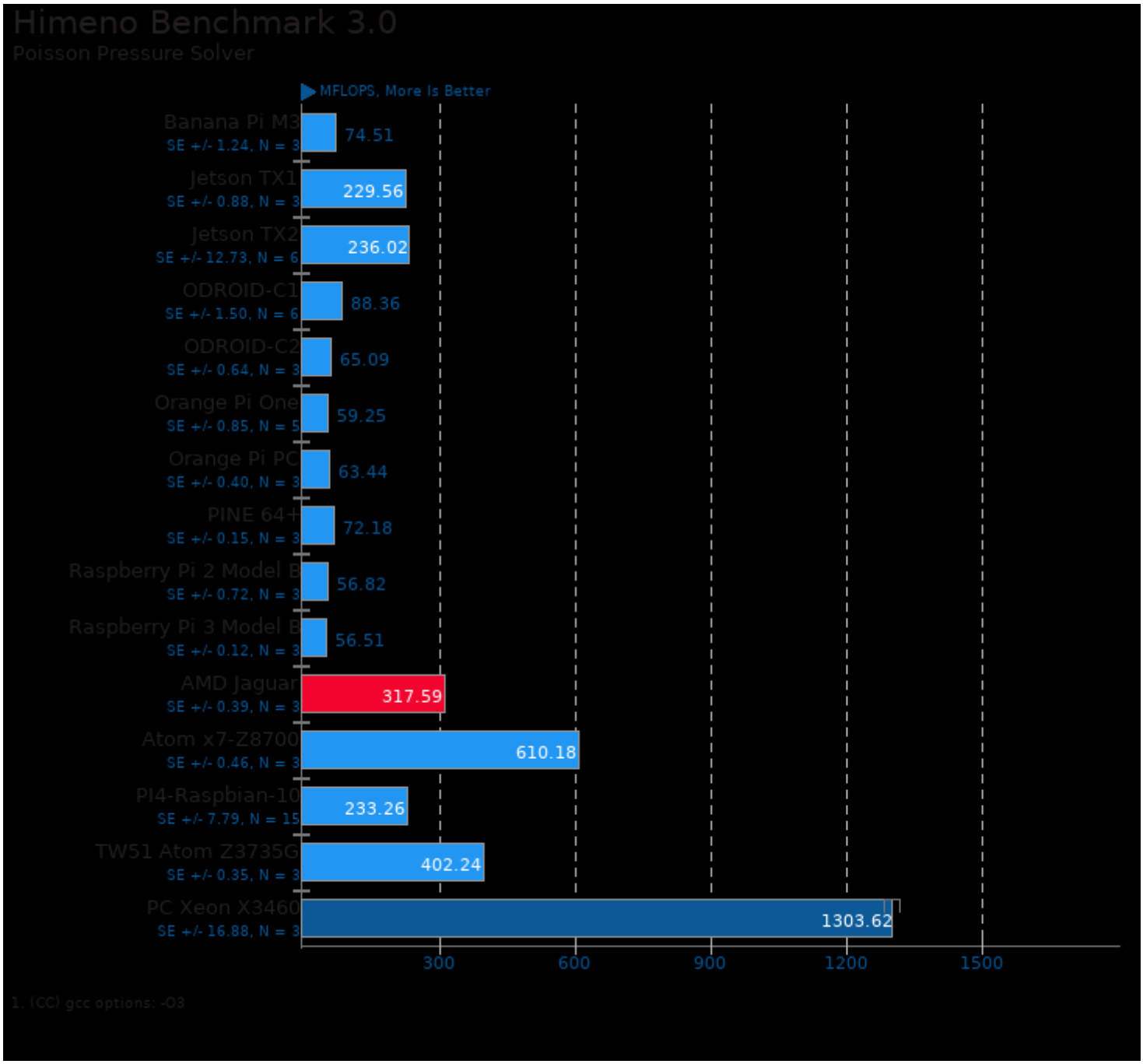

Redis 3.0.1
Test: SET
Requests Per Second, More Is Better
Banana Pi M3
SE +/- 1006.17, N = 3
136621.17
Jetson TX1
SE +/- 5302.06, N = 6
396905.94
Jetson TX2
SE +/- 1191.18, N = 3
503868.60
ODROID-C1
SE +/- 2308.07, N = 6
115467.76
ODROID-C2
SE +/- 2604.21, N = 6
178664.42
Orange Pi One
SE +/- 394.79, N = 3
75884.34
Orange Pi PC
SE +/- 544.03, N = 3
83880.92
PINE 64+
SE +/- 810.45, N = 3
170957.59
Raspberry Pi 2 Model B
SE +/- 272.74, N = 3
75658.28
Raspberry Pi 3 Model B
SE +/- 309.31, N = 3
138793.89
AMD Jaguar
SE +/- 9594.75, N = 6
463641.79
Atom x7-Z8700
SE +/- 448.72, N = 3
396721.47
PI4-Raspbian-10
SE +/- 2358.79, N = 3
211737.00
TW51 Atom Z3735G
SE +/- 594.75, N = 3
224369.32
PC Xeon X3460
SE +/- 9454.91, N = 3
942695.64
200K
400K
600K
800K
1000K
1. (CC) gcc options: -ggdb -rdynamic -lm -pthread -ldl -std=gnu99 -pipe -g3 -O3 -funroll-loops

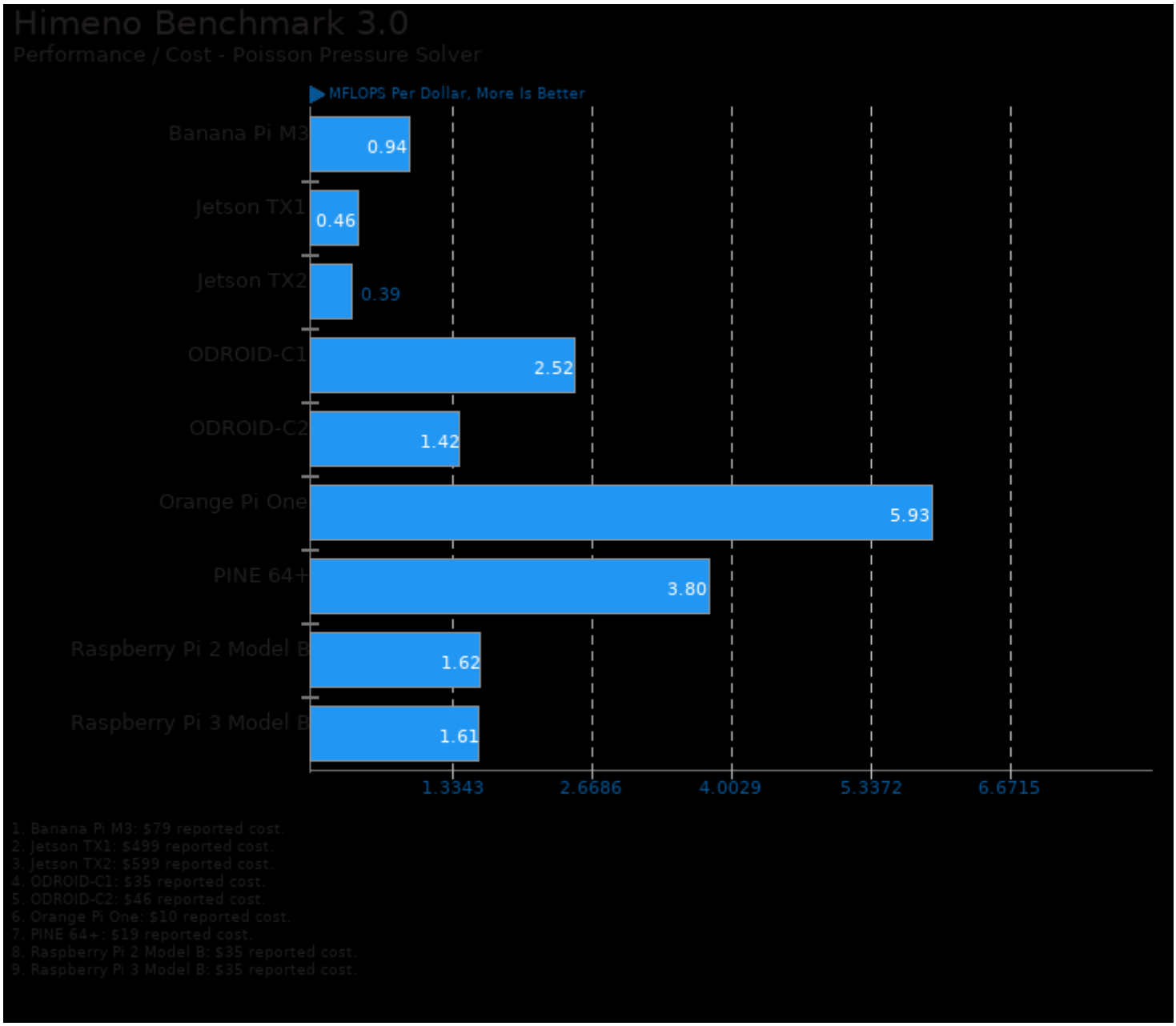

Redis 3.0.1
Performance / Cost - Test: SET
Requests Per Second Per Dollar, More Is Better
Banana Pi M3
1728.12
Jetson TX1
795.40
Jetson TX2
841.18
ODROID-C1
3299.65
ODROID-C2
3884.01
Orange Pi One
7588.43
PINE 64+
8997.77
Raspberry Pi 2 Model B
2161.67
Raspberry Pi 3 Model B
3965.54
2K
4K
6K
8K
10K
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.

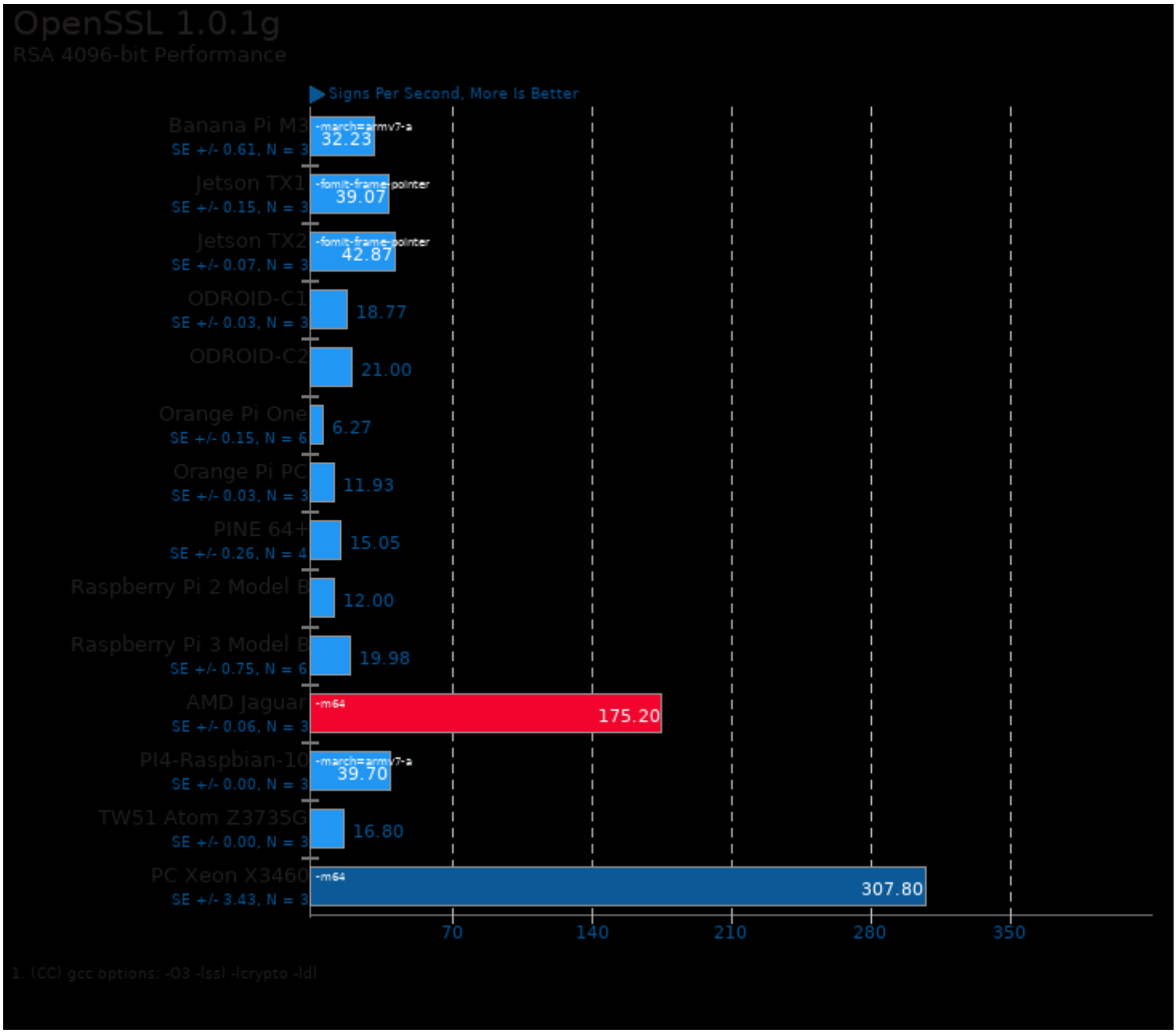

Redis 3.0.1
Test: GET
Requests Per Second, More Is Better
Banana Pi M3
SE +/- 2773.35, N = 3
170631.67
Jetson TX1
SE +/- 15219.16, N = 6
484971.90
Jetson TX2
SE +/- 5170.83, N = 3
652114.77
ODROID-C1
SE +/- 2231.43, N = 4
140370.43
ODROID-C2
SE +/- 1643.47, N = 3
228612.62
Orange Pi One
SE +/- 1299.58, N = 3
97592.88
Orange Pi PC
SE +/- 911.14, N = 3
109905.30
PINE 64+
SE +/- 1408.12, N = 3
225581.60
Raspberry Pi 2 Model B
SE +/- 1113.81, N = 3
94226.81
Raspberry Pi 3 Model B
SE +/- 1570.60, N = 3
170020.06
AMD Jaguar
SE +/- 14145.82, N = 6
557498.55
Atom x7-Z8700
SE +/- 792.90, N = 3
491725.23
PI4-Raspbian-10
SE +/- 1018.95, N = 3
262429.21
TW51 Atom Z3735G
SE +/- 1204.45, N = 3
285343.98
PC Xeon X3460
SE +/- 20797.13, N = 15
1176803.58
300K
600K
900K
1200K
1500K
1. (CC) gcc options: -ggdb -rdynamic -lm -pthread -ldl -std=gnu99 -pipe -g3 -O3 -funroll-loops

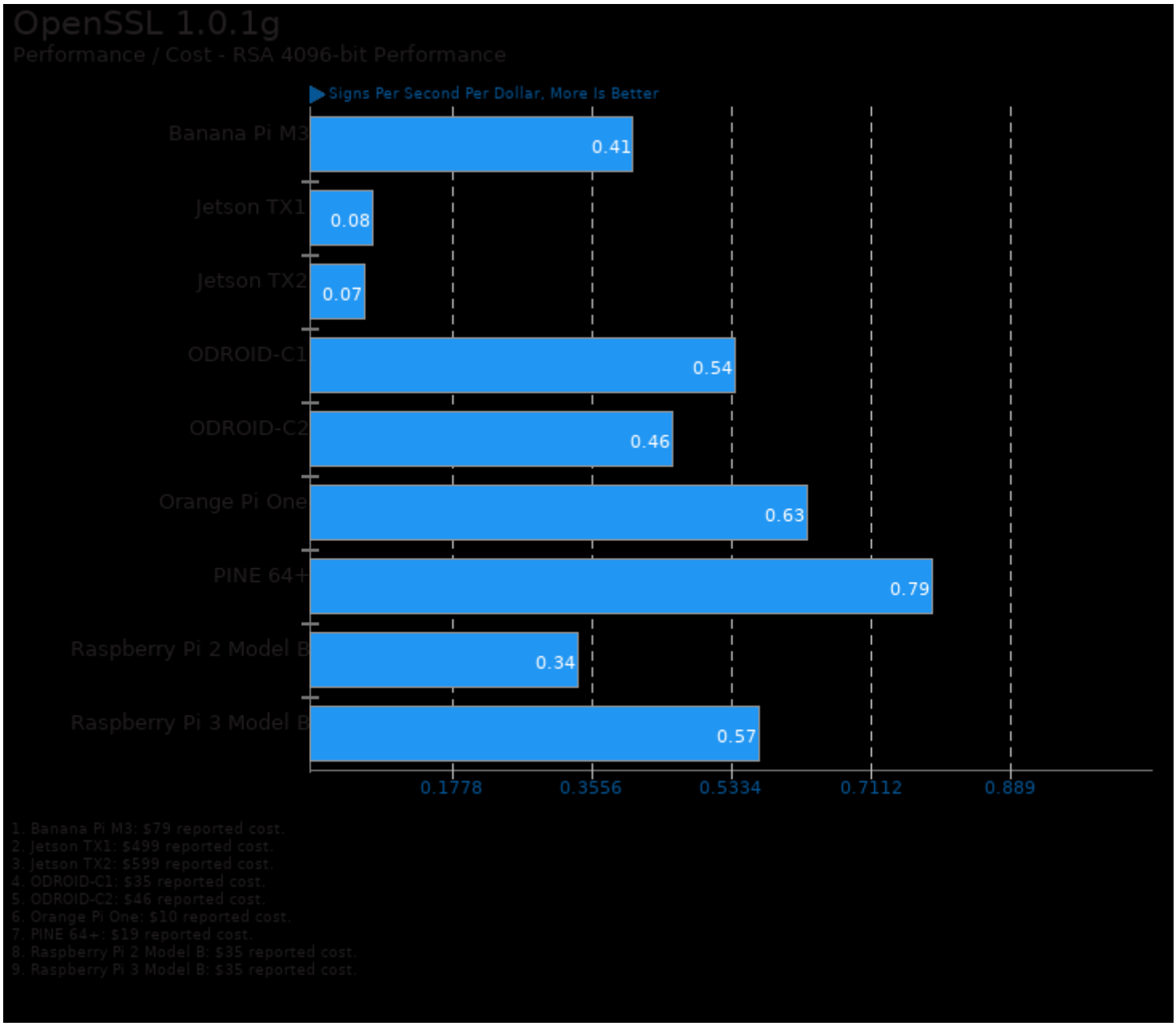

Redis 3.0.1
Performance / Cost - Test: GET
Requests Per Second Per Dollar, More Is Better
Banana Pi M3
2159.89
Jetson TX1
971.89
Jetson TX2
1088.67
ODROID-C1
4010.58
ODROID-C2
4969.84
Orange Pi One
9759.29
PINE 64+
11872.72
Raspberry Pi 2 Model B
2692.19
Raspberry Pi 3 Model B
4857.72
3K
6K
9K
12K
15K
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.

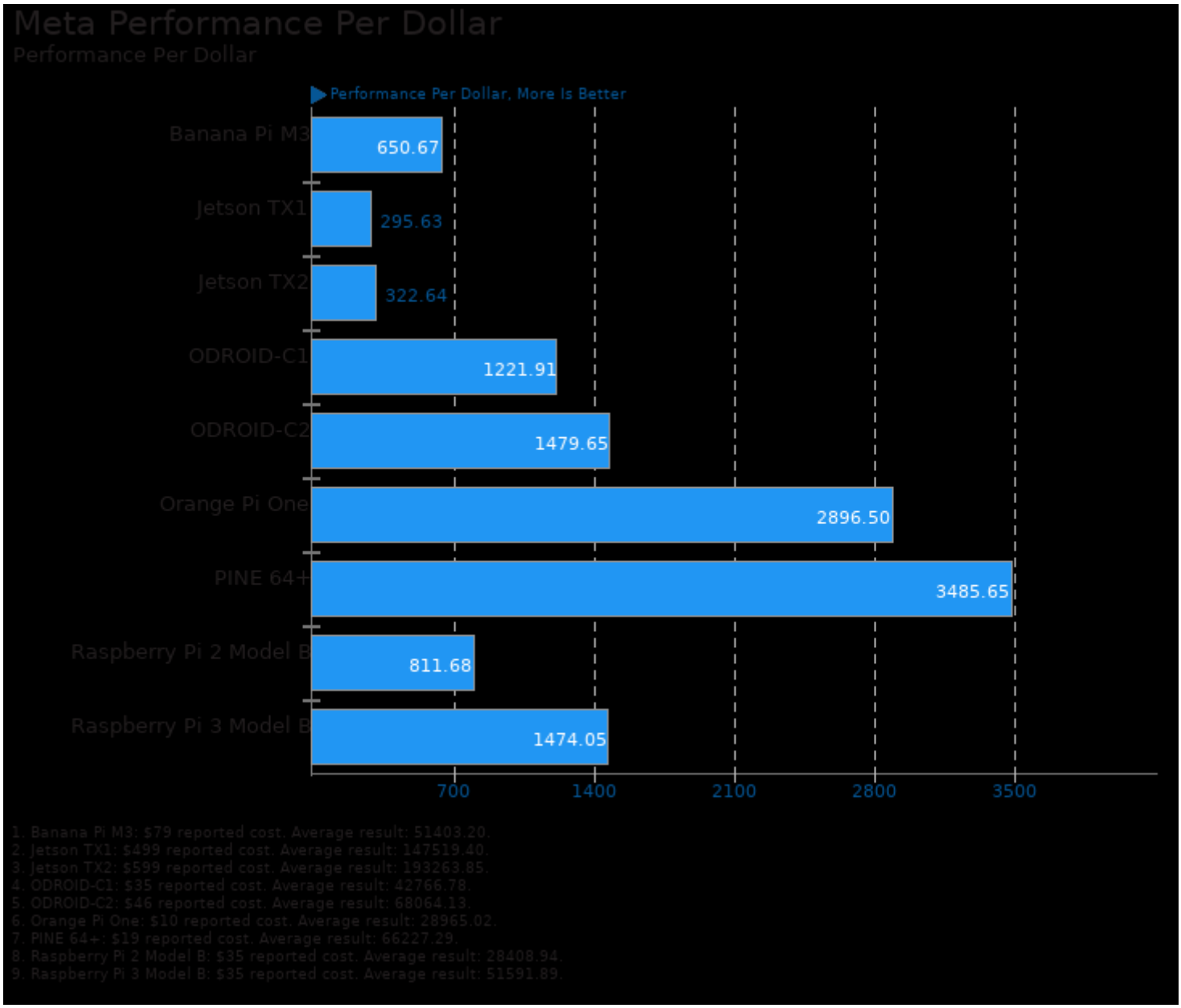

Timed MAFFT Alignment 6.864
Multiple Sequence Alignment
Seconds, Fewer Is Better
Banana Pi M3
SE +/- 1.01, N = 6
37.85
Jetson TX1
SE +/- 0.37, N = 6
16.88
Jetson TX2
SE +/- 0.48, N = 6
15.10
ODROID-C1
SE +/- 0.07, N = 3
50.33
ODROID-C2
SE +/- 0.64, N = 6
36.59
Orange Pi PC
SE +/- 2.49, N = 6
72.19
PINE 64+
SE +/- 0.62, N = 3
49.93
Raspberry Pi 2 Model B
SE +/- 1.44, N = 6
78.34
Raspberry Pi 3 Model B
SE +/- 0.90, N = 3
54.92
AMD Jaguar
SE +/- 0.63, N = 6
17.77
Atom x7-Z8700
SE +/- 0.03, N = 3
18.80
PI4-Raspbian-10
SE +/- 0.33, N = 15
21.57
TW51 Atom Z3735G
SE +/- 0.48, N = 5
39.22
20
40
60
80
100
1. (CC) gcc options: -O3 -lm -lpthread


Himeno Benchmark 3.0
Poisson Pressure Solver
MFLOPS, More Is Better
Banana Pi M3
SE +/- 1.24, N = 3
74.51
Jetson TX1
SE +/- 0.88, N = 3
229.56
Jetson TX2
SE +/- 12.73, N = 6
236.02
ODROID-C1
SE +/- 1.50, N = 6
88.36
ODROID-C2
SE +/- 0.64, N = 3
65.09
Orange Pi One
SE +/- 0.85, N = 5
59.25
Orange Pi PC
SE +/- 0.40, N = 3
63.44
PINE 64+
SE +/- 0.15, N = 3
72.18
Raspberry Pi 2 Model B
SE +/- 0.72, N = 3
56.82
Raspberry Pi 3 Model B
SE +/- 0.12, N = 3
56.51
AMD Jaguar
SE +/- 0.39, N = 3
317.59
Atom x7-Z8700
SE +/- 0.46, N = 3
610.18
PI4-Raspbian-10
SE +/- 7.79, N = 15
233.26
TW51 Atom Z3735G
SE +/- 0.35, N = 3
402.24
PC Xeon X3460
SE +/- 16.88, N = 3
1303.62
300
600
900
1200
1500
1. (CC) gcc options: -O3

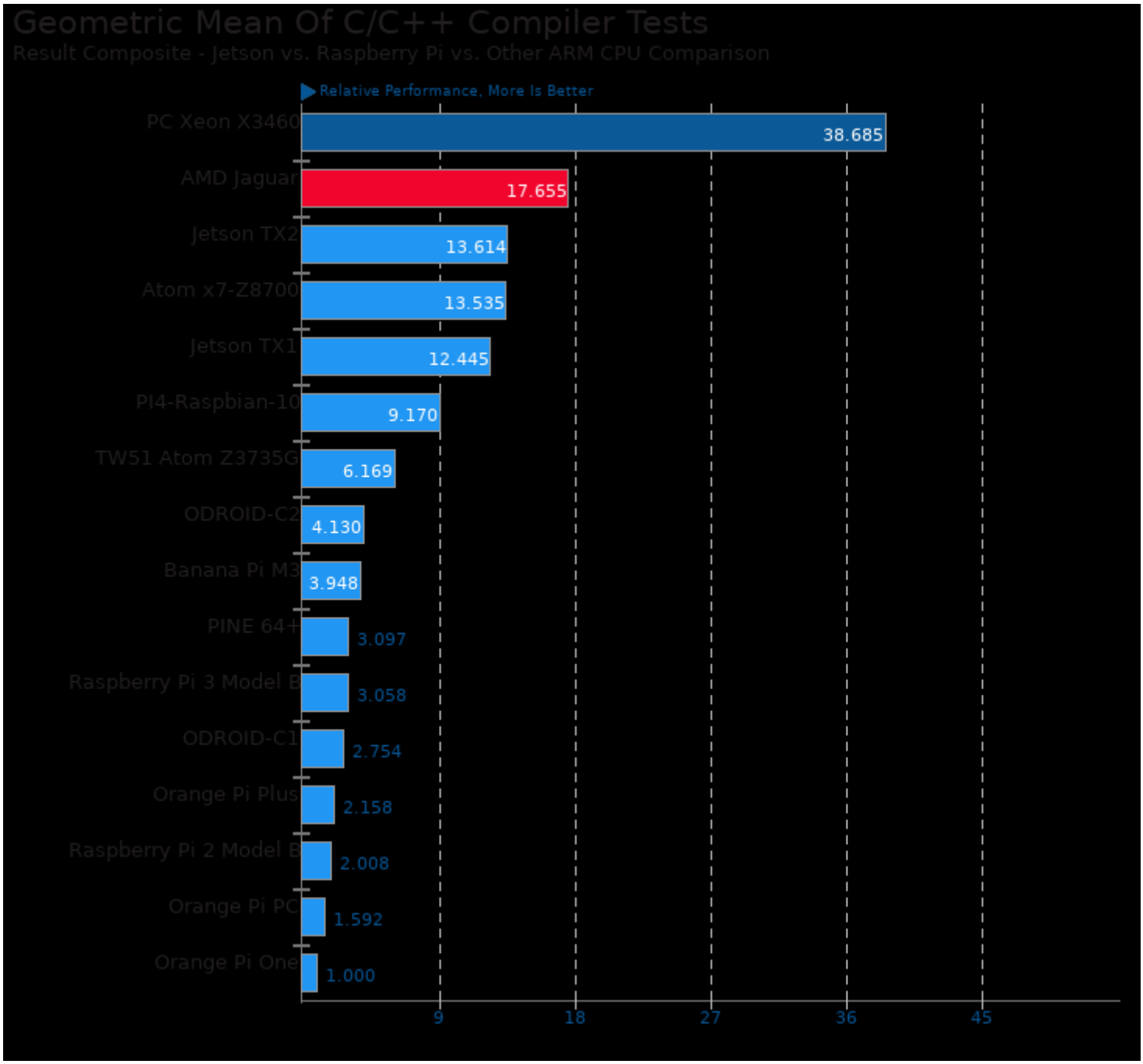

Himeno Benchmark 3.0
Performance / Cost - Poisson Pressure Solver
MFLOPS Per Dollar, More Is Better
Banana Pi M3
0.94
Jetson TX1
0.46
Jetson TX2
0.39
ODROID-C1
2.52
ODROID-C2
1.42
Orange Pi One
5.93
PINE 64+
3.80
Raspberry Pi 2 Model B
1.62
Raspberry Pi 3 Model B
1.61
1.3343
2.6686
4.0029
5.3372
6.6715
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.


OpenSSL 1.0.1g
RSA 4096-bit Performance
Signs Per Second, More Is Better
Banana Pi M3
SE +/- 0.61, N = 3
-march=armv7-a
32.23
Jetson TX1
SE +/- 0.15, N = 3
-fomit-frame-pointer
39.07
Jetson TX2
SE +/- 0.07, N = 3
-fomit-frame-pointer
42.87
ODROID-C1
SE +/- 0.03, N = 3
18.77
ODROID-C2
21.00
Orange Pi One
SE +/- 0.15, N = 6
6.27
Orange Pi PC
SE +/- 0.03, N = 3
11.93
PINE 64+
SE +/- 0.26, N = 4
15.05
Raspberry Pi 2 Model B
12.00
Raspberry Pi 3 Model B
SE +/- 0.75, N = 6
19.98
AMD Jaguar
SE +/- 0.06, N = 3
-m64
175.20
PI4-Raspbian-10
SE +/- 0.00, N = 3
-march=armv7-a
39.70
TW51 Atom Z3735G
SE +/- 0.00, N = 3
16.80
PC Xeon X3460
SE +/- 3.43, N = 3
-m64
307.80
70
140
210
280
350
1. (CC) gcc options: -O3 -lssl -lcrypto -ldl

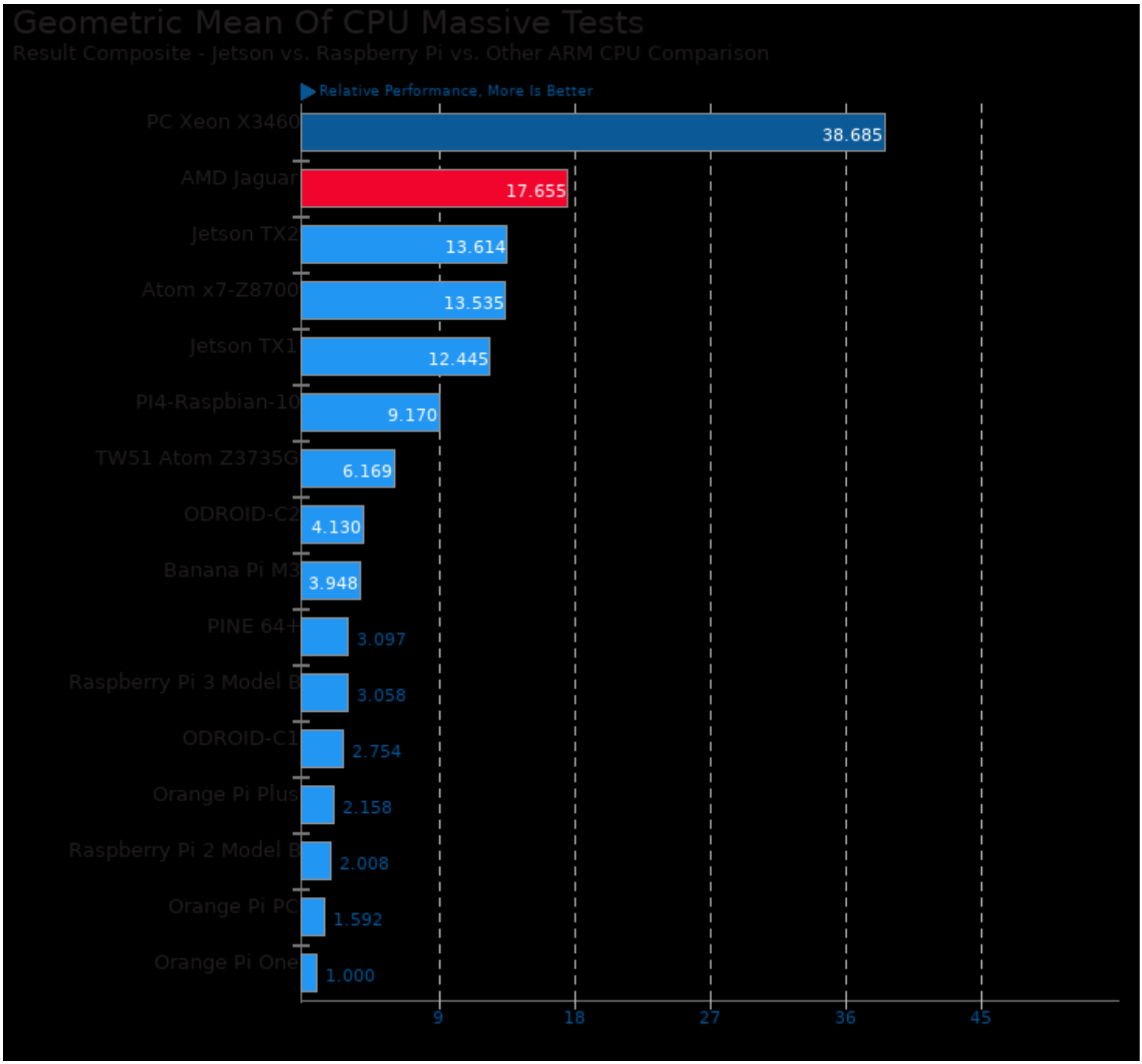

OpenSSL 1.0.1g
Performance / Cost - RSA 4096-bit Performance
Signs Per Second Per Dollar, More Is Better
Banana Pi M3
0.41
Jetson TX1
0.08
Jetson TX2
0.07
ODROID-C1
0.54
ODROID-C2
0.46
Orange Pi One
0.63
PINE 64+
0.79
Raspberry Pi 2 Model B
0.34
Raspberry Pi 3 Model B
0.57
0.1778
0.3556
0.5334
0.7112
0.889
1. Banana Pi M3: $79 reported cost.
2. Jetson TX1: $499 reported cost.
3. Jetson TX2: $599 reported cost.
4. ODROID-C1: $35 reported cost.
5. ODROID-C2: $46 reported cost.
6. Orange Pi One: $10 reported cost.
7. PINE 64+: $19 reported cost.
8. Raspberry Pi 2 Model B: $35 reported cost.
9. Raspberry Pi 3 Model B: $35 reported cost.


Meta Performance Per Dollar
Performance Per Dollar
Performance Per Dollar, More Is Better
Banana Pi M3
650.67
Jetson TX1
295.63
Jetson TX2
322.64
ODROID-C1
1221.91
ODROID-C2
1479.65
Orange Pi One
2896.50
PINE 64+
3485.65
Raspberry Pi 2 Model B
811.68
Raspberry Pi 3 Model B
1474.05
700
1400
2100
2800
3500
1. Banana Pi M3: $79 reported cost. Average result: 51403.20.
2. Jetson TX1: $499 reported cost. Average result: 147519.40.
3. Jetson TX2: $599 reported cost. Average result: 193263.85.
4. ODROID-C1: $35 reported cost. Average result: 42766.78.
5. ODROID-C2: $46 reported cost. Average result: 68064.13.
6. Orange Pi One: $10 reported cost. Average result: 28965.02.
7. PINE 64+: $19 reported cost. Average result: 66227.29.
8. Raspberry Pi 2 Model B: $35 reported cost. Average result: 28408.94.
9. Raspberry Pi 3 Model B: $35 reported cost. Average result: 51591.89.

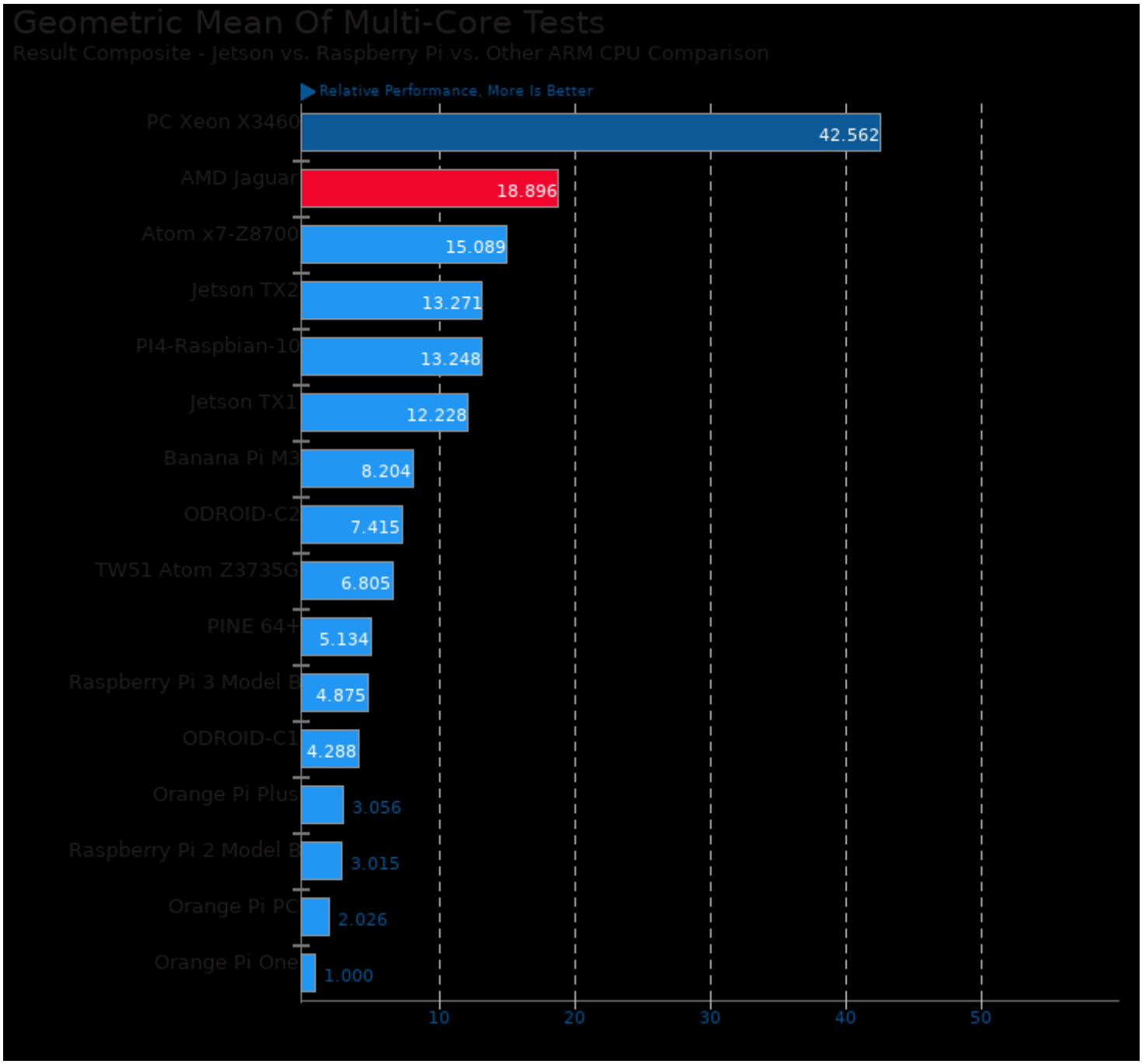
These geometric means are based upon test groupings / test suites for this result file.



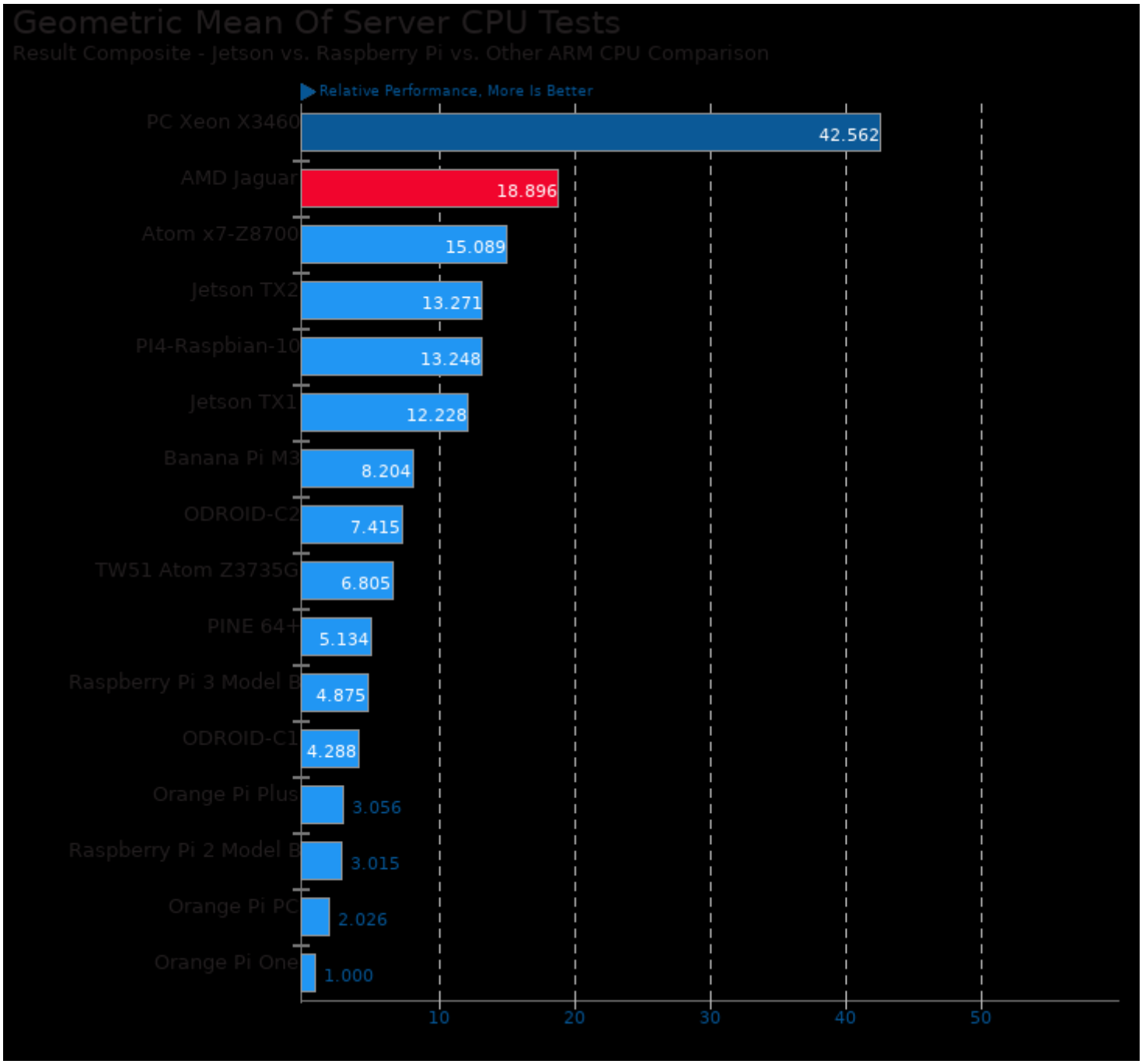
Geometric mean based upon tests: pts/fftw, pts/mafft, pts/himeno, pts/c-ray, pts/encode-flac, pts/john-the-ripper and pts/openssl



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



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 16:03.