



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

Debian 9 with Linux 4.4 on VS-RD-RK3399

Automated Executive Summary

vrkade had the most wins, coming in first place for 42% of the tests.

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-gnueabi --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-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv7-a --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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv7-a --with-fpu=fpv3-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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv7-a --with-fpu=fpv3-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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv6 --with-fpu=fpv3-d16 --with-mode=thumb -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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv6 --with-fpu=fpv3-d16 --with-mode=thumb -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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch=armv7-a --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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-multilib --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch=armv7-a --with-default-libstdc++-abi=new --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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch=armv7-a --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-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch=armv7-a --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-gnueabi --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-gnueabi --target=arm-linux-gnueabi --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-gnueabi --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-gnueabi --target=arm-linux-gnueabi --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-lsanitizer --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

MeUbuntu 14.04.3

Processor: Intel Atom Z3735F @ 1.83GHz (4 Cores), Motherboard: Mini PC v2.80, Chipset: Intel ValleyView SSA-CUnit, Memory: 2048MB, Disk: 31GB NCard, Graphics: Intel ValleyView Gen7 (646MHz), Monitor: TX-NR636

OS: Ubuntu 14.04, Kernel: 3.16.0-45-generic (x86_64), Desktop: Unity 7.2.6, Display Driver: intel 2.99.914, Compiler: GCC 4.8.4, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --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-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=32i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Processor Notes: Scaling Governor: intel_pstate powersave

NanoPi NEO 512MB No Heatsink

Processor: ARMv7 rev 5 @ 0.82GHz (4 Cores), Motherboard: sun8i, Memory: 495MB, Disk: 8GB SL08G

OS: Ubuntu 15.10, Kernel: 3.4.39-h3 (armv7l), Compiler: GCC 5.2.1 20151010, File-System: ext4, Screen Resolution: 1280x1440

Compiler Notes: --build=arm-linux-gnueabi --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-gnueabi --target=arm-linux-gnueabi --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: cpufreq-sunxi interactive

NanoPi NEO 512MB Heatsink

NanoPi NEO 512MB Heatsink 2

NanoPi NEO 512MB Heatsink2

Processor: ARMv7 rev 5 @ 1.20GHz (4 Cores), Motherboard: sun8i, Memory: 495MB, Disk: 8GB SL08G

OS: Ubuntu 15.10, Kernel: 3.4.39-h3 (armv7l), Compiler: GCC 5.2.1 20151010, File-System: ext4, Screen Resolution: 1280x1440

Compiler Notes: --build=arm-linux-gnueabi --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-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv7-a --with-default-libstdcxx-abi=new --with-fpu=vfpv3-d16 --with-mode=thumb -v
Processor Notes: Scaling Governor: cpufreq-sunxi interactive

NanoPi NEO 2 FA Ubuntu 16.04.2

Processor: AArch64 rev 4 @ 0.82GHz (4 Cores), Motherboard: sun50iw2, Memory: 468MB, Disk: 8GB SL08G

OS: Ubuntu 16.04, Kernel: 3.10.65 (aarch64), Compiler: GCC 5.4.0 20160609, File-System: ext4, Screen Resolution: 1280x1440

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

NanoPi NEO 2 Armbian Ubuntu 16.04.2

Processor: AArch64 rev 4 (4 Cores), Motherboard: Xunlong Orange Pi PC 2, Memory: 483MB, Disk: 8GB SL08G

OS: Ubuntu 16.04, Kernel: 4.10.0-sun50iw2 (aarch64), Compiler: GCC 5.4.0 20160609, File-System: ext4

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

VS-RK3399 Board - Debian 9

Processor: ARMv8 rev 4 @ 1.42GHz (6 Cores), Motherboard: Rockchip RK3399 VideoStrong Board MID (Android), Memory: 4096MB, Disk: 31GB BWBD3R, Monitor: TX-NR636

OS: Debian 9.1, Kernel: 4.4.55 (aarch64), Desktop: LXDE, Compiler: GCC 6.3.0 20170516, File-System: ext4, Screen Resolution: 1024x600p86

Compiler Notes: --build=arm-linux-gnueabi --disable-browser-plugin --disable-libitm --disable-libquadmath --disable-sjlj-exceptions --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-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabi --program-prefix=arm-linux-gnueabi --target=arm-linux-gnueabi --with-arch-directory=arm --with-arch=armv7-a --with-default-libstdcxx-abi=new --with-fpu=vfpv3-d16 --with-mode=thumb --with-target-system=zlib -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

pi

Processor: ARMv7 rev 3 @ 1.50GHz (4 Cores), Motherboard: BCM2711 Raspberry Pi 4 Model B Rev 1.1, Memory:

3584MB, Disk: 125GB USDU1, Graphics: vc4drmfb, Monitor: ZOWIE XL LCD

OS: Raspbian 10, Kernel: 5.4.51-v7l+ (armv7l), Desktop: LXDE 0.10.0, Display Server: X Server 1.20.4, Display Driver: modesetting 1.20.4, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: snd_bcm2835.enable_compat_alsa=0 snd_bcm2835.enable_hdmi=1 snd_bcm2835.enable_headphones=1
Compiler Notes: --build=arm-linux-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix
--host=arm-linux-gnueabi --program-prefix=arm-linux-gnueabi- --target=arm-linux-gnueabi --with-arch=armv6 --with-default-libstdc++-abi=new --with-fpu=vfp
--with-fpu=vfp --with-gcc-major-version-only --with-target-system-zlib -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

vurkcade

Processor: ARMv7 rev 3 @ 2.00GHz (4 Cores), Motherboard: BCM2711 Raspberry Pi 4 Model B Rev 1.1, Memory: 3584MB, Disk: 125GB USDU1, Graphics: vc4drmfb, Monitor: ZOWIE XL LCD

OS: Raspbian 10, Kernel: 5.4.51-v7l+ (armv7l), Desktop: LXDE 0.10.0, Display Server: X Server 1.20.4, Display Driver: modesetting 1.20.4, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: snd_bcm2835.enable_compat_alsa=0 snd_bcm2835.enable_hdmi=1 snd_bcm2835.enable_headphones=1
Compiler Notes: --build=arm-linux-gnueabi --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-libstdc++-debug --enable-libstdc++-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix
--host=arm-linux-gnueabi --program-prefix=arm-linux-gnueabi- --target=arm-linux-gnueabi --with-arch=armv6 --with-default-libstdc++-abi=new --with-fpu=vfp
--with-fpu=vfp --with-gcc-major-version-only --with-target-system-zlib -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand

	Ora nge Pi On e on Ar mbi an	Ora nge Pi PC Ar mbi an	Ora nge Pi Plu s on Ar mbi an	Ras pbe rry Pi 2 Ras pbi an	Ras pbe rry Pi 3 Ras pbi an	Ban ana Pi M2 by Lov eR Pi	Ban ana Pi M3 by Lov eR Pi	Ban ana Pi M2 + Sin oVo ip	Ban ana Pi M2 + on Ar mbi an	Ban ana Pi M2 + Ras pbi an	MiQ i on Lub unt u 14. 04 Deb ian RP B 16. 03	Dra gon Boa rd u 410 c on 3 Deb ian RP B 16. 03	Me Ub unt u 14. 04 3 Deb ian RP B 16. 03	Nan oPi NE O 512 MB No Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	Nan oPi NE O 512 MB Hea tsin k	VS- RK 339 Boa rd - Deb ian 9	pi 476	vur kca de
Smallpt - G.I.R.1.S (sec)	166	154	154	217	139	195	621	812	248	390	866	234	620	282	213		210	130	128	679	476	335	
Normalized	20.1	21.6	21.6	15.4	24.1	17.1	53.9	4.12	13.4	8.58	38.6	14.3	54.0	11.8	15.7		15.9	25.6	26.0	49.3	70.3	100	
Standard	2%	5%	3%	%	%	4%	5%	%	9%	%	8%	1%	3%	4%	%		4%	1%	7%	4%	8%	%	
Deviation	0%	0.4%	0.1%	0.5%	0.2%	0.1%	0.4%	0.5%	0%	0.3%	0.5%	11%	0.2%	4%	0.2%		0.1%	0%	0.1%	2.4%			
Himeno	64.	68.	68.	33.	60.	61.	31.	56.	64.	63.	89.	66.	443	41.	15.		15.	52.	49.	195	308	315	
Benchmark - P.P.S (MFLOP)	38	23	01	29	28	26	80	83	35	04	84	91	.65	32	34		31	67	18	.30	.11	.16	
Normalized	14.5	15.3	15.3	7.5%	13.5	13.8	7.17	12.8	14.5	14.2	20.2	15.0	100	9.31	3.46		3.45	11.8	11.0	44.0	69.4	71.0	
Standard	1%	8%	3%		9%	1%	%	1%	%	1%	5%	8%	%	%	%		%	7%	9%	2%	5%	4%	
Deviation	0.4%	0.8%	0.1%	2.4%	1.1%	0.2%	2.7%	1.4%	1%	1.5%	3%	1.2%	0.9%	0.2%	0.5%		1.8%	8.2%	0.7%	0.7%	2.9%	8.7%	
John The Ripper - Blowfish (Real)	509	550	540	387	599	438	140	104	390	323	105	535	100	313	462		452	456	478	759	947	148	
Normalized	34.1	36.9	36.2	25.9	40.2	29.4	94.5	6.98	26.1	21.6	70.8	35.9	67.3	21.0	31.0		30.3	30.6	32.1	50.9	63.6	100	
Standard	8%	4%	7%	9%	3%	2%	6%	%	9%	9%	5%	3%	6%	2%	3%		6%	2%	%	7%	%	%	
Deviation	0.1%	0%	0%	0.3%	0.6%	0.1%	0.6%	3%	14.2	0.8%	0.2%	11.2	20.4	9.1%	2.7%		2.7%	0.6%		3.3%	6.6%	0.2%	
FLAC Audio Encoding - WAV To FLAC (sec)	229	228	231	314	237	288		279	230	282	81.	198	36.	325	231		230	236	290	48.	60.	44.	
Normalized	.54	.09	.38	.58	.30	.16		.95	.20	.60	96	.14	43	.72	.39		.99	.51	.91	84	03	23	
Standard	7%	7%	4%	8%	5%	4%		1%	3%	9%	5%	9%	%	8%	4%		7%	%	2%	9%	9%	6%	
Deviation	0.2%	1%	1.4%	0.9%	1.6%	0.1%		0.2%	0.3%	0.3%	0.9%	3.3%	7.7%	1.8%	0.3%		0.1%	0.2%	0%	0.2%	0.3%	0.1%	

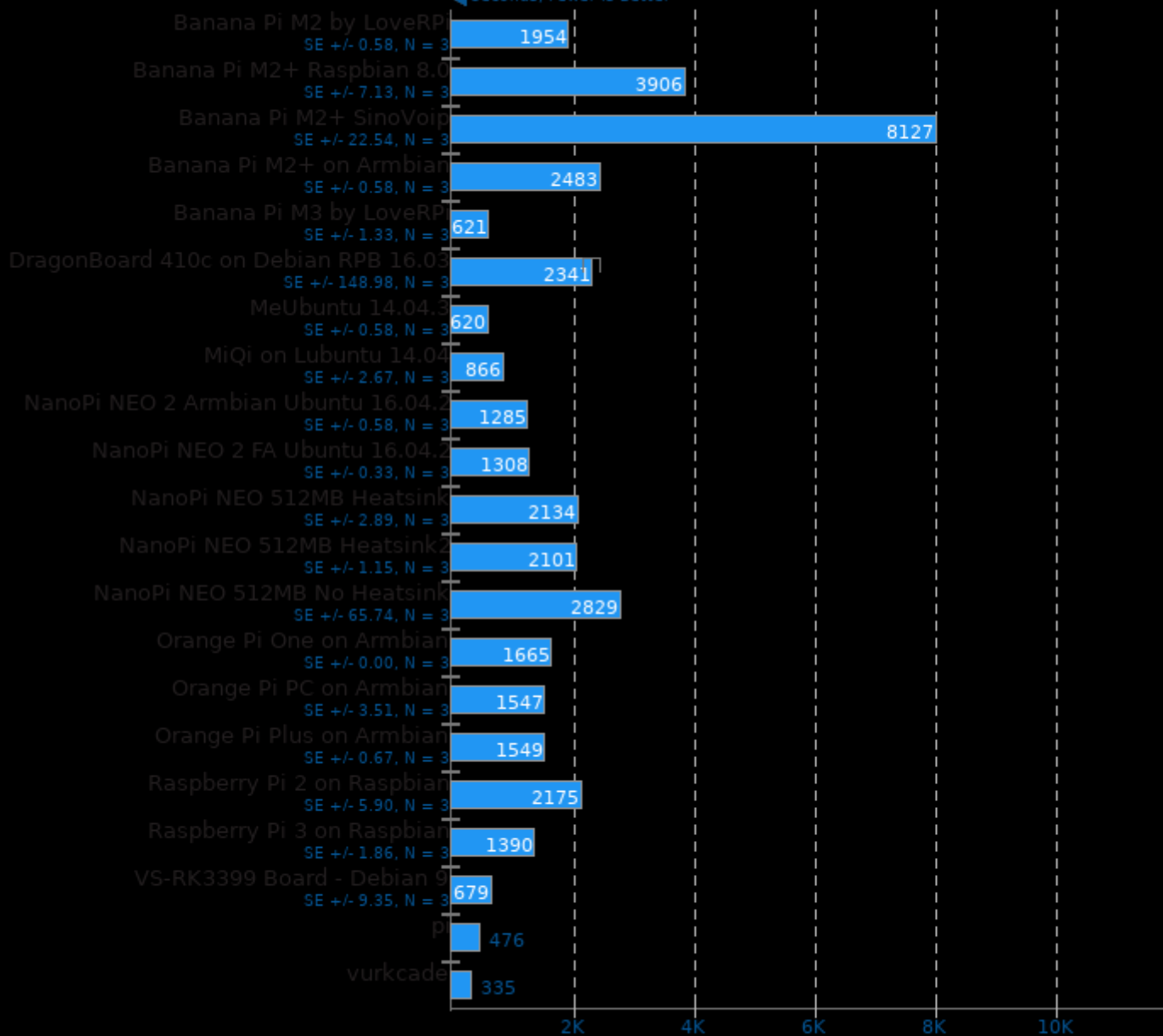
C-Ray -	365	344	350	505	250	431	136	177	581	893	136	341	200	848	461	466	350	344	98.	79.	54.
Total	.94	.52	.07	.44	.79	.10	.14	8	.37	.24	.96	.80	.29	.52	.70	.89	.48	.91	08	56	98
Time																					
(sec)																					
Normalized	15.0	15.9	15.7	10.8	21.9	12.7	40.3	3.09	9.46	6.16	40.1	16.0	27.4	6.48	11.9	11.7	15.6	15.9	56.0	69.1	100
	2%	6%	1%	8%	2%	5%	8%	%	%	%	4%	9%	5%	%	1%	8%	9%	4%	6%	1%	%
Standard	0.2%	1.5%	0.5%	0.3%	0.1%	0%	0.3%	0.4%	3.6%	2.3%	4.3%	3.8%	0%	7.8%	3%	1.8%	0%	0.1%	3.1%	2.5%	0.1%
Deviation																					
OpenSS	16	17.	17.	11.	20.	13.	43.	3.3	10.	6.6	29.	10.	66.	7.6	12.	12.				37.	52.
L -	20	13	93	60	40	30	30	0	48	7	70	90	53	8	35	40				47	97
R.4.b.P																					
(Signs/s																					
Normalized	24.0	25.8	25.7	17.9	30.9	20.1	65.0	4.96	15.7	10.0	44.6	16.3	100	11.5	18.5	18.6				56.3	79.6
	5%	5%	5%	3%	6%	4%	8%	%	5%	3%	4%	8%	%	4%	6%	4%				2%	2%
Standard	0%	0%	0.3%	0.5%	8.9%	0%	2%	0%	14.2	0.9%	0%	9%	1.4%	18.6	3.4%	4.4%				0.2%	0.1%
Deviation																					
Timed		62.	63.	75.	61.	70.	29.	210	81.	121	42.	73.	33.	132	77.	75.	63.	64.			
MAFFT		45	17	46	06	58	72	.62	13	.86	84	91	12	.29	66	34	73	47			
Alignme																					
nt -																					
M.S.A																					
Normalized		47.5	47.0	39.3	48.6	42.1	100	14.1	36.6	24.3	69.3	40.2	89.7	22.4	38.2	39.4	46.6	46.1			
		9%	5%	9%	7%	1%	%	1%	3%	9%	7%	1%	3%	7%	7%	5%	3%	%			
Standard		8.2%	2.1%	2.3%	10.4	2%	0.8%	0%	8.4%	9.5%	4.6%	8.1%	1.2%	9.4%	2.5%	1.6%	8.2%	0.4%			
Deviation																					
Meta	19.	14.	5.3		6.4	3.8	6.1														
Performa	65	12	4		8	0	8														
nce Per																					
Dollar -																					
P.P.D																					
(Perform																					
ance/Dol																					
lar)																					
Normalized	100	71.8	27.1		32.9	19.3	31.4														
	%	6%	8%		8%	4%	5%														
OpenSS	1.6	1.1	0.4		0.5	0.3	0.5														
L -	0	5	4		9	0	4														
Performa																					
nce /																					
Cost -																					
R.4.b.P																					
(Signs/s																					
ec/Dollar																					
Normalized	100	71.8	27.5		36.8	18.7	33.7														
	%	8%	%		8%	5%	5%														

Himeno	6.4	4.5	1.7	1.7	1.3	0.4
Benchm	4	5	4	2	6	0
ark -						
Performa						
nance /						
Cost -						
P.P.S						
(MFLOP						
S/Dollar)						
Normalized	100	70.6	27.0	26.7	21.1	6.21
	%	5%	2%	1%	2%	%
John	50.	36.	13.	17.	9.7	17.
The	90	67	85	11	3	60
Ripper -						
Performa						
nance /						
Cost -						
Blowfish						
(Real						
C/S/Dolla						
Normalized	100	72.0	27.2	33.6	19.1	34.5
	%	4%	1%	1%	2%	8%

Smallpt 1.0

Global Illumination Renderer; 100 Samples

Seconds, Fewer Is Better

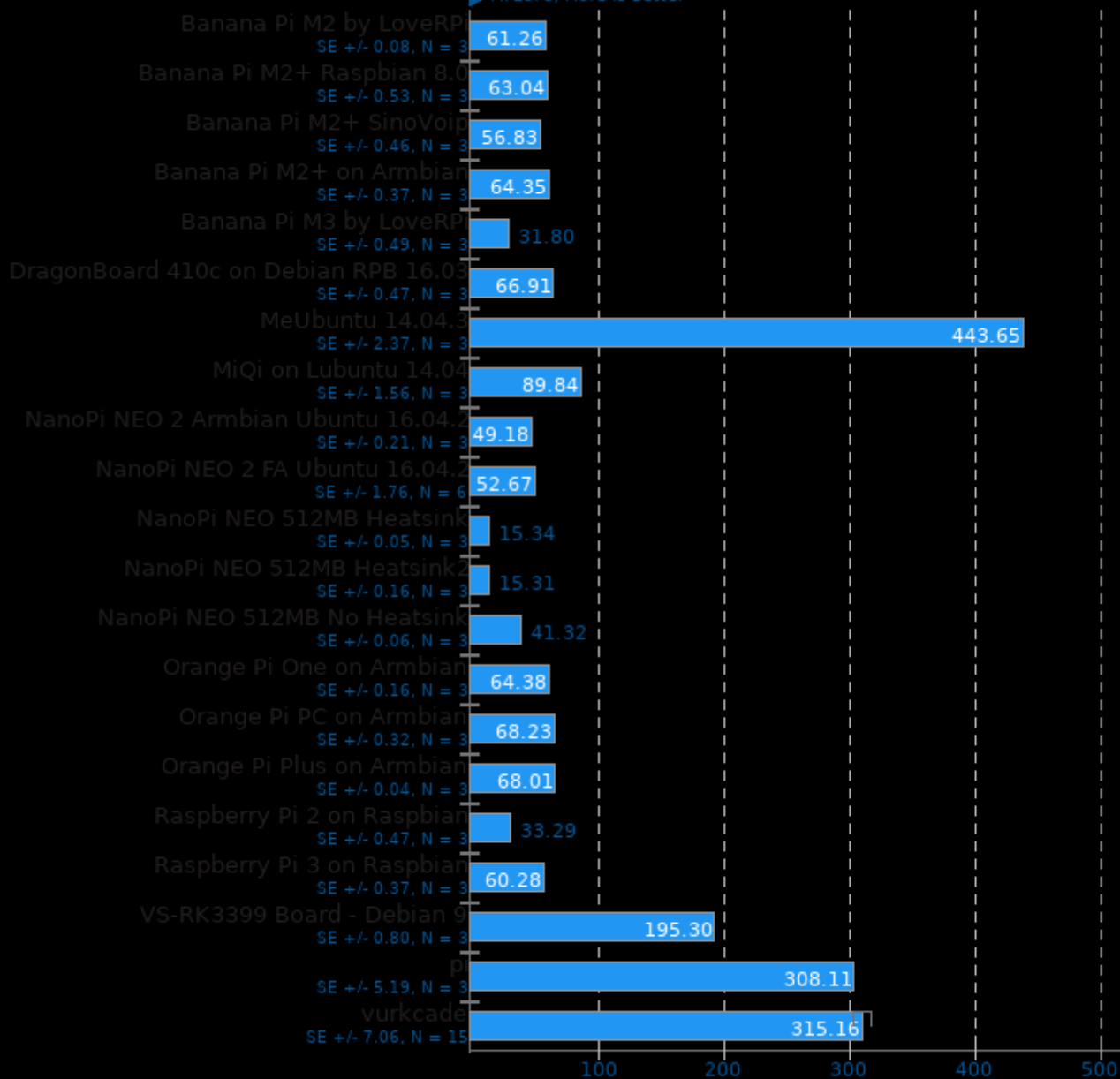


1. (CXX) g++ options: -fopenmp

Himeno Benchmark 3.0

Poisson Pressure Solver

► MFLOPS, More Is Better

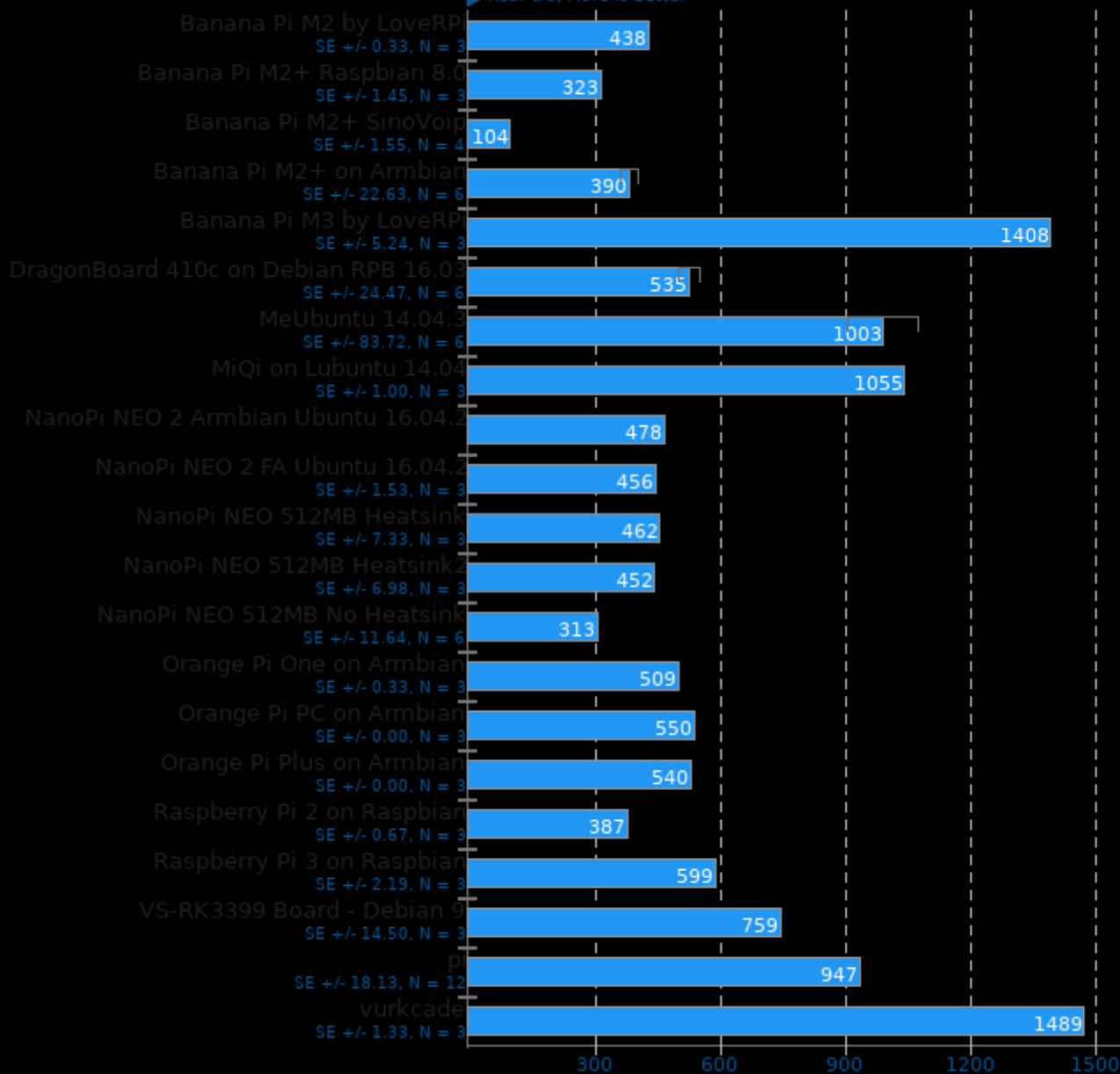


1. (CC) gcc options: -O3

John The Ripper 1.8.0

Test: Blowfish

► Real C/S, More Is Better

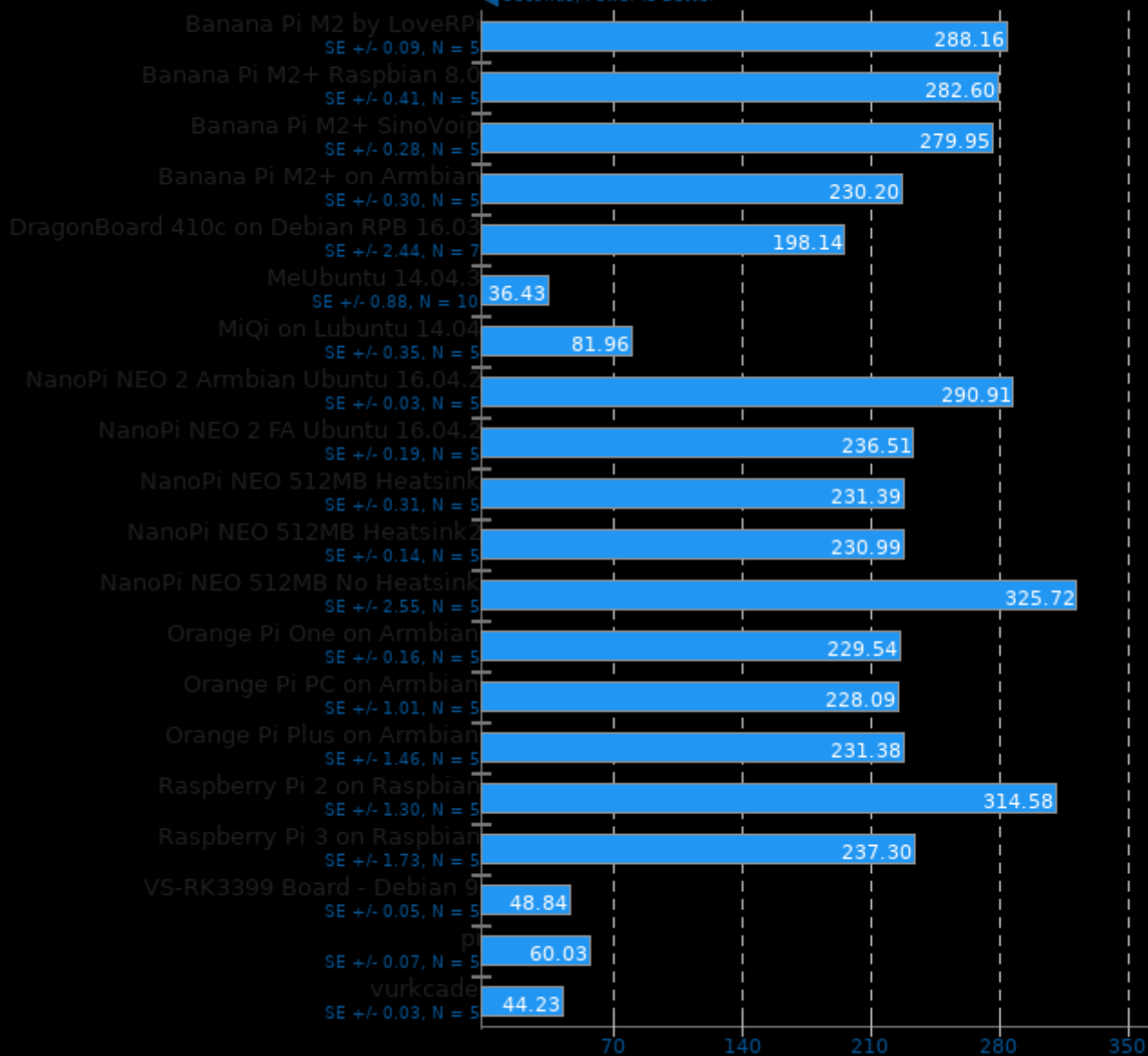


1. (CC) gcc options: -fopenmp

FLAC Audio Encoding 1.3.1

WAV To FLAC

Seconds, Fewer Is Better

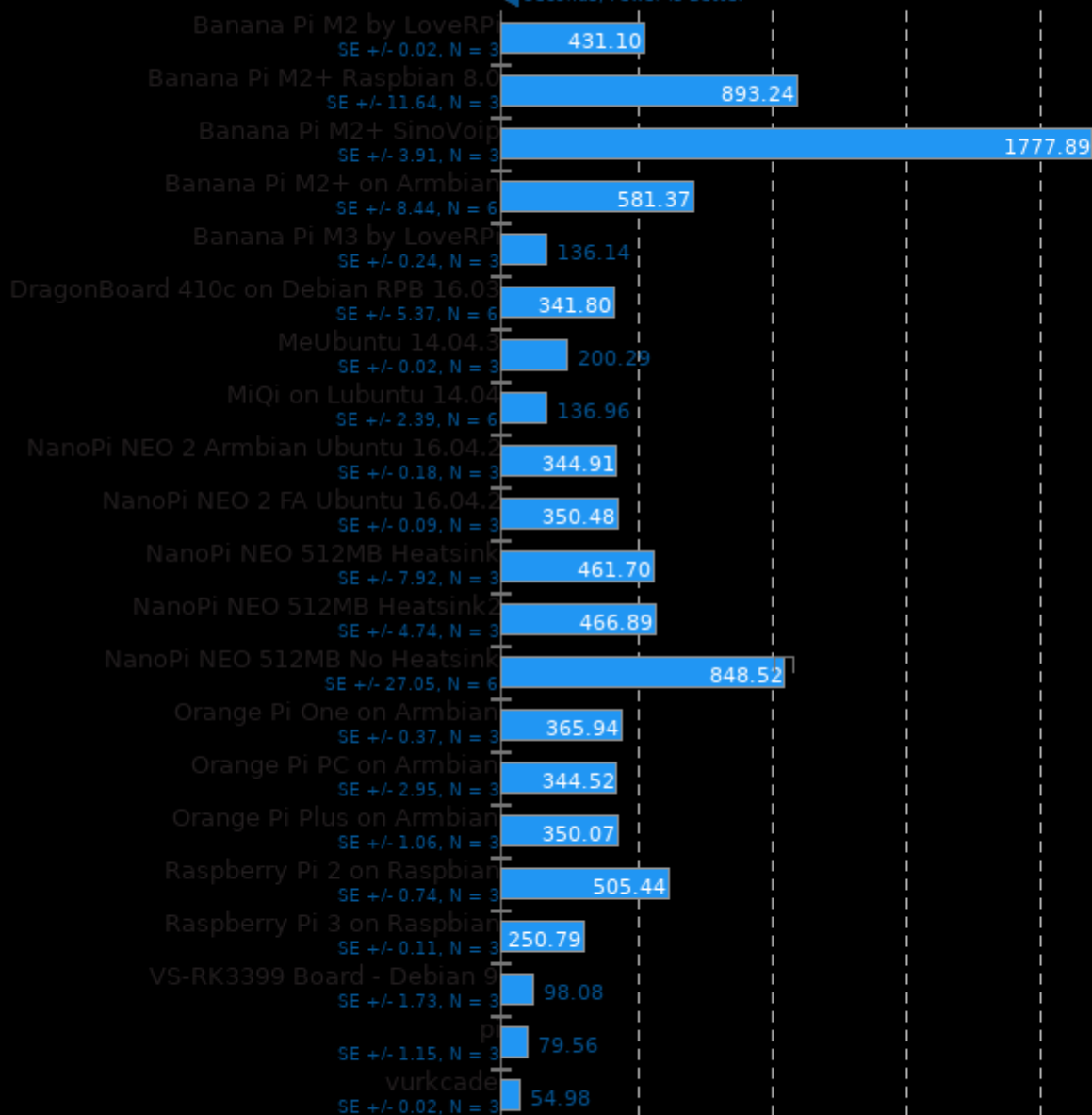


1. (CXX) g++ options: -O2 -fvisibility=hidden -lm

C-Ray 1.1

Total Time

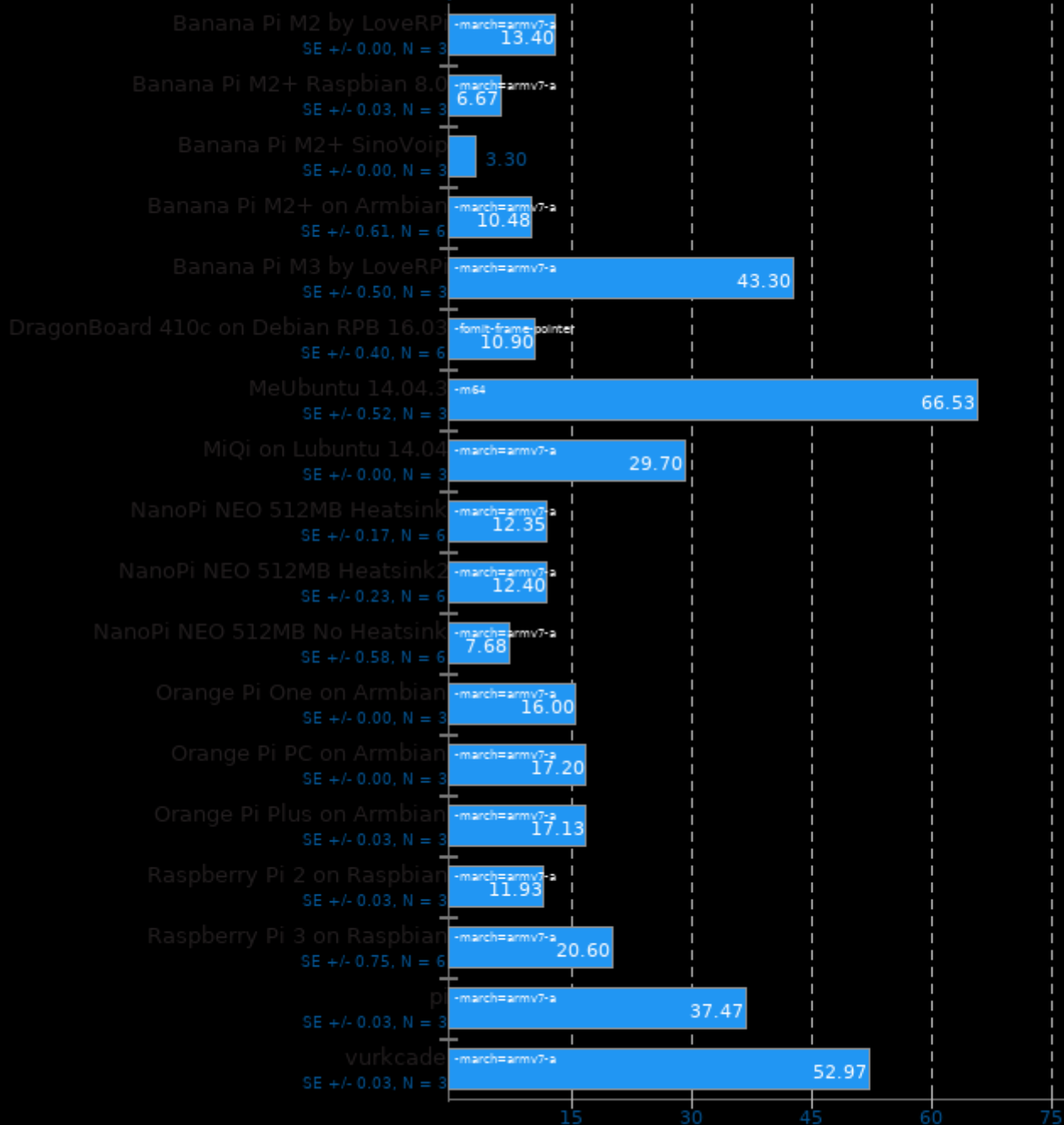
Seconds, Fewer Is Better



1. (CC) gcc options: -lm -lpthread -O3

OpenSSL 1.0.1g RSA 4096-bit Performance

► Signs Per Second, More Is Better

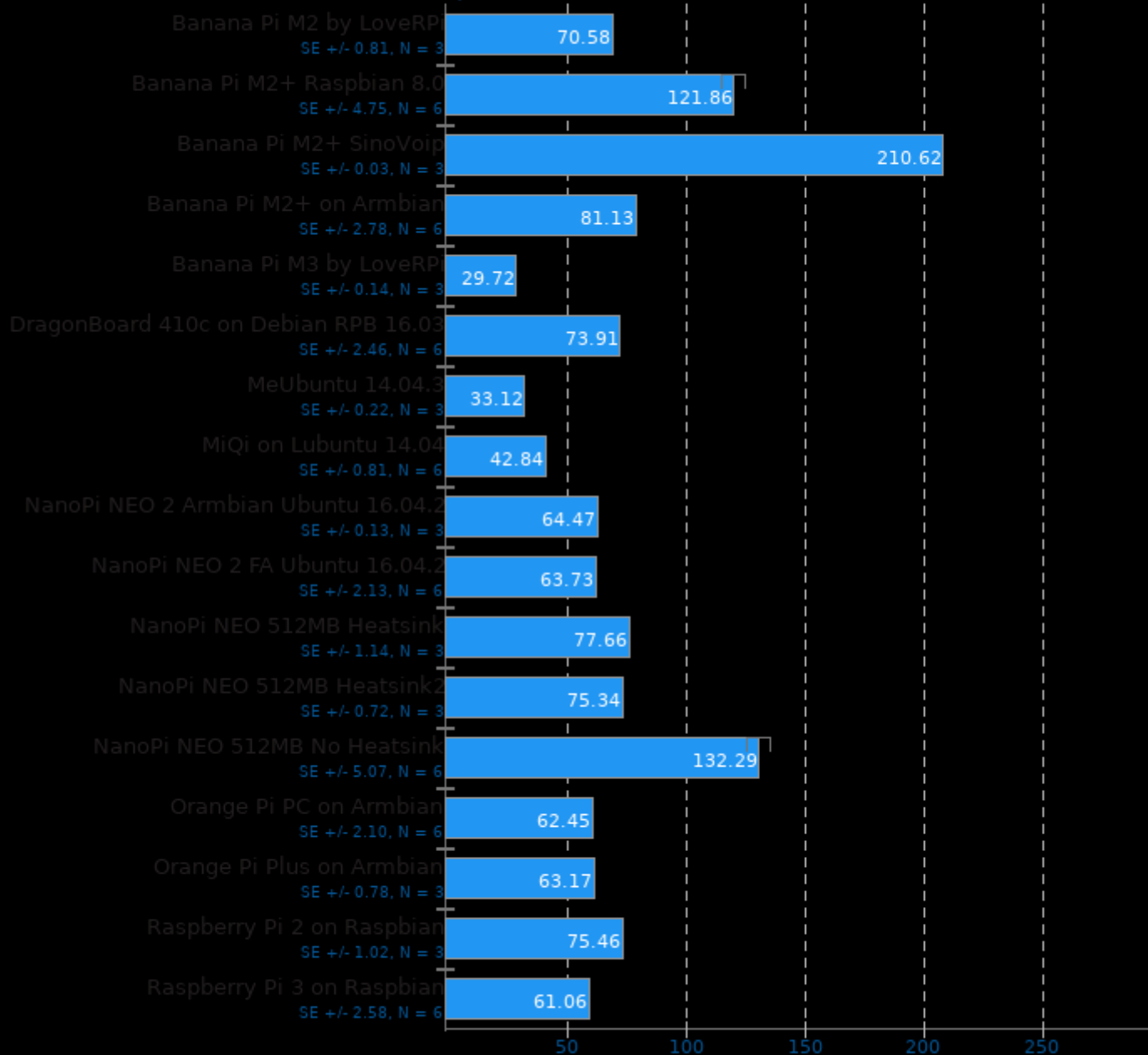


1, (CC) gcc options: -O3 -lssl -lcrypto -ldl

Timed MAFFT Alignment 6.864

Multiple Sequence Alignment

Seconds, Fewer Is Better

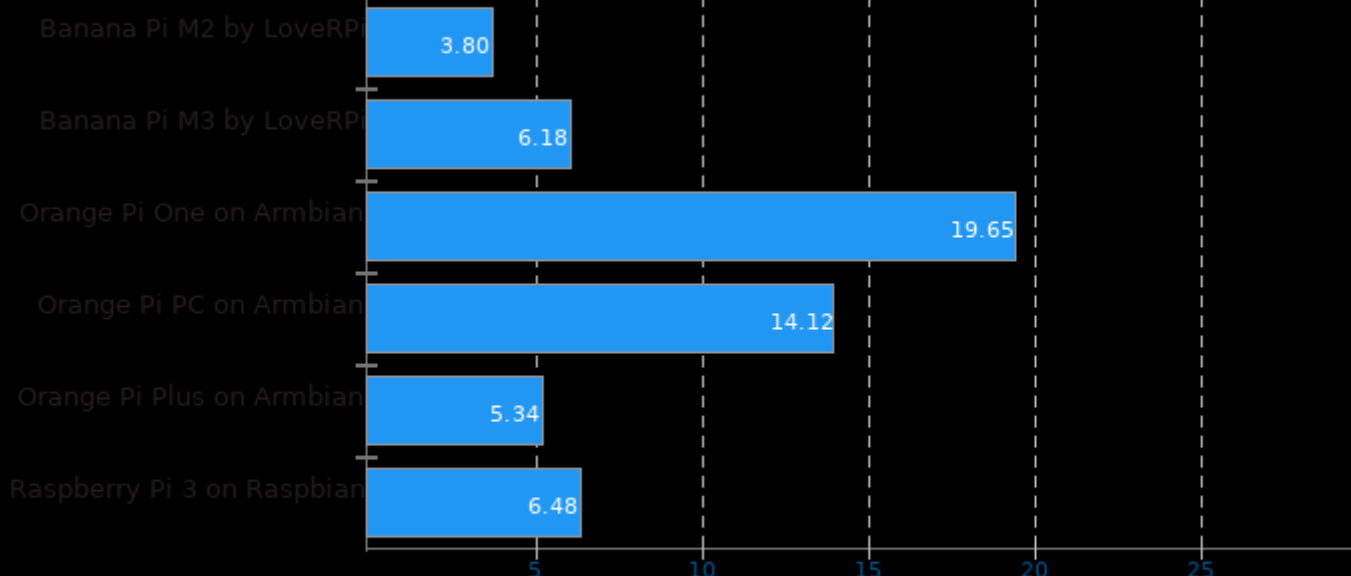


1. (CC) gcc options: -O3 -lm -lpthread

Meta Performance Per Dollar

Performance Per Dollar

► Performance Per Dollar, More Is Better

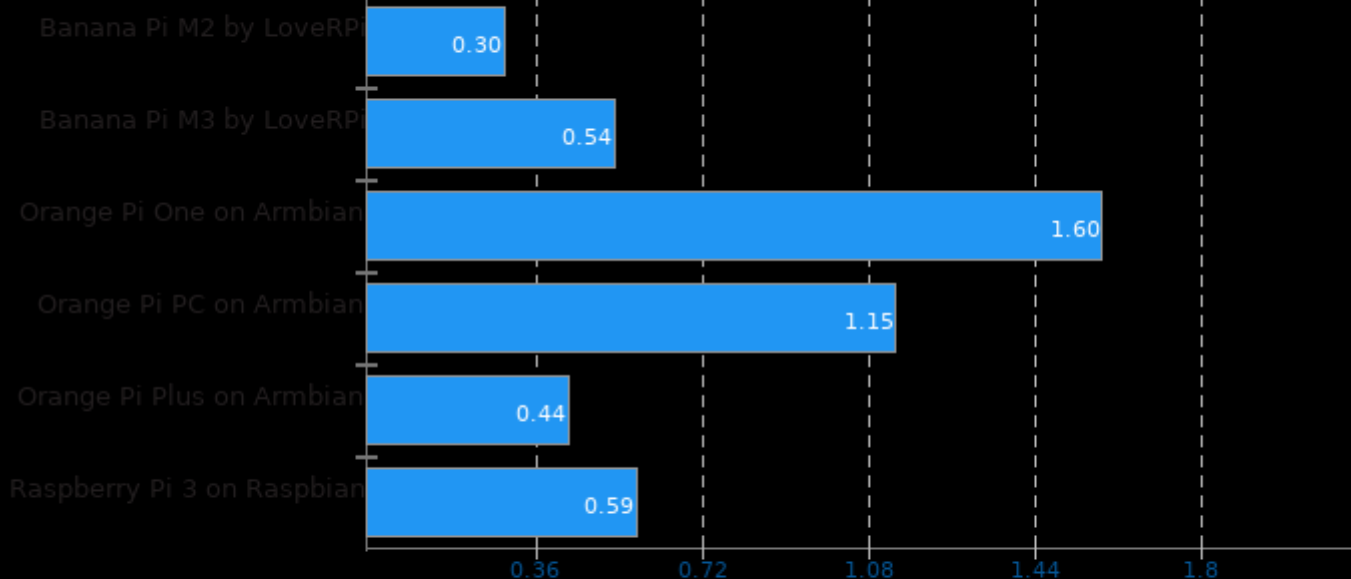


1. Banana Pi M2 by LoveRPI: \$45 reported cost. Average result: 170.89.
2. Banana Pi M3 by LoveRPI: \$80 reported cost. Average result: 494.37.
3. Orange Pi One on Armbian: \$10 reported cost. Average result: 196.46.
4. Orange Pi PC on Armbian: \$15 reported cost. Average result: 211.81.
5. Orange Pi Plus on Armbian: \$39 reported cost. Average result: 208.38.
6. Raspberry Pi 3 on Raspbian: \$35 reported cost. Average result: 226.63.

OpenSSL 1.0.1g

Performance / Cost - RSA 4096-bit Performance

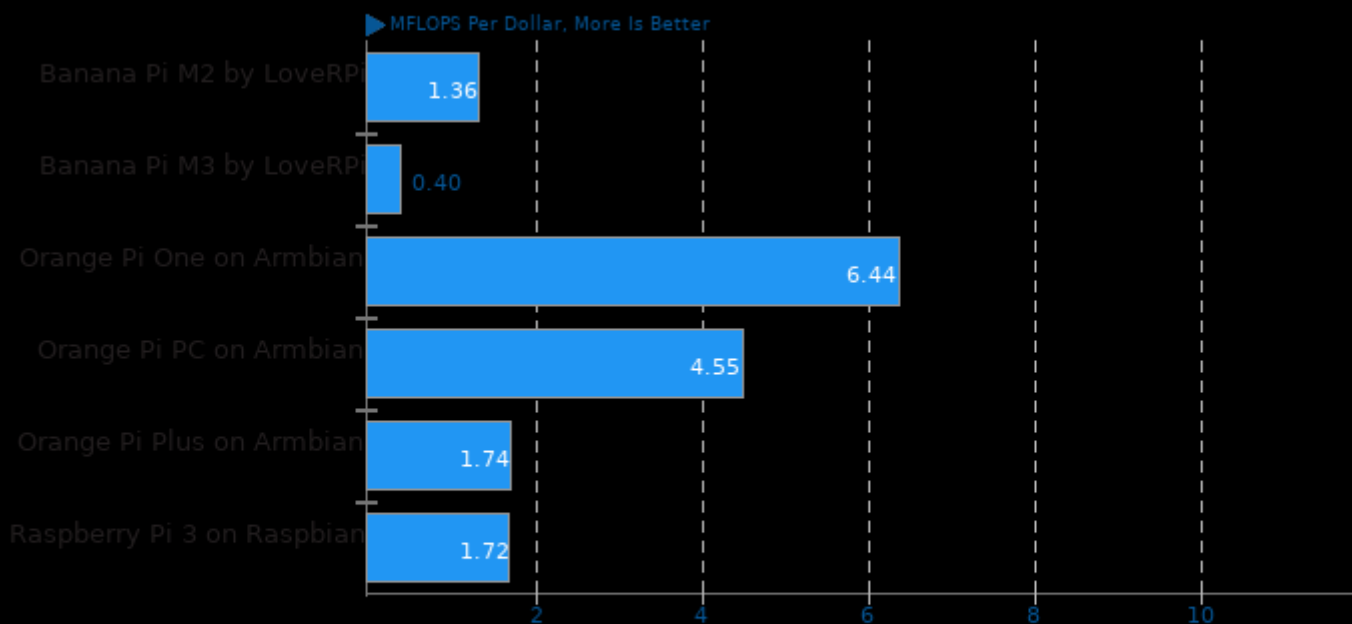
► Signs Per Second Per Dollar, More Is Better



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.

Himeno Benchmark 3.0

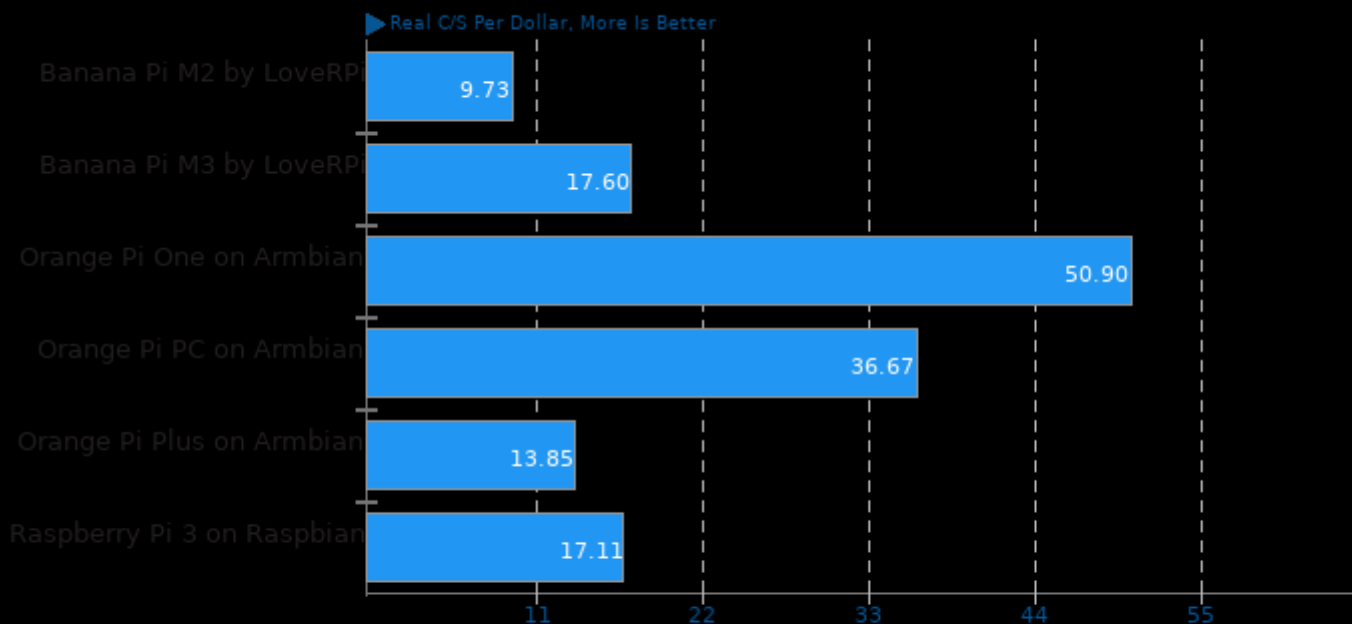
Performance / Cost - Poisson Pressure Solver



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



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.

This file was automatically generated via the Phoronix Test Suite benchmarking software on Saturday, 21 December 2024 21:13.