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rpi4@2GHz

Loongson-3A5000LL testing with a Loongson LM-LS3A5000-7A1000-1w-V01-pc_A2101 v1.0 (KL.4.1H.LM.D.020.210819.R BIOS) and HIS AMD Radeon HD 6450/7450/8450 / R5 230 OEM 2GB on Loongnix 20 via the Phoronix Test Suite.

Automated Executive Summary

rockpi5b@2.4GHz had the most wins, coming in first place for 57% of the tests.

Based on the geometric mean of all complete results, the fastest (rockpi5b@2.4GHz) was 2.976x the speed of the slowest (rpi4b_r@2ghz). 3a5000 was 0.819x the speed of rockpi5b@2.4GHz, rockpi4@2GHz was 0.592x the speed of 3a5000, opi4b@1.8GHz was 0.88x the speed of rockpi4@2GHz, rpi4b_r@2ghz was 0.788x the speed of opi4b@1.8GHz.

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

Stress-NG (Test: Matrix Math) at 12.12x
Stress-NG (Test: NUMA) at 10.337x
Stress-NG (Test: MEMFD) at 8.627x
Stress-NG (Test: Socket Activity) at 8.497x
Stress-NG (Test: Memory Copying) at 7.768x
Stress-NG (Test: Vector Math) at 5.672x

Stress-NG (Test: Malloc) at 5.501x
Stress-NG (Test: SENDFILE) at 5.465x
Stress-NG (Test: MMAP) at 5.234x
RAMspeed SMP (Type: Average - Benchmark: Integer) at 5.202x.

Test Systems:

rockpi4@2GHz

Processor: Rockchip ARMv8 Cortex-A72 @ 1.51GHz (6 Cores), Motherboard: ROCK PI 4B, Memory: 4096MB, Disk: 31GB SDU1 + 31GB SLD32G

OS: Debian 10, Kernel: 4.4.154-113-rockchip-gdb9dfc2cdd25 (aarch64), Display Server: X Server 1.20.4, Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=aarch64-linux-gnu --disable-libphobos --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Disk Mount Options Notes: data=ordered,relatime,rw
Disk Details Notes: Block Size: 4096
Python Notes: Python 3.7.3

rpi4b_r@2ghz

Processor: ARMv8 Cortex-A72 @ 2.00GHz (4 Cores), Motherboard: BCM2835 Raspberry Pi 4 Model B Rev 1.2, Memory: 2048MB, Disk: 15GB SD16G

OS: Debian 10, Kernel: 5.4.51-v8+ (aarch64), Display Server: X Server 1.20.4, Compiler: GCC 8.3.0, File-System: ext4

Kernel Notes: snd_bcm2835.enable_compat_alsa=0 snd_bcm2835.enable_hdmi=1 snd_bcm2835.enable_headphones=1
Compiler Notes: --build=aarch64-linux-gnu --disable-libphobos --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand
Disk Mount Options Notes: noatime,rw
Disk Details Notes: Block Size: 4096
Python Notes: Python 2.7.16 + Python 3.7.3
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

opi4b@1.8GHz

Processor: Rockchip ARMv8 Cortex-A72 @ 1.42GHz (6 Cores), Motherboard: OrangePi RK3399 AI boards based on Rockchip, Memory: 4096MB, Disk: 16GB AJTD4R

OS: Ubuntu 18.04, Kernel: 4.4.179-gc123b0c4-dirty (aarch64), Desktop: LXDE, Display Server: X Server 1.19.6, Compiler: GCC 7.5.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++

--enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: CFQ / data=ordered,relatime,rw,stripe=1024 / Block Size: 4096
Processor Notes: Scaling Governor: cpufreq-dt interactive
Python Notes: Python 2.7.17 + Python 3.6.9

rockpi5b@2.4GHz

Processor: Rockchip ARMv8 Cortex-A76 @ 1.80GHz (6 Cores / 8 Threads), Motherboard: Radxa ROCK 5B, Memory: 16GB, Disk: 32GB SD32G, Graphics: rockchipdrmfb, Monitor: MACROSILICON, Network: Realtek RTL8125 2.5GbE

OS: Debian 11, Kernel: 5.10.66-20-rockchip-g0cdf37b755fe (aarch64), Display Server: X Server 1.20.11, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1280x720

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt ondemand
Disk Mount Options Notes: relatime,rw
Disk Details Notes: Block Size: 4096
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Not affected + srbds: Not affected + tsx_async_abort: Not affected

3a5000

Processor: Loongson-3A5000LL (4 Cores), Motherboard: Loongson LM-LS3A5000-7A1000-1w-V01-pc_A2101 v1.0 (KL.4.1H.LM.D.020.210819.R BIOS), Chipset: Loongson LLC Hyper Transport Bridge, Memory: 2 x 8192 MB DDR4-2666MT/s UniIC SCE08GU13A1F1C-26, Disk: 480GB SAMSUNG MZ7WD480 + Teclast 128GB SS, Graphics: HIS AMD Radeon HD 6450/7450/8450 / R5 230 OEM 2GB (400/650MHz), Audio: Conexant CX20632, Network: Realtek RTL8111/8168/8411 + Realtek Device 8125

OS: Loongnix 20, Kernel: 4.19.0-17-loongson-3 (loongarch64), Display Server: X Server 1.20.4, Compiler: GCC 8.3.0, File-System: xfs

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=loongarch64-linux-gnu --disable-emultls --disable-host-shared --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-libsanitizer --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,fortran --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-plugin --enable-shared --enable-threads=posix --enable-tls --host=loongarch64-linux-gnu --program-prefix=loongarch64-linux-gnu- --target=loongarch64-linux-gnu --with-abi=lp64 --with-arch=loongarch64 --with-default-libstdcxx-abi=new --with-gcc-major-version-only -v
Disk Notes: MQ-DEADLINE / attr2,discard,inode64,noatime,noquota,rw / Block Size: 4096
Python Notes: Python 2.7.16 + Python 3.7.3

	rockpi4@2GHz	rpi4b_r@2ghz	opi4b@1.8GHz	rockpi5b@2.4GHz	3a5000
RAMspeed SMP - Copy - Integer (MB/s)	5143	**4240**	4658	**21378**	17929
Normalized	24.06%	19.83%	21.79%	100%	83.87%
Standard Deviation	0.2%	3.4%	0.6%	2.1%	1.3%
SQLite - 8 (sec)	601.414	**728.346**	**195.503**	394.224	
Normalized	32.51%	26.84%	100%	49.59%	
Standard Deviation	1.9%	1.6%	0.3%	0.1%	

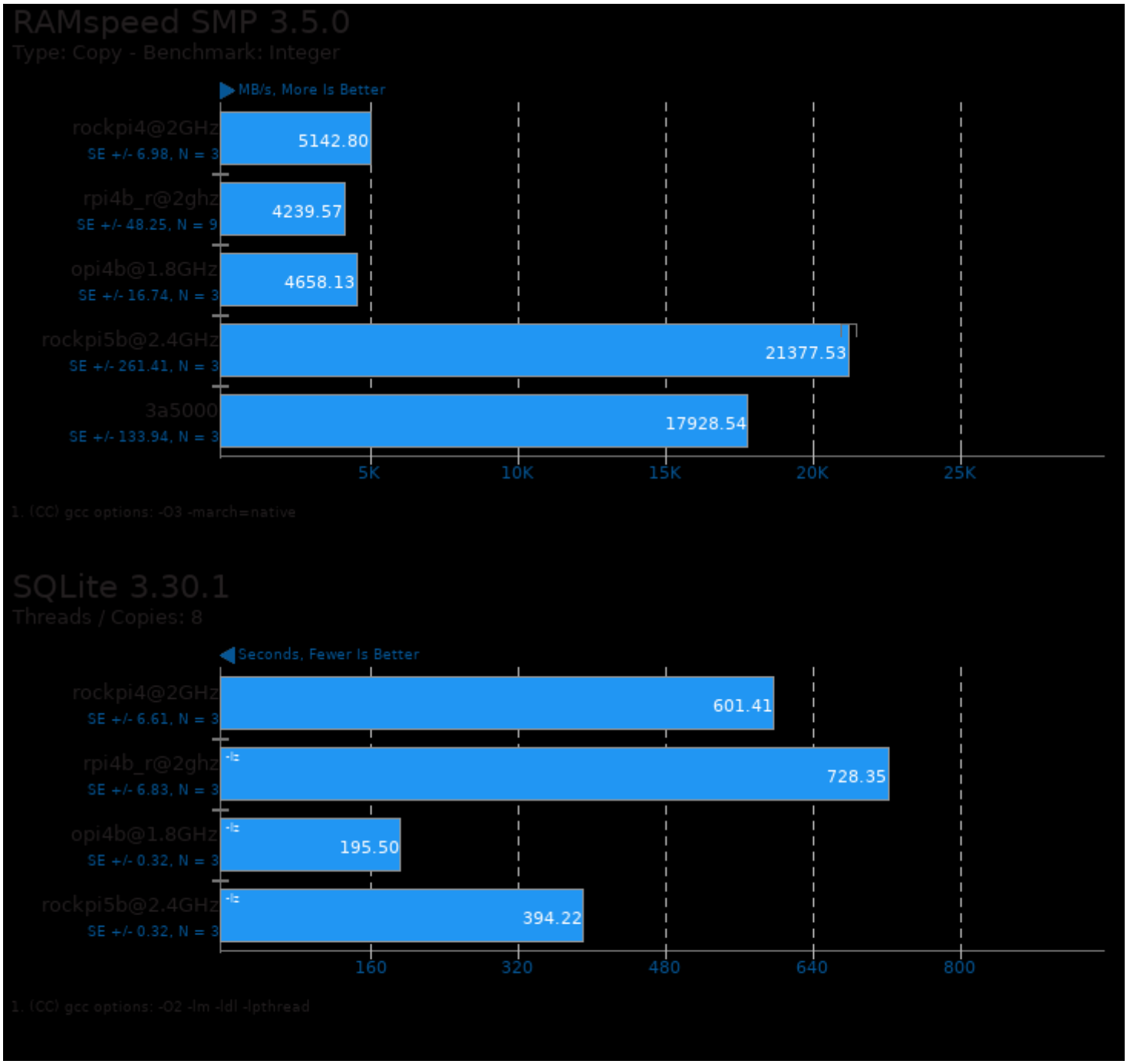
rpi4@2GHz

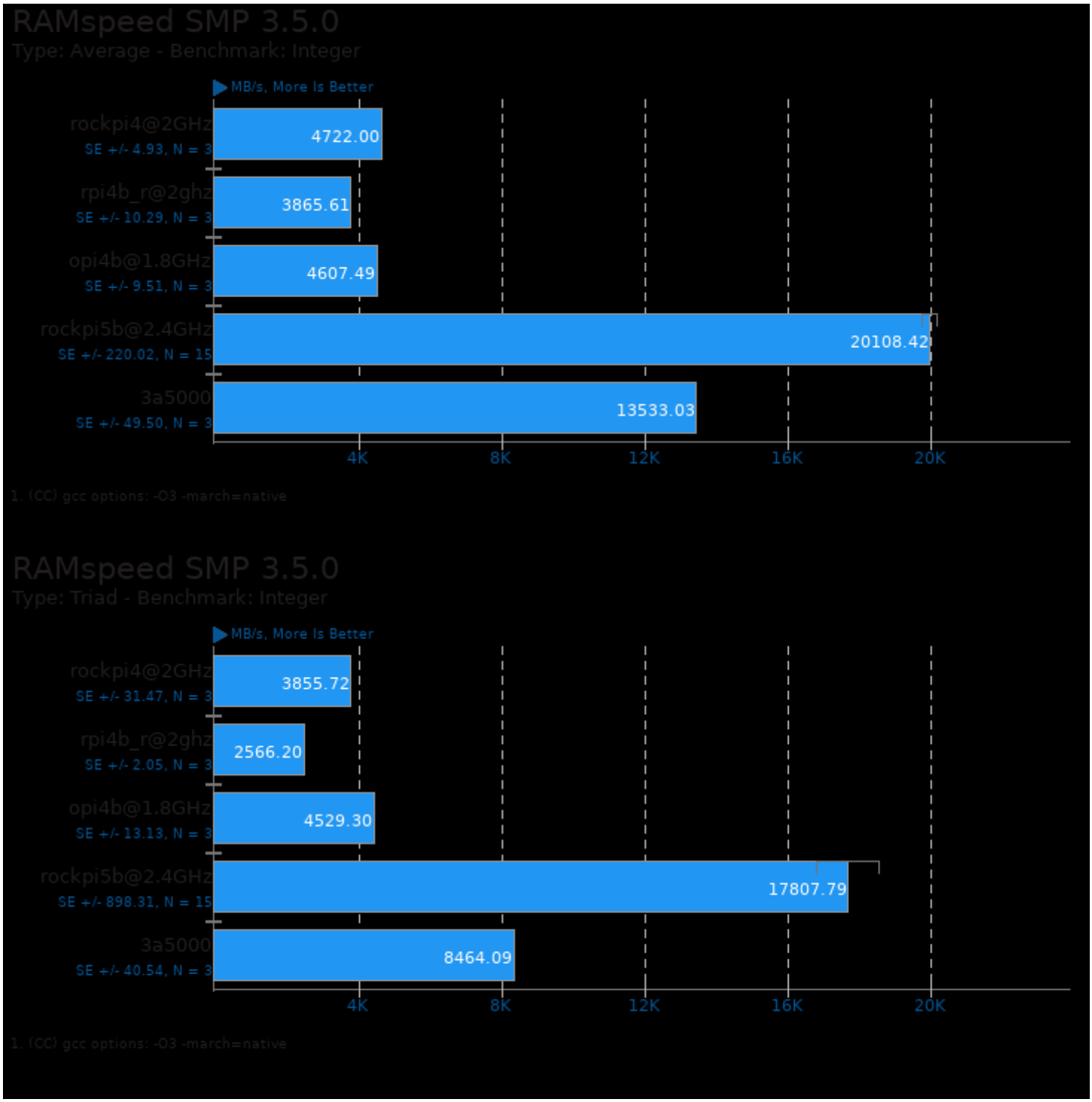
RAMspeed SMP - Average - Integer (MB/s)	4722	3866	4607	20108	13533
Normalized	23.48%	19.22%	22.91%	100%	67.3%
Standard Deviation	0.2%	0.5%	0.4%	4.2%	0.6%
RAMspeed SMP - Triad - Integer (MB/s)	3856	2566	4529	17808	8464
Normalized	21.65%	14.41%	25.43%	100%	47.53%
Standard Deviation	1.4%	0.1%	0.5%	19.5%	0.8%
RAMspeed SMP - Add - Integer (MB/s)	4794	3972	4543	19922	11044
Normalized	24.07%	19.94%	22.8%	100%	55.44%
Standard Deviation	0%	0.3%	0.5%	0%	2.5%
RAMspeed SMP - Scale - Integer (MB/s)	5105	4649	4726	22124	16320
Normalized	23.07%	21.01%	21.36%	100%	73.77%
Standard Deviation	0.2%	0.4%	0.9%	0.7%	0.1%
LibRaw - P.P.B (Mpix/sec)	6.42	6.96	5.29	17.08	
Normalized	37.59%	40.75%	30.97%	100%	
Standard Deviation	0.4%	0.2%	0.2%	0.4%	
SQLite - 1 (sec)	105.509	139.275	64.949	72.688	
Normalized	61.56%	46.63%	100%	89.35%	
Standard Deviation	0.5%	4.5%	0.5%	0.7%	
Stress-NG - CPU Cache (Bogo Ops/s)	52.85	83.89	35.92	121.29	17.25
Normalized	43.57%	69.16%	29.61%	100%	14.22%
Standard Deviation	6.7%	1.6%	10.5%	4.3%	7.4%
CacheBench - R.M.W (MB/s)	14892	14783	13289	23961	26967
Normalized	55.22%	54.82%	49.28%	88.85%	100%
Standard Deviation	0.2%	0.1%	0.2%	0%	0%
Stress-NG - Context Switching (Bogo Ops/s)	806439	345762	696242	988738	1351806
Normalized	59.66%	25.58%	51.5%	73.14%	100%
Standard Deviation	6%	4.7%	2.1%	3.2%	1.2%
Hackbench - 4 - Thread (sec)	97.029	119.657	119.204	48.246	50.690
Normalized	49.72%	40.32%	40.47%	100%	95.18%
Standard Deviation	0.7%	0.3%	0.1%	0.6%	0.4%
Hackbench - 2 - Thread (sec)	50.501	62.608	60.302	22.974	28.063
Normalized	45.49%	36.69%	38.1%	100%	81.87%
Standard Deviation	2.7%	0.8%	0.9%	0.3%	0.4%
PyBench - T.F.A.T.T	4513	4263	5300	1749	2882
Normalized	38.75%	41.03%	33%	100%	60.69%
Standard Deviation	0.5%	0.2%	0.2%	0.1%	0.3%
Smallpt - G.I.R.1.S (sec)	99.594	91.508	117.530	35.313	77.903
Normalized	35.46%	38.59%	30.05%	100%	45.33%
Standard Deviation	0.2%	0.4%	0.2%	0.1%	0.7%
7-Zip Compression - C.S.T	4451	4183	3545	12117	9246
Normalized	36.73%	34.52%	29.26%	100%	76.31%
Standard Deviation	1.3%	0.3%	1.3%	0.5%	1%
Hackbench - 1 - Thread (sec)	31.059	34.415	33.259	13.055	16.427
Normalized	42.03%	37.93%	39.25%	100%	79.47%
Standard Deviation	20.2%	1.2%	6.5%	0.4%	2%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	35944	43915	32549	90210	41380
Normalized	39.84%	48.68%	36.08%	100%	45.87%

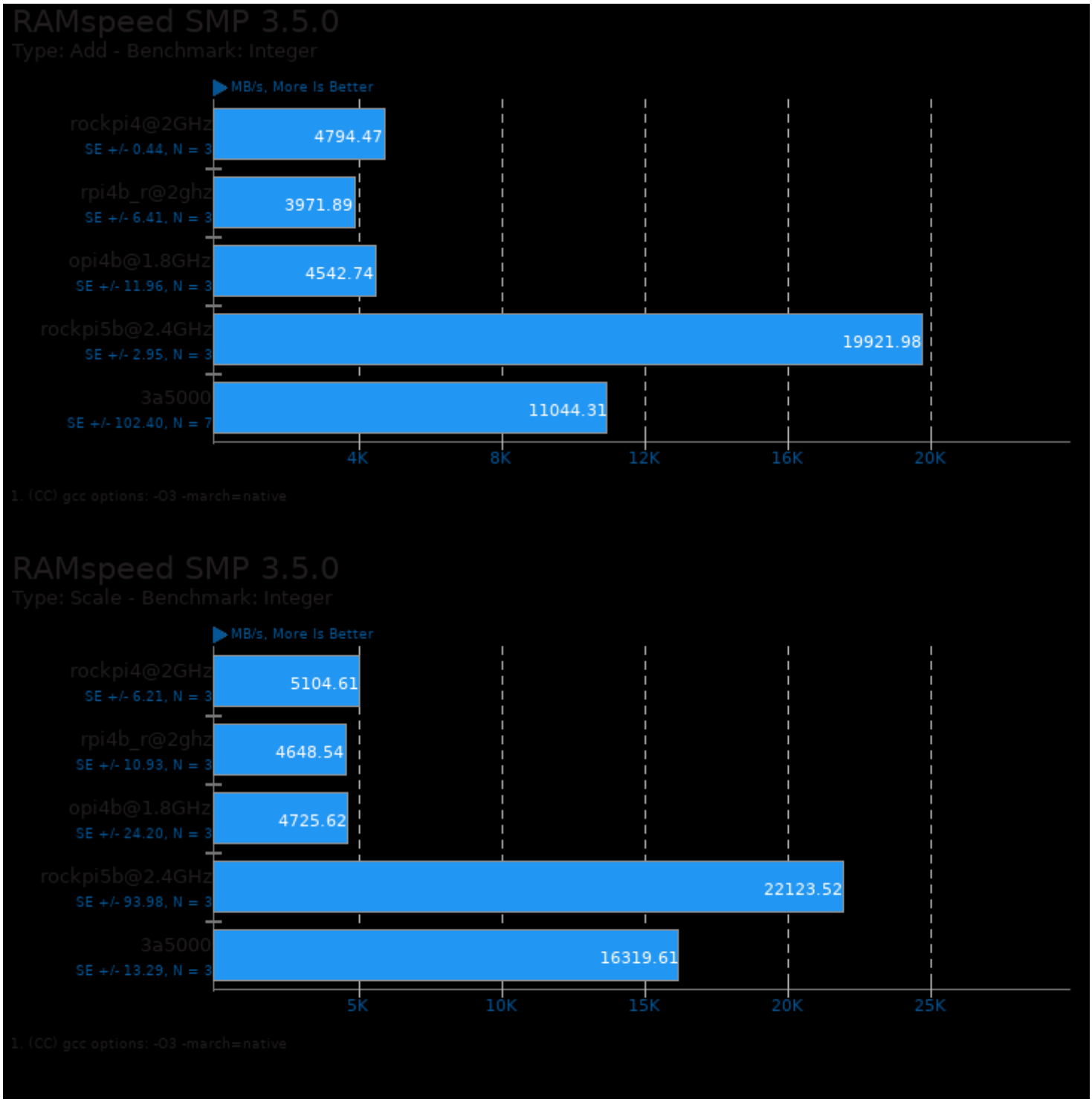
Standard Deviation	0%	0.1%	0%	0%	3.9%
Stress-NG - Forking (Bogo	3991	3145	2819	10953	12886
Normalized	30.97%	24.4%	21.88%	85%	100%
Standard Deviation	1.6%	0.9%	1.5%	0.3%	4.2%
IPC_benchmark - TCP Socket - 1024 (Messages/sec)	681836	379937	497064	1249986	1395946
Normalized	48.84%	27.22%	35.61%	89.54%	100%
Standard Deviation	6.7%	2.4%	6.7%	6.5%	0.8%
Stress-NG - Matrix Math (Bogo Ops/s)	1903	1483	1987	17968	6101
Normalized	10.59%	8.25%	11.06%	100%	33.96%
Standard Deviation	2.3%	2.5%	1.6%	0.8%	0.3%
Stress-NG - Socket Activity (Bogo Ops/s)	783.00	418.50	666.83	2761	3556
Normalized	22.02%	11.77%	18.75%	77.66%	100%
Standard Deviation	0.6%	1.3%	2.4%	0.3%	1.2%
Stress-NG - G.Q.D.S (Bogo	14.09	14.09	12.08	43.34	21.69
Normalized	32.51%	32.51%	27.87%	100%	50.05%
Standard Deviation	2.2%	0.7%	2.2%	0.3%	2.2%
Stress-NG - CPU Stress (Bogo Ops/s)	536.18	555.08	480.14	1298	644.08
Normalized	41.3%	42.75%	36.98%	100%	49.61%
Standard Deviation	0.3%	0.4%	0.3%	0%	1.6%
Stress-NG - MMAP (Bogo Ops/s)	9.48	4.40	8.24	23.03	13.69
Normalized	41.16%	19.11%	35.78%	100%	59.44%
Standard Deviation	0.1%	0.5%	0.2%	0.3%	0.4%
Stress-NG - Malloc (Bogo Ops/s)	4584714	2650730	4102371	14582918	11058323
Normalized	31.44%	18.18%	28.13%	100%	75.83%
Standard Deviation	0.1%	0.1%	0%	0.9%	2.4%
Stress-NG - Memory Copying (Bogo Ops/s)	168.21	92.51	144.18	663.72	718.60
Normalized	23.41%	12.87%	20.06%	92.36%	100%
Standard Deviation	0.1%	2.4%	2.4%	0.5%	0.7%
Stress-NG - MEMFD (Bogo	53.37	16.87	52.18	128.75	145.54
Normalized	36.67%	11.59%	35.85%	88.46%	100%
Standard Deviation	0.2%	0.5%	0.1%	2%	0.6%
Stress-NG - S.V.M.P (Bogo	1258234	1130537	1028198	1522492	1959565
Normalized	64.21%	57.69%	52.47%	77.7%	100%
Standard Deviation	0.2%	1.8%	0.8%	0.2%	1.9%
Stress-NG - Crypto (Bogo Ops/s)	342.52	332.72	337.11	963.18	523.20
Normalized	35.56%	34.54%	35%	100%	54.32%
Standard Deviation	0.1%	0.2%	0.5%	0.4%	0.6%
Stress-NG - Vector Math (Bogo Ops/s)	5924	4926	4394	12649	2230
Normalized	46.84%	38.94%	34.74%	100%	17.63%
Standard Deviation	0%	0.1%	0.1%	0%	1%
Stress-NG - G.C.S.F (Bogo	100359	110045	60863	261324	117377
Normalized	38.4%	42.11%	23.29%	100%	44.92%
Standard Deviation	0.1%	0.3%	0.1%	0%	2%
Stress-NG - NUMA (Bogo Ops/s)	65.67	44.70	67.03	429.55	462.06
Normalized	14.21%	9.67%	14.51%	92.96%	100%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	1%

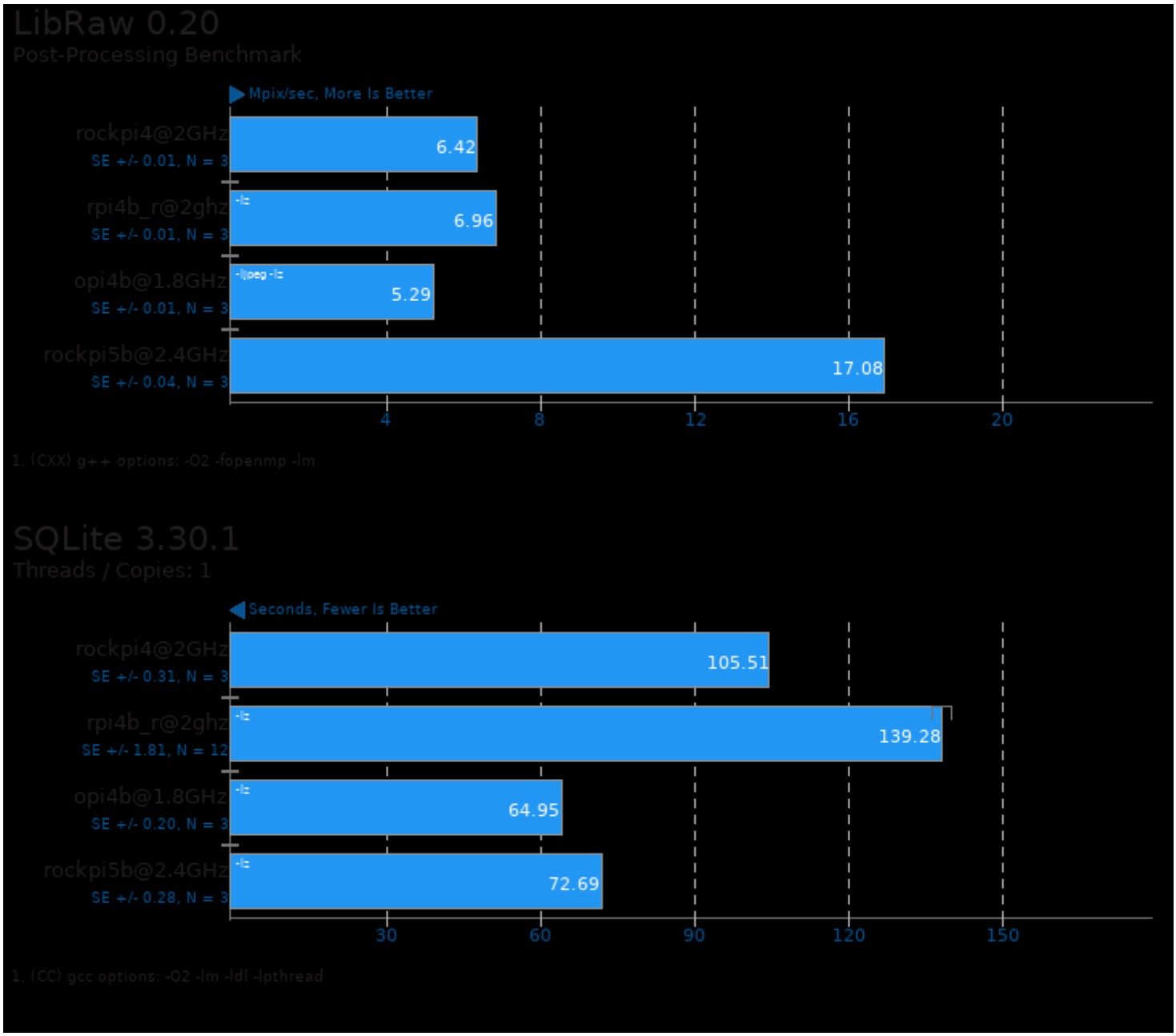
Stress-NG - Semaphores (Bogo Ops/s)	292744	**255835**	264461	**332664**	295786
Normalized	88%	76.9%	79.5%	100%	88.91%
Standard Deviation	0.2%	0.5%	1.9%	0.4%	0.2%
Stress-NG - SENDFILE (Bogo Ops/s)	29024	**16205**	25822	34184	**88555**
Normalized	32.78%	18.3%	29.16%	38.6%	100%
Standard Deviation	1.7%	0.1%	1.9%	0.1%	0.4%
Stress-NG - Atomic (Bogo Ops/s)	68958	101834	**64455**	124956	**168209**
Normalized	41%	60.54%	38.32%	74.29%	100%
Standard Deviation	0.2%	0.1%	0.5%	0.3%	0%
IPC_benchmark - FIFO Named Pipe - 512 (Messages/sec)	1198549	**657047**	1086984	1228152	**1713473**
Normalized	69.95%	38.35%	63.44%	71.68%	100%
Standard Deviation	3.6%	2.7%	0.9%	3.9%	0.6%
Stress-NG - IO_uring (Bogo				8433	
Standard Deviation				2.3%	
IPC_benchmark - U.U.D.S - 1024 (Messages/sec)	787023	**433128**	730492	**888559**	822909
Normalized	88.57%	48.74%	82.21%	100%	92.61%
Standard Deviation	3.8%	0.8%	2.3%	0.8%	1.5%
IPC_benchmark - U.U.D.S - 512 (Messages/sec)	887585	**461486**	785009	**975420**	866457
Normalized	91%	47.31%	80.48%	100%	88.83%
Standard Deviation	2.4%	1.8%	3%	0.2%	1.2%
IPC_benchmark - Unnamed Pipe - 128 (Messages/sec)	1319651	**683713**	1178427	2256501	**2264567**
Normalized	58.27%	30.19%	52.04%	99.64%	100%
Standard Deviation	5.9%	1.1%	4%	3.8%	0.6%
OpenSSL (verify/s)	9908	**8682**	9030	**17121**	15349
Normalized	57.87%	50.71%	52.74%	100%	89.65%
Standard Deviation	0.1%	0%	0.1%	0%	0.3%
OpenSSL (sign/s)	145.3	**127.2**	133.1	**256.1**	206.7
Normalized	56.74%	49.67%	51.97%	100%	80.71%
Standard Deviation	0%	0.4%	0.1%	0%	0.9%
IPC_benchmark - Unnamed Pipe - 256 (Messages/sec)	1279133	**682966**	1184781	1626135	**2088019**
Normalized	61.26%	32.71%	56.74%	77.88%	100%
Standard Deviation	1.7%	1.4%	3.2%	4.8%	5%
IPC_benchmark - TCP Socket - 512 (Messages/sec)	1085305	**427877**	939785	1579848	**1600445**
Normalized	67.81%	26.73%	58.72%	98.71%	100%
Standard Deviation	1.3%	1.5%	7.8%	1.2%	1%
IPC_benchmark - U.U.D.S - 256 (Messages/sec)	921845	**469955**	825912	**970223**	870954
Normalized	95.01%	48.44%	85.13%	100%	89.77%
Standard Deviation	2.1%	0.8%	5%	0.4%	1.3%
IPC_benchmark - Unnamed Pipe - 1024 (Messages/sec)	1184817	**621057**	1019995	1204291	**1515170**
Normalized	78.2%	40.99%	67.32%	79.48%	100%
Standard Deviation	0.5%	0.8%	3.8%	2.3%	1.8%

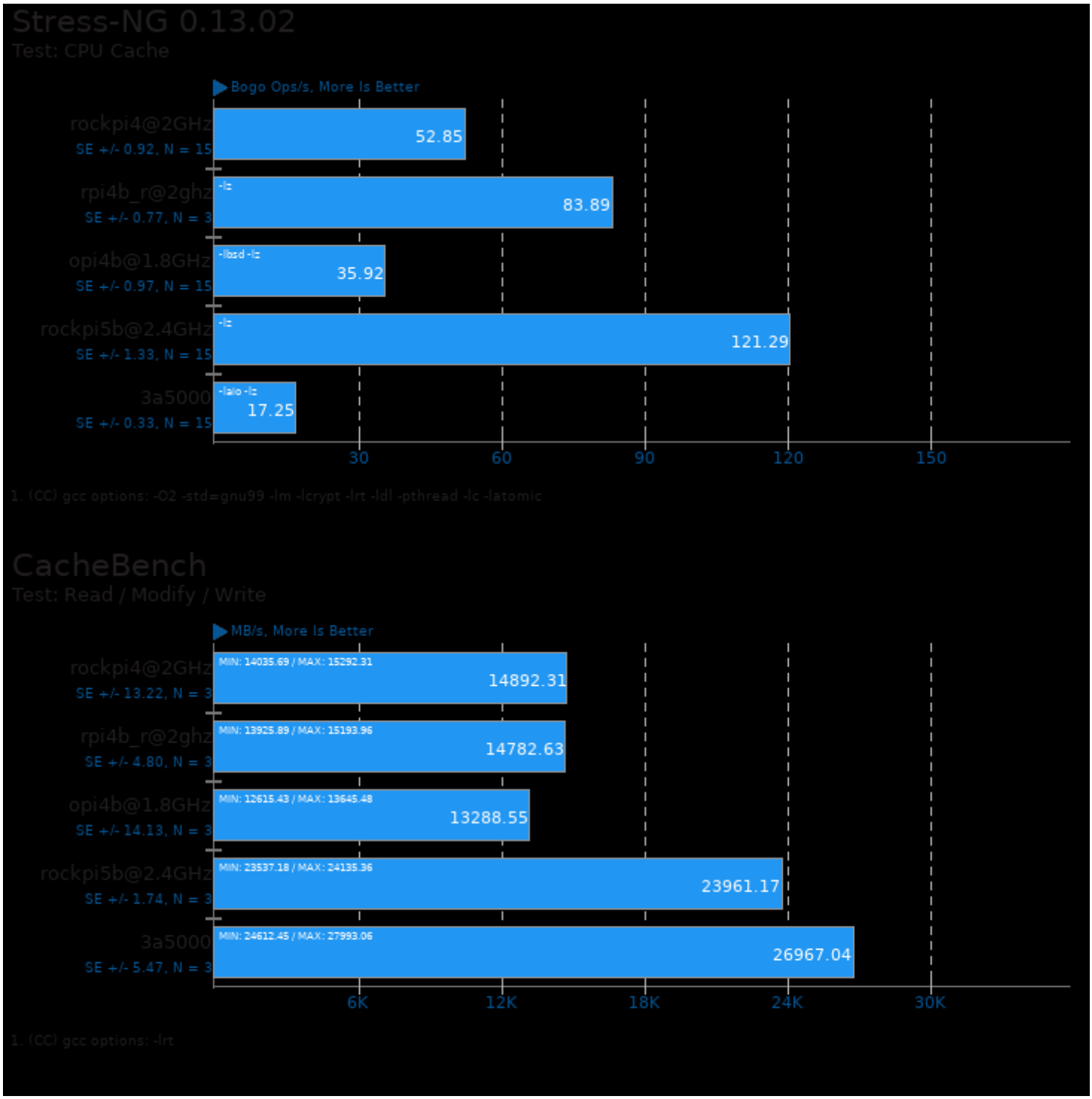
IPC_benchmark - FIFO Named Pipe - 1024 (Messages/sec)	1176832	**627821**	1020474	1199893	**1443943**
Normalized	81.5%	43.48%	70.67%	83.1%	100%
Standard Deviation	2.5%	0.4%	4.5%	0.5%	1%
IPC_benchmark - TCP Socket - 256 (Messages/sec)	1242060	**452076**	1108806	1644648	**1739305**
Normalized	71.41%	25.99%	63.75%	94.56%	100%
Standard Deviation	0.2%	1.8%	0.9%	2.5%	0.3%
IPC_benchmark - Unnamed Pipe - 512 (Messages/sec)	1214093	**665088**	1097123	1236161	**1798815**
Normalized	67.49%	36.97%	60.99%	68.72%	100%
Standard Deviation	4.8%	0.8%	1%	1.4%	0.8%
IPC_benchmark - U.U.D.S - 128 (Messages/sec)	929281	**480562**	845538	**1021908**	902630
Normalized	90.94%	47.03%	82.74%	100%	88.33%
Standard Deviation	2.3%	1.2%	2.4%	0.3%	0.4%
IPC_benchmark - FIFO Named Pipe - 256 (Messages/sec)	1284175	**675667**	1167113	1623935	**1884624**
Normalized	68.14%	35.85%	61.93%	86.17%	100%
Standard Deviation	1%	0.6%	5.1%	1.5%	0.4%
IPC_benchmark - FIFO Named Pipe - 128 (Messages/sec)	1369741	**685499**	1236268	**2255716**	1972477
Normalized	60.72%	30.39%	54.81%	100%	87.44%
Standard Deviation	3.8%	0.2%	2.4%	2%	0%
IPC_benchmark - TCP Socket - 128 (Messages/sec)	1296725	**462024**	1178363	1743221	**1851526**
Normalized	70.04%	24.95%	63.64%	94.15%	100%
Standard Deviation	2.4%	0.7%	1.8%	0.9%	0.2%

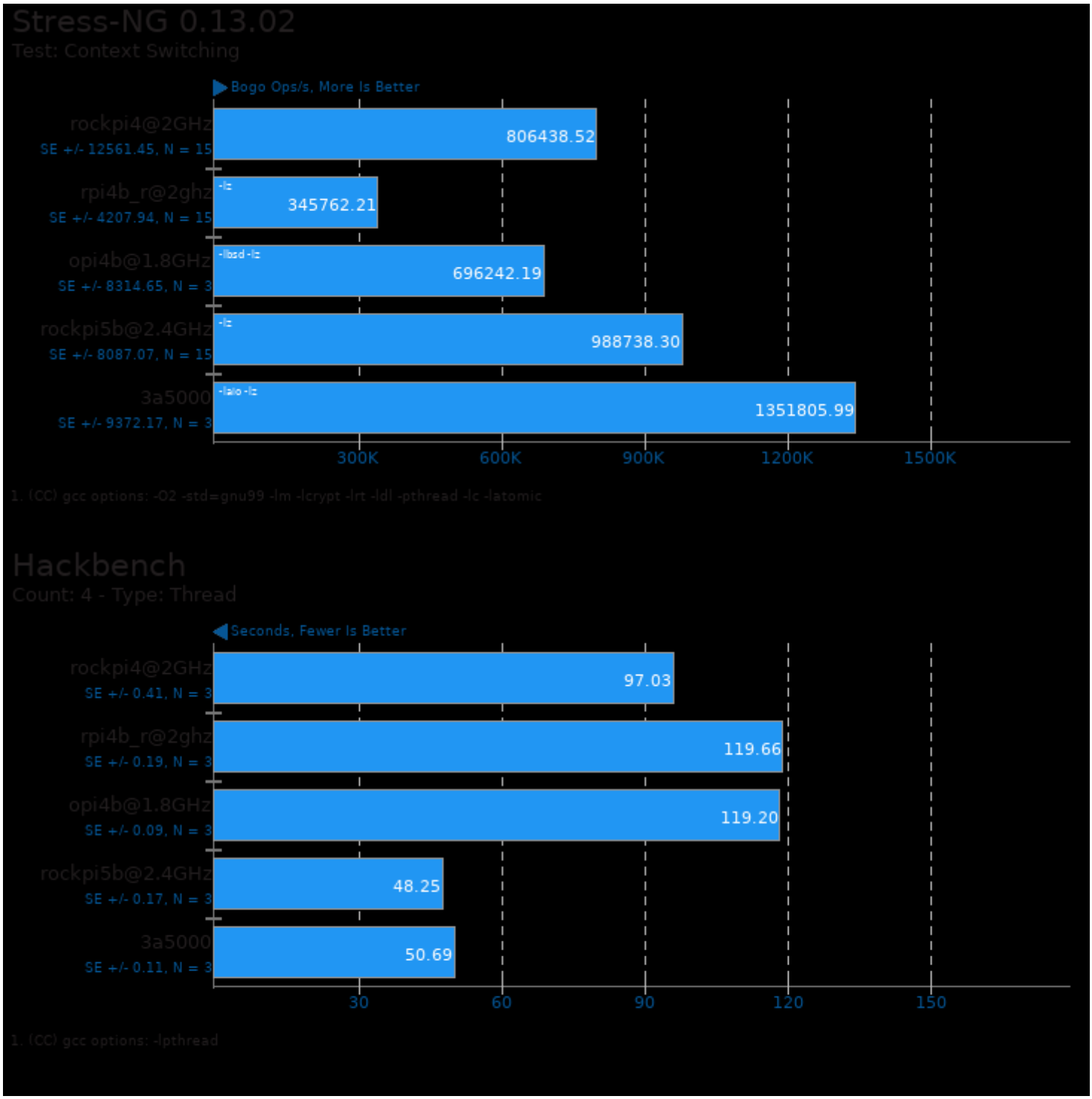

RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
rockpi4@2GHz
SE +/- 6.98, N = 3
5142.80
rpi4b_r@2ghz
SE +/- 48.25, N = 9
4239.57
opi4b@1.8GHz
SE +/- 16.74, N = 3
4658.13
rockpi5b@2.4GHz
SE +/- 261.41, N = 3
21377.53
3a5000
SE +/- 133.94, N = 3
17928.54
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native
SQLite 3.30.1
Threads / Copies: 8
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 6.61, N = 3
601.41
rpi4b_r@2ghz
SE +/- 6.83, N = 3
728.35
opi4b@1.8GHz
SE +/- 0.32, N = 3
195.50
rockpi5b@2.4GHz
SE +/- 0.32, N = 3
394.22
160
320
480
640
800
1. (CC) gcc options: -O2 -lm -ldl -lpthread

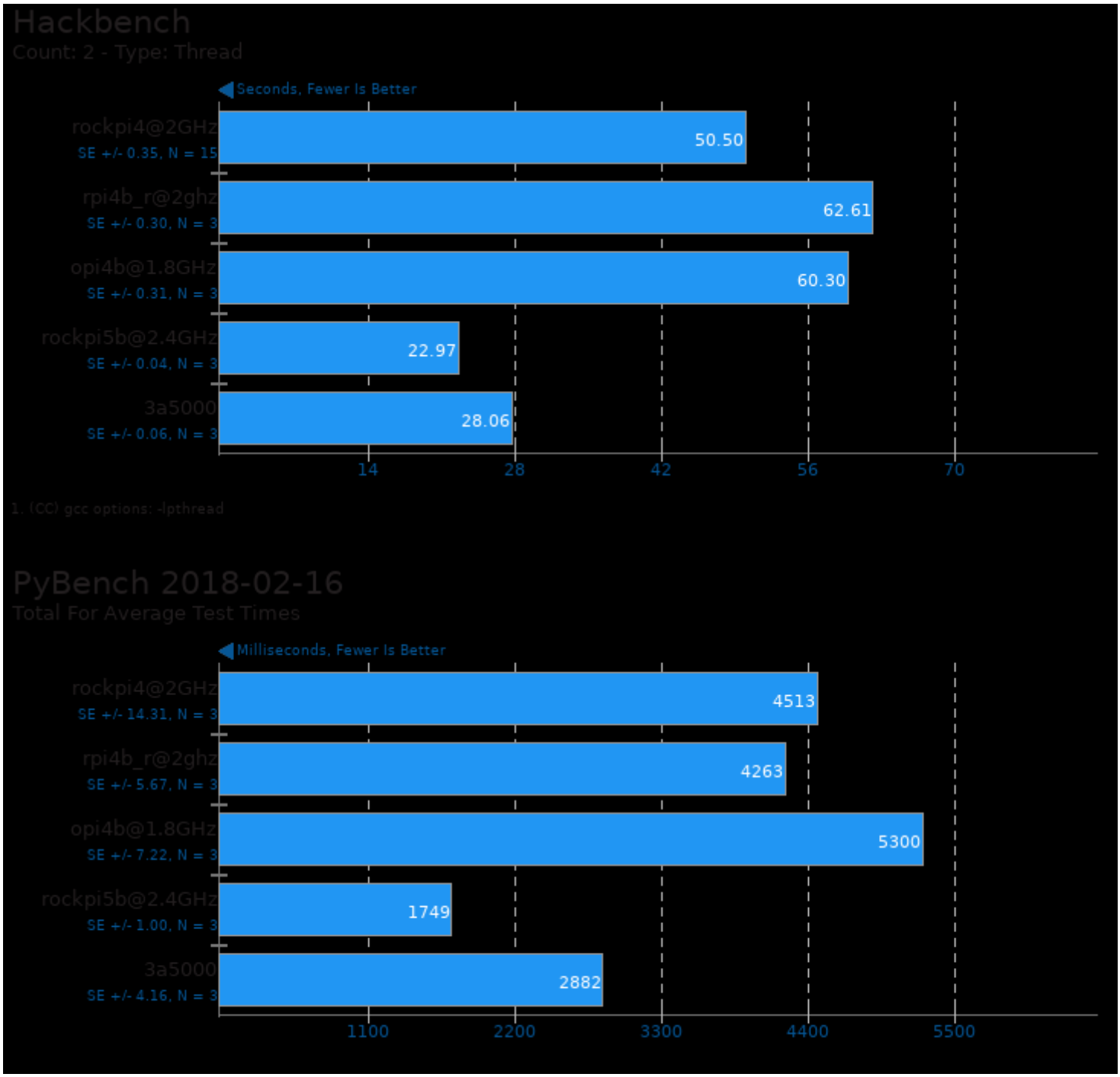

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
rockpi4@2GHz
SE +/- 4.93, N = 3
4722.00
rpi4b_r@2ghz
SE +/- 10.29, N = 3
3865.61
opi4b@1.8GHz
SE +/- 9.51, N = 3
4607.49
rockpi5b@2.4GHz
SE +/- 220.02, N = 15
20108.42
3a5000
SE +/- 49.50, N = 3
13533.03
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
rockpi4@2GHz
SE +/- 31.47, N = 3
3855.72
rpi4b_r@2ghz
SE +/- 2.05, N = 3
2566.20
opi4b@1.8GHz
SE +/- 13.13, N = 3
4529.30
rockpi5b@2.4GHz
SE +/- 898.31, N = 15
17807.79
3a5000
SE +/- 40.54, N = 3
8464.09
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native

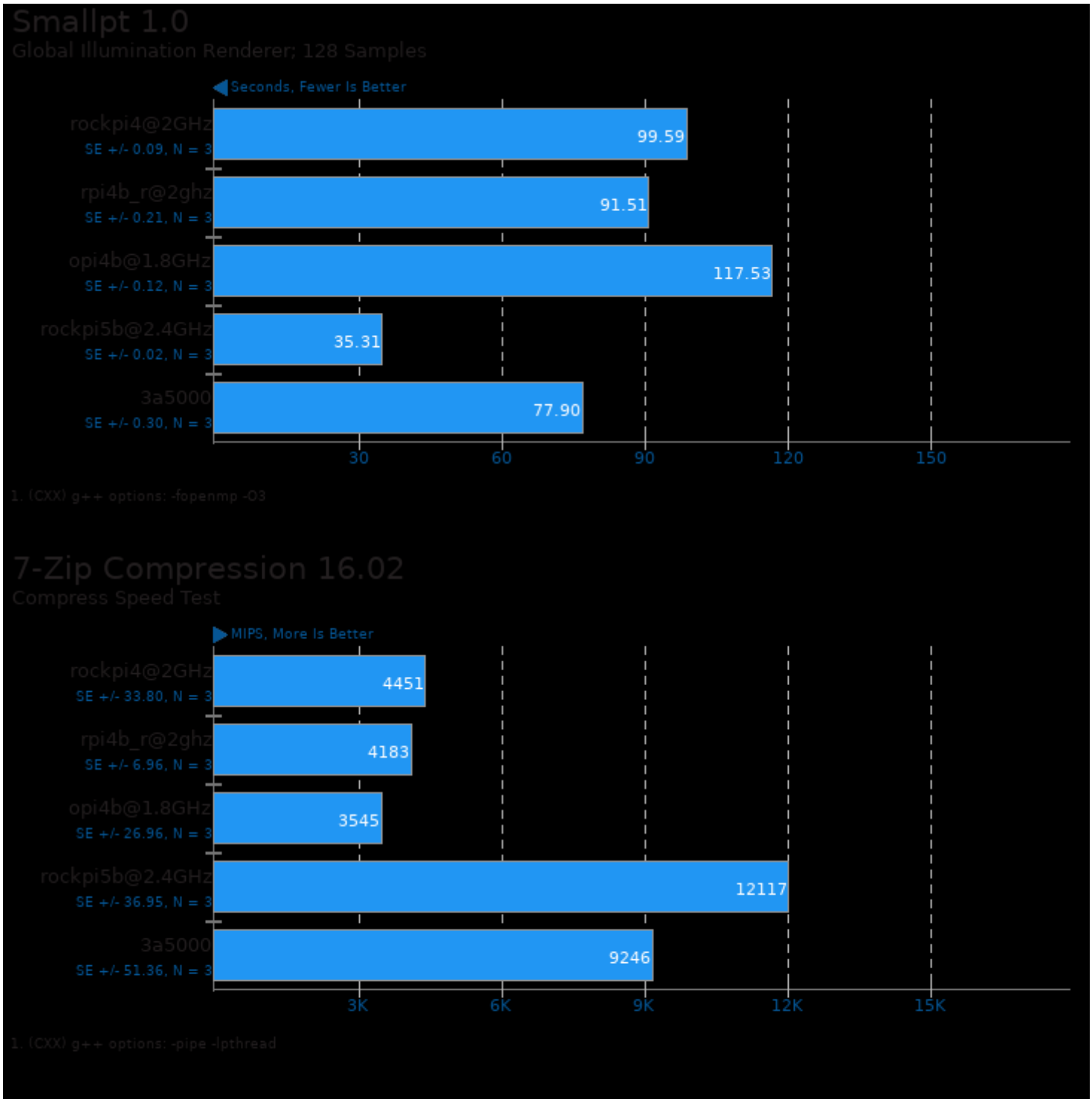

RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
rockpi4@2GHz
SE +/- 0.44, N = 3
4794.47
rpi4b_r@2ghz
SE +/- 6.41, N = 3
3971.89
opi4b@1.8GHz
SE +/- 11.96, N = 3
4542.74
rockpi5b@2.4GHz
SE +/- 2.95, N = 3
19921.98
3a5000
SE +/- 102.40, N = 7
11044.31
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
rockpi4@2GHz
SE +/- 6.21, N = 3
5104.61
rpi4b_r@2ghz
SE +/- 10.93, N = 3
4648.54
opi4b@1.8GHz
SE +/- 24.20, N = 3
4725.62
rockpi5b@2.4GHz
SE +/- 93.98, N = 3
22123.52
3a5000
SE +/- 13.29, N = 3
16319.61
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native

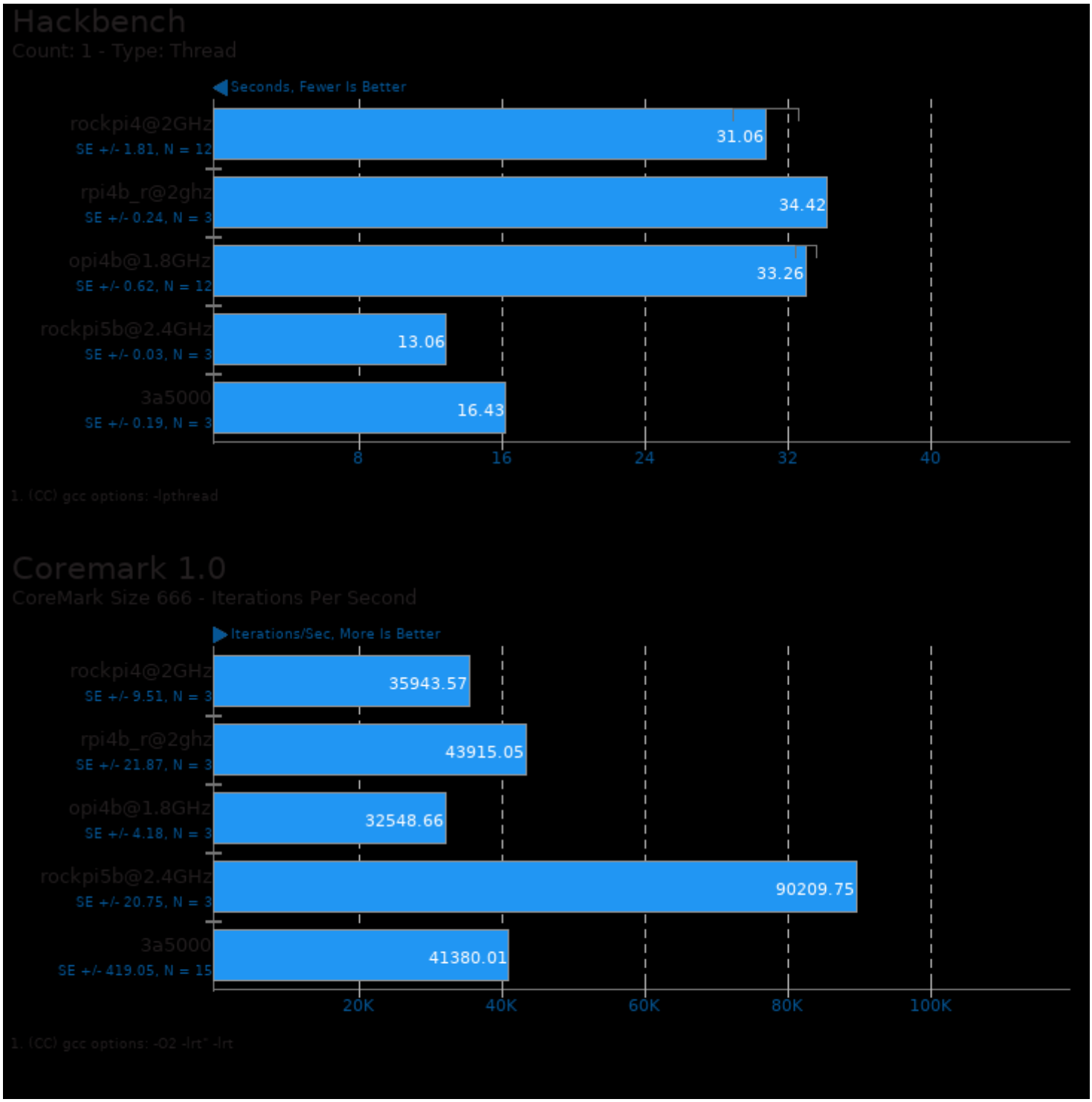

LibRaw 0.20
Post-Processing Benchmark
Mpix/sec, More Is Better
rockpi4@2GHz
SE +/- 0.01, N = 3
6.42
rpi4b_r@2ghz
SE +/- 0.01, N = 3
-lz
6.96
opi4b@1.8GHz
SE +/- 0.01, N = 3
-ljpeg -lz
5.29
rockpi5b@2.4GHz
SE +/- 0.04, N = 3
17.08
4
8
12
16
20
1. (CXX) g++ options: -O2 -fopenmp -lm
SQLite 3.30.1
Threads / Copies: 1
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 0.31, N = 3
105.51
rpi4b_r@2ghz
SE +/- 1.81, N = 12
-lz
139.28
opi4b@1.8GHz
SE +/- 0.20, N = 3
-lz
64.95
rockpi5b@2.4GHz
SE +/- 0.28, N = 3
-lz
72.69
30
60
90
120
150
1. (CC) gcc options: -O2 -lm -ldl -lpthread

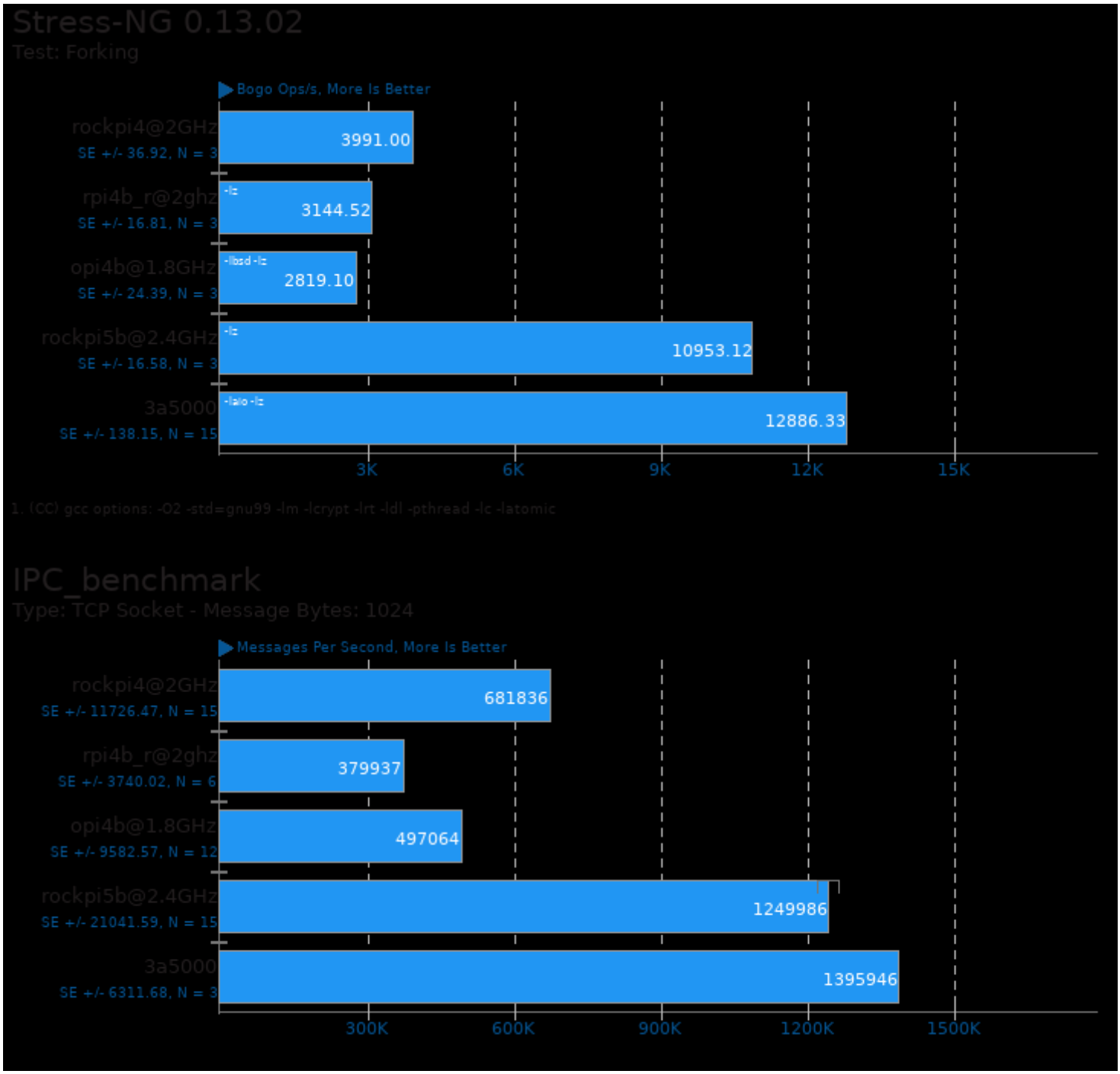

Stress-NG 0.13.02
Test: CPU Cache
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.92, N = 15
52.85
rpi4b_r@2ghz
SE +/- 0.77, N = 3
-lz
83.89
opi4b@1.8GHz
SE +/- 0.97, N = 15
-lbsd -lz
35.92
rockpi5b@2.4GHz
SE +/- 1.33, N = 15
-lz
121.29
3a5000
SE +/- 0.33, N = 15
-laio -lz
17.25
30
60
90
120
150
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
CacheBench
Test: Read / Modify / Write
MB/s, More Is Better
rockpi4@2GHz
SE +/- 13.22, N = 3
MIN: 14035.69 / MAX: 15292.31
14892.31
rpi4b_r@2ghz
SE +/- 4.80, N = 3
MIN: 13925.89 / MAX: 15193.96
14782.63
opi4b@1.8GHz
SE +/- 14.13, N = 3
MIN: 12615.43 / MAX: 13645.48
13288.55
rockpi5b@2.4GHz
SE +/- 1.74, N = 3
MIN: 23537.18 / MAX: 24135.36
23961.17
3a5000
SE +/- 5.47, N = 3
MIN: 24612.45 / MAX: 27993.06
26967.04
6K
12K
18K
24K
30K
1. (CC) gcc options: -lrt


Stress-NG 0.13.02
Test: Context Switching
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 12561.45, N = 15
806438.52
rpi4b_r@2ghz
SE +/- 4207.94, N = 15
-lz
345762.21
opi4b@1.8GHz
SE +/- 8314.65, N = 3
-lbsd -lz
696242.19
rockpi5b@2.4GHz
SE +/- 8087.07, N = 15
-lz
988738.30
3a5000
SE +/- 9372.17, N = 3
-laio -lz
1351805.99
300K
600K
900K
1200K
1500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Hackbench
Count: 4 - Type: Thread
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 0.41, N = 3
97.03
rpi4b_r@2ghz
SE +/- 0.19, N = 3
119.66
opi4b@1.8GHz
SE +/- 0.09, N = 3
119.20
rockpi5b@2.4GHz
SE +/- 0.17, N = 3
48.25
3a5000
SE +/- 0.11, N = 3
50.69
30
60
90
120
150
1. (CC) gcc options: -lpthread

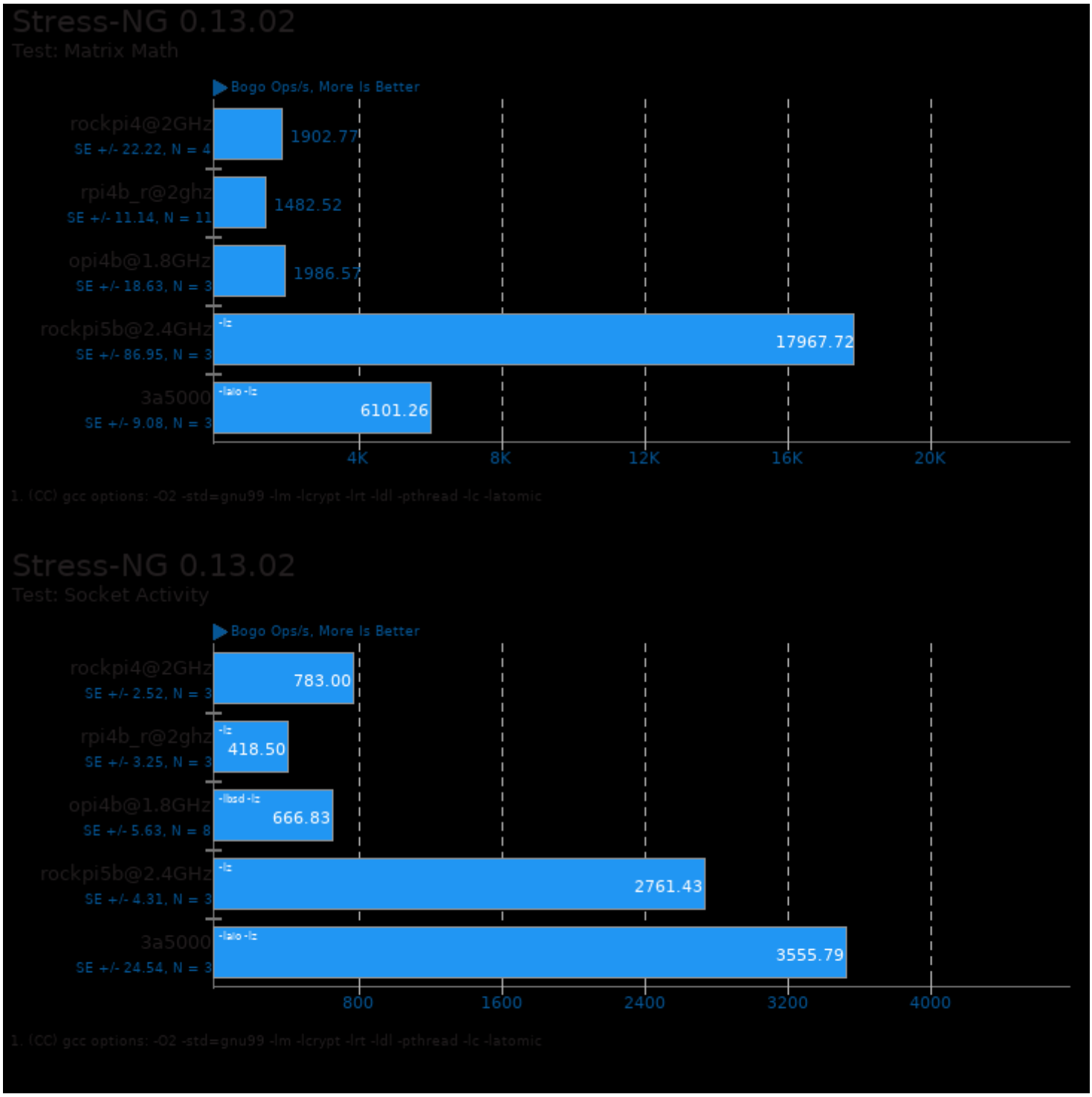

Hackbench
Count: 2 - Type: Thread
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 0.35, N = 15
50.50
rpi4b_r@2ghz
SE +/- 0.30, N = 3
62.61
opi4b@1.8GHz
SE +/- 0.31, N = 3
60.30
rockpi5b@2.4GHz
SE +/- 0.04, N = 3
22.97
3a5000
SE +/- 0.06, N = 3
28.06
14
28
42
56
70
1. (CC) gcc options: -lpthread
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
rockpi4@2GHz
SE +/- 14.31, N = 3
4513
rpi4b_r@2ghz
SE +/- 5.67, N = 3
4263
opi4b@1.8GHz
SE +/- 7.22, N = 3
5300
rockpi5b@2.4GHz
SE +/- 1.00, N = 3
1749
3a5000
SE +/- 4.16, N = 3
2882
1100
2200
3300
4400
5500

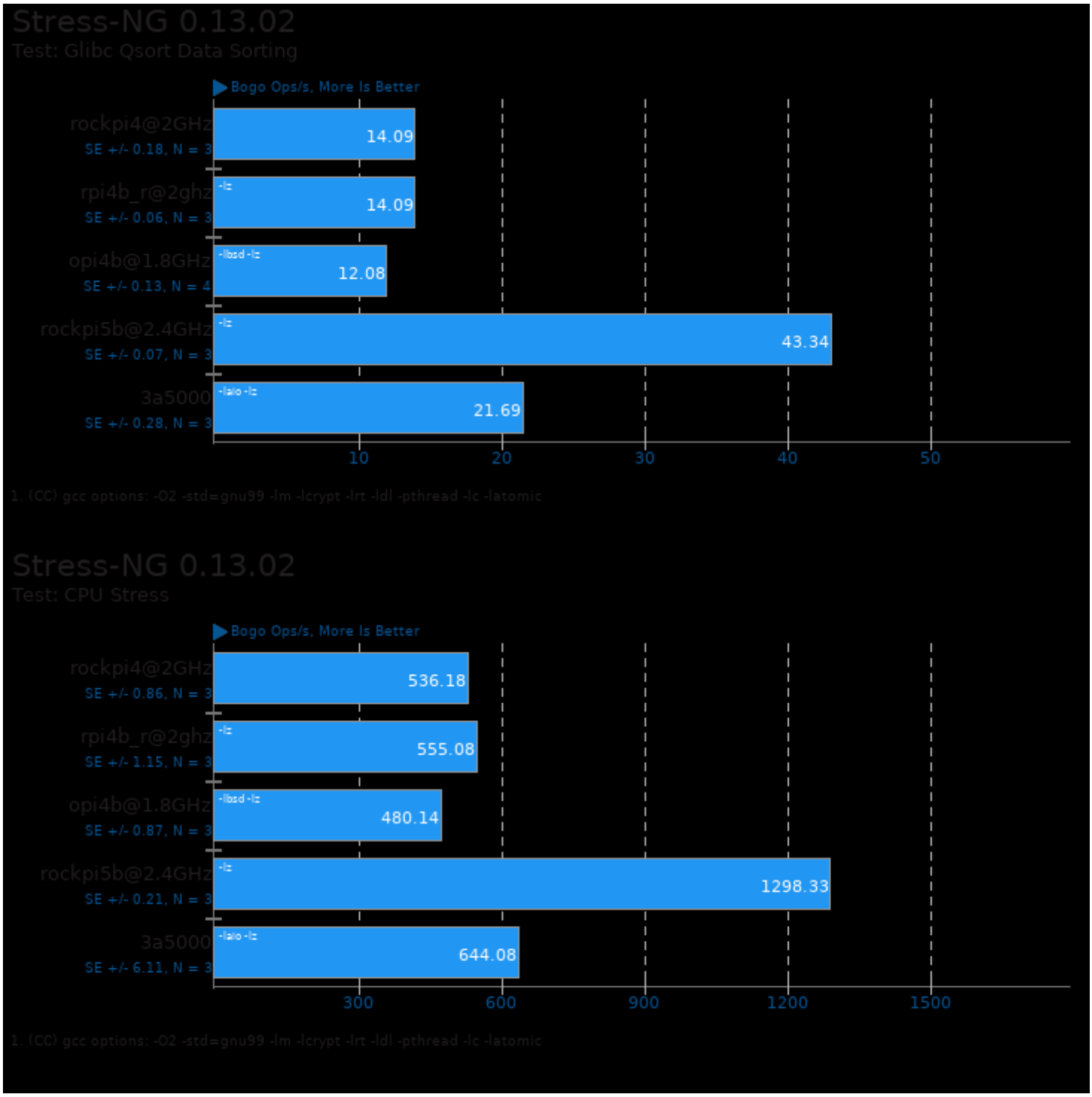

Smallpt 1.0
Global Illumination Renderer; 128 Samples
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 0.09, N = 3
99.59
rpi4b_r@2ghz
SE +/- 0.21, N = 3
91.51
opi4b@1.8GHz
SE +/- 0.12, N = 3
117.53
rockpi5b@2.4GHz
SE +/- 0.02, N = 3
35.31
3a5000
SE +/- 0.30, N = 3
77.90
30
60
90
120
150
1. (CXX) g++ options: -fopenmp -O3
7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
rockpi4@2GHz
SE +/- 33.80, N = 3
4451
rpi4b_r@2ghz
SE +/- 6.96, N = 3
4183
opi4b@1.8GHz
SE +/- 26.96, N = 3
3545
rockpi5b@2.4GHz
SE +/- 36.95, N = 3
12117
3a5000
SE +/- 51.36, N = 3
9246
3K
6K
9K
12K
15K
1. (CXX) g++ options: -pipe -lpthread

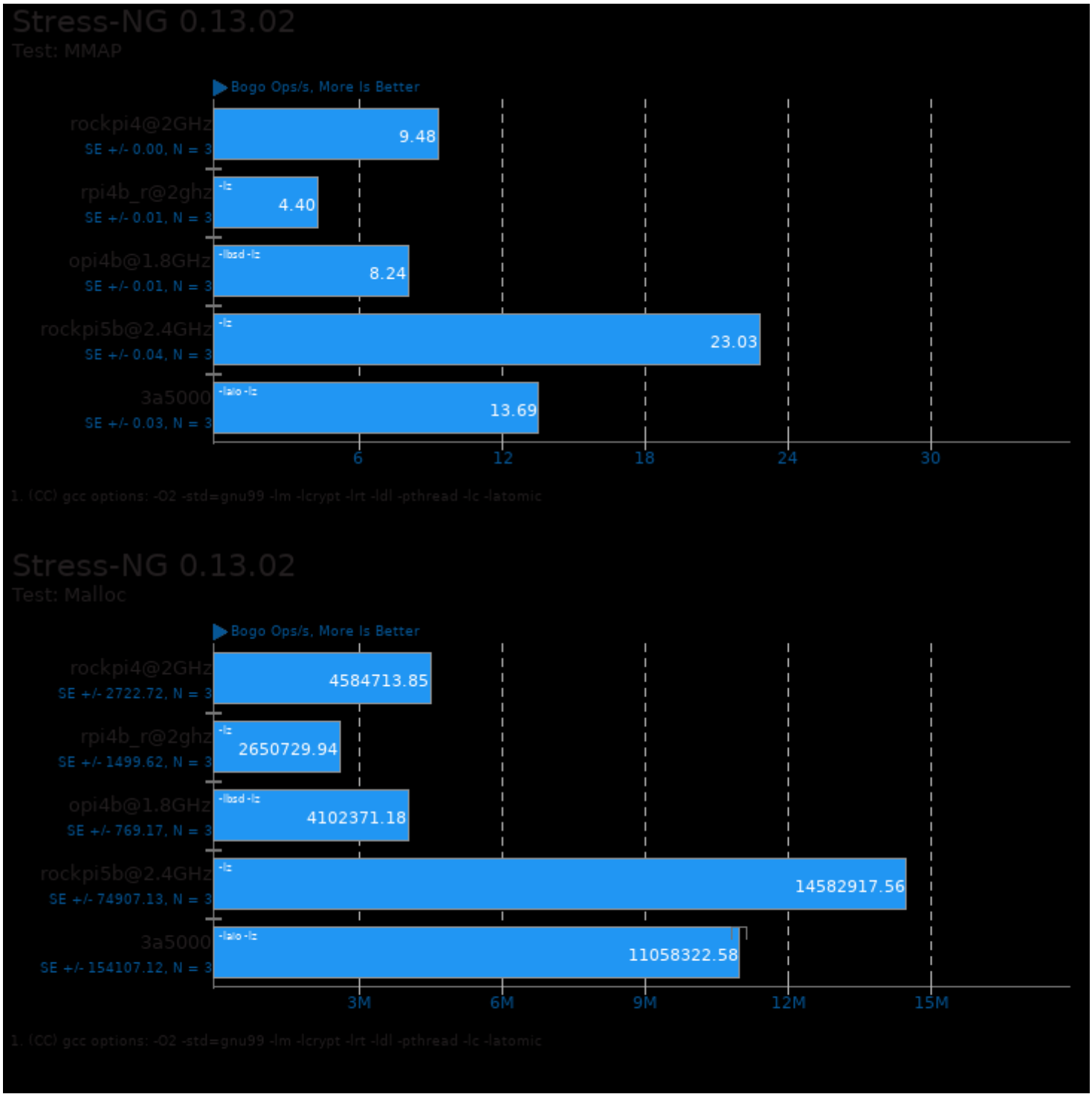

Hackbench
Count: 1 - Type: Thread
Seconds, Fewer Is Better
rockpi4@2GHz
SE +/- 1.81, N = 12
31.06
rpi4b_r@2ghz
SE +/- 0.24, N = 3
34.42
opi4b@1.8GHz
SE +/- 0.62, N = 12
33.26
rockpi5b@2.4GHz
SE +/- 0.03, N = 3
13.06
3a5000
SE +/- 0.19, N = 3
16.43
8
16
24
32
40
1. (CC) gcc options: -lpthread
Coremark 1.0
CoreMark Size 666 - Iterations Per Second
Iterations/Sec, More Is Better
rockpi4@2GHz
SE +/- 9.51, N = 3
35943.57
rpi4b_r@2ghz
SE +/- 21.87, N = 3
43915.05
opi4b@1.8GHz
SE +/- 4.18, N = 3
32548.66
rockpi5b@2.4GHz
SE +/- 20.75, N = 3
90209.75
3a5000
SE +/- 419.05, N = 15
41380.01
20K
40K
60K
80K
100K
1. (CC) gcc options: -O2 -lrt" -lrt

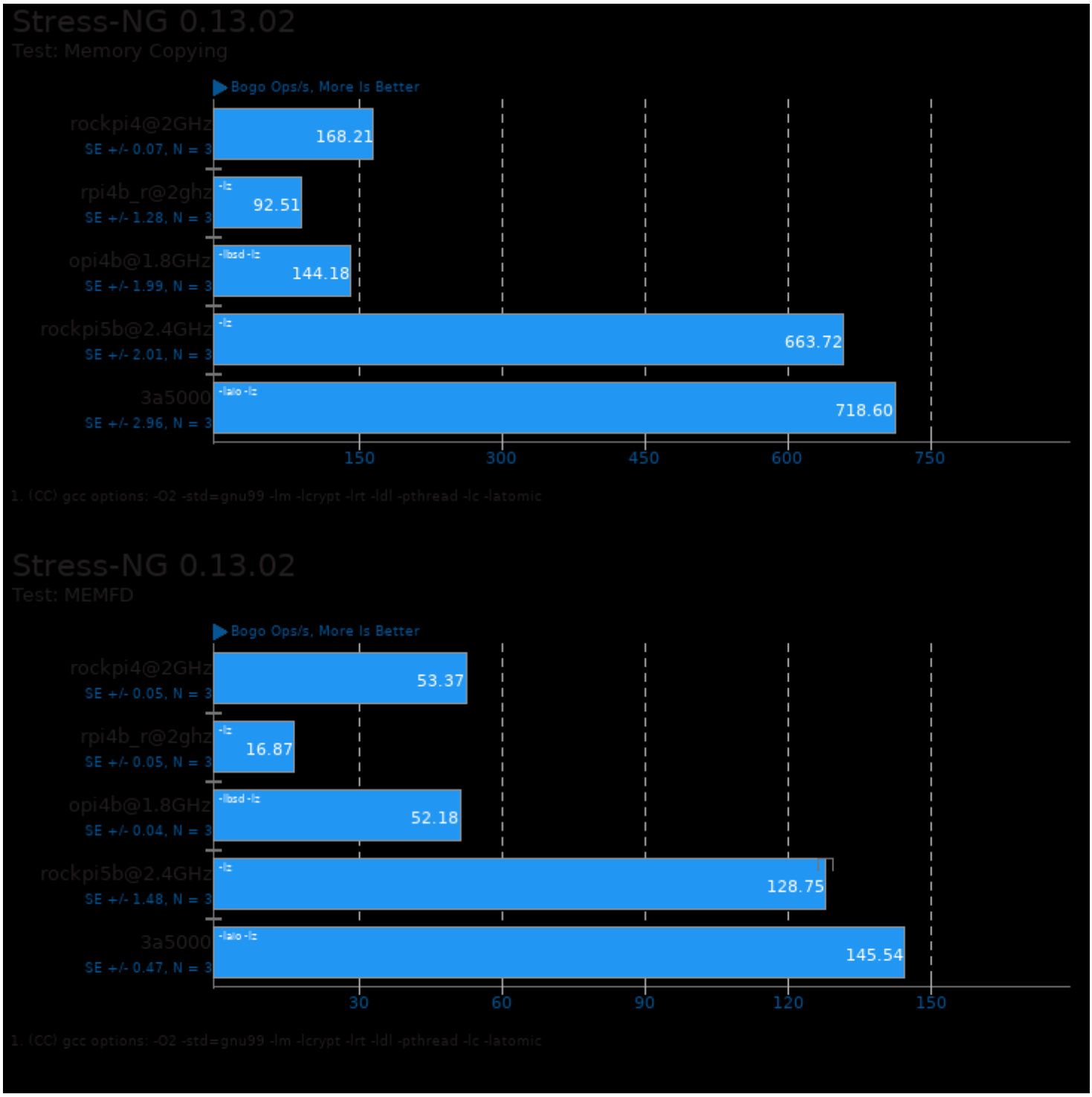

Stress-NG 0.13.02
Test: Forking
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 36.92, N = 3
3991.00
rpi4b_r@2ghz
SE +/- 16.81, N = 3
-lz
3144.52
opi4b@1.8GHz
SE +/- 24.39, N = 3
-lbsd -lz
2819.10
rockpi5b@2.4GHz
SE +/- 16.58, N = 3
-lz
10953.12
3a5000
SE +/- 138.15, N = 15
-laio -lz
12886.33
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

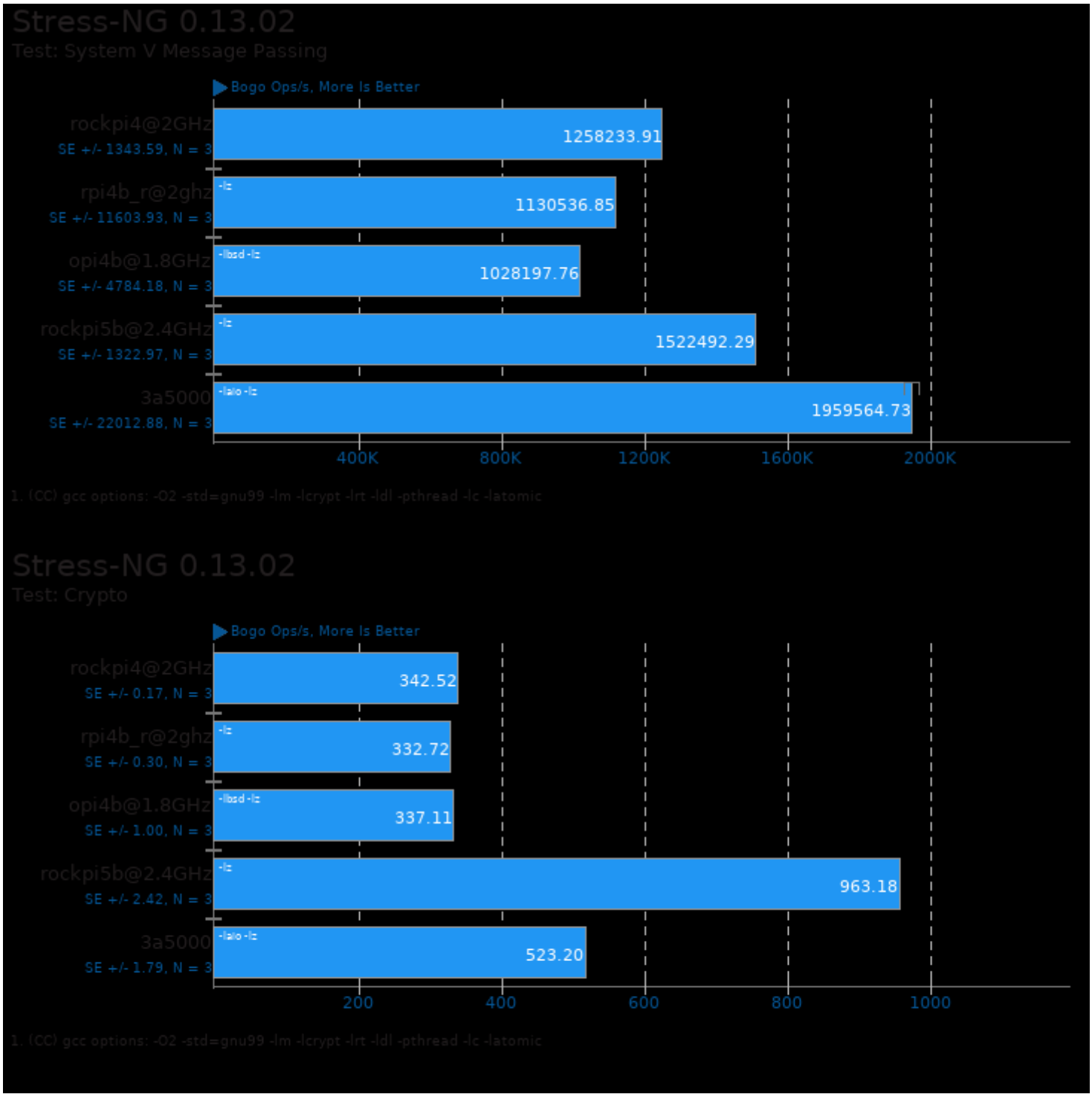
IPC_benchmark
Type: TCP Socket - Message Bytes: 1024
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 11726.47, N = 15
681836
rpi4b_r@2ghz
SE +/- 3740.02, N = 6
379937
opi4b@1.8GHz
SE +/- 9582.57, N = 12
497064
rockpi5b@2.4GHz
SE +/- 21041.59, N = 15
1249986
3a5000
SE +/- 6311.68, N = 3
1395946
300K
600K
900K
1200K
1500K

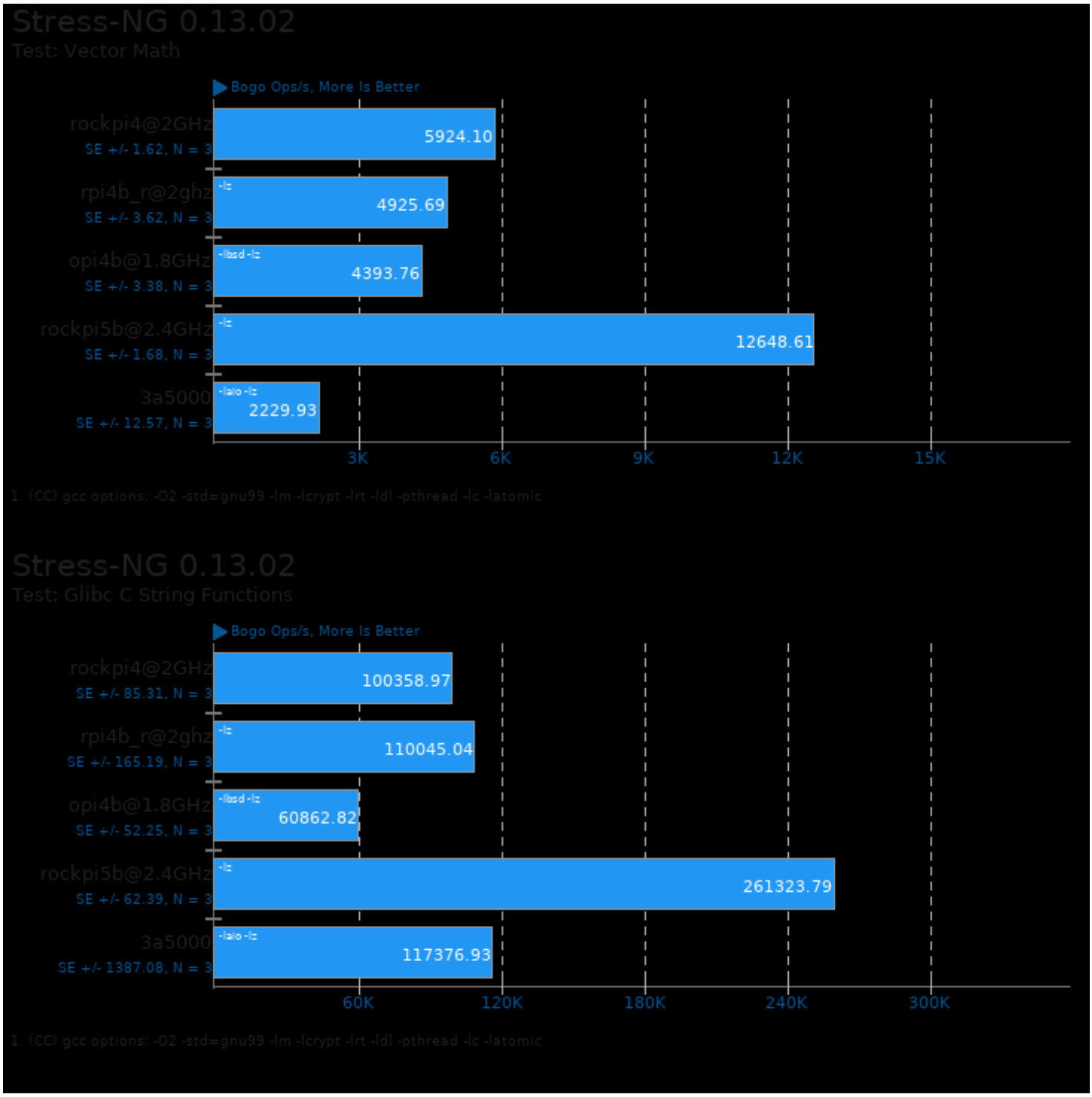

Stress-NG 0.13.02
Test: Matrix Math
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 22.22, N = 4
1902.77
rpi4b_r@2ghz
SE +/- 11.14, N = 11
1482.52
opi4b@1.8GHz
SE +/- 18.63, N = 3
1986.57
rockpi5b@2.4GHz
SE +/- 86.95, N = 3
-lz
17967.72
3a5000
SE +/- 9.08, N = 3
-laio -lz
6101.26
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Socket Activity
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 2.52, N = 3
783.00
rpi4b_r@2ghz
SE +/- 3.25, N = 3
-lz
418.50
opi4b@1.8GHz
SE +/- 5.63, N = 8
-lbsd -lz
666.83
rockpi5b@2.4GHz
SE +/- 4.31, N = 3
-lz
2761.43
3a5000
SE +/- 24.54, N = 3
-laio -lz
3555.79
800
1600
2400
3200
4000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

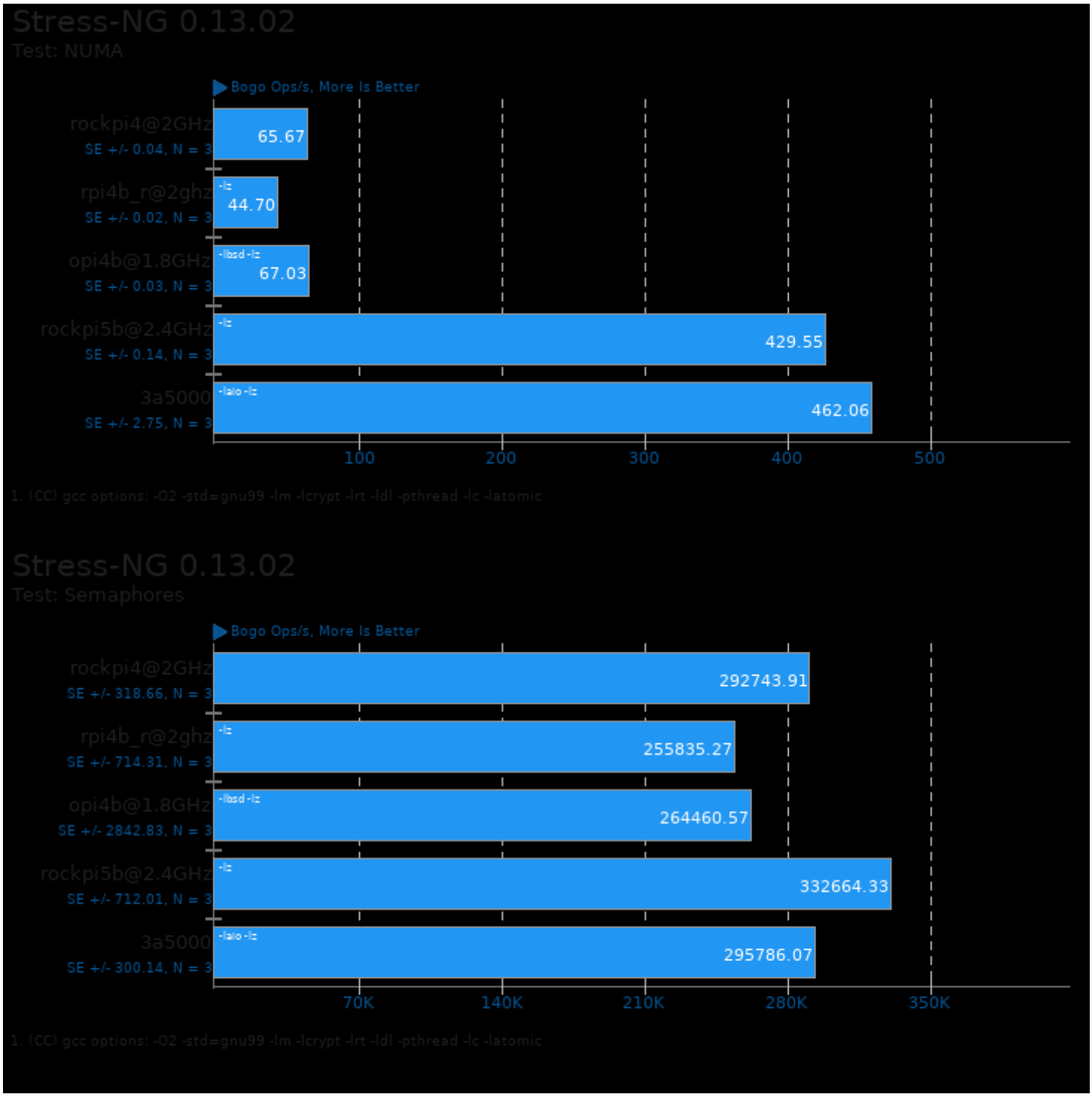

Stress-NG 0.13.02
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.18, N = 3
14.09
rpi4b_r@2ghz
SE +/- 0.06, N = 3
-lz
14.09
opi4b@1.8GHz
SE +/- 0.13, N = 4
-lbsd -lz
12.08
rockpi5b@2.4GHz
SE +/- 0.07, N = 3
-lz
43.34
3a5000
SE +/- 0.28, N = 3
-laio -lz
21.69
10
20
30
40
50
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: CPU Stress
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.86, N = 3
536.18
rpi4b_r@2ghz
SE +/- 1.15, N = 3
-lz
555.08
opi4b@1.8GHz
SE +/- 0.87, N = 3
-lbsd -lz
480.14
rockpi5b@2.4GHz
SE +/- 0.21, N = 3
-lz
1298.33
3a5000
SE +/- 6.11, N = 3
-laio -lz
644.08
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic


Stress-NG 0.13.02
Test: MMAP
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.00, N = 3
9.48
rpi4b_r@2ghz
SE +/- 0.01, N = 3
-lz
4.40
opi4b@1.8GHz
SE +/- 0.01, N = 3
-lbsd -lz
8.24
rockpi5b@2.4GHz
SE +/- 0.04, N = 3
-lz
23.03
3a5000
SE +/- 0.03, N = 3
-laio -lz
13.69
6
12
18
24
30
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Malloc
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 2722.72, N = 3
4584713.85
rpi4b_r@2ghz
SE +/- 1499.62, N = 3
-lz
2650729.94
opi4b@1.8GHz
SE +/- 769.17, N = 3
-lbsd -lz
4102371.18
rockpi5b@2.4GHz
SE +/- 74907.13, N = 3
-lz
14582917.56
3a5000
SE +/- 154107.12, N = 3
-laio -lz
11058322.58
3M
6M
9M
12M
15M
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

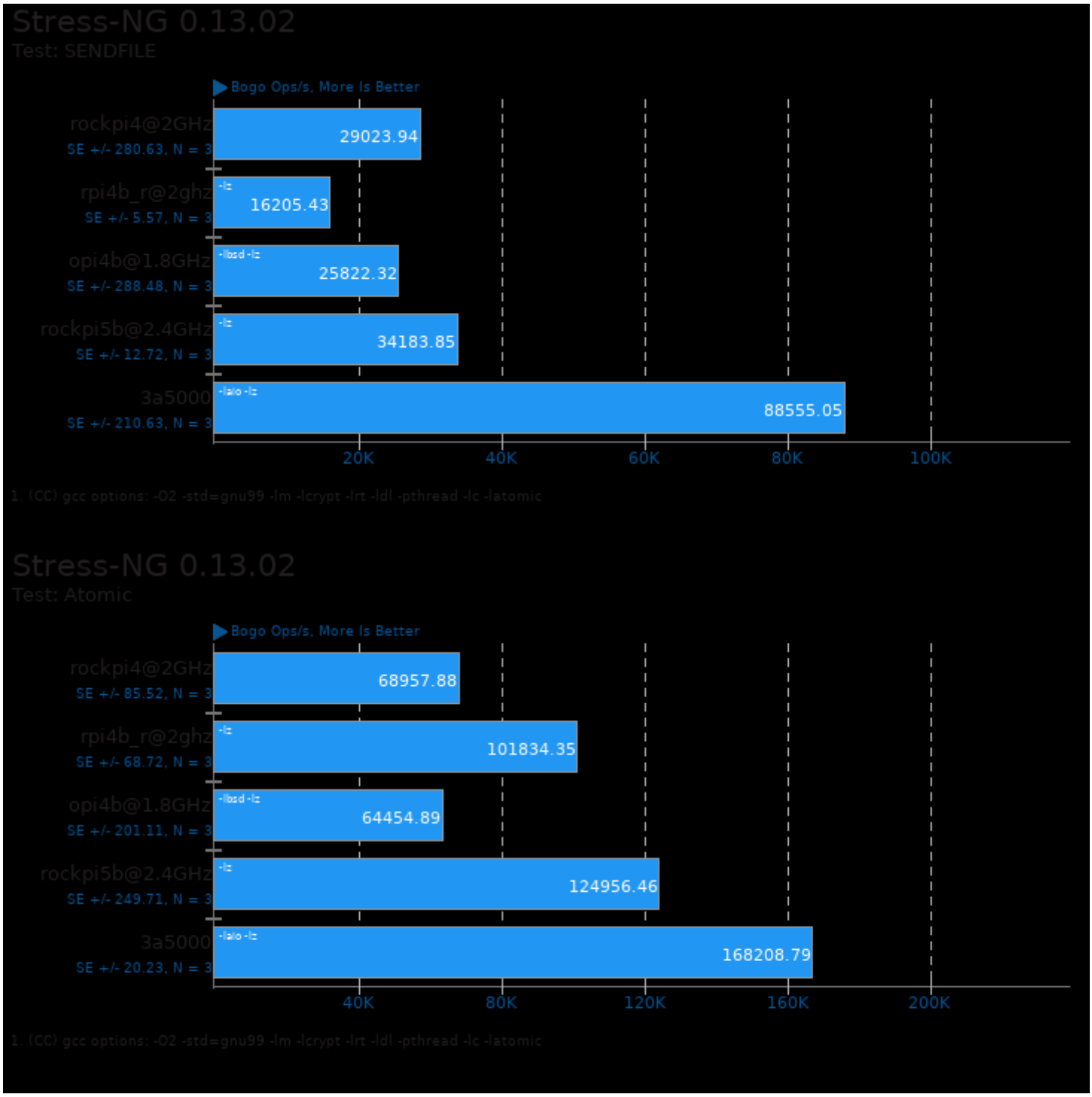

Stress-NG 0.13.02
Test: Memory Copying
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.07, N = 3
168.21
rpi4b_r@2ghz
SE +/- 1.28, N = 3
-lz
92.51
opi4b@1.8GHz
SE +/- 1.99, N = 3
-lbsd -lz
144.18
rockpi5b@2.4GHz
SE +/- 2.01, N = 3
-lz
663.72
3a5000
SE +/- 2.96, N = 3
-laio -lz
718.60
150
300
450
600
750
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: MEMFD
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.05, N = 3
53.37
rpi4b_r@2ghz
SE +/- 0.05, N = 3
-lz
16.87
opi4b@1.8GHz
SE +/- 0.04, N = 3
-lbsd -lz
52.18
rockpi5b@2.4GHz
SE +/- 1.48, N = 3
-lz
128.75
3a5000
SE +/- 0.47, N = 3
-laio -lz
145.54
30
60
90
120
150
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

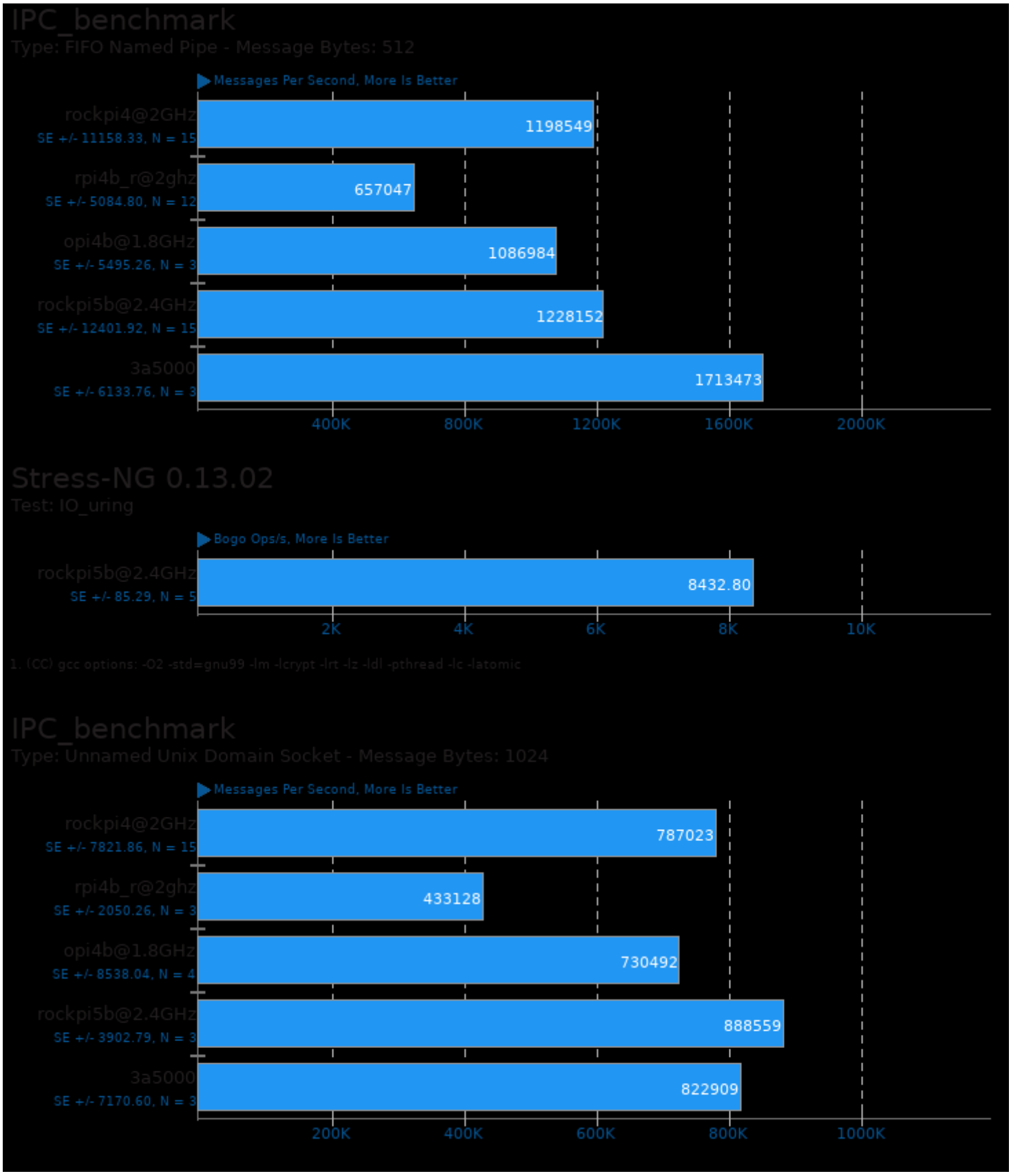

Stress-NG 0.13.02
Test: System V Message Passing
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 1343.59, N = 3
1258233.91
rpi4b_r@2ghz
SE +/- 11603.93, N = 3
-lz
1130536.85
opi4b@1.8GHz
SE +/- 4784.18, N = 3
-lbsd -lz
1028197.76
rockpi5b@2.4GHz
SE +/- 1322.97, N = 3
-lz
1522492.29
3a5000
SE +/- 22012.88, N = 3
-laio -lz
1959564.73
400K
800K
1200K
1600K
2000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Crypto
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.17, N = 3
342.52
rpi4b_r@2ghz
SE +/- 0.30, N = 3
-lz
332.72
opi4b@1.8GHz
SE +/- 1.00, N = 3
-lbsd -lz
337.11
rockpi5b@2.4GHz
SE +/- 2.42, N = 3
-lz
963.18
3a5000
SE +/- 1.79, N = 3
-laio -lz
523.20
200
400
600
800
1000
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

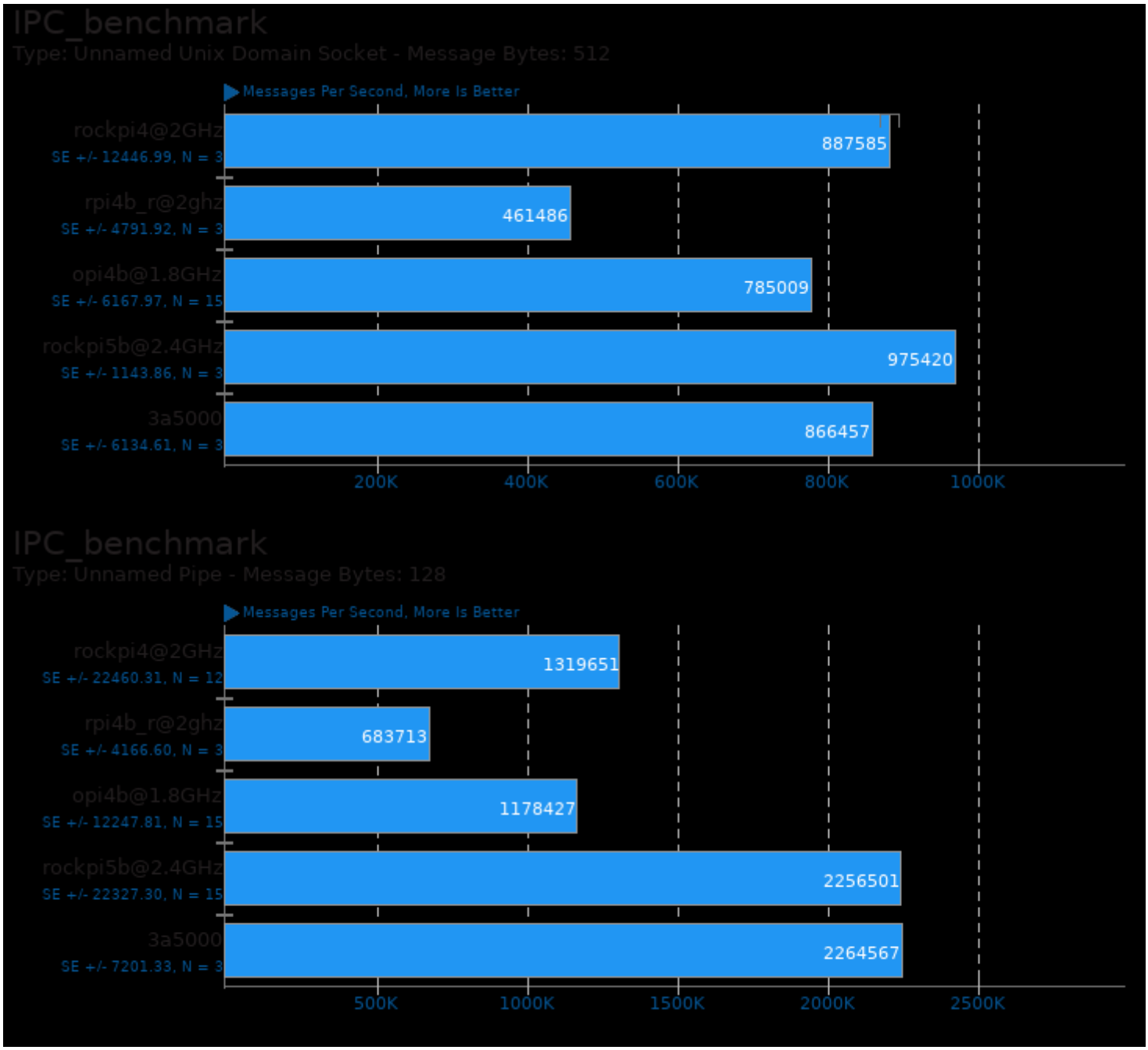

Stress-NG 0.13.02
Test: Vector Math
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 1.62, N = 3
5924.10
rpi4b_r@2ghz
SE +/- 3.62, N = 3
-lz
4925.69
opi4b@1.8GHz
SE +/- 3.38, N = 3
-lbsd -lz
4393.76
rockpi5b@2.4GHz
SE +/- 1.68, N = 3
-lz
12648.61
3a5000
SE +/- 12.57, N = 3
-laio -lz
2229.93
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 85.31, N = 3
100358.97
rpi4b_r@2ghz
SE +/- 165.19, N = 3
-lz
110045.04
opi4b@1.8GHz
SE +/- 52.25, N = 3
-lbsd -lz
60862.82
rockpi5b@2.4GHz
SE +/- 62.39, N = 3
-lz
261323.79
3a5000
SE +/- 1387.08, N = 3
-laio -lz
117376.93
60K
120K
180K
240K
300K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

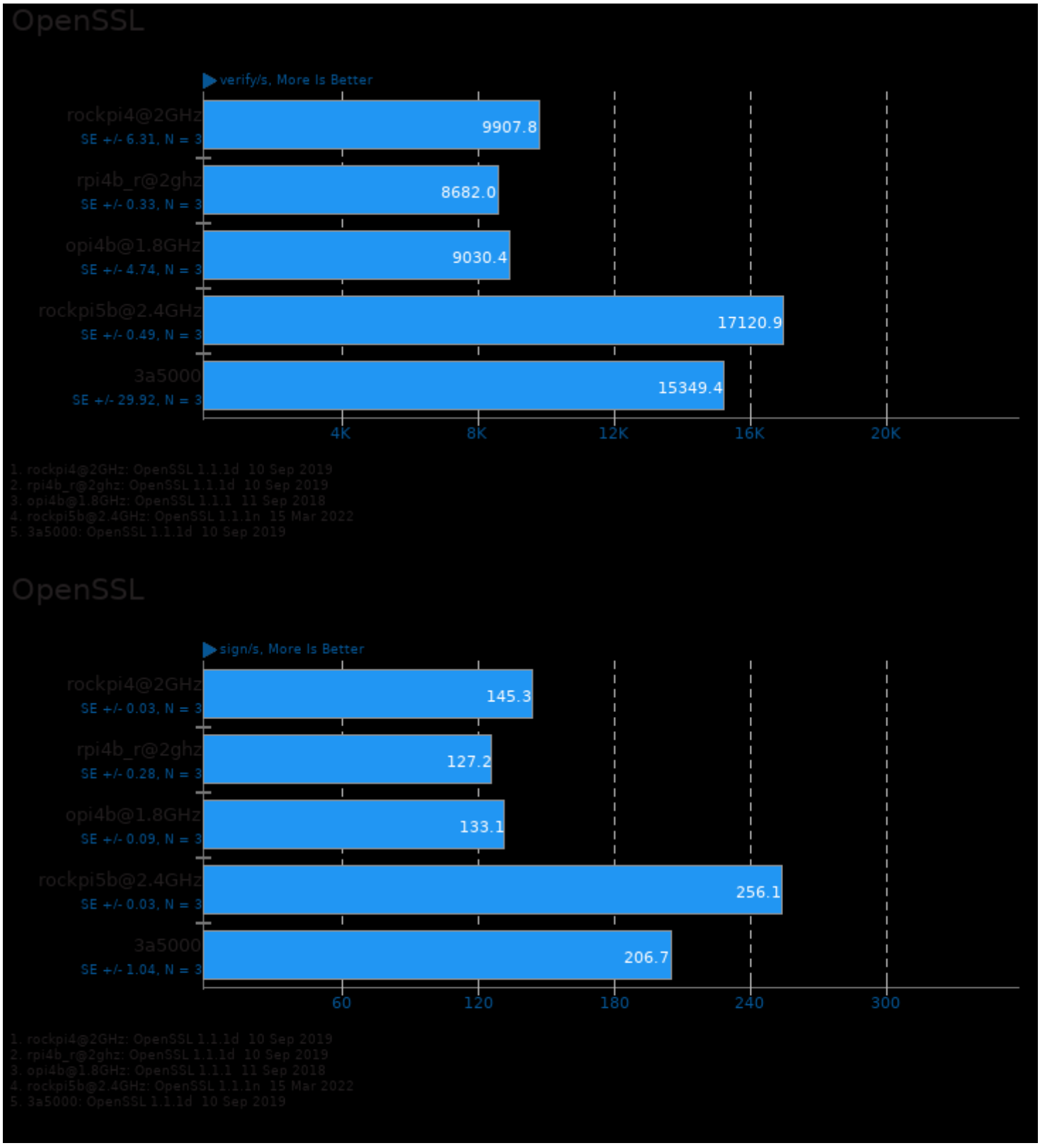

Stress-NG 0.13.02
Test: NUMA
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 0.04, N = 3
65.67
rpi4b_r@2ghz
SE +/- 0.02, N = 3
-lz
44.70
opi4b@1.8GHz
SE +/- 0.03, N = 3
-lbsd -lz
67.03
rockpi5b@2.4GHz
SE +/- 0.14, N = 3
-lz
429.55
3a5000
SE +/- 2.75, N = 3
-laio -lz
462.06
100
200
300
400
500
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02
Test: Semaphores
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 318.66, N = 3
292743.91
rpi4b_r@2ghz
SE +/- 714.31, N = 3
-lz
255835.27
opi4b@1.8GHz
SE +/- 2842.83, N = 3
-lbsd -lz
264460.57
rockpi5b@2.4GHz
SE +/- 712.01, N = 3
-lz
332664.33
3a5000
SE +/- 300.14, N = 3
-laio -lz
295786.07
70K
140K
210K
280K
350K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

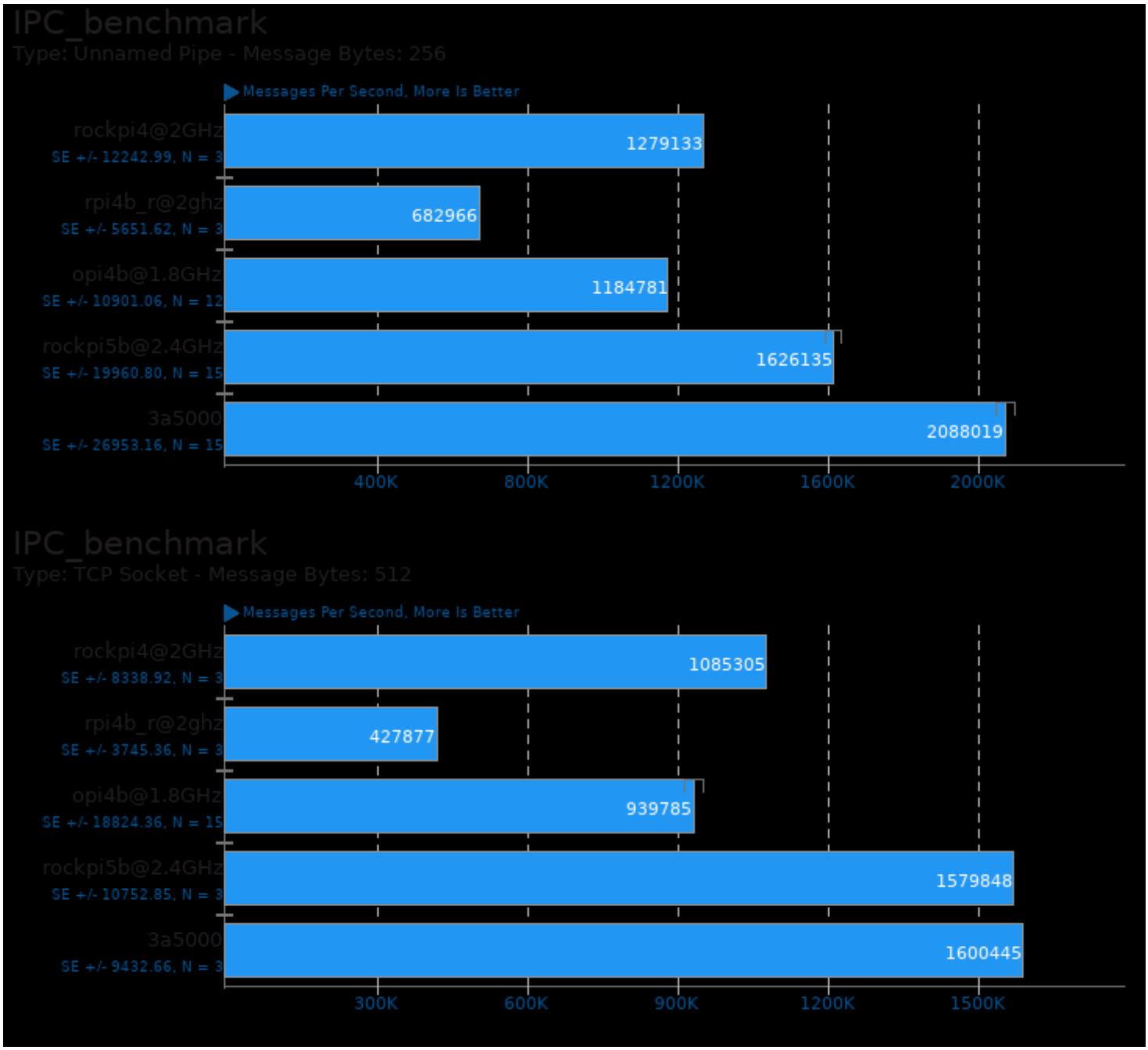

Stress-NG 0.13.02
Test: SENDFILE
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 280.63, N = 3
29023.94
rpi4b_r@2ghz
SE +/- 5.57, N = 3
-lz
16205.43
opi4b@1.8GHz
SE +/- 288.48, N = 3
-lbsd -lz
25822.32
rockpi5b@2.4GHz
SE +/- 12.72, N = 3
-lz
34183.85
3a5000
SE +/- 210.63, N = 3
-laio -lz
88555.05
20K
40K
60K
80K
100K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic
Stress-NG 0.13.02
Test: Atomic
Bogo Ops/s, More Is Better
rockpi4@2GHz
SE +/- 85.52, N = 3
68957.88
rpi4b_r@2ghz
SE +/- 68.72, N = 3
-lz
101834.35
opi4b@1.8GHz
SE +/- 201.11, N = 3
-lbsd -lz
64454.89
rockpi5b@2.4GHz
SE +/- 249.71, N = 3
-lz
124956.46
3a5000
SE +/- 20.23, N = 3
-laio -lz
168208.79
40K
80K
120K
160K
200K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

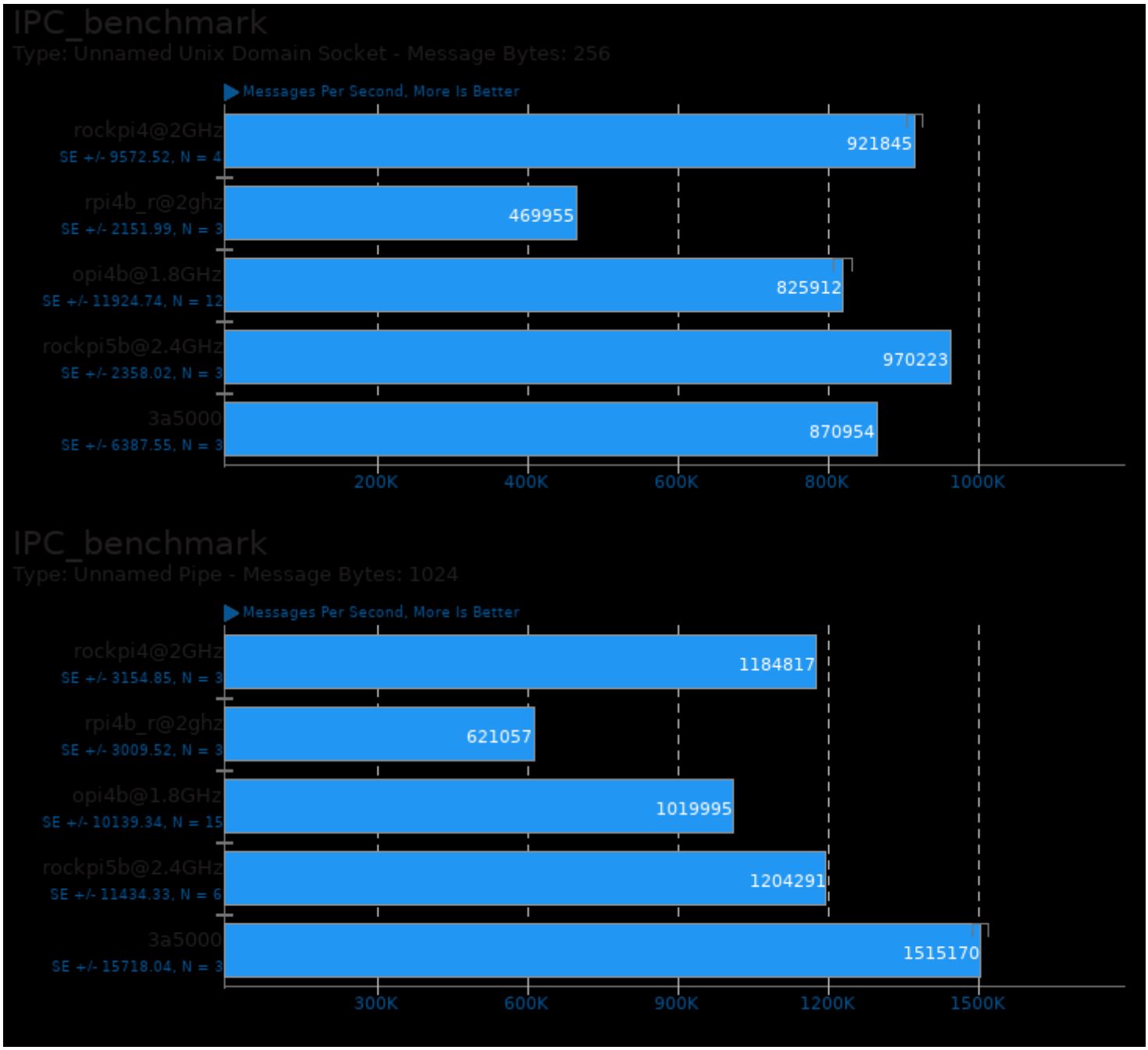

IPC_benchmark
Type: FIFO Named Pipe - Message Bytes: 512
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 11158.33, N = 15
1198549
rpi4b_r@2ghz
SE +/- 5084.80, N = 12
657047
opi4b@1.8GHz
SE +/- 5495.26, N = 3
1086984
rockpi5b@2.4GHz
SE +/- 12401.92, N = 15
1228152
3a5000
SE +/- 6133.76, N = 3
1713473
400K
800K
1200K
1600K
2000K
Stress-NG 0.13.02
Test: IO_uring
Bogo Ops/s, More Is Better
rockpi5b@2.4GHz
SE +/- 85.29, N = 5
8432.80
2K
4K
6K
8K
10K
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -pthread -lc -latomic
IPC_benchmark
Type: Unnamed Unix Domain Socket - Message Bytes: 1024
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 7821.86, N = 15
787023
rpi4b_r@2ghz
SE +/- 2050.26, N = 3
433128
opi4b@1.8GHz
SE +/- 8538.04, N = 4
730492
rockpi5b@2.4GHz
SE +/- 3902.79, N = 3
888559
3a5000
SE +/- 7170.60, N = 3
822909
200K
400K
600K
800K
1000K

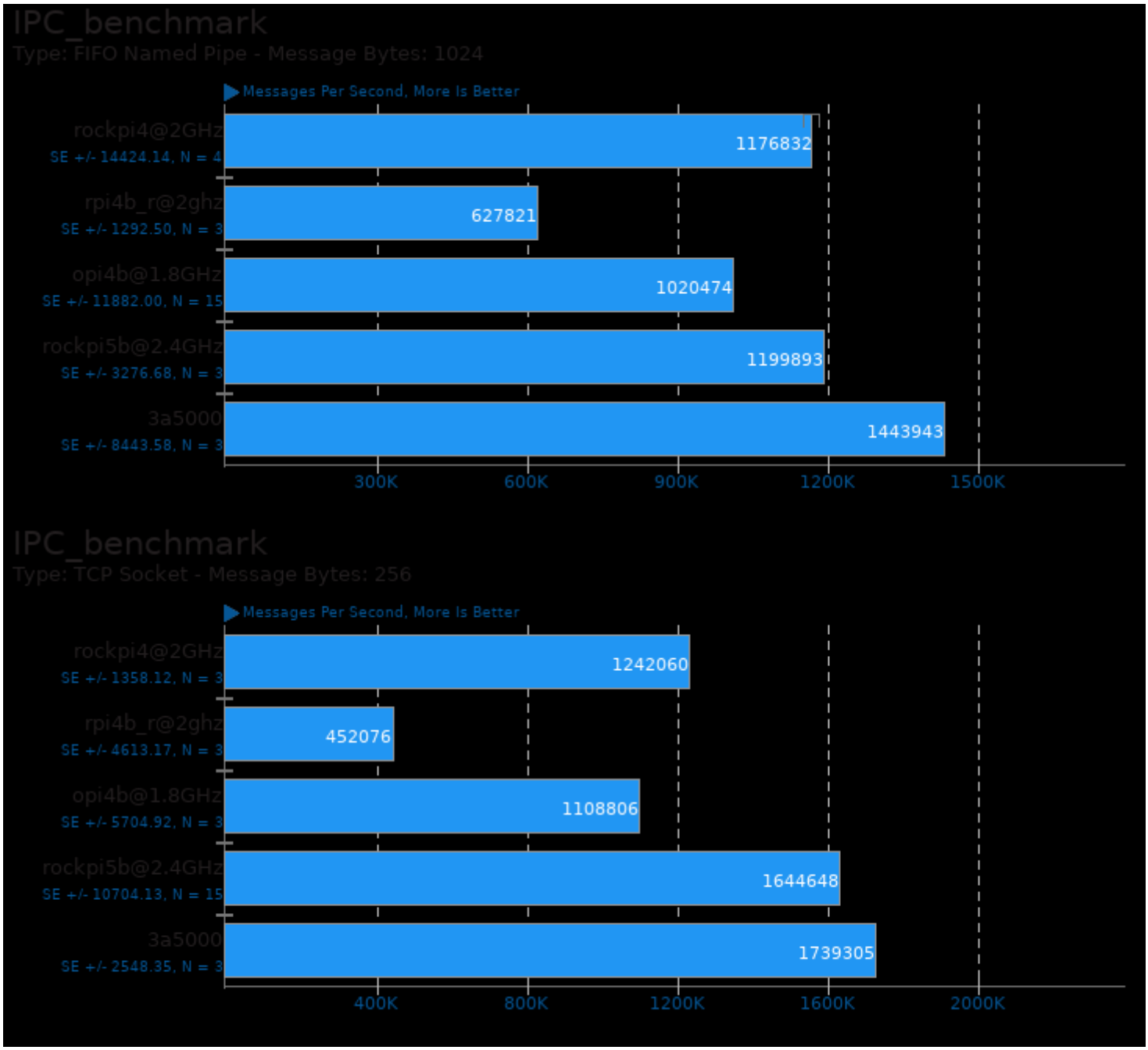

IPC_benchmark
Type: Unnamed Unix Domain Socket - Message Bytes: 512
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 12446.99, N = 3
887585
rpi4b_r@2ghz
SE +/- 4791.92, N = 3
461486
opi4b@1.8GHz
SE +/- 6167.97, N = 15
785009
rockpi5b@2.4GHz
SE +/- 1143.86, N = 3
975420
3a5000
SE +/- 6134.61, N = 3
866457
200K
400K
600K
800K
1000K
IPC_benchmark
Type: Unnamed Pipe - Message Bytes: 128
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 22460.31, N = 12
1319651
rpi4b_r@2ghz
SE +/- 4166.60, N = 3
683713
opi4b@1.8GHz
SE +/- 12247.81, N = 15
1178427
rockpi5b@2.4GHz
SE +/- 22327.30, N = 15
2256501
3a5000
SE +/- 7201.33, N = 3
2264567
500K
1000K
1500K
2000K
2500K

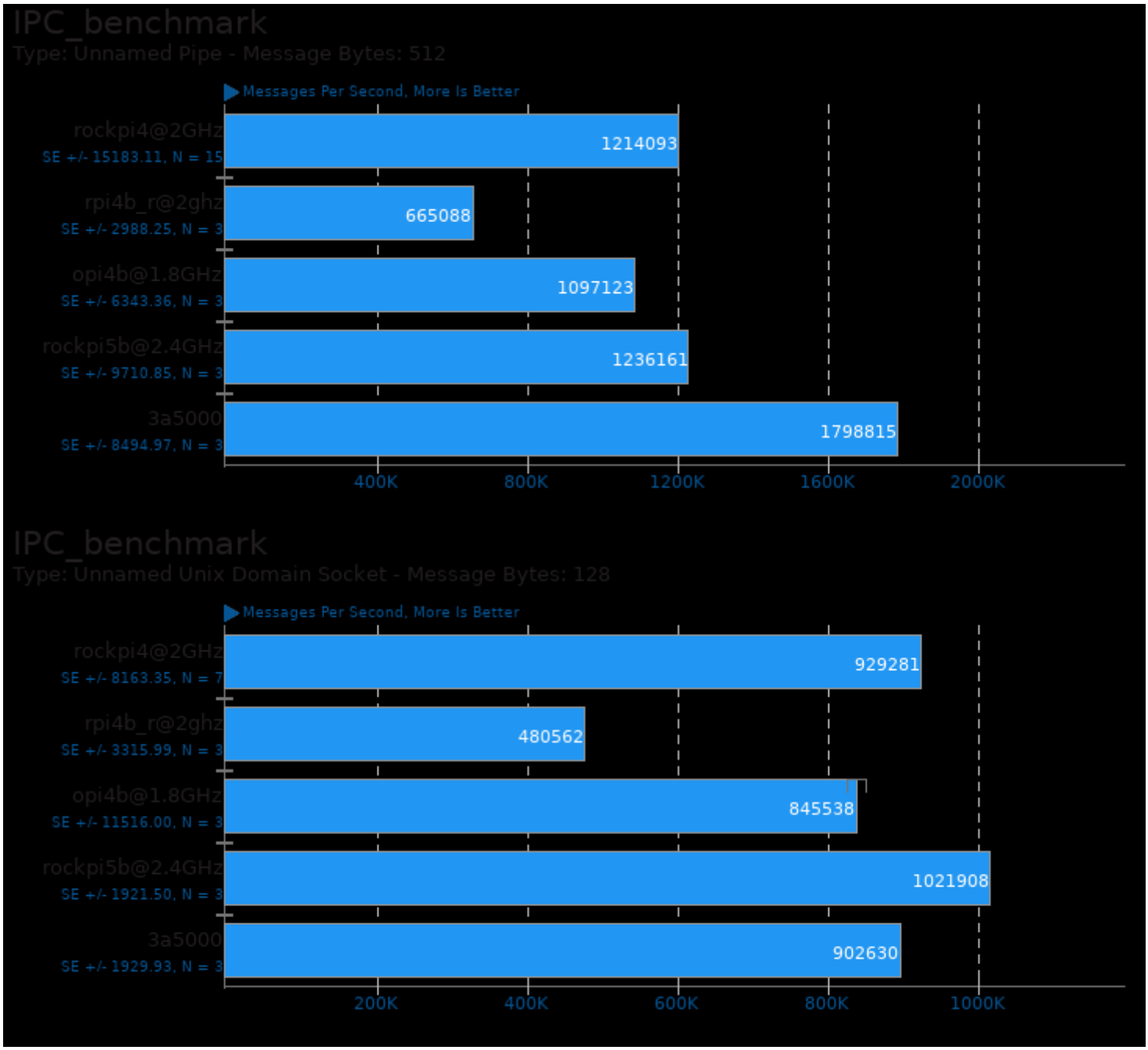

OpenSSL
verify/s, More Is Better
rockpi4@2GHz
SE +/- 6.31, N = 3
9907.8
rpi4b_r@2ghz
SE +/- 0.33, N = 3
8682.0
opi4b@1.8GHz
SE +/- 4.74, N = 3
9030.4
rockpi5b@2.4GHz
SE +/- 0.49, N = 3
17120.9
3a5000
SE +/- 29.92, N = 3
15349.4
4K
8K
12K
16K
20K
1. rockpi4@2GHz: OpenSSL 1.1.1d 10 Sep 2019
2. rpi4b_r@2ghz: OpenSSL 1.1.1d 10 Sep 2019
3. opi4b@1.8GHz: OpenSSL 1.1.1 11 Sep 2018
4. rockpi5b@2.4GHz: OpenSSL 1.1.1n 15 Mar 2022
5. 3a5000: OpenSSL 1.1.1d 10 Sep 2019

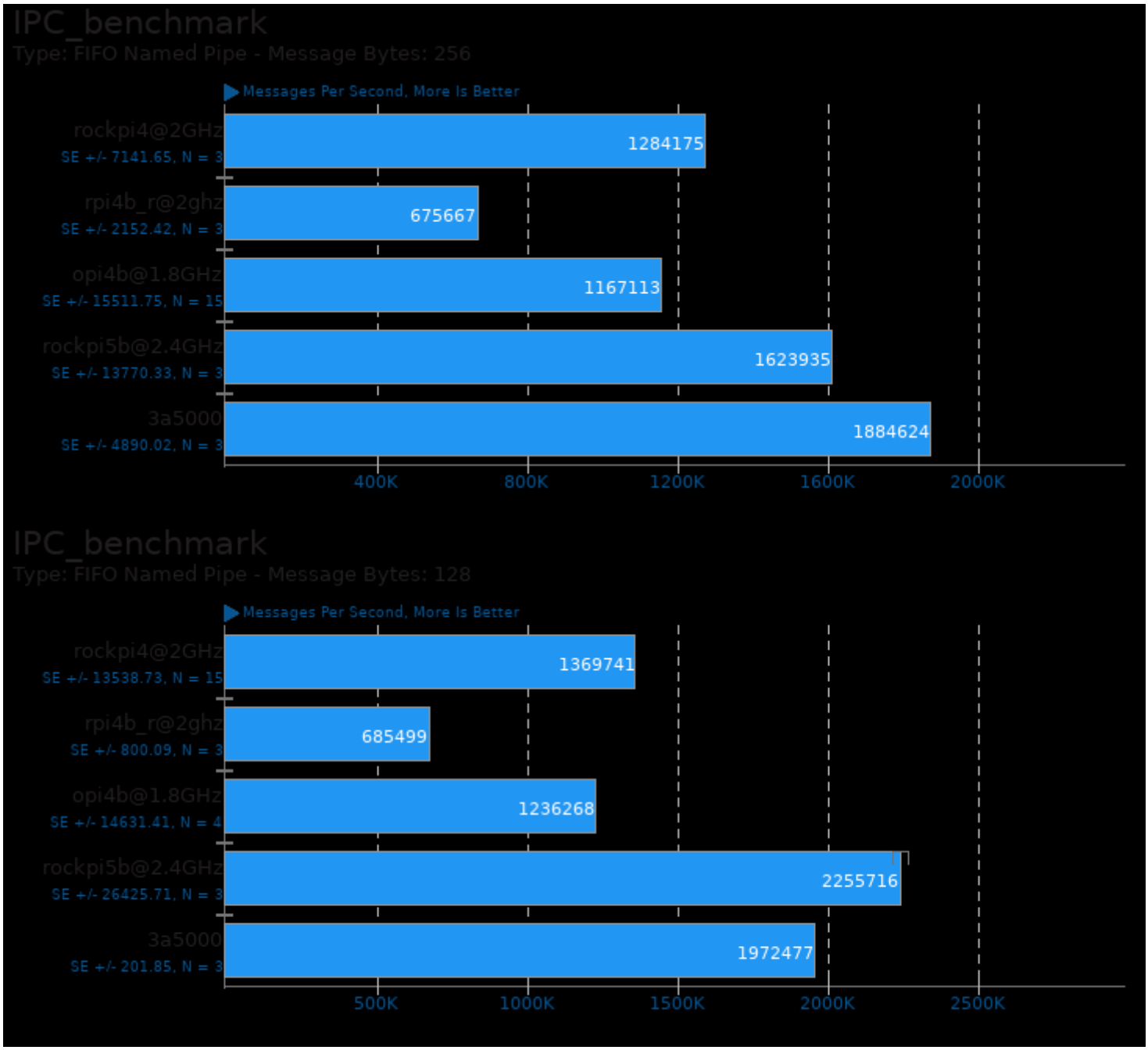
OpenSSL
sign/s, More Is Better
rockpi4@2GHz
SE +/- 0.03, N = 3
145.3
rpi4b_r@2ghz
SE +/- 0.28, N = 3
127.2
opi4b@1.8GHz
SE +/- 0.09, N = 3
133.1
rockpi5b@2.4GHz
SE +/- 0.03, N = 3
256.1
3a5000
SE +/- 1.04, N = 3
206.7
60
120
180
240
300
1. rockpi4@2GHz: OpenSSL 1.1.1d 10 Sep 2019
2. rpi4b_r@2ghz: OpenSSL 1.1.1d 10 Sep 2019
3. opi4b@1.8GHz: OpenSSL 1.1.1 11 Sep 2018
4. rockpi5b@2.4GHz: OpenSSL 1.1.1n 15 Mar 2022
5. 3a5000: OpenSSL 1.1.1d 10 Sep 2019

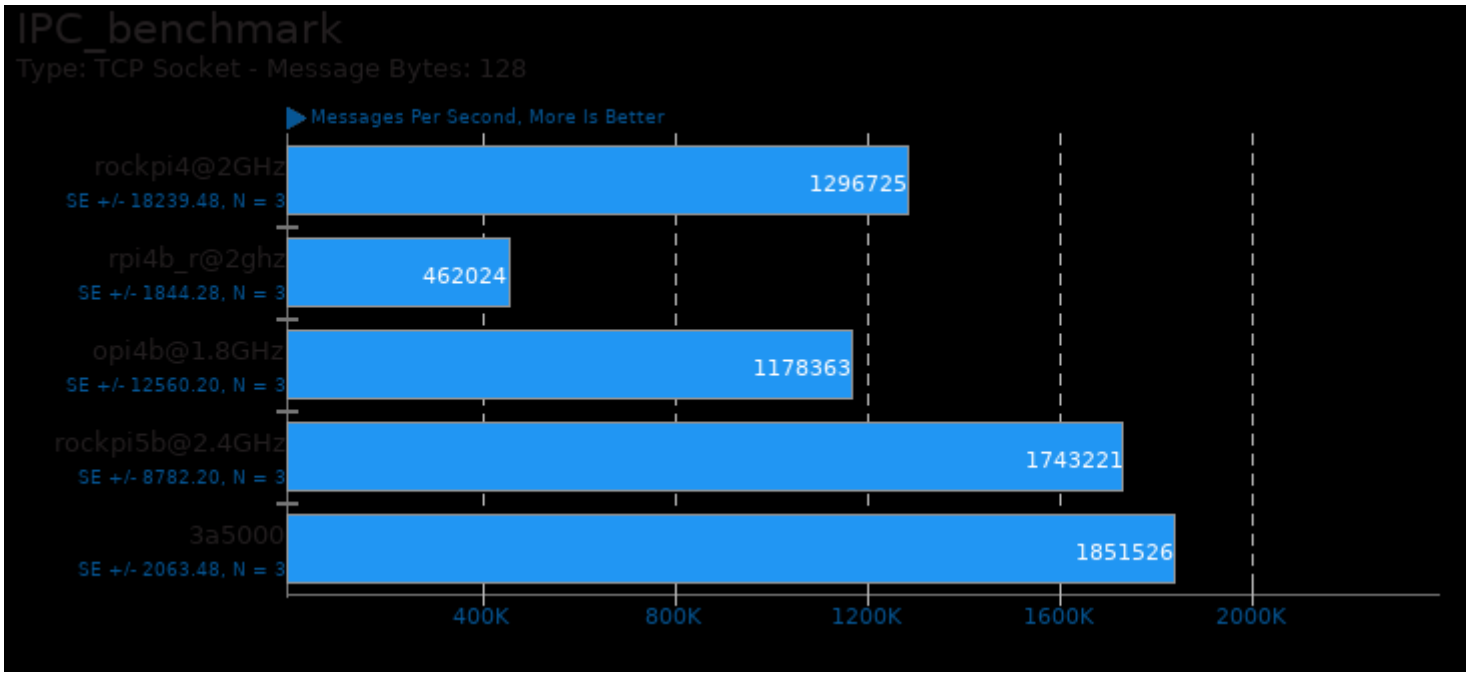

IPC_benchmark
Type: Unnamed Pipe - Message Bytes: 256
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 12242.99, N = 3
1279133
rpi4b_r@2ghz
SE +/- 5651.62, N = 3
682966
opi4b@1.8GHz
SE +/- 10901.06, N = 12
1184781
rockpi5b@2.4GHz
SE +/- 19960.80, N = 15
1626135
3a5000
SE +/- 26953.16, N = 15
2088019
400K
800K
1200K
1600K
2000K
IPC_benchmark
Type: TCP Socket - Message Bytes: 512
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 8338.92, N = 3
1085305
rpi4b_r@2ghz
SE +/- 3745.36, N = 3
427877
opi4b@1.8GHz
SE +/- 18824.36, N = 15
939785
rockpi5b@2.4GHz
SE +/- 10752.85, N = 3
1579848
3a5000
SE +/- 9432.66, N = 3
1600445
300K
600K
900K
1200K
1500K


IPC_benchmark
Type: Unnamed Unix Domain Socket - Message Bytes: 256
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 9572.52, N = 4
921845
rpi4b_r@2ghz
SE +/- 2151.99, N = 3
469955
opi4b@1.8GHz
SE +/- 11924.74, N = 12
825912
rockpi5b@2.4GHz
SE +/- 2358.02, N = 3
970223
3a5000
SE +/- 6387.55, N = 3
870954
200K
400K
600K
800K
1000K
IPC_benchmark
Type: Unnamed Pipe - Message Bytes: 1024
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 3154.85, N = 3
1184817
rpi4b_r@2ghz
SE +/- 3009.52, N = 3
621057
opi4b@1.8GHz
SE +/- 10139.34, N = 15
1019995
rockpi5b@2.4GHz
SE +/- 11434.33, N = 6
1204291
3a5000
SE +/- 15718.04, N = 3
1515170
300K
600K
900K
1200K
1500K

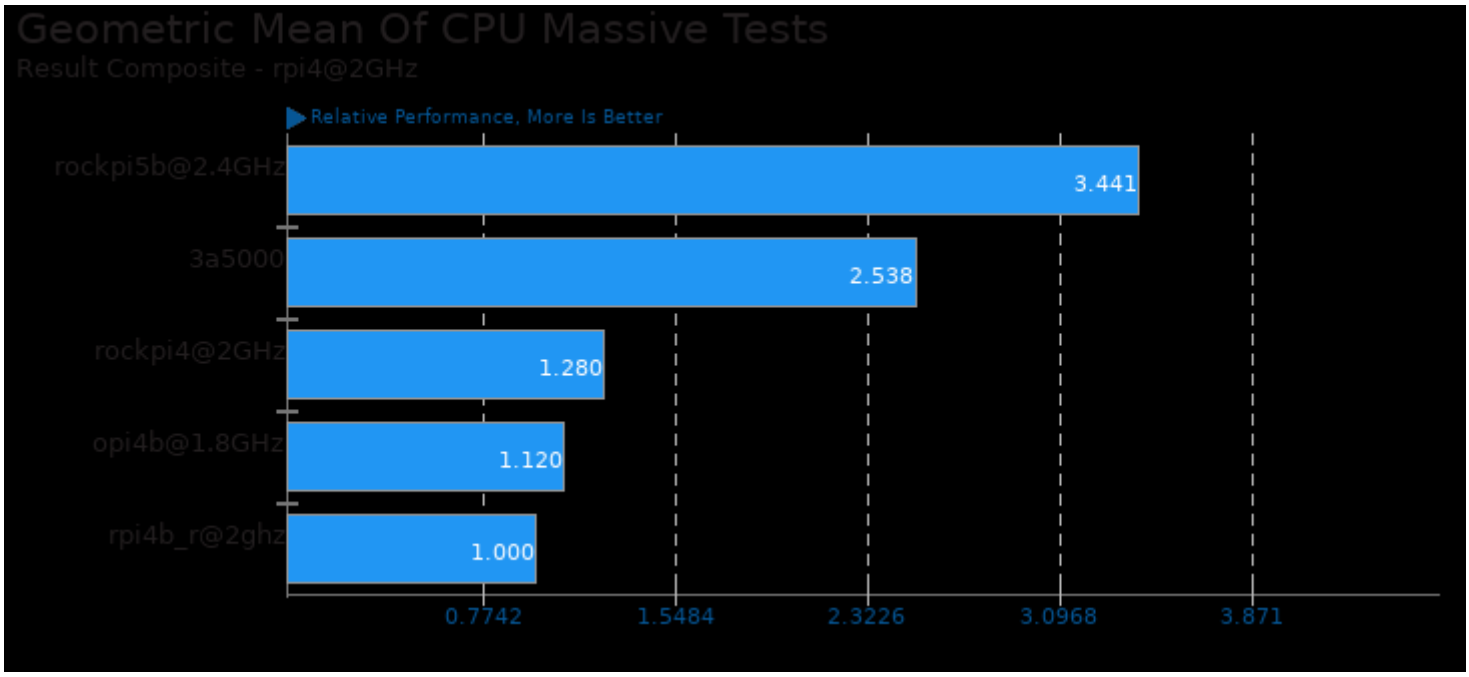

IPC_benchmark
Type: FIFO Named Pipe - Message Bytes: 1024
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 14424.14, N = 4
1176832
rpi4b_r@2ghz
SE +/- 1292.50, N = 3
627821
opi4b@1.8GHz
SE +/- 11882.00, N = 15
1020474
rockpi5b@2.4GHz
SE +/- 3276.68, N = 3
1199893
3a5000
SE +/- 8443.58, N = 3
1443943
300K
600K
900K
1200K
1500K
IPC_benchmark
Type: TCP Socket - Message Bytes: 256
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 1358.12, N = 3
1242060
rpi4b_r@2ghz
SE +/- 4613.17, N = 3
452076
opi4b@1.8GHz
SE +/- 5704.92, N = 3
1108806
rockpi5b@2.4GHz
SE +/- 10704.13, N = 15
1644648
3a5000
SE +/- 2548.35, N = 3
1739305
400K
800K
1200K
1600K
2000K


IPC_benchmark
Type: Unnamed Pipe - Message Bytes: 512
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 15183.11, N = 15
1214093
rpi4b_r@2ghz
SE +/- 2988.25, N = 3
665088
opi4b@1.8GHz
SE +/- 6343.36, N = 3
1097123
rockpi5b@2.4GHz
SE +/- 9710.85, N = 3
1236161
3a5000
SE +/- 8494.97, N = 3
1798815
400K
800K
1200K
1600K
2000K
IPC_benchmark
Type: Unnamed Unix Domain Socket - Message Bytes: 128
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 8163.35, N = 7
929281
rpi4b_r@2ghz
SE +/- 3315.99, N = 3
480562
opi4b@1.8GHz
SE +/- 11516.00, N = 3
845538
rockpi5b@2.4GHz
SE +/- 1921.50, N = 3
1021908
3a5000
SE +/- 1929.93, N = 3
902630
200K
400K
600K
800K
1000K

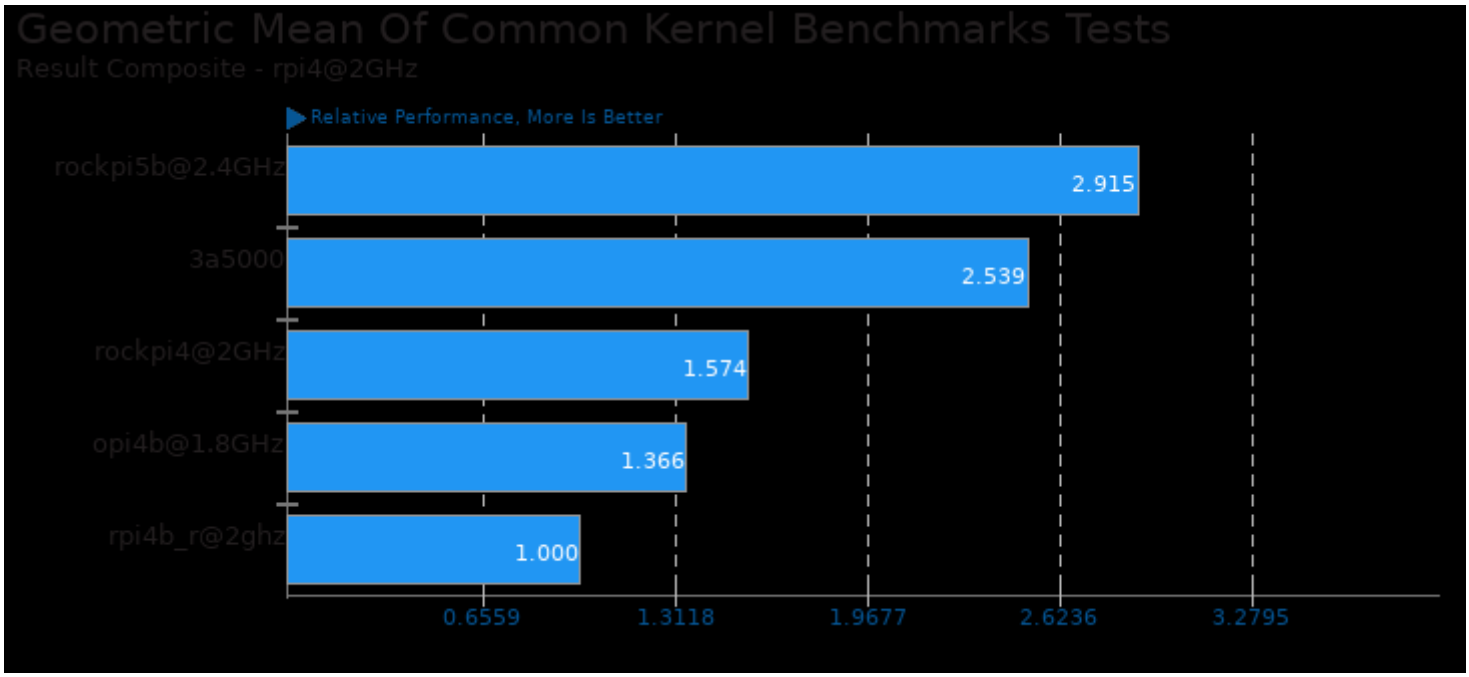

IPC_benchmark
Type: FIFO Named Pipe - Message Bytes: 256
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 7141.65, N = 3
1284175
rpi4b_r@2ghz
SE +/- 2152.42, N = 3
675667
opi4b@1.8GHz
SE +/- 15511.75, N = 15
1167113
rockpi5b@2.4GHz
SE +/- 13770.33, N = 3
1623935
3a5000
SE +/- 4890.02, N = 3
1884624
400K
800K
1200K
1600K
2000K
IPC_benchmark
Type: FIFO Named Pipe - Message Bytes: 128
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 13538.73, N = 15
1369741
rpi4b_r@2ghz
SE +/- 800.09, N = 3
685499
opi4b@1.8GHz
SE +/- 14631.41, N = 4
1236268
rockpi5b@2.4GHz
SE +/- 26425.71, N = 3
2255716
3a5000
SE +/- 201.85, N = 3
1972477
500K
1000K
1500K
2000K
2500K


IPC_benchmark
Type: TCP Socket - Message Bytes: 128
Messages Per Second, More Is Better
rockpi4@2GHz
SE +/- 18239.48, N = 3
1296725
rpi4b_r@2ghz
SE +/- 1844.28, N = 3
462024
opi4b@1.8GHz
SE +/- 12560.20, N = 3
1178363
rockpi5b@2.4GHz
SE +/- 8782.20, N = 3
1743221
3a5000
SE +/- 2063.48, N = 3
1851526
400K
800K
1200K
1600K
2000K

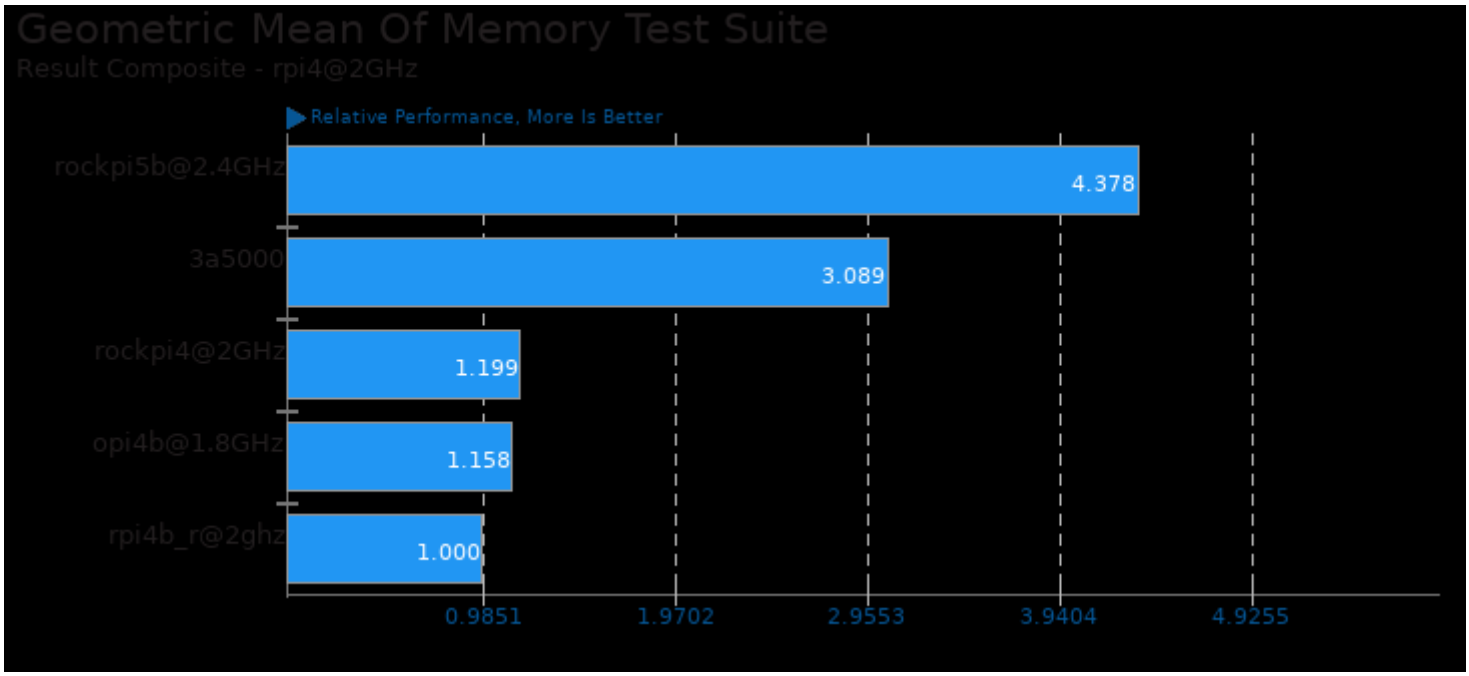
These geometric means are based upon test groupings / test suites for this result file.



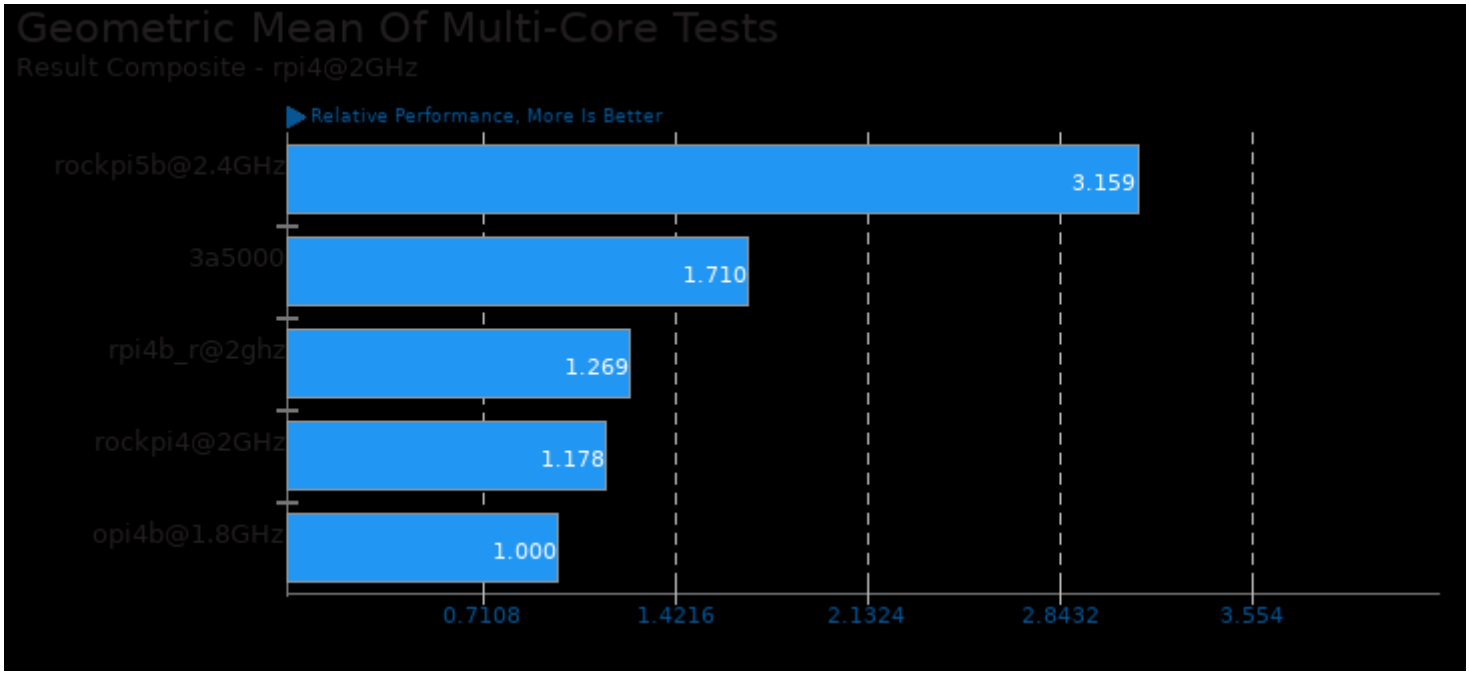
Geometric mean based upon tests: pts/cachebench, pts/compress-7zip, pts/hackbench, pts/ramspeed and pts/stress-ng



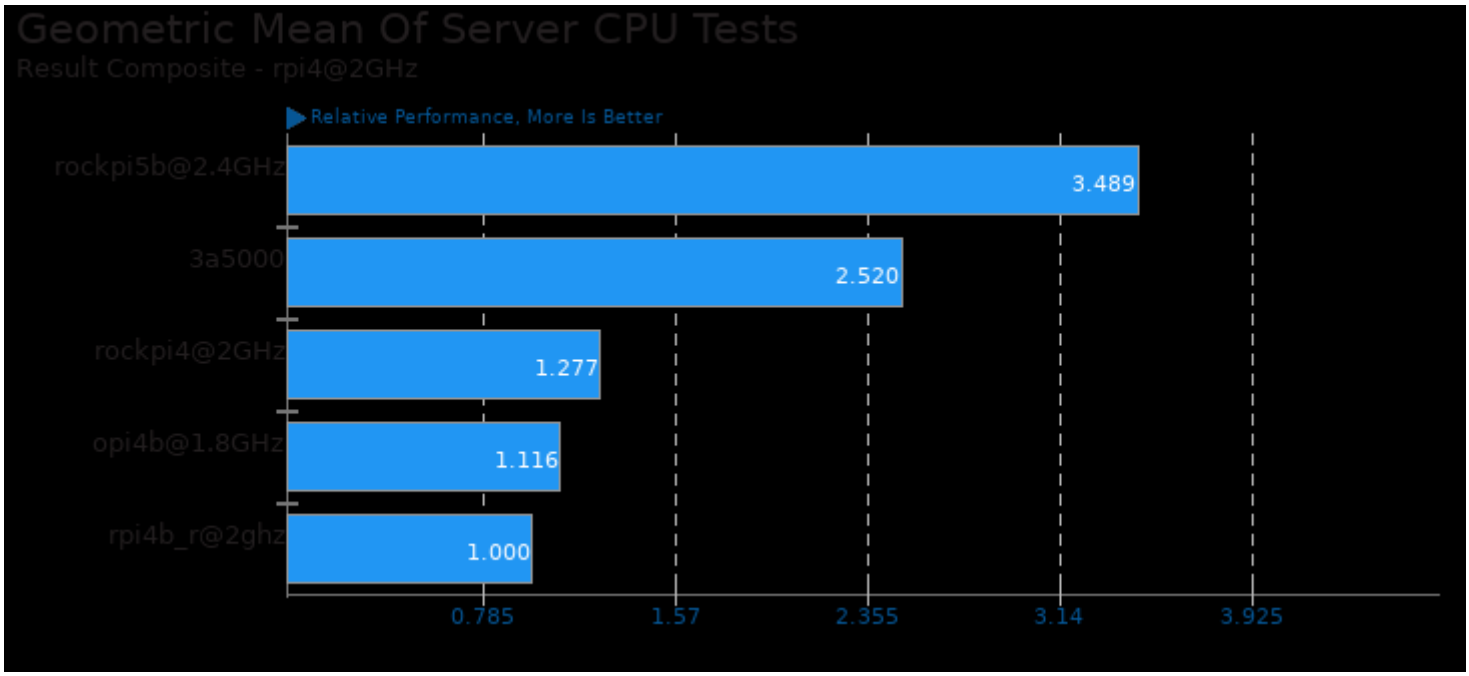
Geometric mean based upon tests: pts/hackbench, pts/ipc-benchmark and pts/stress-ng



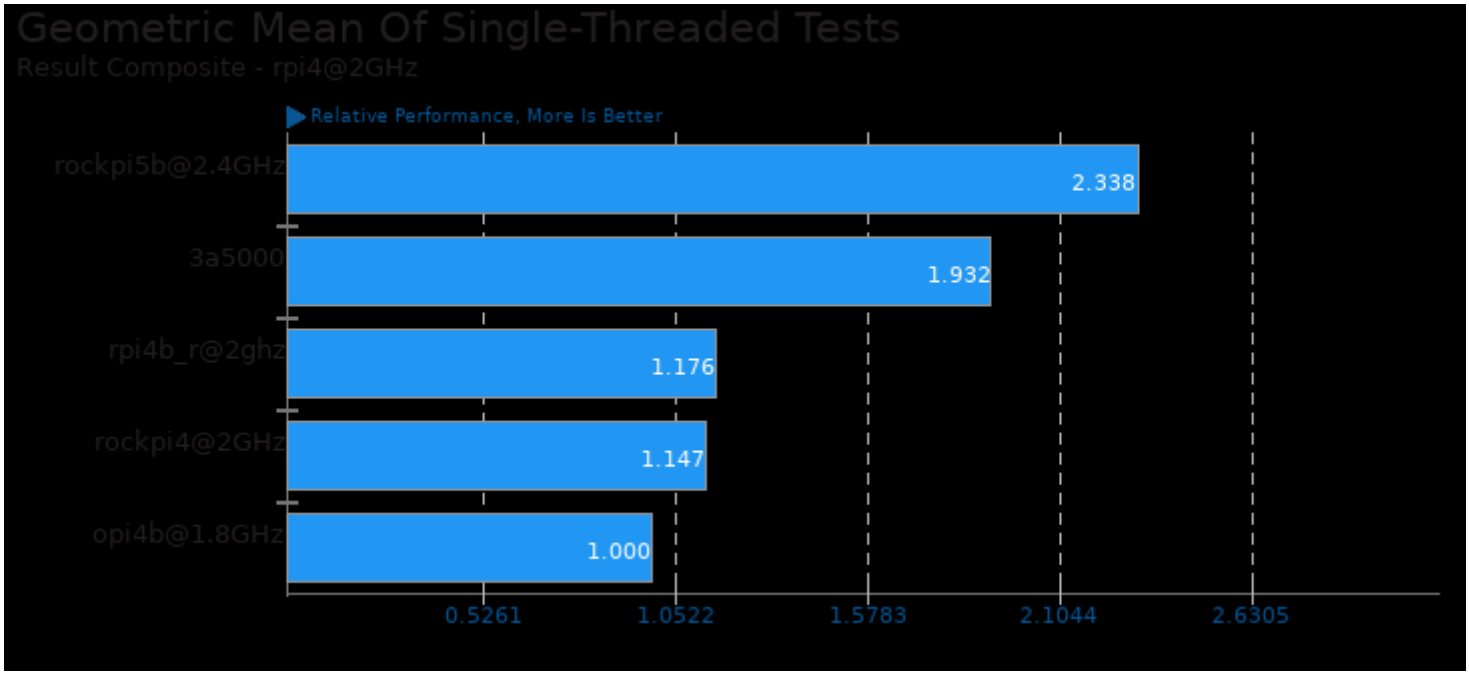
Geometric mean based upon tests: pts/ramspeed and pts/cachebench



Geometric mean based upon tests: pts/coremark, pts/smallpt and pts/compress-7zip



Geometric mean based upon tests: pts/compress-7zip, pts/hackbench, pts/stress-ng, pts/pybench and pts/ramspeed



Geometric mean based upon tests: pts/cachebench and pts/pybench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 16:59.