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# 3600_oc

A Processor comparison via the Phoronix Test Suite.

**Automated Executive Summary**

*final2 had the most wins, coming in first place for 89% of the tests.*

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

*Timed Linux Kernel Compilation (Time To Compile) at 1.099x*
*asmFish (1024 Hash Memory, 26 Depth) at 1.082x*
*FFTW (Build: Stock - Size: 2D FFT Size 4096) at 1.075x*
*C-Ray (Total Time - 4K, 16 Rays Per Pixel) at 1.075x*
*FFTW (Build: Stock - Size: 2D FFT Size 32) at 1.055x*
*FFTW (Build: Stock - Size: 2D FFT Size 512) at 1.048x*
*FFTW (Build: Stock - Size: 1D FFT Size 512) at 1.046x*
*FFTW (Build: Stock - Size: 1D FFT Size 1024) at 1.043x*
*FFTW (Build: Stock - Size: 2D FFT Size 64) at 1.042x*
*FFTW (Build: Stock - Size: 1D FFT Size 32) at 1.042x.*

# Test Systems:

## stock

Processor: AMD Ryzen 5 3600 6-Core @ 3.60GHz (12 Cores), Motherboard: ASUS PRIME X570-P, Chipset: AMD Device 1480, Memory: 32768MB, Disk: 915GB, Graphics: AMD Radeon VII (VEGA20 DRM 3.41.0 5.8.5-050805-generic LLVM 10.0.0), Audio: AMD Device ab20, Monitor: HP LE1901w + VE228, Network: Realtek RTL8111/8168/8411

OS: LinuxMint 19.3, Kernel: 5.8.5-050805-generic (x86_64), Desktop: Xfce 4.14, Display Driver: radeon 19.1.0, OpenGL: 4.6 Mesa 20.0.8, Compiler: Clang 6.0.0-1ubuntu2, File-System: ext4, Screen Resolution: 3360x1080

Kernel Notes: amdgpu.ppfeaturemask=0xfffd7fff amdgpu.vm_block_size=10 amdgpu.vm_size=1024
Compiler Notes: --build=x86_64-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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand

## 4.3_sanity

Processor: AMD Ryzen 5 3600 6-Core @ 4.30GHz (12 Cores), Motherboard: ASUS PRIME X570-P, Chipset: AMD Device 1480, Memory: 32768MB, Disk: 915GB, Graphics: AMD Radeon VII (VEGA20 DRM 3.41.0 5.8.5-050805-generic LLVM 10.0.0), Audio: AMD Device ab20, Monitor: HP LE1901w + VE228, Network: Realtek RTL8111/8168/8411

OS: LinuxMint 19.3, Kernel: 5.8.5-050805-generic (x86_64), Desktop: Xfce 4.14, Display Driver: radeon 19.1.0, OpenGL: 4.6 Mesa 20.0.8, Compiler: Clang 6.0.0-1ubuntu2, File-System: ext4, Screen Resolution: 3360x1080

Kernel Notes: amdgpu.ppfeaturemask=0xfffd7fff amdgpu.vm_block_size=10 amdgpu.vm_size=1024
Processor Notes: Scaling Governor: acpi-cpufreq performance

## final

Processor: AMD Ryzen 5 3600 6-Core @ 2.80GHz (12 Cores), Motherboard: ASUS PRIME X570-P, Chipset: AMD Device 1480, Memory: 32768MB, Disk: 915GB, Graphics: AMD Radeon VII (VEGA20 DRM 3.41.0 5.8.5-050805-generic LLVM 10.0.0), Audio: AMD Device ab20, Monitor: HP LE1901w + VE228, Network: Realtek RTL8111/8168/8411

OS: LinuxMint 19.3, Kernel: 5.8.5-050805-generic (x86_64), Desktop: Xfce 4.14, Display Driver: radeon 19.1.0, OpenGL: 4.6 Mesa 20.0.8, Compiler: Clang 6.0.0-1ubuntu2, File-System: ext4, Screen Resolution: 3360x1080

Kernel Notes: amdgpu.ppfeaturemask=0xfffd7fff amdgpu.vm_block_size=10 amdgpu.vm_size=1024
Compiler Notes: --build=x86_64-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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq performance

## final2

Processor: AMD Ryzen 5 3600 6-Core @ 4.35GHz (12 Cores), Motherboard: ASUS PRIME X570-P, Chipset: AMD Device 1480, Memory: 32768MB, Disk: 915GB, Graphics: AMD Radeon VII (VEGA20 DRM 3.41.0 5.8.5-050805-generic LLVM 10.0.0), Audio: AMD Device ab20, Monitor: HP LE1901w + VE228, Network: Realtek RTL8111/8168/8411

OS: LinuxMint 19.3, Kernel: 5.8.5-050805-generic (x86_64), Desktop: Xfce 4.14, Display Driver: radeon 19.1.0, OpenGL: 4.6 Mesa 20.0.8, Compiler: Clang 6.0.0-1ubuntu2, File-System: ext4, Screen Resolution: 3360x1080

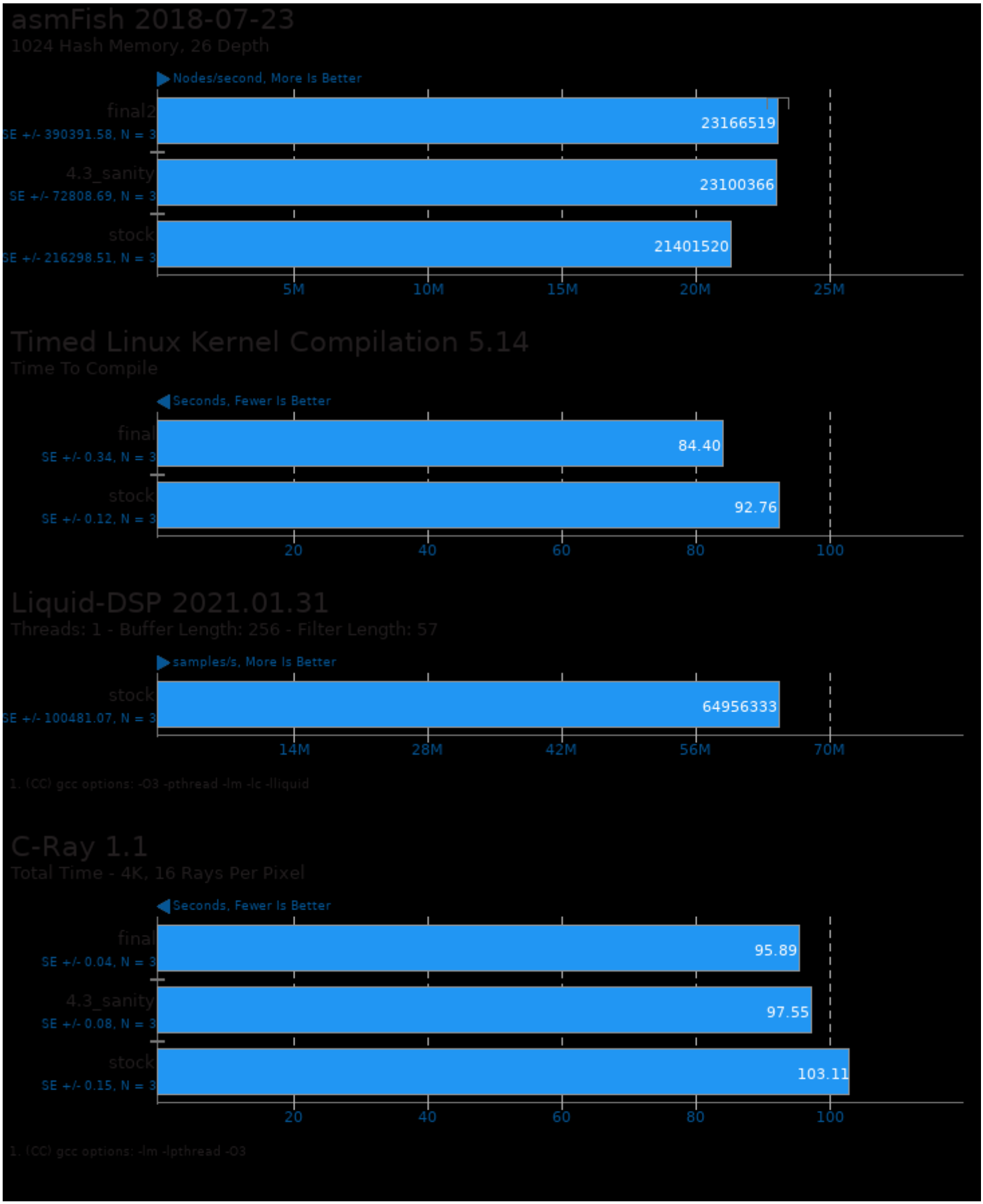
# 3600_oc

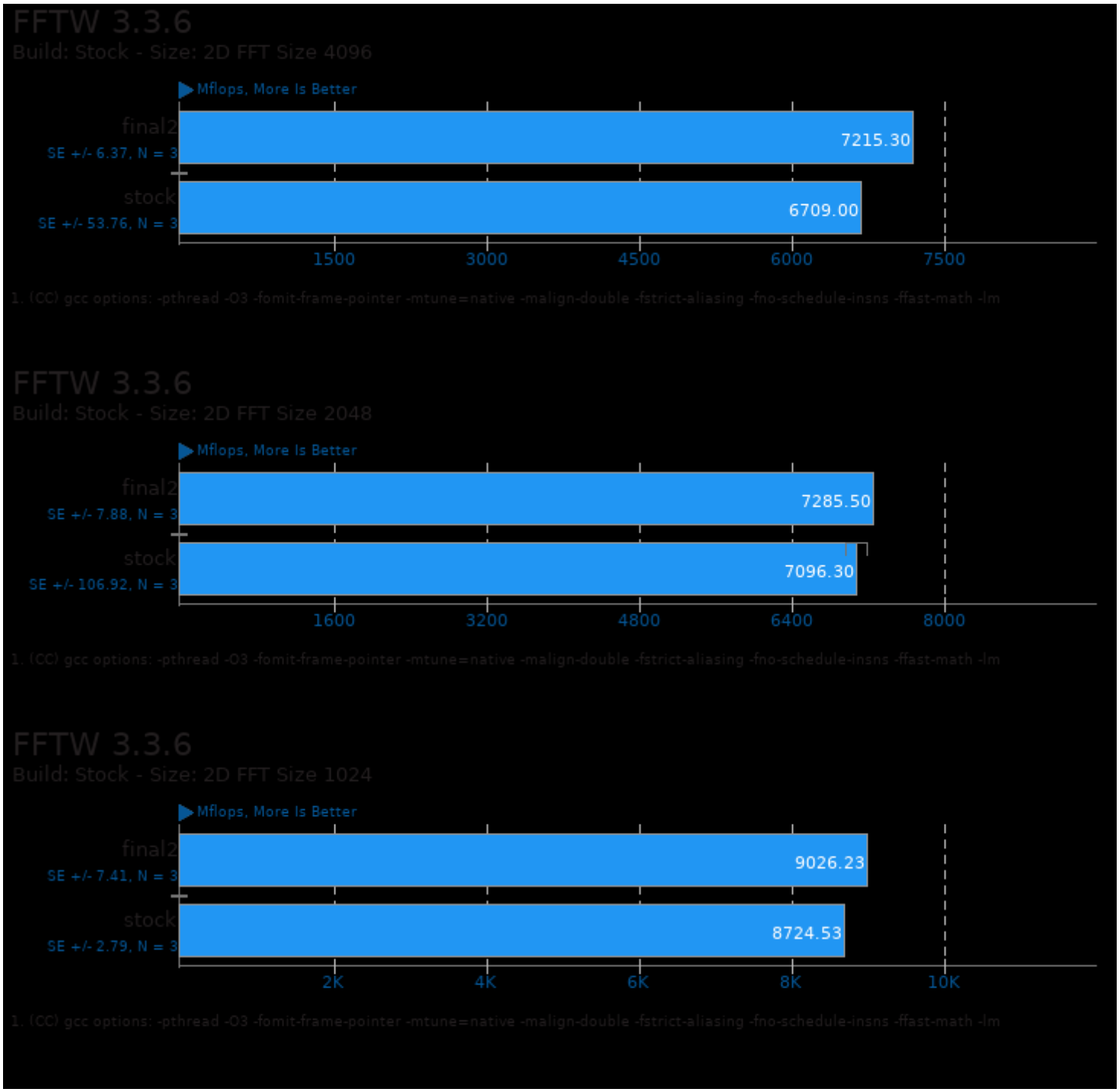
Kernel Notes: amdgpu.ppfeaturemask=0xfffd7fff amdgpu.vm_block_size=10 amdgpu.vm_size=1024
Processor Notes: Scaling Governor: acpi-cpufreq performance

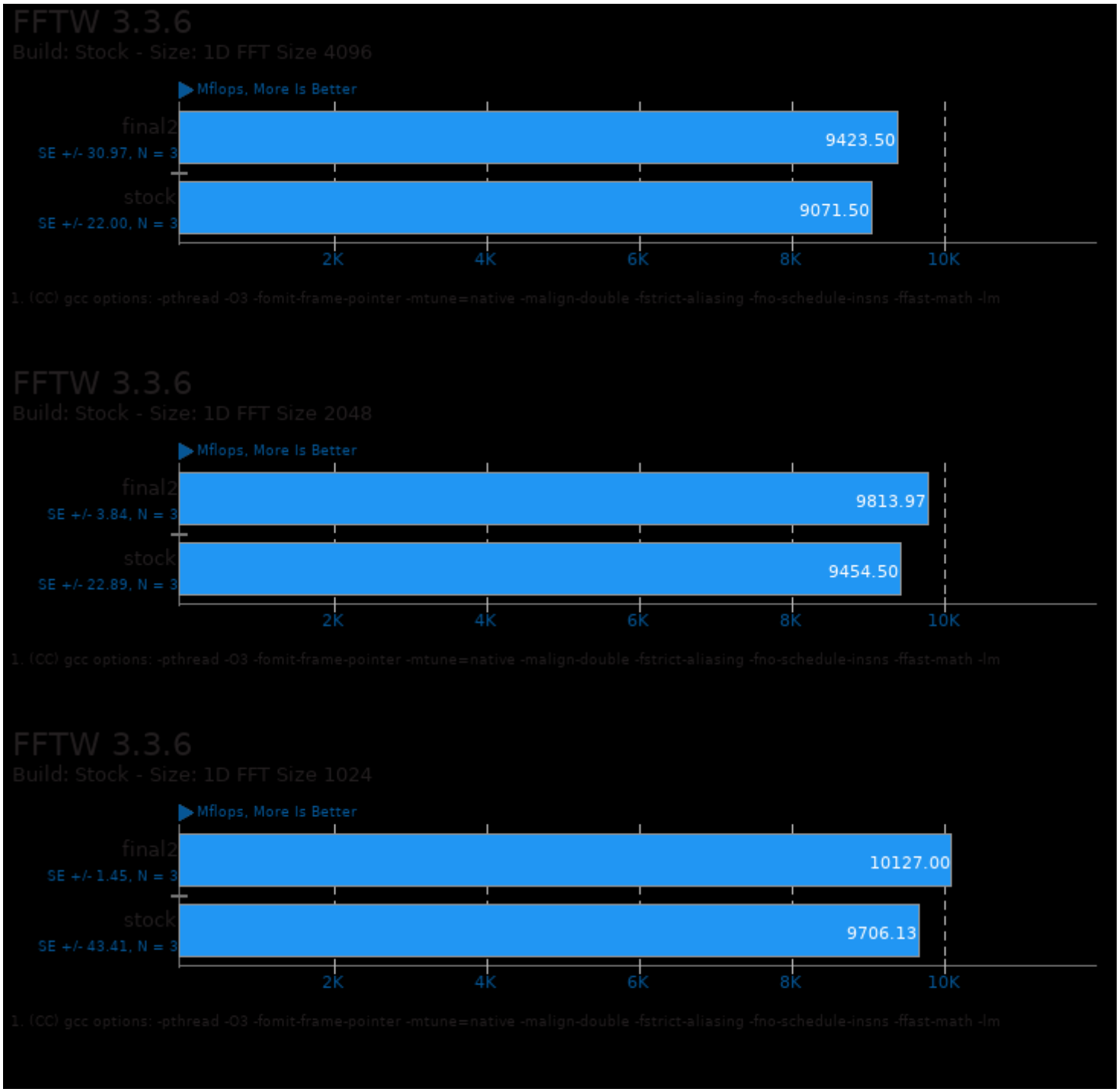
| | stock | 4.3_sanity | final | final2 |
|---|---|---|---|---|
| **asmFish - 1.H.M.2.D (Nodes/s)** | 21401520 | 23100366 | | 23166519 |
| **Normalized** | 92.38% | 99.71% | | 100% |
| **Standard Deviation** | 1.8% | 0.5% | | 2.9% |
| **Timed Linux Kernel Compilation - Time To Compile (sec)** | 92.76 | | 84.40 | |
| **Normalized** | 90.99% | | 100% | |
| **Standard Deviation** | 0.2% | | 0.7% | |
| **Liquid-DSP - 1 - 256 - 57 (samples/s)** | 64956333 | | | |
| **Standard Deviation** | 0.3% | | | |
| **C-Ray - Total Time - 4.1.R.P.P (sec)** | 103.11 | 97.55 | 95.89 | |
| **Normalized** | 93% | 98.3% | 100% | |
| **Standard Deviation** | 0.3% | 0.2% | 0.1% | |
| **FFTW - Stock - 2D FFT Size 4096 (Mflops)** | 6709 | | | 7215 |
| **Normalized** | 92.98% | | | 100% |
| **Standard Deviation** | 1.4% | | | 0.2% |
| **FFTW - Stock - 2D FFT Size 2048 (Mflops)** | 7096 | | | 7286 |
| **Normalized** | 97.4% | | | 100% |
| **Standard Deviation** | 2.6% | | | 0.2% |
| **FFTW - Stock - 2D FFT Size 1024 (Mflops)** | 8725 | | | 9026 |
| **Normalized** | 96.66% | | | 100% |
| **Standard Deviation** | 0.1% | | | 0.1% |
| **FFTW - Stock - 1D FFT Size 4096 (Mflops)** | 9072 | | | 9424 |
| **Normalized** | 96.26% | | | 100% |
| **Standard Deviation** | 0.4% | | | 0.6% |
| **FFTW - Stock - 1D FFT Size 2048 (Mflops)** | 9455 | | | 9814 |
| **Normalized** | 96.34% | | | 100% |
| **Standard Deviation** | 0.4% | | | 0.1% |
| **FFTW - Stock - 1D FFT Size 1024 (Mflops)** | 9706 | | | 10127 |
| **Normalized** | 95.84% | | | 100% |
| **Standard Deviation** | 0.8% | | | 0% |
| **FFTW - Stock - 2D FFT Size 512 (Mflops)** | 8977 | | | 9410 |
| **Normalized** | 95.4% | | | 100% |
| **Standard Deviation** | 1.1% | | | 0.1% |
| **FFTW - Stock - 2D FFT Size 256 (Mflops)** | 9060 | | | 9412 |
| **Normalized** | 96.27% | | | 100% |
| **Standard Deviation** | 0.3% | | | 0.2% |

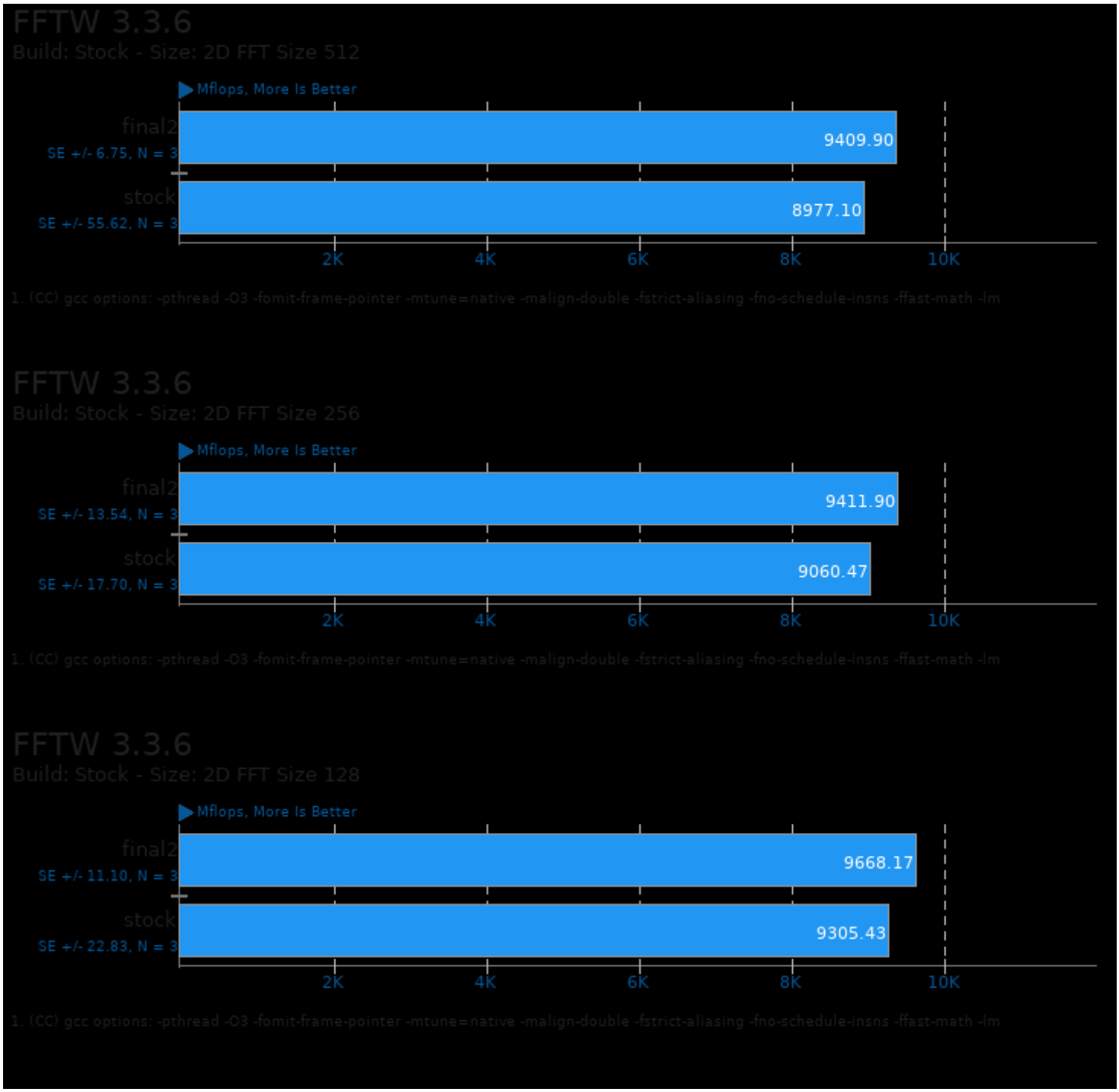
# 3600_oc

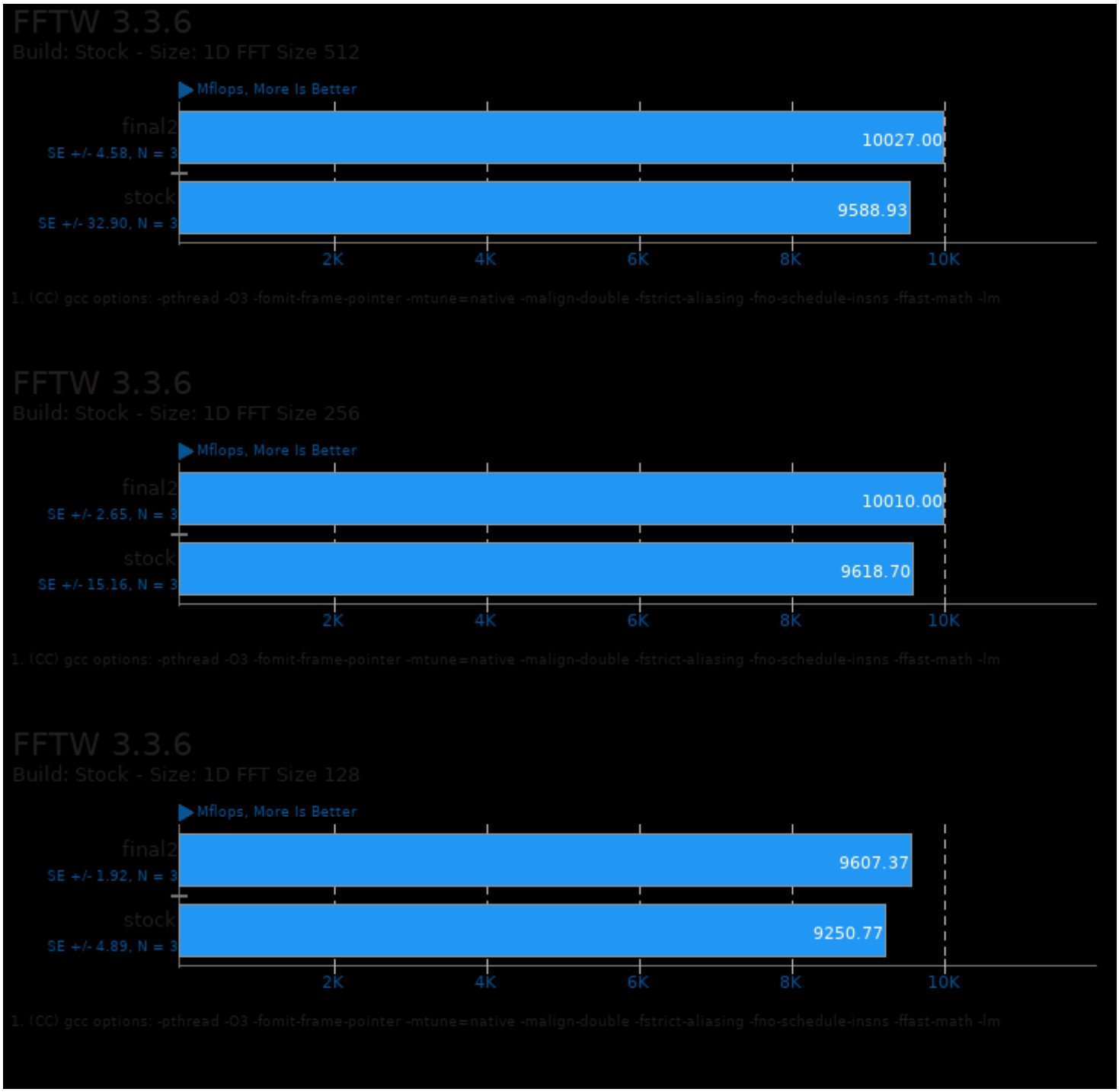
| | | |
|---|---|---|
| **FFTW - Stock - 2D FFT Size 128 (Mflops)** | **9305** | **9668** |
| **Normalized** | 96.25% | 100% |
| **Standard Deviation** | 0.4% | 0.2% |
| **FFTW - Stock - 1D FFT Size 512 (Mflops)** | **9589** | **10027** |
| **Normalized** | 95.63% | 100% |
| **Standard Deviation** | 0.6% | 0.1% |
| **FFTW - Stock - 1D FFT Size 256 (Mflops)** | **9619** | **10010** |
| **Normalized** | 96.09% | 100% |
| **Standard Deviation** | 0.3% | 0% |
| **FFTW - Stock - 1D FFT Size 128 (Mflops)** | **9251** | **9607** |
| **Normalized** | 96.29% | 100% |
| **Standard Deviation** | 0.1% | 0% |
| **FFTW - Stock - 2D FFT Size 64** | **11040** | **11503** |
| **Normalized** | 95.97% | 100% |
| **Standard Deviation** | 0% | 0.3% |
| **FFTW - Stock - 2D FFT Size 32** | **12513** | **13205** |
| **Normalized** | 94.76% | 100% |
| **Standard Deviation** | 1.4% | 0.1% |
| **FFTW - Stock - 1D FFT Size 64** | **10881** | **11283** |
| **Normalized** | 96.44% | 100% |
| **Standard Deviation** | 0% | |
| **FFTW - Stock - 1D FFT Size 32** | **12042** | **12545** |
| **Normalized** | 95.99% | 100% |
| **Standard Deviation** | 0.3% | 0.2% |

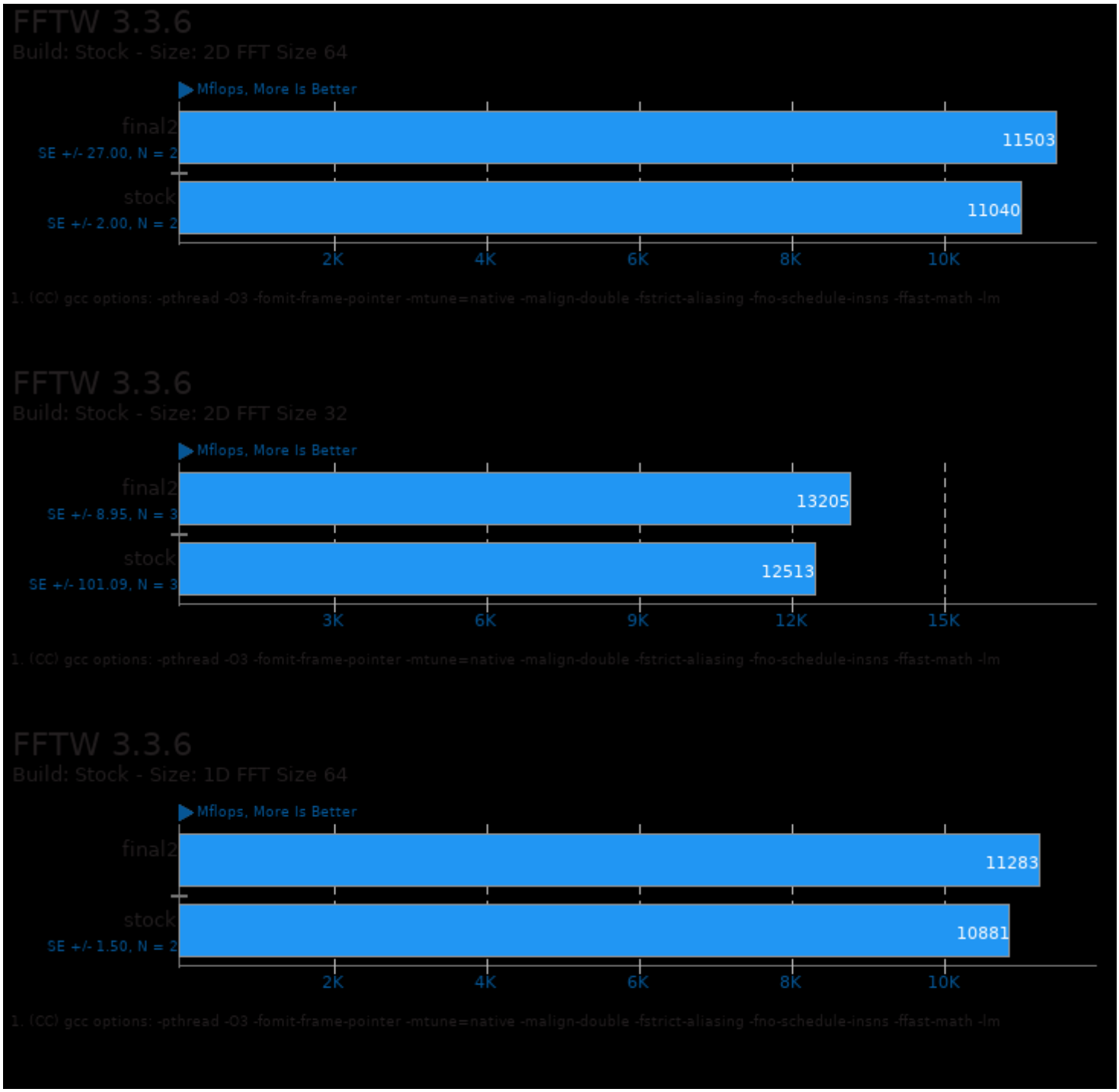

asmFish 2018-07-23
1024 Hash Memory, 26 Depth
Nodes/second, More Is Better
final2
SE +/- 390391.58, N = 3
23166519
4.3_sanity
SE +/- 72808.69, N = 3
23100366
stock
SE +/- 216298.51, N = 3
21401520
5M
10M
15M
20M
25M
Timed Linux Kernel Compilation 5.14
Time To Compile
Seconds, Fewer Is Better
final
SE +/- 0.34, N = 3
84.40
stock
SE +/- 0.12, N = 3
92.76
20
40
60
80
100
Liquid-DSP 2021.01.31
Threads: 1 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
stock
SE +/- 100481.07, N = 3
64956333
14M
28M
42M
56M
70M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
final
SE +/- 0.04, N = 3
95.89
4.3_sanity
SE +/- 0.08, N = 3
97.55
stock
SE +/- 0.15, N = 3
103.11
20
40
60
80
100
1. (CC) gcc options: -lm -lpthread -O3

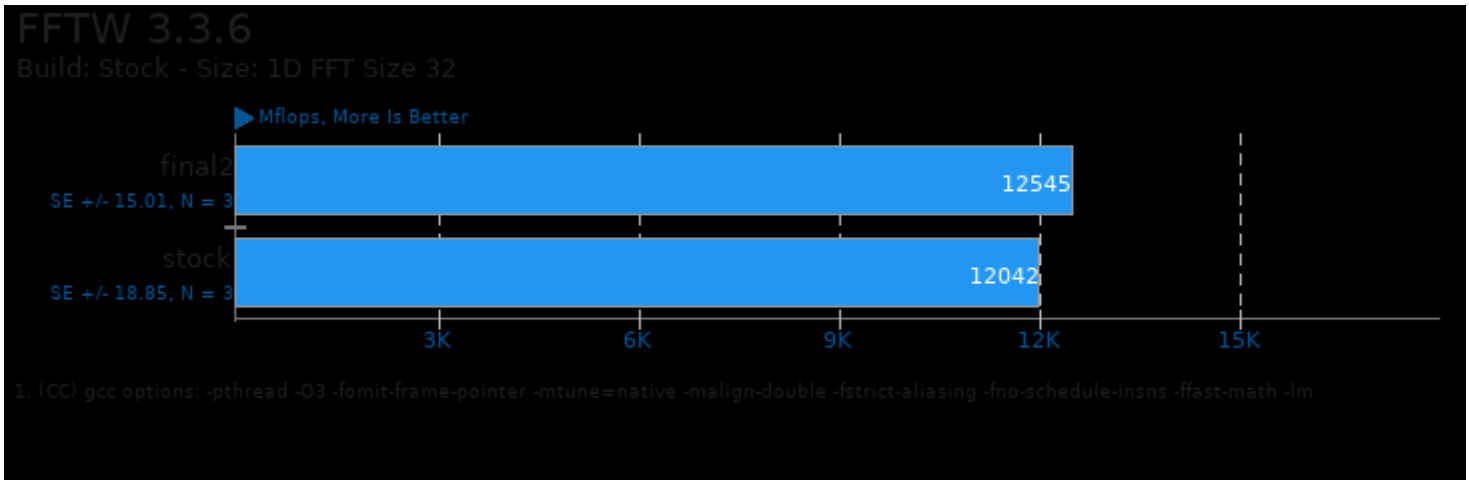

FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 4096
Mflops, More Is Better
final2
SE +/- 6.37, N = 3
7215.30
stock
SE +/- 53.76, N = 3
6709.00
1500
3000
4500
6000
7500
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 2048
Mflops, More Is Better
final2
SE +/- 7.88, N = 3
7285.50
stock
SE +/- 106.92, N = 3
7096.30
1600
3200
4800
6400
8000
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 1024
Mflops, More Is Better
final2
SE +/- 7.41, N = 3
9026.23
stock
SE +/- 2.79, N = 3
8724.53
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm


FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 4096
Mflops, More Is Better
final2
SE +/- 30.97, N = 3
9423.50
stock
SE +/- 22.00, N = 3
9071.50
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 2048
Mflops, More Is Better
final2
SE +/- 3.84, N = 3
9813.97
stock
SE +/- 22.89, N = 3
9454.50
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 1024
Mflops, More Is Better
final2
SE +/- 1.45, N = 3
10127.00
stock
SE +/- 43.41, N = 3
9706.13
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm


FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 512
Mflops, More Is Better
final2
SE +/- 6.75, N = 3
9409.90
stock
SE +/- 55.62, N = 3
8977.10
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 256
Mflops, More Is Better
final2
SE +/- 13.54, N = 3
9411.90
stock
SE +/- 17.70, N = 3
9060.47
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 128
Mflops, More Is Better
final2
SE +/- 11.10, N = 3
9668.17
stock
SE +/- 22.83, N = 3
9305.43
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm


FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 512
Mflops, More Is Better
final2
SE +/- 4.58, N = 3
10027.00
stock
SE +/- 32.90, N = 3
9588.93
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 256
Mflops, More Is Better
final2
SE +/- 2.65, N = 3
10010.00
stock
SE +/- 15.16, N = 3
9618.70
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 128
Mflops, More Is Better
final2
SE +/- 1.92, N = 3
9607.37
stock
SE +/- 4.89, N = 3
9250.77
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm


FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 64
Mflops, More Is Better
final2
SE +/- 27.00, N = 2
11503
stock
SE +/- 2.00, N = 2
11040
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 2D FFT Size 32
Mflops, More Is Better
final2
SE +/- 8.95, N = 3
13205
stock
SE +/- 101.09, N = 3
12513
3K
6K
9K
12K
15K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm
FFTW 3.3.6
Build: Stock - Size: 1D FFT Size 64
Mflops, More Is Better
final2
11283
stock
SE +/- 1.50, N = 2
10881
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm




*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 06:35.*