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7742 2P SDR

2 x AMD EPYC 7742 64-Core testing with a Supermicro H11DSi-NT v2.00 (2.1 BIOS) and ASPEED on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

2 had the most wins, coming in first place for 33% of the tests.

Based on the geometric mean of all complete results, the fastest (2) was 1.005x the speed of the slowest (1). 4 was 0.998x the speed of 2, 3 was 1x the speed of 4, 1 was 0.998x the speed of 3.

Test Systems:

1

2

3

4

Processor: 2 x AMD EPYC 7742 64-Core @ 2.25GHz (128 Cores / 256 Threads), Motherboard: Supermicro H11DSi-NT v2.00 (2.1 BIOS), Chipset: AMD Starship/Matisse, Memory: 16 x 8192 MB DDR4-3200MT/s HMA81GR7CJR8N-XN, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP, Graphics: ASPEED, Monitor: VGA HDMI, Network: 2 x Intel 10G X550T

OS: Ubuntu 20.04, Kernel: 5.8.0-44-generic (x86_64), Display Server: X Server 1.20.8, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

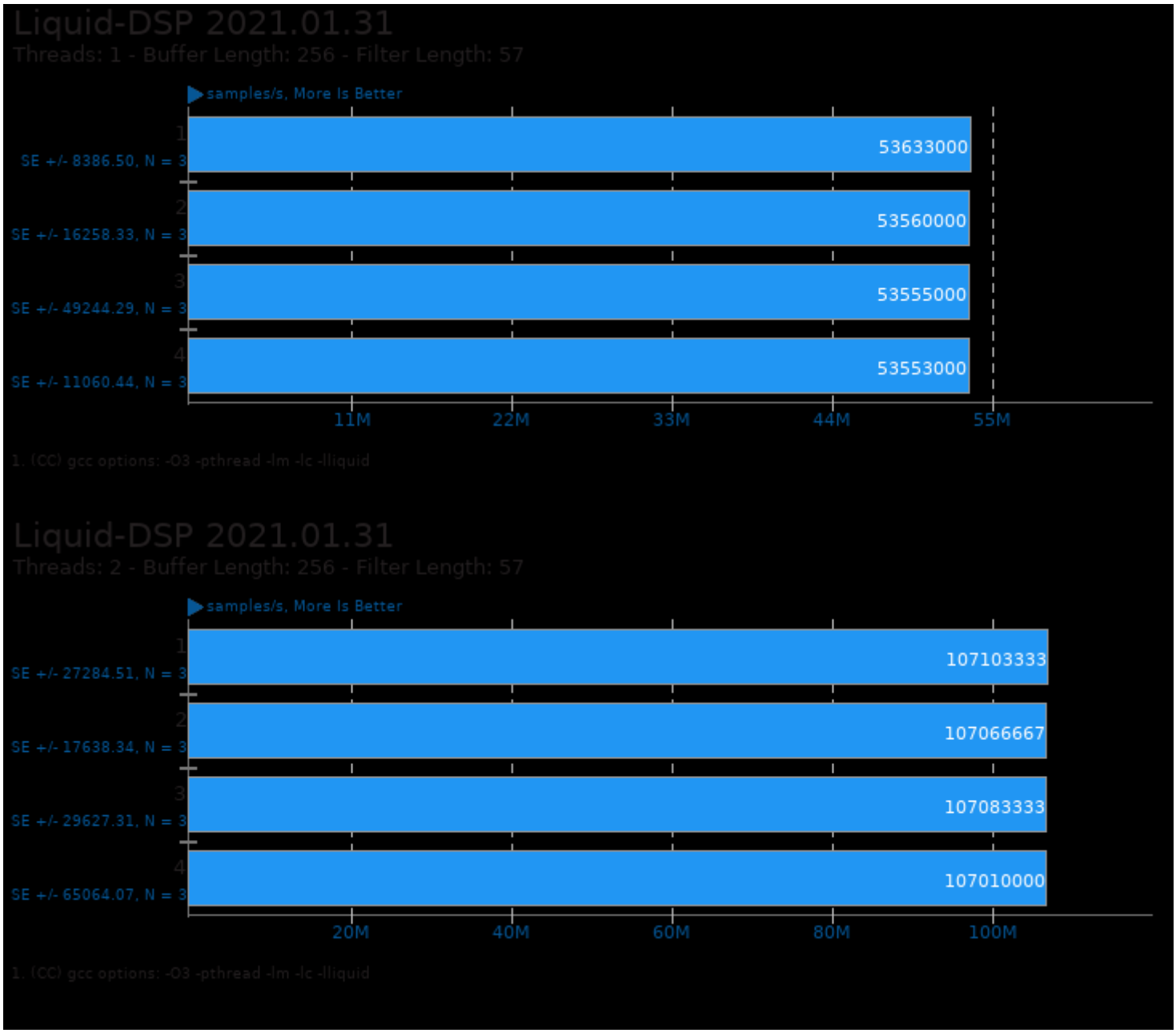
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/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: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8301034
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + 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 AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3	4
Liquid-DSP - 1 - 256 - 57 (samples/s)	**53633000**	53560000	53555000	**53553000**
Normalized	100%	99.86%	99.85%	99.85%
Standard Deviation	0%	0.1%	0.2%	0%
Liquid-DSP - 2 - 256 - 57 (samples/s)	**107103333**	107066667	107083333	**107010000**
Normalized	100%	99.97%	99.98%	99.91%
Standard Deviation	0%	0%	0%	0.1%
Liquid-DSP - 4 - 256 - 57 (samples/s)	213020000	213073333	**212843333**	**213113333**
Normalized	99.96%	99.98%	99.87%	100%
Standard Deviation	0.1%	0.1%	0.1%	0%
Liquid-DSP - 8 - 256 - 57 (samples/s)	426996667	427046667	**426140000**	**427060000**
Normalized	99.99%	100%	99.78%	100%
Standard Deviation	0.1%	0%	0.3%	0.2%
Liquid-DSP - 16 - 256 - 57 (samples/s)	831786667	**832266667**	**830083333**	831683333
Normalized	99.94%	100%	99.74%	99.93%
Standard Deviation	0.2%	0.1%	0.1%	0.4%
Liquid-DSP - 32 - 256 - 57 (samples/s)	**1603133333**	1617100000	**1618233333**	1611566667
Normalized	99.07%	99.93%	100%	99.59%
Standard Deviation	0.5%	0.3%	0.4%	0.7%
Liquid-DSP - 64 - 256 - 57 (samples/s)	**2668666667**	**2710900000**	2697200000	2687566667
Normalized	98.44%	100%	99.49%	99.14%
Standard Deviation	0.6%	0.5%	0.9%	0.8%
Liquid-DSP - 128 - 256 - 57	**3087133333**	**3182060000**	3097266667	3127466667
Normalized	97.02%	100%	97.34%	98.28%
Standard Deviation	1.4%	9.3%	0.3%	2.8%
Liquid-DSP - 256 - 256 - 57	**5506966667**	**5570766667**	5557933333	5531833333
Normalized	98.85%	100%	99.77%	99.3%
Standard Deviation	1%	0.1%	0.6%	1%

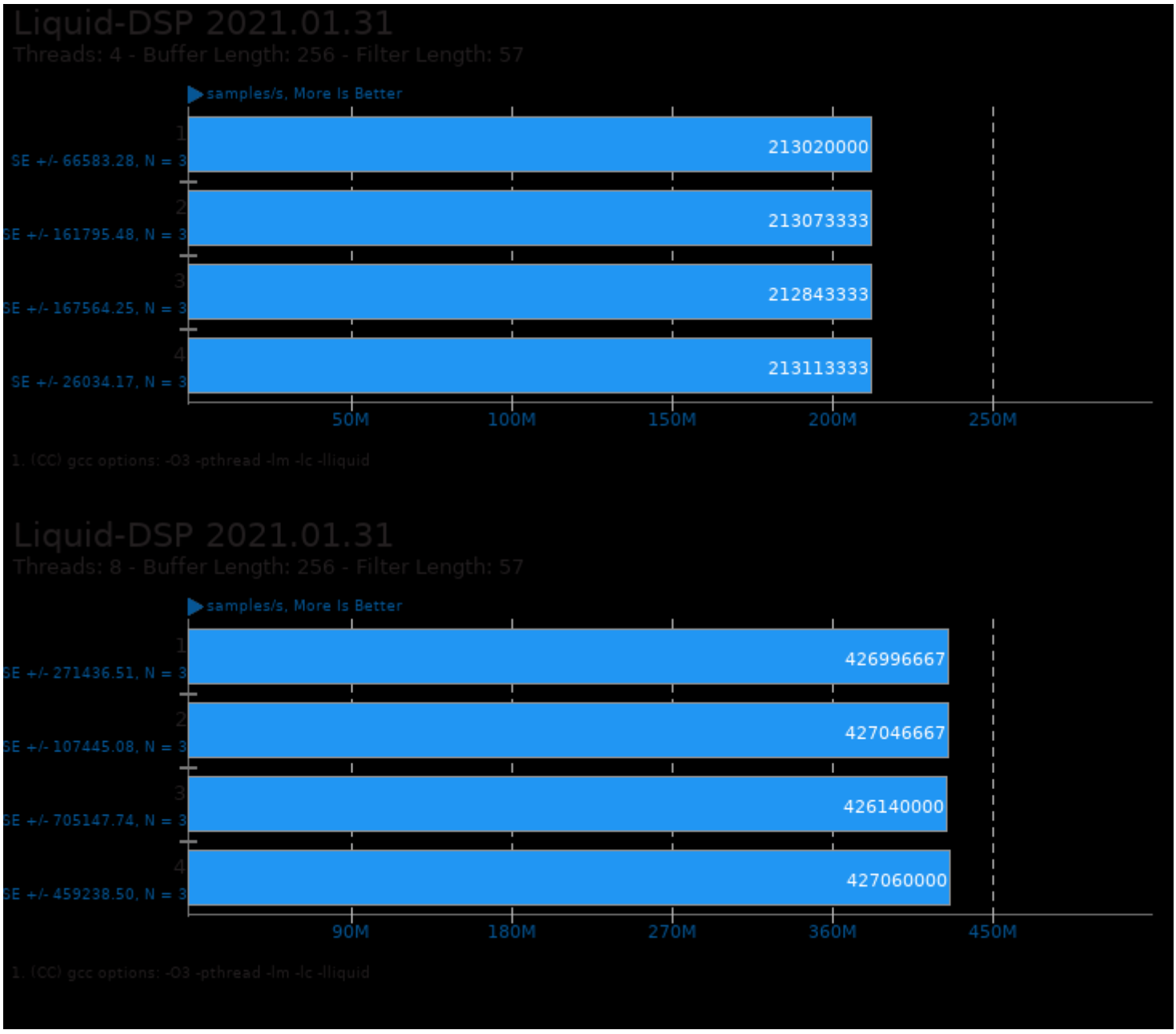
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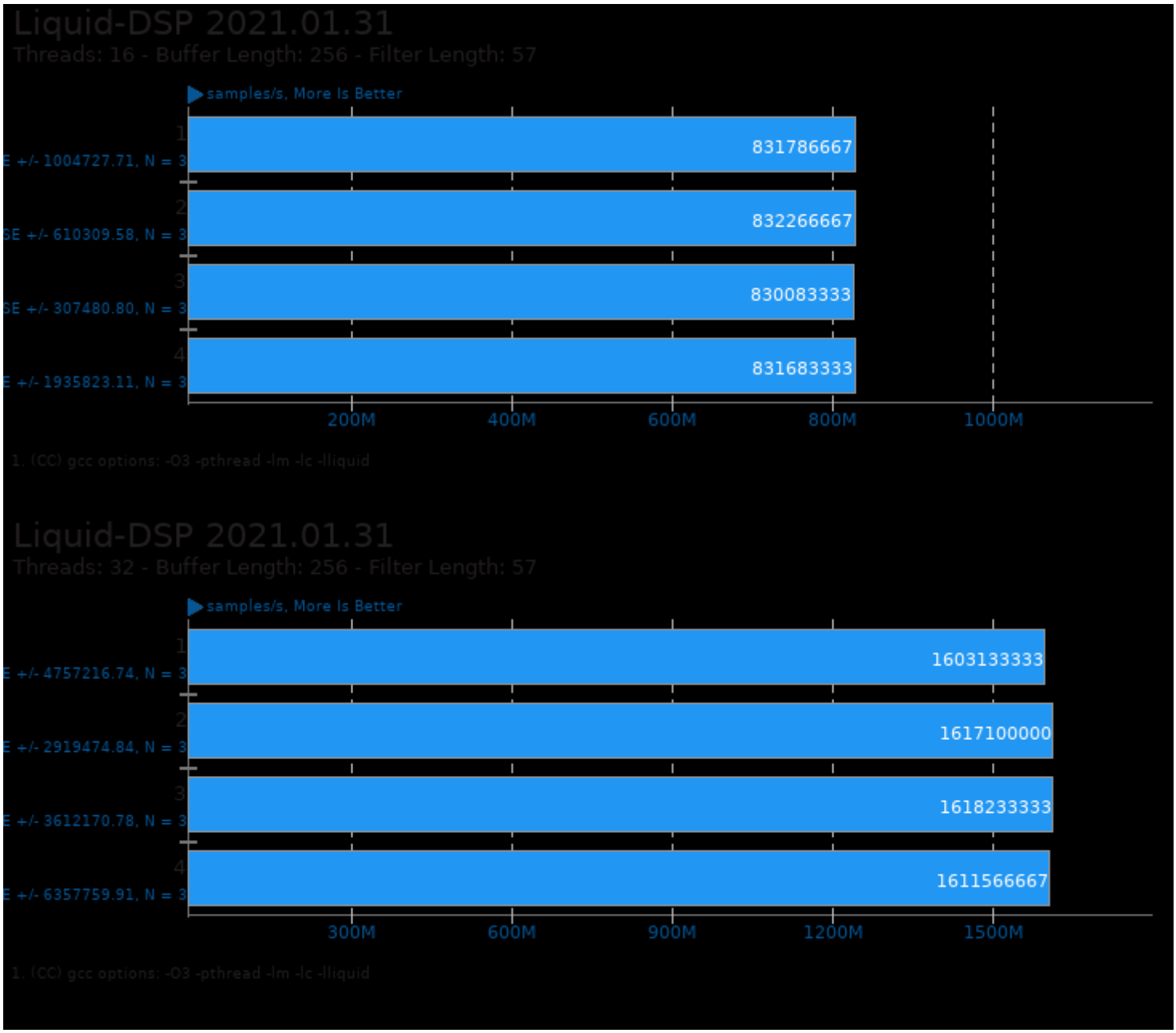
srsLTE - OFDM_Test (Samples / Second)	101300000	**101066667**	**101533333**	101433333
Normalized	99.77%	99.54%	100%	99.9%
Standard Deviation	0.8%	1.3%	0.5%	0.7%
srsLTE - PHY_DL_Test (eNb Mb/s)	207.7	**207.0**	207.8	**208.0**
Normalized	99.86%	99.52%	99.9%	100%
Standard Deviation	0.1%	0.1%	0%	0.1%
srsLTE - PHY_DL_Test (UE Mb/s)	**87.7**	**87.3**	87.5	87.4
Normalized	100%	99.54%	99.77%	99.66%
Standard Deviation	0.2%	0.2%	0.2%	0.1%

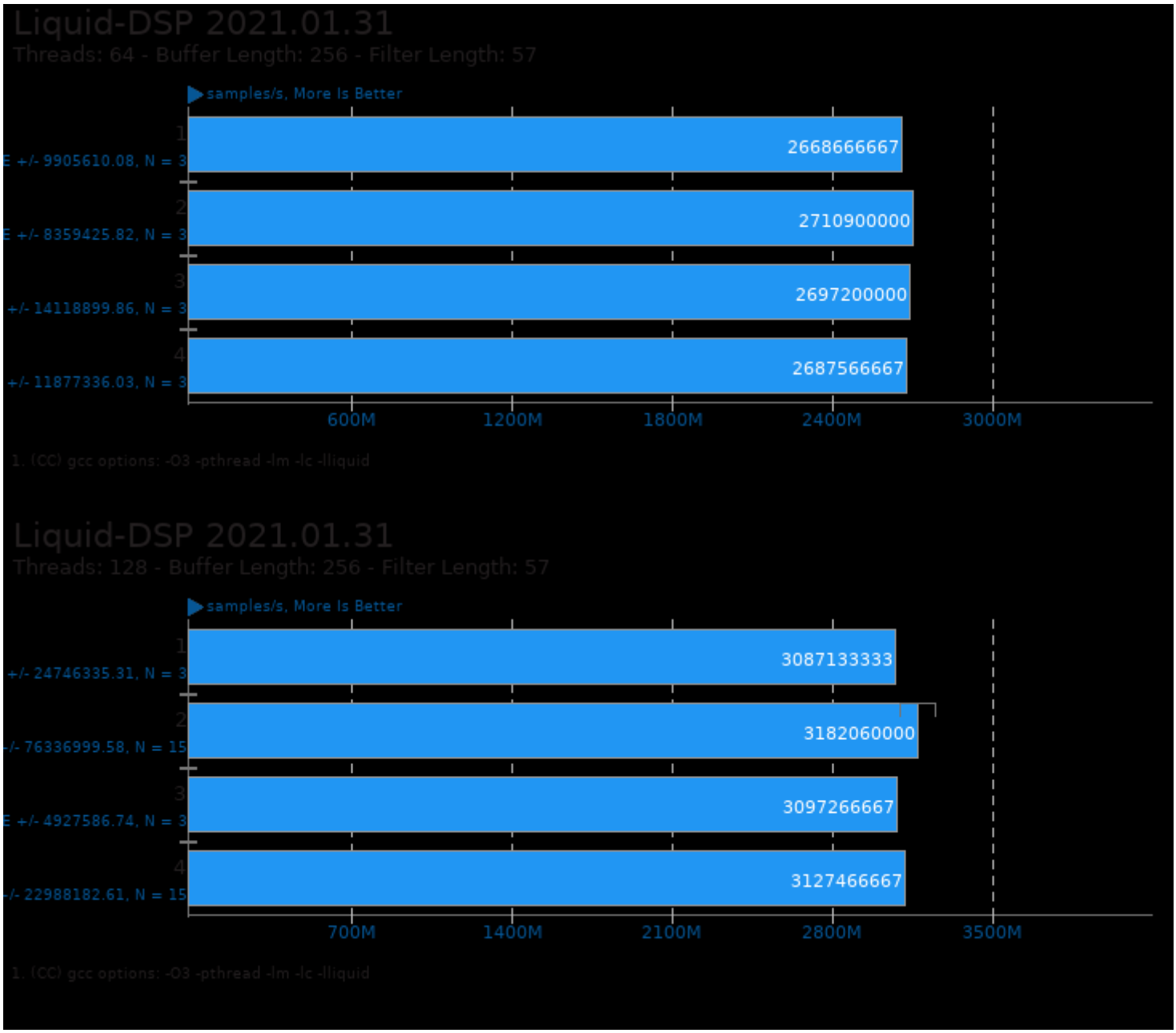
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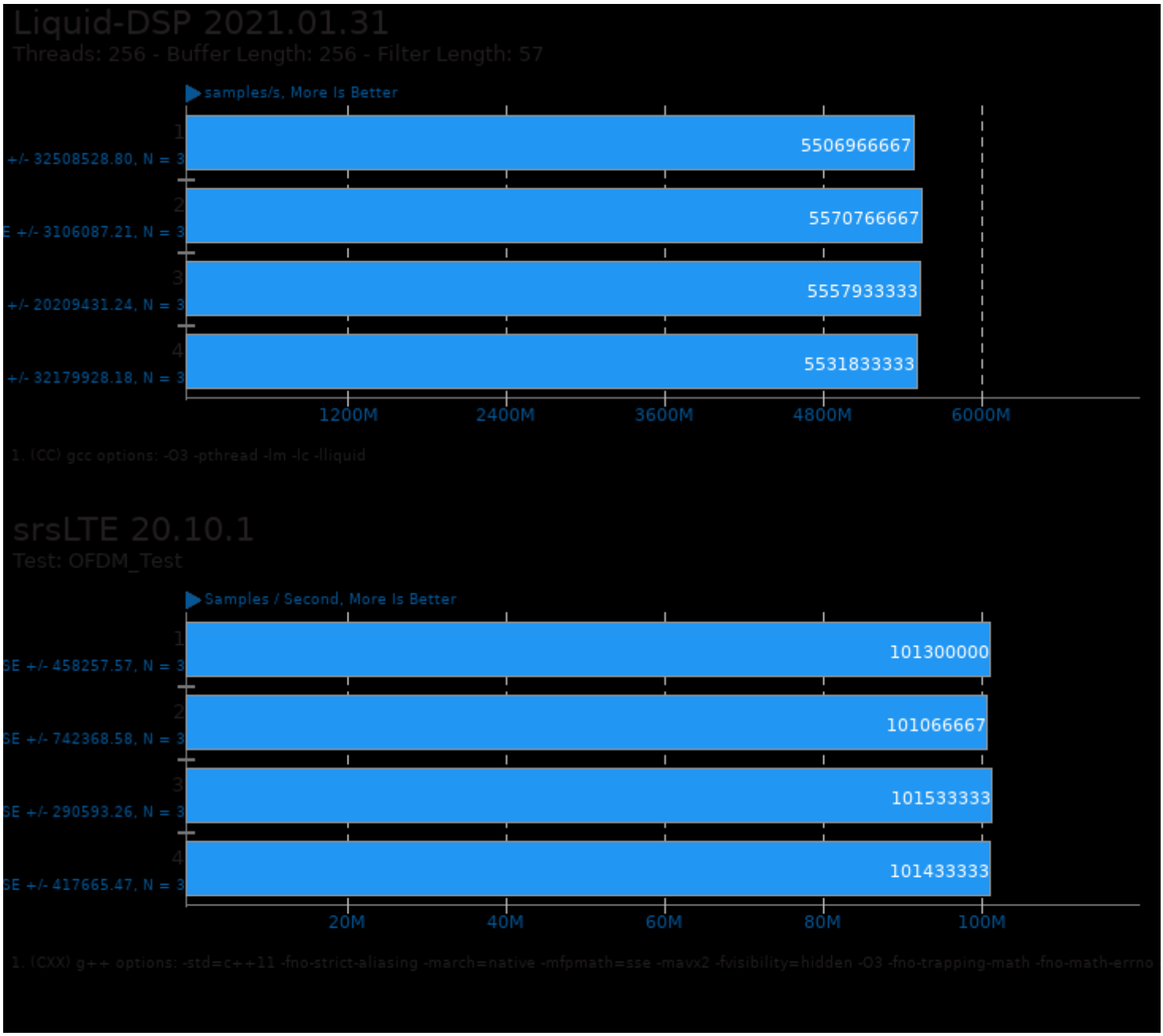

Liquid-DSP 2021.01.31
Threads: 1 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
SE +/- 8386.50, N = 3
53633000
2
SE +/- 16258.33, N = 3
53560000
3
SE +/- 49244.29, N = 3
53555000
4
SE +/- 11060.44, N = 3
53553000
11M
22M
33M
44M
55M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 2 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
SE +/- 27284.51, N = 3
107103333
2
SE +/- 17638.34, N = 3
107066667
3
SE +/- 29627.31, N = 3
107083333
4
SE +/- 65064.07, N = 3
107010000
20M
40M
60M
80M
100M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid

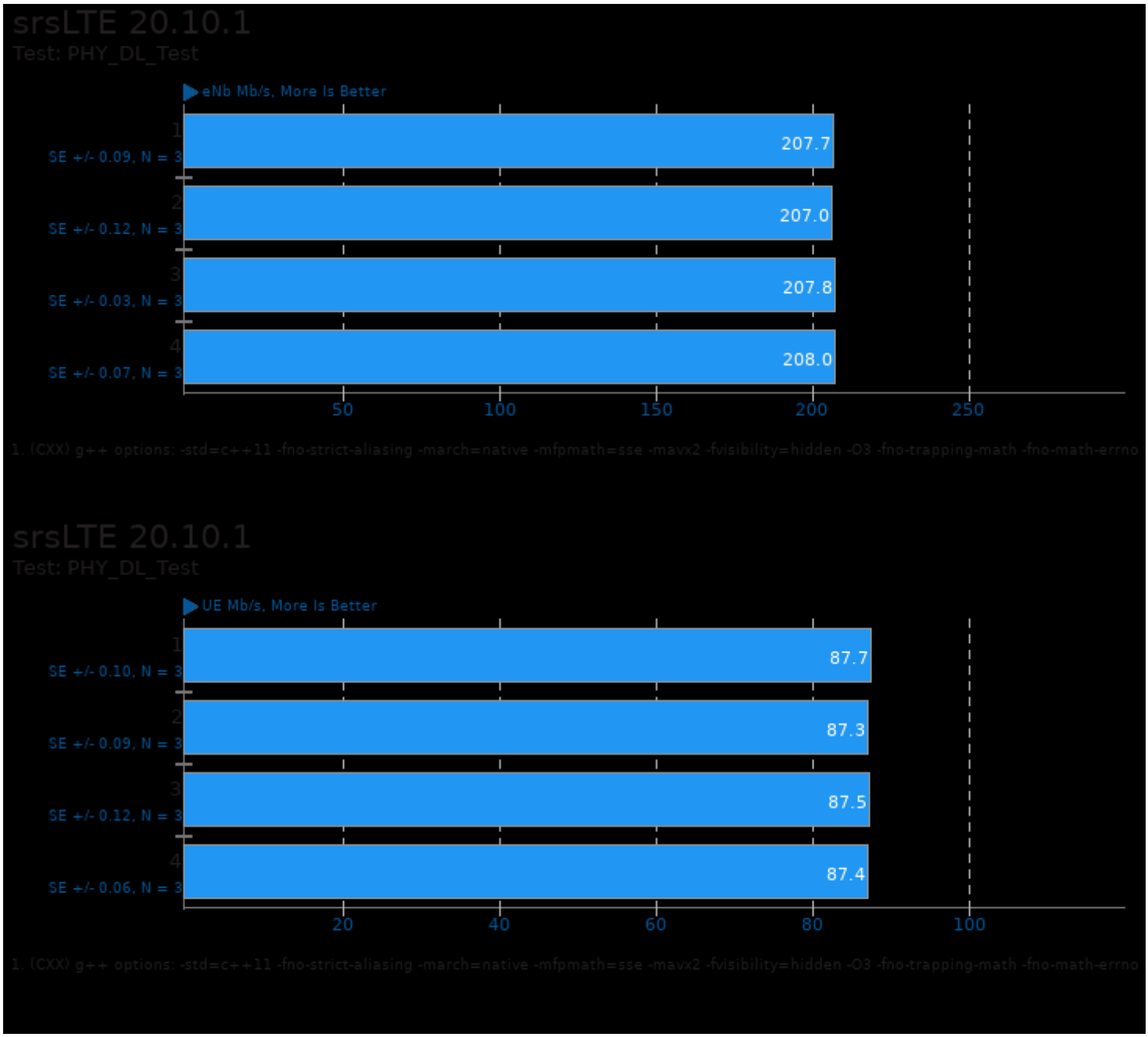
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Liquid-DSP 2021.01.31
Threads: 4 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
SE +/- 66583.28, N = 3
213020000
2
SE +/- 161795.48, N = 3
213073333
3
SE +/- 167564.25, N = 3
212843333
4
SE +/- 26034.17, N = 3
213113333
50M
100M
150M
200M
250M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 8 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
SE +/- 271436.51, N = 3
426996667
2
SE +/- 107445.08, N = 3
427046667
3
SE +/- 705147.74, N = 3
426140000
4
SE +/- 459238.50, N = 3
427060000
90M
180M
270M
360M
450M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid


Liquid-DSP 2021.01.31
Threads: 16 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
E +/- 1004727.71, N = 3
831786667
2
SE +/- 610309.58, N = 3
832266667
3
SE +/- 307480.80, N = 3
830083333
4
E +/- 1935823.11, N = 3
831683333
200M
400M
600M
800M
1000M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 32 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
E +/- 4757216.74, N = 3
1603133333
2
E +/- 2919474.84, N = 3
1617100000
3
E +/- 3612170.78, N = 3
1618233333
4
E +/- 6357759.91, N = 3
1611566667
300M
600M
900M
1200M
1500M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid

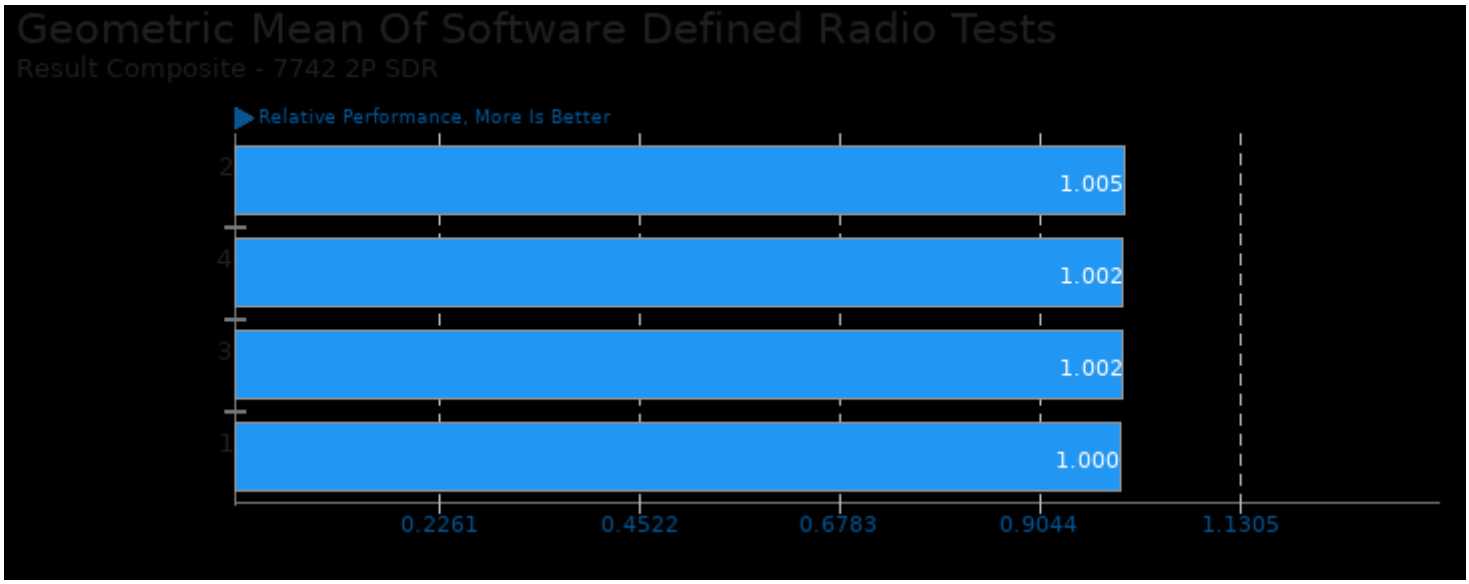

Liquid-DSP 2021.01.31
Threads: 64 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
2668666667
E +/- 9905610.08, N = 3
2
2710900000
E +/- 8359425.82, N = 3
3
2697200000
+/- 14118899.86, N = 3
4
2687566667
+/- 11877336.03, N = 3
600M
1200M
1800M
2400M
3000M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 128 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
3087133333
+/- 24746335.31, N = 3
2
3182060000
-/- 76336999.58, N = 15
3
3097266667
E +/- 4927586.74, N = 3
4
3127466667
-/- 22988182.61, N = 15
700M
1400M
2100M
2800M
3500M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid


Liquid-DSP 2021.01.31
Threads: 256 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
1
+/- 32508528.80, N = 3
5506966667
2
E +/- 3106087.21, N = 3
5570766667
3
+/- 20209431.24, N = 3
5557933333
4
+/- 32179928.18, N = 3
5531833333
1200M
2400M
3600M
4800M
6000M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
srsLTE 20.10.1
Test: OFDM_Test
Samples / Second, More Is Better
1
SE +/- 458257.57, N = 3
101300000
2
SE +/- 742368.58, N = 3
101066667
3
SE +/- 290593.26, N = 3
101533333
4
SE +/- 417665.47, N = 3
101433333
20M
40M
60M
80M
100M
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsLTE 20.10.1
Test: PHY_DL_Test
eNb Mb/s, More Is Better
1
SE +/- 0.09, N = 3
207.7
2
SE +/- 0.12, N = 3
207.0
3
SE +/- 0.03, N = 3
207.8
4
SE +/- 0.07, N = 3
208.0
50
100
150
200
250
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsLTE 20.10.1
Test: PHY_DL_Test
UE Mb/s, More Is Better
1
SE +/- 0.10, N = 3
87.7
2
SE +/- 0.09, N = 3
87.3
3
SE +/- 0.12, N = 3
87.5
4
SE +/- 0.06, N = 3
87.4
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

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



Geometric mean based upon tests: pts/liquid-dsp and pts/srslte

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 00:55.