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# 3990X sdr

AMD Ryzen Threadripper 3990X 64-Core testing with a System76 Thelio Major (F4c Z5 BIOS) and AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB on Pop 20.10 via the Phoronix Test Suite.

**Automated Executive Summary**

*1 had the most wins, coming in first place for 40% of the tests.*

*Based on the geometric mean of all complete results, the fastest (2) was 1.004x the speed of the slowest (1). 3 was 0.998x the speed of 2 and 1 was 0.998x the speed of 3.*

## Test Systems:

**1**

**2**

# 3990X sdr

## 3

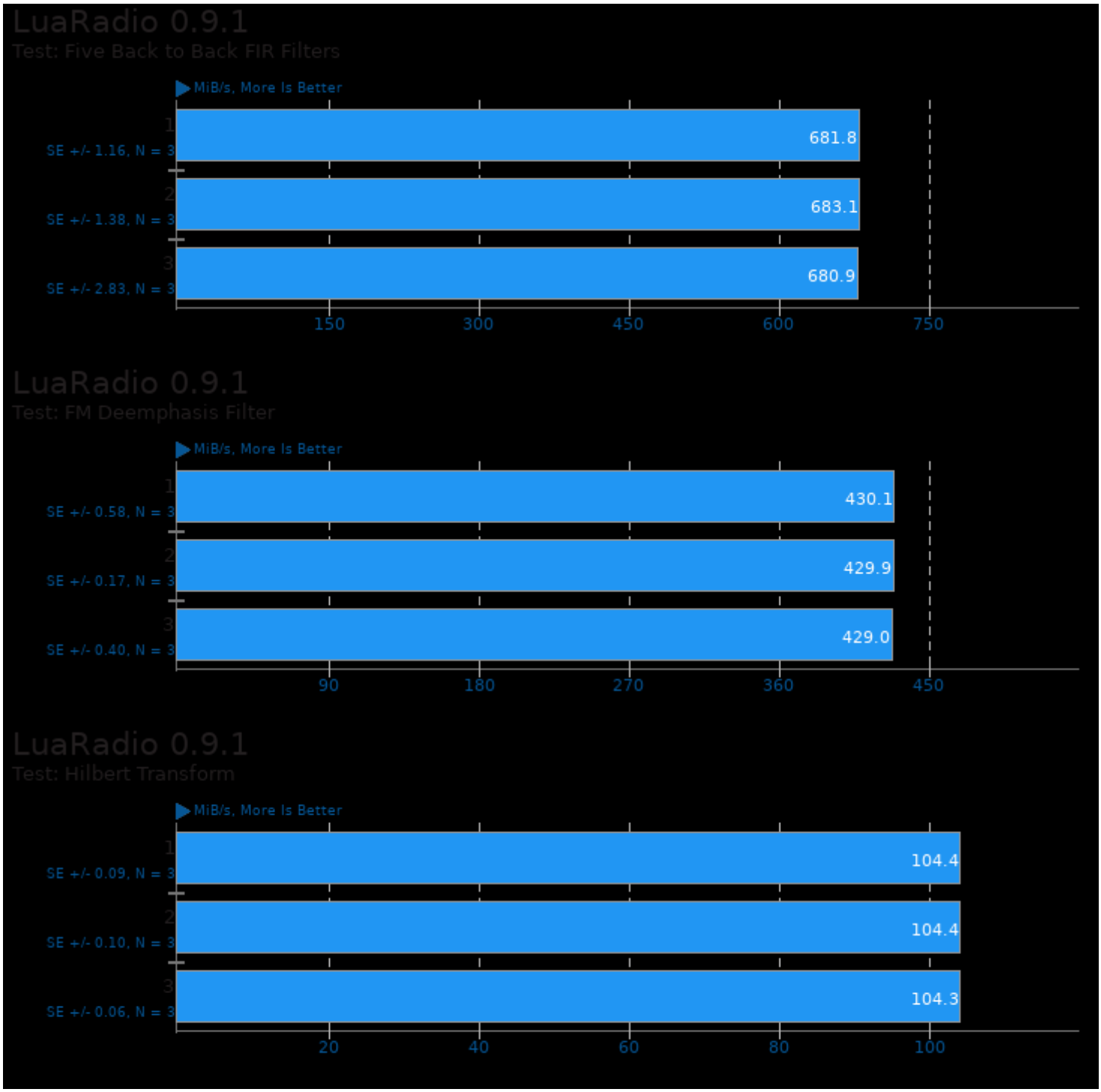
Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: System76 Thelio Major (F4c Z5 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 20.10, Kernel: 5.8.0-7630-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.8, OpenGL: 4.6 Mesa 21.1.0-devel (git-96d7555 2021-01-22 groovy-oibaf-ppa) (LLVM 11.0.1), Vulkan: 1.2.145, Compiler: GCC 10.2.0 + Clang 11.0.1-1~oibaf~g, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: snd_usb_audio.ignore_ctl_error=1 - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8301025
Python Notes: Python 3.8.6
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 STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

| | 1 | 2 | 3 |
|---|---|---|---|
| **LuaRadio - F.B.t.B.F.F (MiB/s)** | 681.8 | **683.1** | **680.9** |
| **Normalized** | 99.81% | 100% | 99.68% |
| **Standard Deviation** | 0.3% | 0.3% | 0.7% |
| **LuaRadio - F.D.F (MiB/s)** | **430.1** | 429.9 | **429.0** |
| **Normalized** | 100% | 99.95% | 99.74% |
| **Standard Deviation** | 0.2% | 0.1% | 0.2% |
| **LuaRadio - Hilbert Transform (MiB/s)** | **104.4** | **104.4** | **104.3** |
| **Normalized** | 100% | 100% | 99.9% |
| **Standard Deviation** | 0.1% | 0.2% | 0.1% |
| **LuaRadio - Complex Phase (MiB/s)** | **649.8** | **648.6** | 649.3 |
| **Normalized** | 100% | 99.82% | 99.92% |
| **Standard Deviation** | 0.1% | 0.3% | 0.3% |
| **GNU Radio - F.B.t.B.F.F (MiB/s)** | **406.3** | 406.5 | **409.4** |
| **Normalized** | 99.24% | 99.29% | 100% |
| **Standard Deviation** | 2.9% | 2.5% | |
| **GNU Radio - S.S.C (MiB/s)** | **3575** | **3753** | 3637 |
| **Normalized** | 95.23% | 100% | 96.9% |
| **Standard Deviation** | 2% | 1.5% | |
| **GNU Radio - FIR Filter (MiB/s)** | 710.1 | **710.9** | **705.7** |
| **Normalized** | 99.89% | 100% | 99.27% |
| **Standard Deviation** | 0.9% | 0.3% | |
| **GNU Radio - IIR Filter (MiB/s)** | **625.6** | **620.0** | 620.4 |
| **Normalized** | 100% | 99.1% | 99.17% |
| **Standard Deviation** | 0.3% | 0.9% | |
| **GNU Radio - F.D.F (MiB/s)** | 921.0 | **916.6** | **922.7** |
| **Normalized** | 99.82% | 99.34% | 100% |
| **Standard Deviation** | 0.9% | 0.4% | |
| **GNU Radio - Hilbert Transform (MiB/s)** | 528.1 | **527.9** | **533** |
| **Normalized** | 99.08% | 99.04% | 100% |
| **Standard Deviation** | 1% | 0.4% | |

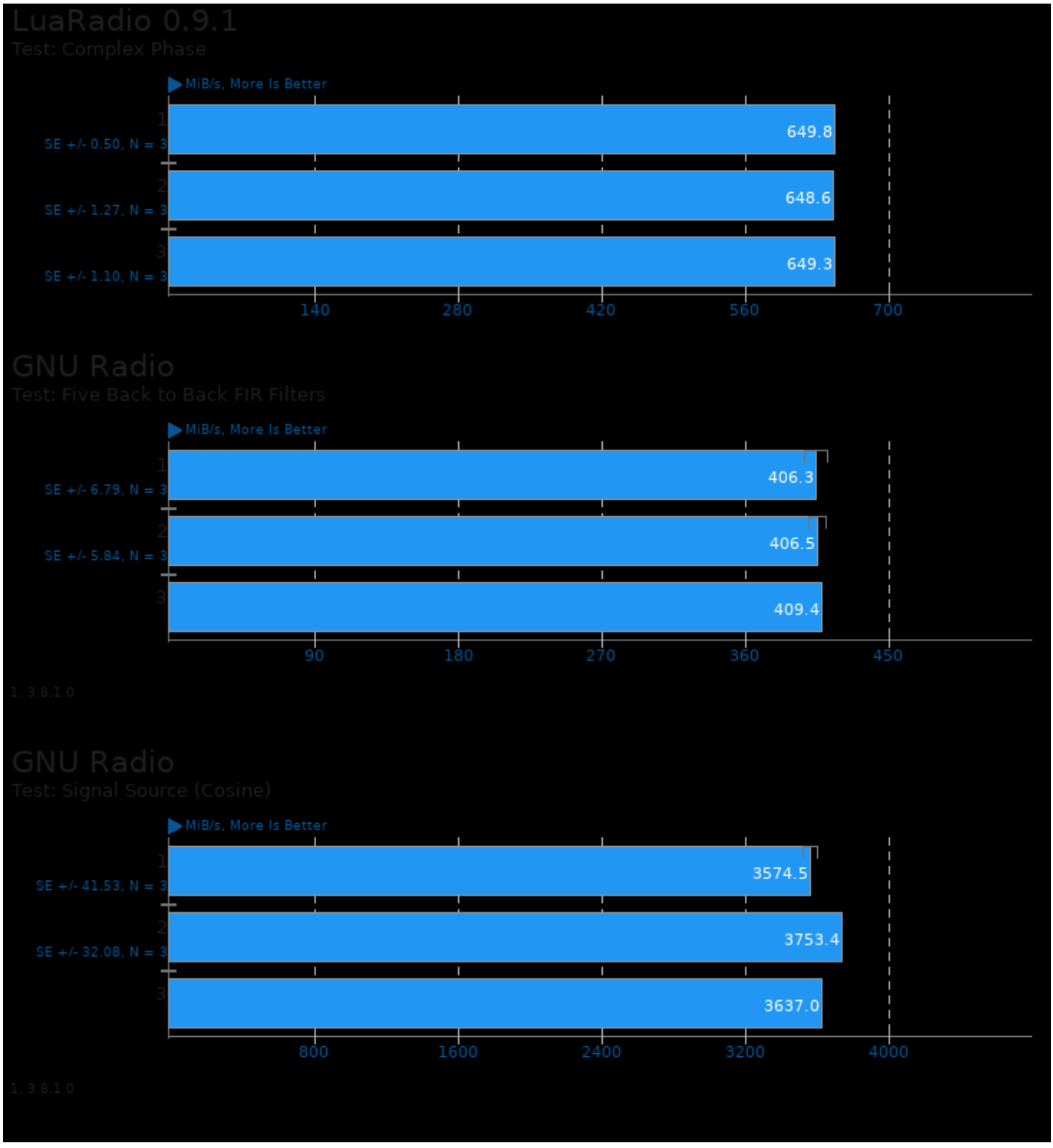
# 3990X sdr


LuaRadio 0.9.1
Test: Five Back to Back FIR Filters
MiB/s, More Is Better
1
SE +/- 1.16, N = 3
681.8
2
SE +/- 1.38, N = 3
683.1
3
SE +/- 2.83, N = 3
680.9
150
300
450
600
750

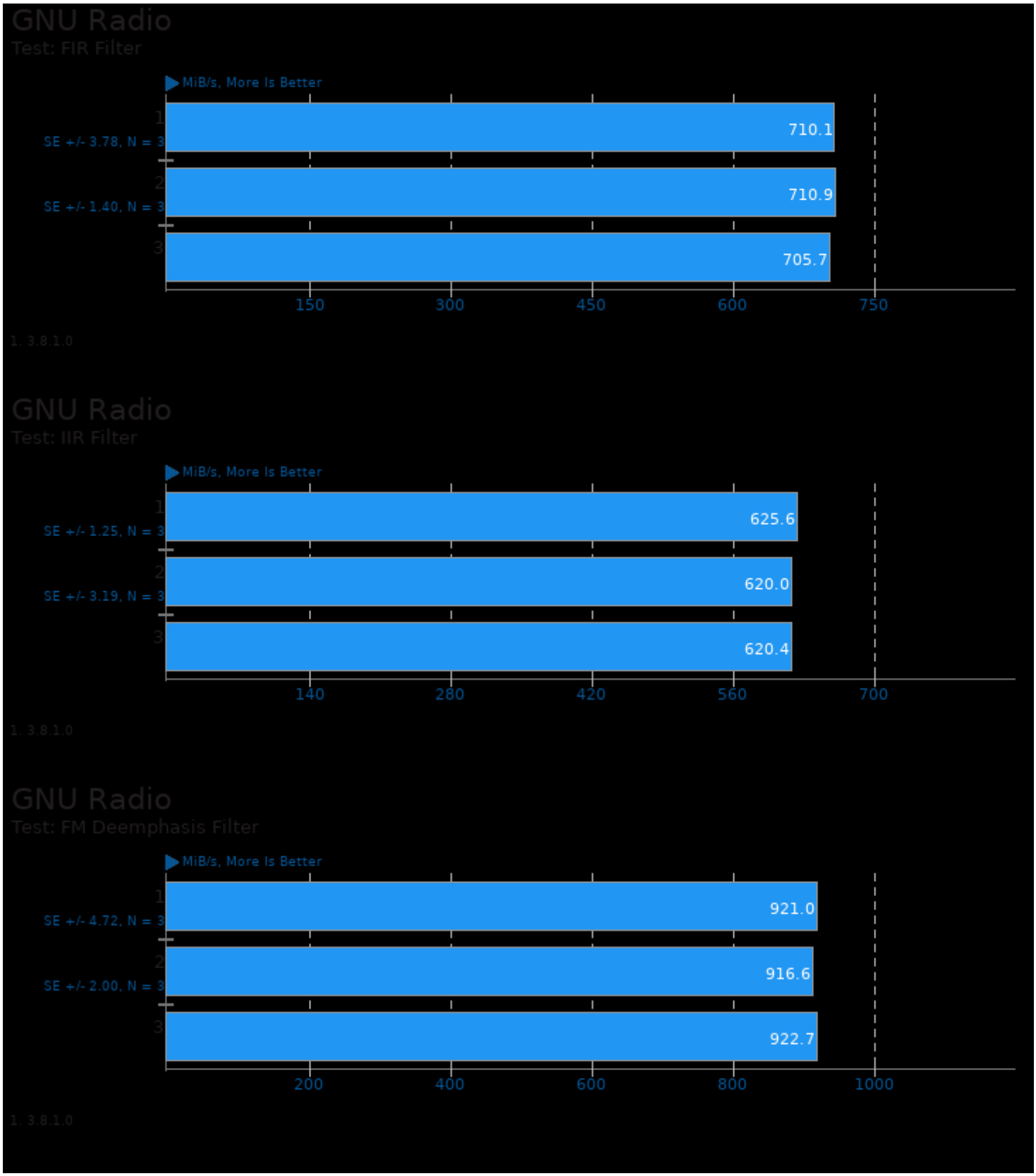

LuaRadio 0.9.1
Test: FM Deemphasis Filter
MiB/s, More Is Better
1
SE +/- 0.58, N = 3
430.1
2
SE +/- 0.17, N = 3
429.9
3
SE +/- 0.40, N = 3
429.0
90
180
270
360
450


LuaRadio 0.9.1
Test: Hilbert Transform
MiB/s, More Is Better
1
SE +/- 0.09, N = 3
104.4
2
SE +/- 0.10, N = 3
104.4
3
SE +/- 0.06, N = 3
104.3
20
40
60
80
100

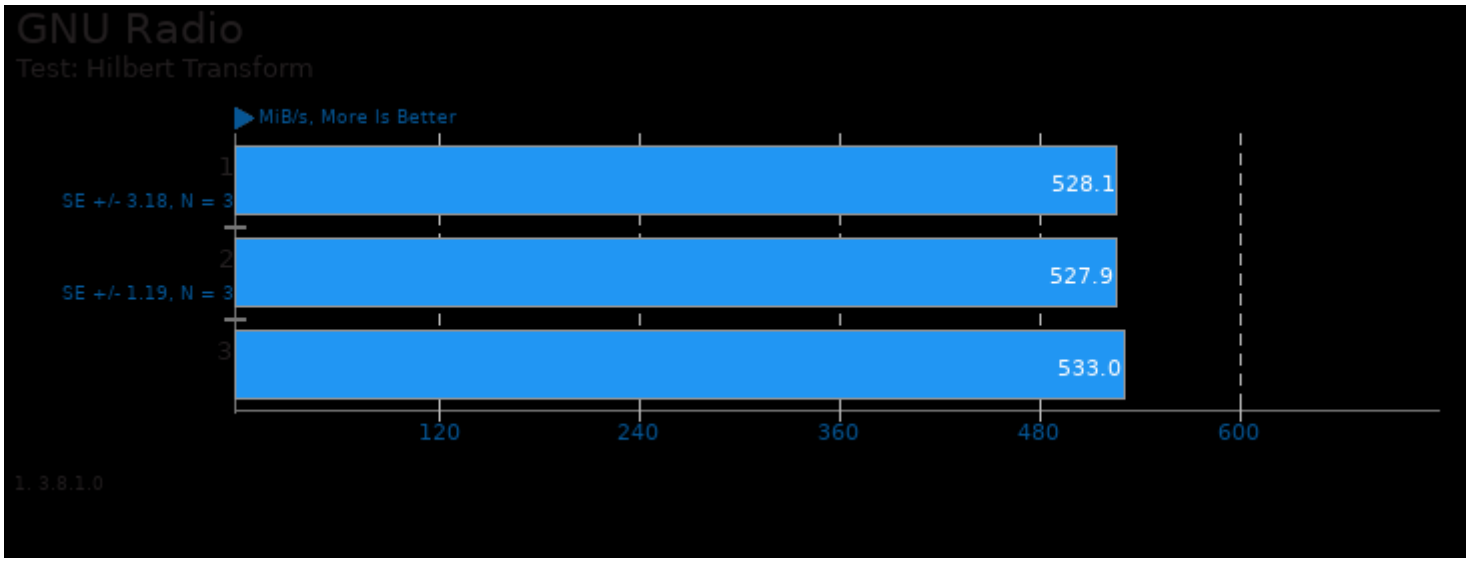
# 3990X sdr


LuaRadio 0.9.1
Test: Complex Phase
MiB/s, More Is Better
1
SE +/- 0.50, N = 3
649.8
2
SE +/- 1.27, N = 3
648.6
3
SE +/- 1.10, N = 3
649.3
140
280
420
560
700
GNU Radio
Test: Five Back to Back FIR Filters
MiB/s, More Is Better
1
SE +/- 6.79, N = 3
406.3
2
SE +/- 5.84, N = 3
406.5
3
409.4
90
180
270
360
450
1. 3.8.1.0
GNU Radio
Test: Signal Source (Cosine)
MiB/s, More Is Better
1
SE +/- 41.53, N = 3
3574.5
2
SE +/- 32.08, N = 3
3753.4
3
3637.0
800
1600
2400
3200
4000
1. 3.8.1.0

# 3990X sdr

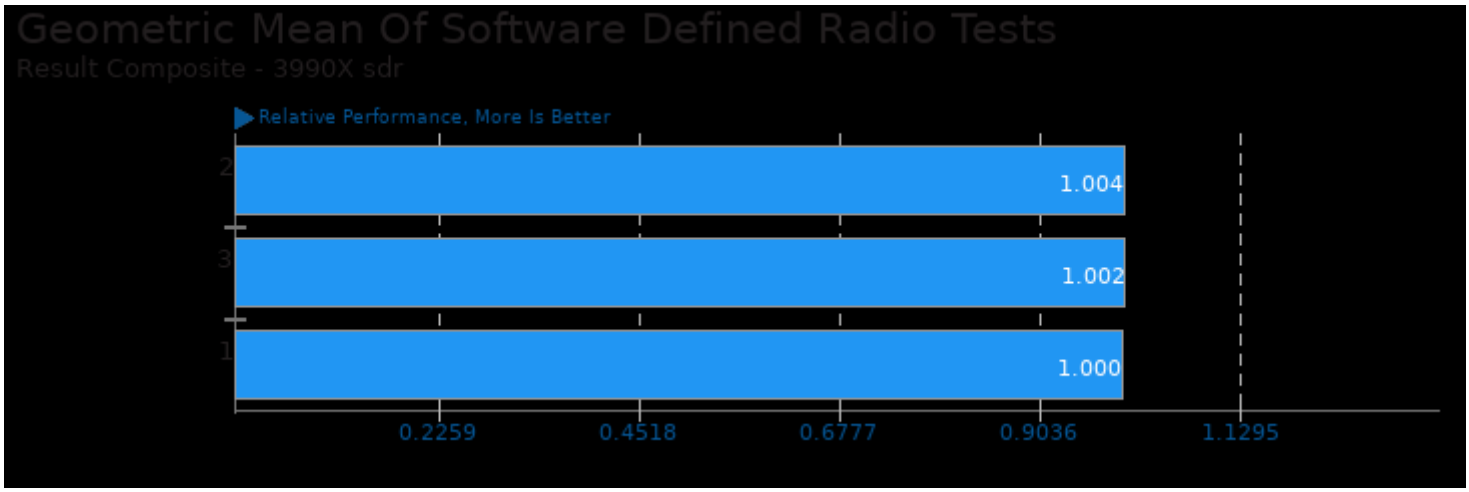

GNU Radio
Test: FIR Filter
MiB/s, More Is Better
1
SE +/- 3.78, N = 3
710.1
2
SE +/- 1.40, N = 3
710.9
3
705.7
150
300
450
600
750
1. 3.8.1.0
GNU Radio
Test: IIR Filter
MiB/s, More Is Better
1
SE +/- 1.25, N = 3
625.6
2
SE +/- 3.19, N = 3
620.0
3
620.4
140
280
420
560
700
1. 3.8.1.0
GNU Radio
Test: FM Deemphasis Filter
MiB/s, More Is Better
1
SE +/- 4.72, N = 3
921.0
2
SE +/- 2.00, N = 3
916.6
3
922.7
200
400
600
800
1000
1. 3.8.1.0

# 3990X sdr


GNU Radio
Test: Hilbert Transform
MiB/s, More Is Better
1
SE +/- 3.18, N = 3
528.1
2
SE +/- 1.19, N = 3
527.9
3
533.0
120
240
360
480
600
1. 3.8.1.0

# 3990X sdr

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




Geometric mean based upon tests: pts/luaradio and system/gnuradio

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 08:56.*