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terminaltest

AMD GX-424CC SOC testing with a Dell Wyse Thin Client Desktop 5060 [Inventec 5060] (1.0A BIOS) and AMD Radeon R4/R5 on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

AMD GX-424CC SOC had the most wins, coming in first place for 50% of the tests.

Test Systems:

AMD G-T56N - AMD Radeon HD 6320 - HP 17E2 (K30 v01.20

AMD G-T56N

Processor: AMD G-T56N @ 1.65GHz (2 Cores), Motherboard: HP 17E2 (K30 v01.20 BIOS), Chipset: AMD 14h Root Complex, Memory: 2 x GB DDR3-800MT/s, Disk: 120GB SSDPR-CL100-120-, Graphics: AMD Radeon HD 6320, Audio: AMD Wrestler HDMI Audio, Network: Broadcom NetLink BCM57781 PCIe

OS: Debian 11, Kernel: 5.10.0-18-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 640x480

Kernel Notes: Transparent Huge Pages: always
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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/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-build-config=bootstrap-lto-lean --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 schedutil - CPU Microcode: 0x500010d
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

AMD G-T52R - AMD Radeon HD 6310 - Inventec Z CLASS

AMD G-T52R

Processor: AMD G-T52R (1 Core), Motherboard: Inventec Z CLASS (1.0F BIOS), Chipset: AMD 14h Root Complex, Memory: 1 x 2 GB DDR3-1333MT/s 37352E4138334331, Disk: 120GB SSDPR-CL100-120-, Graphics: AMD Radeon HD 6310, Audio: AMD Wrestler HDMI Audio, Network: Realtek RTL8111/8168/8411 + Qualcomm Atheros AR93xx

OS: Debian 11, Kernel: 5.10.0-18-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/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-build-config=bootstrap-lto-lean --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: CPU Microcode: 0x5000028
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

AMD G-T48E - AMD Radeon HD 6250 - Inventec D CLASS

AMD G-T48E

Processor: AMD G-T48E (2 Cores), Motherboard: Inventec D CLASS (3.0E BIOS), Chipset: AMD 14h Root Complex, Memory: 1 x 4 GB DDR3-1600MT/s 4B4E574D58312D45, Disk: 120GB SSDPR-CL100-120-, Graphics: AMD Radeon HD 6250, Audio: AMD Wrestler HDMI Audio, Network: Realtek RTL8111/8168/8411

OS: Debian 11, Kernel: 5.10.0-18-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always
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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/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-build-config=bootstrap-lto-lean --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: CPU Microcode: 0x5000101
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

AMD GX-217GA SOC - AMD Radeon HD 8280E - HP 2187 (L40

AMD GX-217GA SOC

Processor: AMD GX-217GA SOC @ 1.65GHz (2 Cores), Motherboard: HP 2187 (L40 v02.10 BIOS), Chipset: AMD 16h Root Complex, Memory: 2 x GB DDR3-1600MT/s, Disk: 128GB SSSTC CV8-8E128-, Graphics: AMD Radeon HD 8280E, Audio: AMD Kabini HDMI/DP, Network: Realtek RTL8111/8168/8411

OS: Debian 11, Kernel: 5.10.0-18-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/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-build-config=bootstrap-lto-lean --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 schedutil - CPU Microcode: 0x700010b
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Mitigation of untrained return thunk; SMT disabled + 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 Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

AMD GX-424CC SOC - AMD Radeon R4/R5 - Dell Wyse Thin

AMD GX-424CC SOC

Processor: AMD GX-424CC SOC @ 2.40GHz (4 Cores), Motherboard: Dell Wyse Thin Client Desktop 5060 [Inventec 5060] (1.0A BIOS), Chipset: AMD 16h, Memory: 2 x 4 GB DDR3-1600MT/s HMT451S6DFR8A-PB, Disk: 120GB SSDPR-CL100-120-, Graphics: AMD Radeon R4/R5, Audio: AMD Kabini HDMI/DP, Network: Realtek RTL8111/8168/8411

OS: Debian 11, Kernel: 5.10.0-18-amd64 (x86_64), Vulkan: 1.0.2, Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768

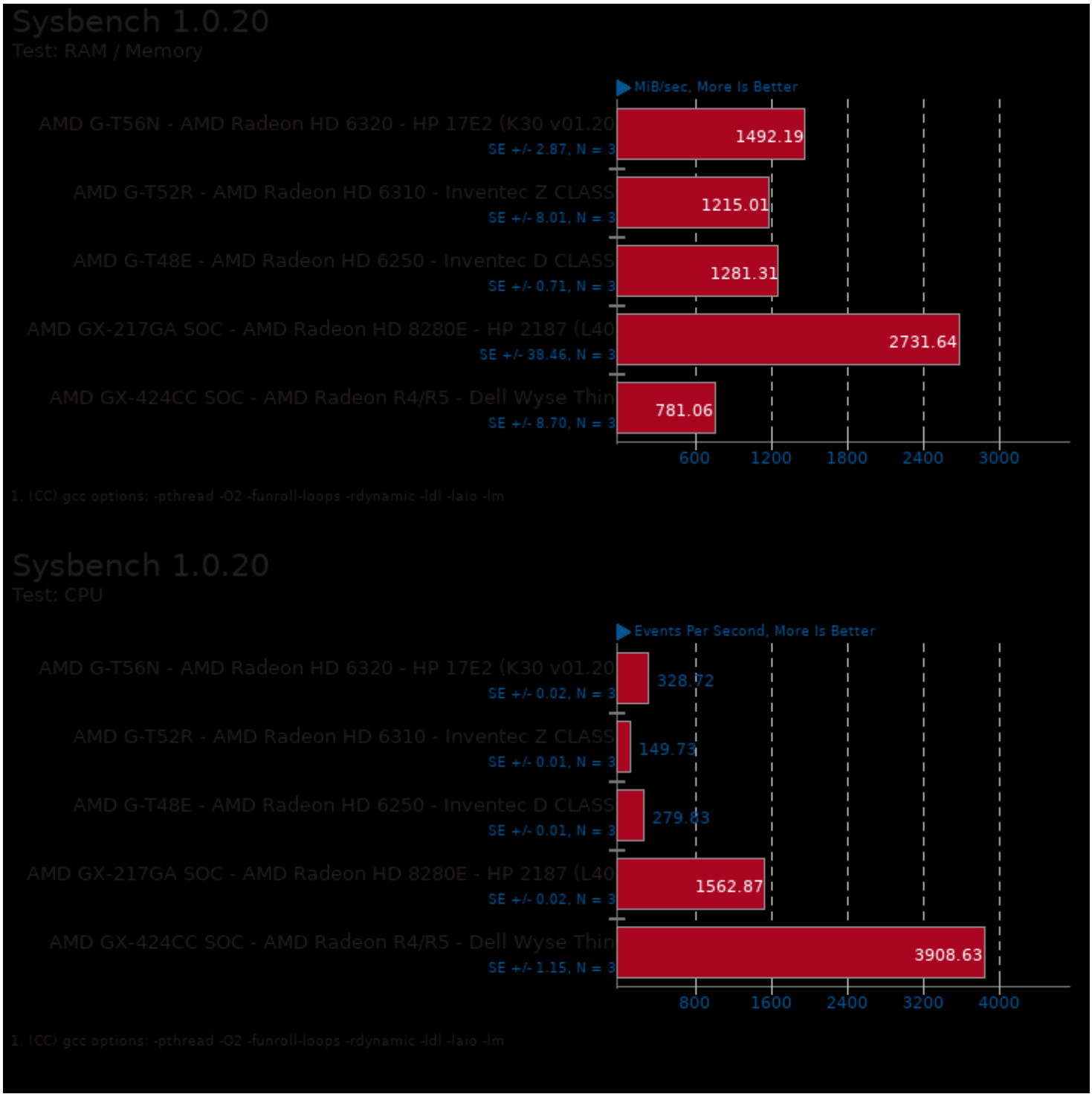
Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/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-build-config=bootstrap-lto-lean --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 schedutil - CPU Microcode: 0x7030105
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Mitigation of untrained return thunk; SMT disabled + 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 Retpolines STIBP: disabled RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

terminaltest

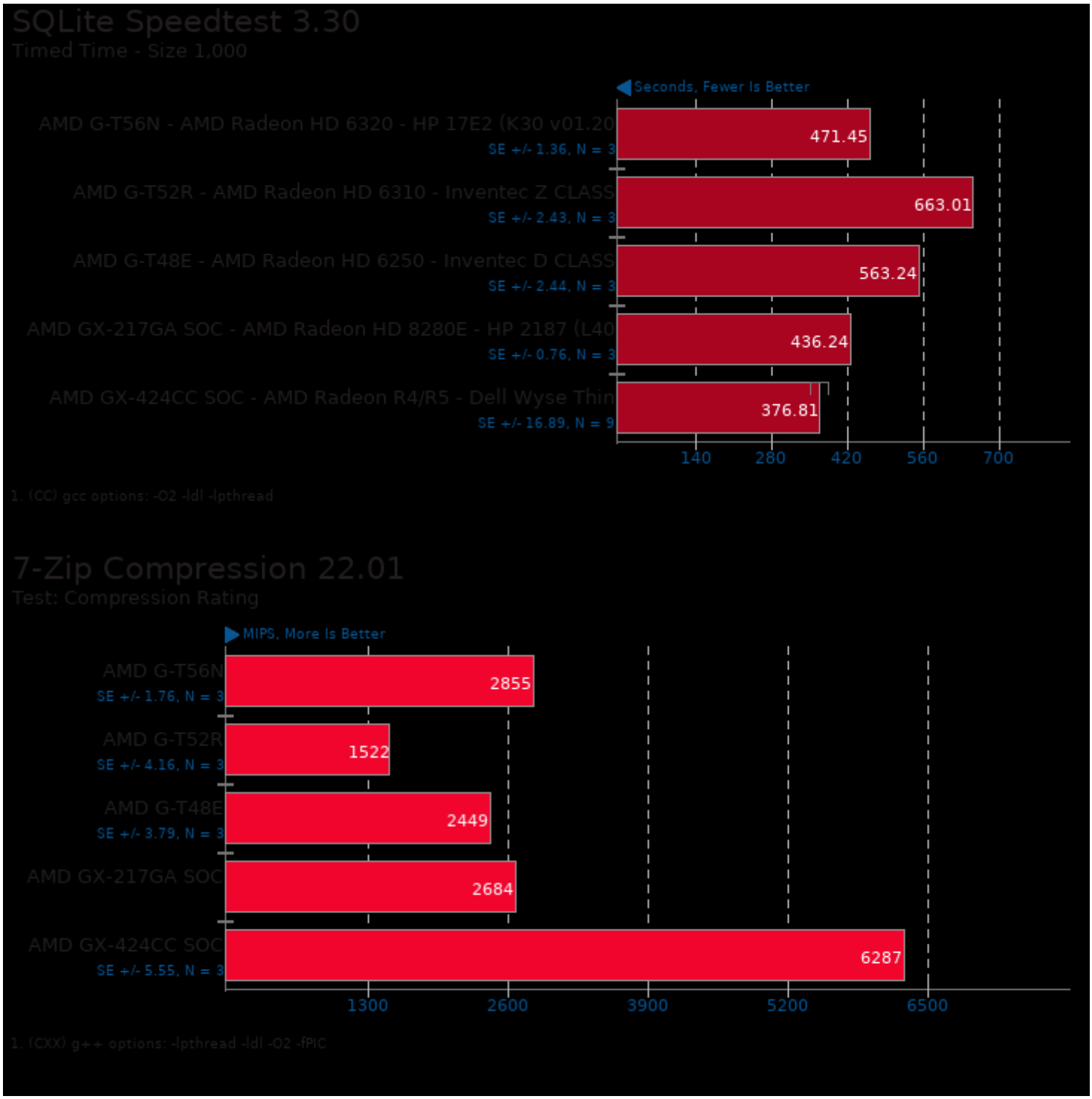
	AMD G-T56N - AMD Radeon HD 6320 - HP 17E2 (K30 v01.20	AMD G-T56N	AMD G-T52R - AMD Radeon HD 6310 - Inventec Z CLASS	AMD G-T52R	AMD G-T48E - AMD Radeon HD 6250 - Inventec D CLASS	AMD G-T48E	AMD GX-217GA SOC - AMD Radeon HD 8280E - HP 2187 (L40	AMD GX-217GA SOC	AMD GX-424CC SOC - AMD Radeon R4/R5 - Dell Wyse Thin	AMD GX-424CC SOC
Sysbench - RAM / Memory (MiB/sec)	1492		1215		1281		**2732**		**781.06**	
Normalized	54.63%		44.48%		46.91%		100%		28.59%	
Standard Deviation	0.3%		1.1%		0.1%		2.4%		1.9%	
Sysbench - CPU (Events/sec)	328.72		**149.73**		279.83		1563		**3909**	
Normalized	8.41%		3.83%		7.16%		39.99%		100%	
Standard Deviation	0%		0%		0%		0%		0.1%	
SQLite Speedtest - Timed Time - Size 1,000 (sec)	471.449		**663.014**		563.244		436.239		**376.806**	
Normalized	79.93%		56.83%		66.9%		86.38%		100%	
Standard Deviation	0.5%		0.6%		0.8%		0.3%		13.4%	
7-Zip Compression - Compression Rating (MIPS)		2855		**1522**		2449		2684		**6287**
Normalized		45.41%		24.21%		38.95%		42.69%		100%
Standard Deviation		0.1%		0.5%		0.3%				0.2%
7-Zip Compression - D.R (MIPS)		3097		**1402**		2646		3007		**7269**
Normalized		42.61%		19.29%		36.4%		41.37%		100%
Standard Deviation		0.1%				0.1%		0.1%		0.4%
FLAC Audio Encoding - WAV To FLAC (sec)		255.460		282.974		**299.744**		127.588		**105.612**
Normalized		41.34%		37.32%		35.23%		82.78%		100%
Standard Deviation		0.2%		0.5%		0.3%		0.4%		3.8%
LAME MP3 Encoding - WAV To MP3 (sec)		46.394		52.257		**54.360**		**36.248**		49.731
Normalized		78.13%		69.36%		66.68%		100%		72.89%
Standard Deviation		0.3%		1.4%		0.8%		1.7%		34.7%
FFmpeg - H.2.H.T.N.D (sec)		62.373		**136.377**		73.083		47.103		**39.445**
Normalized		63.24%		28.92%		53.97%		83.74%		100%
Standard Deviation		0.6%		1%		1.7%		1.6%		13.5%
OpenSSL - SHA256 (byte/s)		83919643		**37032837**		71678467		**127693380**		
Normalized		65.72%		29%		56.13%		100%		
Standard Deviation		0.2%		0.6%		0.3%		1.6%		

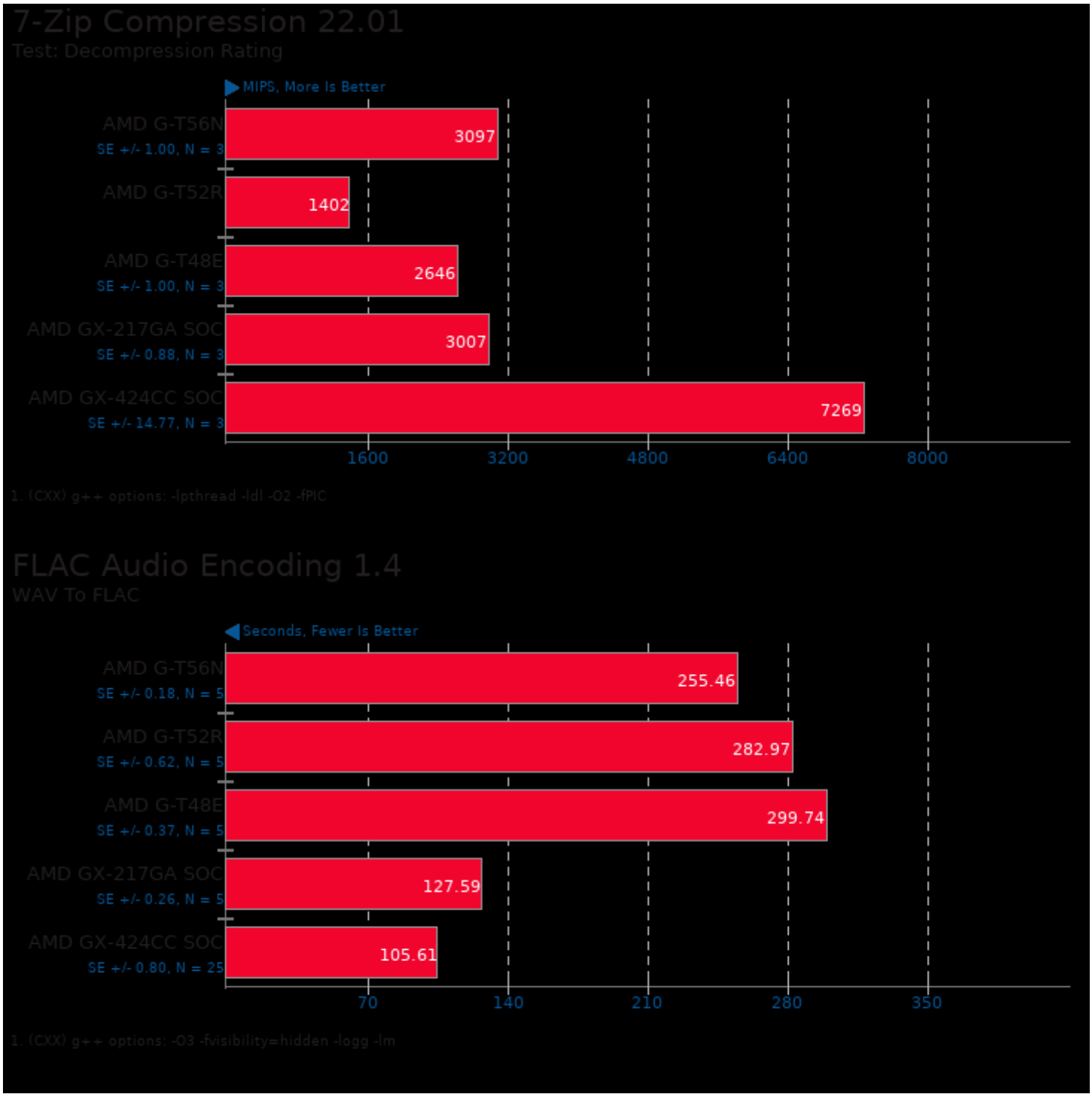
terminaltest

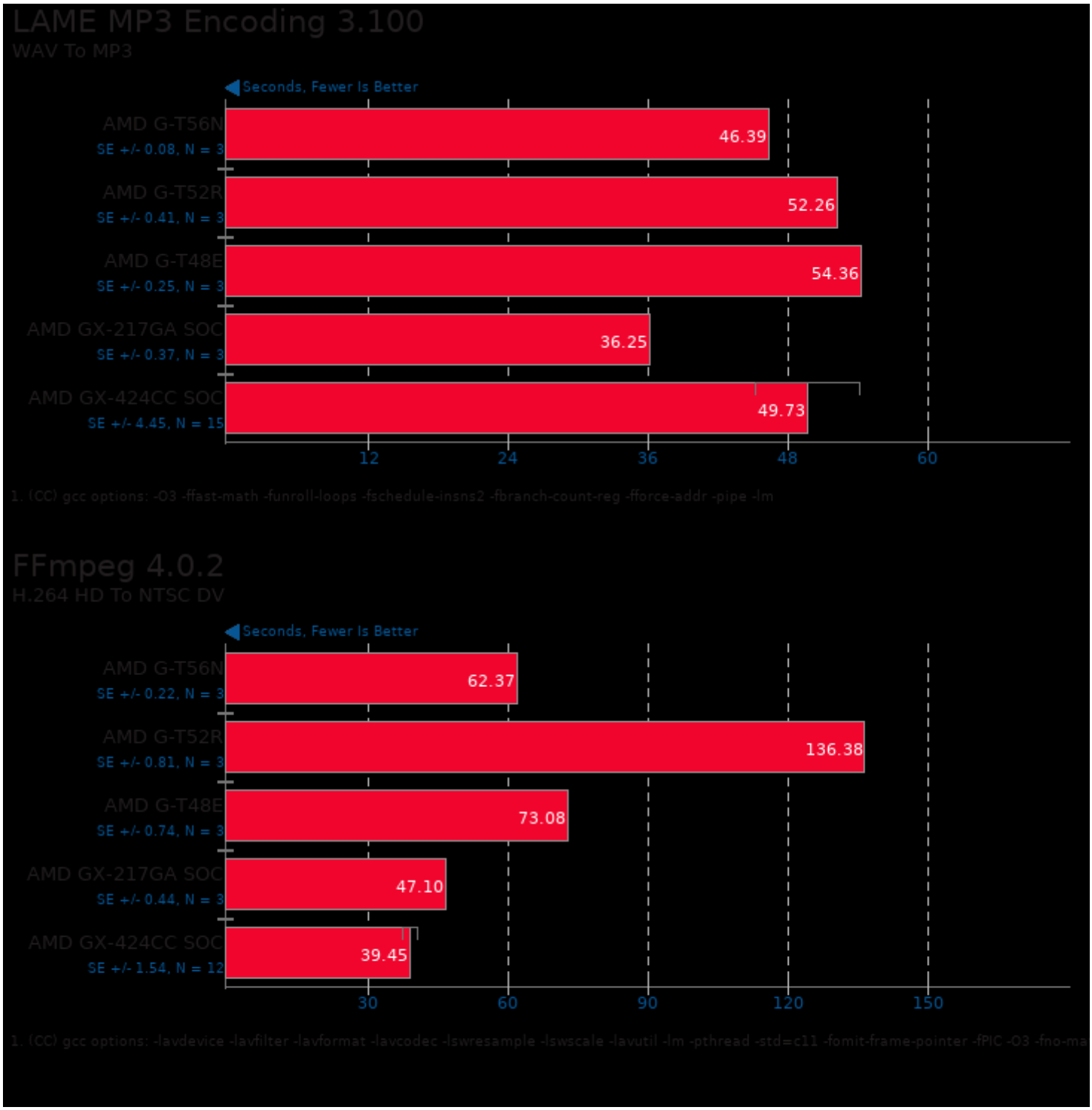
OpenSSL - RSA4096 (sign/s)	**64.7**	**29.5**	55.1	63.8
Normalized	100%	45.6%	85.16%	98.61%
Standard Deviation	0.1%	0.2%	0%	0.1%
OpenSSL - RSA4096 (verify/s)	**4428**	**2012**	3770	4311
Normalized	100%	45.43%	85.13%	97.35%
Standard Deviation	0%	0.1%	0%	0.1%
POV-Ray - Trace Time (sec)	1698	**4280**	1990	**1497**
Normalized	88.13%	34.97%	75.19%	100%
Standard Deviation	0.3%	0.2%	0.4%	0.2%
x264 - Bosphorus 4K (FPS)	0.56	**0.24**	0.5	**0.88**
Normalized	63.64%	27.27%	56.82%	100%
Standard Deviation	1%	2.4%	0%	0%
x264 - Bosphorus 1080p (FPS)	2.43	**0.98**	2.07	**3.84**
Normalized	63.28%	25.52%	53.91%	100%
Standard Deviation	0.6%	0%	0.6%	0.7%

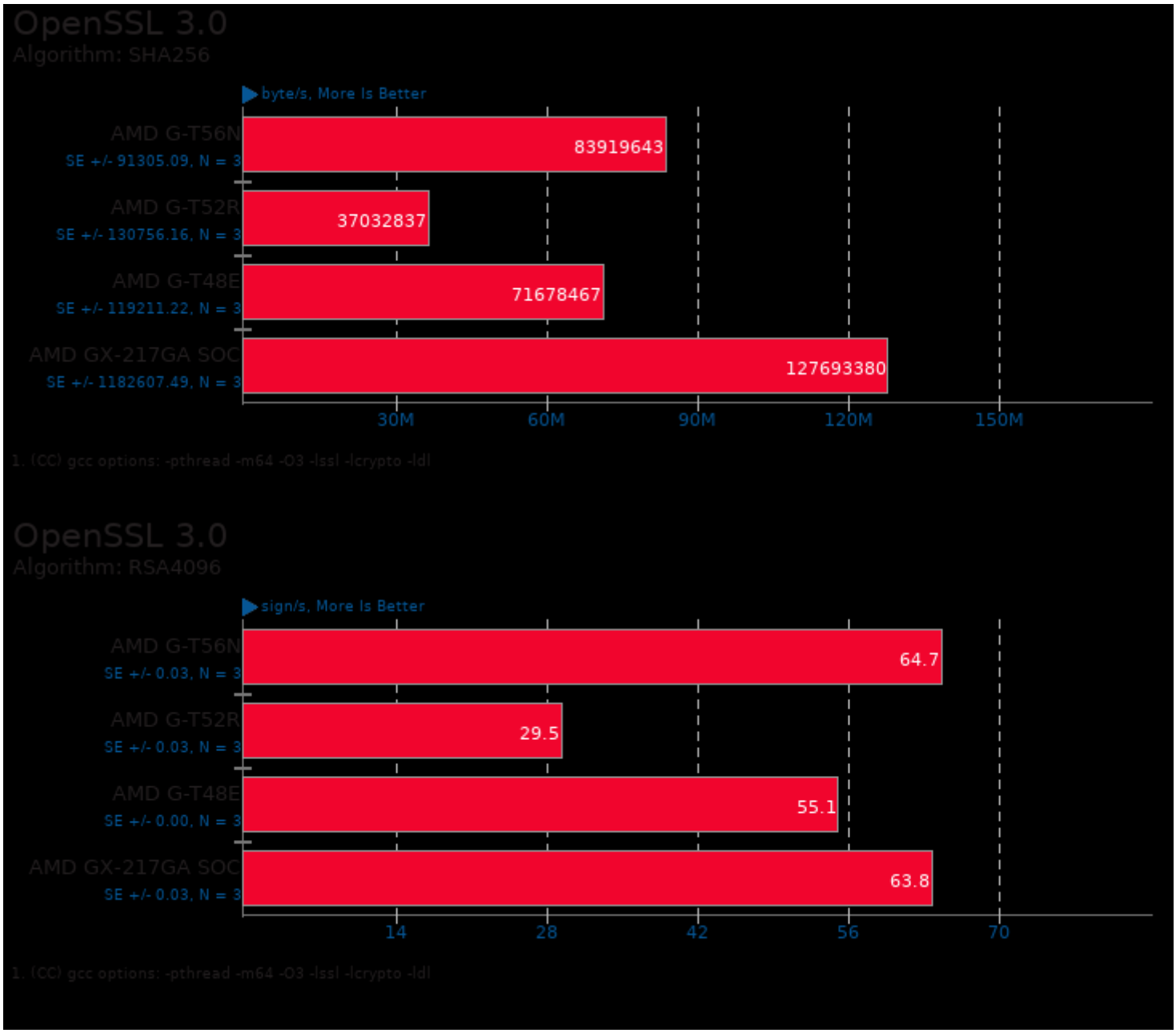

Sysbench 1.0.20
Test: RAM / Memory
MiB/sec, More Is Better
AMD G-T56N - AMD Radeon HD 6320 - HP 17E2 (K30 v01.20
SE +/- 2.87, N = 3
1492.19
AMD G-T52R - AMD Radeon HD 6310 - Inventec Z CLASS
SE +/- 8.01, N = 3
1215.01
AMD G-T48E - AMD Radeon HD 6250 - Inventec D CLASS
SE +/- 0.71, N = 3
1281.31
AMD GX-217GA SOC - AMD Radeon HD 8280E - HP 2187 (L40
SE +/- 38.46, N = 3
2731.64
AMD GX-424CC SOC - AMD Radeon R4/R5 - Dell Wyse Thin
SE +/- 8.70, N = 3
781.06
600
1200
1800
2400
3000
1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm
Sysbench 1.0.20
Test: CPU
Events Per Second, More Is Better
AMD G-T56N - AMD Radeon HD 6320 - HP 17E2 (K30 v01.20
SE +/- 0.02, N = 3
328.72
AMD G-T52R - AMD Radeon HD 6310 - Inventec Z CLASS
SE +/- 0.01, N = 3
149.73
AMD G-T48E - AMD Radeon HD 6250 - Inventec D CLASS
SE +/- 0.01, N = 3
279.83
AMD GX-217GA SOC - AMD Radeon HD 8280E - HP 2187 (L40
SE +/- 0.02, N = 3
1562.87
AMD GX-424CC SOC - AMD Radeon R4/R5 - Dell Wyse Thin
SE +/- 1.15, N = 3
3908.63
800
1600
2400
3200
4000
1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm

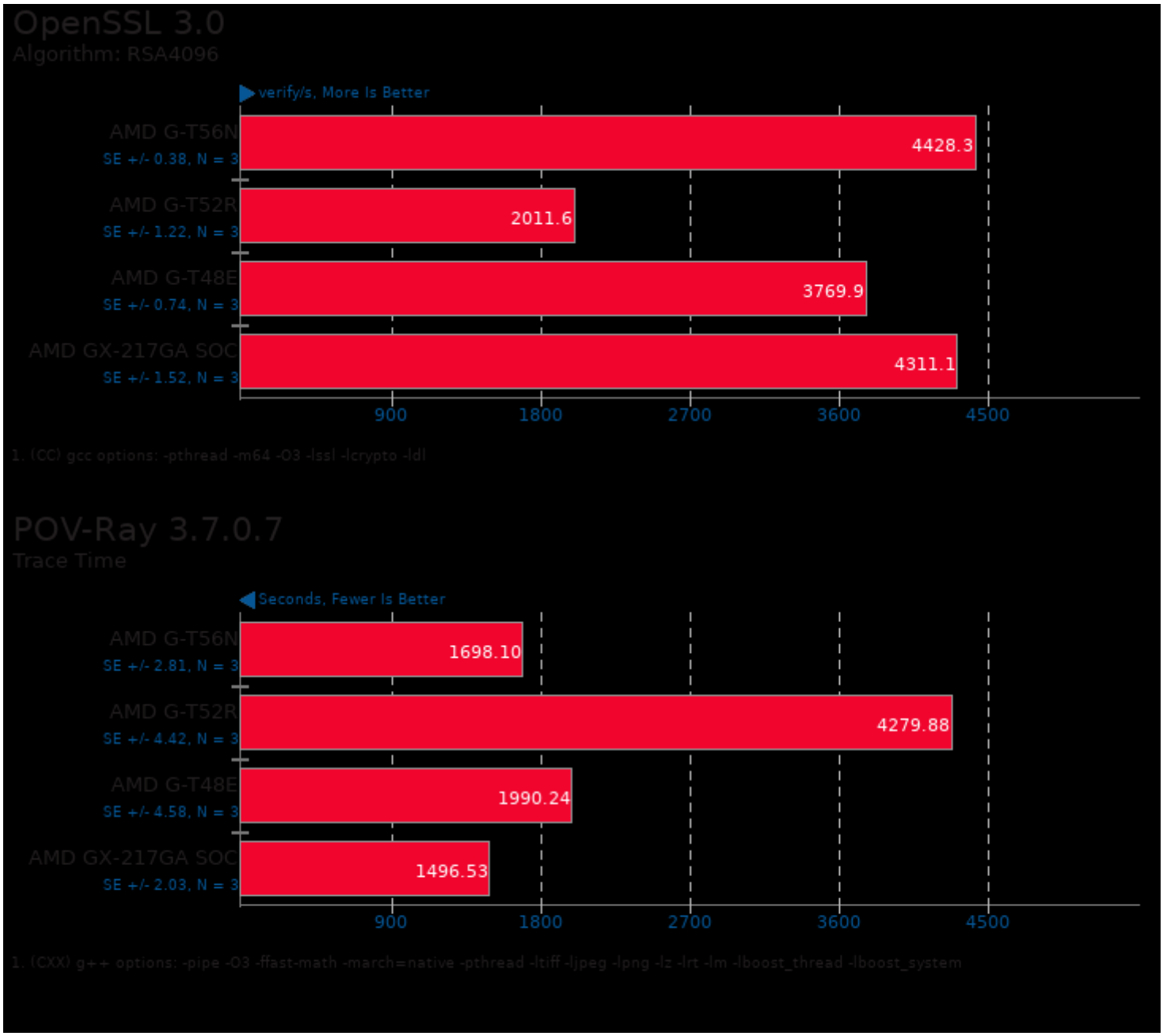
terminaltest



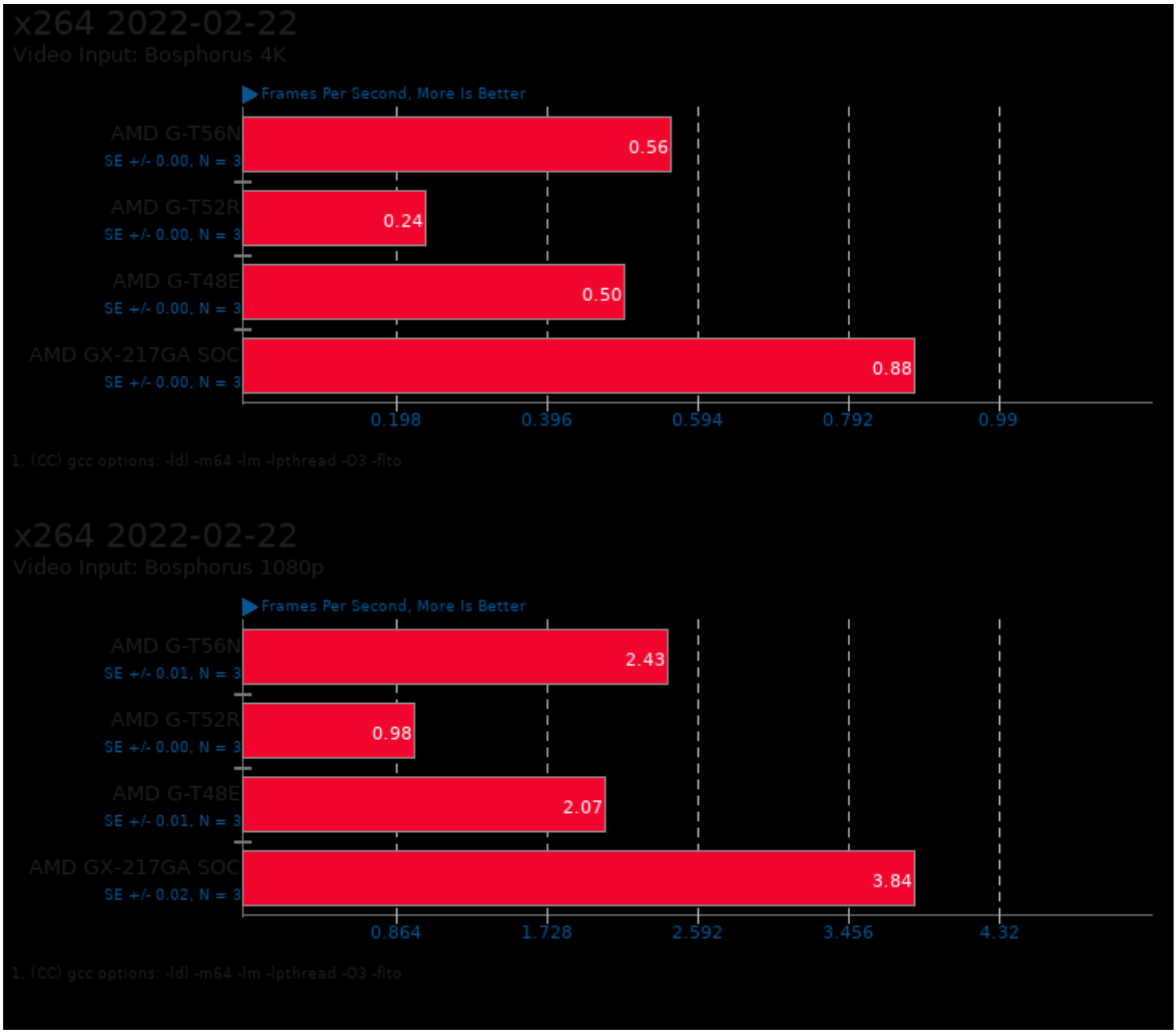

7-Zip Compression 22.01
Test: Decompression Rating
MIPS, More Is Better
AMD G-T56N
SE +/- 1.00, N = 3
3097
AMD G-T52R
1402
AMD G-T48E
SE +/- 1.00, N = 3
2646
AMD GX-217GA SOC
SE +/- 0.88, N = 3
3007
AMD GX-424CC SOC
SE +/- 14.77, N = 3
7269
1600
3200
4800
6400
8000
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
FLAC Audio Encoding 1.4
WAV To FLAC
Seconds, Fewer Is Better
AMD G-T56N
SE +/- 0.18, N = 5
255.46
AMD G-T52R
SE +/- 0.62, N = 5
282.97
AMD G-T48E
SE +/- 0.37, N = 5
299.74
AMD GX-217GA SOC
SE +/- 0.26, N = 5
127.59
AMD GX-424CC SOC
SE +/- 0.80, N = 25
105.61
70
140
210
280
350
1. (CXX) g++ options: -O3 -fvisibility=hidden -logg -lm


LAME MP3 Encoding 3.100
WAV To MP3
Seconds, Fewer Is Better
AMD G-T56N
SE +/- 0.08, N = 3
46.39
AMD G-T52R
SE +/- 0.41, N = 3
52.26
AMD G-T48E
SE +/- 0.25, N = 3
54.36
AMD GX-217GA SOC
SE +/- 0.37, N = 3
36.25
AMD GX-424CC SOC
SE +/- 4.45, N = 15
49.73
12
24
36
48
60
1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm
FFmpeg 4.0.2
H.264 HD To NTSC DV
Seconds, Fewer Is Better
AMD G-T56N
SE +/- 0.22, N = 3
62.37
AMD G-T52R
SE +/- 0.81, N = 3
136.38
AMD G-T48E
SE +/- 0.74, N = 3
73.08
AMD GX-217GA SOC
SE +/- 0.44, N = 3
47.10
AMD GX-424CC SOC
SE +/- 1.54, N = 12
39.45
30
60
90
120
150
1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lm -pthread -std=c11 -fomit-frame-pointer -fPIC -O3 -fno-ma


OpenSSL 3.0
Algorithm: SHA256
byte/s, More Is Better
AMD G-T56N
SE +/- 91305.09, N = 3
83919643
AMD G-T52R
SE +/- 130756.16, N = 3
37032837
AMD G-T48E
SE +/- 119211.22, N = 3
71678467
AMD GX-217GA SOC
SE +/- 1182607.49, N = 3
127693380
30M
60M
90M
120M
150M
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
OpenSSL 3.0
Algorithm: RSA4096
sign/s, More Is Better
AMD G-T56N
SE +/- 0.03, N = 3
64.7
AMD G-T52R
SE +/- 0.03, N = 3
29.5
AMD G-T48E
SE +/- 0.00, N = 3
55.1
AMD GX-217GA SOC
SE +/- 0.03, N = 3
63.8
14
28
42
56
70
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl


OpenSSL 3.0
Algorithm: RSA4096
verify/s, More Is Better
AMD G-T56N
SE +/- 0.38, N = 3
4428.3
AMD G-T52R
SE +/- 1.22, N = 3
2011.6
AMD G-T48E
SE +/- 0.74, N = 3
3769.9
AMD GX-217GA SOC
SE +/- 1.52, N = 3
4311.1
900
1800
2700
3600
4500
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

POV-Ray 3.7.0.7
Trace Time
Seconds, Fewer Is Better
AMD G-T56N
SE +/- 2.81, N = 3
1698.10
AMD G-T52R
SE +/- 4.42, N = 3
4279.88
AMD G-T48E
SE +/- 4.58, N = 3
1990.24
AMD GX-217GA SOC
SE +/- 2.03, N = 3
1496.53
900
1800
2700
3600
4500
1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -ltiff -ljpeg -lpng -lz -lrt -lm -lboost_thread -lboost_system



This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:39.