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sapphire-rx-5500-xt-nitro-8gb

Intel Core i5-6500 testing with a Dell 02K9CR (2.18.0 BIOS) and Sapphire AMD Radeon RX 5500/5500M / Pro 5500M 8GB on ManjaroLinux 21.1.0 via the Phoronix Test Suite.

Automated Executive Summary

Sapphire AMD Radeon RX 5500 had the most wins, coming in first place for 90% of the tests.

Based on the geometric mean of all complete results, the fastest (Sapphire AMD Radeon RX 5500) was 1x the speed of the slowest (Sapphire AMD Radeon RX 5500).

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

vkpeak (int32-vec4) at 1.004x
vkpeak (fp64-vec4) at 1.004x
vkpeak (int32-scalar) at 1.004x
vkpeak (fp64-scalar) at 1.003x
vkpeak (int16-scalar) at 1.003x
vkpeak (int16-vec4) at 1.003x
vkpeak (fp32-scalar) at 1.003x
vkpeak (fp32-vec4) at 1.003x
vkpeak (fp16-scalar) at 1.002x

vkpeak (fp16-vec4) at 1.001x.

Test Systems:

Sapphire AMD Radeon RX 5500

uv

Processor: Intel Core i5-6500 @ 3.60GHz (4 Cores), Motherboard: Dell 02K9CR (2.18.0 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 16GB, Disk: 1000GB HGST HTS721010A9 + 6001GB Western Digital WD60EZAZ-00Z, Graphics: Sapphire AMD Radeon RX 5500/5500M / Pro 5500M 8GB (1050MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: Acer KG241Q, Network: Intel I219-LM

OS: ManjaroLinux 21.1.0, Kernel: 5.13.8-1-MANJARO (x86_64), Desktop: GNOME Shell 40.3, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.1.6 (LLVM 12.0.1), Vulkan: 1.2.168, Compiler: GCC 11.1.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: amdgpu.ppfeaturemask=0xffffffff - Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xea
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Mitigation of Clear buffers; SMT disabled

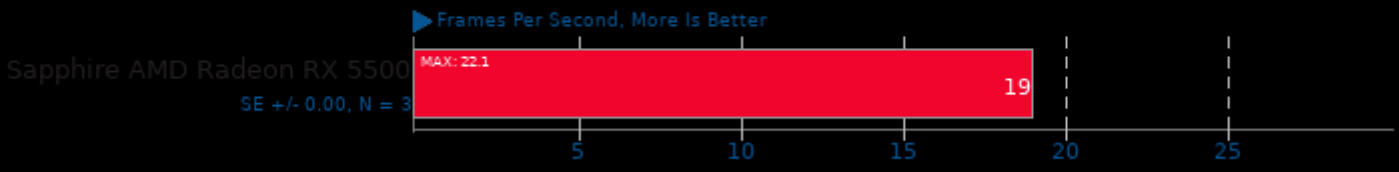
	Sapphire AMD Radeon RX 5500	uv
Unigine Superposition - 1920 x 1080 - Fullscreen - Ultra - OpenGL (FPS)	19	
Standard Deviation	0%	
Unigine Superposition - 1920 x 1080 - Fullscreen - High - OpenGL (FPS)	47.6	
Standard Deviation	0%	
vkpeak - fp32-scalar (GFLOPS)	**5199**	
Normalized	99.73%	
Standard Deviation	0.1%	
vkpeak - fp32-vec4 (GFLOPS)	**5169**	
Normalized	99.74%	
Standard Deviation	0%	
vkpeak - fp16-scalar (GFLOPS)	**5213**	
Normalized	99.81%	
Standard Deviation	0%	
vkpeak - fp16-vec4 (GFLOPS)	**5210**	
Normalized	99.89%	
Standard Deviation	0%	

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vkpeak - fp64-scalar (GFLOPS)	**164.20**	
Normalized	99.68%	
Standard Deviation	0%	
vkpeak - fp64-vec4 (GFLOPS)	**163.75**	
Normalized	99.6%	
Standard Deviation	0%	
vkpeak - int32-scalar (GIOPS)	**896.85**	
Normalized	99.61%	
Standard Deviation	0%	
vkpeak - int32-vec4 (GIOPS)	**1046**	
Normalized	99.55%	
Standard Deviation	0%	
vkpeak - int16-scalar (GIOPS)	**2609**	
Normalized	99.71%	
Standard Deviation	0%	
vkpeak - int16-vec4 (GIOPS)	**2612**	
Normalized	99.73%	
Standard Deviation	0%	
RealSR-NCNN - 4x - No (sec)	16.321	
Standard Deviation	0.5%	
RealSR-NCNN - 4x - Yes (sec)	106.353	
Standard Deviation	0%	
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	7.425	
Standard Deviation	0.2%	
VkFFT (Benchmark Score)	12615	
Standard Deviation	0.2%	
Unigine Valley - 1920 x 1080 - Fullscreen - OpenGL (FPS)	**101.560**	**101.651**
Normalized	99.91%	100%
Standard Deviation	0.5%	0.4%
Unigine Heaven - 800 x 600 - Windowed - OpenGL	188.935	
Standard Deviation	1.5%	
Unigine Heaven - 800 x 600 - Fullscreen - OpenGL	188.194	
Standard Deviation	0.1%	

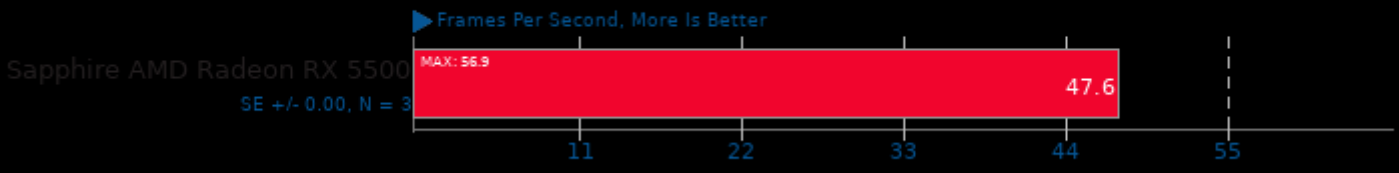
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Fullscreen - Quality: Ultra - Renderer: OpenGL



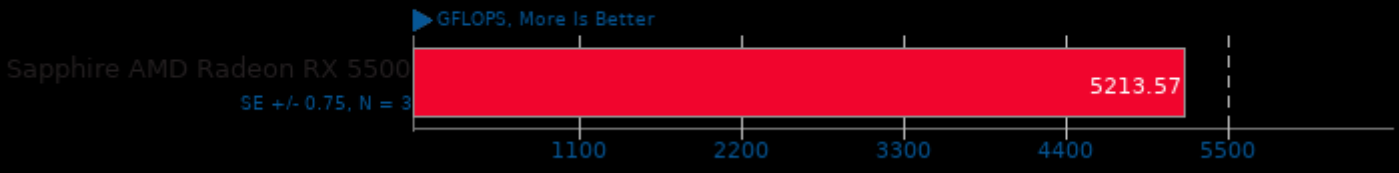
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Fullscreen - Quality: High - Renderer: OpenGL



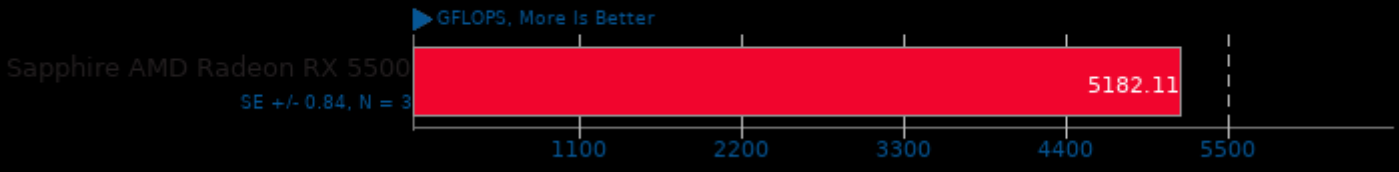
vkpeak 20210424

fp32-scalar



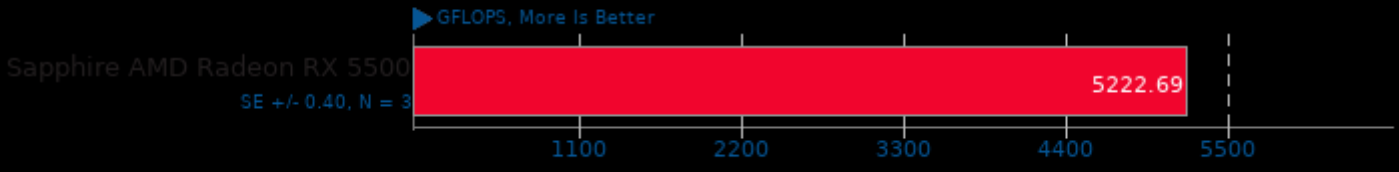
vkpeak 20210424

fp32-vec4



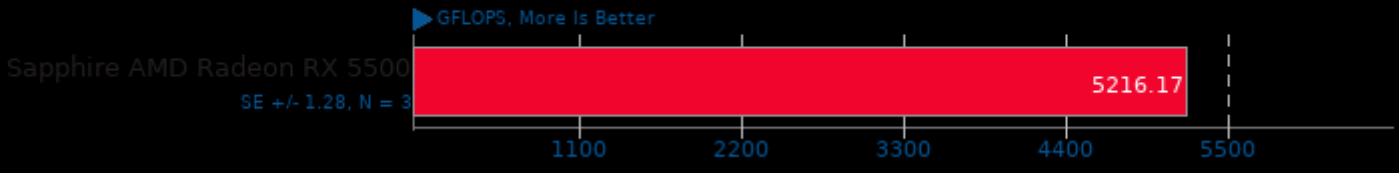
vkpeak 20210424

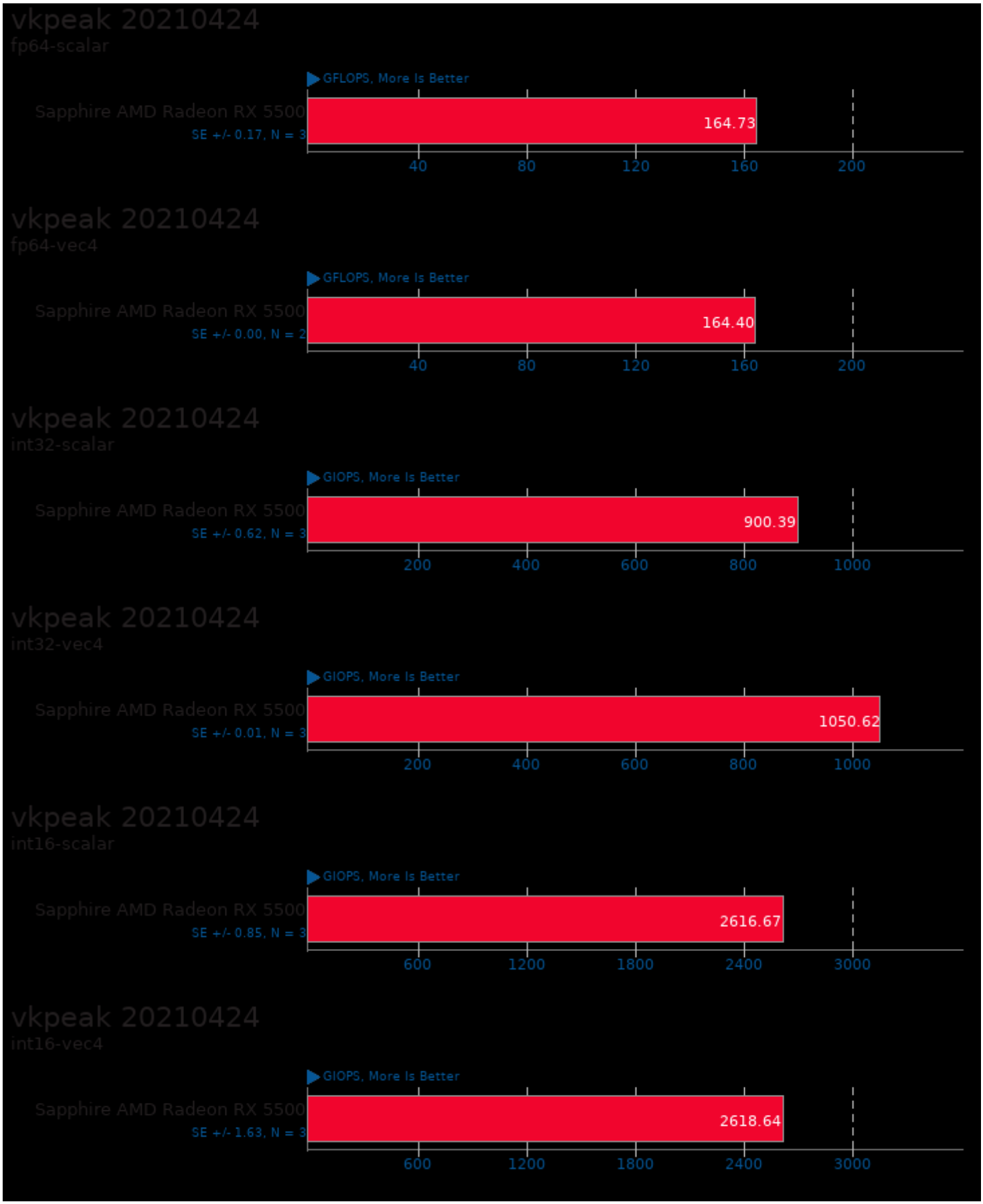
fp16-scalar

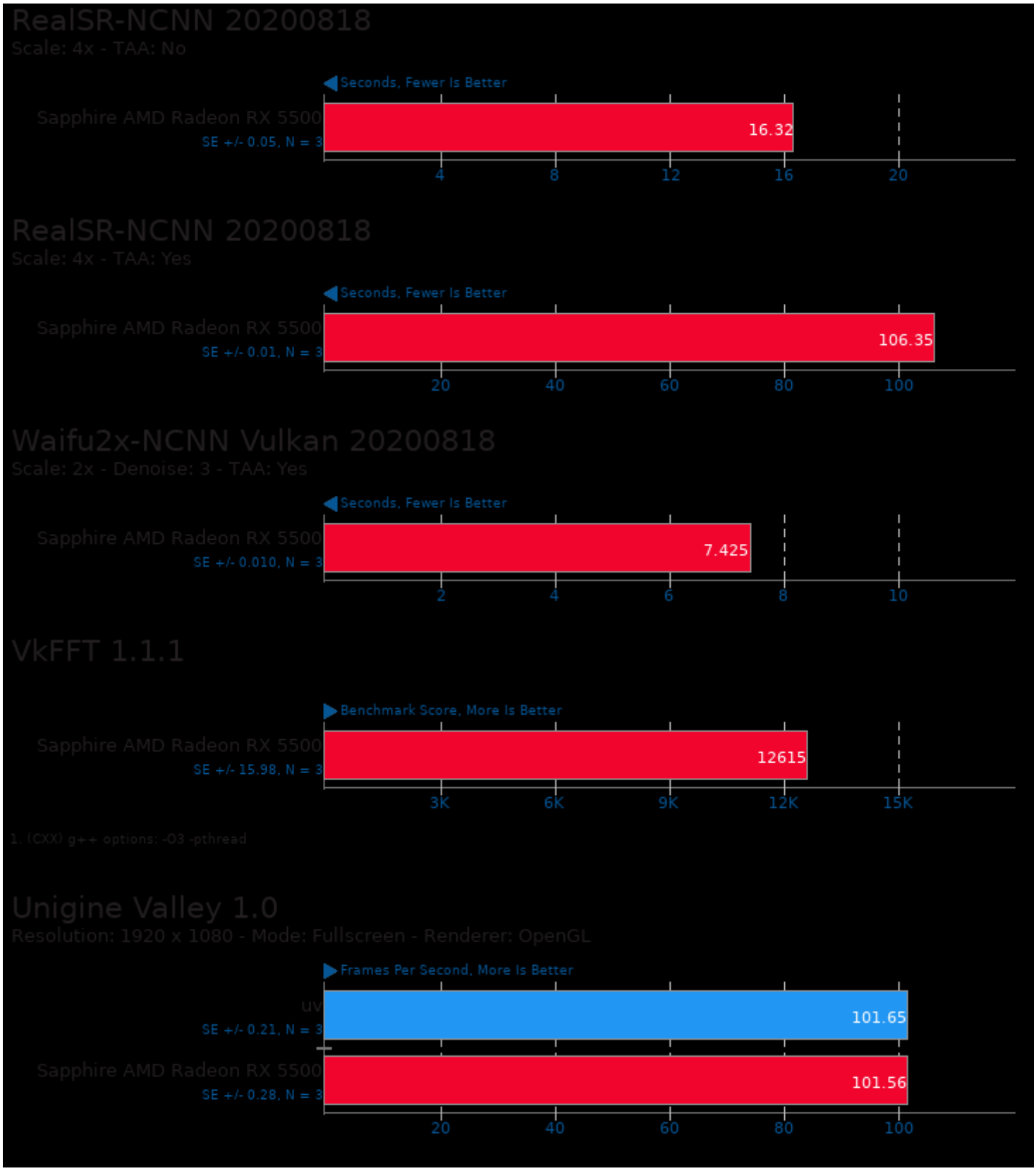


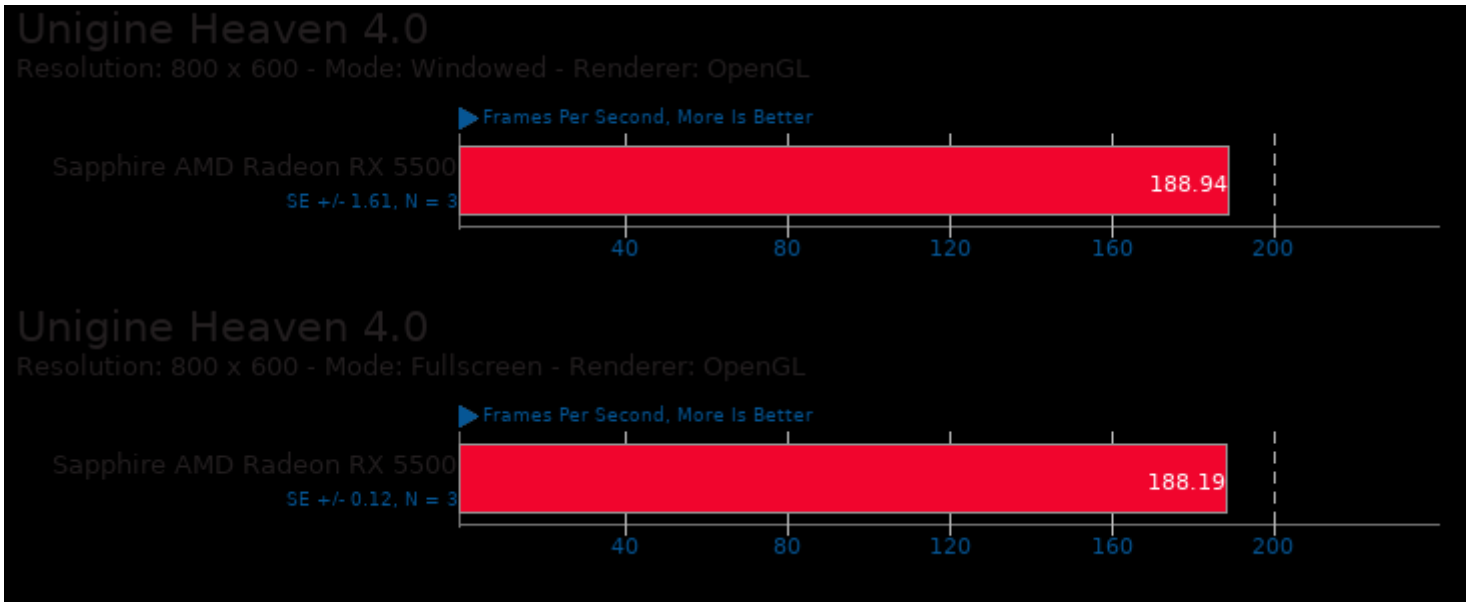
vkpeak 20210424

fp16-vec4




vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.17, N = 3
164.73
40
80
120
160
200
vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.00, N = 2
164.40
40
80
120
160
200
vkpeak 20210424
int32-scalar
GIOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.62, N = 3
900.39
200
400
600
800
1000
vkpeak 20210424
int32-vec4
GIOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.01, N = 3
1050.62
200
400
600
800
1000
vkpeak 20210424
int16-scalar
GIOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.85, N = 3
2616.67
600
1200
1800
2400
3000
vkpeak 20210424
int16-vec4
GIOPS, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 1.63, N = 3
2618.64
600
1200
1800
2400
3000


RealSR-NCNN 20200818
Scale: 4x - TAA: No
Seconds, Fewer Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.05, N = 3
16.32
4
8
12
16
20
RealSR-NCNN 20200818
Scale: 4x - TAA: Yes
Seconds, Fewer Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.01, N = 3
106.35
20
40
60
80
100
Waifu2x-NCNN Vulkan 20200818
Scale: 2x - Denoise: 3 - TAA: Yes
Seconds, Fewer Is Better
Sapphire AMD Radeon RX 5500
SE +/- 0.010, N = 3
7.425
2
4
6
8
10
VkFFT 1.1.1
Benchmark Score, More Is Better
Sapphire AMD Radeon RX 5500
SE +/- 15.98, N = 3
12615
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -pthread
Unigine Valley 1.0
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL
Frames Per Second, More Is Better
UV
SE +/- 0.21, N = 3
101.65
Sapphire AMD Radeon RX 5500
SE +/- 0.28, N = 3
101.56
20
40
60
80
100



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