AMD RADEON™ PRO W6800

Welcome to Exceptional Performance.

AMD

DISCOVER YOUR SOFTWARE'S FULL POTENTIAL

The AMD Radeon™ PRO W6800 graphics card, powered by an award winning AMD RDNA™ 2 architecture, features a gigantic 32GB of dedicated GDDR6 ECC memory, hardware raytracing, 128 MB of all new AMD Infinity Cache and is ready for 6x demanding UHD HDR displays supporting truer colors.

The complete AMD Radeon PRO W6000 range of GPUs are meticulously engineered to deliver ultra-high viewport frame rates, dependability and serious performance for popular professional applications.

- 32GB GDDR6 Memory with ECC Support
- Hardware Raytracing Support
- Optimized for 6x Displays. 8K and HDR Ready
- Accelerated Multitasking Performance
- PCIe® 4.0 Ready for Advanced Data Transfers
- Certified for Many ISV Applications

Power Efficient Performance

Engineered from the ground up, the AMD RDNA 2 architecture introduces significant GPU advancements in the form of an enhanced Compute Unit, new visual pipeline, and all new AMD Infinity Cache. AMD RDNA 2 architecture delivers up to 94% faster performance over previous generation GCN architecture[1]. This helps enable higher resolution performance together with vivid visuals, incorporating superior performance and power efficiency.
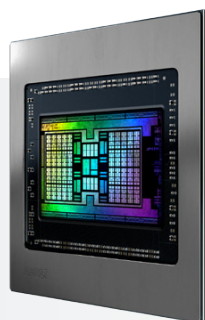
Ideal for Realtime Hardware Raytracing

New to the AMD RDNA 2 Compute Unit is the implementation of a high-performance raytracing acceleration architecture known as Ray Accelerators. This specialized hardware handles the intersection of rays directly on the AMD Radeon PRO W6800 for accelerated hardware raytracing.

Learn more about VR capabilities of Radeon PRO Graphics at **amd.com/PRO-VR**

AMD RADEON VR READY CREATOR
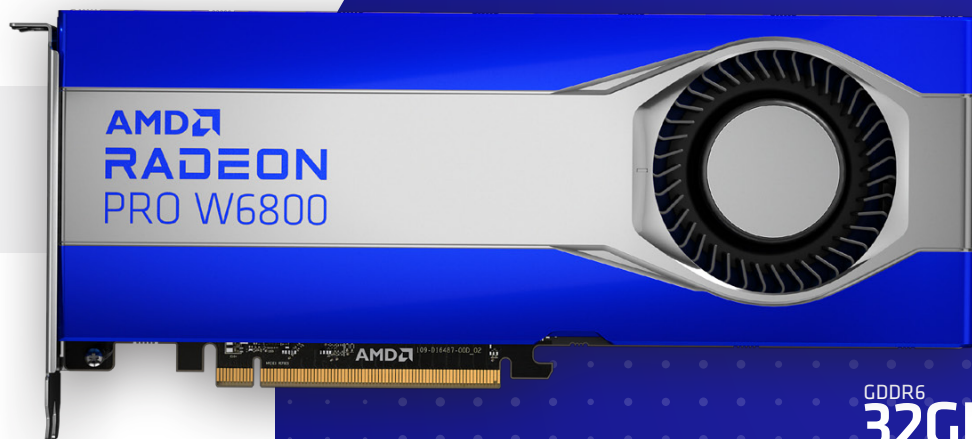
GDDR6
32GB

Technical Specifications

GPU Architecture	AMD RDNA 2
Transistor Count	26.8 Billion (7 nm Process)
Stream Processors	3840 (60 Compute Units)
Hardware Raytracing	Yes (60 Ray Accelerators)
Peak FP16 Throughput (Half Precision)	35.66 Teraflops of Compute Performance
Peak FP32 Throughput (Single Precision)	17.83 Teraflops of Compute Performance
Infinity Cache (L3)	128 MB Graphics Cache
Dedicated Graphics Memory	32GB of High-Performance GDDR6
Peak Memory Bandwidth	512 GB per Second Transfer Speeds
PCI Express® Support	4.0 Ready (x16) with 3.0 Backward Compatibility
Error Correcting Code (ECC) Support	Yes
Professional ISV Certification Support	Yes
AMD Secure Processor (ASP)	Yes
VR and Realtime Ready	Yes
Remote Workstation[2] Ready	Yes
8K UHD and HDR Display Support	Yes
10-bit Color Ready for Truer Colors	Yes
Radeon PRO Viewport Boost Support	Yes
AMD EyefinityTechnology Ready[3]	Yes
AV1 (AOMedia Video 1) Decode[4] Support	Yes
Video Acceleration[4] (HEVC / H265)	Yes – Encode and Decode
Display Connectors	6x Mini-DisplayPort™ 1.4 with DSC
Display Output Configurations (@ 60Hz with HDR Enabled)	6x @ 3840x2160px (4K) 6x @ 5120x2880px (5K) 2x @ 7680x4320px (8K)
Supported APIs	DirectX® 12 Ultimate OpenGL® 4.6 OpenCL™ 2.1 Vulkan™ 1.2
Peak Board Power	Up to 250 Watts of Power
Power Connectors	6-pin + 8-pin Power Cables
PSU Recommendation	650 Watts Minimum
Board Form Factor	Full Height, Double Slot 10.5" (267mm) Length
Supported Operating Systems (64-bit)	Microsoft® Windows® 10 Linux®

Professional Graphics for Exceptional Performance with Reliability, Stability and Software Certifications at its Core.

AMD

Architecture & Engineering Workloads

While AEC software is typically CPU compute heavy, the rise of GPU hardware acceleration is quickening, particularly for complex workloads like photogrammetry, rendering and realtime visualization experiences. The gigantic memory and hardware raytracing capabilities of the AMD Radeon PRO W6800 GPU allows software to break free of common hardware constraints.
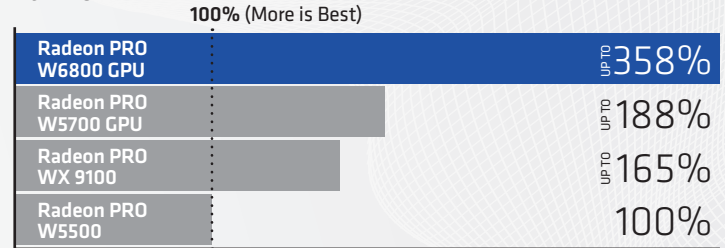
Relative GPU Performance in:
Lumion®

100% (More is Best)

Radeon PRO W6800 GPU	UP TO 358%
Radeon PRO W5700 GPU	UP TO 188%
Radeon PRO WX 9100	UP TO 165%
Radeon PRO W5500	100%

Testing as of March 23, 2021 by AMD Performance Labs on a test system comprised of an AMD Ryzen™ 5950X with AMD Radeon™ PRO W5500, AMD Radeon™ PRO W5700, AMD Radeon™ PRO WX 9100, AMD Radeon™ PRO W6800 pre-production sample, at 3840x2160 display resolution. Benchmark Application: Lumion v.11. Results shown based on the average of all benchmark scenes. Performance may vary based on factors including driver version and system configuration. RPW-358

Design & Manufacturing Workloads

Software certifications remain critical, and even though the AMD Radeon PRO W6800 offers extensive support for common tools, the main benefits of this high-performing GPU are not limited to its robust drivers. It's packed with high-speed memory, large amounts of compute teraflops and a new advanced chip architecture for even the most demanding of visualization, simulation and modeling tasks, all while displaying to 6x demanding Ultra-HD monitors for increased workflow efficiencies.

Dassault Systèmes SOLIDWORKS® Visualize

100% (More is Best)

Radeon PRO W6800 GPU	UP TO 146%
Radeon PRO W6600 GPU	UP TO 86%
Radeon PRO WX 9100	UP TO 69%
Radeon PRO W5700	100%

Testing as of March 23, 2021 by AMD Performance Labs on a test system comprised of an AMD Ryzen™ 9 5950X with AMD Radeon™ PRO W5700 / AMD Radeon™ PRO WX 9100 / AMD Radeon™ PRO W6600 (pre-production sample) / AMD Radeon™ PRO W6800 (pre-production sample), at 3840x2160 display resolution. Benchmark Application: Dassault Systèmes SOLIDWORKS® Visualize 2021 SP3 (ProRender low sample) test. Performance may vary based on factors such as driver version and hardware configuration. RPW-382

Media & Entertainment Workloads

The M&E industry has always been at the forefront of new technology adoption, along with demanding ultra-high resolutions, and the AMD Radeon PRO W6800 helps push this further. With support for 8K video projects, 6x Ultra-HD HDR displays, access to a gigantic memory pool, and unique AMD technologies, this GPU reduces the need for proxies and waiting around while speeding up complex GPU-accelerated renders and encoding or decoding workloads.
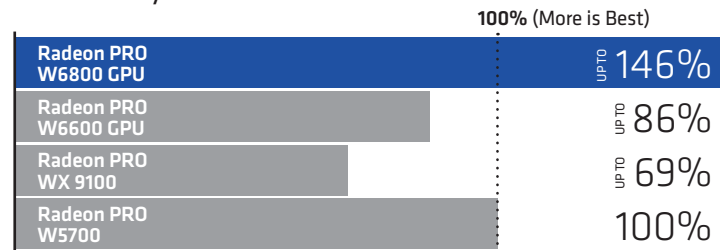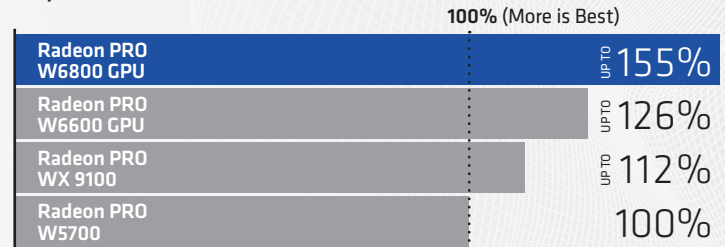
Topaz Video Enhance AI™ at 4K

100% (More is Best)

Radeon PRO W6800 GPU	UP TO 155%
Radeon PRO W6600 GPU	UP TO 126%
Radeon PRO WX 9100	UP TO 112%
Radeon PRO W5700	100%

Testing as of March 16, 2021 by AMD Performance Labs on a test system comprised of an AMD Ryzen™ 5950X with AMD Radeon™ PRO W5700 / AMD Radeon™ PRO WX 9100 / AMD Radeon™ PRO W6600 / AMD Radeon™ PRO W6800 (pre-production sample), at 3840x2160 display resolution. Benchmark Application: Topaz Video Enhance AI 2.0.0 tasks Artemis-HQ, Gaia-HQ and Theia-Detail. Performance may vary based on factors including driver version and system configuration. RPW-360

AMD RADEON PRO W6800

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