

# AMD RADEON™ RX 7000 SERIES GRAPHICS VERSUS AMD RADEON™ RX 9000 SERIES GRAPHICS



## AMD RDNA™ 3 VERSUS AMD RDNA™ 4 ARCHITECTURE

AMD RDNA™ architecture is designed to deliver scalable performance across a wide range of devices.

<p><b>AMD RDNA 3</b></p> <ul style="list-style-type: none"> <li>AI Acceleration</li> <li>2nd Gen Raytracing Acceleration</li> <li>AMD Radiance™ Display Engine</li> </ul>	<p><b>AMD RDNA 4</b></p> <ul style="list-style-type: none"> <li>2nd Gen AI Acceleration</li> <li>3rd Gen Raytracing Acceleration</li> <li>2nd Gen AMD Radiance™ Display Engine</li> </ul>
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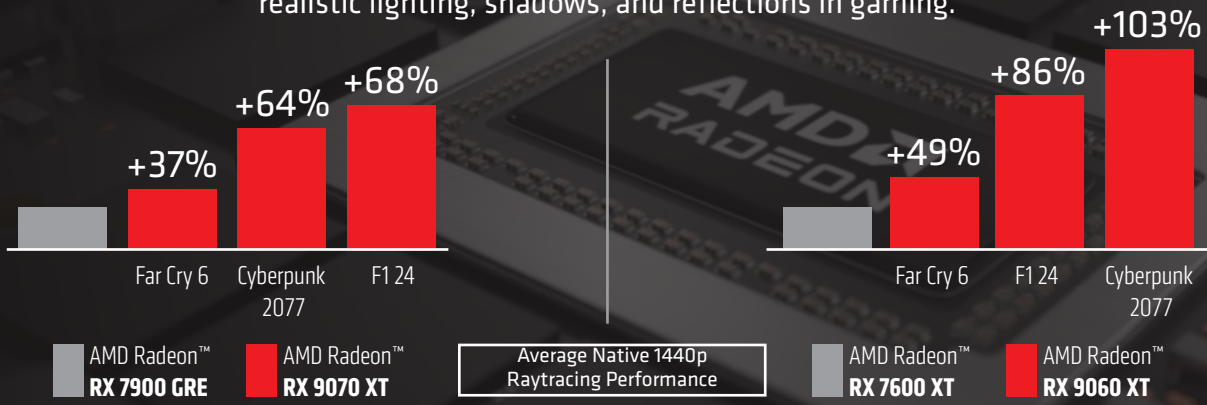
## RAYTRACING, AI ACCELERATION, and MEDIA ENGINE IMPROVEMENTS with future-ready technologies

<p><b>2x</b> Raytracing Throughput per Compute Unit</p> <p>See endnote RX-1143</p>	<p>up to <b>8x</b> FASTER AI Performance with Sparsity</p> <p>See endnote RX-1143</p>	<p>up to <b>20%</b> HIGHER Media Quality (VMAF)</p> <p>See endnote RX-1141</p>
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Comparing AMD RDNA™ 4 architecture specifications to AMD RDNA™ 3 architecture specifications.

## IMMERSIVE RAYTRACING

The AMD Radeon™ RX 9000 Series graphics feature 3rd Generation Raytracing accelerators for realistic lighting, shadows, and reflections in gaming.



See endnote RX-1158, RX-1202

## SUPERCHARGED AI ACCELERATION

The AMD Radeon™ RX 9000 Series graphics, built on AMD RDNA™ 4 architecture with 2nd generation AI Accelerators, enhances experiences with ML-powered upscaling with **AMD FidelityFX™ Super Resolution 4**, improved performance in popular Generative AI tools, and up to 16GB of memory for local AI inference.

<p>AMD Radeon™ RX 9070 XT 4K: Native</p> <p><b>53</b> Avg FPS</p>	<p>AMD Radeon™ RX 9070 XT 4K: AMD FSR 4</p> <p><b>182</b> Avg FPS</p> <p><b>3.4x</b> Uplift Performance Mode</p>
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See endnote: GD-187b, RS-682a

## AI THROUGHPUT vs AMD RDNA™ 3 ARCHITECTURE



See endnote RX-1143

## ENHANCED MEDIA ENGINE

The AMD Radeon™ RX 9000 Series graphics cards include a new media engine that enhances recording and streaming quality, offering nearly 20% improvement over the previous generation.

<p><b>AMD RDNA 3</b> 1080p H.264 6Mbps</p>	<p><b>AMD RDNA 4</b> 1080p H.264 6Mbps</p>
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See endnote: GD-176

GD-176: Video codec acceleration (including at least the HEVC (H.265, H.264, VP9, and AV1 codecs) is subject to and not operable without inclusion/installation of compatible media players. GD-176. GD-187b: AMD FidelityFX Super Resolution (FSR) versions 1, 2, 3, and 4 are available on select games which require game developer integration and are supported on select AMD products. AMD does not provide additional or warranty. GD-187b.

RX-1141: Testing done by AMD performance labs in December 2024, on a test system configured with Ryzen 9 7950X3D CPU, 64 GB DDR5-4800 Memory, and Windows 11 Pro with RDNA 4 (Radeon RX 9070 XT) vs. a similarly configured system with AMD RDNA 3 architecture-based graphics (Radeon RX 7900 XT), comparing the media engine H.264 VMAF quality scores in the following applications: Borderlands 3, Far Cry 6, and Watch Dogs: Legion at 1080p and 4K. System manufacturers may vary configurations, yielding different results. RX-1141.

RX-1143: Based on specifications of AMD RDNA 4 architecture compared to AMD RDNA 3 architecture as of December 2024. RX-1143.

RX-1158: Testing done by AMD performance labs February 2025, on a test system configured with Ryzen 7 9800X3D CPU, 32 GB DDR5-6000 Memory, Windows 11 Pro and Radeon RX 9070 XT (Driver 25.3.1 RC 31) vs. a similarly configured system with an RX 7900 GRE (Driver 25.3.1 RC31) comparing, yielding different results at 1440p in the following applications: Cyberpunk 2077 (DX12, RT Ultra), F1 24 (DX12, Ultra High RT), Far Cry 6 (DX12, Ultra RT), and Watch Dogs: Legion (DX12, Ultra RT). RX-1158.

RX-1202: Testing done by AMD performance labs May 2025, on a test system configured with Ryzen 7 9800X3D CPU, 32 GB DDR5-6000 Memory, Windows 11 Pro and Radeon RX 9060 XT (16GB) and RX 7600 XT (Driver 25.5.1) comparing gaming performance at 1440p in the following applications: Cyberpunk 2077 (DX12, RT Ultra), F1 24 (DX12, Ultra High, RT High), Far Cry 6 (DX12, Ultra RT). Testing conducted on with latest game builds as of May 8th, 2025. System manufacturers may vary configurations, yielding different results. RX-1202.

RS-682a: Testing by AMD with AMD as of February 2025 on the AMD Radeon™ RX 9070 XT using an internal build of AMD Software: Adrenalin Edition™ driver, AMD Smart Access Memory technology, and AMD FidelityFX™ Super Resolution 4 (FSR 4) technology with "Performance" mode and frame generation enabled versus AMD FSR 4 OFF, on a test system configured with an AMD Ryzen™ 7 9800X3D CPU, 32 GB DDR5-6000 RAM, MSI MEG x670E ACE motherboard, and Windows 11 Pro 2023 Update, using the Space Marine 2 application at 3840 x 2160 "Ultra" graphics preset. Performance is dependent on the AMD FSR 4 quality mode selected. AMD FSR 4 available on AMD Radeon™ RX 9000 Series graphics and is available in select games with AMD FSR 3.1 integration. System manufacturers may vary configurations, yielding different results. RS-682a.