

AMD RDNA™ 4 DESKTOP GRAPHICS ARCHITECTURE

QUICK REFERENCE GUIDE



The AMD RDNA™ architecture is designed to deliver scalable performance across a wide range of devices. The latest AMD RDNA™ 4 architecture offers redesigned compute units with significantly faster AI acceleration and double the raytracing throughput over the previous generation¹. AMD RDNA™ 4 architecture also features advanced Media and Display engines, delivering significant improvements to recording and streaming quality², providing everything gamers need for their favorite desktop experiences in 2025 and beyond.

PERFORMANCE

- Up to 64 Unified Compute Units
- 2nd generation AI accelerators

VISUALS

- 3rd generation raytracing accelerators
- AMD Radiance Display™ Engine

FEATURES

- Enhanced media engine
- PCIe® 5.0
- HDMI™ 2.1b, DisplayPort™ 2.1a

AMD RDNA™ ARCHITECTURE FEATURE LIST

	2018	2020	2022	2025
	AMD RDNA	AMD RDNA 2	AMD RDNA 3	AMD RDNA 4
	AMD Radeon™ RX 5000 Series	AMD Radeon™ RX 6000 Series	AMD Radeon™ RX 7000 Series	AMD Radeon™ RX 9000 Series
DIRECTX® 12	✓	✓	✓	✓
DIRECTX® 12 ULTIMATE		✓	✓	✓
RAYTRACING		✓	✓ 2nd Gen	✓ 3rd Gen
AMD INFINITY CACHE™ TECHNOLOGY		✓	✓	✓
AI ACCELERATION			✓	✓ 2nd Gen
FRAME GENERATION TECHNOLOGY			✓	✓
AV1 ³			✓	✓
AMD RADIANCE™ DISPLAY ENGINE			✓	✓ 2nd Gen

NEXT STEPS

Find out more by visiting www.amd.com/RDNA
For more AMD product training, sign up at arena.amd.com and earn rewards!

ENDNOTES

1. RX-1143: Based on specifications of AMD RDNA 4 architecture compared to AMD RDNA 3 architecture as of December 2024. RX-1143
2. RX-1141: Testing done by AMD performance labs December 2024, on a test system configured with Ryzen 9 7950X3D CPU, 64 GB DDR5-4800 Memory, and Windows 11 Pro with RDNA 4 vs. RDNA 3 comparing the media engine H.264 VMAF quality scores. Testing conducted in the following games: Borderlands 3, Far Cry 6, and Watch Dogs: Legion at 1080p and 4K. System manufacturers may vary configurations, yielding different results. RX-1141
3. 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

© 2025 Advanced Micro Devices, Inc. All rights reserved. AMD, the AMD Arrow logo, Radeon, RDNA, and combinations thereof are trademarks of Advanced Micro Devices, Inc. The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI Trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. PCIe and PCI Express are registered trademarks of PCI-SIG corporation. Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies. PID #243019462