AMD RYZEN™ AI 9 HX 370 PROCESSOR vs QUALCOMM SNAPDRAGON X ELITE PROCESSORS

AMD RYZEN AI 300 Series

HOW WE WIN OVERVIEW

AMD Ryzen™ AI 300 Series processors deliver a no compromise AI PC solution, bringing leadership performance, all-day battery life, a range of TDPs, and discrete graphics options to offer a full range of ultrathin to gaming platforms with broad support for the entire Windows ecosystem.

LEADERSHIP PERFORMANCE & APP COMPATABILITY - NO EMULATION REQUIRED

- AMD Ryzen™ AI 9 HX 370 processor can deliver faster performance across productivity, content creation, & graphics benchmarks than Qualcomm processors[1,2,3]
- App compatibility issues remain for ARM processors, while AMD offers seamless support across the Windows ecosystem

DOMINANT GAMING PERFORMANCE

- AMD Ryzen™ AI 9 HX 370 processor can deliver dominant performance and full compatibility across all game titles[4]
- Many games lack native ARM support, leading to poor performance and some simply not launching at all on Qualcomm PCs

POWERFUL & POWER EFFICIENT FOR IDEAL MOBILE EXPERIENCE

- AMD Ryzen™ AI 9 HX 370 processor brings powerful AND efficient performance to thin and light laptops with comparable battery life to Qualcomm in similar laptops[5]
- ARM processors have been recognized for delivering long battery, however, efficiency can often come at the cost of performance

INDUSTRY LEADING AI ENGINE

- AMD Ryzen™ AI 300 Series processors offers industry-leading NPU (up to 50 TOPS), surpassing Microsoft Copilot+ requirements and Qualcomm (45 TOPS)[6,7]
- AMD Ryzen™ AI 300 Series NPU is the first to support Block fp16 datatype[8], which can offer up to 2X performance vs other models[9]

FASTER EVERYDAY PERFORMANCE THAN QUALCOMM PROCESSORS

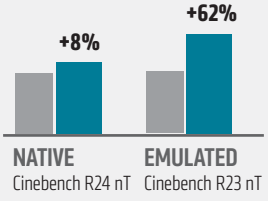
AMD Ryzen™ AI 9 HX 370 (28W) vs Snapdragon X Elite X1E-78-100[1] up to	**AMD™ Ryzen AI 9 HX 370** (28W) vs Snapdragon X Elite X1E-80-100[2] up to	**AMD™ Ryzen AI 9 HX 370** (28W) vs Snapdragon X Elite X1E-84-100[3] up to
41% faster web browsing (Kraken)	**19%** faster web browsing (Kraken)	**18%** faster web browsing (Kraken)
16% faster productivity (Procyon Office)	**19%** faster productivity (Procyon Office)	Similar productivity (Procyon Office)
87% faster 3D rendering (Blender)	**85%** faster 3D rendering (Blender)	**112%** faster 3D rendering (Blender)
77% faster graphics (Geekbench OpenCL)	**78%** faster graphics (Geekbench OpenCL)	**52%** faster graphics (Geekbench OpenCL)

THE PERFORMANCE PENALTY OF EMULATION

Applications that lack native Arm compatibility require running in emulation. This can cause latency and performance issues, crashes, or app launch issues.

54% performance swing on Qualcomm when running in emulation vs ARM native[10]

- AMD Ryzen™ AI 9 HX 370 (28W)
- Qualcomm Snapdragon X Elite X1E-84-100



BATTERY LIFE THAT LASTS

AMD delivers leadership performace and competitive battery life in similar Qualcomm OLED platforms.

Up to **17.3** HOURS BATTERY LIFE

16" OLED LAPTOP WITH AMD RYZEN™ AI 9 HX 370
78Whr battery

VS.

Up to **16.1** HOURS BATTERY LIFE

16" AMOLED laptop with Qualcomm Snapdragon X Elite X1E-84-100
51 Whr battery

Up to **12.1** HOURS BATTERY LIFE

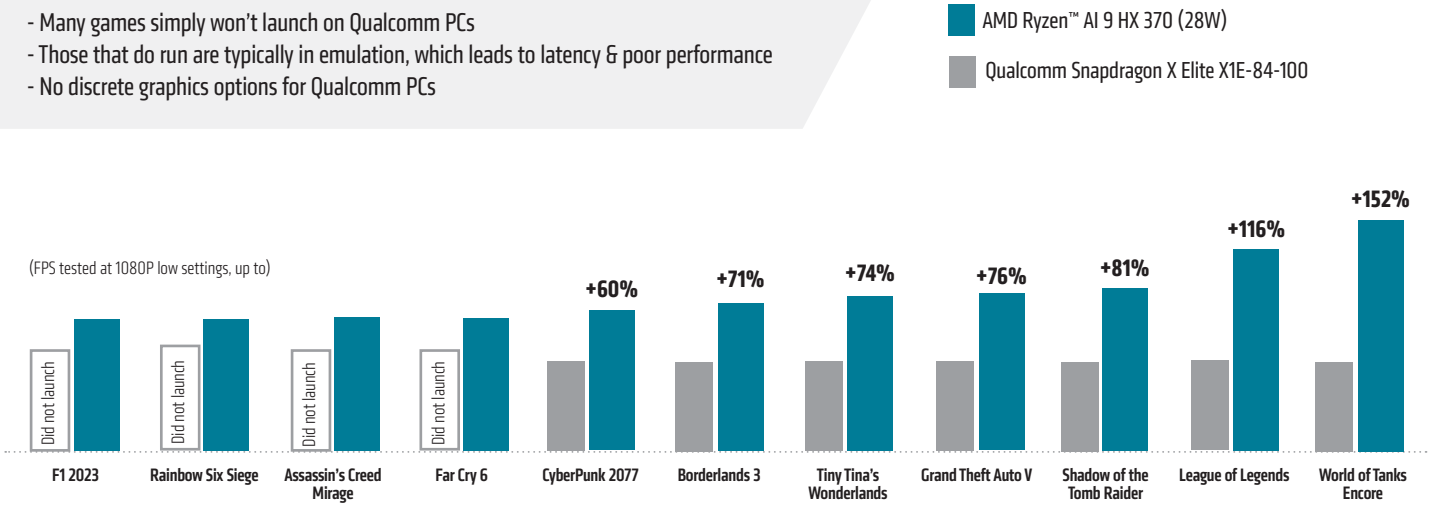
15" OLED laptop with Qualcomm Snapdragon X Elite X1E-78-100
70 Whr battery

Up to **18.6** HOURS BATTERY LIFE

14.5" OLED laptop with Qualcomm Snapdragon X Elite X1E-78-100
70 Whr battery

DOMINANT GAMING PERFORMANCE[4]

- Many games simply won't launch on Qualcomm PCs
- Those that do run are typically in emulation, which leads to latency & poor performance
- No discrete graphics options for Qualcomm PCs



SPECIFICATIONS

Model	Graphics	Cores/Threads	Cache	Boost Freq[11] (up to)	Process Node	NPU TOPS
AMD Ryzen™ AI 9 HX 370 (15-54W TDP)	Radeon™ 890M	12/24	36 MB	5.1 GHz	4nm	50 TOPS
Qualcomm Snapdragon X Elite X1E-78-100	Adreno graphics	12/12	42MB	4.2 GHz	4nm	45 TOPS
Qualcomm Snapdragon X Elite X1E-80-100	Adreno graphics	12/12	42MB	4.0 GHz	4nm	45 TOPS
Qualcomm Snapdragon X Elite X1E-84-100	Adreno graphics	12/12	42MB	3.4 GHz	4nm	45 TOPS

FOOTNOTES:

1. Testing as of July 2024 by AMD Performance Labs using the following benchmark tests: Cinebench R23, Cinebench R24, Geekbench 6.3, Procyon office, Kraken, 7Zip, Blender, PCMark 10, 3DMark Wildlife Extreme. Configuration for laptops tested: ASUS Zenbook S 16 - AMD Ryzen™ AI 9 HX 370 processor, AMD Radeon 890M graphics, 16" OLED display, 78Whr battery, 32GB RAM, 1TB SSD, Windows 11. ASUS Vivobook S 15 – Qualcomm Snapdragon X Elite X1E-78-100 processor, Qualcomm Adreno graphics, 15" OLED display, 70Whr battery, 32GB RAM, 1TB SSD, Windows 11. Both with VBS enabled. PCMark and 3DMark are registered trademarks of UL Solutions. Laptop manufactures may vary configurations yielding different results. STX-60
2. Testing as of July 2024 by AMD Performance Labs using the following benchmark tests: Cinebench R23, Cinebench R24, Geekbench 6.3, Procyon office, Kraken, 7Zip, Blender, PCMark 10, Wildlife Extreme Unlimited. Configuration for laptops tested: ASUS Zenbook S 16 - AMD Ryzen™ AI 9 HX 370 processor, AMD Radeon 890M graphics, 16" OLED display, 78Whr battery, 32GB RAM, 1TB SSD, Windows 11. Dell XPS 13 – Qualcomm Snapdragon X Elite X1E-80-100 processor, Qualcomm Adreno graphics, 13" display, 16GBRAM, 512GB SSD, Windows 11. Both with VBS enabled. PCMark is a registered trademark of UL Solutions. Laptop manufactures may vary configurations yielding different results. STX-62
3. Testing as of July 2024 by AMD Performance Labs using the following benchmark tests: Handbrake, Cinebench R23, Cinebench R24, Geekbench 6.3 Opencl, Procyon office, Kraken, 7Zip, Blender, PCMark 10. Configuration for laptops tested: ASUS Zenbook S 16 - AMD Ryzen™ AI 9 HX 370 processor, 16" OLED display, 78Whr battery, 32GB RAM, 1TB SSD, Windows 11. Samsung Galaxy Book4 Edge – Qualcomm Snapdragon X Elite X1E-84-100, 16" AMOLED display, 62Whr battery, 16GB RAM, 1TB SSD, Windows 11. Both with VBS enabled. PCMark is a registered trademark of UL Solutions. Laptop manufactures may vary configurations yielding different results. STX-55
4. Testing as of July 2024 by AMD Performance Labs using the following games tested at 1080p lowest settings: Borderlands 3, CyberPunk 2077, F1 2022, Grand Theft Auto 5, League of Legends, Shadow of the Tomb Raider, Tiny Tina's Wonderlands, World of Tanks Encore, F1 2023, Far Cry 6, Hitman 3, Rainbow Six Siege, Assassin's Creed Mirage. Configuration for laptops tested: ASUS Zenbook S 16 - AMD Ryzen™ AI 9 HX 370 processor, 16" OLED display, 78Whr battery, 32GB RAM, 1TB SSD, Windows 11. Samsung Galaxy Book4 Edge – Qualcomm Snapdragon X Elite X1E-84-100, 16" AMOLED display, 62Whr battery, 16GB RAM, 1TB SSD, Windows 11. Both with VBS enabled. Laptop manufactures may vary configurations yielding different results. STX-56
5. Testing as of May 2024 by AMD Performance Labs using Video Playback battery life test. Test methodology: Local video playback of a fullscreen 1080p video in the Movies & TV app. 150 nits, WiFi connected to a router with no external network access. Power efficiency power mode. Configuration for laptops tested: ASUS Zenbook S 16 - AMD Ryzen™ AI 9 HX 370 processor, 16" OLED display, 78Whr battery, 32GB RAM, 1TB SSD, Windows 11. ASUS Vivobook S 15 - Qualcomm Snapdragon X Elite X1E-78-100, 15" OLED display, 70Whr battery, 32GB RAM, 1TB SSD, Windows 11. Lenovo Yoga Slim 7x - Qualcomm Snapdragon X Elite X1E-78-100, 14.5" OLED display, 70Whr battery, 32GB RAM, 1TB SSD, Windows 11. Microsoft Surface Pro – Qualcomm Snapdragon X Elite X1E-80-100, 13" OLED display, 51Whr battery, 32GB RAM, 1TB SSD, Windows 11. Samsung Galaxy Book4 Edge – Qualcomm Snapdragon X Elite X1E-84-100, 16" AMOLED display, 62Whr battery, 16GB RAM, 1TB SSD, Windows 11. Laptop manufactures may vary configurations yielding different results. STX-32
6. Based on AMD product specifications and competitive products announced as of May 2024. AMD Ryzen™ AI 300 Series processors' NPU offer up to 50 peak TOPS. AI PC is defined as a laptop PC with a processor that includes a neural processing unit (NPU). STX-04.
7. Ryzen™ AI is defined as the combination of a dedicated AI engine, AMD Radeon™ graphics engine, and Ryzen processor cores that enable AI capabilities. OEM and ISV enablement is required, and certain AI features may not yet be optimized for Ryzen AI processors. Ryzen AI is compatible with: (a) AMD Ryzen 7040 and 8040 Series processors except Ryzen 5 7540U, Ryzen 5 8540U, Ryzen 3 7440U, and Ryzen 3 8440U processors; (b) AMD Ryzen AI 300 Series processors, and (c) all AMD Ryzen 8000G Series desktop processors except the Ryzen 5 8500G/GE and Ryzen 3 8300G/GE. Please check with your system manufacturer for feature availability prior to purchase. GD-220c.
8. As of May 2024, AMD has the first available NPU on a laptop PC processor (AMD Ryzen™ AI 300 Series processor) that supports Block FP16 functionality, where 'dedicated AI engine' is defined as an AI engine that has no function other than to process AI inference models and is part of the x86 processor die. STX-16.
9. Based on specifications as of June 2024. STX-47
10. Testing as of July 2024 by AMD Performance Labs using Cinebench R23 and Cinebench R24. Configuration for laptops tested: AMD Ryzen™ AI 9 HX 370 processor: ASUS Zenbook S 16, AMD Radeon™ 890M integrated graphics, 16" display, 32GB 7500MHz RAM, 1TB SSD, Windows 11. Qualcomm Snapdragon X Elite X1E84100 processor: Samsung Galaxy Book 4, Adreno Graphics, 16GB 8448MHz RAM, 512GB SSD, Windows 11. All systems run on "Balanced" mode with VBS ON. Laptop manufactures may vary configurations yielding different results. STX-67
11. GD-150 Max boost for AMD Ryzen processors is the maximum frequency achievable by a single core on the processor running a bursty single-threaded workload. Max boost will vary based on several factors, including, but not limited to: thermal paste; system cooling; motherboard design and BIOS; the latest AMD chipset driver; and the latest OS updates