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Snapdragon X2 Elite Extreme Performance

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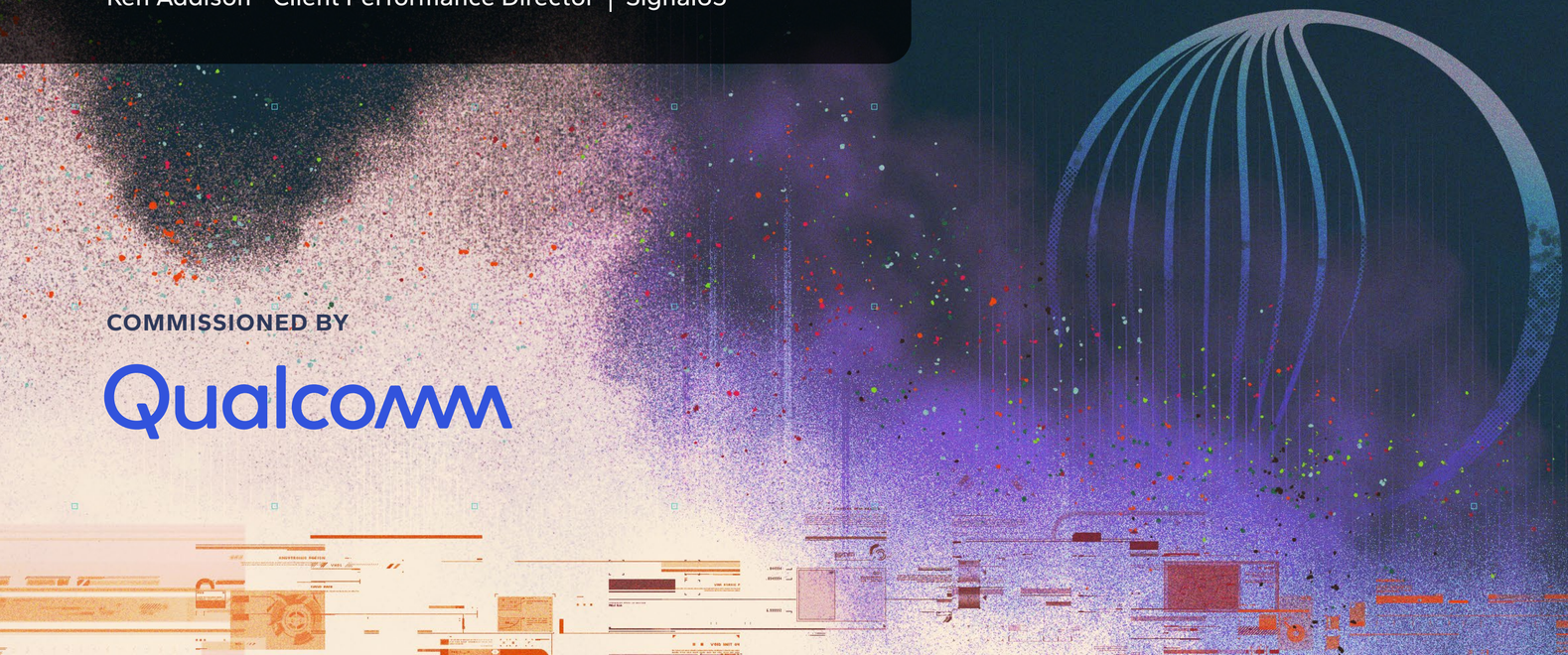

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Introduction

The premium Windows laptop market is more competitive than it has been in years, with three silicon vendors shipping credible flagship platforms. The first generation of the Snapdragon X platform made its case on not only performance, but battery life and efficiency, and it forced every serious buyer to consider a Snapdragon system alongside the Intel and AMD machines they already knew. The Snapdragon X2 Elite Extreme, the flagship of the second-generation platform, makes a different and more aggressive claim. In our testing of shipping retail systems, it produced the fastest CPU and AI results we have measured in the premium thin and light segment, and the margins were substantial in most of the workloads that define the category.

The Snapdragon X2E-96-100 is built around the new generation Oryon CPU, moving from 12 cores in the prior flagship to 18, with boost clocks reaching 5.0 GHz. The Adreno X2-90 GPU and an 80 TOPS Hexagon NPU complete the package. This is silicon designed to compete at the top of the premium market rather than the midrange, and OEM partners have positioned it accordingly, in flagship chassis but still at moderately aggressive price points.

Competition improved along the way too. Intel launched Panther Lake at CES 2026 under the Core Ultra X series brand, pairing a 16-core hybrid CPU with the Arc B390, the strongest integrated GPU Intel has ever shipped. AMD refreshed Strix Point as the Ryzen AI 400 series. Both x86 vendors made real generational moves this cycle, which makes this the right moment to measure all three platforms on shipping retail hardware.

Retail hardware is the core methodology change from our previous Snapdragon family reports, which used a reference design. Every result in this report comes from a retail system purchased at market price. Retail systems reflect the thermal and acoustic decisions OEMs actually made, strengthen every performance claim, and enable an analysis reference designs cannot support, performance per dollar. This does mean that we are not looking at purely iso-chassis or architectural comparisons, so it's important that we keep that in mind as we go through this data set. Each system here is one OEM implementation of its silicon, chosen to be as closely matched by class as the retail market allows.

Introduction

	Snapdragon X2 Elite Extreme X2E-96-100	Intel Core Ultra X9 388H	AMD Ryzen AI 9 465
CPU cores	18 (12 Oryon Prime Cores + 6 Oryon Performance Cores)	16 (4P + 8E + 4LPE)	10 (4 Zen 5 + 6 Zen 5c)
Max boost	5.0 GHz	5.1 GHz	5.0 GHz
Integrated GPU	Adreno X2-90	Arc B390 (12 Xe3 cores)	Arc B390 (12 Xe3 cores)
NPU	Hexagon, 80 TOPS	NPU 5, 50 TOPS	XDNA 2, 50 TOPS
Memory	48 GB LPDDR5X	32 GB LPDDR5X	32 GB LPDDR5X

The NPU row previews the most lopsided results in this report. The 80 TOPS rating on the Hexagon NPU is not a marketing number, and the AI section shows what it delivers against two competitors rated at 50 TOPS.

Key Findings

In our testing of retail laptops, the Snapdragon X2 Elite Extreme was up to 53% faster than the Intel Core Ultra X9 388H and up to 83% faster than the AMD Ryzen AI 9 465 in Geekbench 7, and up to 87% faster than both in Cinebench 2026 multi-threaded rendering

The X2E-96-100 delivered nearly 2x the AI performance of the Intel system and roughly 2.4x the AMD system in Procyon AI Computer Vision

Running on battery in Balanced mode, the Snapdragon system outperformed the Intel system plugged in at Best Performance in every CPU and AI benchmark

At $1,699, the Snapdragon system delivered roughly 2x the performance per dollar of the $2,299 Intel system, and up to 2.6x in AI workloads

The Snapdragon X2 Elite Extreme delivers the highest CPU and AI performance we have measured in a premium thin and light Windows laptop, holds that lead in the out-of-box Balanced mode and on battery, and does it at a lower retail price than its closest Intel competitor.

System Configurations and Methodology

We tested three retail laptops, one per silicon vendor, all in the 16-inch premium thin and light class. The ASUS Zenbook A16 carries the Snapdragon X2 Elite Extreme X2E-96-100 and sold for $1,699 as tested. The MSI Prestige 16 carries the Intel Core Ultra X9 388H at $2,299. The HP OmniBook X 16 carries the AMD Ryzen AI 9 465 at $1,649. Matching the class keeps the comparison honest on form factor, cooling capacity, and the design constraints every vendor faces in a thin chassis.

These results compare implementations as much as they compare silicon. Each laptop reflects OEM decisions on thermal design, power tuning, firmware, memory, and battery capacity, and different systems built on the same processors can and often do land differently. We selected these three because they occupy the same 16-inch premium thin and light class with comparable design specifications, which makes them a fair and closely matched set. The results should be read as a representative picture of how these platforms compare in shipping retail hardware, not as a definitive verdict on the silicon itself.

The Core Ultra X9 388H is the flagship of the Panther Lake X series, pairing a 16-core hybrid CPU with the 12 Xe3 core Arc B390, the strongest integrated GPU Intel has shipped, and a 50 TOPS NPU. It is the most direct competitor to the X2 Elite Extreme at the top of the premium segment.

The AMD Ryzen AI 9 465 is a Gorgon Point refresh of the Strix Point design with 10 CPU cores, four Zen 5 and six Zen 5c, paired with Radeon 880M graphics and a 50 TOPS XDNA 2 NPU. It is the top part in the mainstream Ryzen AI 400 lineup, sitting below the HX tier.

Windows power modes change benchmark results, sometimes dramatically, so we tested every system across multiple Windows power modes on both wall power and battery to reflect how people actually use their devices. This report presents plugged-in results in two modes side by side. Best Performance represents the ceiling, the mode a flagship buyer selects at a desk. Balanced represents the shipping default, the mode most systems spend their lives in. On battery we present Balanced, the state a mobile user actually lives in.

Each chart names the power mode and power source it was captured in, and each chart includes results from all three systems. Results are averages of repeated runs on each system, and prices are retail as purchased in July 2026.

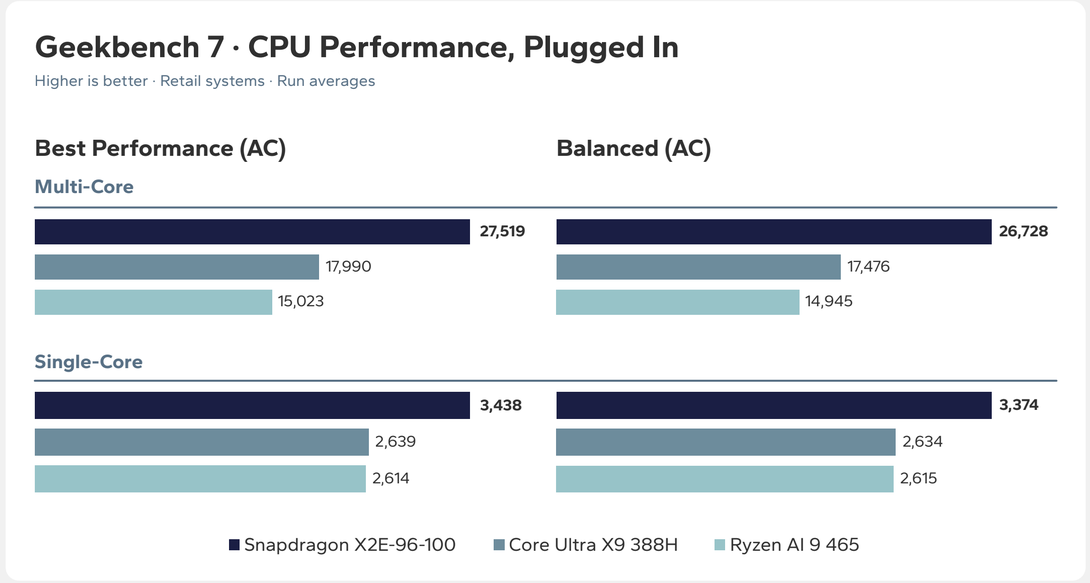
Performance Results on AC / Plugged In

Plugged in is where flagship laptops are judged first, and where a buyer comparing spec sheets will start. Every chart in this section shows Best Performance and Balanced side by side across the three systems, so the reader can see both the ceiling and the out-of-box experience.

CPU Performance (Geekbench 7)

Geekbench 7 is the broadest single measure of CPU performance across the workloads a premium laptop runs, and it produces the cleanest summary of this competitive field. In Best Performance mode the Snapdragon system scored 27,519 in the multi-core test, 53% ahead of the Intel system at 17,990 and 83% ahead of the AMD system at 15,023. Single-core followed the same pattern at 3,438 against 2,639 and 2,614, leads of 30% and 32%.

In Balanced mode, the Snapdragon multi-core score of 26,728 still leads the Intel system by 53% and the AMD system by 79%, and the single-core lead holds at 28%. The margins barely move between modes, both the Snapdragon and Intel systems gain roughly 3% from Best Performance, and the ordering never changes. The buyer who never opens a settings menu gets the same lead as the one who does.



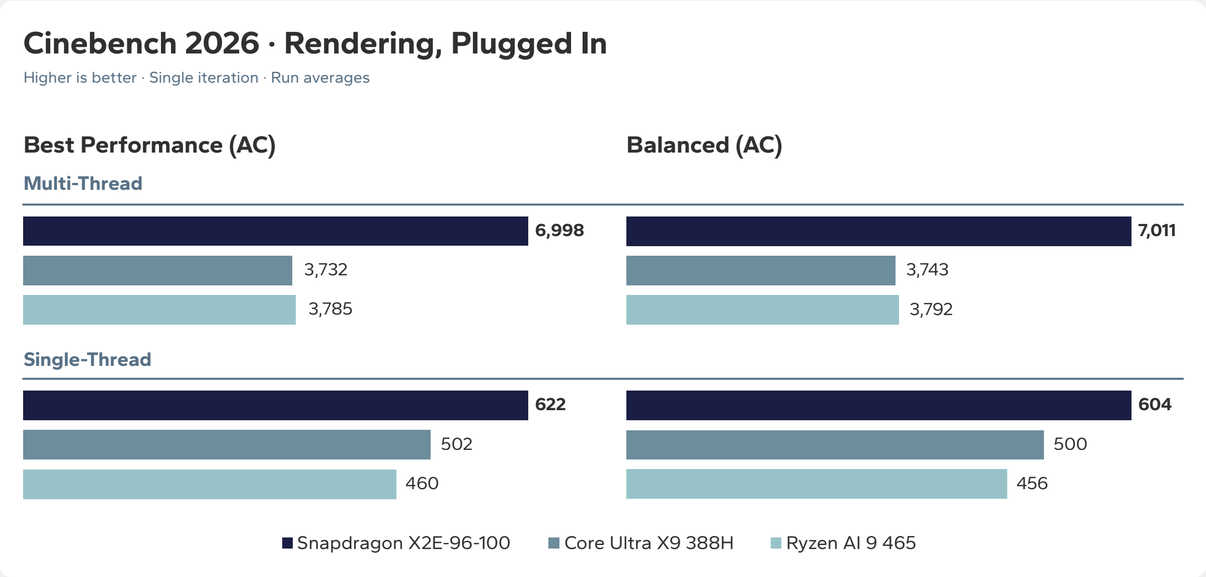
The single-core results deserve as much attention as the multi-core sweep. Single-core leadership is not new for this platform, the first generation Snapdragon X Elite already held it, and the X2 Elite Extreme extends it to a 30% lead over a 5.1 GHz Panther Lake part. Multi-core is where the 18-core design pulls away, and the Balanced column shows the ordering is not a product of mode selection.

Performance Results on AC / Plugged In

Content Creation (Cinebench 2026)

Cinebench 2026 measures sustained rendering throughput, the workload that punishes a thin chassis hardest and separates burst performance from what a system can hold. In Best Performance mode the Snapdragon system produced a multi-thread score of 6,998, 87% ahead of the Intel system at 3,732 and 85% ahead of the AMD system at 3,785. Single-thread came in at 622 against 502 and 460, leads of 24% and 35%.

The Snapdragon multi-thread score in Balanced was 7,011, identical to its Best Performance result within run variance, and the 87% and 85% leads carried over unchanged. The widest CPU margin we measured is also the one that requires nothing from the user. Nearly 2x the sustained rendering throughput of both x86 flagships, in the same chassis class, in the mode the system ships in.



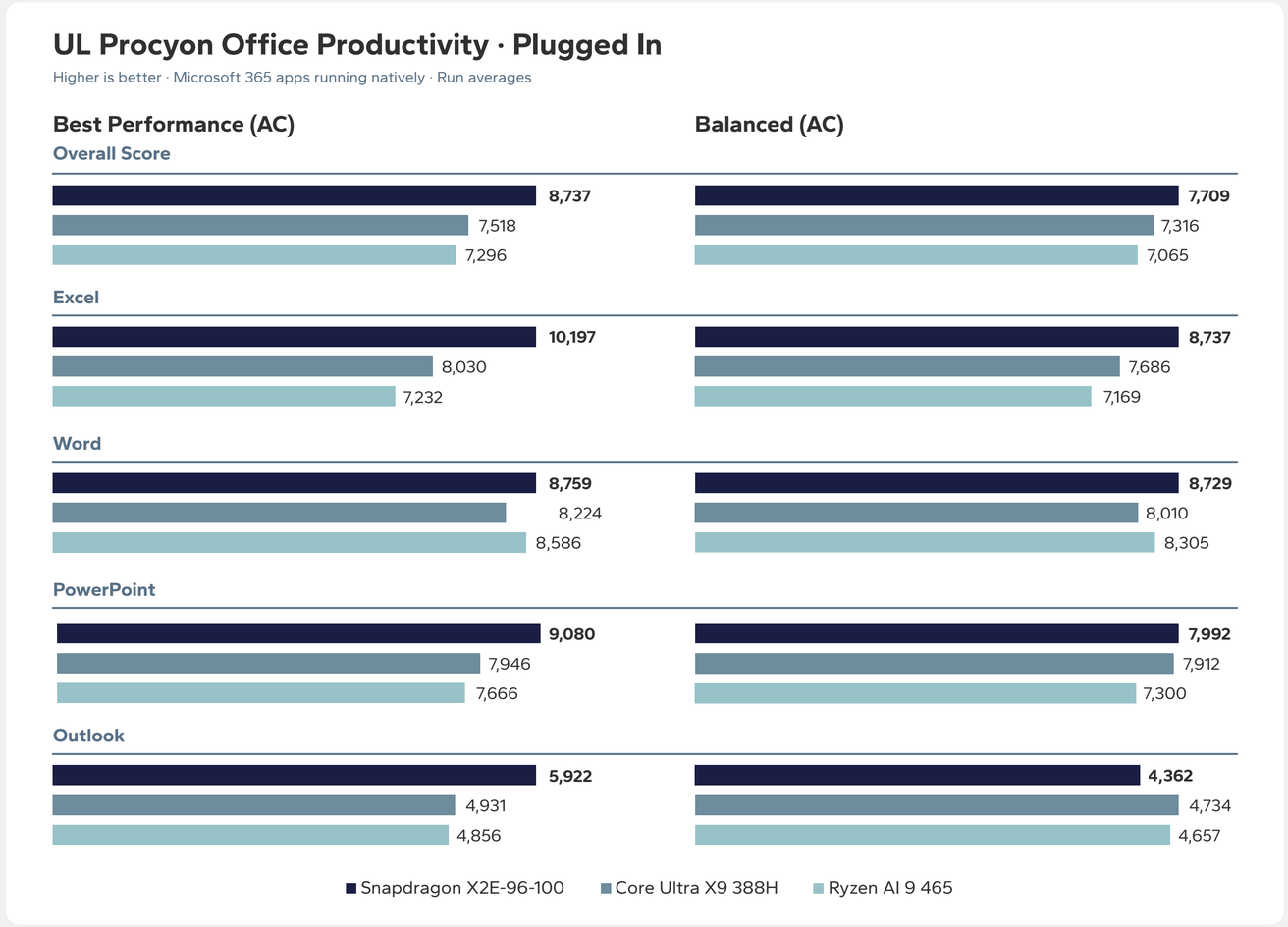
Eighteen performance-class Oryon cores are working against hybrid designs in which most competitor cores are efficiency cores, and sustained all-core workloads expose that difference more than any other test in the suite.

Performance Results on AC / Plugged In

Productivity (Procyon Office)

UL Procyon Office Productivity runs the Microsoft 365 applications natively and scores real tasks in Word, Excel, PowerPoint, and Outlook, which makes it the closest thing in this suite to a working day. In Best Performance mode the Snapdragon system scored 8,737 overall, 16% ahead of the Intel system at 7,518 and 20% ahead of the AMD system at 7,296. Excel was the standout subtest at 10,197, a 27% lead over Intel and 41% over AMD. Word was effectively a tie with the AMD system, 8,759 to 8,586.

In Balanced mode the Snapdragon system still wins the overall Office score, by 5% over the Intel system and 9% over the AMD system, with narrower margins than Best Performance. PowerPoint is effectively tied with the Intel system, and Outlook is the one subtest where the Intel system finishes ahead. The larger productivity advantage comes in Best Performance mode. Moving from Balanced to Best Performance lifts the Snapdragon Office score by 13% while the Intel system gains 3%, headroom the competition does not have.

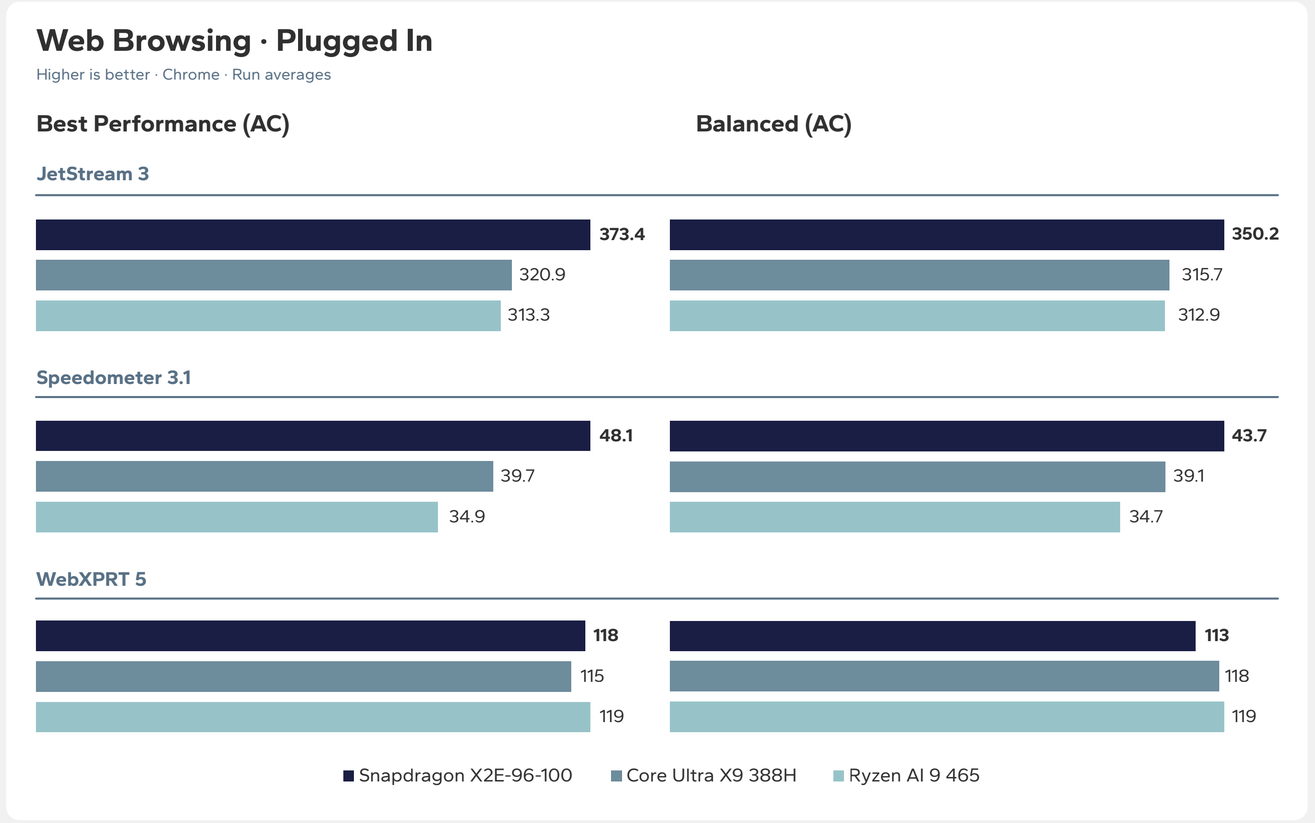


Performance Results on AC / Plugged In

Web and Browser (JetStream 3, Speedometer 3.1, WebXPRT 5)

Browser responsiveness is the most universal workload on any laptop, and Chrome is the most universal application, so we tested JetStream 3, Speedometer 3.1, and WebXPRT 5 in Chrome across all three systems. In Best Performance mode the Snapdragon system led Speedometer 3.1 at 48.1 against 39.7 for Intel and 34.9 for AMD, leads of 21% and 38%. JetStream 3 came in at 373 against 321 and 313, ahead by 16% and 19%. WebXPRT 5 landed at effective parity.

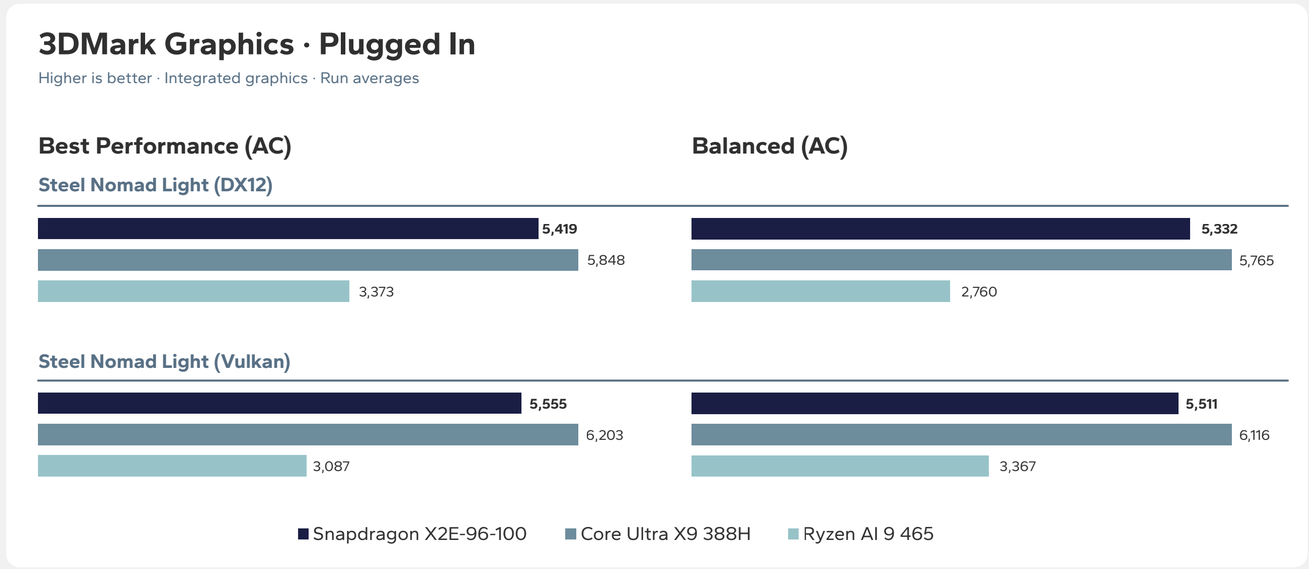
Balanced mode keeps the ordering in Speedometer and JetStream. Speedometer at 43.7 leads by 12% and 26%, and JetStream at 350 leads by 11% and 12%. The results buyers will feel are Speedometer and JetStream, which track the interactive responsiveness of modern web applications rather than raw page loads.



Graphics (3DMark Steel Nomad Light)

In Steel Nomad Light under DX12, the Intel system scored 5,848 in Best Performance mode against 5,419 for the Snapdragon system, an 8% Intel lead. Under Vulkan the Intel lead widens to 12%, 6,203 against 5,555. The Arc B390 is the strongest integrated GPU in this segment and it earned these results.

The Snapdragon system leads the AMD system by 61% in DX12 and 80% in Vulkan at Best Performance, and the gap grows in Balanced mode, where the Radeon 880M falls to 2,760 in DX12 and the Snapdragon lead reaches 93%. Intel is first by single digits to low teens, Snapdragon is second by a wide margin, and AMD is third.

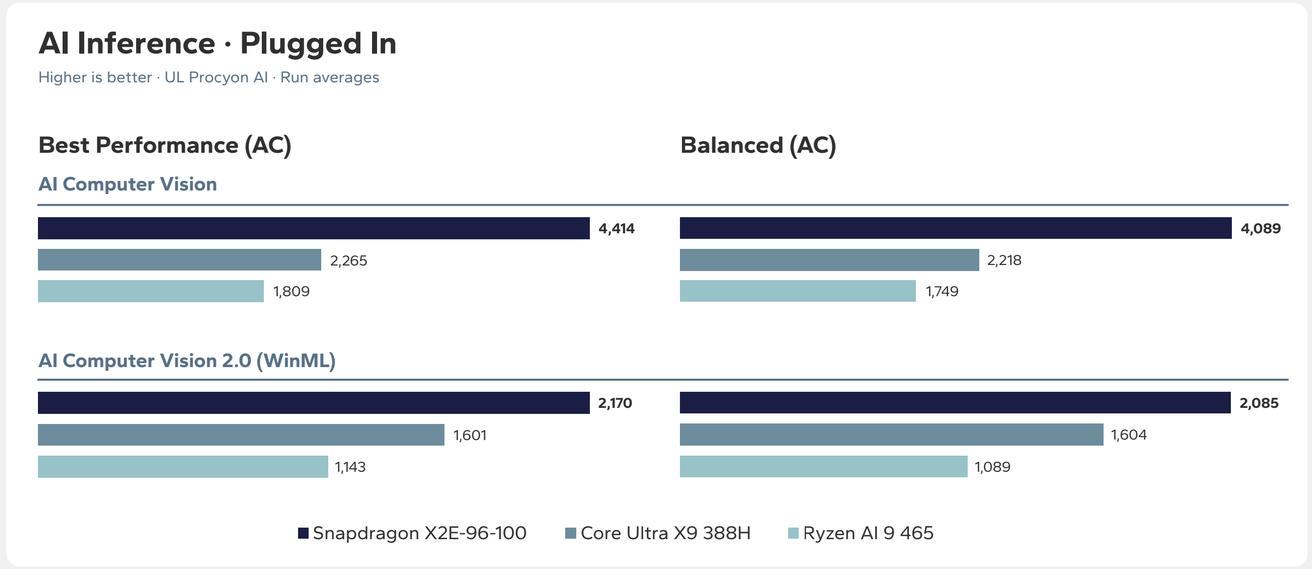


Performance Results on AC / Plugged In

AI (Procyon AI Computer Vision and CV 2.0)

AI performance ratings and AI performance results are different things, and this section is where the difference shows. In Procyon AI Computer Vision at Best Performance, the Snapdragon system scored 4,414 against 2,265 for the Intel system and 1,809 for the AMD system, leads of 1.9x and 2.4x. In the newer AI Computer Vision 2.0 WinML path the Snapdragon system scored 2,170, 36% ahead of the Intel system at 1,601 and 90% ahead of the AMD system at 1,143. Balanced mode holds the shape, 1.8x and 2.3x in AI Computer Vision, and 30% and 91% in WinML.

The WinML result shows the Hexagon NPU converting its rating into delivered performance. The NPUs in the Intel and AMD systems carry identical 50 TOPS ratings, yet they finish 40% apart from each other, and neither comes close to the 80 TOPS Hexagon, which leads the Intel system by 36% and the AMD system by 90% and holds those leads on battery. Ratings are not results, and in our testing the Hexagon is the only NPU in this class that pairs the segment's highest rating with its highest measured results.



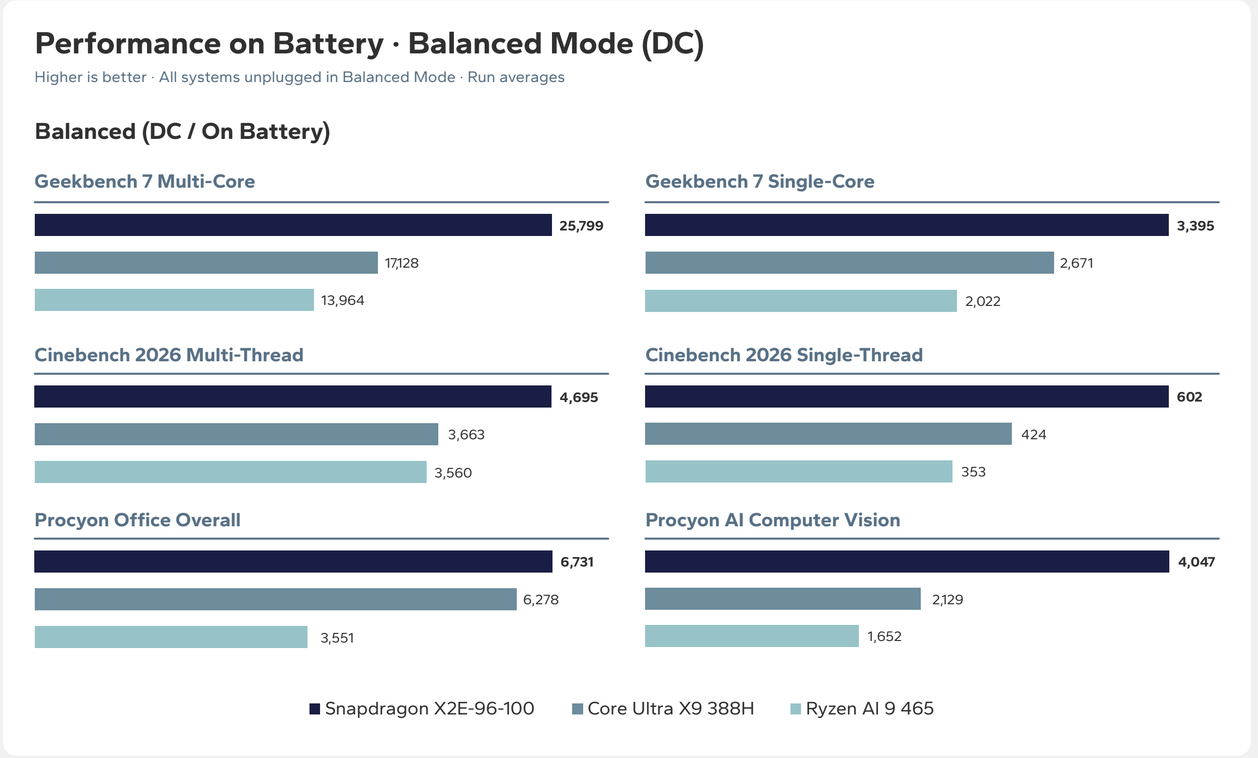
Performance Results on DC / On Battery

For this section all three systems ran on battery in Balanced mode, the configuration a mobile user actually lives in.

Absolute Performance on Battery

On battery the Snapdragon lead holds, and against the AMD system it widens. In Geekbench 7, the Snapdragon advantage over the Intel system is 51% in multi-core and 27% in single-core, while the Snapdragon advantage over the AMD system stretches to 85%. Office productivity lands 7% ahead of the Intel system and 90% ahead of the AMD system, and AI Computer Vision holds near 2x the Intel result and roughly 2.5x the AMD result. Rendering is the one place battery power costs the Snapdragon system meaningful performance, and even there its multi-thread result stays 28% ahead of the Intel system. The pattern matters more than any single score. The Intel system defends its plugged-in positioning reasonably well when unplugged, the AMD system does not, and the Snapdragon system leads every CPU, productivity, and AI test on battery.

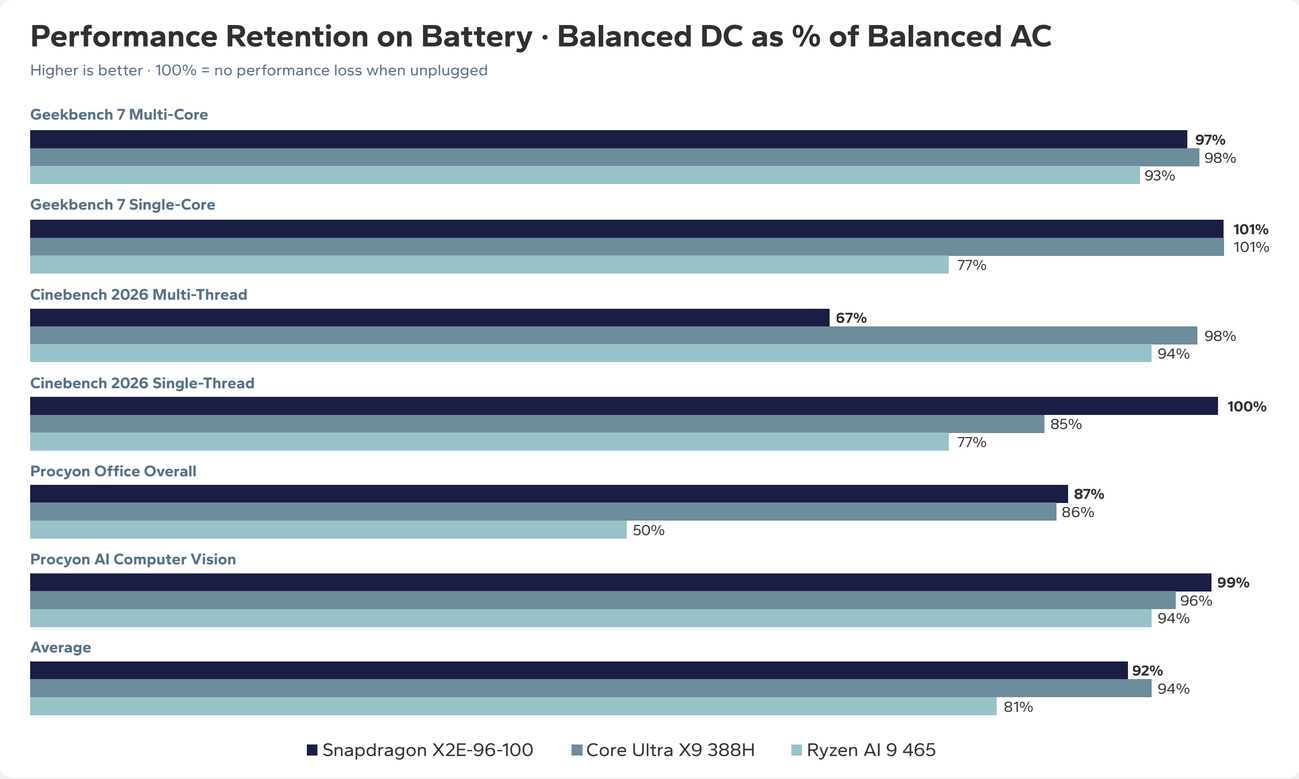
The stronger claim crosses power states. Against the Intel system plugged into the wall and set to Best Performance, the Snapdragon system running on battery in Balanced mode still led Geekbench 7 multi-core by 43%, single-core by 29%, Cinebench multi-thread by 26%, single-thread by 20%, and AI Computer Vision by 79%. The exceptions sit outside those categories, the plugged-in Intel system stays ahead in Office and the browser tests reach effective parity on battery. In every CPU and AI benchmark in this report, the Snapdragon system unplugged beat the Intel system plugged in.



Performance Results on DC / On Battery

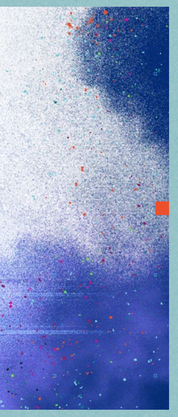
Performance Retention on Battery

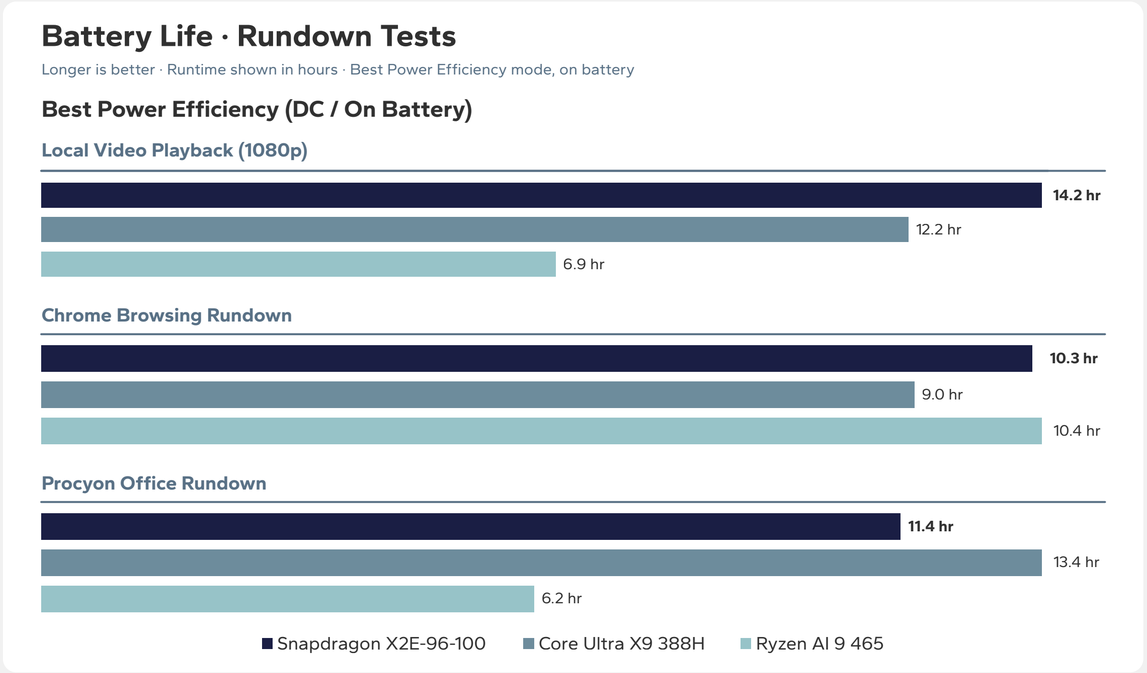
Retention, the share of plugged-in performance a system keeps on battery, adds the supporting evidence. Across the six-benchmark set the Intel system retained an average of 94% of its Balanced plugged-in performance, the Snapdragon system 92%, and the AMD system 81%. The Intel average is the best of the three, with the context that it retains a much lower baseline. The Snapdragon average is pulled down by a single test, Cinebench multi-thread at 67% retention, a product of sustained all-core power limits on battery. Everywhere else it holds at 87% or better. The Intel weak spot is single-thread at 85% retention, and the AMD system keeps half its Office performance. Speedometer on battery is an effective tie with the Intel system, 37.0 to 38.0.



Retention percentages are supporting evidence, and absolute on-battery performance is the headline. A system that retains 94% of a lower number still loses to one that retains 92% of a much higher one. Even in its single worst on-battery result, Cinebench multi-thread, the Snapdragon system unplugged beat the Intel system plugged in by 26%.

Battery Life





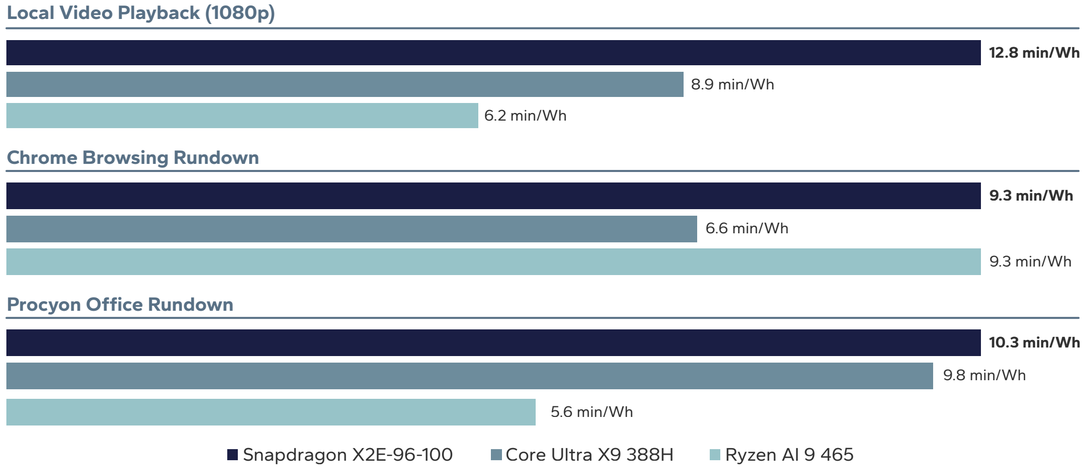
Battery life completes the mobility picture, and the results vary by workload. In local video playback the Snapdragon system ran 14.2 hours, 17% longer than the Intel system and more than double the AMD system. In the Chrome browsing rundown it ran 10.3 hours, 14% longer than the Intel system and effectively even with the AMD system. The sustained Procyon Office rundown is the one test where a competitor lasted longer, 13.4 hours for the Intel system against 11.4 for the Snapdragon system, with the AMD system at 6.2 hours.

Battery Life

Battery Efficiency · Runtime per Watt-Hour

Higher is better · Rundown minutes divided by battery capacity · ASUS 66.5 Wh, MSI 82.0 Wh, HP 67.3 Wh

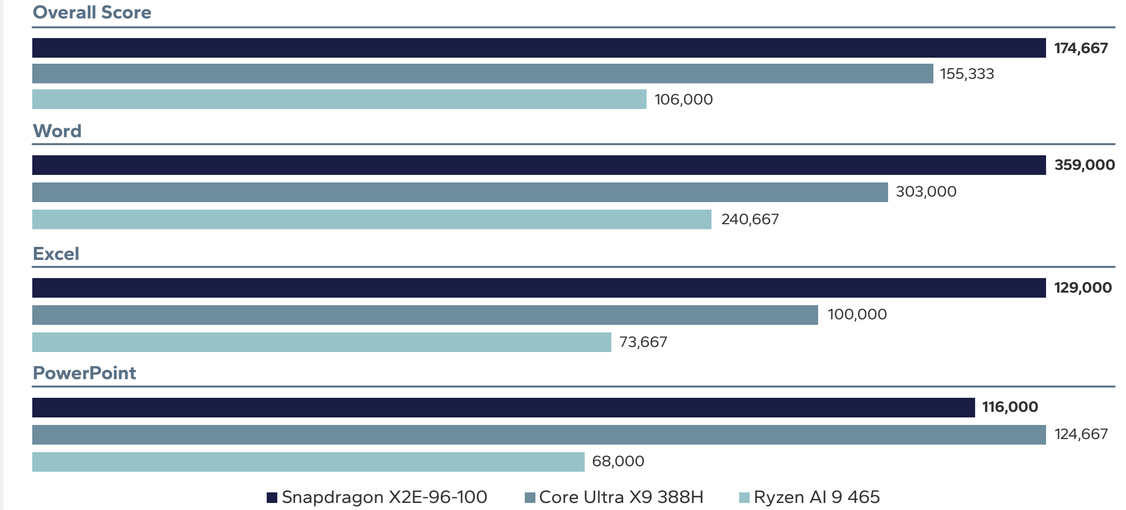
Best Power Efficiency (DC / On Battery)



Performance During Battery Testing · Procyon Office (Multi-Platform)

Higher is better · Best Power Efficiency mode on battery, the configuration used for the battery rundowns

Best Power Efficiency (DC / On Battery)



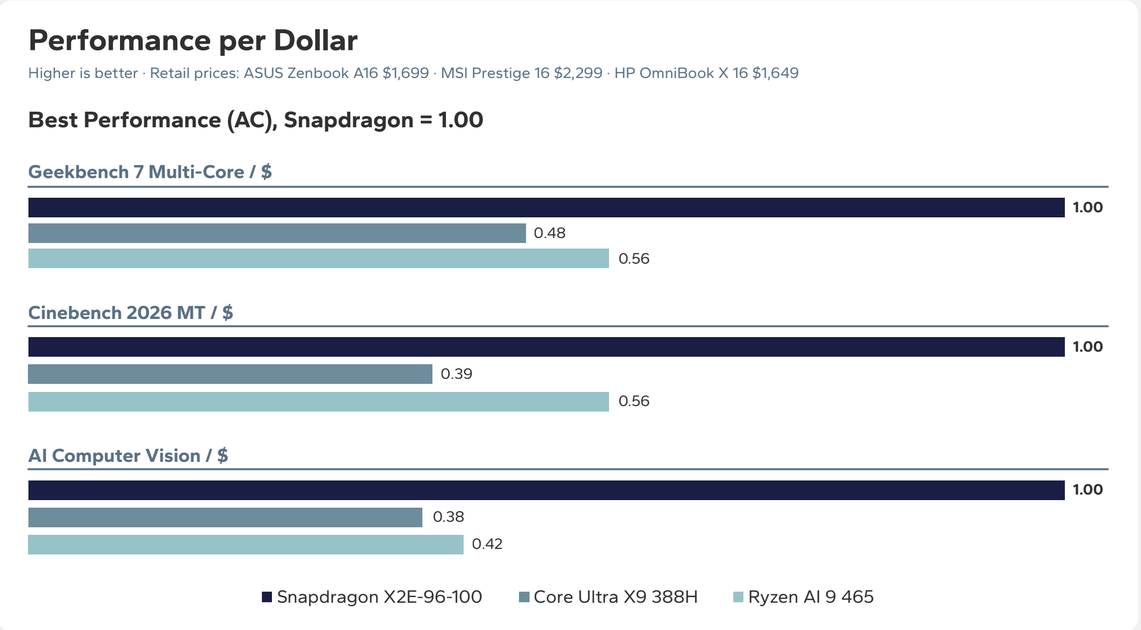
Raw runtime only tells half the story, because the three systems carry very different batteries. Battery capacity is an OEM implementation choice, one of the clearest reminders that this comparison describes systems rather than silicon alone. The Snapdragon system runs on the smallest pack of the three at 66.5 Wh, against 82.0 Wh in the Intel system and 67.3 Wh in the AMD system. Normalized to capacity, the Snapdragon system delivers the most runtime per watt-hour in every rundown, 44% more than the Intel system in video playback, 41% more in browsing, and 5% more in the Office test it loses on raw runtime. The Intel system needs a battery 23% larger to outlast it in one workload.

The last piece is what each system delivered while those battery tests ran. Procyon reports a performance score in the same Best Power Efficiency configuration the rundowns use, and the Snapdragon system led it, 12% ahead of the Intel system and 65% ahead of the AMD system in the overall multi-platform Office score, with wins in Word and Excel and a 7% deficit to the Intel system in PowerPoint. Runtime, battery size, and delivered performance point the same direction. The Snapdragon system did the most work per hour, from the smallest battery, and gave up runtime leadership in a single test to a system carrying 23% more capacity.

Performance per Dollar

Retail hardware makes a value analysis possible, and even if this is a single comparison, these are the most relevant and comparable systems found on the market today. The ASUS Zenbook A16 with the Snapdragon X2 Elite Extreme sold for $1,699 as tested. The MSI Prestige 16 with the Core Ultra X9 388H sold for $2,299, a $600 premium. The HP OmniBook X 16 with the Ryzen AI 9 465 sold for $1,649.

Dividing Best Performance results by price, the Snapdragon system delivered 2.1x the Geekbench 7 multi-core performance per dollar of the Intel system and 1.8x the AMD system. In Cinebench 2026 multi-thread the multiples are 2.5x and 1.8x, and in AI Computer Vision they reach 2.6x and 2.4x. Averaged across the three metrics, the Snapdragon system delivers 2.4x the Intel value per dollar and 1.9x the AMD value.



These three benchmarks are a selection rather than the full suite, and other tests in this report show more temperate per-dollar leads for the Snapdragon system. The direction is consistent, and at $1,699 the Snapdragon system reads as a strong value based on the performance and efficiency we measured in this report.

The AMD comparison stays in the frame deliberately. The HP system is $50 cheaper than the ASUS and still trails on value in every metric, which shows the result is not an artifact of the MSI system pricing with the Intel platform. Prices are point-in-time retail as purchased in July 2026, and the three configurations differ on memory and storage, with full details in the configuration section at the end of this report.

Conclusions

In our testing of retail systems, the Snapdragon X2 Elite Extreme produced the fastest CPU results we have measured in a premium thin and light Windows laptop, nearly a 2x advantage in measured AI performance, and leadership that holds in the default Balanced mode and on battery, at a retail price $600 below the tested Intel flagship.

Those results describe the three systems we tested. Each is one implementation of its silicon, and other systems built on the same processors will land differently as OEM design choices vary. The closely matched class and design specifications across these three are what give the comparison its footing, and they are why we consider it fair, representative, and worth drawing conclusions from.

The competitive landscape has definitely improved. Panther Lake brought Intel the best integrated graphics in the segment, and buyers who prioritize integrated gaming may have a real reason to choose it. On every other dimension that defines premium thin and light usage, CPU performance, AI performance, productivity, and behavior on battery, the X2 Elite Extreme leads, and it leads by margins that are unusual in a market accustomed to single-digit generational gaps.

The value position may matter as much as the performance position. The X2 Elite Extreme gives OEM partners a credible flagship at $1,600 to $1,700 price points while comparable Intel X series systems look like they will land $300 to $600 higher. A performance leader that is also the value leader is a rare combination in this market, and it is the combination this platform now holds.

Generation one made Windows on Snapdragon viable and competitive. In our testing, generation two makes it the performance leader in the premium segment.

The battery life results reinforce the mobility story, with the longest video playback endurance in our testing, the most runtime per watt-hour in every rundown, and a single raw-runtime loss to an Intel system carrying a 23% larger battery.

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System Configurations

	ASUS Zenbook A16	MSI Prestige 16 Flip AI+	HP OmniBook X Flip 16
CPU	Snapdragon X2 Elite Extreme X2E-96-100	Intel Core Ultra X9 388H	AMD Ryzen AI 9 465
Graphics	Adreno X2-90	Intel Arc B390	AMD Radeon 880M
RAM	48GB LPDDR5X-9523	32GB LPDDR5X-8533	32GB LPDDR5X-8533
Storage	1TB Samsung MZVL81T0HFLB-00BTW	1TB Micron 2500	512GB Samsung MZVL8512HFLU-00BH1
Display	16” 2880x1800	16” 2880x1800	16” 1920x1200
System BIOS	UX3607OA.312	E2622IMS.110	F.06
Operating System	Windows 11 Home 28000.2340	Windows 11 Home 26200.8737	Windows 11 Home 26200.8737
Virtualization Based Security	Enabled	Enabled	Enabled
Price as tested	$1,699	$2,299	$1,649

Applications Used

UL Procyon 2.12.2641

Microsoft Office 2607

Geekbench 7.0.0

Cinebench 2026.1.

Google Chrome 151.0.7922.71

3DMark 2.32.8874.0


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