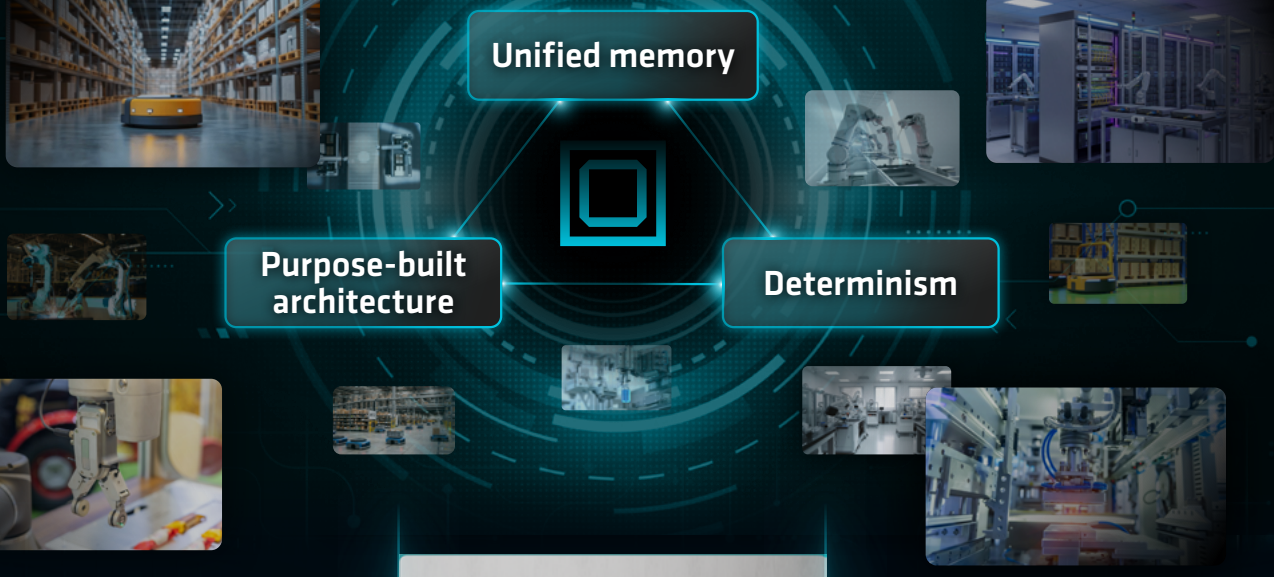


BUILT FOR PHYSICAL AI. *ENGINEERED TO OUTPERFORM.*

AMD Ryzen™ AI Embedded X100 APUs are purpose-built for physical AI – enabling real-time control, AI inference, and graphics in one unified architecture. See how this integrated x86 APU outperforms NVIDIA® Jetson™ and Intel® Core™ Ultra Series 3 “Panther Lake.”

PHYSICAL AI *ISN'T A SINGLE WORKLOAD*

Physical AI systems sense, decide, and act in real time – mixing vector compute, VLA inference, and deterministic processing. Success is less about GPU rooflines and more about:



**One APU
for every
workload –
no compromises**

AMD BEATS THE COMPETITION. *PERIOD.*

The numbers speak for themselves. Ryzen AI Embedded X100 Series wins where physical AI runs – deterministic CPU, vectorized AI, and real-time graphics – vs. NVIDIA Jetson AGX Orin™, NVIDIA Jetson Thor™, and Intel Core Ultra Series 3.

UP TO
2.7X

better CPU utilization for
robotics navigation vs.
NVIDIA Jetson T5000¹

GEOMEAN
1.3X

throughput for frontier
and foundational VLAs vs.
NVIDIA Jetson AGX Orin²

EXPECTED
2.1X

multi-thread CPU
throughput vs. Intel Core
Ultra X7 358H (CoreMark®)³

GEOMEAN
3.5X

higher token generation
performance vs. Intel Core
Ultra X7 358H⁴

EXPECTED GEOMEAN
1.4X

Vulkan® graphics
performance vs. Intel
Core Ultra X7 358H⁵

GEOMEAN
1.3X

sustained memory
bandwidth vs. Intel Core
Ultra X7 358H⁶

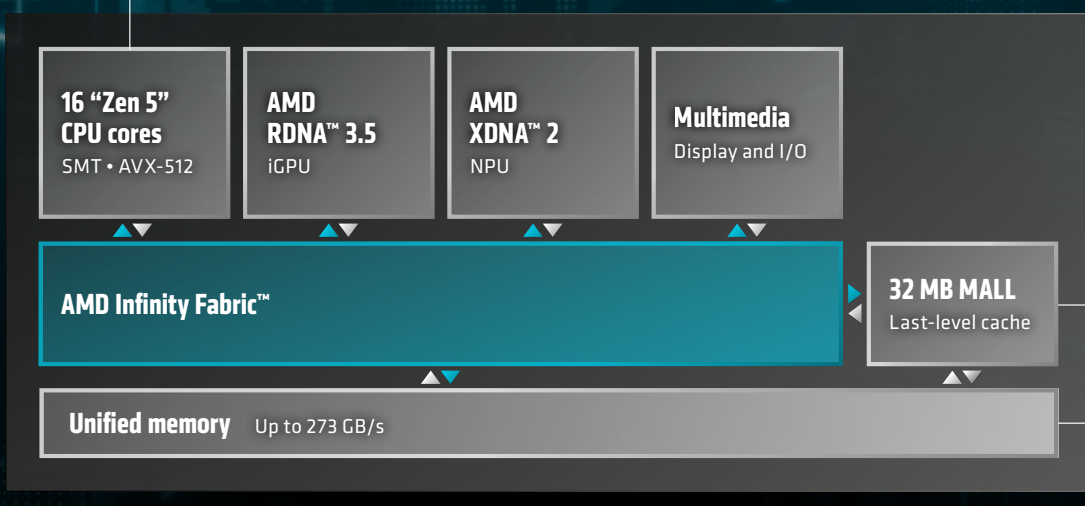
GET ONE UNIFIED ARCHITECTURE WITH OUTPERFORMANCE *ENGINEERED IN*

Unlike NVIDIA Jetson Orin and Thor, Ryzen AI Embedded X100 Series combines outstanding iGPU performance and memory bandwidth with raw single- and multi-threaded CPU performance, delivering a better balance for modern applications.

No hybrid compromises

Every core delivers full performance
with AVX-512 and consistent latency.

AMD Ryzen AI Embedded X100 Series



Deliver deterministic performance across workloads

A unified 32 MB MALL cache and shared memory across CPU, NPU, and discrete-class iGPU enables zero-copy.

The new AMD Ryzen AI Embedded X100 Series processors deliver an unprecedented level of AI, graphics, and compute performance to the edge. One high-performance computer-on-module can now address physical AI. This enables long-term available, modular embedded designs with reduced system complexity, lower power consumption, and increased mechanical robustness. Supporting -40°C to +85°C makes our modules especially beneficial for physical AI workloads in robotics and other rugged edge environments.

– **Florian Drittenthaler**, Product Line Manager, congatec

AMD RYZEN™ AI EMBEDDED X100 SERIES THE INTEGRATED x86 APU FOR PHYSICAL AI. *READY FOR WHAT ROBOTS DO NEXT.*

Go beyond the benchmarks. Explore the complete AMD physical AI portfolio, from Ryzen AI Embedded processors and the AMD Kria™ AI Robotics Developer Platform to real-world case studies and partner solutions.

EXPLORE AMD FOR PHYSICAL AI

1. Based on the OpenNav Robotics Workload Benchmark commissioned by AMD, published by Open Navigation LLC on July 23, 2026, as measured on the GMKtec EVO-X2 AI Mini PC AMD Ryzen AI Max+ 395 configured to reflect Ryzen AI Embedded X199 specifications (5.1 GHz CPU, 2.9 GHz GPU, 120W TDP, LPDDR5X-7500), vs. the NVIDIA Jetson AGX Thor Developer Kit: <https://opennav.org/news/opennav-robotics-workload-benchmark> (REX-016)

2. Based on AMD internal testing as of May 2026, an AMD Ryzen AI Max+ 395 processor system—configured to reflect Ryzen AI Embedded X199 specifications (5.1 GHz CPU, 2.9 GHz GPU, 55W TDP with sustained operation at 45W TDP/sPPT/fPPT, and LPDDR5X-8533) was used to measure projected inference throughput. Results are compared against a similarly configured NVIDIA Jetson AGX Orin 64 GB at 60W TDP and reflect the geometric mean of performance across CR00T N1.5, SmoVLA, Pio DROID, Pio DROID, and OpenVLA models using FP16 quantization. System manufacturers may vary configurations, yielding different results. Results may vary based on configuration, settings, usage, and other factors. (REX-001)

3. Measurements and projections conducted by AMD as of May 2026 on an AMD Ryzen AI Max+ 395 (OPN 100-000002199) configured to reflect Ryzen AI Embedded X199 specifications (AMD Maple CRB, 5.1 GHz CPU, 2.9 GHz GPU, 2.5 GHz GPU, PL1 = 45W, PL2 = 64W, MSI BIOS E2622IMS.10E, 32 GB LPDDR5X-8533, performance mode), and reflect the geometric mean of llama-bench (build: llama-b9453-vulkan) performance across gemma4 26B, A4B MXFP4 MoE, A4B Q4_K - Medium, Llama 3.1 8B Q4_K - Medium, qwen35moe 35B, A3B MXFP4 MoE, qwen35moe 35B, A3B Q4_K - Medium models. System manufacturers may vary configurations, yielding different results. Results may vary based on configuration, settings, usage, and other factors. (REX-007)

4. Based on AMD internal testing as of July 2026, an AMD Ryzen AI Max+ 395 processor, configured to reflect Ryzen AI Embedded X199 specifications (AMD Maple CRB, 5.1 GHz CPU, 2.9 GHz GPU, with sustained operation at 45W TDP/sPPT/fPPT, STAPM disabled and 64 GB soldered LPDDR5X-8000), compared to an Intel Core Ultra X7 358H (MSI Prestige 16 Flip AI+ C3MTG MS-2622, 5.1 GHz CPU, 2.5 GHz GPU, PL1 = 45W, PL2 = 64W, MSI BIOS E2622IMS.10E, 32 GB LPDDR5X-8533, measured 30W OEM Sustained Power Limit). Results reflect the relative geometric mean of offscreen Vulkan benchmark frame rates from GFXBench 5.0.0 on Ubuntu 24.04, comparing measured AMD performance at 45W sustained power to 45W Intel performance projected from 30W sustained power measurements, using scaling factors derived from public benchmark data for the 358H. System manufacturers may vary configurations, yielding different results. Results may vary based on configuration, settings, usage, and other factors. (REX-002)

5. Measurements and projections conducted by AMD as of May 2026 on an AMD Ryzen AI Max+ 395 processor (OPN 100-000002199) configured to reflect Ryzen AI Embedded X199 specifications (AMD Maple CRB, 5.1 GHz CPU, 2.9 GHz GPU, with sustained operation at 45W TDP/sPPT/fPPT, STAPM disabled and 64 GB soldered LPDDR5X-8000), compared to an Intel Core Ultra X7 358H (MSI Prestige 16 Flip AI+ C3MTG MS-2622, 5.1 GHz CPU, 2.5 GHz GPU, PL1 = 45W, PL2 = 64W, MSI BIOS E2622IMS.10E, 32 GB LPDDR5X-8533, measured 30W OEM Sustained Power Limit). Results reflect the relative geometric mean of offscreen Vulkan benchmark frame rates from GFXBench 5.0.0 on Ubuntu 24.04, comparing measured AMD performance at 45W sustained power to 45W Intel performance projected from 30W sustained power measurements, using scaling factors derived from public benchmark data for the 358H. System manufacturers may vary configurations, yielding different results. Results may vary based on configuration, settings, usage, and other factors. (REX-002)

6. Testing conducted by AMD as of May 2026 on an AMD Ryzen AI Max+ 395 (OPN 100-000002199) configured to reflect Ryzen AI Embedded X199 specifications (STAPM disabled, 45W SPL, sPPT 45W, fPPT 64W, LPDDR5X-8000), compared to an Intel Core Ultra X7 358H (30W, PL1 45W, PL2 64W, LPDDR5X-8533). Results reflect relative geometric mean performance across STREAM (GCC 15) on Ubuntu 24.04. System manufacturers may vary configurations, yielding different results. Results may vary based on configuration, settings, usage, and other factors. (REX-009)