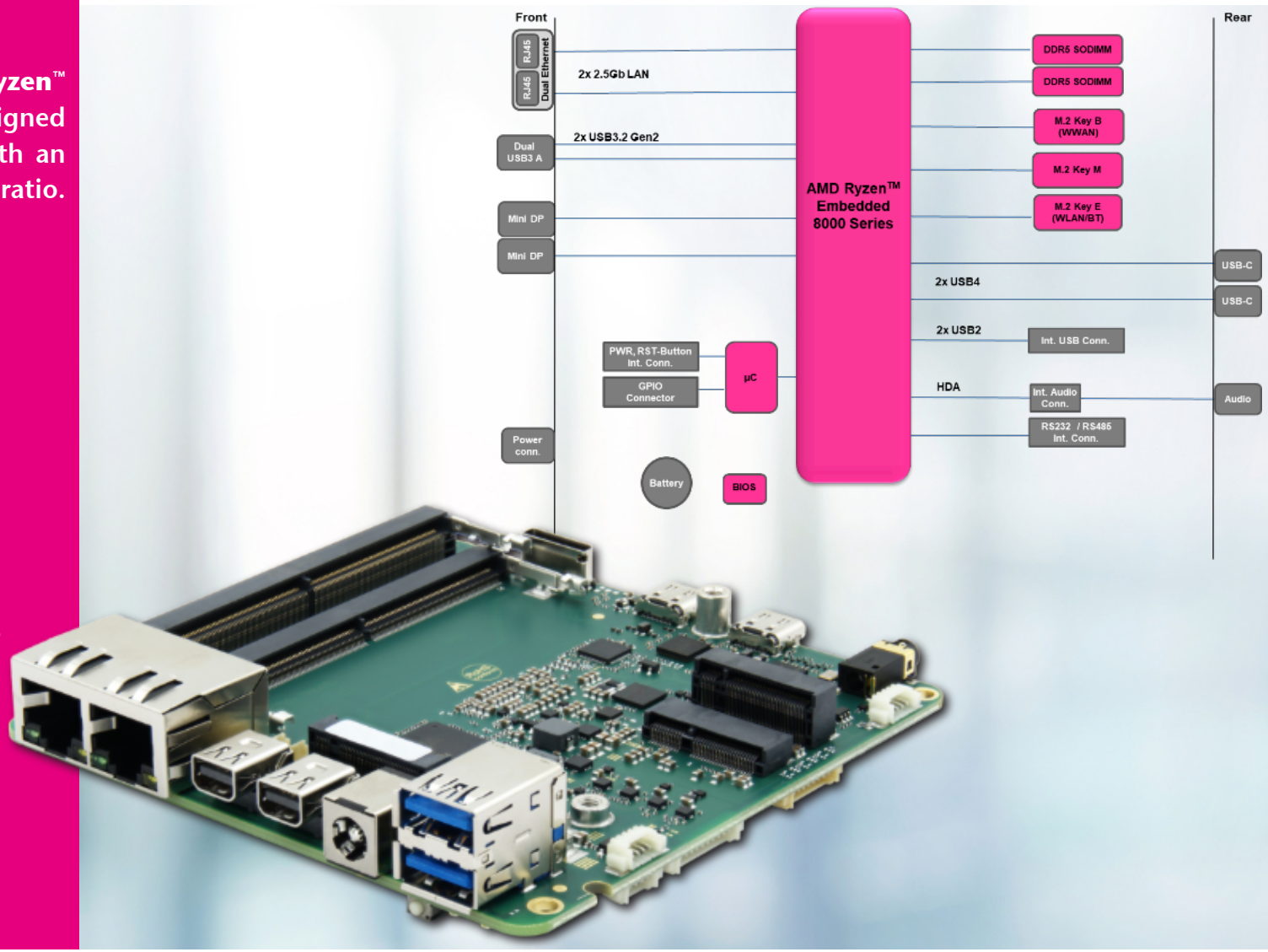
PROFIVE® NUCU

x86

APPLICATIONS

The **PROFIVE® NUCU** with **AMD Ryzen™ Embedded 8000 Series** was designed as a low power eNUC board with an excellent performance-per-watt ratio. It is ideally suited for:

- CV Compute Vision
- High-Performance Workstations
- AI Systems
- Medical Solutions
- ML Machine Learning
- Robotics
- Micro-Server
- Rugged Industrial Systems
- IoT edge / fog gateway



HIGH QUALITY
MADE IN GERMANY

AMD RYZEN Embedded

10 years availability according to CPU manufacturers specification

E.E.P.D. ...just embedded!

eNUC 102x102

Specification	
CPU / GPU	AMD Ryzen™ Embedded 8000 Series, max. 54 W supported | AMD RDNA3 Radeon™ Graphics and XDNA Neural Processing Unit for AI Inferencing
BIOS	UEFI
Max. memory	2 x 32 GB dual channel up to DDR5-5600 SO-DIMM memory with ECC support (excluding 8440U)
Ethernet ports	2x Intel® I226-V with 2.5 Gbit/s with IEEE1588 | Wake-On-Lan supported by one port | no TSN support
M.2 socket	1 x Key M, 2280, PCIe Gen4 x4 NVMe | 1 x Key B, 3042, PCIe Gen4 x2 / USB 2.0, e.g. WWAN 1 x Key E, 2230, PCIe Gen4 x2 / USB 2, e.g. WLAN/Bluetooth
I/O´s	4x GPIO (3.3 V) and max. 3x GPO with PWM (open drain/50 kHz), not fused
Display output	2x Mini DisplayPort++, v1.4, up to 3840 x 2160 @ 60 Hz | 2x USB-C Alt Mode, up to 3840 x 2160 @ 60 Hz
OCuLink	1x OCuLink x4 (SFF-8621 / SFF-9402) connector, PCIe Gen4 x4 interface (3.3 V / 5 V power on request)
USB-A port	Front: 2x USB 3.2 Gen2 (10 Gb/s, OCP = 1500 mA each)
USB-C port	Rear: 2x USB4 Gen3x2 (up to 40 Gb/s, OCP = 3000 mA each; max. 4500 mA in total) or USB-C Alt Mode
USB internal	2x USB 2.0 (480 Mb/s, OCP = 900 mA each) on Molex (PicoBlade)
Serial port	1 x RS-232/485 (HDX/FDX) on Molex (PicoBlade)
Audio	High Definition Audio Codec with MIC in / Headphone out at a 3.5 mm Audio Jack
fTPM / TPM	AMD firmware Trusted Platform Module | TPM 2.0 support (Infineon SLB 9670)
Status / control LEDs	Power and status LEDs
Hardware monitoring and management	Controllable FAN (PWM and Tacho); Temperature Sensor, Power Supply Voltage Monitoring, Watchdog
Power connector	CUI Devices Power Plug ID 2.5 mm, AD 5.5 mm, max. 7 A
Power supply	Min. 10.8 V / max. 26.4 V (DC), Min. 120 W / recommended 150 W, fused to: 10 A
Operating temperature	0 °C to +60 °C ambient commercial grade Adequate cooling provided, depending on variant and cooling system, CPU throttling may occur at higher ambient temperatures
Storage temperature	-40 °C to +85 °C; non-condensing
Max. relative humidity	95% @ 40 °C, non-condensing while stored | 89% while working
Cooling	CPU fan connector (MolexPicoBlade), 12 V, max. 250 mA, not fused | Auxiliary fan connector (Molex PicoBlade), 12 V, max. 250 mA, not fused
Approx. Size / Weight	102 mm x 102 mm / 110 g + options
OS support	Microsoft® Windows® 11| Microsoft® Windows® 11Iot | Linux Ubuntu 24.04 LTS

Supported CPU types
AMD Ryzen™ Embedded 8845HS 8C | 16T | 3.8 GHz - 5.1 GHz | 45 W (35 - 54 W) Operating temperature: 0°C to +60°C
AMD Ryzen™ Embedded 8645HS 6C | 12T | 4.3 GHz - 5.0 GHz | 45 W (35 - 54 W) Operating temperature: 0°C to +60°C
AMD Ryzen™ Embedded 8840U 8C | 16T | 3.3 GHz - 5.1 GHz | 28 W (15 - 30 W) Operating temperature: 0°C to +60°C
AMD Ryzen™ Embedded 8640U 6C | 12T | 3.5 GHz - 4.9 GHz | 28 W (15 - 30 W) Operating temperature: 0°C to +60°C
AMD Ryzen™ 3 8440U* 4C | 8T | 3.3 GHz - 4.7 GHz | 28 W (15 - 30 W) Operating temperature: 0°C to +60°C
AMD Ryzen™ 5 PRO 8540U* (OEM/ODM only) 6C | 12T | 3.2 GHz - 4.9 GHz | 28 W (15 - 30 W) Operating temperature: 0°C to +60°C

*CPU from mobile product line may have shorter availability
OCP = Overcurrent Protection

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