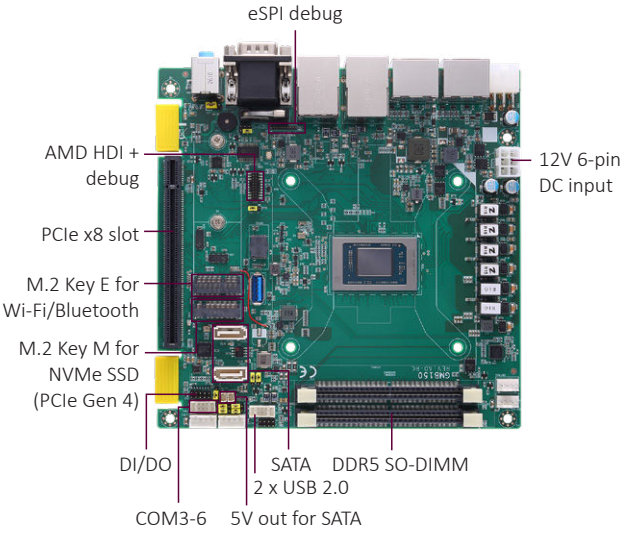
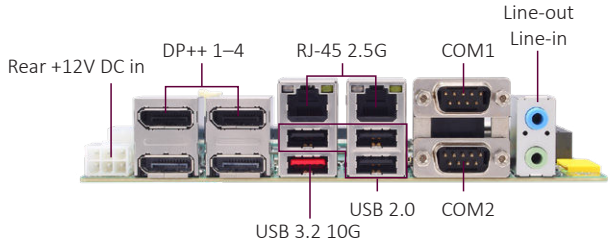
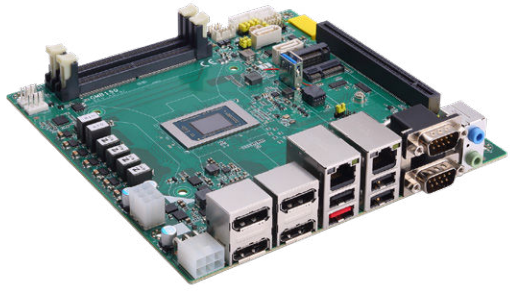
GMB150

Mini-ITX Gaming Board with AMD Ryzen™ Embedded P100 Series
AMD Radeon™ RDNA 3.5 Graphics, 4 DisplayPort++ 4K @ 120Hz, 2 GbE LAN, and HD Audio







▲ Side view

Features

- High-performance AMD Embedded Platform with XDNA2 engine for AI Inferencing and extended
- Supports NVMe M.2 Key M storage and M.2 Key E expansion
- GLI verified TrustedBoot
- PCIe golden nger expansion for Gaming I/O Module
- Optional support 9-bit serial port for SAS 6.02
- Lifetime long-term supply

Specifications

Core System

CPU	AMD Ryzen™ Embedded P100 Series SoC "Zen 5" APU, 28W (15W to 54W) - P185, 12 Core (4 Classic / 8 Dense, 24MB, L3), 5.1 GHz - P174, 10 Core (4 Classic / 6 Dense, 24MB, L3), 5.0 GHz - P164, 8 Core (3 Classic / 5 Dense, 16MB, L3), 5.0 GHz - P132, 6 Core (2 Classic / 4 Dense, 8MB, L3), 4.5 GHz - P121, 4 Core (1 Classic / 3 Dense, 8MB, L3), 4.4 GHz
System Memory	2 x 262-pin DDR5-5600 SO-DIMM, up to 96GB, ECC Supported
BIOS	AMI UEFI BIOS Trusted Boot (BIOS Secure Boot) with Secure Hash and Public Key Algorithms
Storage	1 x M.2 Key M (2280, PCIe x4) NVMe support 2 x SATA 3.0 (support pin-7 power SATA DOM)
Watchdog Timer	1 sec. to 255 min.

Specifications

Expansion Interface	1 x PCIe x16 (PCIe x8 signal) 1 x M.2 Key E (2230, PCIe x1) 2 x PCIe golden finger expansion for Axiomtek Gaming I/O module
Battery Lithium	Lithium 3V/220mAH
Power Input	6-pin connector, DC +12V
Power Consumption (Max.)	TBD
Display	
Graphics	AMD high-performance RDNA™ 3.5 graphics
Display Interface	4 x DP++, up to 4 independent 4K @ 120Hz displays
I/O	
External	1 x USB 3.2 Gen 1 x1 (Gbps) 3 x USB 2.0 2 x full RS-232 DB9 ports (COM1 supports RS-232/422/485)
Internal	1 x USB 3.2 Gen 1 x1 (5 Gbps) Type-A 2 x USB 2.0 box header 4 x RS-232 box headers (2 support ccTalk, 2 support TTL)
Audio	Realtek ALC888S, High Definition Audio (HD Audio) 3.5 mm audio jacks: Line-In, Line-Out
Ethernet	2 x GbE (1GbE default, 2.5GbE by option)
GPIO	1 x 8-bit GPIO box header
Key Benefits	
TPM	Onboard TPM 2.0 and fTPM supported RSA2048 and AES256 hybrid encryption
Hardware Monitoring	CPU temperature System temperature System voltage Smart fan speed control
OS Support	Windows® 11 IoT Enterprise, Linux 26.04
Others	Optional SAS 6.02 COM port driver (via gaming I/O module)
Mechanical and Environmental	
Dimensions	170 x 170 mm
Board Thickness	1.6 mm
Operation Temperature	0°C to +60°C (+32°F to +140°F)
Relative Humidity	10% to 90% relative humidity, non-condensing

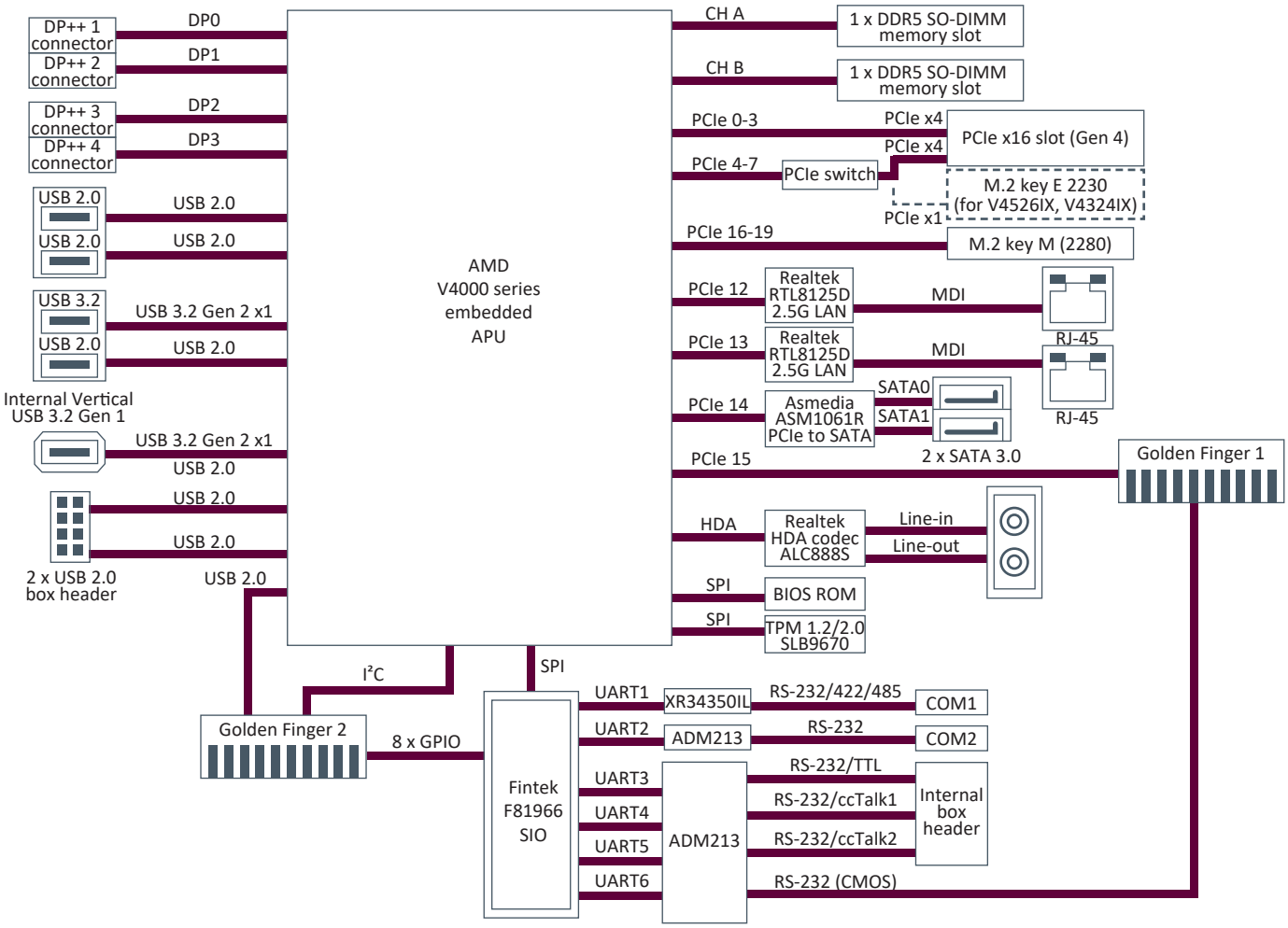
Ordering Information

GMB150-P185-S	Mini-ITX board with AMD Ryzen™ Embedded P185, 4 x DP++, 6 x COM, 7 x USB, 2 x GbE, Audio, PCIe x8 slot, PCI Express Mini Card slot, M.2 slot, and 12 VDC input
GMB150-P174-S	Mini-ITX board with AMD Ryzen™ Embedded P174, 4 x DP++, 6 x COM, 7 x USB, 2 x GbE, Audio, PCIe x8 slot, PCI Express Mini Card slot, M.2 slot, and 12 VDC input
GMB150-P164-S	Mini-ITX board with AMD Ryzen™ Embedded P164, 4 x DP++, 6 x COM, 7 x USB, 2 x GbE, Audio, PCIe x8 slot, PCI Express Mini Card slot, M.2 slot, and 12 VDC input
GMB150-P132-S	Mini-ITX board with AMD Ryzen™ Embedded P132, 4 x DP++, 6 x COM, 7 x USB, 2 x GbE, Audio, PCIe x8 slot, PCI Express Mini Card slot, M.2 slot, and 12 VDC input
GMB150-P121-S	Mini-ITX board with AMD Ryzen™ Embedded P121, 4 x DP++, 6 x COM, 7 x USB, 2 x GbE, Audio, PCIe x8 slot, PCI Express Mini Card slot, M.2 slot, and 12 VDC input

Packing List

I/O Bracket (P/N: TBD)	GMB150 I/O bracket

Block Diagram



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