ADVANTECH
Enabling an Intelligent Planet

AMD

ADVANTECH AMD SOLUTIONS eBOOK

Your Guide to Advantech's E-IoT Computing Platforms Based on The Latest AMD CPUs


AI

Table of Contents

ADVANTECH

Enabling an Intelligent Planet

Est. **1983**

Headquarters: **Taipei, Taiwan**

INDUSTRIES SERVED

Industry 4.0, Industrial IoT, Embedded Computing, Medical, Retail, Logistics

$10.61 MARKET CAP(USD)

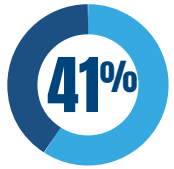
(Feb., 2024)

HONORS & AWARDS

- No.5 in Best Taiwan Global Brands — Interbrand
- No.17 in Top 50 Global Automation Vendors — CONTROL
- No.9 in Top 100 Industrial IoT Companies — IoT ONE
- Red Dot Product Design Award — reddot design award
- iF Product Design Award — iF

WORLD'S LARGEST IPC COMPANY

Advantech IPC WW Market Share



Advantech Other IPC Companies

Source: OMDIA – Market Share estimates for Industrial PCs: World, 2022 Edition

$2.07B 2023 REVENUE (USD)

KEY ECO-SYSTEM PARTNERS

intel, Microsoft, NVIDIA, Micron, AMD, Canonical Ubuntu, Texas Instruments, arm, NXP, Qualcomm, MEDIATEK

and more...

QUALITY SYSTEMS IN PLACE

- ISO9001
- ISO14001
- ISO13485
- ISO17025
- ISO27001
- ISO45001
- TL9000
- ISO50001
- RoHS
- WEEE
- SONY GP
- REACH

1.8 MILLION+ sq. ft.

MANUFACTURING PLANTS

Linkou, Taiwan

- 9 SMT lines, 16 system lines
- Engineering sample services
- Complex product lines
- Flexible & quick production

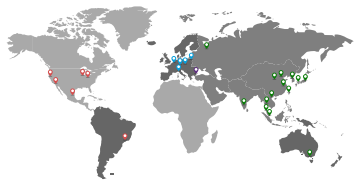
Kunshan, China

- 12 SMT lines, 13 system lines, 6 chassis lines
- Chassis design & production
- Mature product lines
- Cost-effective production

Nogata, Japan

- 4 SMT lines, 1 system line
- Japan design center, CTOS service, logistics center, repair center

WORLDWIDE OFFICES



Manufacturing	3
On-site service	4
Design centers	11
CTOS centers	16
Repair centers	17
Logistics centers	20

More than 90 offices globally!

8800+ EMPLOYEES

Embedded AIoT Design-In Services

Embedded Software Services

- Embedded BIOS
- Embedded LTS OS (Long-Term Support OS)
- SUSI software API
- Utilities for operating system customization and backup/recovery

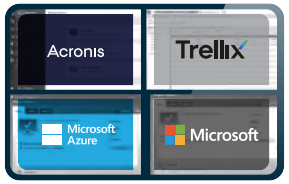
Edge AI SDK

- No-code GUI for rapid AI benchmark
- All-in-one installer for select Advantech edges
- Remote AI program mgmt
- Inference computing & edge-to-cloud consulting services

Device Management

- Zero Trust Onboarding
- Remote Management
- Monitor & Control
- OTA Update
- App Orchestrator
- IoT Security

Software and Cloud Integration



- Acronis Backup and Recovery
- Trellix IoT Security Solution
- Windows IoT Add-on Utility
- Global Distribution
- Azure Migration and Consulting Services

Why Advantech & AMD for Embedded

Advantech, a leading IPC company, leverages the latest AMD platform technology to deliver superior business value. Accelerating the evolution of IoT edge applications requires technological breakthroughs to support emerging high-performance workloads and AI enhancements. Advantech's AMD solutions provides excellent performance, graphics, embedded features, and design-in services.

5G & Networking

High-bandwidth transmission between nodes

79 PCIe Lanes

Aviation Science

High-density cores optimize workload distribution efficiency

64 Core

Medical Imaging

24/7 operational stability enhances analytical intelligence and diagnostic accuracy

QFCS

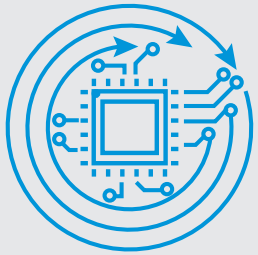
Smart Automation

Exceptional graphics performance for vision guided robotics and automated inspection

Radeon™ Graphics

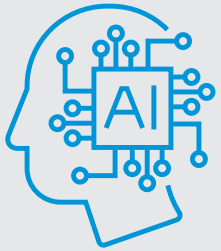
How Advantech & AMD Benefit Industrial Applications

Leading Computing



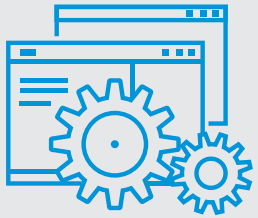
- AMD Zen4c architecture
- Advanced 5nm process
- Up to 64 cores
- PCIe Gen 5 and USB 3.2 Gen 2
- Best performance per watt

AI Innovation



- Multiple GPU (Radeon™) and AI-Accelerator Chip (Versal FPGA) support
- AMD Unified AI (UAI) stack
- AMD XDNA AI Engine Architecture

Software Utility & OS



- DeviceOn
- Windows Server 2022
- Windows 10 & Windows 11 IoT
- Ubuntu 22.04

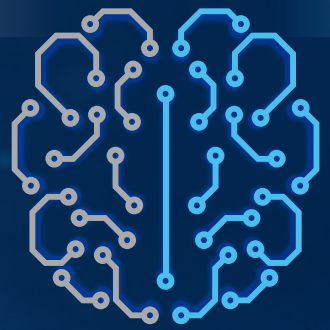
Embedded Features & Service

- 5- to 10-year longevity
- BIOS customization services
- Advanced thermal solutions
- Intelligent management
- Design-in services

Empowering Edge AI with AMD Technology and Advantech Design

Powering Up Training Performance with **1,000+ GB Memory Using 12+ Slots**

- 64-core, Zen4c processor on 5nm, optimizes workload distribution
- Handle massive datasets with up to 1,152 GB memory via 12 slots
- PCIe Gen5 design powers up to 4 x dual-slot, AI-accelerated cards



Enabling Real-Time Inference Efficiency via **Integrated NPU up to 50 TOPs**

- The new SoC, featuring CPU, GPU and NPU,delivers up to 39 TOPS
- TDP of 15W-30W enables application mobility and power saving
- Next-gen NPU offers 50 TOPS, over the 11-45 TOPS average for NPU

Maximize AI Stability, Accessibility, and Deployment Excellence

With Advantech's design expertise, we unlock the potential of the latest AMD platform. Optimized thermal and power technology supports high TDP CPUs up to 225W, efficiently managing heavy workloads for top AI performance. Standard form factors like Computer on Module, MicroATX, Mini-ITX, and 3.5" ESBC enable seamless AI upgrades with flexibility and scalability. Our advanced system design enhances AI capabilities in compact enclosures, simplifying Edge integration. Together, we deliver a stable, simple and compact solution for efficient, high-performance Edge AI.

Accelerate Edge Development with Advantech's Software Solutions

Evaluation

Hardware Selection

Edge AI SDK
- Quick inference performance evaluation for Advantech edge devices

Device Compatible Runtime SDKs
- Intel® OpenVINO™
- NVIDIA® TensorRT™
- Hailo Hailo RT
- AMD ROCm™
- AMD Vitis™
- AMD ZenDNN
- Qualcomm® Neural Processing SDK
- NXP® eIQ®
- MediaTek NeuroPilot

Training

Data Labeling → Model Training → Model Compression

Intel® Geti™
Swift data annotation and computer vision model creation

NVIDIA AI Enterprise
- Creation of diverse, customized, and accurate models within hours

Inference Development

Inference Development

Edge AI SDK
- Compatible runtime SDKs for Advantech edge devices

Device Compatible Runtime SDKs

NVIDIA AI Enterprise
- Optimized inference engines for NVIDIA AI platforms

Inference Deployment

Inference Deployment → Deployment Management

DeviceOn
- On-premises one-to-many deployment

DeviceOn
- Massive edge AI inference device monitoring

NVIDIA AI Enterprise
- Cloud-based control of NVIDIA-Certified Systems at edge sites

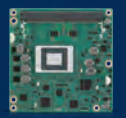
Learn More

Training & Deployment

AIR-770
- AMD EPYC™ Embedded 8004 Series
- 4 x dual-slot GPU

AIR-520
- AMD EPYC™ Embedded 7003 Series
- SQ ai100 SSD with aiDAPTIV
- 2 x dual-slot GPU

Evaluation, Development & Edge Inference



SOM-6873
- AMD RYZEN™ Embedded 8000 Series
- 1st native AI module with up to 39 TOPs

AIMB-2210
- AMD RYZEN™ Embedded 8000 Series
- SoC at 39 TOPS, and featuring 4 x 4K Displays, 4 x USB 3.2 and 2 x 2.5GbE

Advantech Product Roadmap – Embedded Boards

High-Performance

AMD EPYC Embedded

SOM-E780
- EPYC™ Embedded 7003 Series
- COM-HPC SERVER E

AIMB-592
- EPYC™ Embedded 7003 Series
- MicroATX

SOM-E781 Q1'25
- EPYC™ Embedded 8000 Series
- COM-HPC SERVER E

AIMB-593 Q3'25
- EPYC™ Embedded 8000 Series
- MicroATX

Mainstream

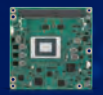
AMD RYZEN Embedded

AIMB-522
- RYZEN™ Embedded 5000 Series
- MicroATX

AIMB-523
- RYZEN™ Embedded 7000 Series
- MicroATX

Low Power

AMD RYZEN EMBEDDED V / AMD RYZEN EMBEDDED R



SOM-6872 A1/A2
- RYZEN™ Embedded V2000 Series
- COM Express Compact

AIMB-229
- RYZEN™ Embedded V2000 Series
- Mini-ITX

MIO-5376
- RYZEN™ Embedded R2000 Series
- 3.5" SBC

AIMB-228R2
- RYZEN™ Embedded V1000/R1000/R2000 Series
- Mini-ITX

SOM-6873 Q2'25
- RYZEN™ Embedded 8000 Series
- COM Express Compact

AIMB-2210 Q2,'25
- RYZEN™ Embedded 8000 Series
- Mini-ITX

Available Developing Planning

2023 — 2024 — 2025

* All product specifications are subject to change without notice

Advantech Product Roadmap – System Solutions

Embedded Systems

EPC-T3229

- RYZEN™ Embedded V2000 Series
- 1U THIN Embedded PC

EBC-B3522

- RYZEN™ Embedded 5000 Series
- 3U system, 500W PSU

AIR-520

- EPYC™ Embedded 7003 Series
- 4U System, 1200W PSU

AIR-770 Q2,25

- EPYC™ Embedded 8004 Series
- 4 x dual-slot GPU

Gaming

DPX-S450

- RYZEN™ Embedded V1000/R1000 Series
- 4 DP out

DPX-J100

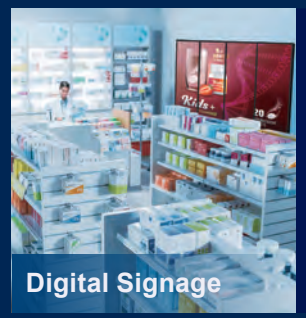
- RYZEN™ Embedded V1000/R1000 Series
- 6 COM, intr. M.2

DPX-S451

- RYZEN™ Embedded R2000 Series
- DC / ATX power

DPX-M266

- RYZEN™ Embedded R2000 Series
- 4 DP out



Digital Signage

DS-082

- RYZEN™ Embedded V1000/R1000 Series
- 4/3 x HDMI 2.0, 1 x LAN, 1 x COM & 4 x USB

EBC-V001(AEVA) Q4'24

- RYZEN™ Embedded R2000 Series
- Dual EDSFF E1.S accelerator

DS-084 Q2,25

- RYZEN™ Embedded R2000 Series
- 4/3 x HDMI 2.1 TMDS
- EDID/OOB Option

Available Developing Planning

2023 — 2024 — 2025

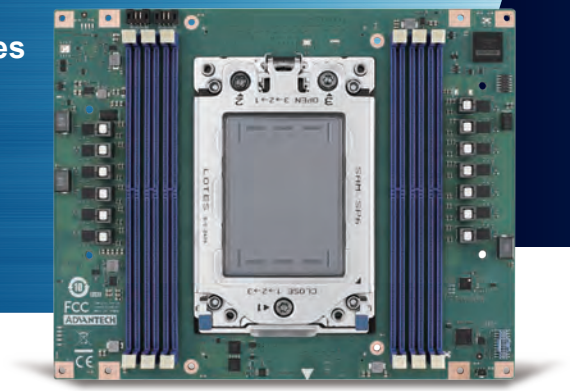
* All product specifications are subject to change without notice

COM-HPC Server

SOM-E781

EPYC™ Embedded 8004 Series

AMD EPYC Embedded



Unbounded Performance COM Module with CXL

Enhance Real-time Computing Capability

Learn More

Phase In	February 2025	Longevity	Q2 2031

Features

Performance Breakthrough with Enhanced Power Efficiency

- COM-HPC Proprietary Pinout – Server Size E (200x160 mm)
- EPYC™ Embedded 8004 Series, 64C/128T/200W and socket type CPU

High Bandwidth and Optimized Computing Effectiveness

- 79 x PCIe Gen5 Lanes, supporting GFX, AI accelerator card, FPGA, NIC, storage
- 48 x CXL 1.1 support for overcoming RAM usage limitations in server-grade and AI computing

Speedy Mass Data Responsiveness

- 576GB DDR5 4800MT/s large memory size
- 6 x RDIMM sockets,1.5x RAM speed & bandwidth upgrade

Advanced Remote Management and Security Technology

- Supports IPMB for BMC remote control
- TPM support for advanced security
- Supports security boot or fast boot by customized BIOS

Applications

Edge VM Server

DNA Squencing System

Test Equipment

Edge AI Server

AIR-770

EPYC™ Embedded 8004 Series

AMD EPYC Embedded

Scalable GPU Workstation for Edge LLM Training and Inference

Revolutionize Edge AI Infrastructure

Phase In	Q2 2025	Longevity	Q2 2031

Features

Maximum Performance in a Tower System

- EPYC™ Embedded 8004 Series single processor up to 64 cores / 128 threads
- Up to 1,152GB system memory, 6 x channel ECC DDR5 with 12 RDIMM slots
- Up to 4 x dual-slot GPU FHFL support

High-Bandwidth Expansion, Storage, and Connectivity

- 4 x E1.S slot (PCIe x4 Gen 5 links), hot-plug EDSFF support.
- 4 x PCIe x16 slots (Gen5 x16 link) or 8 x PCIe x16 slots (Gen5 x8 link)
- 2 x 10GbE LAN and 2 x 2.5GbE LAN

Future-Proof Design

- CXL 1.1 support (dedicated peripheral slots)
- Standard CRPS support flexibility to upgrade PSUs
- 1 x PCIe x8 Gen 5 links via MCIO for customization expansion
- Optional design to upgrade SATA 2.5” SSD from 4 to 8

Advanced Reliability & Flexibility

- Optimal thermal design to manage high TDP GPUs
- TPM support for advanced security
- Remote management by BMC
- Optional accessory kit for industrial-grade rackmount
- Compact dimensions with support for 4 dual-slot GPUs (178 x 438 x 530 mm)

Applications

Edge LLM Optimization

Medical Workstation

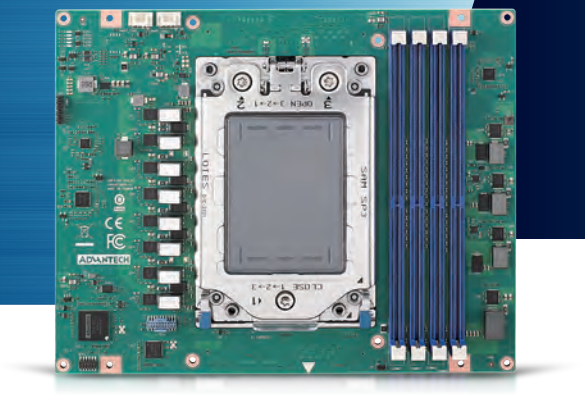
High-Speed Test Equipment

COM-HPC Server

SOM-E780

EPYC™ Embedded 7003 Series

AMD EPYC Embedded



The Most Powerful COM HPC Server Module With 64-Core AMD EPYC CPU

Accelerating the Edge Server Revolution

Learn More

Phase In	January 2023	Longevity	Q1 2028

Features

Server-Grade High-Performance COM

- COM-HPC Proprietary Pinout – Size E (200 x 160 mm)
- EPYC™ Embedded 7003 Series, 64C/128T/225W and socket type CPU

Cost & Energy Efficient Performance

- Supports more VM per server
- Parallelized cores ideal for NFV & SDN
- High performance-per-watt reduces energy & operation cost

Comprehensive Data Transmission Capability

- 512GB large memory size with 4 x DDR4 long DIMM
- 79 x PCIe Gen 4.0 lanes for various add-on cards — NIC, GPU, and FPGA

Advanced Network Solution with Security & Service

- Supports IPMB for BMC remote control
- TPM support for advanced security
- Supports security boot or fast boot by customized BIOS

Applications

Data Center

High-End Test Equipment

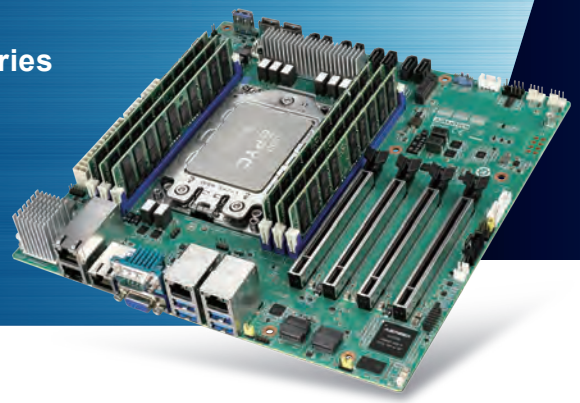
Networking

Micro-ATX

AIMB-592

EPYC™ Embedded 7003 Series

AMD EPYC Embedded



1st Server-Grade Micro-ATX for Entry Edge Training

Learn More

Driving Next-Generation Workloads at the Edge

Phase In	January 2023	Longevity	January 2028

Features

Maximize AI Computing with the Latest High-Speed Technology

- 4 x PCIe Gen 4.0 x16 slots empower machine learning & deep learning
- Supporting 2 x double-deck AI-accelerated cards (PCIe x16) durable steel slots
- High-speed PCIe 4.0 onboard SSD via M.2 M-Key connector

High Throughput Connectivity to Cloud

- Dual 10GbE LAN high-bandwidth connectivity empowers big data cloud services
- Dual 1GbE LAN simplifies private cloud deployment

Ultimate Performance Powers Workloads at the Edge

- 64 Core EPYC™ Embedded 7003, Zen 3 core 7nm CPU
- Up to 768GB DDR4-3200, 6-channel memory

Remote Management

- DeviceOn features remote access and efficient OTA operations
- IPMI 2.0 centralized management

Applications

Precise Diagnostics

Intelligent Video Surveillance

Edge AI & Analytics

Edge AI Server

AIR-520

EPYC™ Embedded 7003 Series

AMD EPYC Embedded

Server-Grade Edge Computer

For Power-hungry Graphics AI Applications

Learn More

Phase In	Jun 2024	Longevity	March 2028

Features

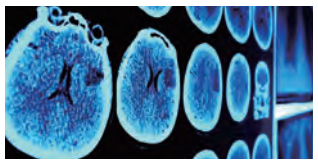
Superior Computing Power for AI Applications

- AMD EPYC 7003 Milan server-grade CPU
- 6-channel DDR4 up to 3200MHz for heavy computing workloads
- Dual 10G LAN for smooth data stream
- NVIDIA Certified with two 6000 Ada graphics cards

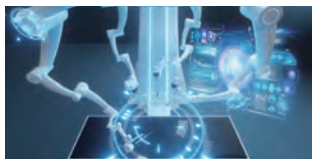
Industrial-Grade System Design

- ESD protection is designed to sustain IEC Level 4 discharge
- EMC protection is designed for both industrial & residential environments
- 1200W 80+ GOLD power supply to support up to two NVIDIA RTX GPU cards

Applications



PACS Workstation



Surgical Robotics

LLM Fine-Tune Training

Hyper-Converged Infrastructure - VMmark®3.1.x vSAN

2 x AMD EPYC TM 7713 280%	**280%**
2 x Intel® Platinum 8268	

VSI - Login VSI™ Pro v4.1.40.1 average

2 x AMD EPYC TM 7763 214%	**214%**
2 x Intel® Gold 6258R	

Database - TPC Benchmark™ Express HS

1 x AMD EPYC TM 75F3 227%	**227%**
2 x Intel® Gold 6262V	

High-Performance Computing - ANSYS® LS-DYNA® carss

2 x AMD EPYC TM 75F3 181%	**181%**
2 x Intel® Gold 6258V	

Integer Performance - SPECrate® 2017_ int_base

2 x AMD EPYC TM 7763 206%	**206%**
2 x Intel® Gold 6258R	

Micro-ATX

AIMB-523

RYZEN™ Embedded 7000 Series

AMD RYZEN Embedded

3D Vision-Guided Computing Micro-ATX Motherboard

Moving Toward Next-gen Visual Computing

Learn More

Phase In	September 2024	Longevity	Q3 2030

Features

AMD RYZEN™ Embedded 7000 Series for Data-Intensive Workloads

- High-performance Zen 4 CPU up to 12 cores
- DDR5 dual channel, 4 DIMM slots, Max. 128GB
- Integrated AMD Radeon™ graphics supporting triple displays, 2 x HDMI and 1 x DP

High-Bandwidth Transmission for Visual Guided Applications

- 6 x 2.5GbE LAN Ports
- 8 x USB 3.2 Gen2 (10Gbps)

High Expandability to Empower Adaptive Configurations

- 1 x Gen5 PCIe x16, 1 x Gen4 PCIe x4, 1 x Gen4 PCIe x1
- 1 x M.2 M-Key with Gen4 PCIe x4 interface

Internal USB Connector to Strengthen Data Security

- 1 x internal USB 2.0 Type A for USB keylock applications

Applications

Semiconductor Test Equipment

Vision Guided Robotic Controller

Intelligent Surveillance

Micro-ATX

AIMB-522

RYZEN™ Embedded 5000 Series

AMD RYZEN Embedded

High Expandability Micro-ATX Motherboard

Empower Performance Graphics Computing

Learn More

Phase In	September 2022	Longevity	April 2028

Features

AMD RYZEN™ Embedded 5000 Series

- High-performance Zen 3 CPU, up to 16 cores
- DDR4 dual channel, 4 DIMM slots, Max. 128GB

High-Bandwidth I/O Connectivity Made for Camera-Based Applications

- 8 x USB 3.2 Gen2 (10Gbps)
- 4 x Ethernet Ports (2x 1GbE, 2x 2.5GbE)

High Expandability for Industries

- 1 x PCIe x16 and 2 x PCIe x4 slots
- 1 x M.2 M-Key and 1 x Mini card
- CPU supports triple displays (VGA, DP, HDMI)

Internal USB Connector for USB Keylock Applications

- 1 x internal USB 2.0 Type A

Applications

Intelligent Surveillance

Machine Vision

Smart Manufacturing

3U Edge Computer

EPC-B3522

RYZEN™ Embedded 5000 Series

AMD RYZEN Embedded

Machine Vision Edge Computer

For AI Applications in Industrial Automation

Learn More

Phase In	September 2022	Longevity	January 2026

Features

Desktop Level Computing Platform

- RYZEN™ 9, performance up to 1.92x better than 10th Gen Intel® Core™ i9 (Comet Lake)
- RYZEN™ 9 (105W), TDP 17% lower than 12th Gen Intel® Core™ i9 (Alder Lake) (125W)
- RYZEN™ 9 is 16C/32T for multiple applications
- NVIDIA Certified with NVIDIA RTX A4500

Industrial-Grade System Design

- ESD level 4 (8kV/15kV)
- Safety IEC-62368 CB / UL
- Comprehensive EMC protection for both residential and industrial environments

Value-added Software Support

- Windows 10 & Linux Ubuntu Support
- DeviceOn
- Value-added Software Support

DeviceOn

Windows

Ubuntu

Applications

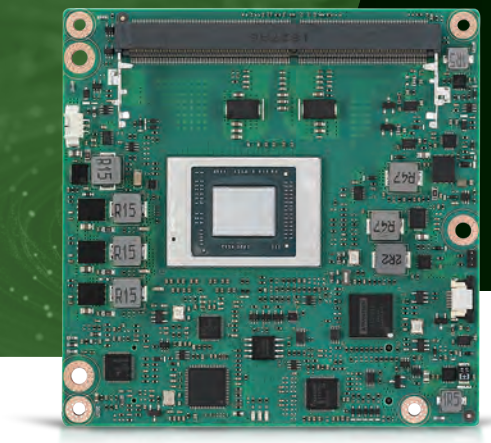
Automated Optical Inspection

Visual Inspection AI

COMe Compact

SOM-6873

RYZEN™ Embedded 8000 Series



Powerful and Efficient Native AI Module

Unlock the Hidden Gem for Edge AI Evolution

Learn More

Phase In	Q2 2025	Longevity	Q2 2034

Features

The Most Powerful COMe Compact Module

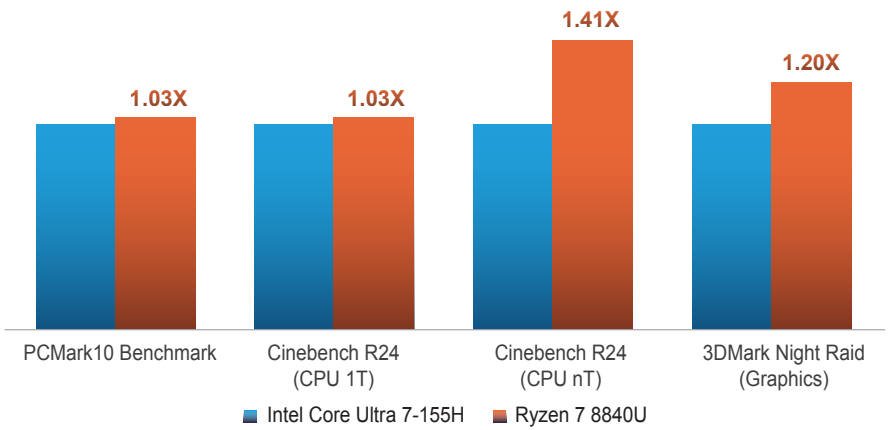
- COMe compact, 8-core 35-54W / 6-core 15-30W SoC
- Optimized performance with flexible TDP support
- Up to 96GB dual-channel DDR5-5600 RAM
- Supports 4 x SATA and 4 x USB 3.2 Gen2

1st COM Module with AMD Integrated NPU

- 1.6x CPU & GPU performance improvement over AMD Embedded V2000 series
- Embedded 8000 Series, SOC total 39 TOPS, integrated NPU up to 16 TOPS
- 1.4x CPU, 1.2x GFX, and 1.7x AI performance enhancement over Intel® Core™ Ultra processors

Design-In Service Accelerates Edge AI Inference

- No throttling with QFCS compact thermal design @ 60°C
- Windows 11 LTSC, Ubuntu OS Image & License
- Supports Edge AI SDK for AI performance benchmark & development



Reference: RYZEN EMBEDDED 8000 SERIES PROCESSOR - COMPETITVE ADVANTAGE

Applications

Medical Imaging

Machine Vision

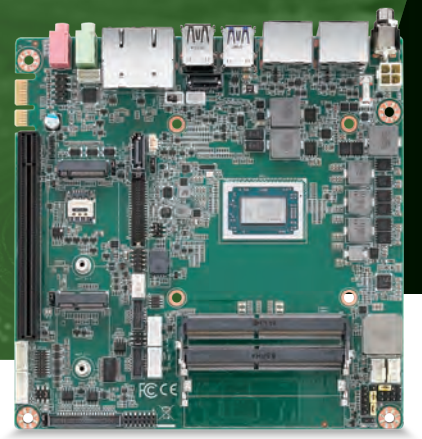
Gaming

Test Equipment

Mini-ITX

AIMB-2210

RYZEN™ Embedded 8000 Series



1st AI-enabled Mini-ITX with Native NPU

For Low-Latency Inferencing at the Edge

Learn More

Phase In	May 2025	Longevity	Q2, 2034

Features

Low-Latency AI with Low Power Consumption

- Embedded 8000 Series, SOC total 39 TOPS, integrated NPU up to 16 TOPS
- CPU up to 8-core, TDP range from 15W to 54W
- Performance better than other equivalent platforms (TDP 28W)
  3D Mark Graphics: 1.2x; AI Processing: 1.79x with Yolov8

High-Bandwidth Data Transmission

- Zen4 Core with 64GB DDR5 5600 (support ECC)
- Super-speed I/O : 2 x 2.5GbE, 4 x USB 3.2
- PCIe x8 Gen4 with bandwidth 16GB/s
- M.2 M-Key for NVMe, M.2 E-Key for Wi-Fi 7 or AI module expansion
- OS: Windows 11 & Ubuntu 22.04 LTS

Effortless Integration Configuration

- Four 4K independent displays
- Six serial ports, supporting TTL and CCtalk protocols
- 12~24V wide range power input, easier for system power design
- Easily integrated with compact, low-profile motherboard and strong backplate design

Applications

Self-Service KIOSK

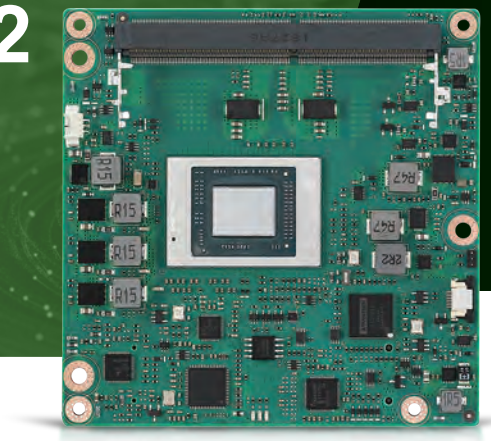
Entertainment

Visual AI

COMe Compact

SOM-6872 A1/A2

RYZEN™ Embedded V2000 Series



High Performance 8-Core COMe Compact Module

Delivers Computing Flexibility & Mobility

Learn More

Phase In	November 2021	Longevity	Q4 2030

Features

High Performance & Power Efficient

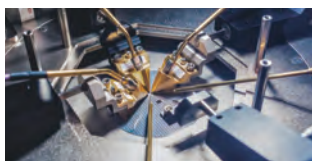
- COMe Compact, 8-core, 35 ~ 54W / 6-core, 12 ~ 25W SoC
- Optimized performance with flexible TDP support
- Up to 64GB dual-channel ECC/non-ECC DDR4-3200 RAM
- Supports 4 x 4K displays (DP++, HDMI, VGA, LVDS)

BGA SoC with Desktop Performance for Industrial Applications

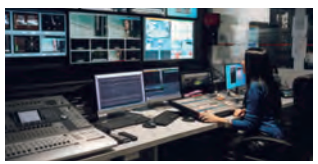
- 7nm technology with double performance per watt, compared to the previous generation
- 54W low power with desktop 95W level performance
- +40% graphics performance to save the cost of an external graphics card

Applications

Ultrasound



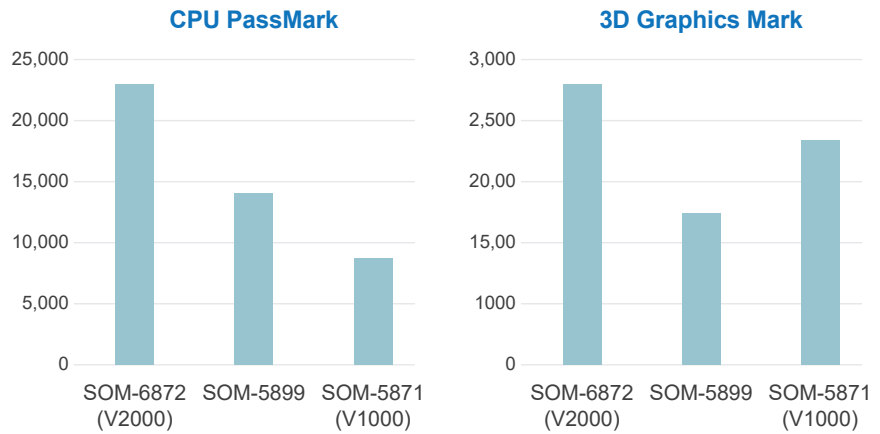
Test Equipment



Video Streaming Equipment

Advantech Design-In Service

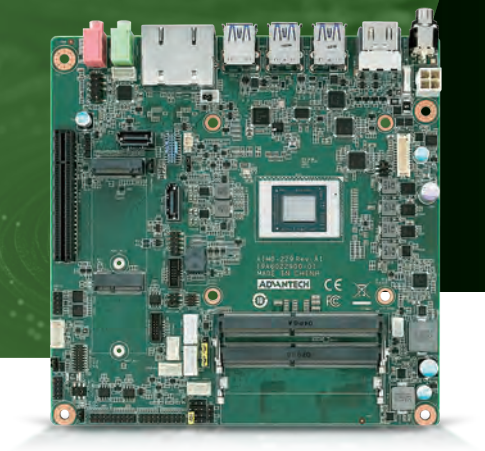
- No throttling with QFCS compact thermal design @ 60°C
- Manager + DeviceOn for easy maintenance, device monitoring, I/O control, and remote management
- Ubuntu OS-ready



Mini-ITX

AIMB-229

RYZEN™ Embedded V2000 Series



THIN Mini-ITX Motherboard

Upgrading Edge Applications with Breakthrough Performance

Learn More

Phase In	April 2022	Longevity	January 2030

Features

Powerful Computing Empowers Graphics-Driven Embedded Devices

- AMD embedded Radeon™ GPU with up to 7 Cores, 40% performance increase (vs V1000)
- Four independent displays with up to 4K 60Hz UHD resolution via 2 x HDMI and 2 DP via USB Type-C
- Flexible I/O expansion: 6 ports USB 3.2, 2 ports GbE and 1 port PCIe x8

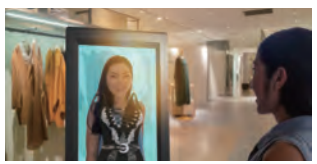
Slim, Powerful, and Efficient Solution for Mobile Imaging Equipment

- Powered by AMD Ryzen™ Embedded V2000, supporting 8-core ZEN 2 CPU cores and 16 threads.
- Performance breakthrough with 64GB DDR4 3200 memory, and 4.2GHz turbo boost
- M.2 NVMe x4 SSD fast data storage

Enables Remote Control and Management at the Edge

- DeviceOn provides real-time hardware, software, and peripheral monitoring
- Over-the-air (OTA) BIOS system that facilitates remote BIOS updates

Applications



Smart Retail

Test Equipment

Medical

EPC-T3229

RYZEN™ Embedded V2000 Series

1U Slim Edge PC with Expansion

For Kiosks That Require Multitasking Capacity

Learn More

Phase In October 2022

Longevity January 2032

Features

Optimal Platform for Slim and Compact Scenarios

- AMD V2748 with 2 x 260-pin SODIMM up to 64GB DDR4 3200 SDRAM
- Supporting up to 4 x displays (2 x DP ports & 2 x HDMI ports)
- 1 x M-Key (supporting 2242/2280), 1 x E-Key (supporting 2230)

Slim Mechanical Design with Expansion Capabilities

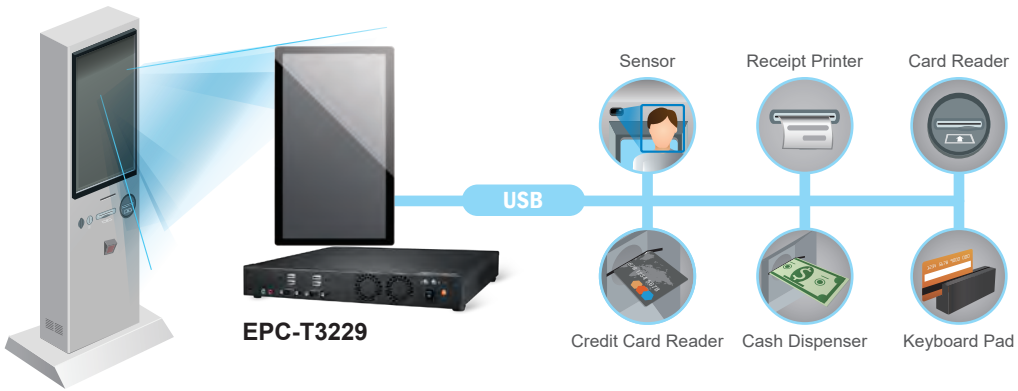
- 1 x full-height PCIe expansion slot
- THIN design (44.2 mm)
- Compact form factor (330 x 44 x 270 mm)

Applications

Interactive KIOSK

Self Check-in System

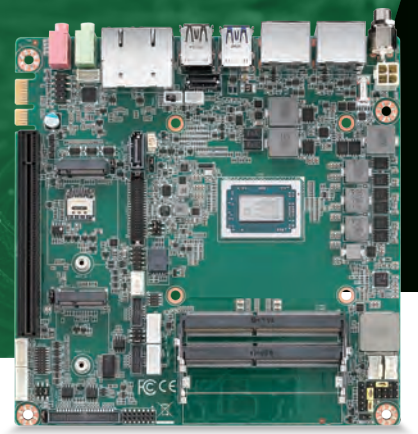
Diagram



Mini-ITX

AIMB-228R2

RYZEN™ Embedded R2000/ V1000/R1000 Series



Computing Power Balanced Solution

Latest AMD Embedded RYZEN SoC on Mini-ITX
Better Price Performance and Better Performance per Watt

Learn More

Phase In	April 2024	Longevity	V1000-2028 / R1000 -2029 / R2000 -2032

Features

Full-Spectrum AMD RYZEN Computing Performance

- Cross platform compatible: V1000/R1000/R2000
- Up to DDR4 32GB 3200MHz (non-ECC & ECC supported)
- Max. TDP 54W better performance per watt
- SoC onboard design enhances mechanical stability

Excellent GPU Performance for Imaging Processing

- AMD Radeon Graphics, up to 11 CUs
- Four independent DisplayPorts, up to 4K
- LVDS internal display as an option for flexible configuration

Abundant I/O Configuration and Wide-Range Power Input

- Up to 6 USB ports, and 6 COM ports (optional TTL/Cctalk)
- B-Key for storage or 4G/LTE; E-Key for Wi-Fi connection
- PCIe x16 slot (and offering PCIe x8 Gen3)
- Dual GbE for data exchange
- DC in: external DC jack 12~24V; internal ATX 4-pin connector

Applications

Self-service KIOSK

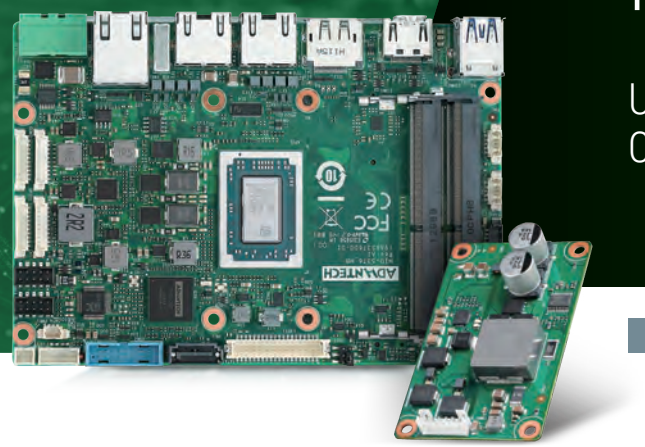
Gaming

Passenger Information System

3.5” Single Board Computer

MIO-5376

RYZEN™ Embedded R2000 Series



Rugged Single Board Computer

Ultra-Fine Display-out and Camera-in for Compact Designs

Learn More

Phase In	March 2023	Longevity	September 2032

Features

For Kiosks, EV Charging Stations, & Passenger Information Systems

- 3 x simultaneous displays up to 4K@60Hz via HDMI 2.0, DP1.4, and LVDS
- Integrated CAN bus for critical control loop in EV charging and transportation
- High-speed UARTs and I2C cover huge sensor interface requirements

Easy High-Resolution Camera Connection

- Equipped with 3 x 2.5GbE with up to 2 x PoE at 100 m distance
- Provides 4 x USB 3.2 with 10Gbps & 5Gbps bandwidth for higher resolution

State-of-the-Art Expansion Ability

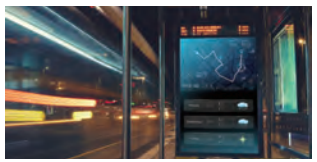
- 3 x simultaneous M.2 expansion for WLAN, WWAN, and storage
- 5G/LTE-capable via M.2 B-Key 3052/3042
- High-speed PCI Express Gen4 x4 NVMe Storage

Compact, Reliable, and Adopted Everywhere

- Wide-range power 12~24V +/- 10% reduced additional size and cost
- IPC-A-610 Class 3 assembly ensures higher reliability

Applications

Access Control System/ Speed Gate



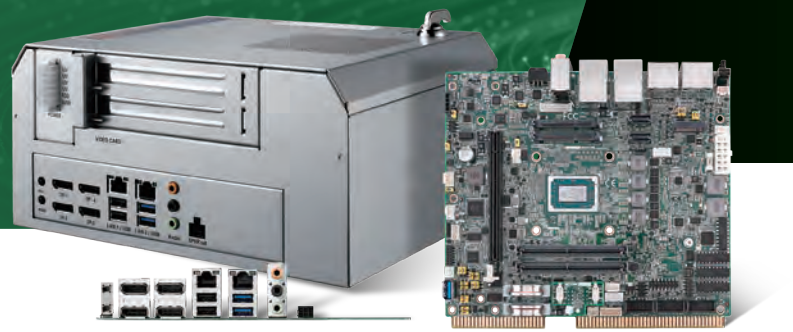
Passenger Information System

Onboard Information & Surveillance

Gaming Platform

DPX®-S451

RYZEN™ Embedded R2000 Series



Multimedia Gaming Engine

Highly Integrated Gaming Motherboard Features for Unrivaled Performance and PCIe Graphics Expansion

Learn More

Phase In	November 2022	Longevity	September 2032

Features

- High-performance AMD Embedded R2000 SOC APUs
- Quad and dual-core APUs up to 3.35 (3.7) GHz
- Radeon™ VEGA GPU with up to 8 x compute units
- Four independent 4K monitors supported
- Comprehensive gaming features
- 12V DC single input or ATX power
- Full-featured driver API for I/O and security

Features

- Digital I/O 32/32
- Expansion I²C, PCIe x16 and Golden Fingers
- DPX® Security suite: Secureboot, TPM support, DPX® security features, & BIOS customization
- Battery Backed SRAM 8MB
- 8 x USB 2.0 3 x USB 3.0
- DPX®-Software: Embedded OS, DPX® Diagnostics, & DPX®-Connector DPX®-SAS
- Displays 4 x DP++ 1.2
- 10 x COMs: ccTalk, RS232, ID003, RS485, TTL
- Enclosure S2000
- Graphics Cards PCIe x16 Format
- M.2, SATA DOM, HDD, SSD, CFast, & USB
- On-board Micro Controller PuC

Applications

Slot Machines

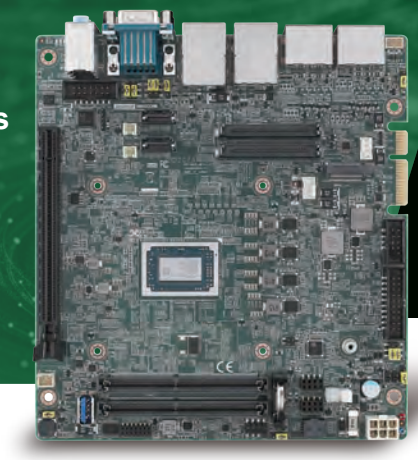
VLTs

GLI Compliant

Gaming Platform

DPX®-M266

RYZEN™ Embedded R2000 Series



Modular Multimedia Gaming Platform

Learn More

Gaming Platform Allowing Custom Features and Functions to Be Added for Specific Markets/Applications

Phase In	June 2023	Longevity	September 2032

Features

- High-performance AMD RYZEN™ Embedded R2000 processors
- Quad and dual-core APUs up to 3.35 (3.7) GHz
- Supports 4 display outputs (4 x DP v1.2)
- PCIe x16 graphics card slot
- Modular expansion port - Edge connector
- Storage 2 x SATA / CFast, 1 x M.2
- Pre-boot media validation support
- RS232, ccTalk, TTL, ID003, I2C, intrusion and DIs

Features

- On-board Micro Controller PuC
- 4 x USB 2.0, 3 x USB 3.0
- DPX-Software: Embedded OS, DPX Diagnostics, & DPX-Connector DPX-SAS
- 4 x DP++ 1.2
- 6 x COMs: ccTalk, RS232, ID003, RS485, TTL
- Enclosure Metalwork Optional
- Expansion PC
- M.2, SATA DOM, HDD, SSD, CFast, & USB
- DPX Security suite: Media Validation ToolKit, TPM support, DPX security features, & BIOS customization

Applications

Arcade

Sports Betting

Gaming

Digital Signage

EBC-V001 (AEVA)

RYZEN™ Embedded R2000 Series

AEVA AMD Edge Video Analysis with Xilinx FPGA

Accelerators in Scalable Add-on Cards to Provide Video and Machine Learning Acceleration

PVT	Q4 2023	MP	Q4 2024

Features

Compact Design for Edge Applications

- Size : 312 X 209 X 51 mm , Weight : 4 kg
- 0 ~ 50°C operating temperature range

Adaptable Configurations to Meet Application Use-Case Requirements and Optimize TCO

- Save cost on hardware and space by using a single edge box to perform inference acceleration

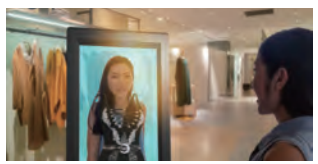
32-Channel FHD at 30 FPS AI Recognition Capability

- Supports two EDSFF E1.S AI modules
- Two different modules are available:
  -Gen 1 module: MPSoC ZU5EV (many video streams + light ML)
  -Gen 2 module: Versal AIE VE2302 (small # of video streams + heavy ML)

Supports DASH for Low Level Network Management

- Remote OS installation & recovery
- Remote power on/off/restart

Applications



Smart Retail

Smart City

Smart Hospital

Gaming Platform

DPX®-E265

RYZEN™ Embedded V1000 Series

Modular Multimedia Gaming Platform

Learn More

Gaming Platform Allowing Custom Features and Functions to Be Added for Specific Markets/Applications

Phase In	September 2019	Longevity	September 2028

Features

- AMD Ryzen™ Embedded V1000 processors
- Supports 4 x DP++ 1.2
- Supports 2 x SATA / 2 x CFast / 1 x M.2
- Supports PCIe x8 (PCIe x16 connector, Gen 3.0)
- 2 x 260-pin SODIMM up to 32 GB DDR4 3200 MHz ECC / Non-ECC SDRAM
- Removable gaming BIOS module for field verification
- Side expansion port for application-specific scenario expansion modules
- Secure boot support

Features

1 x ; Intrusion

Onboard: 4 x USB 2.0 / 3 x USB 3.1 via golden fingers: 2 x USB 2.0

DPX® Security suite: Secure boot, TPM support, DPX® security features, & BIOS customization

Displays: 4 x DP++ v1.2 (3 with R series)

6 x COMs: ccTalk, RS232, ID003,RS485, & TTL

DPX®-Software: Embedded OS , DPX® Diagnostics, & DPX®-Connector DPX®-SAS

Graphics Cards PCIe x16 Format

M.2, SATA DOM, HDD, SSD, CFast, & USB

Enclosure M1000/M2000

Expansion I²C, PCIe x16 and Sidebus modular expansion

On-board Micro Controller PucLite

Applications

Arcade

Sports Betting

Gaming

Gaming Platform

DPX®-E140

RYZEN™ Embedded V1000/R1000 Series

Investment-Optimized Gaming Platform

Learn More

Completely Integrated System, Designed Specifically for Regulated Gaming Markets

Phase In	January 2019	Longevity	September 2029

Features

- AMD RYZEN™ Embedded V1000/R1000 Processors
- High-performance Radeon™ VEGA series graphics
- 4 x 4K monitor support
- Comprehensive gaming features
- Passive cooling system for up to 25W or 54W with fan cooler
- 12V DC single input or ATX power

Features

- Digital I/O 32/32
- 7 x USB 2.0, 2 x USB 3.0
- DPX®-Software: Embedded OS, DPX® Diagnostics, and DPX®-Connector DPX®-SAS
- Battery backed SRAM 8MB
- 9 x COMs: ccTalk, RS232, ID003,RS485, & TTL
- Enclosure Metalwork Optional
- 4 x DP++ 1.2 (3 with R series)
- M.2, SATA DOM, HDD, SSD, CFast, & USB
- On-board Micro Controller PuC
- Expansion I²C
- DPX® Security suite: Secureboot, TPM support, DPX® security features, & BIOS customization

Applications

Slot Machine

VLTs

GLI Compliant

Gaming Platform

DPX®-S450

RYZEN™ Embedded V1000/R1000 Series

Eye-Catching Multimedia Powerhouse

Learn More

Highly Integrated Gaming Motherboard Features Unrivaled Performance and PCIe Graphics Expansion

Phase In	January 2021	Longevity	September 2029

Features

- AMD RYZEN™ Embedded V1000/R1000 Processors
- Quad and dual core APUs up to 3.35 (3.8) GHz
- Radeon™ VEGA GPU with up to 11 compute units
- Four independent 4K monitors supported
- Comprehensive gaming features
- 12V DC single input or ATX power
- Full-featured driver API for I/O and security

Features

- Digital I/O 32/32
- Expansion I²C, PCIe x16 and golden fingers
- DPX® Security suite: secure boot, TPM support, DPX® security features, & BIOS customization
- Battery backed SRAM 8MB
- 8 x USB 2.0 3 x USB 3.0
- DPX®-Software: Embedded OS , DPX® Diagnostics, & DPX®-Connector DPX®-SAS
- Displays 4 x DP++ 1.2 (3 with R series)
- 10 x COMs: ccTalk, RS232, ID003,RS485, TTL
- Enclosure S2000
- Graphics cards PCIe x16 format
- M.2, SATA DOM, HDD, SSD, & CFast, USB
- On-board Micro Controller PuC

Applications

Slot Machine

VLTs

GLI Compliant

Gaming Platform

DPX®-J100

RYZEN™ Embedded V1000/R1000 Series

JAMMA Gaming Platform

Learn More

A Full Set of I/O, COMs and Security Features Designed Specifically for JAMMA Applications and Street Gaming Markets

Phase In	February 2022	Longevity	September 2029

Features

- AMD RYZEN™ Embedded V1000/R1000 Processors
- Quad and dual core APUs up to 2.6 (3.5) GHz, 25W
- Radeon™ VEGA GPU with up to 8 compute units
- Supports up to 3 x independent monitors
- Comprehensive gaming features
- 72 + 20 Pin JAMMA harness connectors
- Full featured driver API for IO and security
- Optional Enclosure

Applications

Street Gaming

Regulated Gaming

Features

- Digital I/O 24/29
- Expansion I2C & Mini PCI
- DPX® Security suite (as below) +iButton
- Up to 2MB of battery backed FRAM
- 6 x USB 4 x 2.0 - 2 x 3.1/2.0
- DPX®-Software: Embedded OS , DPX® Diagnostics, & DPX®-Connector DPX®-SAS
- 1 x DP++, 1 x HDMI and 1 x VGA
- 6 x Coms – RS232/ 485 Tx/Rx
- Optional Enclosure
- ExOnboard audio amplifier, line out, & digital SPDIF out I²C
- SATA DOM, SSD, HDD, M.2, USB, & CFast
- On-board Micro Controller

Digital Signage

DS-082

RYZEN™ Embedded V1000/R1000 Series

The Slimmest 4Kx4 Signage Player

For Edge Visualization Solutions

Learn More

Phase In	February 2022	Longevity	January 2026

Features

4 x Independent 4K Outputs via HDMI 2.0

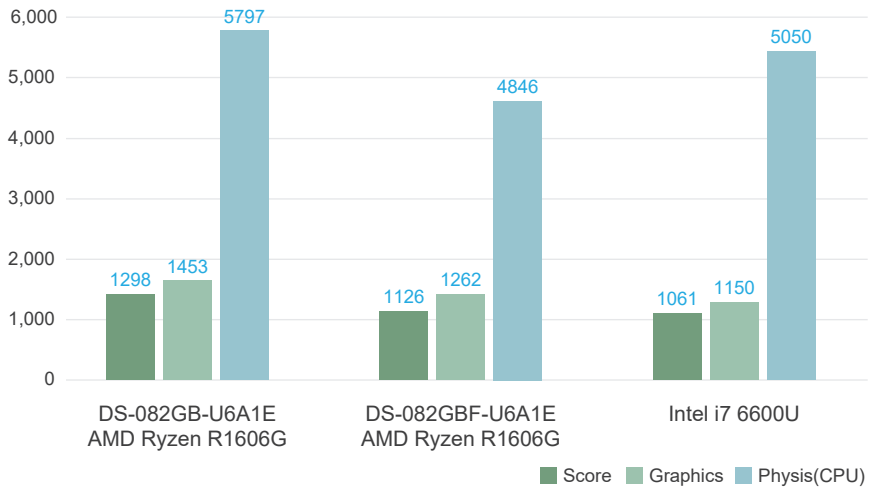
Using 4 x independent HDMI 2.0 outputs enable users to implement an 8K TV wall with ease

Slim Design (only 19 mm)

System design with only 19 mm thickness is presently the world's slimmest signage player

WISE-PaaS/SignageCMS Bundle

Bundled with WISE-PaaS/SignageCMS software, enabling customers to develop their signage system cost effectively and easily.



Applications

Kiosks

QSR

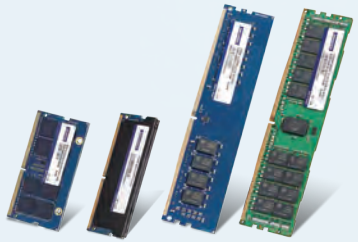
Retail (Supermarket)

Industrial-Grade Peripherals

SQFlash

- Various form factor with the latest Gen5 SSD
- Multiple temperature solutions: (0-70°C), (-20-85°C) and (-40~85°C)
- FW fine-tuning and customization service

SQRAM



- Edge AI-driven extreme high capacity up to DDR5 5600 128GB
- Reliable quality with 30μ" golden finger PCB and fixed BOM solutions
- Intelligent software for real-time monitoring

Industrial Wireless

- High-speed wireless experience from 5G/Wi-Fi 6E/Wi-Fi 7
- High compatibility and integration level with AMD platform
- Antenna Design-in and certification service

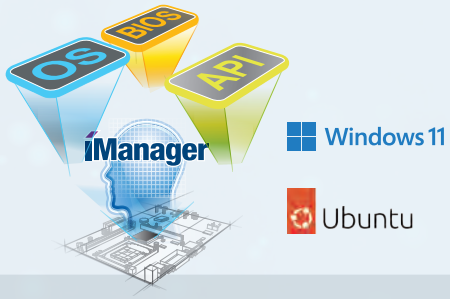
Ubuntu LTS

Ubuntu

- Full-blown graphical UI OS
- Preferred platform for AI, ML, and DL applications
- Consistent OS experience across platforms with long-term support

Embedded Software Services

Embedded Software Services



- Embedded BIOS
- Embedded LTS OS (Long-Term Support OS)
- SUSI software API
- Utilities for operating system customization and backup/recovery

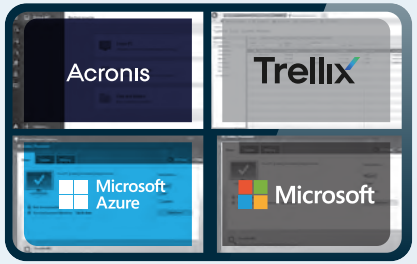
Device Management

- Zero Trust Onboarding
- Remote Management
- Monitor & Control
- OTA Update
- App Orchestrator
- IoT Security

Edge AI SDK

- Inference Benchmark Tool with no-code GUI for rapid AI inference assessment
- Inference Runtime SDK for compatible installation on Advantech edge devices
- Inference Deployment Platform for managing AI containers remotely with scalable updates
- Global Customer Support for inference computing & edge-to-cloud consulting services

Software & Cloud Integration



- Acronis Backup and Recovery
- Trellix IoT Security Solution
- Windows IoT Add-On Utility and Customization
- Global Distribution
- Azure Migration and Consulting Services

Boosting Retail Sales with Digital Advertising Signage

Intro

Retailers are increasingly using enhanced digital signage in their stores. This customer is a famous health and beauty retailer and pharmacy chain in Europe. They recently added more LCD digital signage systems to their stores in an effort to reduce print & POS requirements, and deliver dynamic content aimed at attracting customers and increasing sales.

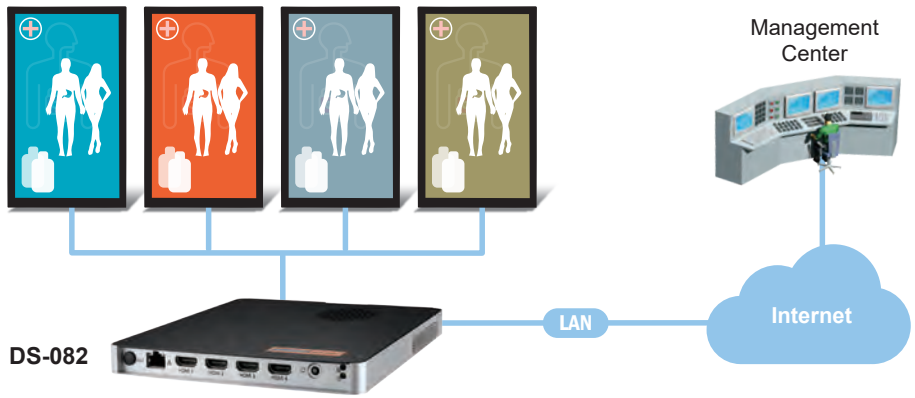
Challenges

- Supports multiple simultaneous displays
- Fanless industrial-grade design delivers stable long lifespan maintenance
- Slim for easy installation

Solutions and Technologies

- Supports 4 x displays at 4K UHD resolution
- An ultra-slim profile of just 19 mm with fanless, cable-free design

Diagram



Benefits

- Zero-cost Advantech WISE-PaaS/SignageCMS content management software available
- Slim system design is easily installed into limited-space enclosures
- Fanless thermal solution prevents issues caused by dust during long operation periods

Digital Transformation in Medical Imaging Analysis

Intro

Medical imaging systems — such as CT, MRI, X-ray, and ultrasound machines — are important tools for diagnosis prior to intervention. Consequently, imaging analysis accuracy is a matter of life and death.

Challenges

There is a shortage of medical imaging analysis specialists. Indeed, some studies indicate that by 2023, the world will need 31% more specialists than traditional manpower. Medical organizations are expected to fill such jobs. This could result in analysis mistakes, and be exacerbated by shortened working times.

Solutions and Technologies

Graphical AI based edge computers have the potential to tackle this problem. AI algorithms operating with powerful graphics processing capacities can deliver analytic results that help medical professionals diagnose patients faster and more accurately. The Advantech AIR-520 leverages the AMD EPYC 7003 Milan CPU and the NVIDIA RTX A6000 CPU to deliver server-grade computing power to complex AI tasks.

Diagram

Benefits

- Superior computing power designed for graphical AI applications
- Industrial system design endures harsh EMC environments
- 1200W 80+ GOLD power supply to support up to 2 x NVIDIA RTX GPU cards

Use Cases

High-Speed Testing and Inspection in Semiconductor Production Equipment

Intro

Highly efficient computing in semiconductor manufacturing enhances signal testing and visual inspection in automatic wafer inspection machines.

Challenges

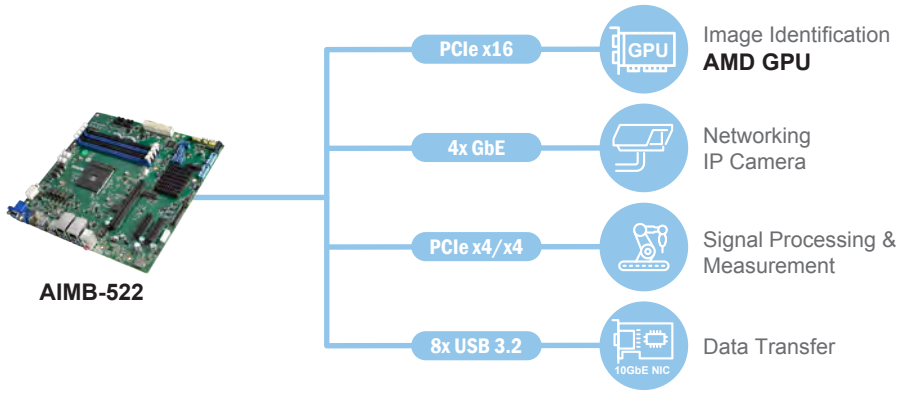
The customer aimed to improve production efficiency by using multiple high-speed expansion connections for external devices for testing digital signals and identifying defects, ensuring compliance with strict criteria in high-density wafer sorting and inspection.

Solutions and Technologies

The Advantech AIMB-522 was designed with high-performance processors and multiple expansion connections to meet the requirements of semiconductor industry solutions and technologies.

- AMD RYZEN™ Embedded 5000 processors manage massive workloads in high-complexity manufacturing processes
- The PCIe x16 slot supports a graphics card for image analysis to identify defects.
- The 1st PCIe x4 slot supports signal processing to ensure sufficient signal quality of production units.
- The 2nd PCIe x4 slot supports 10GbE NIC for high-volume manufacturing data and inspection results.
- Multiple LAN ports support IP-base digital cameras for additional inspections and monitoring requirements.requirement.

Diagram



Benefits

- Capable of managing multiple high-bandwidth peripherals.
- Improves inspection efficiency and quality with highly efficient computing.
- Fast deployment and highly resilient with expansion and I/O in a Micro-ATX form factor.

Learn More

The Regulated Gaming Industry Requires High-Performance Hardware with Specialized Hardware and Software Features

Intro

An OEM slot machine manufacturer was looking for a long-term, reliable platform with features that meet the requirements of the Regulated Gaming industry. Their latest gaming content required high-performance hardware.

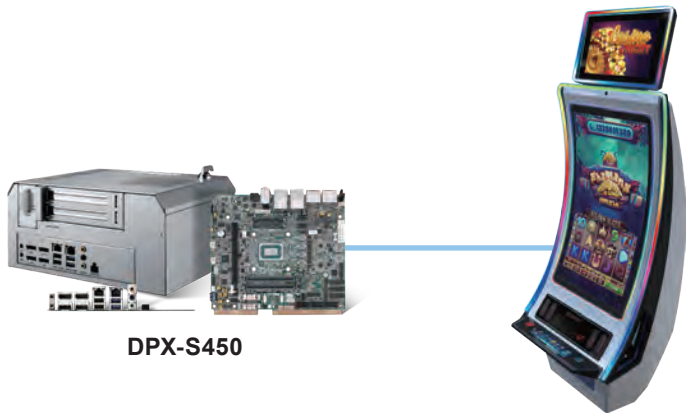
Challenges

High-performance, long-lifecycle hardware with necessary industry features.

Solutions and Technologies

- DPX-S450 specialized gaming platform
- AMD RYZEN™ Embedded V1000 SOC, Quad core APU at 3.35 GHz (3.8 GHz turbo)
- Integrated Radeon™ “Vega” Graphics Core up to 11 CU (GFX9)
- Supports 4 x independent 4K monitors
- Comprehensive gaming features that meet the requirements of GLI-11
- Sophisticated battery backed intrusion logging
- Full featured driver API for I/O and security

Diagram



DPX-S450

Benefits

- Reliable, field-proven platform with track record of regulatory approvals reduces risk and time to market.
- High-performance capabilities support the running of up-to-date gaming content on high-resolution screens.
- 7-year product lifecycle.
- DPX-S450 is the 10th generation of DPX-S and boasts a strong roadmap for upcoming products. This protects customer investment in both hardware and software using cross-generational mechanical and API compatibilities.

SOM-E780, A Powerful COM HPC Module to Enable Fast & Flexible Deployment on 5G Edge AI Servers

Intro

Edge AI Servers are used in visualized data collection applications. They are often used to monitor, collect, and analyze big data and thus provide valuable business insights and opportunities.

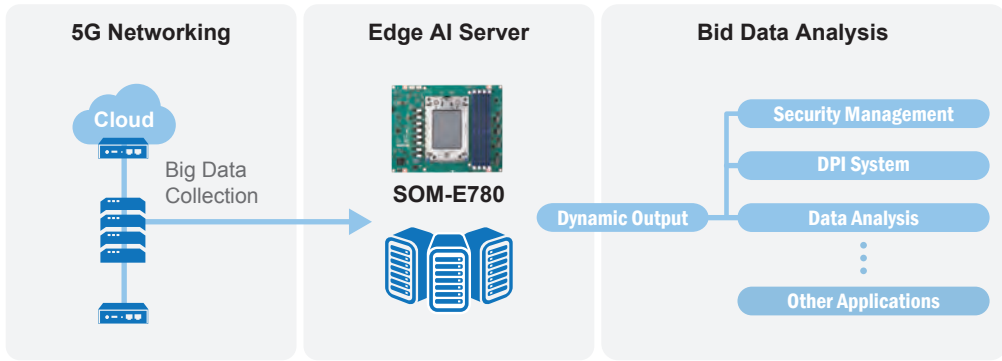
Challenges

Upgrading traditional 13U servers requires too much time and money.

Solutions and Technologies

The Advantech SOM-E780 is equipped with an AMD EPYC 7003 socket CPU with up to 64 cores for superior computing power. It features 512GB ECC RAM and 79 pairs of PCIe Gen 4.0 within a COM HPC Server module. This reduces edge AI server time to market and corresponding development costs. It is also easily upgraded and maintained, and fulfills a variety of demands in different platforms or 5G server applications. When paired with Advantech's prompt and professional local Design-in services, it facilitates the rapid exploitation of business opportunities.

Diagram



Benefits

- Featuring a COM-HPC proprietary pinout for EYPC 7003 REAL server-grade socket CPU, up to 64 cores to save energy & costs by supporting more VM per server, producing a solution with high performance-per-watt.
- 79 x PCIe Gen4.0 lanes for various add-on cards, like NIC, GPU, and FPGA
- On-board TPM chipset for Advanced Security
- Active and Passive Thermal Solutions for 60 °C environments

The Fastest Way to Integrate an EV Charging System Within a Rugged 3.5” Single Board Computer

Intro

Electric vehicles (EV) and their charging infrastructures are a rapid growth market. The market size is expected to reach USD$ 25.5 billion by 2027. These solutions boast a 26.8% CAGR since 2020.

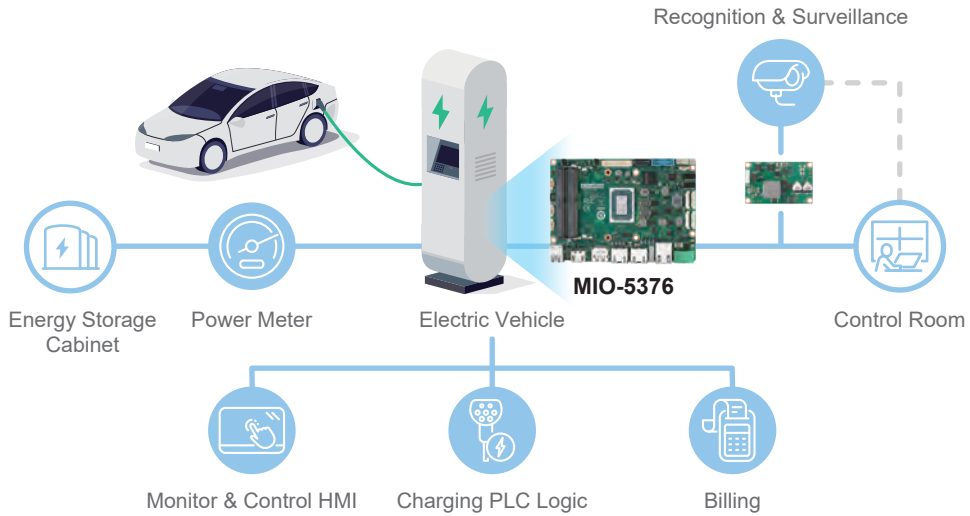
Challenges

EV charging systems require multiple sub-systems with different control buses according to domain preference. These solutions must connect to watt meters, battery controller logic, external management devices, payment systems, HMI, and displays. Integrating systems with this level of complexity takes time and money.

Solutions and Technologies

The Advantech MIO-5376 is a 3.5” compact single board computer (SBC). It features an AMD 2000 series CPU and provides extraordinary computing and graphics performance, better user experiences, and content displays. MIO-5376 integrates 3 x 2.5GbE ports — including 2 x optional PoE, CANBus, high speed UARTs, and I2C Bus to simplify the integration of power meters, battery controllers, payment systems, HMI, and displays on one board in EV charging stations.

Diagram



Benefits

- AMD R2000 series provides extraordinary computing & graphics capabilities.
- Integrated LAN, PoE, CANBus, UARTs, and I2C.
- DC-IN 12~24V, 3 x standalone M.2 slots for expansion.

AEVA Retail Edge AI Video Analytics Application

Intro

Demand for self-checkout applications is increasing in chain retail stores due to their ability to significantly reduce labor costs and shorten checkout times. As a result, similar demand is emerging across various types of stores.

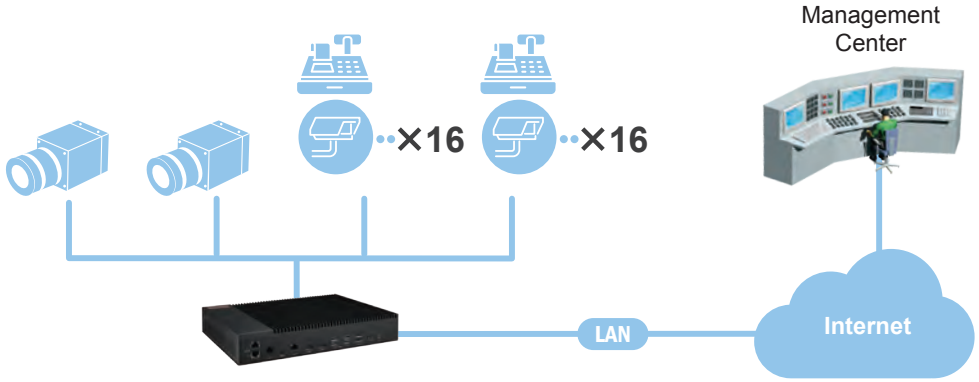
Challenges

- Cost per-camera is too high.
- LAN connection speed is not enough for a large number of web cameras.
- AI system dimensions are too large and is normally not possible to have a fanless system.

Solutions and Technologies

- 2 x powerful AI module in the EDSFF E1.S form factor.
- 2 x 10Gbp LAN ports.
- 2 x HDMI, 6 x USB, 3 x LAN, 1 x Wi-Fi.

Diagram



Benefits

- Supports up to 32 web cameras & 2 USB high-speed cameras.
- The cost per camera can be very reasonable.
- Slim and compact system design with fanless thermal solution.

High-Performance Computing Empowers Medical Ophthalmology Equipmentt

Intro

Retinal imaging is essential for diagnosing various eye conditions. Medical ophthalmology equipment relies on connections for high-speed expansion, high-bandwidth transmission, and high-performance computational power to efficiently manage complex image data.

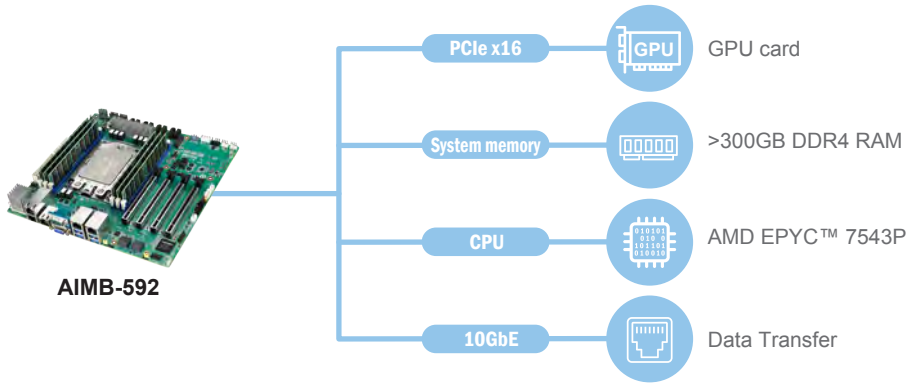
Challenges

Retinal imaging processing is an advanced imaging technique with the challenges of variability in image quality, a need for large volumes of data storage, and complex imaging processing.

Solutions and Technologies

The Advantech AIMB-592 leverages the server-grade AMD EPYC™ Embedded 7003 series processor with up to 64 cores, providing the computing power necessary to handle heavy workloads in medical ophthalmology applications. Its four PCIe x16 Gen4 slots allow for the installation of one or two GPU cards for image processing and AI-assisted diagnostics. With up to 768GB DDR4 memory, it supports real-time operations with complex algorithms. Additionally, the onboard 8 x SATA ports and 10GbE LAN maximize the storage and transmission of large volumes of high-resolution data.

Diagram



Benefits

- Advanced computing cores optimize the processor workload.
- Improves and maintains consistent image quality.
- Accelerates clinical decision making.

Learn More

AMD EPYC Embedded

	SOM-E781	AIR-770	SOM-E780	AIMB-592	AIR-520
	Computer on Module COM-HPC Server Size E	Edge AI Server	Computer on Module COM-HPC Server-Size E	Industrial Motherboard Micro-ATX	Edge AI Server
AMD Processor	EPYC™ Embedded 8004 Series	EPYC™ Embedded 8004 Series	EPYC™ Embedded 7003 Series	EPYC™ Embedded 7003 Series	EPYC™ Embedded 7003 Series
Memory	6-CH 288-pin RDIMM up to DDR5-4800, both ECC and Non-ECC supported 6 x RDIMM slots, Max. 576GB (96GB per RDIMM)	6-CH 288-pin DDR5 RDIMM up to 4800MHz 12 x DIMM slots, Max. 1,152GB (96GB per DIMM)	4-CH 288-pin DDR4 LRDIMM up to 3200MHz, both ECC and Non-ECC supported 4 x LRDIMM slots, Max. 512GB (128GB per DIMM)	6-CH 288-pin DDR4 RDIMM up to 3200MHz 6 x DIMM slots, Max. 768GB (128GB per DIMM)	6-CH 288-pin DDR4 RDIMM up to 3200MHz 6 x DIMM slots, Max. 768GB (128GB per DIMM)
Display	N/A	VGA	N/A	VGA	VGA
Expansion	79 x PCIe Gen5 lanes Supports 48 x CXL1.1 lanes	8 x PCIe x16 slots (Gen5 x8 link) or 4 x PCIe x16 slots (Gen5 x16 link)	79 x PCIe Gen 4 lanes	4 x PCIe x16 slots	4 x PCIe x16 slots
Power Input	Vin: 11.4-12.6V VSB: 4.75-5.25V	100-240V AC	Vin: 11.4-12.6V VSB: 4.75-5.25V	ATX input	100-240V AC
I/O Ports	1 x 2.5 Gigabit LAN 4 x USB 3.2 Gen1 & 4 x USB 2.0 2 x serial (RS-232) 12 x GPIO 1 x IPMB	2 x 2.5GbE 2 x 10GbE 1 x 1GbE for BMC Management 6 x USB 3.2 Gen1 1 x RS-232	1 x 2.5 Gigabit LAN 4 x USB 3.2 Gen1 & 4x USB 2.0 2 x serial (RS-232) 12 x GPIO 1 x IPMB	2 x 2.5GbE 2 x 10GbE 1 x 1GbE for BMC Management 4 x USB 3.2 Gen1 1 x RS-232	2 x 2.5GbE 2 x 10GbE 1 x 1GbE for BMC Management 4 x USB 3.2 Gen1 1 x RS-232
Thermal (Fan or Fanless)	1U Heatsink 2U Heatsink	CPU cooler and system fan	1U Heatsink 2U Heatsink	CPU cooler	CPU cooler and system fan
Operating Temperature	0 ~ 60°C	0 ~ 40°C (Depending on CPU)	0 ~ 60°C	0 ~ 40°C (Depending on CPU)	0 ~ 40°C (Depending on CPU)
Dimensions	200 x 160 mm (7.87" x 6.30")	438 x 530 x 178 mm	200 x 160 mm (7.87" x 6.30")	244 x 244 mm	380 x 454 x 176 mm
Software	DeviceOn Windows Ubuntu	Windosw Server 2022 Ubuntu 22.04	DeviceOn Windows Ubuntu	DeviceOn	DeviceOn Window Server 2019 Ubuntu 22.04

AMD RYZEN Embedded

	AIMB-523	AIMB-522	EPC-B3522
	Industrial Motherboard Micro-ATX	Industrial Motherboard Micro-ATX	Embedded PC
AMD Processor	RYZEN™ Embedded 7000 Series	RYZEN™ Embedded 5000 Series	RYZEN™ Embedded 5000 Series
Memory	2-CH 288-pin DDR5 UDIMM up to 5200MHz 4 x DIMM slots, Max. 128GB (32GB per DIMM)	2-CH 288-pin DDR4 UDIMM up to 3200MHz 4 x DIMM slots, Max. 128GB (32GB per DIMM)	2-CH 288-pin DDR4 UDIMM up to 3200MHz 4 x DIMM slots, Max. 128GB (32GB per DIMM)
Display	HDMI, VGA, DP	HDMI, VGA, DP	HDMI, VGA, DP
Expansion	1 x PCIe x16, 1 x PCIe x4, 1 x PCIe x1, 1 x M.2 M-Key	1 x PCIe x16, 2 x PCIe x4, 1 x M.2 M-Key & 1 x M.2 E-key	1 x PCIe x16, 2 x PCIe x4, 1 x M.2 M-Key
Power Input	ATX input	ATX input	ATX input
I/O Ports	6 x 2.5GbE 2 x External USB 3.2 Gen2 4 x External USB 3.2 Gen1 2 x internal USB 3.2 Gen1 1 x Internal USB 2.0 2 x Internal RS-232/422/485 2 x internal RS-232	4 x GbE 8 x External USB 3.2 Gen2 3 x Internal USB 2.0 2 x Internal RS-232/422/485 4 x internal RS-232	4 x GbE 8 x External USB 3.2 Gen2
Thermal (Fan or Fanless)	CPU Cooler	CPU Cooler	CPU cooler and system fan
Operating Temperature	0 ~ 60°C (Depends on CPU)	0 ~ 60°C (Depends on CPU)	0 ~ 40°C (Depends on CPU)
Dimensions	244 x 244 mm	244 x 244 mm	310 x 360 x 134 mm
Software	DeviceOn Win10 LTSC	DeviceOn Win10 LTSC	DeviceOn Win10 LTSC

AMD RYZEN Embedded





	SOM-6873	AIMB-2210	SOM-6872 A1/A2	AIMB-229	EPC-T3229
	Computer on Module COMe Compact	Industrial Motherboard Mini-ITX	Computer on Module COMe Compact	Industrial Motherboard Mini-ITX	Embedded PC
AMD Processor	RYZEN™ Embedded 8000 Series	RYZEN™ Embedded 8000 Series	RYZEN™ Embedded V2000 Series	RYZEN™ Embedded V2000 Series	RYZEN™ Embedded V2000 Series
Memory	2-CH 262-pin DDR5, Up to 5600MT/s, Up to 96 GB (48 GB per SO-DIMM; ECC/non-ECC)	2-CH 262-pin DDR5, 5600 MT/s Up to 96 GB (48 GB per SO-DIMM (ECC/non-ECC)	2-CH 260-pin DDR4, 3200MHz Up to 64 GB (32 GB per SO-DIMM; ECC/non-ECC)	2-CH 260-pin DDR4, 3200MHz Up to 64 GB/ 32 GB per SO-DIMM (ECC/non-ECC)	2-CH 260-pin DDR4, 3200MHz Up to 64 GB/ 32 GB per SO-DIMM (ECC/non-ECC)
Display	3 x DDI (HDMI/DisplayPort) 1 x LVDS (optional to eDP)	4 x DP 1 x LVDS/eDP (optional)	A1: 1 x VGA (optional to DDI) A1: 1 x LVDS (optional to eDP) A1: 2 x DDI A2: VGA & LVDS N/A A2: eDP A2: 3 x DDI	2 x HDMI, 2 x DP (Type-C)	2 x HDMI, 2 x DP (Type-C)
Expansion	20 x PCIe Gen4 lanes	1 x PCIe x16 2 x M.2 M-Key & 1 x M.2 E-Key	8 PCIe Gen3 lanes	1 x PCIe x8 1 x M.2 M-Key & 1 x M.2 E-Key	1 x PCIe x8 1 x M.2 M-Key & 1 x M.2 E-Key
Power Input	Vin: 8.5-20V VSB: 4.75-5.25V	12 ~ 24V(+20%) DC-in	Vin: 8.5-20V VSB: 4.75-5.25V	12V DC-in	12V DC-in
I/O Ports	4 x SATA 1 x 2.5G LAN 4 x USB 3.2 Gen2 8 x USB 2.0 2 x serial (RS-232) 8 x GPIO 1 x HD Audio LPC	2 x GbE (up to 2.5G) 4 x External USB 3.2 Gen2x1 4 x Internal USB 2.0 6 x serial (RS-232 or RS-232/422/485)	1 x Gigabit LAN 4 x USB 3.2 Gen2 8 x USB 2.0 2 x serial (RS-232) 8 x GPIO 1 x HD Audio	2 x GbE 4 x USB Gen 2 2 x USB Type-C 6 x internal RS-232	2 x GbE 4 x USB Gen 2 2 x USB Type-C
Thermal (Fan or Fanless)	Heat spreader Cooler	CPU cooler	Heat spreader Semi-cooler	CPU cooler	CPU Heat sink and system fan
Operating Temperature	0 ~ 60ºC	0 ~ 60ºC	0 ~ 60ºC	0 ~ 60ºC	0 ~ 60ºC (Depends on CPU)
Dimensions	95 x 95 mm	170 x 170 mm	95 x 95 mm	170 x 170 mm	330 x 270 x 44 mm
Software	DeviceOn Windows Ubuntu 22.04	Windows 11 IoT Ubuntu 22.04 DeviceOn	DeviceOn Windows Ubuntu 20.04	DeviceOn Win10 LTSC	DeviceOn Win10 LTSC

AMD RYZEN Embedded

	AIMB-228R2	MIO-5376	DPX®-S451	DPX®-M266	EBC-V001 (AEVA)
	Industrial Motherboard Mini-ITX	3.5" Single Board Computer	Gaming Platform	Gaming Platform	Digital Signage
AMD Processor	RYZEN™ Embedded R2000/V1000/R1000 Series	RYZEN™ Embedded R2000 Series	RYZEN™ Embedded R2000 Series	RYZEN™ Embedded R2000 Series	RYZEN™ Embedded R2000 Series
Memory	2-CH 260-pin DDR4, 3200MHz Up to 64 GB/ 32 GB per SO-DIMM (ECC/non-ECC)	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	DDR4 2666, SO-DIMMx2
Display	2 x HDMI, 2 x DP (Type-C)	1 x HDMI 2.0b 4K@60 Hz 2 x DP1.4b 4K@60 Hz 1 x LVDS Dual-Channel 18-/24-bit WUXGA	4 x DisplayPort	4 x DisplayPort (R2544, R2314) 3 x DisplayPort (R2312)	HDMI 2.0 x 1, HDMI 1.4 x 1
Expansion	1 x PCIe x8 1 x M.2 E-Key & 1 x M.2 B-Key	M.2 E-Key 2230 M.2 B-Key 3052/3042 w/ SIM M.2 M-Key 2280 NVMe	One PCIe x 16 slot	One PCIe x 16 slot	Support EDSFF E1.S module x 2 (Xilinx ZU5EV AI modules), M.2 2230 E-Key (Wi-Fi)
Power Input	12V DC-in	DC-IN 12~24V +/- 10% AT/ATX Mode	12VDC and ATX input	12VDC and ATX input	External adaptor, 19V, 90W
I/O Ports	2 x GbE 2 x USB Gen 2 2 X USB 2.0 6 x internal RS-232	3 x 2.5GbE (2 PoE Optional) 4 x USB 3.2, 2 x USB 2.0 2 x RS-232/422/485 2 x RS-232 (4-wire) 1 x CAN 2.0 Audio (Line-in/out/MIC) I2C/SMBus Smart Fan Control 1 x SATA Port Invertor Power, HDD Power	2 x Gigabit LAN 11 x USB (8 x USB 2.0, 3 x USB 3.0/2.0) 10 x serial (RS232/CCTalk/TTL/RS485) 2 x I2C ports 1 x Line out 5.1	2 x Gigabit LAN 7 x USB (3 x USB 3.0) 6 x Serial (RS-232/CCTalk/ID003/RS485) 1 x Line out	4 x USB 3.1 Gen2, 2 x USB 2.0 3 x RJ45 (LAN1 1G support DASH, LAN 2 & 3: 10G) Line out x 1, Mic-In x 1
Thermal (Fan or Fanless)	CPU cooler	Fanless for CPU TDP 15W *Option: Cooler for CPU cTDP 25W	Fan	Fan	Fanless
Operating Temperature	0 ~ 60°C	Standard: 0 ~ 60°C	Board 0 ~ 60ºC System 0 ~ 50ºC	Board 0 ~ 60°C System 0 ~ 50°C	0 ~ 40°C
Dimensions	170 x 170 mm	146 x 102 mm	200 x 170 mm	170 x 185 mm	312 X 209 X 51 mm
Software	DeviceOn Win10 LTSC	Windows 10 IoT LTSC Ubuntu 20.04 LTS DeviceOn	DirectPCI API, DPX® Connector SDK, DPX®-SAS Engine	WinPuC serial protocol	Win10, Linux Ubuntu, Linux CentOS

AMD RYZEN Embedded





	DPX®-E265	DPX®-E140	DPX®-S450	DPX®-J100	DS-082
	Gaming Platform	Gaming Platform	Gaming Platform	Gaming Platform	Digital Signage
AMD Processor	RYZEN™ Embedded V1000 Series	RYZEN™ Embedded V1000/R1000 Series	RYZEN™ Embedded V1000/R1000 Series	RYZEN™ Embedded V1000/R1000 Series	RYZEN™ Embedded V1000/R1000 Series
Memory	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	2-CH 260-pin DDR4 SODIMM up to 3200MHz 2 x SODIMM slots, Max. 32GB (16GB per SODIMM)	2-CH DDR4 SODIMM up to 2400MHz	2-CH DDRR4 2400MHz SODIMM
Display	4 x DisplayPort (V1000)	4 x DisplayPort (V1000) 3 x DisplayPort (R1000)	4 x DisplayPort (V1000) 3 x DisplayPort (R1000)	3 monitors 1 x DP++ 1 x HDMI 1 x VGA (2 x with R1102)	AMD Radeon HD graphics
Expansion	1 x PCIe x16 slot	NA	1 x PCIe x16 slot	Half-length Mini-PCI card	M.2 2230 E-Key
Power Input	12VDC and ATX input	12VDC and ATX input	12VDC and ATX input	AT12V (V1605) 5V/ 12V Jamma 20pins (R series)	19V DC-in (ATX/AT mode)
I/O Ports	2 x Gigabit LAN 7 x USB (1 x USB 3.0) 6 x Serial (RS-232/CCTalk/ID003/RS485) 1 x Line-out	2 x Gigabit LAN 9 x USB (2 x USB 3.0) 9 x serial (RS232/CCTalk/ TTL/RS485) 2 x I2C port 1 x Line out 5.1	2 x Gigabit LAN 11 x USB (8 x USB 2.0, 3 x USB 3.0/2.0) 10 x serial (RS232/CCTalk/TTL/RS485) 2 x I2C ports 1 x Line-out 5.1	1 x Gigabit LAN 6 x RS232 4 x USB 2.0 2 x USB 3.1/2.0 1 x Line out 5.1 1 x SPDIF out (Optional)	1 x 1Gbe 2 x USB 3.0 2 x USB 2.0 1 x RS-232
Thermal (Fan or Fanless)	Fan	Fan/Fanless	Fan	Fanless (R1102) Fan (others)	Fanless
Operating Temperature	Board 0 ~ 60°C System 0 ~ 50°C	Board 0 ~ 60°C System 0 ~ 50°C	Board 0 ~ 60°C System 0 ~ 50°C	Board 0 ~ 60°C System 0 ~ 50°C	0 ~ 40°C
Dimensions	170 x 185 mm	200 x 270 mm	200 x 170 mm	190 x 190 mm	180 x 190 x 19 mm
Software	WinPuC serial protocol	DirectPCI API, DPX® Connector SDK, DPX®-SAS Engine	DirectPCI API, DPX® Connector SDK, DPX®-SAS Engine	WinJIOC serial protocol	DeviceOn

Worldwide Presence

3 Manufacturing Sites

14 Service Centers

4 Logistics Centers

28 Countries

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