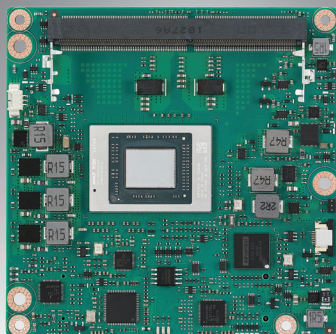


SOM-6872

AMD Embedded Ryzen V2000 COM Express® Compact Type 6

NEW



Features

- AMD Embedded Ryzen 7nm SoC – V2000 APU
- COM Express® R3.0 Compact Module Type 6 Pinout
- Dual Channel DDR4 SODIMM, max. 64GB (Both ECC & Non-ECC)
- High Speed I/Os: Up to 4 USB 3.2 Gen2, 1 PCIe x8 Gen3, 8 PCIe x1 Gen3, and 2 SATA3.0
- Four Display: DP++, HDMI, VGA (A1 only), LVDS (A1 only)
- Supports iManager, Embedded Software APIs and WISE-DeviceOn

Software APIs:



Watchdog



FC



SMBus



H/W Monitor



GPIO



Brightness



Windows Embedded

iManager WISE-DeviceOn

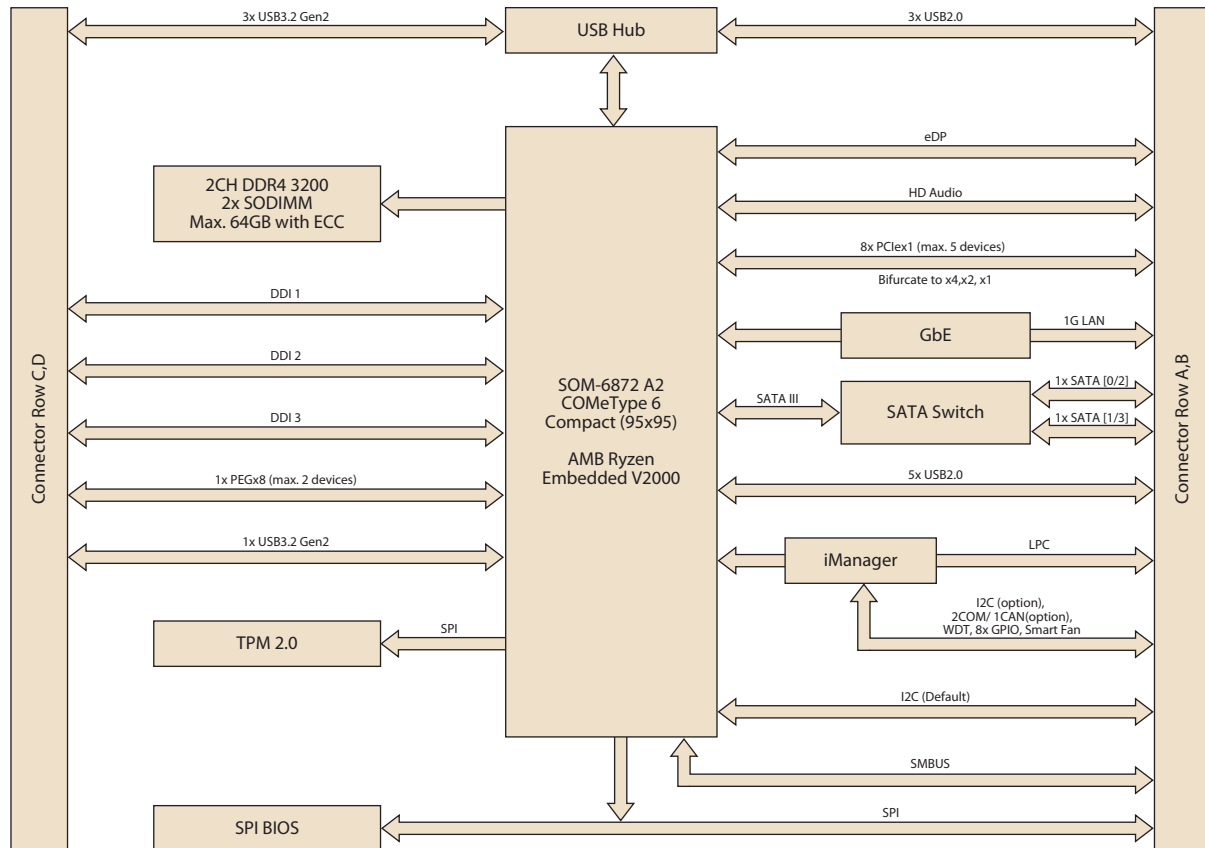


Specifications

Form Factor	Form Factor	COM Express Compact Module			
	Pin-out Type	COM Express R3.0 Type 6 compatible			
Processor System	CPU	V2748	V2546	V2718	V2516
	Base Frequency	2.9 GHz	3.0 GHz	1.7 GHz	2.1 GHz
	Max Single Core Turbo Frequency	4.25 GHz	3.95 GHz	4.15 GHz	3.95 GHz
	Core/Thread	8/16	6/12	8/16	6/12
	LLC	8MB	8MB	8MB	8MB
	CPU TDP	35W-54W	35W-54W	10W-25W	10W-25W
	BIOS	AMI UEFI 256Mbit			
Memory	Technology	DDR4 up to 3200 MT/s			
	Speed	3200 MT/s			
	ECC Support	Yes			
	Max. Capacity	Up to 64GB			
	Socket	2 260P SO-DIMM (Dual Channel)			
Graphics	Controller	AMD Radeon Graphics Vega GPU			
	Max. Frequency	1.6 GHz	1.6 GHz	1.6 GHz	1.6 GHz
	Graphic Memory	Shared Memory			
	3D/HW Acceleration	VCN2.2 (H.264/AVC HW 8b H.265/HEVC HW 8/10b VP9 HW 8/10b)			
Display	VGA	A1: 1920 x 1200 @ 60Hz A2: No VGA			
	LCD	A1: LVDS dual channel 1920 x 1200 @ 60Hz (Option Support eDP 1.3 4096 x 2160 @ 60Hz) A2: eDP 1.3 4096 x 2160 @ 60Hz (No LVDS)			
	DDI	A1: 2 DDI ports support configurable HDMI/DisplayPort (option to have 3rd DDI port by disabling VGA) A2: 3 DDI ports support configurable HDMI/DisplayPort -HDMI 2.1: 4096 x 2160 @ 60Hz -DisplayPort 1.4: 4096 x 2160 @ 60Hz			
	Multiple Display	Four Simultaneous Independent Displays			
	PCI Express (Gen3)	1 PCIe x8 (PEG) 8 PCIe x1			
Expansion	Audio Interface	HD Audio			
	LPC	Yes			
	SMBus	Yes			
Serial Bus	I2C Bus	A1: I2C From iManager (Option to CPU) A2: I2C From CPU (Option to iManager)			
	Ethernet	Gigabit Intel I210; 10/100/1000 Mbps			
I/O	SATA3.0	A1: 2 Ports (6Gbps) A2: Up to 2 Ports (6Gbps), Configurable by 4 Ports [0,2]/[1,3]			
	USB 3.2 Gen2	A1: 2 Ports (10Gbps) A2: 4 Ports (10Gbps)			
	USB2.0	8 Ports (480 Mbps)			
	SPI Bus	Yes. For BIOS EEPROM			
	GPIO	8-bit GPIO			
	Watchdog	65536 level, 0 ~ 65535 sec			
	COM Port	2 Ports (2-Wire)			
	TPM	TPM2.0 (Optional)			
	Smart Fan	2 Ports: 1 port on COM module (Notice: the input voltage of fan is aligned to Vin); 1 port on carrier board			
	Type	ATX: Vin, VSB; AT: Vin			
Power	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V			
	Power Consumption (Max.)	55.1W @ 12V (V2748 with 32GB DDR4 3200*2)			
	Power Consumption (Idle)	4.6W @ 12V (V2748 with 32GB DDR4 3200*2)			
	Operating Temperature	0 ~ 60 °C (32 ~ 140 °F)			
Environment	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)			
	Humidity	Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95% relative humidity, non-condensing			
	Vibration Resistance	3.5 Grms			
Mechanical	Dimensions	95 x 95 mm (3.74" x 3.74")			

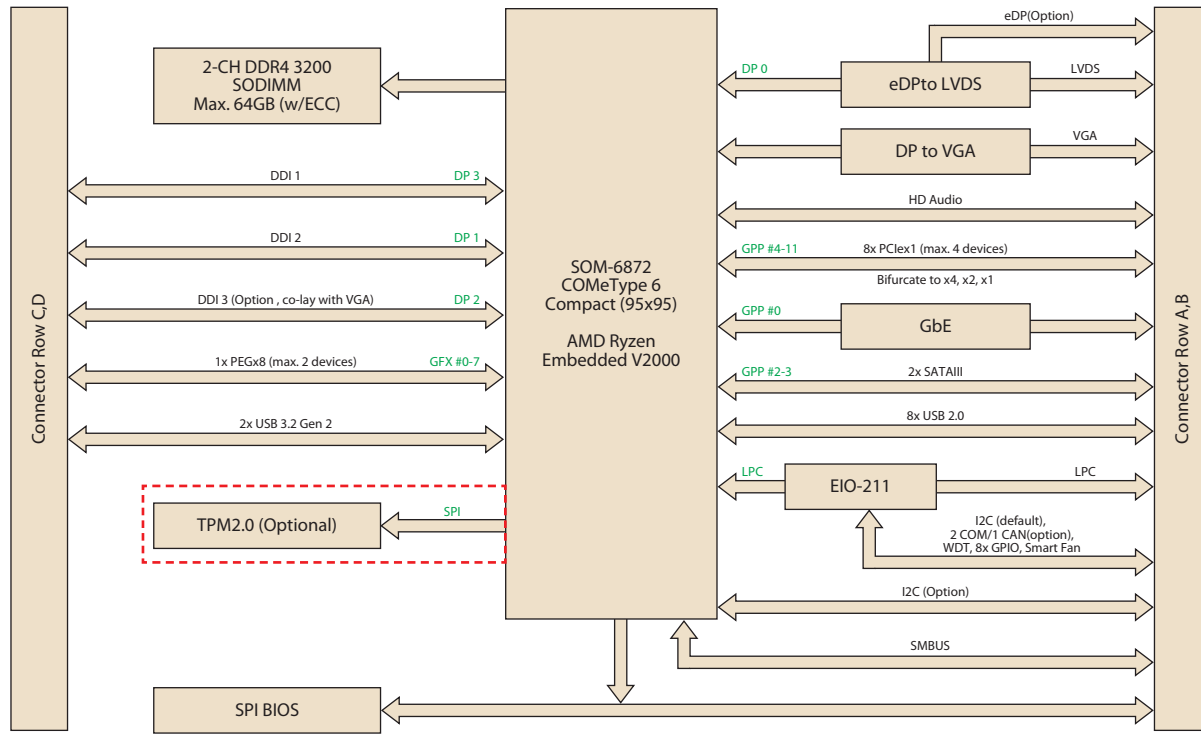
Block Diagram

Block Diagram for A2



Block Diagram

Block Diagram for A1



Ordering Information

Part No.	SoC	eDP	Core/Thread	Base Freq.	1T Boost Freq.	SoC TDP	LLC	DDR4 SODIMM	Thermal Solution	Operating Temp
SOM-6872VC-U9A2	V2748	Yes	8/16	2.9GHz	4.25GHz	35-54W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-H0A2	V2546	Yes	6/13	3.0GHz	3.95GHz	35-54W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-S7A2	V2718	Yes	8/16	1.7GHz	4.15GHz	10-25W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-U1A2	V2516	Yes	6/12	2.1GHz	3.95GHz	10-25W	8MB	3200MT/s	Active	0 ~ 60 °C

Part No.	SoC	eDP/LVDS	Core/Thread	Base Freq.	1T Boost Freq.	SoC TDP	LLC	DDR4 SODIMM	Thermal Solution	Operating Temp.
SOM-6872VC-U9A1	V2748	eDP	8/16	2.9GHz	4.25GHz	35-54W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VCA-U9A1	V2748	LVDS	8/16	2.9GHz	4.25GHz	35-54W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-H0A1	V2546	eDP	6/12	3.0GHz	3.95GHz	35-54W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-S7A1	V2718	eDP	8/16	1.7GHz	4.15GHz	10-25W	8MB	3200MT/s	Active	0 ~ 60 °C
SOM-6872VC-U1A1	V2516	eDP	6/12	2.1GHz	3.95GHz	10-25W	8MB	3200MT/s	Active	0 ~ 60 °C

Any other SKUs or combination is project based support. Please contact sales for details.

Optional Accessories

Part No.	Description
1970004870T001	Semi-Cooler

Development Board

Part No.	Description
SOM-DB5830-00A2	Development Board SOM-DB5830 A2 (LVDS)
SOM-DB5830A-00A2	Development Board SOM-DB5830 A2 (eDP)

Packing List

Part No.	Description	Quantity
-	SOM-6872 CPU Module	1
1970005034T001	Aluminum Heatspreader (include in 10W-25W SKUs only)	1
1970005033T001	Heatpipe Heatspreader (include in 35W-54W SKUs only)	1

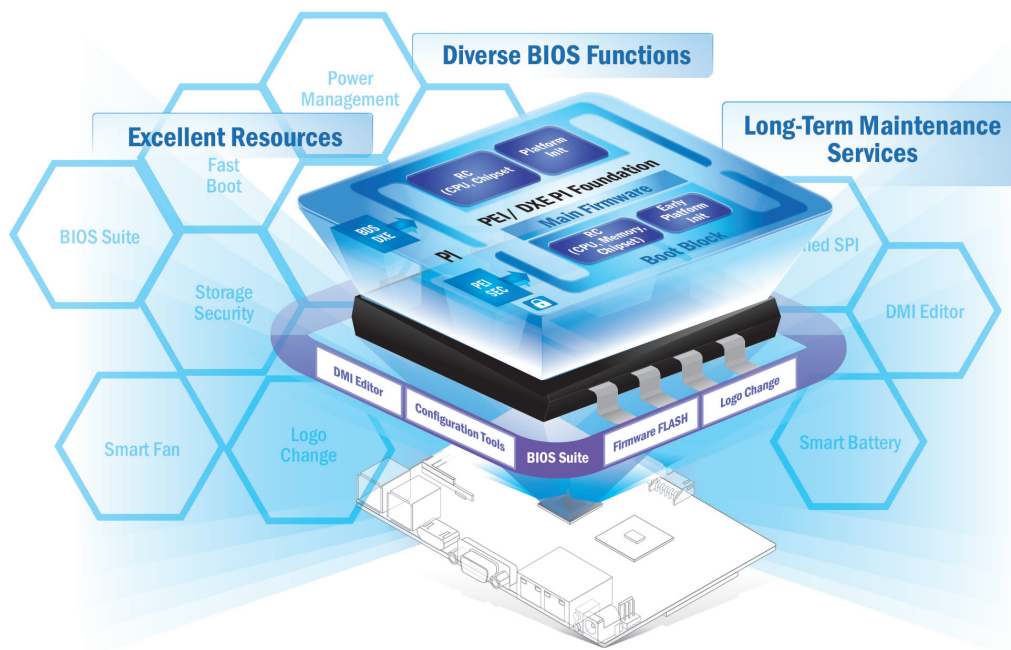
Embedded OS

OS	Part No.	Description
Win10 (HL)	20706WX9HS0140	Img Win10 IoT Ent_2019 LTSC 64 bit (V2748 & V2718)
Win10 (VL)	20706WX9VS0144	Img Win10 IoT Ent_2019 LTSC 64 bit (V2546 & V2516)
Ubuntu 20.04	20706U20DS0007	img Ubu20.4 SOM-6872 64b 2004 ENU

Reliable Embedded BIOS Solutions

Custom BIOS services with long-term support

Advantech's high-quality embedded BIOS solutions deliver rapid execution and feature expert BIOS team support. These solutions feature multi-functional designs that ensure security and enable power/boot management. Advantech further provides 10+ years of BIOS version management, internal management, and longevity support for both hardware and BIOS — enhancing application efficiency, diversifying functionality, and optimizing performance.



Embedded BIOS Solution Advantages

Sufficient Sources

- Strong partnership with BIOS vendors
- 50+ engineers with extensive industrial BIOS experience

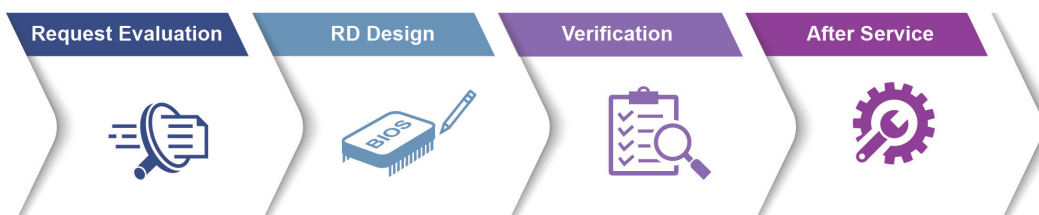
Diverse BIOS Functions

- Multi-layer security
- 3 second fast boot
- Power management
- BIOS suite utility

Long-Term Maintenance Services

- Platform longevity support
- 10-year BIOS version control
- BIOS remote backup

Value-Added Customization Process



WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



Features

Comprehensive Management

- Devices status
- Peripherals/firmware
- Open for extension

Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

Product Highlights



SOM-6883

High-performance 11th Gen Intel® COMe Type 6 Module



MIO-5375

Compact 11th Gen Intel® Outdoor Focused 3.5" SBC



EPC-B5587

10th Gen Intel® Xeon® based Edge server



EPC-R3220

Arm based IoT Edge Gateway

Edge AI Suite

AI development for diverse application at the Edge

Increasing demand for AI inference/analytic capabilities at the Edge make AI training models, software development environments, and hardware configuration key factors in successful solution deployment. Advantech's Edge AI Suite helps users build AI demo devices quickly and choose optimal hardware solutions easily.

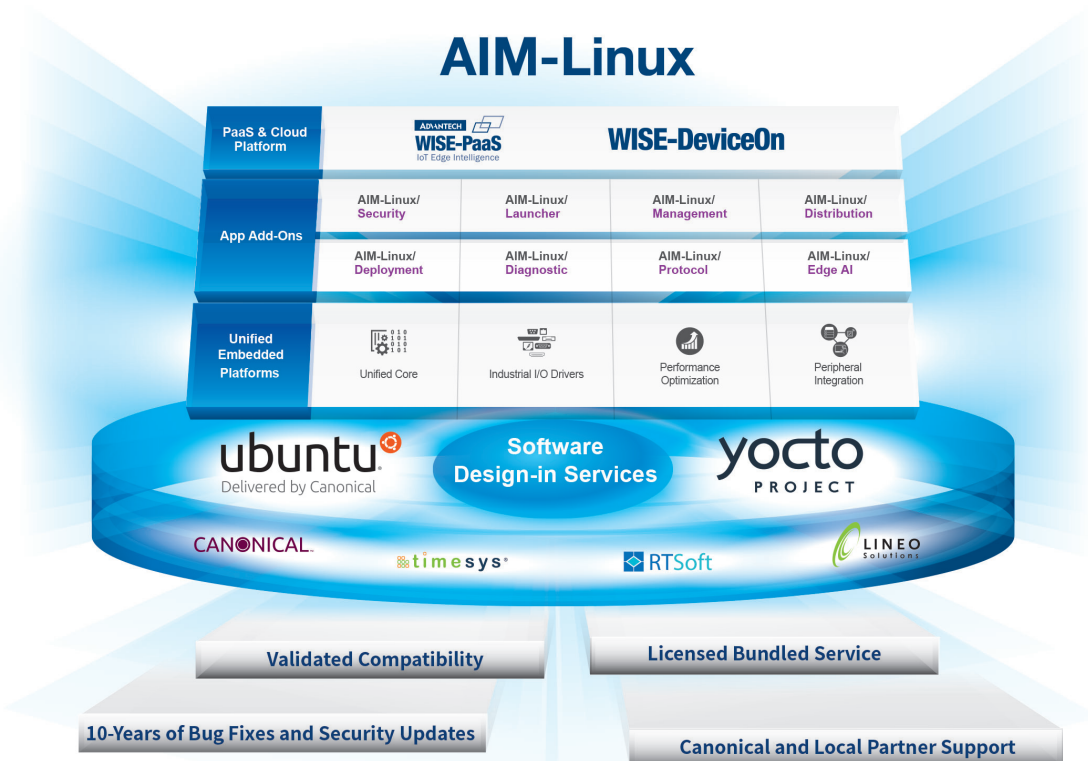


5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
- Integrated Intel® OpenVINO™ technology - Boost AI using Advantech hardware	- Build AI environment in under 5 minutes - Ready-to-use configuration	- User friendly configuration guidance - One-click Benchmark acquisition	- Easy access to 100+ AI inference extensions - Software development package available	- Diverse CPU/RAM options - Find hardware solutions for AI development

Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



Features

Certified OS and BSP	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
- Platform compatibility tests - Preloaded functional driver and software stacks	- License authorized Canonical delivers 10-years of bug fixes and security updates - In-house bundled service	- Containerized technology for service provision and deployment - AI resources from Caffe, TensorFlow, and mxnet	Embedded Linux and Android Alliance (ELAA)