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Datasheet

ADVANTECH

SOM-6872

COM Express® Compact Type 6 Module
with AMD® Ryzen V2000 Embedded Prozessor

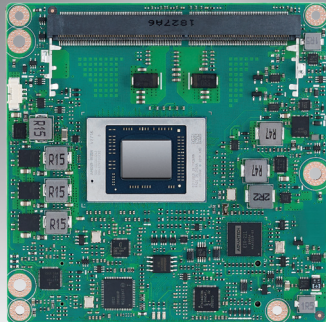


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SOM-6872

AMD Embedded Ryzen V2000 COM Express® Compact Type 6

Preliminary



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: 2 USB 3.2 Gen2, 1 PCIe x8 Gen3, 8 PCIe x1 Gen3, and 2 SATA3.0
- Four Display (DP++, HDMI, VGA, LVDS)
- Supports iManager, Embedded Software APIs and WISE-DeviceOn

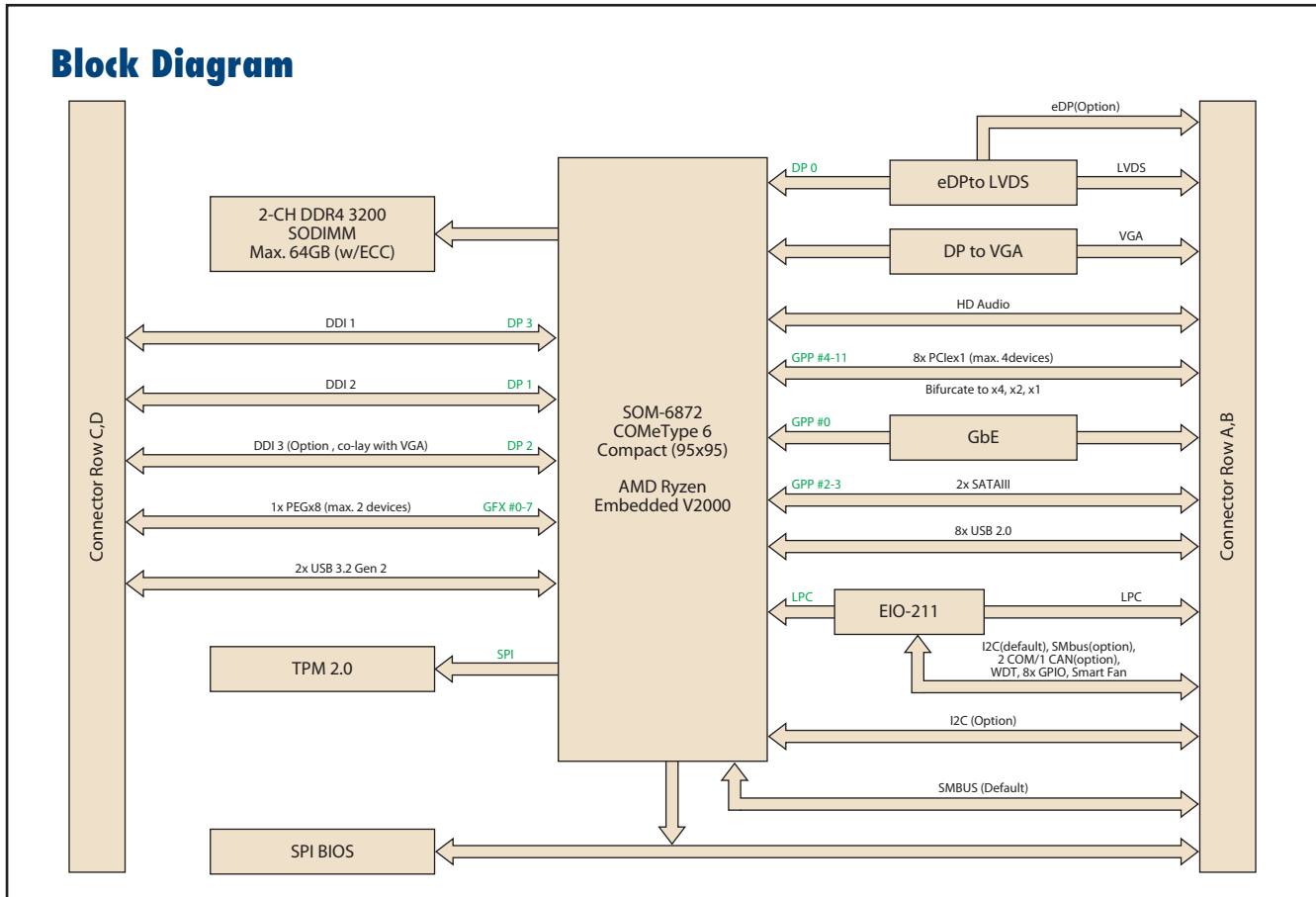
Software APIs:



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	35-54W	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	1920 x 1200 @ 60Hz			
	LCD	LVDS dual channel: 1920 x 1200 @ 60Hz (option support eDP 1.3 4096 x 2160 @ 60Hz)			
	DDI	2 DDI ports support configurable HDMI/DisplayPort (option to have 3rd DDI port by disabling VGA) -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			
	Audio Interface	HD Audio			
	LPC	Yes			
	Serial Bus	SMBus	Yes		
	I2C Bus	Yes			
Ethernet	Gigabit	Intel I210: 10/100/1000 Mbps			
I/O	SATA3.0	2 Ports (6 Gbps)			
	USB 3.2 Gen2	4 Ports (10 Gbps)			
	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			
Power	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			
	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V			
	Power Consumption (Max.)	TBD			
	Power Consumption (Idle)	TBD			
Environment	Operating Temperature	0 ~ 60 °C (32 ~ 140 °F)			
	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



Ordering Information

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

Packing List

Part No.	Description	Quantity
-	SOM-6872 CPU Module	1
TBD	Heatspreader	1

Development Board

Part No.	Description
TBD	Development Board SOM-DB5830 A2

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD

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