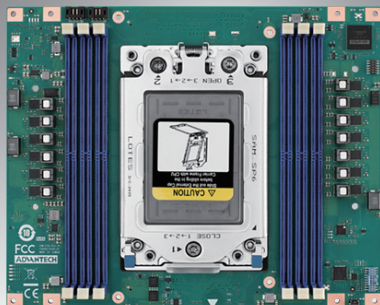


SOM-E781

AMD EPYC™ 8004 Processor COM-HPC® Server Size E module with proprietary pinout

NEW



Features

- COM-HPC® Server Size E module with proprietary pinout
- AMD EPYC™ 8004 real server grade CPU, up to 64C/200W with extreme performance
- Up to 576GB large memory size with 6x DDR5 RDIMM
- 72 lanes PCIe Gen5, includes 48 lanes CXL1.1
- Multiple I/O expansion: 2.5GbE, USB3.2 Gen1, SATA3.0
- Supports iManager, Embedded Software APIs, DeviceOn, and IPMB

Software APIs:



Windows Embedded

iManager WISE-DeviceOn C E FC

Specifications

Form Factor	Form Factor	COM-HPC® Size E	
	Pin-out Type	COM-HPC® Server (Proprietary Pinout)	
Processor System	CPU	8534P	8124P
	Base Frequency	2.3GHz	2.45GHz
	Max Frequency	3.1GHz	3.0GHz
	Cores	64	16
	LLC	128MB	64MB
	Default TDP	200W	125W
	Socket type	Socket SP6	
	BIOS	AMI UEFI 256Mbit	
Memory	Technology	DDR5	DDR5
	Speed	4800 MT/s	4800 MT/s
	Max. Capacity	Up to 576GB	
	Channel/Socket	6 Channel / 6 Sockets RDIMM, 1DPC	
	ECC Support	ECC and non-ECC	
Expansion	PCI Express	4 PCIe x16, 64 lanes, Gen5 (Bitfurcate to x16, x8, x4)	
		1 PCIe x8, 8 lanes Gen5; 6 PCIe x1, 6 lanes Gen3 extra using for KR and RSVD signals (proprietary)	
	CXL	1 PCIe x1, Gen 3 for BMC (COM-HPC standard), total 79 PCIe lanes	
		48 lanes CXL1.1, shared with PCIe x16	
Serial Bus	SMBus	1	
	I2C Bus	2	
Ethernet	Gigabit	Intel I226 controller ; Speed: 10M / 100M / 1000M / 2.5G speeds	
I/O	SATA3.0	2 Ports (6Gbps)	
	USB3.2 Gen1	4 Ports (5Gbps)	
	USB2.0	4 Ports (480Mbps)	
	SPI Bus	1	
	GPIO	12-bits GPIO	
	eSPI	1	
	Watchdog	65536 level, 0 ~ 65535 sec	
	COM Port	2 Ports (2-Wire)	
	TPM	TPM2.0	
	Smart Fan	2 Ports: 1 port on COM-HPC® module (4 pins); 1 port on carrier board (3 pins)	
	Type	ATX: Vin, VSB; AT: Vin	
Power	Supply Voltage	Vin: 12V (± 5%); VSB: 5V (± 5%), RTC Battery: 2.0V ~ 3.3V	
	Power Consumption	Turbo Max: 199.61W @12V(8534P with 576GB DDR5)	
		Idle: 32.46W @12V(8534P with 576GB DDR5)	
		* Only for reference and will depend on custom software loading. For more details please refer to the user manual.	
Environment	Operating Temperature	Standard: 0 ~ 50 °C (32 ~ 122 °F), TDP will reduce to 173W at 60°C for CPU SKU 8534P	
	Storage Temperature	0 ~ 60 °C (32 ~ 140 °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	200 x 160 mm	

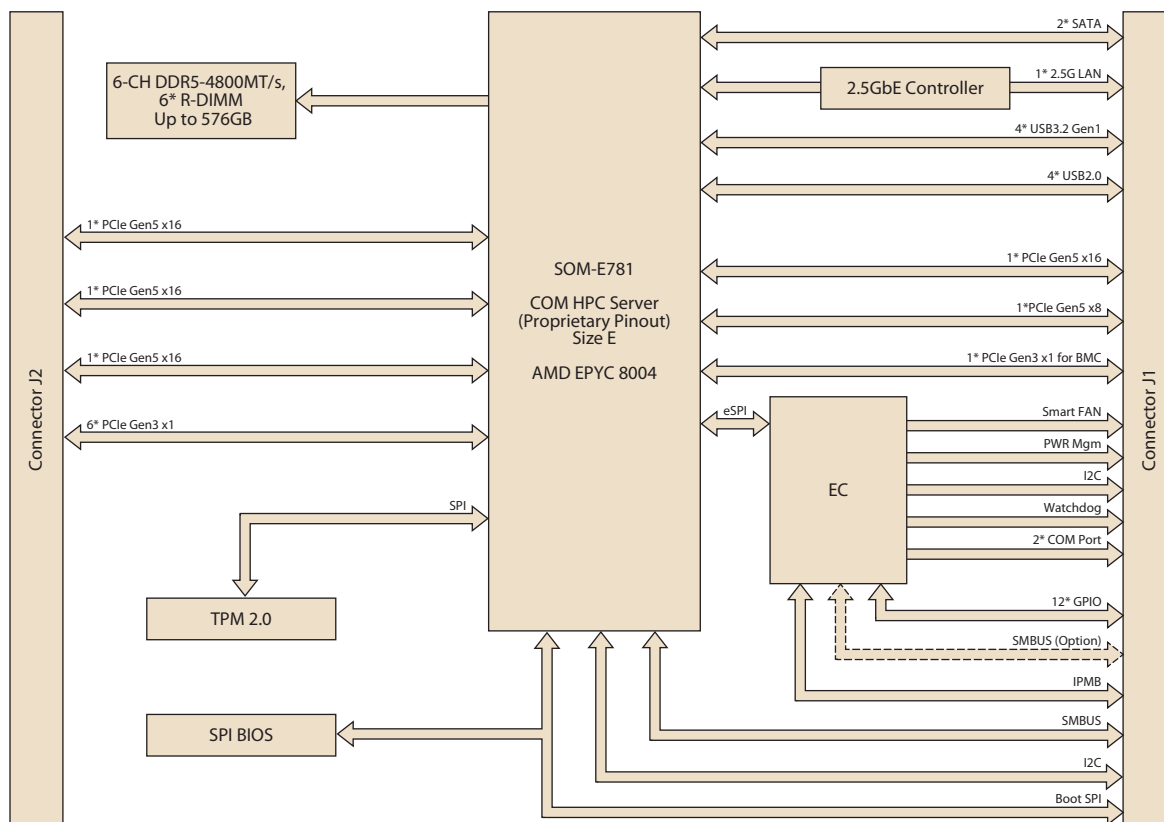
ADVANTECH

Computer On Modules

All product specifications are subject to change without notice.

Last updated: 25-Mar-2025

Block Diagram



Ordering Information

Part No.	CPU	Cores	Base Freq.	Max Turbo Freq.	CPU TDP	CPU Threads	DDR5 RDIMM	Ethernet mode	PCIe lanes	CXL	Power	Thermal solution	Operating Temp.
SOM-E781S64-U3A1	EPYC™ 8534P	64	2.3GHz	3.1GHz	200W	128	4800MT/s	10M/100M/1000M/2.5Gbps	79 (Gen5*72 & Gen3*7)	48 *CXL 1.1, shared with PCIe x16	AT/ATX	Active * Optional Accessories	0 ~ 50 °C
SOM-E781S16-U4A1	EPYC™ 8124P	16	2.45GHz	3.0GHz	125W	32	4800MT/s	10M/100M/1000M/2.5Gbps	79 (Gen5*72 & Gen3*7)	48 *CXL 1.1, shared with PCIe x16	AT/ATX	Active * Optional Accessories	0 ~ 50 °C

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

Development Board

Part No.	Description
TBD*	

*For Development board support, please contact Advantech for more information.

Optional Accessories

Part No.	Description
1970005652T001	QFCS
TBD	Addon fan module

Packing List

Part No.	Description	Quantity
-	SOM-E781 COM module	1

Embedded OS

OS	Part No.	Description
Windows Server	TBD	TBD