

Datasheet

Advantech

SOM-A350

COM-HPC® Size A Module with Intel® 14th Gen Core Processors Meteor Lake U/H

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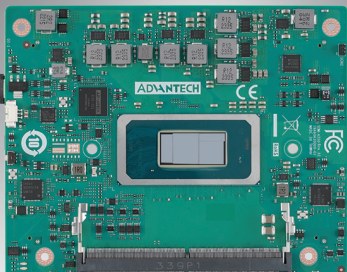


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SOM-A350

Intel® 14th Gen Core Processors (Code Name: Meteor Lake U/H) COM-HPC® Size A Module

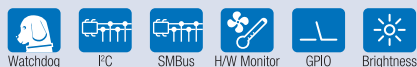
Preliminary



Features

- COM-HPC® Size A Module Client Pinout
- Intel® 14th Gen Core Processors , Up to 14C/20T
- Intel Xe LPG graphic up to 128EU, 4 independent 4K display
- Dual-CH DDR5 5600MT/s up to 96GB SODIMM
- Multiple I/O expansion: 2.5GbE, PCIe Gen5, USB4 & USB3.2 Gen2, SATA3.0
- Support Dual BIOS for failsafe and flexible BIOS configuration
- Supports iManager, Embedded Software APIs and Wise-DeviceOn

Software APIs:

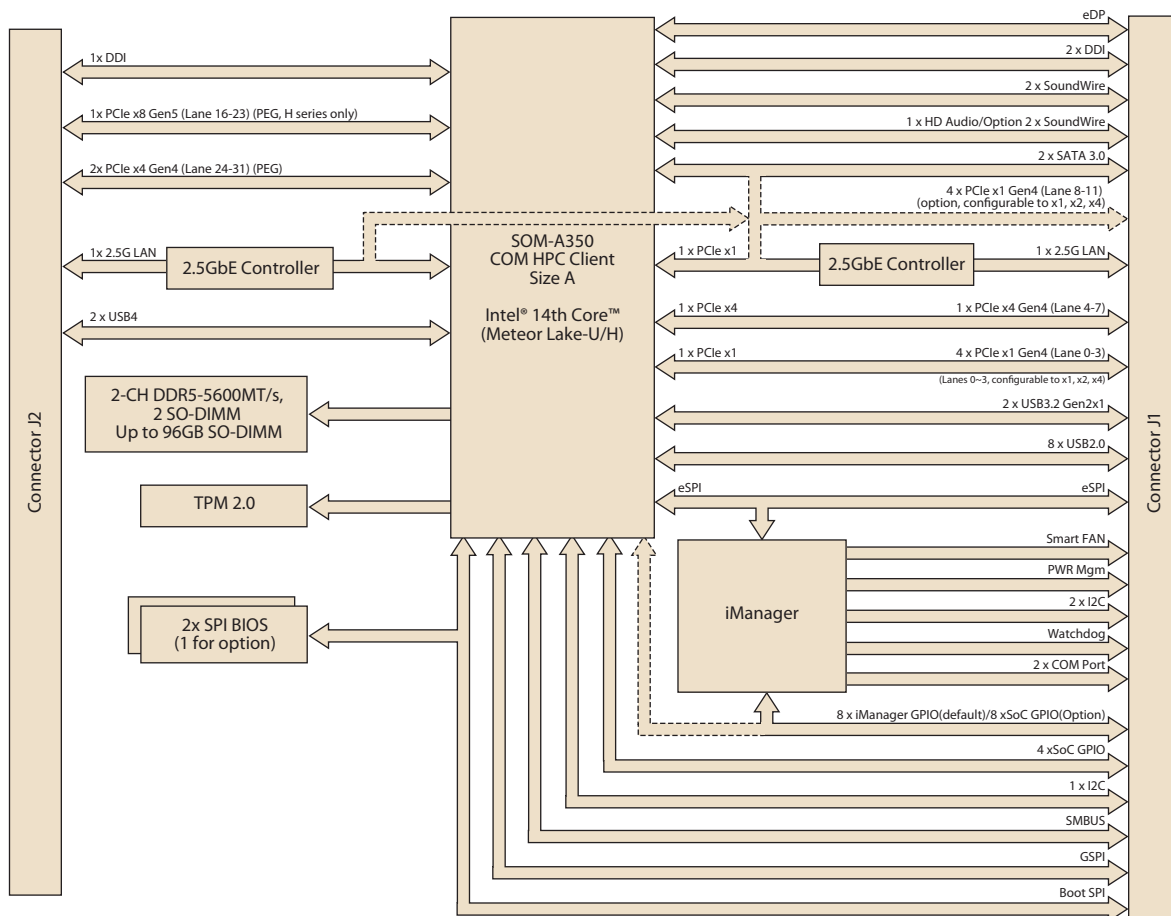


Windows Embedded iManager WISE-DeviceOn CE FC

Specifications

Form Factor	Form Factor	COM-HPC® Size A Module			
	Pin-out Type	COM-HPC® Client			
Processor System	CPU	Core Ultra 7 155H	Core Ultra 7 155U	Core Ultra 5 125H	Core Ultra 5 125U
	Base Frequency	1.4GHz/0.9GHz	1.7GHz/1.2GHz	1.2GHz/0.7GHz	1.3GHz/0.8GHz
	Max Turbo Frequency	4.8GHz/3.8GHz	4.8GHz/3.8GHz	4.5GHz/3.6GHz	4.3GHz/3.6GHz
	Cores	14C (6P+8E)	10C (2P+8E)	12C (4P+8E)	10C (2P+8E)
	LLC	24M	12M	18M	12M
	Default TDP	45W	28W	45W	28W
	cTDP	20W-45W	12-28W	20W-45W	12-28W
	vPRO	NA	NA	NA	NA
	BIOS	AMI UEFI 256Mbit			
Memory	Technology	DDR5			
	Speed	5600 MT/s			
	Max. Capacity	Up to 96GB			
	Channel/Socket	Dual Channel / 2 Sockets SODIMM, 1DPC			
	ECC Support	IBECC			
Graphics	Controller	Intel® Xe LPG			
	Graphics EU	128EU	64EU	112EU	64EU
	Max. Frequency	2.25GHz	1.95GHz	2.2GHz	1.85GHz
	3D/HW Acceleration	HW Encode: Supports AVC/H264, JPEG, HEVC/H265, VP9 and AV1. HW Decode: Supports MPEG2, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9 and AV1			
Display	eDP	eDP1.4b HBR3			
	DDI (HDMI/DisplayPort)	3 DDI Port Support Configurable HDMI/DisplayPort - DDI1: DP 1.4a, DDI2: DP2.1, DDI3: DP2.1 - HDMI 2.1: 4096 x 2304 @ 60Hz			
	Multiple Display	Quad Simultaneous Independent Display			
Expansion	PEG	PEG (H series only): 1 PCIe Gen5 x8 PEG: 2 PCIe Gen4 x4, 8 lanes, bifurcate to 2 x4			
	PCI Express	PCIe: PCIe Gen4, support up to 9 devices - 1 PCIe Gen4 x4 - 4 PCIe Gen4 lanes, bifurcate to x1, x2, x4 - 4 PCIe Gen4 lanes, bifurcate to x1, x2, x4, Optional 2 SATA and 2.5Gb Ethernet			
Serial Bus	SMBus	Yes			
	I2C Bus	Yes			
Ethernet	Gigabit	Intel I226 (Intel controller) ; Speed: 10M / 100M / 1000M / 2.5G speeds			
	SATA	2 Ports support SATA 3.0 (6Gbps)			
I/O	USB4	2 ports			
	USB3.2 Gen 2x1	2 Ports (10Gbps)			
	USB2.0	8 Ports (480Mbps)			
	SPI Bus	Yes. For BIOS EEPROM, Support Dual BIOS			
	GPIO	8-bit, Default to iManager, Option to CPU			
	Audio Interface	HD Audio			
	Watchdog	65536 level, 0 ~ 65535 sec			
	COM Port	2 Ports (2-Wire)			
	TPM	TPM2.0			
	Smart Fan	2 Ports (for COM Module and carrier board, support 12V Fan			
Power	Type	ATX: Vin, VSB; AT: Vin			
	Supply Voltage	Vin: 8V~20V, VSB: 4.75V ~ 5.25V, RTC Battery: 2.0V ~ 3.3V			
	Power Consumption	Max: 83.13W @12V (Ultra 7 processor 155H with 96G DDR5 5600) Idle: 5.34W @12V (Ultra 7 processor 155H with 96G DDR5 5600) *Only for reference and will depend on custom software loading. For more details please refer to the user manual.			
Environment	Operating Temperature	Standard: 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 (Non-Operation)			
Mechanical	Dimensions	95 mm x 120 mm (3.74" x 4.72")			

Block Diagram



Ordering Information

Part No.	CPU	Cores (P+E)	Default TDP	cTDP	Base Freq.	Max. Turbo Freq.	Graphics	Operating Temp.
SOM-A350C7H-S4A1	Core Ultra 7 155H	14C(6P+8E)	45W	20W-45W	1.4GHz/0.9GHz	4.8GHz/3.8GHz	128EU	0-60 °C
SOM-A350C5H-S2A1	Core Ultra 5 125H	12C(4P+8E)	45W	20W-45W	1.2GHz/0.7GHz	4.5GHz/3.6GHz	112EU	0-60 °C
SOM-A350C7U-S7A1	Core Ultra 7 155U	10C(2P+8E)	28W	12W-28W	1.7GHz/1.2GHz	4.8GHz/3.8GHz	64EU	0-60 °C
SOM-A350C5U-S3A1	Core Ultra 5 125U	10C(2P+8E)	28W	12W-28W	1.3GHz/0.8GHz	4.3GHz/3.6GHz	64EU	0-60 °C

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

Development Board

Part No.	Description
SOM-DH3000-00A2	COM-HPC Development Board for Client Pinout with 10mm High Board to Board Connector (Meteor Lake-U/H)

Optional Accessories

Part No.	Description
1970005961T001	QFCS

Packing List

Part No.	Description	Quantity
-	SOM-A350 COM-HPC module	1
1970005956T001	Heatspreader	1

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD

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