

# SOM-5886

## Intel® Core™ Ultra Series 3 Processors (Panther Lake) COM Express® Basic Type 6 Module



### Features

- COM Express® R3.1 Basic Module Type 6 Pinout
- Intel® Core™ Ultra Series 3 Processors (Panther Lake), Up to 16C/20T
- Intel® ARC™ GPU up to 12Xe, 4 independent 4K display
- Integrated NPU5 50TOPS for dedicated AI acceleration,
- Dual-Channel DDR5-7200 up to 128GB CSODIMM
- Multiple I/O expansion: 2.5GbE, PCIe Gen4, USB4 & USB3.2 Gen2, SATA3.0
- Supporting Embedded Software APIs and WISE-PaaS/DeviceOn

#### Software APIs:

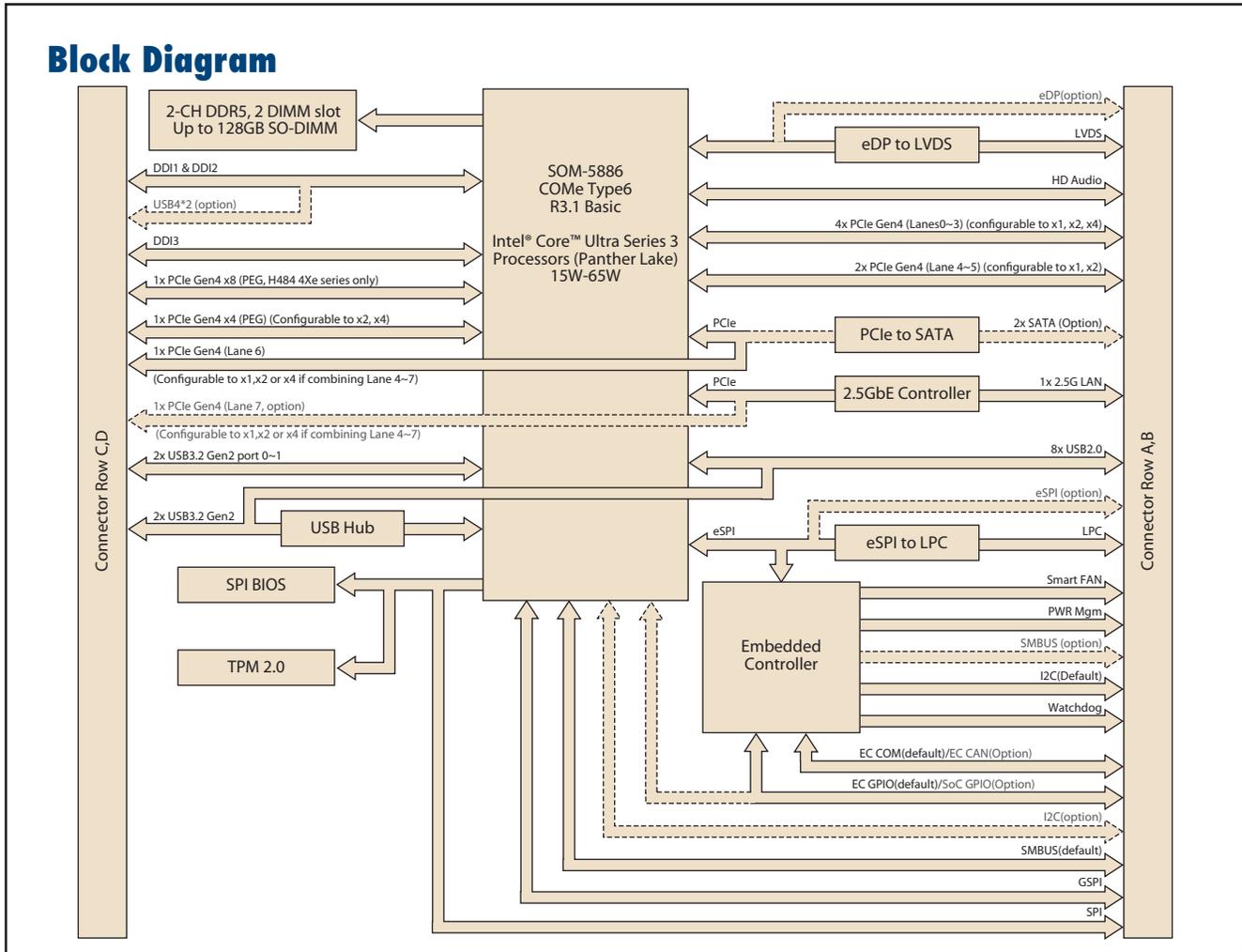


Windows SUSI API DeviceOn CE FC

### Specifications

CPU	CPU	Intel Core Ultra X9 388H	Intel Core Ultra X9 386H	Intel Core Ultra X7 358H	Intel Core Ultra 7 356H	Intel Core Ultra 5 325	Intel Core Ultra X7 368HR	Intel Core Ultra 5 336HRE	
	Cores	16C	16C	16C	12C	8C	16C	8C	
	Base Frequency	2.1GHz	2.1GHz	1.9GHz	1.9GHz	2.1GHz	TBD	TBD	
	Max Turbo Frequency (P-core)	5.0GHz	4.8GHz	4.7GHz	4.6GHz	4.4GHz	TBD	TBD	
	LLC	18MB	18MB	18MB	18MB	12MB	18MB	18MB	
	cTDP	15W-65W	15W-65W	15W-65W	15W-65W	12W-45W	15W-65W	15W-65W	
	Default TDP	65W	65W	65W	45W	25W	65W	65W	
	vPRO	Yes	Yes	No	No	No	Yes	Yes	
BIOS	AMI UEFI 256Mbit								
Integrated GPU	Controller	Intel® Xe3 LPG							
	Total Xe Cores	12Xe (192EU)	4Xe (64EUs)	12Xe (192EUs)	4Xe (64EUs)	4Xe (64EUs)	12Xe (192EUs)	4Xe (64EUs)	
	Max. Frequency/PTOPS	2.5GHz/122TOPS	2.5GHz/40TOPS	2.5GHz/122TOPS	2.45GHz/40TOPS	2.45GHz/40TOPS	TBD	TBD	
	3D/HW Acceleration	HW Encode: Supports AVC/H264, JPEG, HEVC/H265 and AV1. HW Decode: Supports MPEG2, AVC/H264, JPEG/MJPEG, HEVC/H265, VP9, AV1 and VVC/H266							
Integrated NPU	PTOPS	50TOPS	50TOPS	50TOPS	50TOPS	50TOPS	47TOPS	47TOPS	
	Technology	DDR5							
Memory	Speed	7200 MT/s							
	Max. Capacity	Up to 128GB (2x 64GB)							
	Channel/Socket	Dual Channel / 2 Sockets CSODIMM, 1DPC							
	ECC Support	IBECC							
Display	LCD (LVDS/eDP)	1port LVDS Dual channel: 1920 x 1200 @60Hz/eDP 4096 x 2304 @60Hz							
	DDI (HDMI/DisplayPort)	- HDMI 2.1: 4096 x 2304 @ 60Hz - DisplayPort 2.1 up to HBR3: 4096 x 2304 @ 60Hz							
	Multiple Display	Quad Simultaneous Independent Display							
Expansion	PEG (PCI Express Graphics)	PEG (H484 series): PCIe Gen4, 8 lanes, Bitfurcate to 1 x8, 2 x4 PEG (H12Xe & H404 series): PCIe Gen4, 4 lanes, Bitfurcate to 2 x4							
	PCI Express	PCIe Gen4, Up to 8 lanes & Up to 8 end devices - 8 PCIe Gen4 lanes, Bitfurcate to x1, x2, x4							
Serial Bus	SMBus	Yes							
	I2C Bus	Yes							
Ethernet	Gigabit	Intel I226 controller; Speed: 10M / 100M / 1000M / 2.5G speeds							
I/O	SATA3.0	Up to 2 Ports (6Gbps)							
	USB4	Up to 2 ports, Co-lay with DDI, Support by SOM-M220							
	USB3.2 (Gen2)	4 Ports (10 Gbps)							
	USB2.0	8 Ports (480 Mbps)							
	SPI Bus	Yes							
	GPIO	8-bit, Default from EC, Option from CPU							
	LPC	Yes							
	Audio Interface	HD Audio							
	Watchdog	65536 level, 0 ~ 65535 sec							
	COM Port	2 Ports (2-Wire)							
	TPM	TPM2.0							
CAN Bus	Support one CAN Bus option from COM Port								
Power	Type	ATX: Vin, VSB; AT: Vin							
	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25V; RTC Battery: 2.0V ~ 3.3V							
	Power Consumption (Max.)	TBC							
	Power Consumption (Idle)	TBC							
Environment	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °F) Extend: -40 ~ 85 °C (-40 ~ 185 °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	125 mm x 95 mm (4.92" x 3.74")							

## Block Diagram



## Ordering Information

Part No.	CPU	Cores	Base Freq.	Max Turbo Freq.	LLC Cache	NPU PTOPS	GPU Xe3 Cores	GPU Max Freq. (GHz) /PTOPS	Memory	PCle Lanes	vPro	PCle Lanes	Default TDP	cTDP	Operating Temp.
SOM-5886C9HG-U1A1	Intel Core Ultra X9 388H	16C (4P+8E+4LPE)	2.1GHz	5.0GHz	18MB	50	12Xe	2.5GHz/122	DDR5 7200	12	Yes	12	65W	15W-65W	0-60°C
SOM-5886U9H-U1A1	Intel Core Ultra 9 386H	16C (4P+8E+4LPE)	2.1GHz	4.8GHz	18MB	50	4Xe	2.5GHz/40	DDR5 7200	20	Yes	20	45W	15W-65W	0-60°C
SOM-5886C7HG-S9A1	Intel Core Ultra X7 358H	16C (4P+4E+4LPE)	1.9GHz	4.7GHz	18MB	50	12Xe	2.5GHz/122	DDR5 7200	12	No	12	65W	15W-65W	0-60°C
SOM-5886C7H-S9A1	Intel Core Ultra 7 356H	16C (4P+8E+4LPE)	1.9GHz	4.6GHz	18MB	50	4Xe	2.45GHz/40	DDR5 7200	20	No	20	45W	15W-65W	0-60°C
SOM-5886C5-U1A1	Intel Core Ultra 5 325	8C (4P+0E+4LPE)	2.1GHz	4.4GHz	12MB	47	4Xe	2.45GHz/40	DDR5 6400	12	No	12	25W	12W-45W	0-60°C
SOM-5886C7HG-U5A1	Intel Core Ultra X7 368HR	16C (4P+8E+4LPE)	TBD	TBD	18MB	50	12Xe	TBD	DDR5 7200	12	Yes	12	65W	15W-65W	-40-85°C
SOM-5886C5HX-U3A1	Intel Core Ultra 5 336HRE	12C (4P+4E+4LPE)	TBD	TBD	18MB	47	4Xe	TBD	DDR5 7200	20	Yes	20	65W	15W-65W	-40-85°C

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

## Development Board

Part No.	Description
SOM-DB5830-00A3	COMe Devel. Board COMe R3.1 Type6 pin-out (LVDS) 0 - 60 °C
SOM-DB5830A-00A3	COMe Devel. Board COMe R3.1 Type6 pin-out (eDP) 0 - 60 °C

## Optional Accessories

Part No.	Description
TBD	QFCS

## Packing List

Part No.	Description	Quantity
-	SOM-5886 COM module	1
TBD	Heatspreader	1

## Embedded OS

OS	Part No.	Description
Win11	TBD	TBD
Ubuntu	TBD	TBD