

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:

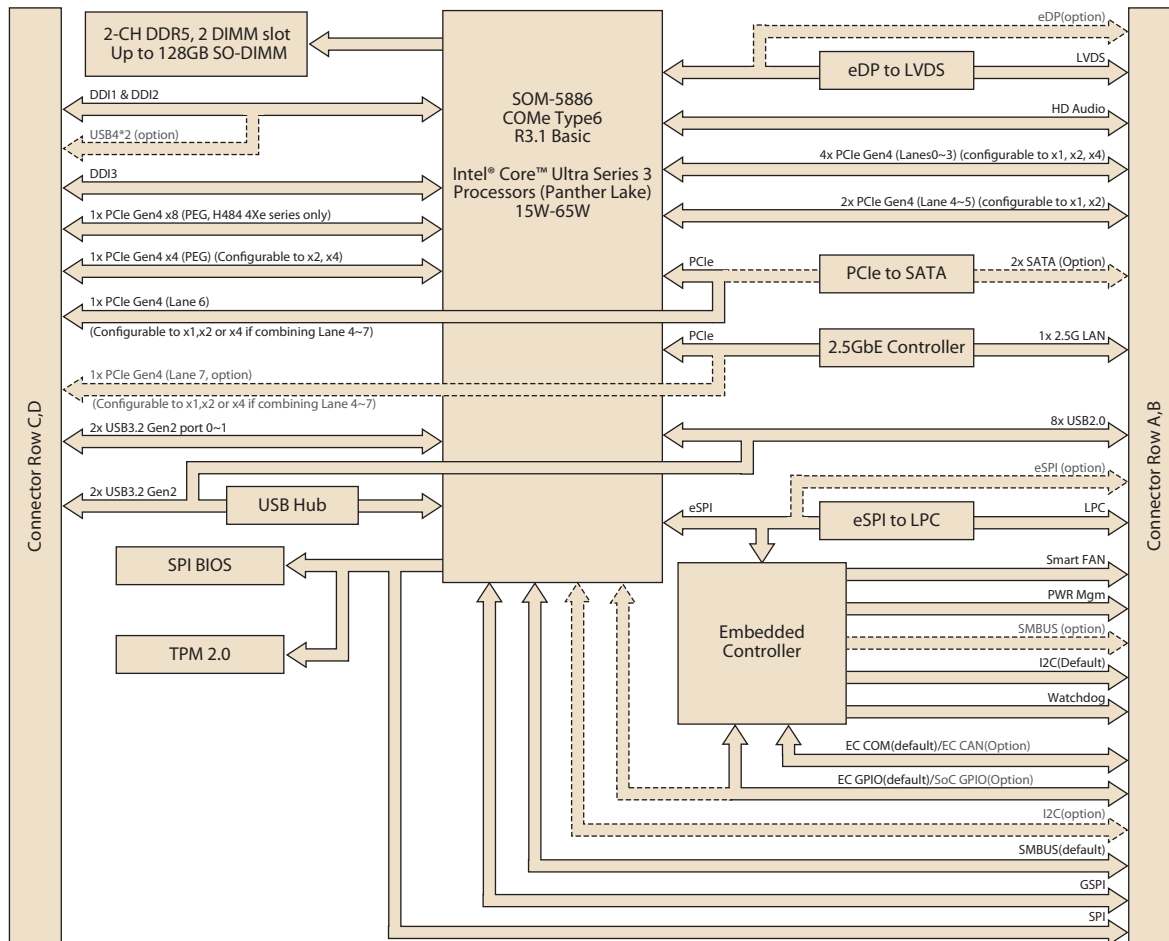


Windows SUSI API DeviceOn CE FC

Specifications

CPU	CPU	Intel Core Ultra X9 388H	Intel Core Ultra X7 368HR	Intel Core Ultra X7 358H	Intel Core Ultra 7 356H	Intel Core Ultra 5 336HRE	Intel Core Ultra 5 325
	Cores	16C	16C	16C	12C	8C	8C
	Base Frequency	2.1GHz	TBD	1.9GHz	1.9GHz	TBD	2.1GHz
	Max Turbo Frequency (P-core)	5.0GHz	TBD	4.7GHz	4.6GHz	TBD	4.4GHz
	LLC	18MB	18MB	18MB	18MB	18MB	12MB
	cTDP	15W-65W	15W-65W	15W-65W	15W-65W	15W-65W	12W-45W
	Default TDP	45W	45W	45W	45W	45W	45W
	vPRO	Yes	Yes	No	No	Yes	No
Integrated GPU	BIOS	AMI UEFI 256Mbit					
	Controller	Intel® Xe3 LPG					
	Total Xe Cores	12Xe	12Xe	12Xe	4Xe	4Xe	4Xe
	Max. Frequency/PTOPS	2.5GHz/122TOPS	TBD	2.5GHz/122TOPS	2.45GHz/40TOPS	TBD	2.45GHz/40TOPS
Integrated NPU	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					
	PTOPS	50TOPS	50TOPS	50TOPS	50TOPS	47TOPS	47TOPS
Memory	Technology	DDR5					
	Speed	7200 MT/s					
	Max. Capacity	Up to 128GB (2x 64GB)					
	Channel/Socket	Dual Channel / 2 Sockets CSODIMM, 1DPC					
	ECC Support	IB ECC					
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					
	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					
Expansion	PCI Express	PCIe Gen4, Up to 8 lanes & Up to 8 end devices - 8 PCIe Gen4 lanes, Bitfurcate to x1, x2, x4					
	SMBus	Yes					
Serial Bus	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-MZ20					
	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					
	Type	ATX: Vin, VSB; AT: Vin					
Power	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 (P+E+LPE)	Default TDP	cTDP	Base Freq.	Max. Turbo Freq.	vPro	DDR5 SODIMM	PCIe Switch	IBEC	Thermal Solution	Operating Temp.
TBD												

*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

Packing List

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

Optional Accessories

Part No.	Description
TBD	Semi-Heatsink

Embedded OS

OS	Part No.	Description
Win11	TBD	TBD
Ubuntu	TBD	TBD