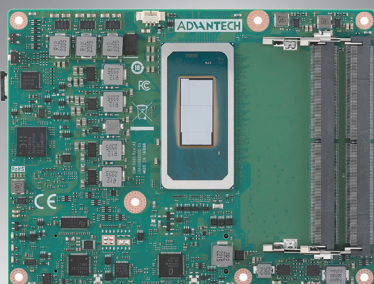


SOM-5885/R

Intel® Core™ Ultra Processors
(Code Name: Meteor Lake U/H & Arrow Lake-U/H)
COM Express® Basic Type 6 Module



Features

- COM Express® R3.1 Basic Module Type 6 Pinout
- Intel® Core™ Ultra Processors, Up to 16C/22T
- Intel Xe LPG graphic up to 128EU, 4 independent 4K display
- Dual-Channel DDR5 5600MT/s up to 96GB SO-DIMM
- Multiple I/O expansion: 2.5GbE, PCIe Gen4, USB4 & USB3.2 Gen2, SATA3.0
- Support Dual BIOS failsafe
- Supports iManager, Embedded Software APIs and Wise-DeviceOn

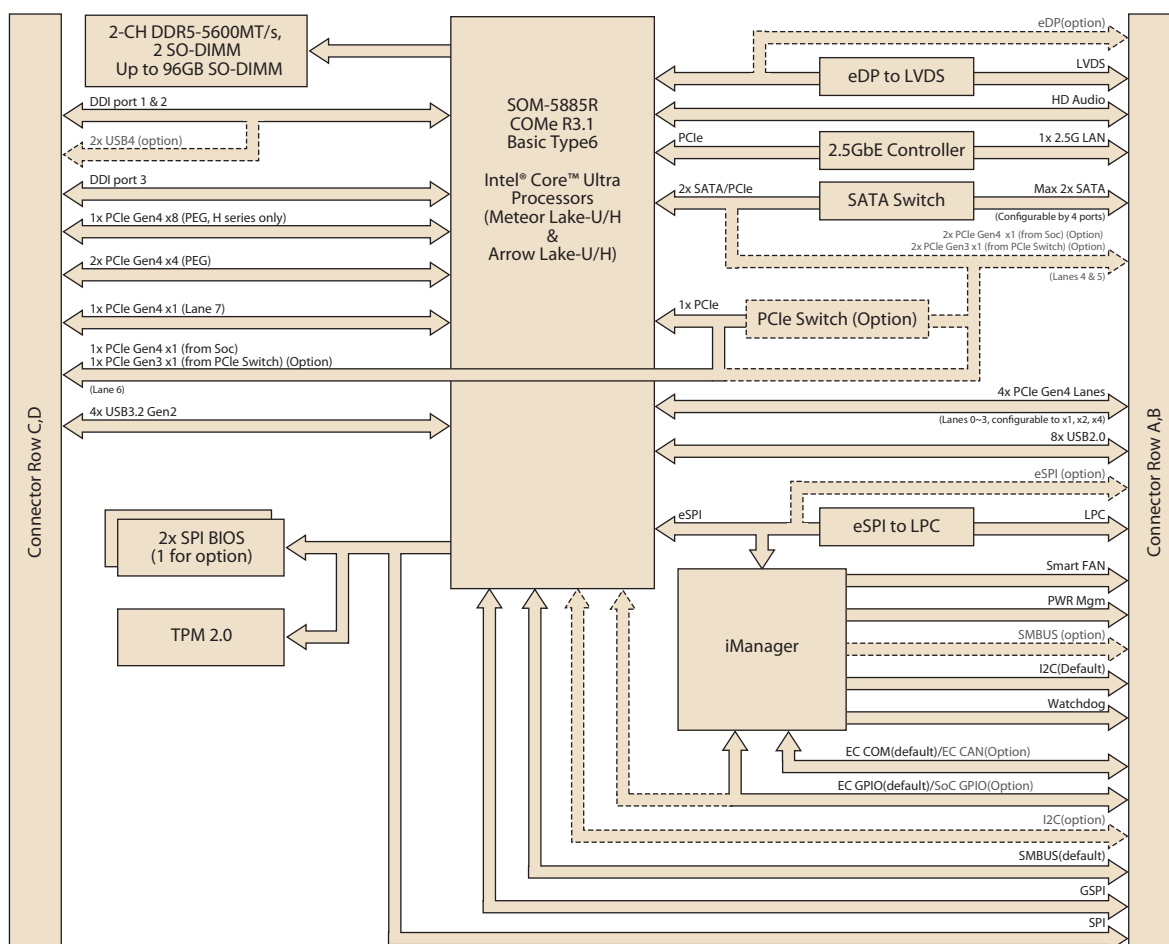
Software APIs:



Specifications

Form Factor	Form Factor	COM Express Basic							
	Pin-out Type	COM Express R3.1 Type 6 compatible							
Processor System	CPU	Core Ultra 7 165H	Core Ultra 7 155H	Core Ultra 5 125H	Core Ultra 7 165U	Core Ultra 7 265H	Core Ultra 7 255H	Core Ultra 5 225H	Core Ultra 7 255U
	Base Frequency (P/E-core)	1.4GHz/0.9GHz	1.4GHz/0.9GHz	1.2GHz/0.7GHz	1.7GHz/1.2GHz	1.2GHz/0.9GHz	1.2GHz/0.9GHz	1.2GHz/0.9GHz	1.5GHz/1.8GHz
	Max Turbo Frequency (P/E-core)	5GHz/3.8GHz	4.8GHz/3.8GHz	4.5GHz/3.6GHz	4.9GHz/3.8GHz	5.3GHz/4.5GHz	5.1GHz/4.4GHz	4.9GHz/4.3GHz	5.2GHz/4.2GHz
	Cores (P+E+LPE)	16C (6P+8E+2LPE)	16C (6P+8E+2LPE)	14C (4P+8E+2LPE)	12C (2P+8E+2LPE)	16C (6P+8E+2LPE)	16C (6P+8E+2LPE)	14C (4P+8E+2LPE)	12C (2P+8E+2LPE)
	LLC	24MB	24MB	18MB	12MB	24MB	24MB	18MB	12MB
	Default TDP	45W	45W	45W	28W	28W	45W	45W	28W
	cTDP	20W-45W	20W-45W	20W-45W	12W-28W	20W-45W	20W-45W	20W-45W	12W-28W
	vPRO	Yes	No	No	Yes	Yes	No	No	No
Memory	BIOS	AMI UEFI 256Mbit							
	Technology	DDR5							
	Speed	5600 MT/s							
	Max. Capacity	Up to 96GB							
	Channel/Socket	Dual Channel / 2 Sockets SO-DIMM, 1DPC							
Graphics	ECC Support	IB ECC							
	Controller	Intel® Xe LPG							
	EU	128EUs	128EUs	112EUs	64EUs	128EUs	128EUs	112EUs	128EUs
	Max. Frequency	2.3GHz	2.25GHz	2.2GHz	2.0GHz	2.3GHz	2.25GHz	2.2GHz	2.1GHz
	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	LCD (LVDS/eDP)	1port LVDS Dual channel: 1920 x 1200 @60Hz/eDP 4096 x 2304 @60Hz							
	DDI (HDMI/DisplayPort)	3 DDI Port Support Configurable HDMI/DisplayPort -HDMI 2.1: 4096 x 2304 @ 60Hz -DisplayPort 2.1 HBR3: 4096 x 2304 @ 60Hz							
	Multiple Display	Quad Simultaneous Independent Display							
	PEG	PEG (H series): PCIe Gen4, 16 lanes, Bitfurcate to 1 x8, 2 x4 PEG (U series): PCIe Gen4, 8 lanes, Bitfurcate to 2 x4							
Expansion	PCI Express	PCIe: PCIe gen4, Up to 8 lanes & Up to 8 end devices -4 PCIe Gen4 lanes, Bitfurcate to x1, x2, x4 -Default 4 PCIe Gen4 & Gen3 lanes which support x1 only (Option with 2 SATA & PCIe Switch, Support PCIe x4 bitfurcate to x1, x2, x4)							
Serial Bus	SMBus	Yes							
	I2C Bus	Yes							
Ethernet	Gigabit	Intel I226 controller; Speed: 10M / 100M / 1000M / 2.5G speeds							
	SATA3.0	Up to 2 Ports (6Gbps), Configurable by 4 lanes [0,2]/[1,3]							
I/O	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. For BIOS EEPROM, Support Dual BIOS failsafe							
	GPIO	8-bit, Default from iManager, 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.)	TBD							
	Power Consumption (Idle)	TBD							
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



PCIe configuration

	PEG	PCIe	SATA
Configuration 1 (With PCIe switch)	1x PCIe x8 Gen4 (H series only) 2x PCIe x4 Gen4	4x PCIe x1 Gen4 (x1, x2, x4) 1x PCIe x1 Gen4 3x PCIe x1 Gen3	2x SATA3
Configuration 2 (Without PCIe switch)	1x PCIe x8 Gen4 (H series only) 2x PCIe x4 Gen4	4x PCIe x1 Gen4 (x1, x2, x4) 2x PCIe x1 Gen4	2x SATA3
Configuration 3 (Without PCIe switch)	1x PCIe x8 Gen4 (H series only) 2x PCIe x4 Gen4	8x PCIe x1 Gen4 (x1, x2, x4)	N/A

Ordering Information

Part No.	CPU	Cores (P+E+LPE)	Default TDP	cTDP	Base Freq.	Max. Turbo Freq.	vPro	DDR5 SODIMM	PCIe Switch	IBECC	Thermal Solution	Operating Temp.
SOM-5885C7HV-S4A1	Core Ultra 7 165H	16C (6P+8E+2LPE)	45W	20W-45W	1.4GHz/0.9GHz	5GHz/3.8GHz	Yes	Non-ECC	Yes	Yes	Active	0~60°C
SOM-5885C7H-S4A1	Core Ultra 7 155H	16C (6P+8E+2LPE)	45W	20W-45W	1.4GHz/0.9GHz	4.8GHz/3.8GHz	No	Non-ECC	N/A	Yes	Active	0~60°C
SOM-5885C5H-S2A1	Core Ultra 5 125H	14C (4P+8E+2LPE)	45W	20W-45W	1.2GHz/0.7GHz	4.5GHz/3.6GHz	No	Non-ECC	N/A	Yes	Active	0~60°C
SOM-5885C7UV-S7A1	Core Ultra 7 165U	12C (2P+8E+2LPE)	28W	12W-28W	1.7GHz/1.2GHz	4.9GHz/3.8GHz	Yes	Non-ECC	N/A	Yes	Active	0~60°C
SOM-5885R7HVX-S2A1	Core Ultra 7 265H	16C (6P+8E+2LPE)	45W	20W-45W	1.2GHz/0.9GHz	5.3GHz/4.5GHz	Yes	Non-ECC	N/A	Yes	Active	-40~85 °C
SOM-5885RC7HX-S2A1	Core Ultra 7 255H	16C (6P+8E+2LPE)	45W	20W-45W	1.2GHz/0.9GHz	5.1GHz/4.4GHz	No	Non-ECC	N/A	Yes	Active	-40~85 °C
SOM-5885RC5HX-S2A1	Core Ultra 5 225H	14C (4P+8E+2LPE)	45W	20W-45W	1.2GHz/0.9GHz	4.9GHz/4.3GHz	No	Non-ECC	N/A	Yes	Active	-40~85 °C
SOM-5885RC7UX-S8A1	Core Ultra 7 255U	12C (2P+8E+2LPE)	28W	12W-28W	1.5GHz/1.8GHz	5.2GHz/4.2GHz	No	Non-ECC	N/A	Yes	Active	-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
1970005036T011	Semi-Cooler 125 x 95 x 33.2 mm with 12V Fan
1970005940T001	QFCS 125x95x26.2mm

Embedded OS

OS	Part No.	Description
Win10	20706WX1HS0106	img W10 21HL SOM-5885 64b 21H2 ENU
Win10	20706WX1VS0106	img W10 21VL SOM-5885 64b 21H2 ENU
Win11	20706WLH1S0013	img W11 24HL SOM-5885 64b 24H2 ENU
Win11	20706WLV1S0013	img W11 24VL SOM-5885 64b 24H2 ENU

Packing List

Part No.	Description	Quantity
-	SOM-5885 COM module	1
1970005918T001	Heatspreader	1

Memory AVL List

Vendor	PN	Speed	Capacity
ADATA	AD5S560048G-B	5600 MT/s	48GB
ADATA	AQD-SD5V32GN56-SB	5600 MT/s	32GB
Advantech	SQR-SD5N32G5K6HNAB	5600 MT/s	32GB
Advantech	SQR-SD5N32G5K6MNDB	5600 MT/s	32GB
Advantech	SQR-SD5N32G5K6SNPB	5600 MT/s	32GB
Apacer	D22.35305S.001	5600 MT/s	32GB
Hynix	HMCG88AGBSA095N2	5600 MT/s	32GB
Micron	MTC8C108YS1SC56BB1	5600 MT/s	24GB
Micron	MTC16C2085S1SC56BD1	5600 MT/s	32GB
Samsung	M425R4GA3PB0-CWMOD	5600 MT/s	32GB