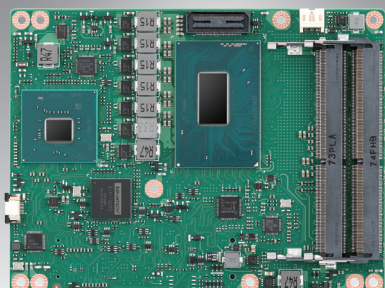


SOM-5899

8th Gen Intel® Xeon®/Core™ Processors COM Express Basic Module Type 6

NEW



Windows Embedded

iManager WISE-PaaS/RMM CE FC

Features

- Intel 8th Gen Xeon®/Core™ Hexa/Quad Cores + PCH QM370/CM246
- Dual channel DDR4, Max 48GB (ECC optional)
- High Speed I/O: 4 USB3.1 (Gen2), 8 PCIe1x1 (Gen3), 4 SATA (Gen3)
- Three Independent Symmetrical Displays (Up to 4K)
- Supports iManager, WISE-PaaS/RMM and Embedded Software APIs

Software APIs:



Watchdog



I²C



SMBus



H/W Monitor



GPIO

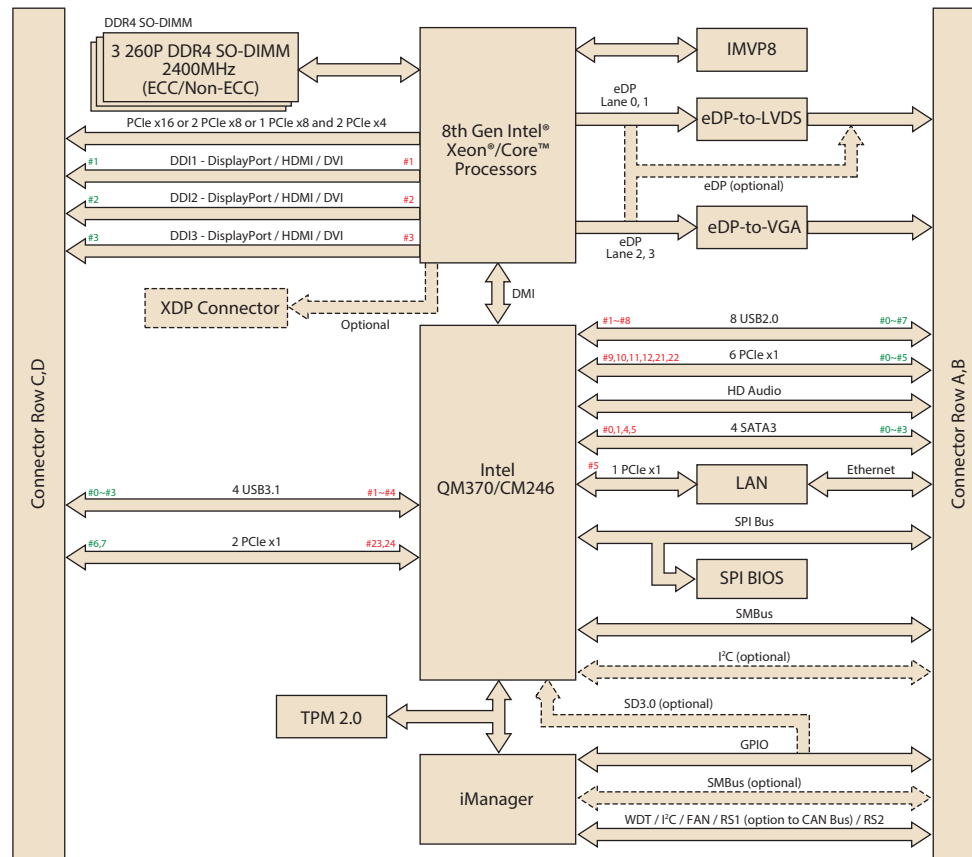


Brightness Control

Specifications

Form Factor	Form Factor	COM Express Basic Module			
	Pin-out Type	COM Express R3.0 Type 6 pin out			
Processor System	CPU	E-2176M	i7-8850H	i5-8400H	i3-8100H
	Base Frequency	2.7GHz	2.6GHz	2.5GHz	3.0GHz
	Turbo Boost Frequency	4.4GHz	4.3GHz	4.2GHz	N/A
	Core/Thread	6/12	6/12	4/8	4/4
	LLC	12MB	9MB	8MB	6MB
	CPU TDP	45W/35W	45W/35W	45W/35W	45W/35W
	Chipset	CM246	QM370	QM370	QM370
	BIOS	AMI 32MB, SPI			
Memory	Technology	DDR4 2400MT/s			
	ECC Support	ECC is supported with specific SKU			
	Max. Capacity	48GB			
Graphics	Socket	3 260P SO-DIMM: 2 on front side (channel 0&1) / 1 on rear side (channel 0)			
	Controller	Intel® UHD Graphics 630/P630			
	Max. Frequency	1200MHz			
	Graphic Memory	Shared Memory			
	3D/HW Acceleration	HW Encode: MPEG2, AVC/H264, VP8, JPEG, HEVC/H265, VP9 HW Decode: MPEG2, VC1/WMV9, AVC/H264, VP8, JPEG/MJPEG, JPEG/MJPEG, HEVC/H265 (10 bits & 8 bits), VP9			
Display	VGA	1920 x 1200@60Hz			
	LCD	LVDS dual channel: 1920 x 1200@60Hz (option support eDP 4096 x 2304@60Hz, 24bpp)			
	DDI	3 DDI ports support configurable HDMI/DVI/DisplayPort			
	Multiple Display	HDMI: 4096 x 2160@24Hz, DVI: 1920 x 1200@60Hz, DP: 4096 x 2304@60Hz Triple displays with each display combinations			
Expansion	PCI Express x16 (Gen3)	1 PCIe x16 configurable to 1 x16, 2 x8, 1 x8 + 2 x4			
	PCI Express x1 (Gen3)	8 PCIe x1, configurable to x4 or x2			
	Audio Interface	Intel HD Audio Interface			
	LPC	Yes			
Serial Bus	SMBus	Yes			
	I²C Bus	Yes			
	CAN Bus	Yes (Optional, co-layout with COM2)			
Ethernet	Controller	Intel I219			
	Speed	10/100/1000 Mbps			
I/O	SATA3.0	4 Ports (6Gbps)			
	USB3.1 (Gen2)	4 Ports (10Gbps)			
	USB2.0	8 Ports (480Mbps)			
	SPI Bus	Yes			
	GPIO	8 bits (Option support SD Card)			
	Watchdog	65536 level, 0~65535 sec			
	COM Port	2 Ports (2-wire)			
	TPM	TPM2.0 (Infineon SLB9665)			
Power	Smart Fan	2 Ports: 1 port on COM module (Notice: the input voltage of fan is aligned to Vin); 1 port on carrier board			
	Type	ATX: Vin, VSB; AT: Vin			
	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V			
Environment	Power Consumption	TBD			
	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			
Mechanical	Vibration Resistance	3.5 Grms			
	Dimensions	125 mm x 95 mm (4.92" x 3.74")			

Block Diagram



***Display Configuration Table**

	DDI 1	DDI 2	DDI 3	LVDS/eDP	VGA
Default	DP++	DP++	HDMI/DVI	LVDS	VGA
Option 1	DP++	DP++	HDMI/DVI	eDP (2-lane)	VGA
Option 2	DP++	DP++	DP++	eDP (4-lane)	None

Support maximum 3 independent displays simultaneously.

Ordering Information

Part No.	CPU	Freq.	Cores	CPU TDP	PCH	DDR4 Memory	Thermal Solution	Operating Temperature
SOM-5899E6C-U7A1	E-2176M	2.7	6	45W/35W	CM246	ECC/ non-ECC	Active	0 ~ 60 °C
SOM-5899C7Q-U6A1	i7-8850H	2.6	6	45W/35W	QM370	non-ECC	Active	0 ~ 60 °C
SOM-5899C5Q-U5A1	i5-8400H	2.5	4	45W/35W	QM370	non-ECC	Active	0 ~ 60 °C
SOM-5899C3Q-H0A1	i3-8100H	3.0	4	45W/35W	QM370	non-ECC	Active	0 ~ 60 °C
SOM-5899E6CX-U7A1	E-2176M	2.7	6	45W/35W	CM246	ECC/ non-ECC	Active	-40 ~ 85 °C
SOM-5899C7QX-U6A1	i7-8850H	2.6	6	45W/35W	QM370	non-ECC	Active	-40 ~ 85 °C
SOM-5899C5QX-U5A1	i5-8400H	2.5	4	45W/35W	QM370	non-ECC	Active	-40 ~ 85 °C
SOM-5899C3QX-H0A1	i3-8100H	3.0	4	45W/35W	QM370	non-ECC	Active	-40 ~ 85 °C

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

Packing List

Part No.	Description	Quantity
-	SOM-5899 CPU Module	1
1960081253T001	Heatspreader of SOM-5899	1

Optional Accessories

Part No.	Description
1960048820N001	Semi-Cooler 125 x 95 x 33 mm with 12V fan
1960073941T051	DHCS 125 x 95 x 43.7 mm with external 12V fan

Development Board

Part No.	Description
SOM-DB5830-00A1	COMe Devel. Board COMe R3.0 Type6 pin-out (SOM-DB5830)

Embedded OS

OS	Part No.	Description
Win10 (HL)	2070015300	Img Win10 IoT Ent_LTSB 64 bit (Xeon & Core i7)
Win10 (VL)	2070015301	Img Win10 IoT Ent_LTSB 64 bit (Core i5)