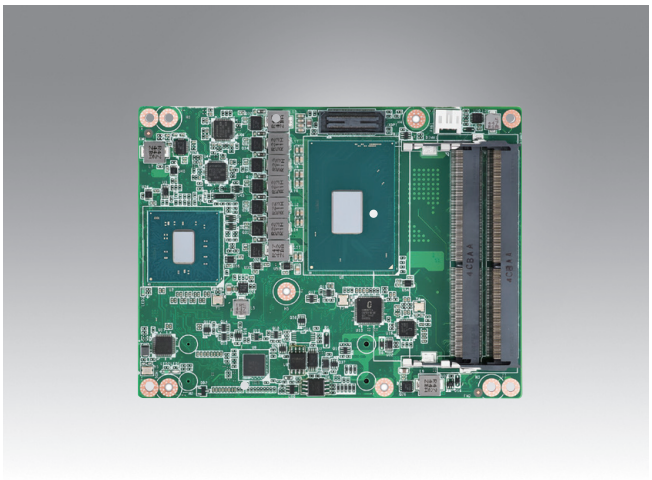
SOM-5897

6th Gen Intel Xeon/Core/Celeron Processors COM Express Basic Module Type 6



Features

- 6th Gen Intel Xeon/Core i7/i5/i3/Celeron + PCH QM170
- Dual DDR4 2133, 1.2V Low Power Memory, Max. 32GB
- Support XDP, TPM2.0
- Flexible I/O support: 8 PCIe x1(Gen3) with LAN, TPM2.0
- Supports iManager SUSIAccess, and Embedded Software APIs

Software APIs: Watchdog, I²C, SMBus, H/W Monitor, GPIO, Brightness

Utilities: BIOS flash, Monitoring, Embedded Security ID

Windows Embedded

iManager

Specifications

Compliance	Form-Factor	COM Express Basic Module									
	Pin-out Type	COM Express R2.1 Type 6 pin out									
Platform	Processor	i7-6820EQ	i7-6822EQ	i5-6440EQ	i5-6442EQ	i3-6100E	i3-6102E	G3900E	E3-1505M V5	E3-1505L V5	E3-1515M v5
	Base Frequency	2.8GHz	2.0GHz	2.7GHz	1.9GHz	2.7GHz	1.9GHz	2.4GHz	2.8GHz	2.0GHz	2.8GHz
	Turbo Boost Freq.	3.5GHz	2.8GHz	3.4GHz	2.7GHz	-	-	-	3.7GHz	2.8GHz	3.7GHz
	Core/Tread	4/8	4/8	4/4	4/4	2/4	2/4	2/2	4/8	4/8	4/8
	LLC	8	8	6	6	3	3	2	8	8	8
	CPU TDP	45W	25W	45W	25W	35W	25W	35W	45W	25W	45W
	Chipset	Core with QM170; Xeon with CM236									
	BIOS	AMI UEFI 128Mbit									
Memory	Technology	DDR4									
	ECC Support	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Support	Support	Support
	Channel/Socket	Dual Channels / 2 sockets									
	Max. Capacity	Up to 32GB									
Graphics	Controller	Intel Gen 9							Intel® HD Graphics P530		Intel® Iris™ Pro Graphics P580
	Base/Turbo Freq.	350/1000	350/1000	350/1000	350/1000	350/950	350/950	350/950	350/1050	350/1000	350/1000
	Graphics Memory	Intel DMVT5.0, share memory up to 1024MB									
	3D/HW Acceleration	HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264, Direct3D 12(2015)/11.2/11.1/10/9, Direct2D, OpenGL 4.4, OpenCL 2.0/1.2									
Display	VGA	1 port up to 1920 x 1200 @ 60 Hz									
	LCD	LVDS Dual Channel 18/24-bit, up to 1920 x 1200 @ 60Hz									
	DDI	2 Port configurable to HDMI1.4/DVI/Displayport1.2 HDMI up to 4096 x 2160@24Hz, DVI up to 1920 x 1200@60Hz, DP up to 4096 x 2304 @ 60Hz									
	Multiple Display	Dual display, Triple display with each display combinations									
Expansion	PCI Express x16	1 PCIe x16 configurable to 1 x16, 2 x8, 1 x8 + 2 x4									
	PCI Express x1	8 PCIe x1, configurable to x4 or x2									
	Audio Interface	Intel HD Audio Interface									
	LPC	Yes									
Serial Bus	SMBus	Yes									
	I²C Bus	Yes									
Ethernet	Controller	Intel i219									
	Speed	10/100/1000 Mbps									
I/O	SATA	4 SATAIII 6.0Gb/s									
	USB3.0	4 Ports									
	USB2.0	8 Ports									
	SPI Bus	Yes									
	GPIO	8-bit									
	Watchdog	65536 level, 0~65535 sec									
	COM Port	2 Ports (2-wire)									
	Express Card	2 Ports									
	TPM	Optional TPM2.0 (Infineon SLB9665)									
	Smart Fan	2 Ports; 1 port on COM module. Support 12V Fan, 1 port on carrier board									
Power	Type	ATX: Vin, VSB; AT: Vin									
	Supply Voltage	Vin: 8.5V (9V-5%) ~ 20V (19+5%); VSB: 5 +/-5%, RTC Battery: 2.0~3.3V									
	Power Consumption	Max: (16GB DDR4 2133) i7-6820EQ +12V @ 43.3W Idle: (16GB DDR4 2133) i7-6820EQ +12V @ 5.23W *Only for reference and will depends on custom software loading, detail refer to user manual									
Environment	Temperature	Operating Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~ 85° C (-40 ~ 185° F)				Storage -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 x 95 mm (4.92" x 3.74")									

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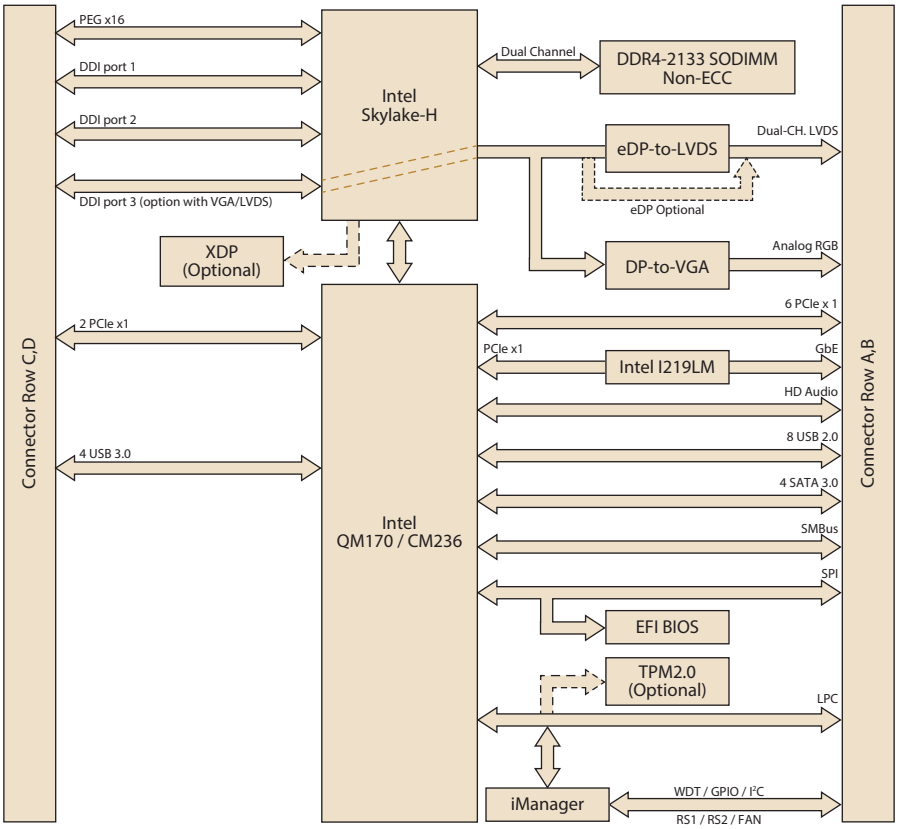
All product specifications are subject to change without notice.

Block Diagram



Ordering Information

Part No.	CPU	Freq.	Core	CPU TDP	LLC	DDR4 Memory	Thermal Solution	Operating Temperature
SOM-5897C7-U8A2	i7-6820EQ	2.8 GHz	4	45W	8	non-ECC	Active	0 ~ 60 °C
SOM-5897C7-U0A2	i7-6822EQ	2.0 GHz	4	25W	8	non-ECC	Active	0 ~ 60 °C
SOM-5897C5-U7A2	i5-6440EQ	2.7 GHz	4	45W	6	non-ECC	Active	0 ~ 60 °C
SOM-5897C3-U7A2	i3-6100E	2.7 GHz	2	35W	3	non-ECC	Active	0 ~ 60 °C
SOM-5897C3-S9A2	i3-6102E	1.9 GHz	2	25W	3	non-ECC	Active	0 ~ 60 °C
SOM-5897CR-U4A2	G3900E	2.4 GHz	2	35W	2	non-ECC	Active	0 ~ 60 °C
SOM-5897E4C-U8A2	E3-1515M V5	2.8 GHz	4	45W	8	ECC	Active	0 ~ 60 °C
SOM-5897E4C-U7A2	E3-1505M V5	2.8 GHz	4	45W	8	ECC	Active	0 ~ 60 °C
SOM-5897E4C-U0A2	E3-1505L V5	2.0 GHz	4	25W	8	ECC	Active	0 ~ 60 °C
SOM-5897C7X-U0A2	i7-6822EQ	2.0 GHz	4	25W	8	non-ECC	Active	-40 ~ 85 °C
SOM-5897E4X-U8A2	E3-1515M V5	2.8 GHz	4	45W	8	ECC	Active	-40 ~ 85 °C

Development Board

Part No.	Description
SOM-DB5800-00A2E	COMe Devel. Board Type6 pint-out Rev. A2

Packing List

Part No.	Description	Quantity
-	SOM-5897 CPU module	1
1960073944N001	Heatspreader	1

Optional Accessories

Part No.	Description
1960048820N001	Semi-Cooler 125 x 95 x 33 mm with 12V FAN
1960094209T001	QFCS 125 x 95 x 26.29 mm

* Test conditions follow Advantech regulations and procedures.
* QFCS: Quadro Flow Cooling System

Embedded OS

OS	Part No.	Description
Win10 IoT LTSB	2070015177	Img Win10 IoT Ent_LTSB 64 bit