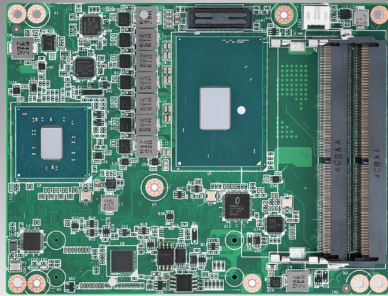


# SOM-5897

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

**NEW**



Windows Embedded

iManager susiAccess CE FCC

### Features

- 6th Gen Intel 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 Control

#### Utilities:



BIOS flash



Monitoring

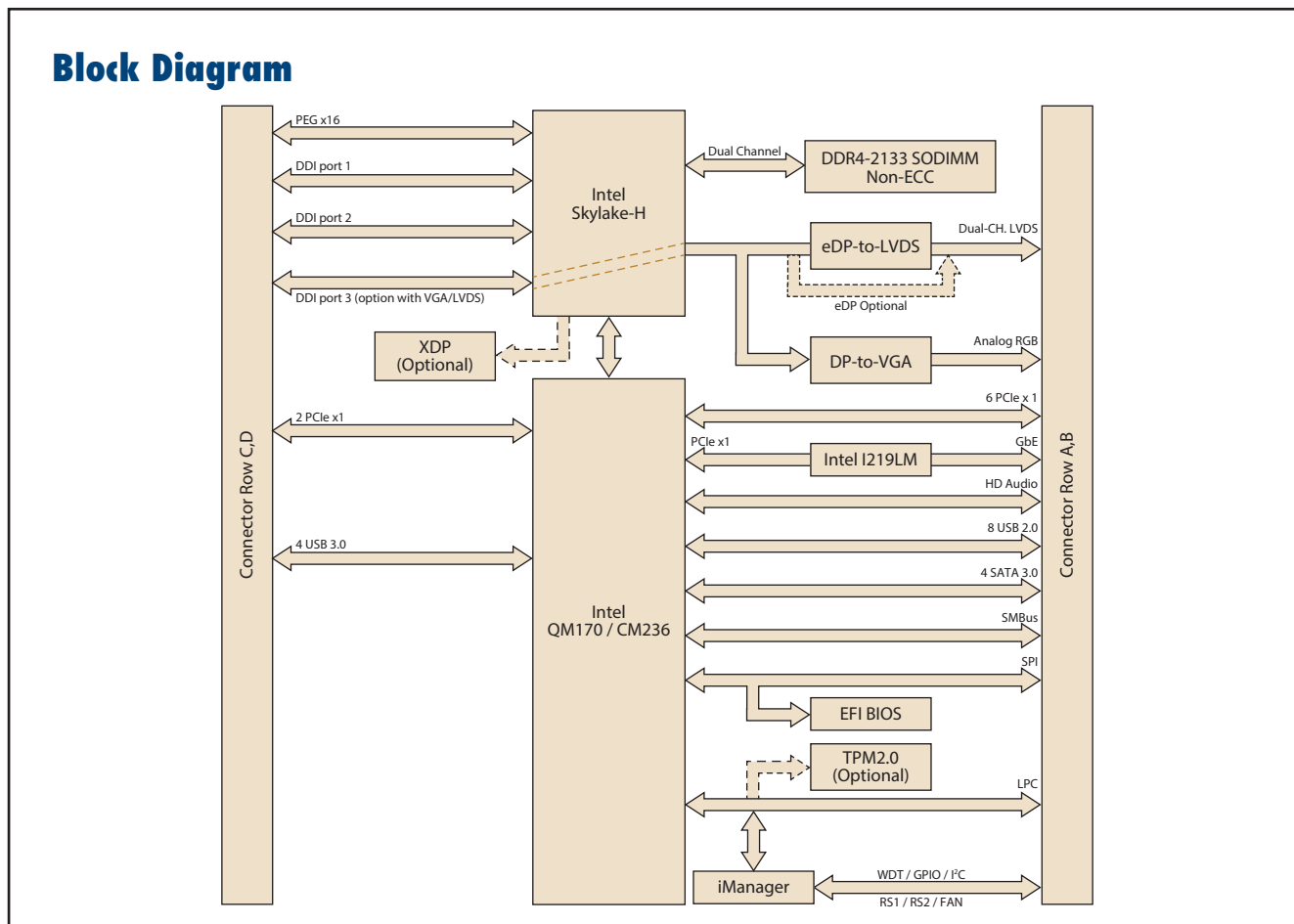


Embedded Security ID

### 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	QM170									
	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 DMV15.0, share memory up to 1024MB									
Display	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									
	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									
Expansion	Multiple Display	Dual display, Triple display with each display combinations									
	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									
Serial Bus	LPC	Yes									
	SMBus	Yes									
Ethernet	I2C Bus	Yes									
	Controller	Intel i219									
I/O	Speed	10/100/1000 Mbps									
	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)									
Power	Smart Fan	2 Ports; 1 port on COM module. Support 12V Fan, 1 port on carrier board									
	Type	ATX: Vin, VSB; AT: Vin									
Power	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")									

## Block Diagram



## Ordering Information

Part No.	CPU	Freq.	Core	CPU TDP	LLC	DDR4 Memory	Thermal Solution	Operating Temperature
SOM-5897C7-U8A1E	i7-6820EQ	2.8 GHz	4	45W	8	non-ECC	Active	0 ~ 60 °C
SOM-5897C7-U0A1E	i7-6822EQ	2.0 GHz	4	25W	8	non-ECC	Active	0 ~ 60 °C
SOM-5897C5-U7A1E	i5-6440EQ	2.7 GHz	4	45W	6	non-ECC	Active	0 ~ 60 °C
SOM-5897C5-S9A1E	i5-6442EQ	1.9 GHz	4	25W	6	non-ECC	Active	0 ~ 60 °C
SOM-5897C3-U7A1E	i3-6100E	2.7 GHz	2	35W	3	non-ECC	Active	0 ~ 60 °C
SOM-5897C3-S9A1E	i3-6102E	1.9 GHz	2	25W	3	non-ECC	Active	0 ~ 60 °C
SOM-5897CR-U4A1E	G3900E	2.4GHz	2	35W	2	non-ECC	Active	0 ~ 60 °C
SOM-5897E4C-U7A1E	E3-1505M V5	2.8GHz	4	45W	8	ECC	Active	0 ~ 60 °C
SOM-5897E4C-U0A1E	E3-1505L V5	2.0GHz	4	25W	8	ECC	Active	0 ~ 60 °C
SOM-5897E4C-U8A1E	E3-1515M V5	2.8GHz	4	45W	8	ECC	Active	0 ~ 60 °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
1960073941T001	Dynamic Heat Conduction System Cooler SKL-H 125 x 95 x 28.3 mm with 12V FAN

\* Test conditions follow Advantech regulations and procedures.

## Embedded OS

OS	Part No.	Description
TBD		TBD