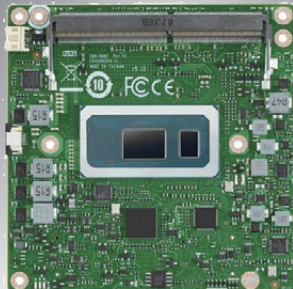


# SOM-6882

## 8th Generation Intel® Core™ Processor U-Series U-Series Celeron 4000 Series COM Express Compact Module Type 6

**NEW**



### Features

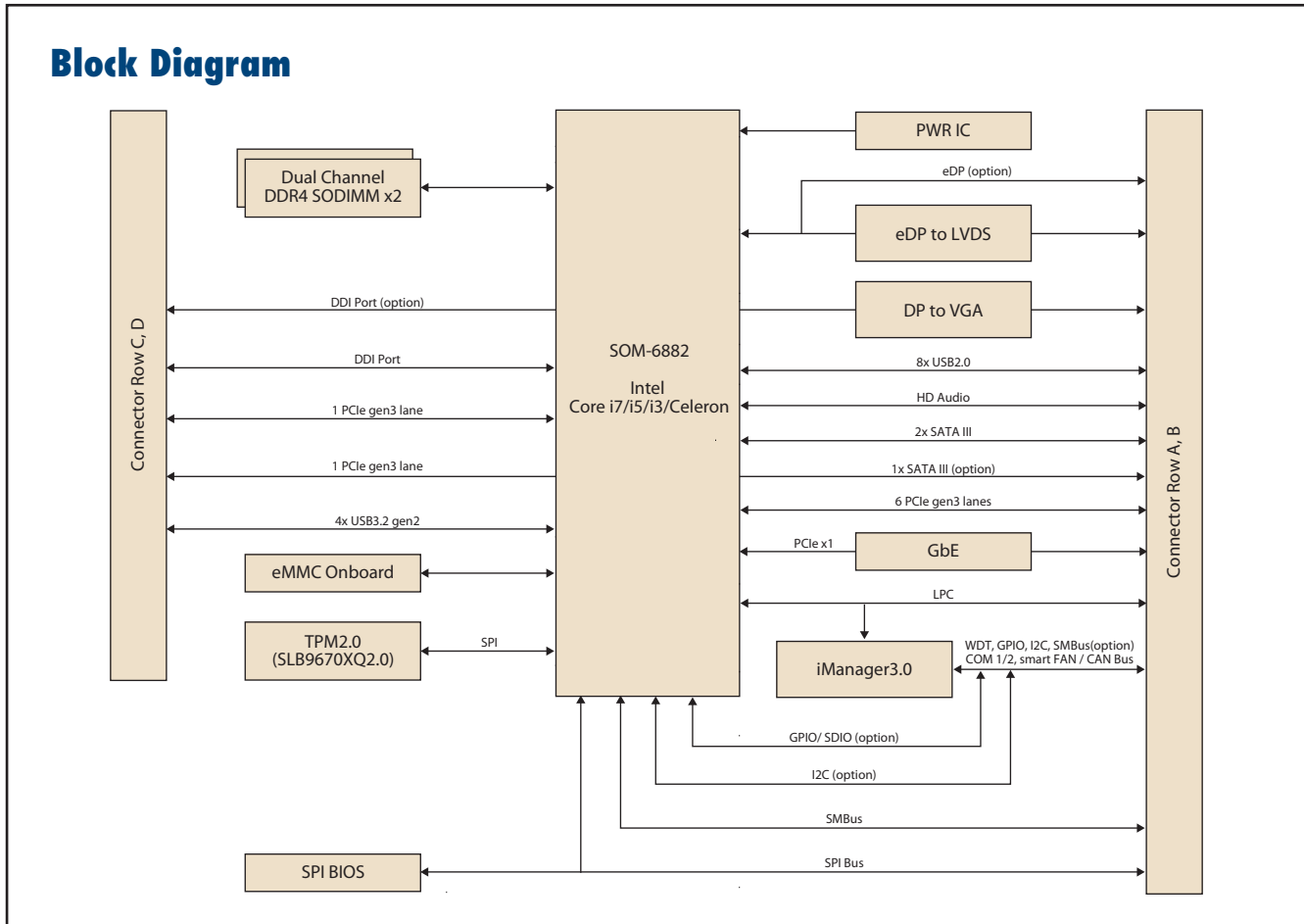
- 8th Generation Intel® Core™ Processor U-Series
- COM Express R3.0 Compact module Type 6 Pinout
- Dual channel DDR4 SODIMM, max. 64GB
- High speed I/Os: 4 USB3.2 gen2, 8 PCIe gen3 lanes and 2 SATAIII
- On board storage eMMC 32GB, TPM2.0
- Supports iManager, embedded software APIs and WISE-PaaS/DeviceOn



### Specifications

Form Factor	Form Factor	COM Express Compact Module			
	Pin-out Type	COM Express R3.0 Type 6 compatible			
Processor System	CPU	i7-8665UE	i5-8365UE	i3-8145UE	4305UE
	Base Frequency	1.7 GHz	1.6 GHz	2.2 GHz	2.0 GHz
	Max Single Core Turbo Frequency	4.4 GHz	4.1 GHz	3.9 GHz	N/A
	Cores	4	4	2	2
	LLC	8MB	6MB	4MB	2MB
	CPU TDP	15W	15W	15W	15W
	BIOS	AMI UEFI 256Mbit			
Memory	Technology	DDR4 up to 2400 MT/s			
	Speed	2400 MT/s	2400 MT/s	2400 MT/s	2133 MT/s
	ECC Support	Non-ECC			
	Max. Capacity	up to 64GB			
	Socket	2 260P SO-DIMM (Dual Channel)			
Graphics	Controller	Intel® UHD Graphics 620	Intel® UHD Graphics 620	Intel® UHD Graphics 620	Intel® UHD Graphics 610
	Max. Frequency	1.15 GHz	1.05 GHz	1.0 GHz	1.0 GHz
	Graphic Memory	Shared Memory			
	3D/HW Acceleration	HW Encode: H.264/AVC, VP8, VP9, H.265/HEVC 8 bit, H.265/HEVC 10 Bit, MPEG2, MJPEG HW Decode: H.264/AVC, VP8, VP9, VP9 10 Bit, H.265/HEVC 8 bit, H.265/HEVC 10 Bit, MPEG2, MJPEG, VC-1			
Display	VGA	1920 x 1200 @ 60Hz			
	LCD	LVDS dual channel: 1920 x 1200 @ 60Hz (option support eDP 4096 x 2304 @ 60Hz, 24bpp)			
	DDI	Up to 2 DDI ports support configurable HDMI/Display Port HDMI: 4096 x 2160 @ 24Hz, DVI: 1920 x 1200 @ 60Hz, DP: 4096 x 2304 @ 60Hz			
	Multiple Display	Triple displays with each display combinations			
Expansion	PCI Express x16 (Gen3)	Not available			
	PCI Express x1 (Gen3)	Default: 4 PCIe x1 + 1 PCIe x4 (Support 8 lanes and up to 6 devices by optional)			
	LPC	Yes. Clock Freq.: 24MHz			
Serial Bus	SMBus	Yes			
	I2C Bus	Yes			
Ethernet	Gigabit	Intel I219LM controller ; Speed: 10/100/1000 Mbps			
I/O	SATA3.0	Up to 3 Ports (6Gbps), 1 port is optional with PCIe x1			
	USB3.2 (Gen2)	4 Ports (10 Gbps)			
	USB2.0	8 Ports (480 Mbps)			
	Onboard Storage	32GB eMMC			
	SPI Bus	Yes. For BIOS EEPROM			
	GPIO	8-bit GPIO			
	Watchdog	65536 level, 0 – 65535 sec			
	COM Port	2 Ports (2-Wire)			
	TPM	TPM2.0			
	Smart Fan	2 Ports: 1 port on COM module (Notice: the input voltage of fan is aligned to Vin); 1 port on carrier board			
Power	Type	ATX: Vin, VSB; AT: Vin			
	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V			
	Power Consumption (Max.)	59.721 W			
	Power Consumption (Idle)	4.204 W			
Environment	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °F) Extended: -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	95 x 95 mm (3.74" x 3.74")			

## Block Diagram



## Ordering Information

P/N	CPU	Cores	Freq. (Base/Turbo)	CPU TDP	Onboard eMMC	LLC	LVDS/eDP	Giga LAN	PCIe x1	USB 2.0	USB 3.2 (Gen2)	SATA 3.0	LPC	Power	Thermal Solution	Operating Temperature
SOM-6882C7-S7A1	CORE I7-8665UE	4	1.7 / 4.4	15W	32GB	8MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882C7A-S7A1	CORE I7-8665UE	4	1.7 / 4.4	15W	32GB	8MB	eDP	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882C5-S6A1	CORE I5-8365UE	4	1.6 / 4.1	15W	32GB	6MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882C3-U2A1	CORE I3-8145UE	2	2.2 / 3.9	15W	32GB	4MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882C3A-U2A1	CORE I3-8145UE	2	2.2 / 3.9	15W	32GB	4MB	eDP	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882CR-U0A1	CELERON 4305UE	2	2.0 / N/A	15W	32GB	2MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	0 ~ 60 °C
SOM-6882C7X-S7A1	CORE I7-8665UE	4	1.7 / 4.4	15W	32GB	8MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	-40 ~ 85 °C
SOM-6882C5X-S6A1	CORE I5-8365UE	4	1.6 / 4.1	15W	32GB	6MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	-40 ~ 85 °C
SOM-6882C3X-U2A1	CORE I3-8145UE	2	2.2 / 3.9	15W	32GB	4MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	-40 ~ 85 °C
SOM-6882CRX-U0A1	CELERON 4305UE	2	2.0 / N/A	15W	32GB	2MB	LVDS	1	8	4	4	2	YES	AT/ATX	Active	-40 ~ 85 °C

Any other SKUs or combination has project-based support. Please contact sales team for details.

## Development Board

Part No.	Description
SOM-DB5830-00A1	COMe R3.0 Devel. Board Type6 Rev. A1
SOM-DB5830A-00A1	COMe R3.0 Devel. Board Type6 Rev.A1 w/eDP

## Optional Accessories

Part No.	Description
1960048819N001	Semi-Cooler 95 x 95 x 33.5 mm with 12V Fan

## Packing List

Part No.	Description	Quantity
1960093586N000	Heatspreader	1

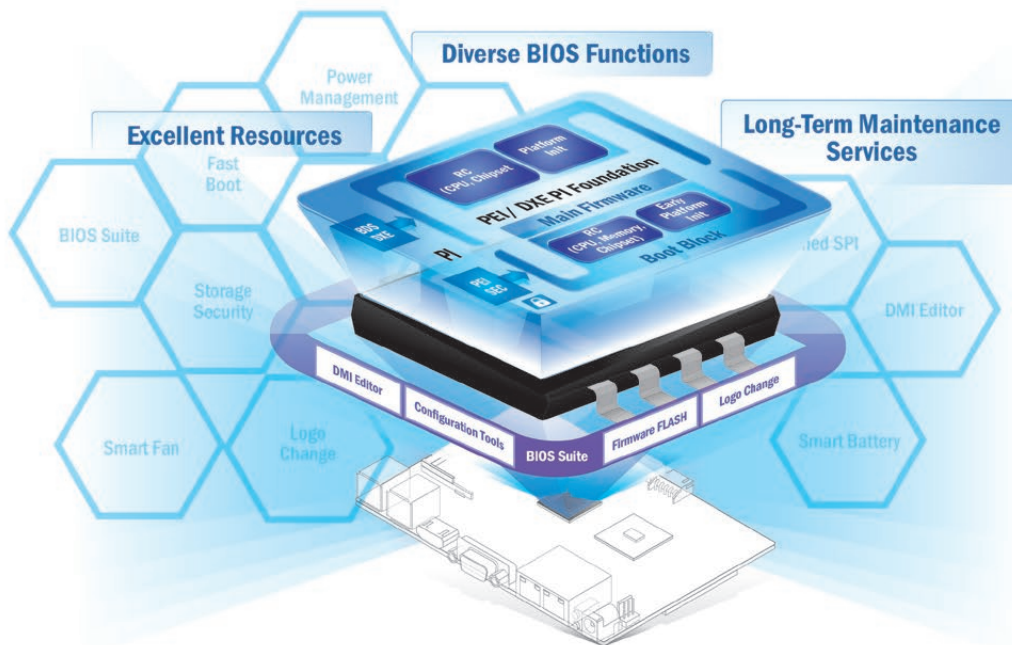
## Embedded OS

OS	P/N	Description
Win10	20706WX9ES0066	Win10 IoT 2019 Enterprise LTSC Entry

# Reliable Embedded BIOS Solutions

Custom BIOS services with long-term support

Advantech's high-quality embedded BIOS solutions deliver rapid execution and feature expert BIOS team support. These solutions feature multi-functional designs that ensure security and enable power/boot management. Advantech further provides 10+ years of BIOS version management, internal management, and longevity support for both hardware and BIOS — enhancing application efficiency, diversifying functionality, and optimizing performance.



## Embedded BIOS Solution Advantages

### Sufficient Sources

- Strong partnership with BIOS vendors
- 50+ engineers with extensive industrial BIOS experience

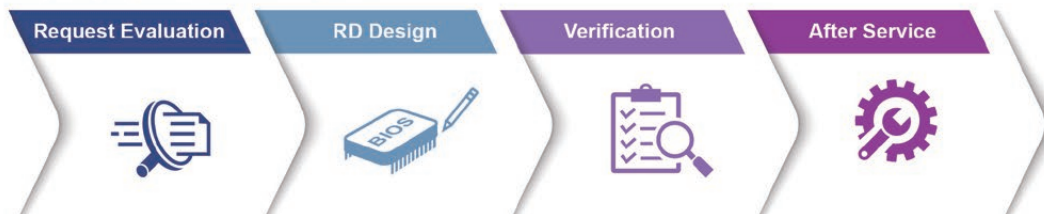
### Diverse BIOS Functions

- Multi-layer security
- 3 second fast boot
- Power management
- BIOS suite utility

### Long-Term Maintenance Services

- Platform longevity support
- 10-year BIOS version control
- BIOS remote backup

## Value-Added Customization Process



# WISE-DeviceOn

## Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



### Features

Comprehensive Management	Remote Access	Efficient Operations
<ul style="list-style-type: none"> <li>• Devices status</li> <li>• Peripherals/firmware</li> <li>• Open for extension</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time monitoring</li> <li>• Remote controls</li> <li>• Troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Zero-touch on-boarding</li> <li>• OTA updates</li> <li>• Batch control</li> </ul>

### Product Highlights



**SOM-6883**

High-performance 11<sup>th</sup> Gen Intel<sup>®</sup> COMe Type 6 Module



**MIO-5375**

Compact 11<sup>th</sup> Gen Intel<sup>®</sup> Outdoor Focused 3.5" SBC



**EPC-B5587**

10<sup>th</sup> Gen Intel<sup>®</sup> Xeon<sup>®</sup> based Edge server



**EPC-R3220**

Arm based IoT Edge Gateway

# Edge AI Suite

AI development for diverse application at the Edge

Increasing demand for AI inference/analytic capabilities at the Edge make AI training models, software development environments, and hardware configuration key factors in successful solution deployment. Advantech's Edge AI Suite helps users build AI demo devices quickly and choose optimal hardware solutions easily.



5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
<ul style="list-style-type: none"> <li>Integrated Intel® OpenVINO™ technology</li> <li>Boost AI using Advantech hardware</li> </ul>	<ul style="list-style-type: none"> <li>Build AI environment in under 5 minutes</li> <li>Ready-to-use configuration</li> </ul>	<ul style="list-style-type: none"> <li>User friendly configuration guidance</li> <li>One-click Benchmark acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Easy access to 100+ AI inference extensions</li> <li>Software development package available</li> </ul>	<ul style="list-style-type: none"> <li>Diverse CPU/RAM options</li> <li>Find hardware solutions for AI development</li> </ul>

# Embedded Linux Support and Design-in Services

## Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



### Features

Certified OS and BSP	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
<ul style="list-style-type: none"> <li>Platform compatibility tests</li> <li>Preloaded functional driver and software stacks</li> </ul>	<ul style="list-style-type: none"> <li>License authorized Canonical delivers 10-years of bug fixes and security updates</li> <li>In-house bundled service</li> </ul>	<ul style="list-style-type: none"> <li>Containerized technology for service provision and deployment</li> <li>AI resources from Caffe, TensorFlow, and mxnet</li> </ul>	<ul style="list-style-type: none"> <li>Embedded Linux and Android Alliance (ELAA)</li> </ul>