



SOM-6883 11th Gen. Intel Core Processor User Guide

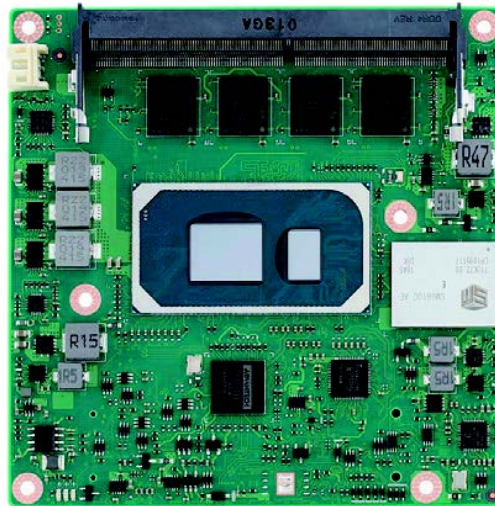
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SOM-6883 11th Gen. Intel Core Processor



Features

- 11th Gen. Intel® Core™ Processor U-Series
- COM Express R3.0 Compact Module Type 6 Pinout
- Dual channel with one memory down and one SO-DIMM
- High speed I/O: 1 PCIe x4 Gen4, 5 PCIe x1 Gen3, 4 USB3.2 Gen2
- Onboard NVMe x4 SSD up to 64GB, TPM2.0
- Supports SUSI, DeviceOn and Edge AI Suite

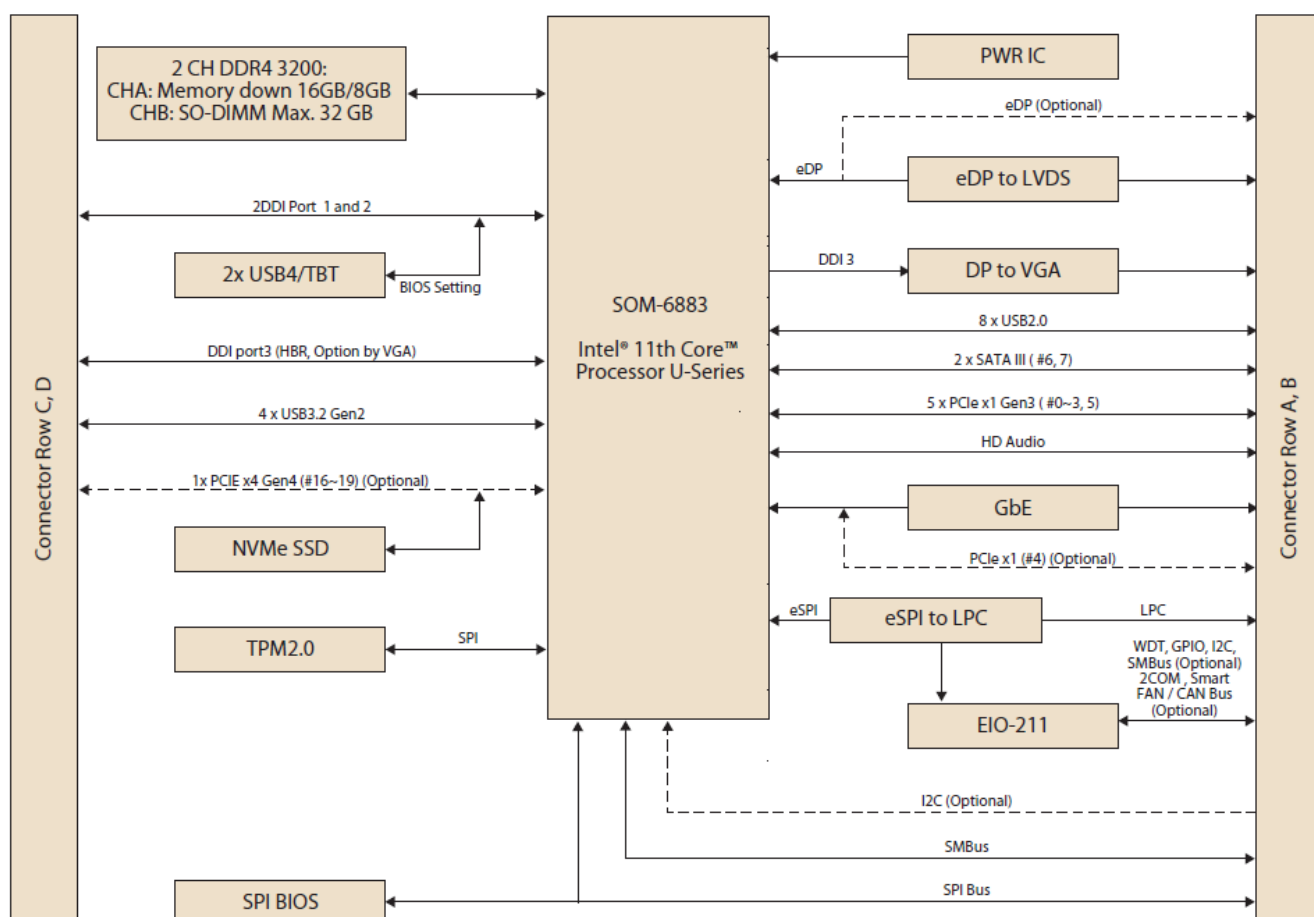
Specifications

Form Factor	Form Factor		COM Express Compact Module			
	Pin-out Type		COM Express R3.0 Type 6 compatible			
Processor System	CPU Core™	C	Core™ Celeron® i5-1145G7E	Core™ i3-1115G4E	Core™ i5-1145G7E	Core™ i3-1115G7E
	Base Frequency	1.8GHz 1.5GHz	1.8GHz 2.2GHz	1.5GHz	2.2GHz	1.8GHz
	Turbo Frequency	4.4GHz 4.1GHz	4.4GHz 3.9GHz	4.1GHz	3.9GHz	N/A
	Cores	4 2	4	2	2	4
	Cache	8 MB 6 MB	12 MB	8 MB	6 MB	4 MB 12 M
	CPU TDP	15W 15W	15W	15W	15W	15W

	Configurable TDP-up Frequency 28W 28W 28W			28W	28W	28W	N/A
	Configurable TDP-down Frequency 12W 12W 12W			12W	12W	12W	N/A
Memory	Technology			DDR4, Dual-channel memory,up to 3200 MT/s			
	ECC Support			IB ECC supported by Industrial SKU			
	Onboard Memory			16GB/8GB			
	SODIMM Memory			up to 32 GB by one SODIMM Socket			
Graphics	Controller			Intel® Iris® Xe Graphics/Intel® UHD Graphics			
	Graphics Max Dynamic Frequency Hz 1.35GHz 1.30GHz 1.25GHz			1.35GHz	1.30GHz	1.25GHz	1.25G
	HW Encode: Supports AVC, MPEG-2, HEVC, and VP9.						
	2D&3D/HW Acceleration			HW Decode: Supports Direct3D* 9 Video API (DXVA2),Dir ect3D12 Video API,Intel Media SDK,MFT (Media Foundation Transform) filters,Intel VA API			
Display	VGA			1920 x 1200@60Hz			
	LCD			LVDS dual channel: 1920 x 1200@60Hz (option support eDP 4096 x 2304@60Hz, 24bpp)			
	3 DDI ports support configurable HDMI/DisplayPort						
	DDI			-HDMI 2.0b: 4Kx2K 48-60Hz 24bpp -DisplayPort 1.4: 4096×2304 60Hz 36bpp			
	Multiple Display			Four displays with each display combinations			
Expansion	PCI Express x1 (Gen3)			5 PCIe x1 (Up to 6 by option)			
Serial Bus	SMBus			Yes			
	I2C Bus			Yes			
Ethernet	Gigabit s			Intel I225 IT controller ; Speed: 10M / 100M / 1000M / 2.5G speed			
I/O	SATA3.0			2 Ports (6Gbps)			
	USB3.2 (Gen2)			4 Ports (10 Gbps)			
	USB2.0			8 Ports (480 Mbps)			
	LPC			Yes			
	SPI Bus			Yes			
	GPIO			8-bit GPIO			
	Watchdog			65536 level, 0 ~ 65535 sec			
	CAN Bus			Support one CAN Bus option from COM Port			
	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 V	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3 V
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	95 x 95 mm (3.74" x 3.74")

Block Diagram



Ordering Information

P/N	CPU	Cores	CPU TDP	Onboard Memory	Onboard NVM	PCIe x4 GEN4	eDP/LVDS	IBEC C Supported	Power	Thermal Solution	Operating Temperature
SOM-6883C7A-S8A1	Core™ i7-1185G7E	4	15W	16GB	32GB	N/A	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883C7-S8A1	Core™ i7-1185G7E	4	15W	16GB	N/A	Yes	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883C5-S5A1	Core™ i5-1145G7E	4	15W	8GB	N/A	Yes	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883C3-U2A1	Core™ i3-1115G4E	2	15W	N/A	N/A	Yes	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883C3A-U2A1	Core™ i3-1115G4E	2	15W	N/A	N/A	Yes	eDP	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883CR-S8A1	Celeron® 6305E	2	15W	N/A	N/A	Yes	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C
SOM-6883R7X-S8A1	Core™ i7-1185GRE	4	15W	16GB	32GB	N/A	LVDS	Yes	AT/ATX	Active	-40 ~ 85 °C
SOM-6883R5X-S5A1	Core™ i5-1145GRE	4	15W	8GB	N/A	Yes	LVDS	Yes	AT/ATX	Active	-40 ~ 85 °C
SOM-6883R3X-U2A1	Core™ i3-1115GRE	2	15W	NA	N/A	Yes	LVDS	Yes	AT/ATX	Active	-40 ~ 85 °C
SOM-6883C3B-U2A1 (for MZ10)	Core™ i3-1115G4E	2	15W	N/A	N/A	N/A	LVDS	N/A	AT/ATX	Active	0 ~ 60 °C

Development Board

Part No.	Description
SOM-DB5830-00A2	COMe Devel. Board COMe R3.0 Type6 pin-out (SOM-DB5830A2)

Packing List

Part No.	Description	Quantity
1970004766T001	Heatspreader of SOM-6883	

Optional Accessories

Part No.	Description
1970004870T001	Semi-Cooler 95 x 95 x 33 mm with 12V Fan
1970004871T001	QFCS 95 x 95 x 26 mm

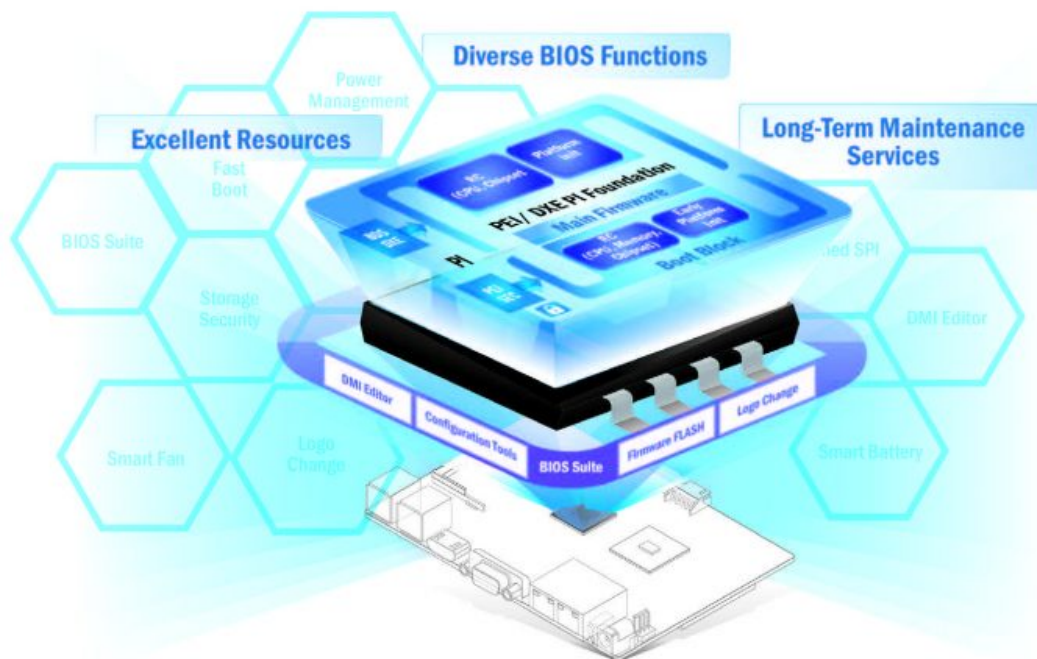
Embedded OS

OS	Part No.	Description
Win10	20706WX9HM0018	img W10 19HL SOM-6883 64b 1809 ENU (Audio_NV)

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
• Devices status • Peripherals/firmware • Open for extension	• Real-time monitoring • Remote controls • Troubleshooting	• Zero-touch on-boarding • OTA updates • Batch control

Product Highlights



SOM-6883

High-performance 11th Gen Intel®
COMe Type 6 Module



MIO-5375

Compact 11th Gen Intel® Outdoor
Focused 3.5" SBC



EPC-B5587

10th Gen Intel® Xeon® 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.

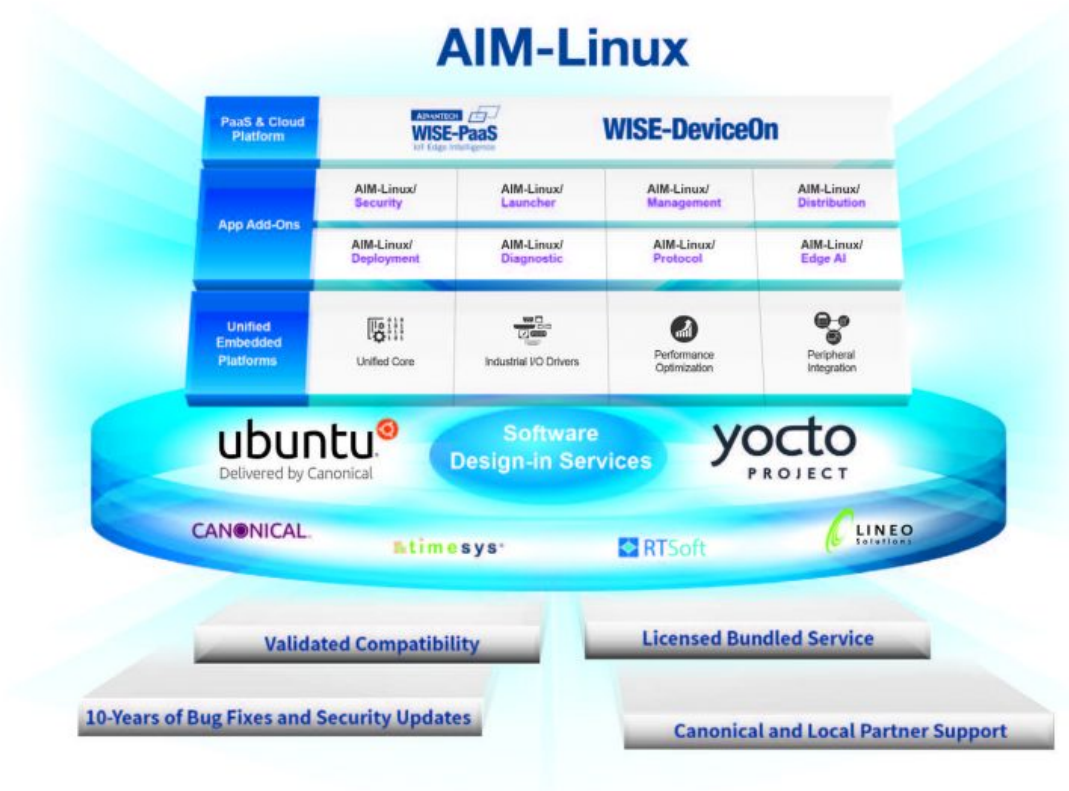


5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
- Integrated Intel® OpenVINO™ technology - Boost AI using Advantech hardware	- Build AI environment in under 5 minutes - Ready-to-use configuration	- User friendly configuration guidance - One-click Benchmark acquisition	- Easy access to 100+ AI inference extensions - Software development package available	- Diverse CPU/RAM options - Find hardware solutions for AI development

Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

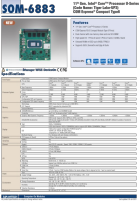
Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated 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
- Platform compatibility tests - Preloaded functional driver and software stacks	- License authorized Canonical delivers 10-years of bug fixes and security updates - In-house bundled service	- Containerized technology for service provision and deployment - AI resources from Caffe, TensorFlow, and mxnet	Embedded Linux and Android Alliance (ELAA)

Documents / Resources

	intel SOM-6883 11th Gen. Intel Core Processor [pdf] User Guide SOM-6883, 11th Gen. Intel Core Processor
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References

- [▲ Advantech Co-Creating the Future of the IoT World](#)

Manuals+.