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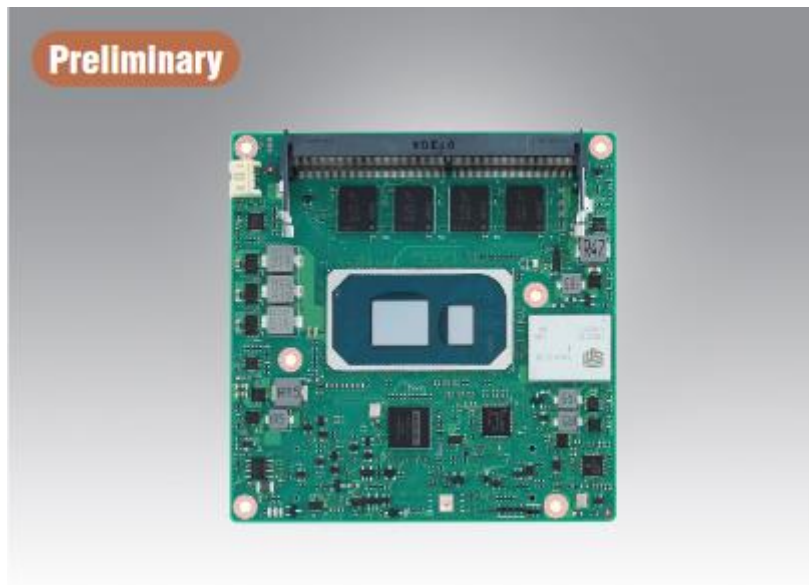


Datasheet

ADVANTECH

SOM-6883

COM Express® Compact Type 6 Computer-on-Module with
11th Gen. Intel® Tiger Lake Core® i & Celeron® Processor

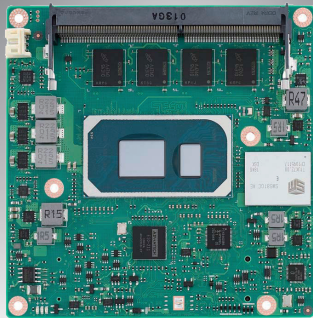


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SOM-6883

11th Gen. Intel® Core™ Processor U-Series (Code Name: Tiger Lake-UP3) COM Express® Compact Type6

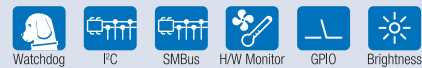
Preliminary



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 iManager, Embedded Software APIs and WISE-DeviceOn

Software APIs:

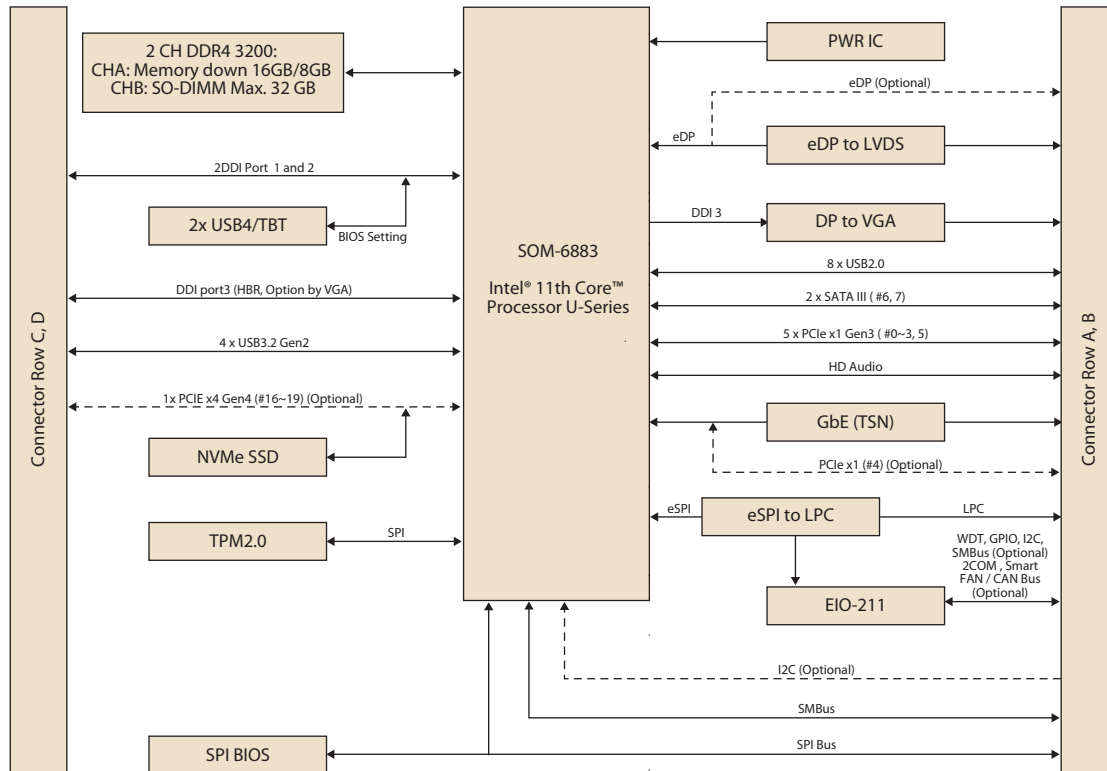


Windows Embedded **iManager WISE-DeviceOn** CE FC

Specifications

Form Factor	Form Factor	COM Express Compact Module							
	Pin-out Type	COM Express R3.0 Type 6 compatible							
Processor System	CPU	Core™ i7-1185G7E	Core™ i5-1145G7E	Core™ i3-1115G4E	Celeron® 6305E	Core™ i7-1185GRE	Core™ i5-1145GRE	Core™ i3-1115GRE	Celeron® 6305RE
	Base Frequency	1.8GHz	1.5GHz	2.2GHz	1.8GHz	1.8GHz	1.5GHz	2.2GHz	1.8GHz
	Turbo Frequency	4.4GHz	4.1GHz	3.9GHz	N/A	4.4GHz	4.1GHz	3.9GHz	N/A
	Cores	4	4	2	2	4	4	2	2
	Cache	12 MB	8 MB	6 MB	4 MB	12 MB	8 MB	6 MB	4 MB
	CPU TDP	15W	15W	15W	15W	15W	15W	15W	15W
	Configurable TDP-up Frequency	28W	28W	28W	N/A	28W	28W	28W	N/A
Configurable TDP-down Frequency	12W	12W	12W	N/A	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							
Graphics	SODIMM Memory	up to 32 GB by one SODIMM Socket							
	Controller	Intel® Iris® Xe Graphics/Intel® UHD Graphics							
	Graphics Max Dynamic Frequency	1.35GHz	1.30GHz	1.25GHz	1.25GHz	1.35GHz	1.30GHz	1.25GHz	1.25GHz
Display	2D&3D/HW Acceleration	HW Encode: Supports AVC, MPEG-2, HEVC, and VP9. HW Decode: Supports Direct3D® 9 Video API (DXVA2), Direct3D12 Video API, Intel Media SDK, MFT (Media Foundation Transform) filters, Intel VA API							
	VGA	1920 x 1200@60Hz							
	LCD	LVDS dual channel: 1920 x 1200@60Hz (option support eDP 4096 x 2304@60Hz, 24bpp)							
Expansion	DDI	3 DDI ports support configurable HDMI/DisplayPort -HDMI 2.0b: 4Kx2K 48-60Hz 24bpp -DisplayPort 1.4: 4096x2304 60Hz 36bpp							
	Type C	DP 1.4 (option from USB Type-C); HDMI 2.0b (Native); Up to 4ports							
	Multiple Display	Four displays with each display combinations							
Serial Bus	PCI Express x1 (Gen3)	5 PCIe x1 (Up to 6 by option)							
	SMBus	Yes							
Ethernet	I2C Bus	Yes							
	Gigabit	Intel i225 IT controller; Speed: 10M / 100M / 1000M / 2.5G speeds (2.5G TSN optional)							
I/O	TSN	Support by i225 (Industrial SKU only)							
	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)							
Power	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							
Environment	Type	ATX: Vin, VSB; AT: Vin							
	Supply Voltage	Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V							
	Operating Temperature	Standard: 0 ~ 60 °C (32 ~ 140 °F) Extend: -40 ~ 85 °C (-40 ~ 185 °F)							
Mechanical	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 NVMe	PCIe x4 GEN4	eDP/LVDS	ECC Memory Supported	IBECC Supported	Intel vPro® Platform	Power	Thermal Solution	Operating Temperature
SOM-6883C7A-S8A1	Core™ i7-1185G7E	4	15W	16GB	32GB	N/A	LVDS	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883C7-S8A1	Core™ i7-1185G7E	4	15W	16GB	N/A	Yes	LVDS	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883C5-S5A1	Core™ i5-1145G7E	4	15W	8GB	N/A	Yes	LVDS	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883C3-U2A1	Core™ i3-1115G4E	2	15W	N/A	N/A	Yes	LVDS	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883C3A-U2A1	Core™ i3-1115G4E	2	15W	N/A	N/A	Yes	eDP	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883CR-S8A1	Celeron® 6305E	2	15W	N/A	N/A	Yes	LVDS	N/A	N/A	N/A	AT/ATX	Active	0 - 60 °C
SOM-6883R7X-S8A1	Core™ i7-1185GRE	4	15W	16GB	32GB	N/A	LVDS	Yes	Yes	N/A Intel Support in Q1'21	AT/ATX	Active	-40 - 85 °C
SOM-6883R5X-S5A1	Core™ i5-1145GRE	4	15W	8GB	N/A	Yes	LVDS	Yes	Yes	N/A Intel Support in Q1'21	AT/ATX	Active	-40 - 85 °C
SOM-6883R3X-U2A1	Core™ i3-1115GRE	2	15W	NA	N/A	Yes	LVDS	Yes	Yes	N/A	AT/ATX	Active	-40 - 85 °C
SOM-6883RCX-S8A1	Celeron® 6305RE	2	15W	N/A	N/A	Yes	LVDS	Yes	Yes	N/A	AT/ATX	Active	-40 - 85 °C
SOM-6883C7B-S8A1 (for MZ10)	Core™ i7-1185G7E	4	15W	16GB	N/A	Yes	LVDS	N/A	N/A	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)

Optional Accessories

Part No.	Description
1970004870T001	Semi-Cooler 125 x 95 x 33 mm with 12V Fan
1970004871T001	QFCS 95 x 95 x 26 mm

Packing List

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

Embedded OS

OS	Part No.	Description
Win10	TBD	TBD

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