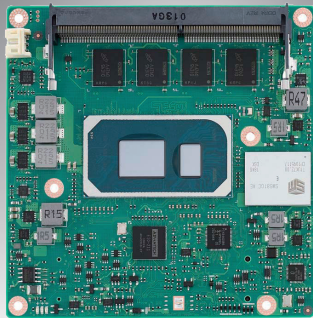


SOM-6883

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

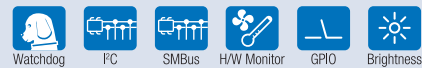
Preliminary



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:

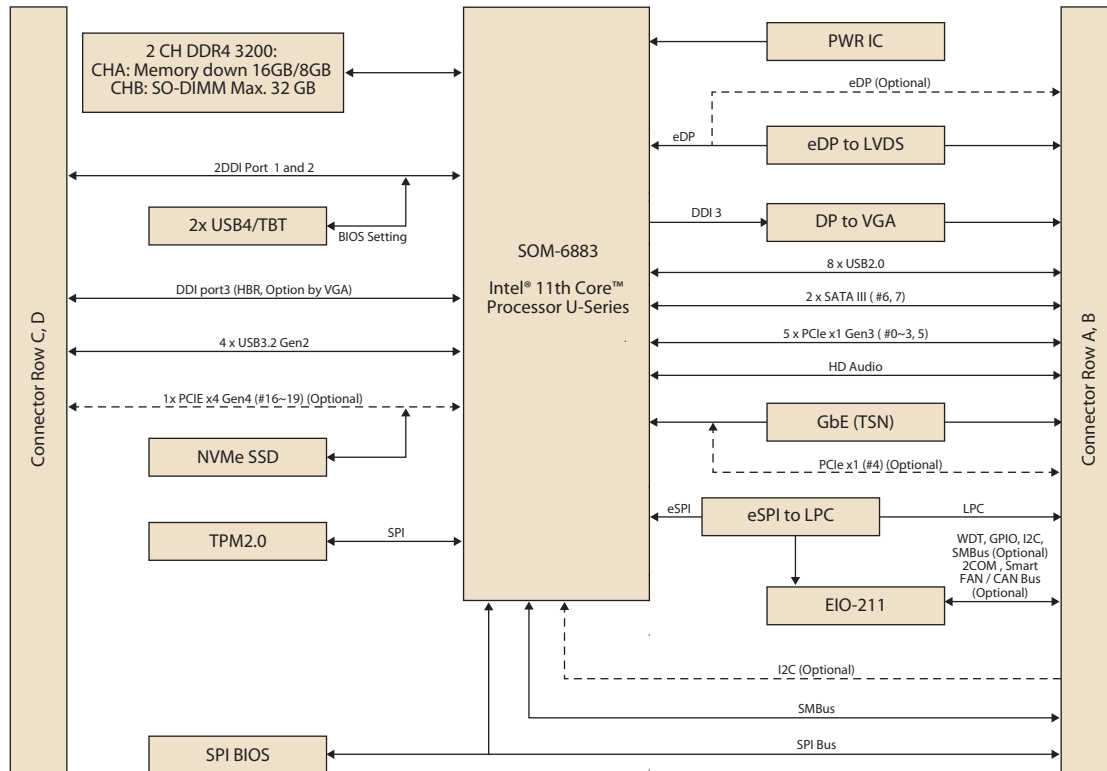


 Windows Embedded **iManager WISE-DeviceOn**  

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 |