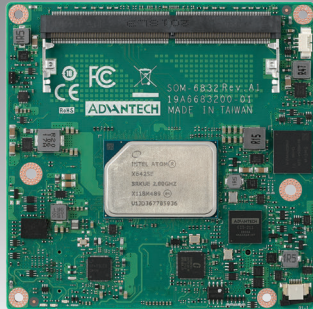


# SOM-6832

## Intel® Pentium®/Celeron® and Atom® x6000 Series Processors (Code Name: Elkhart Lake) COM Express® Compact Type6

NEW



### Features

- COM Express® R3.0 Compact Module Type 6 Pinout
- Intel® Pentium®/Celeron® and Atom® x6000 Series (Elkhart Lake) Processors
- Dual Channel up to 16GB DDR4-3200 and IB ECC Supported by Specific SKUs
- Supports up to 3 simultaneous display: LVDS/eDP, HDMI/DisplayPort
- Supports onboard eMMC Storage (Optional) and 2.5GbE
- Supports iManager, WISE-DeviceOn, and Embedded Software APIs

#### Software APIs:



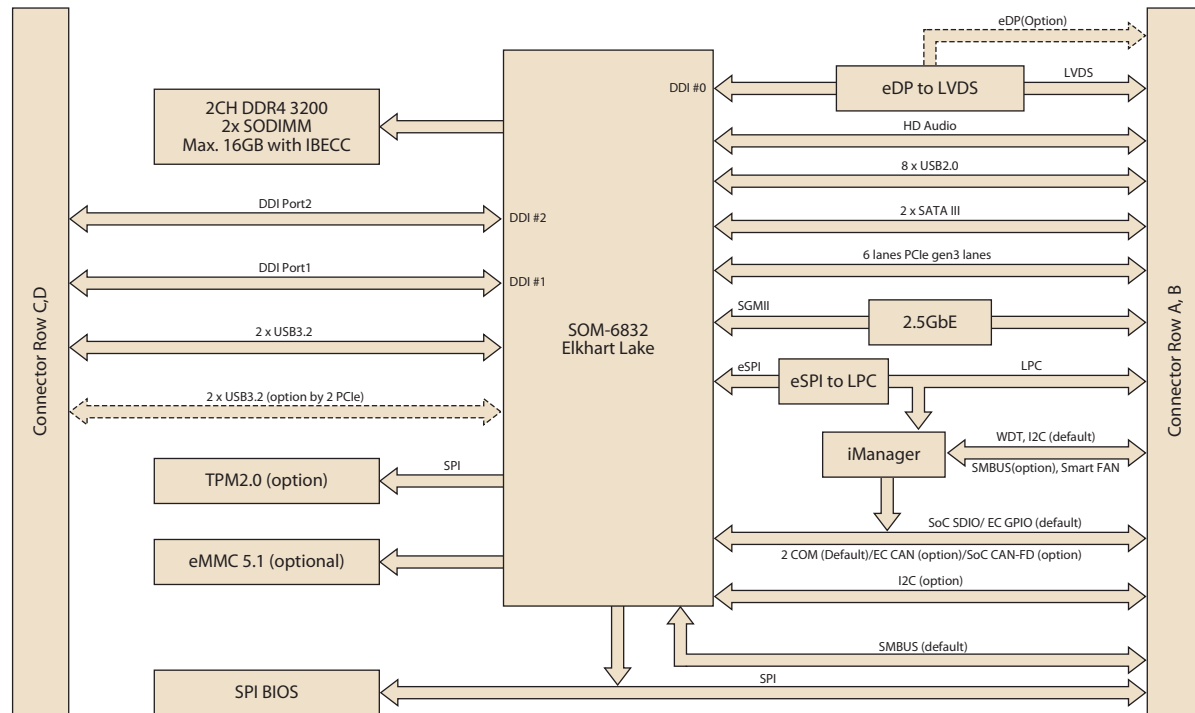
Windows Embedded

iManager WISE-DeviceOn CE FC

### Specifications

|                  |                                 |                                                                                                                             |              |              |               |
|------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------|--------------|---------------|
| Form Factor      | Form Factor                     | COM Express Compact                                                                                                         |              |              |               |
|                  | Pin-out Type                    | COM Express R3.0 Type 6 compatible                                                                                          |              |              |               |
| Processor System | CPU                             | Pentium® J6426                                                                                                              | Atom® x6425E | Atom® x6413E | Atom® x6425RE |
|                  | Base Frequency                  | 2.0 GHz                                                                                                                     | 2.0 GHz      | 1.5 GHz      | 1.9 GHz       |
|                  | Max Single Core Turbo Frequency | 3.0 GHz                                                                                                                     | 3.0 GHz      | 3.0 GHz      | N/A           |
|                  | Cores                           | 4                                                                                                                           | 4            | 4            | 4             |
|                  | LLC                             | 1.5 MB                                                                                                                      | 1.5 MB       | 1.5 MB       | 1.5 MB        |
|                  | CPU TDP                         | 10W                                                                                                                         | 12W          | 9W           | 12W           |
|                  | IB ECC                          | N/A                                                                                                                         | Yes          | Yes          | Yes           |
| Memory           | BIOS                            | AMI UEFI 256Mbit                                                                                                            |              |              |               |
|                  | Technology                      | DDR4                                                                                                                        |              |              |               |
|                  | Speed                           | 3200 MT/s                                                                                                                   |              |              |               |
|                  | Max. Capacity                   | Up to 16GB                                                                                                                  |              |              |               |
|                  | Socket                          | 2 x 260P SODIMM (Dual Channel)                                                                                              |              |              |               |
| Graphics         | ECC Support                     | IB ECC supported by Specific CPU SKUs                                                                                       |              |              |               |
|                  | Controller                      | Intel® UHD Graphics                                                                                                         |              |              |               |
|                  | Base. Frequency                 | 400 MHz                                                                                                                     | 500 MHz      | 500 MHz      | 400 MHz       |
|                  | Max. Frequency                  | 850 MHz                                                                                                                     | 750 MHz      | 750 MHz      | N/A           |
|                  | 3D/HW Acceleration              | OpenGL* 4.5, DirectX* 12, OpenCL*1.2, Vulkan 1.1                                                                            |              |              |               |
| Display          | LCD (LVDS/eDP)                  | LVDS dual channel: 1920 x 1200@60Hz (option support eDP 4096 x 2304 @ 60Hz)                                                 |              |              |               |
|                  | DDI (HDMI/DisplayPort)          | 2 DDI ports support configurable HDMI/DisplayPort<br>-HDMI 2.0b: 4096 x 2160 @ 60Hz<br>-DisplayPort 1.4: 4096 x 2160 @ 60Hz |              |              |               |
|                  | Multiple Display                | Triple Simultaneous Independent Display                                                                                     |              |              |               |
|                  | PCI Express x1 (Gen3)           | 6 PCIe x1                                                                                                                   |              |              |               |
|                  | Audio Interface                 | HD Audio                                                                                                                    |              |              |               |
|                  | LPC                             | Yes                                                                                                                         |              |              |               |
| Serial Bus       | SMBus                           | Yes                                                                                                                         |              |              |               |
|                  | I2C Bus                         | Yes                                                                                                                         |              |              |               |
| Ethernet         | Gigabit                         | 1 Port Maxlinear GPY215, Default 1G; 2.5G by BIOS item option                                                               |              |              |               |
| I/O              | SATA3.0                         | 2 Port (6 Gbps)                                                                                                             |              |              |               |
|                  | USB3.2 (Gen2)                   | 2 Ports (10 Gbps); 2 Optional Ports by PCIe co-lay                                                                          |              |              |               |
|                  | USB2.0                          | 8 Ports (480 Mbps)                                                                                                          |              |              |               |
|                  | SPI Bus                         | Yes. For BIOS EEPROM                                                                                                        |              |              |               |
|                  | GPIO                            | 8-bit                                                                                                                       |              |              |               |
|                  | Watchdog                        | 65536 level, 0 ~ 65535 sec                                                                                                  |              |              |               |
|                  | COM Port                        | 2 Ports (2-Wire)                                                                                                            |              |              |               |
|                  | TPM                             | TPM2.0 (option)                                                                                                             |              |              |               |
|                  | 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                           |                                                                                                                             |              |              |               |
| Environment      | Type                            | ATX: Vin, VSB; AT: Vin                                                                                                      |              |              |               |
|                  | Supply Voltage                  | Vin: 8.5V ~ 20V; VSB: 4.75V ~ 5.25V; RTC Battery: 2.0V ~ 3.3V                                                               |              |              |               |
|                  | Operating Temperature           | Standard: 0 ~ 60 °C (32 ~ 140 °F)<br>Extend: -40 ~ 85 °C (-40 ~ 185 °F)                                                     |              |              |               |
|                  | Storage Temperature             | -40 ~ 85 °C (-40 ~ 185 °F)                                                                                                  |              |              |               |
| Mechanical       | Humidity                        | Operating: 40 °C @ 95% relative humidity, non-condensing<br>Storage: 60 °C @95%relative humidity, non-condensing            |              |              |               |
|                  | Vibration Resistance            | 3.5 Grms                                                                                                                    |              |              |               |
|                  | Dimensions                      | 95 mm x 95 mm (3.74" x 3.74")                                                                                               |              |              |               |

## Block Diagram



## Ordering Information

| Part No.         | CPU           | Core | Graphics | Base Freq. | Max. Boost Freq. | GFX HFM | GFX Burst Mode | CPU TDP | EMMC (Optional) | IBECC | Thermal solution | Operating Temp. |
|------------------|---------------|------|----------|------------|------------------|---------|----------------|---------|-----------------|-------|------------------|-----------------|
| SOM-6832P4-U0A1  | Pentium J6426 | 4    | 32EU     | 2.0 GHz    | 3.0 GHz          | 400 MHz | 850 MHz        | 10W     | No              | No    | Passive          | 0 ~ 60 °C       |
| SOM-6832A4-S5A1  | Atom x6413E   | 4    | 16EU     | 1.5 GHz    | 3.0 GHz          | 500 MHz | 750 MHz        | 9W      | No              | Yes   | Passive          | 0 ~ 60 °C       |
| SOM-6832A4-U0A1  | Atom x6425E   | 4    | 16EU     | 2.0 GHz    | 3.0 GHz          | 500 MHz | 750 MHz        | 12W     | 32GB            | Yes   | Passive          | 0 ~ 60 °C       |
| SOM-6832A4-S9A1  | Atom x6425RE  | 4    | 32EU     | 1.9 GHz    | N/A              | 400 MHz | N/A            | 12W     | No              | Yes   | Passive          | 0 ~ 60 °C       |
| SOM-6832A4X-S9A1 | Atom x6425RE  | 4    | 32EU     | 1.9 GHz    | N/A              | 400 MHz | N/A            | 12W     | No              | Yes   | Active           | -40 ~ 85 °C     |
| SOM-6832A4X-U0A1 | Atom x6425E   | 4    | 16EU     | 2.0 GHz    | 3.0 GHz          | 500 MHz | 750 MHz        | 12W     | 32GB            | Yes   | Active           | -40 ~ 85 °C     |

Any other SKUs or combination is project based support. Please contact sales for details.

## Development Board

| Part No.         | Description                                |
|------------------|--------------------------------------------|
| SOM-DB5830-00A2  | COMe R3.0 Devel. Board Type6 Rev. A2       |
| SOM-DB5830X-00A2 | COMe R3.0 Devel. Board Type6 A2 Phoenix    |
| SOM-DB5830A-00A2 | COMe R3.0 Devel. Board Rev. A2 eDP version |

## Optional Accessories

| Part No.       | Description   |
|----------------|---------------|
| 1960048815N001 | Semi-Heatsink |

## Embedded OS

| OS         | Part No.       | Description                        |
|------------|----------------|------------------------------------|
| Win10 (HL) | 20706WX9HS0155 | Img W10 19HL SOM-6832 64b 1809 ENU |
| Win10 (VL) | 20706WX9VS0159 | Img W10 19VL SOM-6832 64b 1809 ENU |
| Win10 (EL) | 20706WX9ES0170 | Img W10 19EL SOM-6832 64b 1809 ENU |

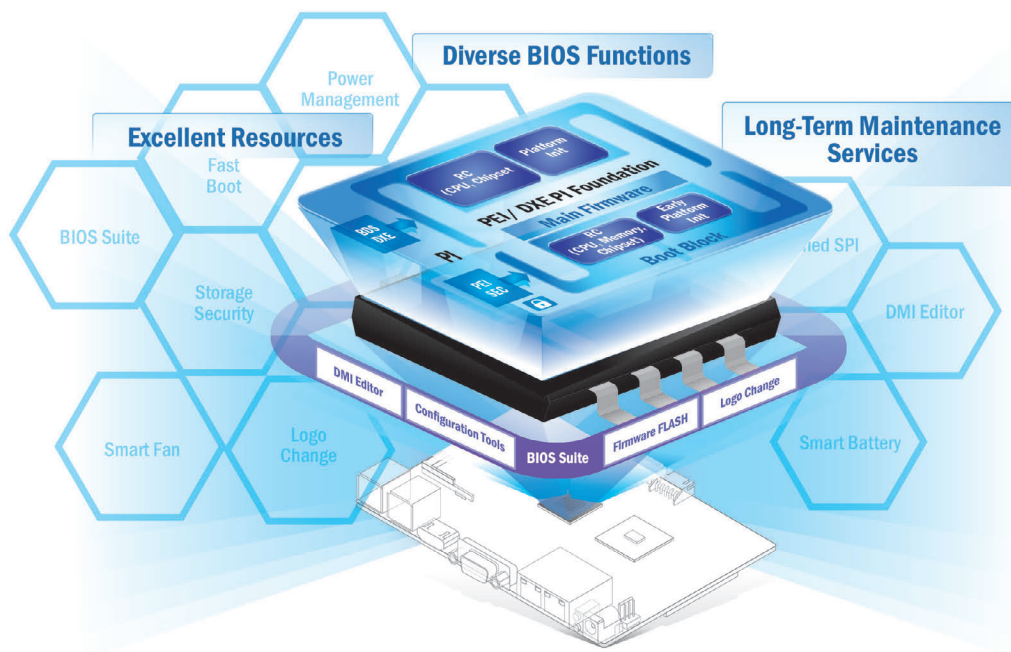
## Packing List

| Part No.       | Description                        | Quantity |
|----------------|------------------------------------|----------|
| -              | SOM-6832 COM module                | 1        |
| 1970005489T001 | Atom CPU heatspreader              | 1        |
| 1970005489T011 | Celeron & Pentium CPU heatspreader | 1        |

# 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

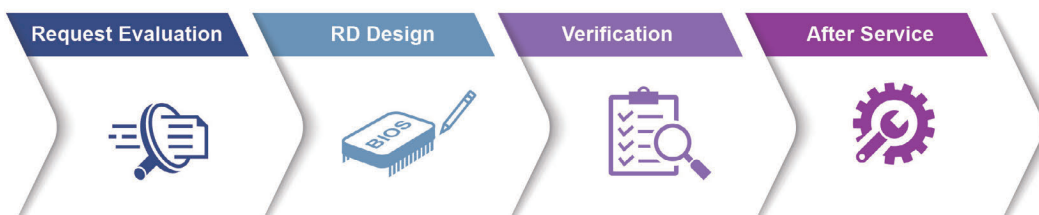
### Diverse BIOS Functions

- 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

- Devices status
- Peripherals/firmware
- Open for extension

#### Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

#### Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

### Product Highlights



**SOM-6883**

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



**MIO-5375**

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



**EPC-B5587**

10<sup>th</sup> 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                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <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> |

# Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.



## AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

 Uhlířská 1064/3, 710 00 Ostrava, Česká republika

 obchod@autocont-ipc.cz

 +420 552 301 002

 [www.autocont-ipc.cz](http://www.autocont-ipc.cz)



### PRŮMYSLOVÉ POČÍTAČE

*fanless embedded PC, do racku, ...*



### POČÍTAČE S DISPLEJEM

*panelové PC, terminály, do vozidel, ...*



### AUTOMATIZACE A SBĚR DAT

*převodníky, karty, moduly, switche, ...*



### PERIFERIE A KOMPONENTY

*monitory, klávesnice, desky, skříně, ...*



### NOTEBOOKY A TABLETY

*odolné, windows, android, IP65, ...*



### INFORMAČNÍ KIOSKY

*interiérové, venkovní, ...*



### MEDICÍNSKÁ TECHNIKA

*počítače, tablety, LCD, klávesnice, ...*



### SOFTWAREVÁ ŘEŠENÍ

*pro výrobu, zaměstnance, kiosky, ...*



### PŘEJÍT DO E-SHOPU

[eshop.autocont-ipc.cz](http://eshop.autocont-ipc.cz)



### DOPRAVA ZDARMA

Doprava zdarma v ČR a SR při objednávce nad 10 000 Kč bez DPH nebo nad 400 EUR.



### PRODLOUŽENÁ ZÁRUKA

Záruka 2 roky na vyráběné počítače s možností jejího prodloužení až na 5 let.



### ODMĚNA ZA VĚRNOST

Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obrátu.



### SERVIS ON-SITE A IN-TIME

K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.