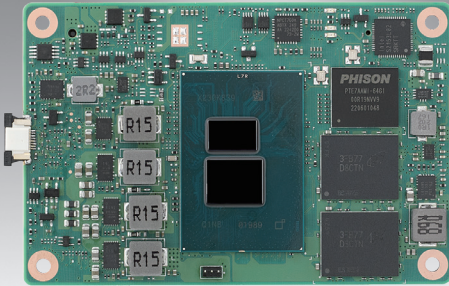


# SOM-7533/R

Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors  
(Code Name: Alder Lake-N/Amston Lake)  
COM Express® Mini Type10



## Features

- COM Express® R3.1 Mini Module Type 10 Pinout
- Intel® Core-i®/Pentium®/Celeron® and Atom® x7000 Series Processors
- Single-CH LPDDR5 4800MT/s up to 16GB, support IB ECC
- 2.5GbE support TSN
- Multiple I/O expansion: PCIe gen3, USB3.2 Gen2, SATA3.0
- On board eMMC up to 64GB (Optional)
- Supports iManager, Embedded Software APIs and Wise-DeviceOn

### Software APIs:



Watchdog



PC



SMBus



H/W Monitor



GPIO



Brightness



Windows Embedded

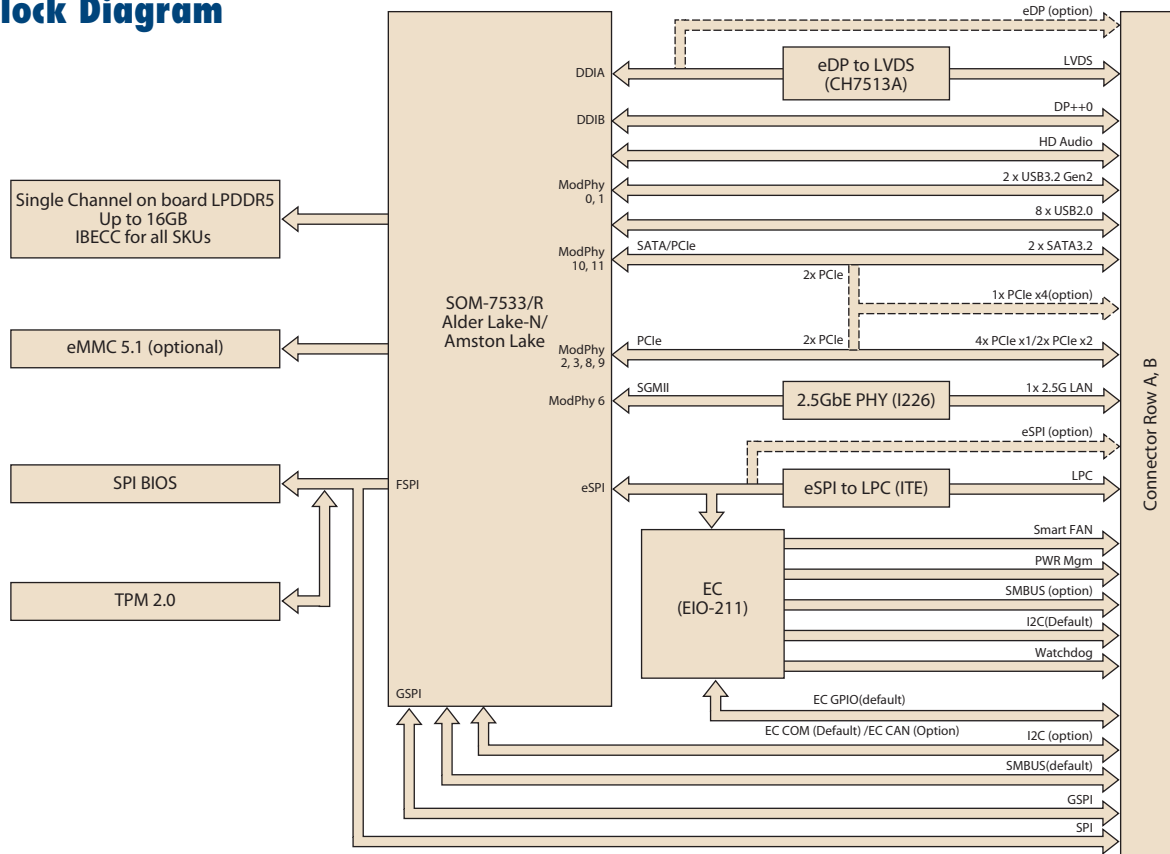
iManager WISE-DeviceOn



## Specifications

|                  |                                 |                                                                                                                                                                                                                      |         |         |             |         |         |         |         |
|------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|-------------|---------|---------|---------|---------|
| Form Factor      | Form Factor                     | COM Express Mini                                                                                                                                                                                                     |         |         |             |         |         |         |         |
|                  | Pin-out Type                    | COM Express R3.1 Type 10 compatible                                                                                                                                                                                  |         |         |             |         |         |         |         |
| Processor System | CPU                             | N50                                                                                                                                                                                                                  | N97     | N200    | i3-N305     | x7425E  | x7835RE | x7433RE | x7211RE |
|                  | Base Frequency                  | 1.0 GHz                                                                                                                                                                                                              | 2.0 GHz | 1.0 GHz | 1.0/1.8 GHz | 1.5 GHz | 1.3 GHz | 1.5 GHz | 1.0 GHz |
|                  | Max Single Core Turbo Frequency | 3.4 GHz                                                                                                                                                                                                              | 3.6 GHz | 3.7 GHz | 3.8 GHz     | 3.4 GHz | 3.6 GHz | 3.4 GHz | 3.2 GHz |
|                  | Cores                           | 2                                                                                                                                                                                                                    | 4       | 4       | 8           | 4       | 8       | 4       | 2       |
|                  | LLC                             | 6 MB                                                                                                                                                                                                                 | 6 MB    | 6 MB    | 6 MB        | 6 MB    | 6 MB    | 6 MB    | 6 MB    |
|                  | CPU TDP                         | 6W                                                                                                                                                                                                                   | 12W     | 6W      | 9/15W       | 12W     | 12W     | 9W      | 6W      |
|                  | IB ECC                          | Yes                                                                                                                                                                                                                  | Yes     | Yes     | Yes         | Yes     | Yes     | Yes     | Yes     |
|                  | BIOS                            | AMI UEFI 256Mbit                                                                                                                                                                                                     |         |         |             |         |         |         |         |
| Memory           | Technology                      | LPDDR5                                                                                                                                                                                                               |         |         |             |         |         |         |         |
|                  | Speed                           | 4800 MT/s                                                                                                                                                                                                            |         |         |             |         |         |         |         |
|                  | Max. Capacity                   | Up to 16GB                                                                                                                                                                                                           |         |         |             |         |         |         |         |
|                  | Channel/Socket                  | Single Channel / Memory down                                                                                                                                                                                         |         |         |             |         |         |         |         |
|                  | ECC Support                     | IB ECC Supported by all CPU SKUs                                                                                                                                                                                     |         |         |             |         |         |         |         |
| Graphics         | Controller                      | Intel® UHD Graphics                                                                                                                                                                                                  |         |         |             |         |         |         |         |
|                  | EU                              | 16                                                                                                                                                                                                                   | 24      | 32      | 32          | 24      | 32      | 32      | 16      |
|                  | Base. Frequency                 | 600 MHz                                                                                                                                                                                                              | 850 MHz | 450 MHz | 1.0 GHz     | 800 MHz | 800 MHz | 600 MHz | 400 MHz |
|                  | Max. Frequency                  | 750 MHz                                                                                                                                                                                                              | 1.2 GHz | 750 MHz | 1.25 GHz    | 1.0 GHz | 1 GHz   | 800 MHz | 800 MHz |
|                  | 3D/HW Acceleration              | Open GL 4.6, DirectX 12.1 Vulkan 1.2 (Windows)<br>Mesa 3D, Open GL 4.6, Vulkan 1.2 (Linux)                                                                                                                           |         |         |             |         |         |         |         |
|                  | LCD (LVDS/eDP)                  | 1port LVDS single channel: 1366 x 768 @60Hz/eDP 1920 x 1080 @60Hz (Up to eDP 4096 x 2304 by specific SKU)                                                                                                            |         |         |             |         |         |         |         |
| Display          | DDI (HDMI/DisplayPort)          | 1 DDI Port Support Configurable HDMI/DisplayPort<br>-HDMI 2.0b: 4096 x 2034 @ 60Hz<br>-DisplayPort 1.4: 4096 x 2034 @ 60Hz                                                                                           |         |         |             |         |         |         |         |
|                  | Multiple Display                | Double Simultaneous Independent Display                                                                                                                                                                              |         |         |             |         |         |         |         |
|                  | PCI Express x1 (Gen3)           | 4 PCIe x1 by default, 2 PCIe x2 by option; Support Configurable 1 PCIe x4 by SATA option                                                                                                                             |         |         |             |         |         |         |         |
| Expansion        | Audio Interface                 | HD Audio                                                                                                                                                                                                             |         |         |             |         |         |         |         |
|                  | LPC                             | Yes                                                                                                                                                                                                                  |         |         |             |         |         |         |         |
| Serial Bus       | SMBus                           | Yes                                                                                                                                                                                                                  |         |         |             |         |         |         |         |
|                  | I2C Bus                         | Yes                                                                                                                                                                                                                  |         |         |             |         |         |         |         |
| Ethernet         | Gigabit                         | Intel I226 controller ; Speed: 10M / 100M / 1000M / 2.5G speeds, Support TSN by specific SKU                                                                                                                         |         |         |             |         |         |         |         |
| I/O              | SATA3.0                         | 2 Port (6 Gbps)                                                                                                                                                                                                      |         |         |             |         |         |         |         |
|                  | USB3.2 (Gen2)                   | 2 Ports (10 Gbps)                                                                                                                                                                                                    |         |         |             |         |         |         |         |
|                  | USB2.0                          | 8 Ports (480 Mbps)                                                                                                                                                                                                   |         |         |             |         |         |         |         |
|                  | SPI Bus                         | Yes. For BIOS EEPROM                                                                                                                                                                                                 |         |         |             |         |         |         |         |
|                  | GPIO                            | 8-bit                                                                                                                                                                                                                |         |         |             |         |         |         |         |
|                  | Onboard Storage                 | eMMC up to 64GB (Optional)                                                                                                                                                                                           |         |         |             |         |         |         |         |
|                  | Watchdog                        | 65536 level, 0 ~ 65535 sec                                                                                                                                                                                           |         |         |             |         |         |         |         |
|                  | COM Port                        | 2 Ports (2-Wire)                                                                                                                                                                                                     |         |         |             |         |         |         |         |
|                  | TPM                             | TPM2.0                                                                                                                                                                                                               |         |         |             |         |         |         |         |
|                  | CAN Bus                         | 1 Port                                                                                                                                                                                                               |         |         |             |         |         |         |         |
| Power            | Type                            | ATX: Vin, VSB; AT: Vin                                                                                                                                                                                               |         |         |             |         |         |         |         |
|                  | Supply Voltage                  | Vin: 4.75V ~ 20V; VSB: 4.75V ~ 5.25V; RTC Battery: 2.0V ~ 3.3V                                                                                                                                                       |         |         |             |         |         |         |         |
|                  | Power Consumption               | Turbo Max: 40.69W @12V(x7835RE with 16GB LPDDR5)<br>Idle: 4.81W @12V(x7835RE with 16GB LPDDR5)<br>* Only for reference and will depend on custom software loading. For more details please refer to the user manual. |         |         |             |         |         |         |         |
| Environment      | Operating Temperature           | Operating Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F) with 0.7m/s air flow.                                                                                                                |         |         |             |         |         |         |         |
|                  | Storage Temperature             | -40 ~ 85 °C (-40 ~ 185 °F)                                                                                                                                                                                           |         |         |             |         |         |         |         |
|                  | Humidity                        | Operating: 40 °C@95% relative humidity, non-condensing<br>Storage: 60 °C@95%relative humidity, non-condensing                                                                                                        |         |         |             |         |         |         |         |
|                  | Vibration Resistance            | 3.5 Grms                                                                                                                                                                                                             |         |         |             |         |         |         |         |
| Mechanical       | Dimensions                      | 84 mm x 55 mm                                                                                                                                                                                                        |         |         |             |         |         |         |         |

## Block Diagram



## Ordering Information

| Part No.           | CPU     | Core | CPU TDP | CPU Base Freq. | Max Single Core Turbo Frequency. | GFX HFM | GFX Burst Mode | RAM  | EMMC | TSN | Thermal solution | Operating Temp. |
|--------------------|---------|------|---------|----------------|----------------------------------|---------|----------------|------|------|-----|------------------|-----------------|
| SOM-7533DCCC-S8A1  | i3-N305 | 8    | 9/15W   | 1.0/1.8 GHz    | 3.8 GHz                          | 1.0 GHz | 1.25 GHz       | 16GB | 64GB | N/A | Passive          | 0 – 60°C        |
| SOM-7533CCBC-U0A1  | N97     | 4    | 12W     | 2.0 GHz        | 3.6 GHz                          | 800 MHz | 1.2 GHz        | 8GB  | 32GB | N/A | Passive          | 0 – 60°C        |
| SOM-7533DCBC-S0A1  | N200    | 4    | 6W      | 1.0 GHz        | 3.7 GHz                          | 450 MHz | 750 MHz        | 16GB | 32GB | N/A | Passive          | 0 – 60°C        |
| SOM-7533BCAC-S0A1  | N50     | 2    | 6W      | 1.0 GHz        | 3.4 GHz                          | 600 MHz | 750 MHz        | 4GB  | 16GB | N/A | Passive          | 0 – 60°C        |
| SOM-7533CCBC-S5A1  | x7425E  | 4    | 12W     | 1.5 GHz        | 3.4 GHz                          | 800 MHz | 1.0 GHz        | 8GB  | 32GB | Yes | Passive          | 0 – 60°C        |
| SOM-7533RDCBX-S3A1 | x7835RE | 8    | 12W     | 1.3 GHz        | 3.6 GHz                          | 800 MHz | 1.0 GHz        | 16GB | 32GB | Yes | Active           | -40 – 85°C      |
| SOM-7533RCCBX-S5A1 | x7433RE | 4    | 9W      | 1.5 GHz        | 3.4 GHz                          | 600 MHz | 800 MHz        | 8GB  | 32GB | Yes | Active           | -40 – 85°C      |
| SOM-7533RBCOX-S0A1 | x7211RE | 2    | 6W      | 1.0 GHz        | 3.2 GHz                          | 400 MHz | 800 MHz        | 4GB  | N/A  | 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-DB5830-00A3  | COMe Devel. Board COMe R3.1 Type6 pin-out (LVDS) 0 – 60 °C |
| SOM-DB5830A-00A3 | COMe Devel. Board COMe R3.1 Type6 pin-out (eDP) 0 – 60 °C  |

## Optional Accessories

| Part No.       | Description                                    |
|----------------|------------------------------------------------|
| 1970005864T001 | Semi-Heatsink                                  |
| 1970004886N001 | Semi-Cooler (For SOM-7533R series part number) |

## Embedded OS

| OS        | Part No.       | Description                         |
|-----------|----------------|-------------------------------------|
| Win10     | 20706WX1HS0079 | img W10 21HL SOM-7533 64b 21H2 ENU  |
| Win10     | 20706WX1VS0080 | img W10 21VL SOM-7533 64b 21H2 ENU  |
| Win10     | 20706WX1ES0079 | img W10 21EL SOM-7533 64b 21H2 ENU  |
| Win11(EL) | 20706WLE1S0031 | img W11 24EL SOM-7533R 64b 24H2 ENU |
| Win11(HL) | 20706WLH1S0031 | img W11 24HL SOM-7533R 64b 24H2 ENU |
| Win11(VL) | 20706WLV1S0031 | img W11 24VL SOM-7533R 64b 24H2 ENU |
| Win11(EL) | 20706WLE1S0042 | img W11 24EL SOM-7533 64b 24H2 ENU  |
| Win11(HL) | 20706WLH1S0042 | img W11 24HL SOM-7533 64b 24H2 ENU  |
| Win11(VL) | 20706WLV1S0042 | img W11 24VL SOM-7533 64b 24H2 ENU  |

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



## AutoCont IPC a.s.

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

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 [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.