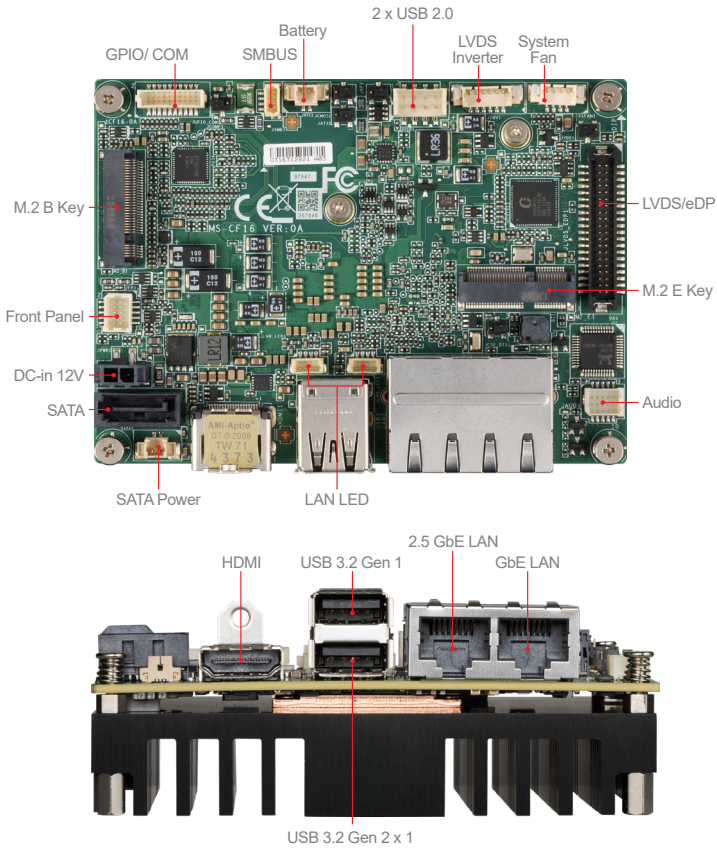


# MS-CF16

Pico-ITX SBC with Intel® Alder Lake-N/Amston Lake for Fanless, Low-Power, High-Performance, Wide Temperature & Harsh environment Solution

NEW



## Features

- Intel® Alder Lake-N/ Amston Lake Series SoC
- LPDDR5 4800 MHz onboard memory up to 16GB
- Dual independent displays: HDMI, LVDS/eDP
- 1 2.5 GbE/1 GbE LAN with RJ-45
- 2 USB 3.2 (Bottom layer USB 3.2 Gen 2 x 1, Top layer USB 3.2 Gen 1), 2 USB 2.0, 1 COM (RS-232/422/485), GPIO, Audio
- 1 M.2 B Key, 1 M.2 E Key Slot
- SATA 3.0 for storage
- Wide operating temperature : -40~85°C
- DC-IN 12V

## Specifications

|                          |                       | Alder Lake -N SKUs  | Amston Lake SKUs   |
|--------------------------|-----------------------|---|--|
| <b>Processor</b>         | CPU                   | Intel® IOTG Alder Lake-N Processor N97, QC, 12W<br>Intel® IOTG Alder Lake-N Atom x7425E, QC, 12W                      | Intel® IOTG Amston Lake Atom, X7433RE, QC, 9W  |
|                          | Frequency             | N97, 2.0GHz, up to 3.6 GHz<br>x7425E, 1.5GHz, up to 3.4 GHz   | X7433RE, 1.5GHz, up to 3.4 GHz   |
|                          | L2 Cache              | 6MB   |  |
|                          | CPU Type              | BGA   |  |
|                          | Chipset               | Integrated in SoC   |  |
| <b>Memory</b>            | BIOS                  | AMI   |  |
|                          | Technology            | Single-channel LPDDR5 4800 MHz  |  |
|                          | Max. Capacity         | Up to 16GB  |  |
| <b>Display</b>           | Socket                | Onboard   |  |
|                          | Controller            | Intel® HD Graphics  |  |
|                          | Graphic Memory        | Depends on CPU  |  |
|                          | LVDS                  | Dual Channel 18/24-bit  |  |
|                          | eDP                   | 1 (Signal shared with LVDS)   |  |
|                          | VGA                   | N/A   |  |
|                          | DVI                   | N/A   |  |
|                          | HDMI                  | 1   |  |
|                          | Display Port          | N/A   |  |
|                          | Multiple Display      | 2 independent displays  |  |
| <b>Ethernet</b>          | Display Interface     | LVDS/eDP up to 1920 x 1200 @60Hz<br>HDMI up to 3840 x 2160 @30Hz  |  |
|                          | Controller            | 1 x Realtek® RTL8125BG-CG 2.5GbE LAN<br>1 x Realtek® RTL8111K-CG 1GbE LAN   | 1 x Realtek® RTL8125BI-CG 2.5GbE LAN /<br>1 x Realtek® RTL8111KI-CG 1GbE LAN                           |
| <b>Audio</b>             | Controller            | Realtek® ALC897 High Definition Audio Codec   |  |
| <b>Super I/O</b>         | Controller            | Fintek F81966AB-I   |  |
|                          | Watchdog Timer        | 256-level Watchdog Timer  |  |
| <b>H/W Monitor</b>       | Smart Fan             | N/A   |  |
|                          | TPM                   | Controller  | Infinion® SLB 9672VU2.0  |
| <b>I/O Interface</b>     | USB                   | 2 x USB 3.2 ports (rear)<br>(Bottom layer USB 3.2 Gen 2 x 1, Top layer USB 3.2 Gen 1)<br>2 x USB 2.0 ports (internal) |  |
|                          |                       | Serial  | 1 x COM port (internal)<br>COM: RS-232/422/485, 0V/5V/12V  |
|                          |                       | Parallel  | N/A  |
|                          | <b>Expansion Slot</b> | PS/2  | N/A  |
|                          |                       | GPIO  | 8-bits (4 x GPI; 4 x GPO), 5V  |
|                          |                       | PCIe x 16   | N/A  |
|                          |                       | PCIe x 4  | N/A  |
|                          |                       | PCIe x 1  | N/A  |
|                          | <b>Storage</b>        | PCI   | N/A  |
|                          |                       | M.2   | 1 x E key 2230 (PCIe x1 + USB 2.0)<br>1 x B key 2242/3042 (PCIe x1/SATA 3.0 + USB 3.2 Gen 2 + USB 2.0) |
| Mini-PCIe                |                       | N/A   |  |
| SATA                     |                       | 1 x SATA 3.0  |  |
| IDE                      |                       | N/A   |  |
| eSATA                    |                       | N/A   |  |
| CFast                    |                       | N/A   |  |
| <b>Power Supply</b>      | mSATA                 | N/A   |  |
|                          | CompactFlash          | N/A   |  |
|                          | DC                    | DC-in 12V   |  |
| <b>Environment</b>       | ATX                   | N/A   |  |
|                          | Operating Temperature | -10 ~ 60°C<br>Note: Thermal w/<br>Airflow:0.7m/s  | -40 ~ 85°C<br>Note: Thermal w/<br>Airflow:0.7m/s   |
|                          |                       | Operating Humidity  | 10 ~ 90%, non-condensing   |
|                          | Storage Temperature   | -20 ~ 80°C  | -40 ~ 85°C   |
|                          | Storage Humidity      | 10 ~ 90%, non-condensing  |  |
| <b>Form Factor</b>       | Dimensions            | 101 x 73 mm (Pico-ITX)  |  |
|                          | Weight                | 0.30 kg   |  |
| <b>Certification</b>     | EMC                   | CE, FCC Class B, BSMI, VCCI, RCM, UKCA, IC  |  |
| <b>Software Platform</b> | OS Support            | Windows 10 IoT Enterprise LTSC 2021<br>Windows 11 IoT Enterprise LTSC 22H2 (Pre-test)<br>Linux (Support by request)   |  |