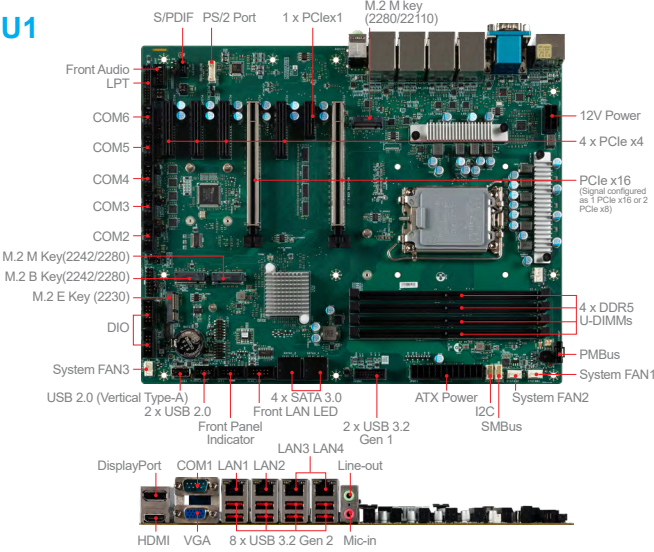


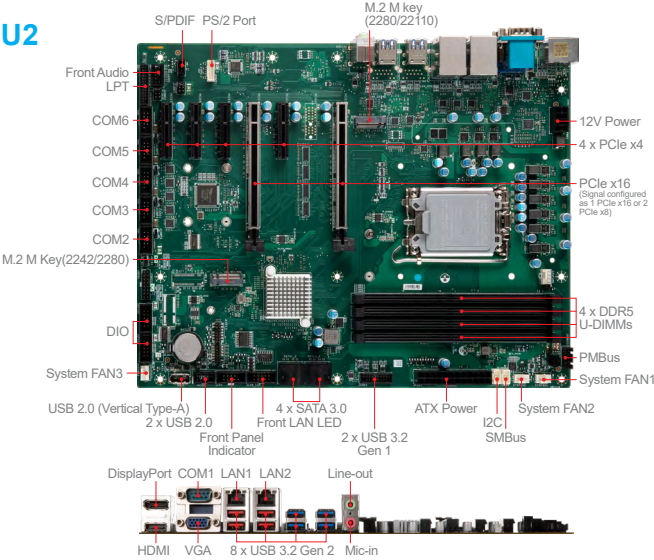
# MS-CF05

ATX with 13th/12th Gen Intel® Raptor Lake-S/Alder Lake-S, Core™ i9/i7/i5/i3, Pentium®, Celeron® Processor & Intel® R680E/Q670E for High-Performance Solution

## SKU1



## SKU2



## Features

- Intel® 13th/12th Gen Raptor Lake-S/Alder Lake-S Series with R680E/Q670E
- 4 DDR5 4400 MHz ECC/non-ECC UDIMM slots up to 128GB
- Triple independent displays: VGA, DP, HDMI
- 4 2.5GbE LAN with RJ-45
- 1 PCIe x16 (Gen 5) Slot or 2 PCIe x8 (Gen 5), 1 PCIe x4 (Gen 4), 3 PCIe x4 (Gen 3), 1 M.2 E key, 1 M.2 B key slots
- 2 M.2 M key, 4 SATA 3.0 for storage
- SATA RAID 0/1/5/10
- 8 USB 3.2 Gen 2, 2 USB 3.2 Gen 1, 3 USB 2.0, 6 COM (6 RS-485), GPIO, PS/2, Audio, 3 System FAN
- Onboard TPM 2.0
- SMBus, I2C, PMBus, iAMT 16.x, Chassis Intrusion
- ATX Power

## Ordering Information

| Part Number  | Description   |
|--------------|---|
| 911-CF05-001 | Intel ADL-S, RPL-S, R680E, 4*DDR5, HDMI+DP+VGA, 2*M.2 M key, 1*M.2 B key, 2*M.2 E key, 1*PCIe x16, 1*PCIe x8, 4*PCIe x4, 4*PCIe x1, 4*2.5GbE LAN, 4*SATA 3.0, 10*USB 3.2, 3*USB 2.0, 6*COM, TPM2.0, ATX |
| 911-CF05-002 | Intel ADL-S, RPL-S, Q670E, 4*DDR5, HDMI+DP+VGA, 2*M.2 M key, 1*PCIe x16, 1*PCIe x8, 4*PCIe x4, 2*2.5GbE LAN, 4*SATA 3.0, 10*USB 3.2, 3*USB 2.0, 6*COM, TPM2.0, ATX                                      |

## Packing List

| Part Number     | Description              | Quantity |
|-----------------|--------------------------|----------|
| K1D-1008261-V03 | SATA Cable 500mm         | 2        |
| K1B-3008012-E06 | USB 2.0 Cable, 330mm     | 1        |
| E21-CF05010-C22 | I/O SHIELDING For 4 LANs | 1        |
| E21-CF05020-C22 | I/O SHIELDING For 2 LANs |          |

## Specifications

|                          | SKU1                  | SKU2   |  |
|--------------------------|-----------------------|--|--|
| <b>Processor</b>         | CPU                   | 13th Gen Intel® Raptor Lake-S i9/i7/i5/i3/<br>Pentium®/Celeron® IOTG Series Processor,<br>Max 125W<br>12th Gen Intel® Alder Lake-S i9/i7/i5/i3/<br>Pentium®/Celeron® IOTG Series Processor,<br>Max 125W  |  |
|                          | Frequency             | P-Core 1.1GHz~5.0GHz (Depends on CPU)<br>E-Core 0.9GHz~3.8GHz (Depends on CPU)   |  |
|                          | L2 Cache              | 4MB~30MB (Depends on CPU)  |  |
|                          | CPU Type              | Socket (LGA 1700)  |  |
|                          | Chipset<br>BIOS       | Intel® R680E Express   Intel® Q670E Express<br>AMI UEFI  |  |
| <b>Memory</b>            | Technology            | Dual-channel DDR5 (ECC/non-ECC) 4400 MHz<br>(ECC support will depend on CPU)   Dual-channel DDR5 (non-ECC) 4400 MHz  |  |
|                          | Max. Capacity         | Up to 128GB  |  |
|                          | Socket                | 4 x 288-pin UDIMMs   |  |
| <b>Display</b>           | Controller            | Intel® UHD Graphics  |  |
|                          | Graphic Memory        | Depends on CPU   |  |
|                          | LVDS                  | N/A  |  |
|                          | eDP                   | N/A  |  |
|                          | VGA                   | 1  |  |
|                          | DVI                   | N/A  |  |
|                          | HDMI                  | 1  |  |
| <b>Ethernet</b>          | Controller            | 4 x Intel® I225-LM 2.5GbE LAN   2 x Intel® I225-LM 2.5GbE LAN  |  |
|                          | Controller            | Realtek® ALC897 Audio Codec (Co-layer ALC888S)   |  |
|                          | Controller            | Realtek® ALC897 Audio Codec (Co-layer ALC888S)   |  |
| <b>Super I/O</b>         | Controller            | FINTEK F81966D-I   |  |
|                          | Watchdog Timer        | 256-level Watchdog Timer   |  |
| <b>H/W Monitor</b>       | Smart Fan             | Yes  |  |
|                          | TPM                   | Controller   | Infineon® SLB9672VU2.0   |
| <b>I/O Interface</b>     | USB                   | 8 x USB 3.2 Gen 2 x1 Ports (8 x Rear)<br>2 x USB 3.2 Gen 1 Ports (2 x Internal)<br>3 x USB 2.0 Ports (3 x Internal with one Vertical Type-A Connector)   |  |
|                          | Serial                | COM1 ~ 6 (1 x Rear, 5 x Internal)<br>COM1/2 RS-232/422/485 with Ring/0V/5V/12V Auto-flow Control Supported (Default set to Ring)<br>COM3/4/5/6 RS-232/422/485 with 0V/5V/12V Auto-flow Control Supported | 6 x COM-Ports for COM1 ~ 6 (1 x Rear, 5 x Internal)<br>COM1/2 RS-232/422/485 with Ring/0V/5V/12V Auto-flow Control Supported (Default set to Ring)<br>COM3/4/5/6 RS-232 with 0V/5V/12V |
|                          |                       | Parallel   | Yes  |
|                          | PS/2                  | 1 x PS/2 port by Y-cable for keyboard and mouse  |  |
|                          | GPIO                  | 16-bits (8 x GPI; 8 x GPO), 5V   |  |
|                          | PCIe x16              | 2 (Signal configured as 1 PCIe x16 or 2 PCIe x8)   |  |
|                          | PCIe x4               | 4  |  |
|                          | PCIe x1               | 1  |  |
|                          | PCI                   | N/A  |  |
|                          | <b>Expansion Slot</b> | M.2  | 1 x M key (Signal from CPU) 2280/22110, 1 x M key (Signal Shared by PCIe Slot5) 2242/2280<br>1 x E key (PCIe x1), 2230<br>1 x B key (PCIe x2), 2242/2280                               |
| Mini-PCIe                |                       | N/A  |  |
| <b>Storage</b>           | SATA                  | 4 x SATA 3.0 (RAID 0/1/5/10)   |  |
|                          | IDE                   | N/A  |  |
|                          | eSATA                 | N/A  |  |
|                          | mSATA                 | N/A  |  |
|                          | CompactFlash          | N/A  |  |
| <b>Power Supply</b>      | DC                    | N/A  |  |
|                          | ATX                   | ATX-Power 24P, 12V-8P  |  |
| <b>Environment</b>       | Operating Temperature | 0 ~ 60°C   |  |
|                          | Operating Humidity    | 10 ~ 90%, non-condensing   |  |
|                          | Storage Temperature   | -20 ~ 80°C   |  |
|                          | Storage Humidity      | 10 ~ 90%, non-condensing   |  |
| <b>Form Factor</b>       | Dimensions            | 305 x 244 mm (ATX)   |  |
|                          | Weight                | 0.779 Kg   |  |
| <b>Certification</b>     | EMC                   | CE, FCC Class B, BSMI, RCM, VCCI   |  |
| <b>Software Platform</b> | OS Support            | Windows 10 IoT Enterprise 2021 LTSC (64-bit)<br>Windows 11 IoT Enterprise 22H2 (64-bit)<br>Linux (Support by request)<br>Noted : All driver base on Intel & chip vendor supported                        |  |