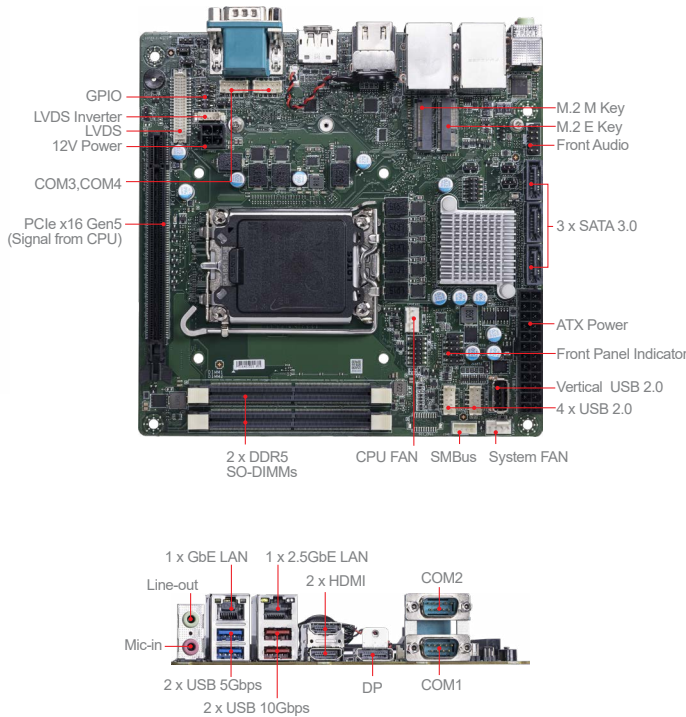


# MS-CF23

Mini-ITX with 15th Gen Intel® Arrow Lake-S Core Ultra 9/7/5 Series Processor, & Intel® H810 for Mainstream Solution

**NEW**


## Features

- Intel® 15th Gen Arrow Lake-S Core Ultra 9/7/5 Series with H810
- 2 DDR5 5600 MT/s non-ECC SODIMM & 6400 MT/s CSODIMM slots up to 128GB
- Triple independent displays: DP, HDMI, LVDS
- 1 2.5GbE LAN with RJ-45, 1 GbE LAN with RJ-45
- 1 PCIe x16 (Gen 5)
- 1 M.2 E Key Slot
- 1 M.2 M Key, 3 SATA 3.0 for storage
- 2 USB 3.2 Gen 2, 2 USB 3.2 Gen 1, 5 USB 2.0, 4 COM (1 RS-485), GPIO, Audio, System FAN
- Onboard TPM 2.0
- SMBus
- ATX Power

## Ordering Information

| Part Number  | Description                                                                                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 916-CF23-001 | MS-CF23/606-CF23-010, 10/801-CF23-004, RL-S, H810, 2*CSOD-DR5, HDMI*2+DP+LVDS, 1*M.2 M key, 1*PCIe x16, 1*2.5GbE LAN, 1*1.0GbE LAN, 3*SATA 3.0, 2*USB 3.2 Gen2, 2*USB3.2 Gen1, 5*USB2.0, 4*COM, TPM2.0 SINGLE 12PCS/BOX |
| 916-CF23-101 | MS-CF23/606-CF23-010, 10/801-CF23-102, RL-S, H810, 2*CSOD-DR5, HDMI*2+DP+LVDS, 1*M.2 M key, 1*PCIe x16, 1*2.5GbE LAN, 1*1.0GbE LAN, 3*SATA 3.0, 2*USB 3.2 Gen2, 2*USB3.2 Gen1, 5*USB2.0, 4*COM, TPM2.0 BULK 20PCS       |

## Packing List

| Part Number     | Description                                 | Quantity |
|-----------------|---------------------------------------------|----------|
| E21-CF23010-C22 | I/O SHIELDING, 159, 2*44.9mm, FOR HDMI*2+DP | 1        |

## Specifications

|                   |                       |                                                                                                      |                                    |
|-------------------|-----------------------|------------------------------------------------------------------------------------------------------|------------------------------------|
| Processor         | CPU                   | 15th Gen Intel® Arrow Lake-S Core Ultra 9/7/5 Series Processor, Max. TDP-65W                         |                                    |
|                   | Frequency             | Depends on CPU                                                                                       |                                    |
|                   | L2 Cache              | Depends on CPU                                                                                       |                                    |
|                   | CPU Type              | Socket (LGA 1851)                                                                                    |                                    |
|                   | Chipset               | Socket LGA1851                                                                                       |                                    |
| Memory            | BIOS                  | AMI UEFI                                                                                             |                                    |
|                   | Technology            | Dual-channel DDR5 (non-ECC) 5600MT/s                                                                 | Dual-channel DDR5 CSODIMM 6400MT/s |
|                   | Max. Capacity         | Up to 128GB                                                                                          |                                    |
|                   | Socket                | 2 x 262-pin DDR5 SO-DIMMs                                                                            |                                    |
|                   | Controller            | Intel® UHD Graphics                                                                                  |                                    |
| Display           | Graphic Memory        | Depends on CPU                                                                                       |                                    |
|                   | LVDS                  | 1 x Dual channel 18/24-bit                                                                           |                                    |
|                   | eDP                   | N/A                                                                                                  |                                    |
|                   | VGA                   | N/A                                                                                                  |                                    |
|                   | DVI                   | N/A                                                                                                  |                                    |
|                   | HDMI                  | 2                                                                                                    |                                    |
|                   | DisplayPort           | 1                                                                                                    |                                    |
|                   | Multiple Display      | 3 independent displays                                                                               |                                    |
| Ethernet          | Controller            | HDMI up to 4096 x 2160 @30Hz<br>DP up to 4096 x 2304 @60Hz<br>LVDS up to 1920 x 1200 @60Hz           |                                    |
|                   |                       | 1 x Intel® I219-LM GbE LAN PHY<br>1 x Intel® I226-V 2.5GbE LAN                                       |                                    |
| Audio             | Controller            | Realtek® ALC897 Audio Codec (Co-lay ALC888S)                                                         |                                    |
| Super I/O         | Controller            | Fintek F81966D-I                                                                                     |                                    |
| H/W Monitor       | Watchdog Timer        | 256-level Watchdog Timer                                                                             |                                    |
|                   | Smart Fan             | Yes                                                                                                  |                                    |
| TPM               | Controller            | Infineon® SLB 9672VU2.0                                                                              |                                    |
| I/O Interface     | USB                   | 2 x USB 10Gbps (rear)<br>2 x USB 5Gbps (rear)<br>5 x USB 2.0 (5 x Internal with one Vertical Type-A) |                                    |
|                   |                       | 4 x COM ports<br>COM1: RS-232/422/485, Auto-flow Control<br>COM2~4: RS-232                           |                                    |
|                   |                       | COM1: RS-232/422/485, Auto-flow Control<br>COM2~4: RS-232                                            |                                    |
|                   | Parallel              | N/A                                                                                                  |                                    |
|                   | PS/2                  | N/A                                                                                                  |                                    |
|                   | GPIO                  | 8-bits (4 x GPI; 4 x GPO), 5V                                                                        |                                    |
| Expansion Slot    | PCIe x 16             | 1 x PCIe x16 (Gen 5)                                                                                 |                                    |
|                   | M.2                   | 1 x M key (PCIe x4 NVMe), 2280/2242<br>1 x E key (PCIe x1 & USB 2.0), 2230                           |                                    |
|                   | Mini-PCIe             | N/A                                                                                                  |                                    |
| Storage           | SATA                  | 3 x SATA 3.0 (AHCI Mode Supported)                                                                   |                                    |
|                   | mSATA                 | N/A                                                                                                  |                                    |
|                   | DC                    | N/A                                                                                                  |                                    |
| Power Supply      | ATX                   | ATX-Power 24P, 12V-8P                                                                                |                                    |
|                   | Operating Temperature | 0 ~ 60°C<br>Note: Thermal Test w/ Airflow:0.7m/s                                                     |                                    |
| Environment       | Operating Humidity    | 10 ~ 90%, non-condensing                                                                             |                                    |
|                   | Storage Temperature   | -20 ~ 80°C                                                                                           |                                    |
|                   | Storage Humidity      | 10 ~ 90%, non-condensing                                                                             |                                    |
| Form Factor       | Dimensions            | 170 x 170 mm (Mini-ITX)                                                                              |                                    |
|                   | Weight                | 0.40 kg                                                                                              |                                    |
| Certification     | EMC                   | CE, FCC Class B, BSMI, RCM, VCCI, UKCA                                                               |                                    |
| Software Platform | OS Support            | Windows 10 IoT Enterprise LTSC (64-bit)                                                              |                                    |
|                   |                       | Windows 11 IoT Enterprise LTSC (64-bit)<br>Linux (Support by request)                                |                                    |

## Block Diagram

