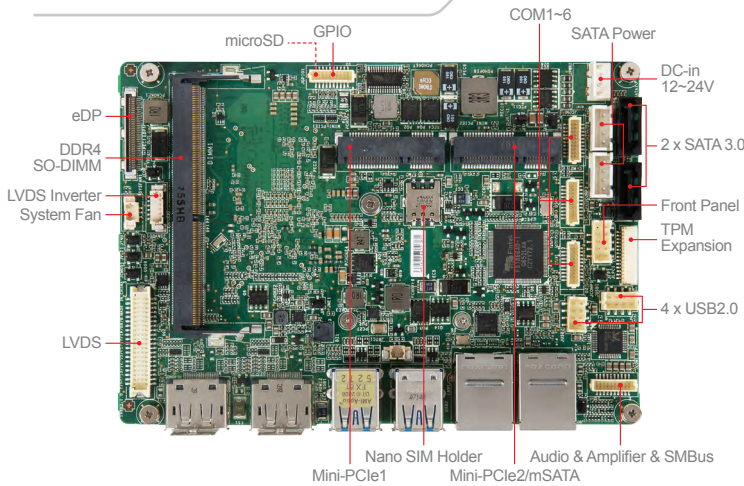
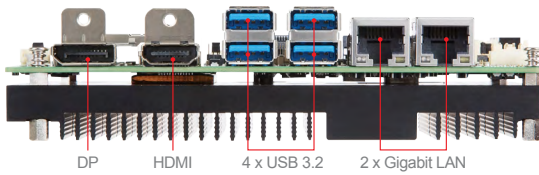


# MS-98H3

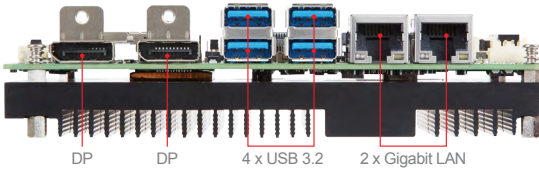
3.5" SBC with Intel® Kaby Lake-U/Skylake-U for Fanless, Ultra Low-Power & High-Performance Solution



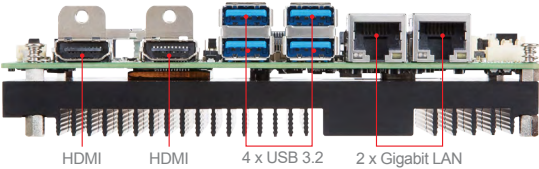
## Standard : DP+HDMI



## Optional : 2 DP



## Optional : 2 HDMI



## Features

- Intel® 7th Gen Kaby Lake-U/Skylake-U Series
- DDR4 2133 MHz SODIMM Slot up to 16GB
- Triple independent displays: DP++, HDMI, LVDS, eDP
- 2 GbE LAN with RJ-45
- 1 Mini-PCIe (Full size, with mSATA), 1 Mini-PCIe (Full size, with Nano SIM Holder) Slots
- 2 SATA 3.0, Micro SD for storage  
SATA RAID 0/1
- 4 USB 3.2 Gen 1, 4 USB 2.0, 6 COM(1 RS-485), GPIO, Audio
- Wide Voltage DC-IN 12~24V

## Packing List

| Part Number     | Description                  | Quantity |
|-----------------|------------------------------|----------|
| K1G-3004069-V03 | DC Power Cable, 150mm        | 1        |
| K14-3018001-V03 | COM Port Cable, 150mm        | 1        |
| K1B-3008067-V03 | USB Cable, 150mm             | 1        |
| K1D-1012064-V03 | SATA Cable with Power, 200mm | 1        |

## Optional Item

| Part Number     | Description  |
|-----------------|--------------|
| E31-2100170-K08 | Heatspreader |

## Specifications

|                          |                       |  |
|--------------------------|-----------------------|--|
| <b>Processor</b>         | CPU                   | 7th/6th Gen Intel® Embedded Mobile Kaby Lake-U/Skylake-U Core™ i7/i5/i3/Celeron® Processor, DC, 15W  |
|                          | Frequency             | 2.0GHz~3.4GHz (Depends on CPU)   |
|                          | L2 Cache              | 2MB~4MB (Depends on CPU)   |
|                          | CPU Type              | BGA  |
| <b>Memory</b>            | BIOS                  | AMI  |
|                          | Technology            | Single-channel DDR4 2133MHz  |
|                          | Max. Capacity         | Up to 16GB   |
|                          | Socket                | 1 x 260-pin SO-DIMM  |
| <b>Display</b>           | Controller            | Intel® HD Graphics   |
|                          | Graphic Memory        | Depends on CPU   |
|                          | LVDS                  | Dual Channel 18/24-bit   |
|                          | eDP                   | 1 (Share with LVDS Signal)   |
|                          | HDMI                  | 1(HDMI1 Co-lay DP1 & HDMI2 Co-lay DP2 by option)   |
|                          | DisplayPort           | 1 (Support DP++, DP1 Co-lay HDMI1 & DP2 Co-lay HDMI2 by option)  |
|                          | Multiple Display      | 3 independent displays   |
| <b>Display Interface</b> | LVDS                  | up to 1920 x 1200 @60Hz  |
|                          | eDP                   | up to 4096 x 2304 @60Hz  |
| <b>Ethernet</b>          | HDMI1/HDMI2           | HDMI1.4 up to 4096 x 2160 @24Hz  |
|                          | DP1/DP2               | up to 4096 x 2304 @60Hz  |
| <b>Ethernet</b>          | Controller            | 1 x Intel® I210-AT GbE LAN<br>1 x Intel® I219LM GbE-PHY LAN (AMT 11.x supported)   |
|                          | Controller            | Realtek® ALC887-VD2-CG HD Audio Codec  |
| <b>Audio</b>             | Controller            | Fintek F81866AD-I  |
| <b>Super I/O</b>         | Watchdog Timer        | 256-level Watchdog Timer   |
| <b>H/W Monitor</b>       | Smart Fan             | Yes  |
| <b>TPM</b>               | Controller            | Pin header   |
| <b>I/O Interface</b>     | USB                   | 4 x USB 2.0 (internal)<br>4 x USB 3.2 Gen 1 (rear)<br>6 x COM ports (internal)<br>COM1: RS-232/422/485, 0V/5V/12V, support auto flow control<br>COM2~6: RS-232, 0V/5V/12V (RS-422/485 Optional)                                  |
|                          | Serial                |  |
| <b>Expansion Slot</b>    | Mini-PCIe             | 2 x Full-size (one w/NANO SIM-Holder & one w/mSATA)  |
| <b>Storage</b>           | SATA                  | 2 x SATA 3.0   |
|                          | mSATA                 | 1 (Shared with Mini-PCIe)  |
| <b>Power Supply</b>      | DC                    | DC-in 12~24V   |
| <b>Environment</b>       | Operating Temperature | -10 ~ 60°C<br>Note: Thermal w/ Airflow:0.7m/s  |
|                          | Operating Humidity    | 10 ~ 90%, non-condensing   |
|                          | Storage Temperature   | -20 ~ 80°C   |
|                          | Storage Humidity      | 10 ~ 90%, non-condensing   |
| <b>Form Factor</b>       | Dimensions            | 146 x 102 mm (3.5")  |
|                          | Weight                | 0.59 kg  |
| <b>Certification</b>     | EMC                   | FCC, CE, RCM, VCCI, BSMI   |
| <b>Software Platform</b> | OS Support            | Windows 7 (32/64-bit) (Skylake-ULT Only)<br>Windows 8.1 (64-bit) (Skylake-ULT Only)<br>Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5)<br>Windows 11 IoT Enterprise (64-bit, 22H2, Pre-scan)<br>Linux (Support by request) |

## Ordering Information

| Part Number  | Description   |
|--------------|---|
| 919-98H3-001 | MS-98H3 11 Intel Kaby Lake-U i7-7600U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V       |
| 919-98H3-002 | MS-98H3 11 OPT:A Intel Kaby Lake-U i5-7300U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V |
| 919-98H3-003 | MS-98H3 11 OPT:B Intel Kaby Lake-U i3-7100U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V |
| 919-98H3-004 | MS-98H3 11 OPT:C Intel Kaby Lake-U 3965U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V    |
| 919-98H3-005 | MS-98H3 11 OPT:D Intel Skylake-U i7-6600U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V   |
| 919-98H3-006 | MS-98H3 11 OPT:E Intel Skylake-U i5-6300U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V   |
| 919-98H3-007 | MS-98H3 11 OPT:F Intel Skylake-U i3-6100U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V   |
| 919-98H3-008 | MS-98H3 11 OPT:G Intel Skylake-U 3955U,DDR4 SO DIMM+DP+HDMI+LVDS+eDP+2*Mini-PCIe+2*LAN+ 2*SATA3.0+4*USB3.0+2*USB 2.0+6*COM+Micro SD,DC 12V~24V      |