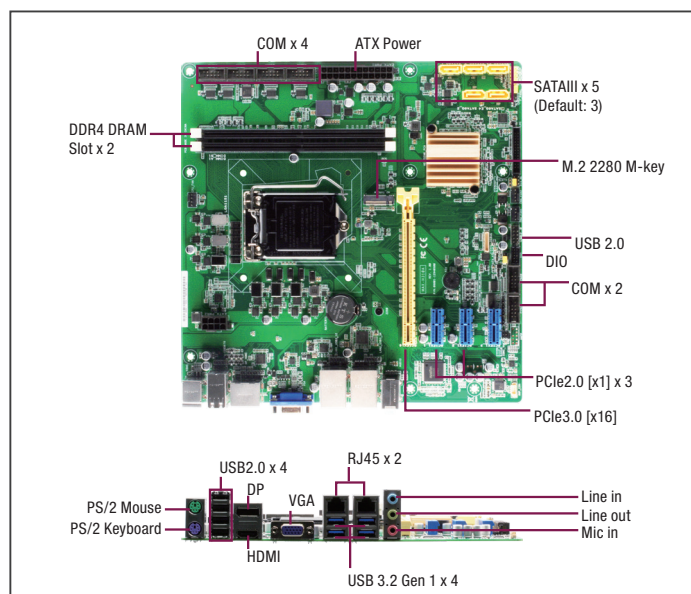


# MAX-H310A

Micro-ATX Industrial Motherboard with 8th Generation Intel® Core™ Processor, DDR4 DRAM

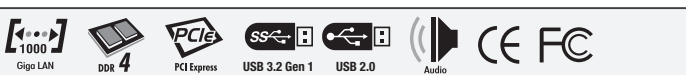


## Specifications

| System                   |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Processor                | 8th Generation Intel®(Coffee Lake-S) Core™ i7/ i5/ i3, Pentium 14nm LGA 1151 socket Processor                               |
| Chipset                  | Intel® H310 Express Chipset                                                                                                 |
| Memory                   | DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 32GB)<br>non-ECC, un-buffered memory<br>Dual-channel memory architecture           |
| I/O Chipset              | NCT6793D+ F81216HD                                                                                                          |
| Ethernet                 | Intel® PHY i219V Gb LAN x 1<br>Intel® i211AT Gb LAN x 1<br>RJ45 x 2                                                         |
| Audio                    | Realtek® ALC887 6-Channel High Definition Audio CODEC                                                                       |
| TPM                      | Nuvoton NPCT650ABBYX TPM2.0 onboard (default: No)                                                                           |
| Expansion Slots          | PCIe 3.0[x16] Slot x 1<br>PCIe 2.0[x1] Slot (open edge) x 3<br>M.2 2280 M-key (BOM option: PCIe or SATA; default: SATA) x 1 |
| BIOS                     | 128Mbit Flash ROM, AMI BIOS                                                                                                 |
| H/W Monitor              | Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis                         |
| WatchDog Timer           | 1~255 steps by software program                                                                                             |
| Smart Fan Control        | CPU Fan x 1<br>Chassis Fan x 2                                                                                              |
| Wake On LAN/ PXE         | Yes (WOL / PXE)                                                                                                             |
| Power State              | S3, S4, S5                                                                                                                  |
| Graphics                 |                                                                                                                             |
| Graphics Chipset         | Intel® UHD Graphics                                                                                                         |
| Graphics Multi Display   | VGA+DP; VGA+HDMI; DP+HDMI                                                                                                   |
| VGA                      | Up to 1920 x 1200 @60Hz (via IT6516B)                                                                                       |
| DVI                      | —                                                                                                                           |
| HDMI                     | Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio                                                         |
| Display Port             | Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio                                                         |
| LVDS                     | —                                                                                                                           |
| eDP                      | —                                                                                                                           |
| Backlight Control        | —                                                                                                                           |
| Environment & Power & ME |                                                                                                                             |
| Battery                  | Lithium battery                                                                                                             |
| Power Requirement        | 24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1                                                           |
| Operation Temperature    | 32°F ~140°F (0°C ~ 60°C)                                                                                                    |
| Storage Temperature      | -40°F ~185°F (-40°C ~85°C)                                                                                                  |
| Operation Humidity       | 0%~90%RH, non-condensing                                                                                                    |
| Certificate              | CE & FCC Class A                                                                                                            |
| Form Factor              | Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)                                                                          |

## Features

- 8th Generation Intel® Core™ LGA1151 Processor
- DDR4 2666/2400/2133 MHz, max. 32GB
- Two Independent Displays: HDMI x 1, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i211AT x 1, i219V x 1
- USB 3.2 Gen 1 ports x 4, USB 2.0 ports x 4
- M.2 M-key (PCIe or SATA) x 1, up to 5 SATA III
- TPM Onboard (Optional)

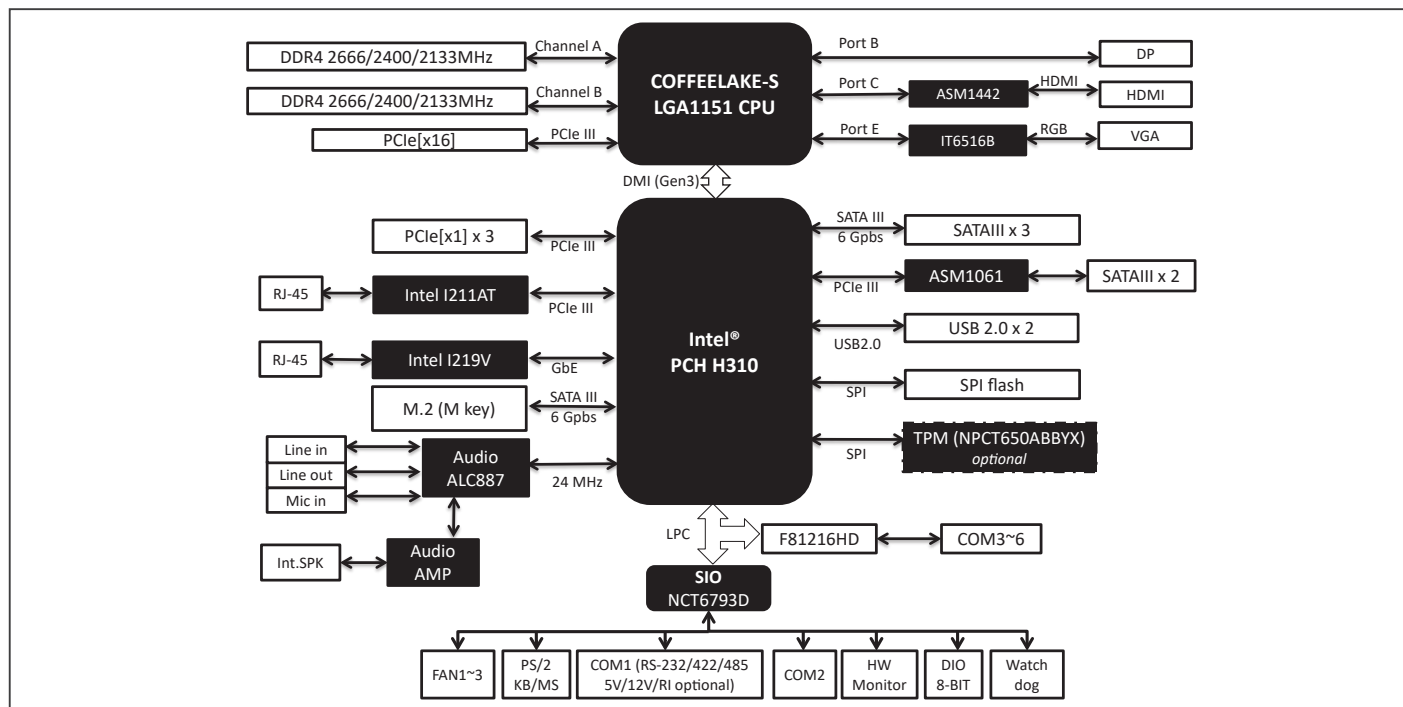


| Weight                  | 1.76 lb (0.8 Kg)                                                                                                                  |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| MTBF (Hours)            | 261,090                                                                                                                           |
| Rear Panel I/O Ports    |                                                                                                                                   |
| USB                     | USB 3.2 Gen 1 ports (5 Gbps) x 4, USB 2.0 ports x 4                                                                               |
| Display I/O             | DP x 1, VGA x 1, HDMI x 1                                                                                                         |
| Audio I/O               | Audio Jack x 3: Line-in, Mic-in, Line-out                                                                                         |
| LAN I/O                 | LAN (RJ45) ports x 2                                                                                                              |
| Serial Port             | —                                                                                                                                 |
| PS/2 Port               | PS/2 stack Port (Keyboard & Mouse) x 1                                                                                            |
| Others                  | —                                                                                                                                 |
| Internal I/O Connectors |                                                                                                                                   |
| Storage                 | SATA III (6.0Gb/s) ports (BOM option: additional 2 SATA) x 3<br>M.2 2280 M-key (BOM option: PCIe x1 or SATA; default: SATA) x 1   |
| USB                     | USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1                                                              |
| Display I/O             | —                                                                                                                                 |
| Audio I/O               | speaker header (Line-out) x 1                                                                                                     |
| Serial Port             | RS-232 Boxer headers x 5<br>RS-232/422/485 Boxer header (COM1, Pin9 supports 5V/12V/RI optional) x 1                              |
| PS/2 Port               | —                                                                                                                                 |
| Parallel Port           | —                                                                                                                                 |
| DIO                     | 8-bit Digital I/O interface (In/Out programmable) x 1                                                                             |
| FAN                     | CPU Fan connector (4-pin) x 1<br>Chassis Fan connector(s) (4-pin) x 2                                                             |
| Power                   | —                                                                                                                                 |
| Others                  | Chassis intrusion x 1<br>AT/ATX mode select jumper x 1<br>Front panel header x 1<br>Clear CMOS jumper x 1<br>LPC boxer header x 1 |
| OS                      |                                                                                                                                   |
| OS Support              | Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)                                                                       |

## Packing List

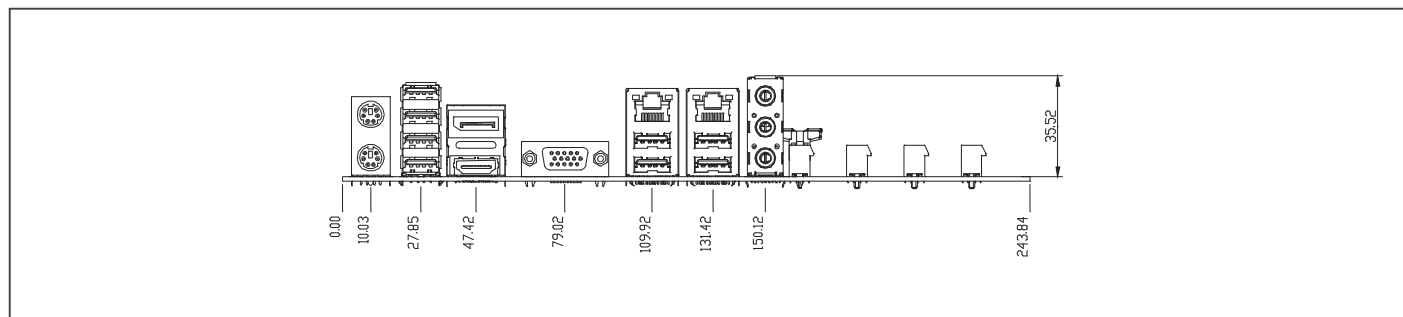
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- I/O Shield
- MAX-H310A

### Block Diagram



### Dimension

Unit: mm



### Ordering Information

| Part number   | CPU                | RAM                    | Fan/<br>Fanless | Display                         | LVDS | Storage                                 | LAN              | USB                                       | RS-232 | RS-<br>232/422/485 | Expansion Slot                                            | Power | TPM | Temp.                       |
|---------------|--------------------|------------------------|-----------------|---------------------------------|------|-----------------------------------------|------------------|-------------------------------------------|--------|--------------------|-----------------------------------------------------------|-------|-----|-----------------------------|
| MAX-H310A-A10 | LGA 1151<br>socket | DDR4<br>2666/2400/2133 | Fan             | HDMI x 1,<br>VGA x 1, DP<br>x 1 | —    | SATA3 x 3, M.2 2280 M-key<br>(SATA) x 1 | Intel®GbE<br>x 2 | USB 3.2 Gen 2<br>Gen1 x 4, USB 2.0<br>x 4 | 5      | 1                  | PCIe[x16] x 1, PCIe[x1] x 3, M.2 2280<br>M-key (SATA) x 1 | ATX   | —   | 32°F ~140°F<br>(0°C ~ 60°C) |

### Optional Accessories

| Part Number    | Description                                      |
|----------------|--------------------------------------------------|
| 14001-00400100 | COM Port Cable (9P, 260mm, p=2.54mm w/bracket)   |
| 1709100330     | USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)   |
| 170910020K     | USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket) |
| 175921156B     | CPU Cooler (2-Ball, Push-pin Type)               |
| 1759200172     | CPU Cooler (2-Ball, Screw with Retention Plate)  |