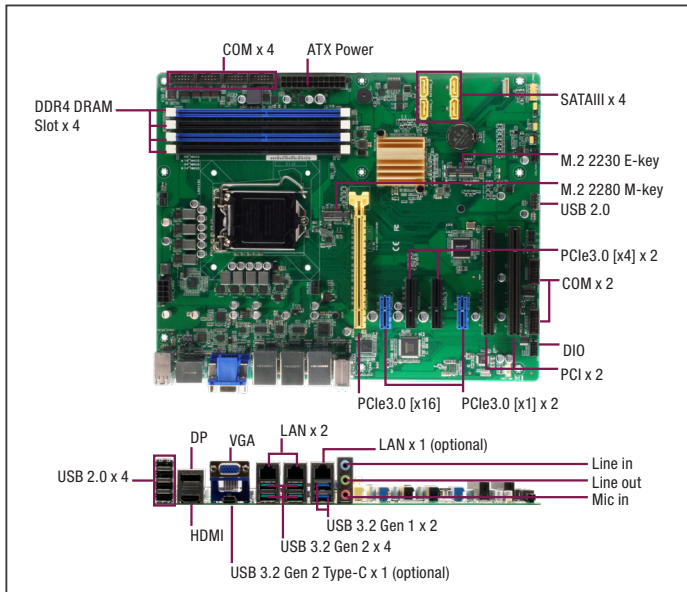


# ATX-Q370A

ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Supports iAMT 12.0, and Intel® CNVi WLAN Card, Option: LAN x 3, Type-C Alternate (Display + Data USB 3.2 Gen 1) Function



## Specifications

| System                   |   |
|--------------------------|---|
| Processor                | Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, max. TDP 8 Core 95W                                 |
| Chipset                  | Intel® Q370 Express Chipset   |
| Memory                   | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB)<br>Non-ECC, un-buffered memory<br>Dual channel memory architecture  |
| I/O Chipset              | NCT6793D + F81216HD   |
| Ethernet                 | Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0)<br>Intel® i210AT Giga LAN x 1 (BOM option: i210AT x 2)<br>RJ45 x 2 (BOM option: RJ45 x 3)                               |
| Audio                    | Realtek® ALC897 6-Channel High Definition Audio CODEC   |
| TPM                      | Nuvoton NPCT750 TPM2.0 onboard  |
| Expansion Slots          | PCIe 3.0[x16] Slot x 1, PCIe 3.0[x4] Slot (open edge) x 2, PCIe 3.0[x1] Slot (open edge) x 2, PCI x 2, M.2 2230 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PCIex4/SATA3) x 1 |
| BIOS                     | 256Mbit Flash ROM x 1, AMI BIOS   |
| H/W Monitor              | Temperature Monitor on CPU/Chassis, 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/ Chassis Fan x 2  |
| Wake On LAN/ PXE         | Yes (WOL / PXE)   |
| Power State              | S3, S4, S5  |
| Graphics                 |   |
| Graphics Chipset         | Intel® Graphics Media Accelerator   |
| Graphics Multi Display   | HDMI+VGA+DP (BOM option: USB 3.2 Gen 2-10Gbps Type-C connector (Alternate Mode: USB+DP) x 1)  |
| 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              | ATX Form Factor, 12"x9.6" (305mm x 244mm)   |

## Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Power 95W max.
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)
- Dual Intel® Gigabit Ethernet, i210AT x 1 (option: i210AT x 2), i219LM x 1
- USB 3.2 Gen 2 ports x 4, USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 6
- M.2 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 M-key (PCIex4/SATA3) x 1
- TPM Onboard

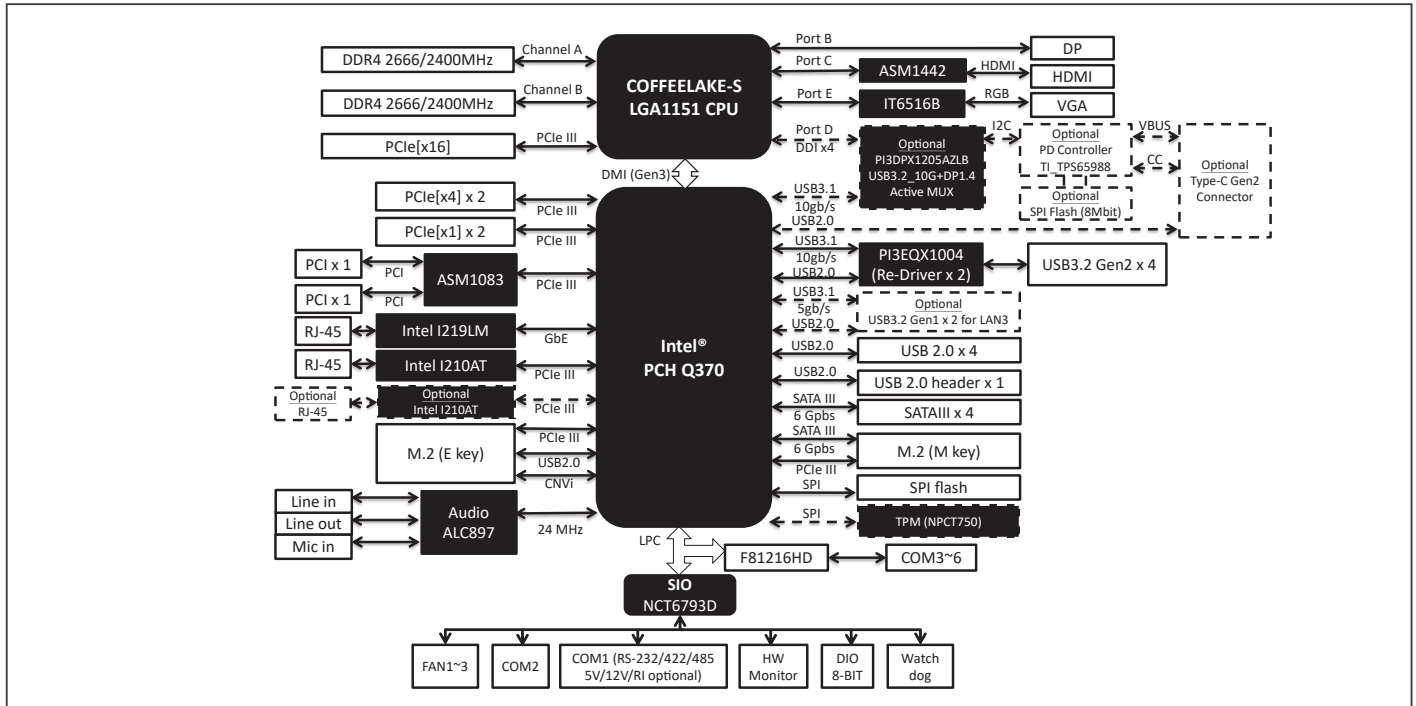


| Weight                  | 1.76 lb (0.8 Kg)  |
|-------------------------|---|
| MTBF (Hours)            | 281,410   |
| Rear Panel I/O Ports    |   |
| USB                     | USB 3.2 Gen 2 ports (10 Gbps) x 4, USB 3.2 Gen 1 ports (5 Gbps) x 2, USB 2.0 ports x 4  |
| Display I/O             | HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)  |
| Audio I/O               | Audio Jack x 3: Line-in, Mic-in, Line-out   |
| LAN I/O                 | LAN (RJ45) ports x 2 (BOM option: RJ45 x 3)   |
| Serial Port             | —   |
| PS/2 Port               | —   |
| Others                  | —   |
| Internal I/O Connectors |   |
| Storage                 | SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10<br>M.2 2280 M-key (PCIex4/SATA3) x 1  |
| USB                     | USB 2.0 headers x 1 support additional 2 USB ports (2x5PIN, p=2.54mm)   |
| Display I/O             | —   |
| Audio I/O               | —   |
| Serial Port             | 5 x RS-232 headers<br>1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional)  |
| PS/2 Port               | —   |
| Parallel Port           | —   |
| DIO                     | 8-bit Digital I/O interface (In/Out programmable) x 1   |
| FAN                     | CPU Fan connector(s) (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>3-pin ME lock header x 1<br>Buzzer on-board x1 |
| OS                      |   |
| OS Support              | Windows® 10 64bit, Windows® 11 64bit,<br>Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)   |

## Packing List

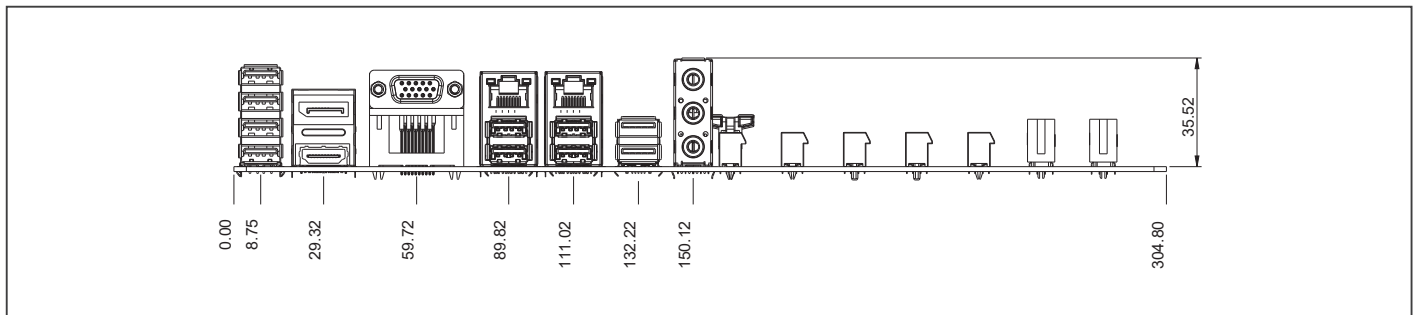
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- ATX-Q370A

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

| Part number          | CPU             | RAM                 | Fan/Fanless | Display                       | LVDS | Storage                         | LAN           | USB   | RS-232 | RS-232 /422/485 | Expansion Slot   | Power | TPM     | Temp.                       |
|----------------------|-----------------|---------------------|-------------|-------------------------------|------|---------------------------------|---------------|---|--------|-----------------|--|-------|---------|-----------------------------|
| ATX-Q370A-A20-2L-210 | LGA 1151 socket | DDR4 2666/2400/2133 | Fan         | HDMI x 1<br>VGA x 1<br>DP x 1 | —    | SATA3 x 4<br>M.2 2280 M-key x 1 | Intel®GbE x 2 | USB 3.2 Gen 2 x 4<br>USB 3.2 Gen 1 x 2<br>USB 2.0 x 6 | 5      | 1               | PCIe[x16] x 1, PCIe[x4] (open edge) x 2, PCIe[x1] (open edge) x 2, PCI x 2, M.2 2230 E-key x 1, M.2 2280 M-key x 1 | ATX   | Onboard | 32°F ~140°F<br>(0°C ~ 60°C) |

## Optional Accessories

| Part Number     | Description                                      |
|-----------------|--|
| AP-FNTH1Q370010 | CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)   |
| 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)  |