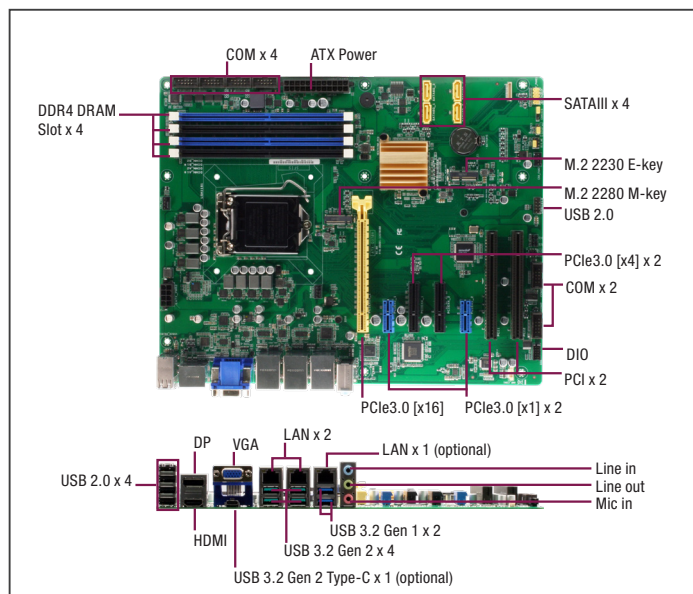


# ATX-C246A

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 2) Function



## Specifications

| System                   |                                                                                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                | Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/i7/i5/i3, Pentium 14nm, Celeron™, Xeon E-2200/2100, LGA 1151 socket Processor, max. TDP 8 Core 95W       |
| Chipset                  | Intel® C246 Express Chipset                                                                                                                                                       |
| Memory                   | DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) ECC, un-buffered memory Dual channel memory architecture                                                                          |
| I/O Chipset              | NCT6793D + F81216HD                                                                                                                                                               |
| Ethernet                 | Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel®i210AT Giga LAN x 1 (BOM option: i210AT x 2) 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 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing)                                                                                                       |
| Storage Temperature      | —                                                                                                                                                                                 |
| 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

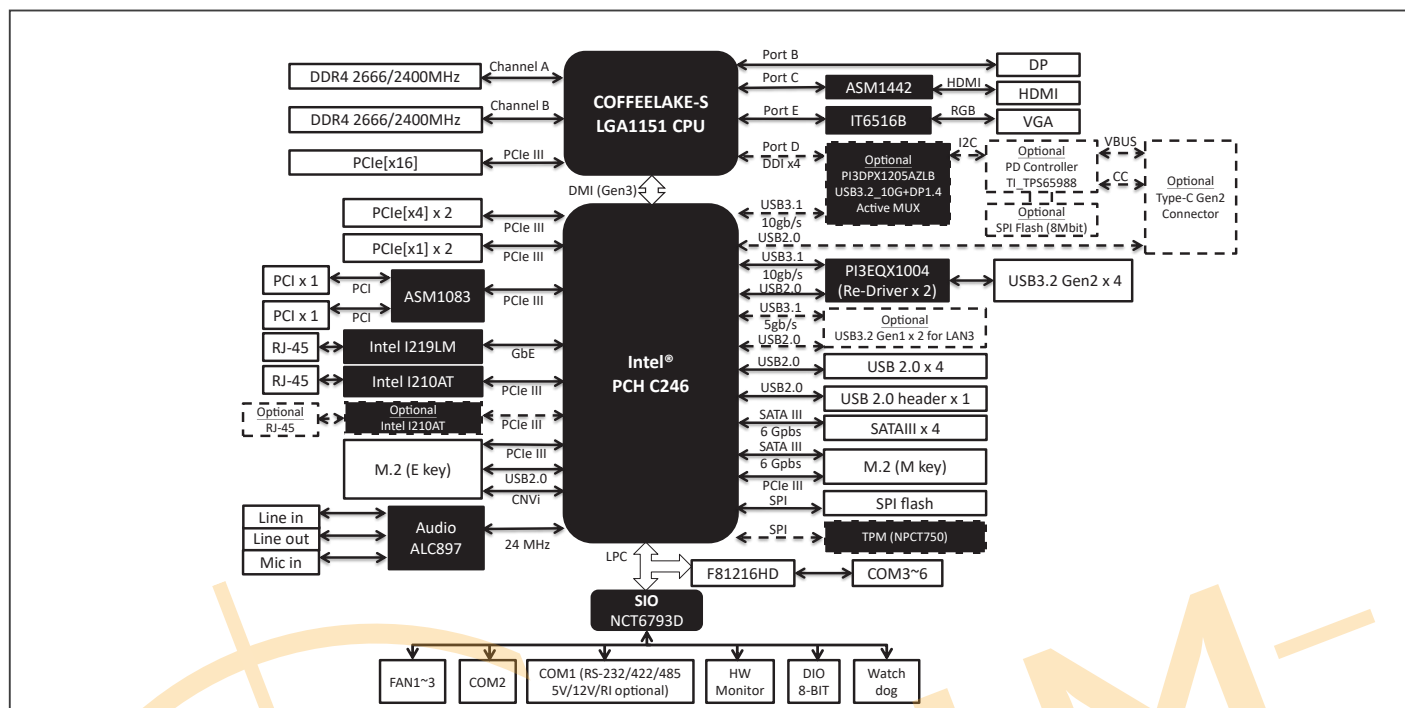


| Weight                  | 1.76 lb (0.8 Kg)                                                                                                                              |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 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 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 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 Chassis Fan connector(s) (4-pin) x 2                                                                         |
| Power                   | —                                                                                                                                             |
| Others                  | Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 3-pin ME lock header x 1 Buzzer on-board x 1 |
| OS                      |                                                                                                                                               |
| OS Support              | Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0)                                                                |

## Packing List

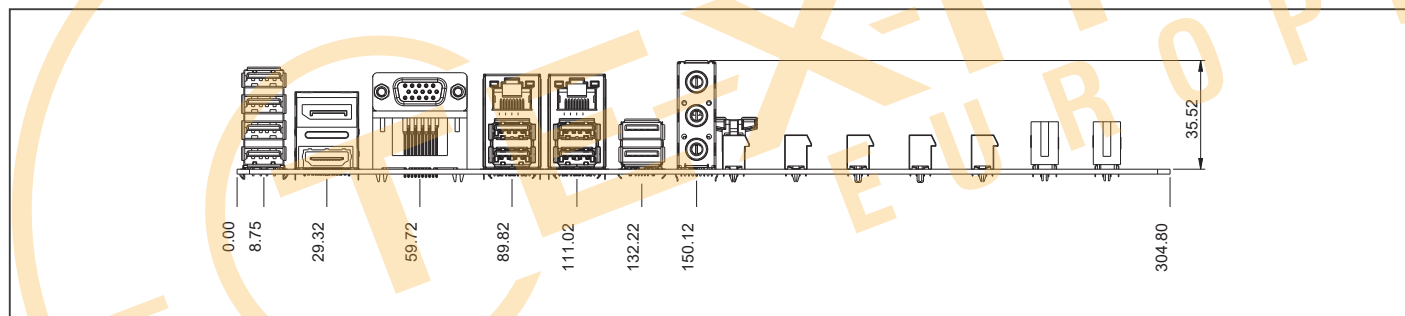
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00440100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- ATX-C246A

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

| Part number          | CPU             | RAM                 | Fan/<br>Fanless | Display                       | LVDS | Storage                         | LAN           | USB                                                   | RS-232 | RS-232<br>/422/485 | Expansion Slot                                                                                                        | Power | TPM     | Temp.                       |
|----------------------|-----------------|---------------------|-----------------|-------------------------------|------|---------------------------------|---------------|-------------------------------------------------------|--------|--------------------|-----------------------------------------------------------------------------------------------------------------------|-------|---------|-----------------------------|
| ATX-C246A-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,<br>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)  |

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