Neu-X304

Edge Computing System
Powered by 14/13/12th Gen Intel® Core™ i Processor





Neu-X304-H



Neu-X304-Q

Main Features

- 14/13/12th Gen Intel® Core™ i9/i7/i5/i3 processor, up to 35W
- Dual channel DDR5 SO-DIMM, up to 64GB
- Support 3 x HDMI® 2.0 output, 4K@60Hz
- Dual Intel® LAN ports
- Richful I/O connectivity: 2 x COM port, 8 x USB port, 1 x Mic in, 1 x Line out
- TPM 2.0
- Support Intel® AMT technology (Q670E only)
- Multiple expansion slots: M.2 Key M 2280 for storage, M.2 Key E 2230 for Wi-Fi module, M.2 Key B 3052 for LTE/5G module
- DC 12V or DC 12V~24V power input (Q670E only)

Product Overview

The Neu-X304 series is an industrial grade fanless edge computing system powered by the 14/13/12th Gen Intel® Core™ i9/i7/i5/i3 processor with the Intel® Q670E/H610E express chipset. In addition to great computing performance, the Neu-X304 series features outstanding GPU performance driven by the Intel® UHD graphics 770 engine, delivering eye-catching visuals. The Neu-X304 supports three HDMI® 4K@60Hz outputs, and offers rich I/O connectivity including dual LAN ports (Intel® I226-V, 2.5GbE and Intel® I219-LM, GbE), dual COM ports, eight USB ports, one Mic in, one Line out, and one remote switch. It also comes in great expansion possibilities, including three M.2 slots for supporting SSD storage, Wi-Fi and LTE/5G connectivity. The Neu-X304 offers a powerful combination of AI and visual edge computing performance, making it ideal for versatile applications such as healthcare services, public transportation monitoring, digital education systems, AI recognition, and data center cloud computing.

Specifications

CPU Support

- 14/13/12th Gen Intel® Core™ i9/i7/i5/i3 processor, up to 35W
  - Intel® Core™ i9-14900T, PBP 35W
  - Intel® Core™ i7-14700T, PBP 35W
  - Intel® Core™ i5-14500T, PBP 35W
  - Intel® Core™ i3-14100T, PBP 35W
  - Intel® Core™ i9-13900TE, TDP 35W
  - Intel® Core™ i7-13700TE, TDP 35W
  - Intel® Core™ i5-13500TE, TDP 35W
  - Intel® Core™ i3-13100TE, TDP 35W
  - Intel® Core™ i9-12900TE, PBP 35W
  - Intel® Core™ i7-12700TE, PBP 35W
  - Intel® Core™ i5-12500TE, PBP 35W
  - Intel® Core™ i3-12100TE, PBP 35W

Chipset & Memory

- Intel® Q670E
- Intel® H610E
- 2 x DDR5 SO-DIMM, up to 64GB

Graphics & Display

- Intel® UHD graphics 770
- 3 x HDMI® 2.0 output, up to 4096x2160@60Hz
- 1 x LVDS connector, up to 1920x1200@60Hz (Co-lay with eDP signal select by jumper, Q670E only)

I/O Interface-Front

- 1 x Power button
- 1 x HDD LED indicator
- 2 x COM port (DB9):
  - COM1: RS-232/422/485
  - COM2: RS-232, supports RI/12V/5V, select by jumper
  - COM3: RS-232/422/485
  - COM4: RS-232
  (COM3 & COM4 are optional by request)
- 4 x USB 2.0 port
- 1 x Remote on/off switch

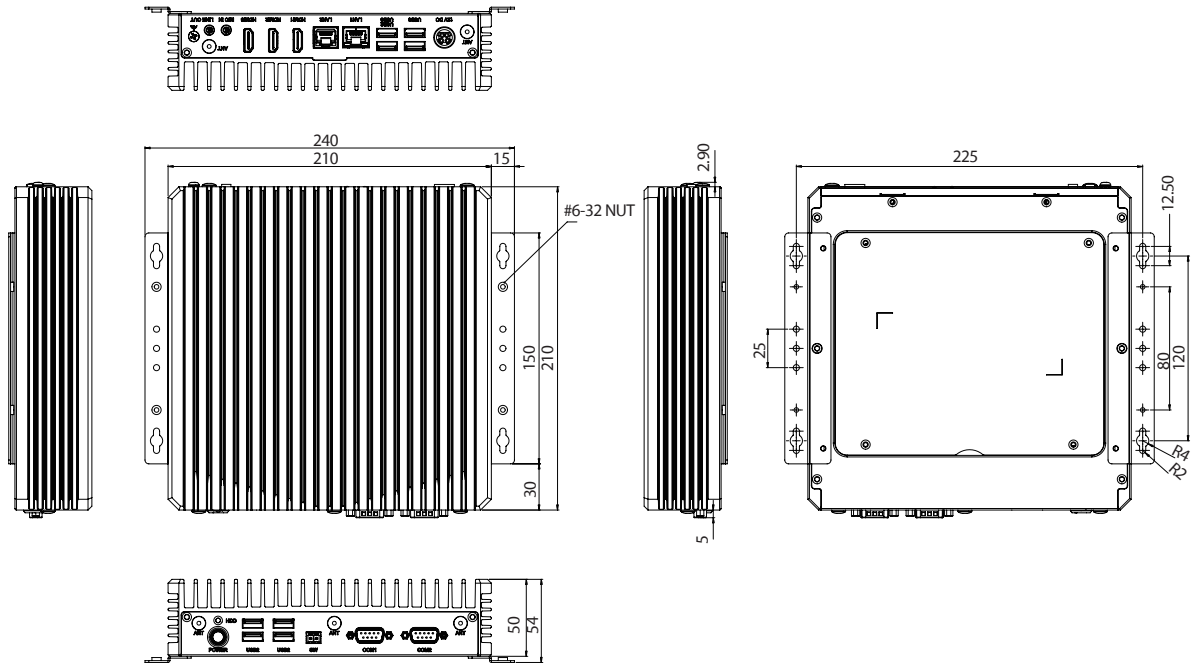
I/O Interface-Rear

- 1 x DC jack
- 4 x USB 3.2 (Q670E) or 3 x USB 3.2 + 1 x USB 2.0 (H610E)
- 1 x Intel® I219-LM (GbE), 1 x Intel® I226-V (2.5GbE)
- 3 x HDMI® 2.0 output
- 1 x Mic in, 1 x Line out powered by Realtek ALC888S

I/O Interface-Internal

- 1 x GPIO, TTL level, 4 x GPI, 4 x GPO
- 1 x Speaker header with 2W 4Ω amplifier
- 2 x Reserved COM port header (by request):
  - COM3: RS-232/422/485
  - COM4: RS-232

Dimension Drawing



Expansion

- 1 x M.2 Key E 2230, supports Wi-Fi 6/6E + bluetooth module
- 1 x M.2 Key B 3042/3052, supports LTE/5G module

Storage

- 1x M.2 Key M 2280, supports PCIe x4 and SATA signal

Power Requirement

- Neu-X304-Q: DC 12V~24V, up to 120W
- Neu-X304-H: DC 12V only, up to 120W

Environment

- Operating temperature: -5°C~45°C (IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14)
- Relative humidity: 95% (non-condensing)
- Storage temperature: -20°C~80°C
- Shock protection: 50G peak acceleration, 11ms according to IEC 60068-2-27
- Vibration protection
  - Random: 2Grms@5Hz~500Hz, IEC 60068-2-64
  - Sinusoidal: 2G@5Hz~500Hz, IEC 60068-2-6

Certification

- CE approval (EN 55032/EN 55035)
- FCC Class A

Mechanical & Dimension

- System unit:
  - Dimensions: 240mm (W) x 210mm (D) x 54mm (H) (w/ mount bracket)
  - Dimensions: 210mm (W) x 210mm (D) x 50mm (H) (w/o mount bracket)
  - Net weight: 2.69kg
- Package carton:
  - Dimensions: 300mm (W) x 270mm (D) x 205mm (H)
  - Gross weight: 3.9kg (1 unit per carton)

Operating System

- Windows 11
- Windows 10, 64bit
- Linux

Ordering Information

- **Neu-X304-Q (P/N: 10W10X30405X0)**

  14/13/12th Gen Intel® Core™ i edge computing fanless system w/ Intel® Q670E, 3 x HDMI®, DC 12V~24V

- **Neu-X304-H (P/N:10W10X30401X0)**

  14/13/12th Gen Intel® Core™ i edge computing fanless system w/ Intel® H610E, 3 x HDMI®, DC 12V only