

## Main Features

- Intel® LGA1700 socket supports 12/13th Gen Intel® Core™ processor (max 125W)
- Intel® Q670E Express chipset
- 4 x DDR5 4000MHz up to 128GB
- 1 x Intel® i210-AT GbE, 1 x Intel® i219-LM GbE
- 2 x M.2 Key M slot, 1 x M.2 Key B slot + 1 x Micro SIM slot
- 1 x M.2 Key E slot
- 8 x SATA 3.0 (6Gb/s), support Raid 0/1/5/10
- 1 x VGA, 1 x HDMI, 1 x DP, 1 x LVDS/eDP
- 1 x RS232/422/485, 5 x RS232, 4 x USB 3.2 (Gen.2), 3 x USB 3.2 (Gen 1), 2 x USB 2.0
- 2 x PCIe x16, 2 x PCIe x4 slots
- 1 x CPU FAN, 3 x system FAN
- 24 + 8-pin ATX power input
- Micro ATX form factor (244mm x 244mm)

## Product Overview

The NEX 818 is a Micro ATX board. It is equipped with the 12/13th Gen Intel® Core™ processors to support up to a maximum of 125W max and Intel® Q670E chipset. It comes with 4 x DDR5 4000MHz DIMM sockets up to 128GB with non-ECC, un-buffered memory, dual-channel memory architecture and an integrated HD graphic controller.

With Intel® Q670E PCH, the NEX 818 provides high performance and rich expansions. The SATA 3.0 ports with RAID 0, 1, 5, and 10, helps to provide quick access to data files and data protection. Furthermore, it also features an integrated Intel® AMT 12 for easier maintenance. NEX 818 is a high-performance system and PCIe x16 Gen5 is suitable for IOT, AI, AOI, AI vision, and logistics, etc.

## Specifications

### CPU/Chipset

- 12/13th Gen Intel® Core™, LGA 1700 socket, processor max. 125W TDPs, Intel® Q670E PCH

### Main Memory

- DIMM x 4, DDR5 (4000MHz x 4, up to 128GB)
- Non-ECC, un-buffered memory,
- Dual-channel memory architecture

### BIOS

- 256Mb Flash ROM, AMI BIOS

### Display

- 1 x VGA connector (resolution up to 1920 x 1200 @ 60Hz)
- 1 x HDMI 2.0 connector (resolution up to 4096 x 2160 @ 60 Hz/30Hz, with digital audio)
- 1 x DP 1.4 connector (resolution up to 4096 x 2160 @ 24 Hz/3840 x 2160 @ 60 Hz, with digital audio)
- 1 x LVDS up to 1920 x 1080 @ 60 Hz, dual channel 18/24 bit via pin header
- 1 x eDP up to 3840 x 2160 @ 30 Hz via pin header
- Four independent display: HDMI 2.0 x 1, DP x 1, VGA x 1, LVDS/eDP x 1

### Storage

- 8 x SATA 3.0 ports, support RAID 0/1/5/10
- 2 x M.2 2242/80 Key M (PCIe 4 lanes Gen4.0, support RAID 0/1/5/10)

### Expansion Slot

- 1 x PCIe x16 slot (16 lanes, Gen5), (8 lanes when dual use PCIe x16 slots)
- 1 x PCIe x4 slot (open slot) (2 lanes, Gen3)
- 1 x PCIe x16 slot (8 lane, Gen5)
- 1 x PCIe x4 slot (4 lanes, Gen4)
- 1 x M.2 3042/3052 Key B (PCIe 3.0 x1/USB 3.2 Gen1) + 1 x Micro SIM slot
- 1 x M.2 2230 Key E (PCIe 3.0 x1/USB 2.0)

### Audio

- Realtek ALC897 6-channel high definition audio codec

### Watch Dog

- 1~255 step by software program

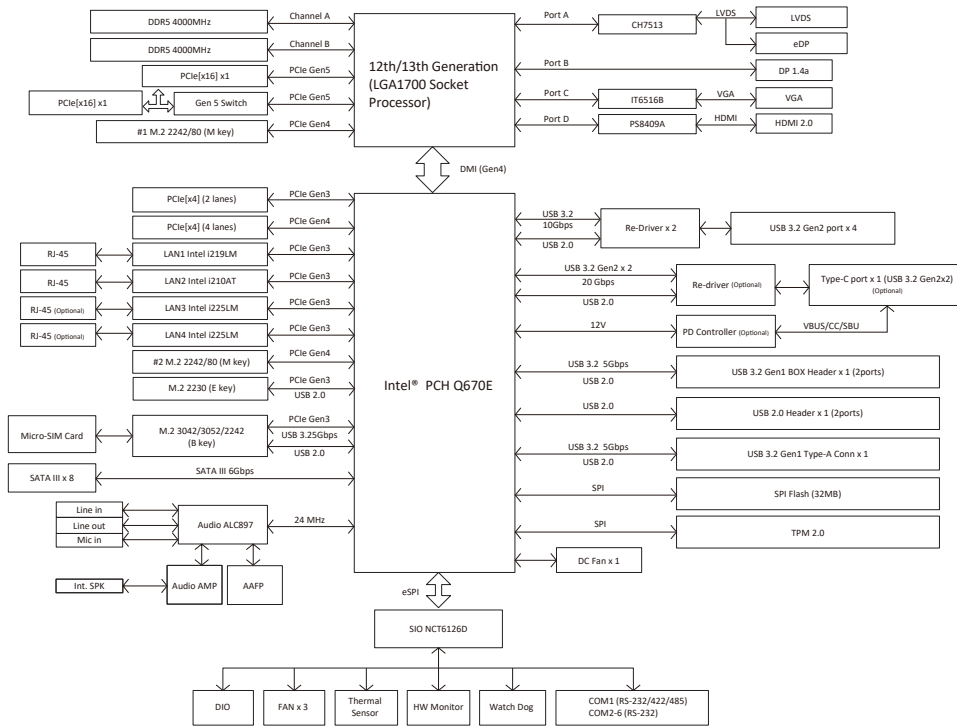
### DIO

- 1 x 8-bit digital I/O interface

### TPM

- TPM 2.0 onboard

## Block Diagram



### Rear I/O

- 1 x VGA, 1 x HDMI 2.0, 1 x DP1.4
- 2 x RJ45 (1 x Intel® i210-AT GbE, 1 x Intel® i219-LM GbE)
- 4 x USB 3.2 Gen2
- 1 x COM DB-9 COM (supports RS-232/422/485, 5V/12V/RI)
- Audio Jack x 3: Line-in, Mic-in, Line-out

### Dimensions

- Micro-ATX form factor, 9.6"x9.6" (244mm x 244mm)

### Power Requirement

- 1 x 24-pin ATX connector x 1, 8-pin ATX 12V power connector
- Support both AT and ATX power supply mode

### Environment

- Board level operation temperature : 0°C to 60°C
- Storage temperature : -40°C to 85°C
- Relative humidity: 0% to 90% (operating, non-condensing)

### Certifications

- Meet CE/FCC Class A

### OS Support

- Windows 10 64-bit, Windows 11 64-bit

## Ordering Information

### Barebone

- **NEX 818 (P/N: 6879G0008180F)**

Micro-ATX, 12/13th Gen Intel® Core™, LGA 1700 socket, processor max 125W TDPs, PCH Q670E, 4 x DDR5 U-DIMM, 1 x VGA, 1 x HDMI, 1 x DP, 4 x USB 3.2 (Gen2), 3 x USB 3.2 (Gen1), 2 x USB 2.0, 2 x GbE LAN, 8 x SATA 3.0, 5 x RS232, 1 x RS232/422/485, 2 x PCIe x16, 2 x PCIe x4, 4 x M.2, onboard TPM 2.0

### Packing List

- SATA 6G cable
- COM Port cable
- I/O shield
- NEX 818 mainboard

### Optional Accessories

- CPU Cooler (P/N: 685050200001F)
- CPU Cooler (P/N: 685050200002F)