

Main Features

- Intel® Core™ Ultra U Processor Series
- Support Intel® AMT technology
- 2 x DDR5 SO-DIMM, up to 96GB
- 2 x HDMI® 2.0 output, up to 4096x2160@60Hz
- 2 x Intel® LAN port
- 1 x USB 3.2 Gen 1x1, and 3 x USB 2.0
- TPM 2.0 on board for security
- 1 x M.2 Key B 3052/2242 for optional 5G/LTE module
- 1 x M.2 Key E 2230 for optional Wi-Fi module
- 1 x M.2 Key M 2280 for optional SSD
- Support +12V DC power input

Product Overview

The X201 board, powered by Intel® Core™ Ultra 7 and 5 processors with an integrated NPU for AI inference, offers optimized workloads across CPU, GPU, and NPU, providing up to 22.4 TOPS of AI computing power while maintaining energy efficiency. Dual HDMI® 2.0 ports deliver exceptional visuals, and a variety of I/O interfaces support a wide range of AI applications. A USB 3.2 port enables connection to AI cameras so that the Visual Edge computer can process images and apply machine learning, allowing it to understand similar events in the future. The RS-232/422/485 ports facilitate connections to legacy devices – such as sensors – to perform object recognition and behavior prediction, which are imperative in automation use cases.

Designed to operate in extreme temperatures from 0°C to 70°C, the X201 board is ideal for semi-outdoor applications such as self-service kiosks, smart recycling machines, and intelligent parking systems. Concurrently, owners are going to collect and analyze data on customer preferences and habits to improve operations, aiming to increase profits. With this in mind, NEXCOM has collaborated with Intel to develop its newest board for Visual Edge computer, the X201.

Specifications

CPU Support

- Intel® Core Ultra 7 processor 165U
- Intel® Core Ultra 7 processor 155U
- Intel® Core Ultra 5 processor 135U
- Intel® Core Ultra 5 processor 125U
- * Only 165U/135U support the Intel® AMT

Main Memory

- 2 x DDR5 5600 SO-DIMM, non-ECC, unbuffered, up to 96GB

Graphics & Display

- Intel® Graphics
- 2 x HDMI® 2.0, up to 4096 x 2160@60Hz

Storage

- 1 x M.2 Key M 2280 for optional SSD (PCIe 3.0 x4, SATA 3.0)

Expansion

- 1 x M.2 Key E 2230 for optional Wi-Fi module
- 1 x M.2 Key B 3052/2242 for optional 5G/LTE module (PCIe 3.0 x1, USB 3.0, USB 2.0)

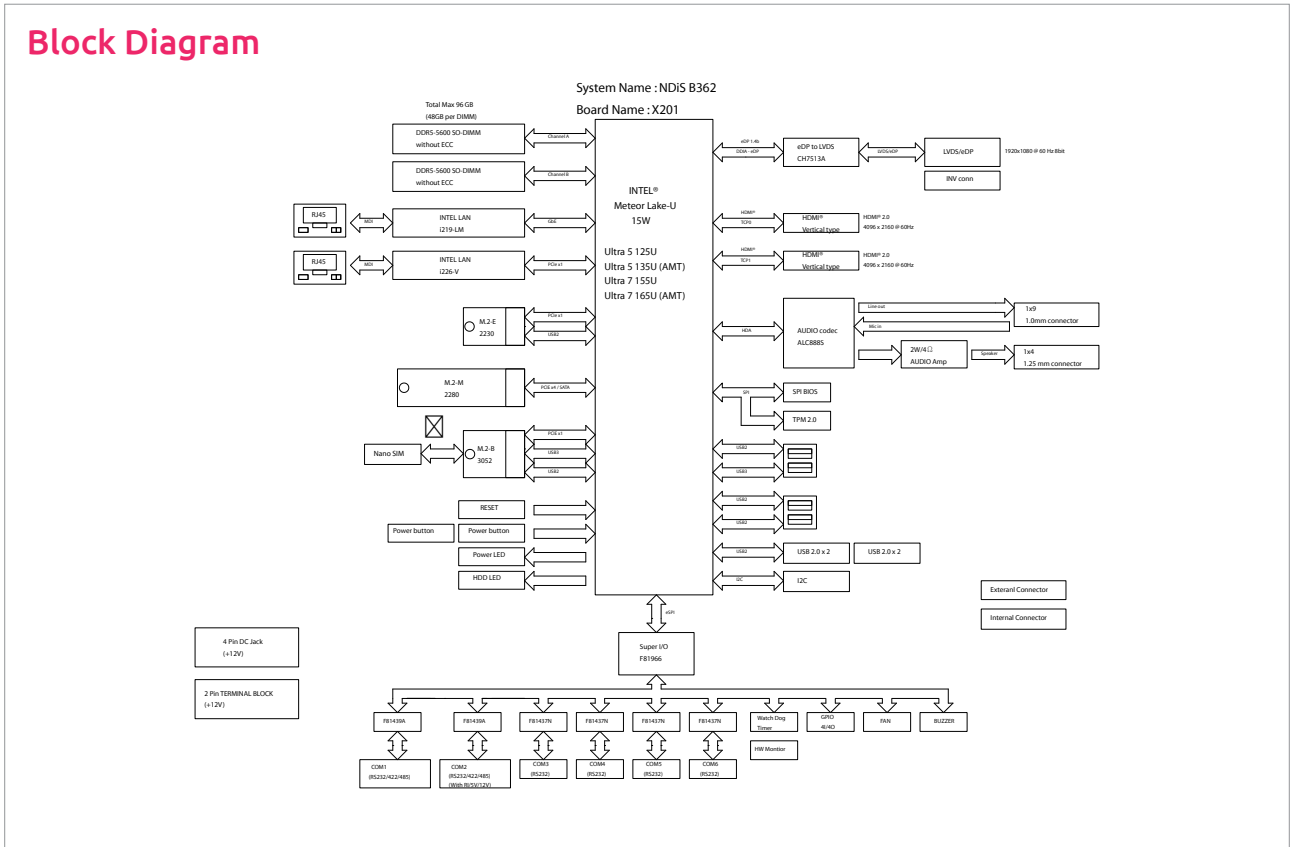
Edge I/O Interface

- 1 x Power button with LED
- 2 x HDMI® 2.0, up to 4096 x 2160@60Hz
- 1 x 2.5GbE RJ45 port, Intel® i226
- 1 x GbE RJ45 port, Intel® I219
- 1 x USB 3.2 Gen 1x1, Type-A
- 3 x USB 2.0
- +12V DC-In Connector

Onboard I/O Interface

- 1 x eDP/LVDS connector, up to 1920 x 1200@60Hz
- 2 x 6-pin header for USB 2.0 port
- 2 x 9-pin header for COM port RS-232/RS-422/RS-485;
- 4 x 9-pin header for COM port RS-232
- 1 x 10-pin header for GPIO, 4 x DI, 4 x DO
- 1 x 4-pin header for 2W/4Ω speaker out
- 1 x 9-pin header supports Mic in and Line out
- 1 x 2-pin header for Reset
- 3 x Antenna hole

Block Diagram



Dimension

- 146mm (L) x 102mm (W) (5.7" x 4.0")

Power Supply

- Nominal Voltage: +12V DC-In

Environment

- Operating temperature
 - Ambient with air flow: 0°C~70°C
 - Storage temperature: -20°C~85°C
- Relative humidity: 0%~90% (non-condensing)
- Shock protection: 50G peak acceleration, 11ms according to IEC 60068-2-27
- Vibration protection
 - Random: 2Grms@ 5~500Hz, IEC 60068-2-64
 - Sinusoidal: 2G@5~500Hz, IEC 60068-2-6

Operating System

- Windows 11
- Windows 10, 64bit
- Linux

Ordering Information

- P/N: 10W10X20100X0**
X201-125U Main Board with Intel® Core™ Ultra 5 Processor 125U
- P/N: 10W10X20101X0**
X201-135U Main Board with Intel® Core™ Ultra 5 Processor 135U
- P/N: 10W10X20102X0**
X201-155U Main Board with Intel® Core™ Ultra 7 Processor 155U
- P/N: 10W10X20103X0**
X201-165U Main Board with Intel® Core™ Ultra 7 Processor 165U