| 1ST-SBC-ALN35 | **3,5" Single Board Computer**<br>with 12th Gen Intel® Processor N-series (Alder Lake-N), HDMI, DP, 2x LAN, 6x COM, 8x USB |
|---|---|



The 1ST-SBC-ALN35 is an embedded SBC board with the 12th Gen Intel® Processor N-series (Alder Lake-N) soldered on board.

The board supports up to 8 cores and 8 threads, faster graphics performance with low power consumption. Its small form factor design is great for IoT deployments that require powerful performance, high-speed connectivity and enhanced graphics density.
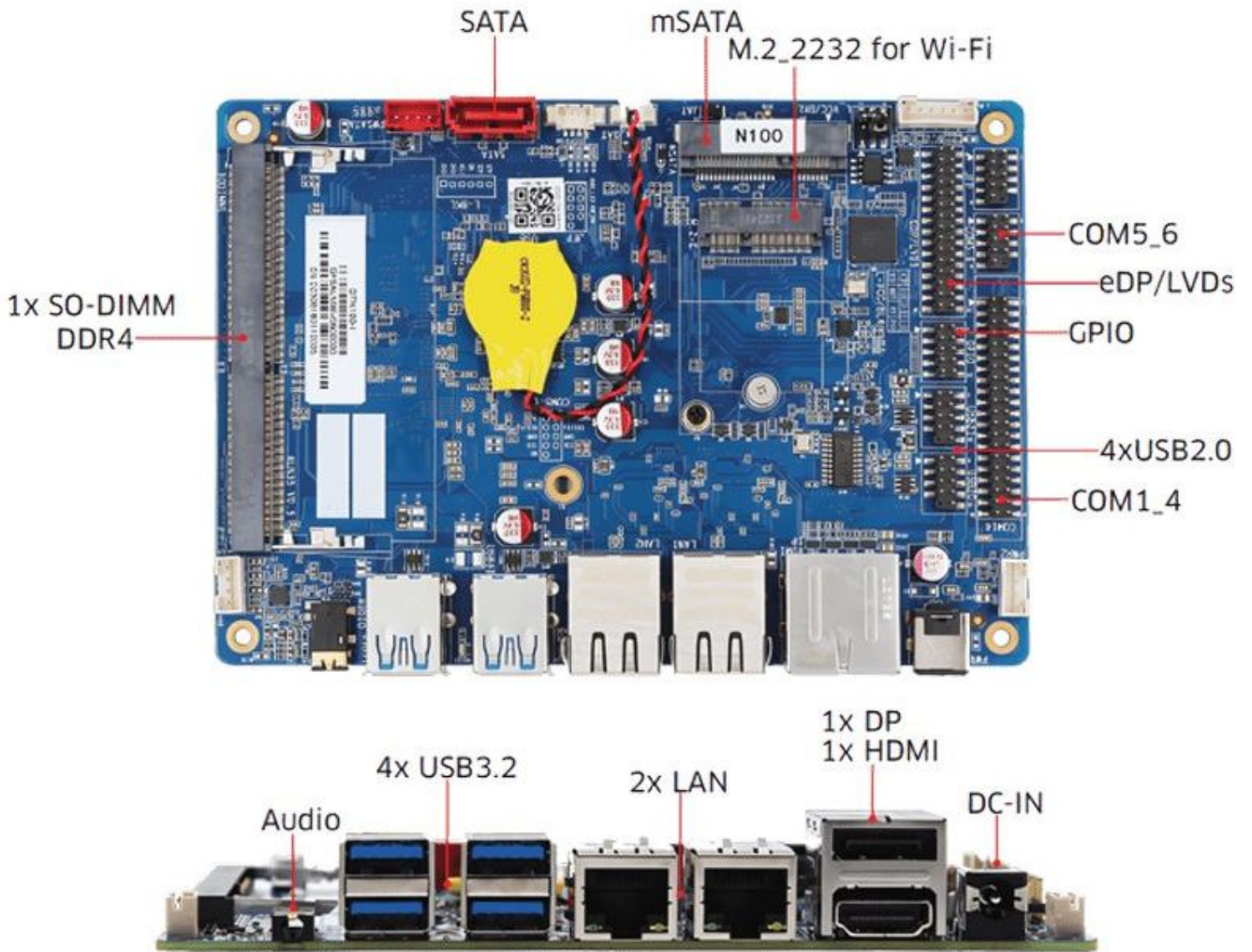
It carries 1x DDR4 SO-DIMM slots up to 32GB.

- 2× 10/100/1000Mbps RJ45 Intel® i210 LAN-Ports
- GPU: Intel® UHD Graphics
- Display: 1x HDMI2.0, 1x DP, 1x LVDS/eDP
- 4× USB3.2, 4× USB 2.0, 6x COM, 8 bit GPIO
- Expansion: M.2 key E for WiFi, supports CNVi
- Storage: mSATA, SATA3.0

The 1ST-SBC-ALN35 is designed for stability and reliability and is built with a robust design to withstand harsh industrial environments.

### Applications

- Industrial control: factory control and testing, security systems, energy sector
- Digital signage: split display, shopping mall billboard, scoreboard
- Other Applications: Medical devices, Smart School, Gaming machine, POS/POI-Systems

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SATA

mSATA

M.2_2232 for Wi-Fi

N100

COM5_6

eDP/LVDs

GPIO

1x SO-DIMM
DDR4

4xUSB2.0

COM1_4

1x DP
1x HDMI

4x USB3.2

2x LAN

DC-IN

Audio

| | Items | Descriptions |
|---|---|---|
| Motherboard | CPU | Intel® Core™ i3-N305 (up to 3.8 GHz, 8 Cores/8T CPU, TDP 15W), Active Cooling<br>Intel® N100 (up to 3.4 GHz, 4T CPU, TDP 6W), Passive Cooling<br>Intel® N97 (up to 3.6 GHz, TDP 12W), Active Cooling, default |
| | System Memory | 1× SO-DIMM DDR4 up to 32GB |
| | GPU | Intel® UHD Graphics |
| | BIOS | AMI UEFI BIOS |
| Display | | 1x HDMI 2.0, 1x DP, 1x LVDS/eDP header |
| Ethernet | Controller | 2x Intel® 210 Data Rate per Port: 10/100/1000Mpbs |
| | Interface | 2x RJ45 |
| | Wake on LAN | Yes |
| Hardware Monitoring | | CPU/System temperature, onboard DC-IN voltage, watchdog and auto power on. |
| Storage | | 1x mSATA for SSD/4G<br>1x SATA3.0 |
| Expansions | | 1x M.2 for WiFi, support Intel ® Integrated Connectivity (CNVi) |
| I/O Interface | | 2x LAN RJ45<br>USB3.2 4x rear ports<br>8bit GPIO<br>Audio CTIA (Line-out+Mic-in) Realtek HD |
| I/O Headers | | 6x COM: 4x RS232 and 2x RS485(COM5-6) (default) or<br>6x RS232 optional<br>4x USB2.0 header |
| Power | Standard Input | 12V-35V Phoenix input (2Pin) |
| Mechanical & Environmental | Type | 3,5" SBC |
| | Dimensions (LxW) | 146 mm x 102mm (LxW) |
| | Operating temperature | -20℃ ~ 60℃ non condensing |
| | Storage temperature | -40℃ ~ 80℃ |
| | Peripheral Input | for Fan and SATA |
| Supported OS | | Windows10/11 64bit, Linux 64bit |

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**Ordering Information**

| Part No. | Descriptions |
|---|---|
| 1ST-SBC-ALN35-N97 | Single Board Computer with Intel® N97, 2x LAN(i210), 4x RS232, 2x RS485, DP, HDMI, LVDS |

## 1ST-SBC-ALN35 Functional Block Diagram