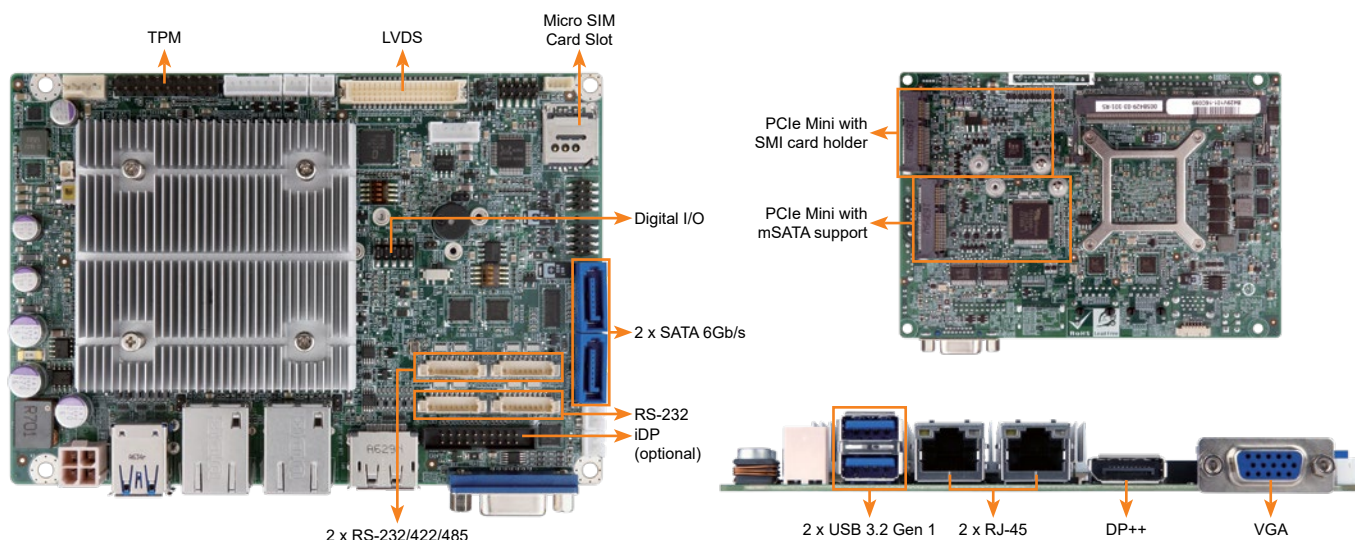


# WAFER-AL

3.5" SBC supports Intel® 14nm Generation Pentium® or Celeron® on-board SoC with DP++/VGA/LVDS/iDP support, Dual PCIe GbE, USB 3.2 Gen 1 (5Gb/s), PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS



## Specifications

- ◆ SoC
  - Intel® Pentium® N4200 on-board SoC (up to 2.5GHz, quad-core, 2M Cache, TDP=6W)
  - Intel® Celeron® N3350 on-board SoC (up to 2.4GHz, dual-core, 2M Cache, TDP=6W)
- ◆ BIOS
  - AMI UEFI BIOS
- ◆ Memory
  - One 204-pin 1866/1600MHz Single-channel DDR3L DIMMs support up to 8GB
- ◆ Graphics Engine
  - Intel® HD Graphics Gen9 Low Power; 18 Execution Units
  - 4K Codec Decode & Encode for HEVC 4, H.264, VP8, SVC, MVC
- ◆ Display Output
  - Triple independent display
  - 1 x DP++ (up to 4096x2160@60Hz)
  - 1 x VGA (up to 1920x1200@60Hz)
  - 1 x LVDS: 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)
  - 1 x iDP (colay with VGA, support by request)
- ◆ Ethernet
  - 2 x PCIe GbE LAN Realtek RTL8111 Controller
- ◆ External I/O Interface
  - 2 x USB 3.2 Gen 1 (5Gb/s)
- ◆ Internal I/O Interface
  - 2 x RS-232 (1x9 pin, P=1.25)
  - 2 x RS-232/422/485 (1x9 pin, P=1.25)
  - 2 x SATA 6Gb/s with 5V SATA power connector (no RAID)
  - 4 x USB 2.0 (2x4 pin, P=2.0)
- ◆ SMBus/I<sup>2</sup>C
  - 1 x SMBus (1x4 pin, P=2.0)
- ◆ TPM
  - 1 x TPM (2x10 pin)
- ◆ Audio
  - Realtek ALC888S HD Audio codec
  - 1 x Front audio (2x5 pin)
- ◆ Front Panel
  - 1 x Power LED & HDD LED (1x6 pin)
  - 1 x Power button (1x2 pin)
  - 1 x Reset button (1x2 pin)
- ◆ LAN LED
  - 2 x LAN LED (1x2 pin)
- ◆ Expansion
  - 1 x Full/Half-size PCIe Mini slot (supports mSATA, colay with SATA port 2)
  - 1 x Full/Half-size PCIe Mini slot (supports SIM card holder)
- ◆ Digital I/O
  - 1 x 8-bit digital I/O (2x5 pin)
- ◆ Fan Connector
  - 1 x System fan connector (1x4 pin)
- ◆ Power supply
  - +12V DC input power (AT/ATX mode)
- ◆ Watchdog Timer
  - Software programmable, supports 1~255 sec. system reset
- ◆ Power Consumption
  - 12V@2.57A (Intel® Pentium® N4200 up to 2.5GHz with 8GB DDR3L memory)
- ◆ Operating Temperature: -20°C ~ 70°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 146mm x 102mm
- ◆ Weight: 600g / NW: 250g
- ◆ CE/FCC compliant

## New Intel® Apollo Lake platform solution for entry level system



## Features

- 3.5" SBC with Intel® Apollo Lake platform on-board SoC
- One SO-DIMM DDR3L 1867/1600MHz support up to system maximum 8GB
- Triple displays with 1 x DP++, 1 x VGA / 1 x iDP, 1 x LVDS selection
- High speed I/O interface for USB 3.2 Gen 1 (5Gb/s), SATA 6Gb/s
- PCIe Mini with mSATA support

## Packing List

1 x WAFER-AL single board computer	
1 x Power cable	1 x SATA with power cable kit
1 x RS-232/422/485 cable	1 x QIG

## Ordering Information

Part No.	Description
WAFER-AL-N2-R10	3.5" SBC supports Intel® 14nm quad-core Pentium® N4200 2.5GHz on-board SoC with triple display, Dual PCIe GbE, PCIe Mini with mSATA support, USB 3.2 Gen 1 (5Gb/s), SATA 6Gb/s, COM, Audio and RoHS
WAFER-AL-N1-R10	3.5" SBC supports Intel® 14nm dual-core Celeron® N3350 2.4GHz on-board SoC with triple display, Dual PCIe GbE, PCIe Mini with mSATA support, USB 3.2 Gen 1 (5Gb/s), SATA 6Gb/s, COM, Audio and RoHS
WAFER-AL-Nx-iDP-R10**	3.5" SBC supports Intel® 14nm quad-core Pentium® N4200/ Celeron® N3350 on-board SoC with iDP, DP++, LVDS triple display, Dual PCIe GbE, USB 3.2 Gen 1 (5Gb/s), PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS
32001-008600-200-RS	Dual-port USB 2.0 cable, 210mm, P=2.0
32005-003500-200-RS	RS-232/422/485 cable, 250mm, P=1.25
32007-005200-200-RS	Audio cable, 300mm, P=2.0
TPM-IN02-R20	20-pin Infineon TPM 2.0 module, software management tool, firmware v5.5

\*\*By order production, MOQ: 100