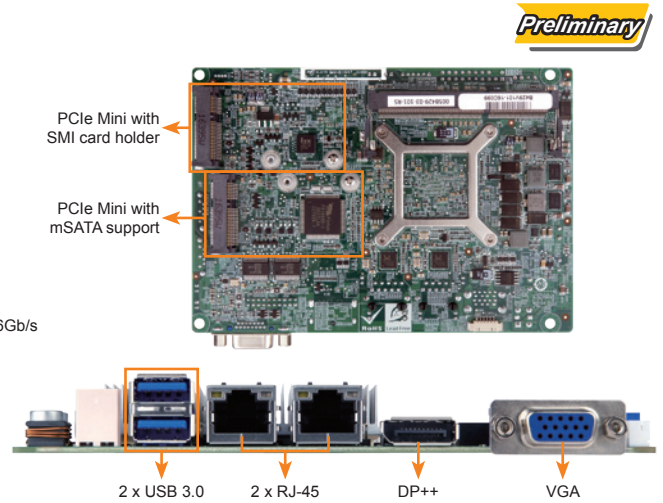
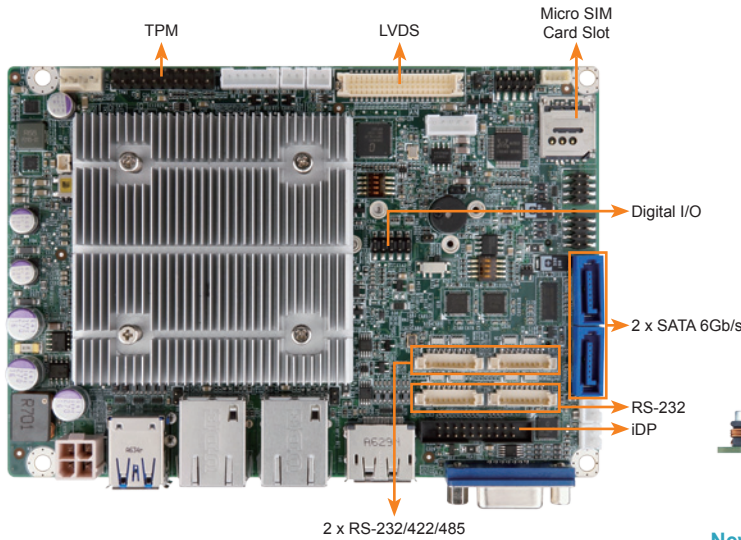


# WAFER-AL

3.5" SBC supports Intel® 14nm Generation Atom™ or Celeron® on-board SoC with DP++/VGA/LVDS/iDP support, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS



**Preliminary**

## Specifications

- ◆ SoC  
Intel® Apollo Lake platform
- ◆ 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 Displays  
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 3.0
- ◆ 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 6G/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 ALC662 HD 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 support 1~255 sec. system reset
- ◆ Power Consumption  
TBD
- ◆ Operating Temperature  
-20°C ~ 60°C
- ◆ Storage Temperature  
-20°C ~ 60°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
146mm x 102mm
- ◆ Weight  
TBD

## New Intel® Atom™ 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 3.0, SATA 6Gb/s
- PCIe mini with mSATA support

## Packing List

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

## 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 tripple display, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, 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 tripple display, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS
WAFER-AL-E3-R10**	3.5" SBC supports Intel® 14nm quad-core Atom™ E3950 2.0GHz on-board SoC with tripple display, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS
WAFER-AL-E2-R10**	3.5" SBC supports Intel® 14nm quad-core Atom™ E3940 1.8GHz on-board SoC with tripple display, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS
WAFER-AL-E1-R10**	3.5" SBC supports Intel® 14nm dual-core Atom™ E3930 1.8GHz on-board SoC with tripple display, Dual PCIe GbE, USB 3.0, PCIe Mini with mSATA support, SATA 6Gb/s, COM, Audio and RoHS
32007-005200-200-RS	Audio cable, 300mm, P=2.0
32000-070301-RS	Dual-port USB 2.0 cable, 210mm, P=2.0
TPM-IN02-R20	20-pin Infineon TPM 2.0 module, software management tool, firmware v5.5

\*\*By order production, MOQ: 100

- 1 Industrial Computing Solutions
- 2 Video Capture Solutions
- 3 Industrial Computer Chassis
- 4 Open Frame Monitor
- 5 Power Supply/Peripherals
- 6 All-in-One System