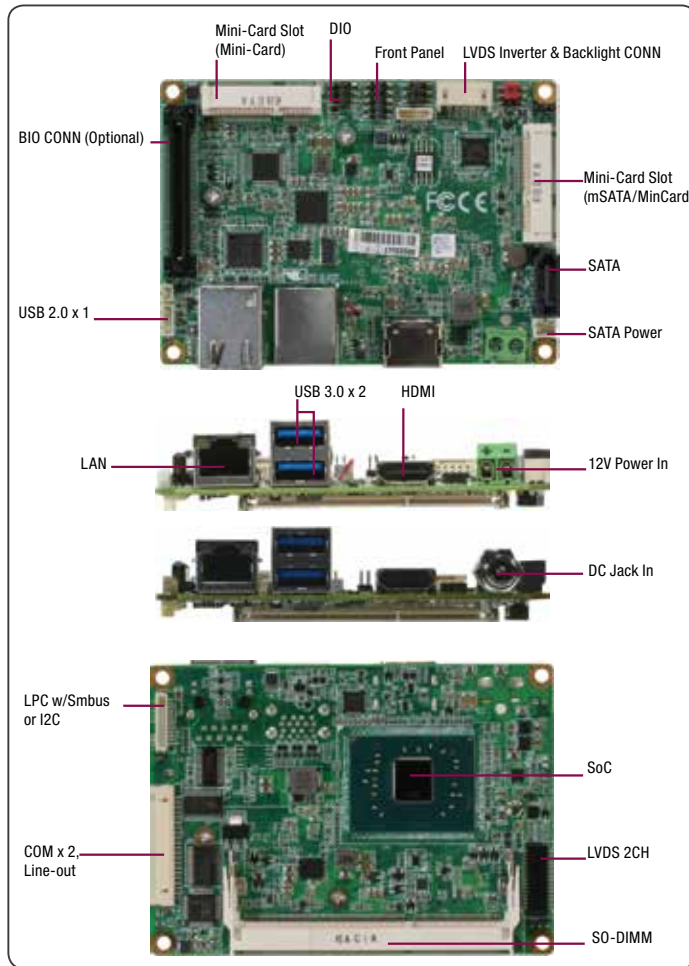


# 05 PICO-APL1

Pico-ITX Boards

Pico-ITX Board with Intel® Atom™ E3900 SoC Processor, Intel® N4200, N3350



## Specifications

| System                      |   |
|-----------------------------|---|
| Form Factor                 | PICO-ITX  |
| CPU                         | Intel® Atom™ E3900 SoC Processor, Intel® N4200, N3350 |
| CPU Frequency               | up to 2.0GHz  |
| Chipset                     | Intel® Atom™ E3900 SoC Processor, Intel® N4200, N3350 |
| Memory Type                 | 204-pin DDR3L SODIMM x 1, DDR3L 1867MHz, Max 8GB      |
| Max. Memory Capacity        | Up to 8GB   |
| BIOS                        | AMI/SPi   |
| Wake On LAN                 | Yes   |
| Watchdog Timer              | 255 Level   |
| Power Requirement           | +12V AT/ATX (default)                                 |
| Power Supply Type           | AT/ATX (default)                                      |
| Power Consumption (Typical) | Intel® N3350 Processor, DDR3L 8GB 0.91A@+12V          |
| System Cooling              | Heat-spreader/ heatsink optional                      |
| Dimension                   | 3.94" x 2.84" (100mm x 72mm)                          |
| Gross Weight                | 0.25 kg   |
| Operating Temperature       | 32 °F~ 140 °F (0°C ~ 60°C),                           |
| Storage Temperature         | -40 °F ~ 176 °F (-40°C ~ 80°C)                        |
| Operating Humidity          | 0% ~ 90% relative humidity, non-condensing            |
| MTBF (Hours)                | 170,000   |
| Certification               | CE,FCC  |

## Features

- Intel® Atom™ E3900 SoC Processor, Intel® N4200, N3350
- DDR3L 1866 MHz SODIMM x 1, Up to 8 GB
- 18/24-bit Dual Channel LVDS LCD (Optional)
- Support Triple Display (Optional)
- HDMI Support 3840 x 2160 (4K x 2K)
- SATA 3.0 x 1, mSATA (Full Size) x 1
- Intel® Gigabit Ethernet x 1, RJ-45 x1
- USB3.0 x 2, USB2.0 x 1
- RS-232 x 1, RS-232/422/485 x 1 (Optional by Cable)
- Mini-Card x 1 (Half-Size)
- Digital I/O 4-bit
- BIO Connector for Daughter Board (Optional)



| Display        |  |
|----------------|--|
| Chipset        | Intel® Atom™ E3900 SoC Processor, Intel® N4200, N3350                                      |
| Resolution     | 1. LVDS (18/24bit 2CH) 1920 x 1200 (optional)<br>2. HDMI up to 3840 x 2160<br>3. DDI (BIO) |
| LCD Interface  | 18/24bit 2CH LVDS  |
| I/O            |  |
| Storage/SSD    | SATA 6.0Gb/s x 1, mSATA/MiniCard (Full size) x 1   |
| Ethernet       | Intel® Gigabit Ethernet i210AT, 10/100/1000Base-TX, RJ-45 x 1                              |
| USB Port       | USB 3.0 x 2, Rear IO, USB 2.0 x 1  |
| Serial Port    | COM1: RS-232 x 1,<br>COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)                            |
| Audio          | Line-out x1  |
| DIO            | 4-bit (2-in, 2-out)  |
| Expansion Slot | Mini Card (Half-size) x 1, BIO (optional) x 1, I2C or SMBus x 1                            |
| SIM            | —  |
| TPM            | —  |
| Touch          | —  |

## Packing List

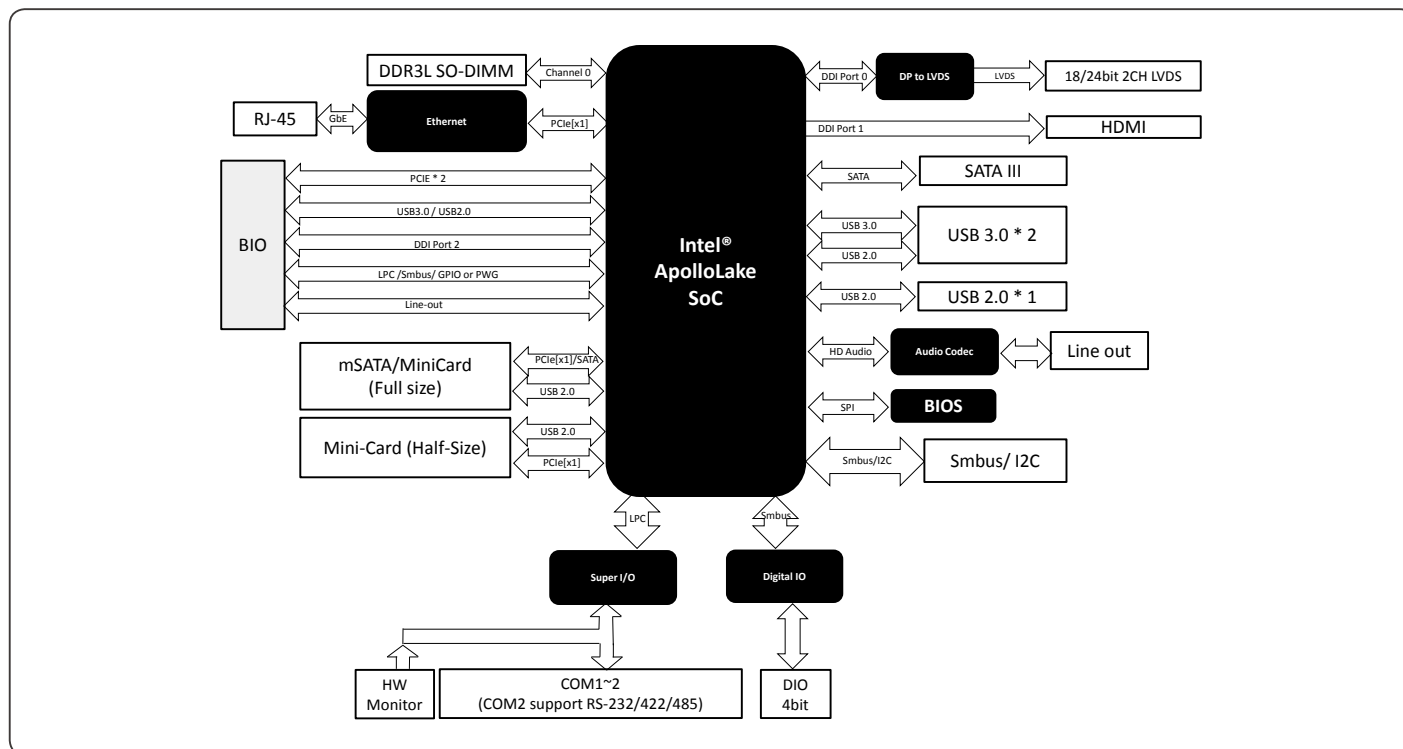
- 1703200153 (Optional by model)  
COM x 2, Line-out Cable
- Product DVD
- PICO-APL1

## Optional Accessories

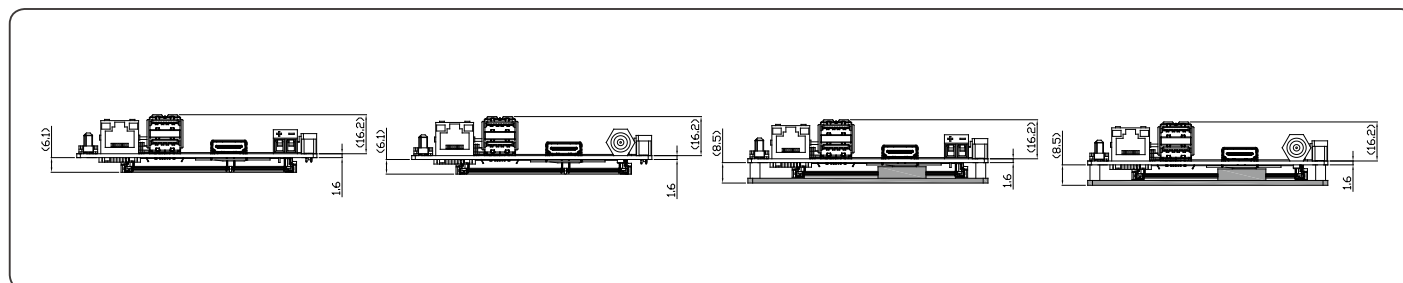
| Part Number      | Description   | Qty. |
|------------------|---|------|
| 1709070500       | SATA CABLE.7P Pitch 1.27mm.50cm   | 1    |
| 1702150155       | SATA Power Cable  | 1    |
| 1700050207       | USB cable 20cm  | 1    |
| 1703200153       | COM x 2, line-out cable   | 1    |
| PICO-APL1-HSP01  | Heat-spreader   | 1    |
| PICO-APL1-HSK01  | Heat-sink, to be used with Heat-spreader                                | 1    |
| *BIO-ST05-C14D32 | BIO Board w/LAN, 14COM, 32 DIO, USB3.0, 2 USB2.0 or 5 USB2.0 (by Model) | 1    |

\* Customized BIOS is required

## Block Diagram



## Dimension Unit: mm



## Ordering Information

| Part Number        | CPU   | Fan/Fanless       | Display       | LVDS       | Storage                         | LAN     | USB                        | RS-232                   | RS-232/422/485           | Expansion Slot           | Power                | Power Temp | Others                 |
|--------------------|-------|-------------------|---------------|------------|---------------------------------|---------|----------------------------|--------------------------|--------------------------|--------------------------|----------------------|------------|------------------------|
| PICO-APL1-A10-0002 | N3350 | w/o Heat-spreader | HDMI          | —          | SATA x 1, mSATA x 1 (Full-size) | GbE x 1 | USB 3.0 x 2<br>USB 2.0 x 1 | (Optional the COM cable) | (Optional the COM cable) | miniCard x 1 (Half-size) | 12V DC-Jack          | 0°C ~ 60°C | DIO x 4                |
| PICO-APL1-A10-0003 | N3350 | w/o Heat-spreader | LVDS/<br>HDMI | 24bit, 2CH | SATA x 1, mSATA x 1 (Full-size) | GbE x 1 | USB 3.0 x 2<br>USB 2.0 x 1 | 1                        | 1                        | miniCard x 1 (Half-size) | 12V Phoenix Terminal | 0°C ~ 60°C | DIO x 4, Line-out, BIO |