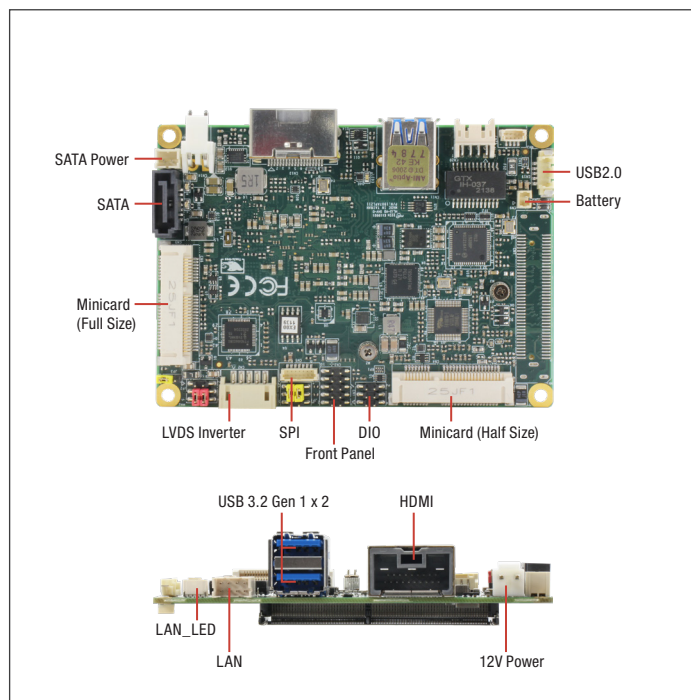


# PICO-APL2

Pico-ITX Board with Intel Atom® E3900 series/ Pentium® N4200/ Celeron® N3350 Processor SoC



## Features

- Intel Atom® E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz)
- 18/24-bit Dual Channel LVDS LCD
- HDMI1.4 x 1, Pin header (up to 2K @30Hz)
- SATA 6.0Gb/s x 1, mSATA (Full Size) x 1
- Intel® i210AT/i210IT, 10/100/1000Base x 1 (Pin header) \*LED in separated pin header
- USB 3.2 Gen 1 x 2, USB 2.0 x 1
- RS-232 x 1, RS-232/422/485 x 1
- Mini-Card x 1 (Half-Size, PCIe/USB)
- SMBus/I2C x 1 (default SMBus)
- Digital I/O 4-bit
- BIO Connector for Daughter Board (Optional)



Serial Port	COM1 (RS232) COM2 (RS232/422/485, support 5V/12V/RI)
Video	LVDS x 1
SATA	SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1
Audio	Line-out header x 1 (Audio function not available for WiTAS SKU)
DIO/GPIO	GPIO 4-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
Fan	—
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
<b>Expansion</b>	
Mini PCIe/mSATA	Full-Size mSATA/mPCIe x 1 (Default: mSATA, select with HW BOM) Half-Sized mPCIe x 1
M.2	—
Others	BIO x 1 (Optional, supports PCIe [x1] x 2, line out, DDI, GPIO, LPC, SMBUS, USB 3.0/2.0)
<b>Environment &amp; Certification</b>	
Operating Temp	32°F ~ 140°F (0°C ~ 60°C)
Storage Temp	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	525,137
EMC	CE/FCC Class A

## Specifications

<b>System</b>	
Form Factor	PICO-ITX
CPU	Intel® Atom® / Celeron® / Pentium® Processors: N3350 (2C/2T, 1.10GHz, 6W) N4200 (4C/4T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz)
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	—
RTC Battery	Lithium Battery 3V/240mAh
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.18 lbs (0.08 kg)
OS Support	Windows 10 (64 bit) Linux Ubuntu 20.04.4/ Kernel 5.11.0-30-generic
<b>Power</b>	
Power Requirement	+12V
Power Supply Type	AT/ATX
Connector	Line-Out (Audio function not available for WiTAS SKU)
Power Consumption	Intel® N4200, DDR3L 8GB x 1, 2.16A@ +12V(TYPICAL) Intel® N4200, DDR3L 8GB x 1, 2.28A@ +12V(MAX)
<b>Display</b>	
Controller	Intel® HD Graphics 500/505
LVDS/eDP	LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz
Display Interface	HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via BIO, Optional)
Multiple Display	Up to 3 Simultaneous Displays
<b>Audio</b>	
Codec	Realtek ALC897/888
Audio Interface	Line-Out (Audio function not available for WiTAS SKU)
Speaker	—
<b>External I/O</b>	
Ethernet	Intel® i210 1GbE, RJ45 x 1
USB	USB 3.2 Gen1 x 2
Serial Port	—
Video	HDMI 1.4 x 1
<b>Internal I/O</b>	
USB	USB 2.0 x 1

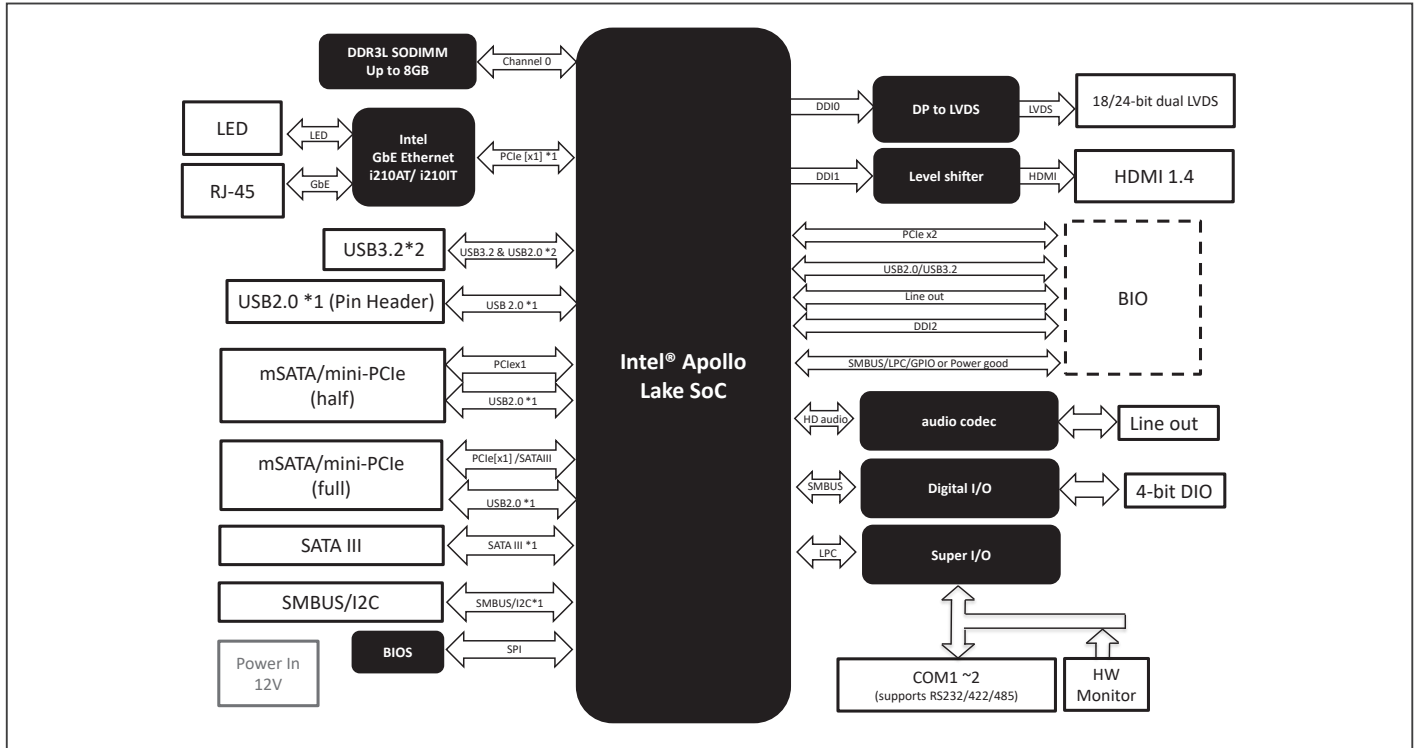
## Packing List

- PICO-APL2

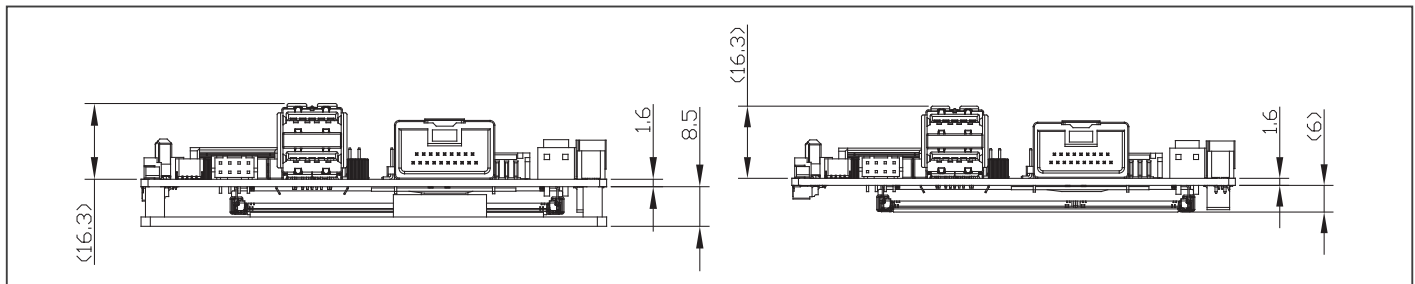
## Optional Accessories

Part Number	Description	Qty.
1709070500	SATA CABLE.500mm	1
1702150155	SATA Power Cable.150mm	1
1700050207	USB Cable.200mm.for PFM-945C Active Others	1
1703200153	COM Port 1/2 & line out cable.2ports.150mm	1
PICO-APL1-HSP01	Heatspreader.100*72*8.5mm.Silver.for Pentium N4200/ Celeron N3350 of PICO-APL2	1
PICO-APL1-HSP02	Heat spreader.100*72*8.5mm for Atom E39XX series of PICO-APL2	1
PICO-APL1-HSK02	Heat Sink.100*72*15.5mm.Silver.used with HSP	1
PER-P30D-A10	120W, DC-DC Converter, 9~36V input, 12V output, Rev A1.0, 30 x 72mm	1

## Block Diagram



## Dimension Unit: mm



## Ordering Information

Part number	CPU	Memory	Display	Storage	LAN	USB	RS-232/422/485	Expansion slot	Power	Operating Temp	Others
PICO-APL2-A10-0001	N4200	DDR3L	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 1	USB3.2 Gen 1 x 2 USB2.0 x 1	2	Full-size mSATA/mPCIe or USB2.0 x 1 Half-size Mini Card x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBus
PICO-APL2-A10-0002	N3350	DDR3L	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 1	USB3.2 Gen 1 x 2 USB2.0 x 1	2	Full-size mSATA/mPCIe or USB2.0 x 1 Half-size Mini Card x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBus
PICO-APL2-A10-0003	E3950	DDR3L	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 1	USB3.2 Gen 1 x 2 USB2.0 x 1	2	Full-size mSATA/mPCIe or USB2.0 x 1 Half-size Mini Card x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBus