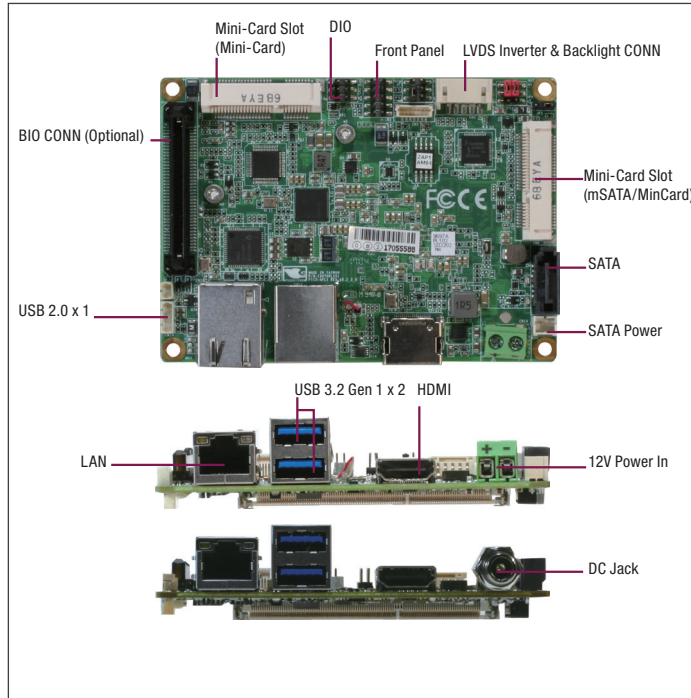


# PICO-APL1

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



## Specifications

SYSTEM	
FORM FACTOR	PICO-ITX
CPU	Pentium N4200 (4C/4T, 1.10GHz, up to 2.50GHz, TDP 6W) Celeron N3350 (2C/2T, 1.10GHz, up to 2.40GHz, TDP 6W) Atom E3950 (4C/4T, 1.60GHz, up to 2.00GHz, TDP 12W) Atom E3940 (4C/4T, 1.60GHz, up to 1.80GHz, TDP 9.5W) Atom E3930 (2C/2T, 1.30GHz, up to 1.80GHz, TDP 6.5W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR3L 1600MHz (max.8GB)/1866MHz (max.4GB), SODIMM x 1, Non-ECC *1866MHz is limited to the verified DDR module in AAEON's Approved Vendor List
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	TPM2.0 (Optional via LPC cable)
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 21.04.0/Kernel 5.10
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
POWER CONSUMPTION	Intel® N3350 Processor, DDR3L 8GB, 0.91A@+12V(TYPICAL)
DISPLAY	
CONTROLLER	Intel® HD Graphics 500/505
LVDS/eDP	LVDS (18/24bit 2CH) 1920 x 1200 (Optional)
Display Interface	HDMI 1.4b x 1 (up to 3840 x 2160) DDI (BIO, Optional)
Multiple Display	Up to 3 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC897/892
AUDIO INTERFACE	Line-out
Speaker	—
EXTERNAL I/O	
ETHERNET	Intel® i210/i211, 10/100/1000Base, RJ-45 x 1
USB	USB 3.2 Gen 1 x 2
SERIAL PORT	—
VIDEO	HDMI 1.4b x 1 (up to 3840 x 2160)

## Features

- Intel® Atom™/ Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1600MHz (max.8GB)/1866MHz (max.4GB), SODIMM x 1, Non-ECC
- 18/24-bit Dual Channel LVDS LCD (Optional)
- Supports Triple Display (Optional)
- HDMI 1.4b Supports 3840 x 2160 (4K x 2K)
- SATA 6.0Gb/s x 1, mSATA (Full Size) x 1
- Intel® Gigabit Ethernet x 1, RJ-45 x 1
- USB 3.2 Gen 1 x 2, USB 2.0 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)



INTERNAL I/O	
USB	USB 2.0 x 1
SERIAL PORT	COM1: RS-232 x 1, COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
VIDEO	LVDS (18/24bit 2CH) 1920 x 1200 (Optional)
SATA	SATA III x 1 +5V SATA Power Connector x 1
AUDIO	Line-out
DIO/GPIO	4-bit
SMBus/I2C	SMBUS/I2C x 1 (SMBUS as default)
Touch	—
FAN	—
SIM	—
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
EXPANSION	
Mini PCI-E/mSATA	Half-size Mini Card (mPCIe as default) x 1, Full size mPCIe/mSATA or USB2.0 x 1 (SATA as default, PCIe selected by HW BOM)
M.2	—
Others	BIO (Optional)
ENVIRONMENT & CERTIFICATION	
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)	170,000
EMC	CE/FCC Class A

## Packing List

### • 1703200153 (Optional by model)

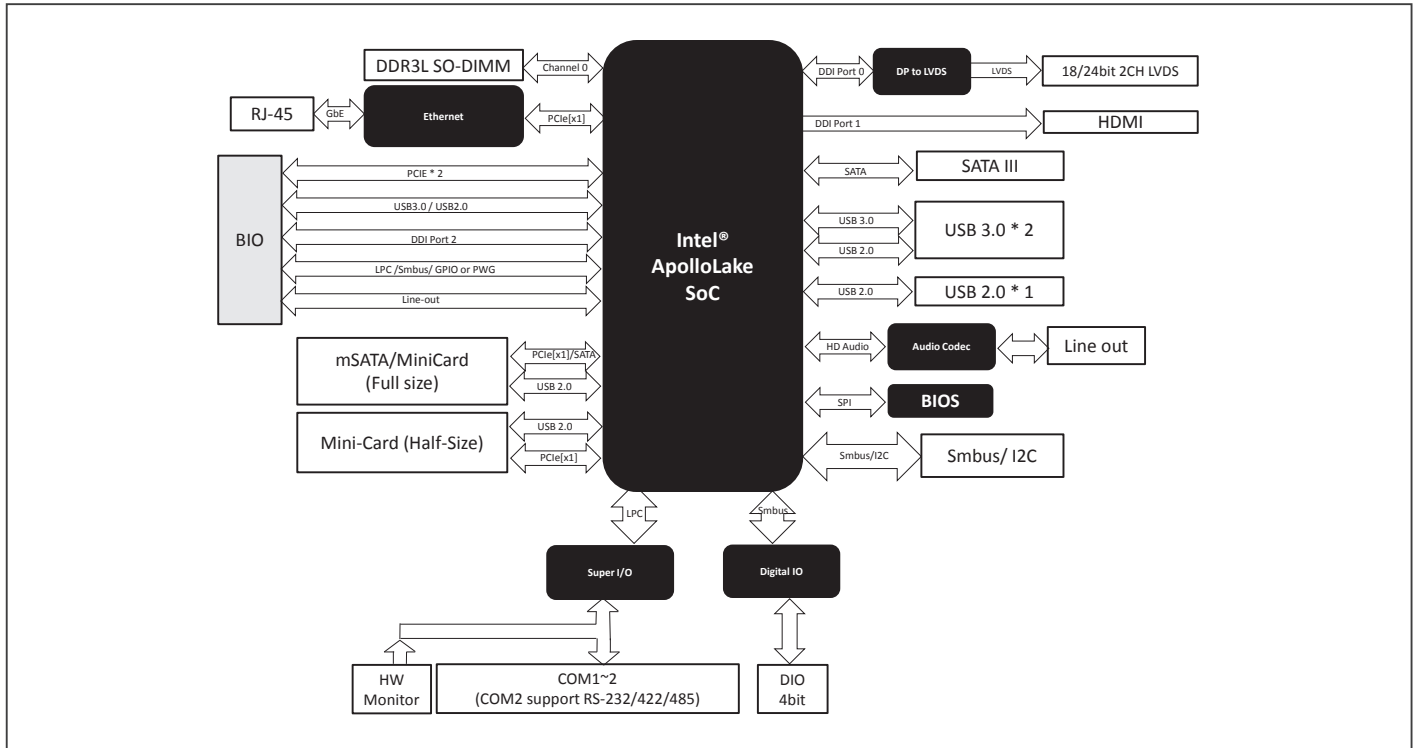
COM x 2, Line-out Cable

### • PICO-APL1

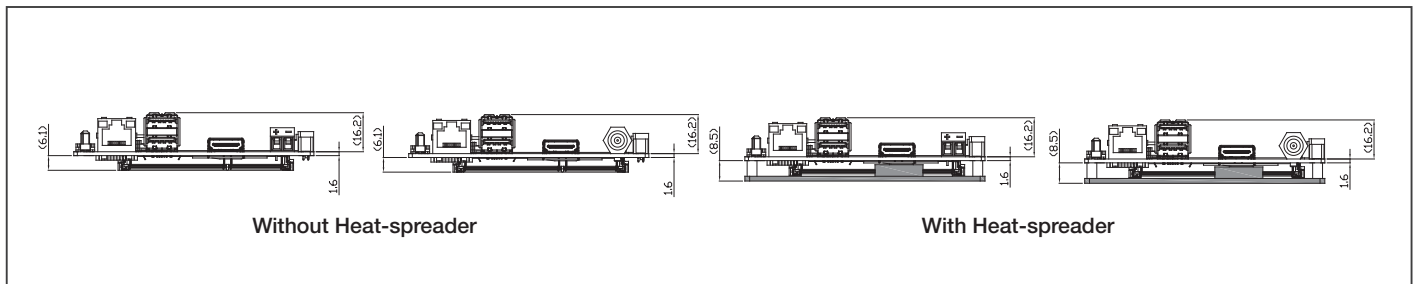
## Optional Accessories

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 for PICO-APL1 N4200/N3350 SKUs	1
PICO-APL1-HSP02	Heat-spreader for PICO-APL1 E3950/E3940/E3930 SKUs	1
PICO-APL1-HSK02	Heat-sink for all PICO-APL1 series, to be used with Heat-spreader	1

## Block Diagram



## Dimension Unit: mm



## Ordering Information

Part number	CPU	FAN/FANLESS	Display	Storage	LAN	USB	RS-232	RS-422/485	Expansion slot	Power	Operating Temp	Others
PICO-APL1-A11-F0A1	N4200	W/o Heat-spreader	LVDS x 1 HDMI x 1	SATAIII x 1 mSATA (Full size) x 1	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C ~ 60°C	DIO x 4, Line-out
PICO-APL1-A11-FDA2	N3350	W/o Heat-spreader	HDMI x 1	SATAIII x 1 mSATA (Full size) x 1	GbE x 1	USB 3.2 Gen 1 x 2 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-A11-F0A3	N3350	W/o Heat-spreader	LVDS x 1 HDMI x 1	SATAIII x 1 mSATA (Full size) x 1	GbE x 1	USB 3.2 Gen 1 x 2 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
PICO-APL1-A11-F0A4	E3940	W/o Heat-spreader	LVDS x 1 HDMI x 1	SATAIII x 1 mSATA (Full size) x 1	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C ~ 60°C	DIO x 4, Line-out

Remark: Heatspreader and cooler is recommended as the thermal solution.