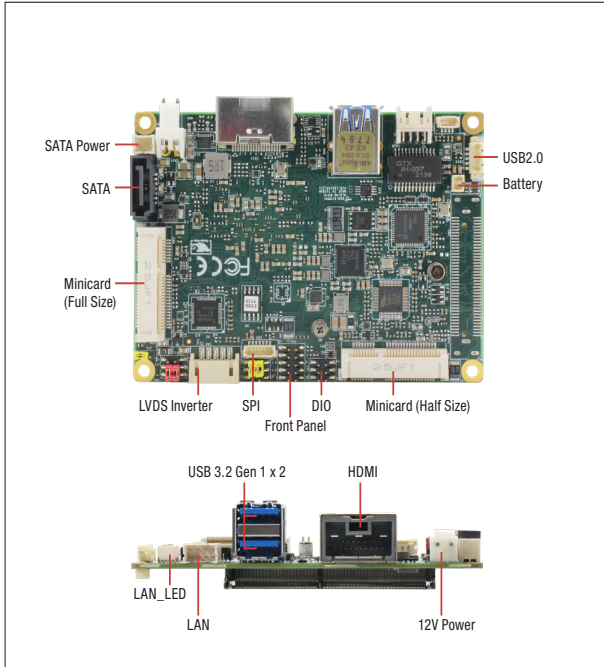


PICO-APL2

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

Pico-ITX Boards



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)



Specifications

SYSTEM	
FORM FACTOR	Pico-ITX
CPU	Intel Atom® x7-E3950 (4C, 1.6GHz, up to 2GHz, TDP 12W) Intel Atom® x5-E3940 (4C, 1.6GHz, up to 1.8GHz, TDP 9.5W) Intel® Pentium® N4200 (4C, 1.1GHz, up to 2.5GHz, TDP 6W) Intel® Celeron® N3350 (2C, 1.1GHz, up to 2.4GHz, TDP 6W)
CHIPSET	Intel Atom® E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
MEMORY TYPE	DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz)
BIOS	AMI/SPI
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) Ubuntu 20.04.4 / 5.13.0
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX (Pin header)
CONNECTOR	2-pin Connector (Pin header)
POWER CONSUMPTION	Intel® Pentium® N4200, DDR3L 8GB x 1, 2.16A@ +12V(TYPICAL) Intel® Pentium® N4200, DDR3L 8GB x 1, 2.28A@ +12V(MAX)
DISPLAY	
CONTROLLER	Intel® HD Graphics 500/505
LVDS/eDP	LVDS (18/24bit 2CH)
Display Interface	HDMI 1.4 x 1 (2K @30Hz) (Pin header type) DDI (BIO, Optional)
Multiple Display	Up to 2 Simultaneous Displays
AUDIO	
CODEC	Realtek 888/897
AUDIO INTERFACE	Line out
Speaker	—
EXTERNAL I/O	
ETHERNET	Intel® i210AT/i210IT, 10/100/1000Base x 1 (Pin header) *LED in separated pin header
USB	USB 3.2 Gen 1 x 2
SERIAL PORT	—
VIDEO	HDMI 1.4 x 1 (2K @30Hz) (Pin header type)

INTERNAL I/O	
USB	USB2.0 x 1
SERIAL PORT	COM1: RS-232 x 1 COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
VIDEO	—
SATA	SATA III x 1 +5 SATA Power Connector x 1
AUDIO	Line-out x 1
DIO/GPIO	4-bit
SMBus/I2C	SMBus/I2C x 1 (SMBus as default, I2C selected by HW BOM)
Touch	—
FAN	—
SIM	—
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
EXPANSION	
Mini PCI-E/mSATA	Full size Mini Card mPCIe/ mSATA or USB2.0 x 1 (SATA as default, mPCIe selected by HW BOM) Half-size Mini Card x 1 (mPCIe as default)
M.2	—
Others	BIO x 1 (Optional) SMBus/I2C x 1 (SMBus as default, I2C selected by HW BOM)
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP	32 °F~ 140 °F (0°C ~ 60°C)
STORAGE TEMP	-40 °F ~ 176 °F (-40°C ~ 80°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	525,137
EMC	CE/FCC Class A

Packing List

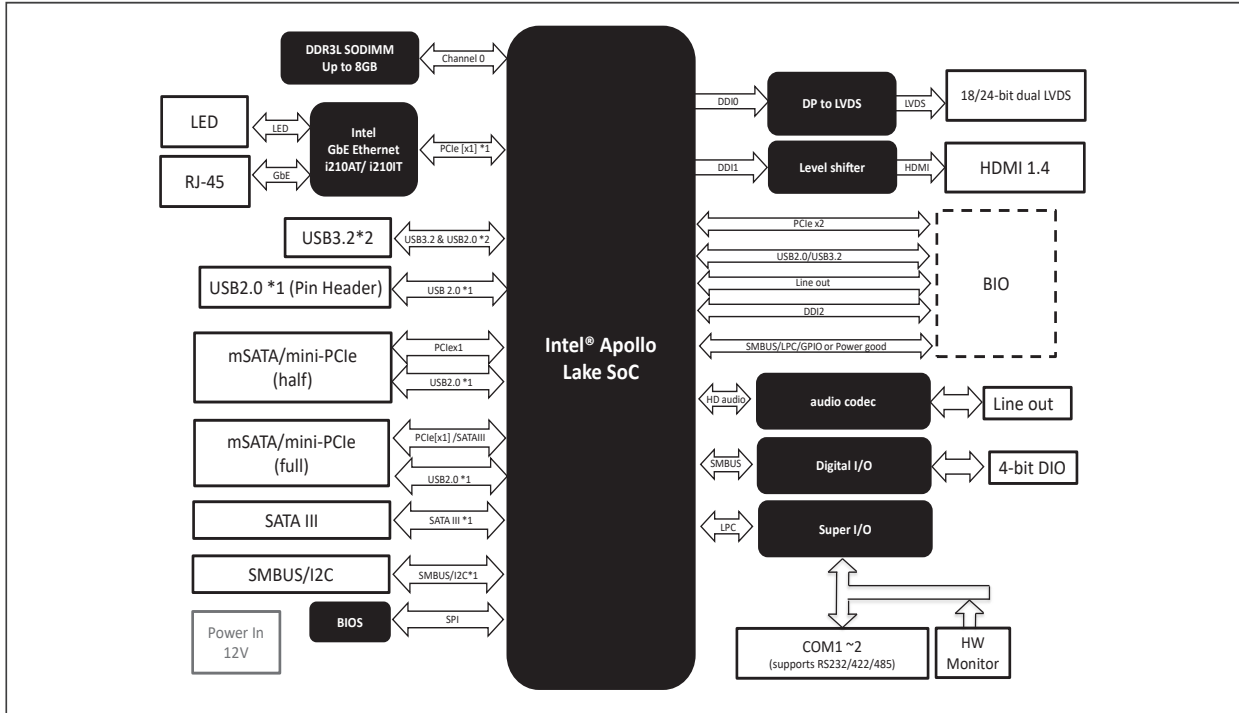
- PICO-APL2

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-APL2-HSP01	Heat-spreader for PICO-APL2 N4200/N3350 SKUs	1
PICO-APL2-HSP02	Heat-spreader for PICO-APL2 E3950/E3940/E3930 SKUs	1
PICO-APL2-HSK02	Heat-sink for all PICO-APL2 series, to be used with Heat-spreader	1

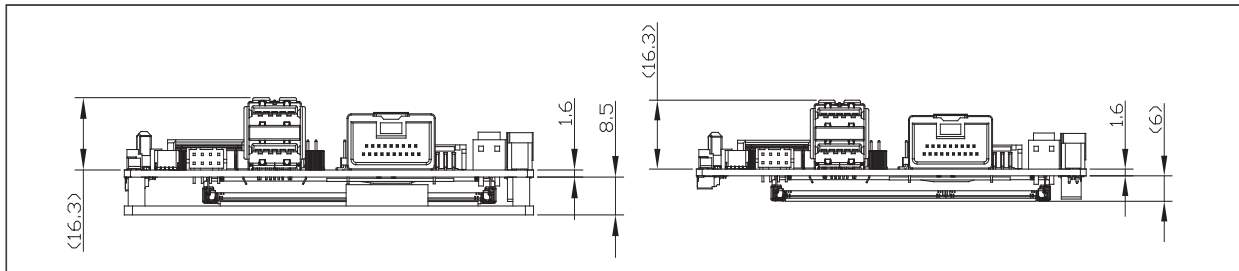
Note: All specifications are subject to change without notice.

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	8GB	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/I2C x 1
PICO-APL2-A10-0002	N3350	8GB	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/I2C x 1
PICO-APL2-A10-0003	E3950	8GB	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/I2C x 1

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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