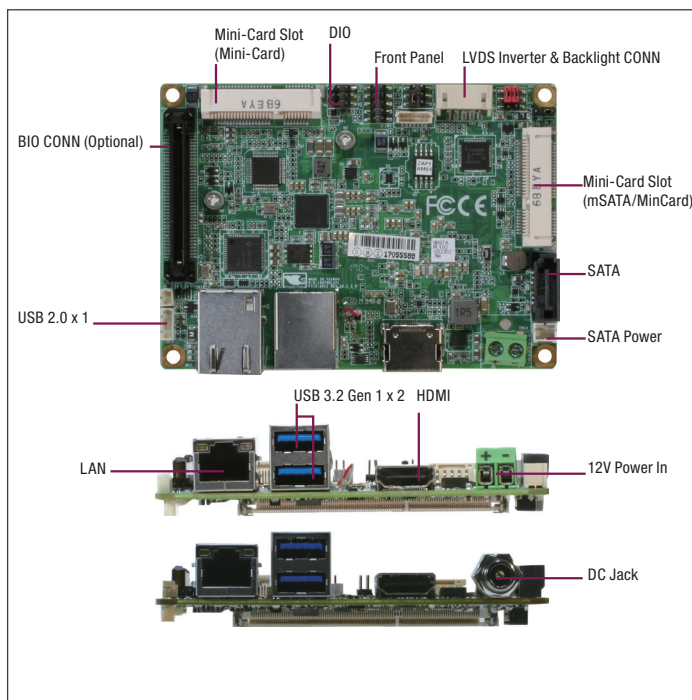


PICO-APL1

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



Specifications

SYSTEM	
FORM FACTOR	PICO-ITX
CPU	Intel® Atom® / Celeron® / Pentium® Processors: N4200 (4C/4T, 1.10GHz, 6W) N3350 (2C/2T, 1.10GHz, 6W) E3950 (4C/4T, 1.60GHz, 12W) E3940 (4C/4T, 1.60GHz, 9.5W) E3930 (2C/2T, 1.306GHz, 6.5W)
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 5.11.0-13-generic
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
POWER CONSUMPTION	Intel® E3940 Processor, DDR3L 8GB x 1, 1.11A@+12V(TYPICAL)
DISPLAY	
CONTROLLER	Intel® HD Graphics 500/505
LVDS/eDP	LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz (Optional)
Display Interface	HDMI 1.4 x 1, 3840 x 2160 @30Hz DDI (Via 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 1GbE, RJ45 x 1
USB	USB 3.2 Gen 1 x 2
SERIAL PORT	—
VIDEO	HDMI 1.4 x 1

Features

- Intel® Atom®/ 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 (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 (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
DIO/GPIO	GPIO 4-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
FAN	—
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
EXPANSION	
Mini PCI-E/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, USB3.0/2.0)
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

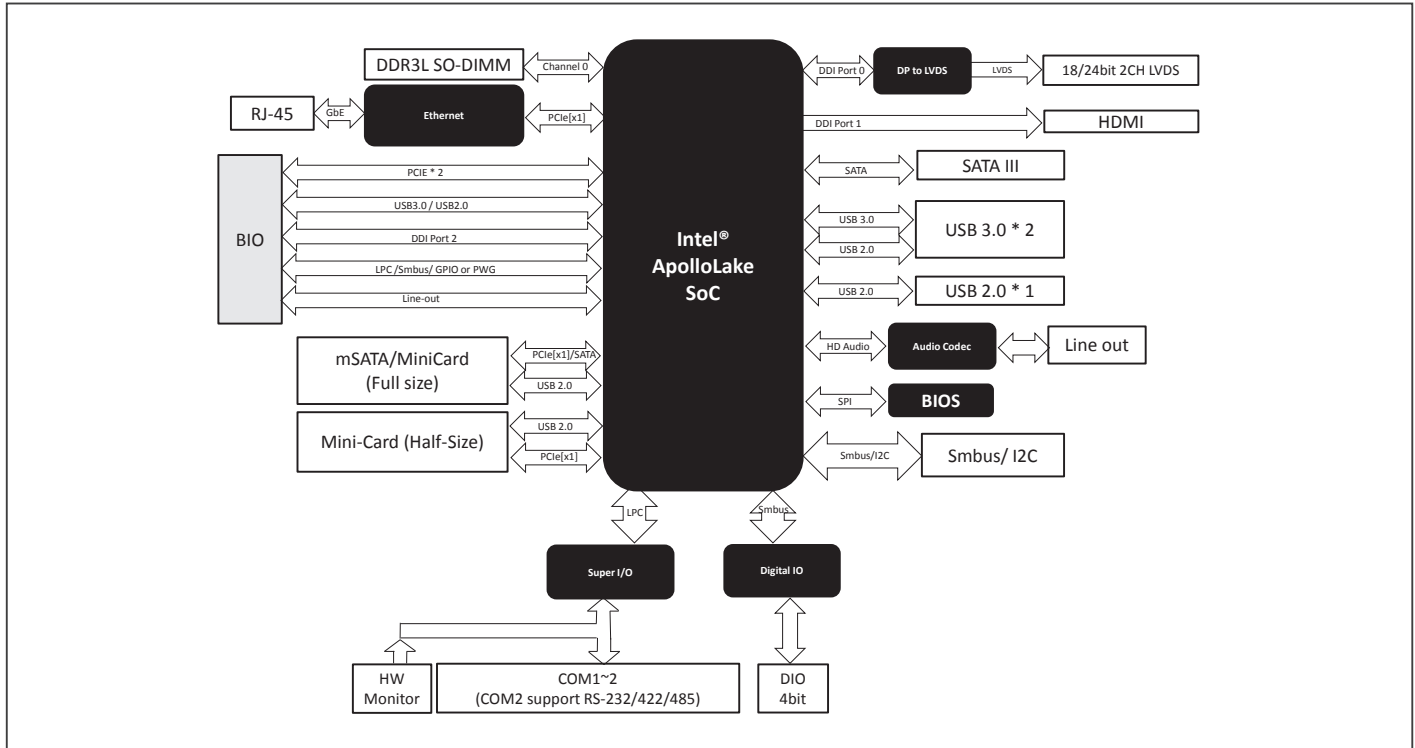
Packing List

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

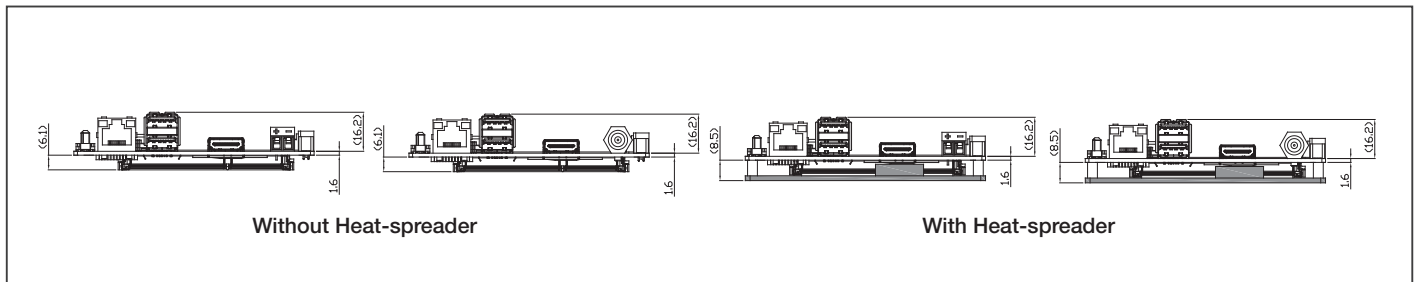
Optional Accessories

Part Number	Description	Qty.
1709070500	SATA CABLE.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	1
PICO-APL1-HSP02	Heat spreader.100*72*8.5mm for E3950/E3940/E3930	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	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.