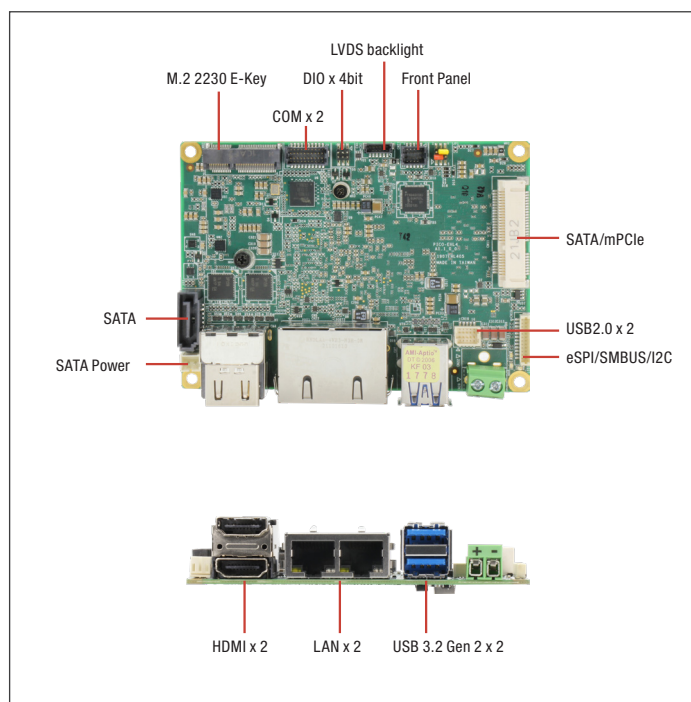


# PICO-EHL4

Pico-ITX Board with Intel® Atom® x6000E Series, Intel® Pentium®, and Celeron® N and J series processors



## Features

- Intel® Atom® x6000E series, Intel® Pentium®, and Celeron® N and J series processors (formerly Elkhart Lake)
- HDMI2.0b x 2 + LVDS/eDP1.3 x 1
- GbE x 2
- 2 x USB 3.2 Gen 2, 2 x USB2.0
- LPDDR4x onboard memory, In-Band ECC
- eMMC x 1, SATA x 1
- COM x 2 Full, CANBUS x 2(optional), mSATA x 1, M.2 E-Key 2230 x 1



USB	USB 3.2 Gen2 x 2
Serial Port	—
Video	HDMI 2.0 x 2
<b>Internal I/O</b>	
USB	USB 2.0 x 2
Serial Port	COM1~2 (RS232/422/485, support 5V/12V/RI)
Video	LVDS/eDP x 1(Default: LVDS)
SATA	SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1 eMMC5.1 32GB (Optional to 16/64/128GB)
Audio	—
DIO/GPIO	GPIO 4-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
Fan	4pins Smart Fan x1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
<b>Expansion</b>	
Mini PCIe/mSATA	Full size mPCIe/mSATA x 1 (SATA as default, PCIe selected by BIOS)
M.2	M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0)
Others	CANBUS x 2 (Optional, N6210/J6412 not support, support up to 5Mbit/s)
<b>Environment &amp; Certification</b>	
Operating Temp	32°F ~ 140°F (0°C ~ 60°C) WITAS 2 -40°F ~ 185°F (-40°C ~ 85°C)
Storage Temp	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	489,989
EMC	CE/FCC Class A

## Specifications

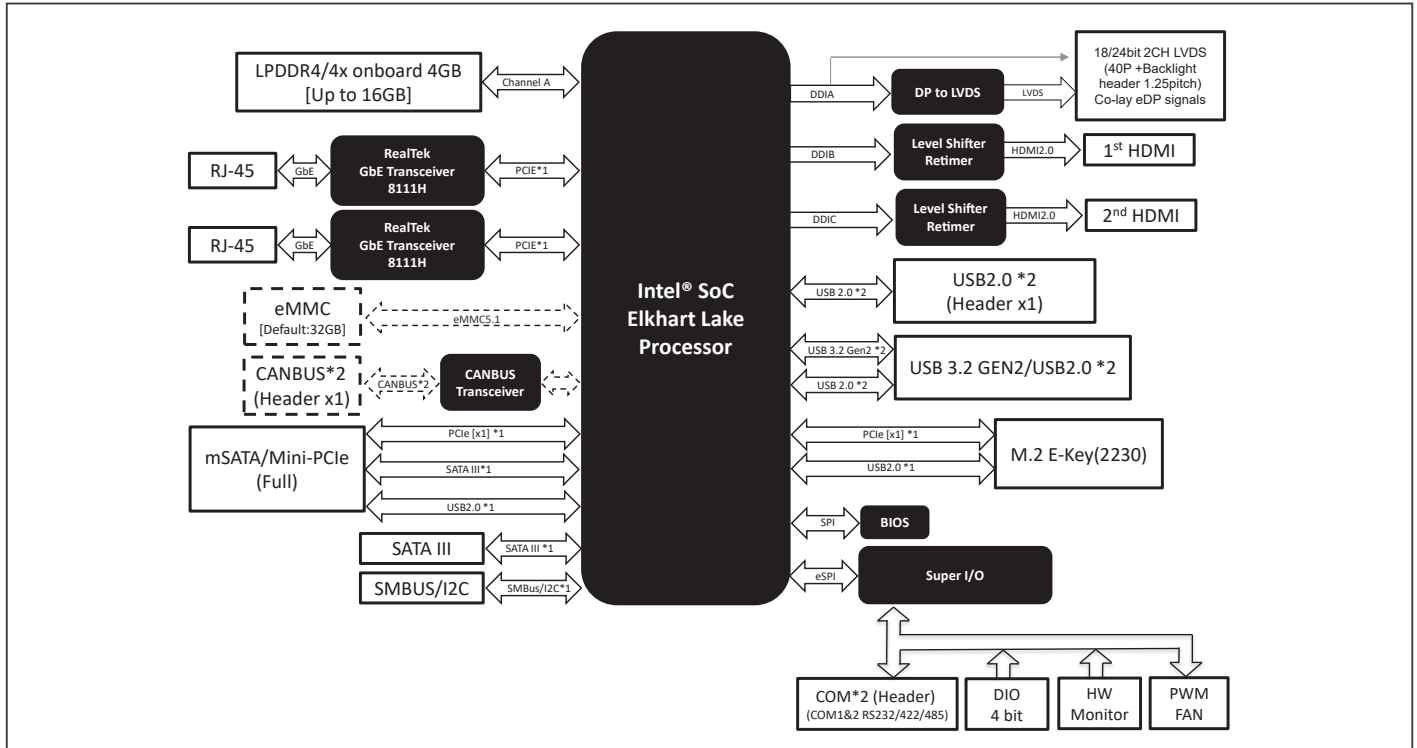
<b>System</b>	
Form Factor	PICO-ITX
CPU	Intel® Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: J6412 (4C/4T, 2.00GHz, 10W) N6210 (2C/2T, 1.20GHz, 6.5W) x6425E (4C/4T, 2.0GHz, 12W) x6211E (2C/2T, 1.3GHz, 6W)
Chipset	Integrated with Intel® SoC
Memory Type	Onboard LPDDR4x 3200, Single Channel, Non-ECC (Max.16GB)
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	Intel® PTT (Integrated TPM)
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/Kernel 5.13.0-30-generic
<b>Power</b>	
Power Requirement	+12V
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
Power Consumption	Intel® Atom™ x6425E, LPDDR4x onboard 16GB, 2.48A@ +12V(TYPICAL) Intel® Atom™ x6425E, LPDDR4x onboard 16GB, 2.62A@ +12V(MAX)
<b>Display</b>	
Controller	Intel® UHD Graphics for 10th Gen Intel® Processors
LVDS/eDP	LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz eDP1.3 x 1, 3840 x 2160 @60Hz (Optional)
Display Interface	HDMI 2.0 x 2, 3840 x 2160 @60Hz
Multiple Display	Up to 3 Simultaneous Displays
<b>Audio</b>	
Codec	—
Audio Interface	—
Speaker	—
<b>External I/O</b>	
Ethernet	Realtek 8111 1GbE, RJ45 x 2

## Optional Accessories

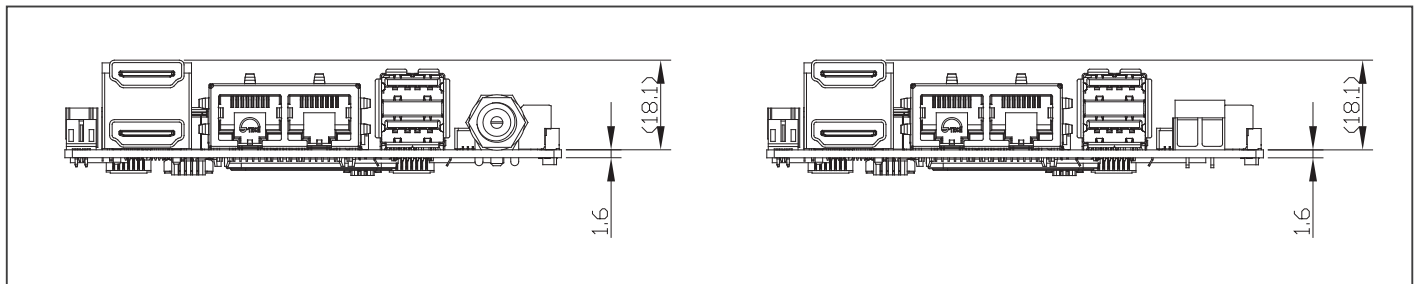
Part Number	Description	Qty.
170X000231	COM cable.300mm	1
170010010D	USB2.0 cable.100mm	1
1702150155	SATA power cable.150mm	1
170X000593	SATA CABLE.15cm	1
1709100108	Front panel cable.100mm	1
1702030200	Power cable (Phoenix type to DC Jack).20cm	1
PICO-EHL4-HSP01	Heat Spreader.AL.100*72*10.5mm.for J6412/N6210	1
PICO-EHL4-HSP02	Heat Spreader.AL.100*72*9.3mm.for x6425E/x6211E	1
PICO-EHL4-HSK01	Heat Sink.100*72*15.5mm.Silver.To be used with HSP	1
PICO-EHL4-FAN01	Cooler.100*72*20.3mm.for J6412/N6210	1
PICO-EHL4-FAN02	Cooler.100*72*19.3mm.for x6425E/x6211E	1
PER-P30D-A10-0001	120W, DC-DC Converter, 9~36V input, 12V output, Rev A1.0, 30 x 72mm	1

Note:  
eDP Panel : B173ZAN01.0-AUO      LVDS Panel : G101EVN01.0-AUO

## Block Diagram



## Dimension Unit: mm



## Packing List

- PICO-EHL4

## Ordering Information

Part number	CPU	Memory	Display	Storage	LAN	USB	RS-232/422/485	Expansion slot	Power	Operating Temp	Others
PICO-EHL4-A11-0001	N6210	4GB	HDMI x 2 LVDS x 1	SATAIII x 1 eMMC 32GB	GbE x 2	USB3.2 Gen 2 x 2 USB2.0 x 2	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0002	J6412	4GB	HDMI x 2 LVDS x 1	SATAIII x 1 eMMC 32GB	GbE x 2	USB3.2 Gen 2 x 2 USB2.0 x 2	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0003	J6412	4GB	HDMI x 2 eDP x 1	SATAIII x 1 eMMC 64GB	GbE x 2	USB3.2 Gen 2 x 2 USB2.0 x 2	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0004	J6412	8GB	HDMI x 2 LVDS x 1	SATAIII x 1	GbE x 2	USB3.2 Gen 2 x 2 USB2.0 x 2	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V	0°C ~ 60°C	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4W2-A11-0005	x6425E	16GB	HDMI x 2 LVDS x 1	SATAIII x 1	GbE x 2	USB3.2 Gen 2 x 2 USB2.0 x 2	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V	-40°C ~ 85°C	DIO 4 bit SMBUS/eSPI x 1