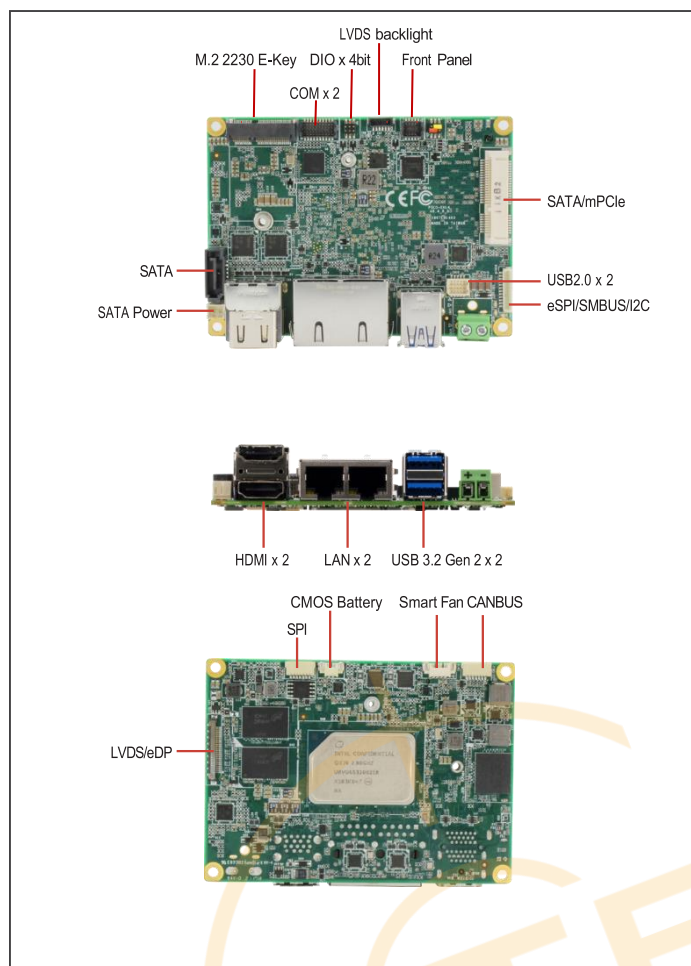


Pico-ITX Board with Intel® Atom™ x6000E Series, Intel® Pentium®, and Celeron® N and J series processors



## 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 or GbE x 1 (Optional)
- 2 x USB 3.2 GEN2 @rear IO + 2 x USB 2.0 @header
- LPDDR4x on board memory, In-Band ECC
- eMMC x 1, SATA x 1
- RS232/422/485 x 2, CANBUS x 2(Option)
- mini-PCIe x 1+ M.2 E-Key 2230 x 1



Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	461744
Certification	CE/FCC Class A
OS support	Windows 10 (64bit) Linux: ubuntu 20.04.3(IOT)/Kernel 5.13
<b>Display</b>	
Chipset	Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors SoC
Resolution	HDMI2.0b x 2, 4K, 60Hz Single channel 12V/3.3V, 18-24 bit LVDS/ eDP 1.3 up to 4K
LCD Interface	18/24bit Single LVDS
<b>I/O</b>	
Storage/SSD	eMMC x 1 (32/64/128GB) SATA 6.0Gb/s x 1 SATA Power (5V) x 1
Ethernet	RTL8111H, 10/100/1000Base, RJ45 x 2 (Compatible with RJ45 x 1)
USB Port	2 x USB 3.2 GEN2/rear IO 2 x USB 2.0/header
Serial Port	RS-232/422/485 x 2
Audio	—
DIO	4-bit
Expansion Slot	M.2 2230 E key x 1 (For WIFI/BT, PCIe/USB signal only) mini-PCIe(Full) x 1 (Default mSATA or USB 2.0, PCIe(x1)x1 by BIOS) SMBUS/I2C + eSPI x 1 (SMBUS as default, I2C selected by HW BOM) CANBUS x 2 (Option, J6412/N6210 not support CANBUS)
SIM	—
TPM	Intel® PTT (Integrated TPM)

## Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® Atom™ x6000E series, Intel® Pentium® and Celeron® N and J series processors Intel® Atom™ x6425RE (4C, 1.9GHz, TDP-up 12W) Intel® Atom™ x6414RE (4C, 1.5GHz, TDP-up 9W) Intel® Atom™ x6212RE (2C, 1.2GHz, TDP-up 6W) Intel® Atom™ x6425E (4C, 1.8GHz, up to 3GHz, TDP-up 12W) Intel® Atom™ x6413E (4C, 1.5GHz, up to 3GHz, TDP-up 9W) Intel® Atom™ x6211E (2C, 1.2GHz, up to 3GHz, TDP-up 6W) Intel® Pentium® J6426 (4C, 1.8GHz, up to 3GHz, TDP-up 10W) Intel® Pentium® N6415 (4C, 1.2GHz, up to 3GHz, TDP-up 6.5W) Intel® Celeron® J6412 (4C, 1.8GHz, up to 3GHz, TDP-up 10W) Intel® Celeron® N6210 (2C, 1.2GHz, up to 3GHz, TDP-up 6.5W) (Intel® Atom™ x6427FE/x6200FE by customer's request)
CPU Frequency	Up to 3GHz
Chipset	Intel® Elkhart Lake SoC Processor
Memory Type	LPDDR4x 3200 MHz on board memory
Max. Memory Capacity	Up to 16 GB
BIOS	AMI UEFI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	Lockable & phoenix Terminal co-lay
Power Consumption (Typical)	Intel® Pentium® J6426, LPDDR4x on board 8GB, 2.36A@ +12V(balance), 2.81A@ +12V(Max) Intel® Atom™ x6425E, LPDDR4x on board 16GB, 2.56A@ +12V(balance), 2.81A@ +12V(Max)
System Cooling	Heat-spreader, heatsink & cooler optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.55 lb (0.25 Kg)

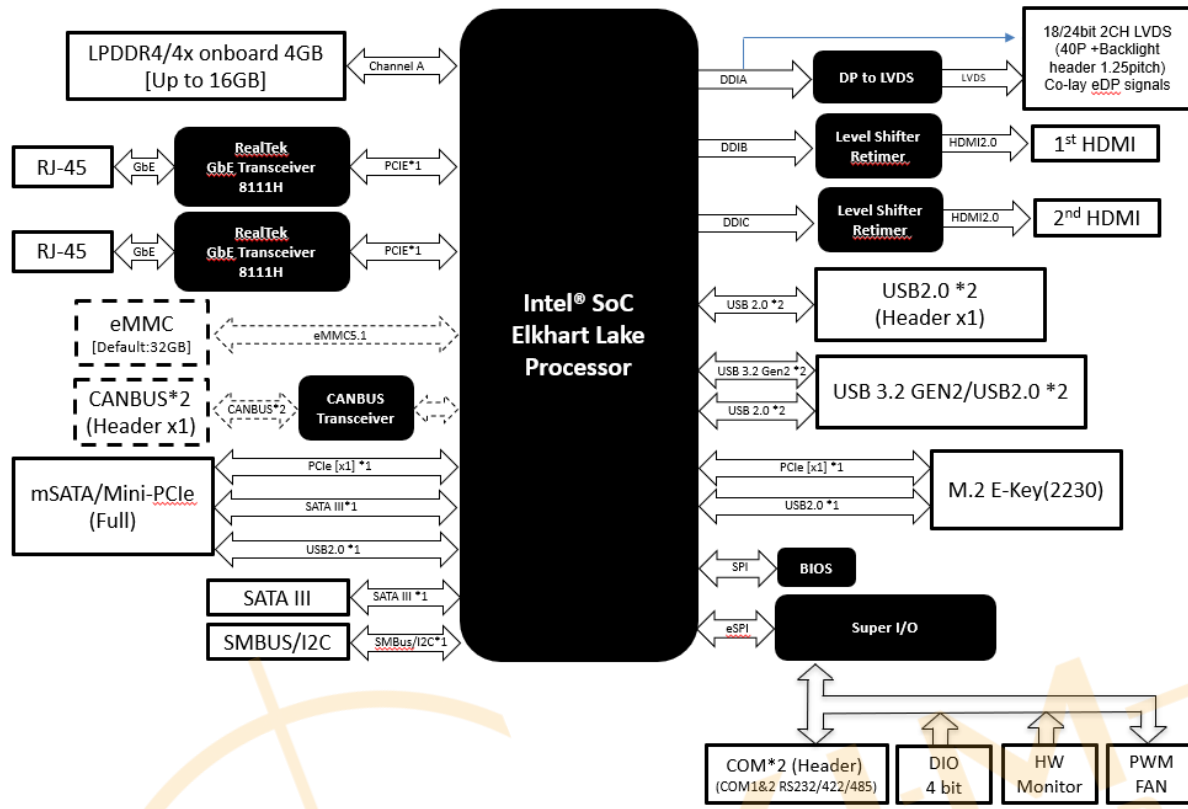
## Packing List

- PICO-EHL4

## Optional Accessories

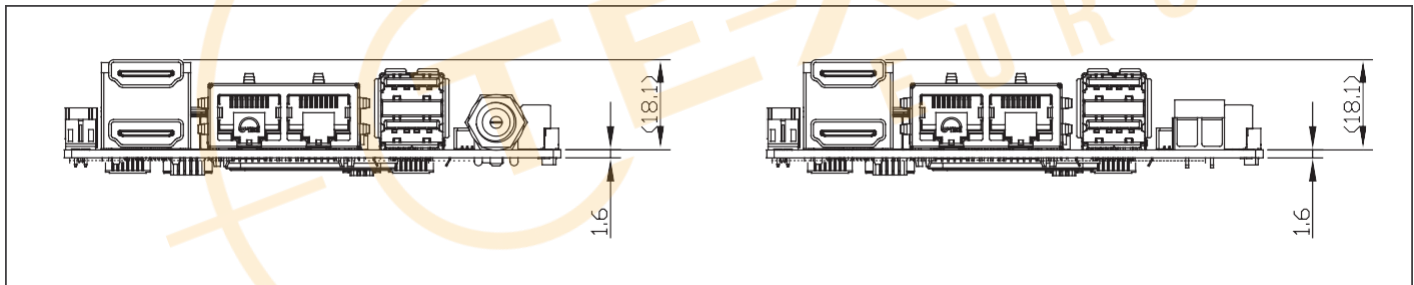
Part Number	Description	Qty.
170X000231	COM cable	1
170010010D	USB2.0 cable	1
1709070500	SATA cable	1
1702150155	SATA power cable	1
1703120130	eSPI/SMBUS/I2C cable	1
1709100108	Front panel cable	1
PICO-EHL4-HSP01	Heat Spreader.AL.100*72*6.8mm.for Pentium/Celeron of PICO-EHL4	1
PICO-EHL4-HSP02	Heat Spreader.AL.100*72*5.8mm.for Atom series of PICO-EHL4	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 Pentium/Celeron of PICO-EHL4	1
PICO-EHL4-FAN02	Cooler.100*72*19.3mm.for Atom series of PICO-EHL4	1

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	MEMORY	DISPLAY	STORAGE	LAN	USB	RS-232/422/485	EXPANSION SLOT	POWER	POWER TEMP	TPM	Other
PICO-EHL4-A11-0001	Intel® Celeron® N6210	Onboard LPDDR4x 4GB	HDMI x 2 LVDS x 1	SATAIII x1 eMMC 32GB	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0002	Intel® Celeron® J6412	Onboard LPDDR4x 4GB	HDMI x 2 LVDS x 1	SATAIII x1 eMMC 32GB	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0003	Intel® Celeron® J6412	Onboard LPDDR4x 4GB	HDMI x 2 eDP x 1	SATAIII x1 eMMC 64GB	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4-A11-0004	Intel® Celeron® J6412	Onboard LPDDR4x 8GB	HDMI x 2 LVDS x 1	SATAIII x1	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4W2-A11-0005 (TBD)	Intel® Atom™ x6211E	Onboard LPDDR4x 4GB	HDMI x 2 LVDS x 1	SATAIII x1	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	-40°C ~ 85°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1
PICO-EHL4W2-A11-0006 (TBD)	Intel® Atom™ x6425E	Onboard LPDDR4x 16GB	HDMI x 2 LVDS x 1	SATAIII x1	GbE x2	USB3.2 GEN2 (rear) USB2.0 x 2 (header)	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	-40°C ~ 85°C	Intel® PTT	DIO 4 bit SMBUS/eSPI x 1

Note: All specifications are subject to change without notice.

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