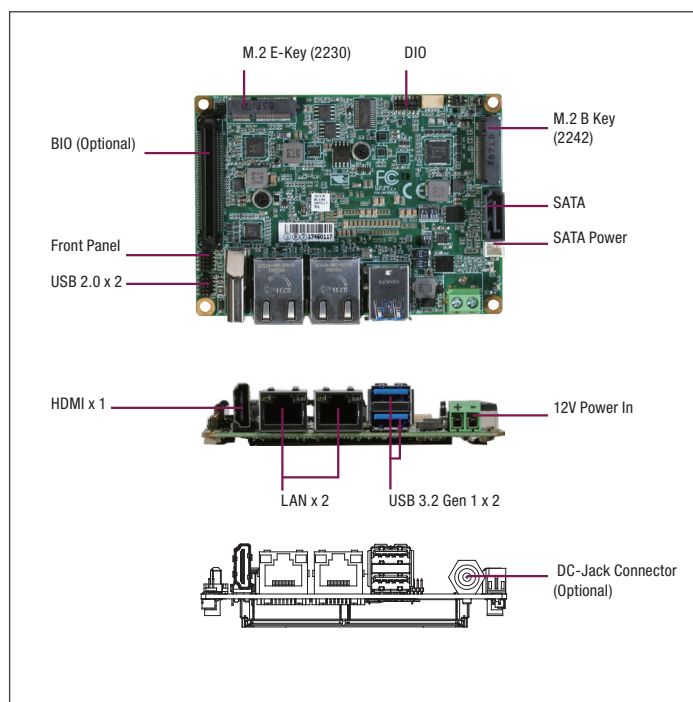


# PICO-KBU4

Pico-ITX Board with 7th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC



## Features

- 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 SODIMM Slot x 1, up to 16GB
- Dual Gigabit Ethernet Support
- HDMI 1.4b, LVDS 2CH Display
- USB 3.2 Gen 1 x 2, USB 2.0 x 2, SATA III x 1
- COM 1: RS-232, COM 2: RS-232/422/485
- M.2 2242 B-Key x 1, M.2 2230 E-Key x 1
- BIO (Optional)



INTERNAL I/O	
USB	USB 2.0 x 2
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	4pins Smart Fan x1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
EXPANSION	
Mini PCI-E/mSATA	—
M.2	M.2 2242 B-Key x 1 (PCIe 3.0 [x1]/SATA, Default: mSATA, select with BIOS) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0)
Others	BIO x 1 (Optional, supports PCIe [x1] x 2, line out, DDI, GPIO, LPC, SMBUS/ I2C,USB.3.0/2.0)
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP	32°F ~ 140°F (0°C ~ 60°C) WITAS1 -4°F ~ 158°F (-20°C ~ 70°C)
STORAGE TEMP	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	163,000
EMC	CE/FCC Class A

## Specifications

SYSTEM	
FORM FACTOR	PICO-ITX
CPU	7th Generation Intel® Core™/Celeron® Processors: Intel® Core™ i7-7600U (2C/4T, 2.80GHz, 15W) Intel® Core™ i5-7300U (2C/4T, 2.60GHz, 15W) Intel® Core™ i3-7100U (2C/4T, 2.40GHz, 15W) Intel® Celeron® Processor 3965U (2C/2T, 2.20GHz, 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR4 2133, SODIMM x 1, Non-ECC (Max. 16GB)
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 16.04.3/Kernel 4.10.0
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
POWER CONSUMPTION	Intel® Core™ i7-7600U, DDR4 16GB, 1.53A@ +12V(TYPICAL)
DISPLAY	
CONTROLLER	Intel® HD Graphics 510/620
LVDS/eDP	LVDS x 1 (18/24bit 2CH) 1920 x 1200 @60Hz
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 ALC269
AUDIO INTERFACE	Line-out
Speaker	—
EXTERNAL I/O	
ETHERNET	Realtek 8111 1GbE, RJ45 x 2
USB	USB 3.2 Gen1 x 2
SERIAL PORT	—
VIDEO	HDMI 1.4 x 1

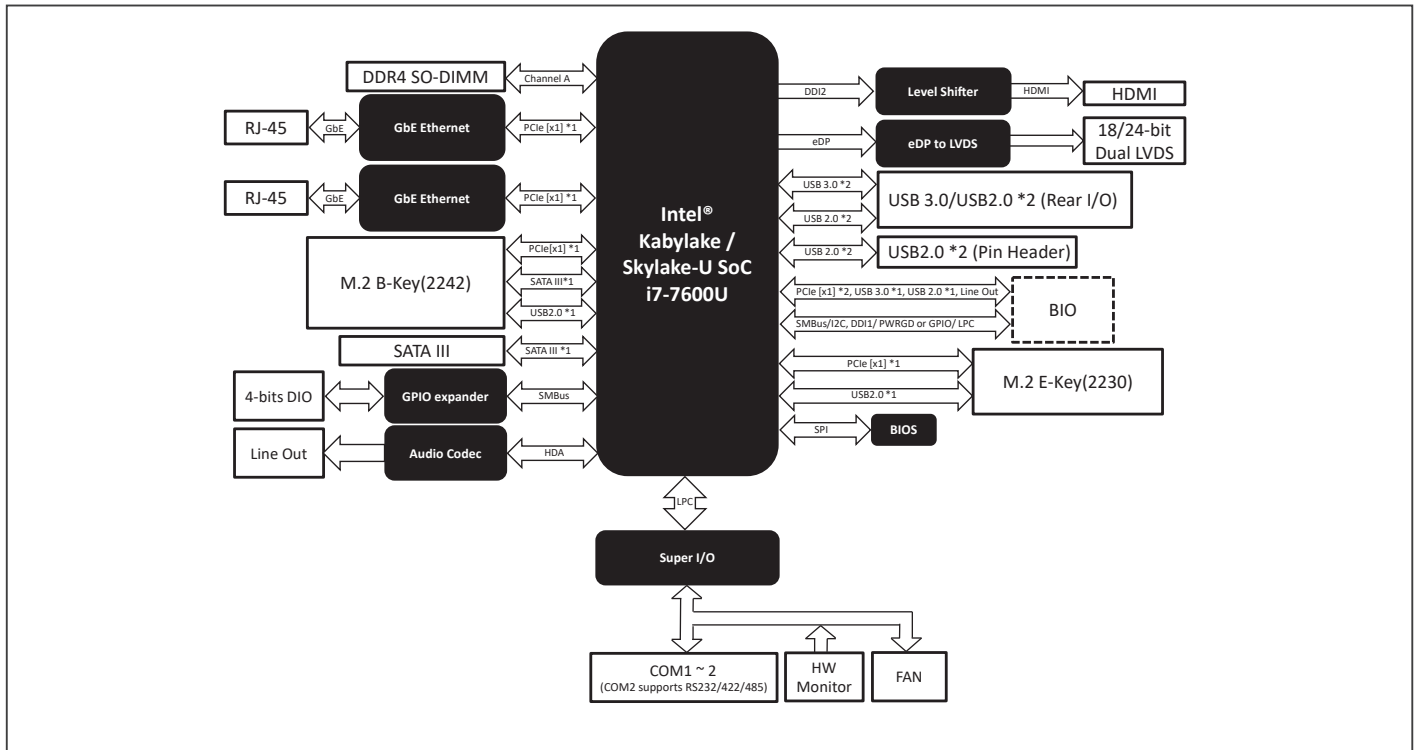
## Packing List

- PICO-KBU4

## Optional Accessories

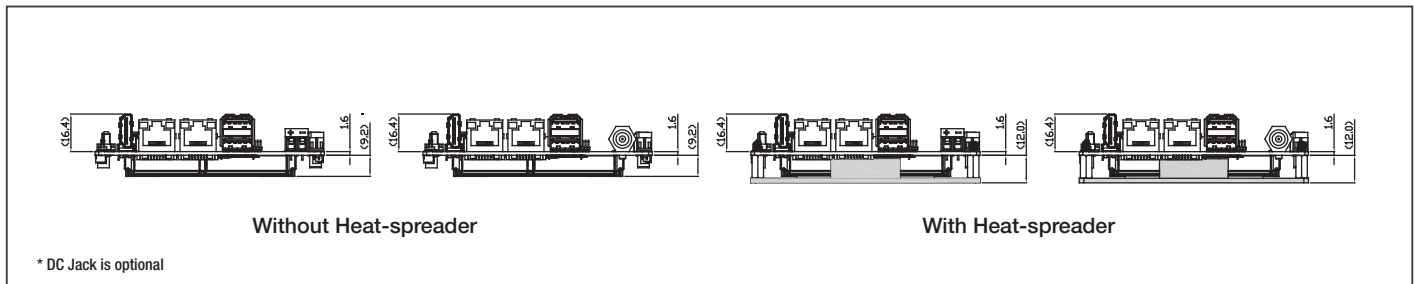
Part Number	Description	Qty.
1709070500	SATA CABLE.500mm	1
1702150155	SATA Power Cable.150mm	1
170010010D	USB Cable.2ports.100mm	1
1701200101	COM Cable 2ports. + line-out. 100mm	1
PICO-KBU4-HSP01	Heat Spreader.100*72*10.5mm	1
PICO-KBU4-FAN01	CPU Cooler.100*72*10.5mm.Silver	1
PER-P30D-A10	120W, DC-DC Converter, 9~36V input, 12V output, Rev A1.0, 30 x 72mm	1

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Operating Temp	Others
PICO-KBU4-A10-0001	Celeron® 3965	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-0002	i3-7100U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-0003	i5-7300U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1 BIO x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-0004	i7-7600U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1 BIO x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-0005 (6th Gen)	Celeron® 3955	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-DC06	i3-7100U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1	+12V (DC Jack)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4-A10-0007 (6th Gen)	i5-6300U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1 BIO x 1	+12V (Terminal block)	0°C ~ 60°C	DIO x 4 bit
PICO-KBU4W1-A10-0004	i7-7600U	DDR4 Socket	HDMI x 1 LVDS x 1	SATAIII x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 E-Key x 1 M.2 2242 B-Key x 1 BIO x 1	+12V (Terminal block)	-20°C ~ 70°C	DIO x 4 bit