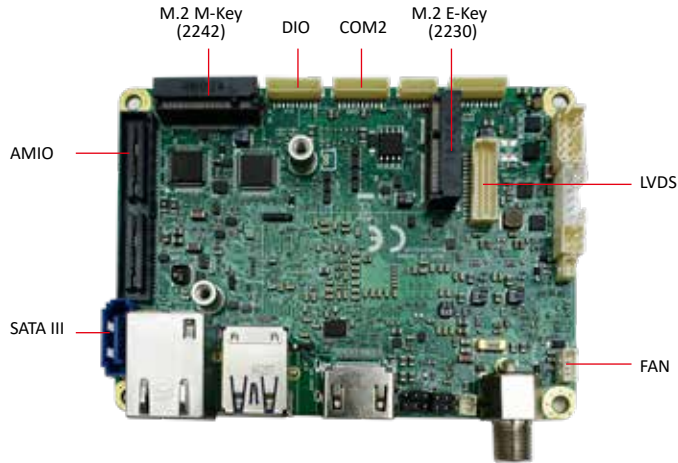# APIX-KBL7

Intel® Kaby Lake-U Series based Pico-ITX Embedded board supports Intel® 7th Gen Core™ i7/i5/i3 / Celeron® processors with HDMI(DP)/LVDS, SATA III, 2 COM, 5 USB, AMIO, Intel® GbE LAN.

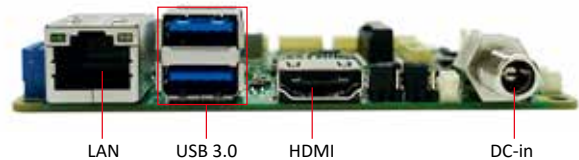AMIO   12 V DC-in   Multi Display 4K/2K

Key Features

- Intel® 7th Gen Core™ i7/i5/i3 and Celeron® Processors onboard
- One 260-pin SO-DIMM up to 16GB DDR4 2133MHz SDRAM
- Multi-Display: HDMI(DP)/LVDS/AMIO (DP v1.2 interface, optional)
- 1 M.2 E-Key 2230 (WiFi/BT), 1 M.2 M-Key 2242 (MVMe), 1 AMIO expansion slots
- 1 SATA III, 2 COM (1 w/ either COM or DIO), 2 USB 3.0 and 3 USB 2.0
- Supports 4K/2K Resolution Display
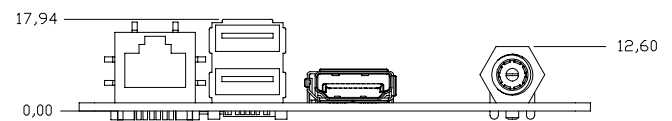- DC-in 12V, EuP/ErP 2013 Ready

Product Specification

System Processor/Chipset	
Processor	Intel® 7th Kaby Lake -U series processor onboard
	Core™ i7-7600U (2.8GHz/3.9GHz, 2C/4T, 25W)
	Core™ i5-7300U (2.6GHz/3.5GHz, 2C/4T, 25W)
	Core™ i3-7100U (2.4GHz, 2C/4T, 15W)
	Celeron® 3965U (2.2GHz, 2C/2T, 15W)
Chipset	Intel® Kaby Lake-U Processor integrated
BIOS	AMI UEFI Flash ROM

Memory	
Technology	DDR4 SDRAM up to 2133 MHz
Max. capacity	Up to 16GB
Socket	1 x 260-pin SO-DIMM

Display	
Graphics	Intel® HD Gen 9 -LP Graphics integrated
Display interface	1 x HDMI v1.4 (co-layout DP v1.2, optional)
	1 x LVDS 2ch 18/24-bit
	1 x AMIO (DP v1.2, optional)
Multi-display	Up to three independent displays (Celeron® processor only support Dual-display)
Resolution	DP: 3840 x 2160 @ 60Hz (max)
	HDMI: 4096 x 2160 @ 24Hz (max)
	LVDS: 1920 x 1200 @ 60Hz (max)

Ethernet	
Interface	10/100/1000 Mbps
Controller	Intel® I219 GbE PHY w/ AMT v11.0 (only Core™ i7/i5 processor supports)
Connector	1 x RJ45 (rear I/O)

Audio	
Interface	Line-in, Line-out, Mic-in
CODEC	Realtek ALC662 HD

Expansion Slot	
AMIO (optional)	1 x DP, 1 x Line-out, 1 x LPC, 1 x PCIe (x4), 1 x SMBus, 1 x USB 3.0 interface
M.2	1 x M.2 E-Key 2230 (WiFi/BT)
	1 x M.2 M-Key 2242 (SSD, NVMe)

SATA	
Max. data transfer rate	6.0Gb/s
Port	1 x SATA III

I/O	
Audio	1 x Line-in, 1 x Line-out, 1 x Mic-in (box-header)
USB	2 x USB 3.0 (rear I/O), 3 x USB 2.0 (box-header)
COM	COM1: RS-232/422/485
	COM2: RS-232 (either COM2 or DIO)
HDMI/VGA/DVI/DP/LVDS	1 x HDMI (rear I/O, co-layout DP, optional)
	1 x LVDS (box-header), 1 x AMIO (DP interface)
DIO	8-bit (either COM2 or DIO)
SMBus	1 x SMBus (box-header)

Power Requirement	
Power connector	DC-Jack Screw Type or WF1x2-pin (optional)
Power type	DC-in 12V
Power mode	AT / ATX (by jumper selection)

Watchdog Timer	
Interval	Programmable 1~255 sec/min
Output	System reset

Environment	
Operating temperature	0°C ~ 60°C (32°F ~ 140°F) standard
	-20°C ~ 70°C (-4°F ~ 158°F) optional
	-40°C ~ 70°C (-40°F ~ 158°F) optional
Storage temperature	-40°C ~ 80°C (-4°F ~ 176°F)
Relative humidity	0% ~ 95% (non-condensing)

Form Factor	
Dimensions (L x W)	Pico-ITX (2.5") Embedded Board
	100mm x 72mm (3.94" x 2.84")

Rear I/O

LAN   USB 3.0   HDMI   DC-in

Dimensions

17,94   12,60   0,00

Ordering Information

Part Number	Description
APIX-KBL7-7600 (MOQ)	Pico-ITX,Intel Core i7-7600U 25W,HDMI/LVDS,SATA/2COM/5USB/LAN,DC(12V)/DC-Jack
APIX-KBL7-7300 (MOQ)	Pico-ITX,Intel Core i7-7600U 25W,HDMI/LVDS,SATA/2COM/5USB/LAN,DC(12V)/DC-Jack
APIX-KBL7-7100 (MOQ)	Pico-ITX,Intel Core i3-7100U 15W,HDMI/LVDS,SATA/2COM/5USB/LAN,DC(12V)/DC-Jack
APIX-KBL7-3965	Pico-ITX,Intel Celeron 3965U 15W,HDMI/LVDS,SATA/2COM/5USB/LAN,DC(12V)/DC-Jack

Optional Accessories

Part Number	Description
801304504000	Cable,SATA,450mm,VK00000700A9
TBD	Cable,SATA,Power
TBD	Heat Spreader

*All specifications and photos are subject to change without prior notice

LITEMAX®
www.litemax.com