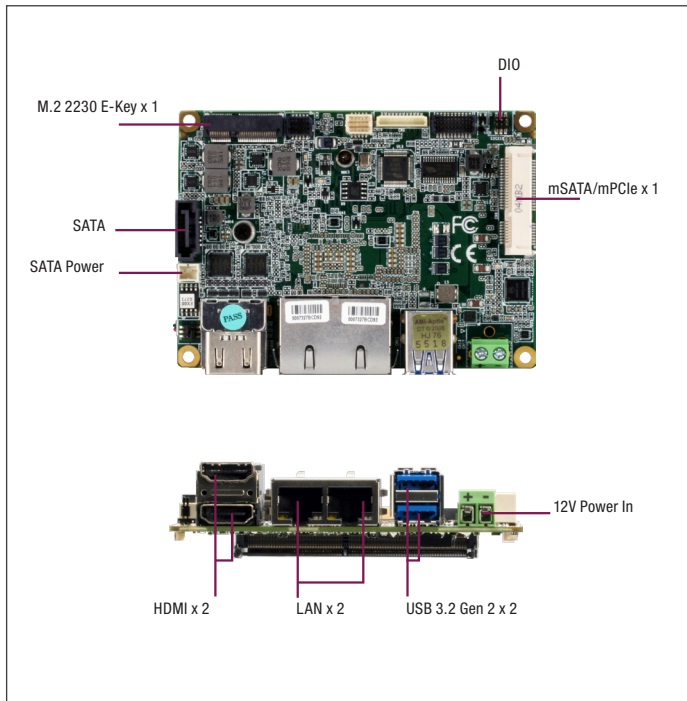


PICO-WHU4

Pico-ITX Board with 8th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC



Features

- 8th Gen Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 1, up to 32GB
- Dual HDMI ports (HDMI 1.4b)
- GbE x 2, SATA 6.0 Gb/s x 1, GPIO x 4
- USB 3.2 Gen 2 x 2 (Rear), USB 2.0 x 2 Pin header, RS-232/422/485 x 2
- Full size mSATA/mPCIe x 1 (Select by BIOS), M.2 2230 (E key) x 1
- 12V Only (Terminal block and DC barrel co-design)



Internal I/O	
USB	USB2.0 x 2
Serial Port	COM1~2 (RS232/422/485, support 5V/12V/RI)
Video	—
SATA	SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1
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	—
Expansion	
Mini PCIe/mSATA	Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with BIOS)
M.2	M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB2.0)
Others	—
Environment & Certification	
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)	298,762
EMC	CE/FCC Class A

Specifications

System	
Form Factor	PICO-ITX
CPU	Intel® 8th Generation Core™ / Celeron Processors: i7-8665UE (4C/8T, 1.70GHz, 15W) i5-8365UE (4C/8T, 1.60GHz, 15W) i3-8145UE (2C/4T, 2.20GHz, 15W) 4305UE (2C/2T, 2.00GHz,15W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR4 2400, SODIMM x 1, Non-ECC (Max. 32GB)
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 18.04.3/Kernel 5.3.0-51-generic
Power	
Power Requirement	+12V
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
Power Consumption	Intel® i7-8665UE @ DDR4 16GB, 2.23A@ +12V(TYPICAL)
Display	
Controller	Intel® UHD Graphics 610/620
LVDS/eDP	—
Display Interface	HDMI 1.4 x 2, up to 3840 x 2160 @30Hz
Multiple Display	Up to 2 Simultaneous Displays
Audio	
Codec	—
Audio Interface	—
Speaker	—
External I/O	
Ethernet	Realtek 8111 1GbE, RJ45 x 2
USB	USB 3.2 Gen2 x 2
Serial Port	—
Video	HDMI 1.4 x 2

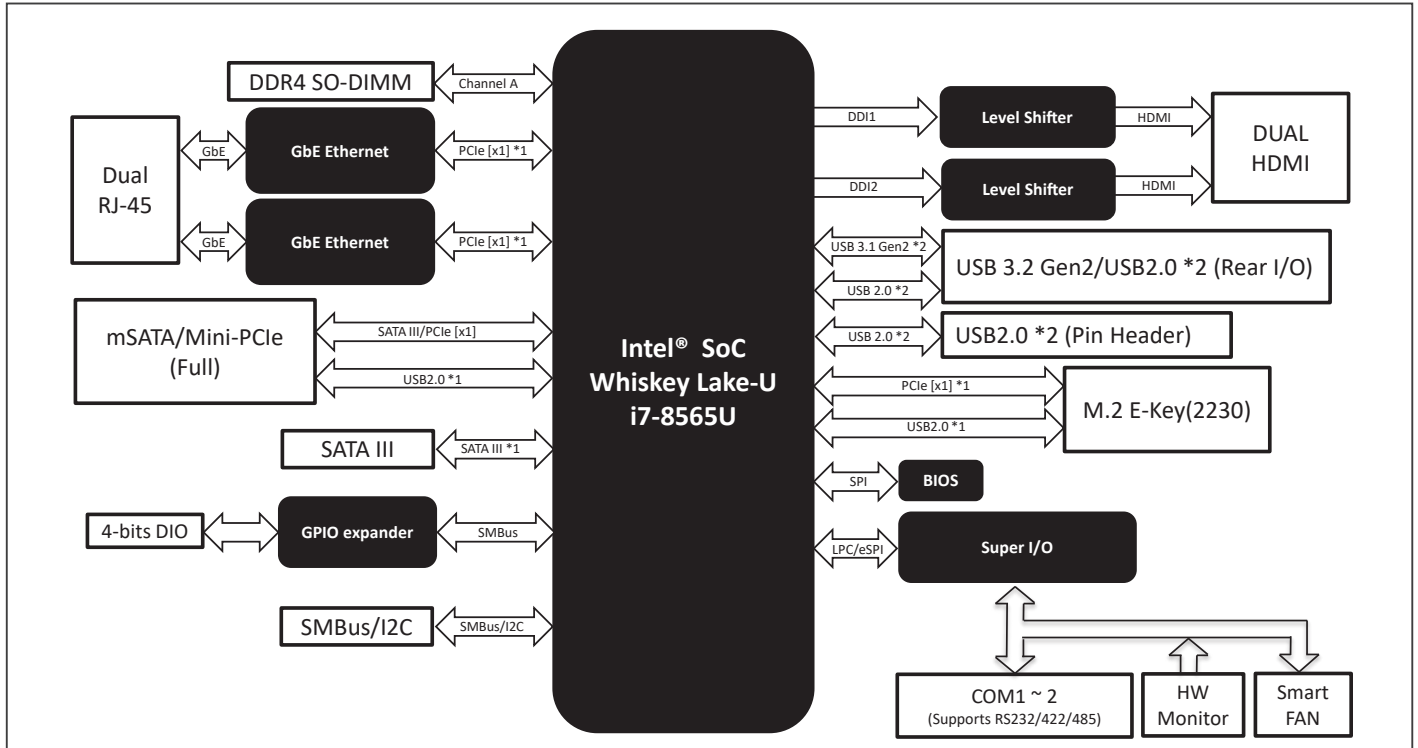
Packing List

- PICO-WHU4

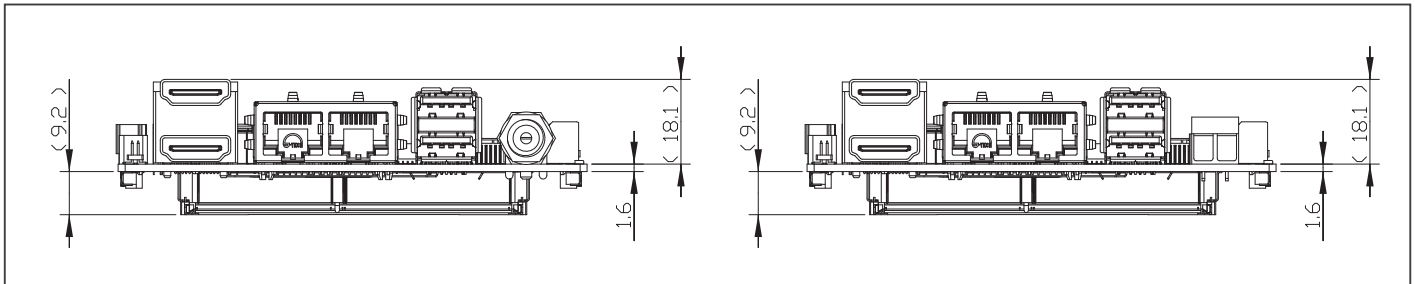
Optional Accessories

Part Number	Description	Qty.
1702150155	SATA Power Cable.150mm	1
170X000593	SATA CABLE.15cm	1
1701200102	SERIAL Cable.2ports.100mm	1
170010010D	USB Cable.2ports.100mm	1
1702030200	Power cable (Phoenix type to DC Jack).20cm	1
PICO-WHU4-FAN01	CPU Cooler.100*72*24mm.Silver	1
PICO-WHU4-HSP01	Heat Spreader.Silver.100*72*10.5mm	1
PER-P30D-A10-0001	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	Display	Storage	LAN	USB	RS-232/422/485	Expansion slot	Power	Operating Temp	Others
PICO-WHU4-A11-0001	Celeron 4305UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0002	i3-8145UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0003	i5-8365UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0004	i7-8665UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-DC02	i3-8145UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (DC Jack)	0°C ~ 60°C	—
PICO-WHU4W2-A11-0004	i7-8665UE	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 2	2	M.2 2230 E-key x 1	+12V (Terminal block)	-40°C ~ 85°C	—