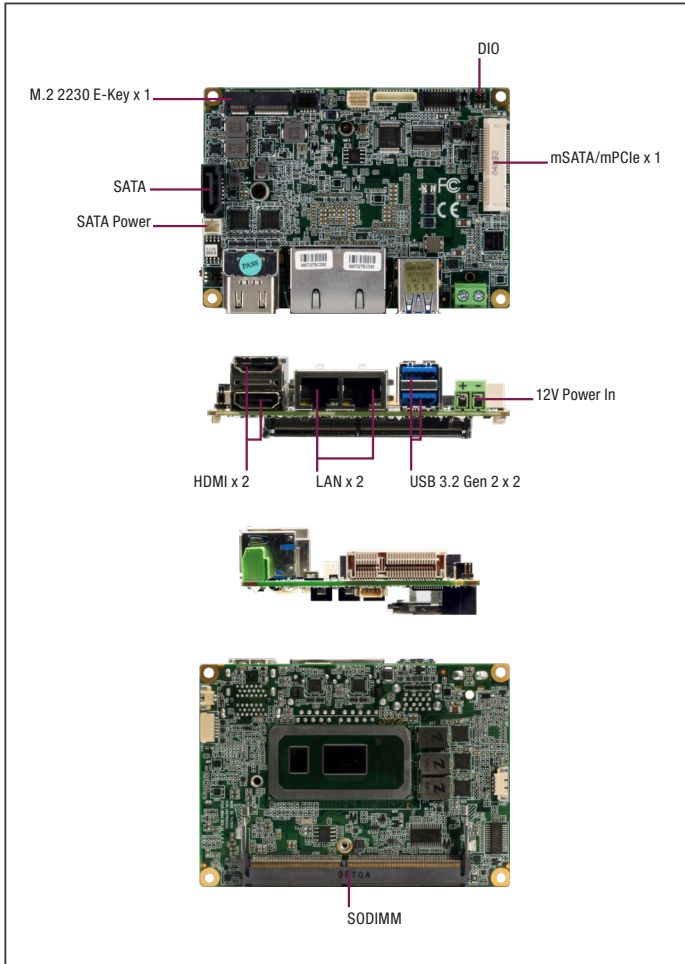


# PICO-WHU4

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



## Specifications

System	
Form Factor	PICO-ITX
CPU	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
CPU Frequency	Up to 4.4GHz
Chipset	Intel® Whiskey-U SoC Processor
Memory Type	DDR4 2400MHz SODIMM x 1, Max. 32GB
Max. Memory Capacity	Up to 32GB
BIOS	UEFI only
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)	TBD
System Cooling	Heat-spreader, cooler optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	TBD
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)	TBD
Certification	CE, FCC
OS support	Windows 10 (64 bit) Ubuntu 18.04.3/Kernel 5.0

## Features

- 8th 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)



Display	
Chipset	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
Resolution	HDMI 1.4b up to 3840 x 2160 x 2
LCD Interface	—
I/O	
Storage/SSD	Full size mSATA/mPCIe or USB2.0 x 1 (PCIe as default, mSATA selected by BIOS) SATA 6.0Gb/s x 1, (5V Power)
Ethernet	Realtek 8111 x 2 10/100/1000Mbps
USB Port	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin 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) SMBUS/I2C/LPC/eSPI x 1
SIM	—
TPM	TPM2.0 (Optional via LPC cable)

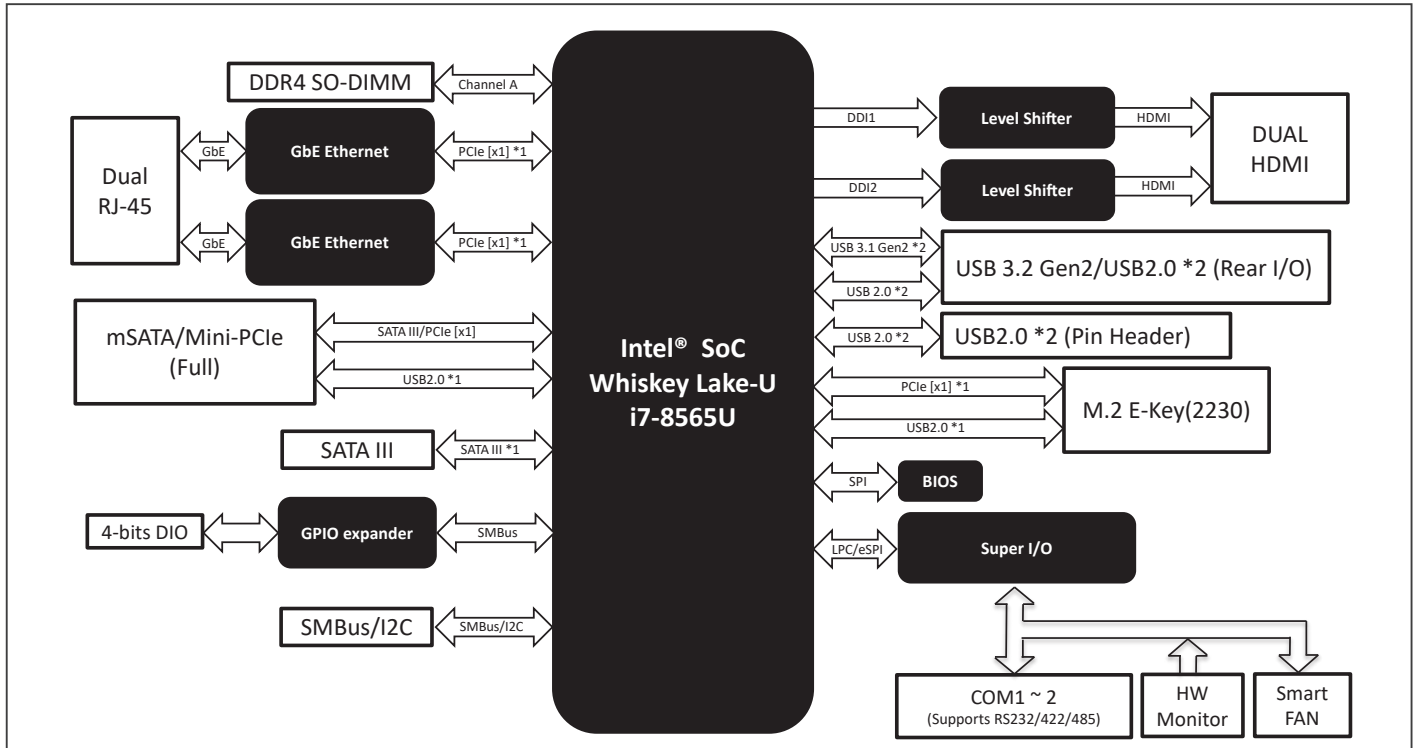
## Packing List

- PICO-WHU4

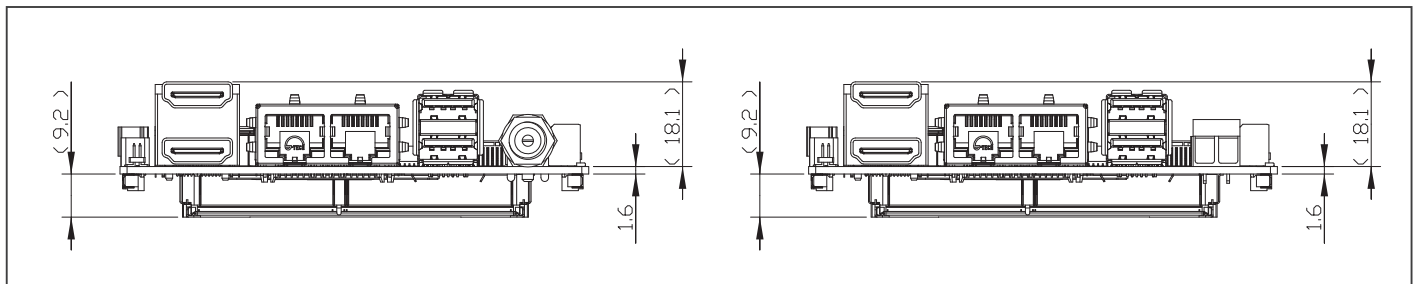
## Optional Accessories

Part Number	Description	Qty.
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1701200102	(TF)SERIAL Cable.WL1010H-2*10P 1.0mm Housing.Dual DB9(M).10cm	1
170010010D	USB cable (2 Port), 10cm	1
1702030176	(TF)Power Cable.3P DC jack.TERMINAL*2.17cm.TKS-G21-LN05	1
PICO-WHU4-FAN01	Integrated Cooler for PICO-WHU4, assemble with PICO-WHU4 directly	1
PICO-WHU4-HSP01	Heat Spreader for PICO-WHU4	1

### Block Diagram



### Dimension Unit: mm



### Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-WHU4-A11-0001	Celeron 4305UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0002	i3-8145UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-DC02	i3-8145UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C ~ 60°C	—
PICO-WHU4-A11-0003	i5-8365UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0004	i7-8665UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4W2-A11-0004	i7-8665UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	-40°C ~ 85°C	—