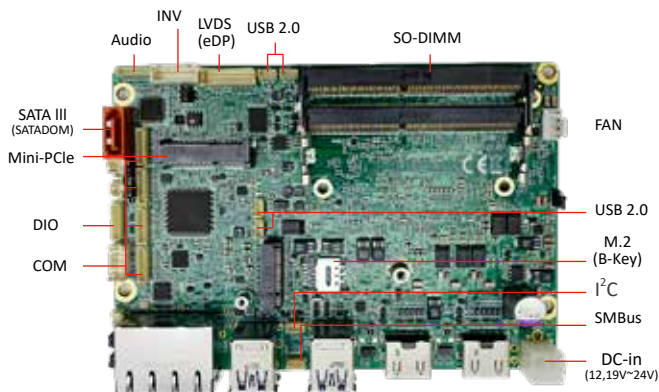


# AECX-WHLO

Intel® Whiskey Lake-U® Series based 3.5" Embedded Board supports Intel® 8th Gen Core™ i7/i5/i3/Celeron® Processor with DP (HDMI)/LVDS(eDP), SATA III, 4 COM, 6 USB, Dual Intel® GbE LAN.



## Key Features

- Intel® 8th Gen Core™ i7/i5/i3 / Celeron® Processor onboard
- Two 260-pin SO-DIMM up to 32GB DDR4 2400MHz SDRAM
- Multi-Display : 2 DP (HDMI) / LVDS (eDP)
- Two Intel® Gigabit Ethernet port
- 1 M.2 M-key 2280(NVMe), 1 M.2 B-key 3042 (WWAN w/ nSIM), 1 Mini PCIe (full-size),
- 1 SATA III (w/ SATADOM), 4COM, 4 USB 3.1 and 2 USB 2.0 ports
- Supports 4K/2K Resolution Display
- DC-IN 12V or 19V ~ 24V, EuP/ErP 2013 Ready

## Product Specification

| System Processor/Chipset |  |
|--------------------------|--|
| Processor                | Intel® Core™ i7-8665UE Processor Quad Core (8M Cache, UP to 4.4 GHz)<br>Intel® Core™ i5-8365UE Processor Quad Core (6M Cache, UP to 4.1 GHz)<br>Intel® Core™ i7-8145UE Processor Dual Core (4M Cache, UP to 3.9 GHz)<br>Intel® Celeron® Processor 4305UE Dual Core (2M Cache, 2.0 GHz) |
| Chipset                  | Intel® Whiskey Lake-U Processor integrated   |
| BIOS                     | AMI® UEFI Flash ROM  |
| Memory                   |  |
| Technology               | DDR4 SDRAM up to 2400 MHz  |
| Max. capacity            | Up to 32GB   |
| Socket                   | 2 x 260-pin SO-DIMM  |
| Display                  |  |
| Graphics                 | Intel® Gen 9.5 UHD 620 Graphics integrated   |
| Display interface        | 2 x DP v1.2 (HDMI v1.4b, optional)<br>1 x LVDS 2-channel 18/24-bit (eDP, optional)<br>1 x eDP v1.4 (optional)  |
| Multi-display            | Up to three independent displays   |
| Resolution               | DP: Up to 4096 x 2160 @ 60Hz (max.)<br>HDMI: Up to 4096 x 2160 @ 30Hz (max.)<br>LVDS: Up to 1920 x 1200 @ 60Hz (max.)<br>eDP: Up to 4096 x 2304 @ 60Hz (max.)  |
| Ethernet                 |  |
| Interface                | 10/100/1000 Mbps   |
| Controller               | Intel® I211 GbE / Intel® I210 GbE (optional)   |
| Connector                | 2 x RJ45 (rear I/O)  |
| Audio                    |  |
| Interface                | Line-in, Line-out, Mic-in  |
| CODEC                    | Realtek® ALC662 HD Audio Codec   |
| Expansion Slot           |  |
| Mini-PCIe                | 1 x Mini-PCIe (SATA, Full-size)  |
| M.2                      | 1 x M.2 M-Key 2280 (SATA, NVMe),<br>1 x M.2 B-Key 3042 (WWAN, w/ uSIM)   |
| SATA                     |  |
| Max. data transfer rate  | 6.0GB/s  |
| Port                     | 1 x SATA III support SATADOM   |
| I/O                      |  |
| Audio                    | Line-in, Line-out, Mic-in (box-header)   |
| USB                      | 4 x USB 3.1 (rear I/O)<br>2 x USB 2.0 (box-header)   |
| COM                      | 1 x RS-232/422/485 (box-header)<br>3 x RS-232 (box-header)   |
| FAN                      | 1 x CPUFAN 4-pin PWM (wafer-header)  |
| GPIO                     | 1 x 8-bit Programmable GPIO (box-header)   |
| i²C                      | 1 x i²C (box-header)   |
| SMBus                    | 1 x SMBus (box-header)   |

| Power Requirement     |   |
|-----------------------|---|
| Power connector       | ATX 2x2-pin for Standard, Wafer 1x2-pin, DC-Jack $\psi$ 2.5mm screw type (optional)                                 |
| Power type            | DC-IN 12V or DC-IN 19V~24V (by jumper selection)  |
| 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<br>-20°C ~ 70°C (-4°F ~ 158°F) optional<br>-40°C ~ 70°C (-40°F ~ 158°F) optional |
| Storage temperature   | -40°C ~ 80°C (-40°F ~ 176°F)  |
| Relative humidity     | 0% ~ 95% (non-condensing)   |
| Form Factor           |   |
| Dimensions (L x W)    | 3.5" Embedded Board<br>146mm x 102mm (5.75" x 4.01")  |

## Rear I/O



## Dimensions



## Ordering Information

| Part Number    | Description   |
|----------------|---|
| AECX-WHLO-8665 | 3.5", Intel Core i7 8665UE 25W, 2DP/LVDS, SATA/4COM/6USB/2LAN, DC(12V, 19V~24V)/ATX4P |
| AECX-WHLO-8365 | 3.5", Intel Core i5 8365UE 25W, 2DP/LVDS, SATA/4COM/6USB/2LAN, DC(12V, 19V~24V)/ATX4P |
| AECX-WHLO-8145 | 3.5", Intel Core i3 8145UE 25W, 2DP/LVDS, SATA/4COM/6USB/2LAN, DC(12V, 19V~24V)/ATX4P |
| AECX-WHLO-4305 | 3.5", Intel Celeron 4305UE 15W, 2DP/LVDS, SATA/4COM/6USB/2LAN, DC(12V, 19V~24V)/ATX4P |

## Optional Accessories

| Part Number   | Description      |
|---------------|------------------|
| VK00000700A9  | SATA cable       |
| VK000002600A9 | SATA power cable |
| TBD           | Heatsink         |
| TBD           | Heat Spreader    |