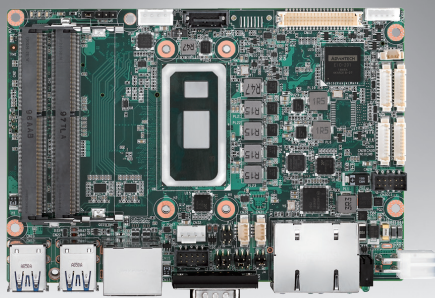


# MI0-5373

8th Gen. Intel® Core™ i7/i5/i3/Celeron\*  
U-Series 3.5" SBC w/ MI0e

NEW



Windows 10 WISE-PaaS/ DeviceOn iManager CE FCC

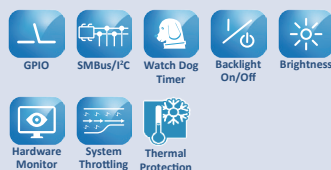
## Specifications

| Platform     | Processor           | i7-8665UE                                                                                                                                                                                                                                                                | i5-8365UE         | i3-8145UE         | Celeron® 4305UE (by request) |
|--------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|------------------------------|
|              | Max. Frequency      | 4.40 GHz                                                                                                                                                                                                                                                                 | 4.10 GHz          | 3.90 GHz          | -                            |
|              | Base Frequency      | 1.70 GHz                                                                                                                                                                                                                                                                 | 1.60 GHz          | 2.20 GHz          | 2.00 GHz                     |
|              | Core/Tread          | 4/8                                                                                                                                                                                                                                                                      | 4/8               | 2/4               | 2/2                          |
|              | LLC                 | 8MB                                                                                                                                                                                                                                                                      | 6MB               | 2MB               | 2MB                          |
|              | CPU TDP             | 15W                                                                                                                                                                                                                                                                      | 15W               | 15W               | 15W                          |
|              | Chipset             | Intel® 300 Series Chipset (SoC Integrated)                                                                                                                                                                                                                               |                   |                   |                              |
|              | BIOS                | AMI UEFI 256Mbit                                                                                                                                                                                                                                                         |                   |                   |                              |
| Memory       | Technology          | DDR4-2400                                                                                                                                                                                                                                                                | DDR4-2400         | DDR4-2400         | DDR4-2133                    |
|              | Max. Capacity       | 32GB                                                                                                                                                                                                                                                                     |                   |                   |                              |
|              | Channel/Socket      | Dual Channel/Dual Socket DDR4                                                                                                                                                                                                                                            |                   |                   |                              |
|              | ECC Support         | N/A                                                                                                                                                                                                                                                                      |                   |                   |                              |
| Graphics     | Controller          | Intel UHD Gfx 620                                                                                                                                                                                                                                                        | Intel UHD Gfx 620 | Intel UHD Gfx 620 | Intel UHD Gfx 610            |
|              | Max. Frequency      | 1.15 GHz                                                                                                                                                                                                                                                                 | 1.05 GHz          | 1.00GHz           | 1.00 GHz                     |
|              | Base Frequency      | 300 MHz                                                                                                                                                                                                                                                                  | 300 MHz           | 300 MHz           | 300 MHz                      |
|              | 3D/HW Acceleration  | 3D Acceleration: Direct3D 2015, OpenGL4.5, OpenCL2.1<br>HW Decode: HEVC/H.265 (8/10-bit), AVC/H.264, VP9, VP8, WMV9, MPEG2<br>HW Encode: HEVC/H.264, AVC/H.264, VP9, VP8, MPEG2                                                                                          |                   |                   |                              |
|              | LCD                 | LVDS Dual Channel 48-bit up to 1920 x 1200<br>Option eDP1.4 up to 4096x2304@60Hz                                                                                                                                                                                         |                   |                   |                              |
| Display I/F  | HDMI/DP             | 1 Port HDMI1.4 up to 4096x2160@30/24Hz<br>1 Port DP1.2 up to 4096x2306@60Hz                                                                                                                                                                                              |                   |                   |                              |
|              | Multiple Display    | Triple simultaneous displays by LVDS/eDP+HDMI+DP                                                                                                                                                                                                                         |                   |                   |                              |
| Ethernet     | Controller          | LAN1: Intel i219, LAN2: Intel i210                                                                                                                                                                                                                                       |                   |                   |                              |
|              | Speed               | 10/100/1000 Mbps                                                                                                                                                                                                                                                         |                   |                   |                              |
| External I/O | Ethernet            | 2 x RJ-45                                                                                                                                                                                                                                                                |                   |                   |                              |
|              | VGA/HDMI/DP         | 1 x HDMI, 1 x DP                                                                                                                                                                                                                                                         |                   |                   |                              |
|              | USB3.1              | 4                                                                                                                                                                                                                                                                        |                   |                   |                              |
|              | COM Port            | 1 x RS-232/422/485                                                                                                                                                                                                                                                       |                   |                   |                              |
|              | LED                 | Power status, HDD R/W                                                                                                                                                                                                                                                    |                   |                   |                              |
|              | Power DC-Jack       | 1*(Optional)                                                                                                                                                                                                                                                             |                   |                   |                              |
| Internal I/O | SATA                | 1, up to 6Gb/s (600MB/s); Support 2 SATA by optional                                                                                                                                                                                                                     |                   |                   |                              |
|              | USB2.0              | 2                                                                                                                                                                                                                                                                        |                   |                   |                              |
|              | Serial Bus          | SMBus, I <sup>2</sup> C (100K/400K)                                                                                                                                                                                                                                      |                   |                   |                              |
|              | COM Port            | 1 x RS-232/422/485<br>2 x GPIO 8b (default) or 2 x RS-232 (*by request)                                                                                                                                                                                                  |                   |                   |                              |
|              | GPIO                | 16-bit general purpose input output I/O                                                                                                                                                                                                                                  |                   |                   |                              |
|              | Audio               | Realtek ALC-888S, Line-in/Line-out/MIC                                                                                                                                                                                                                                   |                   |                   |                              |
|              | Inverter            | 12V/5V/3.3V selectable                                                                                                                                                                                                                                                   |                   |                   |                              |
|              | LPC/SPI Bus         | LPC                                                                                                                                                                                                                                                                      |                   |                   |                              |
|              | CAN Bus             | 1 x CAN Bus 2.0                                                                                                                                                                                                                                                          |                   |                   |                              |
|              | Fan                 | 4-wire smart fan                                                                                                                                                                                                                                                         |                   |                   |                              |
|              | Front Panel Control | Power-on                                                                                                                                                                                                                                                                 |                   |                   |                              |
|              | Watchdog Timer      | 65536 level, 0-65535 sec                                                                                                                                                                                                                                                 |                   |                   |                              |
|              | TPM                 | TPM2.0 (SLB9670XQ2.0)                                                                                                                                                                                                                                                    |                   |                   |                              |
|              | iManager 3.0        | Yes                                                                                                                                                                                                                                                                      |                   |                   |                              |
| Storage      | eMMC                | eMMC5.1 default 32GB, up to 64GB                                                                                                                                                                                                                                         |                   |                   |                              |
| Expansion    | M.2                 | 1 x M.2 E-Key for M.2 2230 A-E Key module (PCIe x1, USB 2.0)<br>1 x M.2 B-Key for M.2 2280 B-M Key SSD module (SATA or NVMe/PCIe x2, auto detect), or M.2 3042 B-Key LTE module (USB 2.0, w/Bracket) ; BOM option to 1 x M.2 M-Key for M.2 2280 M-Key NVMe SSD (PCIe x4) |                   |                   |                              |
|              | MI/O Extension      | 4 PCIe1 x1 (x1/x2/x4), USB2.0, LPC, SMBus, Line-out, 12V/5V Power supply                                                                                                                                                                                                 |                   |                   |                              |
| Power        | Supply Voltage      | Vin: 12V-24V +/- 10%; RTC Battery: Lithium 3V/ 210mAh                                                                                                                                                                                                                    |                   |                   |                              |
|              | Connector           | ATX 2x2-pin, optional: DC-Jack*                                                                                                                                                                                                                                          |                   |                   |                              |
| Power        | Power Management    | AT(default), ATX                                                                                                                                                                                                                                                         |                   |                   |                              |

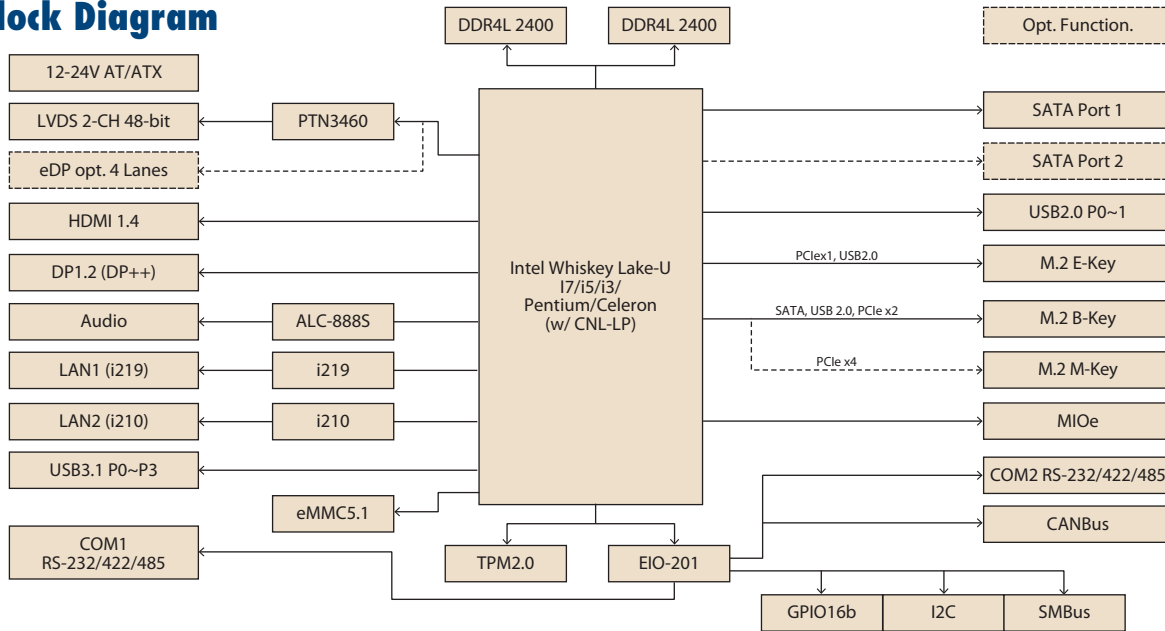
## Features

- 8th Gen. Intel® Core™ Processor with Quad/Dual Cores, TDP 15W
- Dual Channel DDR4-2400 up to 32GB, onboard eMMC up to 64GB
- Triple simultaneous displays by 48-bit LVDS/eDP+HDMI+DP
- 2 GbE, 4 USB3.1, CAN Bus, M.2 B-Key 2280 supports NVMe, DC-in 12-24V
- iManager & SW APIs, WISE-PaaS/DeviceOn

### Software APIs:



## Block Diagram



## Specifications (Cont.)

|               |                      |                                                                                                                         |                             |                             |     |
|---------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|-----|
| Power         | Max. Consumption     | 65.59W (12V) / 74.06W (24V)                                                                                             | 71.28W (12V) / 74.04W (24V) | 35.70W (12V) / 38.68W (24V) | TBD |
|               | Idle Consumption     | 6.68W (12V) / 8.71W (24V)                                                                                               | 7.55W (12V) / 7.55W (24V)   | 7.03W (12V) / 8.18W (24V)   | TBD |
| Environment   | Temperature          | Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F)<br>Storage: -40 ~ 85 °C (-40 ~ 185 °F) |                             |                             |     |
|               | Humidity             | Operating: 40 °C @ 95% relative humidity, non-condensing<br>Storage: 60 °C @ 95% relative humidity, non-condensing      |                             |                             |     |
|               | Vibration Resistance | 3.5Grms                                                                                                                 |                             |                             |     |
| Certification | EMC                  | CE, FCC Class B                                                                                                         |                             |                             |     |
| Mechanical    | Dimensions           | 146 x 102 mm (5.7" x 4")                                                                                                |                             |                             |     |

## Ordering Information

| Part Number     | CPU       | Max. Frequency | Core | eMMC | CANBus | TPM2.0 | MIOe | Cable Kit | Thermal Solution | Operating Temp |
|-----------------|-----------|----------------|------|------|--------|--------|------|-----------|------------------|----------------|
| MIO-5373U-U7A1  | i7-8665UE | 4.4 GHz        | 4    | 32G  | Y      | Y      | Y    | Y         | Passive          | 0 ~ 60 °C      |
| MIO-5373U-U6A1  | i5-8365UE | 4.1 GHz        | 4    | 32G  | Y      | Y      | Y    | Y         | Passive          | 0 ~ 60 °C      |
| MIO-5373U-U3A1  | i3-8145UE | 3.9 GHz        | 2    | 32G  | Y      | Y      | Y    | Y         | Passive          | 0 ~ 60 °C      |
| MIO-5373UL-U6A1 | i5-8365UE | 4.1 GHz        | 4    | N    | N      | Y      | N    | N         | Passive          | 0 ~ 60 °C      |
| MIO-5373UL-U3A1 | i3-8145UE | 3.9 GHz        | 2    | N    | N      | Y      | N    | N         | Passive          | 0 ~ 60 °C      |
| MIO-5373UX-U7A1 | i7-8665UE | 4.4 GHz        | 4    | 32G  | Y      | Y      | Y    | Y         | Passive          | -40 ~ 85 °C    |
| MIO-5373UX-U6A1 | i5-8365UE | 4.1 GHz        | 4    | 32G  | Y      | Y      | Y    | Y         | Passive          | -40 ~ 85 °C    |

\*Default BIOS supports 64 bits OS installation, BIOS for 32 bits OS installation is supported by project.

## Packing List

| Part No.       | Description                           | Quantity |
|----------------|---------------------------------------|----------|
|                | MIO-5373 SBC                          | 1        |
|                | Startup Manual                        | 1        |
| 1700006291     | SATA cable 30cm                       | 1        |
| 1700018785     | A CABLE SATA 15P/1*4P-2.5 35cm        | 1        |
| 1700019584     | A Cable 2*5P-2.0/Audio JACK*3 20cm    | 1        |
| 1700030404-01  | RS-232 9P(M)/1*10P-1.25 20cm MIO-5373 | 1        |
| 1700030406-01  | M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm   | 1        |
| 1960091427N001 | MIO-5373 heatsink for 0 ~ 60 °C       | 1        |
|                | mini Jumper pack                      | 1        |
| 1960091427N011 | MIO-5373 heatsink for -40 ~ 85 °C     | 1        |

\*MIO-5373UL series do not include cable kits in packing list.

## Optional Accessories

| Part No.       | Description                                                      |
|----------------|------------------------------------------------------------------|
| 1970004423N000 | Heat spreader for single layer display HDMI connector (Optional) |
| 1960090264N000 | Bracket for M.2 2280 to M.2 3042                                 |
| 1970004423N010 | Heat spreader for dual layer display HDMI + DP connector         |

## Embedded OS/API

| Embedded OS/API | Part No.            | Description             |
|-----------------|---------------------|-------------------------|
| WIN10           | 20706WX9HS0030      | 64-bit (UEFI mode only) |
| Software API    | Download by website | SUSI V4.0               |

## Rear I/O View

