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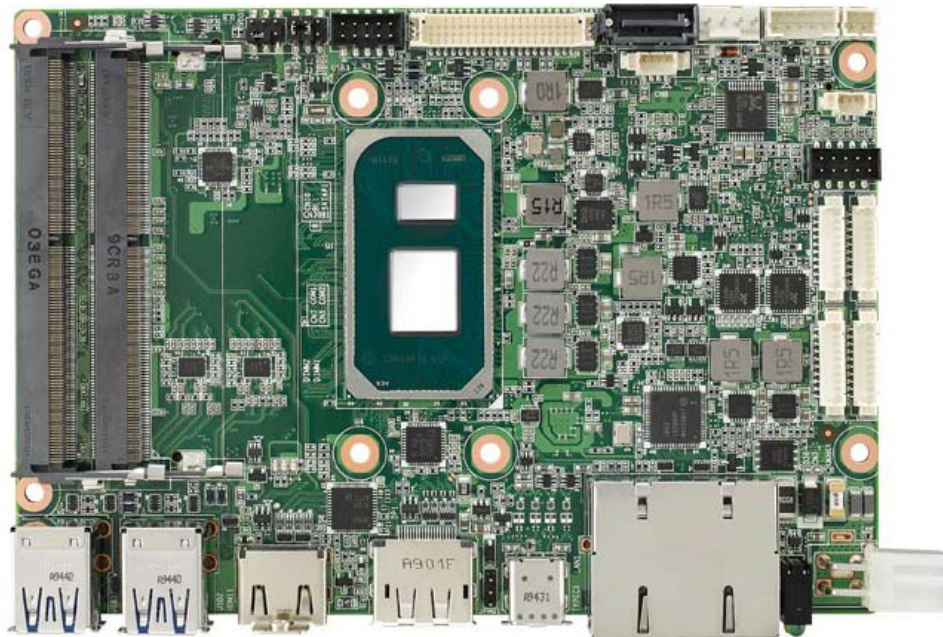


# Datasheet

## ADVANTECH

### MIO-5375

**3,5" Industrial Embedded Single-Board Computer with  
11th Gen. Intel® Tiger Lake Core® i & Celeron® U-Series Processor**



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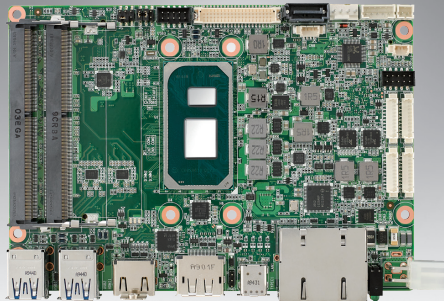
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# MIO-5375

## 11th Gen. Intel® Core™ i7/i5/i3/Celeron U-Series 3.5" SBC w/ MIOe

Preliminary



### Features

- 11th Gen. Intel® Core™ Processor with Quad/Dual Cores, TDP 15W/ 28W
- Dual Channel DDR4-3200 up to 64GB
- 4 simultaneous displays: LVDS/eDP/HDMI/DP/USB Type-C
- 2 GbE, 4 USB3.2, CAN Bus, DC-in 12-24V
- Expansion: M.2 E-Key/B-Key/M-Key (supports NVMe), MIOe
- Supports iManager & Software APIs, WISE-DeviceOn

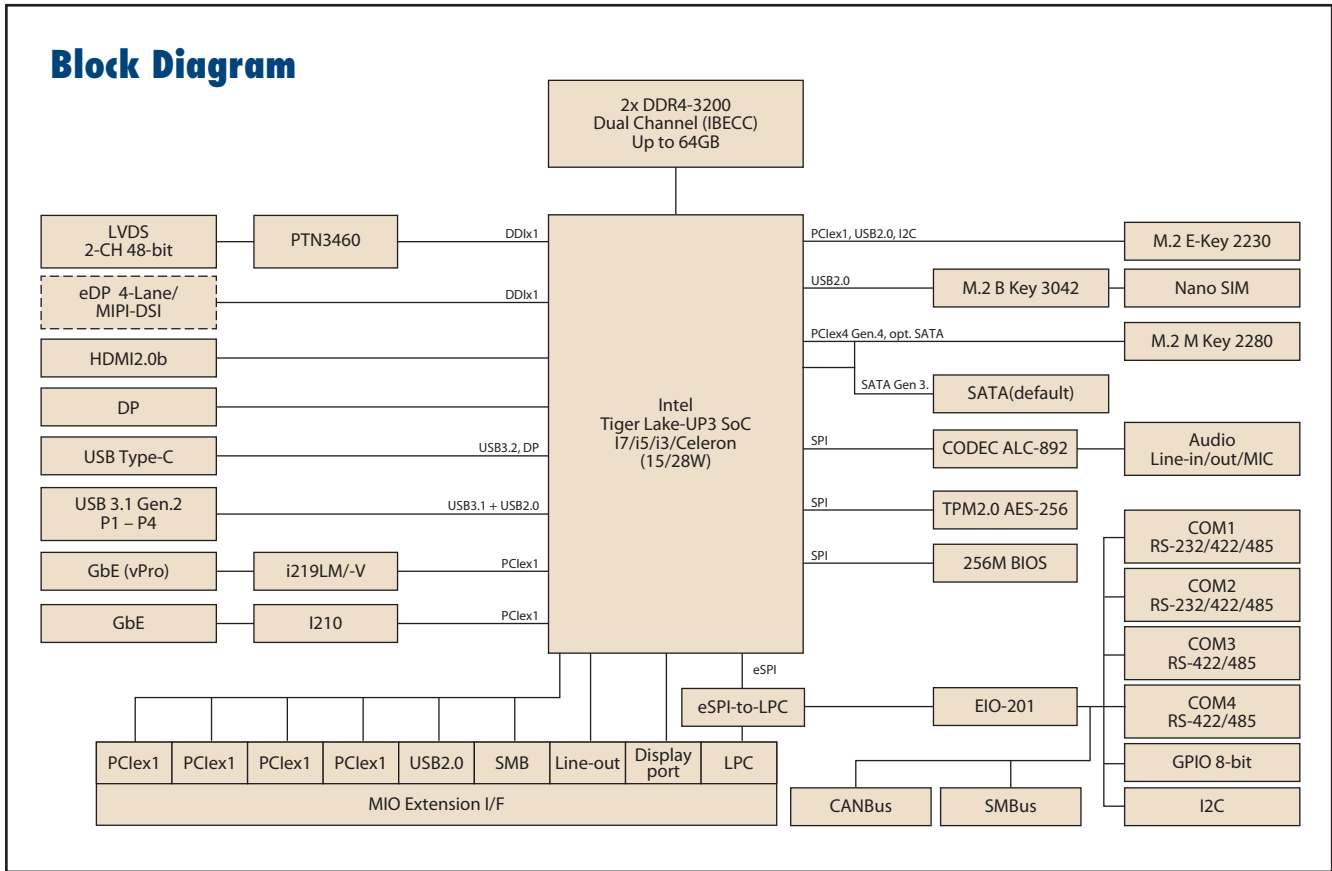
#### Software APIs:



### Specifications

	Processor	i7-xxxxU	i5-xxxxU	i3-xxxxU	Celeron	
Platform	Max. Frequency					
	Base Frequency					
	Core/Tread					
	LLC					
	CPU TDP					
	Chipset	Intel® 300 Series Chipset (SoC Integrated)				
	BIOS	AMI EFI 256Mbit				
Memory	Technology	DDR4-3200				
	Max. Capacity	Up to 64GB				
	Channel/Socket	Dual Channels/2 Sockets				
	ECC Support	In-Band ECC Supported by SoC				
Graphics	Controller	Integrated Gfx Intel® UHD Graphics 630				
	Max. Frequency					
	Base Frequency					
	Graphics Memory	TBU				
3D/HW Acceleration	DX12, OGL4.0, OCL1.2, HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264					
	LCD	1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200 Optional eDP1.4 HBR3, up to 4096x2304x36bpp@60Hz or 5120x3200x24bpp@24Hz Optional MIPI-DSI v1.3 2.5GHz, up to 3200x2000x24bpp@60Hz				
HDMI/DP	1 x HDMI 2.0b, up to 4Kx2Kx24bpp@60Hz					
	1 x DP1.4a, up to 4096x2304x36bpp@60Hz or 5120x3200x24bpp@60Hz					
Multiple Display	4 simultaneous displays with each display interface combinations					
External I/O	Ethernet	2 x GbE, LAN1: Intel i219LM, LAN2: Intel i210AT/IT (for industrial grade)				
	HDMI/DP	1/1				
	USB Type-C	1 x USB3.2 Gen. 2x2 20Gbps, support DP1.4a via Alt. Mode				
	USB3.2	4 x USB3.2 Gen. 2x1 10Gbps				
	LED	Power status, SATA R/W				
	Power DC-Jack	Optional				
Internal I/O	SATA	1 x SATA GenIII 6.0 Gbps				
	USB2.0	2				
	Serial Bus	I2C, SMBus				
	COM Port	2 x RS-232/422/485, 2 x RS-422/485 (4-wire)				
	GPIO	8-bit general purpose input output I/O				
	Audio	Realtek ALC888, Line-in/Line-out/MIC				
	Inverter	12V/5V/3.3V selectable				
	LPC/SPI Bus	LPC				
	CAN Bus	1 x CANBus 2.0				
	Fan	4-wire smart fan				
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen				
	Watchdog Timer	65536 level, 0-65535 sec				
	TPM	TPM2.0				
iManager 3.0	SW API for Hardware Monitor, Smart Fan Control, Brightness Control, I2C, GPIO, WDT					
Expansion	M.2 E-Key	1 x E-Key 2230 (PCIe x1, USB2.0, I2C)				
	M.2 B-Key	1 x B-Key 3042 (USB2.0) w/ Nano-SIM				
	M.2 M-Key	1 x M-Key 2280 (PCIe x4 Gen.4 for PCIe SSD), optional SATA				
MIO Extension	4 PCIe x1 (Gen.3), 3 x USB2.0, LPC, SMBus, Line-out, Optional DP, Power-on, Reset					
Power	Supply Voltage	Vin: DC 12V-24V +/- 10%; RTC Battery: Lithium 3V/210mAh				
	Connector	ATX 2x2 pin 90D, optional DC-Jack or ATX 2x2 pin 180D				
	Power Management	AT, ATX				
	Max. Consumption	TBU				
Idle Consumption	TBU					
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85 °C (-40 ~ 185 °F) Storage: -40 ~ 85 °C (-40 ~ 185 °F)				
	Humidity	Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95% relative humidity, non-condensing				
	Vibration Resistance	3.5 Grms				
Certification	CE, FCC Class B					
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")				

## Block Diagram



## Ordering Information

Part Number	CPU	Max. Frequency	Core	Gbe	USB	RS232/422/485	RS422/485	MIOe	TPM2.0	Thermal solution	Operating Temp
TBD	i7-xxxxU	TBC	4	2	USB3.0 x 4 USB Type-C x 1	2	2	1	Y	Passive	0 ~ 60 °C
TBD	i5-xxxxU	TBC	4	2	USB3.0 x 4 USB Type-C x 1	2	2	1	Y	Passive	0 ~ 60 °C
TBD	i3-xxxxU	TBC	2	2	USB3.0 x 4 USB Type-C x 1	2	2	1	Y	Passive	0 ~ 60 °C

## Packing List

Part No.	Description	Quantity
	MIO-5375 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
1701200220	RS-232 x 2 ports 2.0mm pitch 22cm	1
1960091427N001	MIO-5375 heatsink for 0 ~ 60° C mini Jumper pack	1

## Optional Accessories

Part No.	Description
TBD	Heat spreader

## Embedded OS/API

OS	Part No.	Description
WIN10	TBD	64-bit (UEFI mode only)
Software API	Download by website	

## Rear I/O View



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