

ADVANTECH MIO-2375 Intel Pico-ITX SBC Board User Guide

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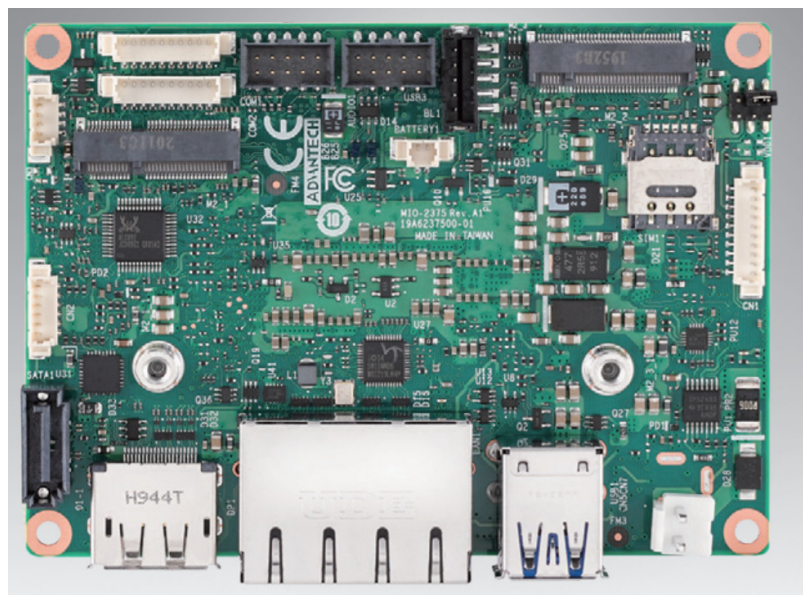
Enabling an Intelligent Planet

MIO-2375

11th Gen. Intel® Core™ i7/i5/i3

U-series Pico-ITX SBC

Preliminary



Windows 10

WISE-DeviceOn iManager

yocto
PROJECT



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Features

- 11th Gen. Intel® Core™ Processor with Quad/Dual Cores, TDP 15W
- On-board LPDDR4x-4267 up to 32G with IBECC for Industrial Sku
- Dual independent display: eDP/MIPI-DSI, DP up to 8K
- 2 GbE, 2 USB 3.2, COM Port, SMBus/I2C
- Expansion: M.2 E-Key, M.2 B-Key/M-Key NVMe x2
- Supports iManager & Software APIs, WISE-DeviceOn, and Edge AI Suite

Software APIs:



Specifications

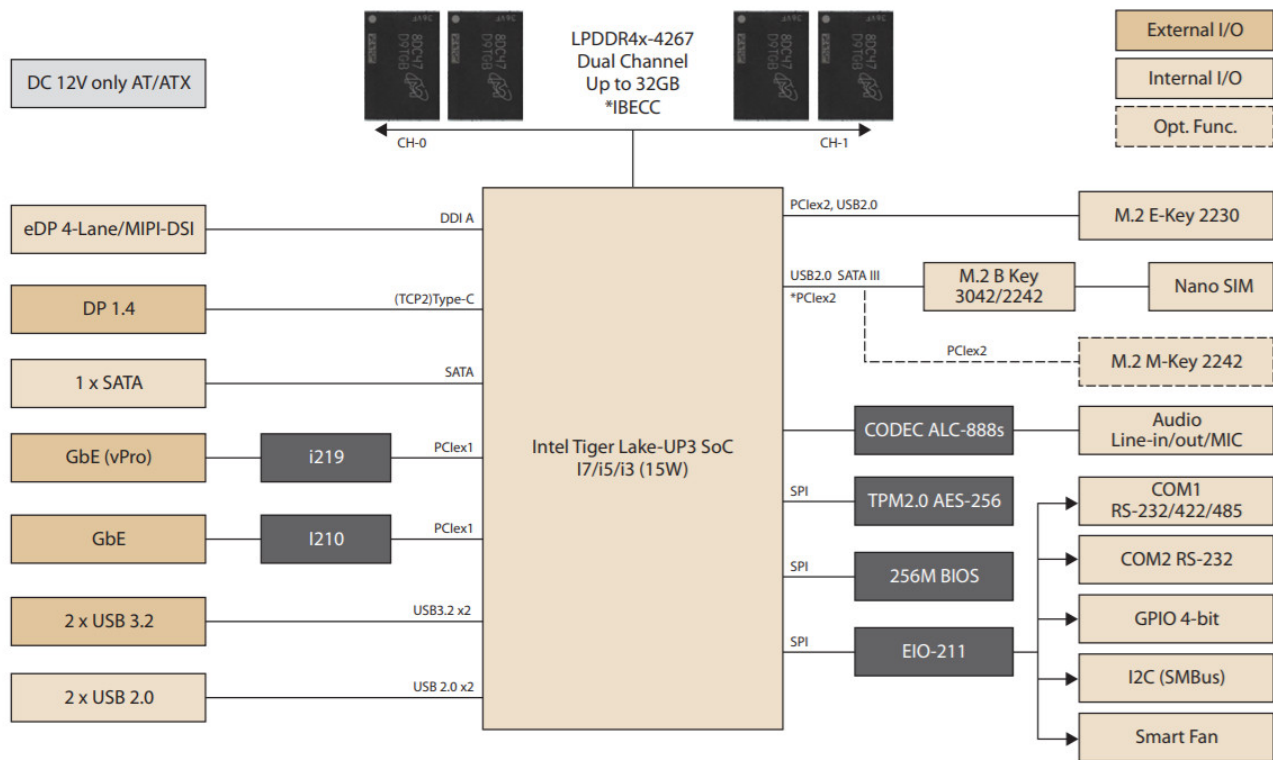
Platform	Processor	i7-1185G7E	i7-1185GRE	i5-1145G7E	i3-1115G4E
	Max. Frequency	4.40 GHz	4.40 GHz	4.10 GHz	3.90 GHz
	Base Frequency	1.80 GHz	1.80 GHz	1.50 GHz	2.20 GHz
	Core/Tread	4/8	4/8	4/8	2/4
	LLC	12MB	12MB	8MB	6MB
	CPU TDP	15W	15W	15W	15W
	Chipset	Intel 300 Series Chipset (SoC Integrated)			
Memory	BIOS	AMI EFI 256Mbit			
	Technology	LPDDR4x-4267			
	Max. Capacity	Up to 32GB			
	Channel/Socket	Single or Dual Channels / Onboard			
Graphics	ECC Support	No	Yes	No	No
	Controller	Integrated Intel® Iris® Xe Graphics			
	Max. Frequency	1.35 GHz	1.35 GHz	1.30 GHz	1.25 GHz
	Graphics Memory	TBU	TBU	TBU	TBU
	3D/HW Acceleration	DX12, OGL4.0, OCL1.2, HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264			
Display I/F	LCD	eDP1.4 HBR3, up to 4096x2304x36bpp@60Hz; with DSC 7680x4320x30bpp@60 Hz Optional MIPI-DSI 2.5GHz, up to 3200x2000x24bpp@60Hz; with DSC 5120x3200x24bpp@60 Hz			
	HDMI/DP	1 x DP1.4 (DP++), up to 4096x2304x36bpp@60Hz; with DSC 7680x4320x30bpp@60 Hz			
	Multiple Display	Dual simultaneous displays by eDP/MIPI-DSI + DP			
Ethernet	Controller	LAN1: Intel 219LM, LAN2: Intel 210AT/IT			
	Speed	10/100/1000 Mbps			
External I/O	Ethernet	2 x RJ-45			
	VGA/HDMI/DP	-/-/1			
	USB3.2/USB2.0	2/-			
	Power DC-Jack	Optional			
Internal I/O	SATA	1 x SATA GenIII 6.0Gbps			
	USB2.0	2			
	Serial Bus	I2C (default), SMBus*(optional)			
	COM Port	1 x RS-232/422/485, 1 x RS-232			
	GPIO	4-bit general purpose input output I/O			
	Audio	Realtek ALC888s, Line-in/Line-out/MIC			
	Inverter	12V			
	Fan	12V, 1A (4-wire)			
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen			
Board Feature	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)			
	M.2 B-Key/ M.2 M-Key	1 x B-Key 3042/2242 (SATA x1, USB2.0 x1) w/ Nano-SIM *Optional 1 x M-Key 2242 (PCIe x2 NVMe)			
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery: Lithium 3V/210mAh			
	Connector	ATX 2pin 180D, optional DC-Jack			
	Power Management	AT, ATX			
	Max. Consumption	23.388 W			
	Idle Consumption	9.029 W			
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F) Operating: Extend: -40 ~ 85 °C (-40 ~ 185 °F) for Industrial Sku 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	EMC	CE, FCC Class B			
Mechanical	Dimensions	100 x 72 mm (3.9" x 2.8")			
	Net Weight	80g			

***Note:** Support by request

MI/O Extension SBCs, Modules and Chassis

All product specifications are subject to change without notice.

Block Diagram



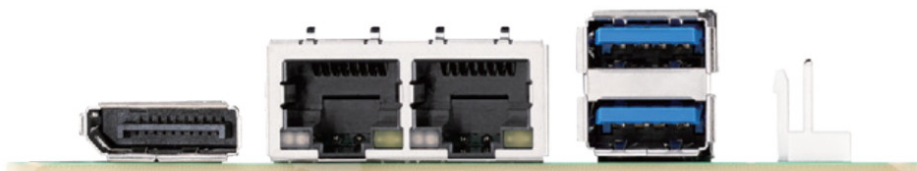
Ordering Information

Part No.	CPU	Max. Frequency	Core	Memory	Sim Holder	TPM	Thermal Solution	Operating Temperature
MIO-2375C7P-Q4A1	i7-1185G7E	4.40 GHz	4	16GB	Yes	Yes	Active	0 ~ 60 °C
MIO-2375C7PX-Q4A1	i7-1185GRE	4.40 GHz	4	16GB	Yes	Yes	Active	-40 ~ 85° C
MIO-2375C5P-Q1A1	i5-1145G7E	4.10 GHz	4	16GB	Yes	Yes	Active	0 ~ 60 °C
MIO-2375C3P-P9A1	i3-1115G4E	3.90 GHz	2	8GB	Yes	Yes	Active	0 ~ 60 °C

Packing List

Part No.	Description	Quantity
	MIO-2375 SBC	
	Startup Manual	
1.7E+09	SATA cable 30cm	1
1700027546-01	A CABLE SATA Power 15P/1*4P-2.5 15cm	1
1700030406-01	M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm	1
1700030404-01	RS-232 9P(M)/1*10P-1.25 20cm	2
1700019584-01	A Cable 2*5P-2.0/Audio JACK*3 20cm	1
1700019705-01	AT power cable 12 cm	1
1970004956T001	MIO-2375 Cooler	1

Rear I/O View



Optional Accessories

Part No.	Description
1970004968N001	MIO-2375 Heatspreader

Embedded OS/API

OS	Part No.	Description
WIN10	TBD	64-bit (UEFI mode only)
Ubuntu 20.04 LTS	TBD	
Software API	Download by website	
Yocto BSP		

Online Download

www.advantech.com/products

Documents / Resources



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MIO-2375 Intel Pico-ITX SBC Board, 11th Gen. Intel Core™ i7, i5, i3, U-series Pico-ITX SBC

References

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