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Datasheet

Advantech

MIO-2364

Pico-ITX Single Board Computer Alder Lake N with Intel® Core™ i3-N305, N-series N97, and x7000E Series x7211E

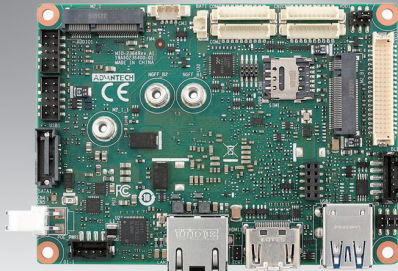


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MIO-2364

Intel® Core™ i3-N305 Processor, Intel® Processor N-series, and Intel Atom® Processor x7000E Series Pico-ITX SBC (Code name: Alder Lake N)

Preliminary



Windows 10

WISE-DeviceOn iManager CE FC

Specifications

Platform	Processor	i3-N305	N97	x7211E
	Max. Frequency	3.80 GHz	3.60 GHz	3.20 GHz
	Base Frequency	TBU	TBU	TBU
	Core/Thread	8/8	4/4	2/2
	LLC	6MB	6MB	6MB
	CPU TDP	15W	12W	6W
	Chipset	Intel 300 Series Chipset (SoC Integrated)		
Memory	BIOS	AMI EFI 256Mbit		
	Technology	DDR5-4800		
	Max. Capacity	Up to 16GB		
	Channel/Socket	Single Channel / One Socket		
Graphics	ECC Support	No	No	No
	Controller	Intel® UHD Graphics		
	Max. Frequency	1.25 GHz	1.20 GHz	1.00 GHz
	Execution Unit	32	24	16
Display I/F	3D/HW Acceleration	DX12, OGL4.0, OCL1.2, HW Encode: HEVC/H265, AVC/H264, VP9, HW Decode: HEVC/H265, AVC/H264, VP9		
	LCD	1 x LVDS, Dual Channel 18/24-bit, up to 1920 x 1080		
	HDMI/DP	1 x HDMI 1.4b, up to 3840 x 2160 x 24bpp@20-30Hz		
Ethernet	Multiple Display	Dual simultaneous displays by LVDS + HDMI		
	Controller	LAN: Intel i226LM		
External I/O	Speed	2.5 GbE		
	Ethernet	1 x RJ-45 Default support PoE/PSE, 802.3af (optional PoE/PD, 802.3at), TSN support on x7211E only		
	VGA/HDMI/DP	-/ / -		
	USB3.2/USB2.0	2 / -		
Internal I/O	SATA	1 x SATA GenIII 6.0Gbps		
	USB2.0	2		
	Serial Bus	SMBus/I2C		
	COM Port	2 x RS-232/422/485		
	GPIO	8-bit general purpose input output I/O		
	Audio	Realtek ALC888s, Line-in/Line-out/MIC		
	Inverter	5V/12V, 2A		
	Smart Fan	12V, 0.3A (4-wire)		
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, Power LED, Case Open		
	Board Feature	Watchdog Timer	0-6553 sec	
TPM		fTPM support by Intel® Platform Trust Technology Discrete TPM2.0 (*optional)		
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	1 x B-Key 2242/3042/3052 (SATA x1 or PCIe x1, USB2.0 x1, USB3.0 x1) w/ Nano-SIM		
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery: Lithium 3V/210mAH		
	Connector	ATX 2pin 180D, optional ATX 2pin 90D		
	Power Management	AT, ATX		
	Max. Consumption	55.30W (12V)	43.50W (12V)	24.84W (12V)
Environment	Idle Consumption	10.38W (12V)	8.32W (12V)	10.33W (12V)
	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °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		
Certification	Vibration Resistance	3.5 Grms		
	EMC	CE, FCC Class B		
Mechanical	Dimensions	100 x 72 mm (3.9" x 2.8")		
	Net Weight	75g		

*Note: Support by request

Features

- Intel® Core™ i3-N305, N-series N97, and x7000E Series x7211E
- DDR5-4800 up to 16GB
- Dual independent display: LVDS + HDMI
- GbE (optional PoE/PD, 802.3at), 4 USB, COM, SMBus/I2C
- Expansion: M.2 E-Key, M.2 B-Key
- Supports iManager & Software APIs, WISE-DeviceOn

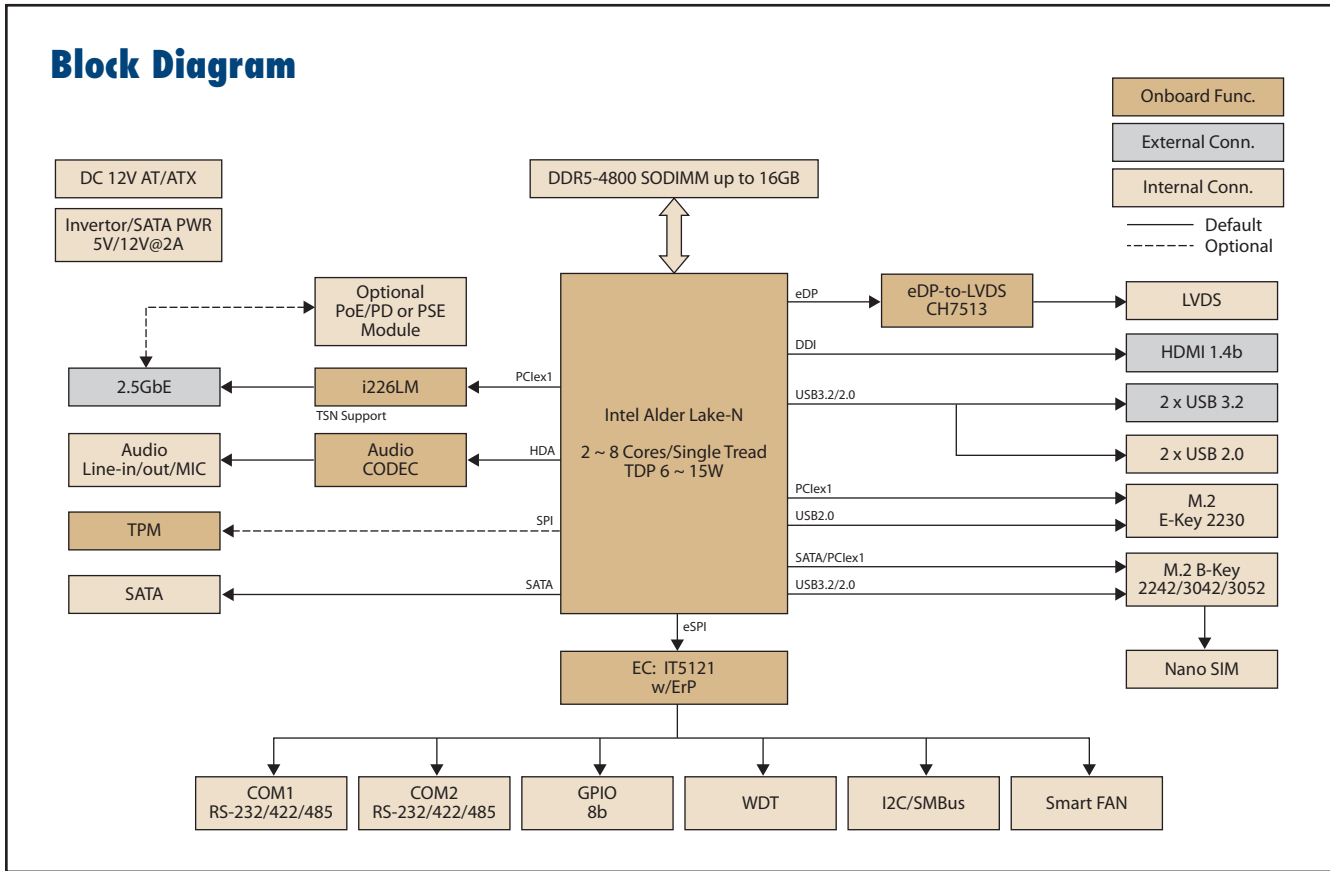
Software APIs:



Utilities:



Block Diagram



Ordering Information

Part No.	CPU	TDP	Max. Frequency	Core	TSN	Thermal Solution	Operating Temperature
MIO-2364C3-P8A1	i3-N305	15W	3.80 GHz	8	No	Active	0 ~ 60 °C
MIO-2364N-P6A1	N97	12W	3.60 GHz	4	No	Passive	0 ~ 60 °C
MIO-2364A-P2A1	x7211E	6W	3.20 GHz	2	Yes	Passive	0 ~ 60 °C

Packing List

Part No.	Description	Quantity
	MIO-2364 SBC	
	Startup Manual	
1700006291	SATA cable 30cm	1
1700027546-01	A CABLE SATA 15P/1*4P-2.5 35cm	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
1970005708T001	MIO-2364 Active Cooler	1
1970005779T001	MIO-2364 Passive Heatsink	1

Optional Accessories

Part No.	Description
TBD	MIO-2364 Heatspreader
1700034783-01	PoE/PD IN cable
1700034784-01	PoE/PD OUT cable

Embedded OS/API

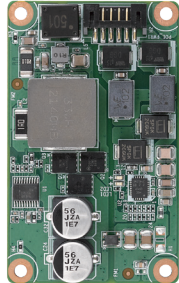
OS	Part No.	Description
WIN10	TBD	64-bit (UEFI mode only)
Ubuntu 22.04 LTS	TBD	
Software API	Download by website	

Rear I/O View



Compatible Expansion Boards

MIOe-PSE



Specifications

Output DC Voltage	50V
Input DC Voltage	12-24V
Power Sourced at PSE module	15.4W / 30W per port
Power at PD (End-point)	12.95W / 25.5W per port
PoE Standard	IEEE 802.3 at
Operating temperature	-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
EMC	CE, FCC Class B
Dimensions	72.1 x 44.0 x 1.6 mm

Ordering Information

P/N	Description
MIOE-PSE-DPA1	MIOe-PSE PoE Module A1 Dual 15.4W
MIOE-PSE-SPA1	MIOe-PSE PoE Module A1 Single 30W

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