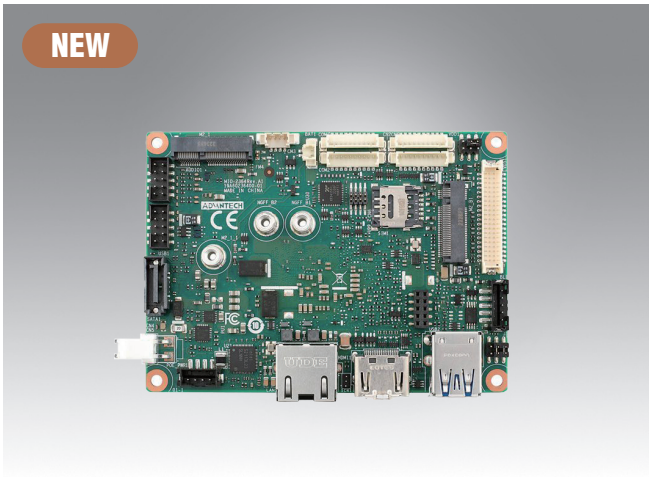
MIO-2364

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



Windows 10 WISE-DeviceOn iManager CE FC

Features

- Intel® Core™ i3-N305, N-series N97/N150/N355, 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: GPIO, SMBus/I²C, Watch Dog Timer, Backlight On/Off, Brightness

Utilities: Hardware Monitor, System Throttling, Thermal Protection, Smart Fan, Data Security, System Info

Specifications

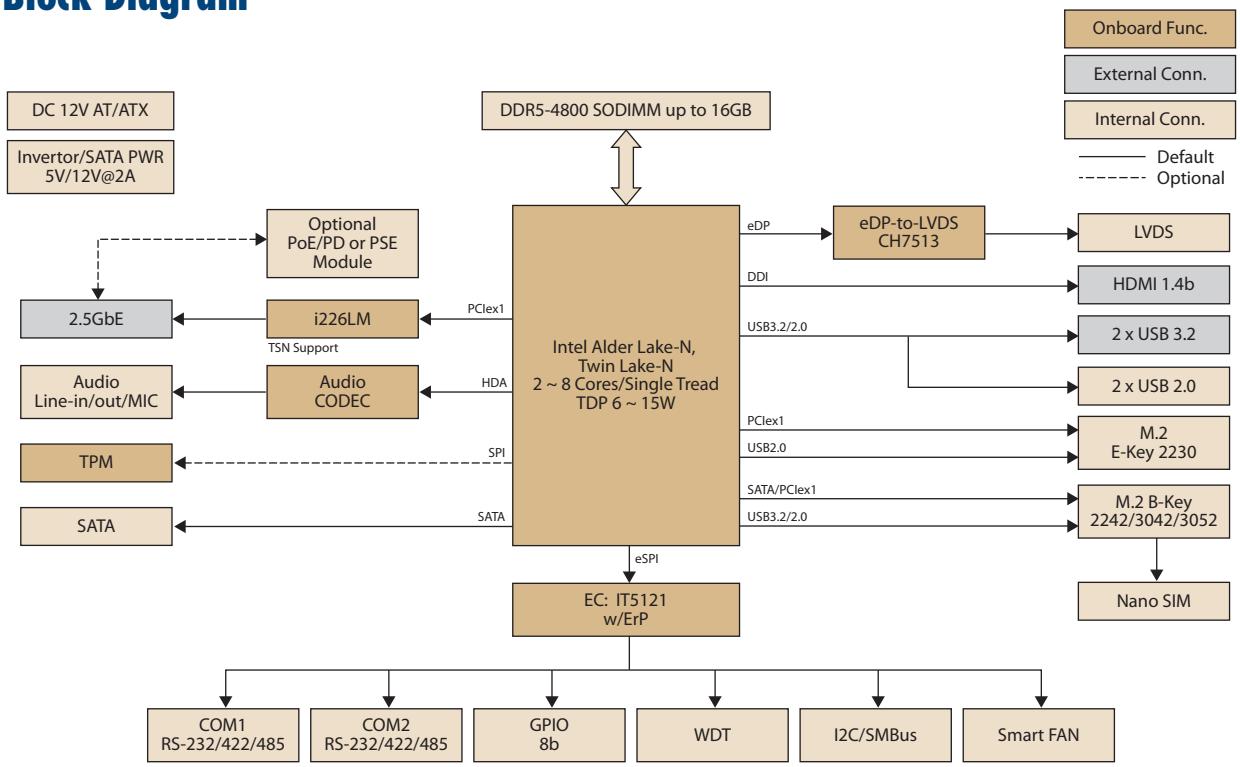
Platform	Processor	i3-N305	N97	x7211E	N150	N355
	Max. Frequency	3.80 GHz	3.60 GHz	3.20 GHz	3.60 GHz	3.90 GHz
	Base Frequency	TBU	TBU	TBU	TBU	TBU
	Core/Thread	8/8	4/4	2/2	4/4	8/8
	LLC	6MB	6MB	6MB	6MB	6MB
	CPU TDP	15W	12W	6W	6W	15W
	Chipset	Intel 300 Series Chipset (SoC Integrated)				
	BIOS	AMI EFI 256Mbit				
Memory	Technology	DDR5-4800				
	Max. Capacity	Up to 16GB				
	Channel/Socket	Single Channel / One Socket				
	IBECC	Yes	Yes	Yes	Yes	Yes
Graphics	Controller	Intel® UHD Graphics				
	Max. Frequency	1.25 GHz	1.20 GHz	1.00 GHz	1.00 GHz	1.35 GHz
	Execution Unit	32	24	16	24	32
	3D/HW Acceleration	DX12, OGL4.0, OCL1.2, HW Encode: H265, AVC/H264, VP9, HW Decode: H265, AVC/H264, VP9				
Display I/F	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				
	Multiple Display	Dual simultaneous displays by LVDS + HDMI				
Ethernet	Controller	LAN: Intel i226LM				
	Speed	2.5 GbE				
External I/O	Ethernet	1 x RJ-45 Default soppport PoE/PSE, 802.3af (optional PoE/PD, 802.3at), TSN support on x7211E only				
	VGA/HDMI/DP	-/1/-				
	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				
	Invertor	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 support by request (SATAx1 or PCIex1, USB2.0x1, USB3.0x1) w/ Nano-SIM				
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery: Lithium 3V/210mAH				
	Connector	ATX 2pin 90D, optional ATX 2pin 180D				
	Power Management	AT, ATX				
	Max. Consumption	55.30W (12V)	43.50W (12V)	24.84W (12V)	TBU	TBU
	Idle Consumption	10.38W (12V)	8.32W (12V)	10.33W (12V)	TBU	TBU
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F) with 0.7m/s airflow 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	75g				

*Note: Support by request

All product specifications are subject to change without notice.

Last updated: 23-Nov-2026

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

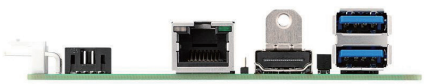
Packing List

Part No.	Description	Quantity
	MIO-2364 SBC	
	Startup Manual	
1700006291	SATA cable 30cm	1
1700027546-01	LVDS backlight power/control + SATA power line	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
1970005911N001	MIO-2364 Heatspreader
1700034783-01	PoE/PD IN cable
1700034784-01	PoE/PD OUT cable
1700034521-01	PoE/PSE cable
TBD	PoE/PD module (Support by request)

Rear I/O View

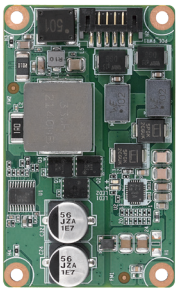


Embedded OS/API

OS	Part No.	Description
Windows 10 LTSC	20706WX1ES0077	Win10 IOT Ent. 2021 LTSC 64bit, Entry: N97 & N50 & N150 & N355
	20706WX1VS0077	Win10 IOT Ent. 2021 LTSC 64bit, Value: Core i3
	20706WX1HS0077	Win10 IOT Ent. 2021 LTSC 64bit, High End
Ubuntu 22.04 LTS	20706U22DS0033	Ubuntu Desktop 22.04 LTS 64bit
Software API	Download by website	

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