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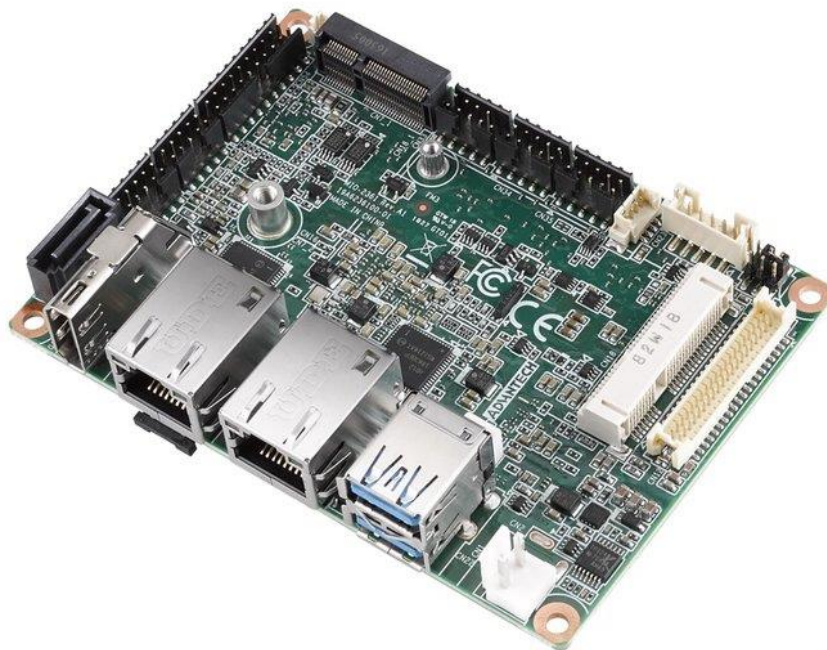


# Datasheet

## ADVANTECH

### MIO-2361

2,5" Single-Board Computer with  
Intel® Atom™ E3900 Series & Pentium N4200 processor



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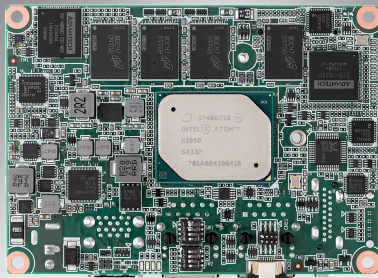
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# MIO-2361

Intel® Atom™ E3900 series/ Pentium® N4200/ Celeron® N3350 Pico-ITX SBC

NEW



## Features

- Intel® Atom™ E3900 series/ Pentium N4200
- Onboard LPDDR4-2400 up to 8GB, eMMC up to 64GB
- LVDS 48-bit, HDMI up to 4K, Dual Displays
- M.2 E-key 2230, F/S mPCIe, opt. mSATA
- Dual GbE, USB3.0, 2 x RS-232/422/485, 12/24V input
- iManager3.0 & Software APIs, WISE-PaaS/DeviceOn

### Software APIs:



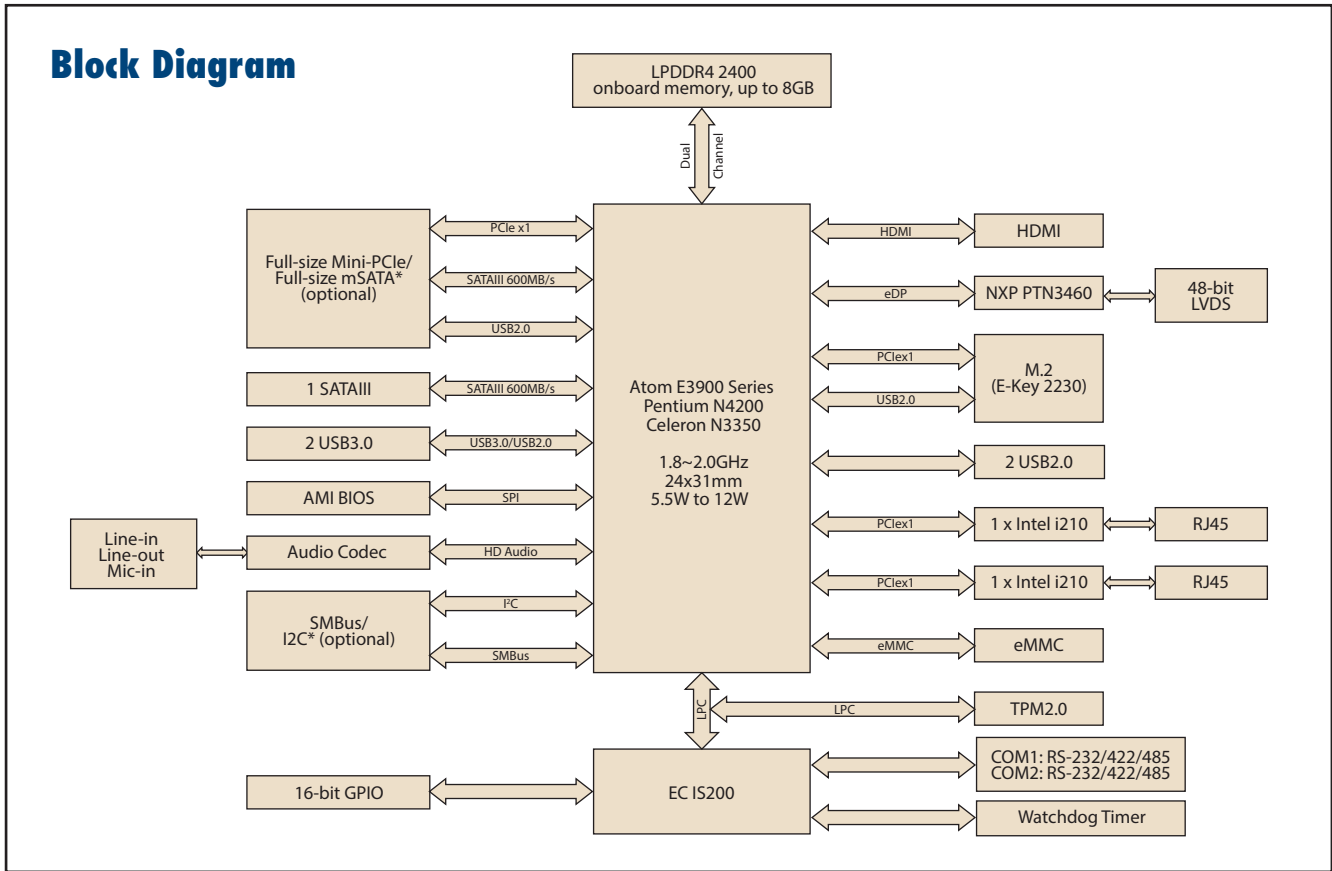
Windows 10 iManager WISE-PaaS/DeviceOn CE FCC

## Specifications

	Processor	Atom E3950	Atom E3940	Atom E3930	Pentium N4200	Celeron N3350	
Platform	Max. Frequency	2.0 GHz	1.80 GHz	1.80 GHz	2.50 GHz	2.40 GHz	
	Base Frequency	1.60 GHz	1.60 GHz	1.30 GHz	1.10 GHz	1.10 GHz	
	Core/Tread	4/4	4/4	2/2	4/4	2/2	
	LLC	2 MB	2 MB	2 MB	2 MB	2 MB	
	CPU TDP	12W	9W	6W	6W	6W	
	Chipset	Intel Atom SoC processor integrated					
Memory	BIOS	AMI EFI 64 Mbit					
	Technology	LPDDR4-2400MT/s					
	Max. Capacity	4GB	4GB	4GB	8GB	4GB	
Graphics	Channel/Socket	Dual Channel/ Onboard LPDDR4					
	Controller	Intel® Atom SoC integrated					
	Burst Frequency	650 MHz	600 MHz	550 MHz	750 MHz	650 MHz	
	Graphics Memory	2 GB	2 GB	2 GB	2 GB	2 GB	
Display I/F	3D/HW Acceleration	3D: DX12, OGL4.3, OGL ES3.0, OCL 1.2 HW Decode: HEVC/H.265, H.264, MVC, VP8, VP9, MPEG2, VC-1, WMV9 HW Encode: HEVC/H.265, H.264, MVC, VP8					
	LCD	LVDS: Dual-Channel 48-bit, up to 1920 x 1200					
Ethernet	HDMI/DP	HDMI 1.4b: up to 3840 x 2160 at 30Hz					
	Multiple Display	Dual display, HDMI+48-bit LVDS					
External I/O	Controller	LAN1: Intel i210AT/IT LAN2: Intel i210AT/IT (*i210IT is for EW-series) *Support PXE boot under UEFI					
	Speed	10/100/1000 Mbps					
	Ethernet	2 x RJ-45					
Internal I/O	VGA/HDMI/DP	0/1/0					
	USB3.0/USB2.0	2/0					
	Power DC-Jack	Lockable DC-Jack *(Optional)					
	SATA	1, up to 6Gb/s (600MB/s)					
	USB2.0	2					
	Serial Bus	SMBus (default), I2C* (optional)					
	COM Port	2 x RS-232/422/485					
Board Feature	GPIO	16-bit general purpose input output I/O					
	Audio	Realtek ALC-888S, Line-in/Line-out/MIC					
	Inverter	1A@12V, 1A@5V					
	SATA Power	Co-Function with Inverter					
	Fan	12V, 1A (2-wire)					
	Front Panel Control	Power Button, Reset Button, Buzzer, SATA Indicator, 5V/3.3V Power Indicator, CaseOpen					
	Watchdog Timer	65536 level, 0-65535 sec					
Storage	TPM	2.0					
	iManager 3.0	Y (Software APIs for Power Monitor, CPU Temp., Smart Fan, GPIO, WDT, SMBus, I2C, Backlight & Brightness Control)					
	eMMC	32Gb, up to 64GB* (optional)					
Expansion	M.2	E-Key 2230 (PCIe x1, USB2.0)					
	mPCIe/mSATA	F/S mPCIe, mSATA optional					
	Supply Voltage	Vin: 12V or 24V +/- 10%, RTC Battery: Lithium 3V/ 210mAh					
Power	Connector	ATX 2-pin(180D), optional: DC-Jack					
	Power Management	AT, ATX					
	Max. Consumption	E3950: 26.27 W (12V) E3950: 26.51 W (24V)	E3940: TBD	E3930: TBD	N4200: TBD	N3350: TBD	
	Idle Consumption	E3950: 8.59 W (12V) E3950: 8.81 W (24V)	E3940: TBD	E3930: TBD	N4200: TBD	N3350: TBD	
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	Storage: -40 ~ 85 °C (-40 ~ 185 °F) Storage: 60 °C @ 95%relative humidity, non-condensing					
	Vibration Resistance	3.5Grms					
Certification	EMC	CE, FCC Class B					
Mechanical	Dimensions	100 x 72 mm (3.9" x 2.8")					

\*Note: Support by request

## Block Diagram



## Ordering Information

Part Number	CPU	Max. frequency	Core	Memory	eMMC	TPM2.0	Thermal solution	Operating Temp
MIO-2361EW-S1A2	Atom E3930	1.80 GHz	2	4G	32G	Y	Passive	-40 ~ 85° C
MIO-2361EW-S6A2	Atom E3940	1.80 GHz	4	4G	32G	Y	Passive	-40 ~ 85° C
MIO-2361EW-S7A2	Atom E3950	2.0 GHz	4	4G	32G	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-2361 SBC	1
	Startup Manual	1
1700006291	SATA cable 30cm	1
1700027546-01	A cable 1*5P-2.0/1*5P-2.0+SATA 15P 15cm MIO-2361	1
1701200220	RS-232 x 2 ports 2.0mm pitch 22cm	1
1700002172	USB cable 2.0 mm pitch USB-A(F) 17 cm	1
1700019705	AT power cable 12 cm	1
1960087918T001	29mm heatsink for E3900 series	1

## Optional Accessories

Part No.	Description
1960089107N001	MIO-2361 Heat spreader for E3900 series
1970004733N001	MIO-2361 Heat spreader for N4200/N3350
IDK-1110WP-50XGA1E	10.1" LED PANEL 500N
IDK-1115P-50XGA1E	15" LED PANEL 500N

## Embedded OS/API

Embedded OS/API	Part No.	Description
WIN10	20706WX9ES0026	64-bit (UEFI mode only)
Yocto	Support by request	Yocto BSP
Software API	Download by website	SUSI V4.0

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