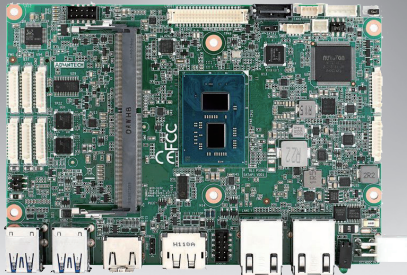


# MIO-5152

## Intel® Atom® x6000E series and Intel® Celeron® N and J series 3.5" SBC

NEW



### Features

- Atom® x6000E series and Intel® Celeron® J and N series with Quad/Dual Cores, TDP 6W/ 10W/ 12W
- Single Channel DDR4-3200 up to 32GB
- 3 independent displays via LVDS, DP1.4, and HDMI2.0 up to 4K@60Hz
- Dual GbE, 6 USB, 6 UART, TPM2.0
- CE/FCC Class B, Coastline I/O ESD 8KV/15KV Criteria A
- Support Windows 10 LTSC & Ubuntu 20.04 LTS, embedded software APIs, WISE-DeviceOn

#### Software APIs:

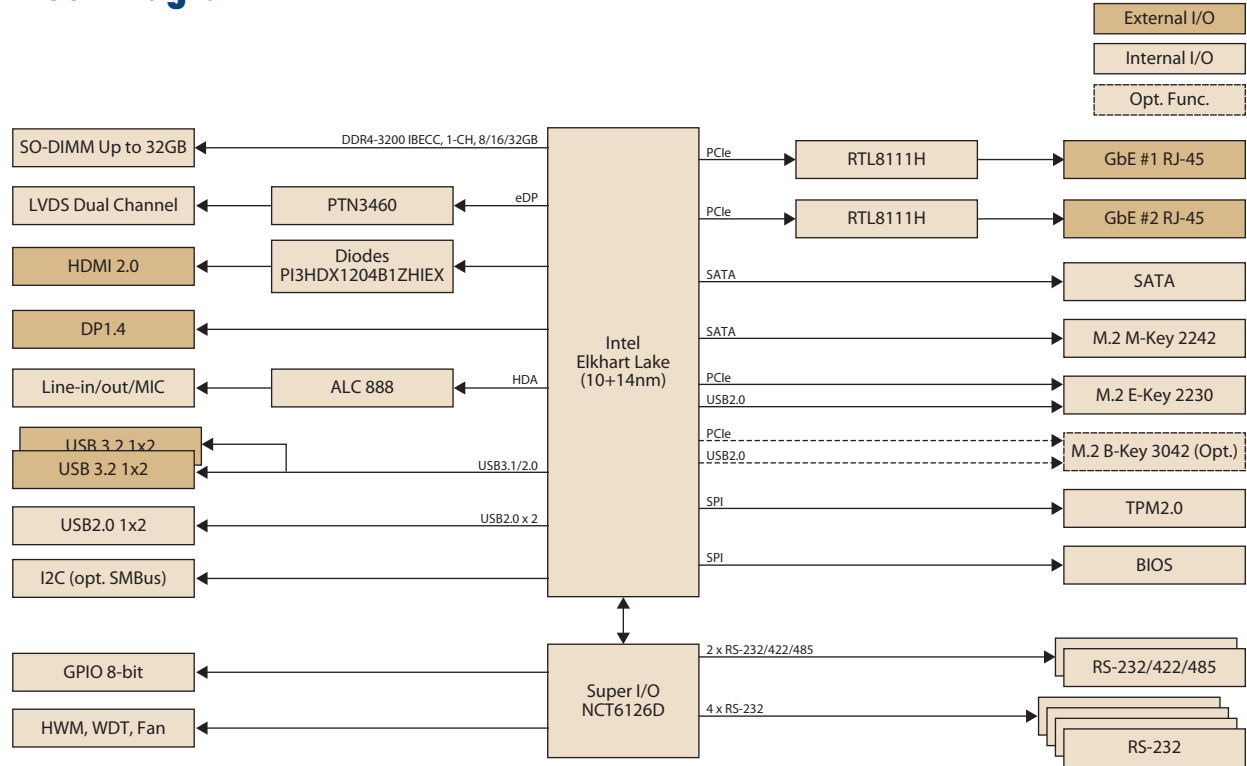


ubuntu yocto Windows 10 iManager WISE-DeviceOn CE FCC

### Specifications

Platform	Processor	Intel® Celeron® J6412	Intel® Celeron® N6210	Intel Atom® x6425E	
	Max Frequency	2.6GHz		3.0GHz	
	Base Frequency	2.0GHz	1.2GHz	2.0GHz	
	Core/Thread	4/4	2/2	4/4	
	LLC	L2	L2	L2	
	CPU TDP	10W	6.5W	12W	
	Chipset	Intel® Chipset (SoC Integrated)			
BIOS	AMI EFI 256Mbit				
Memory	Technology	DDR4-3200 SDRAM			
	Max Capacity	32GB			
	Channel/Socket	Single Channel/ 1 Socket			
	ECC Support	N/A	N/A	In-Band ECC Supported by SoC	
Graphic	Controller	Intel Gen11 Graphics Engines (SoC integrated)			
	Max Frequency	800MHz	750MHz	750MHz	
	Base Frequency	400MHz	250MHz	500MHz	
	Graphic Memory	TBU			
Display I/F	3D/HW Acceleration	DX12, OGL4.5, OCL1.2, Vulkan 1.1, MPEG2, H.264, JPEG/MJPEG, H.265 (HEVC)			
	LCD	1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200			
	HDMI/DP	1 x HDMI2.0 up to 4096 x 2160 x 24bpp @ 60Hz 1 x DP1.4a, up to 4096 x 2160 x 36bpp@60Hz			
	Triple Display	3 simultaneous displays with LVDS, HDMI, DP			
External I/O	Ethernet	2 x RJ-45; LAN1: Realtek RTL8111H, LAN2: Realtek RTL8111H			
	HDMI/DP	1/1			
	USB3.2	4 x TypeA; 4 x USB3.2 Gen2 (10Gbps)			
	Power DC-Jack	Optional			
	SATA	1 x SATA GenIII 6.0 Gbps			
Internal I/O	USB	2 x USB2.0			
	Serial Bus	I2C			
	COM Ports	2 x RS-232/422/485 (Max baud rate: 1Mbps), 4 x RS-232			
	GPIO	8-bit general purpose input output I/O			
	Audio	Realtek ALC888S, Line-in/Line-out/MIC			
	Inverter	12V/5V			
	SPI Bus	eSPI			
	Fan	4-wire smart fan			
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen			
	Board Feature	Watchdog Timer	Programmable 1 ~ 255 sec/min		
		TPM	TPM2.0		
Expansion	M.2 E-Key/B-Key	1 x E-Key 2230 (PCIex1, USB2.0) Optional B-key 3042 w/ NanoSIM			
	M.2 M-Key	1 x M-key 2242 (SATA)			
Power	Supply Voltage	Vin: DC 12V ± 10%; RTC Battery Lithium 3V/210mAh			
	Connector	ATX 2x2pin 90D, optional DC-Jack			
	Power Management	AT, ATX mode			
	Max Consumption	21.39W	12.74W	25.06W	
	Idle Consumption	7.31W	10.53W	11.30W	
Environment	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			
	Vibration Resistance	3.5 Grms			
Certification	EMC	CE, FCC Class B			
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")			
	Net weight				

## Block Diagram



## Ordering Information

Part Number	CPU	TDP	Max. Frequency	Core	GbE	USB3.2	USB2.0	Cable Kit	Thermal solution	Operating Temp.
MIO-5152J-U6A1	Celeron® J6412	10W	2.6GHz	4	2	4	2	Y	Y; Passive	0 – 60° C
MIO-5152N-U6A1	Celeron® N6210	6.5W	2.6GHz	2	2	4	2	Y	Y; Passive	0 – 60° C
MIO-5152A-P0A1	Atom® x6425E	12W	3.0GHz	4	2	4	2	Y	Y; Passive	0 – 60° C
MIO-5152JL-U6A1	Celeron® J6412	10W	2.6GHz	4	2	4	2	N	N	0 – 60° C
MIO-5152NL-U6A1	Celeron® N6210	6.5W	2.6GHz	2	2	4	2	N	N	0 – 60° C

## Packing List

Part No.	Description	Quantity
	MIO-5152 SBC	
2046515201	Startup Manual	1
1970005053T011	MIO-5152 Passive Heatsink for Celeron series	1
1970005053T001	MIO-5152 Passive Heatsink for x6000E	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700031583-01	M CABLE SATA 15P/1*2P-2.0 35cm	1
1700030406-01	M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm	1
1700030404-01	F Cable D-SUB 9P(M)/1*10P-1.25 20cm	2
1700019584-01	A Cable 2*5P-2.0/Audio JACK*3 20cm	1

## Rear I/O View



## Optional Accessories

Part No.	Description
1970005542T001	MIO-5152 heatspreader (for J6412, N6210 CPU sku)

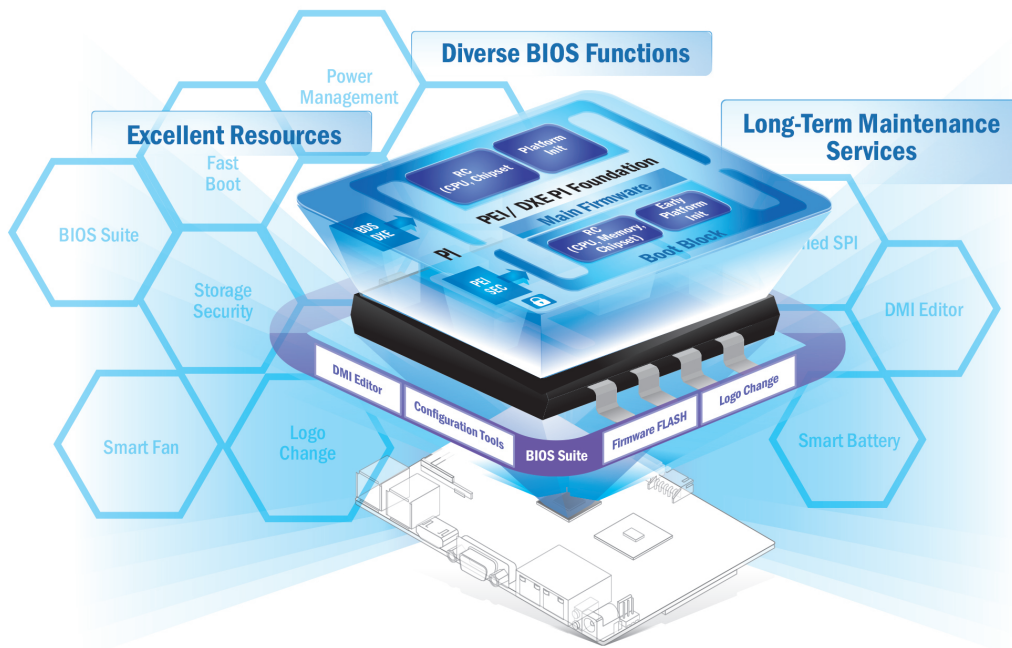
## Embedded OS/API

Embedded OS/API	Part No.	Description
Windows 10	20706WX9ES0157	64-bit (UEFI Mode Only)
Ubuntu 20.04	20706U20DS0034	Ubuntu Desktop 20.04 LTS 64-bit Image & License Sticker for MIO-5152
Yocto	Support by Request	Yocto BSP and Test Image
Software API	Website Download	SUSI v4.0

# Reliable Embedded BIOS Solutions

Custom BIOS services with long-term support

Advantech's high-quality embedded BIOS solutions deliver rapid execution and feature expert BIOS team support. These solutions feature multi-functional designs that ensure security and enable power/boot management. Advantech further provides 10+ years of BIOS version management, internal management, and longevity support for both hardware and BIOS — enhancing application efficiency, diversifying functionality, and optimizing performance.



## Embedded BIOS Solution Advantages

### Sufficient Sources

- Strong partnership with BIOS vendors
- 50+ engineers with extensive industrial BIOS experience

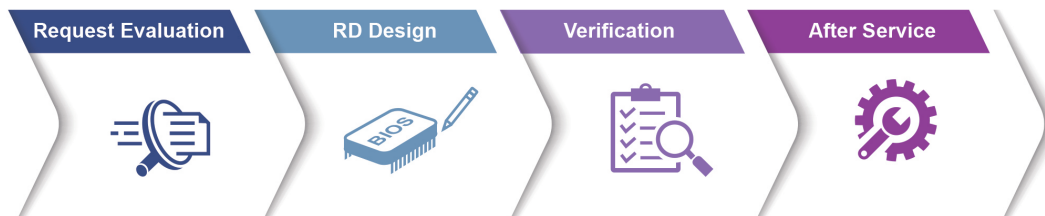
### Diverse BIOS Functions

- Multi-layer security
- 3 second fast boot
- Power management
- BIOS suite utility

### Long-Term Maintenance Services

- Platform longevity support
- 10-year BIOS version control
- BIOS remote backup

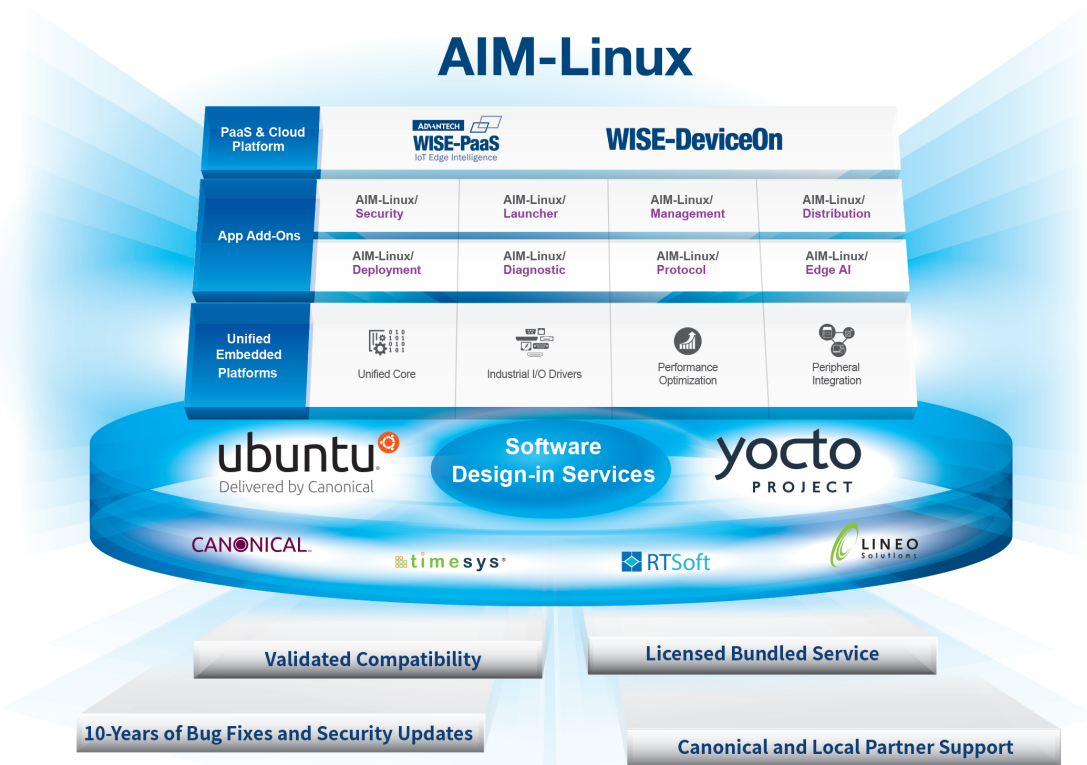
## Value-Added Customization Process



# Embedded Linux Support and Design-in Services

## Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



### Features

<p><b>Certified OS and BSP</b></p> <ul style="list-style-type: none"> <li>Platform compatibility tests</li> <li>Preloaded functional driver and software stacks</li> </ul>	<p><b>Licensed Services</b></p> <ul style="list-style-type: none"> <li>License authorized Canonical delivers 10-years of bug fixes and security updates</li> <li>In-house bundled service</li> </ul>	<p><b>Numerous AI and Edge Resources</b></p> <ul style="list-style-type: none"> <li>Containerized technology for service provision and deployment</li> <li>AI resources from Caffe, TensorFlow, and mxnet</li> </ul>	<p><b>Local Partner Alliance</b></p> <ul style="list-style-type: none"> <li>Embedded Linux and Android Alliance (ELAA)</li> </ul>
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# Edge AI Suite

AI development for diverse application at the Edge

Increasing demand for AI inference/analytic capabilities at the Edge make AI training models, software development environments, and hardware configuration key factors in successful solution deployment. Advantech's Edge AI Suite helps users build AI demo devices quickly and choose optimal hardware solutions easily.



5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
<ul style="list-style-type: none"> <li>Integrated Intel® OpenVINO™ technology</li> <li>Boost AI using Advantech hardware</li> </ul>	<ul style="list-style-type: none"> <li>Build AI environment in under 5 minutes</li> <li>Ready-to-use configuration</li> </ul>	<ul style="list-style-type: none"> <li>User friendly configuration guidance</li> <li>One-click Benchmark acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Easy access to 100+ AI inference extensions</li> <li>Software development package available</li> </ul>	<ul style="list-style-type: none"> <li>Diverse CPU/RAM options</li> <li>Find hardware solutions for AI development</li> </ul>

# WISE-DeviceOn

## Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



### Features

Comprehensive Management	Remote Access	Efficient Operations
<ul style="list-style-type: none"> <li>• Devices status</li> <li>• Peripherals/firmware</li> <li>• Open for extension</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time monitoring</li> <li>• Remote controls</li> <li>• Troubleshooting</li> </ul>	<ul style="list-style-type: none"> <li>• Zero-touch on-boarding</li> <li>• OTA updates</li> <li>• Batch control</li> </ul>

### Product Highlights



**SOM-6883**

High-performance 11<sup>th</sup> Gen Intel® COMe Type 6 Module



**MIO-5375**

Compact 11<sup>th</sup> Gen Intel® Outdoor Focused 3.5" SBC



**EPC-B5587**

10<sup>th</sup> Gen Intel® Xeon® based Edge server



**EPC-R3220**

Arm based IoT Edge Gateway

# Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.



## AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

 Uhlířská 1064/3, 710 00 Ostrava, Česká republika

 obchod@autocont-ipc.cz

 +420 552 301 002

 [www.autocont-ipc.cz](http://www.autocont-ipc.cz)



### PRŮMYSLOVÉ POČÍTAČE

fanless embedded PC, do racku, ...



### POČÍTAČE S DISPLEJEM

panelové PC, terminály, do vozidel, ...



### AUTOMATIZACE A SBĚR DAT

převodníky, karty, moduly, switche, ...



### PERIFERIE A KOMPONENTY

monitory, klávesnice, desky, skříně, ...



### NOTEBOOKY A TABLETY

odolné, windows, android, IP65, ...



### INFORMAČNÍ KIOSKY

interiérové, venkovní, ...



### MEDICÍNSKÁ TECHNIKA

počítače, tablety, LCD, klávesnice, ...



### SOFTWAREVÁ ŘEŠENÍ

pro výrobu, zaměstnance, kiosky, ...



### PŘEJÍT DO E-SHOPU

[eshop.autocont-ipc.cz](http://eshop.autocont-ipc.cz)



### DOPRAVA ZDARMA

Doprava zdarma v ČR a SR při objednávce nad 10 000 Kč bez DPH nebo nad 400 EUR.



### PRODLOUŽENÁ ZÁRUKA

Záruka 2 roky na vyráběné počítače s možností jejího prodloužení až na 5 let.



### ODMĚNA ZA VĚRNOST

Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obrátu.



### SERVIS ON-SITE A IN-TIME

K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.