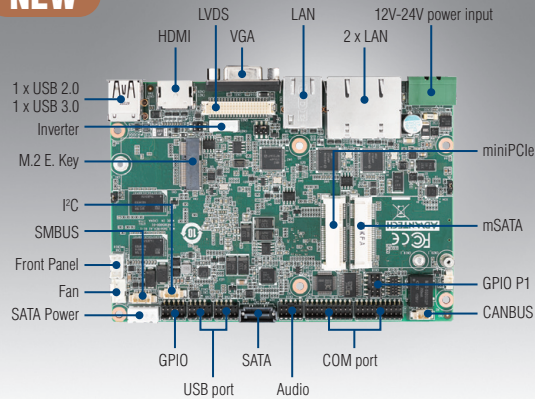


MI0-5850

Intel® Celeron J1900 & Atom™ E3825/E3845, 3.5" SBC

NEW



WISE-PaaS/RMM iManager CE FCC

Specifications

Processor System		Intel Celeron J1900	Intel Atom E3845	Intel Atom E3825
		Base Frequency 2 GHz (Quad-Core)	1.91GHz (Quad-Core)	1.33 GHz (Dual-Core)
Memory		Burst Frequency 2.42 GHz	-	-
		L2 Cache 2MB	2MB	1MB
Display		BIOS AMI UEFI BIOS at 64 Mb		
		Technology DDR3L 1333 MHz	DDR3L 1333MHz	DDR3L 1066 MHz
Ethernet		Max. Capacity On board 2/4GB		
		Controller Intel Gen7 graphic engine		
Audio		Graphic Features DirectX11, OpenGL3.2, OpenCL1.2		
		VGA 2560 x 1600 at 60Hz		
WatchDog Timer		LVDS 48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz		
		HDMI HDMI 1.4a for HD video playback, 1080P at 60Hz		
Storage		Multit-Display VGA + HDMI, VGA+ LVDS, HDMI +LVDS		
		Speed 10/100/1000Mbps		
Rear I/O		Controller Intel i210		
		Connector 3 RJ45		
Internal I/O		Codec Realtek ALC888S, High Definition Audio (HD), Line-in, Line out, Mic-in		
		Amplifier* Output System reset, Programmable counter from 1 ~ 255 minutes/ seconds		
Expansion		SATA 1, up to 3Gb/s (300 MB/s)		
		mSATA 1 x Half size		
Power		eMMC 16/32/64GB* (Optional)		
		Ethernet 3 (10/100/1000Mbps)		
Environment		VGA 1		
		HDMI 1		
Physical Characteristics		USB 2.0 1		
		USB 3.0 1		
Power		DC Jack* 1		
		Serial COM1/2 RS232/422/485 with auto flow control		
Expansion		USB2.0 4		
		CAN bus 1 (With 2500-VRMS Isolation)		
Power		I ² C 1 (Shared with SMBus pin)		
		SMBus 1		
Environment		GPIO 16 Bit (5V tolerance)		
		Mini PCIe 1 x Full size (default)		
Physical Characteristics		M.2 E key 1 x Full-size (by request)		
		Power Type 12V/24V DC Power input		
Power		Power Supply Voltage 12V ± 10%		
		Power Consumption (Typical) MIO-5850J-U0A1E: 0.53A @ 12V (6.43W) MIO-5850J-U0A1E: 0.27A @ 24V (6.57W)		
Environment		Power Consumption (Max, test in HCT) MIO-5850J-U0A1E: 1.14A @ 12V (13.68W) MIO-5850J-U0A1E: 0.60A @ 24V (14.37W)		
		Power Management ACPI		
Physical Characteristics		Battery Lithium 3 V / 210 mAh		
		Operating 0 ~ 60 °C (32 ~ 140 °F), Extend: -40 ~ 85° C (-40 ~ 185° F)		
Power		Non-Operating Storage: -40 ~ 85° C (-40 ~ 185° F)		
		Dimensions (L x W) 146 x 102 mm (5.7" x 4"), same as 3.5"		
Environment		Weight 0.5kg (1.1lb), weight of total package		
		Height Top Side: 19 mm; Bottom Side: 6.8 mm; PCB: 2.0 mm		

* This specification is supported by request

Features

- Intel® Celeron J1900 & Atom™ E3825/E3845, DDR3L-1333MHz 2/4GB on board
- DirectX11, OpenGL3.2, OpenCL1.2, Dual display: HDMI, VGA, LVDS
- CPU bottom up design for system integration and rugged design for variable automation factory environments
- 3 Intel i210 GbE, rich I/O: 4COM, SATA, USB3.0, SMBus/I²C, 16 bit GPIO, full-size Mini PCIe/M.2 E Key, half size mSATA, 12-24V Power input, SIM Card holder, CANBUS with Isolation
- Supports iManager 3.0, RMM and Embedded Software APIs

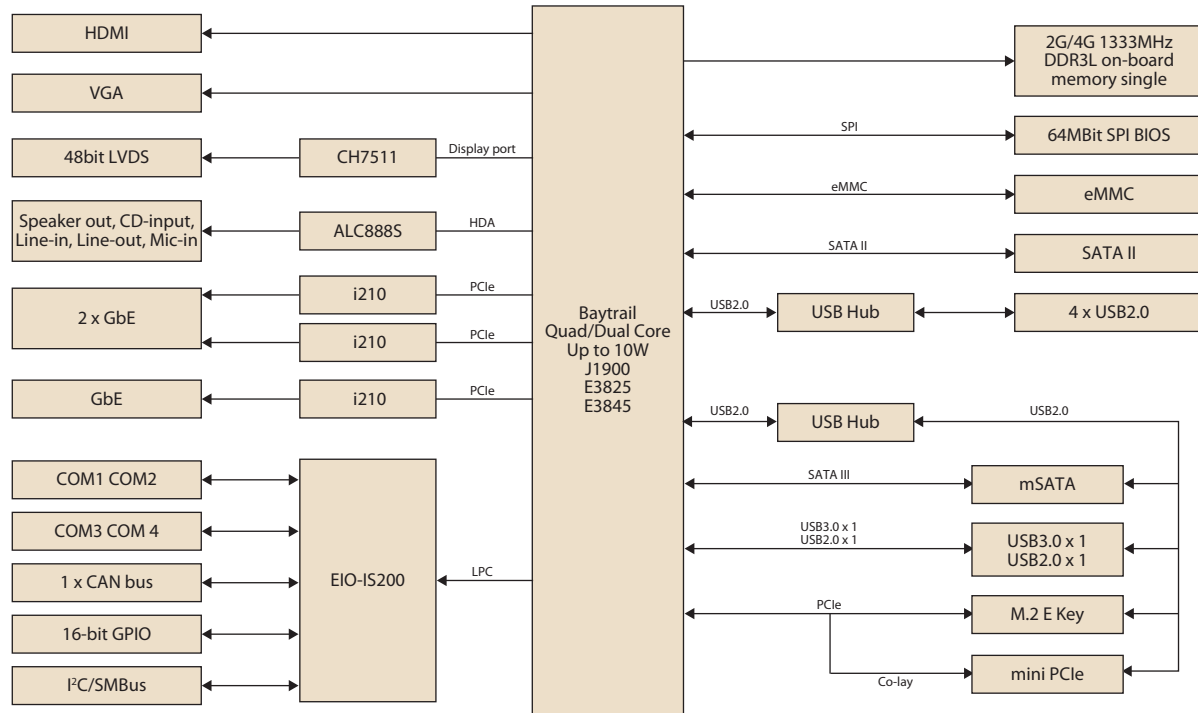
Software APIs:



Utilities:



Block Diagram



Ordering Information

Part.No	CPU	L2 Cache	Memory	GbE	eMMC	RS-232/422/485	RS-232	USB 3.0	USB 2.0	SATAIII	CAN bus	Mini PCIe	mSATA	M.2 E key	Thermal solution	Operating Temp.
MIO-5850J-U0A1	Intel J1900 2GHz 10W	2MB	4GB	3	-	2	2	1	5	1	Yes	Full-Size	Half size	By request	Passive	0-60°C
MIO-5850JF-U0A1	Intel J1900 2GHz 10W	2MB	4GB	3	32GB on board	2	2	1	5	1	Yes	Full-Size	Half size	By request	Passive	0-60°C
MIO-5850E-S3A1	Intel E3825 1.33GHz 6W	1MB	2GB	3	-	2	2	1	5	1	Yes	Full-Size	Half size	By request	Passive	0-60°C
MIO-5850JX-U0A1	Intel J1900 2GHz 10W	2MB	4GB	3	-	2	2	1	5	1	Yes	Full-Size	Half size	By request	Passive	-40-85°C

Note1: J1900 and E3845/E3825 with different version BIOS and only for 64bit Win8/Win7, 32bit supported by T-P/N. (Default setting is Legacy boot)

Note2: passive=fanless

Packing List

Part No.	Description	Quantity
	MIO-5850 SBC	1
2006585000	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P (M)*2 22CM	2
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
1700021705-01	A cable D-SUB 9P/1*3p-1.25+G-TEM 30cm	1
9689000002	mini Jumper pack	1
1960087101T001	Heatsink	1
1960090298T001	Wide temp. heatsink	1

Optional Accessories

Part No.	Description
1960089697N001	Heat spreader (16.7mm height)
1703100264	Internal 1 port USB cable 22.5cm

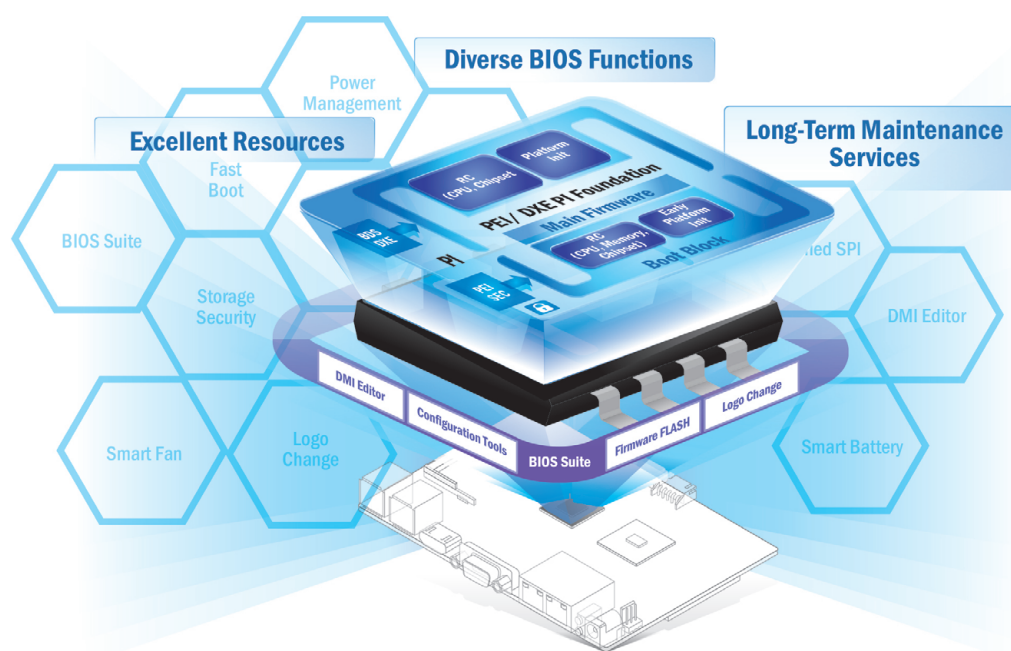
Embedded OS/API

Embedded OS/API	Part No.	Description
Win10	20706WX6ES0009	64bit (ENG/T-CH/S-CH/JP)
WES7E	20706WE7ES0003	64bit (ENG/T-CH/S-CH/JP)
Software API		iManager 3.0

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

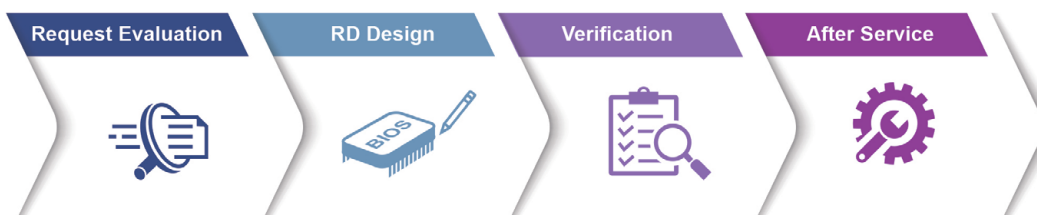
Diverse BIOS Functions

- 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

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

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"> Integrated Intel® OpenVINO™ technology Boost AI using Advantech hardware 	<ul style="list-style-type: none"> Build AI environment in under 5 minutes Ready-to-use configuration 	<ul style="list-style-type: none"> User friendly configuration guidance One-click Benchmark acquisition 	<ul style="list-style-type: none"> Easy access to 100+ AI inference extensions Software development package available 	<ul style="list-style-type: none"> Diverse CPU/RAM options Find hardware solutions for AI development

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

- Devices status
- Peripherals/firmware
- Open for extension

Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

Product Highlights



SOM-6883

High-performance 11th Gen Intel® COMe Type 6 Module



MIO-5375

Compact 11th Gen Intel® Outdoor Focused 3.5" SBC



EPC-B5587

10th Gen Intel® Xeon® based Edge server



EPC-R3220

Arm based IoT Edge Gateway