EPC-S202

Intel Atom E3900 series Embedded SBC
Fanless Slim System

Features

- Intel® Atom™ E3900 series
- Onboard 4GB LPDDR4-2400MT/s, 32GB eMMC
- Independent display by HDMI
- Semi-Industry Fanless slim systen, Din Rail or Wall mount design
- Support HDMI x 1 , GbE x 2 USB 3.0 x 2, COM x 2, DIO x 2
- Flexible expansion M.2 E key, F/S miniPCIe
- 12V power input, default is 12V phoenix 2 pin connector
- Advantech WISE-PaaS/DeviceOn support

Software APIs: GPIO, Watch Dog Timer, Backlight On/Off, Brightness

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

Windows 10 | DeviceOn | iManager

Specifications

Platform	Processor	Atom E3950	Atom E3930
	Max. Frequency	2.0 GHz	1.80 GHz
	Base Frequency	1.60 GHz	1.30 GHz
	Core/Tread	4/4	2/2
	LLC	2 MB	2 MB
	CPU TDP	12W	6W
	Chipset	Intel Atom SoC processor integrated	
	BIOS	AMI EFI 64 Mbit	
Memory	Technology	LPDDR4-2400MT/s	
	Max. Capacity	8GB (default 4GB)	8GB (default 4GB)
	Channel/Socket	Dual Channel/ Onboard LPDDR4	
Graphics	Controller	Intel® Atom SoC integrated	
	Burst Frequency	650 MHz	550 MHz
	Graphics Memory	2 GB	2 GB
	3D/HW Acceleration	DX12, OGL4.4, OCL2.0 HW Encode: H.265/HEVC, H.264, MPEG2 HW Decode: H.264	
Display I/F	HDMI	HDMI 1.4b: up to 3840 x 2160 at 30Hz	
Ethernet	Controller	Intel® i210	
	Speed	10/100/1000 Mbps	
Front I/O Openings	Ethernet	2 x RJ-45	
	HDMI	1	
	USB3.0	2	
	COM Port	1	
	LED	1	
Side I/O Openings	COM	1 (RS232/422/485)	
	Digital I/O	2 (8-bit general purpose input/ output)	
Miscellaneous	LED Indicators	Power	
	Control Power	Switch	
Storage	eMMC	32GB (up to 64GB, support by request)	
Expansion	M.2	1 x E-Key for M.2 2230 module (PCIe x1, USB2.0)	
	mPCIe/mSATA	1 x Full-size miniPCIe slot (Option to mSATA, support by request)	
	MI/O Extension	N/A	
Power	Power type	Vin: 12V ± 10%	
	Power Input voltage	AT	
	Connector type	2 Pin Phoenix DC Plug in	
Environment	Operating Temperature	-20 ~ 60 °C w/ 0.7m/s airflow	
	Storage Temperature	-40 ~ 85 °C (-40~185 °F)	
	Relative Humidity	40 °C @ 95%, Non-Condensing	
	Vibration During Operation	3 Grms, IEC 60068-2-64, random vibration, 5 ~ 500 Hz, 1 hr/axis	
	Shock During Operation	30G, IEC60068-2-27, half sine, 11m duration	
Physical Characteristics	Mounting	Desk/Wall mounting, Din rail mounting	
	Dimensions (W x H x D)	139 x100 x 44mm	
	Weight	0.6kg	
Regulation	EMC	CE/FCC Class B (*No RED certification), BSMI, CCC(TBD)	
	Safety	CB, UL, BSMI, CCC(TBD)	

*Note: Support by request

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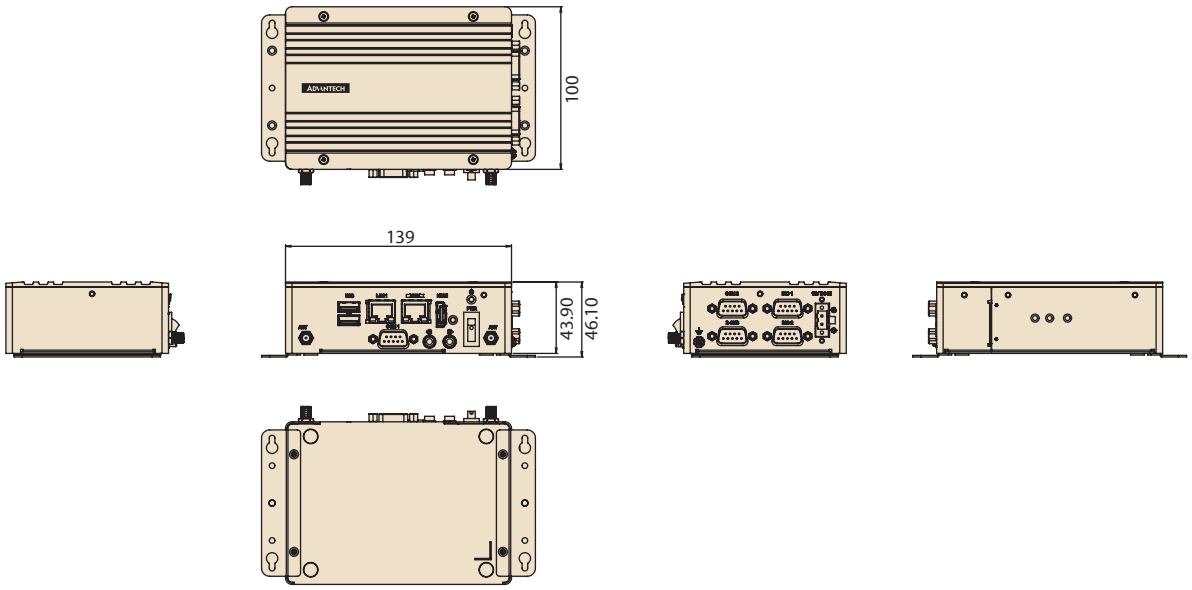
All product specifications are subject to change without notice.

Dimensions

Unit: mm



Ordering Information

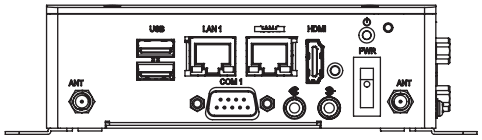
Part Number	CPU	Memory	Storage	HDMI	GbE	USB 3.0	RS-232/422/485	Power Input	Operating Temp
EPC-S202E-S8A1	Atom E3930 1.80 GHz	On-board 4GB LPDDR4	On-board 32G eMMC	1	2	2	2	12V	-20 ~ 60 °C
EPC-S202E-U0A1	Atom E3950 2.00 GHz	On-board 4GB LPDDR4	On-board 32G eMMC	1	2	2	2	12V	-20 ~ 60 °C

*Default BIOS supports 64 bits OS installation, BIOS for 32 bits OS installation is supported by project.

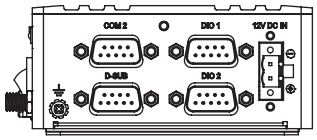
Packing List

Part No.	Description	Quantity
	1 x EPC-S202 Unit	1

Front View



Side View



Optional Accessories

Part No.	Description
96PSA-A60W12P2-3	DC power 12V/5A 60W, 0 ~ 40 °C, w/ Phoneix Jack type
1702002600-01	Power cable 3-pin 183 cm, USA type
1700018704	Power cable 3-pin 180 cm, UK type
1702002605	Power cable 3-pin 183 cm, Europe type
1700000237-01	Power cable 3-pin 183 cm, PSE type
ESBC-0BRK-WM02	Wall mount kit
ESBC-0BRK-DR01	DIN Rail kit
EWM-W195M201E	WiFi/BT module: 802.11 a/b/g/n/ac, Atheros QCA6174A-5, 2T2R, with BT4.2 (-40 ~ 85 °C/-40 ~ 185 °F)
1750008717-01	External Antenna, Dipole Ant. D.B 2.4/5G WIFI 3dBi
1750008799-01	Cable Ant.SMA/F-R-BH MFH4/113 L:170 mm (6.69 in)

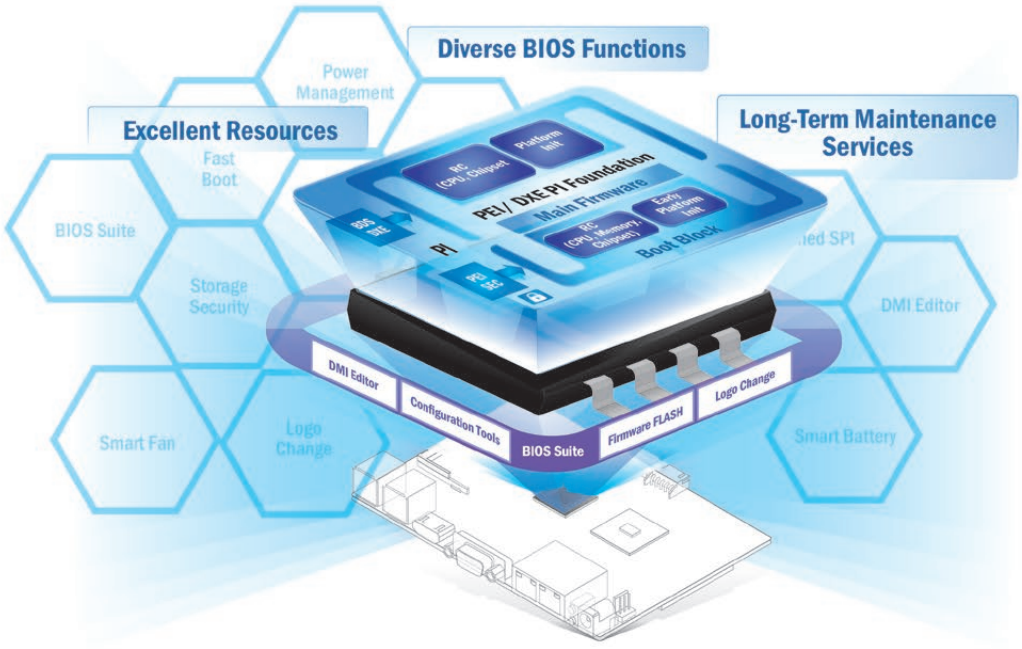
Embedded OS/API

Embedded OS/API	Part No.	Description
WIN10	20706WX9VS0088	64-bit (UEFI mode only)
Software API	N/A	SUSI 4.0/iManager 3.0
Software API	N/A	WISE-PaaS/DeviceOn
Ubuntu v20.04	20706U20DS0001	img Ubun20.4 EPC-S202 64b 2004 ENU

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

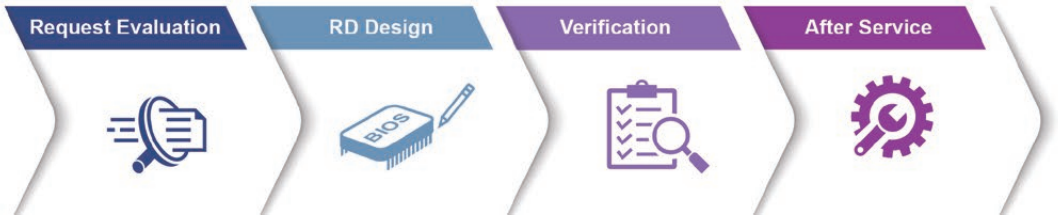
Diverse BIOS Functions

- 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

- Platform compatibility tests
- Preloaded functional driver and software stacks

Licensed Services

- License authorized Canonical delivers 10-years of bug fixes and security updates
- In-house bundled service

Numerous AI and Edge Resources

- Containerized technology for service provision and deployment
- AI resources from Caffe, TensorFlow, and mxnet

Local Partner Alliance

- 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
• Integrated Intel® OpenVINO™ technology • Boost AI using Advantech hardware	• Build AI environment in under 5 minutes • Ready-to-use configuration	• User friendly configuration guidance • One-click Benchmark acquisition	• Easy access to 100+ AI inference extensions • Software development package available	• 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	Remote Access	Efficient Operations
• Devices status • Peripherals/firmware • Open for extension	• Real-time monitoring • Remote controls • Troubleshooting	• 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