BOXER-6641-A2/A6 (C246)

AAEON BOXER-6641-A2-1110(C246) 8th Gen Intel Fanless Embedded Box PC

Key Features:

- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Core™ – i3/i5/i7/i9 Processor for A1 & A5 model (max. TDP up to 65W)
- Desktop Grade Socket Type Core™ – i3/i5/i7/i9/Xeon Processor for A2 & A6 model (max. TDP up to 71W)
- Supports DDR4 ECC or Non-ECC SODIMM, Up to 64GB
- Supports Intel GbE LAN x 4 (i211 x 3 + i219 x 1)
- Supports Intel AMT (A2 & A6 Model)
- Supports HDMI x 2 Dual Display
- Supports USB 3.2 Gen 1 x 8 (A2 & A6 model)
- Supports BIOS Selectable RS-232/422/485 x 6
- Wide Range DC 10~35V Input

Description

The BOXER-6641 is designed to provide users with unmatched flexibility and performance. Available with two chipsets, the H310 (BOXER-6641-A1) and C246 (BOXER-6641-A2), the system offers a range of processors from the 8th Generation Intel Core™ and Xeon® processor family (formerly Coffee Lake), from Celeron G4900T and Pentium G5400T up to Xeon E-2124G (up to 71W). Combined with up to 32GB of ECC or non-ECC DDR4 2666MHz RAM and support for two hard drives, the BOXER-6641 is currently the most powerful fanless industrial system available on the market.

The BOXER-6641 is built to easily integrate into any industrial application. I/O features include six COM ports and up to eight USB 3.2 Gen 1 ports (A2 model). The BOXER-6641 also comes with four Intel® Gigabit Ethernet ports, including one Intel i219 chipset, with built-in support for Intel vPRO and Active Management Technology (Intel® AMT) available on BOXER-6641-A2. The BOXER-6641 is expandable with two mPCIe slots, capable of supporting AI applications with solutions such as AAEON's AI Core X with Intel Movidius Myriad™ X VPU.
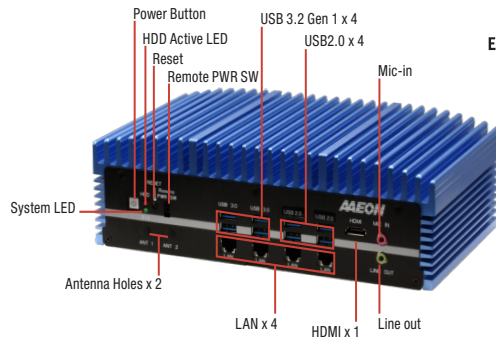
The BOXER-6641 is designed with several key features to ensure reliable service in harsh industrial environments. In addition to fanless construction, the BOXER-6641 offers wide voltage input of 10V to 35V, wide operating temperature range from -20°C to 55°C (-20°C to 45°C with 71W processor), and an all-metal chassis. The BOXER-6641 is easy to maintain, with only six screws needed to remove the top heatsink to access the CPU, and removing the bottom panel provides easy access to the memory and storage devices.
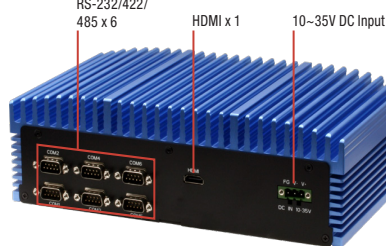
ASSURED SYSTEMS

04 ▶ BOXER-6641

Fanless Embedded Box PC with Socket Type 8th Generation Intel® Processor
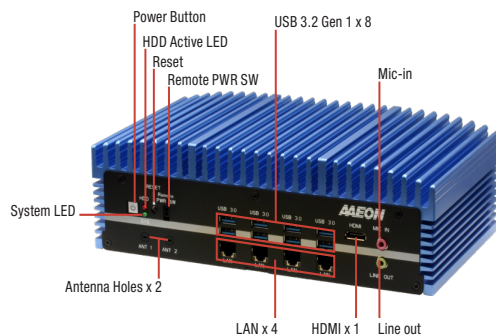
Compact Fanless BOX PC Solutions
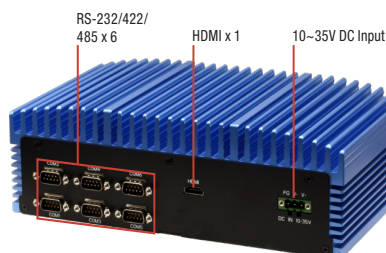
BOXER-6641-A1/A5-1010 (H310)
Front View

Power Button
HDD Active LED
Reset
Remote PWR SW
USB 3.2 Gen 1 x 4
USB2.0 x 4
Mic-in
System LED
Antenna Holes x 2
LAN x 4
HDMI x 1
Line out

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Rear View

RS-232/422/485 x 6
HDMI x 1
10~35V DC Input

BOXER-6641-A2/A6-1010 (C246)
Front View

Power Button
HDD Active LED
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Remote PWR SW
USB 3.2 Gen 1 x 8
Mic-in
System LED
Antenna Holes x 2
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Rear View

RS-232/422/485 x 6
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Features

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- Supports HDMI x 2 Dual Display
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- Supports BIOS Selectable RS-232/422/485 x 6
- Wide Range DC 10~35V Input

DDR 4   1000 Giga LAN   USB 2.0   USB 3.2 Gen 1   PCIe PCI Express   CE   FC

Specifications

System	
CPU	Intel® Xeon® E-2124G (for A2 & A6 model only) Intel® i9-9900T Intel® i7-9700TE Intel® i7-8700T Intel® i5-8500T Intel® i3-8100T Pentium® G5400T Celeron® G4900T
Chipset	Intel® C246/H310
System Memory	DDR4-2666 SO-DIMM slot x 2, Up to 64GB, ECC or Non-ECC Support
Display Interface	HDMI x 2
Storage Device	2.5" SATA HDD/SSD Bay x 1 (x 2 for A5 & A6 model, A6 supports RAID 0/1)
Ethernet	Intel® i211 x 3, i219 x 1
I/O	HDMI x 2 RJ-45 x 4 for GbE LAN (i211 x 3, i219 x 1) USB 3.2 Gen 1 x 4, USB2.0 x 4 (A1 & A5 model) USB 3.2 Gen 1 x 8 (A2 & A6 model) DB-9 x 6 for RS-232/422/485 Audio x 1 (MIC-in, Line-out) 3 pin 10~35V Power Input x 1 Power Button x 1 Remote Power switch x 1 Reset Button x 1 HDD LED x 1 SYS LED x 1
Expansion	Full-size Mini PCIe x 1 Full-size Mini PCIe x 1 (PCIe/mSATA switch by BIOS, Default: mSATA) SIM slot x 1
Indicator	HDD LED x 1 SYS LED x 1
OS Support	Windows® 10 64-bit Linux Ubuntu 20.04
Power Supply	
Power Requirement	3-pin DC Input 10~35V
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.4" x 3.19" x 6.15" (264.2mm x 80.92mm x 156.2mm)
Gross Weight	10.4 lb (4.7 kg)
Net Weight	8.2 lb (3.7 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≦ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation – SSD/mSATA 1 Grms/ 5 ~ 500Hz/ operation – HDD
Anti-Shock	—
Certification	CE/FCC class A

04-11   www.aaeon.com   2022/02/18   Note: All specifications are subject to change without notice.

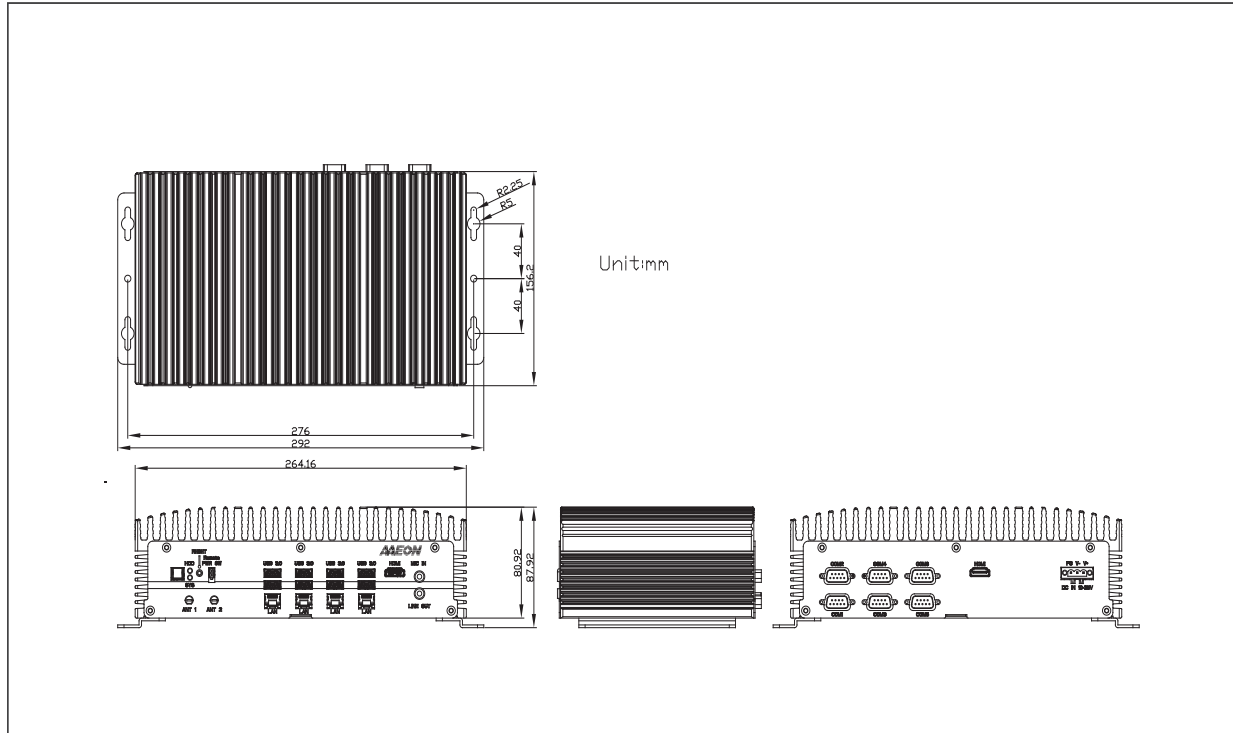www.assured-systems.com | sales@assured-systems.com   Page 3/6

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Compact Fanless BOX PC Solutions

Dimension
Unit: mm

Ordering Information

Part Number	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6641-A1-1110(H310)	4	4	4	—	RS-232/422/485 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 1	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≦ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
BOXER-6641-A2-1110(C246)	4	8	—	—	RS-232/422/485 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 1	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≦ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
BOXER-6641-A5-1110(H310)	4	4	4	—	RS-232/422/485 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 2	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≦ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
BOXER-6641-A6-1110(C246)	4	8	—	—	RS-232/422/485 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 2 (RAID 0/1)	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≦ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU

Packing List

- **Wallmount Bracket x 2**
- **3 Pin DC-In Power Connector x 1**
- **Screw Package x 1**
- **BOXER-6641**

Optional Accessories

- **1255X00059**
  120W Power Adapter (Recommend for 35W CPU)
- **1255302300**
  230W Power Adapter (Recommend for >35W CPU)
- **1702031802**
  Power Cord (US Type)
- **1702031803**
  Power Cord (Europe)
- **170203180E**
  Power Cord (Japan)

Note: All specifications are subject to change without notice.

Images

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Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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