AAEON BOXER-8251AI AI Edge Compact Fanless Embedded AI System User Manual

Contents

AAEON BOXER-8251AI AI Edge Compact Fanless Embedded AI System

Product Information

Specifications

- **System:**
  - AI Accelerator
  - **CPU**: NVIDIA Jetson Xavier NX
  - System Memory
  - Storage Device
  - **Display Interface**: HDMI x 1
  - **Ethernet**: LAN
- I/**O**:
  - USB 3.2 Gen 1 x 4
  - COM x 2
  - Recovery Micro SD
  - 12V DC Power Input x 1
- Expansion Indicator
- OS Support
- **Power Supply**: 12Vdc w/ 2-pin terminal block
- **Power Requirement:** 20W
- **Mechanical:**
  - **Mounting Dimensions (W x D x H):**
    - **Standard**: 88mm x 75mm x 39mm
    - **High heatsink Dimension**: 90mm x 84mm x 52mm
  - **Gross Weight:**
    - **Standard**: 1.10 lb (0.5 kg)
    - **High heatsink:** 1.76 lb (0.8 kg)
  - **Net Weight:**
    - **Standard**: 0.66 lb (0.3 kg)
    - **High heatsink: 1**.3 lb (0.6 kg)

- **Environmental:**
  - Operating Temperature
  - Storage Temperature
  - Storage Humidity
  - Anti-Vibration
  - Anti-Shock
  - Certification

Packing List

- BOXER-8251AI
- Optional Accessories:
  - 60W Power Adapter
  - Power Cord (US type)
  - Power Cord (European Type)
  - Power Cord (Japanese Type)

Ordering Information

PART NUMBER	AI SOLUTION	LAN	USB	RS-232	STORAGE	DISPLAY	MOUNTING	POWER	OPERATION SYSTEM
BOXER-8251AI-A3-1010	Jetson Xavier NX	1	3.2 Gen 1 x 4	2	16GB eMMC + MicroSD	HDMI x 1	Wall mount	12Vdc w/ 2 pin terminal block	NVIDIA Jetpack 4.5
BOXER-8251AI-JP46E-A1-1010	Jetson Xavier NX	1	3.2 Gen 1 x 4	2	16GB eMMC + MicroSD	HDMI x 1	Wall mount	12Vdc w/ 2 pin terminal block	NVIDIA Jetpack 4.6
BOXER-8251AI-JP46E-E1-1010 (high heatsink)	Jetson Xavier NX	1	3.2 Gen 1 x 4	2	16GB eMMC + MicroSD	HDMI x 1	Wall mount	12Vdc w/ 2 pin terminal block	NVIDIA Jetpack 4.6

Product Usage Instructions

Mounting Dimensions
The BOXER-8251AI can be mounted using the following dimensions:

- Standard: 88mm x 75mm x 39mm
- High heatsink Dimension: 90mm x 84mm x 52mm

Power Supply
The BOXER-8251AI requires a 12Vdc power supply with a 2-pin terminal block.

Operating System Support
The BOXER-8251AI supports the following operating systems:

- NVIDIA Jetpack 4.5
- NVIDIA Jetpack 4.6

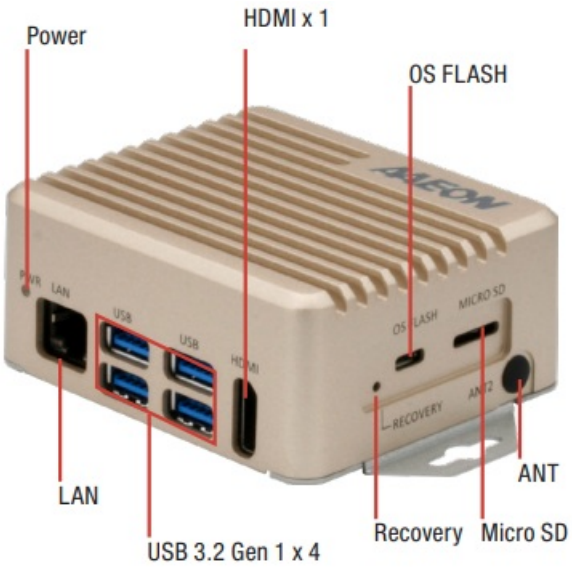
Connection Interfaces
The BOXER-8251AI has the following connection interfaces:

- USB 3.2 Gen 1 x 4
- COM x 2
- Recovery Micro SD
- HDMI x 1
- LAN Ethernet

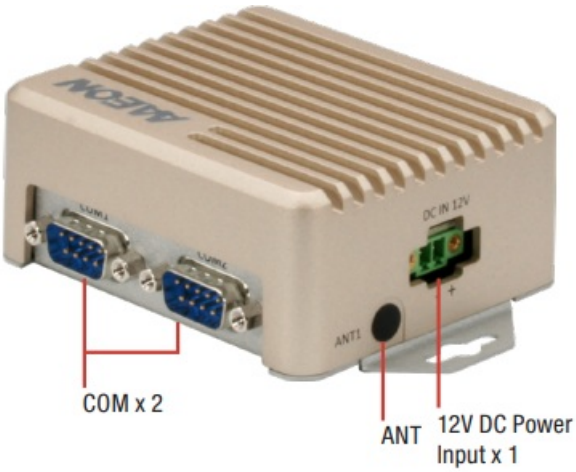
FAQ

- **Q: Can the BOXER-8251AI be mounted on a wall?**
- A: Yes, the BOXER-8251AI can be wall-mounted using the provided dimensions.
- **Q: What is the power requirement for the BOXER-8251AI?**
- A: The BOXER-8251AI requires a 12Vdc power supply with a 2-pin terminal block.
- **Q: What operating systems are supported by the BOXER-8251AI?**
- A: The BOXER-8251AI supports NVIDIA Jetpack 4.5 and NVIDIA Jetpack 4.6.

Front View



Rear View



With High Heatsink Front View

Rear View

Features

- NVIDIA® Jetson Xavier™ NX
- 8GB LPDDR4x + 16GB eMMC
- USB3.2 Gen 1 x 4
- LAN x 1 + RS-232 x 2
- 12Vdc Power input

Specifications

System

AI Accelerator	NVIDIA Jetson Xavier NX
CPU	6 Core ARM® Carmel®V8.2 64bit CPU 6MB L2 + 4MB L3
System Memory	8GB LPDDR4x
Storage Device	16GB eMMC + MicroSD
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 1
I/O	USB 3.2 Gen 1 x 4 LAN x 1 RS-232 x 2 HDMI x 1 MicroSD x 1 DC Power Input x 1 Recovery Button x 1 Micro-USB for Flash OS x 1
Expansion	M.2 E-Key 2230 x 1(for WiFi)
Indicator	Power LED x 1
OS Support	Linux (AAEON ACLinux 4.9) Linux (NVIDIA Jetpack 4.5) Ubuntu18.04

Power Supply

Power Requirement	12Vdc w/ 2-pin terminal block

Mechanical

Mounting	Wallmount
Dimensions (W x D x H)	Standard: 3.46” x 2.95” x 1.53” (88mm x 75mm x 39mm) High heatsink Dimension: 3.54” x 3.30” x 2.04”(90mm x 84mm x 52mm)
Gross Weight	Standard: 1.10 lb (0.5 kg) High heatsink: 1.76lb(0.8kg)
Net Weight	Standard: 0.66 lb (0.3 kg) High heatsink: 1.3lb(0.6kg)

Environmental

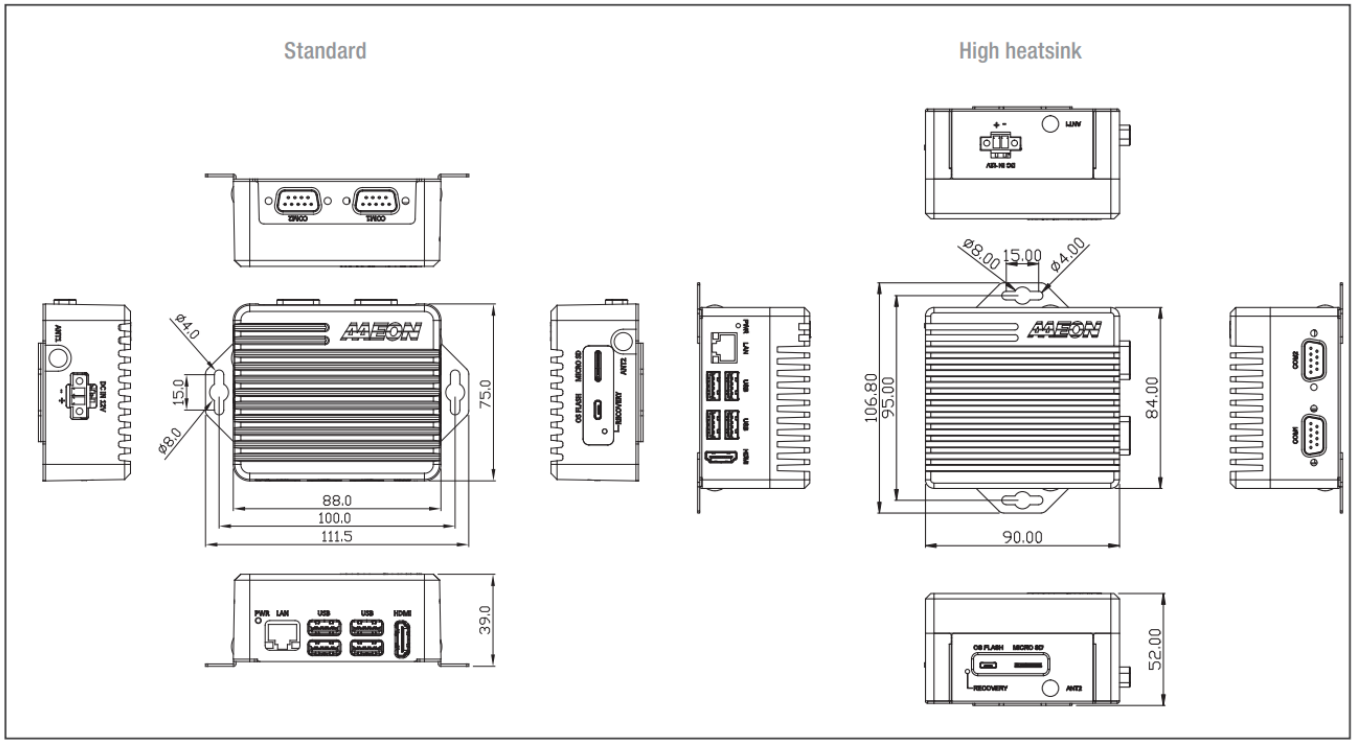
Storage Temperature	-40°F ~ 158°F (-40°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC
Anti-Shock	—
Certification	CE/FCC class A

Operating Temperature

Power Mode	**CPU Core**	**CPU Maximum Frequency**	**Operation Temp.**
20W	6 Core	1.4GHz	-20°C ~ 55°C (for high h eat sink)
15W	6 Core	1.4GHz	-20°C ~ 40°C/-20°C ~ 50°C(for high heat sink)
	4 Core	1.4GHz	-20°C ~ 40°C
	2 Core	1.9GHz	-20°C ~ 50°C/-20°C ~ 60°C(for high heat sink)
10W	4 Core	1.2GHz	-20°C ~ 50°C/-20°C ~ 60°C(for high heat sink)
	2 Core	1.5GHz	-20°C ~ 50°C

Dimension

Unit: mm



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Packing List

- Power Connector x 1
- BOXER-8251AI

Optional Accessories

- **1255300611**
  60W Power Adapter
- **1702031802**

Power Cord (US type)

- **1702031803**

  Power Cord (European Type)

- **170203180E**

  Power Cord (Japanese Type)

Note: All specifications are subject to change without notice.

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Documents / Resources

	AAEON BOXER-8251AI AI Edge Compact Fanless Embedded AI System [pdf] User Manual BOXER-8251AI AI Edge Compact Fanless Embedded AI System, BOXER-8251AI, AI Edge Compact Fanless Embedded AI System, Fanless Embedded AI System, Embedded AI System, AI System

References

- User Manual