



## Description

AVerMedia EA713-AAMN-1PC0 Box PC equips NVIDIA® Jetson AGX Xavier™ 16GB module which aims it at AI centric use cases for edge computing such as robotics and industrial automation within dimension W:196mm x L:242mm x H:60mm (7.72" x 9.52" x 2.36", with mounting ears W:226mm, 8.9").

EA713-AAMN-1PC0 Box PC provides 2x M.2 Key M 2280 and 4x mPCIe slots alternatively for Xavier to receive various video inputs by using AVerMedia's capture cards.

These 2x M.2 Key M 2280 and 4x mPCIe slots share PCIe Gen2 x4 lanes, so EA713-AAMN-1PC0 Box PC can provide three different combinations for developers to install video capture cards alternatively, such as 2x M.2 Key M 2280 slots, 4x mPCIe slots, and 2x mPCIe slots with 1x M.2 Key M 2280 slot.

By using AVerMedia's extended video capture cards, Xavier is able to receive HDMI, VGA, SDI, composite video inputs, and even dual 4Kp30 HDMI video inputs for different application scenarios.

EA713-AAMN-1PC0 Box PC provides 2x GbE, and 2x USB 3.0 for Xavier to connect various IP cameras and USB 3.0 cameras. General purpose I/O are ready for developers to use such as 1x 4Kp60 HDMI output, 1x USB 2.0 Micro-B for BSP installation only, 1x micro SD card slot, 1x Mic-in, and 1x Speaker-out, 1x CAN bus, 1x RS-485. It also provides 40 pins of GPIO expansion: 1x UART, 2x I2C, 1x CAN, and 5x GPIO for Xavier to communicate with the external devices.

This highly integrated edge computer is a well prepared application ready system for developers to overcome the challenges timely and easily.

## Features

- Fully support NVIDIA® Jetson AGX Xavier™ 16GB module
- 2x M.2 Key M 2280 or 4x mPCIe alternatively
- 1x M.2 Key E 2230 for Wi-Fi module
- 1x M.2 Key M 2280 for NVMe
- 2x GbE, 2x USB 3.0, 1x 4Kp60 HDMI output
- 1x USB 2.0 Micro-B for BSP installation only, 1x micro SD card slot
- 1x CAN bus, 1x RS-485, 1x Mic-in, 1x Speaker-out
- 40 pins: 1x UART, 2x I2C, 1x CAN (W/O transceiver), and 5x GPIO
- AVerCooler WaveFin for No-Air-Flow environment
- Operating temperature: -10°C~60°C (MODE\_30W\_ALL, No-Air-Flow)
- Chassis dimension: W:196mm x L:242mm x H:60mm (7.72" x 9.52" x 2.36", with mounting ears W:226mm, 8.9")

## Embedded Vision Solutions for NVIDIA Jetson

AVerMedia offers 3 categories of Embedded Vision Solutions for deep learning application on the edge devices, with the support of NVIDIA Jetson family, battery power, HDMI/VGA/3G-SDI/Composite video sources, and the direct technical support for developers.

- Standard and customized of Nano/Tegra/AGX Xavier/Xavier NX carrier boards.
- Standard and customized Nano/Tegra/AGX Xavier /Xavier NX application-ready systems.
- Software design service of Linux BSP, driver, OpenCV, VisionWorks, and cuDNN.

## Why AVerMedia

- As NVIDIA® PREFERRED solution provider, AVerMedia gets the direct support from NVIDIA. We are able to offer technical support in 24 hours to help your project success.
- Support full range of NVIDIA Jetson modules, including Nano, Tegra, and AGX Xavier.
- Support various video input sources from IP camera, USB camera, MIPI camera, and capture cards supporting HDMI/VGA/3G-SDI/Composite video sources.
- Provide customization services of HW, PCB, chassis, BSP, driver, and UX/UI/ID/ME design.
- Supports 65°C/149°F operating temperature in the No-Air-Flow environment for fanless system designed by using AVerCooler technologies.
- Provide flexible user-configured security to protect the SW.

### Specifications

|                                     |  |
|-------------------------------------|--|
| Type                                | Box PC with AVerCooler WavieFin passive cooling system   |
| NVIDIA GPU SoC Module Compatibility | NVIDIA® Jetson AGX Xavier™ 16GB module   |
| Networking                          | 2x GbE (RJ-45)   |
| Display Output                      | 1x HDMI type A, maximum resolution: 3840x2160 at 60Hz  |
| Temperature                         | Operating Temperature -10°C~60°C (MODE_30W_ALL, No-Air-Flow)<br>Storage Temperature -40°C ~ 85°C<br>Relative Humidity 40 °C @ 95%, Non-Condensing      |
| USB                                 | 1x USB 2.0 Micro-B for BSP installation only<br>2x USB 3.0 Type-A (USB3.2 Gen1 x1)   |
| Storage                             | 32GB eMMC 5.1  |
| RS-485                              | 1x RS-485  |
| CAN bus                             | 1x CAN bus with transceiver  |
| GPIO Expansion                      | 40 pins: 1x UART, 2x I2C, 1x CAN (W/O transceiver), 5x GPIO  |
| User Expansion                      | 1x M.2 Key E 2230 for Wi-Fi module (PCIe Gen4x 1)<br>1x M.2 Key M 2280 for NVMe (PCIe Gen4x 4)<br>2x M.2 Key M 2280 (PCIe Gen2 x2) or 4x mPCIe Gen2 x1 |
| Input Power                         | 12V/5A   |
| Buttons                             | Power and Recovery (Each button has a RGB tri-color LED)   |
| RTC Battery                         | Support RTC battery and Battery Life Monitoring by MCU   |
| Chassis Dimension/ Weight           | W:196mm x L:242mm x H:60mm<br>7.72" x 9.52" x 2.36", with mounting ears W:226mm, 8.9"<br>Weight: 2.5Kg   |
| Certifications                      | CE, FCC  |

### Compatible Cards



| Model Name            | CM311-H         | C353            | C353W           | C351         | C351W        | CN311-H         | CN312SW         |
|-----------------------|-----------------|-----------------|-----------------|--------------|--------------|-----------------|-----------------|
| Host Interface        | PCIe Gen2 x1    | PCIe Gen1 x1    | PCIe Gen1 x1    | PCIe Gen1 x1 | PCIe Gen1 x1 | PCIe Gen2 x2    | PCIe Gen2 x2    |
| Max Input Resolution  | 1920x1080 60fps | 1920x1080 60fps | 1920x1080 60fps | NTSC/PAL     | NTSC/PAL     | 4096x2160 30fps | 2048x1080 60fps |
| Max Record Resolution | 1920x1080 60fps | 1920x1080 30fps | 1920x1080 30fps | NTSC/PAL     | NTSC/PAL     | 4096x2160 30fps | 1920x1080 60fps |
| Channel No.           | 1               | 1               | 1               | 4            | 4            | 1               | 2               |
| H/W Encode            |                 | ●               | ●               |              |              |                 |                 |
| Audio Interface       | HDMI embedded   | HDMI embedded   | HDMI embedded   | RL (RCA)     | RL (RCA)     | HDMI embedded   | SDI embedded    |
| Video Interface       | SDI             |                 |                 |              |              |                 | ●               |
|                       | HDMI            | ●               | ●               |              |              | ●               |                 |
|                       | DVI             |                 | ●               |              |              |                 |                 |
|                       | VGA             |                 | ●               |              |              |                 |                 |
| Composite             |                 |                 |                 | ●            |              |                 |                 |
| Color Depth/Precision | 8 bit           | 8 bit           | 8 bit           |              |              | 8 / 10 bit      | 8 bit           |
| Color Format          | YUY2, YUYV      | YUY2            | YUY2            | YUY2         | YUY2         | YUY2, YUYV      | YUY2, YUYV      |
| Operating Temperature | 0°C~50°C        | 0°C~55°C        | -40°C~85°C      | 0°C~55°C     | -40°C~85°C   | 0°C~40°C        | -20°C~70°C      |
| Dimensions ( LxW ) mm | 50.95x30        | 50.95x30        | 50.95x30        | 50.95x30     | 50.95x30     | 22x80           | 22x80           |

## Order Information

| Standard Product | Product Name    | M.2/mPCIe Video Input | NVIDIA Jetson SoM | Cooling System  | Wireless |
|------------------|-----------------|-----------------------|-------------------|-----------------|----------|
|                  | EA713-AAMN-1AC0 | 2x M.2 or 4x mPCIe    | Xavier 16GB       | Active Cooling  | N/A      |
|                  | EA713-AAMN-2AC0 | 2x M.2 or 4x mPCIe    | Xavier 8GB        | Active Cooling  | N/A      |
| ●                | EA713-AAMN-1PC0 | 2x M.2 or 4x mPCIe    | Xavier 16GB       | Passive Cooling | N/A      |
|                  | EA713-AAMN-2PC0 | 2x M.2 or 4x mPCIe    | Xavier 8GB        | Passive Cooling | N/A      |
|                  | EA713-AAMN-1ACW | 2x M.2 or 4x mPCIe    | Xavier 16GB       | Active Cooling  | Wi-Fi/BT |
|                  | EA713-AAMN-2ACW | 2x M.2 or 4x mPCIe    | Xavier 8GB        | Active Cooling  | Wi-Fi/BT |
|                  | EA713-AAMN-1PCW | 2x M.2 or 4x mPCIe    | Xavier 16GB       | Passive Cooling | Wi-Fi/BT |
|                  | EA713-AAMN-2PCW | 2x M.2 or 4x mPCIe    | Xavier 8GB        | Passive Cooling | Wi-Fi/BT |

\* All specifications are subject to change without prior notice.

