AVerMedia

NVIDIA ELITE PARTNER

EMBEDDED
VISION
SOLUTIONS

Carrier Board,
AI Box PC &
Development
System

Professional.avermedia.com

Contents

Proven history of deploying globally successful projects

Established in 1990, AVerMedia is a Taiwanese multinational company specializing in hardware and software for image capturing and video transmission solutions to enrich customer experiences and provide effective communications in a wide range of professional fields. Currently, AVerMedia holds more than 359 audiovisual patents.
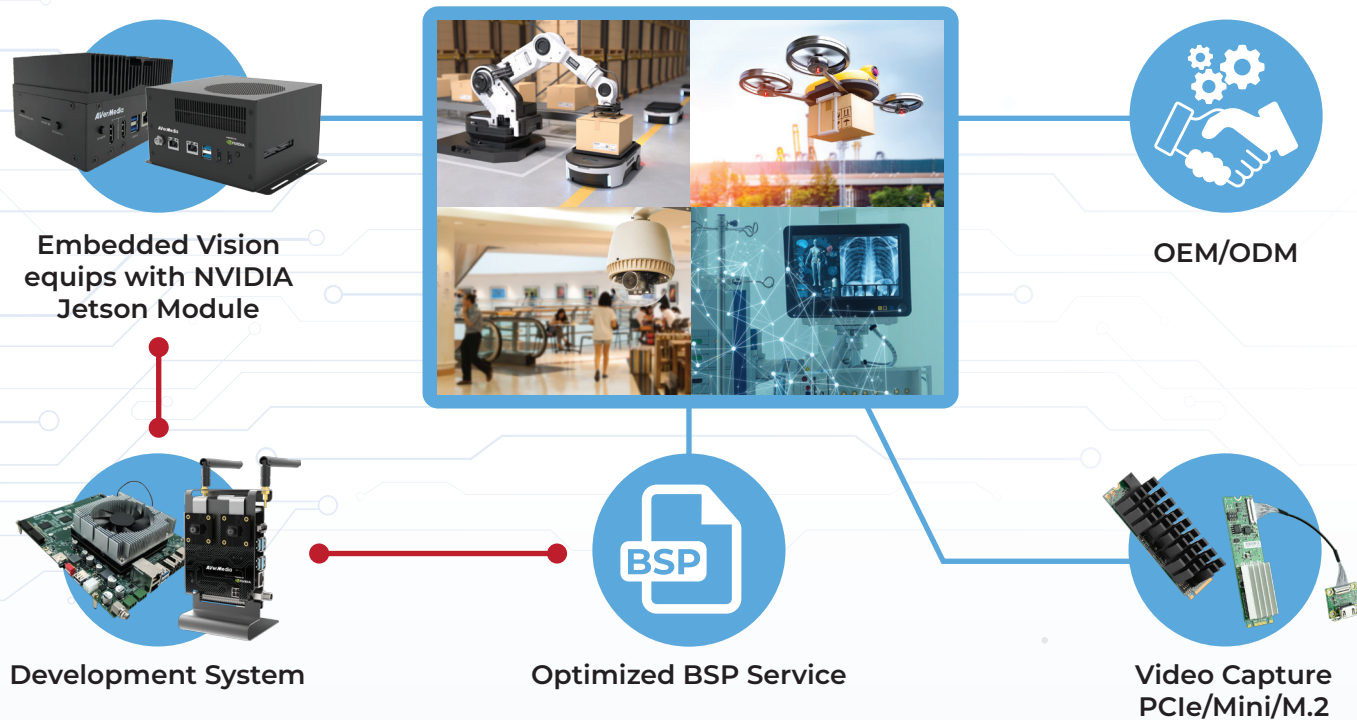
More recently, AVerMedia has leveraged its global expertise in delivering high-quality audiovisual products towards Edge AI solutions. Solutions that including AI Box PCs, Carrier Boards, and Frame Grabbers, built around NVIDIA's Jetson SoM suited for a wide range of vertical market use cases.

As an Elite Level NVIDIA OEM Partner, AVerMedia's support-driven team offers expedited support, enabling faster deployment for your unique project, especially compared to Preferred-level partners. By partnering with AVerMedia, customers have experienced rapid deployment, flexible collaboration, and reliable devices.
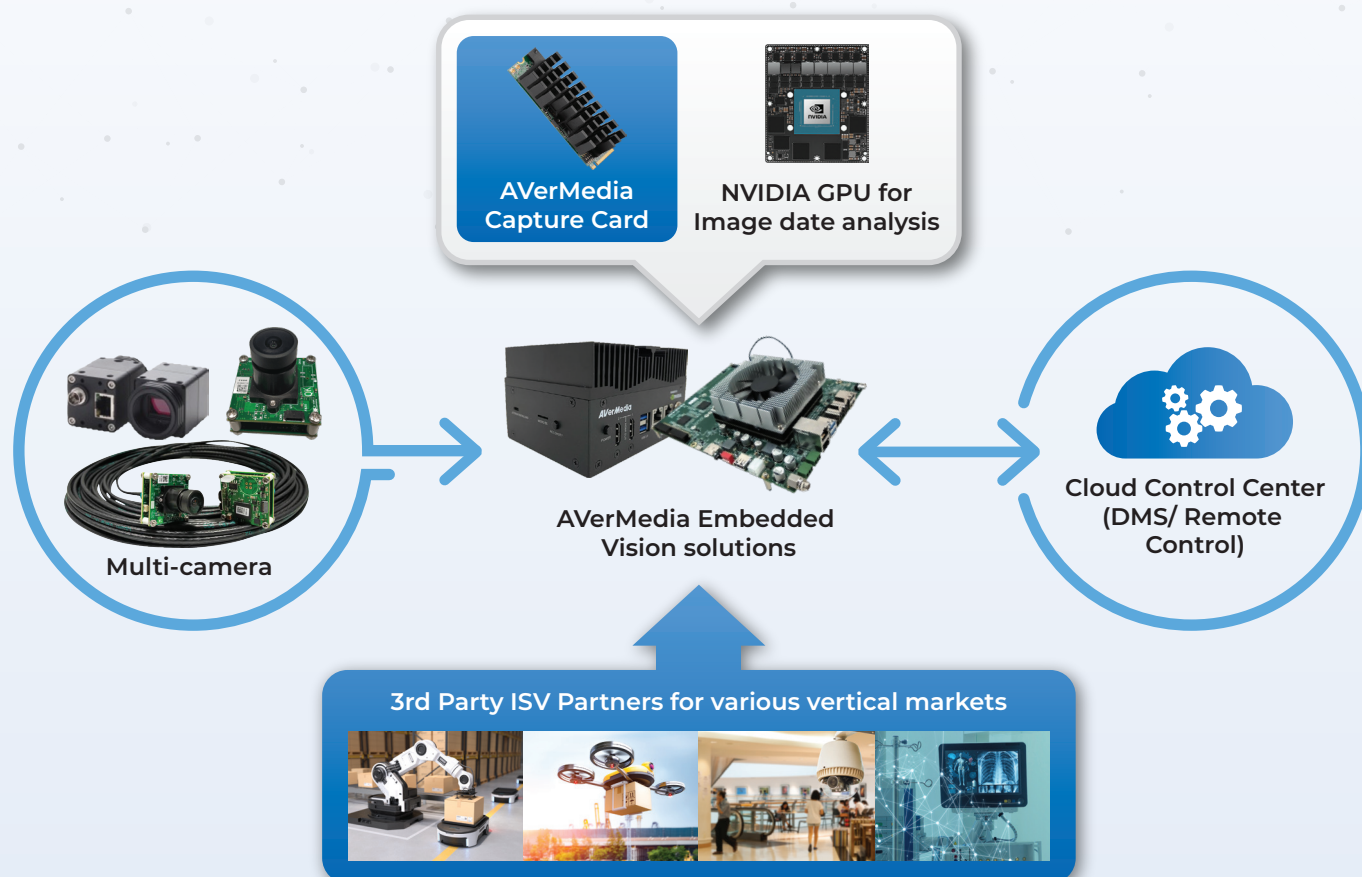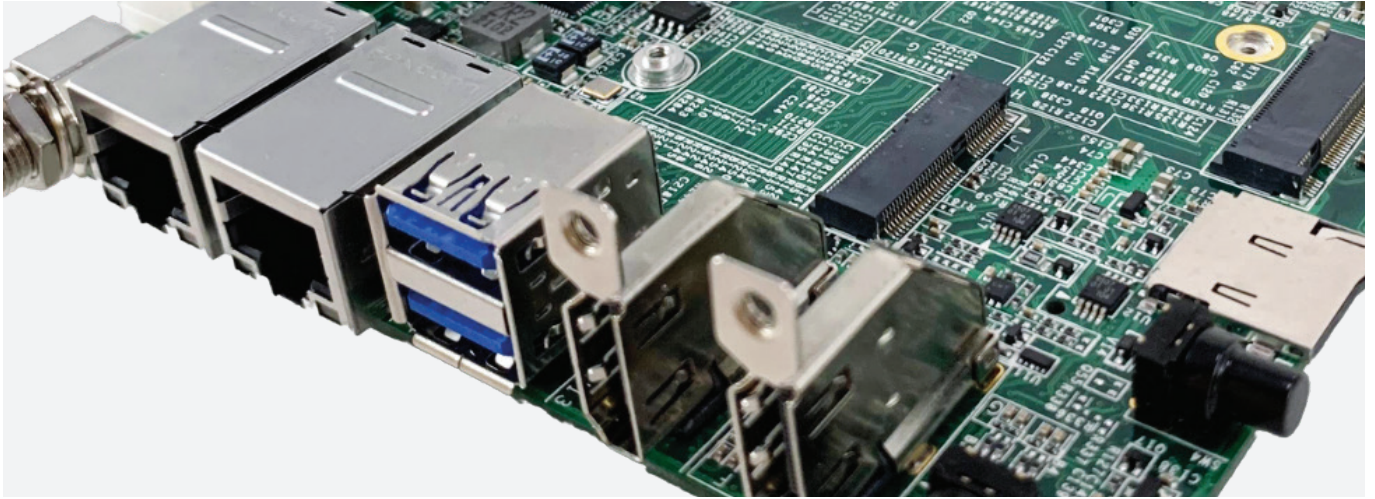
What We Do

Embedded Vision equips with NVIDIA Jetson Module

Development System

Optimized BSP Service

OEM/ODM

Video Capture PCIe/Mini/M.2

Intuitive Platform Integration

AVerMedia Capture Card

NVIDIA GPU for Image date analysis

Multi-camera

AVerMedia Embedded Vision solutions

Cloud Control Center (DMS/ Remote Control)

3rd Party ISV Partners for various vertical markets

A comprehensive set of manufacturing capabilities

With decades of experience developing world-class award-winning products, AVerMedia prides itself on supplying technically demanding Edge AI solutions for globally branded companies. Our team continuously improves its products and equipment to meet the ever-changing industry requirements and individual customer requirements and expectations. Our competitiveness and agility come from our ability to quickly innovate solutions while also leveraging our decades of R&D and manufacturing experience, as well as our flexible production lines.

A reliable partner for your custom solutions

We understand that every project is unique, and an off-the-shelf product may not be suitable for your needs. For customized projects, AVerMedia offers a full range of customization services with a service-driven team that works closely with you to develop a high-performance and reliable solution that suits your specification.

Hardware: PCB Dimensions, I/O and certifications.
Software: BSP, Driver, MCU firmware, algorithms and applications.
Design: ID/ME/UX/UI/GUI.
Thermal: Operate in a wide range of temperatures.
Solid Verification: From System, HW to BSP validation.

The video processing technology is one of the core values that we can apply to the customized project. AVerMedia provides multi-camera support with various I/O ports to fulfill a wide range of cameras, for instance, AHD, MIPI, HDMI, USB, SDI, and IP cameras. In addition, the video quality issues can be solved efficiently, such as black screen, FPS drops, screen freeze, flickering, and latency.

AVerMedia has worked with numerous global companies on countless successful projects. This proven history of success demonstrates our cutting-edge design technologies and deep vertical expertise, and is the reason why we feel confident in making your project a success.

We deliver excellence

Embedded Vision Solutions, by AVerMedia, is dedicated to delivering the utmost quality product and services that meet the customer's need to the smallest detail. The integration experience is essential to product customization that saves clients time and money. Furthermore, AVerMedia continuously makes significant R&D investments that maintain a competitive advantage in new design development. AVerMedia participates in vendor early access programs in collaboration with leading technology vendors to ensure that its clients have access to the most up-to-date technologies.

Solid R&D expertise

AVerMedia owns 359 patents on the latest Audio/Visual technology. Comprising 36% of AVerMedia's team, R&D continuously works to offer the best possible solution.

Customization

We offer timely industry-specific customizations for your unique project. Additionally, SDK and driver customization can be achieved per your request.

Timeliness

Have peace of mind knowing that your projects will be executed in a timely and efficient manner.

Dedicated Support

We are dedicated to ensuring quick deployment with minimal hassle. Our agile team is ready to resolve any issues you may experience in an effective, and efficient manner.

Smart Security

- Temperature heat mapping
- Behavior analysis and access control to restricted area
- People classification

Smart Retail

- Seamless shopping experience by frictionless autonomous checkout
- Reduce or no wait times Scan/print & go scale

AMR

- Increase productivity with high accurate operations
- Safer operations
- Flexible relocation

Drone

- Deploy in Delivery, security, inspection, and more
- Benefit from feasibility and profitability
- Immediately response & analysis

Sport

- Performance improvement for players
- Best moment recognize by analyzing audience's reaction
- Scout new players

Medical Imaging

- Increase the capability of detection and characterization
- Dissect complicated data to diagnostic image
- Precision medicine & risk assessment

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Equipping with NVIDIA Jetson modules, AVerMedia provides AI edge computing solutions aiming at vertical focus markets, such as Smart Security, Smart Factory, Smart Retail, Smart Logistics, AMR, etc. Furthermore, as an add-on value of a hardware provider, the optimized service of the Board Support Package(BSP) is one of the cores of AVerMedia. From PCB design to verification, we ensure to provide a dedicated solution to every single vertical market and provide customized service to optimize the BSP to fulfill the various demand of the application.

Industrial Solutions & BSP Optimized Services for Vertical Markets

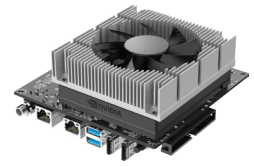| Vertical Markets	VERTICAL MARKETS		AMR	Drone	Security	Medical Imaging
	PRODUCTION		Pre-install SDK or SW / Install Image & Test			
Recommended BSP Optimization	SYSTEM	Boot Sequence				
		Change Logo	V	V		V
		One Button to Default	V	V	V	V
		Boot from SD/SSD	V	V	V	V
		Simplification		V		
		Software Secure	V	V	V	V
		OTA	V	V		
		Config Change			V	
		Expansion Header Config	V	V		
	DEVICE	Driver/Core Customize	V	V		V
		DMS	V			
		Wi-Fi	V	V	V	
		Thermal			V	
		4G/5G	V	V	V	
Hardware Solutions	SUGGESTED MODELS		D315AO	D111NX	NX215B	D315AO
	DEVELOPMENT SYSTEM/BOX PC/CARRIER BOARD WITH NVIDIA JETSON MODULE / VIDEO CAPTURE CARD					

Model name	EN715	EN713	NX215	AG411	D315
Nano	●	●	●		
TX2 NX	●		●		
Xavier NX	●	●	●		
Orin NX			●		
AGX Xavier				●	●
AGX Orin					●
HDMI Output 3840x2160 at 60Hz	1	1	2 (1 for Nano/Orin NX)	2	2 (1 for AGX Orin)
USB 3.0/USB 2.0	2/0	2/0	3/0	2/3	2/2
GbE/10G/POE	1/0/0	1/0/8	2/0/0	2/0/0	1/1/0 (3x 10G Optional)
Storage	1x Micro SD	1x SATA	● 1x Micro SD (0 for Orin NX) ● 1x M.2 key M	● 1x Micro SD ● 3x M.2 key M	● 1x Micro SD ● 1x M.2 key M
mPCIe	0	1	0	4	1
M.2 key E for Wifi or 5G	0	0	1 (0 for Nano)	1	1
4G/5G support	-	4G	-	-	4G/5G (5G need adapter card)
Others	20pin (UART, I2C, GPIOs)	● 1x RS485 ● 20pin(UART, I2C, GPIOs)	20pin(UART, I2C, GPIOs, CAN) (Nano doesn't support CAN)	● 1x RS485 ● 1x CAN ● 40pin(UART, I2C, GPIOs)	● 1x SIM slot ● 1x PCIe (x16) ● 40pin(UART, SPI, I2C, I2S, CAN, GPIOs)
Camera support	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera	● IP camera ● USB camera	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera ● SDI/HDMI camera via capture card	● USB camera ● SDI/HDMI camera via capture card	● 1x 120pin for mipi/ GMSL/FPD link/V-by- One® HS camera ● SDI/HDMI camera via capture card
Capture card support	-	-	CN312S, CN312M	CN311H, CN312S, CN312M	CN311H, CN312S, CN312M
Operating temperature	0°C~70°C	0°C~70°C	0°C~70°C	-20°C~85°C	-20°C~85°C
Adaptor included	12V/5A (Optional)	54V/2.78A	12V/5A (Optional)	54V/2.78A	54V/2.78A
Dimensions (LxW) mm	87 x 70.6	170 x 170	126 x 96	220 x 170	135.5 x 130

Model name	NO111B TN111B NX211B	NX213B	NO115B TN115B NX215B	AG411B	D315AOB
Nano	●		●		
TX2 NX	●		●		
Xavier NX	●	●	●		
Orin NX			●		
AGX Xavier				●	●
AGX Orin					●
HDMI Output 3840x2160 at 60Hz	1	1	2 (1 for Nano/Orin NX)	2	2 (1 for AGX Orin)
USB 3.0 /USB 2.0	2/0	2/0	3/0	2/3	2/2
GbE/10G/POE	1/0/0	1/0/8	2/0/0	2/0/0	1/1/0 (3x 10G Optional)
Storage	1x Micro SD	1x SATA	● 1x Micro SD (0 for Orin NX) ● 1x M.2 key M	● 1x Micro SD ● 3x M.2 key M	● 1x Micro SD ● 1x M.2 key M
mPCIe	0	1	0	3	1
M.2 key E for Wifi	0	0	1 (0 for Nano)	1	1
4G/5G support	-	4G	-	-	4G/5G (5G need adapter card)
Others	20pin(UART, I2C, GPIOs)	● 1x RS485 ● 20pin(UART, I2C, GPIOs)	20pin(UART, I2C, GPIOs, CAN) (Nano doesn't support CAN)	● 1x RS485 ● 1x CAN ● 40pin(UART, I2C, GPIOs)	● 1x CAN ● 1x SIM slot ● 1x PCIe (x16) ● 40pin(UART, SPI, I2C, I2S, CAN, GPIOs)
Camera support	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera	● IP camera ● USB camera	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera	● USB camera ● SDI/HDMI camera via capture card	● 1x 120pin for mipi/ GMSL/FPD link/ V-by-One® HS camera ● SDI/HDMI camera via capture card
Capture card support	-	-	CN312S, CN312M	CN311H, CN312S, CN312M	CN311H, CN312S, CN312M
Operating temperature					
Nano	0°C~60°C	-	0°C~60°C	-	-
TX2 NX	0°C~45°C	-	0°C~50°C	-	-
Xavier NX & Orin NX	0°C~55°C	0°C~50°C	0°C~55°C	-	-
AGX Xavier & AGX Orin	-	-	-	-10°C~60°C	-10°C~60°C
Adapter included	12V/5A	54V/2.78A	12V/5A	54V/2.78A	54V/2.78A
Thermal solution	Fan	Fanless	Fanless	Fanless	Fan/Fanless
Dimensions (LxWxH) mm	91.4 x 76. 6x 70	190 x 175 x 80	126 x 96 x 74	240 x 190 x 88.5 (Product only) 240 x 214 x 88.5 (With wall mounts)	Fan:145 x 136.4 x 88 Fanless: TBD

Model name	D111NO D111NX	D131NO D131NX D131OX	D313AX	D315AO
Module	Jetson Nano / Xavier NX	Jetson Nano / Xavier NX / Orin NX	Jetson AGX Xavier	Jetson AGX Orin
HDMI Output 3840x2160 at 60Hz	1	1	2	1
USB 3.0 /USB 2.0	2/0	4/0	2/3	2/2
GbE /10G/PoE	1/0/0	1/0/1(Optional)	2/0/0	1/1/0 (3x 10G Optional)
Storage	1 x micro-SD	● 1x Micro SD (0 for Orin NX) ● 1x M.2 key M	● 1x Micro SD ● 3x M.2 key M	● 1x Micro SD ● 1x M.2 key M
mPCIe	0	0	4	1
M.2 key E for Wifi	0	1 (0 for Nano)	1	1
4G/5G support	-	4G/5G (need adapter card)	-	4G/5G (5G need adapter card)
Others	20pin(UART, I2C, GPIOs)	● 20pin(UART, SPI, I2C, I2S, GPIOs) ● 1x CAN	● 1x RS485 ● 1x CAN ● 40pin(UART, CAN, I2C, GPIOs)	● 1x CAN ● 1x SIM slot ● 1x PCIe (x16) ● 40pin(UART, SPI, I2C, I2S,CAN, GPIOs)
Camera support	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera	● 2x 2 lane MIPI CSI-2 ● 1x 4 lane MIPI CSI-2 ● USB camera ● IP camera	● USB camera ● SDI/HDMI camera via capture card	● 1x 120pin for mipi/ GMSL/FPD link/V-by- One® HS camera ● SDI/HDMI camera via capture card
Capture card support	-	-	CN311H, CN312S, CN312M	CN311H, CN312S, CN312M
Operating temperature	0°C~70°C	0°C~70°C	-20°C~85°C	-20°C~85°C
Adaptor included	12V/5A (Optional)	12V/5A (Optional)	54V/2.78A (Optional)	54V/2.78A (Optional)
Fan	Yes	Yes	Yes	Yes
Dimensions (LxWxH) mm	87 x 70.6 x 58.2	148 x 82 x 85	170 x 220 x 54.6	135.5 x 130 x 54.6

AVerMedia

To learn more about our solutions or to request a PoC, feel free to contact us today at:

contact@avermedia.com

Or visit us at:

Professional.avermedia.com

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