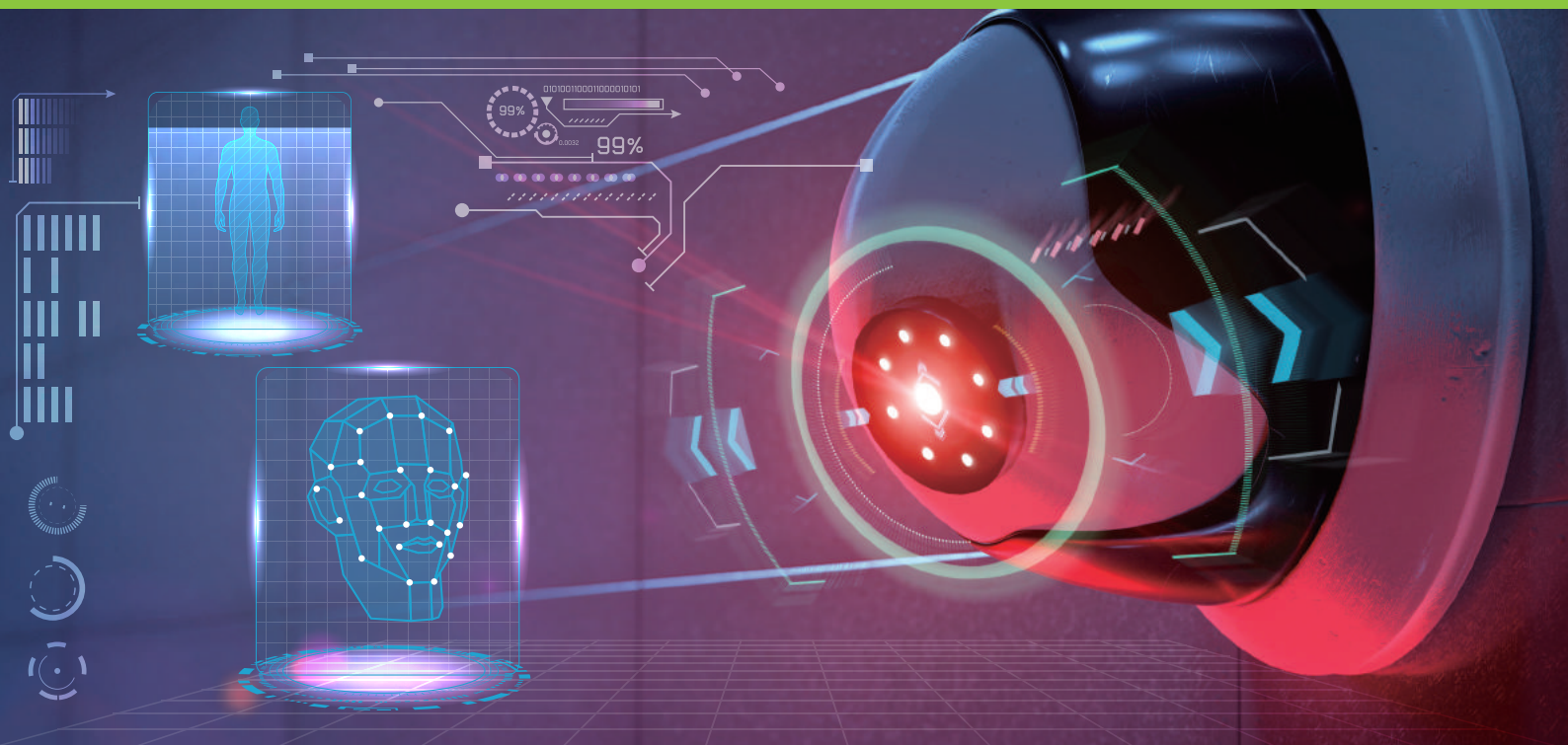


# Neosys Ruggedized Wide-temp Edge AI Platform

Flexible and powerful GPU-aided computing for advanced applications



# Nuvo-7164GC/Nuvo-7166GC

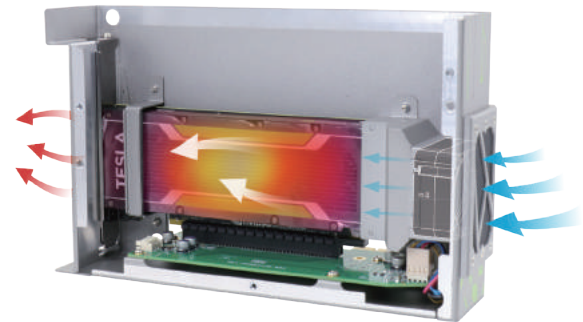
Ruggedized AI Inference Platform Supporting NVIDIA® Tesla T4 and Intel® 8th-Gen Core™ Processor

- Supports NVIDIA® Tesla T4 GPU
- One additional PCIe x16 slot for add-on card (Nuvo-7166GC only)
- Dedicated heat dissipation for -25°C to 60°C wide-temperature operation
- Intel® 8th-Gen Core™ hexa-core 35W/ 65W LGA1151 CPU
- 6x GigE ports, 802.3at PoE+ option available (ports 3~6)
- M.2 2280 M key NVMe (Gen3 x4) socket for fast storage access
- 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
- Accommodates two 2.5" SATA HDD/SSD with RAID 0/1 support
- MezzIO™ interface for easy function expansion



## Introduction

Nuvo-7164GC/Nuvo-7166GC series are ruggedized AI inference platforms designed for advanced inference acceleration applications such as voice, video, image and recommendation services. It supports NVIDIA® Tesla T4 GPU, featuring 8.1 TFLOPS in FP32 and 130 TOPs in INT8 for real-time inference based on trained neural network model. In addition, it supports Intel® 8th-Gen Coffee Lake Core™ 6-core/12-thread CPU and 64 GB DDR4-2666, offering great balance between CPU, GPU and memory performance.



Thanks to Neusys' patented Cassette and air tunnel design, which guides the intake air to flow through the passive heat sink of NVIDIA® Tesla T4 making it capable of effectively dissipating the heat generated by the GPU. This promising design guarantees system operation of up to 60°C ambient temperature with sustained 100% GPU loading. What distinguishes Nuvo-7166GC from Nuvo-7164GC is that it has one additional PCIe x16 slot in the Cassette module for a second add-on card installation, making it that much more flexible for specific applications.

Both systems incorporate cutting-edge I/O technologies to boost overall system flexibility, functionality and performance. The systems feature an M.2 NVMe interface that supports disk read/ write speeds over 2000 MB/s and USB 3.1/ GbE ports for fast data transfer, such as acquiring HD video data. With the combination of a fast CPU and inference accelerator GPU, Nuvo-7164GC/ Nuvo-7166GC are ideal inference platforms for artificial intelligence applications.



Smart Healthcare

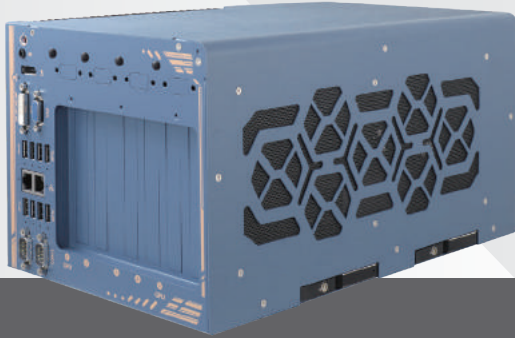


Imagery Analytics



AI Agriculture





# Nuvo-8208GC

Industrial-grade GPU Computing Platform Supporting  
**Dual 250W NVIDIA®** Graphics Card, Intel® Xeon® E or 8th-Gen Core™ Processor

- Supports dual 250W NVIDIA® graphics cards up to 28 TFLOPS in FP32
- Supports Intel® Xeon® E or 8th-Gen Core™ i7/ i5 LGA1151 CPU
- Up to 128GB ECC/ non-ECC DDR4 2133 (4x SODIMM)
- Two x8, one x4, Gen3 PCIe slots for add-on cards
- Two hot-swappable 2.5" SATA HDD/ SSD with RAID 0/ 1 support
- 8~35V wide-range DC input with built-in ignition power control
- Patented thermal design for -25°C to 60°C rugged operation\*
- Patented damping brackets\* to withstand 1 Grms vibration



## Introduction

Nuvo-8208GC is the world's first dual GPU platform with industrial-grade design and in-vehicle features. Designed specifically to support two high-end 250W NVIDIA® graphics cards, it offers tremendous GPU power up to 28 TFLOPS in FP32 for emerging GPU-accelerated edge computing, such as autonomous driving, vision inspection and surveillance/ security.

Nuvo-8208GC is powered by Intel® Xeon® E or 8th-Gen Core™ 6-core/ 12-thread CPUs coupled with workstation-grade Intel® C246 chipset to support up to 128 GB ECC or non-ECC DDR4 memory. The system incorporates two hot-swappable 2.5" trays for easy HDD/ SSD replacement and an M.2 2280 NVMe socket for the ultimate disk performance. Its front-accessible GbE and USB 3.1 Gen1/ Gen2 ports feature screw-lock mechanisms for securing cable connections. In addition to the dual x16 PCIe slots for GPU installation, Nuvo-8208GC has two other x8 PCIe slots and one x4 PCIe slot for expansion cards to extend function sets like data collection, analytics and communication.

Nuvo-8208GC has a brand new power delivery design to accept 8~35V wide-range DC input and to handle heavy power requirements from dual 250W GPUs. Along with built-in ignition control, it's feasible to deploy it on a vehicle and directly power it via the car's power system. Mechanical wise, Nuvo-8208GC incorporates Neusys' patented heat dissipation design\*, damping brackets\* and patent-pending GPU press bar, making it steady and rock-solid in various conditions.

The Nuvo-8208GC is Neusys' response to the never-ending demand of TFLOPS in industrial GPU platforms. With industrial-grade power, thermal and mechanical design, it pushes versatile AI inference applications from laboratories to field applications, where reliability matters.





# Nuvo-7160GC Series

Ruggedized GPU-Computing Platform Supporting **120W NVIDIA® GPU** and Intel® 8th-Gen Core™ Processor

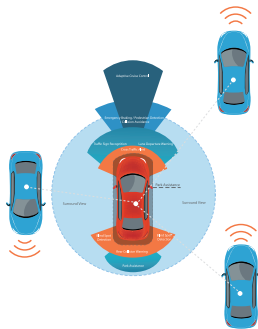
- Supports NVIDIA® GPU with up to 120W TDP
- Patented thermal design to allow -25°C to 60°C wide-temperature operation
- Intel® 8th-Gen Core™ hexa-core 35W/ 65W LGA1151 CPU
- 6x GigE ports, supporting 9.5 KB jumbo frame
- M.2 2280 M key NVMe (Gen3 x4) socket for fast storage access
- 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
- Accommodates 2x 2.5" SATA HDD/ SSD with RAID 0/ 1 support
- Compatible with MeziO™ interface for function expansion
- Patented ventilation design for graphics card



## Introduction

Nuvo-7160GC is a ruggedized GPU-aided edge computer designed for modern machine learning applications, such as autonomous driving, facial recognition and vision inspection. It supports a graphics card up to a 120W, delivering 4~6 TFLOPS computing power for inference, as well as Intel® 8th-Gen Core™6-core/12-thread CPU, offering up to 50% CPU performance enhancement over previous generations.

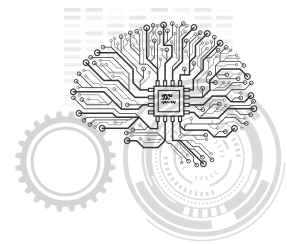
Supporting 120W NVIDIA® GPU



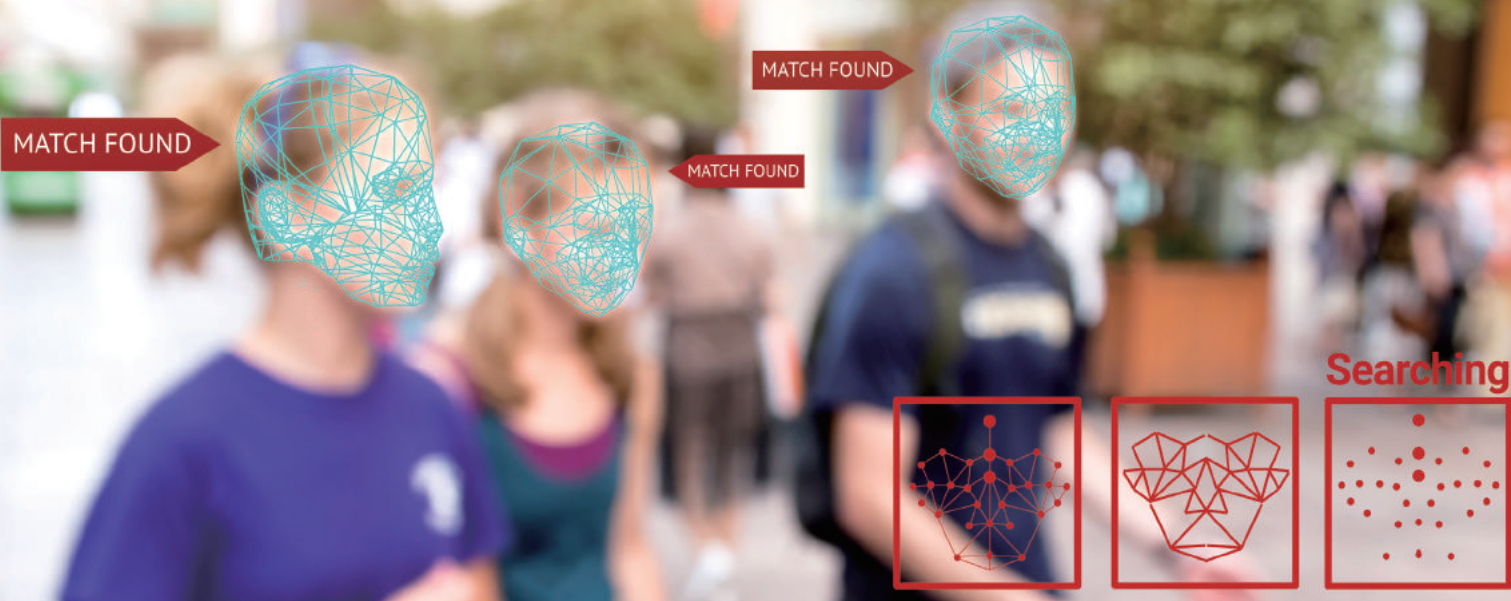
Autonomous Driving



Virtual Reality



Machine Learning





# GPU-computing Platform Specification Table



Model Name	Nuvo-7164GC / Nuvo-7166GC	Nuvo-7160GC	Nuvo-6108GC	Nuvo-8208GC		
<b>Chassis</b>	<b>Dimensions (W x D x H)</b>	240 x 225 x 111 mm	240 x 225 x 111 mm	164 x 360 x 174 mm	225 x 360 x 186 mm	
	<b>Weight</b>	4.5 kg	4.5 kg	4.7 kg	8.6 kg	
	<b>Chassis Construction</b>	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	
<b>System</b>	<b>Processor</b>	Intel® Core™ i7-8700/ 8700T Intel® Core™ i5-8500/ 8500T Intel® Core™ i3-8100/ 8100T	Intel® Core™ i7-8700/ 8700T Intel® Core™ i5-8500/ 8500T Intel® Core™ i3-8100/ 8100T Intel® Pentium® G5400/ G5400T Intel® Celeron® G4900/G4900T	Intel® Xeon™ Processor E3-1275 v5 Intel® Xeon™ Processor E3-1268L v5 Intel® Core™ i7- 6700/6700TE Intel® Core™ i5- 6500/6500TE	Intel® Xeon® Processor E-2176G Intel® Xeon® Processor E-2124G Intel® Core™ i7-8700/ i7-8700T Intel® Core™ i5-8500/ i5-8500T	
	<b>Chipset</b>	Intel® Q370	Intel® Q370	Intel® C236	Intel® C246	
	<b>Graphics</b>	Intel® UHD Graphics 630	Intel® UHD Graphics 630	x16 PEG port, or Intel® HD Graphics 530	x16 PEG port, or Intel® HD Graphics 630	
	<b>Memory</b>	Up to 64 GB DDR4-2666/ 2400	Up to 64 GB DDR4-2666/ 2400	Up to 32 GB DDR4-2133	Up to 128 GB DDR4-2133	
	<b>PoE</b>	Optional (Port 3-6, IEEE 802.3at, 25.5W)	Optional (Port 3-6, IEEE 802.3at, 25.5W)	-	-	
<b>I/O Interface</b>	<b>Ethernet</b>	6x GbE by Intel® I219 and 5x I210	6x GbE by Intel® I219 and 5x I210	1x GbE by Intel® I219-LM 1x GbE by Intel® I210-IT	1x GbE by Intel® I219-LM 1x GbE by Intel® I210-IT	
	<b>Video Port</b>	1x VGA 1x DVI-D 1x DisplayPort	1x VGA 1x DVI-D 1x DisplayPort	2x DVI-D	1x VGA 1x DVI-D 1x DisplayPort	
	<b>Serial Port</b>	2x RS-232/422/485 2x RS-232	2x RS-232/422/485 2x RS-232	2x RS-232/422/485	2x RS-232/422/485	
	<b>USB 2.0</b>	-	-	-	1	
	<b>USB 3.0</b>	8	8	4	8	
	<b>Audio</b>	1x Mic-in and speaker-out	1x Mic-in and speaker-out	1x Speaker-out	1x Speaker-out	
	<b>Digital I/O</b>	Optional via MeziO™ module	Optional via MeziO™ module	-	-	
	<b>Storage Interface</b>	<b>SATA HDD</b>	2x 2.5" HDD/ SSD	2x 2.5" HDD/ SSD	4x 2.5" HDD/SSD	2x 2.5" HDD/SSD
		<b>mSATA / eSATA</b>	1x mSATA (mux. with mini-PCIe)	1x mSATA (mux. with mini-PCIe)	-	2
<b>CFast / MicroSD</b>		-	-	-	-	
<b>SIM</b>		3	3	-	-	
<b>Expansion Bus</b>	<b>Mini PCI-E</b>	1	1	1	2	
	<b>M.2</b>	2	2	1	-	
	<b>MeziO™</b>	Yes	Yes	-	-	
	<b>PCI/PCI Express</b>	1x PCIe x16 slot, supports NVIDIA® Tesla T4 GPU ( <b>Nuvo-7164GC</b> ) 2x PCIe x16 slot, supports NVIDIA® Tesla T4 GPU and one additional PCIe card ( <b>Nuvo-7166GC</b> )	1x PCIe x16 slot, supports independent NVIDIA® GPU (120W)	1x PCI Express x16 slot for NVIDIA® GPU (250W) 2x PCI Express x8 slot	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes 1x PCIe x4 slot@Gen3, 1-lane	
<b>Power Supply</b>	<b>DC Input</b>	8-35V DC	8-35V DC	24V DC	8-35V DC	
	<b>Power Consumption</b>	-	-	-	-	
	<b>Ignition Control</b>	Optional via MeziO™ module	Optional via MeziO™ module	-	Built-in	
<b>Environmental</b>	<b>Operating Temperature</b>	with 35W CPU and NVIDIA® Tesla T4 -25°C ~ 60°C  with 65W CPU and NVIDIA® Tesla T4 -25°C ~ 60°C (35W TDP) -25°C ~ 50°C (65W TDP)	with 35W CPU and 120W GPU -25°C ~ 60°C  with 65W CPU and 120W GPU -25°C ~ 60°C (35W TDP) -25°C ~ 50°C (65W TDP)	-25°C ~ 60°C	-25°C ~ 60°C	
	<b>Certification</b>	CE/ FCC	CE/ FCC	CE/FCC	CE/FCC	



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