

# Nuvo-8208GC

Industrial-grade GPU Computing Platform Supporting Dual 250W NVIDIA® Graphics Card, Intel® Xeon® E or 8th/ 9th-Gen Core™ Processor



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## Key Features

- Supports dual 250W NVIDIA® graphics cards up to 28 TFLOPS in FP32
- Supports Intel® Xeon® E or 8th/9th-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

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\*R.O.C Patent No. M534371 / M491752

## 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/ 9th-Gen Core™ 8-core/ 16-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 Neosys' 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 Neosys' 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.

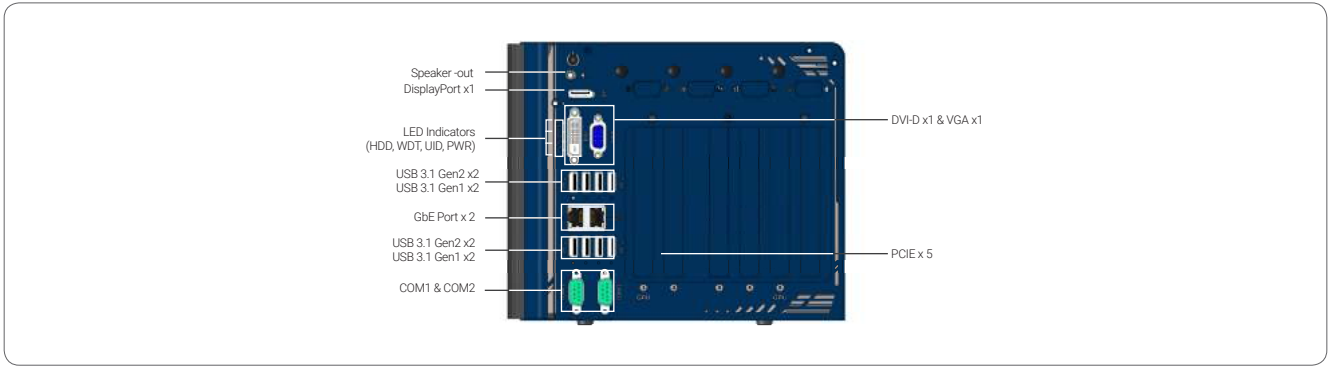
## Specifications

System Core		Storage Interface	
Processor	Supporting Intel® Xeon® E and 8th/9th-Gen CPU (LGA1151 socket)	mSATA	2x full-size mSATA port (mux with mini-PCIe)
	- Intel® Xeon® Processor E 2716G	<b>Expansion Bus/ Internal I/O Interface</b>	
	- Intel® Xeon® Processor 2278GE (8C/16T)	PCI Express	2x PCIe x16 slot@Gen3, 8-lanes
	- Intel® Xeon® Processor 2278GEL (8C/16T)		2x PCIe x8 slots@Gen3, 4-lanes
	- Intel® Core™ i7-8700, i7-8700T, i7-9700E, i7-9700TE		1x PCIe x4 slot@Gen3, 1-lane
	- Intel® Core™ i5-8500, i5-8500T, i5-9500E, i5-9500TE	M.2	1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module
- Intel® Core™ i3-8100, i3-8100T, i3-9100E, i3-9100TE	mini-PCIe	2x full-size mini PCI Express socket	
Chipset	Intel® C246 platform controller hub	<b>Power Supply</b>	
Graphics	Independent GPU via x16 PEG port, or integrated Intel® UHD Graphics 630	DC Input	2x 4-pin pluggable terminal block for 8~35V DC input with ignition control
Memory	Up to 128 GB ECC/ non-ECC DDR4 2133 SDRAM (four SODIMM slots)	<b>Mechanical</b>	
AMT	Supports AMT 12.0	Dimension	225 mm (W) x 360 mm (D) x 186 mm (H)
TPM	Supports TPM 2.0	Weight	8.6 Kg
<b>I/O Interface</b>		Mounting	Wall-mount with damping brackets
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT	<b>Environmental</b>	
Native Video Port	1x VGA connector, supporting 1920 x 1200 resolution 1x DVI-D connector, supporting 1920 x 1200 resolution 1x DisplayPort connector, supporting 4096 x 2304 resolution	Operating Temperature	with 35W CPU and dual NVIDIA® 250W GPU -25°C ~ 60°C ***
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)		with >= 65W CPU and dual NVIDIA® 250W GPU -25°C ~ 60°C **/ *** (configured as 35W TDP mode)
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports 1x USB 2.0 ports (Internal for dongle use)		-25°C ~ 50°C **/ *** (configured as 65W TDP mode)
Audio	1x Speaker-out	Storage Temperature	-40°C ~ 85°C
<b>Storage Interface</b>		Humidity	10%~90% , non-condensing
SATA	2x hot-swappable HDD trays for 2.5" HDD/ SSD installation	Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
		EMC	CE/ FCC Class A, according to EN 55024 & EN 55032

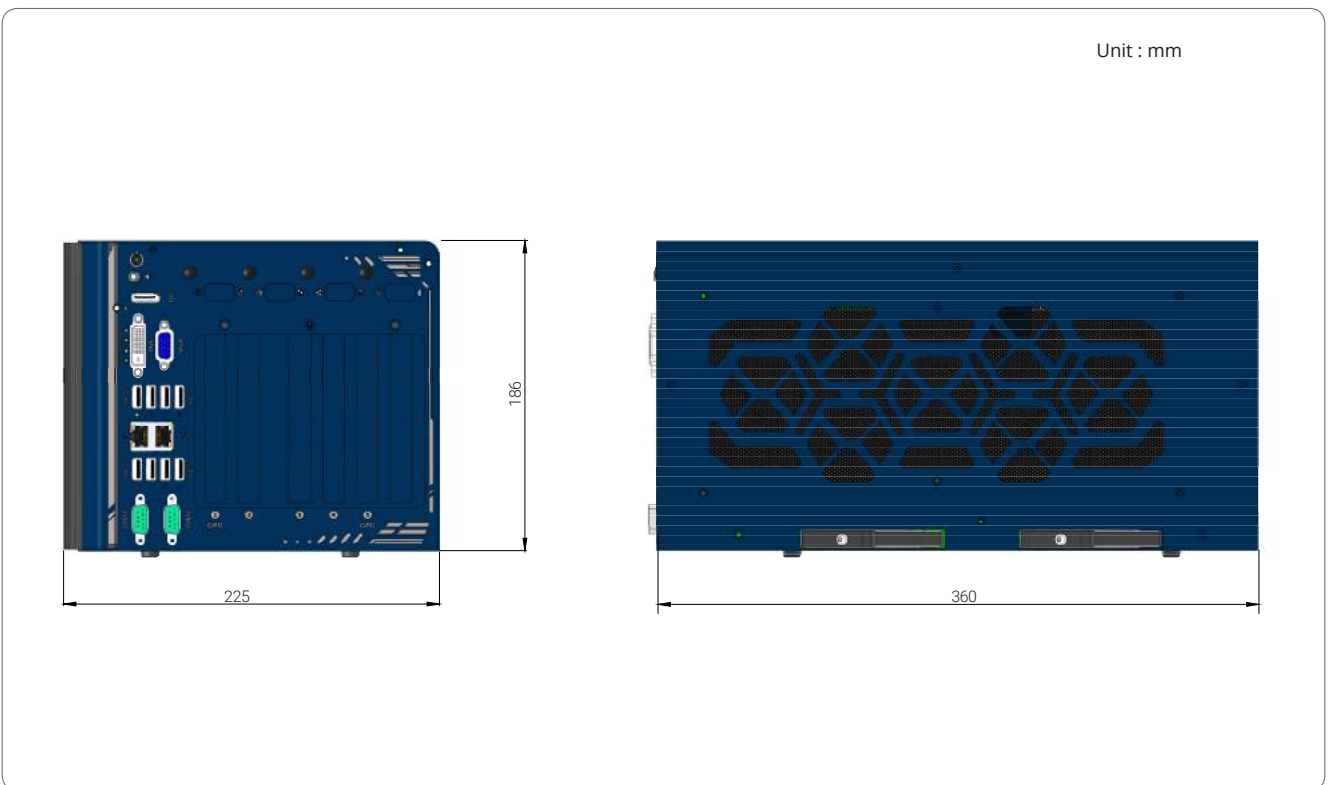
\* For i7-8700 and i7-9700E running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

\*\* For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
Nuvo-8208GC	Industrial-grade GPU computing platform supporting dual 250W NVIDIA® graphics cards, Intel® Xeon® E or 8th/9th-Gen Core™ processor with 8-35V DC input and ignition control