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Nuvo-8208GC

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

CE FC

Key Features

- **Supports dual 250W NVIDIA® graphics cards up to 28 TFLOPS in FP32**
- **Supports Intel® Xeon® E or 9th/8th-Gen Core™ i7/ i5 LGA1151 CPU**
- **Up to 128GB ECC/ non-ECC DDR4 2133 (4x SODIMM)**
- **Two x8 (4-lanes), one x4(1-lane), Gen3 PCIe slots for add-on cards**
- **Two hot-swappable 2.5" SATA HDD/ SSD with RAID 0/ 1 support**
- **8 to 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 3 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 9th/ 8th-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 to 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 Neousys' patented heat dissipation design*, damping brackets* and patented GPU press bar**, making it steady and rock-solid in various conditions.

The Nuvo-8208GC is Neousys' 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.

**R.O.C Patent No. I687801*

Specifications

System Core	
Processor	Supporting Intel® Xeon® E and 9th/ 8th-Gen CPU (LGA1151 socket) - Xeon E 2176G/ 2278GE (8C/16T) / 2278GEL (8C/16T) - i7-9700E, i7-9700TE, i7-8700, i7-8700T - i5-9500E, i5-9500TE, i5-8500, i5-8500T - i3-9100E, i3-9100TE, i3-8100, i3-8100T
Chipset	Intel® C246 platform controller hub
Graphics	Independent GPU via x16 PEG port, or integrated Intel® UHD Graphics 630
Memory	Up to 128 GB ECC/ non-ECC DDR4 2133 SDRAM (four SODIMM slots)
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
I/O Interface	
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT
Video Port	1x VGA , supporting 1920 x 1200 resolution 1x DVI-D, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)
USB3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
USB 2.0	1x USB 2.0 port (internal for dongle use)
Audio	1x 3.5 mm jack for mic-in and speaker-out
Storage Interface	
SATA	2x hot-swappable HDD trays for 2.5" HDD/ SSD installation
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation
mSATA	2x full-size mSATA port (mux with mini-PCIe)

Expansion Bus	
PCI Express	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes 1x PCIe x4 slot@Gen3, 1-lane
M.2	1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module
mini-PCIe	2x full-size mini PCI Express socket
Power Supply	
DC Input	2x 4-pin pluggable terminal block for 8 to 35V DC input with ignition control [1]
Mechanical	
Dimension	225 mm (W) x 360 mm (D) x 186 mm (H)
Weight	8.6 Kg
Mounting	Wall-mount with damping brackets
Environmental	
Operating Temperature	with 35W CPU and dual NVIDIA® 250W GPU -25°C ~ 60°C [3] with >= 65W CPU and dual NVIDIA® 250W GPU -25°C ~ 60°C [2][3] (configured as 35W TDP mode) -25°C ~ 50°C [2][3] (configured as 65W TDP mode)
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4; and 3 Grms, 5-500 Hz, 3 Axes
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

[1] *System load under 100W, the required DC input range is 8V to 35V*
System load between 100W to 480W (single GPU), the required DC input range is 18V to 35V
System load between 480W 1000W (dual GPUs), the required DC input is 24V to 35V

[2] *For i7-9700E and i7-8700 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.*

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

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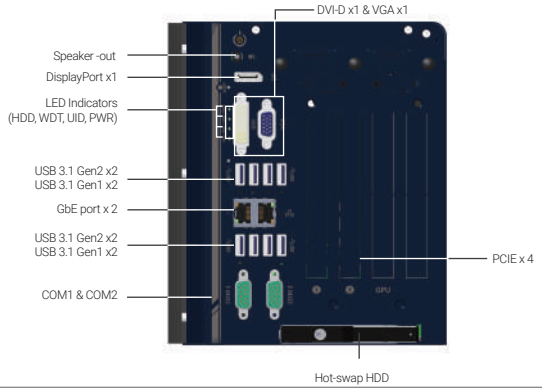
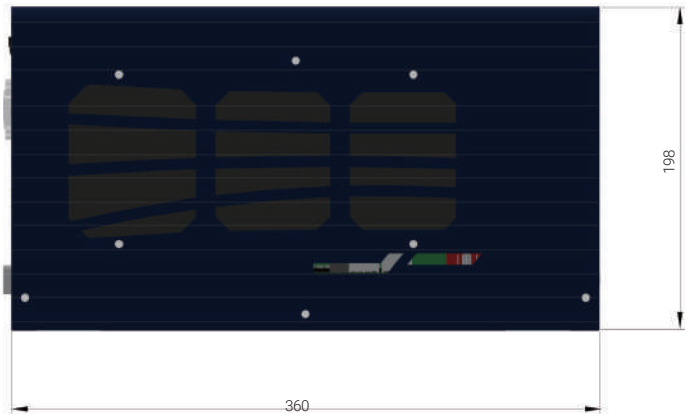
Appearance



Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-8108GC	Industrial-grade edge AI platform supporting 250W NVIDIA® GPU Card, Intel® Xeon® E and 9th/ 8th-Gen Core™ processor with 8 to 48V wide-range DC input and built-in ignition control

Optional Accessories

PA-480W-DIN	480W AC-DC power Adapter(SDR-480-24) DIN-rail mount, 24V 20A, 90~264VAC/127~370VDC, Terminal Block, -20~+70°C, Meanwell SDR-480-24