

Nuvo-8108GC-QD

Industrial-grade Edge AI Platform Supporting NVIDIA® RTX™ A6000/ A4500 GPU, Intel® Xeon® E and 9th/ 8th-Gen Core™ Processor



Key Features

- Supports NVIDIA® RTX™ A6000/ A4500 GPU cards
- Supports Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5 LGA1151 CPU
- Up to 128GB ECC/ non-ECC DDR4 2133 (4x SODIMM)
- One x16 (8-lanes), one x8 (4-lanes), Gen3 PCIe slots for add-on cards
- Dedicated GPU card bracket
- 8 to 48V 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-8108GC-QD, the latest member of the well-received Nuvo-8108GC series, is a rugged edge AI platform specially designed for NVIDIA® RTX™ A6000 and RTX™ A4500 Ampere GPU cards. The GPUs offer tremendous computing power and product longevity, to take GPU-accelerated edge AI applications such as autonomous driving, vision inspection and intelligent video analytics to the next level of reliability and availability.

Powered by an Intel® Xeon® E or 9th/ 8th-Gen Core™ (up to 8-core/ 16-thread) CPU with workstation-grade Intel® C246 chipset to support up to 128 GB ECC or non-ECC DDR4 memory, it has a strong foundation for building a powerful AI edge computing platform. It has a refined thermal dissipation design to optimize GPU performance in high-temperature environments. Additionally, Nuvo-8108GC-QD comes with a dedicated mounting bracket for RTX™ A6000/ A4500 to keep the GPU card firmly secured in the PCIe slot. Along with Neosys' patented damping brackets*, it ensures rock-solid operation in intensive shock and vibration conditions.

The addition of RTX™ A6000/ A4500 to Neosys' GPU computer portfolio realizes an edge AI platform with system-level longevity and up to 28 TFLOPS computing power. Combining proven power design, guaranteed thermal performance, and superior mechanical ruggedness, Nuvo-8108GC-QD brings unprecedented longevity, computing power, flexibility and reliability to edge AI computing.

Specifications

System Core		Expansion Bus	
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	PCI Express	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes
Chipset	Intel® C246 Platform Controller Hub	M.2	1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module
Graphics	Independent NVIDIA® RTX™ A6000/ A4500 GPU via x16 PEG port, or integrated Intel® UHD graphics 630	Mini-PCIe	2x full-size mini PCI Express socket
Memory	Up to 128 GB ECC/ non-ECC DDR4 2133 SDRAM (four SODIMM slots)	Power Supply	
AMT	Supports AMT 12.0	DC Input	2x 4-pin pluggable terminal block for 8 to 48V DC input with ignition control ^[1]
TPM	Supports TPM 2.0	Mechanical	
I/O Interface		Dimension	170.2 mm (W) x 360 mm (D) x 201.8 mm (H)
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT	Weight	5.8 kg
Video Port	1x VGA, supporting 1920 x 1200 resolution 1x DVI-D, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution	Mounting	Neosys' patented damping brackets
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)	Environmental	
USB 3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports	Operating Temperature	with 35W CPU and one NVIDIA® RTX™ A6000/ A4500 GPU -25°C to 60°C ^[1] with >= 65W CPU and one NVIDIA® RTX™ A6000/ A4500 GPU -25°C to 60°C ^{[2]/[3]} (configured as 35W TDP mode) -25°C to 50°C ^{[2]/[3]} (configured as 65W TDP mode)
USB 2.0	1x USB 2.0 ports (internal for dongle use)	Storage Temperature	-40°C to 85°C
Audio	1x 3.5 mm jack for mic-in and speaker-out	Humidity	10% to 90% , non-condensing
Storage Interface		Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
SATA	1x hot-swappable HDD tray for 2.5" HDD/ SSD installation 1x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation	EMC	CE/ FCC Class A, according to EN 55024 & EN 55032
mSATA	2x full-size mSATA port (mux with mini-PCIe)		

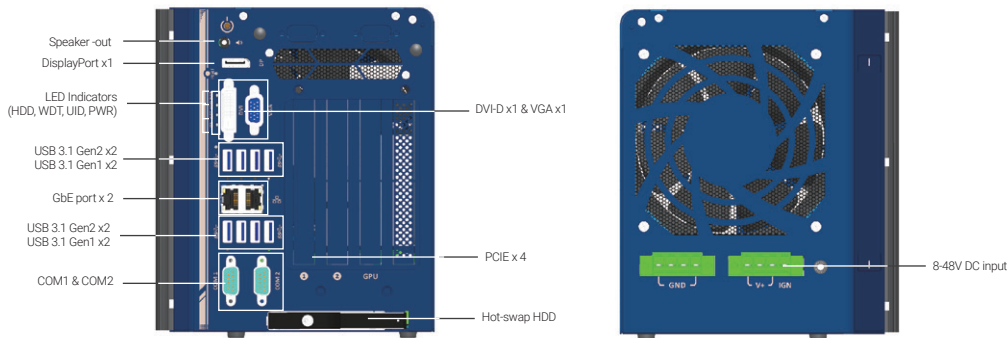
[1] System load under 100W, the required DC input range is 8V to 48V

System load between 100W to 480W (single GPU), the required DC input range is 18V to 48V

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

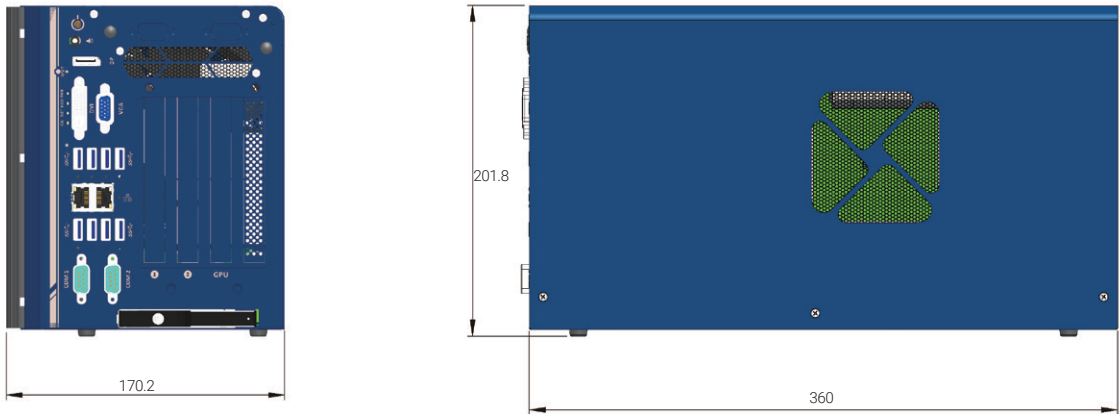
[3] For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

Appearance



Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-8108GC-QD	Industrial-grade edge AI platform supporting NVIDIA® RTX™ A6000/ A4500 GPU, 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 to 264VAC/127 to 370VDC, Terminal Block, -20 to +70°C, Meanwell SDR-480-24
PA-600W-ENC	600W AC/DC power adapter 24V/25A; cord end terminals for terminal block, operating temperature : -20°C to 70°C.