

AutonomouStuff Spectra

Introduction

The AutonomouStuff Spectra is a rugged GPU Computing edge AI platform with industrial-grade design and in-vehicle features. Designed specifically to support a high-end 250W NVIDIA® graphics card, it offers tremendous GPU power up to 14 TFLOPS in FP32 for emerging GPU-accelerated edge computing, such as autonomous driving, vision inspection and surveillance/security.



Features

- Intel® Core™ i9 Processor
- 64GB DDR4-2666Mhz SODIMM (2X16GB)
- (1) 512GB M.2 2280 Solid State Drive Primary
- (1) 1TB 2.5" SATA III Solid State Drive
- (1) RTX Quadro A-4000 GPU
- Supports 250W RTX Quadro A-4000
- Supports 8th/9th-Gen Intel® Core™ i7/i5 LGA1151, Xeon® E
- Up to 128GB ECC/non-ECC DDR4 2133 (4x SODIMM)
- Two x16 (8-lanes), two x8 (4-lanes), Gen3 PCIe slots
- 1x M.2 M key, 1x M.2 B key and 2x full-size mini-PCIe sockets
- 1x hot-swappable HDD tray for 2.5" HDD/ SSD installation
- 12-48V wide-range DC input with ignition control
- Operating temperature range: -25°C to 60°C
- Up to 3Grms vibration

Specifications

System core

Processor	Intel® Core™ i9 Processor
Memory	Up to 128 GB ECC/non-ECC DDR4 2133 SDRAM (four SODIMM slots)
Graphics	Independent GPU via x16 PEG port, or integrated Intel® UHD Graphics 630
Chipset	Intel® C246 Platform Controller Hub
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0

I/O interface

Ethernet	1x Gigabit Ethernet port by Intel® 1219-LM 1x Gigabit Ethernet port by Intel® 1210-IT
Native video port	1x VGA connector, supporting 1920x1200 resolution 1x DVI-D connector, supporting 1920x1200 resolution 1x DisplayPort connector, supporting 4096x2304 resolution
Serial port	2x software-programmable RS-232/422/485 ports
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)
Audio	1x 3.5mm jack for mic-in and speaker-out

Expansion BUS / internal I/O interface

PCI express	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slot @ Gen3, 4-lanes
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 8–48 VDC input with ignition control
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Mechanical

Dimensions	170mm (W) x 360mm (D) x 198mm (H)
Weight	5 kg
Mounting	Wall-mounting with damping bracket

Environmental

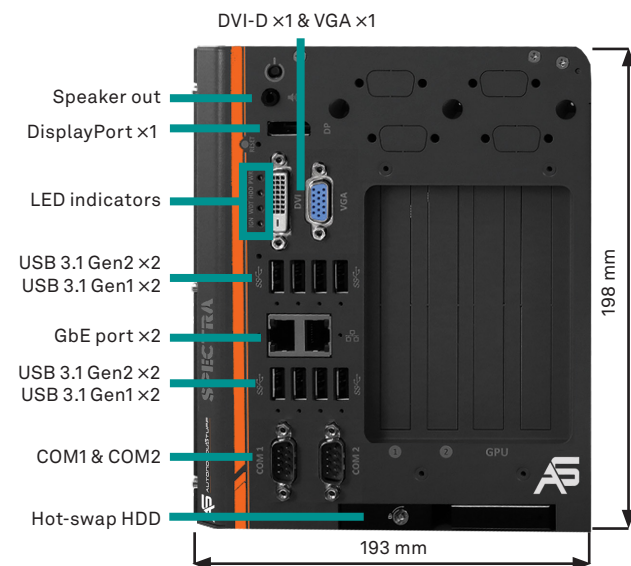
Operating temp.	with 35W CPU and one NVIDIA® 250W GPU: -25°C ~ 60°C *** with >= 65W CPU and one NVIDIA® 250W GPU: -25°C ~ 60°C **/**** (configured as 35W TDP mode) -25°C ~ 50°C **/**** (configured as 65W TDP mode)
Storage temp.	-40°C - 85°C
Humidity	10% ~ 90%, non-condensing
Vibration	Operating, MIL-STD-810G, 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

Storage interface

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
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)

** 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.



Contact Hexagon | AutonomouStuff

info.as.ap@hexagon.com +1 309.291.0966
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