

Edge AI GPU System

PE4000G (Preliminary)

Rugged GPU Computing Edge AI System supporting Intel® 12th Gen Core™ CPU and up to 200W GPU Card

Features

- Intel® 12th-Gen Core™ CPU (Alder Lake-S, R680E chipset)
- Support NVIDIA® GPU card up to 200W
- Two hot-swappable 2.5" SSD
- 8~48V wide-range DC-in w/ built-in Ignition power control
- Comply with MIL-STD 810H, and withstand up to 3 Grms vibration



Specifications

System	CPU	Intel® Core® i9-12900E	Intel® Core® i9-12900TE	Intel® Core® i7-12700E	Intel® Core® i7-12700TE	Intel® Core® i5-12500E	Intel® Core® i5-12500TE	Intel® Core® i3-12100E	Intel® Core® i3-12100TE
	TDP	65W	35W	65W	35W	65W	35W	65W	35W
	# of Cores	16	16	12	12	6	6	4	4
	P Core Base Freq.	2.3 GHz	1.1 GHz	2.1 GHz	1.4 GHz	2.9 GHz	1.9 GHz	3.2 GHz	2.1 GHz
	Max Turbo Freq.	5.0 GHz	4.8 GHz	4.8 GHz	4.7 GHz	4.5 GHz	4.3 GHz	4.2 GHz	4.0 GHz
	Chipset	R680E							
	Memory	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM							
External Interfaces	Display	2x HDMI 1.4, supports up to 4096 x 2160 @ 30 Hz 2x DP 1.2, supports up to 4096 x 2160 @ 60 Hz, DP++							
	Ethernet	1x Intel® i219 (1 GbE), support PXE boot, RJ45 1x Intel® i226 (2.5 GbE), support PXE boot, RJ45							
	USB	1x USB 3.2 Gen2x2 (20G), type C 4x USB 3.2 Gen2x1 (10G) ,type A				2x USB 3.2 Gen1 (5G), type A 2x USB2.0, type A			
	Audio	Mic in; Line out							
	COM	2x COM: RS-232/422/485, DB9 4x COM: RS-232, DB9 --- Punch-out port (optional)							
	DIO	4x DI, 4 x DO support isolation, 2 x 8 terminal block (optional)							
	LED	LED Indicators x 4 (by on-board SMD shows PWR/ storage/ watch dog/ ignition)							
expansion	Antenna	4x cellular; 2x wifi							
	PCIe	4 x PCIe Gen4 slot (1 x PCIe16 + 2 x PCIe4 or 2 x PCIe8 + 2 x PCIe4, auto-detect)							
	Mini PCIe	1 x Mini PCIe socket (support mSATA or cellular module) support single nano SIM							
	M.2 M Key	1 x M.2 2280 M-key socket (NVMe PCIe4)							
	M.2 E Key	1 x M.2 2230 E-key socket (support CNVi, Wi-Fi/BT module)							
	M.2 B Key	1 x 3042/3052 (support M.2 5G/ 4G module/ UDR GPS module) support dual nano SIM							
	2.5” SATA	2 x 2.5” slots (hot-swappable, supports SATA 3.0, 7~7.5mm)							
Wireless	Wifi	Wifi5, wifi 6 (2 SMA)							
	Cellular	4G LTE, 5G NR (with GPS antenna)							
Power	System Power	1 x 4 pin pluggable terminal block for 8-48V DC input Power button Reset power button Ignition control, header for remote power button							
	Power Supply	480W (Optional)							
Mechanical	Mounting	Desktop Mount							
	Dimension	225 (H) *198 (W) *350 (D) (TBD)							
	Weight	TBD							
Environment	Operating Temp.	-20~60℃ with 35W CPU (or CPU configured as 35W TDP), and all module operating (industrial parts) -20~50℃ with 65W CPU, and all module operating (industrial parts) (TBD) 0~40° with all module operating (commercial parts)							
	Storage Temp.	-40~85℃							
	Relative Humidity	10 to 95% (non-condensing)							
	EMC	CE, FCC							
	Safety	CB							
	Vibration	Operating: MIL-STD 810H Method 514.8, Category 4 (Truck transportation over US highways) & 5-500 Hz; 3+ Grms (TBD), 3 Axes							
	Shock	Operating: MIL-STD 810H Method 516.8, Procedure I, Table 516.6-II; 20 G							
Security	Green	GA (RoHS)							
	TPM	TPM V2.0 powered by Nuvoton NCPT 750 (Optional)							
Others	Watch dog timer	HW WDT Enable (WDT_EN)							
	OS	Windows 10 IoT Enterprise, Linux(UBUNTU)							