

All-New Edge AI Systems Shaping the Future

14th Gen
Intel® Core™ i9

Support Dual
450W GPUs

Rugged &
Durability Design



intel
partner
Titanium

ASUS IoT

Revolutionize computing power with

Edge AI Systems

The game-changing platform for AI applications

Experience the power of edge computing redefined with ASUS IoT's latest edge AI computer series. Equipped with 14th Gen Intel® Core™ processors, dual PCIe x16 GPU support, up to 900 W TDP, and dual DDR5 5600 SO-DIMM memory up to 64 GB, these systems deliver unmatched performance and energy efficiency for intensive AI workloads. Featuring embedded MXM GPU modules for Intel and NVIDIA® Jetson platforms, they enable real-time AI inferencing, transforming industries like factory automation, machine vision, and autonomous vehicles. With a rugged, fanless design, wide temperature support, and low power consumption, ASUS IoT systems ensure reliability and efficiency in the most demanding edge AI applications.

Powerful and scalable GPU computing



ASUS IoT pioneered the industry's first edge AI system that supports up to dual 450 W TDP GPUs. Our systems also benefit from support for Intel Arc™ A-series MXM, NVIDIA PCIe® GPU cards, and Jetson SoM, offering a choice of power-efficient options through to extreme high-throughput solutions.

Latest computing platforms



ASUS IoT edge AI systems are available in a variety of form factors embedded with the latest Intel 14th/13th/12th Gen CPUs and NVIDIA Jetson Orin™ series, meeting the dynamic requirements of the market.

Exclusive thermal design



The patented system design effectively diffuses heat from the CPU, GPU and all peripherals, delivering extreme ruggedness with a fanless structure. This ensures stable operation while the fanless design further reduces dust throughput and build-up, enhancing durability.

Robust power design



Innovative high-current tolerance power design ensures extreme reliability under a wide range of DC inputs and power-hungry GPU computing. Support for ignition power control adds further stability.

Industrial feature set and rich connectivity



Support for PoE, isolated DIO, multiple COM ports, CAN bus and more enables seamless connectivity for a wide range of applications.

Anti-vibration design



With a robust mechanical design featuring structured support, GPU retainer, cable screw lock, and damping bracket, ASUS IoT edge AI systems excel at in-vehicle situations for smooth and uninterrupted operation.

Certification compliance



Rest assured with our system-validated certification readiness. Our edge AI systems comply with MIL-STD 810H and offer vibration resistance up to 5 GRMS.

Software support for easy integration



Simplify the integration process with comprehensive software support, including APIs, middleware and device-control toolkits tailored for diverse vertical applications.

GPU Highlights

Leading dual-GPU and accelerated AI computing power

ASUS IoT edge AI systems are designed with double GPU compute power to efficiently run multiple models for complex AI tasks. Our systems boast fail-safe software operations for enhanced accuracy and precision in AI inference. On the hardware side, they feature redundant GPU backup accompany with fanless and ruggedized design, ensuring uninterrupted and durable performance even if one card fails – perfect for space-saving and budget-conscious clients. Additionally, our dual-GPU setup allows for diverse applications such as simultaneous preprocessing, image analysis, perception and inference, providing customers with a versatile and deep understanding of the system's functionalities.

Powerful GPU, Designed for Computer Vision

Machine Vision

- **Powerful GPUs:** Equipped to support deep-learning algorithms for advanced image processing tasks.
- **PCIe Expandability:** Allows integration of add-on cards like frame grabbers and motion cards.
- **Rich I/O Options:** Includes USB, Ethernet, and Power over Ethernet (PoE) for a wide range of cameras and peripherals.
- **Industrial-Device Compatibility:** Features isolated digital I/O (DIO) and serial ports for secure and reliable connections.



PE4000G

Autonomous Vehicles

- **Robust MXM GPU Support:** Enables sophisticated AI-perception for real-time decision-making.
- **Vehicular Sensor Integration:** Seamless integration with various sensors and 8-48V DC-in with ignition power control.
- **Expansion Modules:** Includes LTE/5G NR (M.2) for reliable connectivity and CAN bus for vehicular communication networks.
- **Durable Design:** Built with anti-shock and vibration resilience for challenging environments.



PE3000G

Intelligent Video Analytics

- **Effortless Connectivity:** Includes Power over Ethernet (PoE) and USB ports for seamless connection with IP cameras and peripherals.
- **Modular Expansion:** M.2 slots enable Wi-Fi and LTE/5G NR cellular networks for diverse environments.
- **Rugged Performance:** Operates under extreme conditions (-20°C to 60°C), ideal for outdoor or industrial settings.
- **Reliable Choice:** Ensures continuous intelligent video analysis operations.



PE8000G

Full spectrum of

Edge AI systems and applications

ASUS IoT offers a comprehensive portfolio of edge AI systems to address the diverse range of market applications. Powered by embedded MXM GPU modules from both NVIDIA and Intel, and PCI Express graphics cards based on NVIDIA Quadro GPUs, as well as edge AI platforms utilizing NVIDIA Jetson modules and other embedded form factors, these systems are designed to accelerate edge computing and AI workloads. With a focus on performance, long lifecycle, power consumption, and form, ASUS IoT provides a full spectrum of solutions to meet various embedded requirements. Whether it's high-performance computing or specific form factors, our edge AI systems deliver the power and flexibility needed to excel in diverse applications.



Target applications



Traffic management



AMR



Smart cities



Machine vision



Autonomous driving



AI inference and training

APPLICATION STORIES

Smart Agriculture

Empowering Smart Agriculture with Autonomous Mobile Robots

ASUS IoT boosts efficiency for a French fruit producer with PE3000G Edge AI computer.

Solution Features

- Intel® Arc™ MXM GPU Module: Enables real-time sensor data processing and AI inference.
- 12th Gen Intel® Core™ i7 Processor: Ensures precise robotic arm coordination and trajectory adjustments.
- Specialized Thermal Design: Operates within -20°C to 60°C, ensuring stability in extreme conditions.

Customer Benefits

- Continuous Operation: Robot functions regardless of time or weather, ensuring predictable harvests.
- Increased Yields: Efficient picking system allows for denser planting and higher crop yields.
- Enhanced Productivity: Reduces manual labor needs and boosts production efficiency.
- Sustainable Practices: Optimizes resource use and supports environmentally friendly agriculture.



Smart City

Pioneering Smart City Solutions in Binh Dinh Province

ASUS IoT and Synnex FPT propel urban development with PE1000N Edge AI computer.

Solution Features

- Ultra-compact with NVIDIA Jetson platform for AI inferencing at the edge.
- Collects vehicle data and supports real-time monitoring, including violation proof.
- Versatile I/O Ports: Includes LAN, DIO, COM, USB 3.2, Type-A, and CAN bus for scalability and faster operations.

Customer Benefits

- Reduced Traffic Congestion: Decreases travel time and fuel consumption.
- Enhanced Emergency Response: Coordinates activities effectively during large-scale events.
- Centralized Data Hub: Aggregates and analyzes data for digital transformation and smart city development.
- Promotes Growth: Attracts investments and innovation, boosting economic development in Quy Nhon.



Smart City

Enabling Smart Border Management Across Southeast Asia

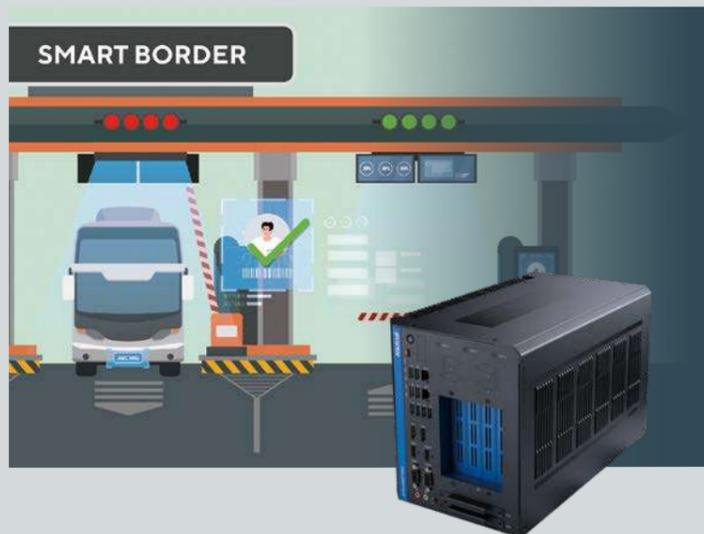
ASUS IoT Deploys PE4000G Edge AI computer to tackle traffic congestion and enhance efficiency.

Solution Features

- PE4000G Edge AI Computer: High-performance and efficient with a 14th-gen Core™ IoT processor.
- Compact and Robust Design: Supports full-size GPU cards and operates within -20°C to 60°C.
- Military-Grade Durability: Meets MIL-STD-810H standards for shock and vibration resistance.

Customer Benefits

- Enhanced Traffic Management: Reduces border congestion and improves the flow of goods.
- Rapid Deployment: Quick implementation to meet tight deadlines.
- Increased Reliability: Stable operation in extreme conditions.
- Global Support: Consistent and professional after-sales service worldwide.



Smart City

Advancing 5G Smart Pole Technology in Taipei City

ASUS IoT PE400D computer powers smart street lighting, 5G communication, AIoT, and EV charging.

Solution Features

- Powerful Computing Performance: Equipped with 10th Gen Intel® Core™ and Xeon® processors.
- Versatile I/O Options: Includes COM ports, DIO, USB, DisplayPort, and three PCIe slots for GPU and AI expansion.
- Robust Data Storage: Supports CFast, SATA, M.2, mSATA, and RAID 0, 1 for reliable data management.
- Rugged Design: Operates in temperatures from -20° to 60°C, with 9-36V power input.

Customer Benefits

- Enhanced Data Collection: Efficiently gathers data from sensors and cameras for smart transportation applications.
- Reliable Operation: Ensures stability in harsh environments, preventing downtime and ensuring continuous data processing.
- Cost-Effective: Reduces data transmission costs and delays with local data storage and processing.
- Scalability: Supports future expansions with versatile I/O and PCIe slots for AI and GPU upgrades.



APPLICATION STORIES

Smart Transportation

Transforming Smart Parking with Taiwan's First All-In-One Charger Powered by ASUS IoT PE1000N

ASUS IoT, in partnership with TIDC and ASUS MAAS, developed a smart charger for integrated parking, charging, and payment solutions.

Solution Features

- X-Spotter System: Advanced system with high-mount license-plate recognition and real-time parking space detection.
- Multiple Payment Methods: Supports smart parking management and paperless transactions.
- Robust Design: Fanless, diversified I/O interfaces, wireless connectivity, and optional 4G/5G modules.

Customer Benefits

- Reduced Congestion: Accurate license-plate recognition improves parking resource utilization.
- Enhanced Efficiency: Integrates charging, parking, and payment functions into one system.
- Flexible Deployment: High performance and expandability cater to various environmental conditions.
- Improved User Experience: Provides seamless and efficient parking and charging solutions.



Smart Transportation

ALPR Applications Take Advantage of ASUS IoT PE1000N

A resilient and efficient solution enables smart parking and traffic law enforcement in Korea.

Solution Features

- Compact and Fanless Design: Ultra-compact form factor with efficient power management to prevent overheating.
- Robust Industrial Connectivity: Includes LAN, DIO, COM, USB 3.2, Type-A, and CAN bus ports for versatile integration.
- Efficient Cooling System: Exclusive metal heatsink, copper heat pipe, and extruded-aluminum chassis for reliable operation from -20°C to +60°C.

Customer Benefits

- Enhanced Stability and Performance: Eliminates overheating issues, ensuring reliable outdoor operation.
- Seamless Integration: Extensive I/O options facilitate integration with existing infrastructure.
- Scalability: Allows for future growth and integration of new technologies.
- Longevity Support: Guaranteed product availability for at least five years with reliable technical support.



Product Selection

Edge AI Computers

Preliminary



Model name	RUC-1000G	PE8000G	PE6000G	PE4000G	
Case	Dimension	440 x 489 x 85 mm	225 x 288 x 443 mm	225 x 221 x 443 mm	225 x 198 x 350 mm
System	Processor	Intel® Core™ Ultra 9/7/5 processor (LGA1851)	Intel® 14th/13th/12th Gen Core™ CPU Intel® Core™ i9-14900T Intel® Core™ i7-14700T Intel® Core™ i5-14500T Intel® Core™ i3-14100T	Intel® 14th/13th/12th Gen Core™ CPU Intel® Core™ i9-14900T Intel® Core™ i7-14700T Intel® Core™ i5-14500T Intel® Core™ i3-14100T	Intel® 14th/13th/12th Gen Core™ CPU Intel® Core™ i9-14900T Intel® Core™ i7-14700T Intel® Core™ i5-14500T Intel® Core™ i3-14100T
	Chipset	W880	R680E	R680E	R680E
	Graphics	Intel® Xe LPG Graphics Architecture	Intel® UHD Graphics 770	Intel® UHD Graphics 770	Intel® UHD Graphics 770
	Memory	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM
I/O Interface	PoE	-	-	-	-
	Ethernet	2x Intel® i226-IT (2.5 GbE) 1x AQC113 (10 GbE)	1x Intel® i219-LM (1 GbE) 1x Intel® i226-IT (2.5 GbE)	1x Intel® i219-LM (1 GbE) 1x Intel® i226-IT (2.5 GbE)	1x Intel® i219-LM (1 GbE) 1x Intel® i226-IT (2.5 GbE)
	Display Port	1x HDMI 2x DP++	2x HDMI 2x DP	2x HDMI 2x DP	2x HDMI 2x DP
	Serial Port	2x COM: RS-232/422/485 4x COM: RS-232	2x COM: RS-232/422/485 4x COM: RS-232 (optional)	2x COM: RS-232/422/485 4x COM: RS-232 (optional)	2x COM: RS-232/422/485 4x COM: RS-232 (optional)
	USB 2.0	2x USB2.0, type A	2x USB2.0, type A	2x USB2.0, type A	2x USB2.0, type A
	USB 3.2/ 3.1	8x USB 3.2 Gen2 (10Gbps), type A	1x USB 3.2 Gen2x2 (20G), type C 4x USB 3.2 Gen2x1 (10G), type A 2x USB 3.2 Gen1 (5G), type A	1x USB 3.2 Gen2x2 (20G), type C 4x USB 3.2 Gen2x1 (10G), type A 2x USB 3.2 Gen1 (5G), type A	1x USB 3.2 Gen2x2 (20G), type C 4x USB 3.2 Gen2x1 (10G), type A 2x USB 3.2 Gen1 (5G), type A
	Audio	Mic in; Line out	Mic in; Line out	Mic in; Line out	Mic in; Line out
	Digital I/O	4x DI, 4 x DO support isolation (optional)	4x DI, 4 x DO support isolation (optional)	4x DI, 4 x DO support isolation (optional)	4x DI, 4 x DO support isolation (optional)
	GPIO	-	-	-	-
	Storage Interface	SATA HDD	2 x 2.5" HDD/SSD	4 x hot-swappable 2.5" HDD/SSD	4 x hot-swappable 2.5" HDD/SSD
mSATA		-	1 (mux with mPCIe)	1 (mux with mPCIe)	1 (mux with mPCIe)
M.2 (M-key)		1 (NVMe)	1	1	1
eMMC		-	-	-	-
SD Card		-	-	-	-
Expansion	mPCIe	-	1 (mux with mSATA)	1 (mux with mSATA)	1 (mux with mSATA)
	M.2	1 x M.2 E-key, 2 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key
	SIM	2	3	3	3
	PCI/ PCIe	3xPCIe slot(2 configuration: 1 x PCIe x16 + 1 x PCIe x4 or 2 x PCIe x8 + 1 x PCIe x4, auto-detect)	7 x PCIe slots (1 x PCIe Gen4 x16 + 3 x PCIe Gen3 x4 + 2 x Gen3 x1 or 2 x PCIe Gen4 x8 + 3 x PCIe Gen3 x4 + 2 x PCIe Gen3 x1)	5 x PCIe slots (1 x PCIe Gen4 x16 + 3 x PCIe Gen4 x4 or 2 x PCIe Gen4 x8 + 3 x PCIe Gen4 x4, auto detect)	4 x PCIe Gen4 slot (1 x PCIe x16 + 2 x PCIe x4 or 2 x PCIe x8 + 2 x PCIe x4, auto-detect)
	MXM	-	-	-	-
Power Supply	DC Input	8-48V DC	8-48V DC	8-48V DC	8-48V DC
	Ignition Control	Integrated	Integrated	Integrated	Integrated
Environmental	Operating Temp.	-25~60°C with 35W CPU -25~50°C with 65W CPU	-20~60°C with 35W CPU -20~55°C with 65W CPU	-20~60°C with 35W CPU -20~55°C with 65W CPU	-20~60°C with 35W CPU -20~55°C with 65W CPU
	Certification	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI
	Shock & Vibration	MIL-STD 810H	MIL-STD 810H	MIL-STD 810H	MIL-STD 810H, and 5-500 Hz; 3+ Grms

Edge AI Computers



Model name		PE3100G	PE3000G	PE5101D	
Case	Dimension	240 x 230 x 125.7 mm wo external Fan Kit 240 x 230 x 180 mm w/ external fan kit	240 x 230 x 125.7 mm	242 x 241.4 x 137mm	
System	Processor	Intel® Core™ i7-13800HE Intel® Core™ i5-12600HE Intel® Core™ i5-13600HE	Intel® Core™ i7-12800HE Intel® Core™ i5-12600HE Intel® Core™ i3-12300HE	Intel® 14th/13th/12th Gen Core™ CPU Intel® Core™ i9-14900T Intel® Core™ i7-14700T Intel® Core™ i5-14500T Intel® Core™ i3-14100T	
	Chipset	-	-	R680E	
	Graphics	Intel® Iris® Xe Graphics eligible (i7/i5)	Intel® Iris® Xe Graphics eligible (i7/i5) Intel® UHD Graphics (i3)	Intel® UHD Graphics 770	
	Memory	2x SO DIMM, up to 64GB DDR5 SDRAM	2x SO DIMM, up to 64GB DDR5 SDRAM	2 x SO-DIMM (supports DDR5 ECC/ non-ECC, up to 4800 MHz, max. 64GB)	
I/O Interface	PoE	3x IEEE 802.3at (25.50 W) by Intel® I226-IT (2.5 GbE) ; 1x IEEE 802.3at (25.50 W) by Intel® I219-LM (1 GbE)	3x IEEE 802.3at (25.50 W) by Intel® I226-IT (2.5 GbE) ; 1x IEEE 802.3at (25.50 W) by Intel® I219-LM (1 GbE)	-	
	Ethernet	3x Intel® I226-IT (2.5 GbE) 1x Intel® I219-LM (1 GbE)	3x Intel® I226-IT (2.5 GbE) 1x Intel® I219-LM (1 GbE)	3 x Intel® i226-IT (2.5 GbE)	
	Display Port	2x HDMI 1.4 2x DP ++ 4x DP* <small>* The four DP ports are only functional when supported by an optional MXM GPU module</small>	2x HDMI 1.4 2x DP ++ 4x DP* <small>* The four DP ports are only functional when supported by an optional MXM GPU module</small>	1x HDMI 2x DP	
	Serial Port	2x COM: RS-232/ 422/ 485, DB9 2x COM: RS 232, DB9 (optional)	2x COM: RS-232/ 422/ 485, DB9 2x COM: RS 232, DB9 (optional)	2x COM: RS-232/422/485 4x COM: RS-232	
	USB 2.0	1x USB 2.0, type A	1x USB 2.0, type A	2 x USB 2.0, type A	
	USB 3.2/ 3.1	3x USB 3.2 Gen2 x1 (10 G), type A	3x USB 3.2 Gen2 x1 (10 G), type A	6 x USB 3.2 Gen 2 (10Gbps) 2 x USB 3.2 Gen 1 (5Gbps)	
	Audio	Mic in; Line out	Mic in; Line out	Mic in; Line out	
	Digital I/O	4x DI, 4 x DO support isolation	4x DI, 4 x DO support isolation	4x DI, 4 x DO support isolation (optional)	
	GPIO	-	-	-	
	Storage Interface	SATA HDD	2 x hot-swappable 2.5" HDD/SSD	2 x hot-swappable 2.5" HDD/SSD	2 x hot-swappable 2.5" HDD/SSD
		mSATA	-	-	-
M.2 (M-key)		1 (NVMe)	1 (NVMe)	1 (NVMe)	
eMMC		-	-	-	
SD Card		-	-	-	
Expansion	mPCIe	1	1	1	
	M.2	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	
	SIM	2	2	2	
	PCI/ PCIe	-	-	1 x PCIe16 + 1 x PCIe4	
	MXM	1 (type A, type B)	1	-	
Power Supply	DC Input	8-48V DC	8-48V DC	8-48V DC	
	Ignition Control	Integrated	Integrated	Integrated	
Environmental	Operating Temp.	-20~60°C <small>(TBD for Type B sku, due to the different TGP specifications of Type B MXM GPU module)</small>	-20~60°C with 45W CPU and 60W MXM GPU module	-20~60°C	
	Certification	CE, FCC, CB, BSMI, UKCA, CE-LVD	CE, FCC, CB, BSMI	CE, FCC, UKCA, BSMI, CB, CCC	
	Shock & Vibration	MIL-STD 810H, and 5-500 Hz; 5 Grms	MIL-STD 810H, and 5-500 Hz; 5 Grms	MIL-STD 810H, and 5-500 Hz; 3+ Grms	

Rugged Edge Computers



Model name		RUC-1000D	PE5100D	PE2300U	PE2200U	PE2100U	
Case	Dimension	220 x 260 x 85 mm	242 x 241.4 x 79mm	254 x 147 x 57 mm	254 x 147 x 57 mm	254 x 147 x 57 mm	
System	Processor	Intel® Core™ Ultra 9/7/5 processor (LGA1851)	Intel® 14th/13th/12th Gen Core™ CPU Intel® Core™ i9-14900T Intel® Core™ i7-14700T Intel® Core™ i5-14500T Intel® Core™ i3-14100T	Intel® Core™ Ultra 7/5 processor (BGA)	Intel® Core™ Ultra processor 100U series	Intel® Core™ i7-1365UE Intel® Core™ i5-1345UE Intel® Core™ i3-1315UE	
	Chipset	W880	R680E	-	-	-	
	Graphics	Intel® Xe LPG Graphics Architecture	Intel® UHD Graphics 770	Intel® Xe LPG+ Graphics Architecture	Intel® Graphics	Intel® Iris® Xe Graphics eligible	
	Memory	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR5 SDRAM	2 x SO-DIMM (supports DDR5 ECC/ non-ECC, up to 4800 MHz, max. 64GB)	2 x SO DIMM, DDR5 5600 MHz, supports up to 64GB	2 x SO DIMM, DDR5 5600 MHz, supports up to 64GB	2 x SO-DIMM, DDR5 4800 MHz, supports up to 64GB	
I/O Interface	PoE	-	-	2 x Intel® i210-IT (optional)	2 x Intel® i210-IT (optional)	2 x Intel® i210-IT (optional)	
	Ethernet	2x Intel® i226-IT (2.5 GbE) 1x AQC113 (10 GbE)	3 x Intel® i226-IT (2.5 GbE)	1 x Intel® i219-LM (1 GbE) 1 x Intel® i226-IT (2.5 GbE)	1 x Intel® i219-LM (1 GbE) 1 x Intel® i226-IT (2.5 GbE)	1x Intel® i219-LM (1 GbE) 2x Intel® i210-IT (optional) 1x Intel® i225-V (2.5 GbE)	
	Display Port	1x HDMI 2x DP++	1x HDMI 2x DP	1x HDMI 1x DP	1x HDMI 1x DP	2x HDMI 1x DP	
	Serial Port	2x COM: RS-232/422/485 4x COM: RS-232	2x COM: RS-232/422/485 4x COM: RS-232	4x COM: RS-232/422/485	4x COM: RS-232/422/485	2x COM: RS-232/422/485 2x COM: RS-232	
	USB 2.0	2x USB 2.0, type A	2 x USB 2.0, type A	2 x USB 2.0, type A	2 x USB 2.0, type A	2 x USB 2.0, type A	
	USB 3.2/ 3.1	8x USB 3.2 Gen2 (10Gbps), type A	6 x USB 3.2 Gen 2 (10Gbps) 2 x USB 3.2 Gen 1 (5Gbps)	1 x USB 3.2 Gen2x2 (20G), type C 4 x USB 3.2 Gen 2, type A	1 x USB 3.2 Gen2x2 (20G), type C 4 x USB 3.2 Gen 2, type A	4 x USB 3.2 Gen 2, type A	
	Audio	Mic in; Line out	Mic in; Line out	Mic in; Line out	Mic in; Line out	Mic in; Line out	
	Digital I/O	4x DI, 4 x DO support isolation (optional)	4x DI, 4 x DO support isolation (optional)	-	1 x 8bit GPIO, DB9	1 x 8bit GPIO, DB9	
	GPIO	-	-	1 x 8bit GPIO, DB9	-	-	
	Storage Interface	SATA HDD	2 x 2.5" HDD/SSD	2 x hot-swappable 2.5" HDD/SSD	1 x 2.5" HDD/SSD	1 x 2.5" HDD/SSD	1 x 2.5" HDD/SSD
		mSATA	-	-	-	-	-
M.2 (M-key)		1 (NVMe)	1 (NVMe)	1 (NVMe)	1 (NVMe)	1 (NVMe/SATA)	
eMMC		-	-	-	-	-	
SD Card		-	-	-	-	-	
Expansion	mPCIe	-	1	-	-	1	
		1 x M.2 E-key, 2 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key	
	SIM	2	2	1	1	1	
	PCI/ PCIe	-	-	-	-	-	
	MXM	-	-	-	-	-	
Power Supply	DC Input	8-48V DC	8-48V DC	9-36V DC	9-36V DC	9-36V DC	
	Ignition Control	Integrated	Integrated	-	-	-	
Environmental	Operating Temp.	-25~70°C with 35W CPU -25~50°C with 65W CPU	-20~70°C	-20~60°C	-20~60°C	-20~60°C	
	Certification	CE, FCC, CB, BSMI	CE, FCC, UKCA, BSMI, CB, CCC	CE, FCC, CB, BSMI	CE, FCC, UKCA, BSMI, IC, CB, CCC	CE, FCC, VCCI, BSMI, RCM, UL, CB, CCC, KCC	
	Shock & Vibration	MIL-STD 810H	MIL-STD 810H, and 5-500 Hz; 3+ Grms	MIL-STD 810H	MIL-STD 810H	MIL-STD 810H	

Rugged Edge Computers



Model name		PE2000U	PE1000S	PE2100S	PE2000S	PE400D	
Case	Dimension	254 x 147 x 57 mm	56 x 110.2 x 160mm 63 x 110.2 x 160mm (PoE SKU)	254 x 147 x 57 mm	254 x 147 x 57 mm	176.6 x 210 x 250 mm	
System	Processor	Intel® Core™ i7-1265UE Intel® Core™ i5-1245UE Intel® Core™ i3-1215UE	Intel® Atom® X6425E Intel® Atom® X6413E Intel® Celeron® J6412	Intel® Atom® x7211RE Intel® Atom® x7213RE Intel® Atom® x7433RE Intel® Atom® x7835RE	Intel® Processor N97 Intel® Processor N200 Intel® Core™ i3-N305 Intel® Atom® x7425E	Intel® Core™ i9-10900E / Intel® Core™ i7-10700E Intel® Core™ i5-10500E / Intel® Core™ i3-10100E Intel® Xeon® W-1290TE	
	Chipset	-	-	-	-	W480E	
	Graphics	Intel® Iris® Xe Graphics eligible	Intel® UHD Graphics for 10th Gen Intel® Processors	Intel® UHD Graphics	Intel® UHD Graphics	Intel® UHD Graphics 630	
	Memory	2 x SO-DIMM, DDR5 4800 MHz, supports up to 64GB	1 x SO-DIMM, DDR4 supports up to 3200 MHz, max 32 GB	1x SO-DIMM, up to 16GB DDR5 SDRAM	1x SO-DIMM, up to 16GB DDR5 SDRAM	2 x SO-DIMM, up to 64GB ECC/ non-ECC DDR4 SDRAM	
	PoE	2 x Intel® i210-IT (optional)	2 x Intel® i226-IT (PoE SKU)	2x IEEE 802.3af (12.95 W) by Intel® i210-IT (1 GbE) (Optional)	2x IEEE 802.3af (12.95 W) by Intel® i210-IT (1 GbE) (Optional)	-	
I/O Interface	Ethernet	1x Intel® i219-LM (1 GbE) 2x Intel® i210-IT (optional) 1x Intel® i225-V (2.5 GbE)	2 x Intel® i226-IT (2.5 GbE)	1x Intel® i226-IT (2.5 GbE) 1x Intel® i210-IT (1 GbE) 2x Intel® i210-IT (1 GbE) (Optional)	2x Intel® i210-AT (1 GbE) 2x Intel® i210-IT (1 GbE) (Optional)	3 x Intel® i210-IT (1 GbE)	
	Display Port	2x HDMI 1x DP	1x HDMI 1x DP	1x HDMI 2.0 1x DP1.4	1x HDMI 2.0 1x DP1.2	1 x HDMI 2.0 1 x HDMI 1.4 1 x DP 1.2	
	Serial Port	2x COM: RS-232/422/485 2x COM: RS-232	1x COM: RS-232/422/485 3 x 3-wire RS-232 or 1 x RS-422/485 2 x RS-232 (optional, mux with GPIO)	2x COM: RS-232/422/485, DB9 4x COM: RS-232, DB9 2x COM: RS232 (Optional)	2x COM: RS-232/422/485, DB9 4x COM: RS-232, DB9	3x COM: RS-232/422/485, DB9 1x COM: RS-232/422/485, DB9	
	USB 2.0	2 x USB 2.0, type A	2 x USB 2.0, type A	2x USB 2.0, type A	2x USB 2.0, type A	-	
	USB 3.2/ 3.1	4 x USB 3.2 Gen 2, type A	2 x USB 3.2 Gen 2 (10Gbps) 2 x USB 3.2 Gen 1 (5Gbps)	2x USB 3.2 Gen2 (10 G), type A 2x USB 3.2 Gen1 (5 G), type A	4x USB 3.2 Gen 2 (10 G), type A	4x USB 3.2 Gen1 (5 G), type A 2x USB 3.2 Gen2 (10 G), type A	
	Audio	Mic in; Line out	-	1 x Mic in / 1 x Line out	1 x Mic in / 1 x Line out	1 x Mic in / 1 x Line out	
	Digital I/O	1 x 8bit GPIO, DB9	1 x 8bit GPIO, DB9 (optional, mux with GPIO)	1 x 8bit GPIO, DB9	1 x 8bit GPIO, DB9	4x DI, 4 x DO support isolation	
	GPIO	-	-	-	-	-	
	Storage Interface	SATA HDD	1 x 2.5" HDD/SSD	1 x 2.5" HDD/SSD (standard SKU only)	1x 2.5" HDD/SSD	1x 2.5" HDD/SSD	2 x hot-swappable 2.5" HDD/SSD
		mSATA	-	-	-	-	1 (mux with mPCIe)
		M.2 (M-key)	1 (NVMe/SATA)	1 (NVMe/SATA)	1 (SATA)	1 (SATA)	1 (NVMe/SATA)
		eMMC	-	-	-	-	-
		SD Card	-	-	-	-	-
		mPCIe	1	-	-	1	1 (mux with mSATA)
Expansion	M.2	1 x M.2 E-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key	1 x M.2 E-key	1 x M.2 E-key	
	SIM	1	1	1	1	2	
	PCI/ PCIe	-	-	-	-	3x PCIe slot *2 configuration: 1x PCIe16 + 1x PCIe4 or 2x PCIe8 + 1x PCIe4, auto-detect *Max. length<192mm; Max. 100W power supply from mainboard for total 3 slots	
	MXM	-	-	-	-	-	
	DC Input	9-36V DC	9-36V DC	9-36V DC	9-36V DC	9-36V DC	
Power Supply	Ignition Control	-	POE SKU only	-	-	-	
	Operating Temp.	-20~60°C	-25°C to 70°C -25°C to 60°C (PoE SKU)	-20~60°C	0~50°C	-20~60°C	
Environmental	Certification	CE, FCC, VCCI, BSMI, RCM, UL, CB, CCC, KCC	CE, FCC, UKCA, BSMI, CB, CCC	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE (IEC 61000-6-2/4), FCC, VCCI, RCM, BSMI, UL, CB, CCC	
	Shock & Vibration	MIL-STD 810H	MIL-STD 810H, and 5-500 Hz,5+ Grms	MIL-STD 810H, and 5-500 Hz,5 Grms	MIL-STD 810H, and 5-500 Hz,5 Grms	Vibration: 0.5 Grms, sine, 5-500 Hz (with SSD) Shock: 50 Grms, half sine, 11ms(with SSD)	

Jetson Edge Computers

Preliminary



Model name		PE2100N	PE2101N	PE1100N	PE1101N	PE1102N	
Case	Dimension	270 x 195 x 80 mm	220 x 170 x 79 mm	152 x 114 x 72 mm	130 x 90 x 72 mm	152 x 114 x 72 mm	
System	SOM	NVIDIA® Jetson AGX Orin™	NVIDIA® Jetson AGX Orin™	NVIDIA® Jetson Orin™ Nano NVIDIA® Jetson Orin™ NX	NVIDIA® Jetson Orin™ Nano NVIDIA® Jetson Orin™ NX	NVIDIA® Jetson Orin™ Nano NVIDIA® Jetson Orin™ NX	
	Chipset	8/12-core Arm® Cortex®-A78AE	8/12-core Arm® Cortex®-A78AE	6/8-core Arm® Cortex®-A78AE	8/12-core Arm® Cortex®-A78AE	6/8-core Arm® Cortex®-A78AE	
	Graphics	NVIDIA® Ampere GPU with Tensor Cores	NVIDIA® Ampere GPU with Tensor Cores	NVIDIA® Ampere GPU with Tensor Cores	NVIDIA® Ampere GPU with Tensor Cores	NVIDIA® Ampere GPU with Tensor Cores	
	Memory	on-board, up to 64GB LPDDR5	on-board, up to 64GB LPDDR5	on-board, up to 16GB LPDDR5	on-board, up to 16GB LPDDR5	on-board, up to 16GB LPDDR5	
	PoE	4 x 10/100/1000 Mbps, RJ45 (optional)	4 x 10/100/1000 Mbps, RJ45 (optional)	-	-	-	
I/O Interface	Ethernet	1 x 10/100/1000 Mbps, RJ45 1 x 10 Gbps, RJ45	1 x 10/100/1000 Mbps, RJ45 1 x 10 Gbps, RJ45	2 x 10/100/1000 Mbps, RJ45	1 x 10/100/1000 Mbps, RJ45	2 x 10/100/1000 Mbps, RJ45	
	Display Port	1 x HDMI	1 x HDMI	1x HDMI	1 x HDMI	1x HDMI	
	Serial Port	1 x DP9: RS-232 1 x DP9: RS-422/485 2 x DP9: CAN bus	1 x DP9: RS-232 1 x DP9: RS-422/485 2 x DP9: CAN bus	2 x DP9: RS-232/422/485 1 x DP9: CAN bus	1 x DP9: CAN bus	1 x DB25 : RS-232/422/485 & CAN bus	
	USB 2.0	1 x USB 2.0, Type-C for OS Flash	1 x USB 2.0, Type-C for OS Flash	1 x USB 2.0, Micro-USB for OS Flash	1 x USB 2.0, Type-C for OS Flash	1 x USB 2.0, Micro-USB for OS Flash	
		1 x USB 2.0, DP15 (in GPIO)	1 x USB 2.0, DP15 (in GPIO)	2 x USB 2.0, Pin Header (Internal)	-	2 x USB 2.0, Pin Header (Internal)	
	USB 3.2/ 3.1	1 x USB 3.2 Gen2 (10Gbps), Type-C 2 x USB 3.2 Gen1 (5Gbps), Type-A	1 x USB 3.2 Gen2 (10Gbps), Type-C 2 x USB 3.2 Gen1 (5Gbps), Type-A	3 x USB 3.2 Gen1 (5Gbps), Type-A	2 x USB 3.2 Gen2 (10Gbps), Type-A	3 x USB 3.2 Gen1 (5Gbps), Type-A	
	Audio	Line-out/Line-in/Mic (optional)	Line-out/Line-in/Mic (optional)	-	-	-	
	Digital I/O	-	-	4 x DI, 4 x DO (2x5 Terminal Block, w/ isolation)	-	4 x DI, 4 x DO (2x5 Terminal Block, w/ isolation)	
	GPIO	1 x DP15: I2C/SPI/USB 2.0 1 x DP15: GPIO/UART	1 x DP15: I2C/SPI/USB 2.0 1 x DP15: GPIO/UART	-	1 x DP9: GPIO/I2C/UART	-	
	Storage Interface	SATA HDD	-	-	-	-	-
		mSATA	-	-	-	-	-
		M.2 (M-key)	1 (NVMe)	1 (NVMe)	1 (NVMe)	1 (NVMe)	1 (NVMe)
		eMMC	32G/64G	32G/64G	-	-	-
		SD Card	1 x Micro SD	1 x Micro SD	-	-	-
mPCIe		-	-	-	-	-	
Expansion	M.2	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key, 1 x M.2 B-key	1 x M.2 E-key	1 x M.2 E-key, 1 x M.2 B-key	
	SIM	1	1	2	-	2	
	PCI/ PCIe	-	-	-	-	-	
	MXM	-	-	-	-	-	
	Others	1 x OOB	1 x OOB	1 x AEM (LAN)	-	1 x AEM (GSML or OOB or LAN)	
Power Supply	DC Input	12 to 36 VDC	12 to 36 VDC	12-24V DC	12 to 24 VDC	12 to 36V DC	
	Ignition Control	-	-	-	-	Integrated	
Environmental	Operating Temp.	-25 ~ up to 55°C	-25 ~ up to 70°C	-25 ~ up to 60°C	-25 ~ up to 55°C	-25 ~ up to 60°C	
	Certification	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	CE, FCC, CB, BSMI	
	Shock & Vibration	MIL-STD 810H, and 5-500 Hz, 3 Grms	MIL-STD 810H, and 5-500 Hz, 3 Grms	5-500 Hz, 3 Grms	MIL-STD 810H, and 5-500 Hz, 3 Grms	5-500 Hz, 3 Grms	

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