ADLINK
LEADING EDGE COMPUTING

PIONEERING EDGE AI FOR A SMARTER FUTURE

ADLINK Edge Computing Platforms Catalog 2024

ABOUT ADLINK

ADLINK is a global leader in edge computing. Our offerings include robust boards, real-time data acquisition solutions, and application enablement for AIoT. We're a Premier Member of the Intel® IoT Solutions Alliance, a partner of NVIDIA, and a contributor to standards initiatives such as OCP, OMG, and ROS 2 TSC. **www.adlinktech.com**

Edge Computing Platforms Catalog 2024

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Evolving with Edge AI Computing

The Ultimate Blend of Performance and Efficiency

ADLINK Edge Computing Platforms Business Unit excels in providing advanced industrial computing solutions and integration services. Our offerings include innovative hardware and rapidly deployable Edge platforms with embedded software, featuring smart, secure, and energy-efficient designs. Tailored for sectors like new energy, factory automation and intelligent transportation, our solutions ensure seamless interoperability and enhanced performance, enabling swift adaptation in dynamic markets. This strategic approach reduces development time and costs, boosting operational efficiency and competitive advantage.

Partner Collaboration for Extensive Edge Computing Platforms

ADLINK collaborates extensively with top industry leaders such as Intel, NVIDIA, and Arm to enhance our Edge Computing platforms. This partnership ensures we offer the most advanced and comprehensive range of products, integrating the latest technologies to meet the diverse needs of our clients.

Flexible Peripheral Module Integration

ADLINK offers a comprehensive suite of modules for system integration, featuring I/O expansion, AI acceleration modules, SSDs, memory, and wireless solutions. We have expanded our portfolio to include the Adaptive Function Module (AFM), a unique technology that allows for rapid, tailored deployment across various applications. This innovation enables clients to seamlessly integrate the specific functionalities they need, ensuring quick adaptation and enhanced performance in their solutions.

Thermal Optimization Design

Optimized AI Solutions Development

ADLINK provides flexible heterogeneous computing platforms designed to deliver tailored AI solutions. By integrating advanced CPUs, GPUs, FPGAs, and ASICs, these platforms allow users to efficiently optimize their system architectures. This strategic approach ensures that application requirements are met with precision while achieving the desired return on investment (ROI) objectives.

Edge Platform Software

- Embedded BIOS
- Embedded LTS OS (Long-Term Support OS)
- SEMA/SW-SEMA Edge Sensing APIs

Edge AI Development Suite

- GUI-based AI Pipeline Studio
- Abundant ready-to-use plugins
- Supports simultaneous use of hybrid AI inference engines in a pipeline
- Supports over 10 camera protocols
- Optimized AI models

Industrial Computers

Fanless Embedded Computers

IIoT Gateways

Robotics Controllers

Edge AI Platforms

Complete AI Modules Support

Configuration to Order Services

Function Modules Design

SSDs, Wireless Modules

Perception Design-In Services

- Compatible with ROS 2 and its ecosystem
- Facilitates real-time sensor fusion via frame sync
- Validation for 10+ popular brand cameras and LiDARs
- AI enablement with various GPU options
- Customized BSPs support Ubuntu OS and Jetpack SDK

EdgeGO®- Remote Device Management Software

- Device Management
- Real-time Notifications
- Package Deployment
- Customized Dashboard
- Edge Security
- Exclusive ADLINK Features

Embedded Software Services

Rapid Deployment: Streamlined Edge Platforms with ADLINK Software Services

Edge Platform Software

ADLINK offers edge software services for customers integrating their own edge computing platforms and hardware. These services include embedded BIOS, Long-Term Support OS, and edge sensing APIs, which provide immediate hardware monitoring information. These services streamline design, reduce project complexity, and accelerate product development.

- Embedded BIOS
- Embedded LTS OS (Long-Term Support OS)
- SEMA/SW-SEMA Edge Sensing APIs

Edge AI Development Suite

EVA is designed to simplify the development of optimized edge AI applications by enabling seamless integration with ADLINK AI hardware. It offers ready-to-use open-source plugins for image processing, AI inference, and analytics. With the built-in EVA SDK, developers can accelerate the deployment of AI applications in heterogeneous edge computing environments.

- GUI-based AI Pipeline Studio
- Abundant ready-to-use plugins
- Optimized AI models
- Supports simultaneous use of hybrid AI inference engines in a pipeline
- Supports over 10 camera protocols

Perception Design-In Services

ADLINK offers comprehensive integration design-in services for edge perception systems, artificial intelligence, sensors, and robotic peripherals, aiming to expedite robot development for their customers.

- Compatible with ROS 2 and its ecosystem
- Facilitates real-time sensor fusion via frame sync
- Validation for 10+ popular brand cameras and LiDARs
- AI enablement with various GPU options
- Customized BSPs support Ubuntu OS and Jetpack SDK

EdgeGO®- Remote Device Management Software

EdgeGO® by ADLINK is a dynamic, edge-native platform that streamlines the management and operation of edge devices across diverse environments. With a focus on rapid deployment and user-friendly operation, EdgeGO® encapsulates scalability and security within its intuitive design. It extends comprehensive remote device management capabilities, from real-time notifications to secure onboarding. The platform's customizable interface boasts proprietary ADLINK technologies like Smart Embedded Management Agent (SEMA) integration and SSD lifespan estimation, enhancing its utility for edge applications. EdgeGO® emerges as a pivotal solution for creating and maintaining advanced embedded systems, ready to meet the evolving demands of the IoT landscape.

Remote Device Management Software for All Edge Devices

Device Management

- Secure device onboarding
- Remote desktop and web terminal
- Remote script execution

Real-time Notifications

- Event monitoring with customizable trigger values
- Alerts by choice of platform (Email, LINE, Teams, etc.)
- User-set thresholds for CPU, memory, storage usage warnings, and more.

Script and Package Deployment

- Run scripts and packages on remote devices
- Reuse and manage scripts and packages in the server repository

Customizable Dashboard

- Customizable interface, statistics, and charts
- Can upload custom data to the integrated database

Edge Security

- Secure connections between server and agents
- Flexible role-based access control in a single portal
- USB port block prevents malware spreading

Exclusive ADLINK Features

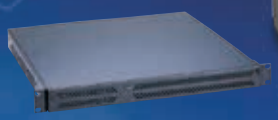
- Smart Embedded Management Agent (SEMA) integration
- ASD+ SSDs lifetime estimation

Industrial PCs, Motherboards & SBCs

Industrial Grade, Advanced Performance, and High Flexibility

- Industrial-Grade Materials
- Tested and Validated
- Long Product Lifecycle
- CE, FCC, UL Certification

/// Chassis



1U Rackmount

4U Rackmount

Wall-mount

/// IPC Systems

Embedded Value Platforms

Industrial Automation Platforms

/// Mainboards

3.5" SBC

Mini-ITX

PICMG® 1.3 SBC

ATX

Highlights

Advanced Hardware Design

- Precision engineering ensures longevity
- Anti-vibration for durability
- Enhanced cooling for optimal performance
- Low noise output at 45dB

Application-Oriented Solution

- Wide range of in-house I/O cards
- Full GPU compatibility
- Includes EdgeGO® for remote management
- CTOS for specific industry needs

Robust Testing and Design

- Anti-vibration testing
- Dust-resistant design
- Stress burn-in tests
- High-temperature operation: 0 to 60°C

Top Safety Certifications

- Conforms to CE and FCC standards
- UL certified
- RoHS certified

Applications

Industrial Automation

Warehouse

Smart Manufacturing

New Energy

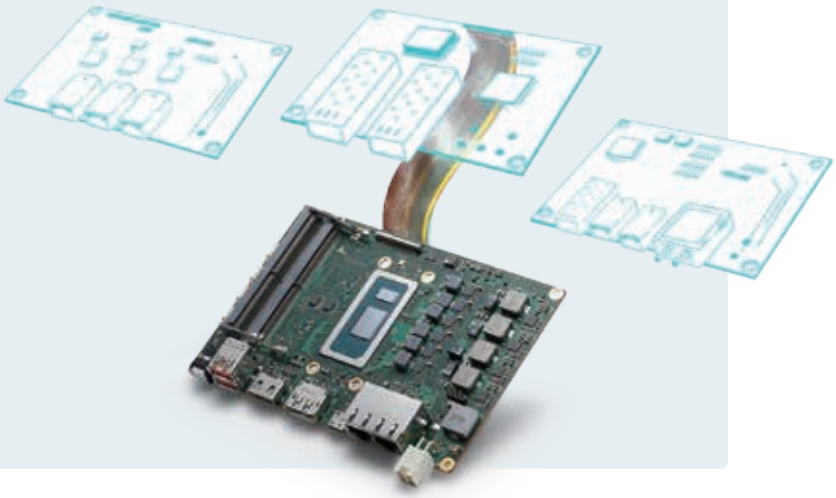
ADLINK's Industrial PCs, Motherboards, and single-board computers (SBCs) deliver top-grade durability, cutting-edge performance, and versatile adaptability. Designed to meet the demanding needs of continuous and reliable operation, these products now include a new line of IPC systems, expanding ADLINK's robust offerings. Ideal for sectors requiring dependable and uninterrupted functioning, these components offer expansive customization options, ensuring seamless integration for industrial automation, retail and logistics, new energy, healthcare, and smart city projects.

The range includes various form factors and is engineered to meet rigorous standards, underscoring ADLINK's commitment to quality and innovation in industrial computing solutions.

Unleash Infinite Possibilities with SBC35-FM

Engineered for Customizable Expansion and Robust Performance

- Universal Compatibility: Seamless integration with all SBC35 series.
- Rich I/O Expansion: Supports PCIe, USB, LPC, and dual voltage options.
- Flexible Configuration: Allows vertical stacking and parallel linking.
- Customizable Modules: Standard and tailored options for diverse needs



Application Stories

Automate Smart Logistics

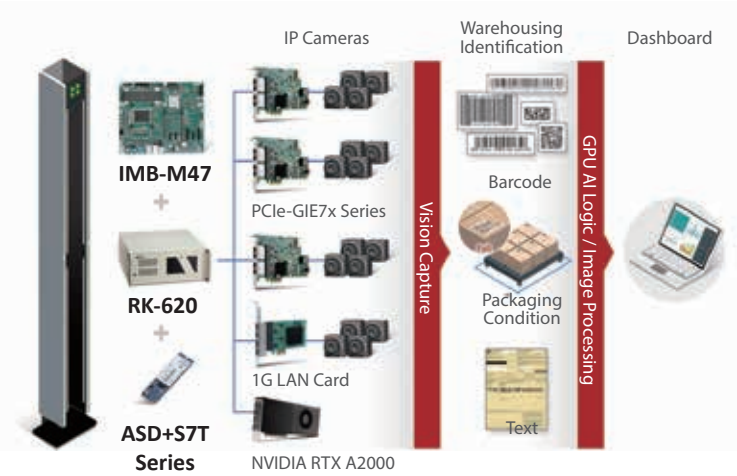
E-commerce booming has called for increased demands on logistics agility and cost-efficiency. ADLINK's IMB-M47, with AI image processing and high-res camera support, streamlines this via powerful Intel processors and fast data throughput. Its scalable design fits diverse logistics needs, ensuring rapid, smart supply chain transformation.

Challenges & Requirements

- Efficient AI image processing with multiple edge camera deployment.
- Growing need for image tech in smart logistics.
- Swift logistics data retrieval for real-time display and client alerts.

Solution & Insight

- IMB-M47 powers smart warehouses and enables 16-camera control towers for efficient cargo verification.
- IMB-M47 excels with ample PCIe slots and fast data transfer, a top choice for SIs.
- IMB-M47 enables real-time AI with PCIe 5.0, DDR5, and network enhancements, boosting logistics accuracy.



Die Bonding Machine

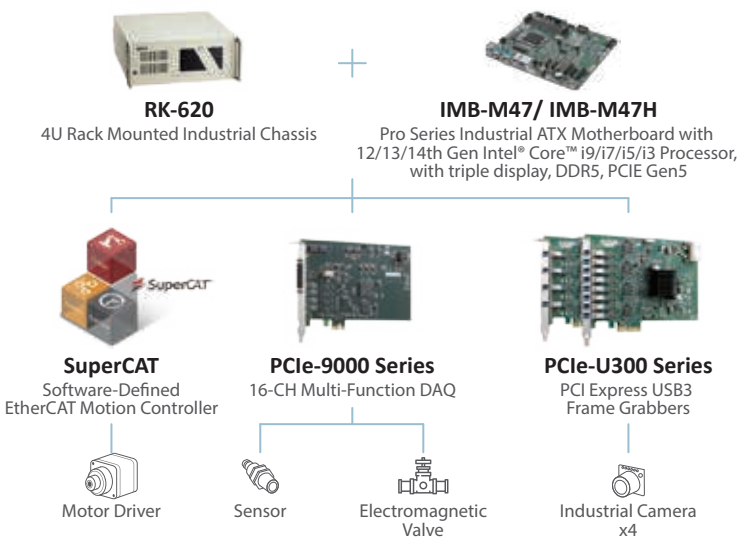
The semiconductor industry relies on specialized machines for bonding, molding, and forming. Integrated production lines cater to microelectronics and optoelectronics. Global supply chain issues impact equipment makers, affecting the availability of critical commodities. Ensuring reliability is vital, as consumer-grade components may not meet stringent requirements, leading to potential RMA support needs.

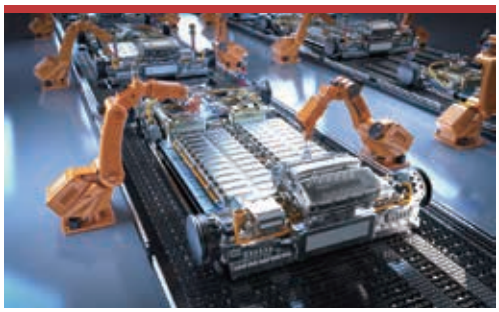
Challenges & Requirements

- The robots should be able to issue visual, audio, and smoke warnings to suspicious individuals and apprehend perpetrators.
- The robot should be able to patrol public areas and address potential threats automatically. Plus, it should be able to react quickly.

Solution & Insight

- The RQP-T37 enables complex tasks like facial recognition and object detection and can also facilitate real-time data processing for quick decision-making.
- The RQP-T37 is a compact and energy-efficient device that significantly reduces power consumption in security robots.





Intelligent Electric Vehicle Battery Manufacturing

Precision and efficiency are paramount in the dynamic EV battery manufacturing process. Comprising three main production stages and twelve key processes, meticulous attention to detail is essential. ADLINK's solution meets stringent safety and performance requirements through real-time quality monitoring and process optimization, facilitating seamless automated integration. Achieve reliability and efficiency with ADLINK in the competitive EV battery manufacturing landscape.

Industrial Computers

RK-620
4U Rackmount Chassis

IMB-M47/M47H
Pro Series ATX Motherboard Based on 14/13/12th Gen Intel® Core™ Processors

IMB-C47/C47H
Value Series ATX Motherboard Based on 14/13/12th Gen Intel® Core™ Processors

NuPRO-E47
1.3 Full-size SBC Based on 14/13/12th Gen Intel® Core™ Processors

ADLINK Off-the-Shelf Expansion I/O Cards and Software

AI Vision Solution

PCIe-GIE74P
4-ch GigE PoE+ Frame Grabbers

NVIDIA GPU
PCIe Graphic Card

Euresys Open eVision
Image analysis software

Motion Control Solution

SuperCAT Motion Controller
PC-based controller with soft EtherCAT

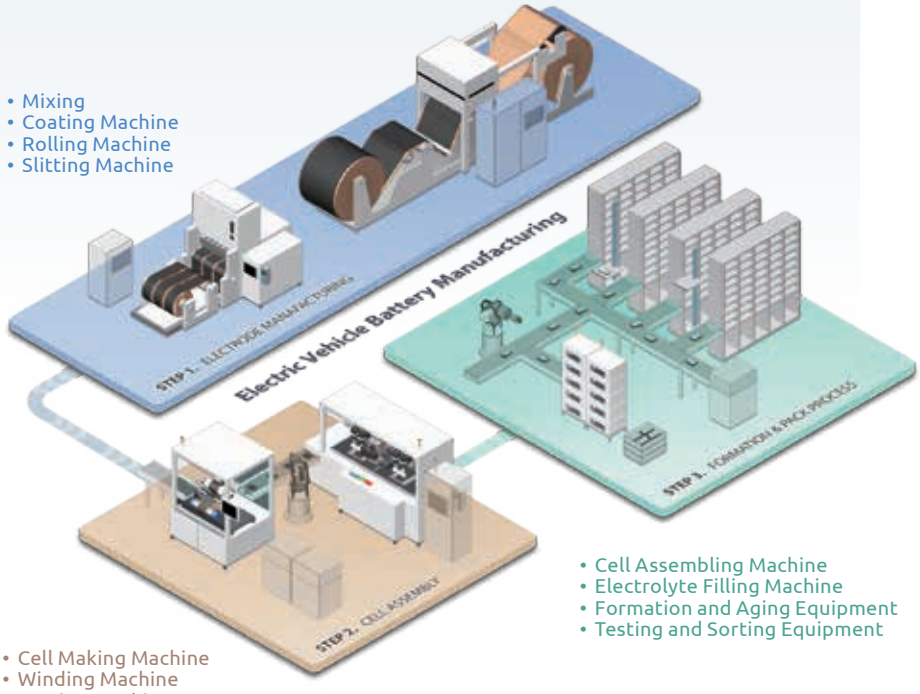
ECAT-TRG4
4-ch EtherCAT high-speed trigger

Challenges & Requirements

- Seamless integration in complex manufacturing setups needs high interoperability.
- Essential maintenance and stringent measures are vital for robust data security.
- Durable and stable IPCs are essential for reliable, uninterrupted manufacturing operations.

Solution & Insight

- Streamlines the supply chain by offering a full suite from IPCs to expansion cards, reducing incompatibility issues.
- Features a rugged, durable design for enhanced longevity in demanding environments.
- Provides comprehensive after-sale support, enabling customers to focus on software and process optimization.



- Mixing
- Coating Machine
- Rolling Machine
- Slitting Machine

- Cell Making Machine
- Winding Machine
- Cutting Machine
- Stacking Machine

- Cell Assembling Machine
- Electrolyte Filling Machine
- Formation and Aging Equipment
- Testing and Sorting Equipment

IPC Systems

NEW

NEW

Type		IAP Series			
Model		IAP-M47-4U		IAP-E47-4U	
Sku		Pre-configured	Barebone	Pre-configured	Barebone
Processor System	CPU	Intel® Core™ i9-12900E	Intel® 12/13/14th Gen, up to 125W (Client assembly)	Intel® Core™ i9-12900E	Intel® 12/13/14th Gen, up to 125W (Client assembly)
	Chipset	Q670			
	Memory	2x DDR5 4800 non-ECC 8GB	4x 288-pin DIMM Non-ECC DDR5, (depends on CPU and DRAM), up to 128GB (Client assembly)	2x DDR5 4800 non-ECC 8GB	2x 288-pin DIMM Non-ECC DDR5, (depends on CPU and DRAM), up to 64GB (Client assembly)
	OS Support	Windows 10/11 IoT, Linux			
Display	VGA	1x VGA connector (rear I/O), resolution up to 1920 x 1200@60Hz			
	HDMI	1x HDMI connector (rear I/O), resolution up to 4096 x 2160@60Hz			
	DisplayPort	1x DP++ connector (rear I/O), resolution up to 4096 x 2160@60Hz		-	
	DVI-D	-		1x DVI-D via onboard pin header, resolution up to 1920 x 1200 @ 60Hz	
	No. of Displays	Triple Displays			
Ethernet	Gbe Port	3		2	
	Controller/ Frequency	Intel® I226 V/LM (2.5 GbE)		Intel® I225-V/LM (2.5 GbE)	
I/O Interfaces	USB	5x USB 3.2 Gen2, 1x USB 3.2 Gen2x2 (Type C) 2x USB 3.1 via header, 2x USB 2.0 via header, 2x vertical USB 2.0 connectors		3x USB 3.2 Gen 2x1 ports (10Gbps) on rear I/O 6x USB 3.2 Gen 1x1 via onboard box headers 1x USB 3.2 Gen 1x1 vertical type A, 4x USB 2.0 to backplane	
	Serial Ports	2x RS-232/422/485 (rear I/O) 4x RS-232 pin headers		2x RS-232 via onboard 2.0 pitch box header 2x RS-232/422/485 with auto flow control via onboard 2.0 pitch box header	
	M.2	1x M.2 (Key M, up to 25110) with PCIe x4 Gen4 1x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi 1x M.2 (Key B, 3042/3052) with PCIe x1, USB 3.2 Gen1, USB 2.0 and SIM 1x SIM socket connected to M.2 Key B		1x M.2 M-Key, 2280, support PCIe Gen 4 x 4	
	SATA	8		8	
	GPIO	8x GPI, 8x GPO (shared with LPT header)		1x box header for 8-bit in and 8-bit out	
	Expansion Slots	2x PCIe x16 slots (Gen5, single x16 card in PCIE1, or two x8 cards in PCIE 1 and PCIE4, PCIE1 supports riser card x8/x8) 2x PCIe4.0 x4 3x PCIe3.0 x1		1x PCIe4.0 x16 3x PCIe3.0 x4 7x PCI	
	TPM	Yes			
	Dimension	427 mm (W) x 177 mm (H) x 447.9 mm(D)			
	Power Supply	500W, 600W, 750W, 1200W			
	Operating Temperature	0°C to 40°C (32°F to 104°F) Add-on cards depend on the spec sheet thermal			
	Vibration Operating	OP: 5-500 Hz, 1 Grams Non-OP: 5-500 Hz, 2 Grams			
	Shock Operating	OP shock test: 20 G, 11m duration			
Certification	EMC	CE and FCC class B			
	Safety	UL 62368-2 IEC-62368-1:2014,EN 62368-1:2014/A11:2017,BS EN-62368-1:2014+A11:2017			

NEW

Type		EVP Series	
Model		EVP-1000-E4	
Sku		Pre-configured	Barebone
Processor System	CPU	Intel® Core™ i9-12900E	Intel® 12/13th Gen, up to 65W(Client assembly)
	Chipset	Q670	
	Memory	1xDDR5 4800 no-ECC SODIMM	2x DDR5 4800 non-ECC SO-DIMMs, up to 64GB (Client Assembly)
	OS Support	Windows 10/11 IoT, Linux	
Display	VGA	-	
	HDMI	-	
	DisplayPort	2x DP1.2++ (rear I/O), resolution up to 4096 x 2304 @60 Hz	
	DVI-D	-	
	No. of Displays	Dual Displays	
Ethernet	Gbe Port	2	
	Controller/ Frequency	2x Intel® i225-IT (2.5 GbE)	
I/O Interfaces	USB	4x USB 3.2 Gen 2x1 ports (Rear IO)	
	Serial Ports	1 x RS-232 (Rear IO)	
	M.2	2 x M.2 M-Key 2280, support PCIe Gen 4 x 4	
	SATA	2	
	GPIO	-	
	Expansion Slots	1 x PCIe x4 on PCIe x8 slot	
	TPM	Yes (TPM 2.0, Infineon SLB9670/ Nuvoton co-lay)	
	Dimension	254 (W) x 229.3 (D) x 44.4 (H) mm	
	Power Supply	24V (+/- 10% tolerance)	
	Operating Temperature	0°C to 50°C (32°F to 122°F) Add-on cards depend on the spec sheet thermal	
	Vibration Operating	OP: 5-500 Hz, 1 Grams Non-OP: 5-500 Hz, 2 Grams	
	Shock Operating	OP shock test: 20 G, 11m duration	
Certification	EMC	CE and FCC Class A	
	Safety	EN 62368-1:2014+A11:2017	

3.5” SBC


NEW


NEW

Model		SBC35-RPL	SBC35-ALN
Processor System	CPU	Intel® Core™ i7/i5/i3 processor	Intel® N97 Processor, 4-cores, 3.6GHz, 12W
	Memory	2x DDR5 SO-DIMMs 4800MHz, up to 64GB	1x DDR5 SO-DIMMs, up to 4800MHz, up to 32GB
	OS Support	Windows® 10/11 (64bit) Ubuntu 22.04 (Support by project)	Windows® 10/11 (64bit) Ubuntu 22.04 (Support by project)
Display	VGA	-	-
	HDMI	1	1
	DisplayPort	1	1
	LVDS/ eDP	1 (co-lay LVDS by option)	1 (co-lay, eDP by option)
	Type-C	1	-
	No. of Displays	4	3
Ethernet	Gbe Port	2	2
	Controller/ Frequency	1x Intel® I219-V, 1Gbps/ 100Mbps / 10Mbps 1x Intel® I225-V, 2.5Gps / 1Gbps/ 100Mbps / 10Mbps	2x Intel® i210IT, 1Gbps/ 100Mbps / 10Mbps
I/O Interfaces	USB	2x USB 3.2 Gen 2x1 ports (10Gbps) (rear I/O) 2x USB 2.0 via headers	1x USB 3.2 Gen 2x1 ports (10Gbps) (rear I/O) 3x USB 2.0 (rear I/O) 1x USB 2.0 via header
	USB Type-C	1x USB TYPE-C (USB 3.2, DP, Power delivery 5V, 3A)	-
	COM	2x RS-232/422/485 pin headers 2x RS-232 pin headers	1x RS-232/422/485 (rear I/O) 1x RS-232/422/485 DB9 or box header by BOM option 2x RS-232 through 40pin box header
	Serial ATA	1x SATA 6Gb/s ports w/ 5V SATA power	1x SATA 6Gb/s ports w/ 5V SATA power
	Audio	Realtek ALC888S 1x line-in, 1x line-out, MIC-in	Realtek ALC888S 1x line-in, 1x line-out, MIC-in
	Expansion Slots	M.2 2280 M Key (PCIe x4) M.2 2230 E Key (PCIe x1, USB 2.0) M.2 3042 B-key (USB 3.0/2.0)	M.2 2280 M Key (PCIex2) M.2 2230 E Key with (Wi-Fi(PCIex1), BT(USB2.0) M.2 3042 B-key (USB3.0/2.0) w/ SIM card
	TPM	Yes (TPM 2.0, option)	Yes (TPM 2.0, option)
	DI/ DO	8 DI and 8 DO	8 DI and 8 DO
FM board expansion	PCIex1	1	1
	PCIe x4	1	-
	USB 3.0/2.0	1	USB2.0 x1
	LPC	Yes	Yes
Mechanical and Environmental	Dimension	5.75" x 4" (146mm x 102mm)	5.75" x 4" (146mm x 102mm)
	Operating Temperature	0 to 60 °C Fanless, reserve 4-pin smart fan connector (12V) for 28W SKU.	0 to 60 °C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C
	Power Supply	12V-24V Reserve DC JACK connector (option)	12V-24V Reserve DC JACK connector (option)
	ESD	Contact +/-8 KV, Air +/-12 KV	Contact +/-4K, Air +/- 8K
Certification		CE & FCC Class B	CE & FCC Class B

Mini-ITX


NEW


NEW

Model		AmITX-RL-I	AmITX-ALN	AmITX-CF-I
Processor System	CPU	12/13/14th Gen Intel® Core™ i9/i7/i5/i3 Processor, up to 65W	Intel® Alder Lake N SoC (N97), max speed up to 3.6GHz, 12W	8/9th Gen Intel® Core™ i7/i5/i3 and Intel® Pentium®/Celeron® Processor, up to 65W
	Socket	LGA 1700	-	LGA 1151
	Chipset	Q670	-	Q370/H310
	Memory	2x DDR5 SO-DIMMs 4800/5600MHz, up to 64GB, non-ECC	1x DDR4 SO-DIMMs 3200MHz, up 16GB, non-ECC	2x DDR4 SO-DIMMs 2400/2666 MHz, up to 32GB (dependent on CPU), non-ECC
	OS Support	Windows® 10/11 64-bit Ubuntu 22.04.4 LTS 64-bit	Windows® 10/11 64-bit Ubuntu 22.04.4 LTS 64-bit	Windows® 10 64-bit Fedora 30 64-bit Ubuntu 18.10 LTS 64-bit
Display	VGA	-	-	-
	HDMI	1x HDMI 2.0b 1x HDMI 1.4b	1x HDMI 2.0b	1x HDMI 1.4b
	DisplayPort	1x DP 1.4a	1x DP 1.4a	1x DP 1.2
	LVDS/eDP	1	1	1
	DVI	-	-	1
	No. of Displays	4	3	3
Ethernet	Gbe Port	2	2	2
	Controller/ Frequency	1x 2.5 GbE (via i226V) 1x GbE (via i219LM)	2x 2.5GbE (RTL8125BG)	2x GbE (RTL8111G)
Storage	SATA	4	1	Q370: 4, H310: 2
	RAID	Intel SW RAID 0/1/5/10	-	Q370: Intel SW RAID 0/1/5/10 H310: N/A
	mSATA	-	-	-
I/O Interfaces	USB	4x USB 3.2 Gen2, 2x USB 2.0 (rear I/O) 2x USB 3.2 Gen1, 2x USB 2.0 (via headers)	1x USB 3.2 Gen2, 1x USB 3.2 Gen1, 2x USB 2.0 (rear I/O) 3x USB 3.2 Gen1, 4x USB 2.0 (via headers)	4x USB 3.1 Gen2 connectors (rear I/O) (H310: USB 3.1 Gen1) 2x USB 3.1 Gen1 (via headers) (H310: not available) 2x USB 2.0 (via headers)
	COM	2x RS-232/422/485 (rear I/O) 2x RS-232 (via headers)	2x RS-232/422/485 (via headers) 4x RS-232 (via headers)	1x RS-232/422/485 (rear I/O) 4x RS-232 pin (via headers)
	PS/2	-	-	-
	Audio	Realtek® ALC897; 1x Mic-in, 1x Line-out	Realtek® ALC897; 1x Mic-in, 1x Line-out	Realtek® ALC892 1x Mic-in, 1x Line-out, 1x Line-In
	GPIO	8-bit	8-bit	8-bit
	TPM	TPM 2.0 onboard IC	1x TPM header	-
Expansion Slots	PCIe	1x PCIe5.0 x16 (configured as 2x PCIe5.0 x8)	1x PCIe3.0 x1	1x PCIe3.0 x16
	Mini-PCIe	-	-	1x Mini PCIe (full/half size), supports PCIe2.0 x1, USB 2.0
	M.2	1x M.2 2242/2280 M Key (PCIe4.0 x4) 1x M.2 2242 M Key (PCIe3.0 x4; SATA) 1x M.2 2230 E Key (PCIe x1, USB 2.0, CNVi) 1x M.2 3042/3052 B Key (PCIe x1, USB 3.0, USB 2.0) 1x SIM socket (connected to M.2 B Key)	1x M.2 2242/2260/ 2280 M Key (PCI3.0 x1, SATA, USB 2.0) 1x M.2 2230 E Key (PCIe x1, USB 2.0, CNVi) 1x M.2 3042/3052 B Key (PCIe x1, USB 3.0, USB 2.0) 1x SIM socket (connected to M.2 B Key)	1x M.2 2280 M Key (supports SATA)
Mechanical and Environmental	Dimension	170 x 170mm (W x L)	170 x 170mm (W x L)	170 x 170mm (W x L)
	Operating Temperature	0°C to 60°C	-20°C to 70°C	0°C to 60°C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Relative Humidity	60°C @ 95% RH, non-condensing	60°C @ 95% RH, non-condensing	60°C @ 95% RH, non-condensing
	Power Supply	ATX PWR (24+4pin) or +12V DC-In	12~28V DC-in with 4-pin wafer PWR cable or DC Jack	ATX PWR (24+4pin)
Certification		CE & FCC Class B	CE & FCC Class B	CE & FCC Class B

Mini-ITX

Model		AmITX-AL-I	AmITX-SL-G
Processor System	CPU	Intel Atom® E3950/E3940/E3930, up to 12W Intel® Pentium® N4200, 6W Intel® Pentium®/Celeron® N3350, 6W	6th/7th Gen Intel® Core™ i7/i5/i3, Intel® Pentium® and Celeron® Desktop Processor, up to 65W
	Socket	-	LGA 1151
	Chipset	-	Q170/H110
	Memory	2x DDR3L SO-DIMMs 1866MHz, up to 16GB, non-ECC	2x DDR4 SO-DIMMs 2133/2400 MHz. up to 32GB, non-ECC
	OS Support	Windows 10 64-bit, Linux 64-bit	6th Gen CPU: Windows 10/8.1/7, Linux 7th Gen CPU: Windows 10, Linux
Display	VGA	-	-
	HDMI	1	-
	DisplayPort	1	3x DP1.2 (Q170)/ 2x DP1.2 (H110)
	LVDS/eDP	1	1
	DVI	-	-
	No. of Displays	3	3
Ethernet	Gbe Port	2	2
	Controller/ Frequency	2x GbE (via i211)	1x GbE (Q170: via i219-LM; H110: via i219-V) 1x GbE (via i211AT)
Storage	SATA	1	3
	RAID	-	Intel SW RAID 0/1/5/10
	mSATA	1	-
I/O Interfaces	USB	4x USB 3.0 (rear I/O) 1x USB 2.0 (via front panel header) 2x USB 2.0 (via onboard header) 1x USB 2.0 on Mini PCIe	4x USB 3.0 and 4x USB 2.0 (rear I/O) 2x USB 3.0 onboard (via headers) (H110: USB 2.0) 1x USB 3.0 on vertical connector with keep out area for dongle (H110: USB 2.0)
	COM	-	3x RS-232 (via headers) 1x RS-232/422/485 (via headers) (Support NA (Default)/5V/12V by jumper selection)
	PS/2	-	1
	Audio	Realtek® ALC888S Line-out, Mic-in	Realtek® ALC886 1x Mic-in, 1x Line-out, 1x Line-In
	GPIO	10-bit	10-bit
	TPM	1x TPM header	Atmel AT97SC3204 (optional)
Expansion Slots	PCIe	1x PCIe Gen3 x1	1 PCIe Gen3 x16 1 PCIe Gen2 x1
	Mini-PCIe	1x Mini PCIe (PCIe x1; USB 2.0)	1x Mini-PCIe card (half size): PCIe2.0 x1/USB 2.0 (top side) 1x Mini-PCIe card (full size): PCIe2.0 x1 or mSATA/USB 2.0 (bottom side)
	M.2	-	-
Mechanical and Environmental	Dimension	170 x 170mm (W x L)	170 x 170mm (W x L)
	Operating Temperature	0°C to 60°C -40°C to 85°C (option)	0°C to 60°C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C
	Relative Humidity	10% to 90%, non-condensing	40° C @ 95% RH non-condensing
	Power Supply	12V DC-in with 4-pin internal PWR connector or DC Jack	ATX PWR (14pin)
Certification		CE & FCC Class B	CE & FCC Class B

ATX Motherboards


NEW

Type		Pro Series		
Model		IMB-M47-R680E	IMB-M47	IMB-M47H
Processor System	CPU	Intel® 12/13/14th Gen Core™ i9/i7/i5/ i3 Processors, up to 125W	Intel® 12/13/14th Gen Core™ i9/i7/i5/ i3 Processors, up to 125W	Intel® 12/13/14th Gen Core™ i9/i7/i5/ i3 Processors, up to 65W
	Chipset	R680E	Q670	H610E
	Memory	4x DDR5 UDIMMs 4400MHz, up to 128 GB, ECC (dependent on SKU)	4x DDR5 UDIMMs 4400MHz, up to 128 GB, non-ECC	2x DDR5 UDIMMs 4800MHz, up to 64 GB, non-ECC
	OS Support	Windows® 10 (64bit) Ubuntu LTS 20.04 (32/64bit)	Windows® 10 (64bit) Ubuntu LTS 20.04 (32/64bit)	Windows® 10 (64bit) Ubuntu LTS 20.04 (32/64bit)
Display	VGA	1	1	1
	HDMI	-	1	1
	DisplayPort	2	1	1
	No. of Displays	3	3	3
Ethernet	Gbe Port	3	3	2
	Controller/ Frequency	3x Intel® I226-LM, 2.5Gps	3x Intel® I226-LM, 2.5Gps	1x Intel® I219-V, 1Gbps 1x Intel® I225-V, 2.5Gps
Storage	SATA	8x SATA 6Gb/s ports	8x SATA 6Gb/s ports	3x SATA 6Gb/s ports
	RAID	-	-	-
I/O Interfaces	USB	6x USB 3.2 Gen 1x1 ports (5Gbps) (rear I/O) 2x USB 3.1 via header 2x USB 2.0 vertical type A ports for internal dongles 2x USB 2.0 via headers	5x USB 3.2 Gen2 (rear I/O) 1x USB 3.2 Gen2x2 (Type C, rear I/O) 2x USB 3.1 via header 2x USB 2.0 via header 2x vertical USB 2.0 type A ports for internal dongles	4x USB 3.2 Gen 1x1 ports (5Gbps) (rear I/O) 2x USB 2.0 ports (rear I/O) 1x USB 2.0 vertical type A ports for internal dongles 2x USB 2.0 via headers
	COM	2x RS-232/422/485 (rear I/O) 4x RS-232 (pin header)	2x RS-232/422/485 (rear I/O) 4x RS-232 (pin header)	2x RS-232/422/485 (rear I/O) 4x RS-232 (pin header)
	PS/2	1 (internal)	1 (internal)	1 (rear I/O)
	Audio	Realtek ALC897	Realtek ALC897	Realtek ALC888S
	LPT	1 (pin header)	1 (pin header)	1 (pin header)
	GPIO	16x GPIO (shared with LPT header)	16x GPIO (shared with LPT header)	32x GPIO
	TPM	Yes (TPM 2.0)	Yes (TPM 2.0)	Yes (TPM 2.0)
Expansion Slots	PCIe	2x PCIe Gen5 Slots (1x PCIe x16/ 2x PCIe x8) 2x PCIe x4 Gen4 1x PCIe x4 Gen3 2x PCIe x1 Gen3	1x PCIe x16/ 2x PCIe x8 Gen5 2x PCIe x4 Gen4 3x PCIe x1 Gen3	1x PCIe x16 Gen5 1x PCIe x4 Gen3 1x PCIe x1 Gen3
	PCI	-	-	4
	M.2	1x M.2 M-key, 2280 (support PCIe gen4 x 4) 1x M.2 E-key, 2230 (PCIe x1, USB2.0) 1x M.2 B-key, 3042/3052 (PCIe x1, USB3.2 Gen1, USB2.0) w/ SIM	1x M.2 M-key, 2280 (support PCIe gen4 x 4) 1x M.2 E-key, 2230 (PCIe x1, USB2.0) 1x M.2 B-key, 3042/3052 (PCIe x1, USB3.2 Gen1, USB2.0) w/ SIM	1x M.2 B/M-key, 2280 (support PCIe gen3 x 4, SATA)
Mechanical and Environmental	Dimension	ATX(305 mm x 244 mm (W x L))	ATX (305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))
	Operating Temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Relative Humidity	60 °C @ 90% RH, non-condensing	60 °C @ 90% RH, non-condensing	60 °C @ 95% RH, non-condensing
Certification				
Manageability SEMA		-	-	Light BMC with SEMA4.0 (optional)

ATX Motherboards



Type		Pro Series		
Model		IMB-M46	IMB-M45	IMB-M45H
Processor System	CPU	Intel® 10th Gen Core™ i9/i7/i5/i3 Processors, up to 65W	Intel® 8/9th Gen Core™ i9/i7/i5/ i3 Processors or Xeon™ E-2228GE/ E-2226GE, up to 80W	Intel® 8/9th Gen Core™ i9/i7/i5/i3 Processors, up to 65W
	Chipset	Q470E	C246	H310
	Memory	4x DDR4 UDIMMs 2933MHz, up to 128 GB, ECC (dependent on SKU)	4x DDR4 UDIMMs 2666MHz, up to 128 GB, ECC (dependent on SKU)	2x DDR4 UDIMMs, up to 2666MHz, up to 64 GB, non-ECC
	OS Support	Windows® 10 (64bit) Ubuntu 18.10 (64bit)	Windows® 10 (64bit) Fedora 30, Ubuntu 18.04 LTS	Windows® 10 (64bit) Fedora 30, Ubuntu 18.04 LTS
Display	VGA	1	1	1
	HDMI	1	1	1
	DisplayPort	1	1	- (reserve by optional BOM)
	No. of Displays	3	3	2/3 (optional)
Ethernet	Gbe Port	2	2/4 (optional)	2
	Controller/ Frequency	1x Intel® I219-LM, 1x Intel® I225LM 2.5Gps	Intel® i219-LM and i225-LM, 1Gbps 2x Intel® i225-LM, 1Gbps (optional)	1x Intel® I219-LM, 1x Intel® I225-V, 1Gbps/ 100Mbps / 10Mbps
Storage	SATA	6x SATA 6Gb/s ports	6x SATA 6Gb/s ports	4x SATA 6Gb/s ports
	RAID	Intel SW RAID 0/1/5/10	Intel SW RAID 0/1/5/10	-
I/O Interfaces	USB	4x USB 3.2 Gen2 (rear I/O) 2x USB 2.0 (rear I/O) 4x USB 3.2 Gen1 by pin header 2x USB 2.0 by pin header	6x USB 3.0 (2x pin header + 4x rear I/O) 1x USB 3.0 (Vertical Type A) 6x USB 2.0 (pin header) 1x USB 2.0 (Vertical Type A)	4x USB 3.0 (rear I/O) 4x USB 2.0 (2x pin header + 2x rear I/O) 2x USB 2.0(Vertical Type A)
	COM	2x RS-232/422/485 (rear I/O) 4x RS-232 (pin header)	2x RS-232/422/485 w/ auto flow control (rear I/O) 4x RS-232 (pin header)	2x RS-232/422/485 w/ auto flow control (rear I/O) 4x RS-232 (pin header)
	PS/2	1 (pin header)	1 (pin header)	1 (rear I/O)
	Audio	Realtek ALC887/ALC897	Realtek ALC888S	Realtek ALC888S
	LPT	1 (pin header)	1 (pin header)	1 (pin header)
	GPIO	8x GPIO (shared with LPT header)	16x GPIO	16x GPIO
	TPM	Yes (TPM 2.0)	YES (TPM 2.0, optional)	YES (TPM 2.0, optional)
Expansion Slots	PCIe	1x PCIe x16 Gen3 1x PCIe x8 Gen3 3x PCIe x4 Gen3	2x PCIe x8 or 1x PCIe x16 Gen3 3x PCIe x4 Gen3	1x PCIe x16 Gen3 1x PCIe x4 Gen2
	PCI	2	2	5
	M.2	1x M.2 E-Key, 2230 (PCIe x1, USB 2.0 and CNVi) 1x M.2 B-Key, 3042/3052 (PCIe x1, USB 3.2 Gen1, USB 2.0) w/ SIM 1x M.2 M-Key, 2242/2260/2280 (PCIe x4, SATA)	-	-
Mechanical and Environmental	Dimension	ATX(305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))
	Operating Temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Relative Humidity	60 °C @ 95% RH, non-condensing	60° C @ 95% RH, non-condensing	60° C @ 95% RH, non-condensing
Certification		CE & FCC Class B	CE & FCC Class B	CE & FCC Class B
Manageability SEMA		-	Light BMC with SEMA FW (optional)	Light BMC with SEMA FW (optional)


NEW


NEW


NEW


COMING SOON

Type		Value Series			
Model		IMB-C47	IMB-C47H	IMB-C46	IMB-C46H
Processor System	CPU	12/13/14th Gen Intel® Core™, up to 125W	12/13/14th Gen Intel® Core™, up to 65W	10/11th Gen Intel® Core™, up to 65W	10th Gen Intel® Core™, up to 65W
	Chipset	Q670	H610	Q470	H420E
	Memory	4x DDR4 UDIMMs 3200MHz, up to 128 GB, non-ECC	2x DDR4 UDIMMs 3200MHz, up to 64 GB, non-ECC	4x DDR4 UDIMMs 2933MHz, up to 128 GB, non-ECC	2x DDR4 UDIMMs 2933MHz, up to 64 GB, non-ECC
	OS Support	Windows® 10/11 64-bit	Windows® 10/11 64-bit	Windows® 10 64-bit	Windows® 10 64-bit
Display	VGA	1	1	1	1
	HDMI	1	1	1	1
	DisplayPort	-	-	-	-
	No.of Displays	4 (DVI-D, HDMI, VGA, eDP)	3 (DVI-D, HDMI, VGA)	3 (DVI-D, HDMI, VGA, eDP)	3 (DVI-D, HDMI, VGA, eDP)
Ethernet	Gbe Port	2	2	2	2
	Controller/ Frequency	1x Intel® I219-V, 1Gbps 1x Intel® I225-V, 2.5Gps	1x Intel® I219-V, 1Gbps 1x Intel® I225-V, 2.5Gps	1x Intel® I219-LM, 1Gbps 1x Intel® I210, 1Gbps	1x Intel® I219-LM, 1Gbps 1x Intel® I226-V, 1Gbps
Storage	SATA	4x SATA 6Gb/s ports	3x SATA 6Gb/s ports	4x SATA 6Gb/s ports	3x SATA 6Gb/s ports
	RAID	Intel SW RAID 0/1/5/10	-	Intel SW RAID 0/1/5/10	-
I/O Interfaces	USB	6x USB3.0 (rear I/O) 2x USB3.0 (via header) 4x USB2.0 (via header) 1x USB2.0 (vertical TypeA, internal)	4x USB3.0 (rear I/O) 2x USB2.0 (rear I/O) 4x USB2.0 (via headers, 1x colay with vertical typeA)	4x USB 3.0 (rear I/O) 2x USB 2.0 (rear I/O) 2x USB 3.0 by pin header 4x USB 2.0 by pin header 1x USB2.0 (Vertical TYEP-A, Internal)	6x USB 3.0 (rear I/O) 2x USB 2.0 by pin header 1x USB2.0 (Vertical TYEP-A, Internal)
	COM	1x RS-232/422/485 (via header) 1x RS-232/485 (via header) 4x RS-232 (COM1 by DB9/M, others via headers)	2x RS-232/485 (via header) 4x RS-232 (COM1 by DB9/M, others via headers)	1x RS-232/422/485 by pin header 1x RS-232/485 by pin header 4x RS-232 (COM1 by DB9, others by pin headers)	2x RS-232/485 4x RS-232
	PS/2	1 (internal)	1 (internal)	1 (pin header)	1 (pin header)
	Audio	Realtek ALC897	Realtek ALC897	Realtek ALC897	Realtek ALC897
	LPT	-	-	1 (pin header)	1 (pin header)
	GPIO	8x GPIO	8x GPIO	8x GPIO	8x GPIO
	TPM	-	-	Yes (TPM 2.0, option)	Yes (TPM 2.0, option)
Expansion Slots	PCIe	2x PCIe x16 (Support PCIe Gen4 x8 signal) 4x PCIe x4 (Support 3x PCIe Gen4 x4 and 1x PCIe Gen3 x4 signal)	1x PCIe Gen4 x16 3x PCIe x4 (Support PCIe Gen3 x2 signal)	2x PCIe x16 Slot (1x PCIe x16 Gen3 or 2x PCIe x8 Gen3) 3x PCIe x4 Gen3	1x PCIe x16 Slot 1x PCIe x4 slot (PCIe x2, co-lay with M.2 M-key 2280) 1x PCIe x4 slot (PCIe x2, share PCIe x1 with M.2 E key 2230 by BOM change)
	PCI	1	3	2	4
	M.2	1x M.2 E-key 2230 (PCIe Gen3 x1, USB2.0, CNVi) for WIFI/Bluetooth Module 1x M.2 M-key 2242/2280 (PCIe Gen4 x4 NVMe/SATA Auto Detect) for SSD	1x M.2 M-key 2242/2280 (Support SATA SSD)	1x Mini PCI-E Slot (WIFI+4G/3G, with 1* Full-Size SIM Card Slot) 1x M.2 M-Key, 2242/2260/2280 (PCIe x4, SATA)	1x M.2 Key-E 2230 Slot (PCIE+USB 2.0) 1x M.2 Key-M 2242/2280 Slot (PCIE 2x/SATA) (default)
Mechanical and Environmental	Dimension	ATX(305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))	ATX(305 mm x 244 mm (W x L))
	Operating Temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C
	Storage Temperature	20°C to 75°C	20°C to 75°C	20°C to 75°C	20°C to 75°C
	Relative Humidity	60 °C @ 95% RH, Non-condensing	60 °C @ 95% RH, Non-condensing	60 °C @ 95% RH, Non-condensing	60 °C @ 95% RH, Non-condensing
Certification		CE & FCC Class A	CE & FCC Class A	CE & FCC Class A	CE & FCC Class A
Manageability SEMA		-	-	-	-

PICMG 1.3 SBC


NEW

Model		NuPRO-E47	NuPRO-E43
Processor System	CPU	Intel® 12/13/14th Gen Core™ i9/i7/i5/i3 Processors, up to 65W	Intel® 6/7th Gen Core™ i7/i5/i3 Processors, up to 65W
	Socket		
	Memory	Dual-channel Non-ECC DDR5 4800 MHz, up to 64 GB	Dual-channel Non-ECC DDR4 2133/2400 MHz, up to 32 GB
	BIOS	AMI® UEFI BIOS 256 Mbit SPI Flash Memory	AMI® UEFI BIOS 128 Mbit SPI Flash Memory
	Watchdog Timer	1 to 65536 sec. software programmable and can be generate system reset	1 to 65536 sec. software programmable and can be generate system reset
	Hardware Monitor	CPU temperature System temperature System voltage CPU fan speed	CPU temperature System temperature System voltage CPU fan speed
	OS Support	Microsoft® Windows® 10 64-bit Microsoft® Windows® 11 64-bit Ubuntu 20.04.6	Microsoft® Windows® 7 32/64-bit (Only for 6th Gen CPU and I219LM LAN) Microsoft® Windows® 10 64-bit Ubuntu 15.10
I/O Interfaces	M.2	1x M.2 M-Key, 2280, support PCIe Gen4 x4	-
	SATA	6x SATA 3.0 onboard with RAID support	4x SATA 3.0 onboard with RAID support
	Serial Ports	2x RS-232 via onboard 2.0 pitch box header 2x RS-232/422/485 with auto flow control via onboard 2.0 pitch box header	2x RS-232 via onboard 2.0 pitch box header 2x RS-232/422/485 with auto flow control via onboard 2.0 pitch box header
	Expansion Slots (Via backplane)	1x PCIe x16, supporting Intel® PCIe bifurcation, (Configurable as 1x PCIe x16 or 2x PCIe x8, depending on the backplane.) 1x PCIe x4 to backplane 4x PCI to backplane	1x PCIe x16, supporting Intel® PCIe bifurcation, (Configurable as 1x PCIe x16 or 2x PCIe x8, or 1x PCIe x8 + 2x PCIe x4 , depending on the backplane.) 1x PCIe x4 to backplane 4x PCI to backplane
	USB	3x USB 3.2 Gen2 x1 ports (10Gbps) on rear I/O 6x USB 3.2 Gen1 x1 via onboard box headers 1x USB 3.2 Gen1 x1 vertical type A port 4x USB 2.0 to backplane	2x USB 3.0 ports on rear I/O 6x USB 3.0 via onboard box header 4x USB 2.0 to backplane
	Parallel Port	1x LPT box header	1x LPT box header
	Audio	1x box header for audio module DB-Audio2	1x box header for audio module DB-Audio2
	DIO	1x box header for 8-bit in and 8-bit out	-
	TPM	INFINEON TPM SLB 9670XQ2.0 or 9670VQ2.0	1x box header for TPM module (Optional) INFINEON TPM SLB 9665XT2.0
	KB/MS	-	1x pin header for PS/2 keyboard& Mouse
Audio	Audio Codec	Realtek® ALC262 support by DB-Audio2 daughter board	Realtek® ALC262 support by DB-Audio2 daughter board
	Interface	Intel® High Definition Audio via onboard box header	Intel® High Definition Audio via onboard box header
Display	HDMI	1x HDMI on rear I/O, resolution up to 4096 x 2160 @ 60Hz	-
	DVI-D	1x DVI-D via onboard pin header, resolution up to 1920 x 1200 @ 60Hz	1x DVI-D via onboard pin header, resolution up to 1920 x 1200@60Hz
	VGA	1x VGA via onboard pin header, resolution up to 1920 x 1200 @ 60Hz	1x VGA on rear I/O, resolution up to 1920 x 1200 @60Hz
Ethernet	Controller	LAN1: Intel® I225-V via RJ45 LAN2: Intel® I225-LM via RJ45	LAN1: Intel® I219LM PHY via RJ45 LAN2: Intel® I225-V via RJ45
	iAMT	Support on LAN2	Support iAMT 11
	Wake On LAN	Support on LAN2	Support on LAN1
Mechanical and Environmental	Dimension	338 mm x 126 mm (L x W)	338 mm x 126 mm (L x W)
	Operating Temperature	0 °C to 60 °C	0 °C to 60 °C
	Storage Temperature	-40°C to 80°C	-40°C to 80°C
	Relative Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing
Certification		CE & FCC Class A	CE & FCC Class A
Manageability SEMA		-	SEMA support with BMC

Backplanes

Model Name	EBP-D3E1	EBP-D5E2	EBP-5E1	EBP-6E2	EBP-7E2	EBP-9E2
Part number	91-46701-0010	92-46704-0030	91-46706-0010	91-46713-0010	91-46707-0010	95-19000-0020
PCIe x16	-	1	1	1	1	1
PCIe x4	1	1	-	1	1	1
PCIe x1	-	-	-	-	-	-
PCI-X	-	-	1	-	-	-
PCI	-	2	2	3	4	6
ATX	YES	YES	YES	YES	YES	YES
Segments	1	1	1	1	1	1
Dimensions	331mm x 39mm	331mm x 84mm	153mm x 330mm	328mm x 140mm	328mm x 206mm	328mm x 206mm
SATA	2	2	2	2	2	2
USB 2.0	4 (via box headers)	4 (via box headers)	4 (via box headers)	4 (via box headers)	4 (via box headers)	4 (via box headers)
Chassis Compatibility	RK-110SE-B	TBD	RK-609B	RK-609B	RK-609B	RK-609B
SBC Compatibility	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43

Model Name	EBP-9E5	EBP-10E5	EBP-13E2	EBP-13E4	WBP-13E4	WBP-13E8
Part number	91-46705-0010	91-46603-0020	91-46709-0040	91-46703-0050	91-46714-0020	95-19019-0020
PCIe x16	1	1	1	1	1 (PCIe x8 signal)	1 (PCIe x8 signal)
PCIe x4	-	-	1	3 (Gen2)	3	2
PCIe x1	4	4	-	-	-	5 (3 is Gen3; 2 is Gen2)
PCI-X	-	-	-	-	-	-
PCI	3	4	10	7	8	4
ATX	YES	YES	YES	YES	YES	YES
Segments	1	1	1	1	1	1
Dimensions	244mm x 348mm	330mm x 318mm	330mm x 318mm	330mm x 318mm	328mm x 312mm	327.6mm x 317.5mm
SATA	2	2	2	2	2	2
USB 2.0	4 (via box headers)	4 (via box headers)	4 (via box headers)	4 (via box headers)	2 (vertical connectors) 2 (via box headers)	4 (via box headers)
Chassis Compatibility	RK-609B	RK-620B RK-410FS	RK-620B RK-410FS	RK-620B RK-410FS	RK-620B RK-410FS	RK-620B RK-410FS
SBC Compatibility	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E47 NuPRO-E43	NuPRO-E43	NuPRO-E43

Chassis

Type	Rackmount Industrial Chassis					Wallmount Industrial Chassis	
Model	RK-110SE	RK-410SX	RK-410FS	RK-620MB/ RK-620MB-W	RK-620B/ RK-620B-W	RK-609MB	RK-609B
Height	1U	4U	4U	4U	4U	Wallmount	Wallmount
Dimension (W x H x D)	19 x 1.75 x 17.7 in (483 x 44 x 450 mm)	19 x 7 x 17.8 in (483 x 177 x 451 mm)	19 x 7 x 17.8 in (483 x 177 x 451 mm)	16.8 x 7 x 17.4 in (427 x 177 x 447.9 mm)	16.8 x 7 x 17.4 in (427 x 177 x 447.9 mm)	13 x 6.9 x 16.5 in (330 x 175 x 418 mm)	13 x 6.9 x 16.5 in (330 x 175 x 418 mm)
Motherboard Option	NuPRO-E43 NuPRO-E47	ATX	NuPRO-E43 NuPRO-E47	ATX, Micro-ATX	NuPRO-E43 NuPRO-E47	ATX, Micro-ATX, Mini-ITX	NuPRO-E43 NuPRO-E47
Backplane Option	EBP-D3E1	-	EBP-10E5 EBP-13E2 EBP-13E4 WBP-13E4	-	EBP-10E5 EBP-13E2 EBP-13E4 WBP-13E4	-	EBP-5E1 EBP-6E2 EBP-7E2 EBP-9E2 EBP-9E5

Fanless Embedded Computers

Innovative Design and Rapid Configuration Assistance

Highlights

Complete Solutions

- Multiple form factor options
- Intel® Xeon®, Core™ and Atom® processors
- Integrate GPU computing from NVIDIA® Quadro® GPUs

Diverse I/O and Expansion

- Application-specific connectors
- Flexible I/O combination & programmable IC addable
- Add-on expansion slots

Application Featured Design

- Motion/vision/frame grabber cards
- Industrial cameras
- Industrial peripheral modules

Ruggedized Design

- -20° ~70°C wide operating temperature
- Anti-vibration / shock resistance
- Dust-prone and corrosive proof

Applications

Semiconductor

New Energy

Smart Manufacturing

Retail

ADLINK offers edge software services for customers integrating ADLINK edge computing platforms and hardware. These services include embedded BIOS, Long-Term Support OS, and edge sensing APIs, which provide immediate hardware monitoring information. These services streamline design, reduce project complexity, and accelerate product development.ADLINK offers edge software services for customers integrating ADLINK edge computing platforms and hardware. These services include embedded BIOS, Long-Term Support OS, and edge sensing APIs, which provide immediate hardware monitoring information. These services streamline design, reduce project complexity, and accelerate product development.

Adaptive Function Module (AFM)

Build Your Own System with Limitless Functional Expansion!

- Provides personalized expansion options tailored to specific system requirements.
- Offers a diverse array of connectors, circuits, slots, and I/O ports to enhance functionality.
- Ensures seamless integration and adaptability for various applications.

Application Stories

Robotic Arm Controller

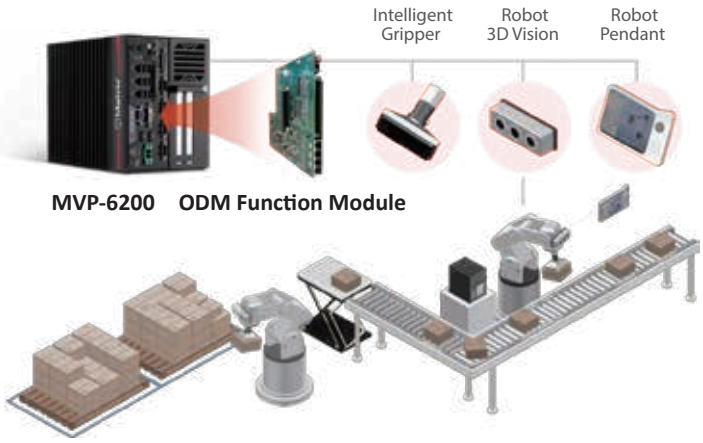
Transforming smart warehousing, the cutting-edge robotic arm utilizes the ADLINK MVP-6200 controller for unparalleled motion control and AI-enabled visual recognition. This integration showcases ADLINK's capacity to deliver highly customized solutions, thanks to its Adaptive Function Module. These bespoke advancements propel global warehouse automation projects to new heights of efficiency and adaptability. Highlighting the power of collaborative innovation, this venture into robotics emphasizes the pivotal role of advanced controllers in refining and optimizing warehouse logistics operations.

Challenges & Requirements

- Choose controllers with adaptable I/Os for easy system integration.
- Pick controllers with AI for precise task performance.
- Opt for customizable controllers to suit varied needs.

Solution & Insight

- ADLINK's AFM enhances robotic arms with custom features and scalability.
- ADLINK addresses security needs for customers with rigorous encryption and verification for supply chain integrity.



High-Accuracy Automated Optical Inspection

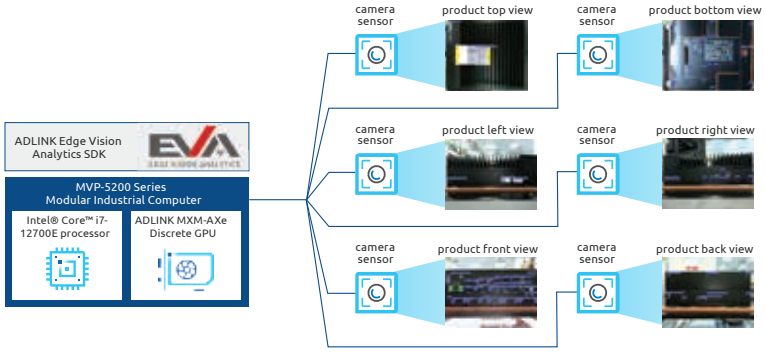
ADLINK's AOI solution, powered by Intel CPUs, GPUs, and OpenVINO-optimized AI models, automates final inspections using six cameras. Deployed on ADLINK's production line, it ensures precise quality control with an Intel Core i7-12700E processor and MXM-AXe GPU module. This modular setup enhances efficiency by boosting image processing, compute acceleration, and AI workloads.

Challenges & Requirements

- Human inspection is inefficient for fast, repetitive manufacturing tasks.
- Automated Optical Inspection (AOI) projects are delayed by complexity and expertise shortages.
- AOI solutions need fast implementation and low ownership costs.

Solution & Insight

- ADLINK's AOI achieves 98.8% accuracy at high speed using advanced cameras and computing.
- Rugged, edge-operating computer utilizes OpenVINO for AI optimization on Intel hardware.
- EVA SDK accelerates machine vision development with cross-platform support and streamlined workflows.



Challenges & Requirements

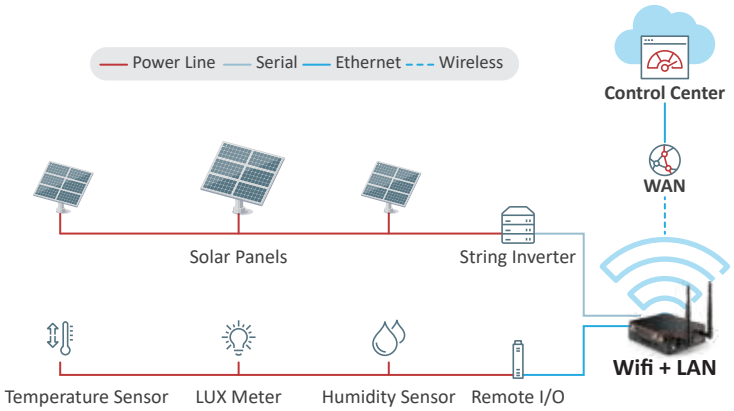
- Edge computing for PV panel data collection and performance monitoring.
- Reduced power usage for maximum solar plant efficiency.
- Reliable across wide temperature ranges.
- Web-based monitoring for solar arrays and environmental data.

Solution & Insight

- Fanless design and high MTBF ensure IIoT gateway for PLC data collection.
- Local data processing with wireless edge capability.
- Cabinet-ready industrial computer.
- Compact, Din-Rail mountable design.
- Operates in -20~70°C for field durability.

Solar Farm Monitoring

Solar farm monitoring uses an Arm-based 5G IIoT Gateway to track PV panel performance by logging inverter and weather data. It features low power consumption, reliability in extreme temperatures, and web-based remote monitoring. It includes an IIoT gateway for data collection, local intelligence processing, and wireless capabilities, all housed in an industrial-grade computer with a wide operating temperature range, supporting both WiFi and LAN connections.



Challenges & Requirements

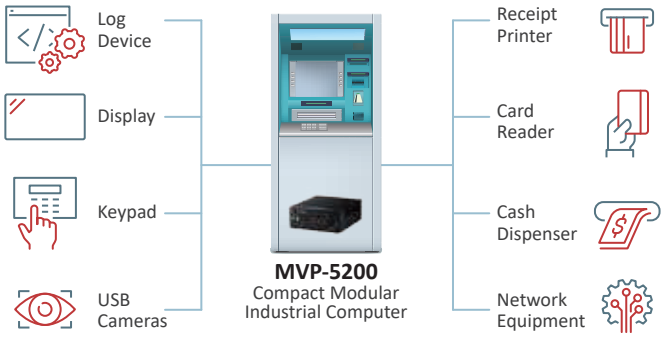
- Integrating several embedded systems across different kiosks into one unified system
- Ensuring the system delivers high performance and is essential for mission-critical applications while being fanless
- The system must have the capability to support up to 12 USB ports

Solution & Insight

- Fanless design and high MTBF ensure mission-critical system stability
- Customizable expansion with AFM Module seamlessly increases USB ports without enclosure enlargement
- Rapid prototyping by agile engineering delivers tailored prototypes within 10 weeks, showcasing responsiveness.

Financial KIOSK

The Financial KIOSK Solutions cater to casinos, optimizing revenue flow and enhancing patron experience. Integrated financial technology systems ensure secure transactions, streamline operations, and reduce fraud risks. Loyalty kiosks bridge the gap between operator-focused tools and player-centric gaming systems. Leveraging Intel technology, the unified system supports mission-critical financial transactions with up to 12 USB ports.



Modular Industrial Computers MVP Series



Type		Compact		
Model		**MVP-5200**	**MVP-5100**	**MVP-5100-MXM**
System	CPU	12/13/14th Gen. Intel® Core™ Processors, up to 65W	9th Gen Intel® Core™ processors, up to 65W	9th Gen Intel® Core™ processors, up to 65W
	Chipset	Intel® R680E	Intel® H310 (Optional: Intel® C246)	Intel® H310 (Optional: Intel® C246)
	Memory	DDR5 3600 MHz, 4x SODIMM, up to 128GB (Support ECC memory)	DDR4 2400 MHz, 2x SODIMM, up to 32GB (Support ECC memory, only for Intel® chipset C246)	DDR4 2400 MHz, 2x SODIMM, up to 32GB (Support ECC memory, only for Intel® chipset C246)
	Storage	2x SATA for 2.5" drive (support RAID 0/1/5/10)	2x SATA for 2.5" drive (support RAID 0/1 only for Intel® chipset C246) 1x CFast type II	2x SATA for 2.5" drive (support RAID 0/1 only for Intel® chipset C246) 1x CFast type II
	OS	Windows 10 IoT LTSC or Ubuntu 22.04	Windows 10 IoT LTSC or Ubuntu 22.04	Windows 10 IoT LTSC or Ubuntu 22.04
	TPM	TPM 2.0 support	TPM 2.0 support	TPM 2.0 support
I/O Interfaces	Display	2x HDMI 1.4b 2x DP++ 1.4	2x DP++ 1.2 1x DVI-D 1x VGA (H310: 2 independent displays) (C246: 3 independent displays)	6x DP++ 1.2 1x DVI-D 1x VGA (H310: 2 independent displays) (C246: 3 independent displays)
	USB	6x USB 3.2 Gen2 Type A 1x USB 2.0 internal dongle	3x USB 3.1 Gen1 3x USB 2.0 1x USB 2.0 internal dongle (2x USB 3.1 up to Gen 2 with C246)	3x USB 3.1 Gen1 3x USB 2.0 1x USB 2.0 internal dongle (2x USB 3.1 up to Gen 2 with C246)
	Ethernet	3x 2.5GbE (Intel® i225) support TSN	2x 1.0GbE (Intel® i225) 1x 1.0GbE (Intel® i219) Support Intel® AMT/vPro™ with Intel® C246	3x 1.0GbE (1x Intel® i219 + 2x Intel® i225) support Intel AMT/vPro with C246
	COM	COM1/2: RS-232/422/485 COM3/4: RS-232	COM1/2: RS-232/422/485 COM3/4: RS-232 COM5/6: RS-232 (Optional)	COM1/2: RS-232/422/485 COM3: RS-232
	Digital	8 DI + 8 DO	8 DI + 8 DO	-
	Audio	Line-out, Mic-in	Line-out, Mic-in	-
	SMA Antenna Connector	6	6	6
	LED Indicator	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined
Extension Slots	Mini PCIe	-	1x Full size (USB2.0, PCIe)	1x Full size (USB 2.0, PCIe)
	USIM	-	2	2
	I2C	2 (3.3V/5V)	2 (3.3V/5V)	2 (3.3V/5V)
	Backplane Extension	-	-	-
	M.2	1x A+E Key 2230 1x B Key 3052/3042 1x M Key 2280	1x B+M key 2280/3042	1x B+M key 2280/3042
Power Supply	DC Input	9 to 32V, 280W adapter (optional)	12-24V (± 10% tolerance)	12 to 24V
	AC Input	Optional: 280W AC/DC adapter	Optional: 160W AC/DC adapter	Optional 220W or 280W AC/DC adapter
Mechanical	Dimensions	210 (W) x 240 (D) x 86 (H) mm (8.27" x 9.45" x 3.39")	210 (W) x 240 (D) x 86 (H) mm (8.27" x 9.45" x 3.39")	125 (W) x 240 (D) x 210 (H) mm (4.92" x 9.45" x 8.27")
	Weight	4.9 kg (10.73 lbs)	4.1 kg (9.0 lbs)	6.5 kg (14.4 lbs)
	Mounting	Wall mount	Wall mount	Wall mount
Environmental	Operating Temperature	-20°C to 60°C (35W CPU) -20°C to 50°C (65W CPU)	-20°C to 60°C (35W CPU) -20°C to 50°C (65W CPU)	-20°C to 60°C (35W CPU) -20°C to 45°C (65W CPU)
	Operating Humidity	~95% @ 40°C (non-condensing)	~95% @ 40°C (non-condensing)	~95% @ 40°C (non-condensing)
	Storage Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating Vibration	Operating: 5Grms, random, 5-500Hz, 3 axes (with SSD)	Operating: 5 Grms, random, 5-500 Hz, 3 axes (with SSD/CFast) Operating: 0.5 Grms, random, 5-500 Hz, 3 axes (with HDD)	Operating: 3 Grms, random, 5-500 Hz, 3 axes (with SSD/CFast)
	Operating Shock	Operating: 50G, half sine 11ms duration (withSSD)	Operating: 100G, half sine 11ms duration (with SSD/CFast)	Operating: 50G, half sine 11ms duration (with 2.5" SSD)
	ESD	Contact +/-4KV, Air +/-8KV	Contact +/-4KV, Air +/-8KV	Contact 4kV, Air 8kV
	Regulatory	EN61000-6-4/-2, CE & FCC Class A, UL/cUL, CB, CCC	EN61000-6-4/-2, CE & FCC Class A, UL/cUL, CB, CCC	EN61000-6-4/-2, CE, FCC Class A, UL/cUL, CB

/COMING SOON/




Type		Expandable			Economical
Model		**MVP-6200**	**MVP-6100**	**MVP-6100-MXM**	**MVP-3100**
System	CPU	12/13/14th Gen. Intel® Core™ Processors, up to 65W	9th Gen Intel® Core™ processors, up to 80W	9th Gen Intel® Core™ processors, up to 80W	12/13/14th Gen. Intel® Core™ Processors, up to 65W
	Chipset	Intel® R680E	Intel® C246 (Optional: Intel® H310)	Intel® C246 (Optional: Intel® H310)	Intel® H610E
	Memory	DDR5 3600 MHz, 4x SODIMM, up to 128GB (Support ECC memory)	DDR4 2400 MHz, 2x SODIMM, up to 32GB (Support ECC memory, only for Intel® chipset C246)	DDR4 2400 MHz, 2x SODIMM, up to 32GB (Support ECC memory, only for Intel® chipset C246)	DDR5 4800MHz, 2x SODIMM, up to 64GB
	Storage	2x SATA for 2.5" drive (support RAID 0/1/5/10)	2x SATA for 2.5" drive (support RAID 0/1 only for Intel® chipset C246) 1x CFast type II	2x SATA for 2.5" drive (support RAID 0/1 only for Intel® chipset C246) 1x CFast type II	2x SATA + 2x SATA (on backplane)
	OS	Windows 10 IoT LTSC or Ubuntu 22.04	Windows 10 IoT LTSC or Ubuntu 22.04	Windows 10 IoT LTSC or Ubuntu 22.04	Windows 10 IoT or Ubuntu 22.04
	TPM	TPM 2.0 support	TPM 2.0 support	TPM 2.0 support	TPM 2.0 support
I/O Interfaces	Display	2x HDMI 1.4b 2x DP++ 1.4	2x DP++ 1.2 1x DVI-D 1x VGA (H310: 2 independent displays) (C246: 3 independent displays)	6x DP++ 1.2 1x DVI-D 1x VGA (H310: 2 independent displays) (C246: 3 independent displays)	1x HDMI 1.4b 1x DP++ 1.4
	USB	4x USB 3.2 Gen2 Type A 2x USB 3.2 Gen1 Type A	3x USB 3.1 Gen1 3x USB 2.0 1x USB 2.0 internal dongle (2x USB 3.1 up to Gen 2 with C246)	3x USB 3.1 Gen1 3x USB 2.0 1x USB 2.0 internal dongle (2x USB 3.1 up to Gen 2 with C246)	1x USB 2.0 dongle
	Ethernet	3x 2.5GBE with TSN supported (i225) 1x vPro supported	2x 1.0GbE (Intel® i225) 1x 1.0GbE (Intel® i219) Support Intel® AMT/vPro™ with Intel® C246	3x 1.0GbE (1x Intel® i219 + 2x Intel® i225) support Intel AMT/vPro with C246	1x Intel® 2.5GBE (i226) 3x Intel® 1.0GBE (i210)
	COM	COM1/2: RS-232/422/485 COM3/4: RS-232	COM1/2: RS-232/422/485 COM3/4: RS-232 COM5/6: RS-232 (Optional)	COM1/2: RS-232/422/485 COM3: RS-232	COM 1/2: RS-232/422/485 COM 3: RS-232
	Digital	8 DI + 8 DO	8 DI + 8 DO	-	8 DI + 8 DO
	Audio	Line-out, Mic-in	Line-out, Mic-in	-	Line-out, Mic-in
	SMA Antenna Connector	6	6	6	2
	LED Indicator	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined	1x storage, 1x WDT, 1x diagnostic and 3x user-dfined
Extension Slots	Mini PCIe	-	1x Full size (USB 2.0, PCIe)	1x Full size (USB 2.0, PCIe)	-
	USIM	-	2	2	-
	I2C	2 (3.3V/5V)	2 (3.3V/5V)	2 (3.3V/5V)	
	Backplane Extension	2 slots: 1x PCIe4.0 x16, 1x PCI x1 4 slots: 1x PCIe4.0x16, 2x PCIe3.0x4, 1x PCI	2 slots: 1x PCIe4.0 x16, 1x PCI x1 4 slots: 1x PCIe4.0x16, 2x PCIe3.0x4, 1x PCI	2 slots: 1x PCIe x4 4 slots: 2x PCIe x4, 1x PCI	MVP-3120 option: 1x PCIe4.0 x16, 1x PCI x1
	M.2	1x A+E Key 2230 1x B Key 3052/3042 1x M Key 2280	1x B+M key 2280/3042	1x B+M key 2280/3042	1x A+E Key 2230 1x M Key 2280
Power Supply	DC Input	9 to 32V, 280W adapter (optional)	12-24V (± 10% tolerance)	12 to 24V	12V-24V, 280W adapter (optional)
	AC Input	Optional: 280W AC/DC adapter	Optional: 220with280W AC/DC adapter	Optional: 220with280W AC/DC adapter	Optional: 280W AC/DC adapter
Mechanical	Dimensions	MVP-6220 series: 165 (W) x 240 (D) x 210 (H) mm (6.5" x 9.45" x 8.27") MVP-6240 sereis: 206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")	MVP-6120 series: 165 (W) x 240 (D) x 210 (H) mm (6.5" x 9.45" x 8.27") MVP-6140 series: 206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")	MVP-6120-MXM: 165 (W) x 240 (D) x 210 (H) mm (6.5" x 9.45" x 8.27") MVP-6140-MXM: 206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")	192.2 (W) x 240.1(D)x 74 (H) mm (7.57" x 9.45" x 2.91")
	Weight	MVP-6220: 5.01 kg (11.04 lbs) MVP-6240: 5.4 kg (11.8 lbs)	MVP-6120 series: 4.8 kg (10.6 lbs) MVP-6140 series: 5.1 kg (11.2 lbs)		TBD
	Mounting	Wall mount	Wall mount	Wall mount	Wall mount
Environmental	Operating Temperature	-20°C to 60°C (35W CPU) -20°C to 50°C (65W CPU)	-20°C to 60°C (35W CPU) -20°C to 50°C (65W CPU) -20°C to 40°C (80W CPU)	-20°C to 60°C (35W CPU) -20°C to 45°C (65W CPU)	-20°C to 60°C (35W CPU) -20°C to 50°C (55W CPU)
	Operating Humidity	~95% @ 40°C (non-condensing)	~95% @ 40°C (non-condensing)	~95% @ 40°C (non-condensing)	~95% @ 40°C (non-condensing)
	Storage Temperature	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
	Operating Vibration	Operating: 5Grms, random, 5-500Hz, 3 axes (withSSD)	Operating: 5 Grms, random, 5-500 Hz, 3 axes (with SSD/CFast, 3 Grms with fan) Operating: 0.5 Grms, random, 5-500 Hz, 3 axes (with HDD)	Operating: 2 Grms, random, 5-500 Hz, 3 axes (w/ 2.5" SSD/CFast) Operating: 0.5 Grms, random, 5-500 Hz, 3 axes (w/ HDD)	
	Operating Shock	Operating: 50G, half sine 11ms duration (withSSD)	Operating: 50G, half sine 11ms duration (with 2.5" SSD/CFast)	Operating: 50G, half sine 11ms duration (w/ 2.5" SSD)	Operating: 50G, half sine 11ms duration (w/SSD)
	ESD	Contact 4kV, Air 8kV	Contact +/-4KV, Air +/-8KV	Contact 4kV, Air 8kV	Contact +/-4KV, Air +/-8KV
	Regulatory	EN61000-6-4/-2, CE & FCC Class A, UL/cUL, CB, CCC	EN61000-6-4/-2, CE & FCC Class A, UL/cUL, CB, CCC	EN61000-6-4/-2, CE, FCC Class A, UL/cUL, CB	EN61000-6-4/-2, CE & FCC Class B, LVD

Configurable Embedded Computers MXC Series

Type		Cost-Efficiency	High Performance			
Model		MXC-3300	MXC-6600			
		MXC-33x1	MXC-662X	MXC-6621	MXC-6641	MXC-6623
			MXC-664X	MXC-6641	MXC-6642	MXC-6643
System	Processor	Intel® Alder Lake Processor, N97	9th Gen Intel® Xeon®, Core™ i7/i3 and 8th Gen Intel® Core™ i5 Processor, up to 45W			
	Core	4	6	6	4	4
	Base Freq	2 GHz	2.8 GHz	2.7 GHz	2.5 GHz	1.6 GHz
	MAX Turbo Freq	3.6 Ghz	4.5 GHz	4.4 GHz	4.2 GHz	2.9 GHz
	Memory	1x DDR5 4800MHz SO-DIMMs, up to 32G	DDR4 2666MHz, dual SODIMMs, 4GB up to 32GB in total Optional: DDR4 ECC 2666MHz (Xeon® and i3 support ECC)			
	OS Support	Windows® 10/11 IoT Enterprise LTSC 21H2 (64bit) Ubuntu Desktop 22.04				
I/O Interfaces	Display	2x DP + 1xHDMI	2x DP++ and 1x HDMI			
	Ethernet	4x GbE ports/I210IT	2x Intel® GbE (1x i211AT, 1x i219) iAMT support			
	Serial Ports	2x isolated RS-232/422/485 DB9	COM1/2: RS-232/422/485, COM3/4/5/6: RS-232			
	USB	1x USB 3.2 Gen 2 + 3x USB 2.0	2x USB 3.1 Gen 2 + 2x USB 3.1 Gen 1 + 4x USB 2.0, 1x internal USB 2.0 dongle			
	Audio	1x line-in, 1x line-out, MIC-in ,1*3 Jack	Line-out, Mic-in (Optional: speaker-out)			
	Mini PCIe	-	1x Full size (USB 2.0 + PCIe)			
	M.2	M.2 2280 M Key (PCIex2) M.2 2230 E Key with (Wi-Fi(PCIex1), BT(USB2.0)) M.2 3042 B-key (USB3.0/2.0) w/ SIM card	1x socket 2, key B+M or B, 2280/3042: USB 3.1 Gen 1, SATA 6 Gb/s and PCIe x2			
	USIM	-	2 (1 for Mini PCIe and 1 for M.2)			
	DI/O	8-CH DI and 8-CH DO with 1.5KV isolation	8-ch DI and 8-ch DO			
	I2C	-	2 (3.3V & 5V)			
	Expansion Slots	MXC-3301 : No slots MXC-3341 : 3 PCIe slots	MXC-6620 series : PCIe x16 + PCIe x4 (Total up to 150W) MXC-6640 series : PCIe x16 + 2 PCIe x4 + PCI (Total up to 150W with 12V in; total up to 250W with 24V in)			
	CAN	2x DB9 isolated CAN ports	-			
Storage Devices	2.5" SATA	1x SATA III 6Gb/s for 2.5inch SSD	2x internal (supports RAID 0, 1, 5, 10) Optional: additional 2x internal			
	CFast	-	1x Type II			
Mechanical	Dimensions	80(W)x 219 (D) x 210(H) or 142 (W) x219 (D) x210(H)	MXC-6620 series: 165 (W) x 240 (D) x 210 (H) mm (6.5" x 9.45" x 8.27") MXC-6640 series: 206 (W) x 240 (D) x 210 (H) mm (8.11" x 9.45" x 8.27")			
	Weight	2.2 kg	MXC-6620 series : 4.6 kg (10.2 lbs) MXC-6640 series : 4.9 kg (10.8 lbs)			
	Mounting	Wall-mount kit	Wall mount			
Power Supply	DC Input	9V-36V DC input pluggable connectors with latch (GND, V-, V+)	9 to 32V (± 10% tolerance)			
	AC Input	Optional 100 W external AC-DC adapter for AC input	Optional: 220W or 280W AC/DC adapter			
Environmental	Operating Temperature	Standard: -15°C to 55°C (No air flow)	Standard: 0°C to 50°C w/ airflow Extended temperature (w/ ind. storage, airflow) -20°C to 70°C (-4˚F to 158˚F) (only support single SODIMM) -20°C to 60°C (-4˚F to 140˚F) (w/ dual SODIMMs)			
	Storage Temperature	-40°C to 85°C (-40˚F to 185˚F) (excl. HDD/SDD/CF)	-40°C to 85°C (-40°F to 185°F) (excluding storage)			
	Humidity	~95% @ 40°C (104˚F) (non-condensing)	~95% @ 40°C (104°F) (non-condensing)			
	Vibration	Wall Mount/ DIN Rail: 3 Grms, IEC 60068-2-64, random vibration, 5-500 Hz, 1 hr/axis	Operating: 5 Grms, 5-500 Hz, 3 axes (w/ SSD/CFast) Operating: 0.5 Grms, 5-500 Hz, 3 axes (w/ HDD)			
	Shock	30G, IEC60068-2-27, half sine, 11m duration	Operating: 100 Grms, half sine 11ms duration (w/ SSD/CFast)			
	ESD	Contact +/-4 KV and Air +/-8 KV	Contact ±8KV, Air ±15KV			
	EMC	CE and FCC Class B	EN61000-6-4/-2, CE & FCC Class B with validated AC/DC adapter			
	Safety	UL/cUL, CB	UL/cUL, CB			
Manageability	Security	TPM 2.0	TPM 2.0			

Integrated Embedded Computers MXE Series & IIoT Gateway

Type		Compact	Ultra Compact
Model		MXE-310	MXE-230
System Core	Processor	Intel® Raptor Lake Processor i3-1315UE i5-1340PE	Intel® Alder Lake Processor, N97
	Core	6	4
	Base Freq	1.6 GHz	2 GHz
	MAX Turbo Freq.	4.5 GHz	3.6 GHz
	Memory	2x DDR5 SO-DIMMs, up to 4800MHz	1x 8G DDR5 SO-DIMMs, up to 32G
	OS Support	Windows® 10/11 IoT Enterprise LTSC 21H2 (64bit) Ubuntu Desktop 22.04	
I/O Interfaces	Display	1x DP, 1x HDMI (2x HDMI ,Optional), 1 Type-C	1x DP and 1x HDMI
	Ethernet	2x LAN (LAN1 Intel® i219IT LAN2 Intel® i225IT, support 2.5Gbps) 6x LAN (optional)	2x Gbe (Intel® i210IT, support 1Gbps/ 100Mbps / 10Mbps) 4x GbE ports (Optional)
	Serial Ports	2x RS-232/422/485 DB9 connector 2x RS-232 DB9 connector	2x RS-232/422/485 DB9 Connector 4x RS-232/422/485 DB9 Connector (Optional)
	USB	3x USB 2.0 2x USB 3.2 1x USB4 (Type-C) 6x USB 3.2 Gen1 (Optional)	1x USB 3.2 Gen 2x1 ports (10Gbps) (Type-A) 3x USB 2.0 (Type-A) 7x USB 2.0 (Optional)
	Audio	ALC888S, 1x line-in/ line-out, MIC-in	ALC888S, 1x line-in/ line-out, MIC-in
	Mini PCIe	-	-
	M.2	M.2 2280 M Key (PCIe x4) M.2 2230 E Key (PCIe x1, USB 2.0) M.2 3042 B-key (USB 3.0/2.0)	M.2 2280 M Key (PCIex2) M.2 2230 E Key with (Wi-Fi (PCIex1), BT(USB2.0)) M.2 3042 B-key (USB3.0/2.0) w/ SIM card
	DI/O	8-ch DI and 8-ch DO (Optional)	Isolated 8x DI + 8x DO (Optional)
	I2C	-	Yes
	Expansion Slots	Yes (Function Board)	Yes (Function Board)
Storage Devices	2.5" SATA	1x SATA III 6Gb/s for 2.5inch SSD	1x SATA III 6Gb/s for 2.5inch SSD
	M.2	M.2 2280 M Key (PCIex4)	M.2 2280 M Key (PCIex2)
Mechanical	Dimensions	180 x 130 x70 mm	165 x 120 x 62 mm (6.49" x 4.72" x 2.44" inch)
	Weight	1.2 Kg	1 kg
	Mounting	Wall-mount kit	Wall-mount kit
Power Supply	DC Input	12-24V +-5%	12-24V +-5%
	AC Input	Optional 120 W AC/DC adapter	Optional 120 W AC/DC adapter
Environmental	Operating Temperature	-20°C to 60°C	-20°C to 60°C
	Storage Temperature	-40°C to 85°C	-40°C to 85°C
	Humidity	Approx. ~95% @40°C (non-condensing)	Approx. ~95% @40°C (non-condensing)
	Vibration	Wall Mount/ DIN Rail: 3 Grms, IEC 60068-2-64, random vibration, 5 to 500 Hz, 1 hr/axis	Wall Mount/ DIN Rail: 3 Grms, IEC 60068-2-64, random vibration, 5 to 500 Hz, 1 hr/axis
	Shock	30G, IEC60068-2-27, half sine, 11m duration	30G, IEC60068-2-27, half sine, 11m duration
	ESD	Contact +/- 4 KV, Air +/- 8 KV	Contact +/- 4 KV, Air +/- 8 KV
	EMC	CE IEC-61000-4 and FCC Class B	CE IEC-61000-4 and FCC Class B
	Safety	UL 62368	UL 62368
Manageability	Watchdog Timer	Yes	Yes
	Security	TPM 2.0	TPM 2.0

Type		IIoT Gateway
Model		MXA-200
System	CPU	NXP i.MX8M Plus with Quad core ARM Cortex-A53, 1.8GHz
	Memory	LPDDR4 2GB/ 4GB 4000 MT/s
	Main storage	32GB/64GB eMMC (Onboard)
	Sub storage	microSD
	TPM	TPM 2.0
	RTC	Monthly difference max.180sec
	WDT	Support Watch dog timer
I/O Interfaces	USB	2x USB 3.0 Type A
	Ethernet	2x GbE
	COM	2x isolated RS-232/422/485 4-wire
	SATA	NA
	Display output	1x HDMI up to 3840 x 2160 at 30Hz
	M.2	1x M.2 2230 E-key for WiFi/BT 1x M.2 2242 B-key (USB 3.0) for 5G or 4G/LTE
	Power supply	12-24VDC
Mechanical and Environmental	Operating Temperature	-20°C to 70°C
	Storage Temperature	-25°C to 85°C
	Dimensions	131 (W) x 110.5 (D) x 40 (H) mm (5.16" x 1.57" x 4.35")
	Mounting	Din rail/Wall
	Vibration resistance	IEC/EN 61131-2 compliant 5 to 9 Hz Single amplitude 3.5 mm (0.14 in) 9 to 150 Hz Fixed acceleration: 9.8 m/s2 X, Y, Z directions for 10 cycles (approximately 100 minutes)
	Shock resistance	IEC/EN 61131-2 compliant 147 m/s2, X, Y, Z directions for 3 times
	Electrical fast transient	IEC 61000-4-4
	burst immunity	2 kV: Power port,1 kV: Signal ports
	ESD immunity	IEC/EN 61000-4-2 Level 3 Contact discharge method: 6 kV, Air discharge method: 8 kV
Certification	UL	cULus 61010 for IT equipment's
	EMC	CE / FCC class A/ UKCA / RCM / KC / EAC
	Safety	NA

Deep Learning Acceleration Platforms

Expanding AI Frontiers in Manufacturing, Retail, and Beyond

/// NVDIA-Based DLAP
Powered by Jetson Orin™, Xavier™ modules

DLAP

/// Intel-Based DLAP
Powered by Xeon®, Core™ processors

Highlights

AI Powerhouse with Industrial-Grade Resilience

- Supports the latest MXM and PEG graphic cards (Intel-Based)
- Strong AI Performance up to 275 TOPS (NVIDIA-Based)
- Abundant I/O with fanless and expandable design
- Wide operating temperature of -20°C to +85°C

Diverse Sensor Integration and Software Support

- Enhanced connectivity for various sensors, including out-of-band (OOB)
- Support in-house EVA and EdgeGO® SDKs for AI model proof of concept and remote device management
- Customized BSP supports various OSes and assorted functional SDKs

Versatile Application Scope with AI

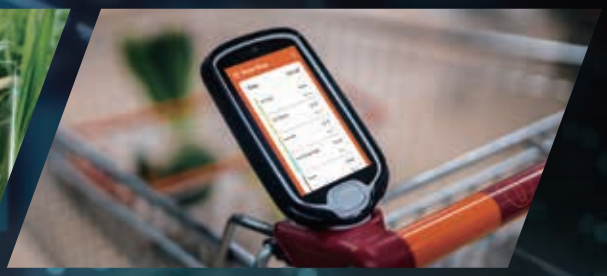
- Monitoring agriculture and aquaculture
- Automating factories
- Operating unmanned stores
- Managing traffic and parking
- Enhancing public safety

Applications

Smart Manufacturing

Smart Parking Meters

Smart Farming



Intelligent Retail Stores

ADLINK's DLAP series provides robust, compact, industrial-grade fanless platforms, purpose-built for AI-based applications in challenging environments. Equipped with high-performance Intel™ processors or NVIDIA® Jetson™ modules, these systems excel at tackling complex AI tasks. They are well-suited for various applications, including retail, parking, agriculture, and manufacturing. These platforms are specifically designed to excel in industrial and embedded settings. They prioritize SWaP optimization (Size, Weight, and Power), ensuring exceptional durability even under extreme temperatures, shocks, and humidity.

Intel-Based

Compact

Expandable

- Ultimate system computing with high-performance Intel CPUs and powerful MXM and PEG graphic cards
- Robust and rugged design with abundant I/O and expansion slots
- User-friendly and modular hardware design for easy maintenance

NVIDIA-Based

Jetson Xavier™

Jetson Orin™

- Strong AI performance up to 275 TOPS
- Compact and fanless design with expansion slot
- Low power consumption with wide operating Temperature of -20°C to +85°C

Application Stories

AI AOI Solution with Phison at ADLINK Factory

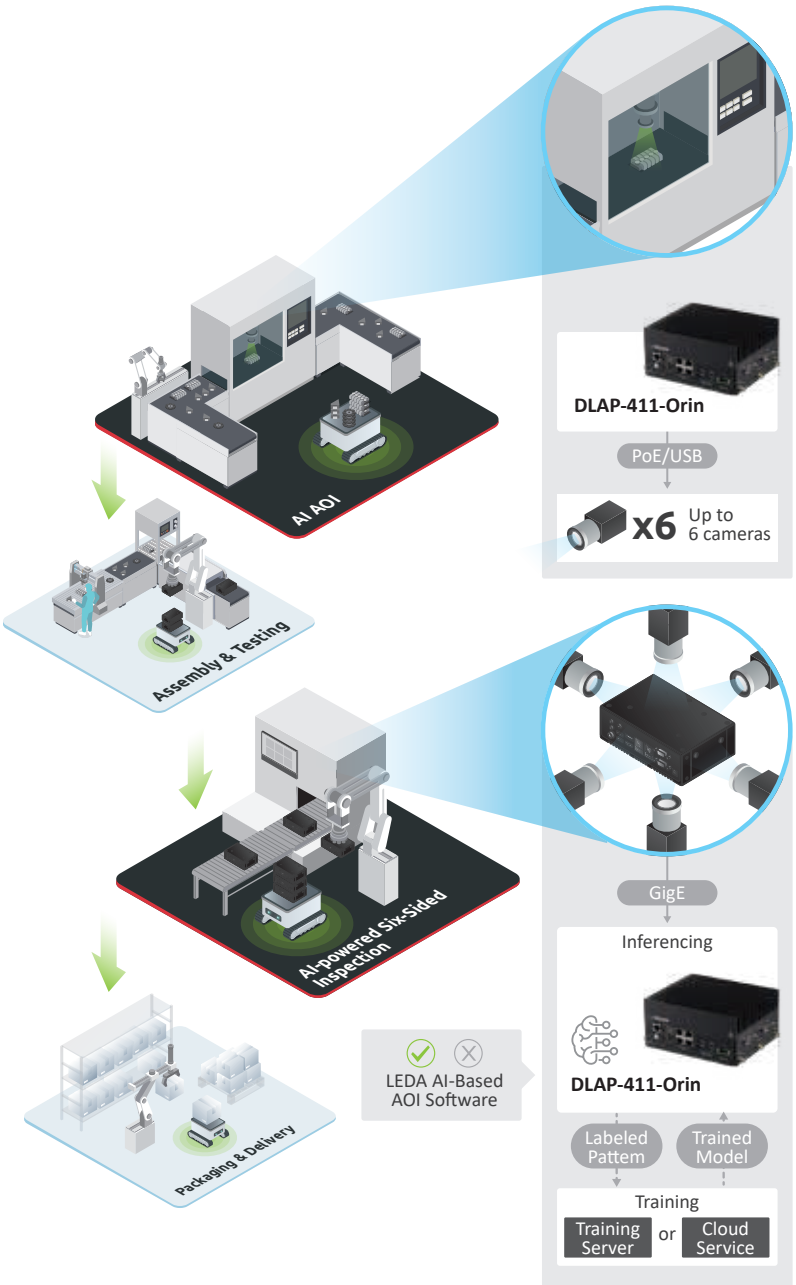
AI in automated optical inspection (AOI) enhances defect detection accuracy, processes data rapidly, and adapts to new manufacturing variations. It reduces labor costs, provides real-time production feedback, and is scalable. AI-driven AOI also integrates with other manufacturing technologies, improving overall production quality and efficiency.

Challenges & Requirements

- Acquiring high-quality and diverse datasets for training AI models is often difficult. Factories must capture a wide range of defects across different products, which requires extensive data labeling and management efforts.
- Aligning AI AOI systems with current production lines and machinery can be complex, requiring customization and modifications that can disrupt ongoing operations.

Solution & Insight

- The DLAP platforms are validated devices that work with the Phison AI software and AOI machines, a faster deployment process.
- The DLAP platforms optimize AI algorithms for local conditions, enhancing defect detection's accuracy and efficiency, reducing OP Leakage, and decreasing false positives and negatives in AOI. This leads to an improved First Pass Yield (FPY) rate.



Challenges & Requirements

- Factories need to collect extensive data on various product defects, involving significant expenses in data labeling, management, and resource allocation.

Solution & Insight

- The DLAP platform eliminates manual inspection, markedly cutting down inspection times.
- AI within the NVIDIA Omniverse is used to generate virtual models, predicting potential defects on all six sides of products.
- These virtual models include a range of potential imperfections, such as scratches and missing components like dust covers, screws, and stickers, enabling a thorough comparison with the actual product.

AI-Powered Six-Sided Product Case Inspection by ADLINK

No more manual inspection needed. This solution automatically examines the product appearance from all six sides and identifies missing parts and defects.

Challenges & Requirements

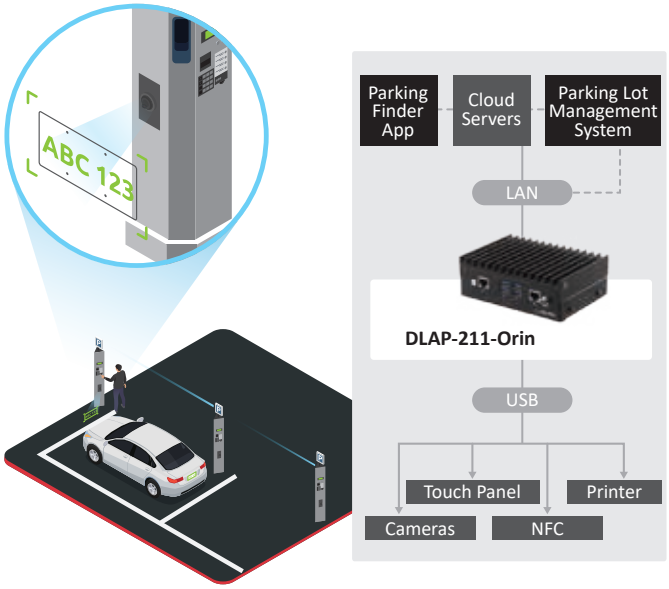
- Improving traditional parking with advanced technology.
- Monitoring spaces to stop overstay and unauthorized use.
- Employing AI for better license plate recognition and enforcement.

Solution & Insight

- Equipped with high-speed USB 3.2 for connectivity flexibility.
- Ensures reliable performance in any environments.
- Durable, fanless construction resists extreme conditions and shocks.

Smart Parking Meters

Smart parking meters are transforming municipal parking by improving enforcement, lowering maintenance costs, and collecting vital traffic data. Unlike traditional systems, these meters utilize advanced technology to monitor parking spaces, prevent overstays and unauthorized use, and enhance license plate recognition through AI and machine learning, thereby enforcing regulations more effectively.



Challenges & Requirements

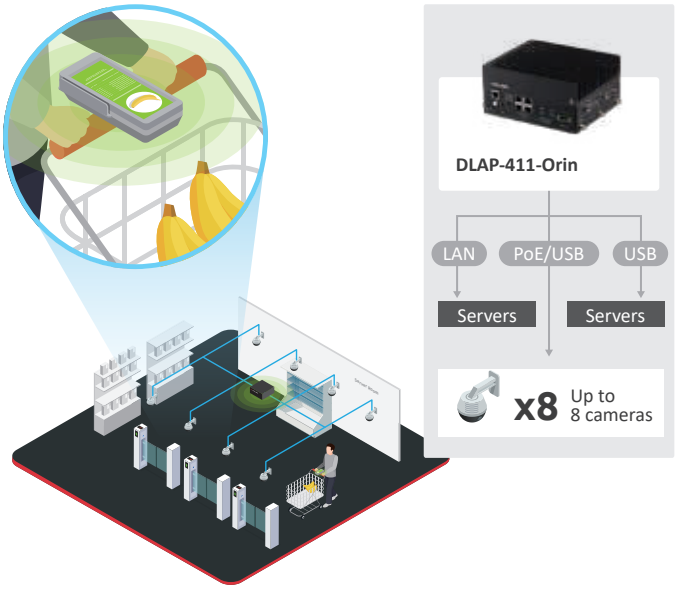
Implementing intelligent store solutions require intricate integration of edge devices, AI, and automation with existing systems, demanding significant technical expertise, investment in infrastructure, and overcoming interoperability challenges.

Solution & Insight

- DLAP-411-Orin features four PoE ports and four USB ports, connecting up to eight cameras, cutting costs.
- DLAP-411-Orin, the smallest in its class, easily deploys in space-constrained settings.
- DLAP-411-Orin, with Jetson AGX Orin module, provides 275 TOPS of AI computing power for real-time analysis of consumer behavior, shopping patterns, customer assistance needs, and age estimation to prevent underage alcohol sales.

Intelligent Retail Stores

Intelligent stores are essential for future-proofing in retail, offering personalized experiences and operational efficiency through AI, IoT, and automation. This digital integration helps retailers stay competitive and relevant in a fast-evolving market, meeting the demands of tech-savvy consumers.



NVIDIA-Based DLAP Series

Type		Jetson Orin NX™		Jetson Orin Nano™		Jetson Xavier NX™	
Model		DLAP-211-Series					
AI Performance		70 TOPS	100 TOPS	20 TOPS	40 TOPS	21 TOPS	
System	GPU	1024-core NVIDIA Ampere GPU with 32 Tensor Cores		512-core NVIDIA Ampere architecture GPU with 16 Tensor Cores	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores	384-core NVIDIA Volta™ architecture GPU with 48 Tensor Cores	
	CPU	6-core Arm® Cortex®-A78AE v8.2 64- bit CPU 1.5MB L2 + 4MB L3	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3		6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6MB L2 + 4MB L3	
	RAM	8G	16G	4G	8 G	8GB/16GB	8GB
	Storage	128GB M.2 2242 PCIe Gen3x4				16 GB eMMC 5.1	
	OS	Linux® Ubuntu					
Front I/O Interfaces	Button	1x power, 1x reset, 1x recovery					
	HDMI	1x lockable					
	USB	4x USB 3.0 Type-A					
	Ethernet	2x 10/100/1000Mbps Ethernet					
	For S models Only	2x I2-C, 2x SPI, 1x UART, 8x GPIO, Relay through 1x 37pin D sub connector					
Back I/O Interfaces	USB	1x USB 2.0 OTG					
	Serial Port	1x COM RS-232/RS-422/RS-485					
	CAN Bus	1x 2.0b					
Expansion Slots	Mini PCIe	1x PCIe mini card slot					
	M.2	1x M.2 B key 2242 socket					
	SD Card	-				1x SD card slot	
Power Supply	DC Input	12V					
	AC Input	60W , OP Temp Max: 45°C	84W ,OP Temp Max: 55°C	60W , OP Temp Max: 45°C		60W, OP Temp Max: 55°C	
Mechanical	Dimensions (W x D x H)	148mm x 120mm x 52mm (DLAP-211-Orin NX/Orin Nano) 148mm x 120mm x 64mm (DLAP-211-Orin NXS/Orin NanoS)				148mm x 120mm x 52mm (DLAP-211-JNX) 148mm x 120mm x 64mm (DLAP-211-JNXS)	
	Weight	Gross 1.7kg/ Net 1.01kg (DLAP-211-Orin NX/Orin Nano) Gross 1.85kg/ Net 1.16kg (DLAP-211-Orin NXS/Orin NanoS)				Gross 1.7kg/ Net 1.01kg (DLAP-211-JNX) Gross 1.85kg/ Net 1.16kg (DLAP-211-JNXS)	
	Mounting	Wall mount, VESA DIN rail (optional)					
	SMA Antenna Connector	4					
Environmental	Operating Temperature	Standard -20°C to 70°C (system level), -20°C to 85°C (board level) without adapter					
	Operating Humidity	~95% @40°C (non-condensing, optional with fanless solution) without adapter					
	Storage Temperature	-40°C to 85°C					
	Vibration	Operating 5Grms, 5-500Hz, 3 axes w/M.2 SSD					
	Shock	Operating 100G, half sine 11ms duration w/ SD, M.2 SSD					
	ESD	Contact ± 4kV, Air ± 8kV					
	Regularity	CE & FCC class B, (EN61000-6-4/-6-2), CE-LVD & UL by CB, FCCID					
F/W Support	WDT	WDT supported					

Type		Jetson AGX Orin™	
Model		DLAP-411-Orin	
AI Performance		200 TOPS	275TOPS
System	GPU	NVIDIA Ampere architecture with 1792 NVIDIA® CUDA® cores and 56 Tensor Cores	NVIDIA Ampere architecture with 2048 NVIDIA® CUDA® cores and 64 Tensor Cores
	CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L	12-core Arm® Cortex®-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
	RAM	32GB 256-bit LPDDR5	64GB 256-bit LPDDR5
	Storage	64GB eMMC 5.1	
	OS	Linux® Ubuntu	
Front I/O Interfaces	Button	1x power, 1x reset, 1x recovery	
	HDMI	1x HDMI (Max. resolution 3840x2160 @ 60Hz)	
	USB	4x USB 3.2 Gen2 Type-A	
	Ethernet	4x 10/100/1000Mbps Ethernets (Optional PoE support, IEEE 802.3af/at)	
	Audio	Mic-in (Mono), Line-out (Stereo)	
	I/O Connector	2x D-sub 26-pin connector (GPIO, I2C, SPI) provide cable for expansion	
Back I/O Interfaces	USB	1x USB 3.2 Gen2 Type-C (OTG)	
	Serial Port	1x COM RS-232/RS-422/RS-485 (DB9)	
	CAN Bus	1x 2.0b, isolated (DB9)	
Expansion Slots	M.2	1x M.2 M key 2242 and 2280 PCIe Gen4 1x M.2 B key 3042 and 3052 for 5G/LTE M.2 E key 2230 for Wifi	
	SD Card	1x MicroSD Slot	
	Out-Of-Band (OOB)	Support Ethernet and Wifi, monitoring and managing at remote locations (thermal sensor, remote power on/off, restart, monitor debug port detection device status.)	
LED indicator		6x user defined LEDs	
Power Supply	DC Input	24V	
	AC Input	160 up to 220W power adapter	
	Power switch	1x Power ON/OFF Button (AT/ATX , Default : AT)	
Mechanical	Dimensions (W x D x H)	175x 145x 85mm	
	Weight	2.2 kg	
	Mounting	Wall mount, VESA DIN rail (optional)	
	SMA Antenna Connector	6	
Environmental	Operating Temperature	For 32GB -20°C to 60°C with 0.6m/s airflow, at 40W (without wifi module, M.2 SSD) -20°C to 55°C with 0.6m/s airflow, at MAXN (without wifi module, M.2 SSD) For 64GB -20°C to 55°C with 0.6m/s airflow, at 50W (without wifi module, M.2 SSD) -20°C to 40°C with 0.6m/s airflow, at MAXN (without wifi module, M.2 SSD)	
	Operating Humidity	~95% @40°C (non-condensing, optional with fanless solution)	
	Storage Temperature	-40°C to 85°C	
	Vibration	Operating 5Grms, 5-500Hz, 3 axes w/M.2 SSD	
	Shock	Operating 100G, half sine 11ms duration w/ SD, M.2 SSD	
	ESD	Contact ± 4kV, Air ± 8kV	
	Regularity	CE & FCC class B, (EN61000-6-4/-6-2), CE-LVD & UL by CB, FCCID	
Internal	Thermal sensor	1x Thermal sensor	
F/W Support	WDT	WDT supported	

Type		Jetson AGX Xavier™
Model		DLAP-401-Xavier
AI Performance		32 TOPS
System	GPU	512-core Volta™ GPU with 64 Tensor Cores
	CPU	8-core ARM® v8.2 64-bit
	RAM	32GB
	Storage	32GB eMMC
	OS	Linux® Ubuntu
Front I/O Interfaces	Button	1x power, 1 reset, 1 recovery
	USB	3x USB 3.1 Gen. 1 Type-A
	eSATA	1
	HDMI	1
Side I/O Interfaces	USB	1x USB 3.1 Type C (OTG)
	Ethernet	2x 10/100/1000Mbps Ethernet
	CAN Bus	1 (2.0b)
	M.2	M.2 B key 2242 (nvme/sata)/ M.2 B key 3042 (LTE) M.2 E key 2230 (Wi-Fi)
Power Supply	DC Input	24V
	AC Input	160W power adapter
Mechanical	Dimensions (W x D x H)	150mm x 145mm x 85mm
	Weight	2 KG
	Mounting	Wall mountable
	SMA Antenna Connector	2
Environmental	Operating Temperature	-20°C to 60°C
	Operating Humidity	~95% @40°C (non-condensing, optional with fanless solution
	Storage Temperature	-40°C to 85°C
	Vibration	Operating 1Grms, 5-500Hz, 3 axes w/ nvme 2242
	Shock	Operating 20G, half sine 11ms duration w/ nvme 2242

Intel-Based DLAP Series



Type		Compact		
Model		DLAP-3000 Series	DLAP-3100 Series	DLAP-3200 Series
System	GPU	NVIDIA RTX A500, A1000, A2000, A4500 (MXM Support)		
	CPU	9th Gen Intel® Core™ processors, up to 65W		
	Chipset	Intel® H310 Chipset	Intel® Q370 Chipset	
	RAM	Non-ECC DDR4 2666/2400MHz, 2x SO-DIMM, up to 64GB		
	Storage	2x 2.5" SATA 6Gb/s external drive bays 1x SATA 6Gb/s signal via M.2 B key connector	2x SATA 6Gb/s, one SATA power connector 2x SATA 6Gb/s signals via M.2 M & B key connector Intel® RST RAID Support	
	OS	Windows 10 IoT LTSC, Windows 10 Professional, and Windows 11 IoT, Ubuntu 22.04		
I/O Interfaces	Display	6x DisplayPort (2 from CPU, 4 from MXM)		
	Ethernet	1x GbE (Intel® i219-LM), 3x GbE (Intel® i210-AT)	1x GbE (Intel® i219-LM), 3x GbE/5x GbE (Intel® i210-AT)	1x GbE (Intel® i219-LM), 3x GbE (Intel® i210-AT)
	Serial Ports	1x RS-232/422/485, 1x RS-232		
	USB	4x USB 3.2 Gen1 x1 ports, 4x USB 2.0 ports	6x USB 3.2 Gen1x1 ports, 2x USB 2.0 ports	
	M.2	1x M.2 E key supporting 1630 or 2230 for Wi-Fi/BT module, 1x M.2 B key supporting 2242 or 2280 for Wi-Fi/BT module	1x M.2 E key supporting 1630 or 2230 for Wi-Fi/Bluetooth module 1x M.2 B key supporting 2242 or 2280 for Wi-Fi/Bluetooth module 1x M.2 M key supporting 2242 or 2280 for PCIe x4 storage module	
	Digital IO	-	1x DI/DO with 4-in, 4-out	
	Audio	Mic-in, L/R speaker-out (6W + 6W)(Optional)		
	TPM 2.0	Default: w/o TPM	Yes, TPM2.0	
	Expansion slot	-		2x PCIe Gen3 x4 expansion slot for Full Height Half Length add on card, each slot is 25W power budget and additiotal Molex 4 pin power cable (12V/1.5A and 5V/2A) support
Mechanical	Dimensions	235 x 182 x 75mm (W x D x H)		235 x 182 x 130 mm (W x D x H)
	Mounting	Wall-mount bracket (Optional)		
Power Supply	DC Input	DC 12V input (Molex DC-in jack)		
	AC Input	Optional: 240W (12V/20A) AC/DC adapter Optional: 500W (12V/41.7A) AC/DC power supply unit		
Environmental	Operating Temperature	0°C to 50°C (W/MXM module except RTX-5000, W/SSD 0°C to 40°C (W/MXM RTX-5000, W/SSD)		
	Storage Temperature	-20°C to 70°C		
	Humidity	5% to 95%, non-condensing		
	Vibration	Operating vibration: 2Grms, 5-500Hz, 3 axes, Package(NON-OP) vibration: 3Grms, 10-1000Hz, 3 axes (W/MXM, W/SSD)		
	Operating and Package (NON-OP) shock	30G, 11ms duration, half sine (W/MXM, W/SSD)		
	EMC	EN55032/35, EN61000-6-2/-4, CE, FCC Part 15B Class B (W/240W adaptor), Class A (W/500W PSU)		
	Safety	UL/cUL and CB		

Type		Expandable			
Model		**DLAP-4000 Series**	**DLAP-5200 Series**		**DLAP-8000 Series**
System	GPU	NVIDIA RTX A4000, RTX 4000 SFF Ada	NVIDIA RTX A1000, A2000, T1000, Intel A370M (MXM Support)		NVIDIA RTX A4000, RTX 4000 SFF Ada
	CPU	9th Gen Intel® Core™ processors, up to 65W	12/13th Gen. Intel® Core™ Processors, up to 65W		9th Gen Intel® Core™ processors, up to 80W
	Chipset	Intel® H310 Chipset	Intel® R680 Chipset		Intel® C246 Chipset
	RAM	Non-ECC DDR4 2666/2400MHz, 2x SO-DIMM, up to 64GB	Max. 128GB, DDR5 4x SO-DIMMs, up to 4800MHz		DDR4 2400MHz, dual SODIMMs, up to 64GB
	Storage	2x 2.5" SATA 6Gb/s internal drive bays			4x external swappable trays (supports RAID 0, 1, 5, 10)
	OS	Windows 10 IoT LTSC, Windows 10 Professional, and Windows 11 IoT, Ubuntu 22.04			
I/O Interfaces	Display	1x DVI-D, 1x DisplayPort, 1x HDMI	2x HDMI 1.4b 3x DisplayPort 1.4 (1x from MXM module)	2x HDMI 1.4b 6x DisplayPort 1.4 (4x from MXM module)	2x DP++ and 1x DVI-I
	Ethernet	2x GbE (Realtek RTL8111G)	6x 2.5GbE with TSN supported (i225)	3x 2.5GbE with TSN supported (i225)	3x Intel® GbE: 2x i211AT + 1x i219 iAMT support
	Serial Ports	1x RS-232/422/485, 4x RS-232	2x RS-232/422/485	2x RS-232/422/485 1x RS-232	COM1/2: RS-232/422/485, COM3/4: RS-232
	USB	4x USB 3.1 Gen1 ports, 2x USB 2.0 ports	4x USB 3.2 Gen2 (Type A) 2x USB 3.1 Gen2 (Type A)		2x USB 3.1 Gen 2 + 1x USB 3.1 Gen 1 + 3x USB 2.0, 1x internal USB 2.0 dongle
	Mini PCIe	1x Mini PCIe slot (USB 2.0 and PCIe x1)	-		1x Full size (USB 2.0 + PCIe)
	M.2	1x M.2 M key (PCIe x4)	1x M.2 2280 M Key 1x M.2 2230 E Key		1x socket, key B+M, 2280/3042: USB 3.1 Gen 1, SATA 6 Gb/s and PCIe x2
	Digital IO	1x 8-bit GPIO	-		8-ch DI and 8-ch DO
	Audio	Mic-in, Line-out, Line-in	-		Line-out, Mic-in (Optional: speaker-out)
	TPM 2.0	optional	Yes, TPM2.0		
	Expansion slot	1x PCIe x16 slot	-		Physical: 2x PCIe x16, 2x PCIe x8, 1x PCIe x4; Signal: 2x PCIe x8, 2x PCIe x4, 1x PCIe x1
Mechanical	Dimensions	220 x 300 x 150 mm (W x D x H)	125 x 240 x 210mm (W x D x H)		210 x 210 x 350 mm (W x D x H)
	Mounting	-	Wall mount		
	Weight	-	7 kg		7 kg for DC sku, 10 kg for AC sku
Power Supply	DC Input	-	12-24Vdc (terminal block		24 Vdc (terminal block) for DC sku
	AC Input	100 - 240 VAC	Optional: 280W (12V/20A) AC/DC adapter		100 - 240 VAC for AC sku
Environmental	Operating Temperature	0°C to 50°C	-20°C to 50°C (35W CPU) -20°C to 40°C (65W CPU)		0°C to 50°C
	Storage Temperature	-20°C to 60°C	-40°C to 85°C (-40°F to 185°F) (excluding storage)		
	Humidity	5% to 90%, non-condensing	~95% @ 40°C (104°F) (non-condensing)		
	Vibration	Operating: 1Grms, 5-500Hz, 3 axes (with 2.5" SSD and PEG card) Non-operating: 2Grms, 5-500Hz, 3 axes	Operating: 3 Grms, 5-500 Hz, 3 axes (w/ SSD/CFast)		
	Operating and Package (NON-OP) shock	Operating: 20G, 11ms duration, half sine Non-operating: 30G, 11ms duration, half sine	Operating: 30 Grms, half sine 11ms duration (w/ SSD/CFast)		
	EMC	EN55032/35, EN61000-6-2/-4, CE, FCC Part 15B Class B	EN61000-6-4/-2, CE & FCC Class A		
	Safety	UL/cUL and CB			

Fanless ROS 2 Robotic Controllers

Unleashing the Potential of Robotics and Autonomous Vehicles

/// ROScube–X

AI robotic controller powered by NVIDIA® Jetson™ module for real-time sensor fusion

/// ROScube–Pico TGL

Compact robotic controller powered by Intel® CPU for quick and easy development

/// ROScube–I

Intelligent robotic controller powered by Intel® CPU for complex data processing

Highlights

Real-Time Sensor Fusion

- Frame Sync between cameras and LiDAR (RQX series only)
- 10+ ready-to-use camera drivers available
- Customized BSPs for enhanced compatibility

ROS 2 Compatible

- Designed to seamlessly integrate with ROS 2 and its ecosystem
- Gain access to a wider range of ROS 2 libraries and tools, enriching the development environment

Robust Resilience Design

- Fanless and Expandable Design
- Lockable USB ports
- Mini FAKRA connectors for up to 8 GMSL2 and FPD-Link III cameras (RQX series only)
- Awarded 2023 IoT Evolution Edge Computing Excellence Award

Applications

Forklift Robot

Delivery Robot

Security Robot

Autonomous Vehicle

The pivotal role of the robotic controller is central to the performance, reliability, and adaptability of the AMR system. It integrates sensor data, decision-making algorithms, and task execution logic, enabling efficient and safe navigation, interaction with the environment, and task completion. Its effectiveness directly impacts the entire AMR system's performance, reliability, and adaptability. Consequently, ADLINK has developed the ROScube, a highly versatile fanless ROS 2 robotic controller family, consisting of ROScube-X, ROScube-I, and ROScube-Pico TGL.

Perception Design-In Service

Streamline Robot Development with ADLINK's Edge Perception Integration

ADLINK offers comprehensive integration design-in services for edge perception systems, artificial intelligence, sensors, and robotic peripherals, aiming to expedite robot development for their customers.

Application Stories

Next-Gen Logistics Automation

Project Purpose

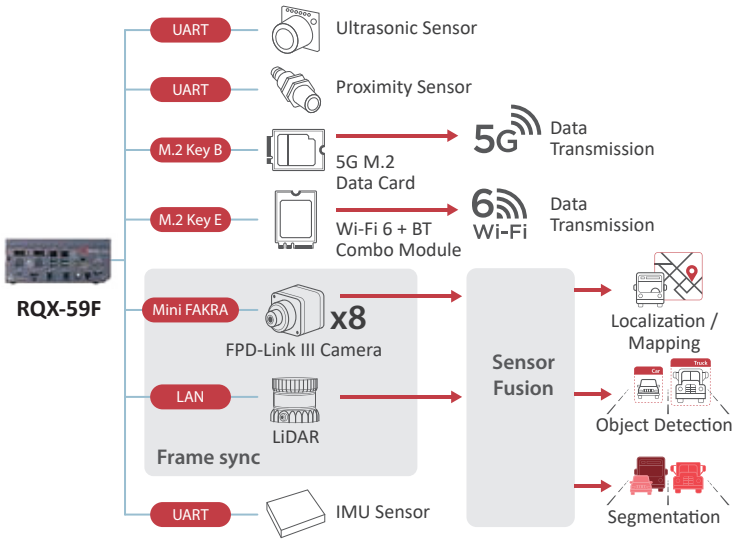
- Growing demand for smarter and more flexible AGV systems.
- AMRs offering efficient solutions amid rising labor costs.
- Minimizing workplace injuries caused by incorrect machine handling.

Challenges & Requirements

- Covering a wide geographic area and transporting heavy goods over long distances.
- Must maintain daily productivity with limited staff resources.

Solution & Insight

- ADLINK's RQX-59F can support various types of LiDAR and up to 8 FPD-Link III cameras. It processes sensor data in real time and enables forklift robots to navigate safely in narrow spaces, even with big and heavy cargo.
- A forklift robot can do the work of several workers and never get tired, reducing labor costs yet improving work efficiency.



Automated Public Safety Patrol

Project Purpose

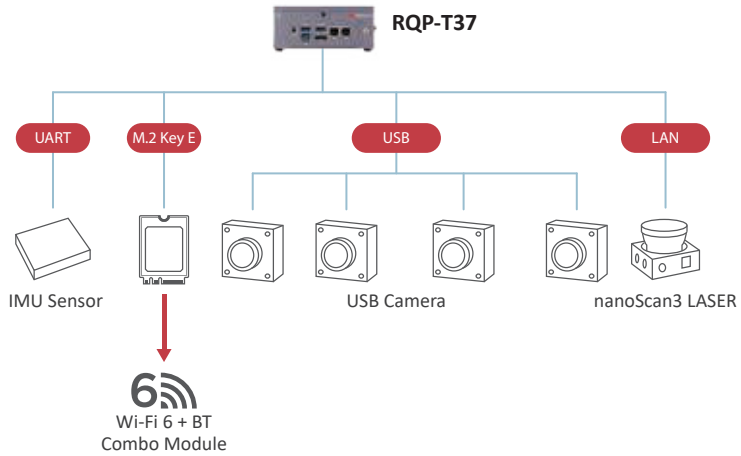
- Security robots can be programmed to follow specific routes and protocols, ensuring reliable coverage without distractions or human errors.
- Security robots can handle real-time threats using the processed data received from various sensors, replacing human guards in hazardous environments.

Challenges & Requirements

- The robots should be able to issue visual, audio, and smoke warnings to suspicious individuals and apprehend perpetrators.
- The robot should be able to patrol public areas and address potential threats automatically. Plus, it should be able to react quickly.

Solution & Insight

- The RQP-T37 enables complex tasks like facial recognition and object detection and can also facilitate real-time data processing for quick decision-making.
- The RQP-T37 is a compact and energy-efficient device that significantly reduces power consumption in security robots.



Challenges & Requirements

- Ensuring safe and reliable automated navigation in dynamic and unpredictable environments.
- Designing and integrating robust sensor systems for accurate perception and obstacle avoidance.

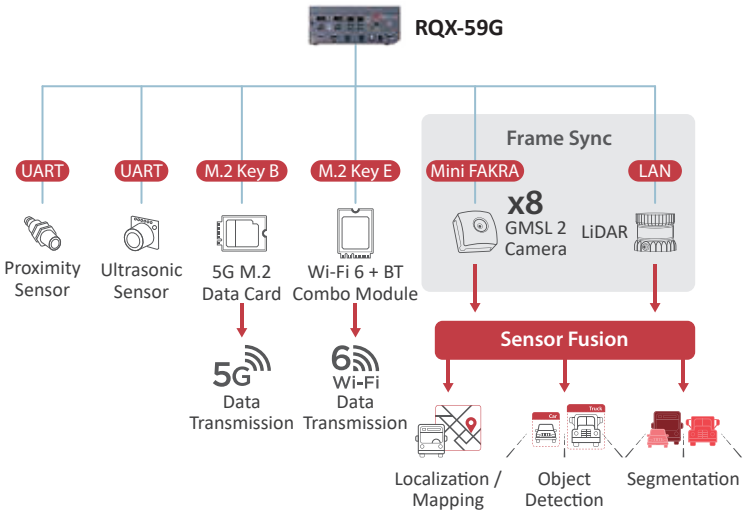
Solution & Insight

- ADLINK's RQX-59G supports the integration of various sensors, such as cameras and LiDAR, and effectively collects and processes sensor fusion data for reliable navigation and obstacle detection in dynamic environments.
- ADLINK's RQX-59G has a wide temperature operating range, ensuring performance and reliable operation in summer heat.

24/7 Automated Delivery Service

Project Purpose

- Increasing demand for contactless, efficient delivery.
- Fulfilling 24/7 delivery services while addressing labor shortages in the delivery industry.
- Cost-effective alternative to traditional delivery services.



Challenges & Requirements

- Seamless integration of hardware and software components with robust middleware.
- Achieving precise synchronization between LiDAR and multiple automotive cameras is crucial.
- Advanced computing is necessary for safety measurements and monitoring.

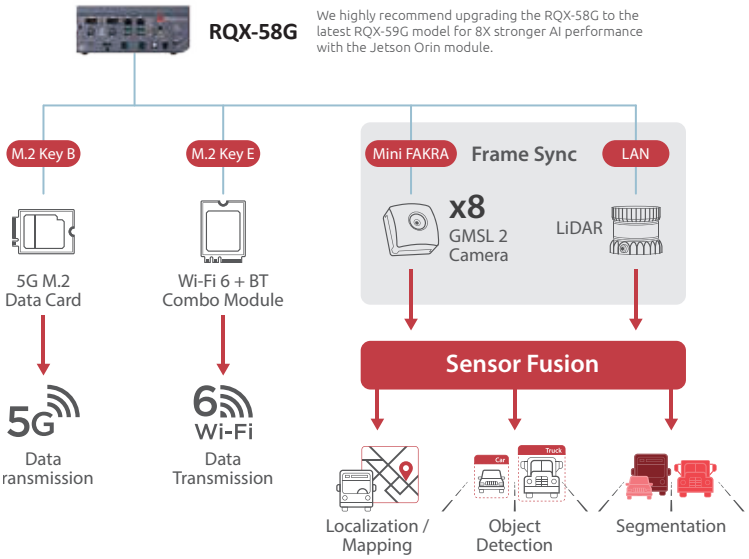
Solution & Insight

- TIER IV has implemented an Edge Perception Development Kit for self-driving buses at airports and in crowded cities.
- The Edge Perception Development Kit includes ADLINK's ROScube RQX-58G controller and TIER IV's C1/C2 cameras.
- ADLINK's RQX-58G excels in supporting sensor fusion data processing and simultaneously supporting up to 8 automotive GMSL2 cameras.

The Future of Public Transit

Project Purpose

- Autonomous vehicles are equipped with advanced sensors and artificial intelligence, reducing human errors and accidents caused by distractions, fatigue, or impaired driving.
- Autonomous vehicles can communicate with each other and optimize traffic flow, leading to smoother and more efficient transportation systems.



NVIDIA-Based ROScube Series

Type		ROScube-X (NVIDIA-Based)				
Model		RQX-59G(-E)	RQX-59F(-E)	RQX-590(-E)	RQX-58G(-E)	RQX-580(-E)
System	Module	NVIDIA® Jetson AGX Orin™			NVIDIA® Jetson AGX Xavier™	
	CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU			8-core Carmel ARM v8.2 64-bit CPU	
	GPU	with 1792 NVIDIA CUDA® cores and 56 tensor cores			512-core Volta GPU with 64 Tensor Cores	
	Memory	32GB 256-bit LPDDR5			32GB 256-Bit LPDDR4x	
	Emmc	64 GB			32GB	
	OS	Ubuntu 20.04 L4T			Ubuntu 18.04 L4T	
	Display	1x HDMI 2.1			1x HDMI 2.0a	
External I/O Interfaces	Ethernet	2x GbE			2x GbE	
	USB 3.0	4x USB Type A 2x USB Type A (lockable)			4x USB Type A 2x USB Type A (lockable)	
	Serial Ports	COM1: RS-232/485; COM2: RS-232				
	OTG	1x OTG port for changing environment image				
	DB-50 connector	UART, I2C, PWM, SPI, CANbus non-isolation x1, CANbus isolation x1, GPIO			UART, SPI, CANbus x1, I2C, PWM, 20-bit GPIO	
	Audio IN/OUT	1x audio input/output				
Internal I/O Interfaces	M.2	1x Socket 2, Key M 2280/3042 for Storage (Need NVMe SSD) 1x Socket 1, Key E 1630/2230 for Wifi 1x Key B 3042/3052 socket for 5G LTE module			1x Socket 2, Key M 2280 for Storage (Need NVMe SSD) 1x Socket 1, Key E 1630/2230 for Wifi	
	Mini PCIe	-			1x Mini PCIe socket for LTE, GPS	
	USIM	1x USIM socket				
	RTC	3V 550mAh				
Validated Sensors	GSML2 Camera	Automotive HDR camera C1/C2 (Frame Sync) ZED-X/ ZED-X mini (Frame Sync) oToCAM223 oToCAM264ISP oToCAM269 (Frame Sync) LI-AR0233-GMSL2 (Frame Sync, non ISP)	-	-	Automotive HDR camera C1/C2 (Frame Sync) oToCAM223 oToCAM264ISP oToCAM269 (Frame Sync) LI-AR0233-GMSL2 (Frame Sync, non ISP)	-
	FPD-LINK III Camera	-	oToCAM222 (Frame Sync) oToCAM 251 oToCAM264ISP	-	-	-
	LiDAR	OS1-32				
Expansion Box (E models only)		1x PCIe Gen4 x16 slot 1x PCIe Gen3 x4 slot				
External Storage		1x MicroSD card slot				
Power Supply	DC Power Input	9-36V (±5% tolerance, reverse polarity protection)				
	AC/DC Power Adapter	160W/220W AC/DC				
	Power Switch	1x Power button				
	Recovery and Reset	1x Recovery, 1x Hardware Reset button				
Mechanical	Dimensions (WxDxH)	Without expansion box: 190 x 210 x 80 mm With expansion box: 322 x 210 x 80 mm				
	Mounting	Wall mount kit				
Environmental	Operating Temperature	0°C to 50°C at full CPU clock speed with 0.6m/s airflow -20°C to 70°C at reduced CPU clock speed with 0.6m/s airflow				
	Operating Humidity	Approx. 95% @40°C (non-condensing)				
	Storage Temperature	-40 to 85°C				
	Vibration	IEC 60068-2-64: Random wave, Operating 1Grms, 5-500 Hz, 3 axes, 60 min/axis duration			IEC 60068-2-64: Random wave, Operating 1Grms, 5-500 Hz, 3 axes, 60 min/axis duration	
	Shock	IEC 60068-2-27. Operating: 20G, 11 ms duration, 3 axes, 3 times per axis			IEC 60068-2-27. Operating: 20G, 11 ms duration, 3 axes, 3 times per axis	
	EMI	CE & FCC class A (EN61000-6-4/-6-2)				
	EMS	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11				
	Safety	LVD				

Intel-Based ROScube Series

Type		ROScube-Pico TGL (Intel-Based)			ROScube-I (Intel-Based)			
Model		**RQP-T37**	**RQP-T35**	**RQP-T33**	**RQI-58(-E)**	**RQI-57(-E)**	**RQI-55(-E)**	**RQI-53(-E)**
System	Processor	Intel® Core™ i7-1185G7E 28W	Intel® Core™ i5-1145G7E 28W	Intel® Core™ i3-1115G4E 28W	Intel® Xeon® E-2276ME 45W	Intel® Core™ i7-9850HE 45W	Intel® Core™ i5-8400H 45W	Intel® Core™ i5-8400H 45W
	Core	4	4	2	6	6	4	4
	Base Freq.	1.8GHz @ 15W	1.5GHz @ 15W	2.2GHz @ 15W	2.8GHz	2.7GHz	2.5GHz	1.6GHz
	MAX Turbo Freq.	4.4GHz	4.1GHz	3.9GHz	4.5GHz	4.4GHz	4.2GHz	2.9GHz
	Chipset	-			Mobile Intel® CM246 Chipset			
	Memory	2x 16GB DDR4 3200MHz	2x 8GB DDR4 3200MHz	2x 4GB DDR4 3200MHz	2x DDR4 16GB 2400MHz, dual SO-DIMMs, up to 32GB		2x DDR4 8GB 2400MHz, dual SO-DIMMs, up to 32GB	2x DDR4 4GB 2400MHz, dual SO-DIMMs, up to 32GB
	OS	Linux Ubuntu and Windows (licenses sold separately)						
External I/O Interfaces	Display	1x DP, 1x HDMI			2x DP++ and 1x HDMI			
	Ethernet	1x 1GbE, 1x 2.5GbE			4x GbE			
	Serial Ports	COM1: RS-232 COM 2: 1x PWR button, 1x reset button, 1x PWR LED			COM 1/2: RS-232/422/485			
	USB	2x USB 3.2 Type A (lockabele); 2x USB 3.2 Type A; 2x USB 3.2 Type C			2x USB 3.1 Type A (lockable); 4x USB 3.1 Type A; 4x USB 2.0 Type A			
	Multi-I/Os on DB 50 connector	-			Two channel I2C, 8x DI, 8x DO; Optional: (1) Dual Channel: FARO-FP900, PEAK IPEH-003049* (2) Single Channel: PEAK IPEH-003048*			
	Audio	1x headphone, 1x microphone jack			-			
Internal I/O Interfaces	Mini PCIe	-			2x full size (one for CAN, one for Wi-Fi or LTE)			
	M.2	1x M.2 Key-E 2230 for Wi-Fi 1x M.2 Key-M for NVMe PCIe Gen4 x4 SSD			1x Socket 1, Key A and A+E key, 2230 for Wi-Fi M.2 B Key or B+M Key for mSATA SSD			
		256GB NVMe	128GB NVMe	64GB NVMe	256GB mSATA SSD	256GB mSATA SSD	128GB mSATA SSD	64GB mSATA SSD
	USIM	-			1 for mini PCIe			
	TPM	TPM 2.0						
Expansion Box (E models only)		-			1x PCIe Gen3 x16 slot 1x PCIe Gen3 x4 slot			
Validated Sensors	USB Camera	RealSense™ Depth Camera D435						
	LiDAR	OS1-32, nanoScan3						
Power Supply	DC Power Input	12-19VDC (±5% tolerance, reverse polarity protection)			9 to 32V (± 10% tolerance)			
	Power consumption	60.5 W			75W to 115W Full system load			
	AC/DC Power Adapter	90W AC/DC power adapter (optional, see ordering information)			Optional: 160W, 220W or 280W AC/DC power adapter, see order information			
	power switch and header	-			1x power ON/OFF button; 1 x Hardware reset button; 1x Extend the power on/off button for robot system			
Mechanical	Dimensions (WxDxH)	140 x 110 x 63 mm			Without expansion box: 210x 240 x 86mm With expansion box: 210x 240x 165mm			
	Weight	1,086 g			3.6kg w/o expansion box; 4.6kg w/ expansion box			
	Mounting	Wall mount kit						
Environmental	Operating Temperature	0°C-50°C (with 0.6 m/s airflow)			with 0.6m/s air flow condition: -20 to 70°C(w/ 1x SODIMM); -20 to 60°C(w/ 2x SODIMM).			
	Operating Humidity	~95% @40°C (non-condensing)			~95% @40°C (non-condensing)			
	Storage Temperature	-40°C to 85°C (-40°F to 185°F)			-40 to 85°C(-40°F to 185°F)			
	Vibration	IEC 60068-2-64: Operating 3Grms, 5-500 Hz, 3 axes w/ M.2 2280 SSD			IEC 60068-2-6: 1G, 5-500Hz, 3 axes IEC 60068-2-64: Operating 5Grms, 5-500 Hz, 3 axes w/ M.2 SSD			
	Shock	Operating: 50G, half sine 11ms duration w/ M.2 SSD			Operating: 100G, half sine 11ms duration w/ M.2 SSD			
	EMC	CE & FCC Class B with validated AC/DC adapter (EN 55032/35, EN 61000-6-4/-2)			CE & FCC Class B with validated AC/DC adapter (EN61000-6-4/-2)			
	Safety	LVD			UL, cUL, CB			

Industrial and Enterprise-Grade SSDs

Designed for Data-Intensive and Challenging Environments

ASD+ Powered by ADLINK

/// Enterprise Series

/// Industrial Series

ADLINK's embedded flash storage solutions include industrial and enterprise grades, designed for tough environments. They offer key flash technology benefits like high transfer speeds, lightweight design, and low power usage. Industrial-grade models ensure reliability in harsh conditions, and enterprise-grade versions deliver high performance and data integrity for data-heavy applications. This diverse portfolio boosts efficiency and reliability across numerous applications.

Highlights

Data Security Assurance

- TCG-OPAL compliant.
- Secure erase and crypto erase.
- Write protection.

Flash Optimization

- Garbage collection and TRIM.
- Advanced wear leveling to increase life cycle.
- Bad block management.
- Over-provisioning for enhanced performance.

Applications

CT and MRI Scanners

Casino Gaming Machines

Automotive Data Logger (Autonomous Vehicle)

Unmanned Combat Aerial Vehicle (UCAV)

EdgeGO

Remote Device Management Software: EdgeGO®

- Summary logs of SSD recording hours and capacities.
- Lifetime estimation to determine optimal SSD models and replacement based on user work cycles.
- Hassle-free supervision 24/7 with a dynamic visual dashboard.

Power Loss Protection

- Comprehensive protection ensures data integrity.
- Built-in voltage stabilizer for internal power supply.
- Reliable startup power sequence.

Customer-Centric Services

- Customized Design-in Service.
- Early access to the latest Flash technology.
- 3-5 year warranty based on product series.

Application Stories

Unmanned Combat Aerial Vehicles (UCAVs), commonly known as combat drones, are sophisticated military aircraft that are designed for various combat and surveillance missions. These UCAVs often incorporate advanced technologies, including data storage solutions like enterprise SSDs. The use of enterprise SSDs in UCAVs is primarily driven by the need for reliable, high-performance, and rugged storage solutions.

ASD+ Enterprise Series SSDs

Unmanned Combat Aerial Vehicle (UCAV)

Secure Data Protection For Sensitive Information

Recommended Product

ASD+ EDC18

Why Using ASD+ Enterprise Series SSDs in UCAVs?

Reliability: Enterprise SSDs are known for their high reliability. In military applications like UCAVs, where operational failure can have severe consequences, having reliable data storage is essential. Enterprise SSDs are designed to withstand challenging conditions and are less prone to data loss or corruption.

Performance: UCAVs require fast data access and storage capabilities to ensure real-time processing and decision-making during missions. Enterprise SSDs offer high read and write speeds, low latency, and consistent performance, which are crucial in these scenarios.

Data Security: Military missions involve sensitive and classified data. Enterprise SSDs often come with built-in data security features, such as hardware encryption and secure erase functions, to protect against unauthorized access and data breaches.

Regulatory Compliance: Military applications often have strict regulatory and compliance requirements. Enterprise SSDs are designed with these considerations in mind and may adhere to military standards and certifications.

An automotive data logger is a hardware and software system that collects and records a wide range of data points from sensors, cameras, LiDAR, radar, GPS, and other onboard components in an autonomous vehicle. These data points may include information about the vehicle's surroundings, its own state, the actions it takes, and the behavior of other road users. Autonomous vehicles generate vast amounts of data that need to be stored, managed, and accessed reliably and efficiently.

ASD+ Enterprise Series SSD

Automotive Data Logger (Autonomous Vehicle)

Highly Intensive Data Logging Environment

Recommended Product

ASD+ EDC18

Why Using ASD+ Enterprise SSDs for Automotive Data Logger?

Reliability: Enterprise SSDs are designed for heavy workloads and are typically more durable and reliable than industrial-grade SSDs. Given the critical nature of data logging in an autonomous vehicle, the reliability of storage is paramount. Enterprise SSDs are built to handle continuous read/write operations and are equipped with features like power loss protection to prevent data corruption.

Endurance: Autonomous vehicles generate a massive amount of data, and data loggers frequently write to the storage device. Enterprise SSDs often have higher endurance ratings than industrial SSDs, which means they can withstand more write cycles. Look for SSDs with high program-erase (P/E) cycles to ensure they can handle the constant data writing.

Performance: Autonomous vehicle data loggers require high read and write performance to record and retrieve data in real-time. Enterprise SSDs often offer consistent and predictable performance, making them suitable for this purpose. Pay attention to factors like read/write speeds and IOPS.

Warranty and Support: Enterprise SSDs often come with longer warranties and better support options compared to industrial SSDs. This can be crucial for maintaining the reliability of data logger systems.

ASD+ Industrial Series SSD

Casino Gaming Machines

Reliable Slot and Electronic Gaming Machine Performance for Non-Stop Casino Action

Recommended Product

ASD+ S2D

In the casino sector, industrial-grade SSDs are crucial for the uninterrupted operation of slot machines and electronic gaming machines (EGMs). These SSDs provide essential high-speed data access and robust performance, capable of sustaining 24/7 gaming activities amidst the bustling environment of casinos. Their resistance to temperature changes and physical impacts ensures consistent machine reliability, preventing downtime and preserving player confidence and seamless casino operations.

Why Using ASD+ Industrial Series SSDs in Casino Gaming Machines?

Temperature Resilience: The SSDs in the Industrial Series can operate in a wide temperature range from 0°C to 70°C for standard grades, -20°C to 85°C for extended grades, and -40°C to 85°C for industrial grades. This ensures reliable performance in the varied thermal environment of a casino floor.

Endurance for Intensive Use: With read- and write-intensive options, these SSDs can handle the constant data throughput demands of casino gaming machines, which operate non-stop and often execute numerous transactions and gaming processes simultaneously.

Efficient Power Consumption: The low power usage of these SSDs helps reduce the overall energy costs for casinos, which operate a large number of machines continuously, contributing to a better energy footprint.

High-Speed Data Access: With fast data transfer rates, these SSDs enable quick game loads, rapid bet processing, and immediate reward display, which is essential for maintaining the fast-paced excitement that casino gamers expect.

ASD+ Industrial Series SSD

CT and MRI Scanners

Reliability and Speed in Medical Imaging for Accurate and Swift Patient Care

Recommended Product

ASD+ E3T

In the medical field, industrial-grade SSDs are indispensable for advanced medical imaging equipment like CT and MRI scanners, which require rapid and reliable data handling. These SSDs offer the robustness and speed needed to process and store large volumes of diagnostic data efficiently, facilitating quick decision-making in emergency care while enduring the challenging conditions of medical environments.

Why Using ASD+ Industrial Series SSDs in Medical Imaging Equipment?

Optimal Performance in Varied Environments: Capable of operating in standard (0°C to 70°C), extended (-25°C to 85°C), and industrial-grade (-40°C to 85°C) temperatures, ensuring reliability in the diverse settings of medical facilities.

Tailored for Continuous Operation: Features read- and write-intensive capabilities with TLC and p-SLC technologies, handling the constant flow of large imaging data files without degradation.

Energy-Efficient Operation: Designed for low power consumption, which is crucial in medical environments where energy efficiency is as important as performance.

Scalable for High-Resolution Imaging: With storage capacity options ranging from 128GB to 8TB, these SSDs are well-suited for the vast amounts of data generated by medical imaging equipment.

Reliable in Demanding Conditions: The durable 2.5" and M.2 form factors are built to withstand the rigorous use found in medical applications, from portable imaging devices to stationary diagnostic machines.

ASD+ Enterprise Series SSDs


NEW


NEW


NEW

Type		ASD+ Enterprise Series SSDs				
Model		EDC18 Series		EDCP1 Series		SDC12 Series
Capacity1		480GB to 2TB	4TB	1920, 3840, 7680, 15360, 30720GB	800, 1600, 3200, 6400, 12800, 25600GB	480, 920, 1920, 3840, 7680GB
Form Factor		M.2 2280 M Key	M.2 22110 M Key	U.2 (SFF-8639)		2.5” SATA
Interface		PCIe Gen4 x4 PCI Express Base 4.0 NVMe 1.4		PCIe Gen4 x4 PCI Express Base 4.0 NVMe 1.4		SATA Revision 3.2 SATA 1.5Gb/s, 3Gb/s, and 6Gb/s interface
Dimensions		80mm(L) x 22mm(W) x 2.15mm(H)	110mm(L) x 22mm(W) x 2.15mm(H)	100.00mm(L) x 69.85mm(W) x 7.00mm(H)		100.00mm(L) x69.85mm(W)x 7.00mm(H)
Flash Type		BiCS5 3D TLC				
Performance		Read: up to 5500 MB/s Write: up to 2000 MB/s Random 4K Read: > 800K IOPS Random 4K Write: > 58K IOPS	Read: up to 2200 MB/s Write: up to 1400 MB/s Random 4K Read: > 150K IOPS Random 4K Write: > 32K IOPS	Read: up to 7,800 MB/s Write: up to 6,800 MB/s Random 4K Read: up to 1,600K IOPS Random 4K Write: up to 480K IOPS		Read: up to 530 MB/s Write: up to 500 MB/s Random 4K Read: up to 98K IOPS Random 4K Write: up to 50K IOPS
Power Consumption		Active mode: < 11W Idle mode: < 4.2W		Active mode: < 25W Idle mode: < 6W/8W (16T)		Active mode: < 3.8W Idle mode: < 1.6W
MTBF		More than 2,000,000 hours		More than 2,500,000 hours		More than 1,500,000 hours
DWPD		1		1	3	1
Advanced Flash Management		Advanced Wear Leveling, Bad Block Management TRIM, S.M.A.R.T, Over Provision. Firmware Update				
Data Security	Basics	Secure Erase, Write Protect, Crypto Erase, Physical Presence SID (PSID)				
	Power Loss Protection (PLP)	Yes				
Temperature Range2	Operating3	0°C to 70°C		0°C to 70°C with specified airflow		
	Storage	-40°C to 85°C				
Environment		Vibration: 20Hz to 80Hz / 1.52mm 80Hz to 2000Hz / 20Gp-p Shock (operation/non-operating): 1500G @0.5ms				
RoHS compliant		Yes				

ASD+ Industrial Series SSDs





ASD+ Industrial Series SSDs								
S7T Series		**S2D Series**			**E3T Series**		**E2D Series**	**E1T Series**
128GB to 2TB	32GB to 512GB	2TB to 8TB	256GB to 8TB	64GB to 2TB	32GB to 512GB	128GB to 2TB	480GB to 7680GB	256GB to 2TB
2.5" SATA	M.2 2280/2242 B+M Key	2.5" SATA			M.2 2280 M Key		U.2 (SFF-8639)	M.2 2280 M Key
SATA Revision 3.1 SATA 1.5Gb/s, 3Gb/s, and 6Gb/s interface		SATA Revision 3.1 SATA 1.5Gb/s, 3Gb/s, and 6Gb/s interface			PCIe Gen3 x4 PCI Express Base 3.1 NVMe 1.3d		PCIe Gen3 x4 PCI Express Base 3.1 NVMe 1.3d	PCIe Gen4 x4 PCI Express Base 4.0 NVMe 1.4
100.00mm(L) x 69.85mm(W) x 7.00mm(H)		100.00mm(L) x 69.85mm(W) x 7.00mm(H)			80mm(L) x 22mm(W) x 3.8mm(H)		100.00mm(L) x 69.85mm(W) x 7.00mm(H)	80mm(L) x 22mm(W) x 2.15mm(H)
BiCS5 3D TLC / BiCS5 pSLC		BiCS5 3D TLC / BiCS5 pSLC						
Read: up to 550 MB/s Write: up to 510 MB/s Random 4K Read: > 44,500 IOPS Random 4K Write: > 78,500 IOPS	Read: up to 550 MB/s Write: up to 510 MB/s Random 4K Read: > 49,500 IOPS Random 4K Write: > 78,500 IOPS	Read: up to 550 MB/s Write: up to 520 MB/s Random 4K Read: > 98K IOPS Random 4K Write: > 88K IOPS		Read: up to 550 MB/s Write: up to 530 MB/s Random 4K Read: > 98K IOPS Random 4K Write: > 88K IOPS	Read: up to 2450 MB/s Write: up to 1900 MB/s Random 4K Read: > 270K IOPS Random 4K Write:> 420K IOPS		Read: up to 3,300 MB/s Write: up to 1,000 MB/s Random 4K Read: up to 600K IOPS Random 4K Write: up to 200K IOPS	Read: up to 4900 MB/s Write: up to 3700 MB/s Random 4K Read: > 700K IOPS Random 4K Write: > 900K IOPS
Active mode: <=1750mW Idle mode: <=215mW		Active Write: <= 3,900 mW Active Read: <= 2,600 mW Idle mode: <=1,600mW		Active Write: <= 2,900 mW Active Read: <= 2,600 mW Idle mode: <=1,500mW	Active mode: <=4000mW Idle mode: <=1500mW		Active mode: < 7.5W Idle mode: < 2.3W	Active mode: <=4500mW Idle mode: <=1500mW
More than 3,000,000 hours		More than 1,500,000 hours			More than 2,000,000 hours		More than 2,000,000 hours	More than 1,500,000 hours
1		1					1	
Advanced Wear Leveling, Bad Block Management TRIM, S.M.A.R.T, Over Provision. Firmware Update								
Secure Erase, Write Protect, Crypto Erase, Physical Presence SID (PSID)								
-		-		Yes	-		-	
-25°C to 85°C		C-grade : 0°C to 70°C I-grade : -40°C to 85°C			-25°C to 85°C		C-grade: 0°C to 70°C I-grade: -40°C to 85°C	0°C to 70°C
-40°C to 85°C								
Vibration: 20Hz to 80Hz / 1.52mm 80Hz to 2000Hz / 20Gp-p Shock (operation/non-operating): 1500G @0.5ms								
Yes								

MEMO

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