

IIoT and Edge Computing Application-Ready

Intelligent Computing Platforms

Fanless Embedded/Configurable Computer
Fanless IPC System
Industrial Gateway Controller
Smart Panel
Smart Touch Computer



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Company Introduction

Leading EDGE Computing

ADLINK Technology is leading edge computing with solutions that drive data-to-decision applications across industries. ADLINK offers a variety of building blocks and both generic and market-specific Industrial Internet of Things (IIoT) platforms to serve the automation, communications, medical, transportation, and defense/government verticals.

Our products include motherboards, blades, chassis, modules, gateways, systems, and end-to-end solutions based on industry standard form factors, as well as an extensive line of test & measurement products and smart touch computers, displays, and handhelds that support the global transition to always connected systems. Many products are Extreme Rugged, supporting extended temperature ranges, shock and vibration.

ADLINK is a Premier Member of the Intel® Internet of Things Solutions Alliance and is active in several standards organizations and interoperability initiatives, including PCI Industrial Computer Manufacturers Group (PICMG), PXI Systems Alliance (PXISA), Standardization Group for Embedded Technologies (SGeT), European Telecommunications Standards Institute (ETSI), and Open Compute Project (OCP).

ADLINK is a global company with a local touch. Headquartered in Taiwan, ADLINK offers manufacturing in Taiwan and China; R&D and integration in the US, Germany, Taiwan and China; an extensive network of worldwide sales and support offices; and a continually expanding partner ecosystem. ADLINK is ISO-9001, ISO-14001, ISO-13485 and TL9000 certified and is publicly traded on the TAIEX Taiwan Stock Exchange (stock code: 6166).



Platforms and Services

ADLINK's goal is to reduce the complexity of building IIoT systems and connect the unconnected.

Edge, Cloud, and Fog Computing

ADLINK has added to its IIoT portfolio with software solutions that enable easy system connectivity and help reduce the complexity of building IIoT applications. Using the Data Distribution Service (DDS) middleware standard to enable scalable, real-time, dependable, high-performance and interoperable data exchanges, ADLINK has moved closer to our goal of providing complete application-ready, generic and domain-specific platforms.

Building Blocks

ADLINK provides a wide range of Computer-on-Modules (COMs) and small form factor Single Board Computers (SBCs). ADLINK's COM offerings include COM Express®, SMARC®, Qseven® and ETX® in all sizes and pinout specifications, and our SBCs encompass a variety of form factors (e.g., PICMG 1.0/1.3, PC/104 and Mini-ITX), processors, clock speeds, memory configurations, I/O options and operating systems.

Measurement and Automation

ADLINK provides reliable, top quality products for industrial I/O control, motion control, digital imaging, data acquisition and modular instrument applications. Our comprehensive portfolio of products, application-ready platforms and easy-to-use software packages-with integrated value-added service-continually exceed customer requirements.

Networking and Communications

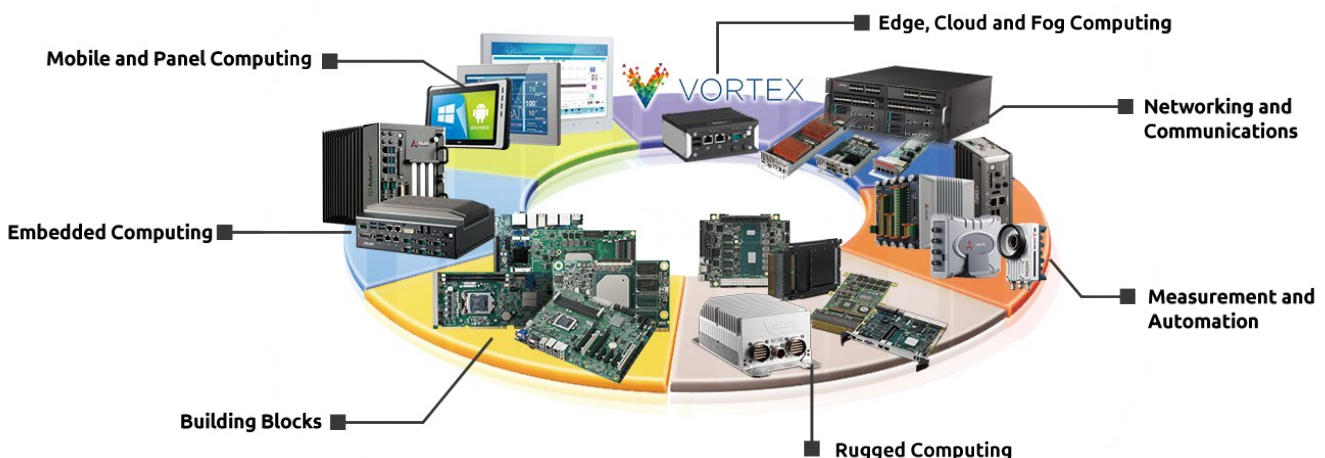
ADLINK has introduced several platforms for Multi-access Edge Computing (MEC), broadcasting, network security, video conferencing and video processing applications such as surveillance. Our Open Compute Carrier-grade Edge Reference Architecture (OCCERA) integrates the latest data center technologies with the most critical aspects of traditional industrial computing equipment, such as modular design, hardware-assisted acceleration and carrier-grade design standards.

Mobile and Panel Computing

ADLINK offers rugged mobile and panel computing products for industrial applications, including automation, logistics management and healthcare. We specialize in meeting the needs of harsh and demanding environments, as well as mobile deployments in industrial settings. Our offerings include smart touch panel PCs, industrial and medical panel PCs and rugged tablets.

Rugged Computing

Many industries benefit from, if not require, rugged electronics. In addition to military and industrial use, professionals in medical, oil and gas, science and transportation also need hardware that stands up to punishing situations. ADLINK offers an innovative portfolio of Extreme Rugged COMs, SBCs and systems that provide wide operating temperature ranges and meet MIL-STD, shock and vibration specifications.



Design and Manufacturing Services

To fulfill the requirement for high quality, cost-effective products, with quick TTM in product development, ADLINK has established and assembled a Design and Manufacturing Services (DMS) team to cater to the specific demands that off-the-shelf products cannot meet. ADLINK also owns and operates manufacturing facilities in our headquarters, with capabilities that include our own printed circuit board (PCB) layout teams, surface-mount technology (SMT) lines, system integration and test capabilities. In short, ADLINK controls the whole manufacturing process, from layout and design to prototyping and volume production.

ADLINK also offers a wide range of customer support services and has implemented an extensive environmental protection policy to meet the growing 'Green' standards of the electronics industry. To learn more, visit our website at www.adlinktech.com.



Customer Services

ADLINK is not only devoted to providing local service worldwide, but also to providing convenient online service. The following services are available around-the-clock on the internet.

eRMA

ADLINK customers can send their RMA requests via our eRMA system. After obtaining an RMA number, you can track your RMA status online at any time.

FAQ and Support

Our Ask an Expert (AAE) service provides answers to commonly asked questions, as well as the ability to contact ADLINK's knowledgeable staffs about a specific product or issue. ADLINK's AAE is available 24/7 online and is staffed by dedicated professionals who are available to address customers' needs. All issues and comments are recorded into a database and can be tracked/reviewed at any time. ADLINK customers are invited to access the AAE system at: <http://www.adlinktech.com/AAE>

Environmental Protection Policy

Environmental protection is a top priority at ADLINK. We implemented a Green Product Policy in May 2004 to align the purchasing and use of green products with requirements from international environment protection statutes. Measures have been taken to ensure that our products have little impact on the environment. In addition to planning a leadless process, we are also focused on reducing the effect of components and raw materials on the environment. The Green Product concept has been built into our new product development system to ensure protection of the environment and continued business success.

RoHS Compliant Computing

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) Directive, which restricts the use of harmful substances such as lead, mercury and cadmium in new equipment.

Most end-user applications in which ADLINK products are used do not require RoHS compliance. However, ADLINK will actively work with customers whose products are not RoHS exempt under category 8 or category 9 classifications. Our lead-free production line and process, including solder paste, solder bar and process control parameters, has been developed and standardized in our manufacturing system.

The management flow of ADLINK's Green Policy begins during the development stage of a product. Only parts and raw materials that meet RoHS requirements are sourced. Our engineers specifically design products using only qualified components. A lead-free process ensures that manufactured products are green. Green products do not contain environmentally hazardous elements and can easily be recycled.

Conflict Free Minerals Policy

ADLINK will not knowingly procure material supplies and components that contain minerals that directly or indirectly finance or benefit armed groups in the Democratic Republic of Congo (DRC) or an adjoining country. We urge our suppliers to support this policy in their own procurement guidelines and provide us with accurate country of origin information.

ADLINK shall:

- Comply fully with requests from EICC-GeSI.
- Conduct a reasonable country of origin inquiry to clarify the origins of the gold, tantalum, tungsten and tin used in our products.
- Establish reasonable objectives and targets with a goal of ascertaining and minimizing ADLINK's risk.
- With a goal of continuous improvement for our Conflict Free Minerals Program, develop a means to measure objectives and targets. ADLINK will also review, revise and report these measures, and overall program updates, on an annual basis.
- Empower all employees, suppliers, vendors and contractors to take ownership in complying with the Conflict Free Minerals Policy and to escalate risks in the supply chain to management's attention.
- Effectively communicate to all employees this Conflict Free Minerals Policy and our Conflict Free Minerals Program.

REACH Declaration

The Registration, Evaluation, Authorization and Restriction of Chemicals Regulation 1907/2006, commonly referred to as REACH, is Europe's recent chemicals legislation. The products that we supply are non-chemical products and under normal and reasonable use, they will not release harmful substance. Furthermore, we will immediately inform our customers in correspondence with REACH-Article 33 if any substance of content (as from a content of >0.1%) in our products will be classified as alarming by the European Agency for Chemicals (ECHA).

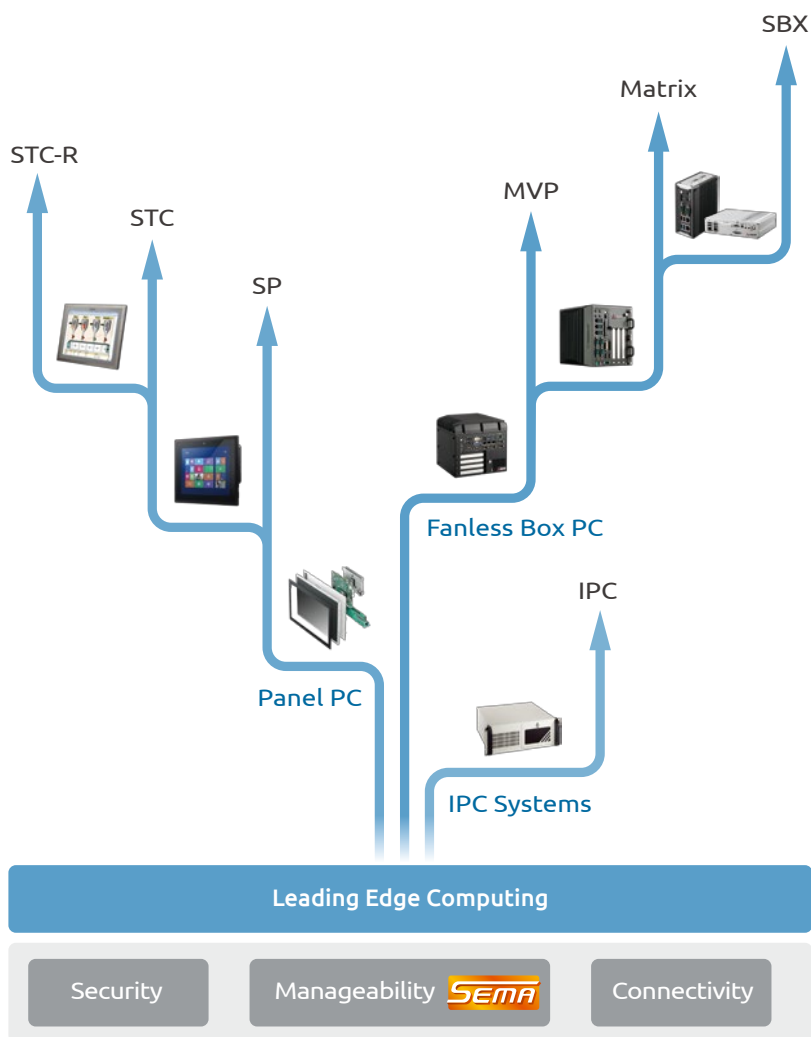
Intelligent Computing Platforms



As technologies driven by the Internet of Things as well as artificial intelligence increase in popularity, embedded systems play a more important role than ever in application scenarios. These platforms act as not only a bridge between things and the Cloud, but a complete control agent, reacting to input from field sites decreasing data-to-action to real-time levels. ADLINK's intelligent computing platforms accommodate heterogeneous computing cores and a staggering variety of industrial I/Os to address countless application demands. In addition, by integrating corporate resource and ecosystem partner solutions, ADLINK's intelligent platforms deliver the industry-leading security, manageability, and connectivity that are essential in leading edge computing.

Comprehensive Product Portfolio

ADLINK's Platform Product Center offers a comprehensive product portfolio including industrial Panel PC (Smart Panel and Smart Touch Computer), fanless box PC (MVP and Matrix lines and Industrial Gateway Controller), and IPC systems to fulfill the diverse demands of edge computing.





Fanless Embedded/Configurable Computer

ADLINK's revolutionary Matrix line of fanless embedded computers provides optimal computing platforms with virtually limitless expandability. Sturdy construction makes the Matrix MXC and MXE lines ideal for effortless development of reliable embedded systems, significantly reducing time-to-market for mission-oriented industries. ADLINK's proven flexibility enables diverse comprehensive I/O interfaces, to meet the requirements of a wide variety of industrial applications.



Fanless IPC System

ADLINK's MVP fanless industrial PCs not only surpasses expectations for conventional industrial PCs, but also provide a perfect balance between features and performance in a compact size, all at an exceptionally cost effective price point. The superior application-centric platform maximizes performance with a variety of expansion options, rich I/O, and single-side access for I/O ports, enabling development of diversified industrial applications supporting smart factory operations.



Industrial Gateway Controller

ADLINK's MXE industrial gateway controllers offer full operability with a small footprint in harsh environments from -40°C to 85°C, fully supporting industrial automation, transportation, agriculture/aquaculture, and smart city applications. Functioning as both a gateway and embedded controller, the MXE line bridges the gap between Operations Technology (OT) and Information Technology (IT) data interchanges.



Smart Panel

ADLINK's open frame Smart Panel features modular design, providing a choice of preferred display sizes, touch screen type, mainboards, and functional I/O modules. The building block design maximizes flexibility and scalability to speed time-to-market and reduce TCO.

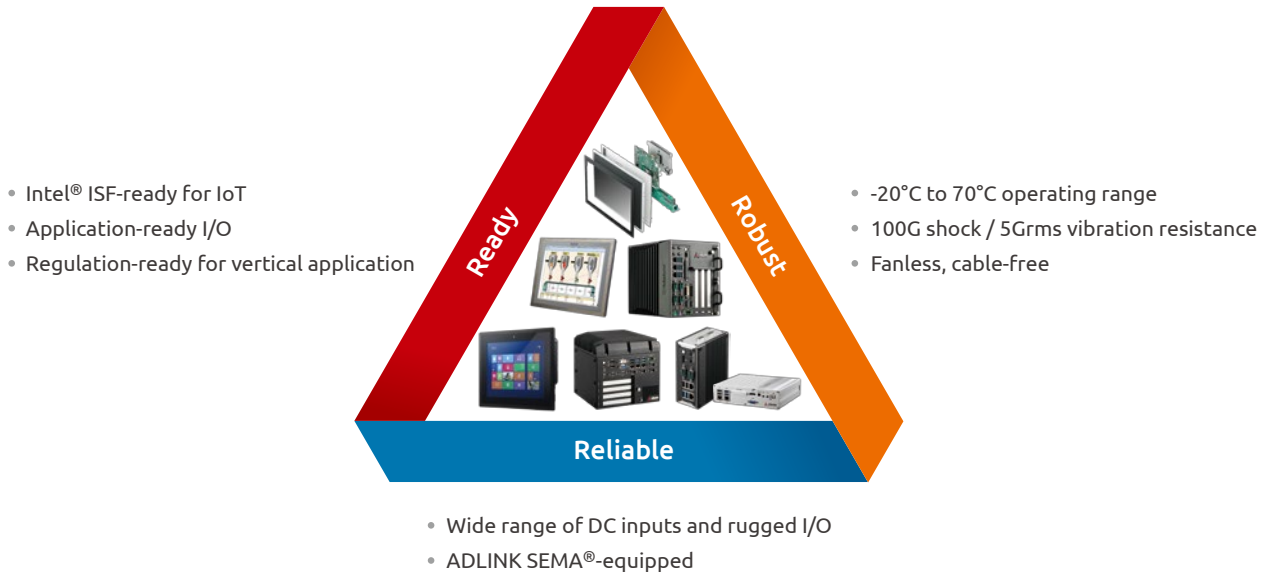


Smart Touch Computer

The Smart Touch Computer features ruggedized construction with IP65/69K-rated housing for light or heavy industrial applications. The STC Series is available with 10.4", 12.1", or 15" touchscreens for light industrial applications. For maximum reliability, the STC-R series provides fully enclosed IP65/IP69K-rated protection against moisture and contaminants.

Ready, Reliable, Robust

ADLINK's platform solutions are certified Intel® Intelligent System Framework (ISF) ready, meeting a variety of requirements for vertical markets. Robust construction for harsh working environments increases Mean Time between Failure (MTBF), with rugged application-ready I/O and wide range of DC input suit ADLINK's platforms for a wide range of vertical applications.



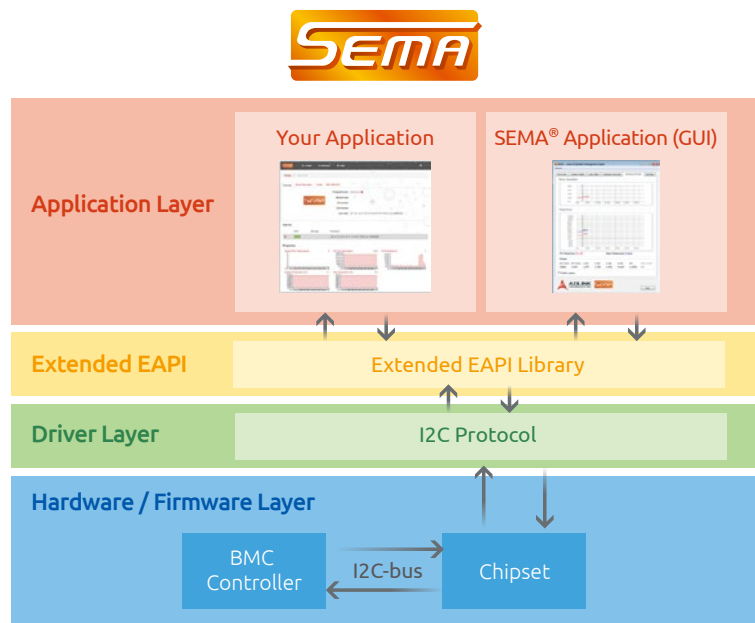
Intelligent Middleware SEMA® to Monitor and Control Your devices

Further to help customers to analyze their systems and take counter measures for preventive maintenance, ADLINK has developed the Smart Embedded Management Agent (SEMA®), a tool which is able to monitor and collect system performance and status information from the hardware in a timely, flexible and precise manner.

SEMA® Features

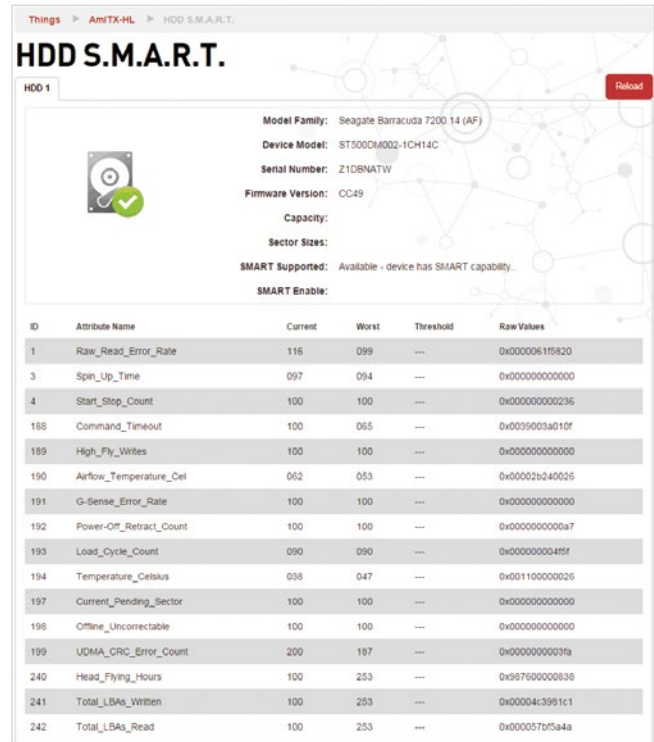
At the heart of SEMA® is the Board Management Controller (BMC) supporting SEMA® functions. The SEMA® Extended EAPI provides access to all functions then. A graphical user Interface allows to monitor and control one or multiple devices. So SEMA® comprises:

- SEMA® Board Management Controller HW and FW
- SEMA® Extended EAPI Library



SEMA® supports the following functions and information:

- CPU Operation Modes
- Memory Information
- Network Information
- ACPI Power Management
- HDD S.M.A.R.T
- Bios Updates
- Heartbeat
- Power Consumption
- User Area Access
- Alerts for Power and Temperature Consumption
- I²C Bus Control
- Temperatures (CPU and Board)
- Board Information (Serial Number, Part Number, Firmware Version...)
- Wire® Bus support
- Logging of Power-Up Failures
- Fan Control
- GPIO Control



Forensic information is available after system or module failures includes minimum and maximum temperature of the CPU and system, as well as HDD S.M.A.R.T information - all of which can be used to analyze system failure.

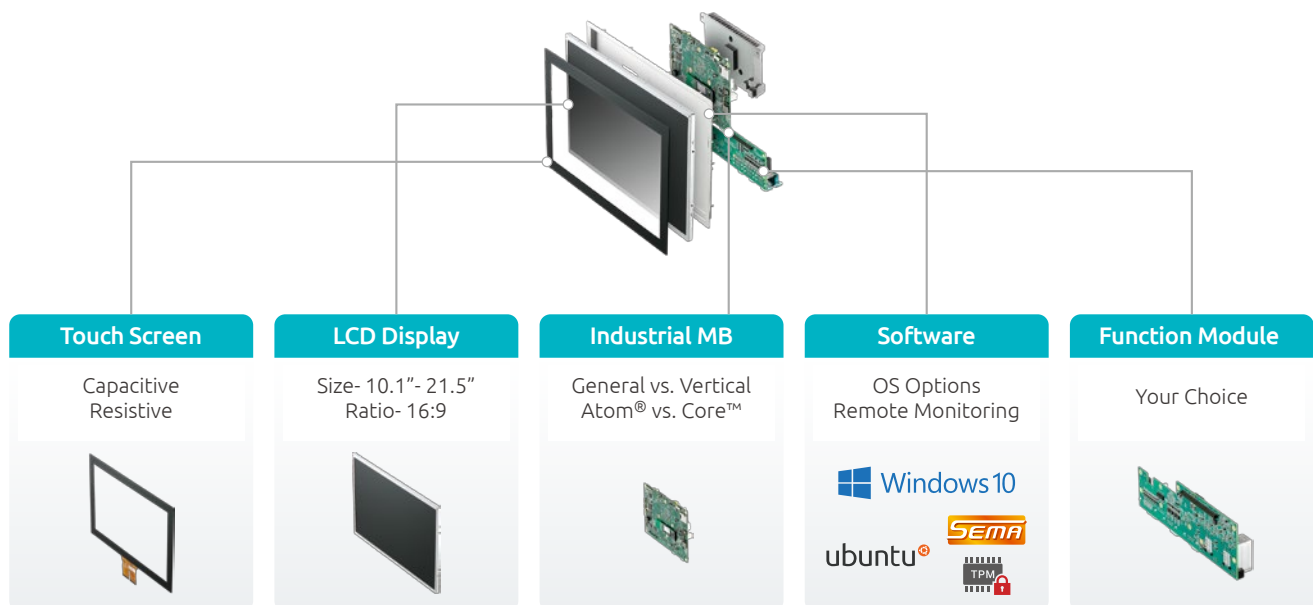
SEMA® is available for Linux and Windows operating systems and for various hardware platforms.

Smart Panel: Fully Flexible Configuration

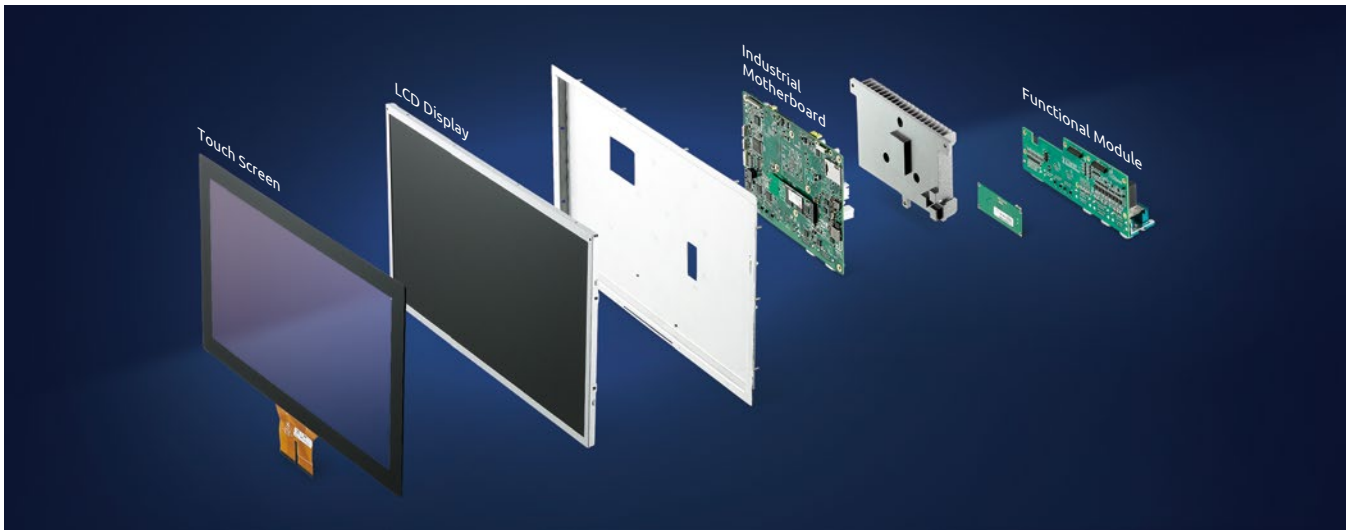


Computing demands among vertical operators can vary widely, and ADLINK's Smart Panel computers deliver the flexibility required. Based on Intel Atom® and Intel® Core™ processors, they function as embedded building blocks ready for installation in a complete range of configurations. Modularization of ADLINK's Smart Panels into touch screen, LCD display, mainboard, function module, and heatsink elements provides a vast selection of display sizes, touch screen types, and I/O options while retaining key component co-usability to reduce user development costs and abbreviate time to market.

- Integration into diverse form factors (chassis/housing)
- Easy operation via capacitive or resistive touchscreen
- Stylish full flat design eases maintenance
- Function modules enable full range of I/O options
- Wide range of DC inputs from 9 to 36V
- Storage options include 2.5" SATA, M.2 type 2280, eMMC and PCIe
- Multi-display capability



Function Module Accommodates Complete I/O Customization

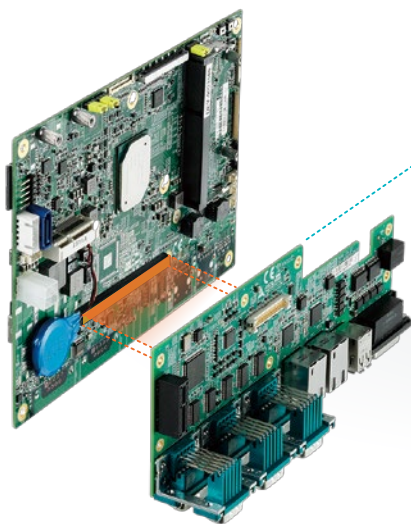


ADLINK's Smart Panel FM (function module) is a thoroughly flexible configuration concept fulfilling a diversity of connectivity needs. The FM connects to the mainboard via a connection carrying various interfaces such as PCIe, USB 2.0, USB 3.0, SPI, LPC, GPIO, and more, expanding I/O function to suit virtually any installation.

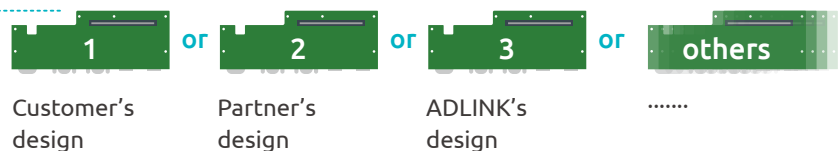
The FM can be an I/O expansion card, with unlimited choice of I/O type and quantity. For example, to generate USB 2.0 with M12 type via USB interface, the FM can be a PCIe card of specific type through PCIe interface, such as an ADI-BSEC card.

The benefits of function modules include:

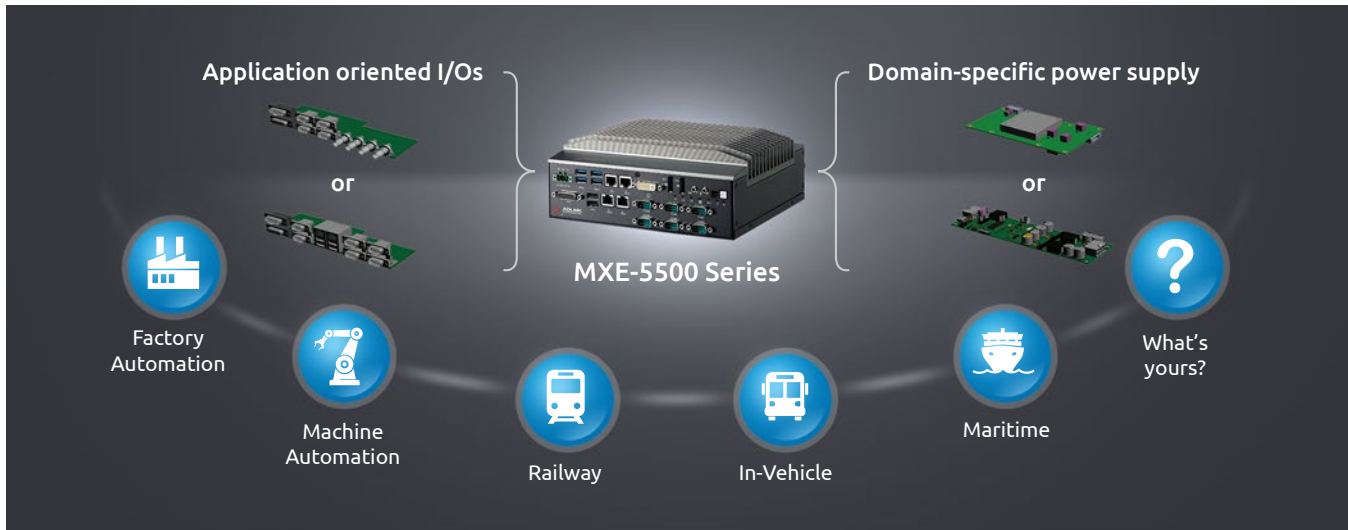
- Saving customer's development time and cost. By adopting the FM design, the main board remains unchanged, and only I/O functions need to be verified and validated.
- The size of FM is not limited. Customers can design their preferred I/Os. The I/O quantities are not limited. This can give customer the greatest flexibility for build their applications.



Function Module Options:



Adaptive Function Module Speeds Customization

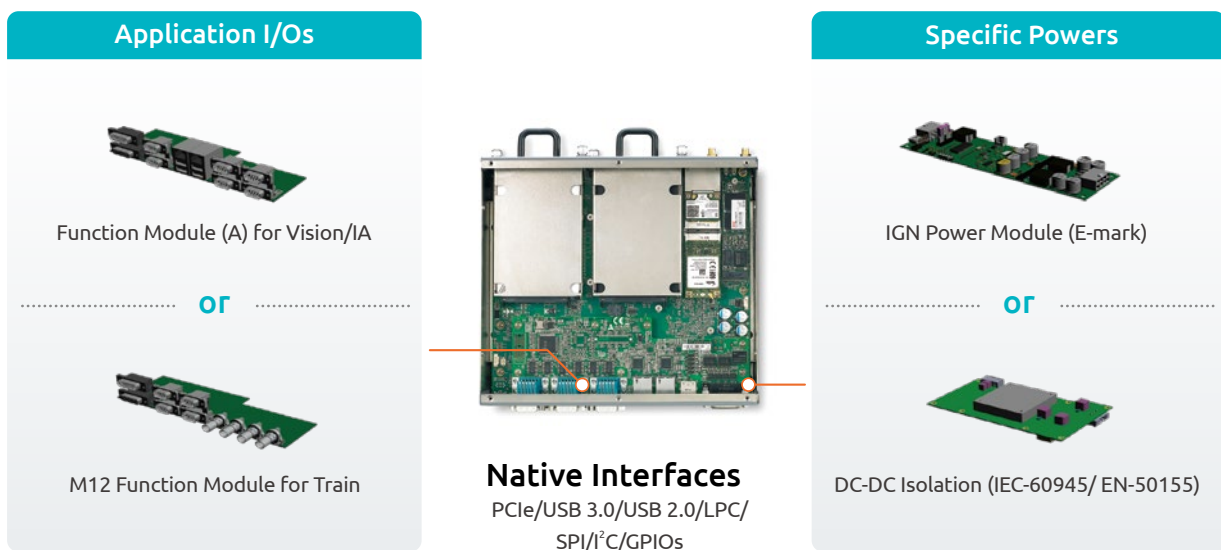


Industrial applications present a wide variety of operational requirements. Industry standard or de facto requirements can be divided into regulatory power supplies and application specific I/O. ADLINK's intelligent platforms accommodate a flexible modular architecture that helps tailor specific I/O demands while meeting verticals' regulatory requirements. With native signals inbound from computing cores, unlimited I/O

definition can be achieved with relatively little effort, resulting in dramatically reduced TCO (Total Cost Of Ownership) and Time To Market.

Customers can utilize ADLINK's adaptive function module to effortlessly create their own application-ready platforms in a timely manner, and scale the product scope to individual needs.

AFM Interconnected Board Design for Matrix



Vortex Edge-Equipped Smart Gateway Streamlines OT/IT Convergence



IIoT systems represent a confluence of Operational Technology (OT) and Information Technology (IT). While both domains have, in the past, deployed technologies specific to their own use with little or no need for integration with the other, the rise of higher level IIoT-based operations requiring connection of operational or field systems via a broad and extensive catalog of communication technologies, where the protocols are completely different, has introduced a critical need to alleviate the separation.

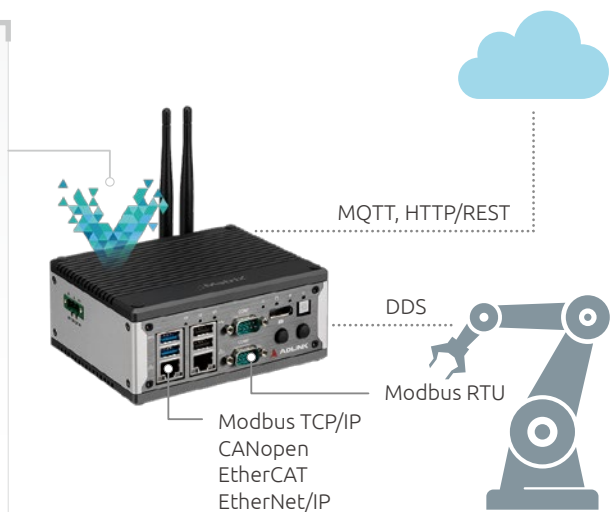
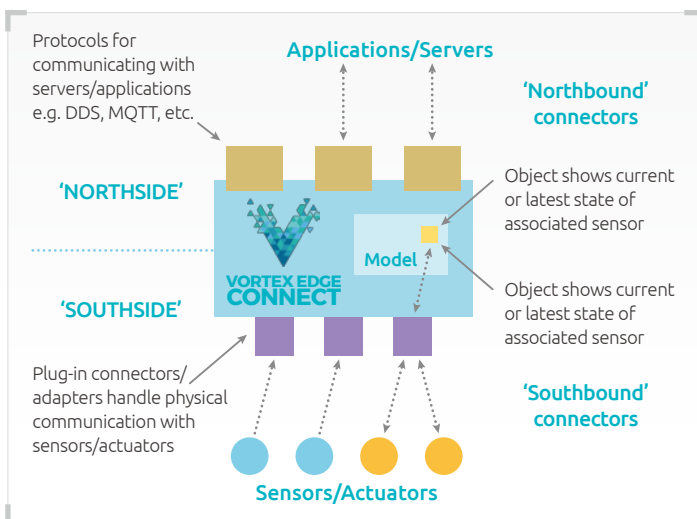
ADLINK's MXE-210 Series with Vortex Edge Connect

- Provides scalable, extensible framework connecting different endpoint technologies in IIoT and Industry 4.0 systems
- Enables field devices using a broad range of Operational Technology (OT) communication protocols to efficiently share data with IIoT Edge and Cloud applications

- Configures data from operational systems for use by IIoT Edge nodes, such as IoT gateway, to be normalized by an in-memory data model for sharing with other communication endpoints via the framework

The MXE-210 Series with Vortex Edge Connect features

- Connectivity to common OT data sources such as Modbus TCP/IP, Modbus RTU, CANopen, EtherCAT, EtherNet/IP and core IoT data-backbone protocols such as MQTT, DDS and HTTP/REST
- Support for 1 to 1, 1 to many, many to 1 or many to many data connection models
- Operating system-independent framework fully available for both Linux and Windows platforms
- Capability for future addition of supplementary protocol connectors



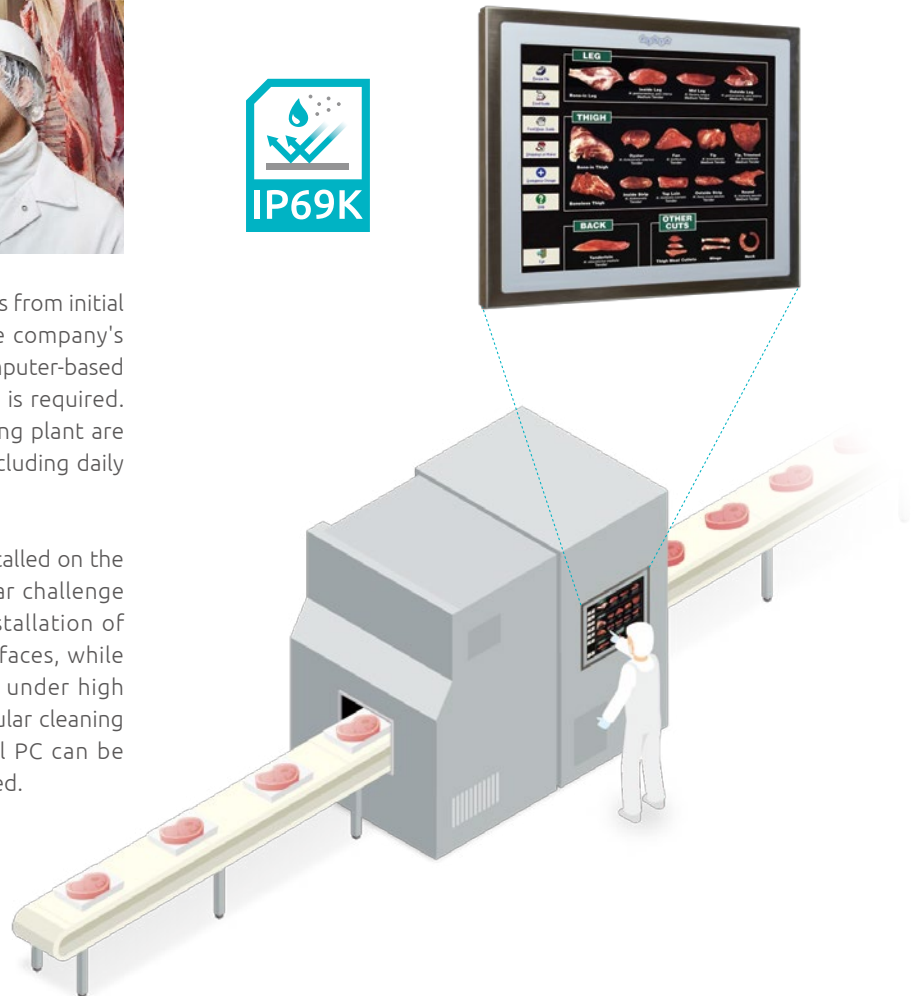
Application

Packing Plant Operations



Seamless tracking of packing plant products from initial delivery to retail counter is critical to the company's success. To maintain consistent quality, computer-based documentation of the production process is required. The computers used in the meat processing plant are subjected to demanding environments, including daily cleaning with high pressure water jets.

ADLINK's IP69K FOOD panel PC can be installed on the production floor as delivered. A particular challenge for Food panel PCs is the layout and installation of the display, and implementation of interfaces, while being fully impervious to water ingress, under high pressure, as it is necessary to conduct regular cleaning procedures. ADLINK's IP69K Food panel PC can be installed on the production floor as delivered.



ADLINK Solutions

The ADLINK Food panel PC is based on the Intel Atom® E3845 quad core processor at 1.91 GHz, equipped with up to 4GB of DDR3 RAM, and failsafe automotive HDD or SSD serving as bootable storage media for increased data security and system reliability. The abrasion-resistant resistive touch display offers a maximum resolution of 1280 x 1024 pixels and is available in 15, 17, and 19 inches. To connect additional peripherals such as barcode scanners, RFID reader, the ADLINK Food features an extensive range of interfaces, including 2x USB 2.0, Ethernet, and serial port. Operating system support is offered for Windows 7 and Windows 10.

- Easy cleaning with fully-sealed IP69K-rated enclosure
- Easy operation via touchscreen
- Reduced maintenance with high MTBF
- Corrosion resistant stainless steel housing and connectors

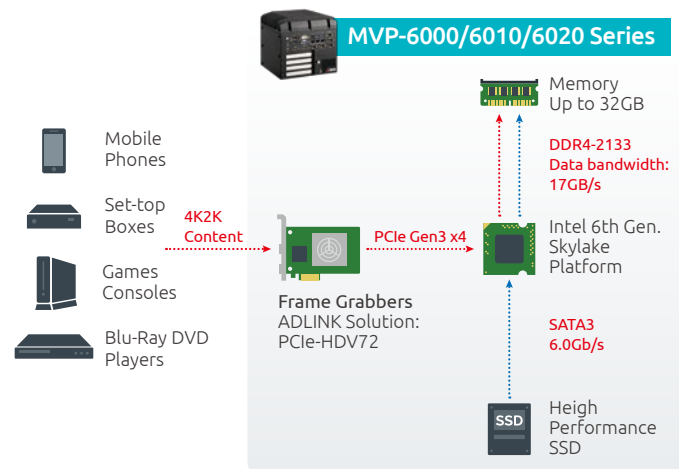
ADLINK Expansion Fanless Embedded Computer for a High Definition Multimedia Device Inspection System



With the recent advancements in technology, it has never been easier to automate many of the more labor intensive aspects of a factory. Never is this truer than in the testing and measuring of multimedia devices like Blu-Ray DVD players, mobile phones, set-top boxes, and games consoles. Since, all of these devices have the ability to play videos and movies at a 4K2K resolution it's essential that they are thoroughly tested before quality inspection and control.

The use of industrial fanless computers, instead of using traditional rackmount computer, is another essential aspect since ADLINK's MVP-6010/6020 fanless computer

not only offers optimal functionality with 4 PCI/PCIe expansion slots for easy frame grabber integration, increased reliability with higher MTBF (Mean Time Between Failures), it also has a smaller footprint to utilize space on the factory floor. And, due to its optimal design with reduced redundant functions, the MVP 6010/6020 can offer SIs (system integrators) better cost advantages when delivering total solutions to electronic device manufactures.



ADLINK Solution

ADLINK's newest addition to its MVP family of embedded computing platforms, the MVP-6010/6020 series, has been optimized to meet the combined requirements of hardware specifications, size and price.

Based on a 6th generation Intel® Core™ i7 processor, the MVP-6010/6020 with 4 expansion slots— one PCIe x16 and three PCI, or two PCIe x16 and two PCI— not only revolutionizes conventional industrial PC expectations, but also provides a perfect balance between features and performance in a compact size, all at an unprecedented price point. The 6th generation Intel Core i7 processors have a 30% performance increase over the previous generation of Intel Core processors making the 4K/2K frame inspection tasks faster. With ADLINK's proven fanless construction, the MVP-6010/6020 series can sustain 65W TDP, maximizing computing power to deliver invaluable benefits to automate the testing and measuring applications.

The bandwidth of the PCIe x16 slot and DDR4 DRAM of the MVP-6010/6020 are the optimal standard for high definition multimedia inspection applications so that frame grabbers can capture 4K2K (4,096 x 2,160)/60FPS (Frames Per Second) for a total of 18GB of data, without dropping a single frame.

Equipped with a SATA III interface (up to 6.0Gb/s), the MVP-6010/6020 can help SSDs perform at their highest bandwidth to smooth the inspection process during comparison of "Golden Frames" and tested frames. In addition, integration of ADLINK's pre-verified frame grabber cards guarantees maximum compatibility and convenience for SIs. This helps SIs invest their valuable time in software development or the total solution instead of putting time in to optimizing the hardware performance.

- 65W CPU makes it the most powerful fanless PC
- The perfect solution for industrial automation customers requiring ≤ 4 PCI/PCIe slots, in performance, price, and size
- Highly competitive advantage over major competitors, for fanless box PC, IPC, and even mini-ITX systems
- Combining with compatible ADLINK motion/vision cards provides even more bargaining flexibility

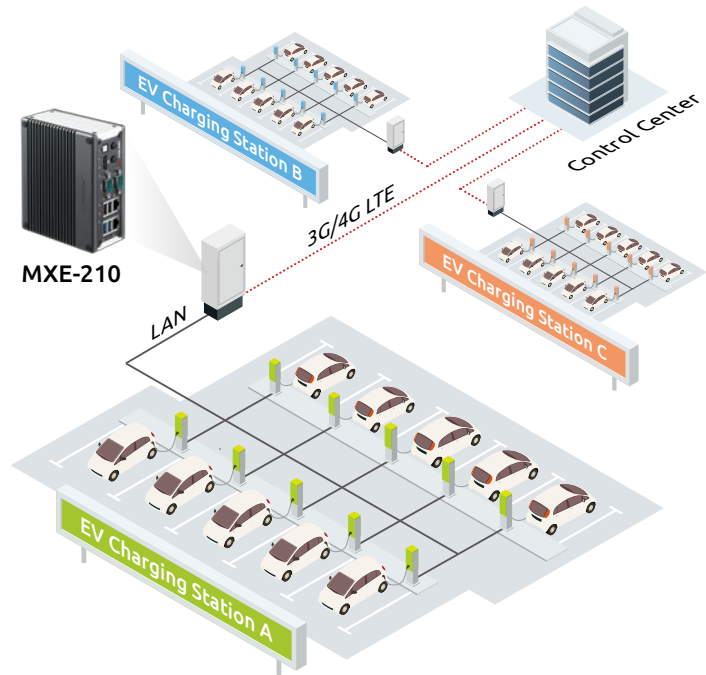
Industrial Gateway Controllers Streamline Electric Car Charging



The massive boom in electric car popularity creates a potential for many millions of charging stations to be installed worldwide. In one application, a leading automotive manufacturer seeks to implement charging station infrastructure. This manufacturer plans to introduce over 30,000 charging stations in 2018 with many more in the near future.

Planned locations, spanning multiple geographic regions, require localized industrial gateway control capable of managing up to 10 charging poles per installation and housed in a central control cabinet. Communicating with a remote control server (for billing and other administrative duties) via a 3G or 4G LTE signal, the installed equipment must be standardized and able to withstand extremes of temperature and otherwise harsh conditions, including excess unit vibration and limited ventilation.

For operational efficiency and cost concerns, it is also required that the controller units be compact, and support full connection to unspecified third party equipment, irrespective of protocol, whether wired or wireless. As well, since the controller system manages confidential individual transaction information, data security is critical.



ADLINK Solution

The ADLINK solution consists of the ultra-compact (140 (W) x 110 (D) x 58 (H) mm) MXE-210 industrial gateway controller housed in a local control cabinet. The low power consumption Intel Atom® Processor X Series -based computer perfectly meets not only rigorous environmental requirements but also features the flexibility to be tailored to specific user needs.

The MXE-210's -40°C to 85°C operability with 5 Grms vibration tolerance and 100 G shock combines with versatile I/O ports for seamless connectability with ancillary devices, such as network switches. Further, since it is intended that subsequent versions of the solution include the industrial gateway controllers will fully support wireless communication with each other via ZigBee protocol, replacing the current LAN connection, two internal mPCIe slots make the MXE-210 100% ready to accept wireless card installation at a later date.

The robust gateway controller is ideally suited to supporting system functions, with ample power enough to manage utility fees and multiple payment options such as credit cards and digital wallets, such as Apple Pay and Alipay, among others, with payment data returned to central admin via 3G, 4G LTE, or LoRa. Sensitive information is thoroughly secured from onsite tampering by Intel® Boot Guard and UEFI Secured Boot.

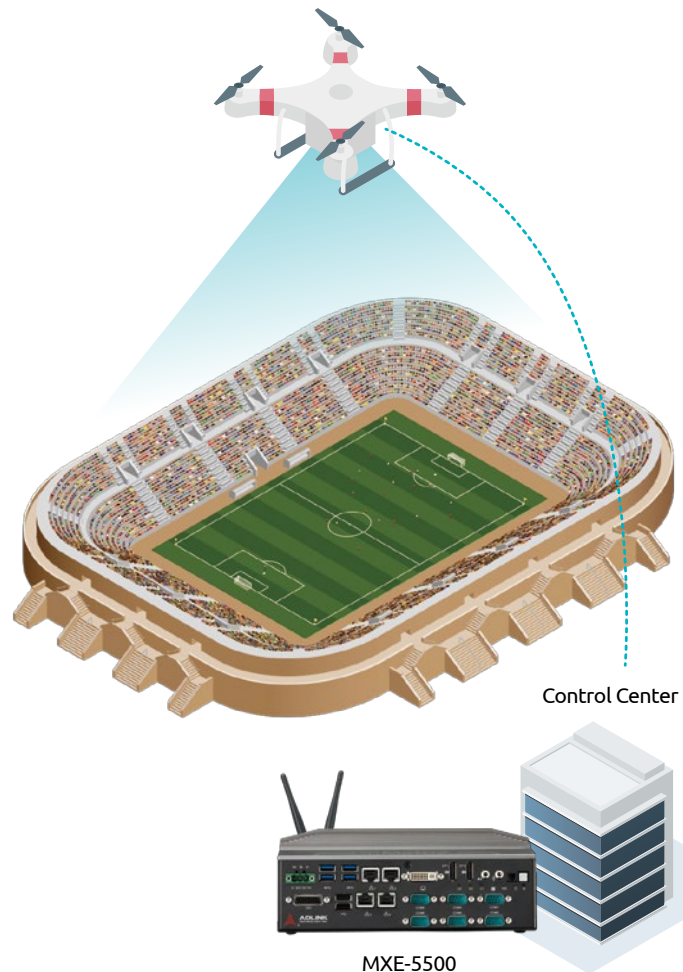
- Robust and reliable IIoT-ready combination embedded controller and IoT gateway
- Highly integrated networking, wireless, and industrial I/O features, for M2M solutions with industry-leading reliability
- A small footprint and fully operable in harsh environments from -40°C to 85°C
- Sensitive information is thoroughly secured from onsite tampering by Intel® Boot Guard and UEFI Secured Boot

Real-time Monitoring and Analysis to Secure Stadium Operation



Stadium operators contend with tens of thousands of people using wireless devices and dozens of critical radio sources, all contained within a confined space built entirely from concrete and steel. This chaotic and congested wireless environment, combined with emerging threats like drones and jammers, creates an extremely challenging problem that requires an intelligent solution. Failure to effectively manage this environment jeopardizes brand value, reputations, revenues, safety, and lives.

The key to operational efficiency and safety is a solution that addresses threat management while ensuring the availability of reliable communications.



ADLINK Solution

ADLINK's MXE-5500 delivers enhanced security and operational efficiency, by combining the power of proprietary wireless spectrum management with state-of-the-art drone mitigation. This combination of real-time environmental and situational awareness ensures that communications are available for those who need it most, like first responders, while actively searching for and addressing threats.

- Supports 6th gen Intel® Core™ i7-6820EQ with 16GB DDR4 memory
- Flexible customizable Adaptive Function Module (AFM) modular structure support two Mini-PCIe and another non-standard form factor Mini-PCIe for GPS/PPS (Precise Position System)/Tx/Rx
- Built in internal USB 2.0, 2x wafers and 1x dongle for security, 1x serial port
- 2x 2.5" SATA removable hot-plug drive bays for easy maintenance
- Fanless with no airflow under operating -20°C to 60°C
- Certified immunity EN61000-6-2 industrial grade environments
- AFM offers fast customization with reduced development costs

Product Selection Guide

		Expandable Fanless Embedded Computers					
Model Name	MXC-6400 Series			MXC-6300/6310/6320 Series			
							
Model Name	MXC-6401D	MXC-6402D	MXC-6403D	MXC-6301D/ 6311D/ 6321D	MXC-6302D/ 6312D/ 6322D	MXC-6303D / 6313D/ 6323D	MXC-6305D/ 6315D/ 6325D
System							
Processor	Intel® Core™ i7-6820EQ	Intel® Core™ i5-6440EQ	Intel® Core™ i3-6100E	Intel® Core™ i7-3610QE	Intel® Core™ i5-3610ME	Intel® Core™ i3-3120ME	Intel® Celeron® 1020E
Chipset	QM170			QM77			
# of Cores	4	4	2	4	2	2	2
Base Freq.	2.8 GHz	2.7 GHz	2.7 GHz	2.3 GHz	2.7 GHz	2.4 GHz	2.2 GHz
Max Turbo Freq.	3.5 GHz	3.4 GHz	-	3.3 GHz	3.3 GHz	-	-
Memory	4GB DDR4 2133 MHz (up to 32 GB)			4 GB DDR3 1333 MHz (up to 16 GB)			
Video	2 DisplayPort 1 DVI			2 DisplayPort 1 DVI 1 internal LVDS			
I/O Interface							
Expansion Slots	1 PCI + 2 PCIe x8 or 1 PCI + 1 PCIe x16 (auto switched) 2x mPCIe + 2x USIM			1 PCI + 2 PCIe x8 or 1 PCI + 1 PCIe x16 (MXC-6300 Series) 1 PCI + 1 PCIe x16 (MXC-6310 Series) 3 PCI + 1 PCIe x16 (MXC-6320 Series)			
Ethernet	3 GbE (Intel® 2x I210/I219LM)			2 GbE (Intel® 82579/I210)			
Serial Ports	COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232			COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232			
USB	6 USB 3.0 + 1 internal USB 2.0 wafer			4 USB 3.0 + 2 USB 2.0 + 1 internal USB 2.0			
DIO	Isolated 16x DI + 16x DO			Isolated 16x DI + 16x DO			
PS/2	2 (KB/MS)			2 (KB/MS)			
Audio	ALC 262, Line-out/ Mic-in			ALC 269Q, Line-out/ Mic-in			
Manageability							
Watchdog Timer	√			√			
SEMA	√			-			
Storage							
2.5" SATA	2x removable drive bays 2x internal			2 (change to drive bays by request)			
CompactFlash	1 type II CFast			2 type II CFast (1 external + 1 internal)			
Operating Temperature*	Standard: 0 to 50°C Extended option*: -20 to 70°C (w/Ind. SSD or CFast)			Standard: 0 to 50°C Extended option: -20 to 55°C for i7; -20 to 60°C for i5/i3/Celeron® (w/Ind. SSD or CFast)			
Vibration	With CFast/SSD: 5 Grms With HDD: 0.5 Grms			With CFast/SSD: 5 Grms With HDD: 0.5 Grms			
ESD	Contact +/-4 KV and Air +/-8 KV			Contact +/-4 KV and Air +/-8 KV			
Shock	With CFast/SSD: 50 G			With CFast/SSD: 50 G			
EMC	CE and FCC Class A			CE and FCC Class A			
Safety	UL by CB			UL by CB			
General							
Power Supply	9-32 VDC			9-32 VDC			
Mechanical							
Dimensions	170 (W) x 225 (D) x 200 (H) mm (6.69" x 8.86" x 7.87")			MXC-6300/6320 Series: 172.5 (W) x 225 (D) x 213 (H) mm (6.9" x 9" x 8.52") MXC-6310 Series: 154 (W) x 225 (D) x 213 (H) mm (6.16" x 9" x 8.52")			
Operation System							
	Win10/ Win7/ Embedded Standard 7, Linux**			Win10/ Win7/Embedded Standard 7/WES 2009, Linux **			

* Heat Dissipation from inserted PCI/PCIe cards may affect thermal performance.

** Linux Distribution by request


Expandable Fanless Embedded Computers	
Model Name	MXC-2300 Series






Model Name	MXC-2300(CD)-3E1	MXC-2300(CD)-3S
System		
Processor	Intel Atom® E3845	
Video	1 DisplayPort 1 DVI	
Memory	4 GB DDR3L 1600 MHz (up to 8 GB)	
I/O Interface		
Expansion slots	2 PCI + 1 PCIe x4	3 PCI
Ethernet	1 mPCIe + 1 USIM for MXC-2300CD series 2 GbE (Intel® I210)	
Serial Ports	COM 1 & COM 2: 2 RS-232/422/485 COM 3 & COM 4: 2 RS-232	
USB	4 USB 2.0 + 1 USB3.0 + 1 internal USB 2.0	
CAN	Isolated 2x DB9 with SJA1000 CAN controller for MXC-2300CD series	
DIO	Isolated 16x DI + 16x DO for MXC-2300CD series	
Audio	ALC269, Line-out/ Mic-in	
Manageability		
Watchdog Timer	√	
SEMA	√	
Storage Device		
2.5" SATA	1	
CompactFlash	1 Type II CF	
Operating Temperature*	Standard: 0 to 50°C Extended option: -20 to 70°C (w/Ind. SSD or CF)	
Vibration	With CF/SSD: 5 Grms With HDD: 0.5 Grms	
ESD	Contact +/-4 KV, Air +/-8 KV	
Shock	With CF/SSD: 50 G	
EMC	CE and FCC Class A	
Safety	UL by CB	
General		
Power Supply	9-32 VDC	
Mechanical		
Dimensions	142 (W) x 219 (D) x 210 (H) mm (5.84" x 8.76" x 8.4")	
Operation System		
	Win10/ Win7/ Embedded Standard 7/ Linux**	




* Heat Dissipation from inserted PCI/PCIe cards may affect thermal performance.

** Linux Distribution by request




	Expandable Fanless Embedded Computers		Integrated Fanless Embedded Computers
Model Name	MVP-6010/6020 Series	MVP-6000 Series	MVP-5000 Series
			
System			
Processor	Intel® Core™ i7-6700TE/i5-6500TE/i3-6100TE	Intel® Core™ i7-6700 (65W)	Intel® Core™ i7-6700TE/i5-6500TE/i3-6100TE
Chipset	MVP-6010 Series: H110 MVP-6020 Series: Q170		H110
Video	1 VGA + 2 DisplayPort + 1 DVI-D		
Memory	4 GB DDR4 2133 MHz (up to 32 GB)		
I/O Interface			
Expansion slots	1 PCIe Gen3 x16 + 3 PCI expansion slots for MVP-6010 Series 2 PCIe Gen3 x8 + 2 PCI expansion slots for MVP-6020 Series	1 PCIe Gen3 x16 + 1 PCI	-
Ethernet	3 Intel® I211 AT GbE ports WOL and teaming functions are supported		
Serial Ports	4 COM by DB9 connector 2 BIOS selectable RS-232/422/485 + 2x RS-232 RS-485 with auto flow control		
USB	6 external USB ports (4 USB 3.0 +2 USB 2.0) 1 internal USB 2.0 port		
DIO	8-CH DI and 8-CH DO		
Mini PCIe	1 internal mini PCIe socket		
USIM	1 USIM socket		
Audio	1 Mic-in and 1 Line out		
Power Supply			
DC Input	Built-in 12-24 VDC wide-range DC input 3P pluggable connector with latch (V-, GND, V+)		
AC Input	Optional 160 W external AC-DC adapter for AC input		
Storage Device			
SATA HDD	1 SATA port for 2.5" HDD/SSD installation (up to 6 Gb/s)		
CompactFlash Socket	1 Type II CFast		
Mechanical			
Dimensions	220 (W) x 210 (D) x 208.7 (H)mm (8.67" x 8.27" x 8.21")	220 (W) x 210 (D) x 170 (H) mm (8.67" x 8.27" x 6.69")	220 (W) x 210 (D) x 121(H) mm (8.67" x 8.27" x 4.76")
Weight	4.7 kg (10.36 lbs)	4.5 kg (9.92 lbs)	3.6 kg (7.9 lb)
Mounting	Wall mount kit		
Environmental			
Operating Temperature	0 to 50°C	0 to 40°C	0 to 50°C
Storage Temperature	-40 to 85°C (-40 to 185°F) (excl. HDD/SDD/CFast)		
Humidity	~95% @ 40°C (non-condensing)		
Vibration	Operating, 5 Grms, 5-500 Hz, 3 axes (w/ CFast or SSD) Operating, 0.5 Grms, 5-500 Hz, 3 axes (w/ HDD)		
ESD	Contact +/-4KV, Air +/-8KV		
Shock	Operating, 100 Grms, half sine 11ms duration (w/ CFast or SSD)		
EMC	CE & FCC Class A		
Safety	UL/cUL, CB, CCC		

Integrated Fanless Embedded Computers									
Model Name	MXE-5500 Series			MXE-5400 Series			MXE-5300 Series		
									
Model Name	MXE-5501	MXE-5502	MXE-5503	MXE-5401	MXE-5402	MXE-5403	MXE-5301	MXE-5302	MXE-5303
System									
Processor	Intel® Core™ i7-6820EQ	Intel® Core™ i5-6440EQ	Intel® Core™ i3-6100E	Intel® Core™ i7-4700EQ	Intel® Core™ i5-4400E	Intel® Core™ i3-4100E	Intel® Core™ i7-2710QE	Intel® Core™ i5-2510E	Intel® Core™ i3-2330E
Chipset	QM170			QM87			QM67		
# of Cores	4	4	2	4	2	2	4	2	2
Base Freq.	2.8 GHz	2.7 GHz	2.7 GHz	2.4 GHz	2.7 GHz	2.4 GHz	2.1 GHz	2.5 GHz	2.2 GHz
Max Turbo Freq.	3.5 GHz	3.4 GHz	-	3.4 GHz	3.3 GHz	-	3.0 GHz	3.1 GHz	-
Memory	4 GB DDR4 2400 MHz (up to 32 GB)			4 GB DDR3L 1600 MHz (up to 16 GB)			4 GB DDR3 1333 MHz (up to 16 GB)		
Video	2 DisplayPort 1 DVI			2 DisplayPort 1 DVI			1 DVI		
I/O Interface									
Expansion Slots	2 mPCIe + 1 m.2 2280 (USB 1/F)			2 mPCIe			2 mPCIe		
USIM	2			1			1		
Ethernet	4 GbE (Intel® I210/ I219 PHY/ 2x I211)			4 GbE (Intel® 3x I210/ I217LM PHY)			4 GbE (2 Realtek 8111C/ Intel® 82574/82579LM PHY)		
Serial Ports	COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232/422/485 COM5 & COM6: 2 RS-232			COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232			COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232		
USB	4 USB 3.0 + 4 USB 2.0			6 USB 3.0 + 1 internal USB 2.0			2 USB3.0 + 4 USB2.0 1 internal USB2.0		
DIO	Isolated 8x DI + 8x DO			Isolated 8x DI + 8x DO			Isolated 4x DI + 4x DO		
Audio	ALC262, Line-out/ Mic-in			ALC269Q, Line-out/ Mic-in			ALC269Q, Line-out/ Mic-in		
I ² C	1			-			-		
PS/2	-			-			2 (KB/MS)		
Manageability									
Watchdog Timer	√			√			√		
TPM	TPM 1.2			TPM 1.2			-		
SEMA	√			√			-		
Storage									
2.5" SATA	2x removable drive bays			2			1		
CompactFlash	1 Type II CFast			1 Type II CFast			1 Type II CFast		
mSATA/M.2	1 M.2 2280			1 mSATA (shared w/ mPCIe, select by jumper)			-		
eSATA	-			1			1		
Environment									
Operating Temperature*	Standard: 0 to 50°C Extended option: -20 to 60°C for MXE-5501; -20 to 70°C for MXE-5502/5503: (w/Ind. SSD or CFast)			Standard: 0 to 50°C Extended option: -20 to 60°C for MXE-5401; -20 to 70°C for MXE-5402/5403: (w/Ind. SSD or CFast)			Standard: 0 to 50°C Extended option: -20 to 60°C for MXE-5301; -20 to 70°C for MXE-5302/5303 (w/Ind. SSD or CFast)		
Vibration	With CFast/SSD: 5 Grms With HDD: 0.5 Grms			With CFast/SSD: 5 Grms With HDD: 0.5 Grms			With CFast/SSD: 5 Grms With HDD: 0.5 Grms		
ESD	Contact +/- 4 KV, Air +/- 8 KV			Contact +/- 4 KV, Air +/- 8 KV			Contact +/- 4 KV, Air +/- 8 KV		
Shock	With CFast/SSD: 100 G With HDD: 20 G			With CFast/SSD: 100 G With HDD: 20 G			With CFast/SSD: 50 G		
EMC	CE and FCC Class A (EN61000-6-4/-2), EN50121			CE and FCC Class A			CE and FCC Class A		
Safety	UL by CB			UL by CB			UL by CB		
General									
Power Supply	9-32 VDC			9-32 VDC			9-32 VDC		
Mechanical									
Dimensions	230 (W) x 205 (D) x 90 (H) mm (9" x 8" x 3.54")			230 (W) x 205 (D) x 75 (H) mm (9" x 8" x 2.9")			230 (W) x 205 (D) x 75 (H) mm (9" x 8" x 2.9")		
Operation System									
	Win10/ Win7/ Embedded Standard 7, Linux*			Win10/ Win7/ Embedded Standard 7, Linux*			Win7/ Embedded Standard7/ WES 2009, Linux*		

* Linux distribution by request

Integrated Fanless Embedded Computers				
Model Name	MXE-1500 Series		MXE-1400 Series	MXE-1400V Series
				
System				
Model Name	MXE-1501	MXE-1502	MXE-1401	MXE-1401V
SoC	Intel® Celeron® N3160	Intel® Celeron® N3060	Intel Atom® E3845	Intel Atom® E3845
# of Cores	4	2	4	4
Base Freq.	1.6 GHz	1.6 GHz	1.91 GHz	1.91 GHz
Max Turbo Freq.	2.24 GHz	2.48 GHz	-	-
Memory	2 GB DDR3L 1600 MHz (Up to 8 GB)		2 GB DDR3L 1600 MHz (Up to 8 GB)	2 GB DDR3L 1600 MHz (Up to 8 GB)
Video	1 DisplayPort 1 VGA (Optional LVDS or 2 nd DisplayPort)		1 DisplayPort 1 DVI	1 DisplayPort 1 DVI
I/O Interface				
Expansion Slots	1x mPCIe		2 mPCIe (1x full, 1x half size)	2 mPCIe (1x full, 1x half size)
USIM	1		1	1
Ethernet	3 GbE (Intel® I211)		3 GbE (Intel® I211)	3 GbE (Intel® I211)
Serial Ports	COM1/2: RS-232, COM3/4: RS-232/422/485 COM5/6: RS-232/422/485 (optional, shared location w/ 2 nd DisplayPort)		COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232/422/485 COM5 & COM6: 2 RS-232	COM1 & COM2: 2 RS-232/422/485 COM3 & COM4: 2 RS-232/422/485 COM5 & COM6: 2 RS-232
USB	2x USB3.0 + 4x USB 2.0 + 1x internal USB 2.0		1 USB 3.0 + 6 USB 2.0 1 internal USB 2.0	1 USB 3.0 + 6 USB 2.0 1 internal USB 2.0
DIO	4 DI + 4 DO		Isolated 8x DI + 8x DO	Isolated 8x DI + 8x DO
Audio	ALC269Q, Line-out/ Mic-in (optional amplifier)		ALC269Q, Line-out/ Mic-in	ALC269Q, Line-out/ Mic-in
i°C	1		1	-
Manageability				
Watchdog Timer	√		√	√
TPM	TPM2.0 (optional)		-	-
SEMA	√		√	√
Storage				
2.5" SATA	1		1x removable drive bay	1x removable drive bay
CompactFlash	1 Type II CFast		1 Type II CFast	1 Type II CFast
Environment				
Operating Temperature	Standard: 0 to 50°C Extended option: -20 to 70°C (w/ industrial SSD or CFast)		Standard: 0 to 50°C Extended option: -40 to 70°C (w/Ind. SSD or CFast)	Standard: 0 to 50°C Extended option: -40 to 70°C (w/Ind. SSD or CFast)
Vibration	With SSD/CFast: 5 Grms With HDD: 0.3 Grms		With CFast/SSD: 5 Grms	With CFast/SSD: 5 Grms
ESD	Contact +/- 4 KV, Air +/- 8 KV		Contact +/-4 KV, Air +/-8 KV	Contact +/-4 KV, Air +/-8 KV
Shock	With SSD/CFast: 100 G		With CFast/SSD: 100 G	With CFast/SSD: 100 G
EMC	CE/FCC Class A (EN61000-6-4/-2)		CE and FCC Class A	CE and FCC Class A E-Mark (E13)
Safety	UL by CB		UL by CB	UL by CB
General				
Power Supply	6-36VDC		9-32 VDC	Ignition power 24VDC (12VDC by request), selectable on/off delay time
Mechanical				
Dimensions	210 (W) x 170 (D) x 53 (H) mm (8.3" x 6.75" x 2.09")		210 (W) x 170 (D) x 70 (H) mm (8.3" x 6.75" x 2.8")	210 (W) x 170 (D) x 70 (H) mm (8.3" x 6.75" x 2.8")
Operation System				
	Win10/ Win7/ Embedded Standard 7, Linux*		Win10/ Win7/ Embedded Standard 7, Linux*	Win10/ Win7 Embedded Standard 7, Linux*

* Linux distribution by request

Model Name	IoT Gateway		
	MXE-210/210i Series	MXE-200/200i Series	MXE-110i Series
			
System			
Processor	Intel Atom® x7-E3950/x5-E3930 quad/dual core processor	Intel Atom® E3845/E3826 quad/dual core processor	Intel® Quark™ X1021
Chipset	SOC	SOC	SOC
Memory	DDR3L 1600 1x SODIMM 2 GB (Up to 8G)	2 GB DDR3L 1066 (Up to 4G, Memory Down)	512 MB DDR3 800 (Up to 1GB, Memory Down)
Video	1x DisplayPort 1.2 (Support DP++)	1x HDMI	-
I/O Interface			
Expansion Slots	2 x Full-size Mini PCIe slots 1x USIM slot for	2 x Full-size Mini PCIe slots 1x USIM slot for	2 x Full-size Mini PCIe slots 1x USIM slot for
USIM	3G/4G LTE communication	3G/4G LTE communication	3G/4G LTE communication
Ethernet	2x Intel® GbE LAN	2x Intel® GbE LAN	2 10/100 LAN
Serial Ports	2x COM (RS-232/422/485, BIOS Selectable)	2x COM (1x RS-232 + 1 x RS-232/422/485)	2x COM (1x RS-232 + 1 x RS-232/422/485)
USB	2x USB 2.0 + 2x USB 3.0	2x USB 2.0 + 1x USB 3.0	2x USB 2.0
DIO	8 x Isolated DIO	4 x Isolation DIO	4 x Isolation DIO
Manageability			
Watchdog Timer	√	√	√
SEMA	SEMA support with BMC	SEMA support with BMC	SEMA support with BMC
Storage			
SATA HDD	1 x 2.5" SATA by storage kit (Optional)	-	-
CompactFlash	-	-	-
mSATA	1x full-size Mini PCIe slot	1x mSATA (Same slot with Mini PCIe)	-
SD/eMMC	1 Micro SD card slot (Up to 32GB)	1 SD card slot (up to 16 GB)	1 eMMC (up to 32 GB)
Environment			
Operating Temperature*	Standard : 0 to 50°C (32 to 122°F) Extended (Optional):-20 to 70°C (-4 to 158°F) w/ indu. mSATA/SATA SSD Ultra-extended(Optional): -40 to 85°C (-40 to 185°F) w/ indu. mSATA/SATA SSD	Standard: 0 to 50°C; Extended option: -20 to 70°C for MXE-202i (w/Ind. SD/mSATA)	Standard: 0 to 50°C; Extended option: -20 to 70°C (w/ eMMC)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes w/ mSATA SSD	With SSD/mSATA: 0.5 Grms	With SSD: 0.5 Grms
ESD	Contact +/-4 KV, Air +/-8 KV	Contact +/-4 KV, Air +/-8 KV	Contact +/-4 KV, Air +/-8 KV
Shock	Operating: 100 G, half sine 11 ms duration w/ mSATA SSD	With eMMC : 100 G	With eMMC : 100 G
EMC	CE & FCC Class B (EN61000-6-4/ EN61000-6-2) / EN 50155 Compliance	CE & FCC Class A (EN61000-6-4/EN61000-6-2)	CE & FCC Class A (EN61000-6-4/EN61000-6-2)
Safety	UL, CB	UL, CB	UL, CB
General			
Power Supply	DC input: 6 - 36VDC AC input: 40W AC-DC Power adaptor (Optional)	DC input: 6 - 36VDC AC input: 40W AC-DC Power adaptor (Optional)	DC input: 6 - 36VDC AC input: 40W AC-DC Power adaptor (Optional)
Mechanical			
Dimensions	140 (W) x 110 (D) x 58 (H) mm (5.5" x 4.3" x 2.3")	120 (W) x 100 (D) x 55 (H) mm (4.68" x 3.9" x 2.17")	120 (W) x 100 (D) x 50 (H) mm (4.68" x 3.9" x 1.97")
Operation System			
	Windows® 10 IoT Enterprise 64Bit Ubuntu Linux 16.04 LTS 64Bit Wind River® Pulsar™ Linux LTS 17	Win10 IoT, WEST, Wind River IDP XT 3.1	Wind River® IDP XT 3.1
Other			
Device-Level Security	Trusted Platform Module (TPM) 2.0, Intel® Boot Guard, UEFI Secure Boot	Intel® Boot Guard, Secure Boot	TPM

Smart Panel - AL Series						
Model Name	SP-07WP-AL Series	SP-10WP(R)-AL Series	SP-12WP(R)-AL Series	SP-15WP(R)-AL Series	SP-18WP(R)-AL Series	SP-21WP(R)-AL Series









System						
Processor	Intel Atom® x5-E3930 / Intel Atom® x7-E3950 (Optional)					
Memory	1x SODIMM socket, DDR3L 1600MHz (Up to 8GB), supports rugged SODIMM					
Storage	eMMC 5.0, up to 64GB (Optional) 1x SATA header for 2.5" SSD or HDD, 1x M.2 slot, type 2280					
External I/O						
Ethernet	2x GbE (Standard: Intel® I211-AT, Option: Intel® I210IT), RJ-45, WOL					
Serial Port	2x RS-232/422/485 programmable, support 9 bit mode and auto flow					
USB 2.0	1x USB 2.0, Type A, OCP, 1000mA					
USB 3.0	1x USB 3.0, Type A, OCP, 1600mA					
DisplayPort	1x DP, DP++, supports resolutions up to 4096 x 2160					
Internal I/O						
Mini PCIe	1x mPCIe slot (PCIe + USB), compliant with PCIe mini card spec v1.2, supports full/half size					
USIM	1x SIM slot for 3G/4G communication					
USB	1x wafer, supports camera or dongle					
I ² C	1x wafer, supports IoT sensors (not including algorithm), 2x wafers for I ² C clients					
Audio	1x wafer, supports 2x 2W stereo speaker, built-in amplifier, 1x wafer, Mic-in, mono, Line-out					
Keys	1 box header, supports physical key x 32 for data input					
GPIO	1 wafer, supports LCD backlight up/down, volume up/down (Optional)					
GPIO	1x wafer, supports 8-pin GPI/O					
Power						
Connector	1x 4 circuit mini fit AT/ATX					
DC Input	12VDC standard, optional 9 to 36VDC					
AC Input	120W/160 W AC-DC adapter (Optional)					
Power/Fail Reset	1x wafer, supports system reset & power button, 1x power LED					
Backup Battery	1x wafer for backup battery for RTC, 1x wafer for UPS kit to backup data when AC shuts down (Optional)					
Notification						
Thermal Sensor	1x CPU Tj, 2 x PCBA top & bottom-mounted thermal sensors (Optional)					
TPM	TPM 2.0 (Optional)					
LED Indicator	1x wafer, supports 1x power, 1x storage, 4x COM (Tx & Rx) 1x WDT, 3x user-defined					
Debug port	1x DB40					
Mechanical Bracket						
IP Grade	IP65 for front					
Material	SGCC					
Display and Touch (Standard)						
	7"	10.1"	12.1"	15.6"	18.5"	21.5"
Display Ratio	16:9					
Display Resolution	1024 x 600	1280 x 800		1366 x 768		1920 x 1080
Display View Angle	75/75/70/75	85/85/85/85	89/89/89/89	85/85/85/85	85/85/80/80	60/60/70/70
Luminance (Nits)	250 cd/m ²	400 nits (typ)	400 nits (typ)	400 nits (typ)	450 nits (typ)	500 nits (typ)
Capcitive Touch	5 points capacitive touch screen or 1 point 5 wire resistive touch screen, full-flat					
Environmental						
Operating Temperature	-20 to 60°C	-20 to 60°C	-30 to 70°C	0 to 50°C	0 to 50°C	0 to 50°C
Storage Temperature	-30 to 80°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C
Operating Humidity	10-90% RH operating, non-condensing, 5-95% RH storage					
Vibration	OP 5 Grms, 5-500Hz (with SSD), EN61373 Class 1B (Railway reliability), ISO 7637-2					
Shock	OP 100G peak acceleration, 6 ms (with SSD), EN61373 Class 1B (railway Reliability)					
ESD	Air: ±15kV, Contact: ±8kV					
Software						
SEMA	SEMA 3.5					
WDT	Watch Dog Timer supported					
Operating System	Windows® 10 64-bit, Linux Ubuntu 16.04 LTS, QT compatible, 64-bit, Android					

Smart Panel - KL Series						
Model Name	SP-07WP-KL Series	SP-10WP(R)-KL Series	SP-12WP(R)-KL Series	SP-15WP(R)-KL Series	SP-18WP(R)-KL Series	SP-21WP-KL Series



System						
Processor	Intel® Core™ i3-7100U 2.4 GHz/ Intel® Core™ i5-7300U 2.6/3.5 GHz/ Intel® Core™ i7-7600U 2.8/3.9 GHz (Turbo) 15W					
Memory	1x SODIMM non-ECC 1867/1600 MHz DDR3L memory up to 8 GB					
Storage	1x SATA 6 Gbps port/ 1x M.2 SATA 6 Gbps port, M key 2280/ 1x Micro SD card eMMC 5.0, Up to 64GB (Optional)					
External I/O						
Ethernet	2x GbE (Standard: Intel® I211-AT, Option: Intel® I210IT), RJ-45, WOL					
Serial Port	2x RS-232/422/485 programmable, support 9 bit mode and auto flow					
USB 2.0	1x USB 2.0, Type A, OCP, 1000mA					
USB 3.0	1x USB 3.0, Type A, OCP, 1600mA					
DP	1x DP, DP++, supports resolutions up to 4096 x 2160					
Internal I/O						
Mini PCIe	1x full size mPCIe, integrated PCIe and USB interface, supports full/half size					
PCIe	1x PCIe4 edge connector on PCB					
DisplayPort	1x DP, DP++, supports resolutions up to 4096 x 2160					
USIM	1x SIM slot for 3G/4G communication					
USB 2.0	2x wafers for I ² C clients					
I ² C	2x wafers for I ² C clients					
Audio	1x wafer for 2x 2W stereo speaker, built-in amplifier 1x wafer for Mic-in and Line-out					
Keys	1 box header for 32 physical keys (Optional)					
GPIO	1 wafer, supports LCD backlight up/down, volume up/down (Optional) 1 x wafer, supports 8-pin GPI/O					
Power						
Connector	1x 4-pin power connector					
DC Input	12VDC standard, optional 9 to 36VDC					
Power/Fail Reset	1x wafer for power and reset button					
Notification						
Thermal Sensors	2x PCBA top & bottom-mounted thermal sensors (1 optional)					
TPM	TPM 2.0 (Optional)					
LED Indicator	1x wafer for 10 LED indicators (4x COM port Tx/Rx, 1x Watch Dog Timer, 3x user defined)					
Debug Port	1x 40-pin multipurpose flat cable connector for use in combination with DB-40 debug port					
Mechanical Bracket						
IP Grade	IP65 for front					
Material	SGCC					
Display and Touch						
Display Ratio	7"	10.1"	12.1"	15.6"	18.5"	21.5"
Display Resolution	1024 x 600	1280 x 800		1366 x 768		1920 x 1080
Display View Angle	75/75/70/75	85/85/85/85	89/89/89/89	85/85/85/85	85/85/80/80	60/60/70/70
Luminance (Nits)	250 cd/m ²	400 nits (typ)			450 nits (typ)	500 nits (typ)
Capcitive Touch	5 points capacitive touch screen or 1 point 5-wire resistive touch screen, full-flat					
Environmental						
Operating Temperature	-20 to 60°C		-30 to 70°C		0 to 50°C	
Storage Temperature	-30 to 80°C		-20 to 70°C			
Operating Humidity	10-90% RH operating, non-condensing, 5-95% RH storage					
Vibration	OP 5 Grms, 5-500Hz (with SSD), EN61373 Class 1B (Railway Reliability), ISO 7637-2					
Shock	OP 100G peak acceleration, 6 ms (With SSD), EN61373 Class 1B (Railway Reliability)					
ESD	Air: ±15kV, Contact: ±8kV					
Software						
SEMA	SEMA 3.5					
WDT	Watch Dog Timer supported					
Operating System	Windows® 10 IOT Enterprise x64 bit, Linux Ubuntu 16.04 LTS, QT compatible, 64 bit					

Smart Touch Computers			
Model	STC-1005	STC-1205	STC-1505
			
System			
Display Size	10.4"	12.1"	15"
Resolution	1024 x 768		
Brightness	500 nits (w/o touch)		400 nits (w/o touch)
Contrast Ratio	1000:1	700:1	
View Angle (U/D/R/L)	88/88/88/88	70/70/80/80	
Touch screen	5 wire resistive touch sensor / Projective capacitive sensor (Optional)		
Motherboard and System Components			
Processor	Intel Atom® Processor E3845, quad core, 1.91GHz		
Main Memory	2GB DDR3L soldered onboard		
Storage Drive	1x SATA Slim internal slot 1x SD card external slot	1x SATA Slim internal slot or 2.5" SATA HDD/SSD bay 1x SD card external slot	
I/O Port	1x USB 2.0, Type A 1x USB 3.0, Type A 2x GbE LAN, RJ-45 2x COM ports, RS-232, TX/RX only 1x HDMI Port 1x 2-pin DC Power input, Terminal Block 1x Audio port (line out)		
Webcam	2.0M Pixel		
WiFi and Bluetooth	802.11 b/g/n and BT 4.0 (STC-1005/1205 internal antenna, STC-1505 external antenna)		
Operating System	Windows Embedded Standard 7 Pre-Loaded		
Physical Characteristics			
Construction	Aluminum front bezel and chassis		
Weight	2.5kg	4.5kg	6.0kg
Dimensions (H x W x D)	285 x 229 x 44.3	325 x 263.6 x 44.3	390 x 310.5 x 48.2
Mounting Options	VESA Mount, MIS-D 75mm Panel Mounting		
Working Environment			
Operating Temperature	-20 to 60°C (with SSD)		
Nonoperating Temperature	-20 to 60°C		
Relative Humidity	10% to 90 % @ 40°C (non-condensing)		
Vibration Operating	1G random 5 to 500Hz		
Shock Operating	10G acceleration part to part, 11ms		
Rating	IP65 on the front		
Certifications & Compliance	CE, FCC		
Input Voltage	9~24VDC Power input		
Power Consumption	30W	32W	34W

	Pharma & Food Processing Panel Computers			Industrial Panel Computers		
Model	FOOD-B15	FOOD-B17	FOOD-B19	GIANT-B15	GIANT-B17	GIANT-B19
						
System						
Display Size	15"	17"	19"	15"	17"	19"
Resolution	1024 x 768	1280 x 1024		1024 x 768	1280 x 1024	
Brightness	400 nits (w/o touch)	350 nits (w/o touch)		400 nits (w/o touch)	350 nits (w/o touch)	
Contrast Ratio	700:1	1000:1		700:1	1000:1	
View Angle (U/D/R/L)	70/70/80/80	80/80/85/85		70/70/80/80	80/80/85/85	
Touch screen	5 wire resistive touch sensor					
Motherboard and System Components						
Processor	Intel Atom® Processor E3845, quad core, 1.91GHz					
Main Memory	4GB DDR3L memory (up to 8GB)					
Storage Drive	500GB HDD (24x7) or 128GB SSD					
I/O Port	1x GbE (M connector) 1x RS-232 (M connector) 2x USB 2.0 (M connector) 1x AC power plug (M connector)			2x GbE 1x RS232 1x RS-232/422/485 4x USB 3.0 1x Line-out 1x Mic-in 1x HDMI 1x VGA		
Webcam	N/A					
WiFi and Bluetooth	802.11 b/g/n and BT 4.0 external antenna (optional)					
Operating System	Windows 7, Windows 10					
Physical Characteristics						
Construction	Stainless steel 316L (V4A)					
Weight	8.6kg	10.7kg	11.2kg	8.6kg	10.7kg	11.2kg
Dimensions (H x W x D)	408 x 314.1 x 89.0	438 x 354 x 89.0	465.1 x 390.6 x 89.0	408 x 314.1 x 107.2	438 x 354 x 107.2	465.1 x 390.6 x 107.2
Mounting Options	VESA Mount, MIS-D 75/100mm					
Working Environment						
Operating Temperature	0 to 45°C					
Nonoperating Temperature	-10 to 60°C					
Relative Humidity	10% to 90 % @ 40°C (non-condensing)					
Vibration Operating	1G random 5 to 500Hz (with SSD)					
Shock Operating	10G acceleration part to part, 11ms					
Rating	IP69K			IP65 full		
Certifications & Compliance	CE, CB					
Input Voltage	100~240VAC 50/60Hz					
Power Consumption	40W	45W	50W	58W	63W	68W

Product Datasheet

MXC-6400 Series

6th Generation Intel® Core™ i7/i5/i3 BGA Processor-Based Expandable Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 Processors and QM170 chipset
- 2 DDR4 SO-DIMM sockets support up to 32 GB memory
- 1 PCI and 2 PCIe Gen3 x8 (or 1 PCIe Gen3 x16) slots
- Support for 3 independent displays via 2 DisplayPort and 1 DVI-I ports with resolution up to 4K UHD
- 6 USB 3.0 ports and 1 Internal USB 2.0 wafer
- 2 hot-swappable SATA III trays on the front panel and 2 internal SATA III ports with RAID 0/1/5/10 support
- Remote power on/off switch connector on the front panel
- Rugged construction provides fanless -20°C to 70°C operability (with industrial grade SSD/CFast)
- Built-in SEMA 3.0



Introduction

The Matrix MXC-6400 series is a line of high-performance fanless embedded computers, integrating 6th generation Intel® Core™ i7/i5/i3 processors and the QM170 chipset for more powerful computing and graphics performance with minimal power consumption.

Features include 3 PCI/PCIe expansion slots allowing installation of a variety of off-the-shelf PCI/PCIe cards for configurable applications, 2 internal mPCIe, and 1 USIM slot for 4G/3G communication. In addition, the MXC-6400 series offers independent digital display support from DisplayPort and DVI-I with resolution up to 4K UHD, as well as 6 USB 3.0 and 3 GbE LAN ports with Intel® iAMT 11.0 and teaming function. The 2 hot-swappable SATA III trays support 2.5" storage in the front panel with high speed SATA 6.0 Gb/s and 2 internal SATA III ports carry RAID 0, 1, 5, 10 support. Optional 16 channel isolated DI/O with digital filter meets the needs of general purpose industrial automation.

Along with the integrated 6th Generation Intel® Core™ i7/i5/i3 processor, 4x 2.5" SATA III (6Gb/s) ports, fanless rugged construction, operating shock tolerance up to 50G, withstanding vibration up to 5Grms and extended operating temperatures of -20°C to 70°C (with industrial grade SSD/CFast), the MXC-6400 Series fully satisfies all the needs of Intelligent Transportation System as railway rolling stock, maritime, in-vehicle infotainment, and high-speed data processing and mission critical industrial automation.

Software Support

- Win10/Win7/Embedded Standard 7
- Linux® Ubuntu 12.04 and Fedora 18*

Ordering Information

- **MXC-6401D**
Intel® Core™ i7-6820EQ fanless embedded computer
- **MXC-6402D**
Intel® Core™ i5-6440EQ fanless embedded computer
- **MXC-6403D**
Intel® Core™ i3-6100E fanless embedded computer

Optional Accessories

- **MXC-6400 Optional Fan Module**
Hot-pluggable fan module for MXC-6400 series
- **8/16/32 GB DDR4 Option**
Upgrade to 8/16/32 GB DDR4 Memory
- **HDD/ SSD/ CFast storage Option**
Factory-installed and test
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **160W AC-DC Adapter**
160W industrial grade AC-DC adapter
- **Extended Temperature Option**
Optional screening to extended temperature of -20 to 70°C

MXC-6300/6310/6320 Series

3rd Generation Intel® Core™ i7/i5/i3/Celeron® PGA Processor-based Expandable Fanless Embedded Computer

Features

- Supports 3rd generation Intel® Core™ i7/i5/i3/Celeron® processor + QM77 chipset
- 2 x DDR3 SO-DIMM sockets, supporting up to 16 GB memory
- 1 PCI + 2 PCIe x8 slots or 1 PCI + 1 PCIe x16 for MXC-6300 series; 1 PCI + 1 PCIe x16 for MXC-6310 series, 3 PCI + 1 PCIe x16 for MXC-6320 series
- 3 independent display: 2 DisplayPort + 1 DVI-I
- 6 external USB ports (4 USB 3.0 + 2 USB 2.0) + 1 internal USB 2.0
- 2 Intel® GbE ports with teaming function, Intel® iAMT 8.0
- 2 CFast sockets, internal SATA III for 2 x 2.5" HDD/SSD installation, SATA 6Gb/s and RAID 0,1 support
- Rugged, up to -20°C to 55/60°C fanless operation (w/ industrial SSD/CFast)

Introduction

The Matrix MXC-6300/6310/6320 series is a high-performance fanless embedded computer integrating a 3rd generation Intel® Core™ i7/ i5/i3 processor and QM77 chipset to provide powerful computing and superior graphic performance. Graphic-intensive and computing-oriented applications including image and vision measurement, machine automation, maritime automation, surveillance and high-resolution medical imaging all benefit.

Increased PCI & PCI express (Gen2) expansion slots allow installation of a variety of PCI, PCIe x8 or PCIe x16 add-on cards, meeting the needs of application platform development environments. In addition, the MXC-6300/6310/6320 series offers 2 DisplayPort and one DVI-I port for three independent display support connections, four USB 3.0 and two USB 2.0 ports, and 2 GbE LAN ports with teaming function. The two 2.5" onboard SATA III ports with high speed SATA 6 Gb/s and RAID 0, 1 ensure all data in the RAID array is fully backed up. Built-in 16 CH isolated DIO provides overall industrial control.

Delivering high quality, durable and compact construction, the MXC-6300/6310/6320 series leverages a reliable fanless and cable-free configuration, optimal thermal dissipation, and easy installation for flexible and user-friendly system development and application implementation in harsh environments.

Applications

- **Factory Automation / Machine Vision**
- **Intelligent Transportation Systems / Surveillance**
- **Maritime Automation**
- **High Resolution Medical Imaging**



Software Support

- **Win10/ Win7/Embedded standard 7/WES 2009**
- **Linux (by request)**

Ordering Information

- **MXC-6301/ 6302/ 6303/ 6305**
Intel® i7/i5/i3/Celeron®, w/ 1 PCI + 2 PCIe x8 or 1 PCIe x16 slots
- **MXC-6311/ 6312/ 6313/ 6315**
Intel® i7/i5/i3/Celeron®, w/ 1 PCI + 1 PCIe x16 slots
- **MXC-6321/ 6322/ 6323/ 6325**
Intel® i7/i5/i3/Celeron®, w/ 3 PCI + 1 PCIe x16 slots

Optional Accessories

- **Optional Fan Kit**
Fan kit for MXC-6300/ 6320
Fan kit for MXC-6310
- **8/ 16 GB DDR3 Upgrade**
Upgrade to 8/ 16 GB DDR3 memory
- **HDD/ SSD/ CFast storage**
Factory-installed and test
- **160 W AC-DC Adapter**
160 W industrial grade A C-DC adapter
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option**
Optional screening to extended temperature of i7 CPU to -20 to 55°C; i5/i3/Celeron® CPU to -20 to 60°C

MXC-2300 Series

Intel Atom® E3845 SoC Expandable Fanless Embedded Computer with PCI/PCIe Slots

Features

- Intel Atom® E3845 processor with 4 core @1.91 GHz SoC
- 2x DDR3L SO-DIMM, supporting up to 8 GB memory
- 2 PCI + 1 PCIe x4 or 3 PCI expansion slots
- Built-in dual-port isolated CAN and 32-CH isolated DI and DO
- 1 DisplayPort + 1 DVI-I
- 2 Intel GbE ports with teaming function, 1 USB 3.0 + 4 USB 2.0 ports
- 1 external CF slot and 1 internal PCIe Mini Card socket with USIM socket
- 2 software-programmable RS-232/422/485 + 2 RS-232 ports
- Rugged, -20°C to 70°C Fanless operation (w/ industrial SSD)
- Built-in ADLINK SEMA 2.2



Introduction

Featuring the latest Intel Atom® E3845 processor (Formerly Bay Trail), the Matrix MXC-2300 series excels with minimal power consumption, exceptional 3D graphics, and powerful media acceleration, delivering a leading improvement in performance and cost-efficiency over any previous generation Atom-based system.

Features include dual-port CAN connectivity supported by a Philips SJA1000 controller that can run independently or bridged at the same time, bus arbitration and error detection with auto correction and mission capability, and 16-CH isolated DI/O for general industrial control.

An increased total 3PCI/PCIe expansion slot count allows installation of a variety of off-the-shelf PCI/PCIe cards for configurable applications, and an internal PCI Express Mini Card socket and USIM slot support extension of additional functions, such as wireless connection.

In addition, the MXC-2300 series offers one DisplayPort and one DVI-I port for dual independent display with full HD, four USB 2.0 and one USB 3.0 ports, and 2 GbE LAN ports with teaming function. With ADLINK's proprietary SEMA (Smart Embedded Management Agent) tool, the MXC-2300 maximizes manageability and security for a world of applications. Provide efficient remote monitoring of system activity and health in real time, system control over a robust secured channel, and fully manageable complete utilization of system resources.

With its ruggedized architecture, flexibility, and rich I/O capacity, the MXC-2300's minimal power consumption, abundant features, and leading performance and cost-efficiency make it the embedded system of choice for industrial automation, facility management, and intelligent transportation systems and applications demanding reliability in harsh environments.

Software Support

- Win10
- Win7/ Embedded Standard 7
- Linux Fedora 18

Ordering Information

- **MXC-2300CD-3E1**
2 PCI + 1 PCIe x4, 1 mPCIe + USIM, 2 CAN, isolated DI/O
- **MXC-2300CD-3S**
3 PCI, 1 mPCIe + USIM, 2 CAN, isolated DI/O
- **MXC-2300-3E1**
2 PCI + 1 PCIe x4
- **MXC-2300-3S**
3 PCI

Optional Accessories

- **Optional Fan Module**
Fan module for MXC-2300 series
- **HDD/ SSD/ CF storage**
Factory-installed and test
- **8 GB DDR3L Upgrade**
Upgrade to 8 GB DDR3L memory
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **90 W AC-DC Adapter**
Industrial grade AC-DC adapter
- **Extended Temperature Option**
Optional screening to extended temperature of -20 to 70°C

MVP-6010/6020 Series

Value Family 6th Generation Intel® Core™ i7/i5/i3 Processor-Based Expandable Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 processors with H110/Q170 chipset
- Dual-channel DDR4 SO-DIMM sockets support up to 32GB memory
- Support for 2 independent displays with 1 VGA, 1 DVI and 2 DisplayPort
- 4 expansion slots
 - MVP-6010: 1 PCIe Gen3 x16 and 1 PCI expansion slots
 - MVP-6020: 2 PCIe Gen3 x8 and 2 PCI expansion slots
- 3 Intel® GbE ports with teaming function
- 2 software-programmable RS-232/422/485 + 2 RS-232 ports
- Built-in 8CH DI & 8CH DO
- Front-accessible I/O for simplified installation and maintenance
- Extremely cost-effective, high performance Fanless system
 - Support up to 65W CPU with fanless operation



Introduction

ADLINK's newly introduced MVP-6010/6020 Series value line of fanless embedded computing platforms, incorporating the 6th Generation Intel® Core™ processor, provides one PCIe x16 and three PCI or two PCIe x8 and two PCI expansion slots, 1 mini PCIe slot and single-side access for I/O ports, optimizing easy maintenance in industrial automation environments. The series retains the robust design of all ADLINK MXC/MXE lines, at a new extremely cost-effective price point.

The MVP-6010/6020 Series supports dual-channel DDR4 memory for more powerful computing and the Intel® HD Graphics 530 speeds graphics performance. Along with a versatile I/O array and flexible expansion capacity, the MVP-6010/6020 Series fully satisfies all the needs of industrial automation with the performance demanded by vision inspection, motion control, and surveillance applications. Fanless construction not only overcomes contaminant and noise challenges presented by harsh IA environments, the elimination of problematic structural elements that negatively affect MTBF greatly increases life cycle expectations for the platform.

Optional Accessories

- **Optional Fan Module**
Fan module for MVP-6010/6020 series
- **8/16/32 GB DDR4 Option**
Upgrade to 8/16/32 GB DDR4 memory
- **500 GB / 1TB HDD Option**
Factory-installed 500 GB / 1 TB SATA hard disk drive
- **64 GB SSD Option**
Factory-installed 64 GB MLC SATA solid-state drive
- **160W AC-DC Adapter**
160W Industrial grade AC-DC adapter

Software Support

- **Windows® 10 / 7 / Embedded Standard 7**
- **Linux**

Ordering Information

- **MVP-6011**
Intel® Core™ i7-6700TE fanless embedded computer
1 PCIe Gen3 x16 + 3 PCI expansion slots
- **MVP-6012**
Intel® Core™ i5-6500TE fanless embedded computer
1 PCIe Gen3 x16 + 3 PCI expansion slots
- **MVP-6013**
Intel® Core™ i3-6100TE fanless embedded computer
1 PCIe Gen3 x16 + 3 PCI expansion slots
- **MVP-6015**
Intel® Core™ i7-6700 fanless embedded computer
1 PCIe Gen3 x16 + 3 PCI expansion slots
- **MVP-6021**
Intel® Core™ i7-6700TE fanless embedded computer
2 PCIe Gen3 x8 + 2 PCI expansion slots
- **MVP-6022**
Intel® Core™ i5-6500TE fanless embedded computer
2 PCIe Gen3 x8 + 2 PCI expansion slots
- **MVP-6023**
Intel® Core™ i3-6100TE fanless embedded computer
2 PCIe Gen3 x8 + 2 PCI expansion slots
- **MVP-6025**
Intel® Core™ i7-6700 fanless embedded computer
2 PCIe Gen3 x8 + 2 PCI expansion slots

MVP-6000 Series

Value Family 6th Generation Intel® Core™ i7/i5/i3 Processor-Based Expandable Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 processors and H110 chipset
- Dual-channel DDR4 SO-DIMM sockets support up to 32 GB memory
- Support for 2 independent displays with 1 VGA, 1 DVI and 2 DisplayPort I/O
- 1 PCIe Gen3 x16 and 1 PCI expansion slots
- 3 Intel® GbE ports with teaming function
- 2 software-programmable RS-232/422/485 + 2 RS-232 ports
- Front-accessible I/O for simplified installation and maintenance
- Extremely cost-effective, high performance fanless system



Introduction

ADLINK's newly introduced MVP-6000 Series value line of fanless embedded computing platforms, incorporating the 6th Generation Intel® Core™ processor, provides 1 PCIe Gen3 x16 slot, 1 PCI slot, 1 mini PCIe slot and single-side access for I/O ports, optimizing easy maintenance in industrial automation environments. The series retains the robust design of all ADLINK MXC/MXE lines, at a new extremely cost-effective price point.

The MVP-6000 series supports dual-channel DDR4 memory for more powerful computing and the Intel® HD Graphics 530 speeds graphics performance. Along with a versatile I/O array and flexible expansion capacity, the MVP-6000 Series fully satisfies all the needs of industrial automation with the performance demanded by vision inspection, motion control, and surveillance applications. Fanless construction not only overcomes contaminant and noise challenges presented by harsh IA environments, the elimination of problematic structural elements that negatively affect MTBF greatly increases life cycle expectations for the platform.

Software Support

- Windows® 10 / 7 / Embedded Standard 7
- Linux

Ordering Information

- **MVP-6001**
Intel® Core™ i7-6700TE fanless embedded computer
1 PCIe Gen 3 x16 + 1 PCI slot
- **MVP-6002**
Intel® Core™ i5-6500TE fanless embedded computer
1 PCIe Gen 3 x16 + 1 PCI slot
- **MVP-6003**
Intel® Core™ i3-6100TE fanless embedded computer
1 PCIe Gen 3 x16 + 1 PCI slot

Optional Accessories

- **MVP-6000 Optional Fan Module**
Fan module for MVP-6000 series
- **8/16/32 GB DDR4 Option**
Upgrade to 8/16/32 GB DDR4 memory
- **500 GB HDD Option**
Factory-installed 500 GB SATA hard disk drive
- **1 TB HDD Option**
Factory-installed 1 TB SATA hard disk drive
- **64 GB SSD Option**
Factory-installed 64 GB MLC SATA solid-state drive
- **160W AC-DC Adapter**
160W Industrial grade AC-DC adapter

MXE-5500 Series

6th Generation Intel® Core™ i7/i5/i3 BGA Processor-Based Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 BGA Processors and QM170 chipset
- Single-side I/O with two hot-swappable SATA drive bays for easy maintenance
- 1x DVI-I, 2x DisplayPort, 4x USB 2.0, 4x USB 3.0, 4x GbE, 6x COM, and 16x isolated DI/O
- Rich Storage Options, 2x 2.5" SATA III (6.0 Gb/s) drive bays, 1x M.2 2280, 1x CFAST
- Versatile connection via 2x mPCIe and 2 x USIM
- Rugged construction delivering fanless -20°C to 60 (70)°C operability (w/industrial SSD)
- Built-in ADLINK SEMA 3.0 management solution
- Compliant with railway certification EN50155 EMC standard (EN50121)



Introduction

ADLINK's new Matrix MXE-5500 series of rugged quad-core fanless computers features the 6th generation Intel® Core™ i7/i5/i3 processors, delivering outstanding performance with robust construction.

The MXE-5500 series accommodates rich I/O capabilities in a compact system size, with two DisplayPort, one DVI-I (supporting both DVI and VGA signals), four GbE by Intel network interface controllers, four each USB 2.0 and USB 3.0, eight isolated DI/O, and six COM ports, four of which are BIOS-configurable among RS-232/422/485. In addition, with dual hot-swappable 2.5" SATA drive bays, one CFAST port and one M2.2280, providing versatile storage options to a wide range of applications. Dual mini PCIe slots and USIM sockets empower the MXE-5500 as a communications hub for a variety of wireless connections, such as BT 4.0/WiFi and 3G.

Leveraging proprietary mechanical engineering, the MXE-5500 series continues to offer all the popular features of the popular Matrix E series, including cable-free construction, wide operating temperature ranges, and 5 Grms vibration resistance, having undergone, like all ADLINK Matrix devices, rigorous testing for operational verification.

Combining superior processor performance, wireless capability, and rich, scalable I/O in a compact and robust package, the ADLINK MXE-5500 is an ideal choice for a wide range of applications supporting intelligent transportation, in-vehicle multimedia & surveillance and factory automation applications.

Software Support

- Win10
- Win7/ Embedded Standard 7
- Linux by request

Ordering Information

- **MXE-5501**
Intel® Core™ i7-6820EQ fanless embedded computer
- **MXE-5502**
Intel® Core™ i5-6440EQ fanless embedded computer
- **MXE-5503**
Intel® Core™ i3-6100E fanless embedded computer

Optional Accessories

- **8/16/32 GB DDR4 Upgrade**
Upgrade to 8/16/32 GB DDR4 memory
- **HDD/ SSD/ CFAST/ M.2 2280 storage**
Factory-installed and test
- **160 W AC-DC Adapter**
Industrial grade AC-DC adapter
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option**
Optional screening to extended temperature of MXE-5501 to -20 to 60°C and MXE-5502/5503 to -20 to 70°C

MXE-5400 Series

4th Generation Intel® Core™ i7/i5/i3 BGA Processor-Based Fanless Embedded Computer

Features

- Equipped with 4th generation Intel® Core™ i7/i5/i3 BGA processor
- Intel® Quick Sync Video technology supported with ADLINK MSDK+
- Intel® vPro™ technology for security and manageability (iAMT™ 9.0, TPM 1.2, TXT, Intel® VT™)
- Built-in ADLINK SEMA 2.2
- Rich I/O :
 - DVI-I+2x DisplayPorts, 6x USB 3.0, 4x GbE, 16x isolated DI/O
 - 2x SATA-III (6.0 Gb/s), 2x mPCIe (one shared w/ mSATA)
- Rugged design for -20°C to 60/70°C fanless operation



Introduction

ADLINK's new Matrix MXE-5400 series of rugged designed quad-core fanless computers, featuring the latest 4th generation Intel® Core™ i7/i5/i3 processor (Formerly Haswell) delivers outstanding processor performance with minimum power consumption. Intel's Quick Sync Technology and Core IPG equip the MXE-5400 with market-leading performance boost in image/video related applications.

With the implementation of Intel® vPro™ (iAMT™ 9.0, TXT, TPM 1.2, Intel VT) technology and ADLINK's proprietary SEMA (Smart Embedded Management Agent) tool, the MXE-5400 maximises manageability and security for a world of applications. Together they provide efficient remote monitoring of system activity and health in real time, system control over a robust secured channel, and fully manageable complete utilization of system resources.

The MXE-5400 series accommodates rich I/O interfaces in a compact system size, offering versatile connection to a wide range of applications. Dual mini PCIe slots and USIM socket empower the MXE-5400 to act as a communications hub for a variety of wireless connections, such as BT/WiFi and 3G. One of the two slots is configurable to a mini SATA interface, cooperating with internal SATA storage to deliver RAID 0/1/5 functionality.

Leveraging proprietary mechanical engineering, the MXE-5400 series continues to offer all the popular features of the Matrix E series, including cable-free construction, wide operating temperature ranges, and 5 Grms vibration resistance. The entire ADLINK Matrix line undergoes rigorous testing for operational verification.

Combining superior processor performance, security and manageability, superior wireless capability, and rich I/O, in a compact and robust package, the ADLINK MXE-5400 is an ideal choice for a wide range of applications supporting intelligent transportation, in-vehicle multimedia, and surveillance and factory automation applications.

Software Support

- Win10
- Win7 / Embedded Standard 7
- Linux (support by request)

Ordering Information

- **MXE-5401**
Intel® Core™ i7-4700EQ fanless embedded computer
- **MXE-5402**
Intel® Core™ i5-4400E fanless embedded computer
- **MXE-5403**
Intel® Core™ i3-4100E fanless embedded computer

Optional Accessories

- **8/16 GB DDR3L Upgrade**
Upgrade to 8/16 GB DDR3L memory
- **HDD/ SSD/ CFast Option**
Factory-installed and test
- **160 W AC-DC Adapter**
160 W industrial grade AC-DC adapter
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option**
Optional screening to temperature of MXE-5401 to -20 to 60°C; MXE-5402/5403 to -20 to 70°C

MXE-5300 Series

2nd Generation Intel® Core™ i7/i5/i3 PGA Processor-based Fanless Embedded Computer

Features

- Intel® Core™ i7-2710QE/ i5-2510E / i3-2330E PGA Processor + Intel® QM67 chipset
- Rugged, up to -20°C to 70°C (-4°F to 158°F) fanless operation (w/ industrial SSD)
- Intel® Active Management Technology 7.0 support
- 1 SATA-III (6.0 Gb/s)
- 2x USB3.0 + 4x USB2.0, 4 DI + 4 DO w/ 1.5KV isolation, 4 GbE
- 1 CFast; 2 mini PCIe
- 2 RS-232/422/485, 2 RS-232



Introduction

The Matrix MXE-5300 series is based on the Intel® Core™ i7/i5/i3 processor, offering good computing power tailored to a variety of specific application needs.

Featuring a new design simplifying system component replacement and maintenance, the MXE-5300 series allows effortless access to storage, memory, and wireless modules. Leveraging proprietary mechanical engineering, the MXE-5300 series also retains all the popular features of the Matrix E series, including rugged -20 to 70°C (-4 to 158°F) fanless operation, 5 Grms vibration resistance, and 9-32V wide range DC input.

In addition, the MXE-5300 series provides dual mini-PCIe sockets and a USIM socket supporting wireless protocols such as 3G, GPS, WiFi and Bluetooth. ADLINK's proprietary wireless enhancement technology empowers the MXE-5300 series to deliver industrial-grade wireless performance.

The MXE-5300 series accommodates Intel® Active Management 7.0, for remote system management, enabling users to easily perform maintenance, diagnostic, update, and even BIOS configuration tasks on the MXE-5300 series via Ethernet connection.

Combining superior processor performance, innovative mechanical design, superior wireless capability, and rich IO, all in a compact and robust package, the ADLINK MXE-5300 series is an idea choice for a wide range of applications.

Software Support

- WES 2009
- Win7/ Embedded Standard 7
- Linux*

Ordering Information

- **MXE-5301**
Intel® Core™ i7-2710QE fanless embedded computer
- **MXE-5302**
Intel® Core™ i5-2510E fanless embedded computer
- **MXE-5303**
Intel® Core™ i3-2330E fanless embedded computer

Optional Accessories

- **8/16 GB DDR3 Upgrade**
Upgrade to 8/16 GB DDR3 memory
- **HDD/ SSD/ CFast Option**
Factory-installed and test
- **160 W AC-DC Adapter**
160 W industrial-grade AC-DC adapter (-20 to 70°C) (-4 to 158°F)
- **Wireless Module Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option***
Optional screening to extend the operating temperature of the MXE-5301 to -20 to 60°C (-4 to 140°F) and MXE-5302/5303 to -20 to 70°C (-4 to 158°F)

MVP-5000 Series

Value Family 6th Generation Intel® Core™ i7/i5/i3 Processor-Based Integrated Fanless Embedded Computer

Features

- 6th Gen Intel® Core™ i7/i5/i3 processors and H110 chipset
- Dual-channel DDR4 SO-DIMM sockets support up to 32 GB memory
- Support for two independent displays with 1 VGA, 1 DVI and 2 DisplayPort
- 3 Intel® GbE ports with teaming function
- 2 software-programmable RS-232/422/485 + 2 RS-232 ports
- Front-accessible I/O for simplified installation and maintenance
- Extremely cost-effective, high performance fanless system



Introduction

The MVP-5000 series provides an optimal balance of price and performance in a compact construction. Incorporating 6th Generation Intel® Core™ processors, the MVP-5000 features computing performance boosted by up to 30% over previous generation-processors. Integrating the front-mounted industrial I/O and fanless construction featured in ADLINK's proven Matrix line, and rich LGA 1151 socket type CPU selection, the MVP-5000 Series is ideally suited to a wide variety of machine, factory, logistic automation, and general embedded applications.

Practically any industrial automation application in need of a rugged and compact platform will benefit from the MVP-5000's comprehensive front-mounted I/O coverage, and pre-validated rich LGA 1151 socket-type 6th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® processors offer a host of CPU choices, guaranteeing maximum compatibility and flexibility for the most price sensitive industrial applications.

Rigorous testing for operational verification assures reliability and ruggedness, both critical for complete functionality when facing the rigors of demanding industrial application environments. Along with a versatile I/O array and flexible expansion capacity, the MVP-5000 series fully satisfies all the needs of machine, factory, logistic automation, and general embedded applications.

Software Support

- Windows® 10 / 7 / Embedded Standard 7
- Linux

Ordering Information

- **MVP-5001**
Intel® Core™ i7-6700TE fanless embedded computer
- **MVP-5002**
Intel® Core™ i5-6500TE fanless embedded computer
- **MVP-5003**
Intel® Core™ i3-6100TE fanless embedded computer

Optional Accessories

- **8/16/32 GB DDR4 Option**
Upgrade to 8/16/32 GB DDR4 memory
- **500 GB / 1TB HDD Option**
Factory-installed 500 GB / 1 TB SATA hard disk drive
- **64 GB SSD Option**
Factory-installed 64 GB MLC SATA solid-state drive
- **160W AC-DC Adapter**
160W Industrial grade AC-DC adapter
- **Display Adapter Cable**
 - 30-01119-0010: DisplayPort to HDMI
 - 30-01120-0010: DisplayPort to DVI
 - 30-01121-0010: DisplayPort to VGA

MXE-1500 Series

Intel® Celeron® N3160/N3060 SoC Fanless Embedded Computer

Features

- Intel® Celeron® QC N3160/DC N3060 SoC processor
- DDR3L 2x SODIMM up to 8GB
- 3 independent display: DP, VGA (Optional LVDS or DP)
- Built-in ADLINK SEMA management solution
- Rich I/O :
 - 3x GbE, up to 4x RS-232/422/485, 2x RS-232, 4 DI/ 4 DO, TPM 2.0
 - 2x USB3.0, 5x USB2.0, 1x 2.5" SATA, CFast, Mini PCIe, I²C
- CE/FCC Class B



Software Support

- **OS Support**
 - Win10 (by UEFI BIOS)
 - Win7/ Embedded Standard 7
 - Linux, QNX (by request)

Ordering Information

- **MXE-1501**
 - QC N3160, 2GB SODIMM
- **MXE-1501/M4G**
 - QC N3160, 4GB SODIMM
- **MXE-1501/M8G**
 - QC N3160, 2x 4GB SODIMM
- **MXE-1502**
 - DC N3060, 2GB SODIMM
- **MXE-1502/M4G**
 - DC N3060, 4GB SODIMM
- **MXE-1502/M8G**
 - DC N3060, 2x 4GB SODIMM

Optional Accessories

- **HDD/ SSD/ CFast**
 - Factory-installed and test
- **Wireless Kit Option**
 - WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **90W AC-DC Adapter**
 - Medical grade AC-DC adapter for CE/FCC class B
- **Extended Temperature Option**
 - Optional screening to extended operating temperature of -20 to 60°C

MXE-1400 Series

Intel Atom® E3845 SoC Fanless Embedded Computer

Features

- Quad-Core Intel Atom® E3845 processors
- Single side I/O with easy access SATA drive bay
- Built-in ADLINK SEMA management solution
- Rugged construction delivering fanless -40 to 70°C operability (w/industrial CFast & SSD) *
- Rich I/O :
 - DVI-I+DisplayPort, 6x USB 2.0, 1x USB 3.0, 3x GbE,
 - 6x COM, 16x isolated DI/O
 - 1x SATA-II (3.0 Gb/s) port, 2x mPCIe



Introduction

ADLINK's new Matrix MXE-1400 series of rugged quad-core fanless computers, feature the latest generation of Intel Atom® E3845 processors, delivering outstanding performance with minimum power consumption.

The MXE-1400 series accommodates rich I/O interfaces in a compact system size, including DisplayPort, DVI-I (with both DVI and VGA signals), three GbE by Intel network interface controllers, six USB 2.0, one USB 3.0 with dedicated bandwidth, 8 isolated DI/O, and six COM ports, four of which are BIOS-configurable among RS-232/422 and 485 with auto flow. In addition, with a 2.5" SATA drive bay and CFast port, easy, versatile connection to a wide range of applications is enabled. Dual mini PCIe slots and USIM socket empower the MXE-1400 as a communications hub for a variety of wireless connections, such as BT/WiFi and 3G.

Leveraging proprietary mechanical engineering, the MXE-1400 series continues to offer all the popular features of the Matrix E series, including cable-free construction, wide operating temperature ranges, and 5 Grms vibration resistance, having undergone, like all ADLINK Matrix devices, rigorous testing for operational verification.

Combining superior processor performance, wireless capability, and rich, scalable I/O in a compact and robust package, the ADLINK MXE-1400 is an ideal choice for a wide range of applications supporting intelligent transportation, in-vehicle multimedia, and surveillance and factory automation applications.

Software Support

- Win10 (by custom BIOS)
- Win7/ Embedded Standard 7
- Linux (by request)

Ordering Information

- **MXE-1401**
2GB SODIMM
- **MXE-1401/M4G**
4GB SODIMM
- **MXE-1401/M8G**
2pcs 4GB SODIMM
- **MXE-1401/ETM4G**
4GB industrial SODIMM
- **MXE-1401/ETM8G**
2pcs 4GB industrial SODIMM

Optional Accessories

- **HDD/ SSD/ CFast**
Factory-installed and test
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **90W AC-DC Adapter**
Industrial grade AC-DC adapter
- **Extended Temperature Option**
Optional screening to extend operating temperature of -20 to 70°C or -40 to 70°C w/ industrial grade SODIMM

MXE-1400V Series

Intel Atom® E3845 SoC Fanless Embedded Computer for in-Vehicle

Features

- Quad-Core Intel Atom® E3845 processors
- Single side I/O with easy access SATA drive bay
- 12V/ 24V ignition power integrated
- Built-in ADLINK SEMA management solution
- Rugged construction delivering fanless -40 to 70°C operability
- Rich I/O :
 - DVI-I+DisplayPort, 6x USB 2.0, 1x USB 3.0, 3x GbE,
 - 6x COM, 16x isolated DI/O
 - 1x SATA-II (3.0 Gb/s), 2x mPCIe



Introduction

ADLINK's new Matrix MXE-1400 series of rugged quad-core fanless computers, feature the Intel Atom® E3845 processors, delivering good performance with minimum power consumption. For in-Vehicle application, MXE-1400V integrates 12V/24V ignition power to support delay on/off to meet the scenario.

The MXE-1400 series accommodates rich I/O interfaces in a compact system size, including DisplayPort, DVI-I (with both DVI and VGA signals), three GbE by Intel network interface controllers, six USB 2.0, one USB 3.0 with dedicated bandwidth, 8 isolated DI/O, and six COM ports, four of which are BIOS-configurable among RS-232/422 and 485 with auto flow. In addition, with a 2.5" SATA drive bay and CFast port, easy, versatile connection to a wide range of applications is enabled. Dual mini PCIe slots and USIM socket empower the MXE-1400 as a communications hub for a variety of wireless connections, such as BT/WiFi and 3G.

Leveraging proprietary mechanical engineering, the MXE-1400 series continues to offer all the popular features of the Matrix E series, including cable-free construction, wide operating temperature ranges, and 5 Grms vibration resistance, having undergone, like all ADLINK Matrix devices, rigorous testing for operational verification.

Combining superior processor performance, wireless capability, and rich, scalable I/O in a compact and robust package, the ADLINK MXE-1400 is an ideal choice for a wide range of applications supporting intelligent transportation, in-vehicle multimedia, and surveillance and factory automation applications.

Software Support

- Win10 (by custom BIOS)
- Win7/ Embedded Standard 7
- Linux (by request)

Ordering Information

- **MXE-1401V**
2GB SODIMM, 24V ignition power input
- **MXE-1401V/M4G**
4GB SODIMM, 24V ignition power input
- **MXE-1401V/M8G**
2pcs 4GB SODIMM, 24V ignition power input

Optional Accessories

- **HDD/ SSD/ CFast**
Factory-installed and test
- **Wireless Kit Option**
WiFi/ BT/ 3G/ 4G LTE/ LoRa wireless kit (w/ Antenna)
- **90W AC-DC Adapter**
Industrial grade AC-DC adapter
- **Extended Temperature Option**
Optional screening to extend operating temperature of -20 to 70°C or -40 to 70°C w/ industrial grade SODIMM

MXE-210/210i Series

Intel Atom® Processor E3900 Family-Based Ultra Compact Embedded Platform

Features

- Equipped with Intel Atom® x7-E3950/x5-E3930 processors (code named Apollo Lake-I)
- Compact fanless design: 140(W) x 110(D) x 58(H) mm
- Rich I/O & expansion:
 - 1x DisplayPort, 2x USB 2.0, 2x USB 3.0, 2x GbE ports, 2x COM ports (RS-232/422/485)
 - 2x mPCIe slots, 1x USIM slot, 1 x mSATA, 1x Micro SD slot
- Optional
 - 1 x 2.5" SATA SSD by storage kit
 - eSIM support (by project)
- Built-in ADLINK SEMA management solution



Introduction

ADLINK's new Matrix MXE-210 series of ultra compact embedded platforms, based on the Intel Atom® SoC Processor E3950/E3930, delivers optimum I/O design for maximum connectivity. A full aluminum alloy enclosure with industry-class construction makes the MXE-210 series the embedded system of choice for industrial automation and applications demanding reliability in harsh environments.

With two GbE LAN ports, two COM ports, two USB 2.0 and two USB 3.0 host ports, and dual mPCIe slots and USIM socket support communication with connections via Wi-Fi, BT, 3G, LoRa(SX1276), and 4G LTE, the MXE-210 series enables seamless interconnection, ensuring interoperability between systems. Matrix's proven rugged construction assures operation in harsh environments with operating shock tolerance up to 100 G and extended operating temperatures of -40°C to 85°C(*) available.

The MXE-210 series presents an intelligent, robust embedded system supporting wide application development and easy service deployment, for outstanding performance in Intelligent Transportation, Facility Management, Industrial Automation, and Internet of Things (IoT) applications.



DIN Rail support



Wall Mounting support (Optional)

Software Support

- Windows® 10 IoT Enterprise 64Bit
- Ubuntu Linux 16.04 LTS 64Bit
- Wind River® Pulsar™ Linux LTS 17

Ordering Information

- **MXE-211/M2G**
Intel Atom® x7-E3950, Quad Core, 2GB DDR3L
- **MXE-212/M2G**
Intel Atom® x5-E3930, Dual Core, 2GB DDR3L
- **MXE-211-ET/M2G**
Intel Atom® x7-E3950, Quad Core, 2GB DDR3L(-20°C to 70°C)
- **MXE-212-ET/M2G**
Intel Atom® x5-E3930, Dual Core, 2GB DDR3L(-20°C to 70°C)
- **MXE-212-WT/M2G**
Intel Atom® x5-E3930, Dual Core, 2GB DDR3L(-40°C to 85°C)
- **MXE-211-S/M2G | MXE-212-S/M2G**
Intel Atom® x7-E3950/x5-E3930, 2GB DDR3L, 2.5" SATA

Optional Accessories

- **4/8 GB DDR3L Upgrade**
Upgrade to 4/8 GB DDR3L memory
- **16/32/64 GB mSATA SSD Option**
Factory-installed 16/32/64 GB MLC industrial grade mSATA SSD
- **32/64/128 GB 2.5" SATA SSD Option**
Factory-installed 32/64/128 GB MLC industrial grade SATA SSD
- **Wireless Kit options**
WiFi/BT/3G/4G LTE/LoRa wireless kit (w/ Antenna)
- **40W AC Adapter**
40W industrial grade AC-DC adapter(-20°C to 70°C)(-4°F to 158°F)

MXE-200/200i Series

Intel Atom® Processor-Based Ultra Compact Embedded Platform

Features

- Intel Atom® SoC processor E3845/E3826
- Extremely compact: 120 (W) x 100 (D) x 55 (H) mm
- Rich I/O:
 - 1x HDMI, 2x USB 2.0 + 1x USB 3.0, 2x GbE ports, optional 4 isolated DI/O
 - 2x Mini PCIe slots (one supporting mSATA), 1x USIM slot, 1x SDIO
- Support DIN-rail/wall mounting
- Full support Intel® IoT Gateway



Introduction

ADLINK's new Matrix MXE-200/200i ultra-compact embedded platform, based on the Intel Atom® SoC processor E3845/E3826, delivers optimum I/O design for maximum connectivity. A full aluminum alloy enclosure with industry-class construction makes the MXE-200/200i the embedded system of choice for industrial automation and applications demanding reliability in harsh environments. In addition, the MXE-200i fully supports the Intel® IoT Gateway, integrated Wind River® Intelligent Device Platform XT, and McAfee Embedded Control, guaranteeing essential manageability and security demanded by IoT-ready platforms.

With dual GbE LAN, two COM, two USB 2.0 and one USB 3.0 host ports, and optional four isolated DI and four isolated DO w/interrupt support, dual Mini PCIe slots with one mSATA support and USIM socket support communication with connections via Wi-Fi, BT, 3G, and LTE, the MXE-200/200i enables seamless interconnection, ensuring interoperability between systems. Matrix's proven rugged construction assures operation in harsh environments with operating shock tolerance up to 100 G and extended operating temperatures of -20°C to 70°C available.

The MXE-200/200i presents an intelligent, robust embedded system supporting wide application development and easy service deployment, for outstanding performance in Intelligent Transportation, Facility Management, Industrial Automation, and Internet of Things (IoT) applications.

Software Support

- Windows® Embedded 7 Standard 32Bit
- Windows® 10 IoT Enterprise 64Bit

Ordering Information

- **MXE-201**
Quad-Core Intel Atom® Processor E3845 Ultra Compact Embedded Platform, 2GB DDR3L
- **MXE-201/M4G**
Quad-Core Intel Atom® Processor E3845 Ultra Compact Embedded Platform, 4GB DDR3L
- **MXE-201D**
Quad-Core Intel Atom® Processor E3845 Ultra Compact Embedded Platform, 2GB DDR3L, 4 Isolation DIO
- **MXE-201D/M4G**
Quad-Core Intel Atom® Processor E3845 Ultra Compact Embedded Platform, 4GB DDR3L, 4 Isolation DIO
- **MXE-202**
Dual-Core Intel Atom® Processor E3826 Ultra Compact Embedded Platform, 2GB DDR3L
- **MXE-202D**
Dual-Core Intel Atom® Processor E3826 Ultra Compact Embedded Platform, 2GB DDR3L, 4 Isolation DIO
- **MXE-202i**
Dual-Core Intel Atom® Processor E3826 Embedded IoT Gateway Platform w/ Pre-loaded Wind River IDP XT 3.1

Optional Accessories

- **8/16 GB SD Option**
Factory installed 8/16 GB MLC type industrial grade SD (-40°C to 85°C) (-40°F to 185°F)
- **32/64 GB mSATA SSD Option**
Factory installed 32/64 GB MLC type industrial grade mSATA SSD (-40°C to 85°C) (-40°F to 185°F)
- **40 W AC Adapter**
40 W industrial grade AC-DC adapter (-20°C to 70°C) (-4°F to 158°F)
- **Wireless Module Option**
WiFi/BT/3G/4G LTE/LoRa wireless kit (w/ Antenna)
- **Extended Temperature Option***
Optional screening service extends operating temperatures of the MXE-201 to -20°C to 60°C (-4°F to 140°F) and MXE-202/202i to -20°C to 70°C (-4°F to 158°F)

MXE-110i Series

Intel® Quark™ Processor-Based Industrial IoT Gateway

Features

- Intel® Quark™ SoC X1021
- Compact 120 mm (W) x 100 mm (D) x 50 mm (H)
- Industrial grade EMC, EN 61000-6-4/6-2
- Onboard memory and eMMC storage for maximum reliability
- Industrial I/O:
 - 2x USB 2.0, 2x 10/100 LAN
 - 2x mPCIe slots w/ 1x USIM socket
 - 2x COM ports (RS-232, RS-232/422/485)
 - 3x user-defined LED
- Built-in ADLINK SEMA management utility
- Full support for Intel® IoT Gateway Technology for the Industrial Internet of Things



Introduction

ADLINK's Matrix MXE-110i industrial IoT gateway supports Intel® Gateway Solutions for the Internet of Things (IoT), in an extremely compact housing with versatile RF connectivity and fanless rugged construction, all in a more cost-effective package than any of its predecessors. Based on the Intel® Quark™ SoC X1021, and integrating Wind River® Intelligent Device Platform XT 3.1, the new Matrix MXE-110i industrial IoT gateway delivers manageability and security critical to industrial IoT applications.

2x 10/100MbE, 2x COM, 2x USB 2.0 host, 2x mini PCIe slots and USIM socket supporting connections such as Wi-Fi, BT, LoRa, 3G, and 4G/LTE, the MXE-110i delivers widely versatile RF connectivity while dramatically conserving system power.

Factory-installed eMMC storage secures assets, and proven Matrix rugged construction assures operation in harsh environments under operating vibration up to 5Grms, shock tolerance up to 100 G and an extended operating temperature range of -20°C to 70°C, with optional industrial grade EMC, EN 61000-6-4/6-2.

The MXE-110i presents an intelligent and robust embedded system supporting wide application development and easy service deployment, delivering outstanding performance in industrial IoT applications like Smart City, Facility Management, and Industrial Automation applications.

Software Support

- **OS Information**
Wind River® IDP XT 3.1

Ordering Information

- **MXE-110i-M5ME4G-M31**
Intel® Quark™ SoC X1021, 512MB DDR3 800 memory, 4GB eMMC with preloaded Wind River IDP XT 3.1
- **MXE-110i-M1GE8G-M31**
Intel® Quark™ SoC X1021, 1GB DDR3 800 memory, 8GB eMMC with preloaded Wind River IDP XT 3.1
- **MXE-110i-M1GE16G-M31**
Intel® Quark™ SoC X1021, 1GB DDR3 800 memory, 16GB eMMC with preloaded Wind River IDP XT 3.1
- **MXE-110i-M1GE32GB-M31**
Intel® Quark™ SoC X1021, 1GB DDR 800 memory, 32GB eMMC with preloaded Wind River IDP XT 3.1

Optional Accessories

- **40 W AC Adapter**
40 W industrial grade AC-DC adapter (-20°C to 70°C) (-4°F to 158°F)
- **Wireless Module Option**
Wi-Fi/BT, 3G, LoRa, 4G/LTE mPCIe card w/ Antenna Kit
- **Extended Temperature Option***
Optional screening service extends operating temperatures to -20°C to 70°C (-4°F to 158°F)

SP-AL Series

Intel Atom® Processor-based Fanless 7"/10.1"/12.1"/15.6"/18.5"/21.5" Panel Computer

Features

- Apollo Lake-I SoC E3950/E3930 processors
- 5 points capacitive or 1 point 5-wire resistive touch screens
- External I/O:
 - 1x DisplayPort, 1x USB 2.0, 1x USB 3.0, 2x GbE ports
 - 2x COM port(RS232/422/485)
- Internal I/O:
 - 1x mPCIe slots, 1x USIM slot, 1x USB 2.0, 2x I²C, 1x 8 GPIO
- Expansion I/O:
 - Customized specifically by FM board
- Storage options: 1x eMMC, 1x SATA, 1x M.2
- Built-in ADLINK SEMA management solution
- 2x 2W speaker, 1x Mic in /Line out
- Front side IP65 protection



Introduction

The ADLINK Smart Panel is an embedded open frame panel computer able to integrate into a wide variety of form factors and configurations. The Smart Panel provides an exceptional range of available display sizes, touch types, DC inputs, and I/O, able to fulfill a diversity of vertical requirements. Function modules can expand I/O irrespective of type or quantity.

Software Support

- Windows® 10, Linux and Android

Application

- Health Care
- Machine Automation
- Factory Automation
- Testing Instrumentation
- Transportation

SP-KL Series

Intel Core i Processor-based Fanless 7"/10.1"/12.1"/15.6"/18.5"/21.5" Panel Computer

Features

- Kaby Lake SoC i7-7600U/i5-7300U/i3-7100U processors
- Capacitive and resistive touch screens
- External I/O:
 - 1x DisplayPort, 1x USB 2.0, 1x USB 3.0, 2x GbE ports
 - 2x COM port(RS232/422/485)
- Internal I/O:
 - 1x mPCIe slots, 1x USIM slot, 1x USB 2.0, 2x I²C, 1x 8 GPIO
 - 1x Display Port
- Expansion I/O:
 - Customized specifically by FM board
- Storage options: 1x eMMC, 1x SATA, 1x Micro SD, 1x M.2
- Built-in ADLINK SEMA management solution
- 2x 2W speaker, 1x Mic in /Line out
- Front side IP65 protection



Introduction

The ADLINK Smart Panel is an embedded open frame panel computer able to integrate into a wide variety of form factors and configurations. The Smart Panel provides an exceptional range of available display sizes, touch types, DC inputs, and I/O, able to fulfill a diversity of vertical requirements. Function modules can expand I/O irrespective of type or quantity.

Software Support

- Windows[®] 10, Linux

Application

- Health Care
- Machine Automation
- Factory Automation
- Testing Instrumentation
- Transportation

STC Series

Intel Atom® Quad-Core Processor-based Fanless 10.4"/12.1"/15" Panel Computer

Features

- Intel Atom® Processor E3845, quad-core
- 10.4"/12.1"/15" 4:3 TFT-LCD display with 1024 x 768 resolution
- 5-wire resistive touch sensor and optional projected capacitive sensor
- IP65 rated front bezel for water and dust protection
- Built-in Wi-Fi, Bluetooth and webcam functions



Introduction

ADLINK's STC-1005/1205/1505/1006 industrial touch panel computers provide 10.4", 12.1", and 15" displays, leveraging the SMARC computer-on-module concept. Projected capacitive and 5-wire resistive screens share the same IP65-rated bezel.

Software Support

- **Windows Standard 7 pre-installed**

Application

- **Machine Automation**
- **Factory Automation**
- **Test Instrumentation**

Ordering Information

- **STC-1005-4R**
10.4" Intel Atom® E3845, 2 GB DDR3L, Resistive touch screen, 32GB SSD
- **STC-1005-4P**
10.4" Intel Atom® E3845, 2 GB DDR3L, P-CAP touch screen, 32GB SSD
- **STC-1205-4R**
12.1" Intel Atom® E3845, 2 GB DDR3L, Resistive touch screen, 32GB SSD
- **STC-1205-4P**
12.1" Intel Atom® E3845, 2 GB DDR3L, P-CAP touch screen, 32GB SSD
- **STC-1505-4R**
15" Intel Atom® E3845, 2 GB DDR3L, Resistive touch screen, 32GB SSD
- **STC-1505-4P**
15" Intel Atom® E3845, 2 GB DDR3L, P-CAP touch screen, 32GB SSD

FOOD Series

Intel Atom® Quad-Core Processor-based IP69K Fanless 15"/17"/19" Panel Computer

Features

- Modular high-performance industrial panel PC with fully enclosed housing (IP69K)
- Fast data input via touchscreen
- Wireless LAN integrated (optional)
- Passively cooled with no ventilation slots or fan
- Stainless steel housing; connectors via IP69k-rated cable feedthrough



Introduction

The ADLINK Food Panel PC, based on the Intel Atom® E3845 quad core processor at 1.91 GHz integrates the Intel® GMA graphics chip into the chipset. In addition, the ADLINK Food series is equipped with up to 4GB of DDR3 RAM and failsafe automotive HDDs or SSDs as bootable storage media for increased data security and system reliability. The abrasion-resistant resistive touch display offers a maximum resolution of 1024x768 or 1280x1024 pixels and is available in 15, 17 and 19 inches. To connect additional peripherals such as 1D/2D barcode scanner, the ADLINK Food series features an extensive range of interfaces, including 2x USB 2.0, Ethernet, and 1x serial port, all with IP69K stainless steel connectors.

Software Support

- **Windows® 7 Professional / Ultimate**
- **Windows® 10**
- **Linux, Embedded Linux (on request; customized)**

Application

- **Food Industry Automation**
- **Labeling/Packaging Automation**
- **Chemical Industry**
- **Pharmaceutical Industry**

Ordering Information

- **FOOD-B15**
15" Intel Atom® E3845, 4 GB DDR3, IP69K Resistive touch screen, 500GB HDD
- **FOOD-B17**
17" Intel Atom® E3845, 4 GB DDR3, IP69K Resistive touch screen, 500GB HDD
- **FOOD-B19**
19" Intel Atom® E3845, 4 GB DDR3, IP69K Resistive touch screen, 500GB HDD

Optional Accessories

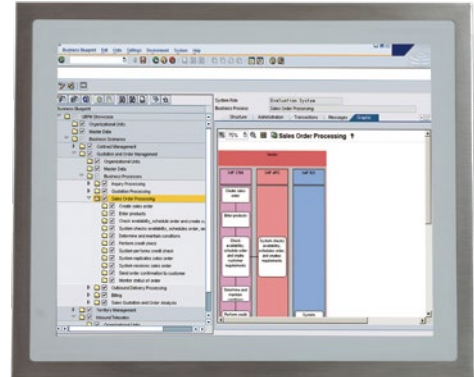
- **Windows® 7 Prof**
Operating System Windows® 7 professional 32bit/64bit
- **Windows® 7 Ultim**
Operating System Windows® 7 Ultimate 32bit/64bit
- **128GB SSD Options**
Factory-installed 128GB MLC SATA solid-state drive
- **Extra 4GB RAM**
Extra 4GB DDR3 memory
- **WLAN kit**
Factory-installed Wireless LAN module and antenna.

GIANT Series

Intel Atom® Quad-Core Processor-based Full IP65 Fanless 15"/17"/19" Panel Computer

Features

- Modular, high-performance industrial panel PC with fully enclosed stainless steel housing (IP65)
- Durable and error-free, even under extreme environmental conditions
- Fast data input via touchscreen
- Various inputs & reader devices (e.g. Legic, RFID) and scanner easily connectable (optional)
- Wireless LAN integrated (optional)
- Passively cooled with no ventilation slots or fan
- Cablecover with industrial grade cable feedthrough (IP65)



Introduction

The ADLINK Giant panel PC is based on the Intel Atom® E3845 quad core processor at 1.91 GHz, with the Intel® GMA graphics chip integrated into the chipset. Equipped with up to 4GB of DDR3 RAM, the Giant Series also features failsafe automotive HDDs or SSDs as bootable storage media for increased data security and system reliability. An abrasion-resistant resistive touch display offers a maximum resolution of 1024x768 or 1280x1024 pixels in 15, 17 and 19 inches. Supporting built-in additional RFID reader and 1D barcode scanners as options, the ADLINK Giant features an extensive range of interfaces, including 4x USB 3.0, 2x Ethernet, and 2x serial ports, all with IP65-rated cable covers.

Software Support

- Windows® 7 Professional / Ultimate
- Windows® 10
- Linux, Embedded Linux (on request; customized)

Application

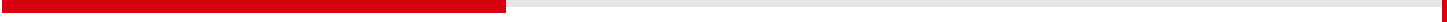
- Machine Automation/Factory Automation
- Manufacturing site
- Intelligent Transportation System/ Surveillance
- Construction Machine Automation

Ordering Information

- **GIANT-B15**
15" Intel Atom® E3845, 4 GB DDR3, Full IP65 Resistive touch screen, 500GB HDD
- **GIANT-B17**
17" Intel Atom® E3845, 4 GB DDR3, Full IP65 Resistive touch screen, 500GB HDD
- **GIANT-B19**
19" Intel Atom® E3845, 4 GB DDR3, Full IP65 Resistive touch screen, 500GB HDD

Optional Accessories

- **Windows® 7 Prof**
Operating System Windows® 7 professional 32Bit/64bit
- **Windows® 7 Ultim**
Operating System Windows® 7 Ultimate 32Bit/64bit
- **128GB SSD Options**
Factory-installed 128GB MLC SATA solid-state drive
- **Extra 4GB RAM**
Extra 4GB DDR3 memory
- **WLAN kit**
Factory-installed Wireless LAN module and antenna.
- **RFID and Barcode Reader**
Cable cover with 1D barcode and RFID reader



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