ADLINK Mini-ITX Boards
Infotainment Applications


SEMA **SEMA** Cloud **AMD** intel IoT Solutions Alliance Premier
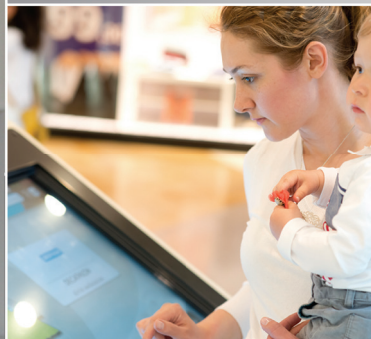
ADLINK TECHNOLOGY INC. www.adlinktech.com

ADLINK Mini-ITX Boards: Smaller form factor for today's compact systems

Industry trends indicate that users require a smaller and lower cost solution for their system requirements. Mini-ITX has a smaller board size and lower keep-out zones to enable a reduced chassis size for systems placed on the user's desk, mounted on a display, or installed in space-restrictive environments.
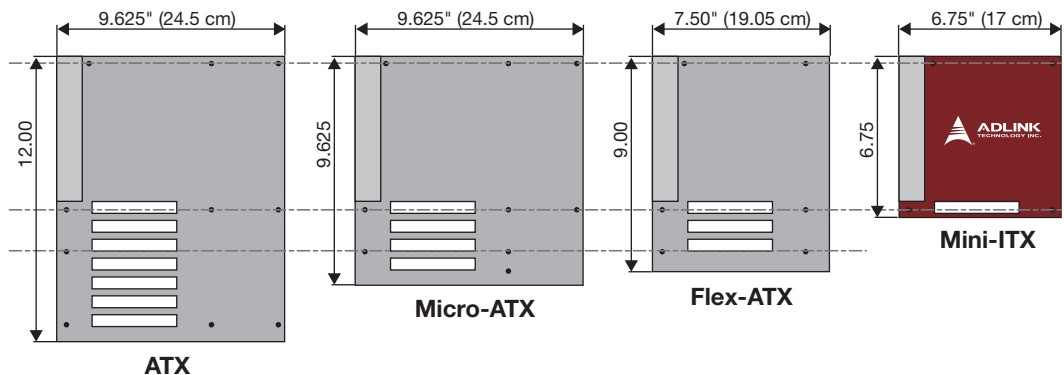
In addition to deployment in smaller chassis designed around the Mini-ITX form factor, these boards are compatible with ATX and microATX chassis without the need to retool the I/O shield. Mini-ITX boards are ideal for applications in industrial automation, self-service kiosks, and other infotainment driven solutions.

Flexible, high speed and better connectivity

ADLINK Mini-ITX boards support the latest Intel and AMD processors to deliver a high performance and space-saving platform for a wide array of embedded computing applications. Along with its compact footprint, this product line supports high processing speeds and high-bandwidth network connectivity with PCI Express®-based Gigabit Ethernet. Coupled with ample memory, diverse I/O, storage, and audio interfaces, ADLINK Mini-ITX boards are suitable for multimedia, automation control, and gaming applications requiring a compact, easy-to deploy, and cost-effective mainboard.

Rich I/O
• Vertical onboard USB interface

Easy Development and Maintenance
• Dual fail-safe BIOS • BMC onboard • SEMA and SEMA Cloud support IoT deployment

Excellent Graphics Performance
• HDMI • LVDS onboard • Multi DisplayPort • PCIe slot for external graphics

Others
• SATADOM support • +5VDC DC/DC converter • TPM onboard • ATX or 12VDC-only power input

## SEMA Cloud IoT Solution based on ADLINK Mini-ITX Platform

SEMA - Intelligent Middleware to Monitor your Device

Today's Embedded PC Systems need to provide both optimal performance and low power consumption. This can be difficult to accomplish without adequate control and system management tools to detect potential problems before they get out of hand. To meet these requirements, a tool is needed which is able to monitor and gather performance and status necessary information from the hardware in a timely, flexible and precise manner. ADLINK's Smart Embedded Management Agent (SEMA) accomplishes these goals for you, the developer and end user.

Time-to-Market (TTM) and Total-Costs-of-Ownership (TCO) are key aspects to producing competitive products. To combine TTM and TCO in a reliable manner, a solid and reliable platform is fundamental. To assist in this endeavor, every new ADLINK computer-on-module (COM) is equipped with a Board Management Controller (BMC) device supporting SEMA.

Initially designed for power sequencing tasks, the BMC has evolved to include many new and useful features through the years. Measuring the supply current to get a snapshot of the system's power consumption is only one of the new capabilities. Being compatible with the latest Embedded Application Programming Interface specification (EAPI) reduces your effort to port existing calls to SEMA to nearly zero!
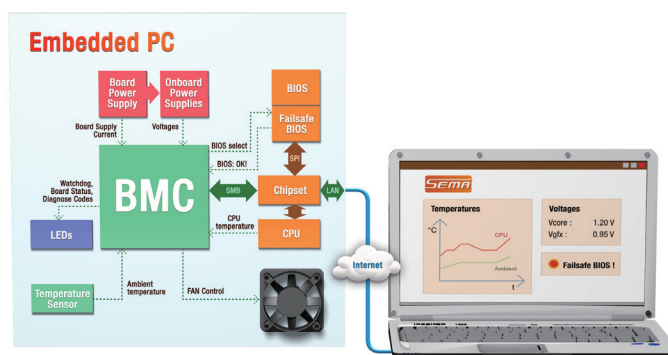
Interfacing the hardware to the operating system is one of SEMA's most important functions. The BMC first collects all relevant information from the chipset and other sources. Using the System Management Bus driver, the application layer fetches the data and presents it to the user.

## An Intelligent Cloud Solution for Remote Monitoring, Management and Control

Configure, Control and Manage - Anywhere, Anytime

ADLINK's SEMA Cloud takes today's intelligent middleware a step further than previous generations of remote management technology. By employing cloud server architecture and a machine-to-machine (M2M) stack on top of the intelligent middleware, embedded devices can be connected to the cloud without additional design requirements. ADLINK's SEMA Cloud solution provides the entire infrastructure, from gathering local data on the device and pushing it securely to the cloud, to the cloud server which stores and processes the data, to the user interface that lets operators remotely monitor, control and configure devices. With SEMA Cloud, users can remotely access power supply voltage, CPU temperature, fan rotation speed and other critical data to push data to the cloud. It enables operators to verify, monitor and manage system performance from a single, central location – improving reliability and reducing management costs.

ADLINK´s SEMA Cloud solution provides customers with a one-stop shopping model for bringing device data into the cloud rapidly and effectively. ADLINK offers all parts of a cloud solution:

• Client application for fetching and pushing data to the cloud
• Cloud server infrasttructure for hosting and precessing data
• End application to monitor, control and configure devices

Intelligent Middleware   Remote Management
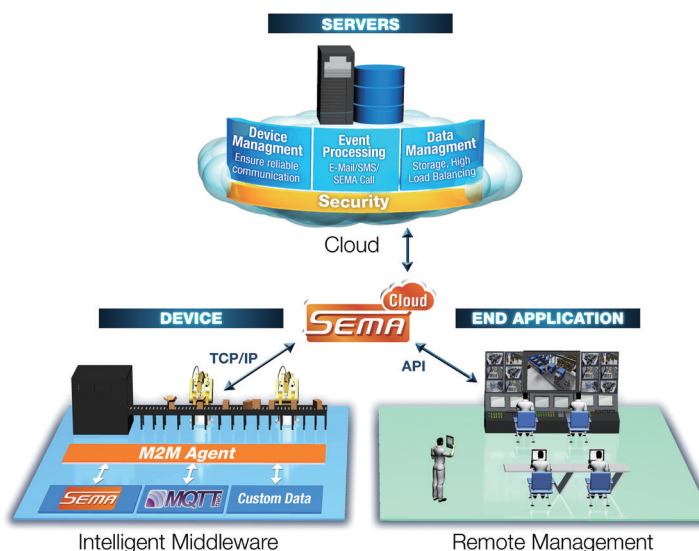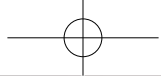
## Infotainment Applications in Retail, Medical and Digital Signage

ADLINK Infotainment solution for Gaming and Retail services include ATMs, floor plan guides, lottery & slot machines and supermarket self-service kiosks. ADLINK Mini-ITX industrial motherboards provide flexible connection possibilities for system integrators to link and manage multiple peripherals to meet application needs. Video lottery terminal and slot machines must sustain continuous operation; thus, hardware stability and ease of maintenance become essential. ADLINK extensive experience and capabilities in hardware design and software development combined with our self-owned manufacturing base allows us to provide reliable products of superior quality for different solutions.

In the retail environment, multimedia digital signage that combines entertainment and information is one of the best ways to communicate with consumers. Intelligent display panels powered by ADLINK Mini-ITX motherboards can be installed above checkout counters or in other suitable locations. Supermarket self-service kiosks are stand-alone terminals which integrate environment information, promotional products, membership management and other relevant data through interactive multimedia communication.

Medical environments require highly accurate video images with low latency during surgical procedures, such as X-ray, ultrasound, and endoscopy. This market presents diverse opportunities for embedded designers, fueled by demand for real-time data processing and sharing, high definition imaging and graphics displays, and creative, compact solutions that enable healthcare anywhere. ADLINK expertly solves these medical design challenges, offering intelligent embedded platforms that help OEMs/ODMs innovate, reduce risk and accelerate time-to-market with solutions validated for high performance and complex regulatory requirements. For medical device developers and manufacturers, ADLINK is your complete supplier of Mini-ITX industrial motherboards that provide robust, fault-free connectivity, as well as the wide range of high-speed I/O required to support the broad and growing spectrum of imaging and diagnostics applications. Development time is reduced, and medical device manufacturers can focus on their core competencies in creating competitive, high performance healthcare applications.

Mini-ITX Applications

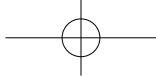|	Retail	Medical	Digital Singage
Requirements	• TTM • Processing performance	• High performance HD graphics • Quality product and service	• High performance HD graphics • Multi DisplayPort/HDMI/LVDS outputs
Applications	• Kiosk (e.g. ATM, POS) • Vending machine	• Ultrasound • MRI • Point-of-care terminal • Patient's bedside terminal	• Flight information display • Out of home advertising
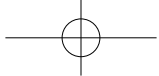
Mini-ITX boards

Product Number	AmITX-BE-G	AmITX-BT-I
CPU	AMD® RX-427BB/425BB/225FB	Intel® Atom™ Processors E3800 series SoC Intel® Celeron® N2930/J1900
Memory	non-ECC 1333/1666 MHz DDR3L memory up to 16 GB	non-ECC 1333/1066 MHz DDR3L memory up to 8 GB
SATA	3x SATA 6.0	2x SATA 3.0
USB	4x USB 3.0 11x USB 2.0	4x USB 3.0 6x USB 2.0
Expansion Slots	1x PCIe x16 1x PCIe x1 1x full size Mini PCIe 1x half size Mini PCIe 1x SPI header for external BIOS	1x PCIe x1 1x Mini-PCIe 1x mSATA
Serial Port	1x RS-232/422/485 3x RS-232	1x RS-232 2x RS-232/422/485 2x RS-232/422/485
Display	AMD® Radeon HD 9000 4 DisplayPort, LVDS	Intel® Gen7 graphics core VGA, HDMI, LVDS
Ethernet	2x GbE	2x GbE
Operating Temperature	0°C to 60°C	0°C to 60°C

Product Number	AmITX-HL-G	AmITX-IB-I
CPU	Intel® Core™ Processors i7-4700S/4770TE, i5-4570S/4570TE, i3-4330/4330TE Pentium® Processors G3420/G3320TE Celeron® Processors G1820/G1820TE	Intel® Xeon® Processors E3-1275v2/1224v2 Intel® Core™ Processors i7-3770, i5-3550S, i3-3220 Intel® Pentium® Processor G2120 Intel® Celeron® G1620
Memory	non-ECC 1333/1666 MHz DDR3L memory up to 16 GB	non-ECC 1333/1066 MHz DDR3L memory up to 16 GB
SATA	3x SATA 6.0	2x SATA 3.0
USB	4x USB 3.0 11x USB 2.0	2x USB3.0 7x USB2.0
Expansion Slots	1x PCIe x16 1x PCIe x1 1x full size Mini PCIe 1x half size Mini PCIe 1x SPI header for external BIOS	1x PCI Express x4 1x Mini-PCIe
Serial Port	1x RS-232/422/485 3x RS-232	5x RS-232 1x RS-232/422/485
Display	Intel® Generation 7.5 3 DispayPort, LVDS	Intel® HD Graphics VGA, DVI, HDMI, Dual Display VGA+DVI-D, VGA+HDMI, DVI+HDMI
Ethernet	2x GbE	2x GbE
Operating Temperature	0°C to 60°C -40°C to + 85°C (optional)	0°C to 60°C

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