

ADLINK Medical Guide

Intelligent Systems for Embedded Medical Design

ADLINK TECHNOLOGY INC.

www.adlinktech.com

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Intelligent Systems for Embedded Medical Design

Medical markets present 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. ADLINK is a key resource for medical designers, offering expertise centered on imaging and diagnostics, in both portable/mobile applications and larger-scale, high performance systems. Powered by a rare and valuable blend of in-house design and manufacturing capabilities, ADLINK's flexible range of systems, products and platforms capitalize on more than 25 years of embedded design and development expertise combined with extensive knowledge of design requirements for patient safety and product longevity. ADLINK's intelligent platforms and Rugged by Design technologies are purpose-built for healthcare settings, improving patient diagnosis and treatment options, and giving designers a competitive edge with scalable, reliable solutions optimized for the rigors of modern medicine. For medical device developers and manufacturers, ADLINK is your complete supplier of intelligent embedded products. Development time is reduced, and medical device manufacturers can focus on their core competencies in creating competitive, high performance healthcare applications.

■ Enabling Longevity with Extended Product Lifecycles and Predictable Roadmaps

Medical designers are driven by the need for rapid product development that includes well-defined products that also offer extended lifecycles. Medical design expertise and industry knowledge are key factors in achieving such product attributes. Trusted partnerships support the competitive designs through shared engineering knowledge and expertise. The extended lifecycles are achieved by combining careful component selection, BOM screening and if necessary our supply chain manages the end-of-life (EOL) materials to meet product needs. Our in-house design and development capabilities expertly support engineers in long-life solutions, including product planning and managing EOL transitions. Product lifecycles of 7 years are typical for most products and even longer on a case by case basis.

■ Flexible, Robust Platforms Create Medical Market Advantage

Enabling Connected Care with Compact, High-Performance Technologies

With a strong understanding of how to design for patient safety, ADLINK's medical industry offerings range from low power, battery-driven, portable diagnostic systems to fixed-installation systems delivering extreme processing for high-definition imaging. ADLINK medical products include hybrid smart panel PCs, a broad range of board-level technologies such as motherboards and computer-on-modules – COM Express - as well as PC/104.

Box-level systems such as ADLINK's MIX or Topaz series offer a turnkey system with modular options and connectivity. MIX is optimized for wireless, mobile connectivity; Topaz' long- and short-range wireless connectivity adds value and simplicity in transmitting data to other systems within the larger hospital network. Topaz is certified to general hospital safety standards and features innovative fanless technology that prevents contamination and reduces noise; its cable-free architecture provides a strong and durable mechanical structure that improves reliability.

ADLINK's market advantage is our ability to facilitate the right solution at the right level of performance, including design and development expertise. Our customers are expertly supported by our highly skilled team of hardware and software engineers, trained and knowledgeable in the applications and concerns facing medical designers.

■ Technology Access and Enablement

Allowing Access to the Latest CPU Technology

The ADLINK design team works closely with select partners to create products with the latest processing technology as early as possible. Providing products with the latest multi-core and power optimized designs allows the system engineer to shorten the overall development time and thus the time to market. Applying the newest processors to known and tried formats allows for early adoption. Board and system design services leverage the design experience to allow fast and reliable tailor-made solutions.

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Quality through Certifications

ADLINK employs a state-of-the-art quality assurance system and all facilities are ISO-9001 certified. Many of the products have received 60601-1 as well as UL, FCC, CSA and CE certifications. In addition, ADLINK's own manufacturing site is ISO 13485 certified, providing the necessary documentation and processes for medical products.



ADLINK TPZ-1300 Series: Intel® Atom™ D2550/ N2600 Fanless Medical Computer with Rich I/O



Ambulance-based Telemedicine Saves Lives in Real-Time

Telemedicine provides real-time patient information to the hospital via wireless communications, enabling remote diagnoses and primary care, and reducing rescue response time. Optimized ambulance-to-hospital based telemedicine systems require a ruggedized IPC platform to enable multiple onboard wired and wireless devices (including medical apparatus), and to provide wireless connection with the hospital. In addition to the hardware platform, well-developed software is necessary to carry out these applications using a seamless and reliable connection.



ADLINK MIX-250: Embedded Computer System with Intel® Core™ i7/i5/i3 AmITX-IB-I Mini-ITX Motherboard

With direct live transmission of voice and video, physicians at the hospital can watch over the patient en route to the hospital, make remote preliminary diagnoses and triage decisions, and prepare for surgery if needed.

ADLINK's MIX product family is a small form factor, low-power and mechanically ruggedized system providing rich I/O that can be used to connect onboard devices. Based on the most advanced Intel® Core™ processor and latest Intel® Atom™ processor-based System-on-Chip, MIX systems include real-time vehicle location, 3G and Wi-Fi modules to allow for wireless communications, and a mini-PCIe expansion slot to enable video applications.

The ADLINK Mini-ITX industrial motherboards support the next-generation AMD® processors in the Micro-FCPGA package to deliver a high performance and space-saving platform for a wide array of embedded computing applications. With a compact footprint, this product line supports processing high speeds and high-bandwidth network connectivity with PCI Express®-based gigabit LAN. These advanced features, coupled with a dual-channel DDR2/3L system memory architecture, diverse I/O, storage, and audio interfaces make the ADLINK Mini-ITX motherboards suitable for multimedia, automation control, and gaming applications requiring a compact, easy-todeploy, and cost-effective mainboard.



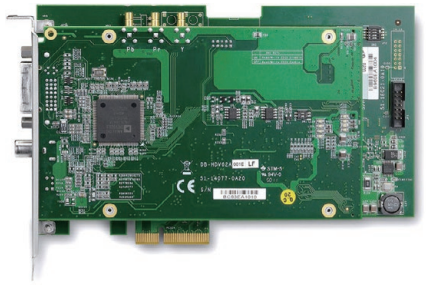
ADLINK AmITX-BE-G: Mini-ITX Industrial Motherboard with AMD® Embedded R-Series APU

High Definition Video Enables the Digital Operating Room

Powerful, real-time images enable better and more informed treatment decisions during medical procedures such as X-ray, ultrasound and endoscopy. Contemporary operating room (OR) environments incorporate high resolution video technology that delivers these highly detailed, low latency video images. Critical video data may come from a range of devices presenting data in different formats such as DVI, CVBS and RGB, requiring fast and efficient normalization of the various formats. Digital OR systems not only integrate the varied video inputs and displays, but also record the collected data for future reference.

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ADLINK's HDV62A series of high definition video and audio capture cards enable single-card acquisition of full analog/ digital video and digital audio signals. The HDV62A enables full compatibility with multiple video formats in a single unit; data processing and archiving is fast and efficient, making it a key component for digital imaging and communications in the operating room or picture archiving and communications systems (PACS) within the medical facility.



ADLINK PCIe-HDV62A: 1-CH PCI Express® HDMI Video & Audio Capture Card

Enhancing Care with Efficient Mobile Nursing Workstations

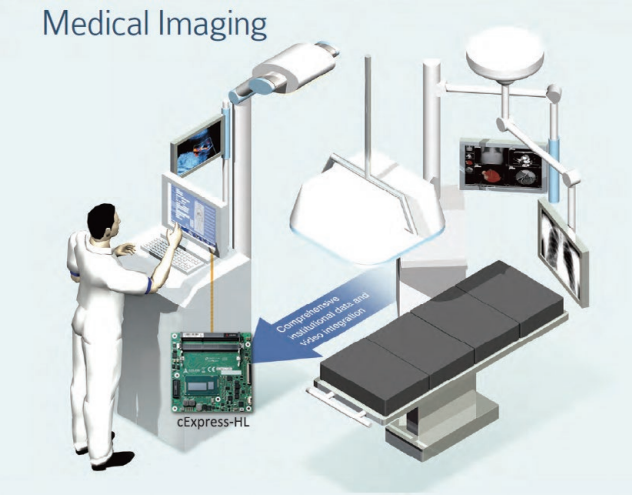
Mobile nursing workstations bring care and safety directly to patients. In fact, they enable efficient, personalized care in any setting required by a busy clinical environment. Care providers can view electronic medical records (EMR), medication data and administrative documents, as well as enter data and connect to data centers for real-time information sharing.

ADLINK's Topaz series of rugged fanless computers enables these portable workstations, incorporating multiple types of data entry interfaces and remote diagnosis capabilities. The resulting improved workflow minimizes time spent on patient administration; integrated functionality such as wireless connectivity and secure access to patient records dramatically increases the level of patient care. These workstations help to ensure that the right dosage is given to the right patient at the right time.





ADLINK cExpress-HL: COM Express® Compact Size Type 6 Module with 4th Generation Intel® Core™ i7/i5/i3 Processor



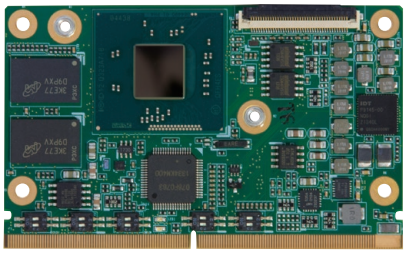
Modern automatic medicine dispensing systems offer comprehensive medication security and efficiency by integrating connectivity with data centers, touch panels for mobility and interaction with EMR systems, and biometric and barcode scanners to secure access and identify recipients.

COM-based Mobile Platforms Enable Healthcare Anywhere

Advancements in medical imaging are broadly improving diagnosis and treatment options, with particular value in mobile healthcare applications. As performance-to-power ratios advance with processor improvements, a wider range of mobile and visual applications can capitalize on advanced graphics in portable devices, enabling better real-time analysis and diagnostics.

ADLINK's latest Computer-on-modules products incorporate 4th generation Intel® Core™ processors, enabling significant improvements over previous processor generations. Advanced power capabilities allow designers to customize power-to-performance ratios to suit specific applications. New low power states extend battery life and improve cooling options for mobile applications, allowing passive cooling with no venting or fans.

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ADLINK LEC-BTS: SMARC® Short Size Module with Intel® Atom™ Processor E3800 Series System-on-Chip

Medical Design Leadership and Expertise

ADLINK maintains a dynamic role in embedded standards development, ultimately creating modular, standards-based technologies that provide the foundation for high-value medical platforms. ADLINK's long-held support of COTS (commercial off-the-shelf) technology and open systems enables flexible technologies and platforms that are scalable, flexible and reliable enough for extended deployment of diverse hospital and healthcare applications. End-users reduce risk and total cost of ownership with the ideal combination of low power consumption, small footprint, optimized features and high reliability in a standards-based platform.

For medical device developers and manufacturers, ADLINK is your complete supplier of embedded products, including systems that provide robust, fault-free connectivity, as well as the wide, 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.

ADLINK is an Associate member of the Intel® Intelligent Systems Alliance. From modular components to market-ready systems, Intel and the 250+ global member companies of the Alliance provide the performance, connectivity, manageability, and security developers need to create smart, connected systems. Learn more at: Intel.com/go/intelligentsystems/alliance.

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About ADLINK Technology

ADLINK Technology is enabling the Internet of Things (IoT) with innovative embedded computing solutions for edge devices, intelligent gateways and cloud services. ADLINK's products are application-ready for industrial automation, communications, medical, defense, transportation, and infotainment industries. Our product range includes motherboards, blades, chassis, modules, and systems 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, including PCI Industrial Computer Manufacturers Group (PICMG), PXI Systems Alliance (PXISA), and Standardization Group for Embedded Technologies (SGeT).

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

ADLINK TECHNOLOGY INC.

Tel: +886-2-8226-5877
Fax: +886-2-8226-5717
Email: service@adlinktech.com
www.adlinktech.com

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