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IoT Solutions

Application Note

Portwell, Inc.

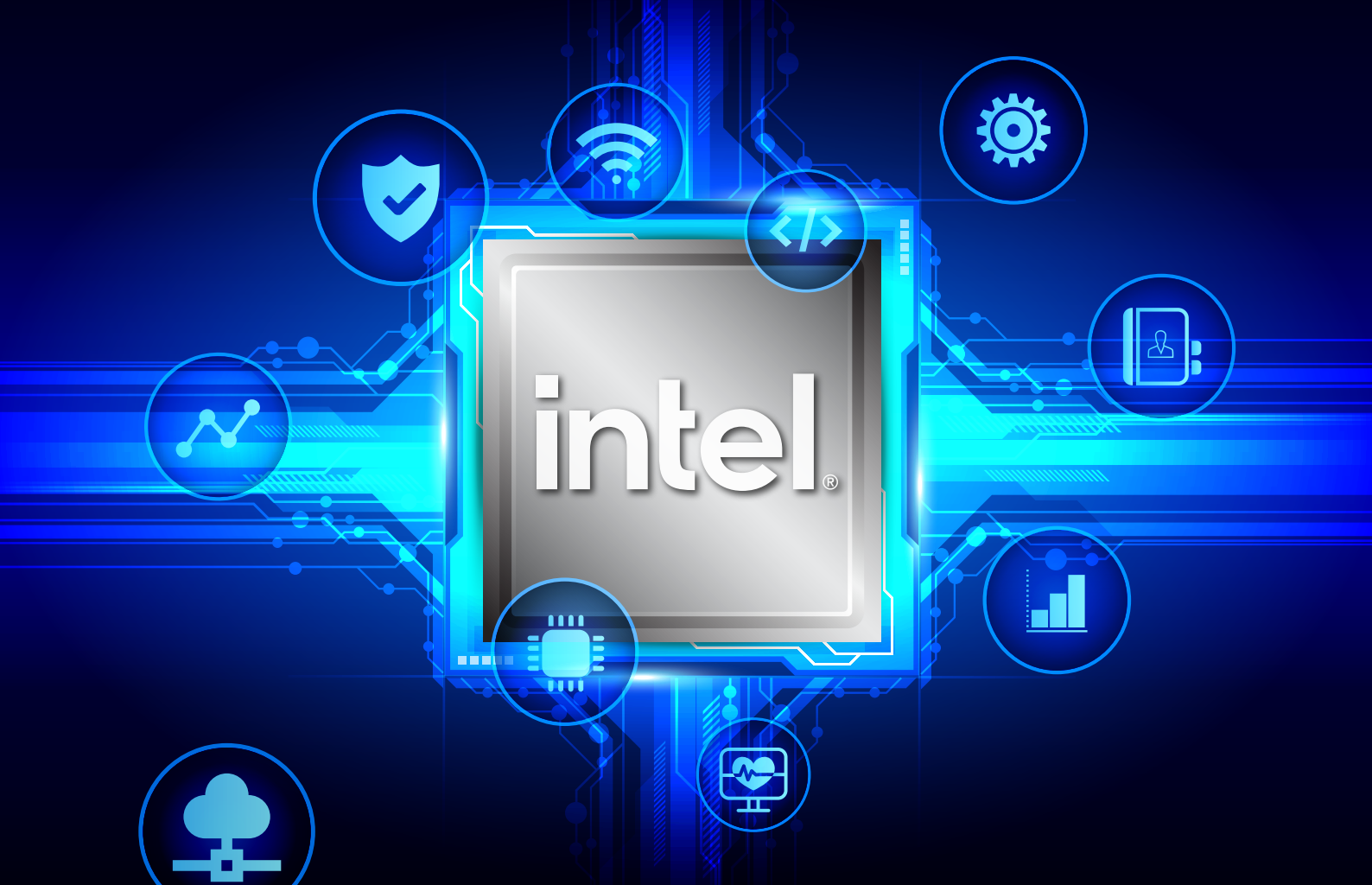


NANO-ITX Embedded Board Based on Intel Atom® x6000E Processor Series, Real-Time Solution for Bridging Medical Equipment and PIMS

Situation

Nowadays, medical/healthcare examination usually needs connection between testing equipment and Practice Information Management System(PIMS) for real-time data bidirectional transferring like the test result, medical record, etc. Besides improving its seamless workflow and efficiency, it could even access stunning displays of patient results from any device and use result trending to analyze the diagnostic trends of patients.

To meet the demand of medical equipment and hospital/clinic environment such as low power consumption, sufficient I/O, long lifespan, quiet and small size fitting in limited space, Portwell NANO-6063 could be the ideal solution for bridging both sides.



Solutions

NANO-6063, a NANO-ITX form factor (120mm x 120mm) embedded system board based on the Intel Atom x6000E processor series which was developed to enhance IoT applications depending on new levels of CPU and graphics performances with integrated IoT features, real-time performance (TSN, TCC), manageability, security, and functional safety. It operates well with thermal design power (TDP) under 12W with low-power consumption and suitable for fan-less applications. In addition, its flat/low-profile design allows space-saving installation in display and compact workstation, like hospital or business area, and its flexibility of systematic expansions is suitable for medical equipment, Panel PC and Kiosk as well.

To perform multiple high-resolution 4K videos in parallel and improved AI performance, NANO-6063 integrates Intel Gen 11 UHD Graphics with triple independent display support via DisplayPort and HDMI in 4Kp60 resolution, and one VGA offering flexible display options.

Featuring one DDR4 3200 MT/s SO-DIMM socket equipped with up to 32GB capacity, NANO-6063 supports four USB 3.2 Gen 2 ports (10Gbps) to ensure fast data transmission with low-power consumption and one M.2 E Key socket which provides wireless connectivity such as Wi-Fi and Bluetooth. Moreover, it provides a full-size mini-PCIe socket that can be configured as mini-PCIe/mSATA by BIOS to fulfill different scenarios.

To fulfill real-time performance and high-speed computing, NANO-6063 is equipped with one GPY215 driven 2.5GbE port with Intel Time Sensitive Networking (TSN) and Time Coordinated Computing (TCC) technologies for real-time computing and control capability, and one Intel I210IT Gigabit Ethernet controller to provide dual Gigabit Ethernet LAN access via two RJ-45 ports. Last but not least, the 10+ years long lifespan of NANO-6063 gives users peace of mind when choosing it.

NANO-6063

Intel Atom® x6000E Series SoC based NANO-ITX Board with Triple Display, GbE LAN, USB 3.2 Gen 2, M.2, SATA III, Mini-PCIe, and mSATA

- Up to 32 GB DDR4 3200 non-ECC SO-DIMM
- Multiple display by VGA, DP and HDMI
- High speed dual Gigabit Ethernet, high bandwidth I/O interface
- Real-Time Capabilities: TSN, TCC
- On board TPM2.0



NANO-6063

NANO-ITX Board with Intel Atom® x6000E Processor Series

About Portwell

Portwell, Inc., founded in 1993, has focused herself towards a high-technology scope that brings company value through the state-of-the-art. For the past years, continuous leading product development and revenue growth have made Portwell a major Mission-Critical Application Platform Provider in the world. The in-house design of industrial computers and application platforms by Portwell has also been targetted to meet our customer needs for flexibility. Portwell, Inc., an IoT Solutions Titanium Partner of the Intel® Partner Alliance, a community of communications and embedded developers and solution providers, designs and manufactures Communication Appliances along with a full range of Industrial Platform Service (Computer on Module, Embedded Computing, Industrial Computer), Communication Appliance Service (Software Defined Wide Area Network, ANS series, AnnA ANS Network Associate), Vertical Market Service (Advanced Network Solutions, Gaming, Medical, industrial Automation, Smart Transportation, Energy, Smart Manufacturing, Internet of Things(IoT), AI Solutions, Mobility & Barcoding Solutions, EMS/DMS), Panel Device Service (Panel PC, LEAD Series). With streamline access to the latest Intel technology, we paved the way with the broadest array of building blocks, delivering cutting-edge solutions to meet and even exceed the demanding needs of the ever-changing telecommunication, medical electronics, industrial automation, defense and life automation markets. Committed to supplying customers with a one-stop shopping approach of full product selection, competence and sophisticated customer support, Portwell helps all our customers pave the royal road to success and stay ahead of competition.



Portwell, Inc., an IoT Solutions Titanium Partner of the Intel® Partner Alliance, designs and manufactures a full range of IPC products (SBC, backplane, redundant power supply, rack mount & node chassis), embedded architecture solutions, DVR system platforms and communications appliances. We provide complete R&D and project management services to decrease customers' time to market, and reduce project risk and cost. Portwell is also an ISO 13485, ISO 9001 and ISO 14001 certified company that deploys quality assurance through product design, verification and manufacturing cycles.



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