Application Note
Portwell, Inc.

LYNX Series, Palm-Size Power and Innovation for Integrated IIoT Solutions Based on Intel Celeron® N3350

Situation

Lots of analyzers in the industry predicated that there will be more than 50 billion devices connected to the Internet by 2022. This is described as the era of Internet of Things (IoT). The IoT is a big collection of smart sensors, networks, servers, and services that interact among them. This trend applies to all sectors or markets, and it is a way to automate, control and manage factories, homes, transportation, energy, medical/healthcare facilities, etc. All layers of networks, from applications, middleware, connectivity, and devices, will contribute to realizing the full power of IoT. For edge connectivity, the intelligent gateways play a major role communicating in between the devices and the cloud, collecting data from the devices for analysis, and forwarding the instructions from the upend servers to activate the devices.

Intel Celeron® N3350 CPU

Challenge

To leverage the current internet infrastructure, an intelligent IoT gateway is developed for the purpose of connecting legacy and new equipment, from in-house cooling or heating devices, vending machine, to industrial robot and wind turbine, to get the data from them, and in return to control them intelligently based on the instructions or analytical results from the connected servers. Since most of the industrial automation devices are often designed in different protocols of interconnectivity. A versatile IoT gateway with various protocol supports is also used as the path between these automation devices and the cloud.

Solutions

Portwell LYNX Series is a palm-sized, ready-to-use industrial IoT gateway solution based on Intel Celeron® N3350 CPU (formerly Apollo Lake platform) and also certified by Microsoft® Azure® IoT Edge Device that provides a scalable infrastructure for data, virtual machines, server and front-end applications. It provides a rich portfolio of ultra-small form factor IoT appliances that offer a variety of features including low power consumption connectivity and expansion, ruggedized design, and industrial regulatory compliance.

The ruggedized and fan-less system is equipped with rich interfaces for data acquisition and server connection. Through modular design, LYNX Series features an impressive combination of modern and legacy I/O connectivity, plus an additional proprietary expansion slot allows LYNX Series to increase system functionality via various add-on options. Various communication ports help connectivity for machines-to-machines, collecting all edge devices data for analysis, and then forwarding analysis result to control center as an edge controller. Last but not least, LYNX Series provides wireless support via optional modules for remote controllability and manageability.

LYNX Series

Palm-Size Power and Innovation for Integrated IIoT Solutions

- Intel® Celeron® Processor with 4GB LPDDR4 and 32GB eMMC
- Wide power input 12-30 VDC
- DIN-rail and wall mount options
- Certified with heavy industry EMC and EMI class B
- Certified with Microsoft Azure IoT Edge device

LYNX-6110

LYNX-612A

LYNX-612B

LYNX-612D

LYNX-612E

LYNX Series
Link To The World

LYNX-612G

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

intel. partner Titanium IoT Solutions

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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