



EMBEDDED BOARDS REALIZE RFID SOLUTIONS IN LOGISTICS

KONTRON'S EMBEDDED BOARDS EMPOWER RFID DATA
CAPTURE SYSTEMS MADE BY A KOREAN PROVIDER



RFID IS A COST-EFFECTIVE, EASY-TO-IMPLEMENT SOLUTION TO TRACK ITEMS ACROSS THE SUPPLY CHAIN. THUS, IT IS OFTEN USED IN TRANSPORTATION AND LOGISTICS RELATED SECTORS.



// RFID USED IN PORTS AND TERMINALS TO RACK CONTAINERS

RFID technology is a convenient and cost effective solution to automatically identify objects, capture data about them and then relay those data directly into computer systems for further analysis with minimal human intervention. Thus, it is widely used in transportation, logistics, warehousing, retailing, automation or other fields that want to track individual physical items.

A Korea-based RFID data capture solution provider markets not only tags, readers and portable / handheld devices but also panel PCs as backend computing platform to complete their total RFID solution offering. Since their products are often applied to logistics management in ports / docks, there are many risk factors (extreme temperature, strong sunlight, moisture, salt air, vibration) existing to reduce the performance or damage the system itself.

To build a panel PC suitable to such a harsh environment, they need a reliable industrial motherboard to embed it into their housings, of which some are fully sealed. First of all, the board must withstand extreme temperatures (for partial models) and salt air from sea water. Resistance to shock and vibration is also important due to frequent cargo operations in docklands. Finally, the board will be possibly integrated into a sealed housing and thus low power consumption as well as good thermal dissipation is fundamental attribute for their purchase decision.

SYSTEM REQUIREMENTS

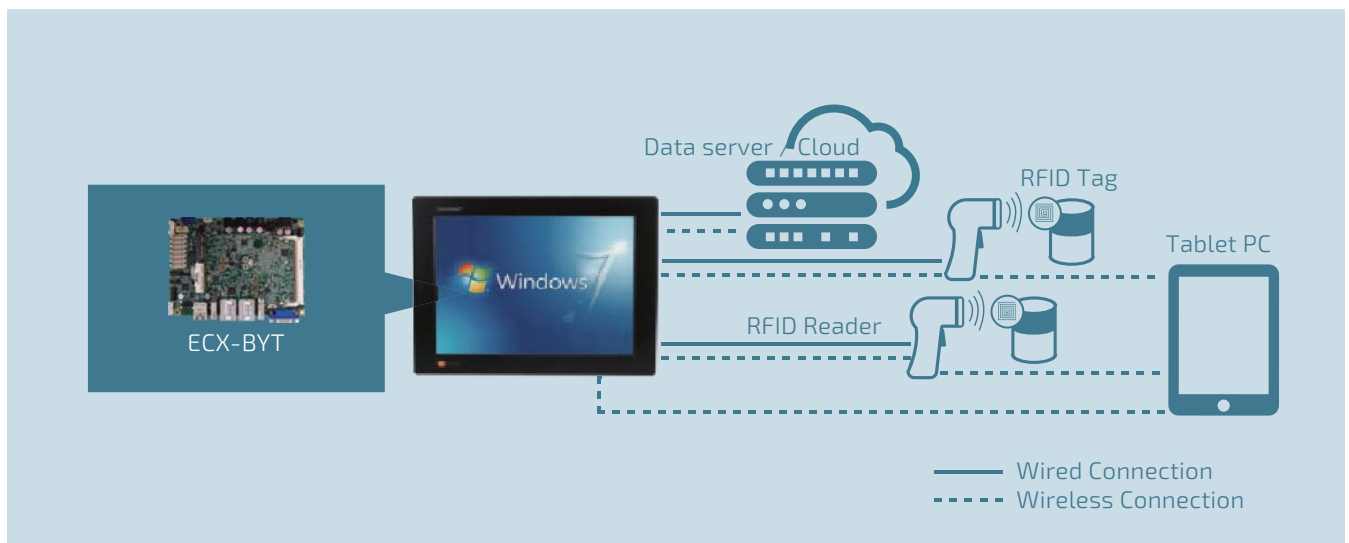
- ▶ Extended operating temperature range
- ▶ Resistance to shock and vibration
- ▶ Protection against salt air
- ▶ Low power consumption
- ▶ Good thermal dissipation

SOLUTION

Owing to the high quality and reliability, this RFID solution provider have successively introduced several models of Kontron's embedded motherboards into all of their panel PCs for several years. The latest product they use is the ECX-BYT, a 3.5" single board computer. They chose an extended temperature model based on Intel® Atom™ E3845 (model name: ECX-BYT-E3845-ET).

The ECX-BYT is of industrial grade and incorporates a damping mechanism into the design to prevent data loss or even permanent damage to the hard drive resulting from shock and vibration. The stainless steel rear I/O panel applied with a protective coating assures protection against corrosion from salt air and moisture. Powered by a power-saving processor under efficient thermal dissipation design, the board can be embedded into a fully sealed housing without fear of overheating. In addition, it has good resistance to extreme temperatures up to 70°C and down to -20°C and thus can ensure regular operation in coastal environments where the temperature often plunges and / or ascends to an extreme level.

Finally, this embedded board is equipped with a plenty of USB and COM ports for direct connection to RFID readers. Alternatively, users can build an IP-based network to communicate with all RFID readers, portable / handheld devices and data center / cloud through two GbE LAN ports and an mPCIe wireless expansion slot available on the board.



// SYSTEM DIAGRAM

About Kontron

Kontron, a global leader in embedded computing technology and trusted advisor in IoT, works closely with its customers, allowing them to focus on their core competencies by offering a complete and integrated portfolio of hardware, software and services designed to help them make the most of their applications.

With a significant percentage of employees in research and development, Kontron creates many of the standards that drive the world's embedded computing platforms; bringing to life numerous technologies and applications that touch millions of lives. The result is an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology.

Kontron is a listed company. Its shares are traded in the Prime Standard segment of the Frankfurt Stock Exchange and on other exchanges under the symbol "KBC". For more information, please visit: www.kontron.com



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