

In brief

RFID deal

IER, a designer and manufacturer of chip and antenna assemblies (inlays) for RFID labels based in Suresnes, France, has signed a licence deal to use Innovision Research & Technology's Jewel chip. The technology will be integrated within IER's RFID labels aimed specifically at mass transit smart ticketing applications.

Boards for portables

Dialog Semiconductor Plc and embedded software provider Bsquare have signed a joint technology partnership agreement to develop, market and deliver mobile applications reference boards for developers and manufacturers of smart phones, PDAs, navigation systems and other portable applications.

Esterel acquires code

Esterel Technologies has taken an exclusive source code license for the Image Embedded Graphical Display Design Environment software developed jointly by Thales Avionics SA and Diehl Aerospace. Thales Avionics (Elancourt, France), Diehl Aerospace (Frankfurt, Germany) and Esterel Technologies already partner in several joint collaborative R&D projects within the EU's sixth Framework Research Programme, as well as in the ITEA Eureka framework and the System@tic Competitiveness Cluster (Pôle de Compétitivité) within the "Software Factory" project.

OTG certification

An implementation of the CAST, USB On-The-Go (OTG) controller core has passed the certification testing of the USB Implementers Forum (USB-IF). The certification was achieved through a joint effort of partners Evatronix SA in Poland — who developed the IP core — and JMicon Technology Corp. in Taiwan — who developed the A/D physical layer or PHY.

WIRELESS

ZigBee's improved specification is incompatible with version 1.0

The ZigBee Alliance has released an updated specification that should help system developers targeting the home automation market. But those interested in large-scale deployments in the industrial and building-automation markets may opt to wait for another release, due early next year.

Called ZigBee 2006 or 'enhanced' ZigBee, the update includes some significant changes from the spec first issued in 2004. Those changes mean that the two versions are also incompatible, which could cause problems for companies that already have products in the market.

Alliance members were quick to downplay the incompatibility issue, saying that there aren't many products on the market at this early stage of ZigBee development and that the new spec's incompatibility probably won't matter much even for companies that have already rolled ZigBee offerings. "Most of the ZigBee 2004 implementations are in confined spaces

... where interoperability isn't high on the priority list," said Bob Heile, chairman of the ZigBee Alliance and chairman of the IEEE 802.15 Working Group on Wireless Personal Area Networks.

Future releases of the spec will be backward-compatible. Heile also noted that it is possible to create a compatibility mode if developers are willing to increase memory to run a slightly larger code base. "Then you can have complete compatibility," Heile said.

One of the main differences between the 2006 and 2004 versions is a change in the addressing scheme, said Andy Wheeler, chief technology officer of Ember Corp. ZigBee is meant to accommodate 65,000 nodes on a network, but developers found that the larger networks were becoming unstable over time. That's because initially ZigBee used a tree structure for addressing, which restricted the number of addresses to well below what was theoretically available, Wheeler said.

In the 2006 spec, a random addressing scheme is used, with built-in address conflict resolution.

That will be key to large deployments of ZigBee in industrial markets because it allows for many more network nodes.

However, developers in the industrial market may still wait for the ZigBee Pro stack, which will include features aimed at industrial and commercial building automation, such as higher levels of security and improved frequency hopping.

Most of the leading makers of 802.15.4 radios using the ZigBee protocol stack believe that development will begin to move more quickly toward full ZigBee implementation now that the 2006 version has been finalized.

To date, most of the activity has been for 802.15.4 with proprietary protocol stacks and applications.

The 2006 spec is immediately available to ZigBee Alliance members. It will be released to the public in the first quarter.

INDUSTRIAL NETWORKING

Varan bus uses CANopen device profiles

The Varan Bus user organization and the CAN in Automation group have agreed to open the Varan bus for CANopen device profiles. Thus, the two non-profit standards groups intend to improve the connectivity situation in automation environments.

The cooperation will enable device manufacturers to connect existing CANopen device profiles to Varan system environments.

The CANopen profiles can be converted into Varan device descriptions by means of simple connection directive, explains Holger Zeltwanger, managing director of the CAN in Automation (CiA) standards group.

According to Zeltwanger, the CANopen profile family is well accepted in the serial machinery market including tool machines because it offers a broad range of generic I/O modules and closed-loop controllers as well as function specific modules for specialized machinery like extruders or weaving machines.

However, the CAN bandwidth limited to 1 Mbit/s does not fulfill all speed requirements, especially not those of fast drive controllers. Therefore, Varan busses could provide CANopen users with an Ethernet-based alternative that provides faster data transmission.

"Today, CANopen provides

one of the most extensive palettes of device profiles for the machinery building market. It would not have made any sense to re-invent the wheel for Varan", explained Martin Schuller, chairman of the Varan Bus user organization which oversees the development of the Varan protocols.

■ CiA is arranging an information event for the CANopen Safety Chip on November 9, 2006 in Frankfurt/Main, Germany. The CANopen Safety protocol for safety-relevant communication is pre-programmed on the chip. Ifm Electronic, Port and Sys Tec electronic will report about their practical experience with the chip.