Kontron Introduces the ETXexpress Specification - New Module Initiative Implementing PCI Express*

New Kontron's Module Initiative is Targeted for Embedded Computing Applications. Spec Development and Review is Underway with a Group of Leading Embedded Computing Companies

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At a press conference today, Kontron unveiled its proposed spec for a future embedded computer on a module standard – the ETXexpress. This spec proposal is gaining support from a number of industrial and embedded computing leaders. The new Computer-On-Module (COM) standard is the next generation small form factor integrating the latest interface technologies such as PCI Express*, Serial ATA, Gigabit Ethernet, Dual Channel DDR and USB 2.0 and will become an addition to Kontron's existing COM portfolio. A preliminary version (0.9x) of the open standard can be downloaded from the Kontron website (www.kontron.com). The final specification 1.0 will be published in Q1/2004.

Why a Next Generation Module Standard?
The new ETXexpress COM standard provides greater performance and flexibility in many aspects and implements the latest technologies including the PCI Express bus and gigabit Ethernet. PCI-Express is set to become the primary data path for upcoming x86 based systems. PCI Express also is software compatible to PCI. Non PCI-Express components such as PCI/PCI-X plug-in cards can still be supported with the PCI 2.x 32 Bit Interface as ETXexpress will continue supporting the PCI bus for legacy applications.

The Specification at a Glance
ETXexpress will support 4 PCI Express x1 Lanes and PCI Express cards as well as established hardware solutions based on current busses such as 32-bit PCI and ISA bus (via a LPC).
A 10/100/1000 Mega Bit Ethernet port provides fast connectivity to LAN/WAN and 6x USB 2.0 provide fast and sufficient interfaces for external drives/flash, keyboard, mice and other peripherals. ETXexpress modules also will provide the following interfaces that are always located in the same physical position on each board, thus guaranteeing scalability between modules: serial ATA, parallel ATA, LVDS Multi Media ports as well as an ACPI (Advanced Configuration and Power Interface) for optimized power management.
The new standard is planned to be initially offered in a 85 mm x 125 mm form factor. Signals are brought out via 160 pin SMT connectors that permit data transmission rates of up to 5 GHz. Six mounting holes on the board provide resistance to shock and vibration. The thermal coupling system incorporates a standardized heat spreader, as is the case with ETX.

ETXexpress Open to the Industry
With the publication of the ETXexpress specification, similar to the launch of the very successful ETX specification, Kontron intends to open the ETXexpress standard to a wide range of companies in order to establish it as a leading world standard in the

embedded industry for the benefit of joint Kontron and Intel customers. Kontron currently is working with Intel on the technical definition of this of this open spec and will make it available for review shortly. Built in scalability in the spec makes it easier to keep up with the latest advances in processing technology without the need to redesign existing custom designs.

"It gives us great pleasure to lead this spec development for the industrial and embedded market segments and work with key players in the embedded industry," remarked Hans Muehlbauer, COO of Kontron AG. "Kontron has a large experience in driving and embracing open standards efforts such as PCIMG 1.2, embATX, ATCA and ETX modules. Computers-On-Modules address the largest market of Embedded Computing technology today – that of proprietary designs. We expect that as more embedded and industrial OEMs introduce new designs, they will embrace the COM concept with a potential for high volumes and growth," Mr. Muehlbauer added.

"We believe the adoption of standard, modular computing elements by the embedded computing market segments can accelerate the implementation of advanced technology such as PCI-Express* and Gigabit Ethernet while providing scalable and interoperable solutions," said Ton Steenman, General Manager, Embedded Intel Architecture Division. "The ETXexpress standard is an example of how Intel Architecture fits in small form factor applications requiring small size and low power at a competitive performance."

Roadmap
The first Kontron ETXexpress modules will be based on 1.6 GHz Intel® Pentium® M processors as well as the Intel 855 GME chipset. The planned release for Kontron's boards is set for Q2 2004. Kontron has nine variants based on the new standard planned for availability by the end of 2004, offering performance scalability at a wide range of price points.

ETX Support to Continue
The ETX standard effort launched in 2000 will continue to be supported by Kontron, along with the X-board and DIMM-PC standards. All three Kontron product lines will be maintained through new designs to offer performance upgrades and/or power savings. New designs offering further performance increases or optimized energy concepts are expected to be available at least until 2007. The most recent ETX design launched by Kontron is the high performance ETX-PM module, which hosts an 1.1 GHz Intel Pentium M processor as well as the Intel 855GME chipset.

Spec Adopters and Reviewers are Invited to Join
Kontron intends to hold first discussions with alternative vendors and OEMs at the SPS/IPC/Drives, in order to evaluate the establishment of a consortium. The goal of this consortium is to promote a manufacturer-wide advancement of the open standard ETXexpress COM concept for customized embedded computer systems, and to consolidate requirements for this standard. OEM customers in particular stand to benefit from the independent advancement of the specification.

About Kontron
Kontron is a leading global embedded computer technology company, supplying a diversified customer base of OEMs, system integrators and application providers in the communications, automation, transportation, medical, military, aerospace, and test and measurement markets. The company helps its customers to considerably reduce their time-to-market and to gain a competitive advantage with products including high-performance open computer platforms and systems, single board computers, man-machine interfaces and mobile computers. Kontron employs more than 1,550 people worldwide and has manufacturing facilities in Europe, North America and Asia Pacific. The company is a member of the Intel Communications Alliance and is listed on the German TecDAX 30 stock exchange under the symbol "KBC. For additional information on Kontron, please visit: www.kontron.com.

About the Intel Communications Alliance
The Intel Communications Alliance is a community of communications and embedded developers and solutions providers who share a common vision on the convergence of computing technologies. The member companies within the Alliance are committed to the development of modular, standards-based building blocks, platforms, and solutions based on Intel technologies, processors, products, and services. The availability of these standards-based modular building blocks and solutions offer the market greater choice, faster time to profit, and the opportunity to innovate using modular building blocks from multiple levels of integration - silicon, software, boards and complete systems. For additional information on the Intel Communications Alliance, please visit: http://www.intel.com/design/network/ica/index.htm

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