TQM8548 – a compact module for high-speed communication

With the TQM8548 TQ-Components has added another high-performance module using a CPU from the Power QUICC III family to its product lineup.

Based on the MPC8548 processor from Freescale, the TQM8548 is predestined for applications that demand high computing power along with a high data rate for the communication interfaces. At more than 3,000 MIPS and running at 1.3 GHz, the MPC8548 is one of the highest-performance processors currently available using the Power architecture. Including an internal memory of up to 2 GB DDR2-SDRAM, a NOR-Flash memory of up to 256 MB for program code, and NAND-Flash memory of up to 8 GB for additional data, the module contains more than enough reserves for virtually all conceivable applications.

In addition to high computing power, the TQM8548 is also impressive in terms of the large number of available interfaces: up to four gigabit Ethernet, two 32 bit PCI or PCI-X, as well as up to 8 x PCI-Express interfaces* can process even large volumes of data. In addition, two CAN-2.0B interfaces* as well as I²C and two serial interfaces are available as an option. The JTAG interface is also available as a debug interface. Another highlight of the MPC8548 is the double-precision FPU. The local bus is linked to the board-to-board connectors, as are all other essential CPU signals, and can be utilized for easy connection to other peripherals.

The TQM8548 was designed, as are all TQ modules, for hard use within an industrial environment: The small module measuring 100 x 75 mm is fitted throughout with long-life components that are designed to meet industrial requirements and also available within an expanded temperature range of –40°C to +85°C*. The mezzanine connectors of 0.8 mm pitch readily stand up to high-stress conditions and easily transfer data at a rate of 3 GHz – factors which all ensure years of reliable operation in the terminal equipment.

Other key features include long-term availability as well as scalability in terms of performance and memory expansion.

TQ-Components offers the Plug-and-Play starter kit STK8548 to facilitate fast and easy startup, and as an evaluation board. The Plug-and-Play principle enables you to begin with software devel-

opment even if the actual target hardware is not yet available. As a result, a product can be brought to market both more quickly and at lower cost.

* depending on module version

Pictures: TQM 8548

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The TQ Group – The entire world of electronics
The TQ Group is composed of TQ Systems, TQ Mechanics and TQ Components. Founded in 1994, the system supplier TQ Systems develops and produces electronic modules and systems according to customer specifications. In the corporate family, TQ Mechanics is responsible for mechanical production. TQ Components markets embedded systems and industrial PCs developed and produced by TQ systems. The TQ Group has over 600 employees. Overall sales attained €80 million in business year 2005/2006.

TQ Components product line
One of the strengths of the company is self-developed embedded TQ modules. TQ offers an entire range of controllers: In addition to 16-bit and 32-bit Infineon modules, the product line includes a wide selection of Freescale-, Xilinx and Intel-based processor boards. The modules are distinguished by their small size and long-term availability, and they satisfy high quality standards. TQ's aim remains industry-compatibility and longevity.

Another important pillar of the company is industrial PCs. They are distinguished by superior robustness and long-term availability. The space-saving mini-industrial PCs boast of a high degree of modularity. The customer can create individualized solutions without acquiring unnecessary product components.