ESMini COM Features Higher Performance with Faster Processor

MEN Micro recently expanded its ESMini series to include the MM2, an ultra-small computer-on-module (COM) that features an application-specific carrier board and upgraded processor.

The compact size of the semi-custom MM2, only 95 mm by 55 mm, combined with the Intel Atom E600 series processor and an EMC-proof enclosure makes the board ideal for industrial, harsh, mobile and mission-critical environments with high graphics requirements in small spaces. These include avionics, railway, agricultural or construction machines, medical engineering and industrial automation applications.

The Intel Atom processor offers a frequency up to 1.6 GHz, total power consumption of 5 W to 7 W maximum and high I/O flexibility using the PCI Express standard for the processor-to-chip interface. In addition to operating in environments from -40°C to +85°C, the new MM2 ESMini provides multiple I/O options to meet a wide range of specific end user requirements.

Supporting both serial and legacy I/O, the board offers two PCI Express x1 links, LVDS and SDVO for graphic interfaces as well as high definition audio, Ethernet, SATA, USB, two I2C, CAN bus and COM interfaces.

MEN Micro's new MM2 module can accommodate up to 2 GB DDR2 SDRAM of directly soldered main memory with mass storage media supported on the carrier board. Each processor includes 512 KB of L2 cache. The rugged, compact COM comes with a real-time clock and board management controller for temperature and power supervision.

ESMini boards incorporate multiple design features to satisfy extreme environmental concerns, including a rugged, shock-resistant, vibration-resistant housing that provides EMC protection and allows for efficient conductive cooling. High-pressure screw connections between the housing and carrier PCB facilitate thermal connection of components.

The housing can also be connected to an external heat dissipation system (conduction) or combined with a heat sink on the top cover for heat dissipation (convection) if additional cooling is required. The low-power version may also be operated without the frame and cover in moderate application temperatures.

Every MM2 module comes equipped with rugged, industry-proven connectors supporting high frequency and differential signal connections. Conformal coating is available upon request.

The MM2 expands MEN Micro's ESMini series of ultra-small computers-on-modules (COMs), also known as systems-on-modules (SOMs). It provides a more compact, energy saving complement to the 95 mm x 125 mm-sized ESMexpress System-On-Module Standard -currently in development to be ANSI-VITA 59 (RSE Rugged System-On-Module Express).

Both the ESMini and ESMexpress COMs incorporate standard CPUs and leave custom I/O configuration dedicated to a carrier board to allow for individual functionality tailored to the specific application for cost-effective, customized embedded solutions.

For additional information, visit http://www.men.de/15MM02-.html [1].

Posted by Janine E. Mooney, Editor

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