Multimedia single board computer

F&S Elektronik Systeme used NXP’s central processing unit (CPU) in one of its single board computers. A CAN interface for communication is also available.

(Source: F&S)

The Multimedia CPU i.MX 8M from NXP (4x ARM Cortex-A53, 64 Bit with 1,5â€‘GHz and Cortex-M4 CPU) is suitable for applications with demanding graphics in building automation, human machine interfaces (HMI) in industry and medical technology, as well as POS and POI terminals.

With Linux on the Cortexâ€‘A53 cores and FreeRTOS on the Cortexâ€‘M4 core, NXP continues its heterogeneous concept and offers a possibility for real-time processing. For graphics processing the CPU offers OpenGL/ES 3.1, OpenGL 3.0, Vulkan, OpenCL 1.2 as well as the playback of videos up to 4 000 resolution.

F&S Elektronik Systeme is manufacturer of embedded boards for more than 20 years with headquarters in Stuttgart, Germany. The company has placed this CPU on its single board computer ArmstoneTMMX8M (PicoITX format).

A CAN interface for communication is available. Other interfaces provided are: Up to 8 GiB LPDDR4 RAM, 1 GiB SLC Nand Flash, and additionally up to 64 GiB eMMC, as well as USB 3.0, Audio IN/OUT/MIC, Gigabit Ethernet, mPCIe (SIM Slot), MIPI CSI, 3x I^2C, SPI, 4x UART, and SDIO (uSD Slot). A resistive or PCAP touch panel is connected via I^2C.

Another option is an on board WLAN/BT module (pre-certified) with antenna socket. As with all Armstone single board computers, many of the signals are on common connectors or on the 66â€‘pin feature bus. The ArmstoneTMMX8M is powered by 5 V, while a pluggable 12â€‘V or 24â€‘V adapter is offered as an accessory. With a temperature range of up to -20 °C to +70 °C, the product can also be used outdoors.

Linux is used as operating system. The Linux adaption enables various security functions. Bootloader, device tree, customized interface drivers, and other tools necessary for development are available. Starterkit and workshop, documents for hardware and software development are also provided by request.

CW

© CAN Newsletter Online - 2020-09-18 - www.can-newsletter.org