

i.MX 8X processor from NXP on COM form factor efus™ from F&S Elektronik Systeme

Innovative 64 bit CPU for industrial and medical technology

The efus™MX8X is another compact and powerful module (47 x 62 mm) in the efus™ form factor and ideally suited for secure cloud connections, industrial automation and control, HMI, robotics, building control, infotainment and telematics applications.

The highlights of the processor are 2x or 4x ARM® Cortex®-A35 cores (64 bit) with up to 1.2GHz and ARM® Cortex®-M4F core for real-time processing (FreeRTOS). Despite the high computing power, the power consumption is relatively low due to the 28nm FD-SOI technology used for this CPU. There are variants for industry but also automotive (-40° to +125°C Tj).

Multimedia functions are Tensilica® HiFi 4 DSP, 2x-4x Vec4-Shader GPU, OpenGL® ES 3.1, OpenCL™ 1.2 EP, OpenVG™ 1.1, Vulkan® and for videos the support of 4K H.265 decoder and 1080p H.264 encoder / Decoder.

For security and safety features, functions such as High Assurance Boot, Inline Encryption Engine and many more are available (also prepared for SIL3).

The efus™MX8X is equipped with up to 2GB RAM, 512MB SLC NAND Flash or QSPI NAND Flash or 64GB eMMC. USB2.0 device, USB3.0 host, audio (digital), 2x Ethernet 10/100 / 1000MB, 2x SPI, 2x I²C, 4x serial, 2x CAN, GPIO / matrix keyboard, PWM, SDIO (SD card) , PCIe and MIPI-CSI camera are available.

For display control, a LVDS (FullHD) or alternatively a MIPI-DSI (4 lanes) interface can be used and the touch panel is connected via I²C. A WLAN/BT module (IEEE 802.11 ac/a/b/g/n with BT5.0) is available as an option.

Like all efus™ modules, the supply voltage is 5V and the common 230pin connector, MXM2 is used (also in Q7 in use).

The operating system is Linux (Buildroot, Yocto), which has already been ported by the experienced software team of F&S Elektronik Systeme. There are BSP, uboot, device tree, adapted interface drivers and all tools necessary for development.

Various security functions are already made available through the Linux adaptation of F&S Elektronik Systeme.

With the F&S project guarantee, F&S Elektronik Systeme accompanies its customers from the start of the project to the successful completion of the project. Starter kit and workshop, documents for hardware and software development and free support by the experienced engineers of F&S Elektronik Systeme GmbH are available for this.

The efus™MX8X will remain available until at least 2028 (automotive version probably another 5 years). There are many more modules available in the form factor efus™ from F&S Elektronik Systeme.

The efus™MX8X can be obtained directly from F&S Elektronik Systeme or via one of our worldwide distribution partners.

You will find us at the embedded world 2020 in hall 2 at stand 138.

Product page: <https://www.fs-net.de/en/products/efus/efusmx8x-with-nxp-i-mx-8x-processor/>

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