



Toshiba sample software package expands microcontroller development tools ecosystem

Sample software for M4K MCUs now works out of the box with SEGGER Embedded Studio as well as Arm® Keil® MDK and IAR Embedded Workbench® for Arm

Düsseldorf, Germany, 5th September 2023 – Toshiba Electronics Europe GmbH (“Toshiba”) has announced new microcontroller (MCU) sample software for SEGGER Embedded Studio users. The new release extends the software package for the company’s M4K group of MCUs, which is ready to use out-of-the-box with [Arm® Keil® MDK](#), [IAR Embedded Workbench®](#) for Arm, and now [SEGGER Embedded Studio](#).

The M4K MCUs are based on the Arm® Cortex®-M4 core with floating-point unit, operating up to 160MHz. Variants are available from 128KB to 256KB code flash and 32KB data flash with 100K write-cycles endurance, 24KB SRAM, and 64-pin to 100-pin package options.

The software package provides the essential drivers and sample code developers need to interact with MCU peripherals, permitting a fast start to new projects and helping accelerate completion. The package includes low-level drivers with a well defined API and examples for all on-chip peripherals. These samples include software to configure the analog-to-digital converter (ADC) for voltage measurements, control the communication interfaces (UART, SPI, I2C) for various data transmission scenarios, show how the code and data flash memory is used for storage and data protection, and manage other peripherals including the digital noise filter, watchdog timer, oscillator-frequency detection and trimming, and cyclic redundancy check (CRC) function.

The M4K MCUs contain special features for motor-control applications, including a high-resolution encoder input, three advanced programmable motor control circuits, and Toshiba’s advanced vector engine plus (A-VE+). These features are accessed for development through Toshiba’s dedicated environment, MCU Motor Studio, which comprises a PC-based development environment and firmware for popular motor control techniques and fault protection.

The M4K group peripheral sample software package is ready to download from Toshiba's website. The software is delivered as fully developed and tested source code.

For more information please visit <https://toshiba.semicon-storage.com/eu/semiconductor/product/microcontrollers/software-library/txzplus-m4k-group.html>

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Notes:

- * Arm, Keil and Cortex are registered trademarks of Arm in the US and/or elsewhere.
- * IAR Embedded Workbench is a registered trademark of IAR Systems AB.
- * SEGGER Embedded Studio is a trademark of SEGGER Microcontroller GmbH.
- * Other company names, product names, and service names may be trademarks of their respective companies.

About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) offers European consumers and businesses a wide variety of hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. Next to HDDs, the company's broad portfolio encompasses power semiconductors and other discrete devices ranging from diodes to logic ICs, optical semiconductors as well as microcontrollers and application specific standard products (ASSPs) amongst others.

In addition, TEE also offers Toshiba's SCiB™ battery cells and modules with lithium titanium oxide (LTO) for heavy-duty applications and Silicon Nitride (SiN) ceramic substrates used in power semiconductor modules, inverters and converters for their heat dissipation characteristics and strength.

TEE has its headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing marketing, sales and logistics services.

Visit Toshiba's websites at www.toshiba.semicon-storage.com, www.scib.jp/en and www.toshiba-tmat.co.jp/en/ for further company and product information.

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