

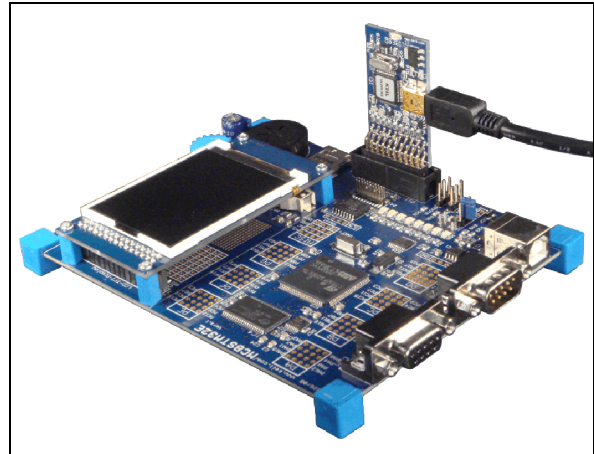


## Keil™ starter kit for STM32F1 series Performance and Access Line microcontrollers (STM32F103ZE MCU)

Data brief

### Features

- The Keil MDK-Lite development tools:
  - µVision®4 IDE/Debugger for application programming and debugging
  - ARM C/C++ compiler
  - RTX real-time kernel, a multi-tasking operating system for embedded applications
  - MDK-Lite supports applications with up to 32 KB code-size
- ULINK-ME in-circuit debugger/programmer with USB interface to host PC and 20-pin JTAG or 10-pin CoreSight debug interface
- Full-featured Keil evaluation board with a 72 MHz STM32F103ZE MCU



### Description

The Keil starter kit is a complete, cost-effective solution for starting application development and evaluating the STMicroelectronics STM32F101/102/103 ARM Cortex™-M3 processor-based microcontrollers.

The STM3210E-SK/KEIL starter kit provides all the hardware and software you need to start developing applications for the STM32 ARM core-based families of microcontrollers. It comes complete with a full-featured evaluation board (including USB device, CAN, USARTs, Audio, MicroSD Card interface and QVGA LCD), Keil's MDK-ARM Lite Edition (32 KB) development tools, and the ULINK-ME™ (USB/JTAG) adapter.

Keil starter kits are available for a full range of ST ARM core-based microcontrollers.

Table 1. Device summary

Reference	Order code
STM3210E-SK/KEI for STM32F101/102/103 microcontrollers	STM3210E-SK/KEIL

## Starter kit architecture

**Keil development software** is a suite of software development tools for creating and debugging microcontroller applications that includes:

- **μVision3<sup>®</sup>** integrated development environment, which integrates the ARM RealView Compilation Tools and Keil's debugging software so that users can quickly and easily develop and debug their applications while they run on a target microcontroller.
- **ARM RealView Compilation Tools (RVCT)** 32 KB code-size limited version of the optimizing C/C++ compiler for ARM™ core-based microcontrollers.
- **ULINK-ME™** USB/JTAG in-circuit debugger / programmer, which integrates fully with μVision3, allowing users to download the application to the target and debug it while it runs on the ST ARM core-based microcontroller on the evaluation board.
- **Keil™ evaluation board**, an application board that provides a full range of features to help users evaluate and start developing applications for the included STM32F103ZETx microcontroller. The Keil MCBSTM32E evaluation board includes the following key features:
  - 1 Mbyte external RAM, FSMC
  - 8 Mbyte external Flash, SPI
  - Micro SD/MMC card connector
  - 20-pin JTAG connector
  - 20-pin trace tool connector
  - Power supply from USB
  - USART connector
  - SPI
  - I<sup>2</sup>C
  - CAN connector
  - USB connector
  - 8 user LEDs
  - QVGA LCD display
  - Potentiometer connected to ADC
  - 4 user and wake-up push buttons
  - Reset button
  - Wrap area
  - Joystick

## Ordering information

All Keil starter kits can be ordered from Keil. Starter kits are available from your nearest STMicroelectronics distributor or sales office for STM32 Performance and Access Line microcontrollers with 512 K Flash (ST order code: STM3210E-SK/KEIL).

For more information and documentation, please refer to the Keil web site or the STMicroelectronics microcontroller support site at [www.st.com](http://www.st.com).

## Revision history

**Table 2. Document revision history**

Date	Revision	Changes
15-Mar-2011	1	Initial release.
26-Apr-2011	2	Added <a href="#">Table 1: Device summary</a> .
11-May-2012	3	Modified Features and Description for clarification.

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