

# Q32M210 EDK Installation Guide

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This document explains how to set up the Q32M210 Evaluation and Development Kit (Q32M210 EDK). The EDK is used to develop and evaluate applications for the Q32M210 microcontroller. The EDK software allows you to develop C and assembly language applications for the ARM® Cortex™-M3 processor, which interfaces with other components on the Q32M210 microcontroller.

Much of the Q32M210 EDK Version 1.2 software and firmware is integrated with the IAR Systems® Embedded Workbench® for ARM, which provides a complete software development environment for the Q32M210 microcontroller.

In addition to the IAR Systems Embedded Workbench for ARM KickStart edition, the EDK software consists of:

- The Q32M210 documentation set, which consists of technical reference and software development material that complements the software development tools. The documentation can be installed independently of the EDK, and does not require the IAR Systems Embedded Workbench for ARM.
- The Q32M210 stand-alone flash loader, which is used to program, erase, and read flash memory in a Q32M210 microcontroller. The stand-alone flash loader communicates with the Q32M210 microcontroller's JTAG debug port using a Segger or IAR Systems J-Link™ for ARM Processors. It can be installed independently of the EDK and does not require the IAR Systems Embedded Workbench for ARM.
- The Q32M210 stand-alone CMSIS package, which bundles the Q32M210 firmware and sample code according to the ARM Cortex Microcontroller Software Interface Standard (CMSIS), enabling you to develop Q32M210 applications using a toolchain other than IAR, such as GCC or Keil.

This kit contains the following items:

- One IAR EWARM 32KB Kickstart edition CD (with integrated Q32M210 EDK software)
- One Q32M210 Documentation and Utilities CD
- One Q32M210 Evaluation and Development Board
- One USB A to mini-B cable
- *Q32M210 EDK Installation Guide* (this document)

## 1. MINIMUM SYSTEM REQUIREMENTS

### 1.1 Hardware

The hardware requirements are:

Processor	A Pentium-compatible PC
Memory	1 GB
Display	16-bit color, 1024x768 screen resolution
Hard Drive	<ul style="list-style-type: none"> <li>• To install the IAR Embedded Workbench, you need approximately 3.5 GB of free space</li> <li>• To install the documentation, you need 11 MB of free space (22 MB of temporary space during installation)</li> <li>• To install the Stand-Alone Flash Loader, you need 4 MB of free space (9 MB of temporary space during installation)</li> <li>• To install the stand-alone CMSIS package, you need 5 MB of free space</li> </ul>
Peripherals	CD-ROM drive, and USB communications port



## 1.2 Software

One of the following versions of Microsoft Windows is required:

- Windows XP, with Service Pack 3 or greater
- Windows Vista, with Service Pack 2 or greater
- Windows 7

Both 32-bit and 64-bit variants of Windows are supported.

## 2. INSTALLING THE SOFTWARE

These instructions are for installing the EDK software, documentation and support utilities.

*Note:* To install the software, you must have Administrator privileges to the system.

### 2.1 Installing IAR Embedded Workbench

1. You can either download the installer from the IAR website, or use the IAR CD-ROM provided:
  - To download the latest version of the software from the IAR website, go to:  
<http://www.iar.com/ewarm>.
  - Alternatively, insert the IAR CD-ROM.
    - If your system has the CD-ROM autorun feature enabled, an **IAR Embedded Workbench for ARM** window with a menu of items to install (called an *installation window* hereafter) automatically appears.
    - Otherwise, run `autorun.exe` from the IAR CD-ROM using either Windows Explorer, the command line, or the **Run** command from the Windows Start menu.
2. Click on **Install IAR Embedded Workbench** and follow the instructions. If you want to learn how to obtain an IAR Embedded Workbench license and how to install the software, select **Installation and licensing information** instead.
3. Go back to the installation window, click **Install drivers**, select the **JLink** folder, and double-click `InstDrivers.exe`.

**IMPORTANT:** To communicate with the Q32M210 microcontroller, install the J-Link drivers.

4. Exit the installation window.
5. Remove the CD-ROM.

### 2.2 Installing the Documentation and the Stand-Alone Flash Loader

Install the Q32M210 documentation or the Stand-Alone Flash Loader from the Q32M210 Documentation and Utilities CD.

- If your system has the CD-ROM autorun feature enabled, `autorun.exe` runs automatically when you insert the disk.
- Otherwise, run `autorun.exe` from the Q32M210 CD-ROM using either Windows Explorer, the command line, or the **Run** command from the Windows Start menu.

You will see a Q32M210 Documentation and Utilities CD window with installation options.

1. To install the Q32M210 documentation:

- a. Select **Install the Q32M210 Documentation**.
  - b. Follow the instructions on the subsequent dialog boxes.
  - c. You will be prompted to select a target folder. The default location is `C:\Program Files\ON Semiconductor\Q32M210 Documentation`.
2. If you choose to install the Stand-Alone Flash Loader:
    - a. Select **Install the Q32M210 Stand-Alone Flash Loader**.
    - b. Follow the instructions on the subsequent dialog boxes.
    - c. You will be prompted to select a target folder. The default location is `C:\Program Files\ON Semiconductor\Q32M210 Flash Loader`.

## 2.3 Installing the CMSIS Package

The Q32M210 CMSIS package is in a ZIP file named `q32m210-cmsis-1_0_<revision_number>.zip` in the `cmsis` folder on the Q32M210 Documentation and Utilities CD. `<revision_number>` is a number that uniquely identifies the package. To install it, extract the contents of the ZIP file to a folder on your computer using the ZIP file utility of your choice (e.g., WinZip). Ensure that you extract all of the files and tell your ZIP utility to “use folder paths” when extracting. You can find instructions for configuring and using the CMSIS package in the `README.txt` in the root folder of the extracted contents.

## 3. SETTING UP THE EVALUATION AND DEVELOPMENT BOARD

Figure 1 illustrates the locations of the connectors, jumpers and switches for setting up the board. To set up the Evaluation and Development Board for its initial use, do the following:

1. Use the USB A to mini-B cable to connect `DEBUG` on the Evaluation and Development Board to the computer. The USB power status LED (a red light) and the J-Link status LED (a green light) will light up to indicate that the board is receiving power.
2. If the row of LEDs (`D0` to `D7`) are not blinking in a pattern, ensure that switch `SW5` is turned on, and pins 3 to 4 on `VBAT-SEL` are shorted.

For more information, see the *Q32M210 Evaluation and Development Board Manual*.

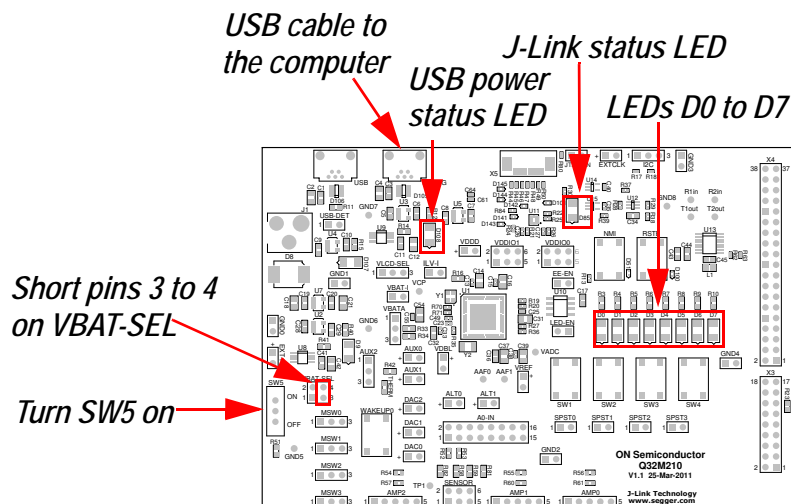


Figure 1: Evaluation and Development Board Setup

## 4. MORE INFORMATION

### 4.1 Documentation

To get started with the EDK and create a project, access the *Q32M210 Evaluation and Development Board Manual* and the *Q32M210 Programmer's Guide* by going to the Windows Start menu and selecting a manual from **ON Semiconductor > Q32M210 Documentation** (after installing the Q32M210 documentation as described in Section 2.2, "Installing the Documentation and the Stand-Alone Flash Loader" on page 2).

### 4.2 Technical Support

Address	ON Semiconductor 200-611 Kumpf Drive Waterloo, Ontario, Canada N2V 1K8
Telephone	North America 1 800 282 9855  Europe, Middle East and Africa 00 421 33 790 2910
Live and Email	<a href="http://onsemi.com/support">http://onsemi.com/support</a>

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