Atmel® AT88CK440RED is an Atmel CryptoAuthentication™ Evaluation Kit, which can be used as a reference design for an USB application requiring the Atmel CryptoAuthentication product family.

Figure 0-1. Atmel AT88CK440RED Evaluation Kit
1. **Install the Atmel CryptoAuthentication Utilities**
   - Visit [www.atmel.com/cryptokits](http://www.atmel.com/cryptokits) to download and install the latest Atmel® CryptoAuthentication™ Utilities
   - Scroll down the webpage to Software Files and select the software icon for: *CryptoAuthentication Firmware AT88CK440RED Version x.x*

2. **Powering up the board**
   The Atmel AT88CK440RED is a USB powered Device.
   - Simply insert the board into an open USB port

   ![Atmel AT88CK440RED USB device](image)

3. **Reading the Device Configuration Information**
   - Insert the Atmel AT88CK440RED into a USB port
   - Launch the Atmel CryptoAuthentication Utilities
   - Click *Start, All Programs, Atmel Crypto Solutions, CryptoAuthentication Utilities*

   ![Atmel CryptoAuthentication Utilities](image)
The Atmel® CryptoAuthentication™ Utilities will open to the AT88SA102S / Hardware Operation tab.

Figure 3-2. Hardware Operations Tab

If the following screen appears, then one of two problems exists.
1. Atmel AT88CK440RED has not been inserted into a USB port
   – The enumeration process must be completed prior to launching the utility
2. The firmware is outdated
   – See Section 4, “Firmware Upgrade”

Figure 3-3. Incorrect Firmware Version Error Message
• Click the Read button in the AT88SA102S Configuration Information section
  The section will populate

Figure 3-4. Atmel AT88SA102S Configuration Information populated

Congratulations, your Atmel AT88CK440RED is up and running.
See the CryptoAuthentication Help shortcut on your desktop for additional information.
For additional samples, go to: http://www.atmel.com/forms/Samples.asp?family_id=699
4. **Firmware Upgrade**

To upgrade the firmware, click the *Help* tab and complete steps one through six.

The following steps enable the DFU mode:

1. Load the Atmel FLIP (FLexible In-System) Programming utility
3. Click the Firmware upgrade mode *Enable* button
4. Click *OK* in the popup box
5. Both LEDs will light indicating the board is in DFU mode
6. Launch FLIP to load the new firmware

*Figure 4-1. Device Firmware Upgrade Mode*
5. References and further information

A complete reference design including schematics, Gerber files, bill of materials (BOM), Hardware User Guide and development and demonstration software is conveniently downloadable from the Atmel® website at www.atmel.com/cryptokits.

6. EVALUATION BOARD/KIT IMPORTANT NOTICE

This evaluation board/kit is intended for **ENGINEERING, DEVELOPMENT, DEMONSTRATION** or **EVALUATION PURPOSE ONLY**. It is not a finished product and may not (yet) comply with some or any technical or legal requirements that are applicable to finished products, including, without limitations, directives regarding electromagnetic compatibility, recycling (WEEE), FCC, CE or UL (except as may be otherwise noted on the board/kit). Atmel® supplied this board/kit “AS IS,” without any warranties, with all faults, at the buyer’s and further users’ sole risk. The user assumes all responsibly and liability for proper and safe handling of goods. Further, the user indemnifies Atmel from claims arising from the handling or use of goods. Due to open construction of the product, it is the user’s responsibility to take any and all appropriate precautions with regard to electrostatic discharge and any other technical or legal concerns.

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