QSG104

EM34X FULL-FEATURE REMOTE EVALUATION KIT QUICK-START GUIDE

Unpacking the Contents

 ATTENTION: Observe precautions for handling electrostatic sensitive devices.

Remove components from their packaging:

Silicon Labs EM341 Full-Feature Remote Control (1)
Ember® Debug Adapter (ISA3) (1)
Telegesis USB Stick
Packet Trace Port Cable (1)
Packet Trace Header Connector (1)
DEI (Data Emulation Interface) Cable (1)
Ethernet Cable (1)
USB Cable (1)
AA Batteries (2)

Software Serial Number

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The EM34x Full-Feature Remote Evaluation kit provides the hardware and software necessary to demonstrate the functionality of the Silicon Labs Full Feature Remote Control. Access to software tools required to customize your own remote control application is also provided.

Kit Use Options

The EM34xx Full Feature Remote Evaluation Kit offers you two ways of using and testing the Full-Feature remote:

- **Full-Feature Remote Control Demonstration**: An out-of-the-box demonstration of the remote's features, without further setup. See section 1, Running the Full Feature Remote Control Demonstration, for more information. Only the remote control, batteries, and USB stick are required for the demonstration.
- **Custom Application Development**: The ability to customize, compile, load, and run your own controller application, based on Silicon Labs reference designs. See section 2, Custom Application Development, for more information.

1 Running the Full Feature Remote Control Demonstration

The EM34x Full Feature Remote Evaluation Kit comes with the tools and software needed to test the remote's functionality out of the box. The Full Feature Remote comes pre-programmed with an example ZigBee Remote Control (ZRC) controller application. The USB stick contains an EM3588 chip preprogrammed with an example ZRC target application designed to show some of the remote's functionality. Demonstration software allows you to see packet transfer data from the controller to the target, button presses, and to hear voice recordings transmitted from the remote.

1. Download the RF4CE_Demo_Release.zip file from the www.silabs.com/zrctraining page.
2. Unzip the file to a location of your choice.
3. Install the USB stick driver from the RF4CE_Demo_Release\Windows\Driver\EM358CDCDriverInstaller folder created in step 2.
4. Plug the USB stick into a port on your computer.
5. Insert the batteries into the remote.
6. Launch the RF4CE_Remote_Demo application from the RF4CE_Demo_Release\Windows directory created in step 2.



7. In the **Select Remote** drop down list, select **[Universal Electronics]**.
8. Select the USB stick's port. It will be assigned to a COM port.
9. Click **[Pair]** to initiate the pairing process.
10. On the remote, press and hold both the **[SET]** (small button on the upper left) and **[STB]** buttons. Release both buttons when the LED on the remote turns red. The LED will remain red while the remote is searching for a target device.
11. Once pairing is completed, the LED on the remote will turn off.
12. To verify the devices paired successfully, press a button on the remote and the corresponding button on the application remote graphic will turn green.

To demonstrate the remote locator functionality:

1. In the demonstration application, click **[Find Me]**. The remote will beep and the lights will flash for a period of time. There may be a delay between clicking **[Find Me]** in the application and the remote acknowledgement due to the polling time of the remote.

To demonstrate voice functionality:

1. In the demonstration application, make sure the **Audio Data** drop down is set to **[Hardware Codec Settings].**
2. On the remote, press and hold the **[VOICE]** button and speak. Release the **[VOICE]** button when you are done.

   The remote wireless streams your voice to the USB device, where it is processed and stored as a .WAV file. All .WAV files on the USB device are listed under Audio Data.
3. To hear your recorded audio as it streamed to the target, in the application check **[Play Audio Real Time Over Speakers]**.
4. To play a file, click the file in the list and click **[Play Selected]**.
5. To clear all files from the USB device, click **[Clear Audio]**.

2 Custom Application Development

You must be a registered user of the Silicon Labs Technical Support Portal and the EM34x Full-Feature Remote Evaluation Kit must be registered to obtain support and download the latest Silicon Labs development software and stacks. Go to www.silabs.com/zrctraining and follow the instructions to register your kit.

Note: Your software serial number will be in the form xxxx-xxxx-xxxx-xxxx-xxxx and can be found on Hardware Identification List label.

To download the development software, after you have completed registration and are logged into the Silicon Labs support page click the **Software Releases** tab, select **[latest EmberZNet Software]** from the drop-down menu, and sort by Release Date.

Download and install the latest version of the following tools. The release notes installed with the EmberZNet stack software include more detailed installation instructions and required version numbers.

- EmberZNet
- Ember Desktop
- ISA3 Utilities
- IAR Embedded Workbench for ARM (IAR-EWARM), installed through the IAR website

  Licenses and support for IAR are provided separately and can be obtained from IAR Systems at http://www.iar.com.
  An evaluation version of IAR can be downloaded directly at:
  ftp://files.iar.com/pub/silabs/EWARM-7301.exe

For more information on developing with the EM34x kits, refer to UG113, *EM34x Development Kit User's Guide*. See QSG105, *Getting Started with Silicon Labs Wireless Networking Software*, for information on how to configure and compile your own applications. See AN906, *RF4CE ZigBee Remote Control Firmware Guide*, for details on the reference designs. These and other useful documents are installed with the EmberZNet software. You can also use the Silicon Labs Technical Support Portal at www.silabs.com/support.

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For additional information please visit the Silicon Labs Technical Support page: http://www.silabs.com/support

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