

AT03324: Atmel REB212BSMA-EK Quick Start Guide

Atmel MCU Wireless

This application note briefly describes how to set up and run the pre-flashed applications supplied with the Atmel® REB212BSMA Evaluation Kit.



Introduction

The Atmel Controller Base Board (CBB) serves as the microcontroller platform for the Atmel Radio Extender Board (REB). The REB connected to a CBB forms a fully functional, battery powered and portable wireless node. The REB212BSMA Evaluation Kit (REB212BSMA-EK) is targeted for evaluating the new features of the [Atmel AT86RF212B](#) radio transceiver.

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1. Getting Started

Additional hardware and software documentation related to the REB212BSMA-EK can be found on the kit website:
<http://www.atmel.com/tools/REB212BSMA-EK.aspx>

Detailed board information can be found in:

- AVR2042: REB Controller Base Board - Hardware User Manual
- AVR2122 REB212BSMA-EK - Hardware User Manual

1.1 Kit Contents

2 x Atmel Radio Extender Board, REB212B

2 x Atmel REB Controller Base Board

1 x USB level converter

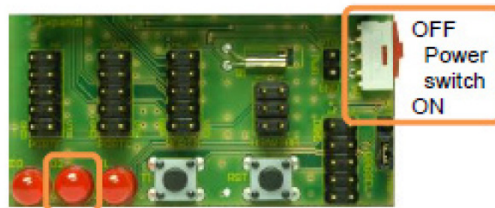
2 x SMA, 860-930MHz antenna

4 x AAA batteries

1.2 Board Assembly

To assemble the kit follow the board assembly guide bellow:

1. Check/set power switch off at the two CBBs.
2. Insert two batteries in each CBB.
3. Connect each REB to a CCB to create two REB-CBB assemblies
4. Connect the USB level converter on one of the REB-CBB assemblies via the 6pin ribbon cable such that it fits the notch on the level converter and the colored stripe of the ribbon cable connects to pin 1 of the CBB header, USARTD0.



1.3 Connecting to a PC

Before connecting the USB level converter to the USB port of the PC, install the driver as described below:

Driver installation

1. Download the drivers required for the USB level converter from <http://www.atmel.com/REB212BSMA-EK> and extract the archive to a folder of your selection.
2. Power on the REB-CBB assemblies by switching on the power switch located on the top side of the CBB

3. If the 'New Hardware Found' wizard prompts for drivers ignore Windows® update search ('No, not this time').
4. In the next dialog, select 'Install from a list or a specific location' and point to the extraction directory. Confirm installation, ignore warnings that the driver is not digitally signed or did not pass the Windows driver certification.
5. If no wizard pops up, install drivers manually via the device manager. Note that the driver installation needs to be performed twice.
6. Once properly installed a COM port will be visible in the device manager

1.4 Programming

The kit initially contains a boot loader and the Performance Analyzer, to add new SW or update the boot loader or the JTAG/SPI interface can be used. For detail information on how to program see

- AVR2042: REB Controller Base Board - Hardware User Manual
- AVR2054: Serial Boot loader User Guide

2. Performance Analyzer

The Performance Analyzer FW together with the GUI in Atmel Studio Wireless Composer Extension provides a number of basic functional tests. A quick start guide and general help is provided in Wireless Composer.

To get started

- Install Atmel Studio
- Once Studio is installed and started use the Tools - Extension Manager to install the Wireless Composer
- Connect one of the REB-CBB assemblies to the PC and power on, a COM port should now be available for the kit.
- Power on the other REB-CBB assemblies and use it as a reference
- Start Wireless Composer GUI (Tools – Performance Analyzer) and follow the quick start guide.

Appendix A. Revision History

| Doc. Rev. | Date | Comments |
|-----------|---------|-------------------|
| A | 04/2013 | Initial revision. |

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