

APPLICATION NOTE

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, USARTDO.







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
Α	04/2013	Initial revision.





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