Atmel AVR2010: MCU Wireless - Altium Design Package

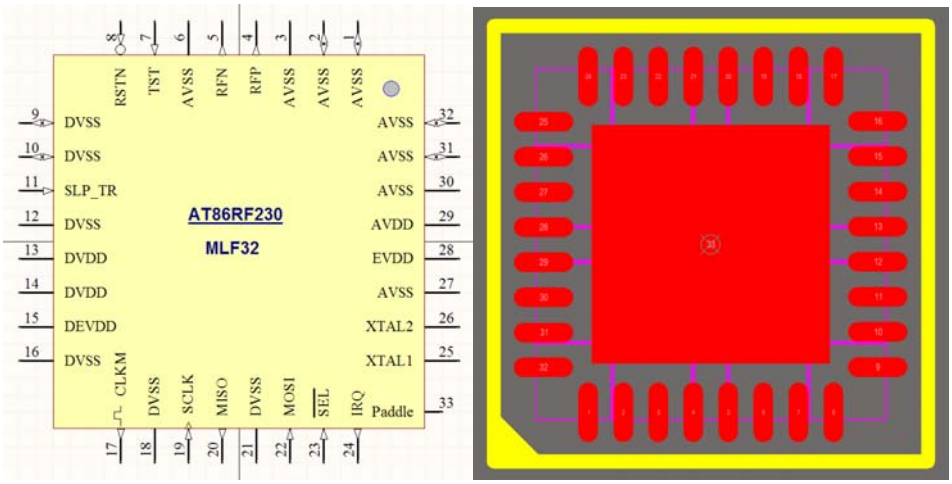
Features

- **MCU wireless transceiver schematic symbols and PCB footprints**
- **Enable faster engineering design phases**

1 Introduction

This application note provides the Altium Designer schematic symbol and PCB footprint libraries for the Atmel® MCU Wireless IEEE® 802.15.4 transceivers. The provided library files will enable designers to integrate these devices into projects more efficiently, allowing them to focus on application-specific details.

Figure 1-1. Atmel AT86RF230 schematic symbol and PCB footprint example.



8-bit Atmel Microcontrollers

Application Note

Rev. 8395B-AVR-11/11

2 Disclaimer

These library files are provided as-is with limited maintenance and support only, to be used at users' own risk. Atmel cannot be held responsible for any failures these files may cause with the prototype and production of the design project. In order to limit RF PCB design risks, it is recommended that an RF design consultant is used. Alternate project file and library support for various CAD tool packages may not be available. Therefore, the user must import these files into the tool of choice.

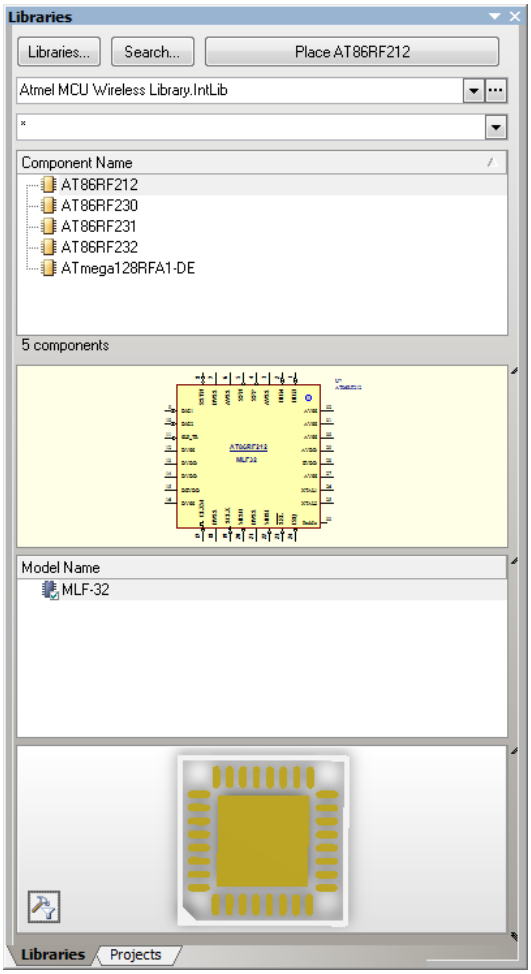
3 Overview

Altium Designer already provides many integrated libraries for Atmel devices. The associated .zip package provides the required library files needed to support the Atmel MCU wireless transceivers. Instead of having to develop brand new libraries themselves, by supplying these libraries, we hope to enable design engineers to integrate the MCU wireless device of choice into their design in a much more effective way. This should allow designers more time to focus on other, application-specific details.

3.1 MCU wireless integrated library installation

To get started with these Altium library files, simply open the Altium library panel and install “Atmel MCU wireless Library.IntLib” from the Altium integrated library folder found in the downloadable .zip package. Once installed, your library panel should look like the one in Figure 3-1, which shows the MCU wireless components available.

Figure 3-1. Altium library panel.



3.2 Supported devices

Currently, the following devices are supported by the Altium integrated library file.

Table 3-1. Included MCU wireless symbols and footprints.

Device	Schematic symbol	PCB footprint
Atmel ATmega128RFA1 [1]	ATmega128RFA1.Schlib	MLF64-M2.PcbLib
Atmel AT86RF230 [2]	AT86RF230.Schlib	MLF-32.PcbLib
Atmel AT86RF231 [3]	AT86RF231.Schlib	MLF-32.PcbLib
Atmel AT86RF232 [4]	AT86RF232.Schlib	MLF-32.PcbLib
Atmel AT86RF212 [5]	AT86RF212.Schlib	MLF-32.PcbLib

Also contained within the folder are the raw library files, along with .dxf files for a users own use. These files can be imported into the CAD tool of choice in case the provided Altium files are not a supported file type.

As new devices are announced, these library files will be updated to provide them.

4 Abbreviations

CAD	-	Computer aided design
IEEE	-	The Institute of Electrical and Electronics Engineers
MCU	-	Microcontroller unit
PCB	-	Printed circuit board
RF	-	Radio frequency

5 References

[1] Atmel ATmega128RFA1; 8-bit Microcontroller with Low Power 2.4GHz Transceiver for ZigBee® and IEEE 802.15.4; Datasheet, Rev A; 12/09; Atmel Corporation

[2] Atmel AT86RF230; Low Power 2.4 GHz Transceiver for ZigBee, IEEE 802.15.4, 6LoWPAN, RF4CE, SP100, WirelessHART, and ISM Applications, Datasheet; Rev E; 02/09; Atmel Corporation

[3] Atmel AT86RF231; Low Power 2.4 GHz Transceiver for ZigBee, IEEE 802.15.4, 6LoWPAN, RF4CE, SP100, WirelessHART, and ISM Applications, Datasheet; Rev C; 09/09; Atmel Corporation

[4] Atmel AT86RF232; Low Power 2.4 GHz Transceiver for ZigBee, IEEE 802.15.4, 6LoWPAN, RF4CE, SP100, WirelessHART, and ISM Applications, Datasheet; Rev A; 10/11; Atmel Corporation

[5] Atmel AT86RF212; Low Power 700/800/900 MHz Transceiver for IEEE 802.15.4-2006, IEEE 802.15.4c-2009, ZigBee, 6LoWPAN, and ISM Applications; Datasheet; Rev C; 02/10; Atmel Corporation

6 Table of contents

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8395B-AVR-11/11