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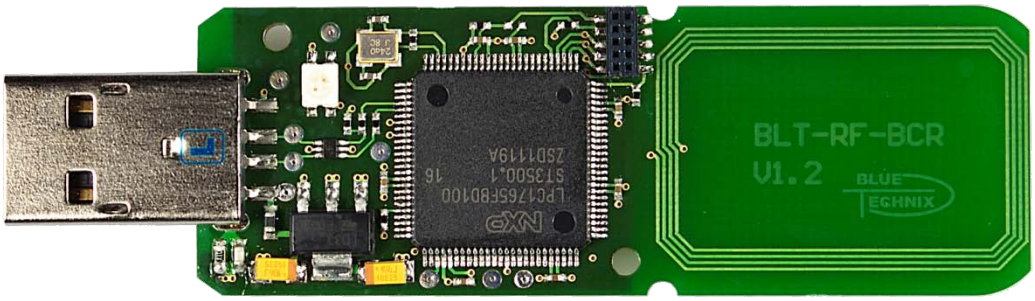

Getting Started

LPCDemoProject(MSD)

...maximum performance at minimum space

Contact

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Warning

Due to technical requirements components may contain dangerous substances.

1 LPCDemoproject(MSD) description

The LPCDemoproject is intended as a guideline on how to read data from a NFC Tag.

Once the stick is connected to a PC, the stick will register as a Mass Storage Device (named “RFID2USB”) in Windows Explorer. Once a NFC Tag is brought into the RF field of the RFID2USB-Stick, the data from the NFC Tag (Mifare 1k or Mifare Ultra Light card) is being read. This data is then (in its raw form) presented as a file on the Mass Storage Device. The file will be named "carddata.bin". Upon receiving new data from a tag, this file will be overwritten. There is also a status LED on the RFID2USB-Stick. It flashes green in the case of a successful card reading and red if there is an error.

2 Requirements

- ***RFID2USB-Stick*** from Bluetechnix (Order No. 909-2131-1)
  http://www.bluetechnix.com/goto/rfid2usb
- ***Micro JTAG Adapter*** (included in the RFID2USB package)
- ***LPCDemoProject(MSD)*** (included in the RFID2USB package)
  - *LPCDemoProject(MSD)* only supports
    - Microsoft®Windows XP
    - Microsoft® Windows Vista
    - Microsoft® Windows 7
- ***IAR Embedded Workbench for ARM*** (tested on Version 6.21 and 6.30)
  http://www.iar.com/en/Products/IAR-Embedded-Workbench/ARM/
- ***Segger J-Link*** or other compatible JTAG
  http://www.segger.com/jlink.html
- ***PN51x, Basic function library (v.4.2)*** downloadable for free at
  http://www.nxp.com/documents/software/109141.zip

3 Installation of project contents

- Download LPCDemoProject(MSD) from Bluetechnix homepage.
- Unzip the project files into your working directory (e.g. C:\workspace\LPCDemoProject)
- Download the *PN51x, Basic function library (v.4.2)* and extract the zip file.
- Start the NFC-Tools-Setup-V4_1.exe and install the PN51x tools to the default location.
- Go to the installation directory of the PN51x tools (e.g. C:\Program Files\Philips Semiconductors\NFC PN51x Tools V4.1.0\Bfl) and copy the contens of the Bfl folder into the src\Drivers\mifare folder of the LPCDemoProject(MSD) (e.g. C:\workspace\LPCDemoproject(MSD)\src\Drivers\mifare).

4 Executing the project

- Start IAR Embedded Workbench for ARM (V6.21)
- Open workspace of the LPCDemoproject(MSD)
  "File / Open / Workspace", then select LPCDemoProject(MSD)_Workspace.eww
- Choose "Project / Rebuild All" to compile and build the whole LPCDemoproject(MSD)
- Before you can run the software on the RFID2USB-Stick you have to connect J-Link, JTAG adapter, RFID2USB-Stick and PC as shown in the following diagram.

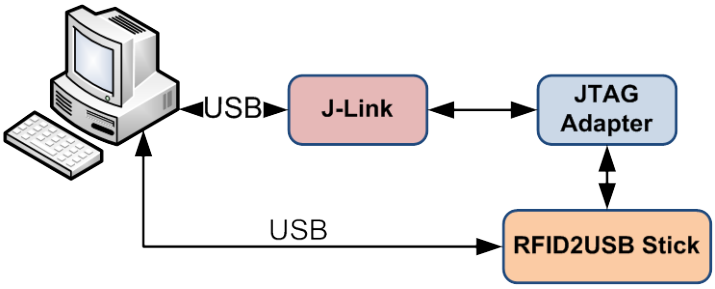

Figure 1 - Connection scheme

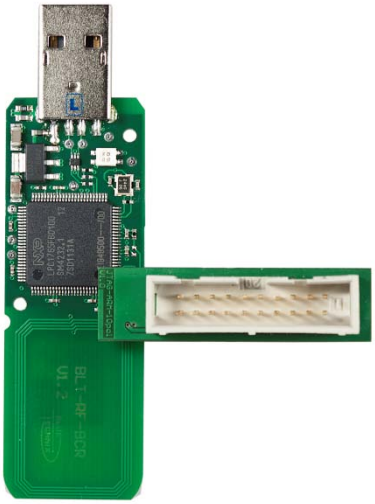

Figure 2 - Correct JTAG adapter connection

- Select "Project / Download and Debug" to start downloading the software onto the RFID2USB-Stick.
- Select "Debug / Go" to start running the software.

5 Using Semihosting

Using "Semihosting", it is possible to write debug outputs to the Terminal I/O window of IAR Embedded Studio. Therefore, in "Semihosting" mode the application can run using a JTAG only and will not start standalone. Activate Semihosting during debugging and disable it upon delivery.

5.1 Activation of Semihosting

- Define SEMIHOSTING in BCRUtils.h
- Go to "Project / Options / General Options / Library Configuration"
    - Set "Library implementation" to “Semihosted”
    - Set "stdout/stderr" to "Via semihosting"

5.2 Deactivation of Semihosting

- Undefine SEMIHOSTING in BCRUtils.h
- Go to "Project / Options / General Options / Library Configuration"
    - Set "Library implementation" to “none”.

6 Document Revision History

Version	Date	Document Revision
1	2012 01 03	First release of the Document

Table 6-1: Revision history

A List of Figures and Tables

Figures

Tables