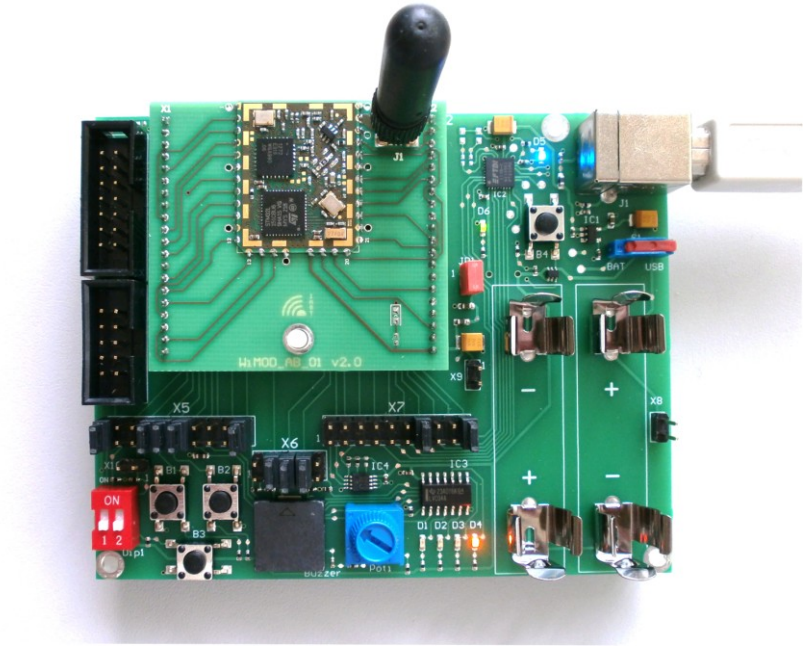
WiMOD LR Starter Kit

Quick Start Guide



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1 Introduction

The WiMOD LR Starter Kit is a plug & play solution to explore features and capabilities of the iM880A WiMOD LR radio module. This document describes how to get the Starter-Kit SK-iM880A running.

1.1 Content of this Kit

Hardware:

- 2x WiMOD Demo Boards
- 2x module specific adapter boards with soldered radio modules
- 2x external antennas
- 2x male A/B USB cables
- 4x AAA type batteries
- 1x bootloading cable
- Installation CD containing software and documentation

Software and Documentation:

To run the Starter Kit, a PC with Windows 7 (or newer) and at least one USB port are necessary.

Nr	File	Comment
1	\tools\WiMODLR_Studio\	Folder containing the WiMOD LR Studio PC software
2	\drivers\CDM20814_Setup.exe	USB PC driver
3	iM880A_StarterKit_QuickStartGuide.pdf	This document
4	\documentation\iM880A_Datasheet.pdf	iM880A datasheet
5	\documentation\WiMODLR_Studio_UserGuide.pdf	WiMOD LR Studio documentation
6	\documentation\DemoBoard_UserGuide.pdf	User guide for the WiMOD Demo Board
7	\documentation\WiMODLR_HCI_Spec.pdf	Host Controller Interface specification
8	\documentation\WiMODLR_HCIDLL_Spec.pdf	Host Controller Interface library specification
9	\documentation\iM880A_AN010_SW-Development.pdf	Application Note Software Development
10	\documentation\iM880A_AN011_RangeTest.pdf	Application Note Range Test
11	\documentation\iM880A_AN012_RFSettings.pdf	Application Note RF Settings
12	\firmware\WiMOD_LR_Base_iM880A.hex	Binary firmware file
13	\example_code\WiMODLR_HCI_ExampleCode.zip	HCI Example Code

Visit www.wireless-solutions.de to get the latest information about our products, software and documentation.

2 Getting Started

2.1 Software Setup

The WiMOD LR Studio can be used for configuration of the preprogrammed radio modules and provides an easy-to-use radio link evaluation.

Setup of the PC

First copy the complete content of the enclosed installation CD to a local folder on your PC. Then install the hardware driver for the USB chip on your PC. Either take it from the local folder (*<local folder>\drivers\CDM20814_Setup.exe*) or get it from the USB chip manufacturer's web site.[1]

WiMOD LR Studio

Copy the complete Folder "WiMODLR_Studio" (from the enclosed installation CD) to a local folder on your PC.

Start the WiMOD LR Studio by double clicking the executable "WiMODLR_Studio.exe".

Open the documentation in the Studio Menu (Help->User Guide) for a detailed description of the included application and its features.

Note: It might be necessary to install the Microsoft Visual C++ 2008 Redistributable Package (x86) in case the WiMOD LR Studio doesn't start. Click the download button on the Microsoft web page. Double click the vcredist_x86.exe to install runtime components of Visual C++ libraries on a computer that does not have Visual C++ installed.

[1] http://www.ftdichip.com/Drivers/VCP.htm.

2.2 Hardware Setup

Setup of the Demo Boards

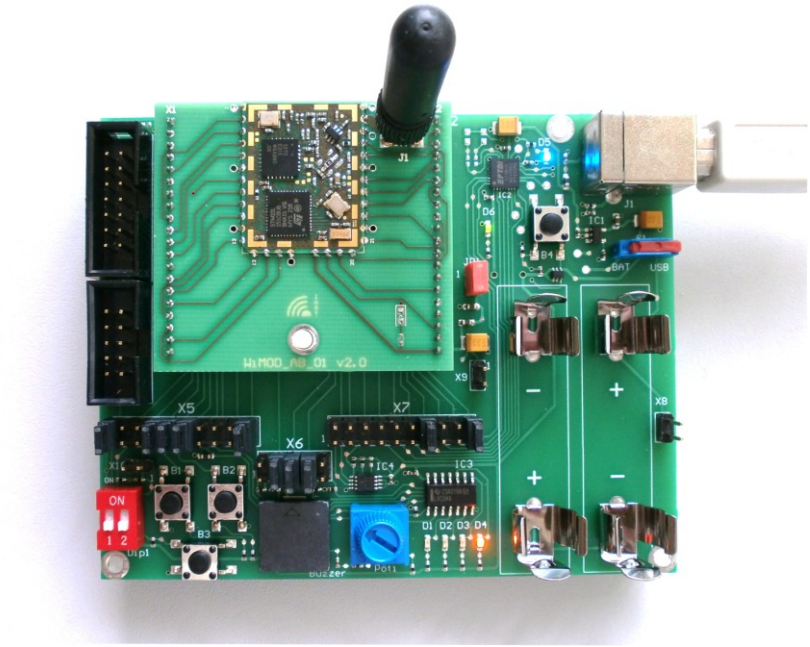

Figure 1: WiMOD LR module iM880A and Demo Board

- Plug the adapter boards with the soldered radio module on the Demo Boards.
- Mount the antennas on the boards.
- Make sure that the supply voltage jumpers JP1 are set on both boards
- Verify that the jumper configuration is equal to the default jumper setup:

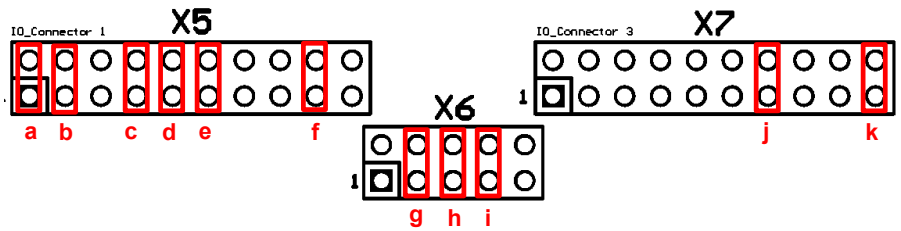

Figure 2-2: Default jumper set-up

Connect the Demo Board with an USB cable to your PC and switch S1 into position "USB". If successful, the power LED (D6) and the USB LED (D5) are turned on. After the Demo Board is detected by your PC as a new hardware please follow the given instructions to install the new virtual COM port.

The orange LED (D4) indicates that the radio module is awake and ready to receive instructions from the WiMOD LR Studio.

3 Wireless LR Studio

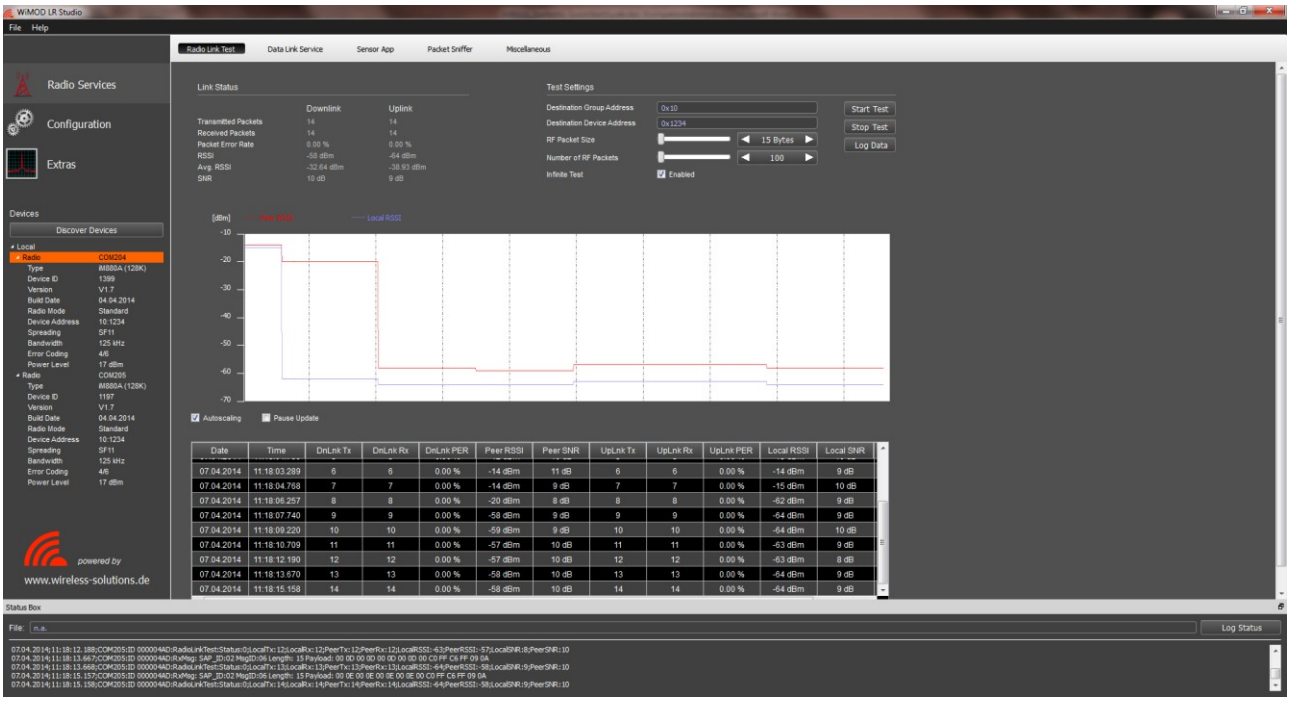

Figure 3-1: WiMOD LR Studio

1. Open the WiMOD LR Studio tool to configure the radio module

2. Connect both WiMOD Demo Boards with attached iM880A radio modules via USB cables to your PC and switch them on

3. After the initial virtual COM Port installation is finished the WiMOD LR Studio automatically detects the devices. The two boards will be listed in the left toolbar. If not try to find them by clicking *Discover Devices*.

4. Be sure to choose a reasonable parameter combination to establish a Wireless communication: Radio Mode, Frequency, Channel Bandwidth, Spreading Factor, Error Coding (=> Read Settings)

5. For a visual feedback the LED control can be enabled on both devices

6. Open the *Data Link Service* (Radio Services => Data Link Service) at the local device to initiate sending example packets to the peer device

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