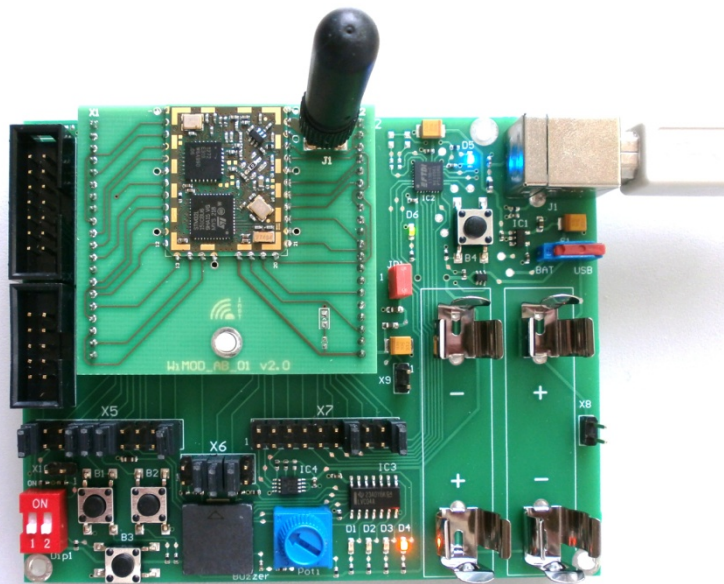


WiMOD LR Starter Kit

Quick Start Guide



IMST GmbH

Carl-Friedrich-Gauss-Str. 2-4

D-47475 KAMP-LINTFORT



1 Introduction

The WiMOD LR Starter Kit is a plug & play solution to explore features and capabilities of the iM880B/iM881A WiMOD LR radio module. This document describes how to get the Starter-Kit SK-iM880B or SK-iM881A 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	iM88x_StarterKit_QuickStartGuide.pdf	This document
2	\Documentation\DemoBoard_UserGuide.pdf	User guide for the WiMOD Demo Board
3	\Documentation\iM880B_AN017_FirmwareUpdate.pdf	Application Note Firmware Update
4	\Documentation\iM880B_AN011_RangeTest.pdf	Application Note Range Test
5	\Documentation\iM880B_Datasheet.pdf	iM880B datasheet
6	\Documentation\iM881A_Datasheet.pdf	iM881A datasheet
7	\Documentation\WiMOD_LR_Base_Feature_Spec.pdf	WiMOD LR Base firmware features
8	\Documentation\WiMOD_LR_Base_HCI_Spec.pdf	Host Controller Interface specification
9	\Documentation\WiMOD_LR_Studio_UserGuide.pdf	WiMOD LR Studio documentation
10	\Drivers\CDM20814_Setup.exe	USB PC driver
11	\WiMOD_LR_Base_Firmware\WiMOD_LR_Base_iM880B.hex	Binary firmware file for radio module
12	\WiMOD_LR_Base_Firmware\WiMOD_LR_Base_iM881A.hex	Binary firmware file for radio module
13	\WiMOD_LR_Base_Firmware\WiMOD_LR_Base_iU880B.hex	Binary firmware file for USB stick
14	\WiMOD_LR_DevTool\	Folder with development tool for HCI command exchange with the radio module
15	\WiMOD_LR_Example_Code\EFM\	Folder with example code for μ C EFM32
16	\WiMOD_LR_Example_Code\PC\	Folder with QT example code for the PC
17	\WiMOD_LR_Studio\	Folder with the WiMOD LR Studio

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 "WiMOD_LR_Studio" (from the enclosed installation CD) to a local folder on your PC.

Start the WiMOD LR Studio by double clicking the executable "WiMOD_LR_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

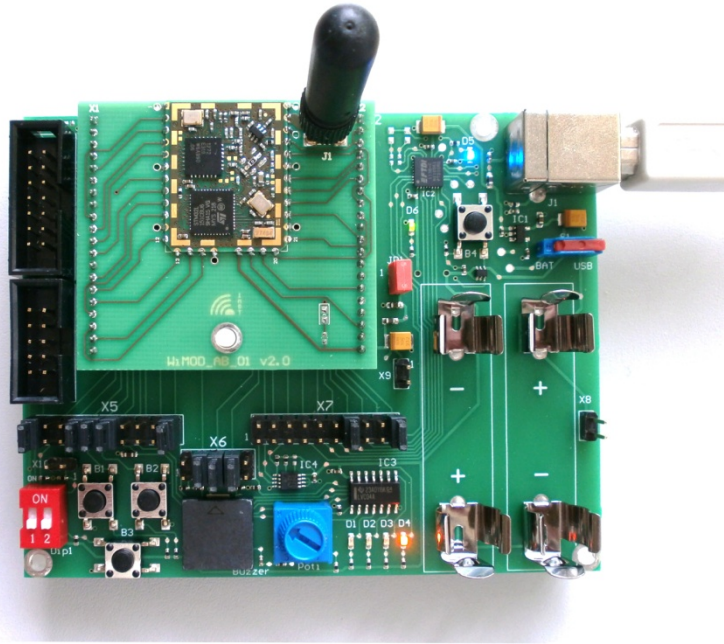


Figure 1: WiMOD LR module iM880B and Demo Board

- 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:

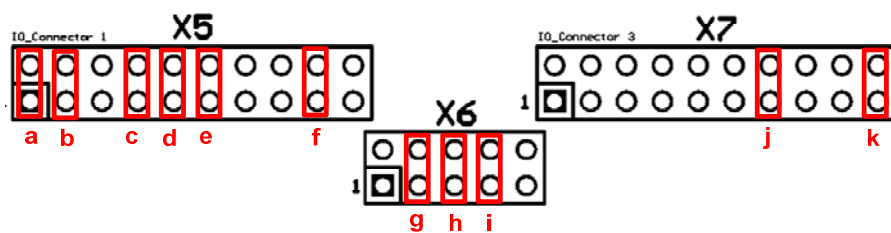


Figure 2-2: Default jumper set-up

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

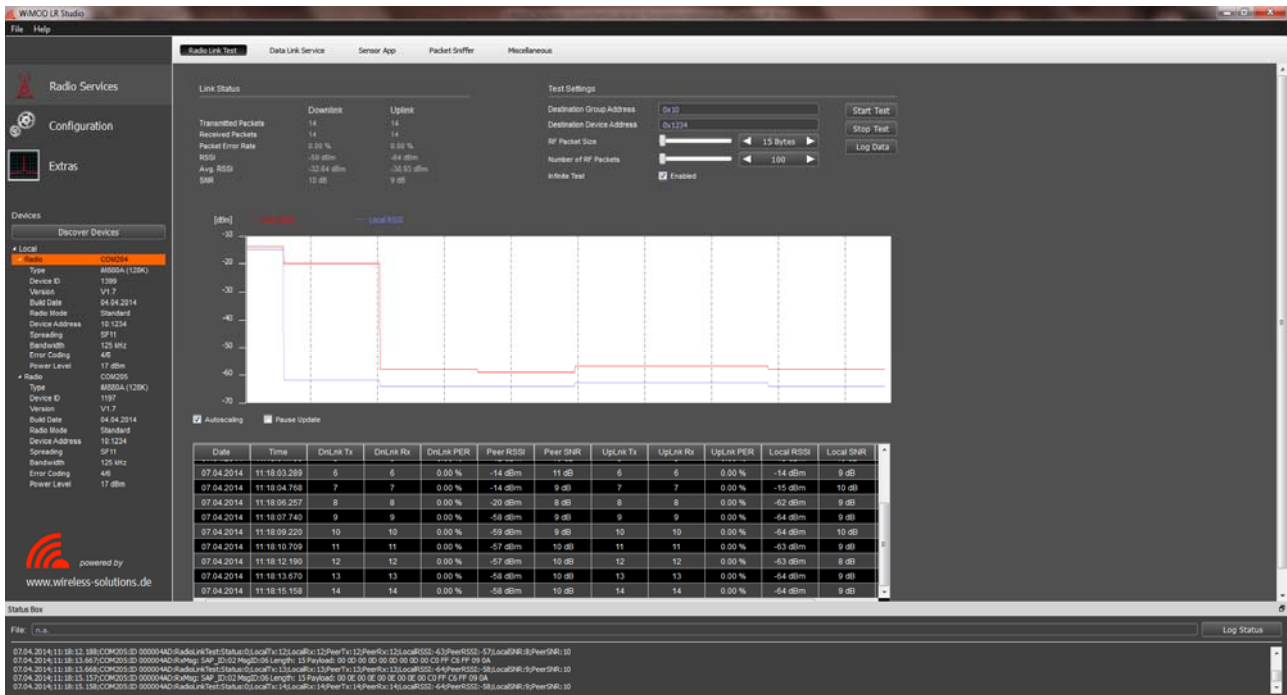


Figure 3-1: WiMOD LR Studio

1. Open the WiMOD LR Studio tool to configure the radio module
2. Connect both WiMOD Demo Boards with attached iM880B/iM881A 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



4 Important Notice

4.1 Disclaimer, limited liability and usage restriction

IMST GmbH points out that all information in this document is given on an “as is” basis. No guarantee, neither explicit nor implicit is given for the correctness at the time of publication. IMST GmbH reserves all rights to make corrections, modifications, enhancements, and other changes to its products and services at any time and to discontinue any product or service without prior notice. It is recommended for customers to refer to the latest relevant information before placing orders and to verify that such information is current and complete. All products are sold and delivered subject to “General Terms and Conditions” of IMST GmbH, supplied at the time of order acknowledgment.

IMST GmbH assumes no liability for the use of its products and does not grant any licenses for its patent rights or for any other of its intellectual property rights or third-party rights. It is the customer’s duty to bear responsibility for compliance of systems or units in which products from IMST GmbH are integrated with applicable legal regulations. Customers should provide adequate design and operating safeguards to minimize the risks associated with customer products and applications. The products are not approved for use in life supporting systems or other systems whose malfunction could result in personal injury to the user. Customers using the products within such applications do so at their own risk.

Any reproduction of information in datasheets of IMST GmbH is permissible only if reproduction is without alteration and is accompanied by all given associated warranties, conditions, limitations, and notices. Any resale of IMST GmbH products or services with statements different from or beyond the parameters stated by IMST GmbH for that product/solution or service is not allowed and voids all express and any implied warranties. The limitations on liability in favor of IMST GmbH shall also affect its employees, executive personnel and bodies in the same way. IMST GmbH is not responsible or liable for any such wrong statements.

This Development Kit/Starter Kit does not fall within the scope of the European Union directives regarding electromagnetic compatibility, restricted substances (RoHS), recycling (WEEE), FCC, CE or UL, and therefore may not meet the technical requirements of these directives or other related directives.

Copyright © 2013, IMST GmbH

4.2 Contact Information

IMST GmbH
Carl-Friedrich-Gauss-Str. 2-4
47475 Kamp-Lintfort
Germany

T +49 2842 981 0

E wimod@imst.de

F +49 2842 981 299

I www.wireless-solutions.de