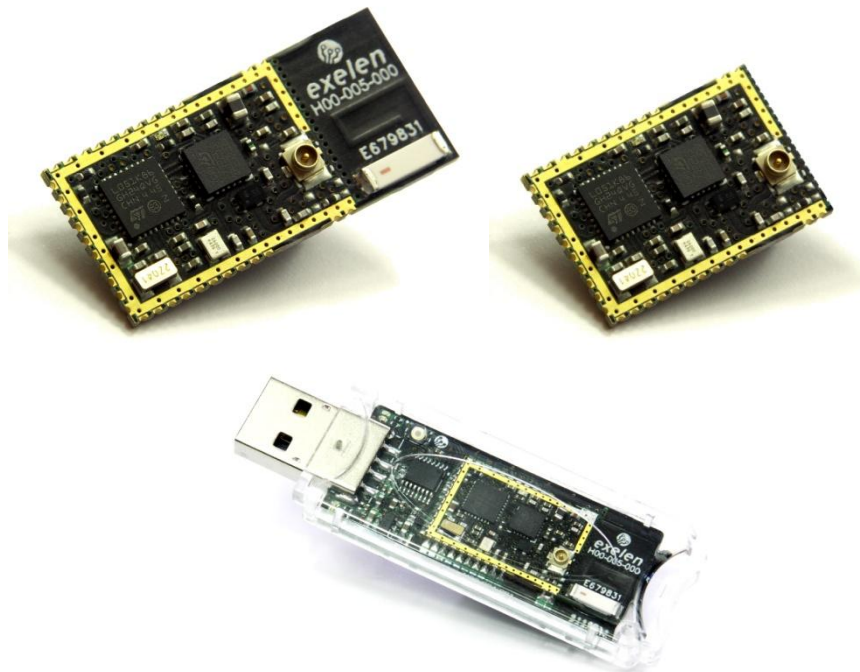




XLN-RF-868-A
XLN-RF-C
XLN-RF-868-USB

Establishing a Wireless Serial Link using Exelen Sub-1GHz RF Modules

APPLICATION NOTE



Introduction

This application note explains how to setup a point-to-point serial connection over wireless link using Exelen Sub-1GHz wireless modules.

Notice: The information provided in this document are only informative and can be changed by Exelen GmbH at any time without notice.

Table of contents

1	Setup.....	3
1.1	XLN-RF-868-A and XLN-RF-C modules	3
1.2	XLN-RF-868-USB module.....	3
2	Usage	3

1 Setup

1.1 XLN-RF-868-A and XLN-RF-C modules

The XLN-RF-868-A and XLN-RF-C modules should have all the VCC and GND pins connected to the power supply and ground, respectively. The USART1.TX and USART1.RX pins shall be connected to the RX and TX pins of the UART host. Connecting the NRST pin is also recommended.

1.2 XLN-RF-868-USB module

When plugging the XLN-RF-868-USB module on a computer, depending on the type and version of your operating system, you may need to install a driver for the USB-to-Serial connection.

If the module is not recognized as a serial port by your operating system, please download the FTDI Virtual COM port (VCP) driver from this web page:

<http://www.ftdichip.com/Drivers/VCP.htm>

and install it.

In principle, most recent Linux distributions and MacOS versions already include the driver, but most Microsoft Windows versions usually require to install it.

Once the driver is installed and the module is recognized as a serial port, you can use a Terminal software (e.g. Hyperterminal, PuTTY, etc) to communicate with it.

2 Usage

When the module is powered up, it enters the command mode. You can first test that the serial communication is working by sending an AT command.

When the desired settings have been programmed on both modules, switch them to data mode with the `ATO` command. At this point, the modules are ready to transmit and receive data to emulate a serial communication link.

An example using 2 XLN-RF-868-USB modules connected to PCs is shown on Figure 1 and Figure 2.



Figure 1 - Example setup with 2 PCs communicating wirelessly through XLN-RF-868-USB modules

Module 1		Module 2	
Terminal	OK	Terminal	OK
ATI0 XLN-RF	Asking for module type	ATI0 XLN-RF	
ATI1 Exelen GmbH	Asking for company name	ATI1 Exelen GmbH	
ATI2 2809	Asking for firmware revision	ATI2 2809	
ATS4=866000000 OK	Changing RF Frequency	ATS4=866000000 OK	
AT0 Hi, Module 1, nice to meet you!	Entered on Module 2, Displayed on Module 1	AT0 Hello, Module 2, This is Module 1!	Entered on Module 1, Displayed on Module 2

Figure 2 - Example of modules configuration and communication

Exelen GmbH ("Exelen") reserves the right to make changes, corrections, enhancements, modifications, and improvements to this document and the products described herein at any time without notice. Customers should ask for the latest information on Exelen products before ordering.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2015 Exelen GmbH – All rights reserved

Exelen GmbH

Route André Piller 21

1762 Givisiez (FR)

Switzerland

+41 26 422 48 42

[*info@exelen.ch*](mailto:info@exelen.ch)

[*www.exelen.ch*](http://www.exelen.ch)