AN11116

Using the RS232 serial evaluation boards on a USB port

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215110

Application note
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Document information

Info	Content
Keywords	Serial evaluation Board, PN512,PN532, MFRC663, MFRC522, MFRC523, MFRC52x, MFRD522, MFRD523, MFRD52x MIFARE Contactless Smart Card Reader Reference Design, MIFARE Reader IC, NFC controller
Abstract	This Application Note describes the settings for the USB to serial converter using a FTDI interface converter IC.

Revision history

Rev	Date	Description
1.0	20110907	Initial version

Contact information

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1. Introduction

1.1 Introduction

NXP provides various development boards for systems supporting ISO/IEC14443 based contactless reader technology. Products are for example MFRC663, MFRC522, MFRC523, MFRC52x, MFRD522, MFRD523, MFRD52x, PN512 and PN532.

The development boards make use of an serial RS232 interface which is connected to a PC to execute scripts or other PC based software to control the functionality of the contactless reader IC.

More and more it is found that modern PC's are not equipped by default with the RS232 interface.

A standard interface available on most PCs is the USB interface. Converters that are converting the signals of a USB interface to RS232 signals are available in the market.

In practice we have found that not all USB /RS232 converters are working without problems. Reason for this problems could be that the designers of this interfaces need to find a compromise to fit most applications, so that it does not fit very well to the use case of transferring contactless data.

1.2 Scope

This document describes which interface converter ad been found to work well with the NXP development boards. The settings to operate the interface with the NXP development boards will be given.

1.3 Hardware

The interface IC's which had been found to work well are the ones from the company FTDI (http://www.ftdichip.com).

To allow USB converter chip to communicate with a PC, suitable USB drivers are required to be installed on the PC. These can be downloaded from the FTDI website.

To verify that the DB9-USB-RS232 is communicating with the PC, an enumeration check can be carried out using a utility program called "USB View". This is also available from the FTDI website.

Alternative, the device manager can be used to check if a new USB device is available after installation.

1.4 Driver configuration settings

In the windows device manager select the USB/RRS232 interface device, select the properties:

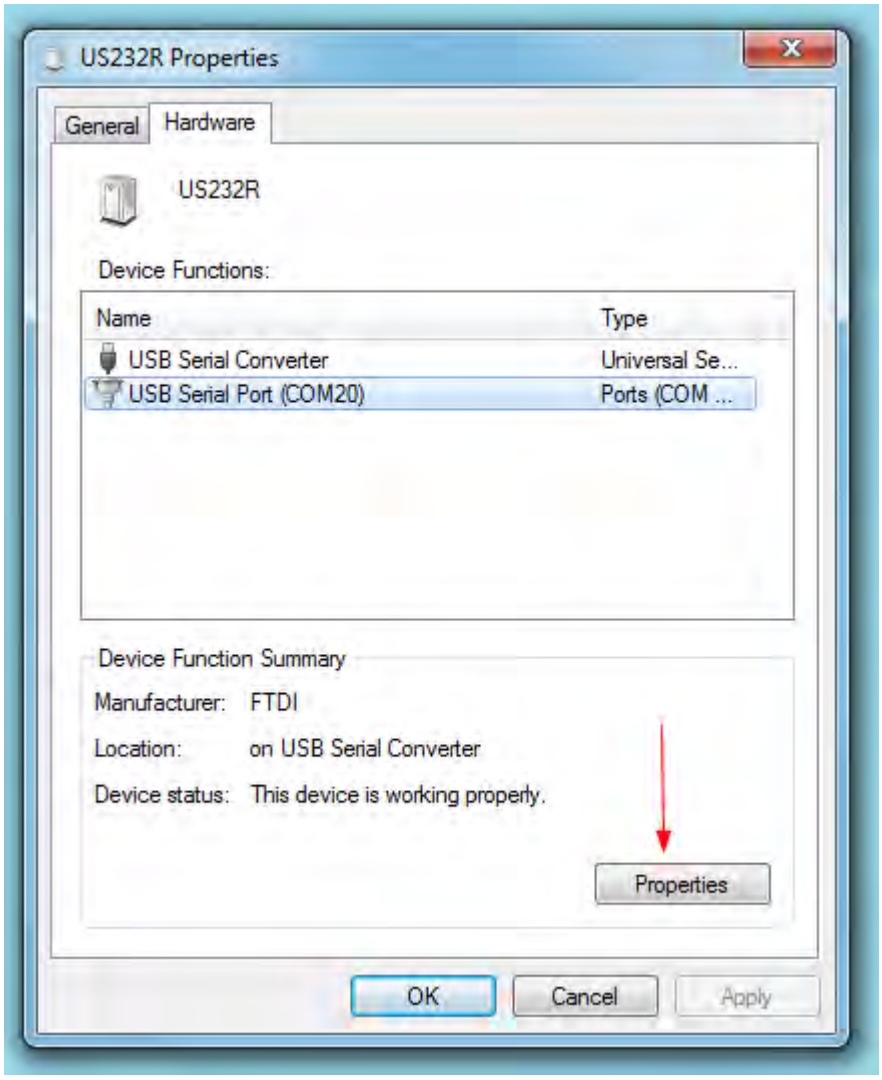

Fig 1. US232R Properties

Choose the port settings, and advanced:

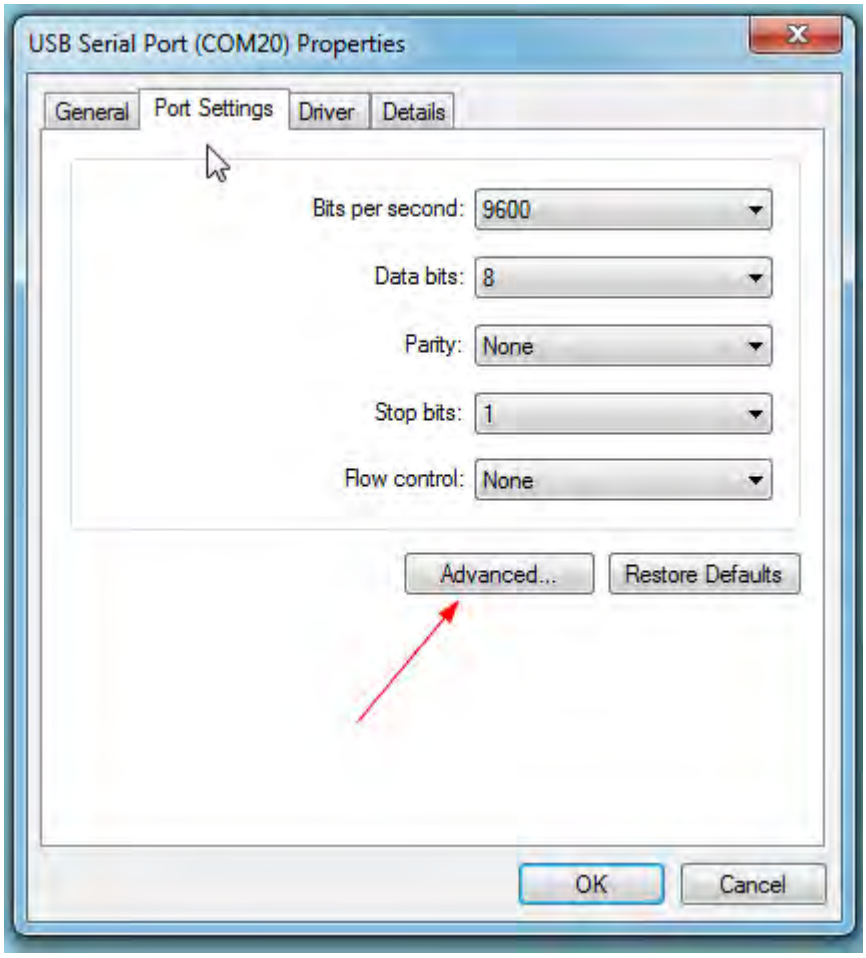

Fig 2. USB Serial Port Properties

In the advanced settings for the COM port, select the detailed settings as below:

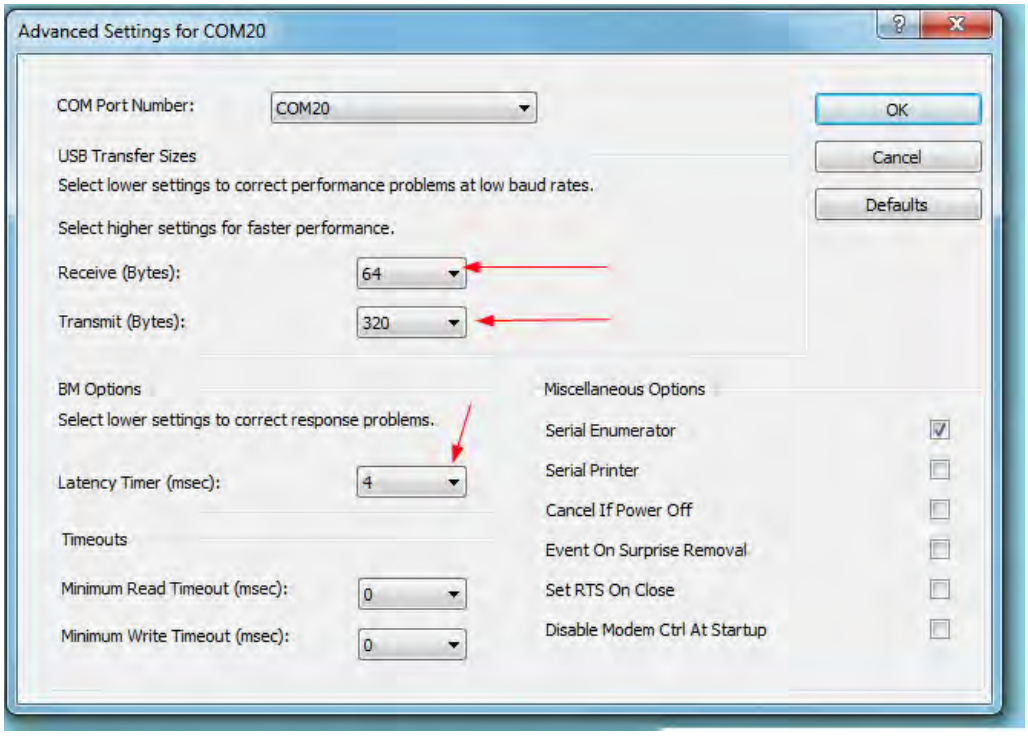

Fig 3. Advanced COM settings

Receive bytes: 64

Transmit bytes: 320

Latency timer: 4ms

After applying these settings, close all windows. The USB to RS232 interface is now ready for use.

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This NXP Semiconductors IC is ISO/IEC 14443 Type B software enabled and is licensed under Innovatron's Contactless Card patents license for ISO/IEC 14443 B.

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RATP/Innovatron Technology

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3. Contents

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