UM2227
User manual

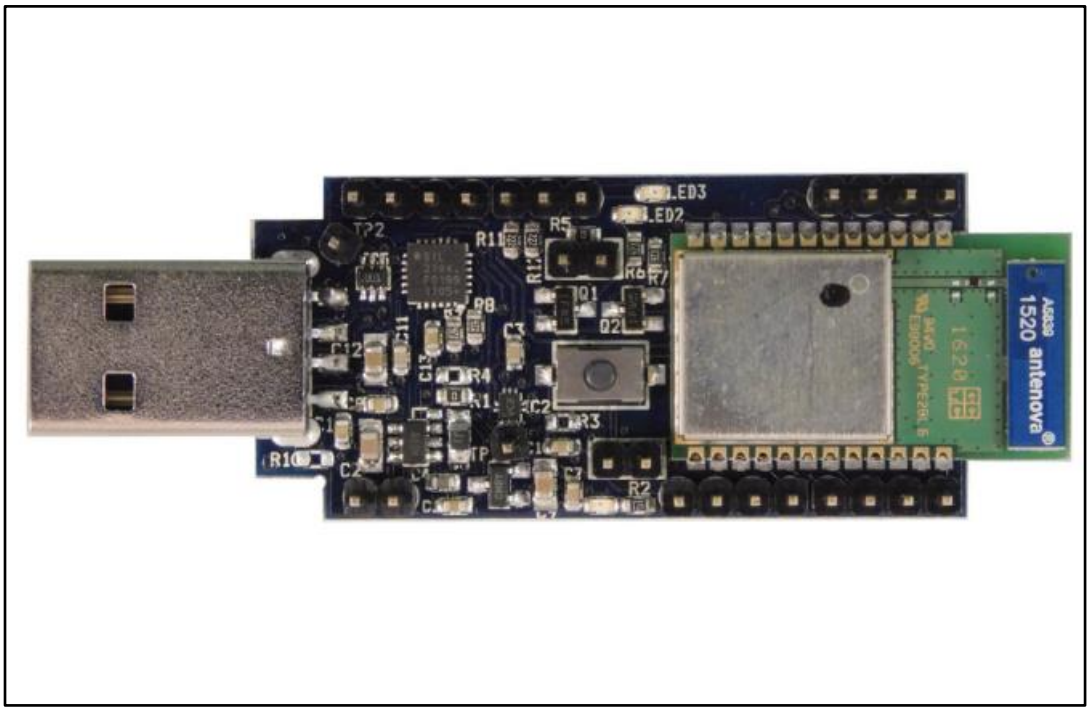
Getting started with the STEVAL-BTDP1 USB dongle

Introduction

The STEVAL-BTDP1 evaluation board (dongle) has an embedded Bluetooth® class SPBT3.0DP1 module and includes a USB connector. The USB connector allows PC access to the Bluetooth module and supplies power to the dongle.

The STEVAL-BTDP1 allows testing and working with the SPBT3.0DP1 module, so users can familiarize themselves with the firmware and create Bluetooth links with simple AT commands.[a]

Figure 1: STEVAL-BTDP1 evaluation board



[a] The AT command list is detailed in user manual UM2077 on www.st.com

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1 Overview

The STEVAL-BTDP1 features:

- SPBT3.0DP1 V3.0 Bluetooth class 1 module
  - with embedded antenna
- USB interface and power supply
- Reprogramming support via USB interface
- Reset button
- RoHS compliant

The default settings are:

- UART: 115200 baud rate, no parity, 1 stop bit, 8 data bits
- Local name: "ST BTC3.0 Module"
- Profile: SPP (serial port profile)
- Deep sleep: disabled
- Page and inquiry scan: 1.28 s interval, 11 ms duration
- Security: disabled
- Bonding PIN: "1234"
- Bonding allowed: always enabled

2 Getting started

2.1 Installing the drivers on host PC

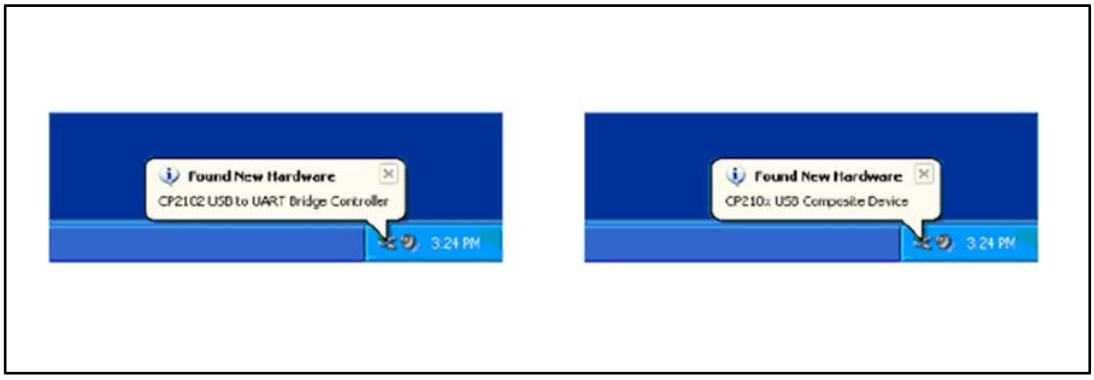
To install the drivers on your PC, follow the procedure shown below.

No drivers need to be installed on the Bluetooth SPBT3.0DP1 module or the evaluation board.

Step 1

- Plug the STEVAL-BTDP1 into any available USB port: the computer will automatically find the devices shown below.

Figure 2: USB drive installation first and second step



Step 2

- A Found New Hardware Wizard installation window opens:
  - select **Yes, this time only** to locate the drivers from the Microsoft® website
  - click **Next** to confirm the installation of the identified STEVAL-BTDP1 USB to UART controller and virtual COM port driver

Figure 3: Wizard installation - first step

Figure 4: Wizard installation - second step

Step 3

- The Found New Hardware Wizard opens again to install the USB device driver:
  - select **Yes, this time only** to locate the drivers from the Microsoft website

Figure 5: Wizard installation third step

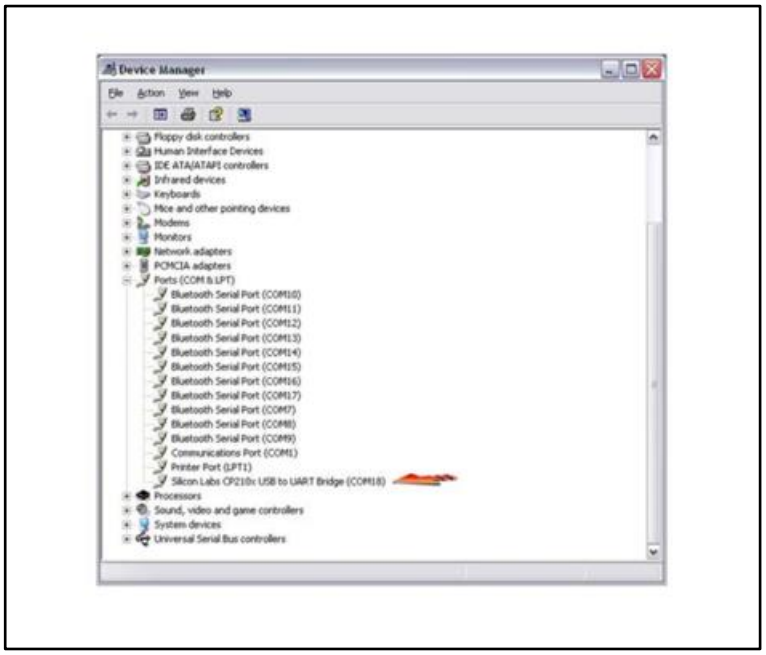
Figure 6: Wizard installation completed

- Step 4:
  - Open the Windows® device manager application to verify correct installation and check which COM port is assigned to the STEVAL-BTDP1 Bluetooth serial device[2].The STEVAL-BTDP1 is usually assigned the same virtual COM port each time it is inserted (unless there are other virtual COM devices altering port assignments).

[2] If the USB driver wizard installation fails, find the alternative installation procedure in the Appendix.

- check that **two device drivers** for the STEVAL-BTDP1 Bluetooth are shown here.

Figure 7: Windows device manager

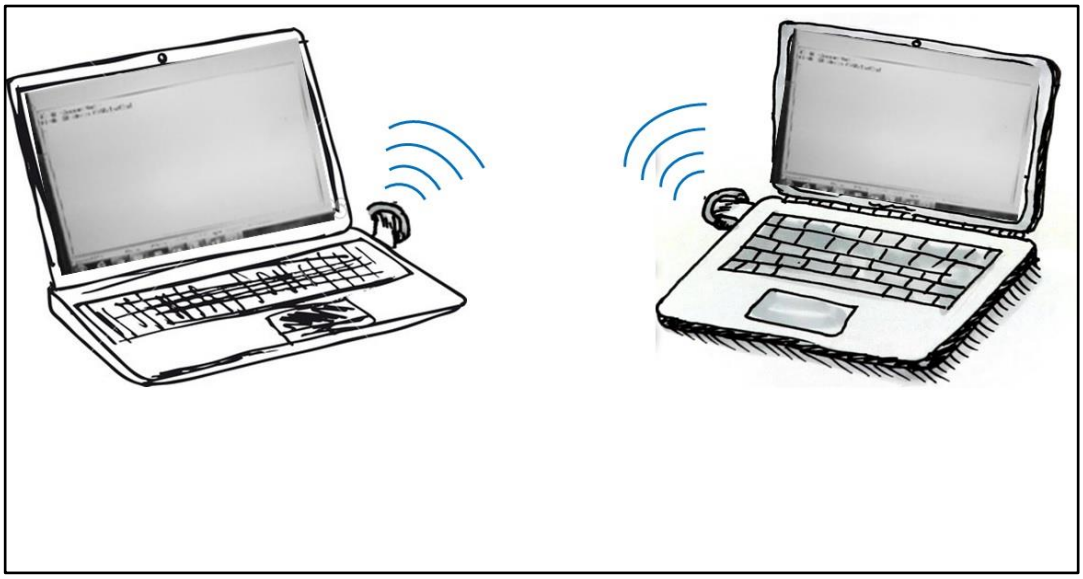


The CP2102 chip ensures standard UART serial communication from the computer via the universal serial bus and interfaces directly with the Bluetooth module in the Bluetooth serial adapter.

2.2 Two dongle communication

Two Bluetooth STEVAL-BTDP1 dongles on separate PCs can be implemented for the development of applications involving cable-free communication.

Figure 8: Two dongle communication setup



2.2.1 Connection procedure

The dongles used in the connection have separate BD addresses. In our example they are 0080e1f00001 (dongle2) and 0080e1f00002 (dongle2).

Two dongle connection procedure

Step 1

- Plug each dongle into a PC using the USB connector

Step 2

- Open the HyperTerminal program on both PCs and create a new connection and configure it as shown below.

Figure 9: Connection setup

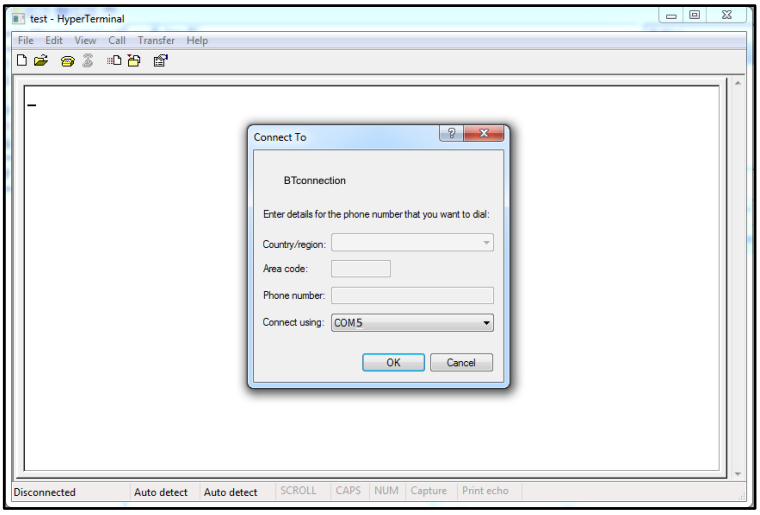


Figure 10: Port selection

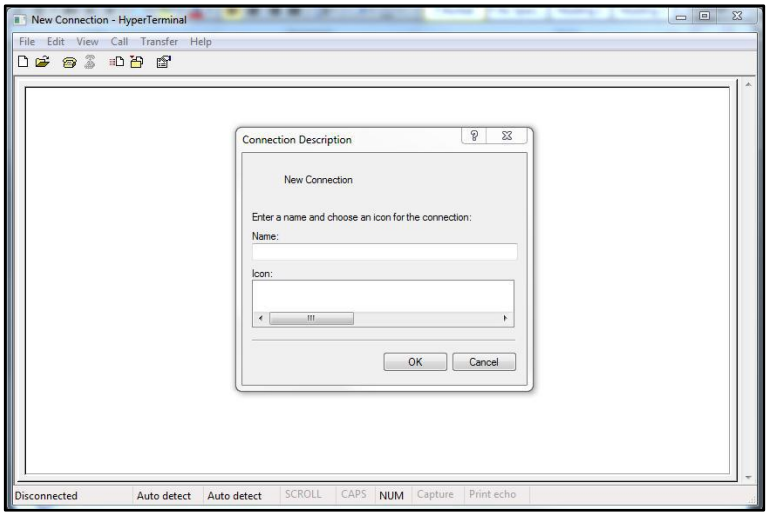
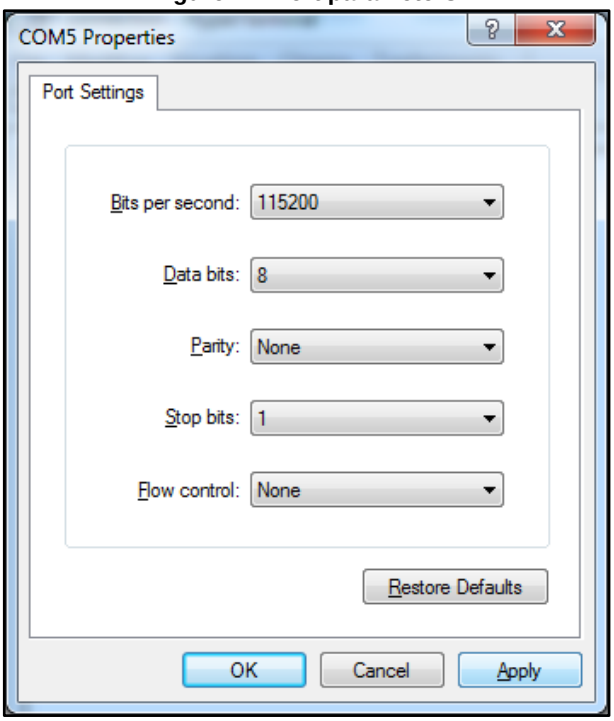


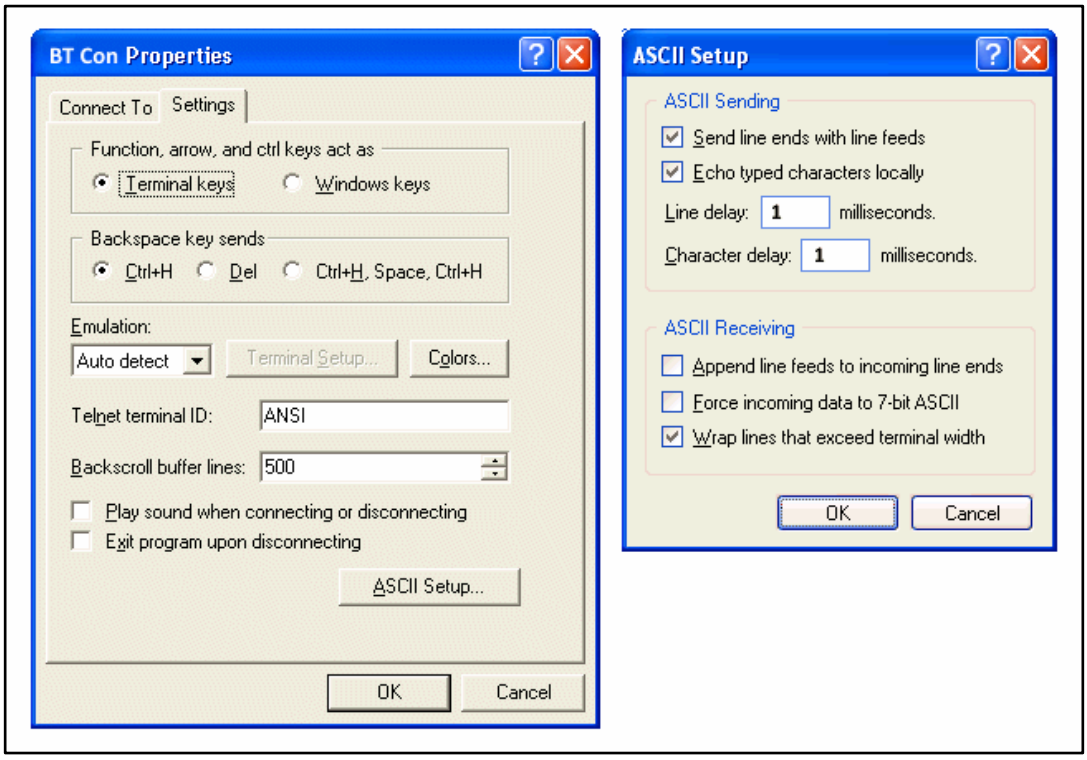
Figure 11: Port parameters



Step 3

- From the menu file set the AT command connection properties.

Figure 12: Connection properties setup



- The dongle is ready to use.

Step 4

- Press the reset switch on the dongle: on the screen, the prompt followed by the module Bluetooth address should appear:

Figure 13: AT command prompt

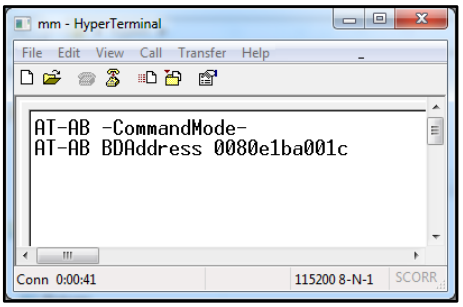
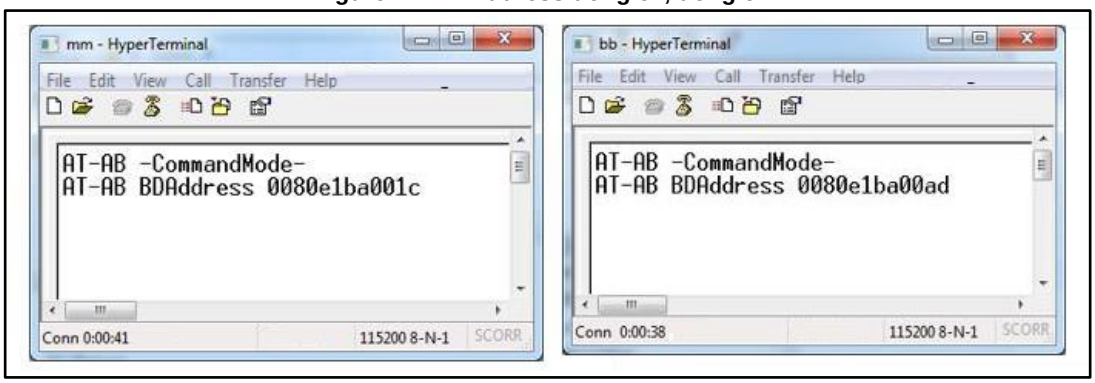


Figure 14: BDAddress dongle1, dongle2



The user can now operate the dongle through the AT commands.

3 Revision history

Table 1: Document revision history

Date	Version	Changes
05-Jun-2017	1	Initial release.

Appendix A USB driver installation

If USB driver wizard installation fails, the dongle can be installed using the driver available on the silicon lab website at
https://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx

Insert the dongle into a USB port on the PC and follow the sequence shown in the images below.

Figure 15: USB driver installation launch

Figure 16: License agreement

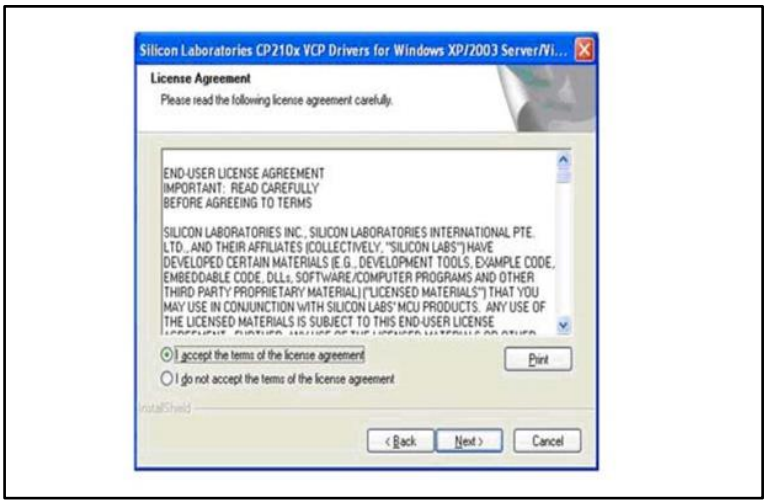


Figure 17: Wizard installation - 1

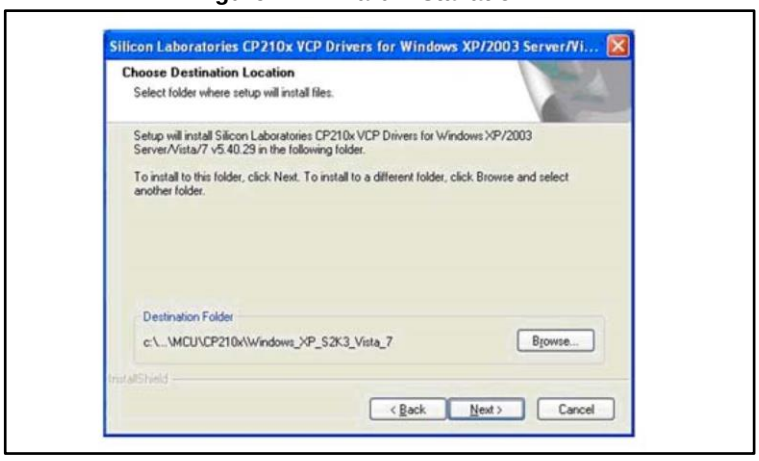


Figure 18: Wizard installation - 2

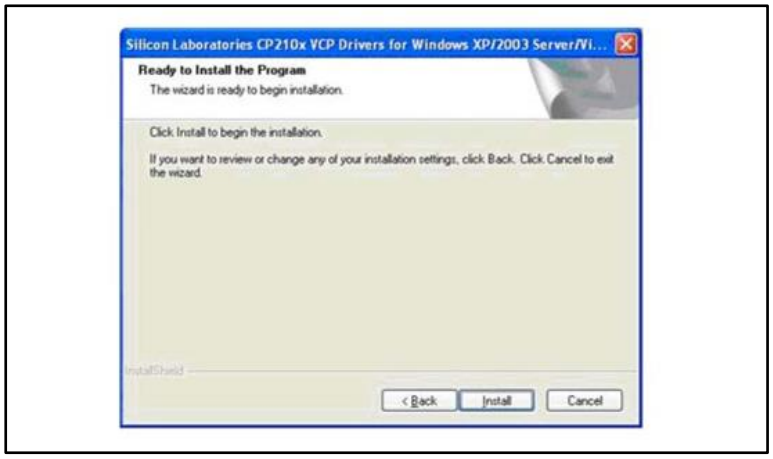


Figure 19: Wizard installation - 3

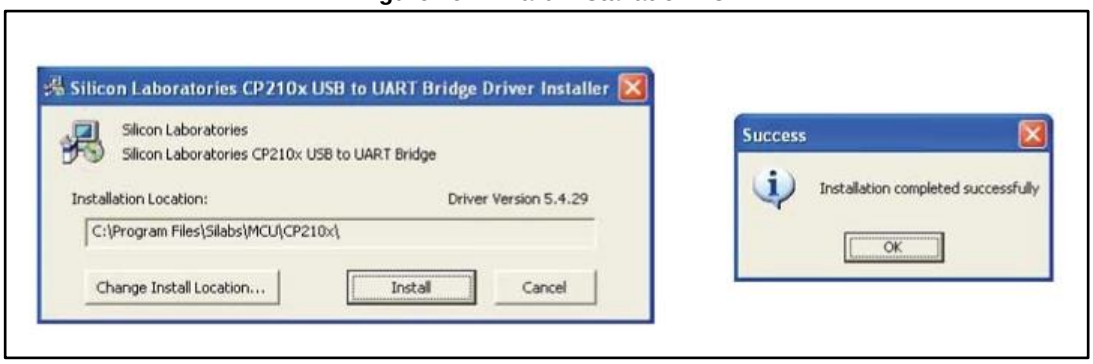


Figure 20: Wizard installation terminated

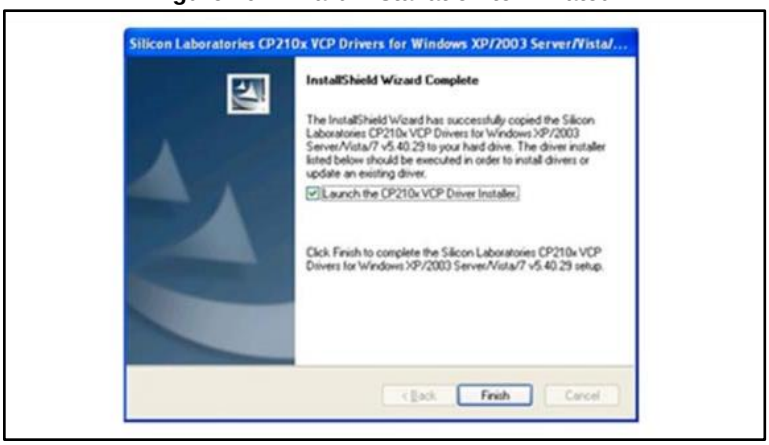
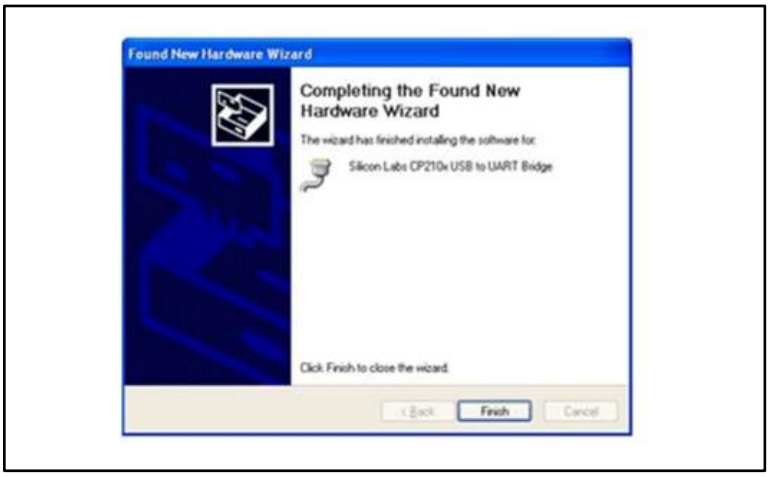


Figure 21: Installation completed



The USB driver installation is now complete