Application Board 2.0 Bluetooth

User manual

Bosch Sensortec

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Application note: Application Board 2.0 Bluetooth user manual

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Note	Confidential
	This user manual is preliminary and subject to change without notice.

Contents

1. Introduction

The versatile Application Board 2.0 BT (with Bluetooth) in combination with the development desktop software is built for demonstration and evaluation of Bosch Sensortec sensors. This user manual focused on additional Bluetooth module, please refer to Application Board 2.0 Hardware Description (Document number: BST-DHW-AN001-01) for further details.

2. Application Board 2.0 with Bluetooth

2.1 Application Board 2.0 Bluetooth overview:

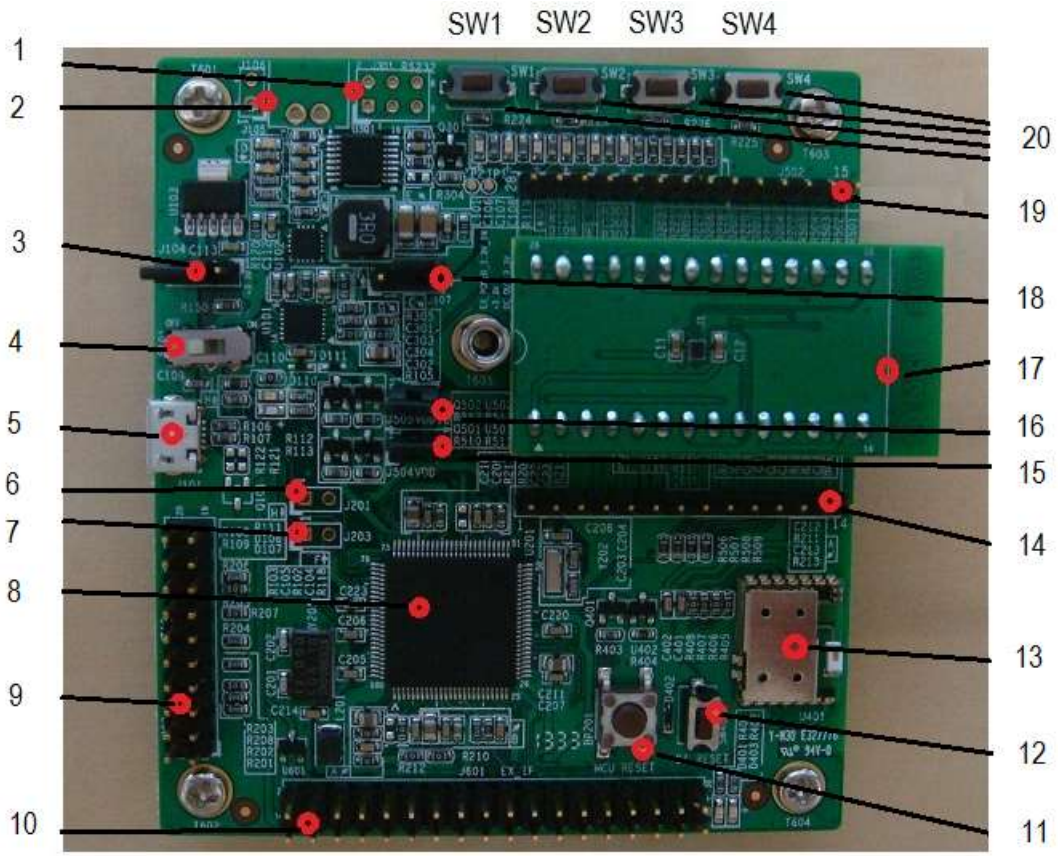


Figure 1: Location of every part

1	RS232 Connector	11	Whole system Reset button
2	Battery connector	12	Bluetooth Reset button
3	J104 jumper	13	Bluetooth module
4	S101 (On/off switch)	14	Shuttle board connector 1
5	J101(USB connector)	15	J504 jumper
6	J201 jumper	16	J505 jumper
7	J203 jumper	17	Shuttle board
8	MCU	18	J107 jumper
9	JTAG	19	Shuttle board connector 2
10	J601 (Microcontroller input/output extension)	20	4 user buttons

Note: The parts related to bluetooth are indicated in red.

2.2 Hardware of Bluetooth module

2.2.1 Basic introduction

The Bluetooth module is offered by Amp'ed RF Technology: model BT33/BT33LT. For detailed information please refer to the datasheet available at www.ampedrftech.com/.

2.2.2 Battery dock

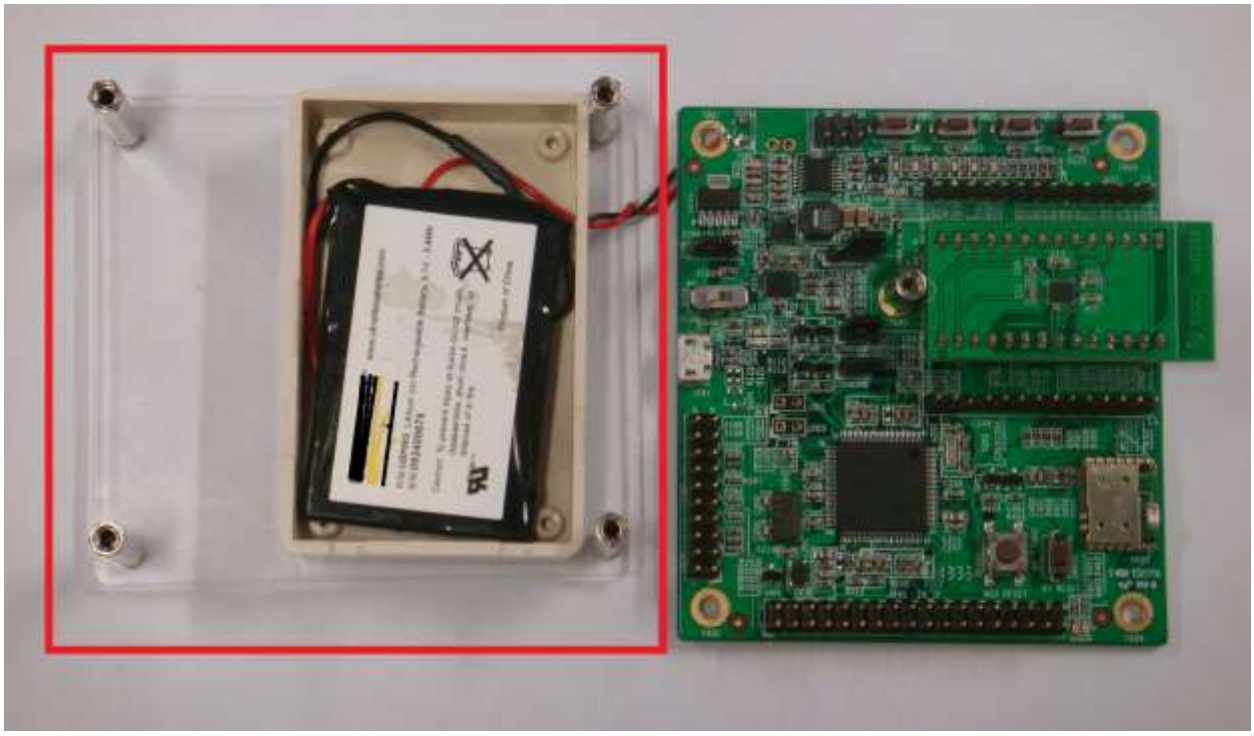


Figure 2: Application Board 2.0 BT Dock

The Battery dock is labeled in red (Figure 2), the size of the battery box is 53(L)*30(W)*10 (D) mm^3, mounted on a plexiglass which has same dimensions as Application Board 2.0 BT board.

The recommended battery modes are:
Nokia BL-5C, BL-5L
SAMSUNG AB553446CC

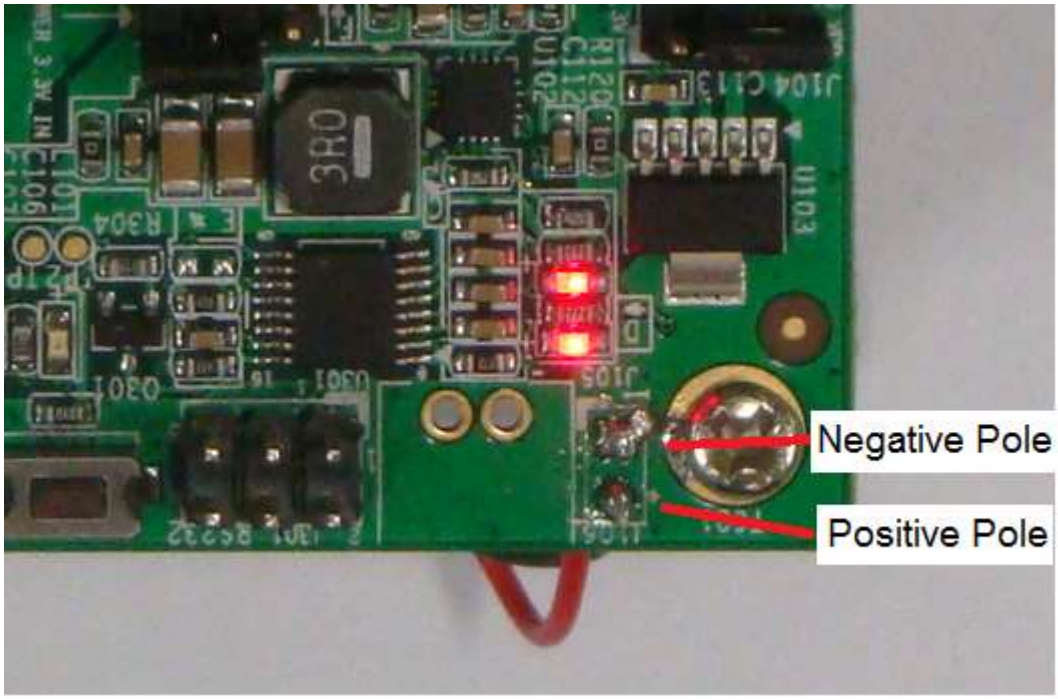


Figure 3: Soldering points

After verification of the functionality as described in chapter 2.3, cover the lid for assembling.

Figure 4: Cover the lid

Figure 5: Assembled APP2.0 BT board

Figure 6 shows the Application Board 2.0 BT while charging (left, red LED) through USB port and when fully charged(right; green LED).

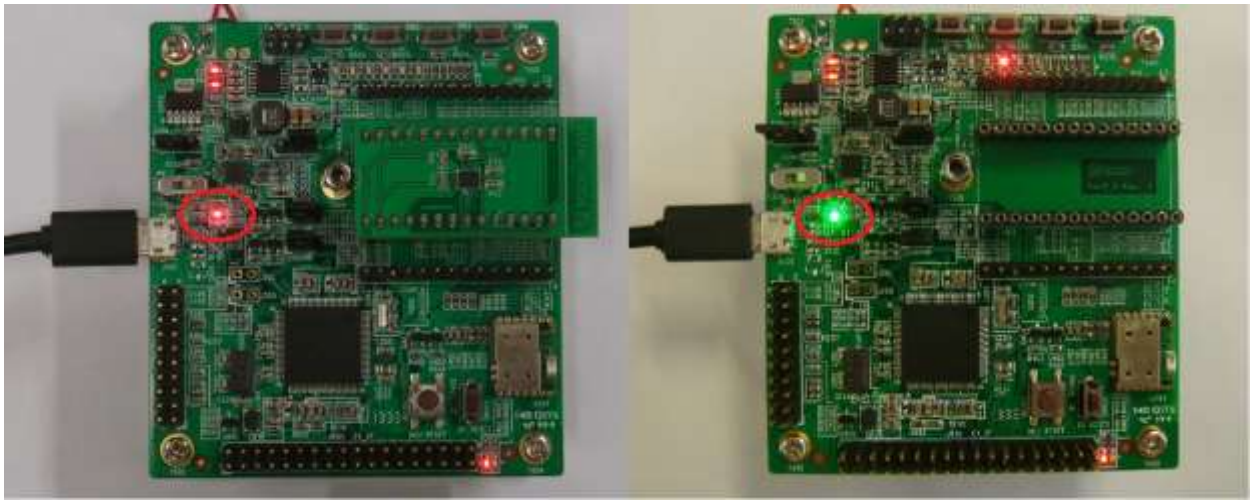


Figure 6: Status of charging

2.2.3 Battery usage

To select the battery as power source, please set the jumper J107 to DC_OUT_3.3V; connect pins 2 – 3 selects DC_OUT_3.3V from U102 (DC/DC convertor) and switch S101 to ON.

Note: When USB is connected to Application Board, USB powers the board and charges the battery.

Tips for using battery:
It is recommended that the battery should be fully charged after use;
Charge the battery every three months even it is not used;
Charge the battery after four hours usage.

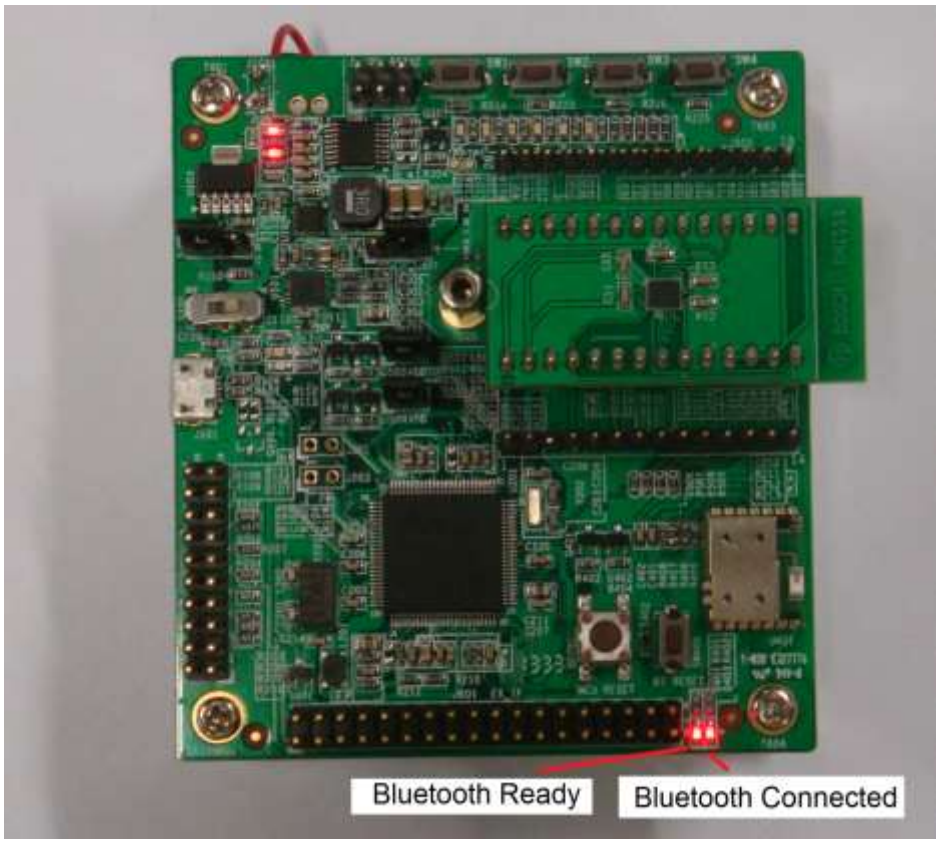
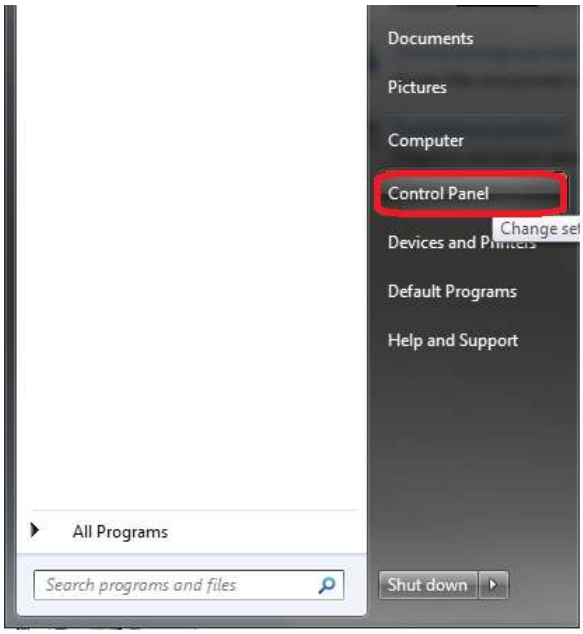


Figure 7: Bluetooth connected (powered by battery)

2.3 Connect to PC via Bluetooth

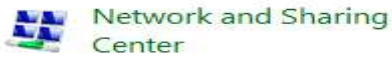
The step by step instructions are shown below. First of all apply power to the Application Board 2.0 BT board.

2.3.1 Adding the Bluetooth device on windows



Click the “Start” button located at left bottom corner of Windows 7, open “Control panel”,

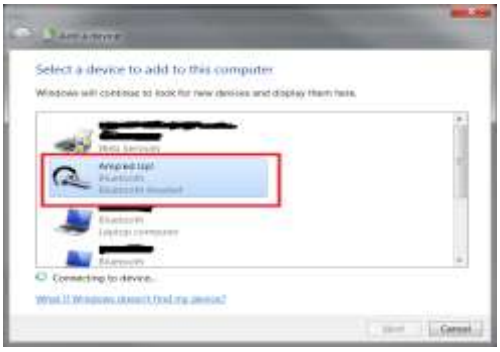
Select “Network and Sharing Center”



Double click “Bluetooth Network Connection”,

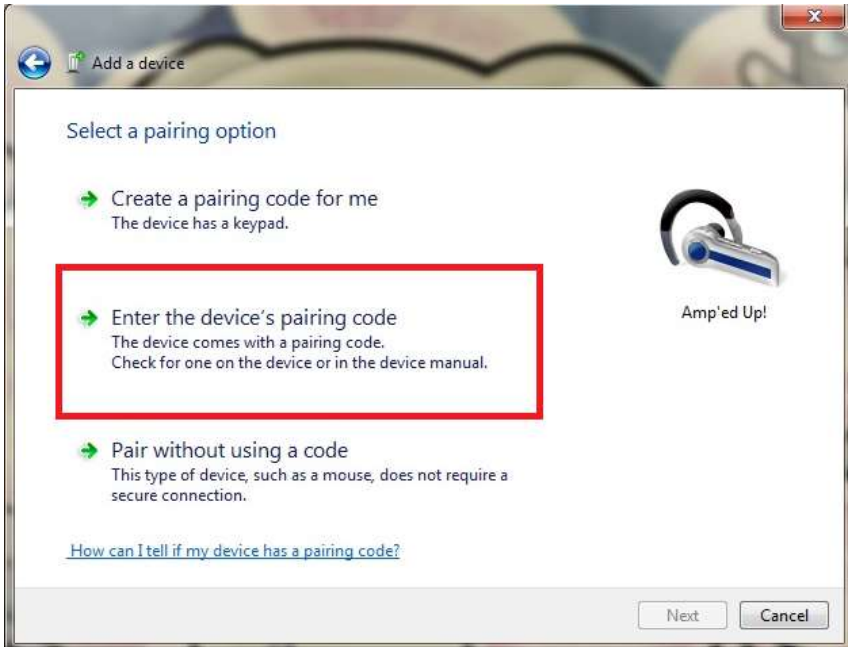
Then click “Add a device”

Select “Amp’ed Up!” device.

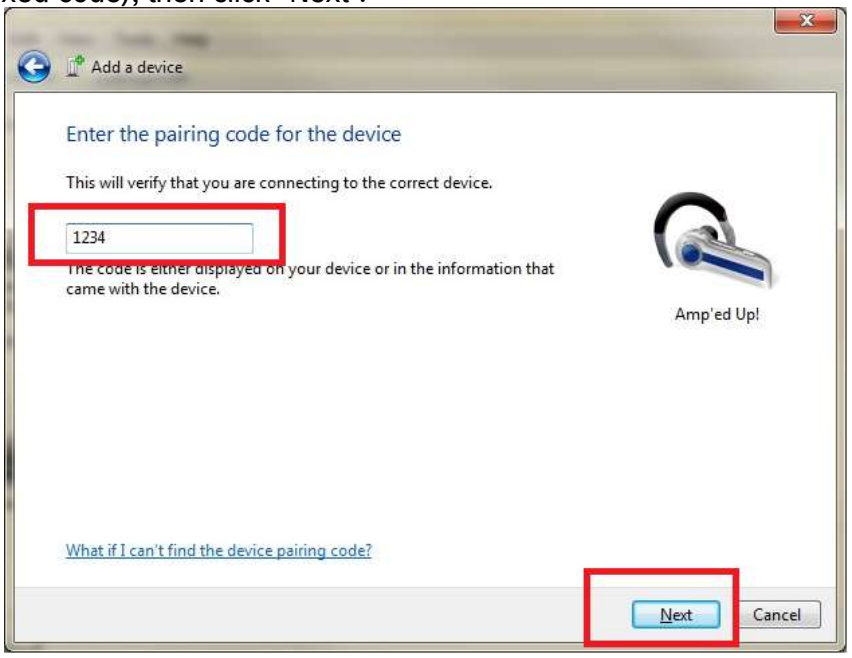


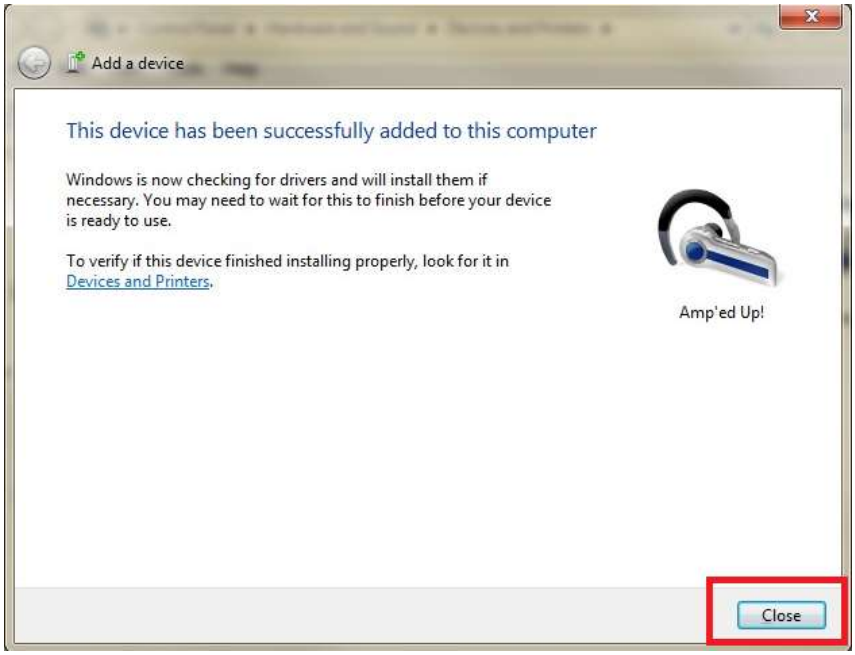
Confirm the pass code (it is generated randomly)

If Windows asks to “select a pairing option”, please select the second one “Enter the device’s paring code”.

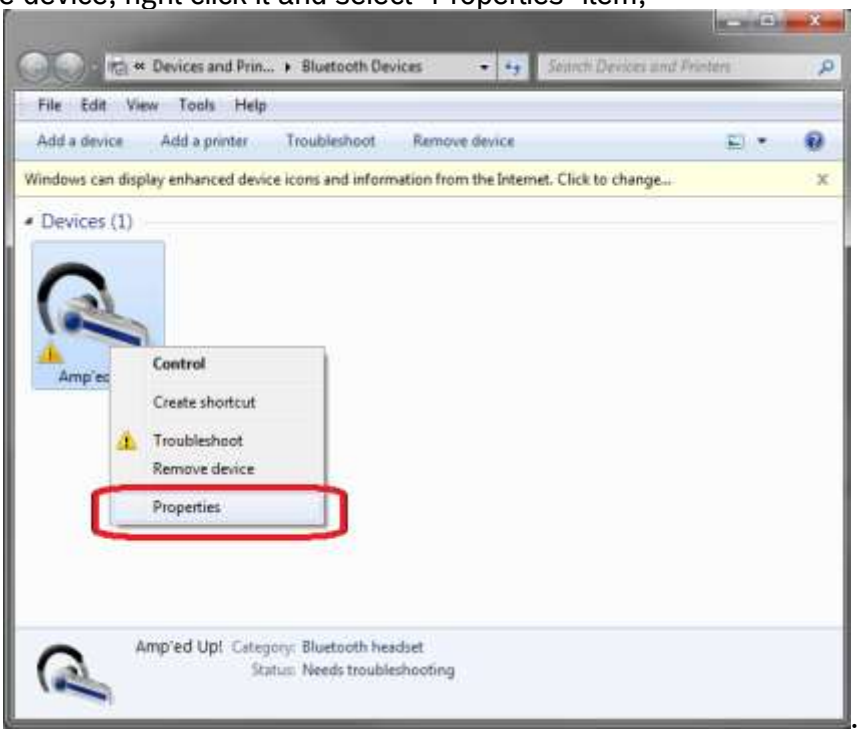


Input “1234” (fixed code), then click “Next”.

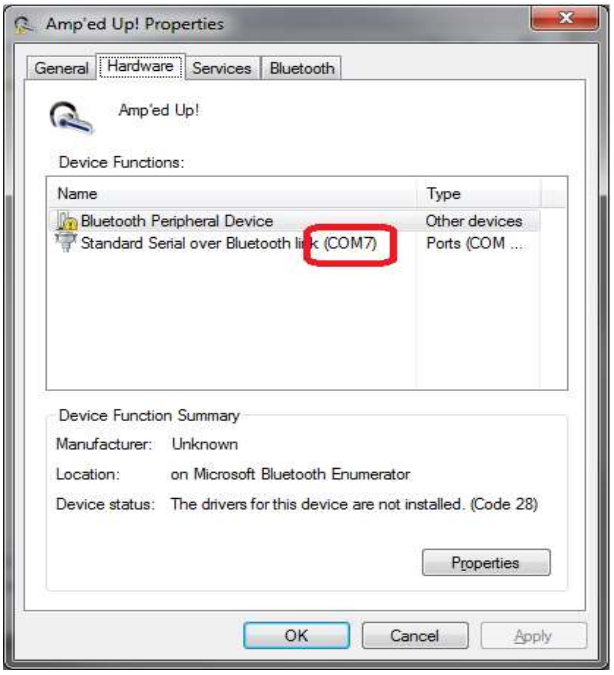




After adding the device, right click it and select “Properties” item,

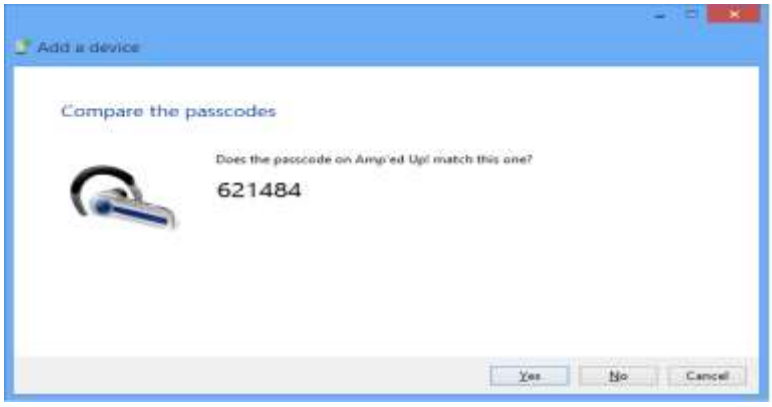


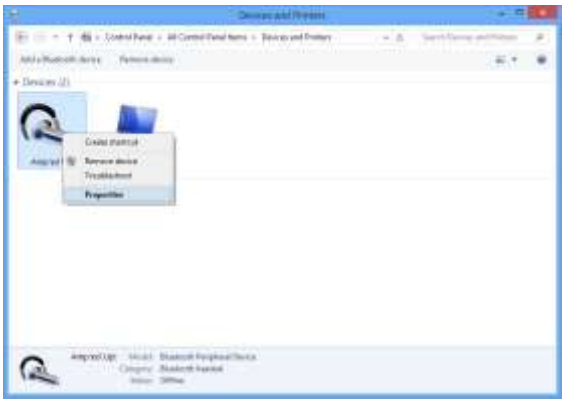
Select “Hardware” tab to check which virtual port the device is connected too.

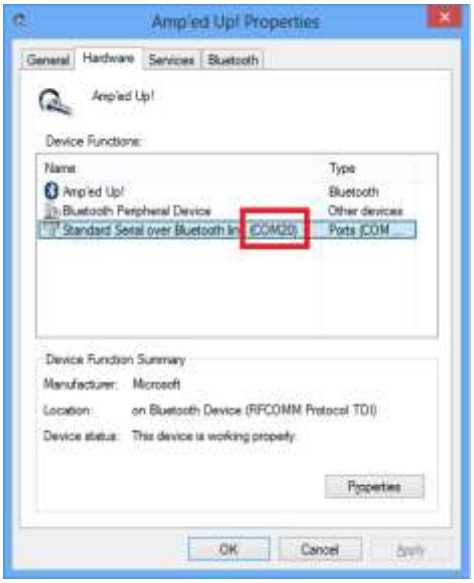


2.3.2 Add Bluetooth device on windows 8

The steps of adding Bluetooth on Windows 8 are very similar to Windows 7, open the “Control panel”, select “Network and Sharing Center”, double click “Bluetooth Network Connection”, then click “Add a device”, select “Amp’ed Up!” device, confirm the pass code (it is generated randomly), then check which virtual port the device is being connected.



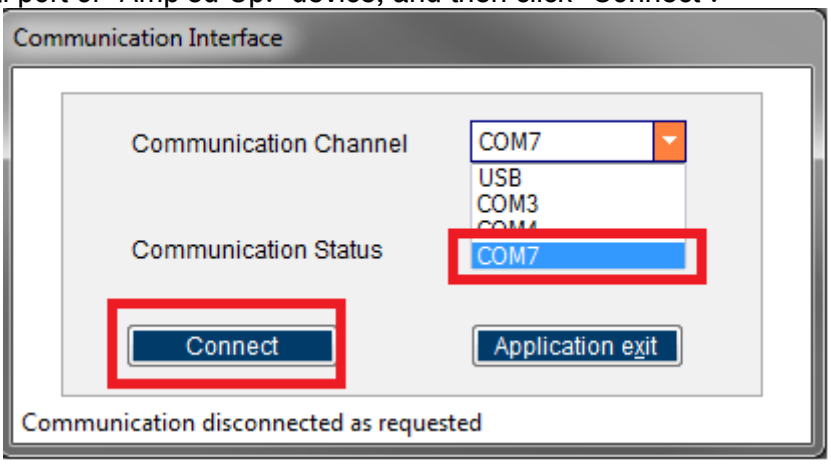




2.3.3 Configuration of Development Desktop 2.0

Start Development Desktop 2.0 by clicking its icon on desktop or start menu,

Select the virtual port of “Amp’ed Up!” device, and then click “Connect”.



The bluetooth link in Development Desktop 2.0 is established.

3 Legal disclaimer

3.1 Engineering samples

Engineering Samples are marked with an asterisk (*) or (e). Samples may vary from the valid technical specifications of the product series contained in this data sheet. They are therefore not intended or fit for resale to third parties or for use in end products. Their sole purpose is internal client testing. The testing of an engineering sample may in no way replace the testing of a product series. Bosch Sensortec assumes no liability for the use of engineering samples. The Purchaser shall indemnify Bosch Sensortec from all claims arising from the use of engineering samples.

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4. Document history

Rev.	Chapter	Description of modification and changes	Date
1.0		Document creation	18-Oct-2013