

# **BT RS-232 Dongle**

## **User's Manual**

**Model No. CM-BT232**



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# 1. Introduction

This BT RS-232 dongle is an ideal solution for cable replacement. It connects serial printers, serial scanners, or other device to a computer by remote up to 100 meters (300ft) away. Free to place device any where one like without modifying the environment for wire layout. This BT RS-232 dongle can be operated with PDA, computers, laptops, and smart phone that supports BT RFCOMM profile and BT generic access profile. As such, it is ideal for use in applications where a PDA or laptop could communicate with another device (SBC, RTU, sensor, robot, radio, PBX) wirelessly.

## 1.1 Features

- Extremely easy to install and use.
- No need of external host and software
- Supports up to 100 meters (300ft) distance (Open space, Line of site).
- Standard BT Specification Version 2.1
- Frequency 2402 ~ 2480MHz
- Baud Rate Supports 9.6/19.2/38.4/57.6/115.2/230.4 kbps
- Modulation GFSK-1 Mbps, DQPSK-2 Mbps, and 8-DPSK-3 Mbps

## 1.2 Specifications:

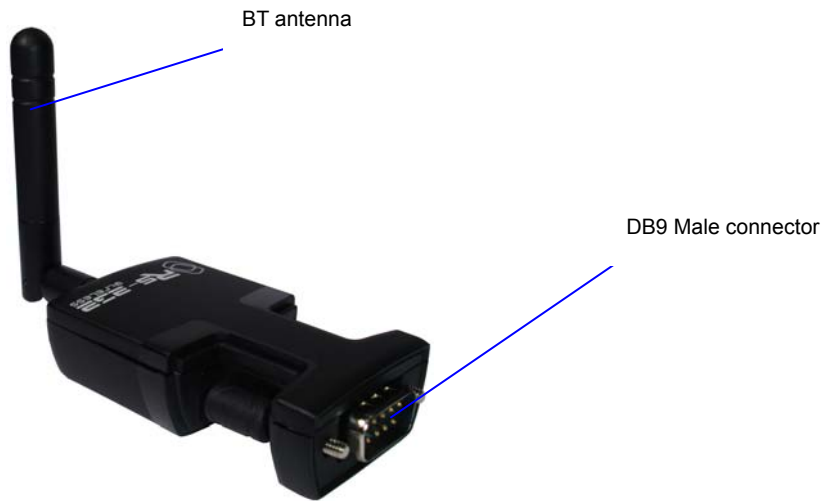
Model No.	CM-BT232
Frequency	2.400 to 2.4835GHz
Connector	DB-9 Male
Standard	BT specification version 2.1
Tx Power	Max. 13 dBm (Class 1)
Rx Sensitivity	-86 dBm typical
Power consumption	DC 5V
Housing	Plastic
Dimension (L x W x H)	66 x 39 x 20 mm

## 1.3 Package Contents

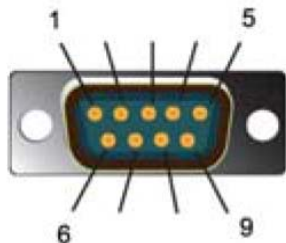
- BT RS-232 Dongle with antenna
- DC5V Power adaptor
- CD Utility

2. Physical Diagram

Front view



RS-232 pin out



Pin Assignment		
Pin No.	Definition	Signal Name
1	NC	---
2	RXD	Receive Data
3	TXD	Transmit Data
4	NC	---
5	GND	Ground
6	NC	---
7	RTS	Request to Send
8	CTS	Clear to Send
9	NC	---

Side view

LED Indicators

- (1) RX: Orange
- (2) PWR: Red
- (3) TX: Orange



Rear view

(1) **SETUP** push button

(2) **DC power jack**

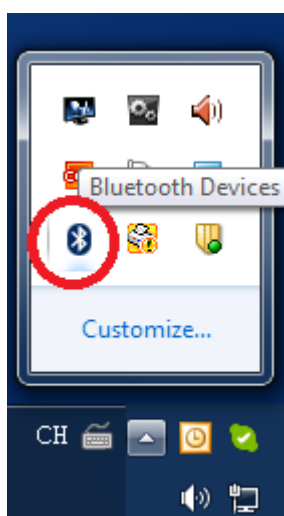
SETUP push button



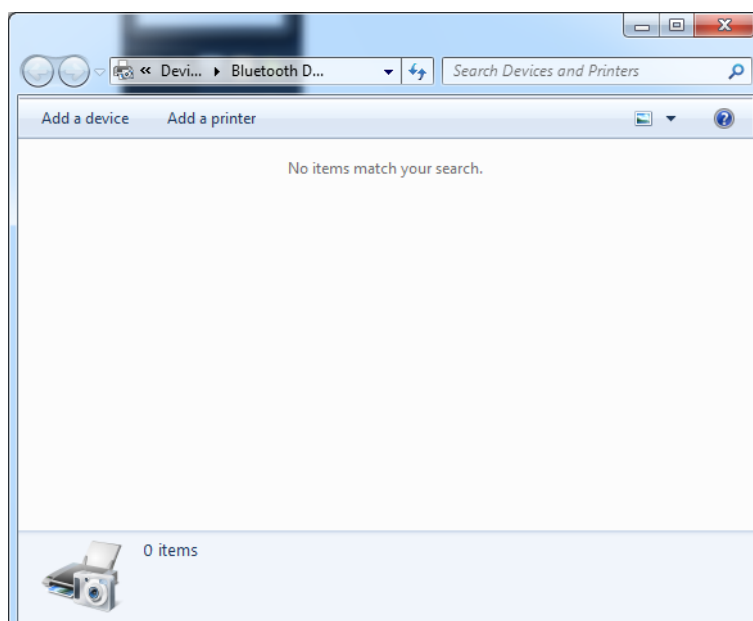
DC power jack

### 3. BT pairing and connecting

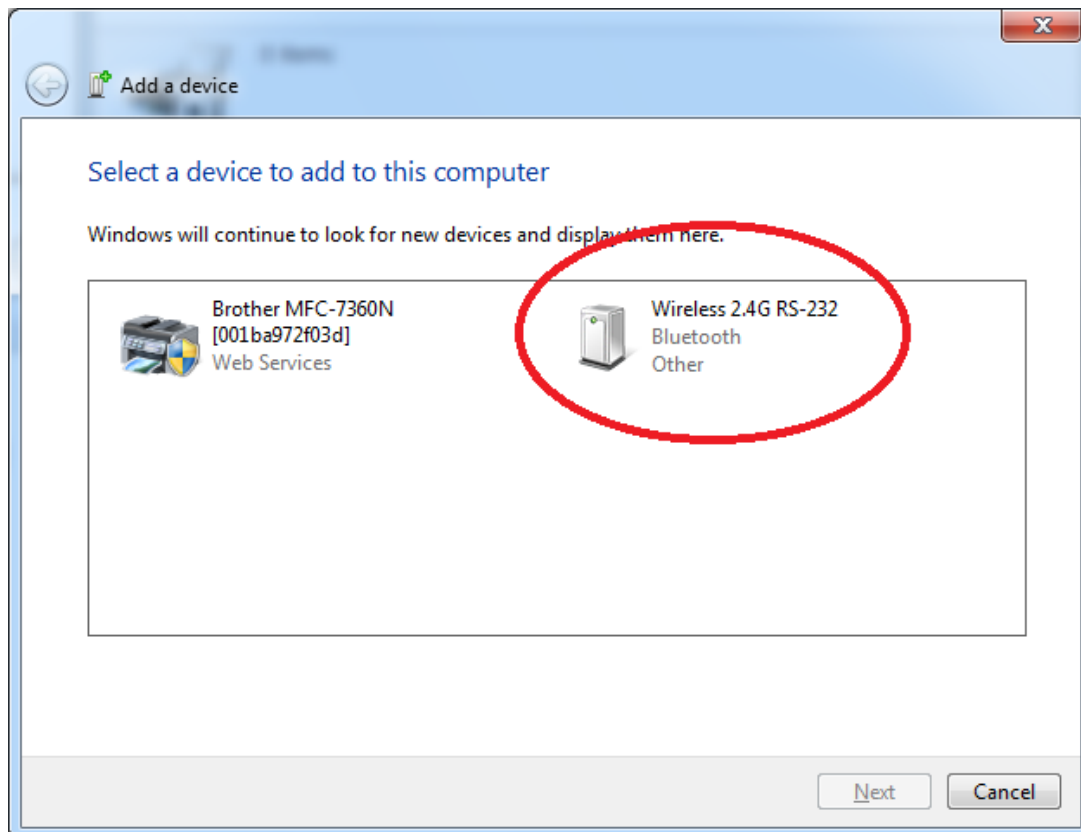
3.1 Click the BT icon on the taskbar of computer OS and plug the power adapter to the device's power jack. The PWR LED indicator (Red) illuminates.



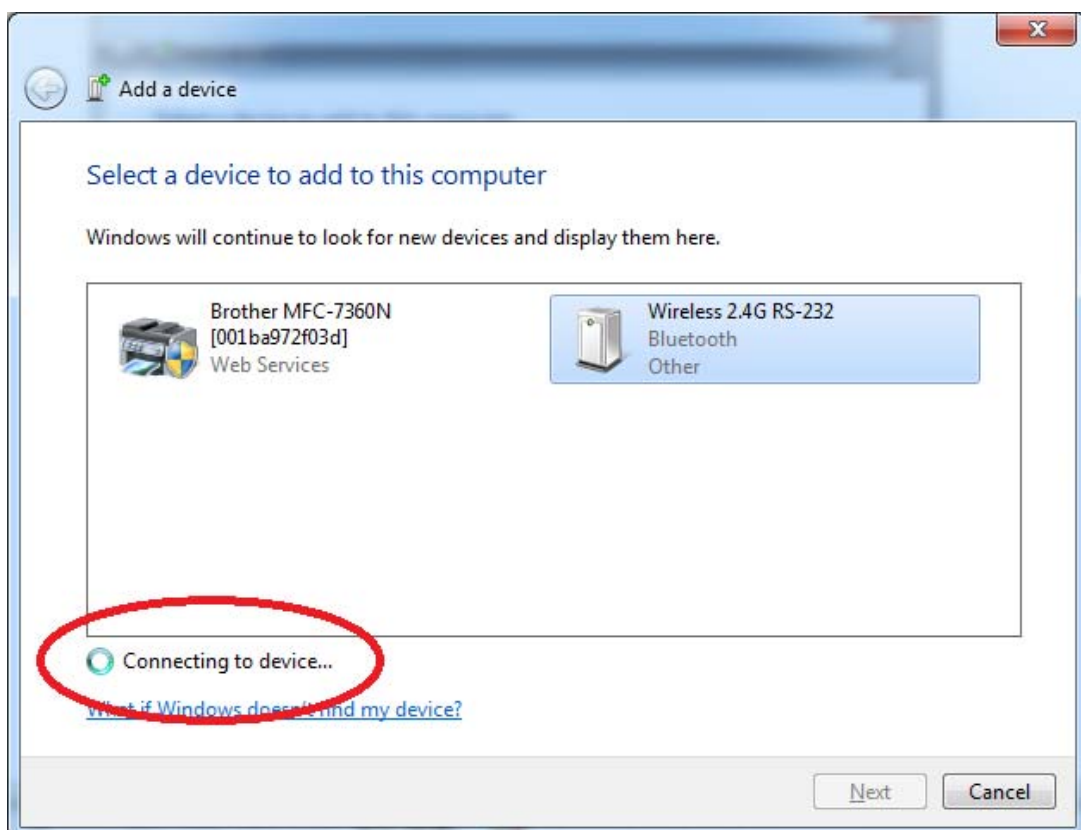
3.2 Use your BT software and click 'Add a device' to search for BT devices in range.



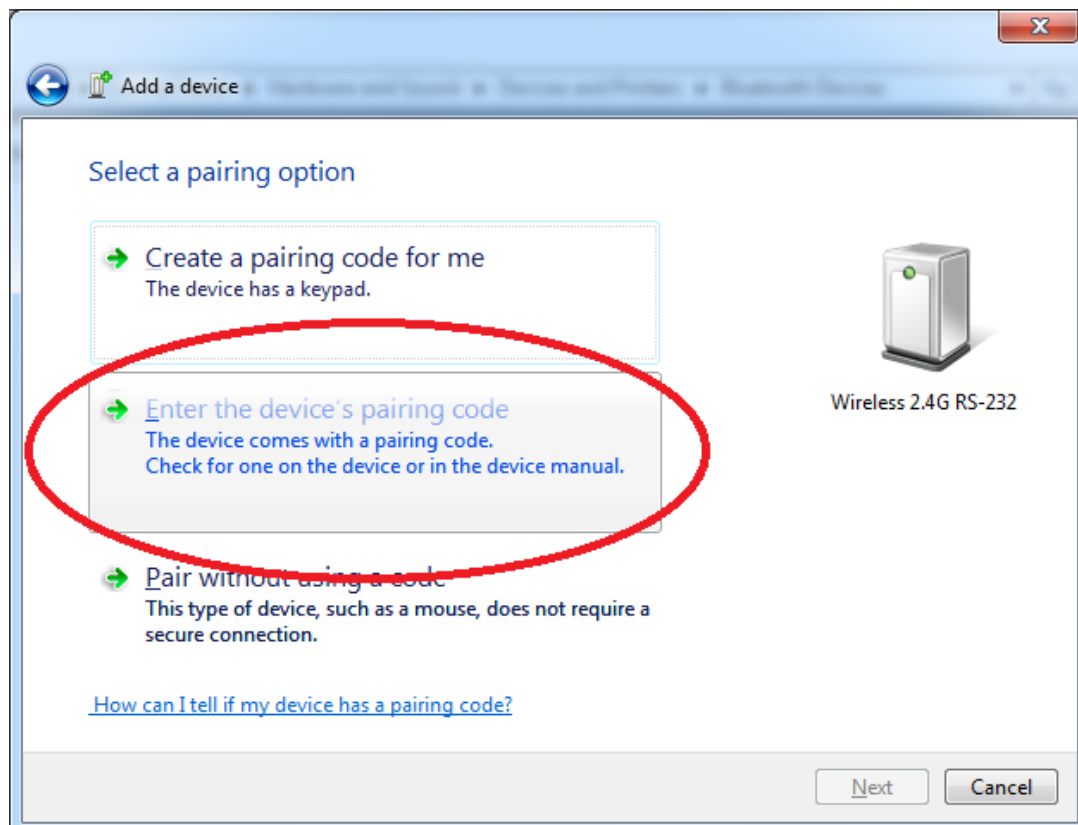
3.3 Once the device is detected, it will show the 'Wireless 2.4G RS232' on the screenshot of 'Add a device'.



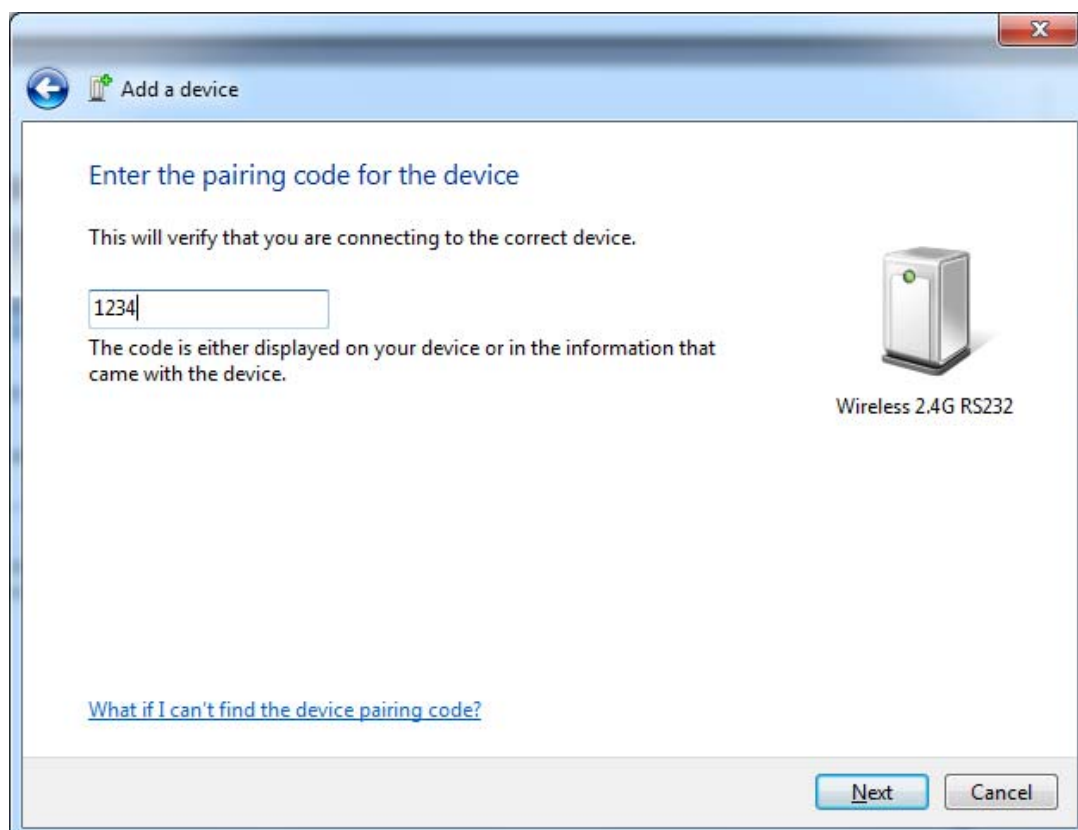
3.4 Click 'Wireless 2.4G RS232' and pair.



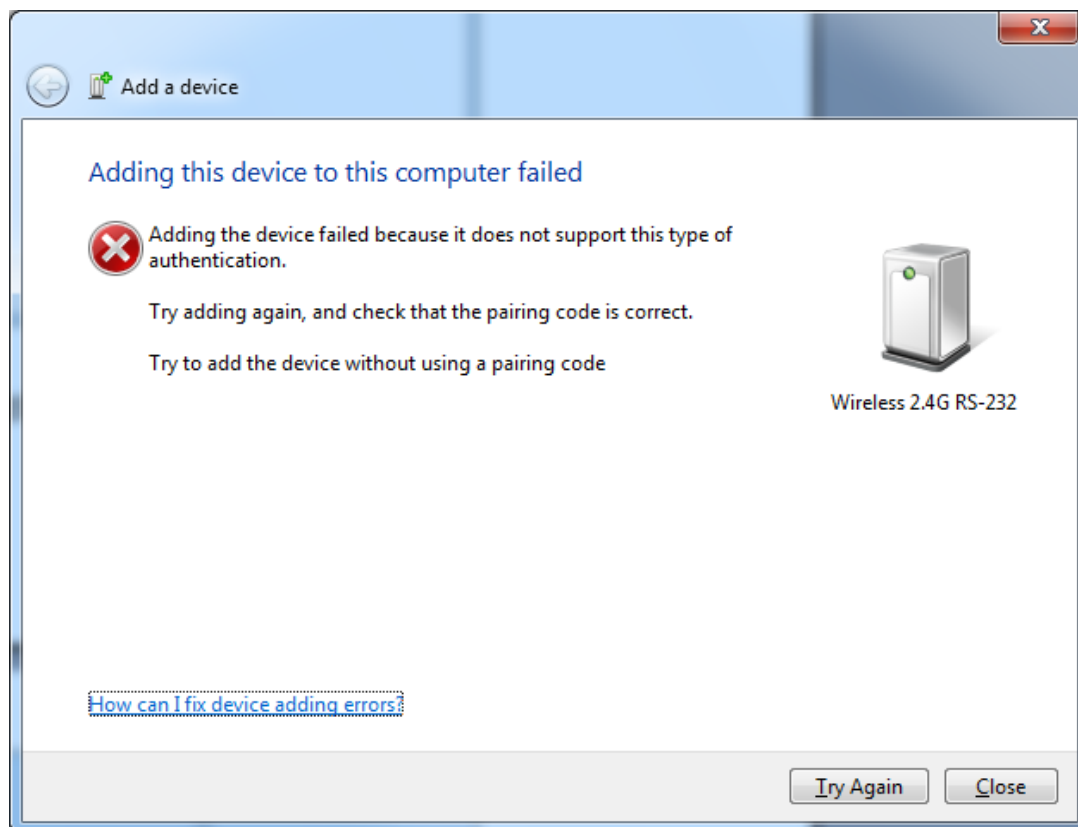
3.5 Click 'Enter the device's pairing code'.



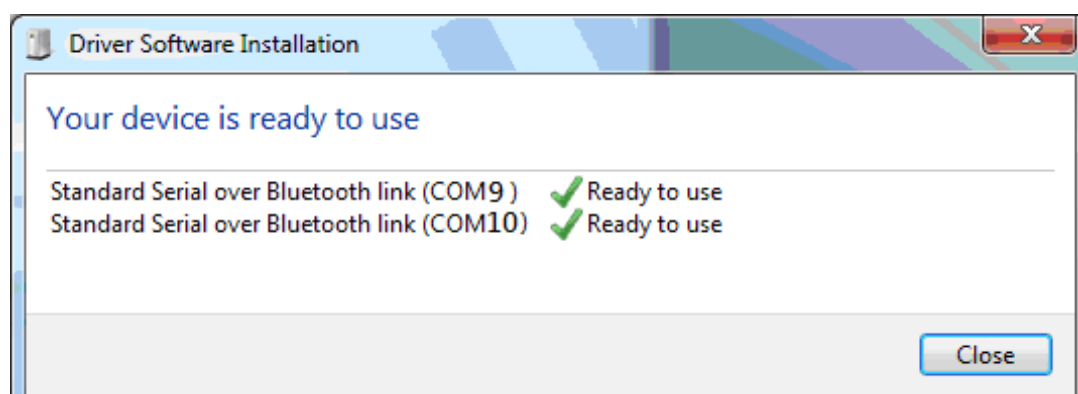
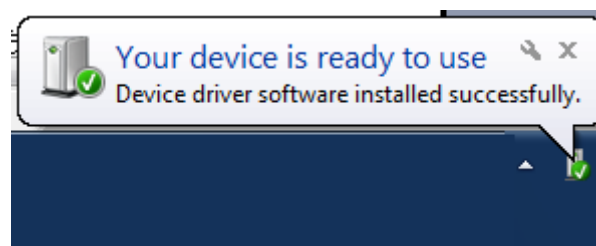
3.6 Enter the pairing code and click 'Next'. (Default is 1234)



3.7 It may fail to pair and pop up error message if you can not enter pairing code in 60 seconds. Please check your BT device is working and pair again.

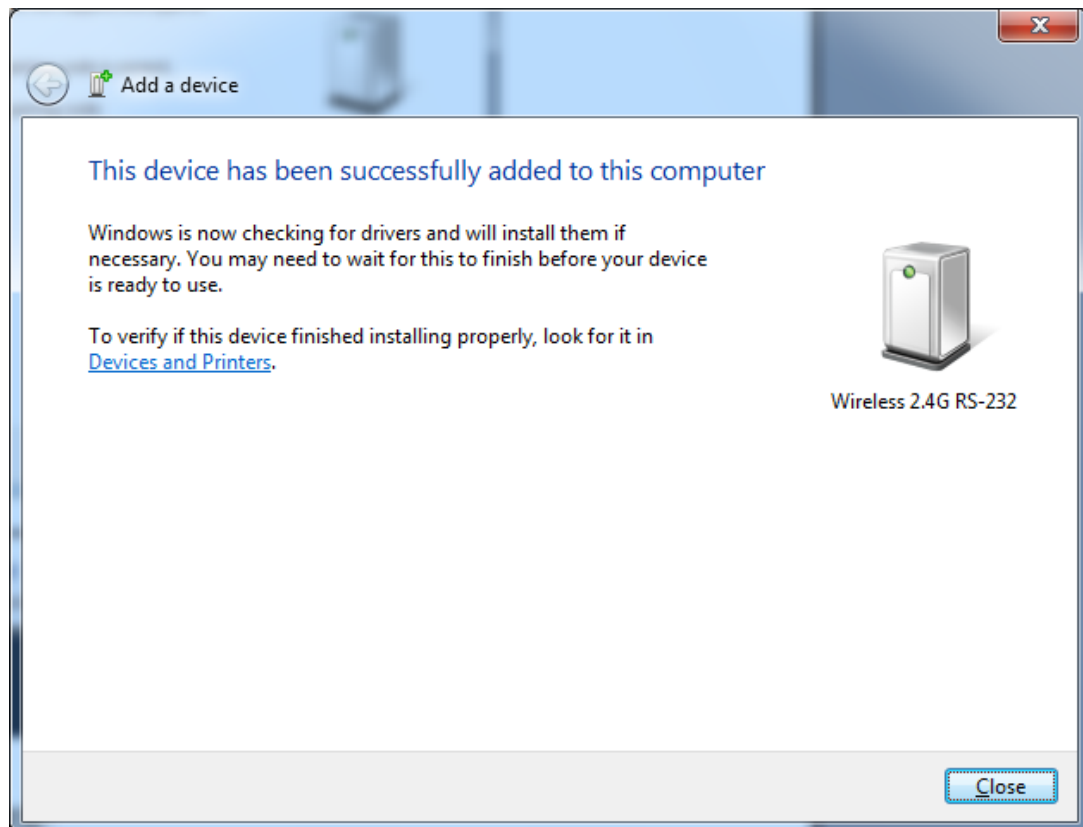


3.8 When the pairing is succeeded, the BT device will have its COM port number and ready to use. In this case, COM9 & COM10 are distributed to BT devices.

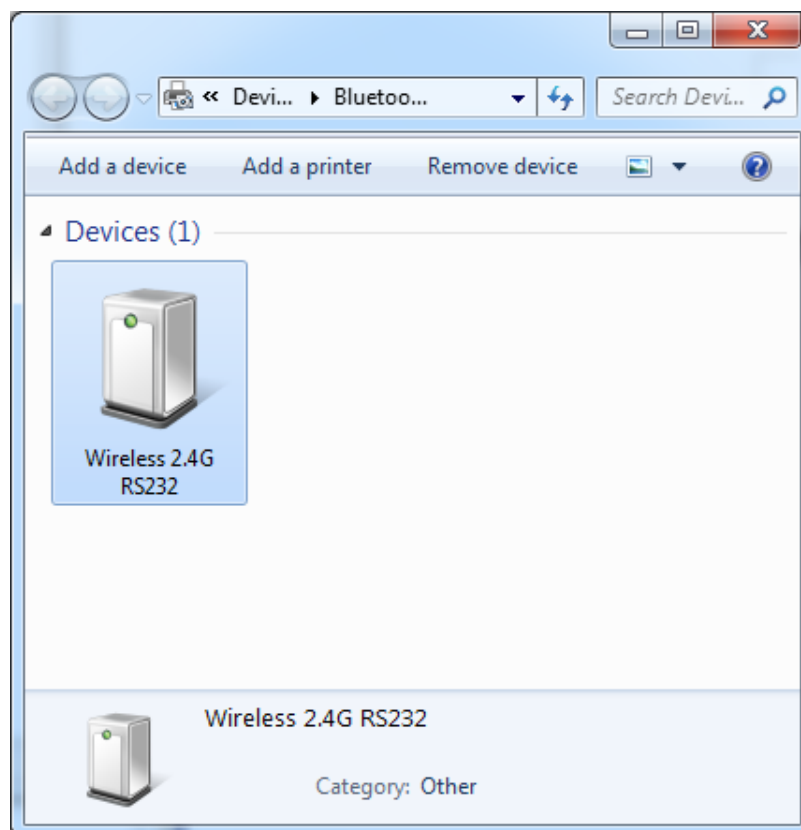




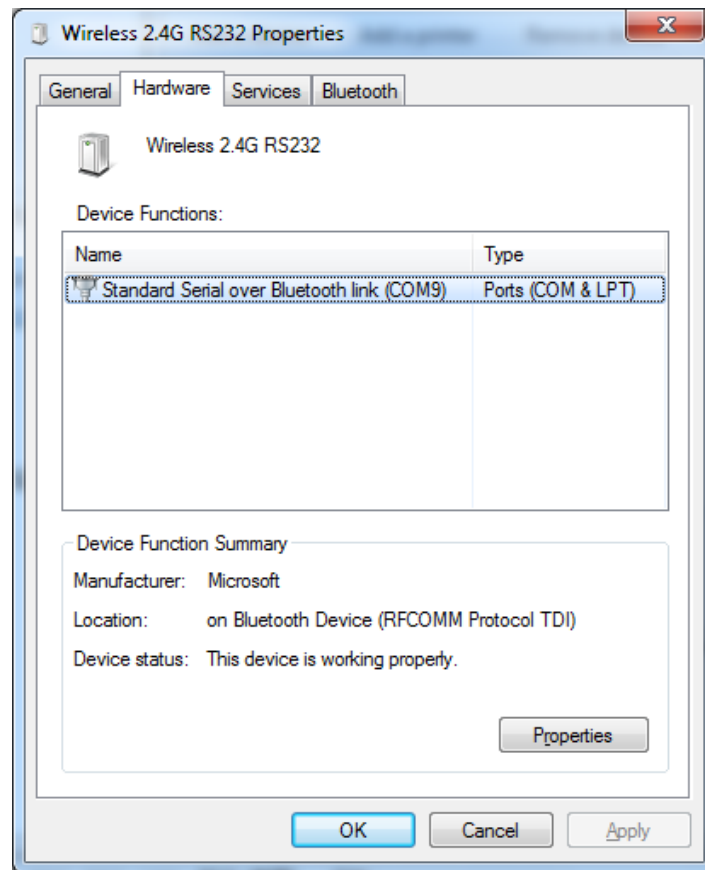
3.9 When the BT device is connected successfully, click 'Close'.



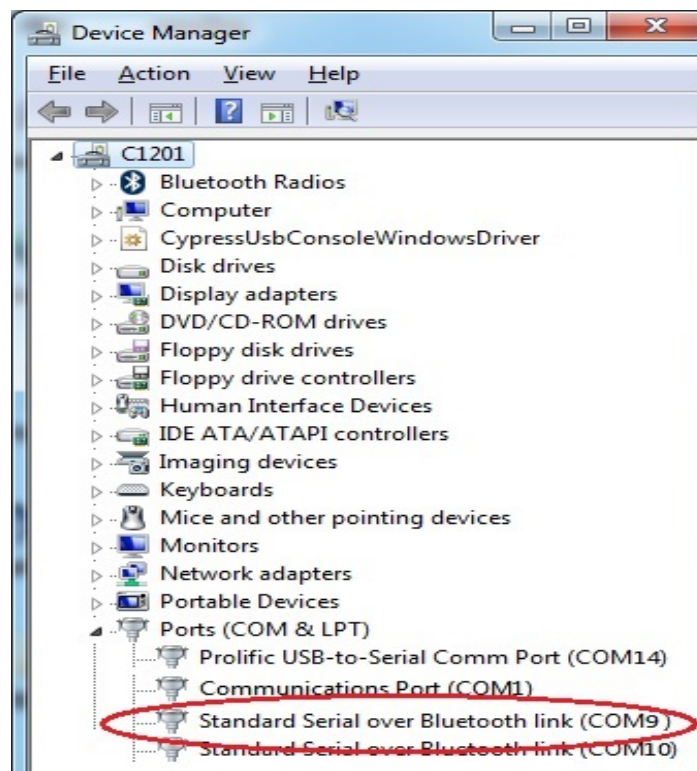
3.10 Click the device icon 'Wireless 2.4G RS232'



3.11 Select 'Hardware' and you will see 'Standard Serial over BT link (COM9)' in the screenshot that indicates the COM port number used for connection with the BT device. (Ex. COM9)



3.12 Open the Windows Device manager; it shows a new COM port has been established.



3.13 Congratulation! You have finished pairing the BT device successfully.



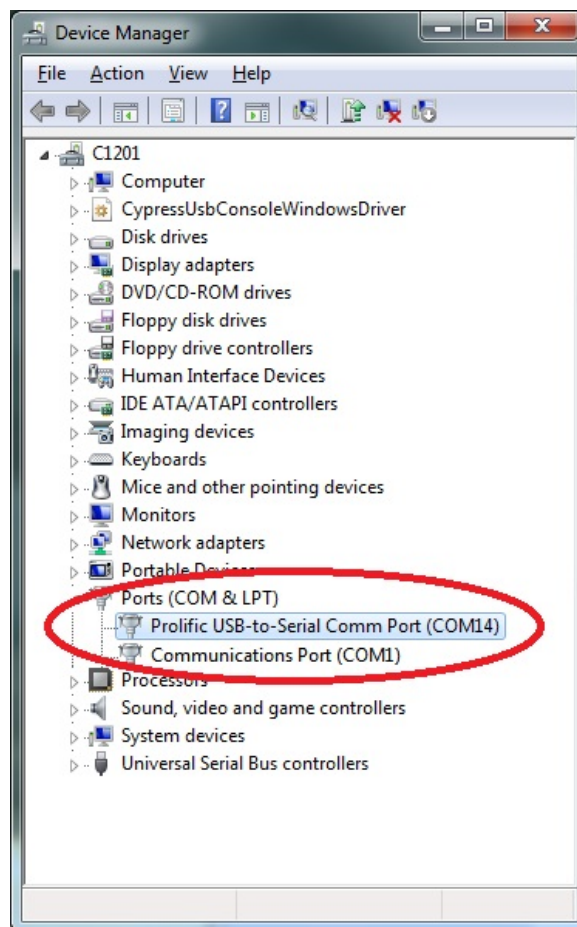
## 4. RS-232 Installation

Please follow below ways for installation.

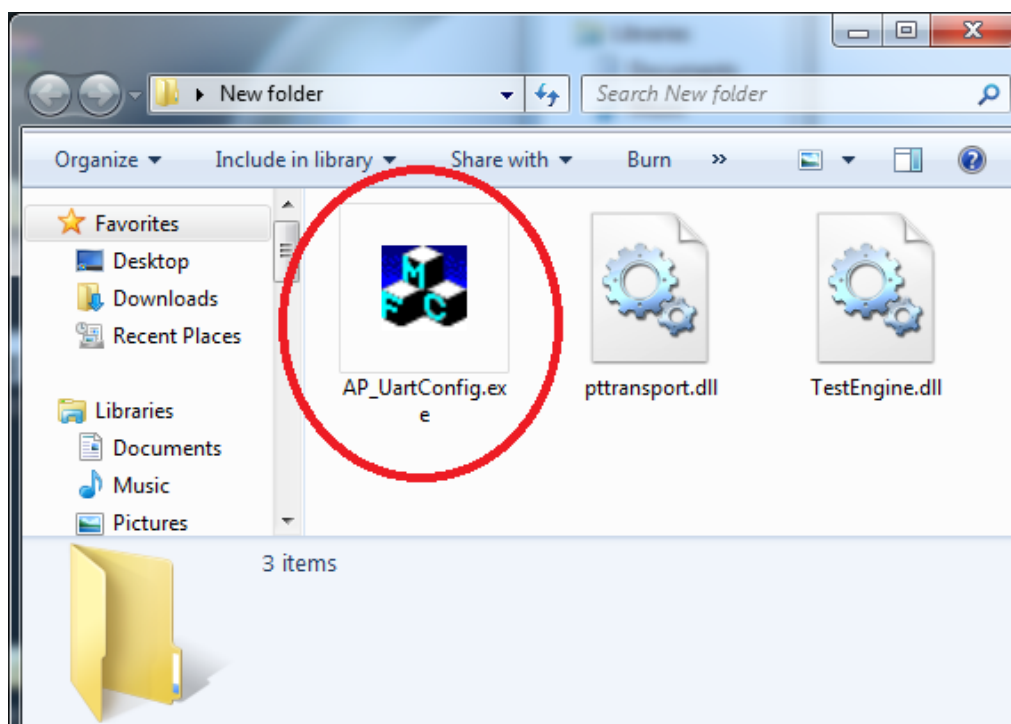
4.1 Take one DB9 F/F cable and plug one end of DB9 female to the BT device, then put the other end of DB9 female on the host computer. Or use the USB to RS-232 cable and connect with the BT device.



4.2 To further check if the COM port was successfully installed; go to Windows Device Manager where the COM port should be listed under 'Ports (COM & LPT)'. (Ex. COM1 or COM14)



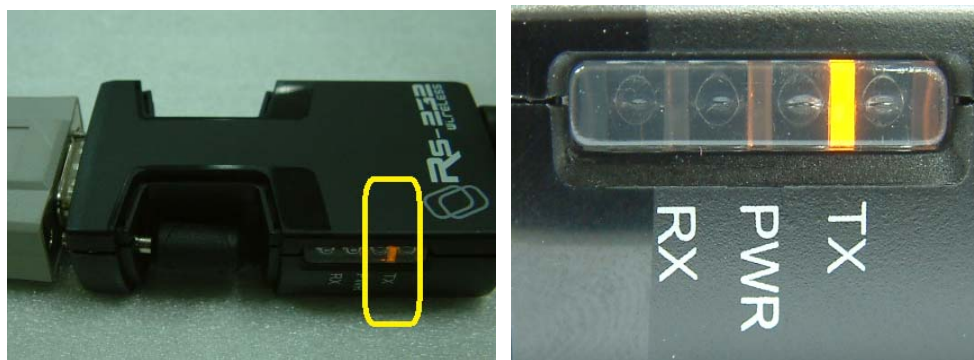
4.3 Install programmer 'AP\_UartConfig.exe'.



4.4 Plug the power adapter to the device's power jack. The PWR LED indicator (**Red**) lights up. Push the SETUP button, and the PWR LED indicator will light off.



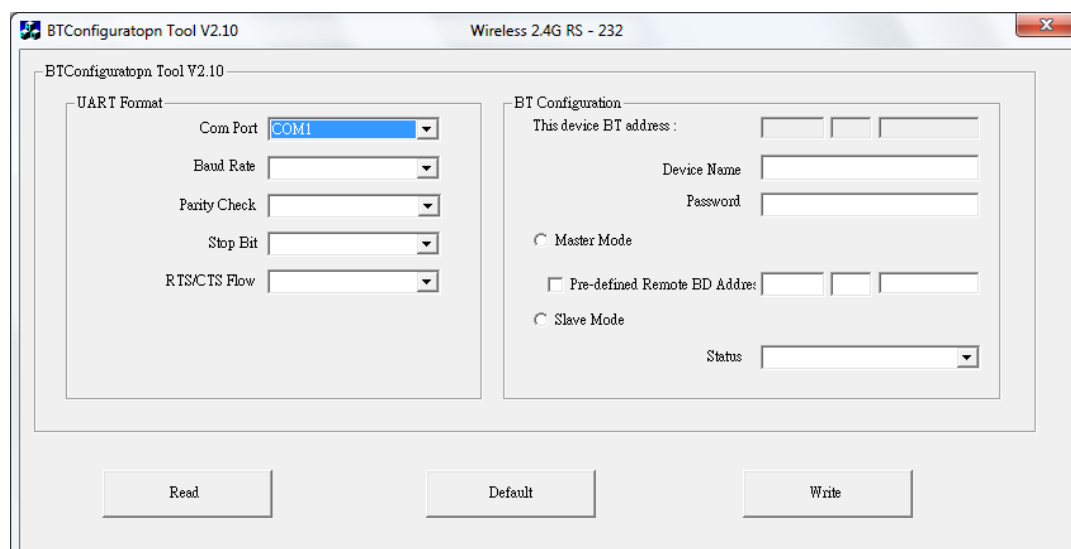
Then the TX LED indicator (**Orange**) should start blinking and go next step for configuration.



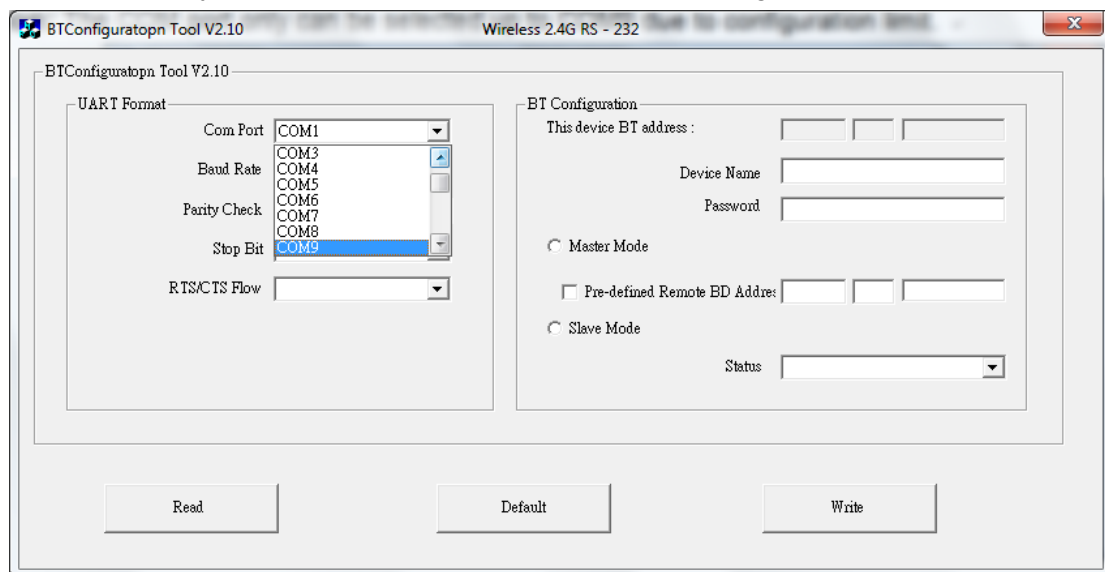
## 5. HyperTerminal setting & Configuration

The 'AP\_UartConfig.exe' programmer only can be operated and compliant with Windows 2000 / XP / Vista / 7 / 8 / 8.1. It is not applicable to operate on Mac OS or Linux.

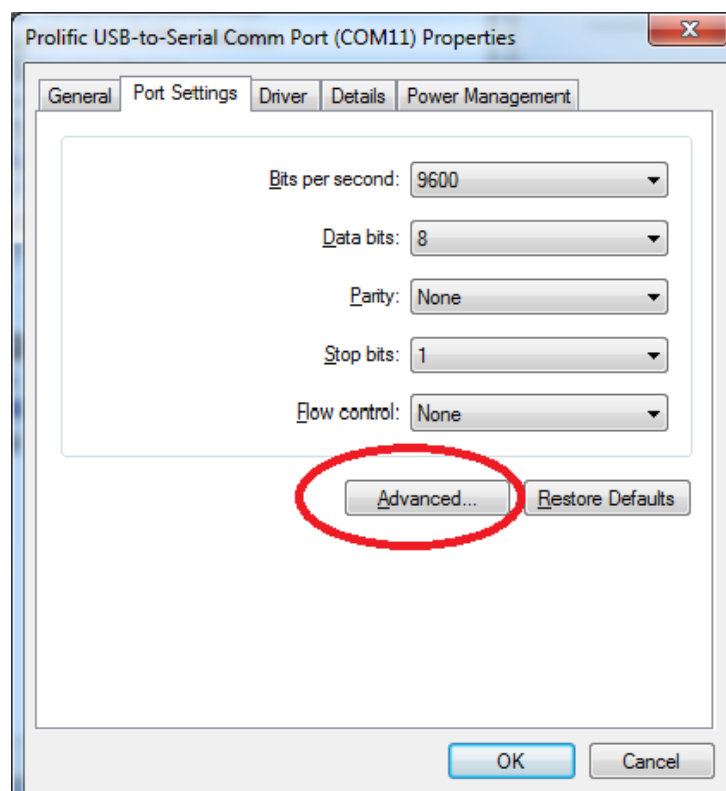
5.1 Click 'AP\_UartConfig.exe' → This will open the configuration wizard 'BTConfiguration Tool V2.10', and then enter the correct information. In this case we have created COM port 1 so we select COM1.



**Caution:** The COM port only can be selected up to COM9 due to configuration limit.

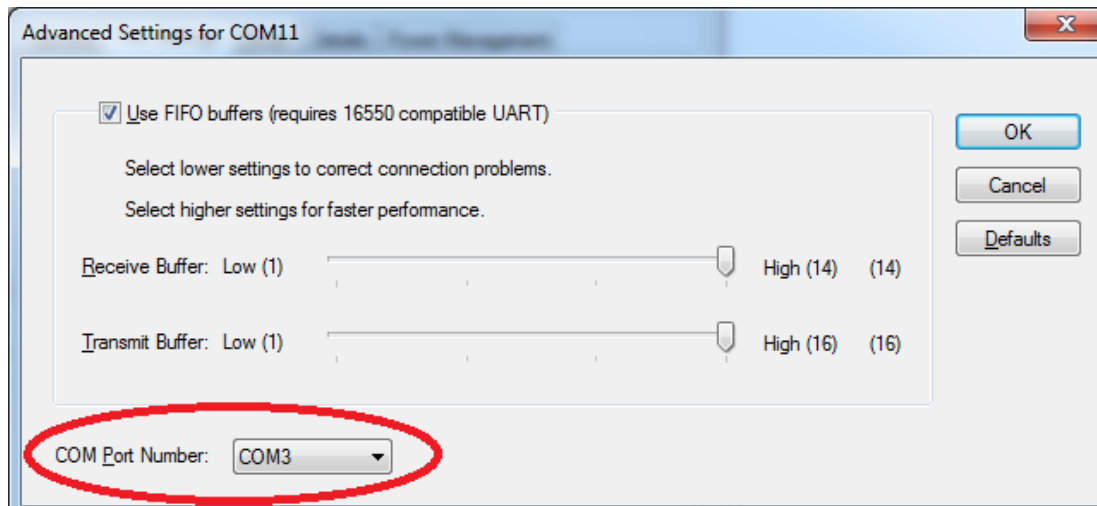


5.2 If the BT device does not list in COM1~COM9 from the Windows Device manager, you may click 'Advanced' of Port Settings to select applicable COM port.

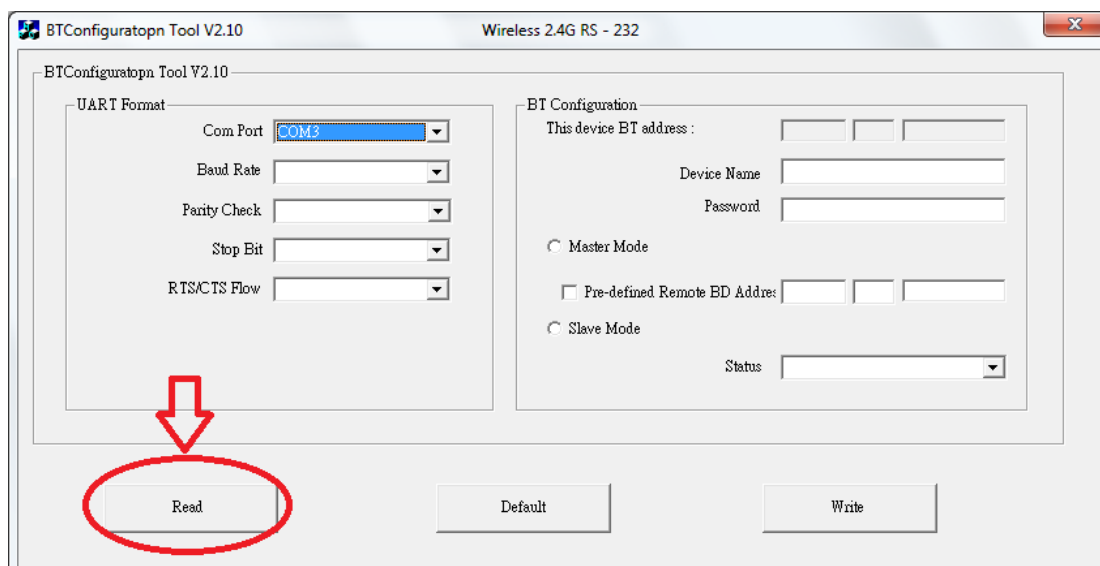




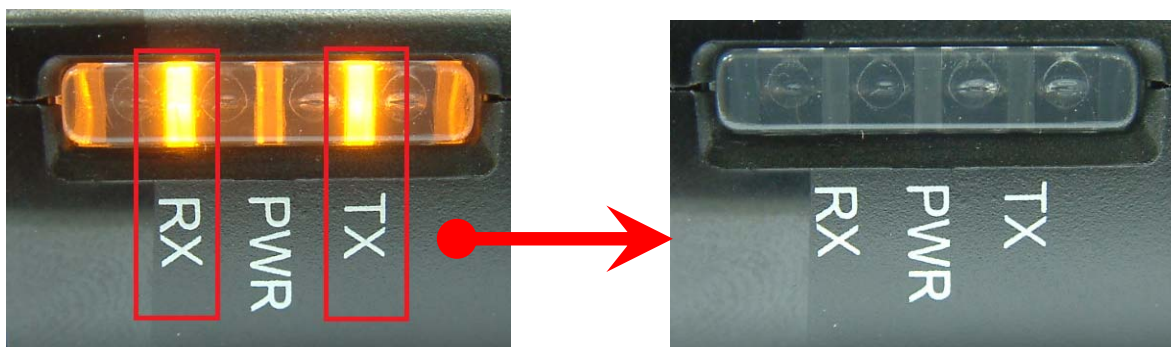
5.3 Confirm the COM Port Number is what you selected and click 'OK', then reboot the computer.

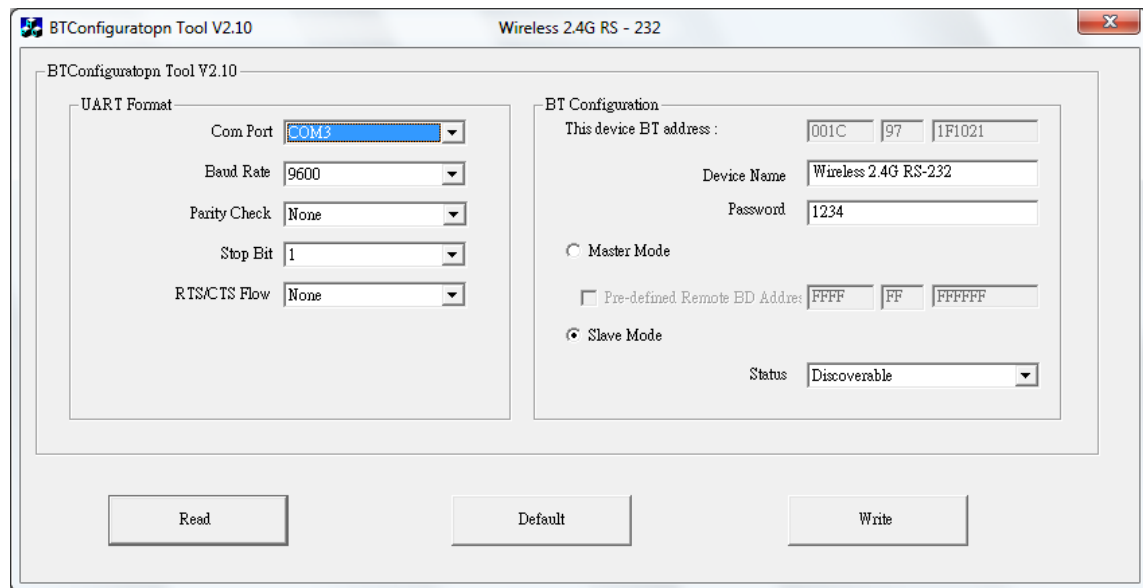


5.4 Back to the configuration wizard 'BTConfiguration Tool V2.10', and further check the default setting. You may click 'Read' and get the information of this device.



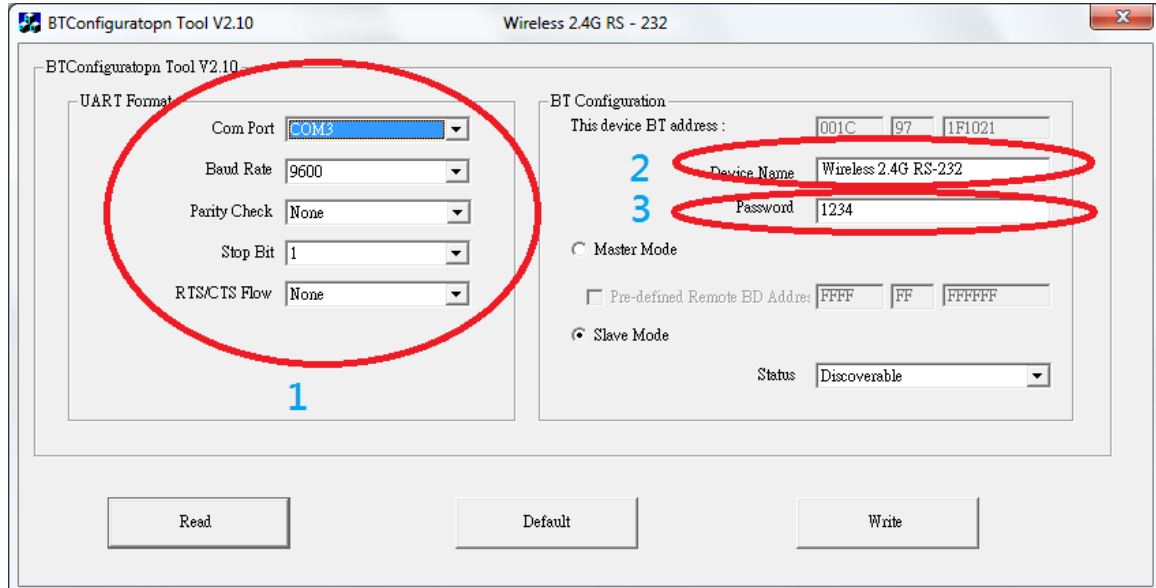
5.5 When the host computer is checking the default setting, the TX & RX LED indicators start blinking alternately in 10 seconds then light off.





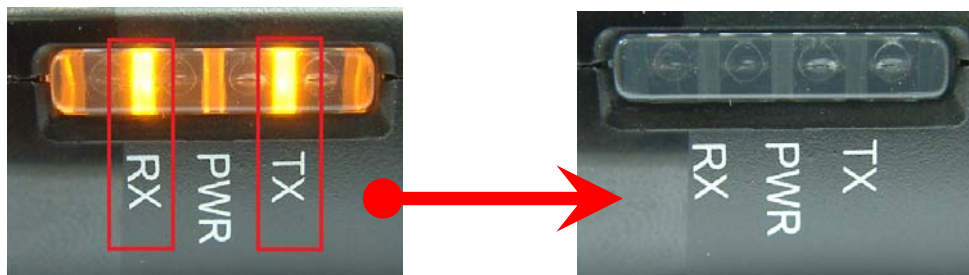
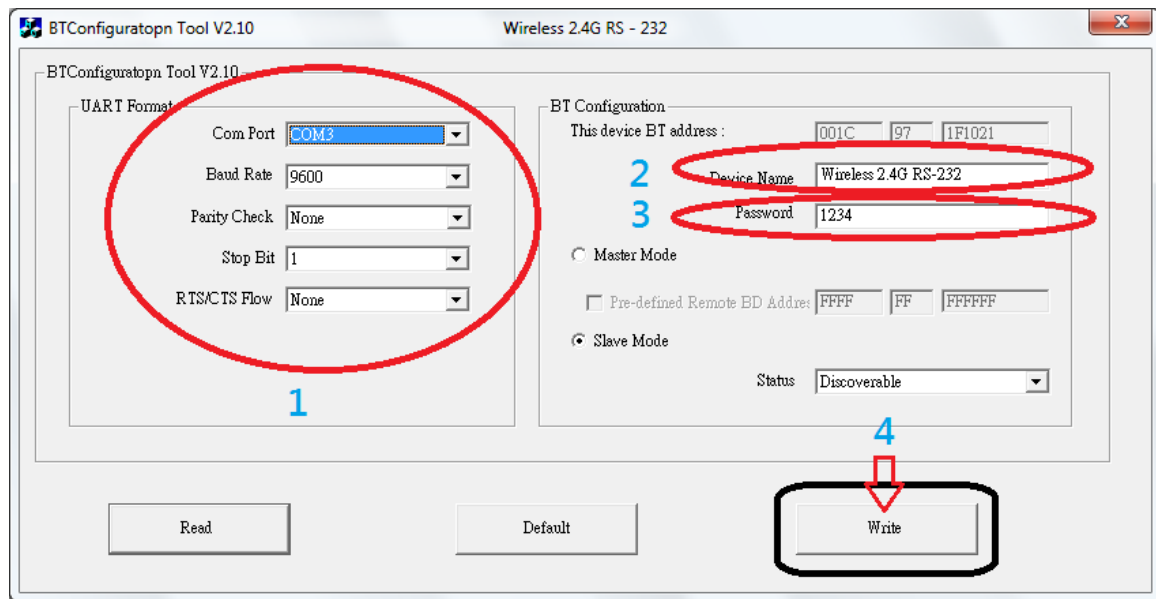
5.6 Complete your setting baud rate and BT Configuration as below. The default password is 1234. Or you may apply changes to any desired settings on BT device.

- (1) UART Format
- (2) Device Name
- (3) Password

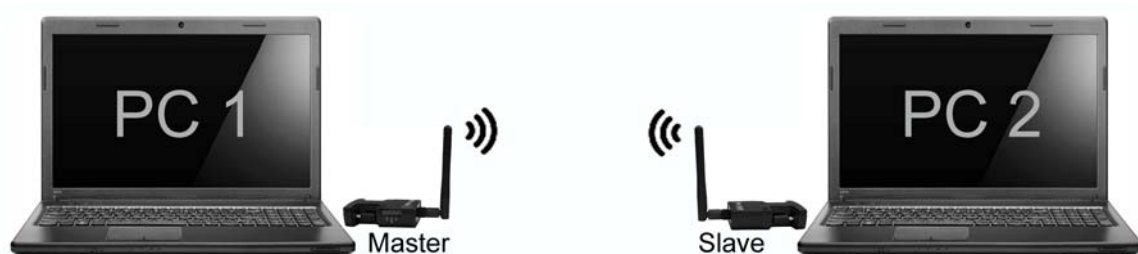




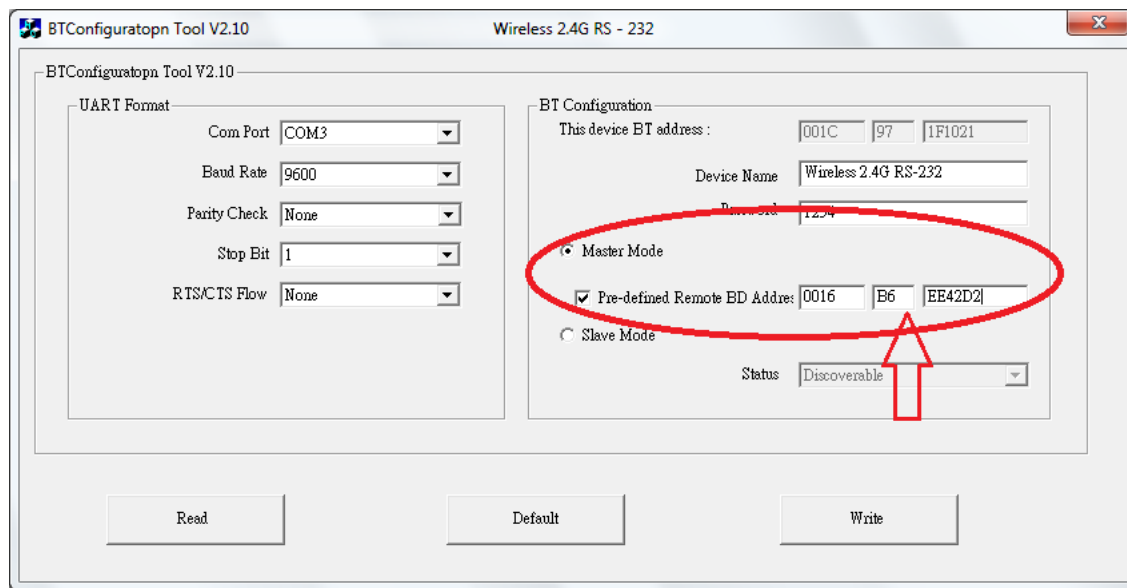
5.7 Confirm your configuration or accept the changes and click 'Write'. The TX & RX LED indicators start blinking alternately in 3~5 seconds and light off.



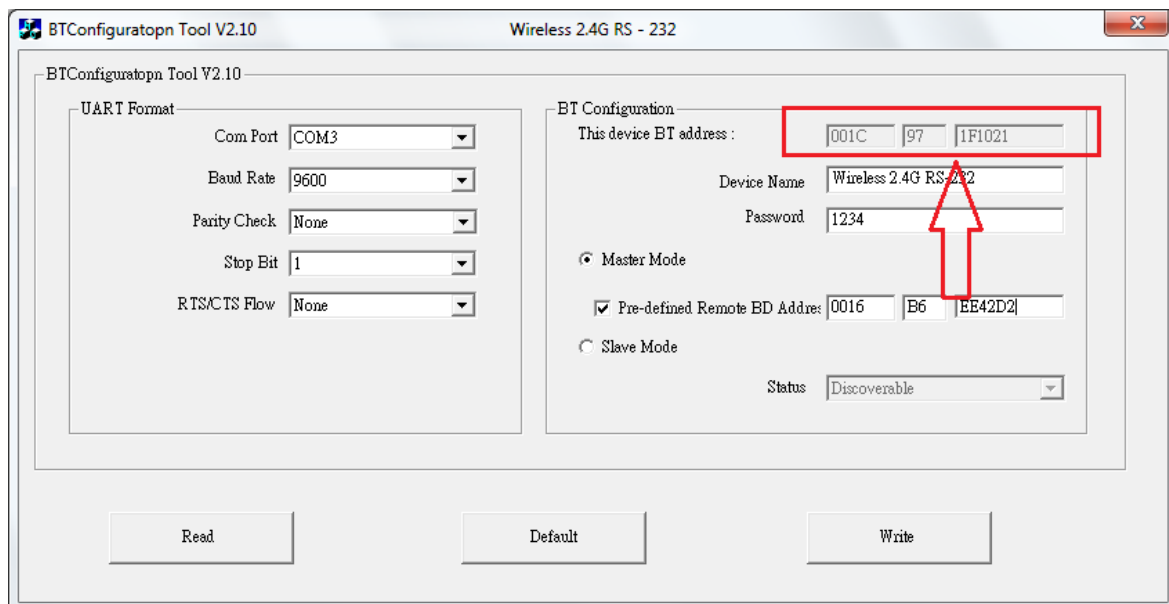
5.8 Pairing master & slave units  
Typical application diagram



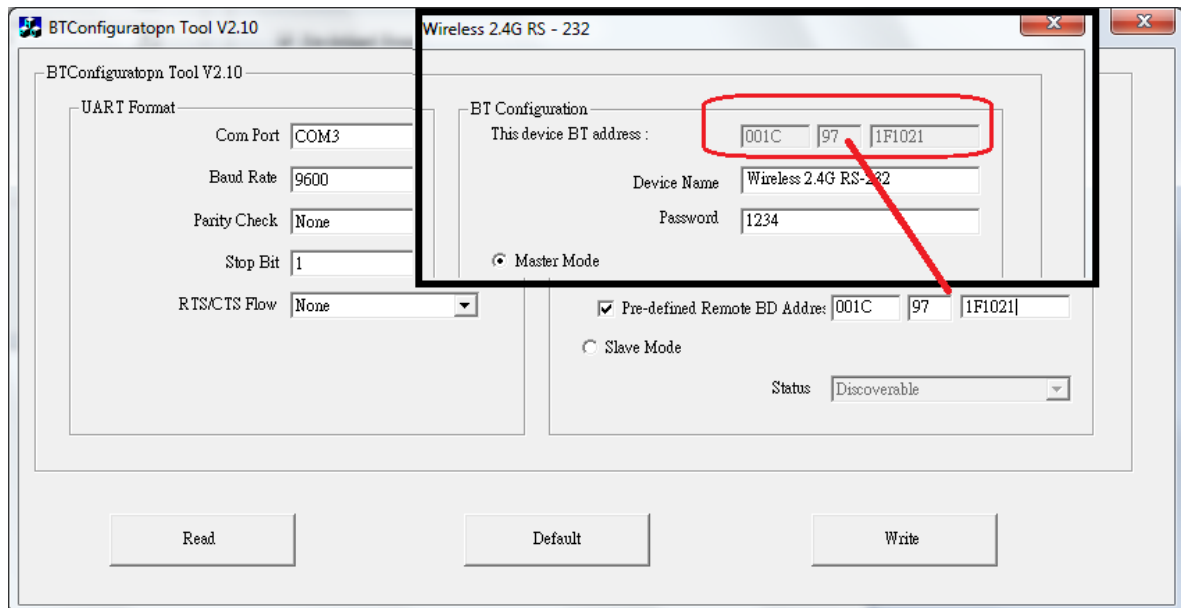
Two BT dongles can be paired by one is set as 'Master', another one is set as 'Slave'. And then it can transfer data thru the two BT dongles successfully.



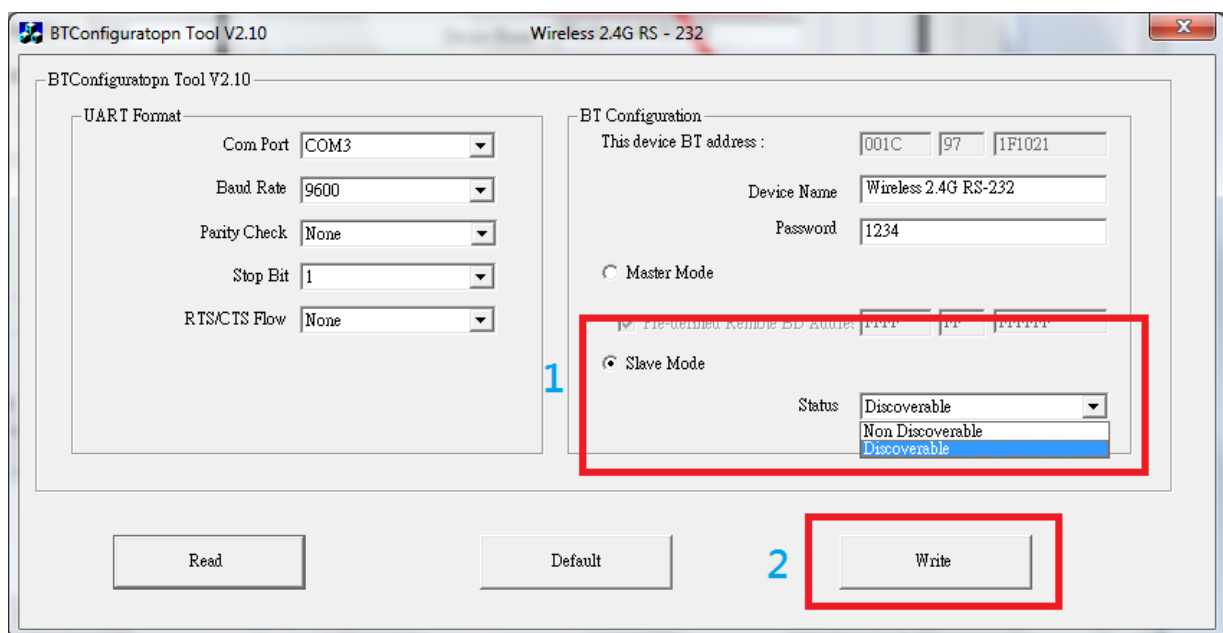
5.8.1 Check the Mac address of 'Slave' unit thru BT Configuration before setting the 'Master' unit. In this example, we get the Mac address of 'Slave' unit 001C.97.1F1021.



**5.8.2 Setting the 'Master' unit:** Overwrite the Mac address 001C.97.1F1021 on the 3 columns behind 'Pre-defined Remote BD Address'. And then select the 'Master Mode'; tick off 'Pre-defined Remote BD Address' and click 'Write'.



**5.8.3 Setting the 'Slave' unit:** Check the Mac address of 'Slave' unit thru BT Configuration and select the 'Slave Mode'; select Status 'Discoverable' then click 'Write'.



Note: When you finish above settings, the both power adapters of the two BT dongles must be removed, and then restart the two BT dongles.

## 6. Regulatory Compliance

### Disclaimer

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### CE Safety Statement

This equipment complies with the requirements relating to Electromagnetic Compatibility Standards EN55022/EN55024 and the further Standards cited therein. It must be used with shielded cables only. It has been manufactured under the scope of RoHS compliance.

### FCC Compliance Statement

This equipment generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation

### RF Exposure Statement

The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.



*WEEE (Waste of Electrical and Electronic Equipment),  
Recycling of Electronic Products*

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.