BT Throughput Testing Procedure

User Guide

Version 1.0

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1. Setup required

Please check for the minimum system configurations mentioned as below.

1. Windows 7 PC with Ezurio Terminal, (Ver 6.9.0) as well as Driver toolkit for SPP profile in PC
2. BT Classic Dongle
3. RS9116 WiSeConnect Device
4. Application program like Ezurio Terminal, (Ver 6.9.0)
5. FRDM application

2. Testing Procedure

The steps to be followed in order to test RS9116 BT Classic throughput are outlined below:

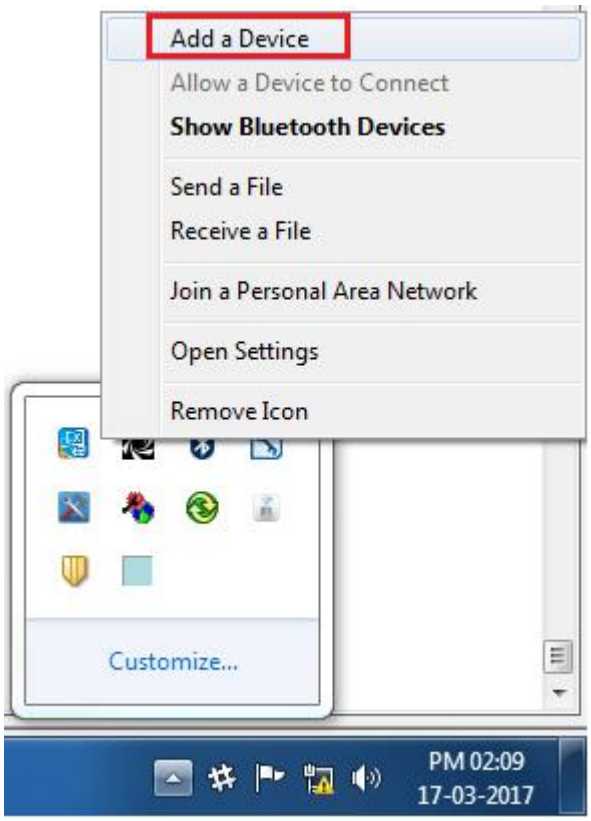
- Configure the RS9116 module in BT Classic slave mode(Continuous Tx) by using the below commands in Host A (FRDM) source file.

  #define SPP_TX_SEND 1

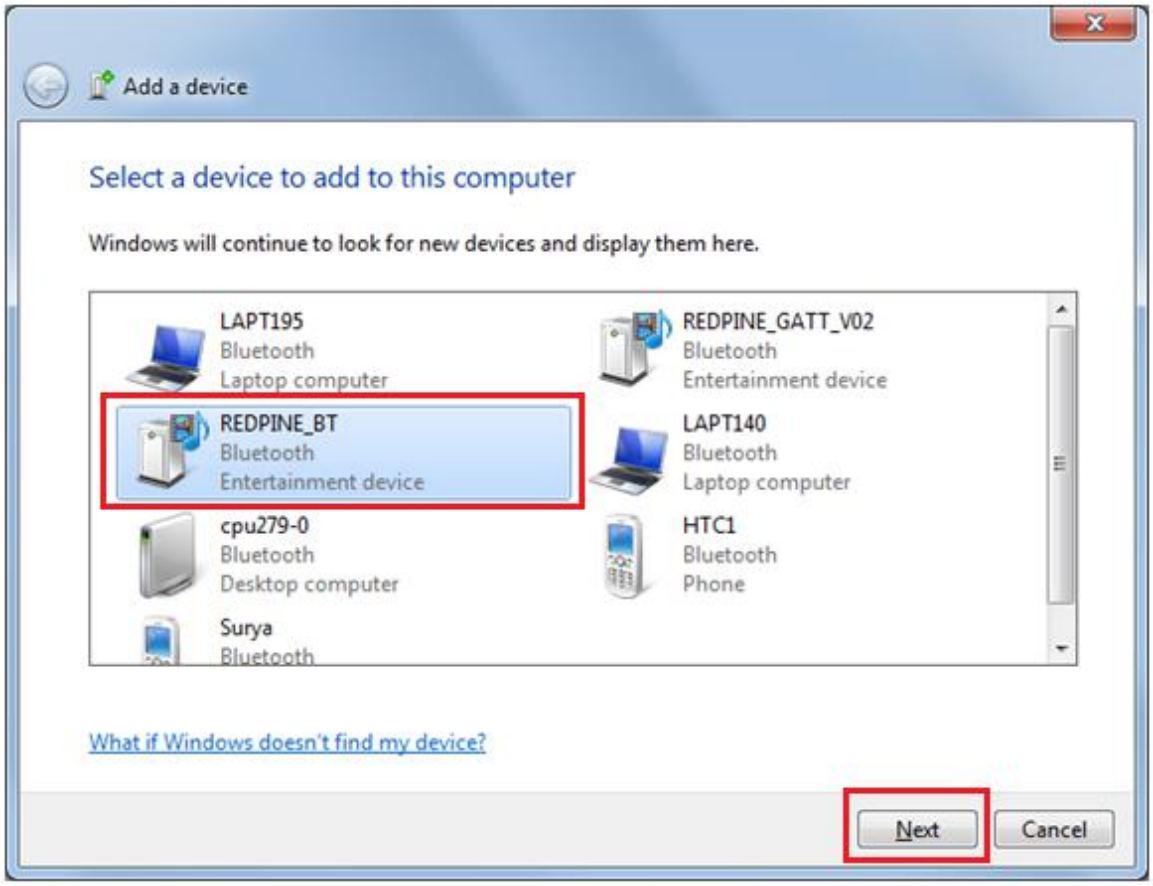
- Install the driver toolkit to create the SPP profile in windows7 PC (Host B). (Link to download Driver tool kit:-http://www.drivertoolkit.com/download.) Also, the PC (Host B) should have the Ezurio Terminal, Ver 6.9.0 to check the throughput test results.

- Turn **ON** the Bluetooth option in PC by inserting the USB BT Classic dongle. Now you can see the Bluetooth icon in the notification area of taskbar as shown below.

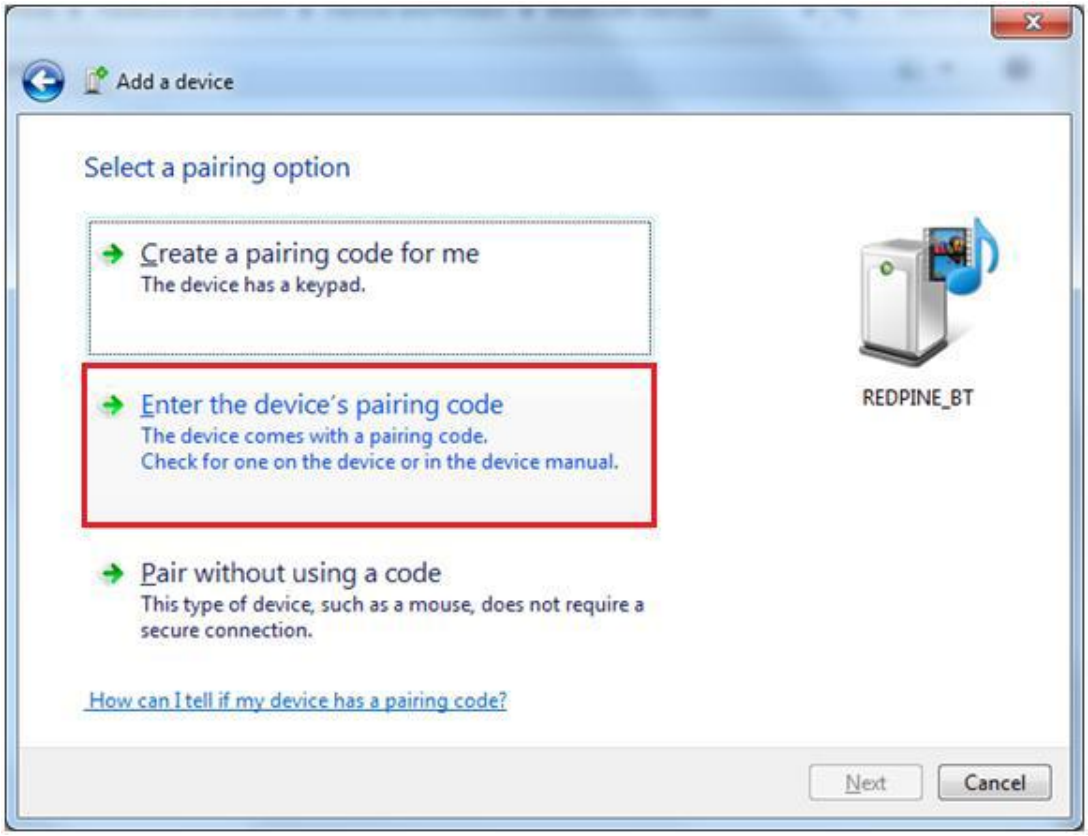
- After this, initiate the pairing.
- Pair the RS9116 Host A (FRDM) to Host B(PC) by following the below mentioned steps:
- Right click on the Bluetooth icon (present at right side bottom of the PC). Select **"Add a device"** option as shown below.



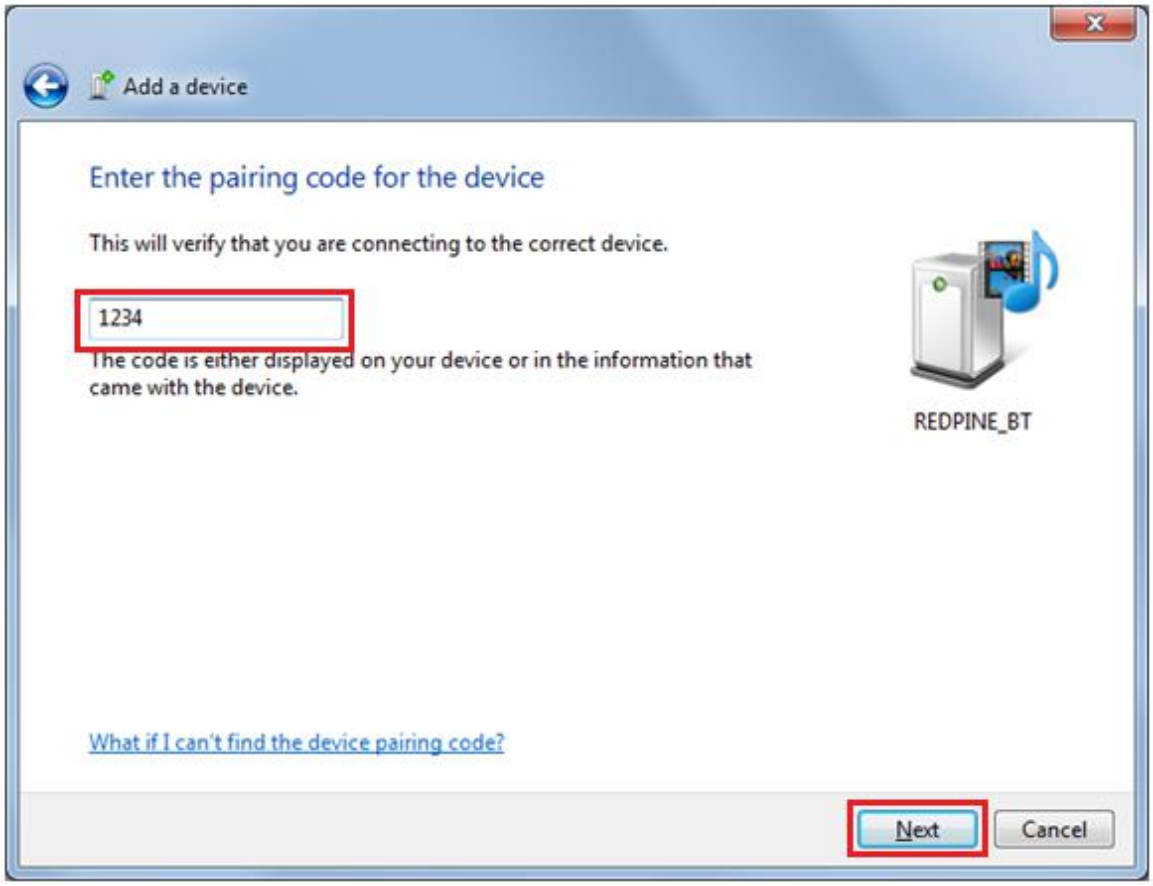
- PC will start scanning the nearby Bluetooth devices. From the scan list select the RS9116 device and click on **"Next"**. Refer to the image below.



- A pop up message appears in PC. Select the second option i.e. **"Enter the device's pairing code"** as shown below.

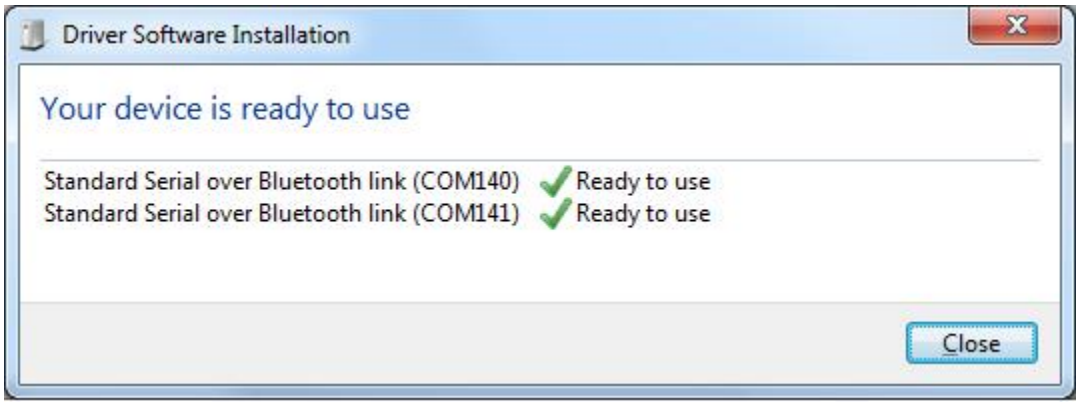


- Enter the pin as **"1234"** and click on **"Next"**.

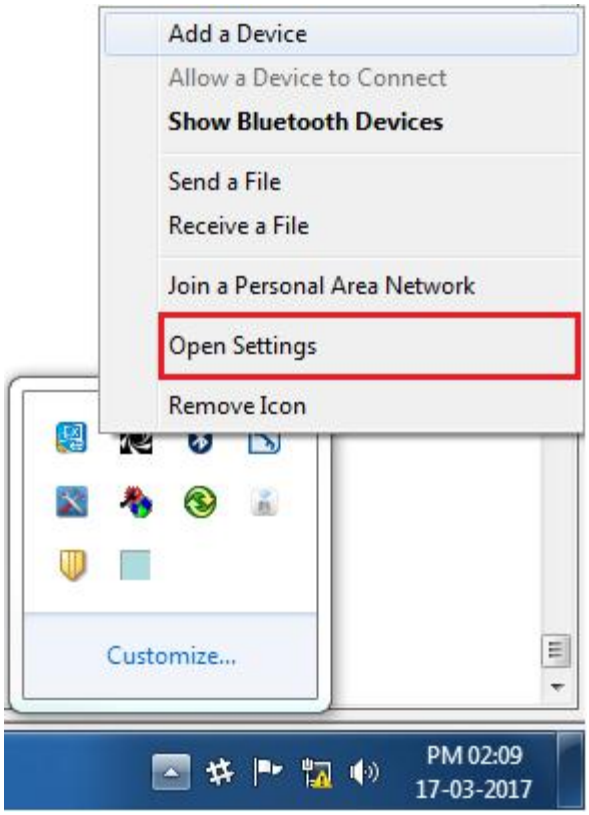


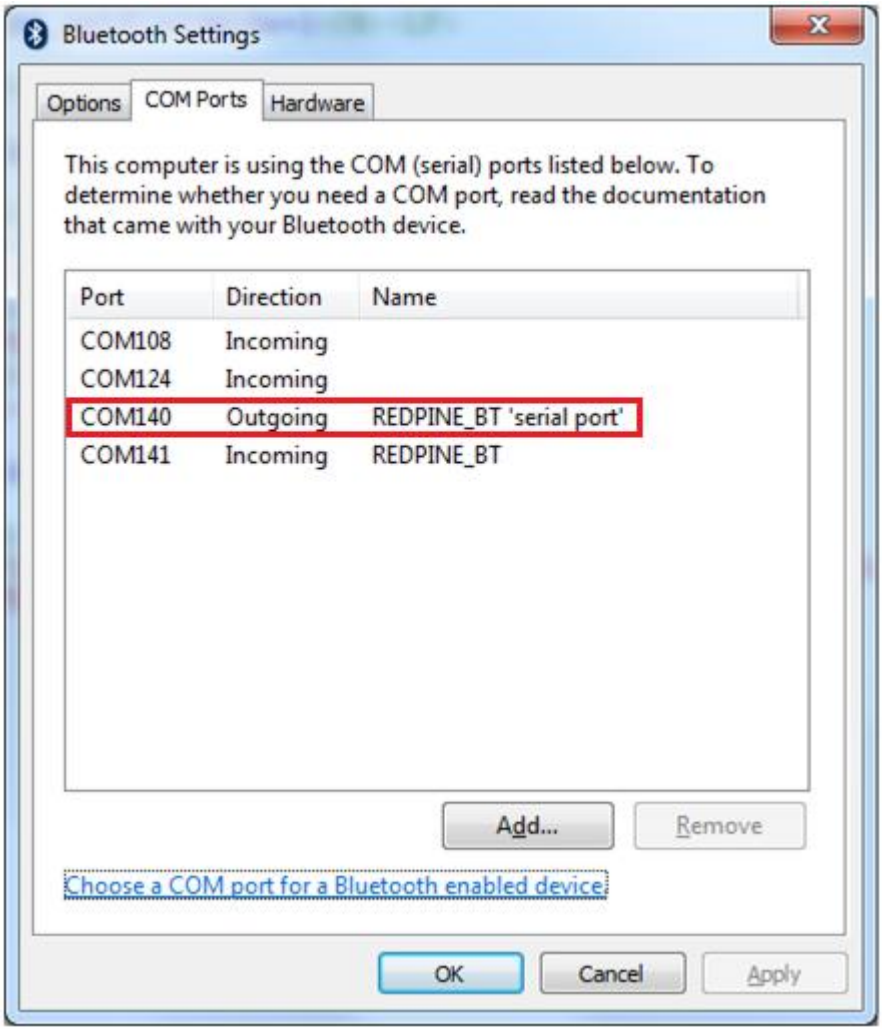
- When all these done, one pop up message will appear in PC (Host B) saying **"This device has been successfully added to this computer"** with the device symbol. Refer to the image below.

- Once paired, COM ports should be created on PC (Host B). It will appear as a pop up window as shown below.

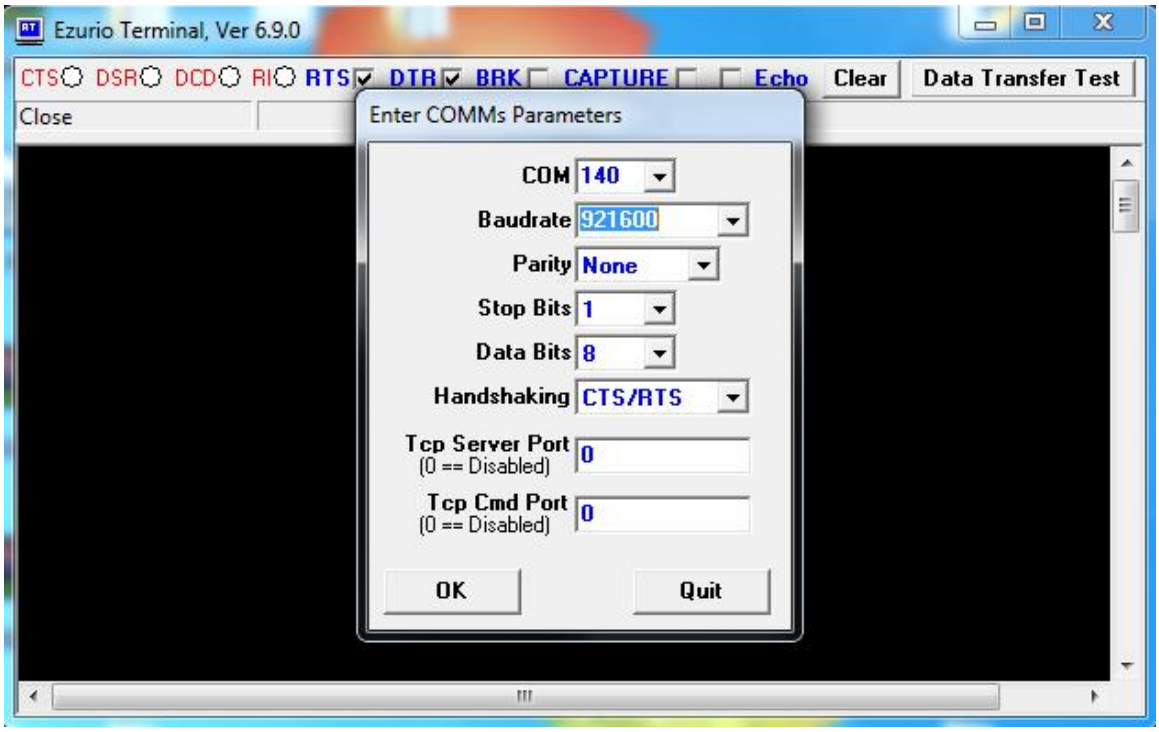


- After this, right click on the Bluetooth icon present at right side bottom of the PC. Select the option **"open settings"** and check the outgoing serial port number in the COM ports menu. Refer to the images below.



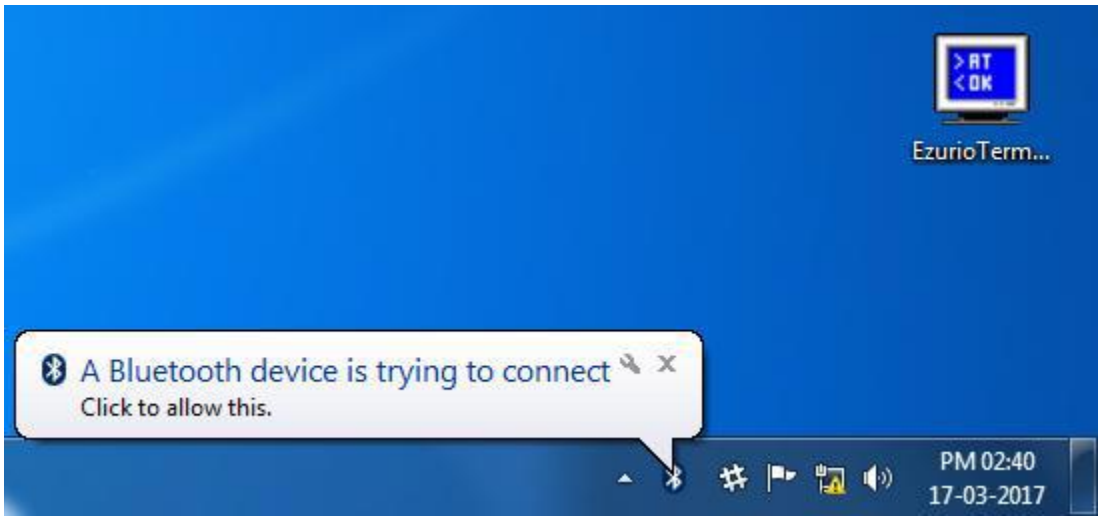


- In the Host B (Ezurio Terminal), choose the appropriate outgoing serial COM Port and Baud Rate (921600) and click on **"OK".** Here, all lights should be red until it is connected to RS9116 via SPP. Refer to the image below.

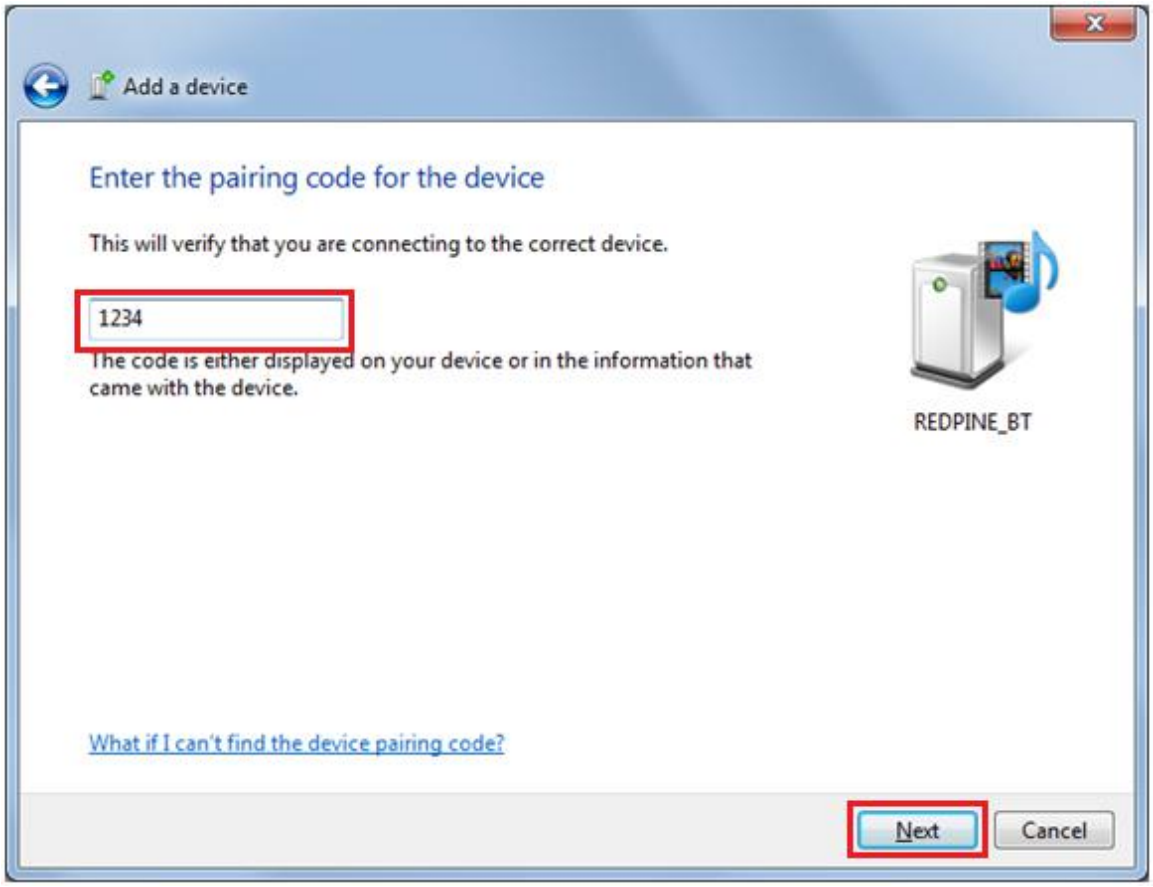


- Next, click **Data Transfer Test** button present at top right corner on Host B (Ezurio Terminal). Once you select, the terminal tries to open the appropriate port

- Once you issue the user pin code command, the PC (Host B) will be notified with a popup message saying **"Bluetooth device is trying to connect. Click to allow this"** appears at the right side bottom of the PC (Host B). Immediately respond to it or else you may miss. Refer to the image below.



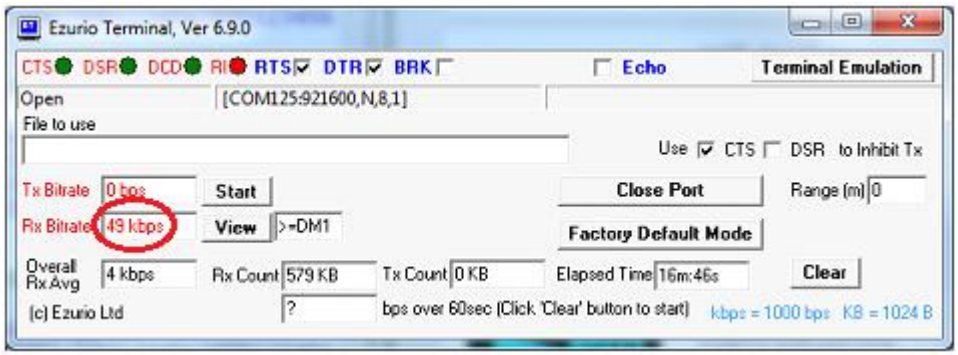
- Once you click on the popup message, one more pop up window appears where again you need to enter the pin code as **"1234"** and click on **"Next"** as shown below.



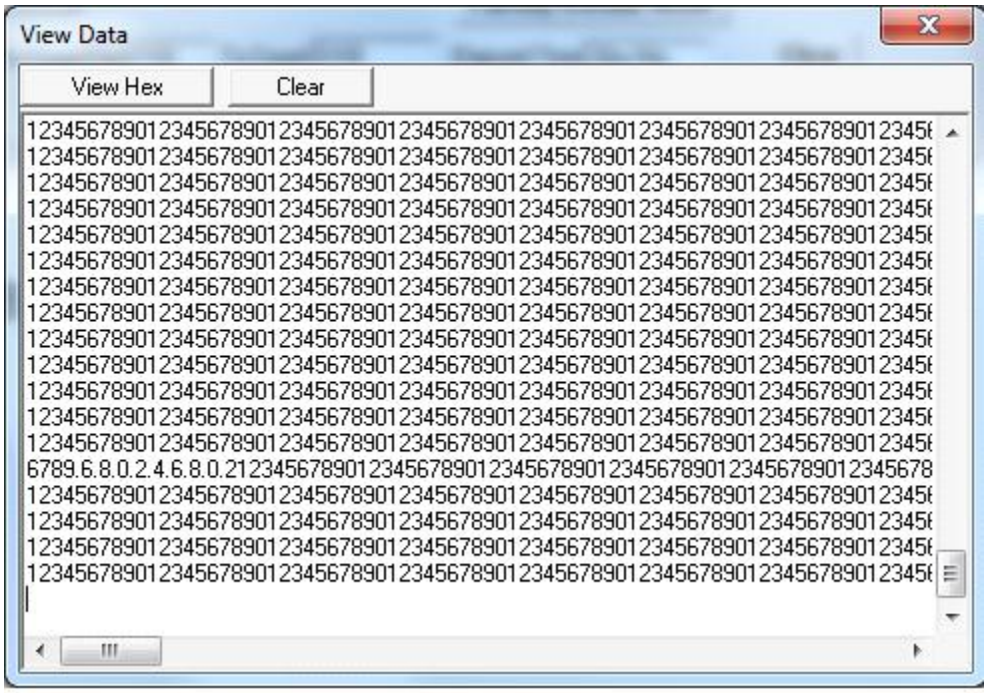
- When all these done, one pop up message will appear in PC (Host B) saying **"The device has been successfully added to this computer"** with the device symbol. Refer to the image below.

- After Successful SPP connection, the Ezurio Terminal (Host B) should show the CTS and DSR icons as **"Green"**.
- After SPP connection successful Module will send the data continuously.
- Once both the hosts start communicating, click on **"Clear"** in order to clear everything before testing in Ezurio Terminal (Host B).

- You can check the test results in "**Rx Bitrate**" and "**Overal Rx Avg**" in the Ezurio Terminal as shown below.



- Select **"View"** in order to see Tx data in Ezurio Terminal (Host B) as show below.



- For testing RX throughput put the Module in Connected state by using above mentioned steps and disabling below macro

  #define SPP_TX_SEND 0

- Then click on "**start**" in order to send the data continuously from Ezurio Terminal.
- Now you can see the Module Rx throughput in "**Tx Bitarte**" in the Ezurio Terminal.