



# UB2-2111-S User's Manual

## With the Bluetooth Software BTW 1.2.x or above

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### Trademark Information

BTW is a product of Widcomm Inc.

Windows, Windows 98, Windows NT, Windows Millennium, Windows XP are trademarks of Microsoft Corporation. Internet Explorer is a product of Microsoft Corporation.

The BLUETOOTH trademarks are owned by Bluetooth SIG and used by USI under license.

T39 handset is a product of Ericsson.

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## Hardware Specification

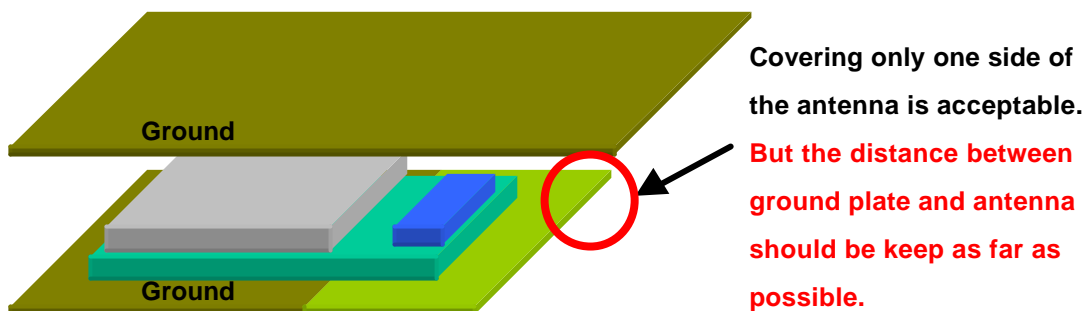
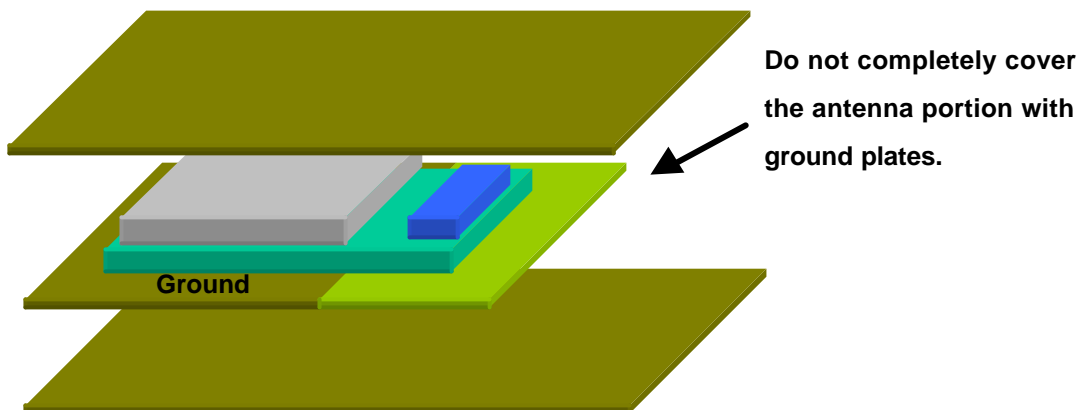
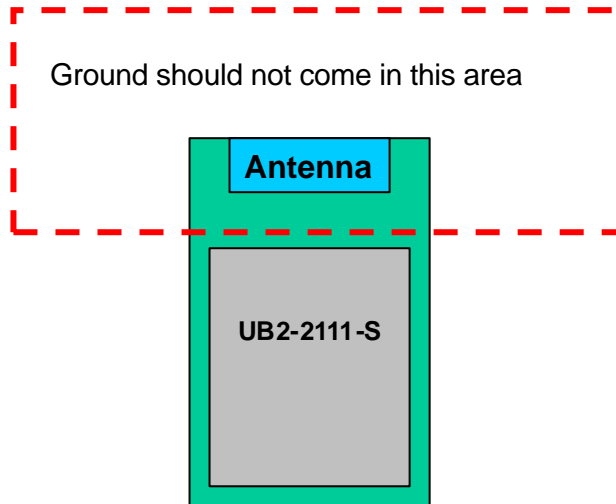
- Conducted Power: 0.8mW
- Frequency Range: 2.402GHz~2.4835GHz
- Modulation: GFSK
- Sensitivity: -80 dbm
- Data Rate:
  - Asynchronous :723.2kbps/57.6kbps
  - Synchronous :433.9kbps/433.9kbps
- Operating Voltage:
  - +3.3VD
- Operating systems:
  - Windows 98SE
  - Windows ME
  - Windows 2000
  - Windows XP
- Antenna Peak Gain @ 2.45GHz: 0.5dBi
- Dimesion
  - Length: 36.00 mm
  - Width: 13.80 mm
  - Height: 3.8 mm

## Connector pinouts

Type-A PIN #	Type-B PIN #	Module Pin Name	Usage for Platforms	Description
1	2	GND	GND	Ground.
2	4	USB_D+	USB_D+	USB Data +. Must be routed with USB_D- as a 90Ω differential pair.
3	6	USB_D-	USB_D-	USB Data -. Must be routed with USB_D+ as a 90Ω differential pair.
4	8	USB_PWR	USB_PWR	This is a 5V rail that is used by bus-powered USB devices. The module does not actually draw power from this pin, uses this pin to detect whether the USB host port is powered so as to avoid latch-up conditions.
5	10	RSVD	Test Point, COEX1	Reserved. This pin may be used for resolving coexistence with the 802.11 radio(s) on the MPC1 card in the platform.
6	1	HW_RADIO_DIS#	HW_RADIO_DIS#	Active low input from the platform to the card to disable all the radios on the module from transmitting.
7	7	RSVD	Test Point, COEX2	Reserved. This pin may be used for resolving coexistence with the 802.11 radio(s) on the MPC1 card in the platform.
8	5	+3.3V	+3V_SUS	This is the rail from which the module powers itself (as a self-powered USB device).
9	3	LED_BT_RadioState	BT_RADIO_ON	Active-high LED drive signal for indicating the state of the Bluetooth Radio. This LED should not have a flashing feature.
10	9	GND	NC	

### Mounting Guide for Antenna Radiation

In order to achieve longest communication range, please keep the area surrounding antenna free of grounding or metal housing.





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#### **Impedance Matching of Antenna**

UB2-2111-S utilizes a monopole printed antenna for radiate communication. Application environments, such as notebooks, PDAs, printers or other handheld devices, both have plastic housings, different motherboards and other mechanism structures. These factors will cause the deviation of antenna central frequency. Therefore, impedance matching of antenna should be optimized for various applications to achieve longest communication range. Please consult USI for further information.



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### System Requirements

BTW runs under:

- Windows 98 (Second edition)
- Millennium (Windows 98 ME)
- Windows 2000
- Windows XP

During the installation, you need a CD-ROM driver for access to the bundle software.

### Bluetooth Software Install step by step

Step 1 Insert the Widcomm BTW CD into the PC' s CDROM drive . Installation proceeds automatically. Since Windows NT does not support USB, the installation of the CD should be done on systems with Windows '98 or Windows 2000.

Step 2 An InstallShield box appears to inform you the installation Wizard is being set up. Please wait.

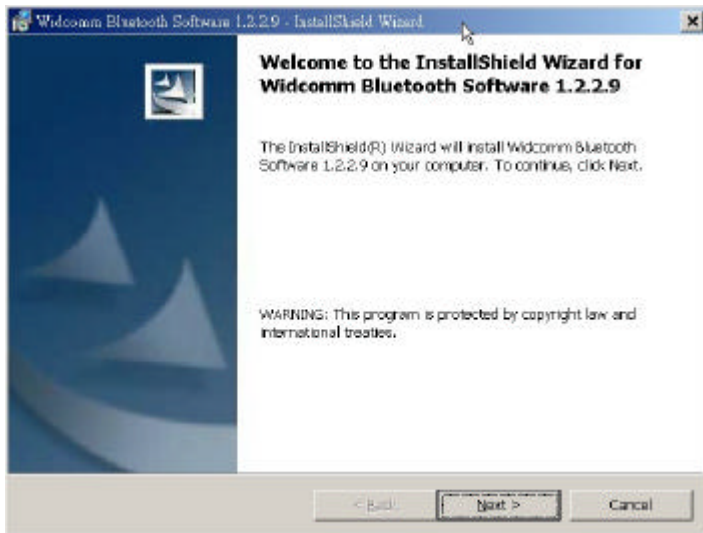
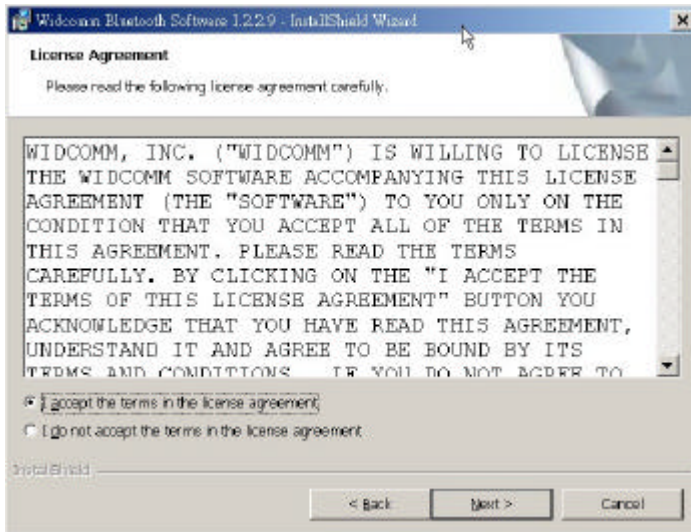


Figure 2. Welcome Window

Step 3 A Welcome To The Installation Wizard window appears as shown in Figure 2. Select **Next** to continue the installation process.

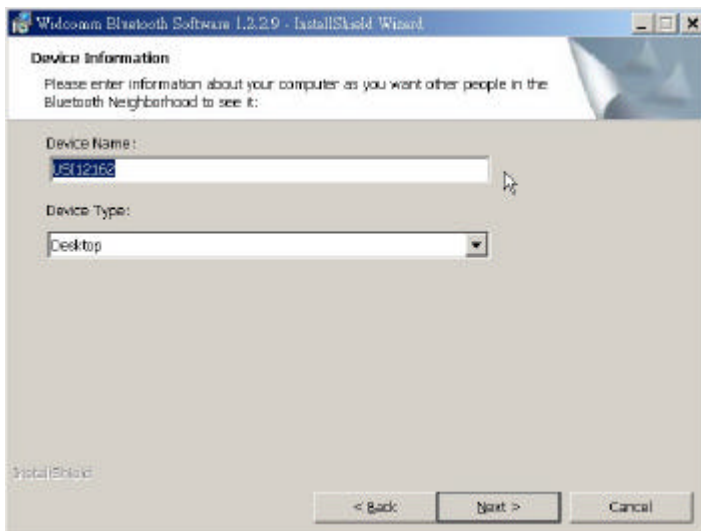
**Note:** These images were captured from a Windows 2000 system. Your images may look slightly different.





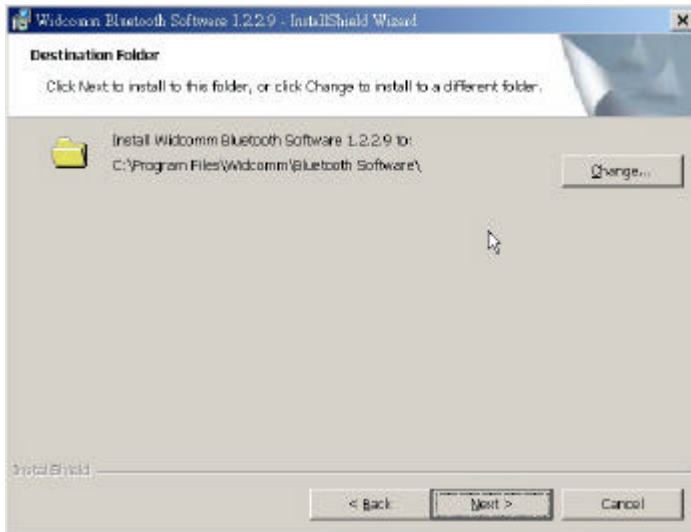
**Figure 3. License Agreement Window**

Step 4 The license agreement window appears as shown in Figure 3. If you accept, mark the "I accept the terms in the license agreement" option and click on **Next**. The installation will proceed. If you do not accept the conditions of the agreement, the installation process will terminate.



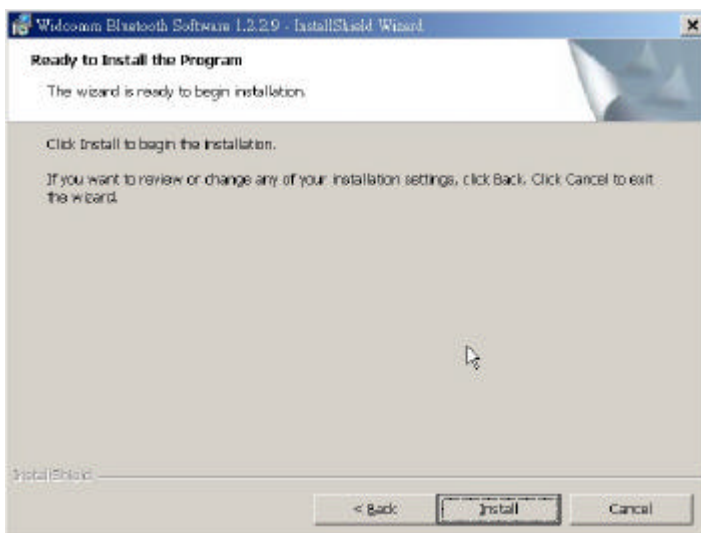
**Figure 4. Device Information Window**

Step 5 A Device Information window opens as shown in Figure 4. Enter a device name and choose a device type. These options will not affect the functionality. The device information is used to inform the master device what kinds of other devices are within range to connect to so the user can identify which device is the one they need to connect to if there is more than one device within range. Select the **Next** Button.



**Figure 5. Destination Folder Window**

Step 6 A Destination Folder window appears as shown in Figure 5, which states the default location and gives you the opportunity to choose an alternative folder. When the location is acceptable, select **Next**.



**Figure 6. Ready to Install Window**

Step 7 A Ready to Install Program window appears as shown in Figure 6. Select **Install** when you are ready to proceed.

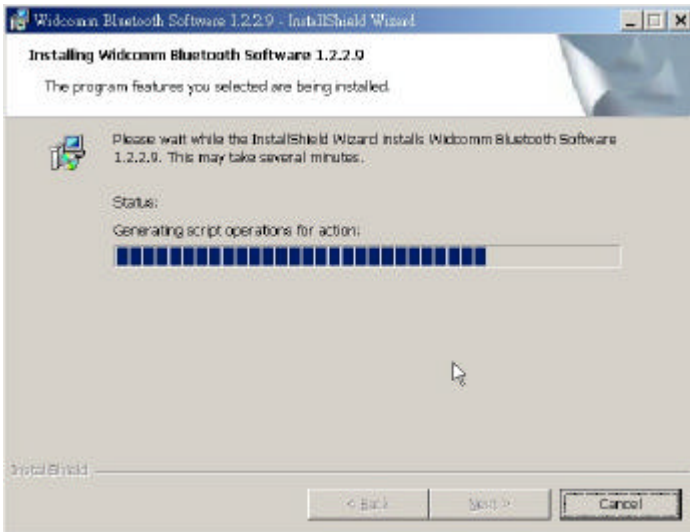


Figure 7. Installing Window

Step 8 An Installing Widcomm Status window appears. Please be patient, this may take up to 5 minutes

Step 9 A notification window appears asking you to restart your system. Select **Yes** to proceed.

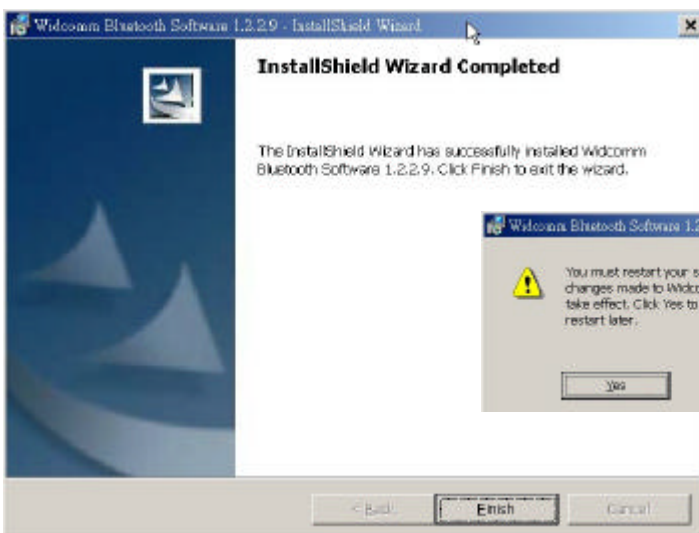
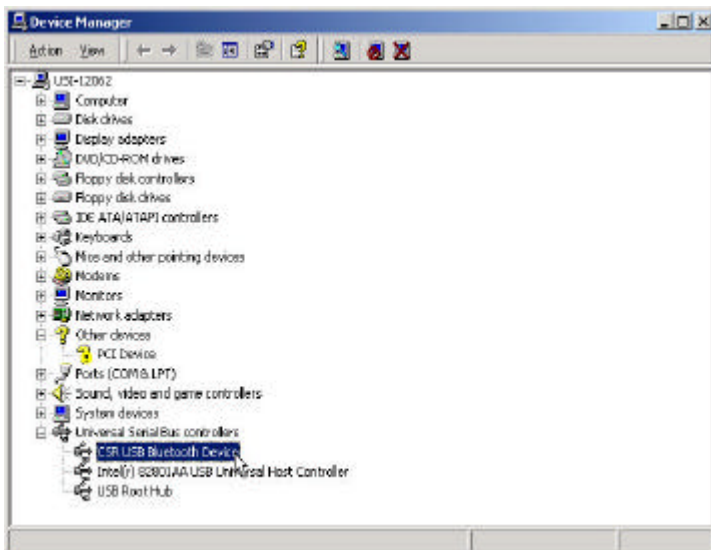
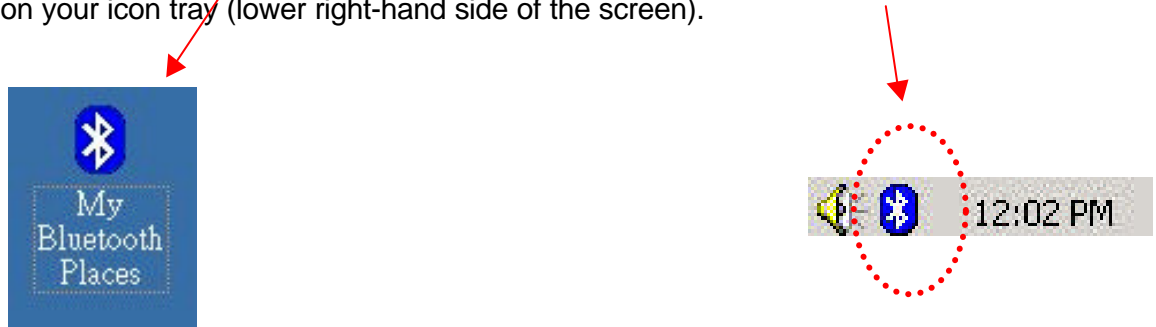


Figure 8. Install Complete Window

Step 10 You will be informed when the installation is completed. Select **Finish**. Follow the instructions thereafter. You may be asked to restart the computer after the installation completes. In that case click **OK** and restart the computer.

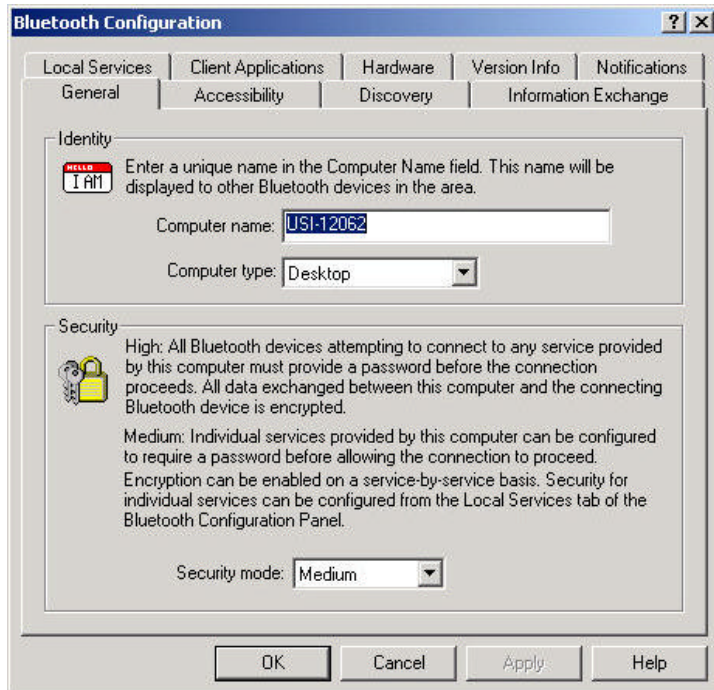
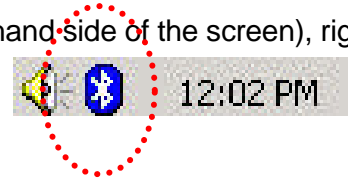
Step 11 A Bluetooth Neighborhood logo has appeared on your desktop and a small Bluetooth icon has appeared on your icon tray (lower right-hand side of the screen).



Step 12 And you can check it in the My computer - > Device Manager.  
You may now remove the Widcomm CD from your CD drive.

Figure 9. Device Manager Window

Step 13 Let's configure your devices. On your icon tray (lower right-hand side of the screen), right click on the small Bluetooth Neighborhood icon on your icon tray.

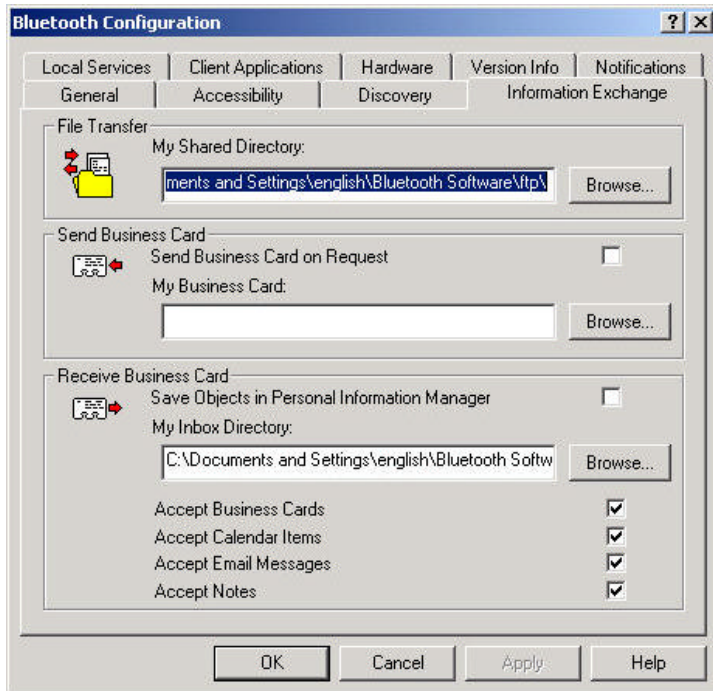


Step 14 A pull down window appears with two words, **Security** (which we will discuss later) and **Configuration**. Choose **Configuration**.

Step 15 A Bluetooth Configuration window appears as shown in Figure 10. In this document, there are three tabs-of-interest: General, Information Exchange, and Hardware. Select the **General** tab.

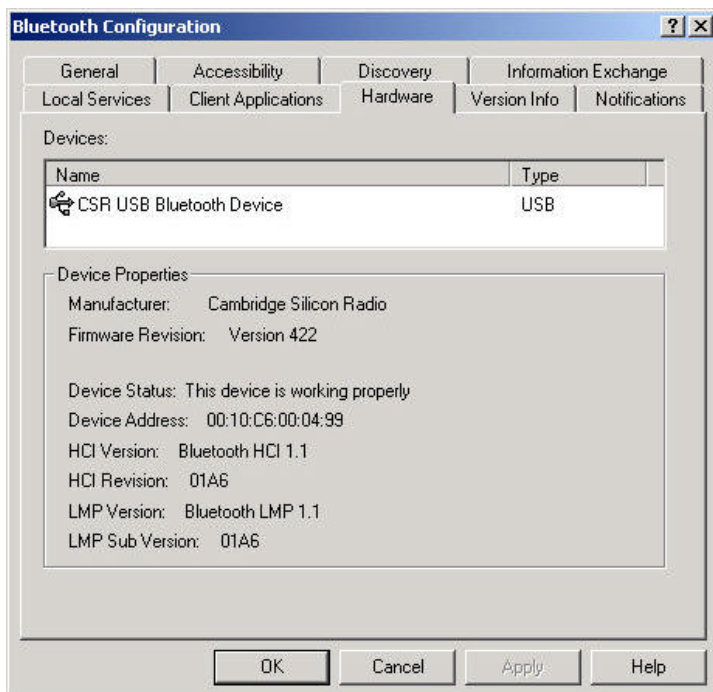
Step 16 Type in a name for your device and choose either Laptop or Desktop. The security option's default is medium; leave that as it is for now. Select **OK**.

**Figure 10. Bluetooth Configuration Window - General Tab**



Step 17 Now choose the **Information Exchange** tab as shown in Figure 11. The My Shared Directory window allows you to determine where you would like to locate files you want to share with other devices. The default is called File Transfer. My Inbox Directory is the dialogue window that allows you to determine where you wish to put incoming files. Configure the many choices on this tab now or leave them at the default settings and then select **OK**.

**Figure 11. Bluetooth Configuration Window – Information Exchange Tab**

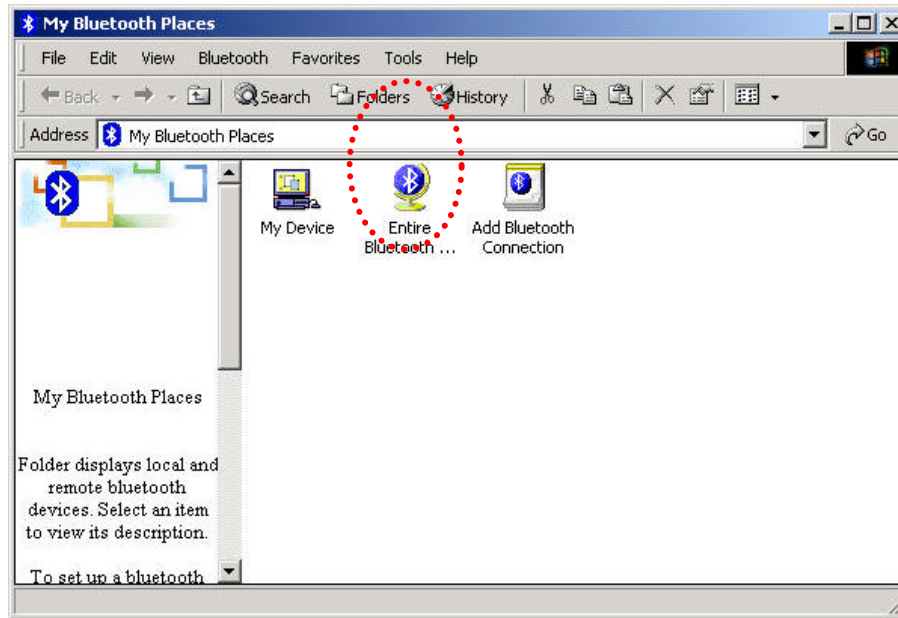


Step 18 Now choose the **Hardware** tab. Once you have established a connection, you will see the BD Address and other interesting information about the device.

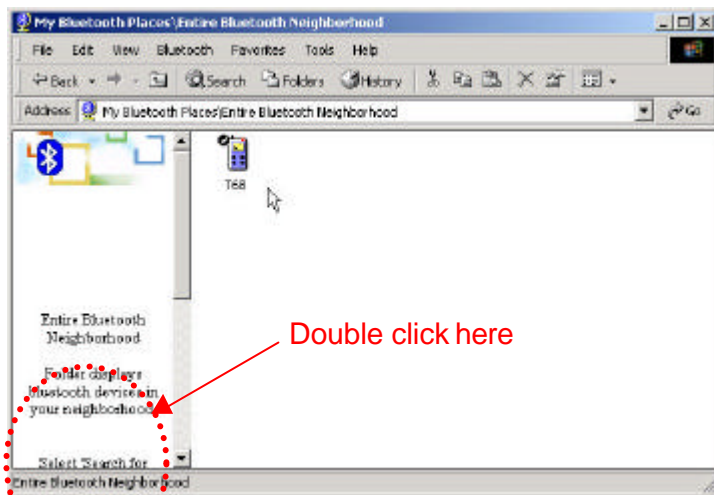
**Figure 12. Bluetooth Configuration Window - Hardware Tab**

## Start Connecting Over The Bluetooth Airwaves – File Transfer

Step 1 Double click on the Bluetooth Neighborhood icon located on your desktop. A Bluetooth Neighborhood window appears as shown in Figure 13. Double click on the **Entire Bluetooth...** icon. This will perform an inquiry and search for other nearby devices.



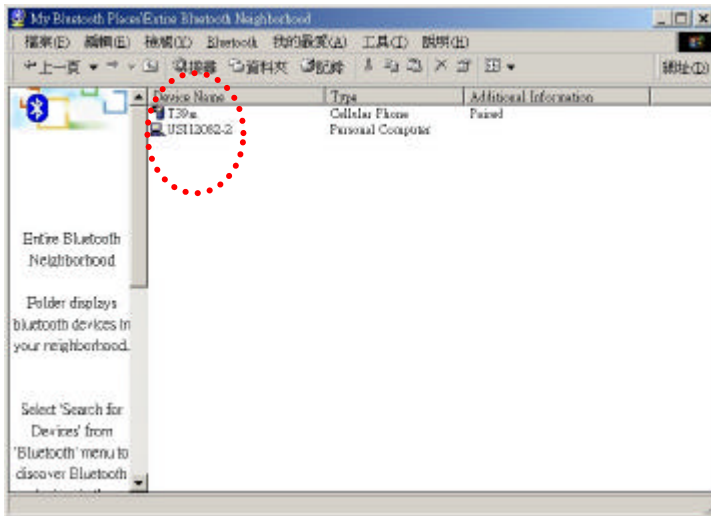
**Figure 13. Bluetooth Neighborhood Window**



**Figure 14. Found Configured Device**

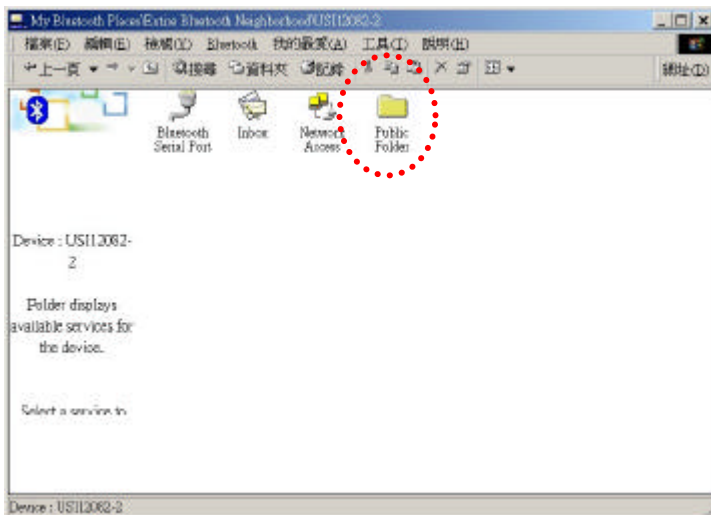
Step 2 Then, Double click on the **Search For Devices** icon. It will find your other bluetooth device as shown in Figure 14. If you have other Bluetooth devices in the area, they will be located and appear on your screen as Unknown. Only the devices that you have configured will have a name.

**Note: Because of over-the-air interference and if you have a lot of devices in the evaluation area, then you might have to click on Search for Devices a few times .**



Step 3 On your master device, double click on the icon named after your slave device as shown in Figure 15. It will show all profile that the slave support as shown in Figure 16.

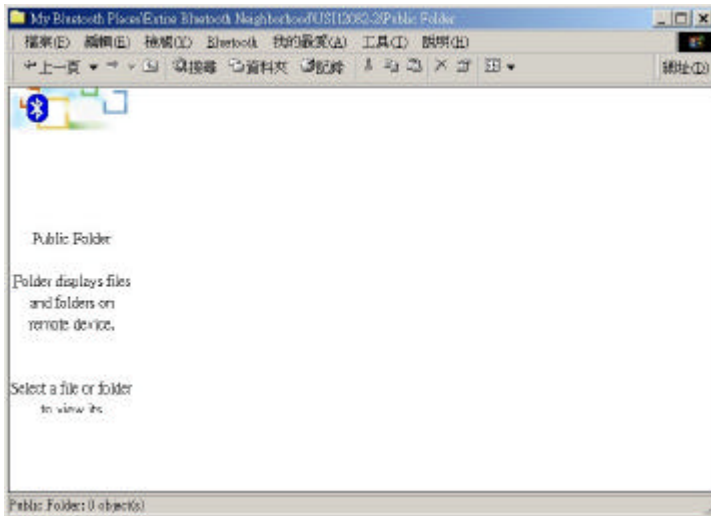
**Figure 15. Found Configured Device**



Step 4 Double click on the icon **Public Folder**. It will connect to the Shared Directory of the slave device (See the step 17). And show all the files in the Share Directory.

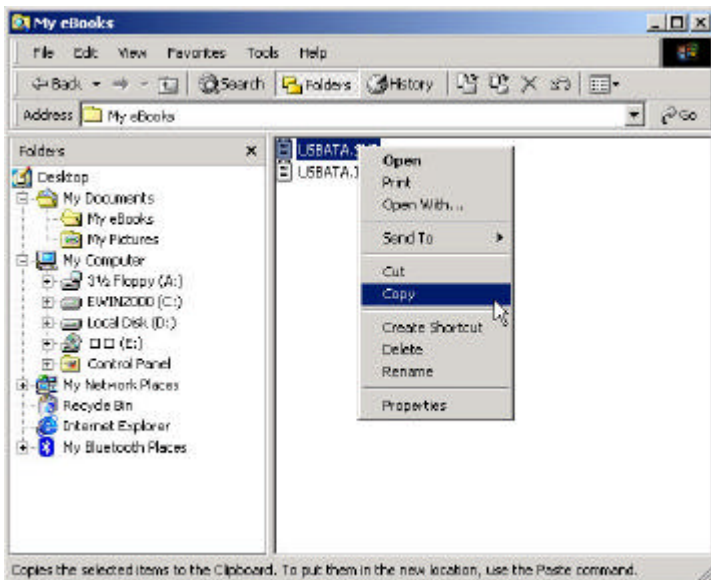
**Figure 15. Explore Services window**





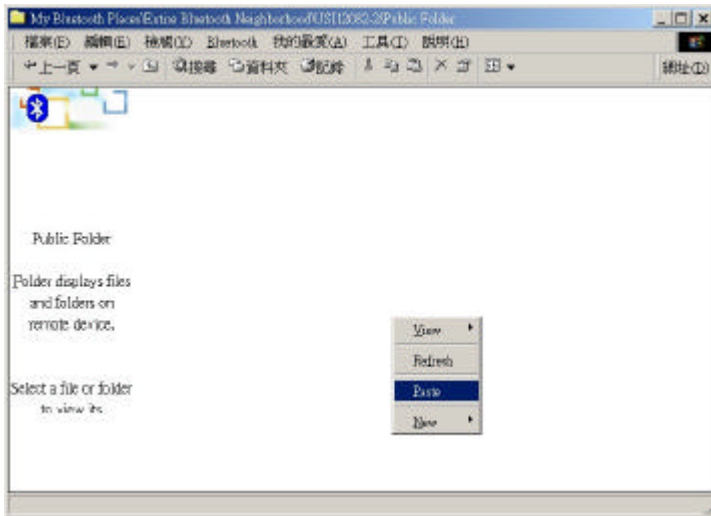
Step 5 Figure 17 show there are no files in the Share Directory.

**Figure 17. Explore files window**



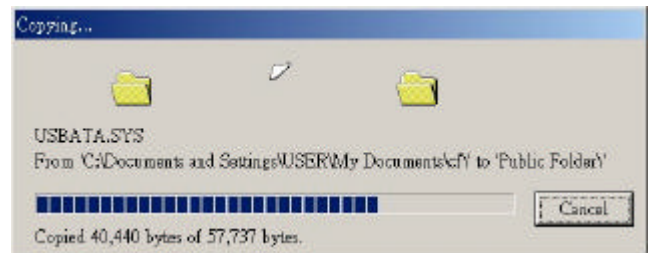
Step 6 Now, you can copy files from the Files Manager master device.

**Figure 18. Windows 2000 Files Manager**

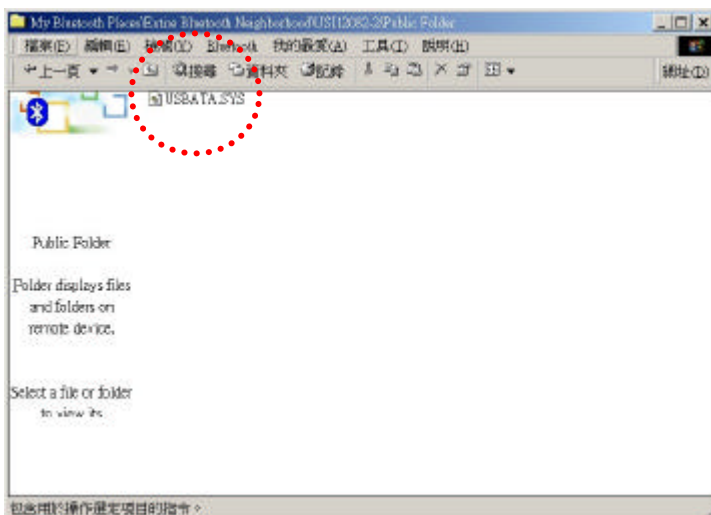


**Figure 19. Paste files to Public Folder**

Step 7 Then, Paste this file into Public Folder, A Copying Window appears as shown in Figure 20.



**Figure 20. Copying...**



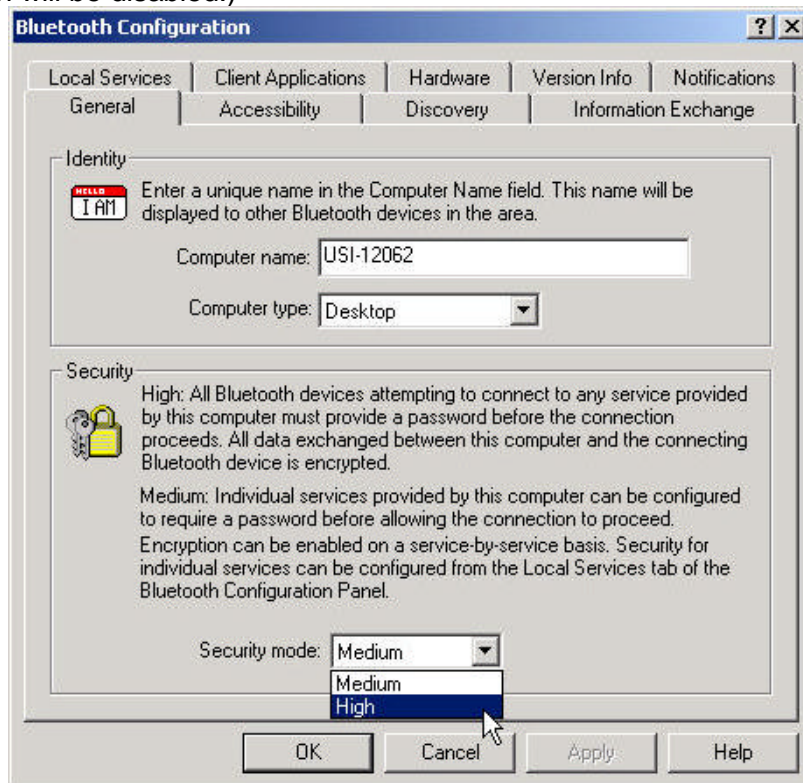
**Figure 21. Copy completed window**

Step 8 When the copy is completed, you will see the file name listed in the Public Folder.

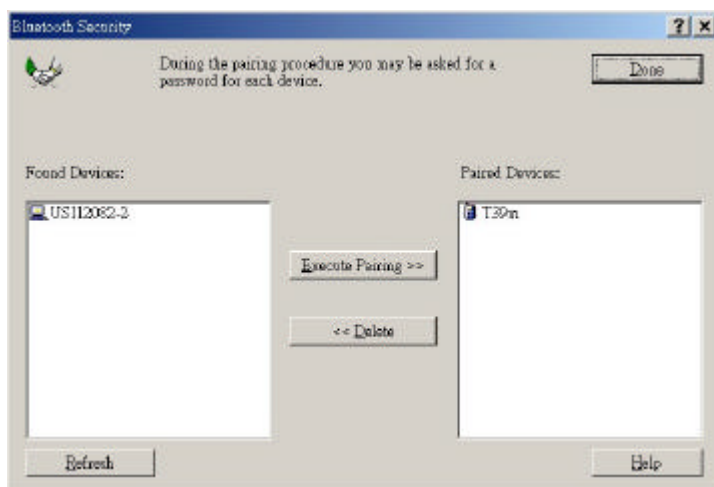
### Connecting Over The Bluetooth Airwaves – Security

Step 1 Go back to the icon tray (lower right-hand side of the screen) and right click on the small Bluetooth Neighborhood icon. Highlight **Configuration** on the pull down window.

Step 2 The Bluetooth Configuration window opens as shown in Figure 22. Select the **General** tab. Under Security, choose the **High** option. This will enable encryption. Click **OK**. (If you choose the Medium option, encryption will be disabled.)



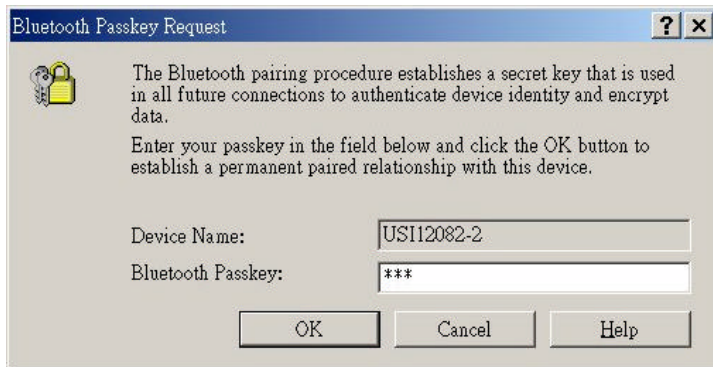
**Figure 22. Bluetooth Configuration Window – Encryption Enabled**



**Figure 23. Bluetooth Security Window**

Step 3 Send any file(s) in encrypted mode by repeating Step 2.

Step 4 For additional security, right click on the icon tray's small Bluetooth Neighborhood icon again. On the pull down window, highlight **Security**. The window shown in Figure 23 opens with two sections. All of your found devices will be on the left-hand side.



**Figure 24. Bluetooth Passkey Request**

Step 5 Highlight a device and click on the **Execute Pairing** button. Now this is the only device(s) that can connect to your computer. The user is asked for a passkey. The Bluetooth Passkey Request window opens as shown in Figure 24.

Step 6 Click on the **OK** button after entering the passkey in the Bluetooth Passkey window.

Step 7 On the other device, the Bluetooth icon on the icon tray (lower right-hand side of the screen) will blink. On clicking the icon a Bluetooth passkey request window pops up requesting the user to enter passkey. Enter the same passkey as given on the first device. Click on **OK** button. Successfully finding the Available services on the second device will Be an indication that we are in connection using pairing. If there is any Security Error message make sure that the passkeys given on both devices are the same.

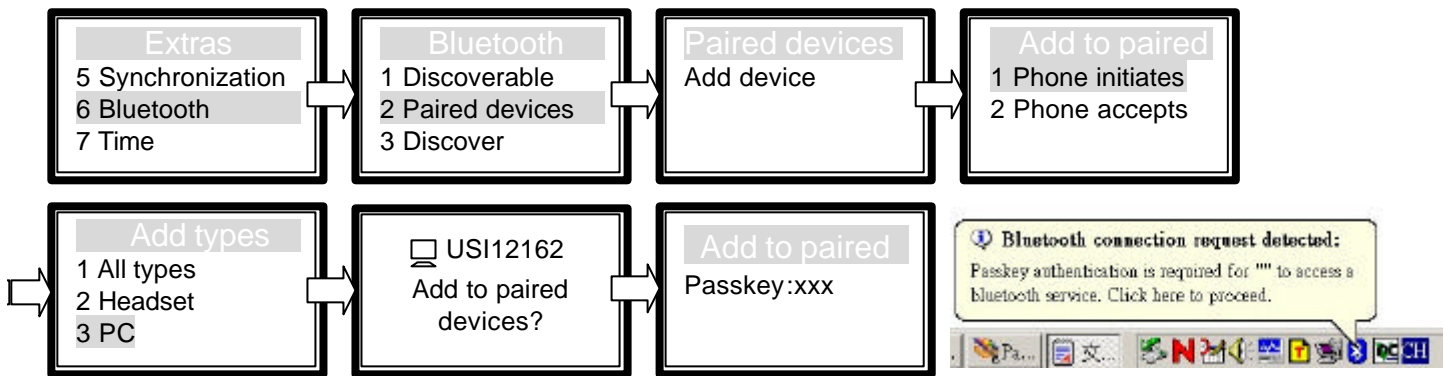
## Start Connecting Over The Bluetooth Airwaves –Dial-up Networking Profile

Example 1 : Use the ERICSSON T39mc mobile ( with the Bluetooth module and GPRS service and provide Dial-up Networking Profile)

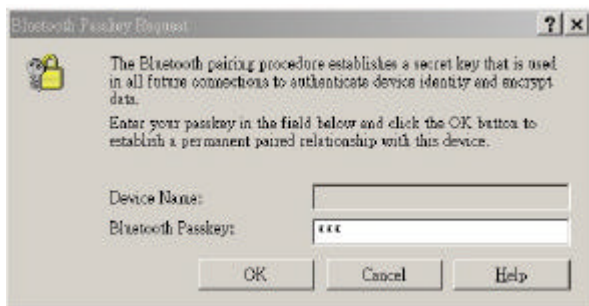
Step 1 Execute the BTW program.

Step 2 Before you using this application you must to pair the master device and T39mc, After pairing successfully at the first time, the PC and T39mc will recognize each other, Then, you can use the all services of the T39mc without being recognized again.

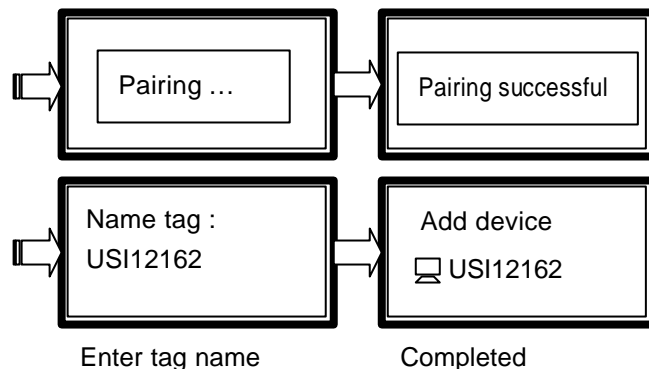
Step 3 Make pair from T39mc.  
T39mc setting :

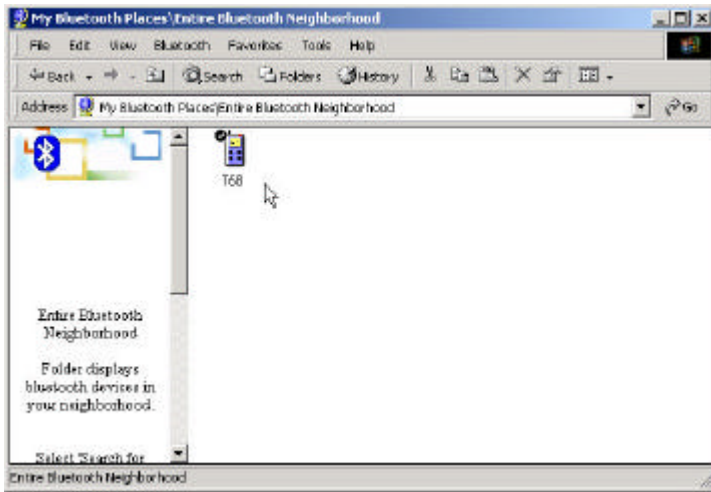


In this step you must enter the Passkey : xxx (for wmaple: 123) on the T39mc side , and then you will see a Bluetooth connection request detected message on the PC screen , click the icon and enter the same passkey(123) into the column.





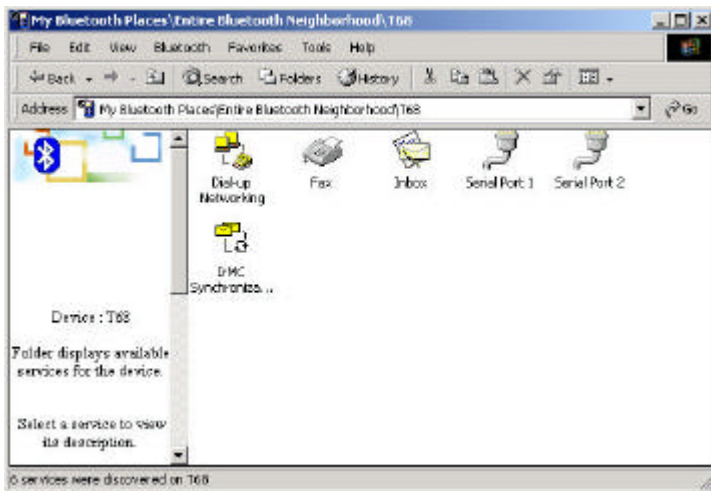
**Figure 25 Bluetooth Passkey Request**







**Figure 26. Found Configured Device**

Step 4 After pairing finished, click  and you can see the icon  T68 .



**Figure 27. Explore Serices window**

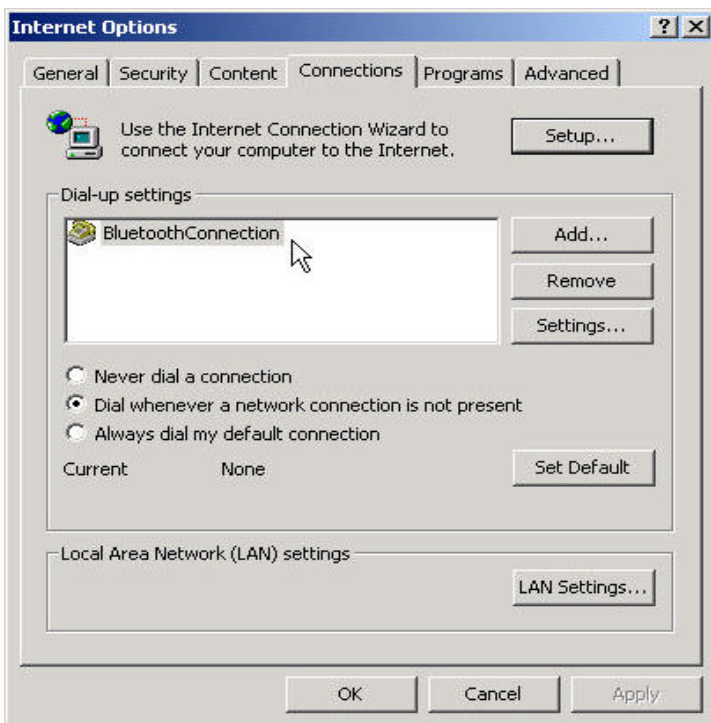
Step 5 Double click icon  T39 ,you can see what are the services T39mc support, click icon  Dial-up Networking .



**Figure 28. Bluetooth Dial\_up Window**

Step 6 Enter the username, password and Dial\_up number, then click Dial.

If it connect successful you see the Message **BluetoothConnection** .



**Figure 29. Internet Option Window**

Step 7 Before you connect to web side, be sure to set the **BluetoothConnection** device to be your default connection.

Now, you can connect to web.



## Technical Support

### **The identification of the product:**

Product Name: UB2-2111-S Bluetooth USB Module

Model Name: UB2-2111-S

Application: Desktop PC, Notebook

### **Technical Contact:**

Universal Scientific Industrial Co., Ltd.

Address: 135, Lane 351, Taiping Rd., Sec. 1, Sec. 1, Tsao Tuen, Nan Tou, Taiwan

Contact Person: Chuei-Tang Wang

Telephone: +886-49-2325876 Ext.1800

Fax: +886-49-2329561

Email: [ctwang@ms.usi.com.tw](mailto:ctwang@ms.usi.com.tw)

Website: [www.usi.com.tw](http://www.usi.com.tw)

**CAUTION:** To maintain compliance with FCC' s RF exposure guidelines, this equipment should be installed and operated with minimum distance 2.5cm between the radiator and your body. Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations and may void the user's right 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.
- (2) This device must accept any interference received, including interference that may Cause undesired operation.



## **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for 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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 2.5cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 2.5 cm is maintained between the antenna and users, and
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as the 2 conditions above are met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

**IMPORTANT NOTE:** In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and Obtaining a separate FCC authorization.

### **End Product Labelling**

This transmitter module is authorized only for use in devices where the antenna may be installed such that 2.5 cm may be maintained between the antenna and users (for example access points, routers, wireless ASDL modems, and similar equipment). The final end product must be labeled in a visible area with the following: “ Contains TX FCC ID: IXMUB22111S ”.

### **Manual Information That Must be Included**

The users manual for end users must include the following information in a prominent location “  
IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 2.5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.”