# WHDHQ10

# User Manual

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# 1. Preface

## 1.1 Revision History

| Revision | Date | Author | Approval | Summary |
|---|---|---|---|---|
| 001 | 2011/11/11 | Curtis Tu<br>Neil Lee | | Initial version |
| | | | | |
| | | | | |
| | | | | |

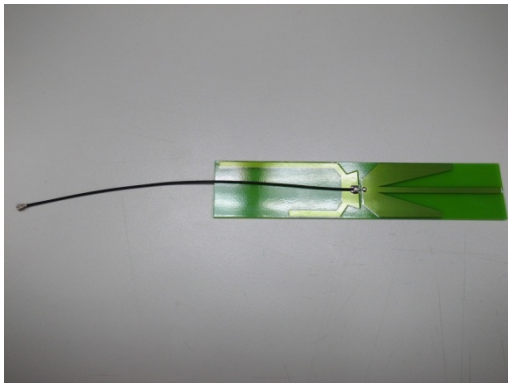
# 2. HARDWARE INSTALLATION

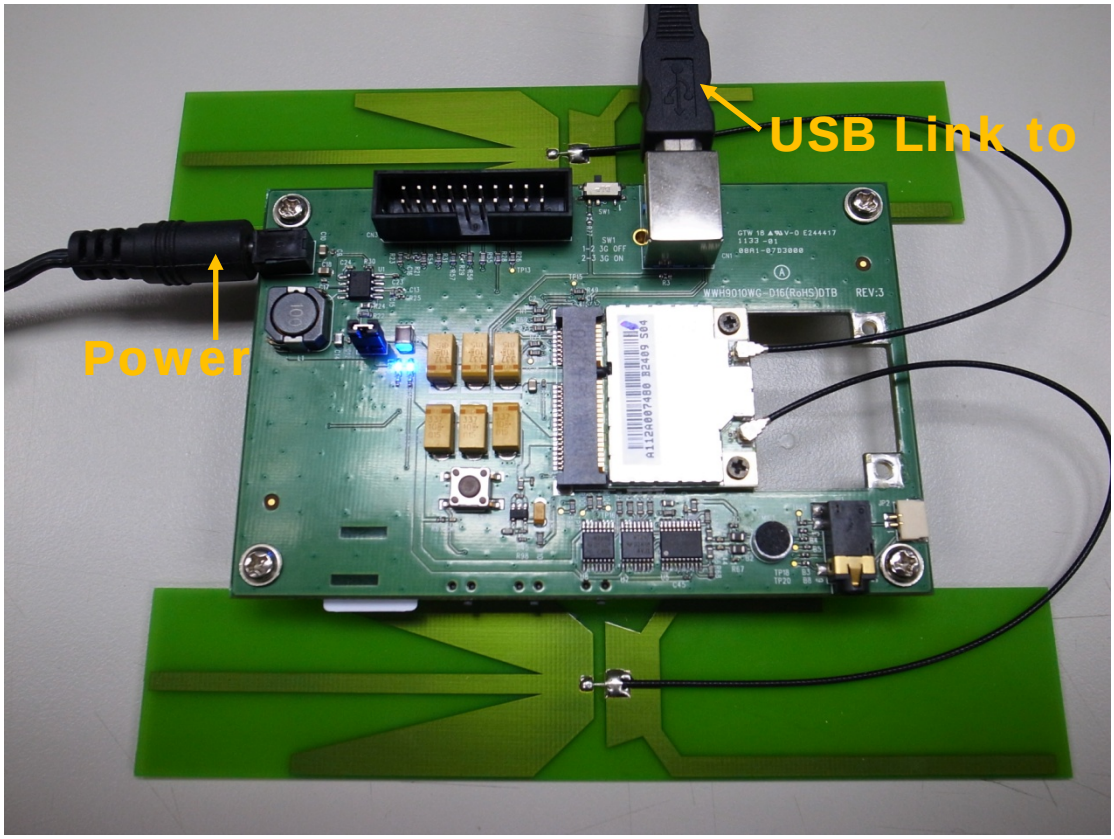
## Required equipment

Power supply ➔ Universal power supply, suitable for both AC 100 ~ 240 V

USB cable ➔ Standard USB-A to USB-B cable

Antenna ➔ The antenna kit includes one Antenna & one Antenna connector




USB Link to
Power

# Setup and Installation

- Hardware setup

· Insert a SIM card (UMTS Mini Cards only)

· Insert the Mini Card

· Connect the antenna(s)

· Connect the power supply and USB cable

· Connect the Dev Kit and host device using a Mini Card Host Extender

- Software setup

· Install / update Mini Card drivers and Watcher on page 22

# Hardware setup

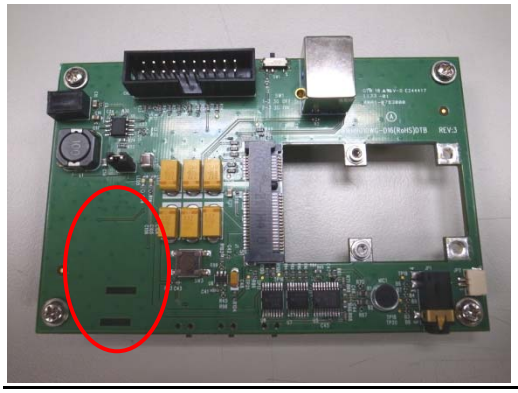
**Insert a SIM card (UMTS Mini Cards only)**

To use a UMTS Mini Card (MC8xxx), you need to install:

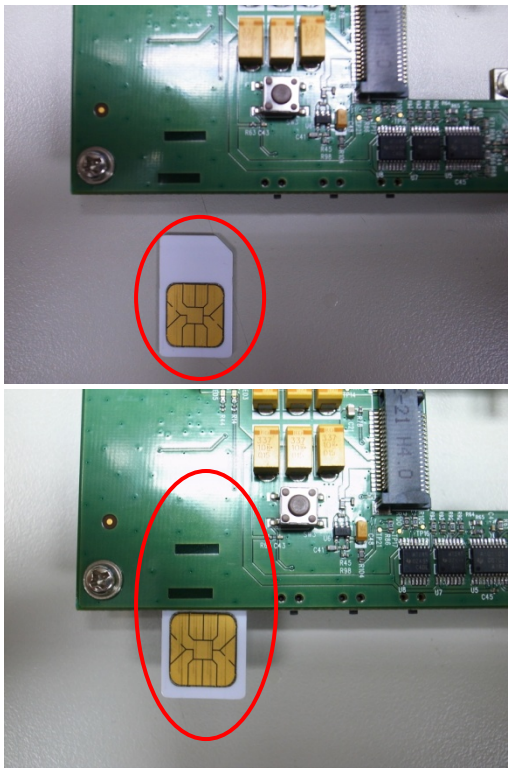
- A live SIM card (with an active account), or
- A test SIM card with a call box (for example, an Agilent 8960 or Rohde&Schwarz CMU200)

To install the SIM card:

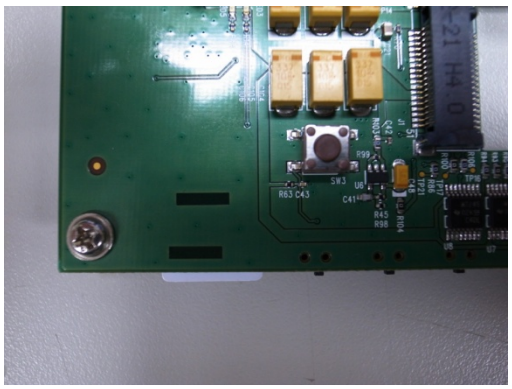
1. Place the Dev Kit face-up(as shown) , the SIM slot is in the bottom side beside



2. Insert the SIM card into the cover with its circuitry face-up—note the location of the notched corner of the card in the following image.



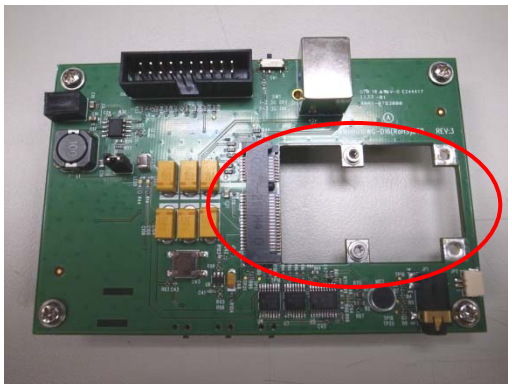
3. Push SIM card and then slide the slot cover under the connector base latches into the 'CLOSED' position



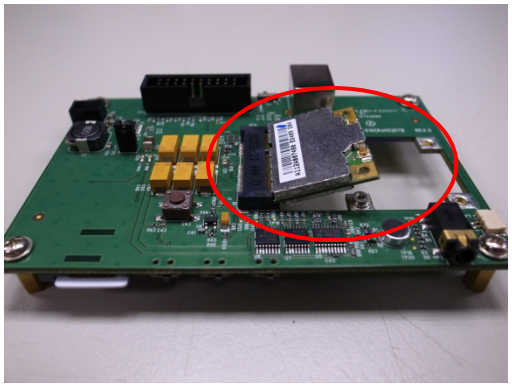
**Insert the Mini Card**

After inserting the SIM card, insert the Mini Card:

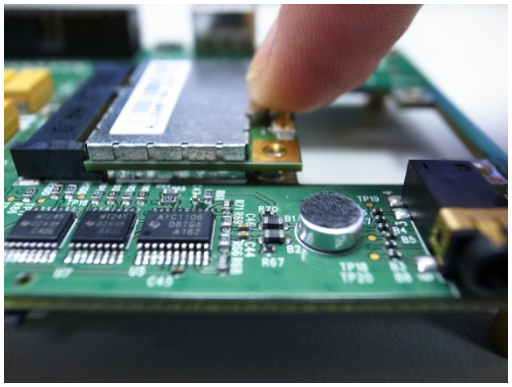
1. Place the Dev Kit face-up (as shown)—the Mini Card slot is in the top right corner.



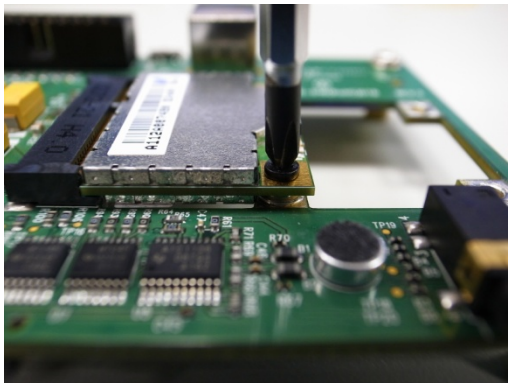
2. Hold the Mini Card at the screw holes and slide it into the Dev Kit's Mini Card slot at a 45° angle (inserting it horizontally may damage the module's contacts and wear out the host connector).



3. Push the free end of the Mini Card down until it clicks into the screw column.



4. Use ten screwdrivers screw lock - in

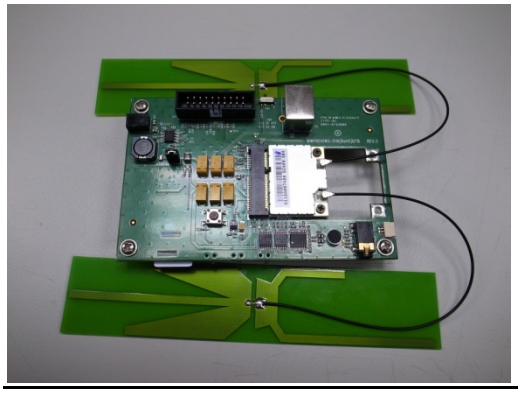


**Connect the antenna(s)**

After installing the Mini Card, connect the supplied antenna(s) to the Dev Kit. (some Mini Cards include both a main and an auxiliary (diversity/gps) antenna):

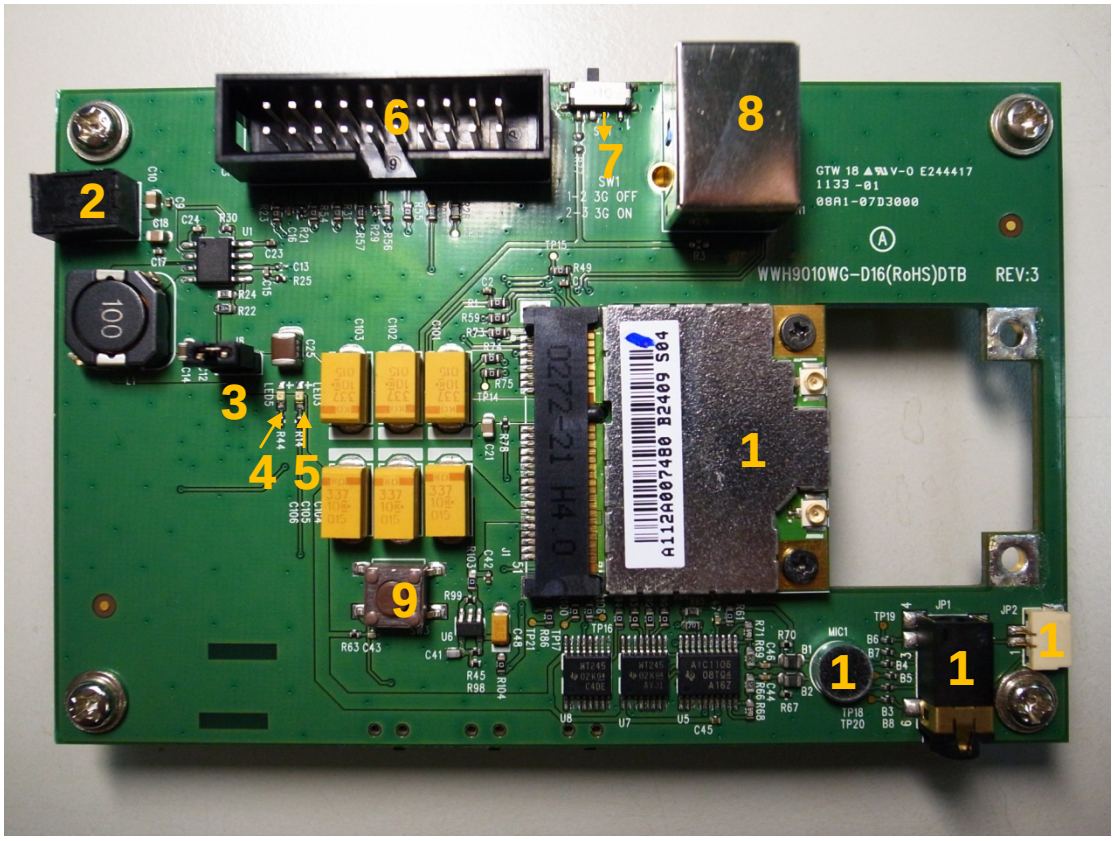
1. Place the Dev Kit face-up. The antenna connectors are on the right side near the top.
2. Link Main antenna connector.

3. Link Diversity antenna connector.



# HARDWARE INSTALLATION

**Hardware description**

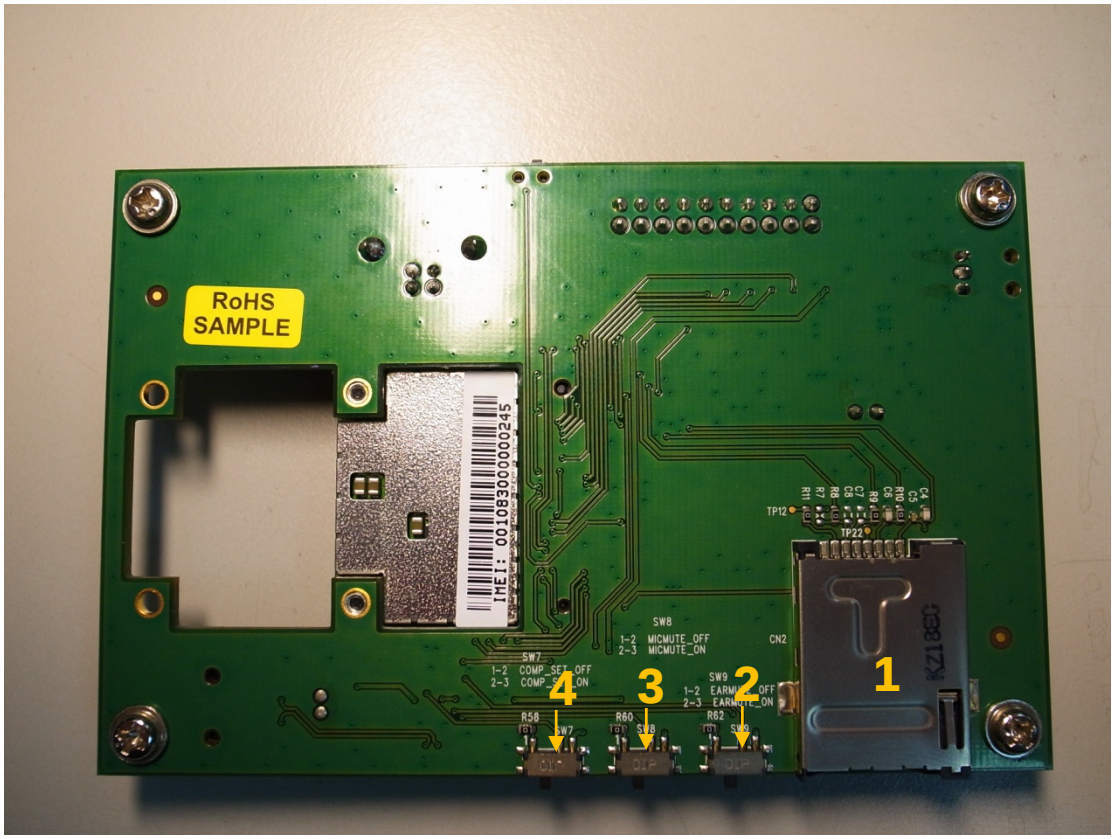



Dev Kit TOP

1) WWH001X Module
2) J2 : Power Plug
3) J8 : Power Jump
4) LED5 : Power LED (Indicates that WWH001X is powered)
5) LED3 : WAN LED (Call State)
6) CN3 : JTAG Connector
7) SW1 : 3G Disable switch

   Default : 2-3 (3G ON)

8) CN1 : USB B Type Connector
9) SW3 : PCM Codec Reset switch
10) MIC1 : Microphone
11) JP1 : 3.5mm Audio jack
12) JP2 : Speaker Connector




Dev Kit BOT

1) CN2 : SIM card holder
2) SW9 : PCM Codec Ear mute switch

   Default : 1-2 (EARMUTE OFF)

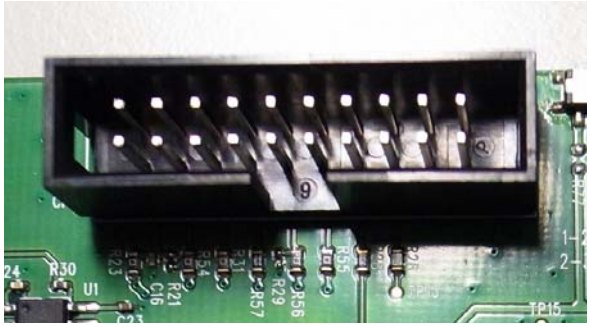
3) SW8 : PCM Codec Microphone mute switch

   Default : 1-2 (MICMUTE OFF)

4) SW7 : Selected 13-bit linear or 8-bit μ-law compounded mode

   Default : 1-2 (COMP SET 13-bit linear)

CN3 : JTAG Connector

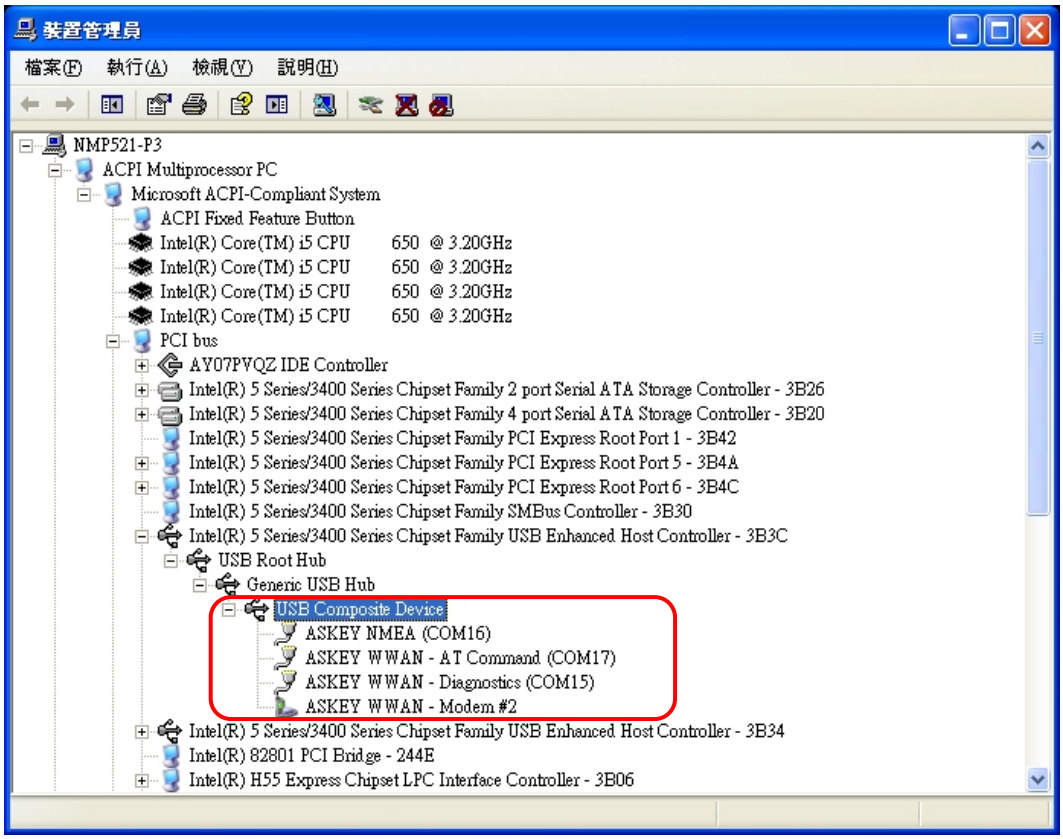


| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1V8 | GND | GND | GND | GND | GND | GND | GND | GND | GND |
| 1V8 | TRST_N | TDI | TMS | TCK | RTCK | TDO | X | X | X |

# 3. DRIVER INSTALLATION

## 3.1 General info: Driver set

On successful installation of all drivers, the device manager will show the following installed devices. Please configure the device manager by selecting ”View”, “Devices by connection”. Expand the tree to show the USB devices. Be aware that the list of devices may differ depending on the module configuration.

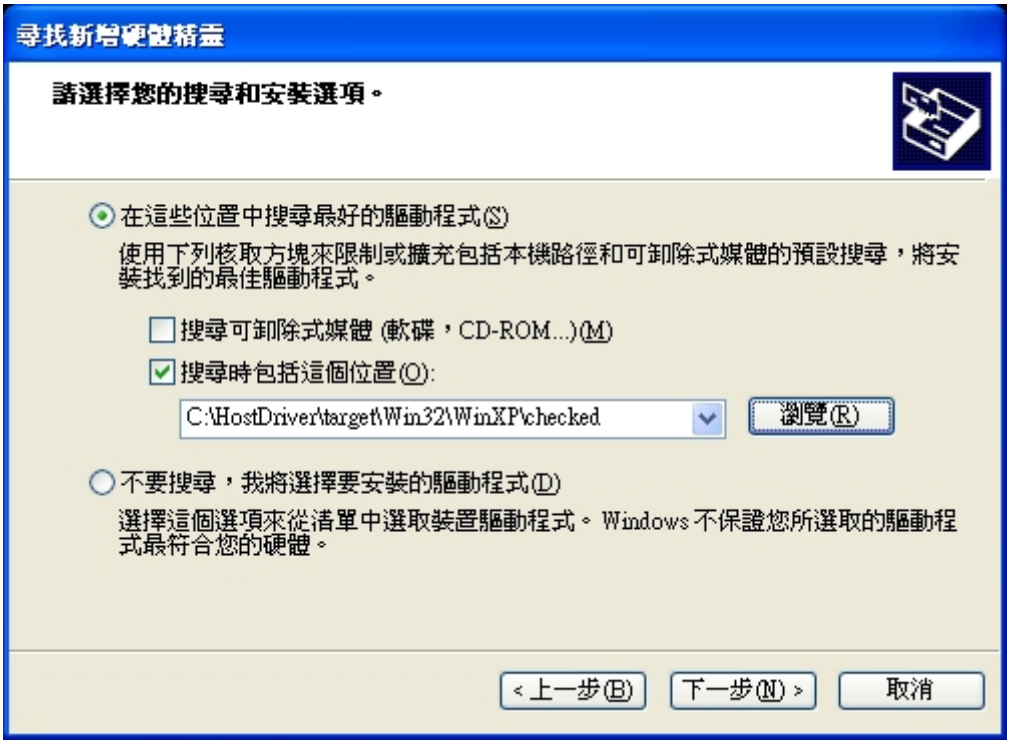


## 3.2 Installation procedure

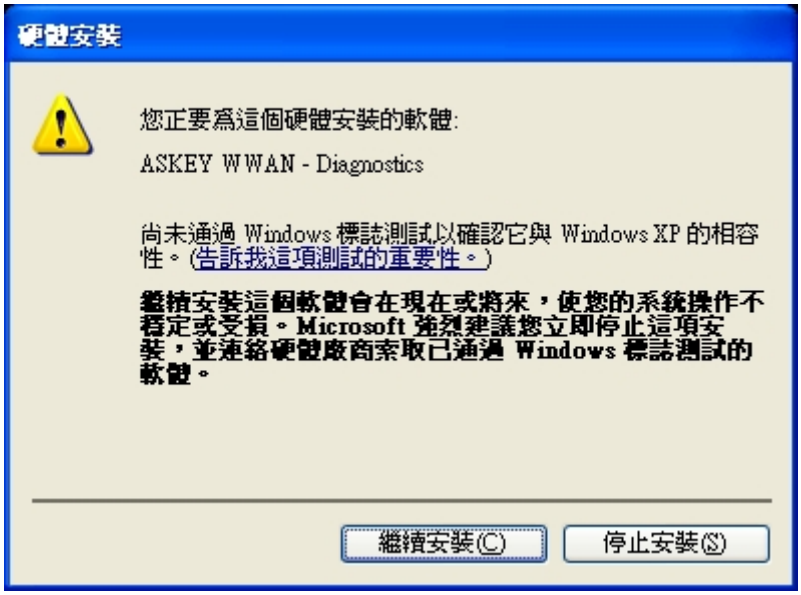
Make sure you have a clean system before proceeding with the installation procedure. At this point you should copy the driver folder to a known location on your hard disk drive.

**STEP 1.** The unit is connected correctly only if the "Found New Hardware" balloon and subsequently the "Welcome to the Found New Hardware Wizard" appear.

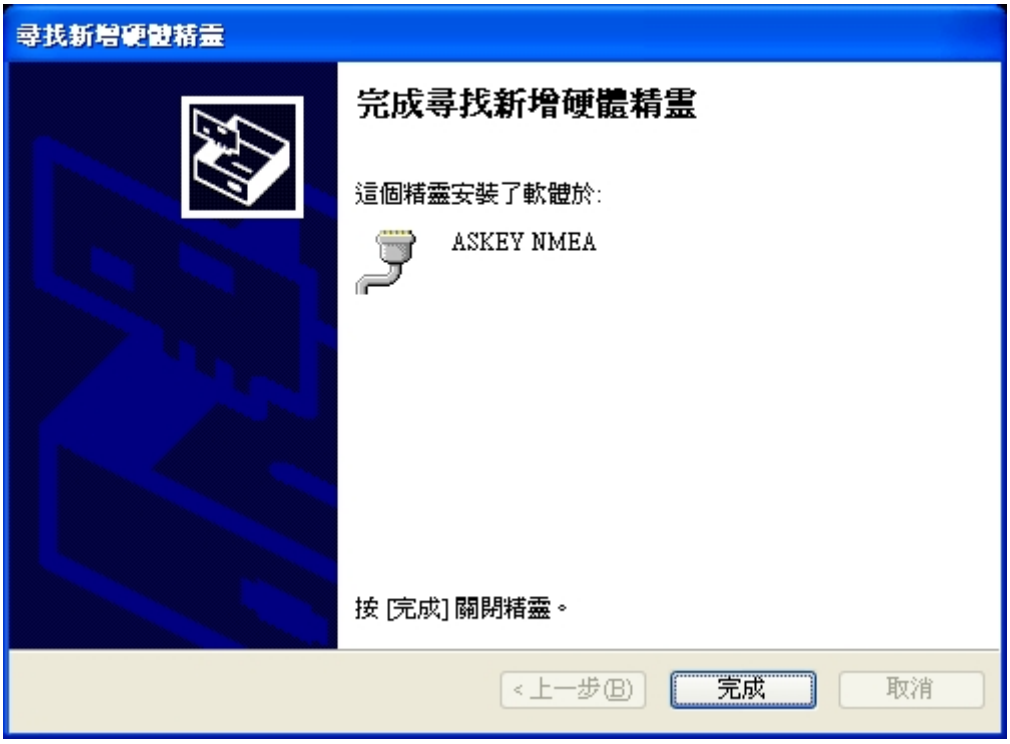
**STEP 2.** In this dialog, select "Install from a list or specific location (Advanced)". In this case ensure you select the option "Include this location in the search:" in the next screen, and enter the correct path to your drivers.



**STEP 3.** In this dialog, select "Continue Anyway". Then Click "Finish" in the next screen "Completing the Found New Hardware Wizard".



**STEP 4.** Repeat above steps until other driver installation complete.



尋找新增硬體精靈
完成尋找新增硬體精靈
這個精靈安裝了軟體於:
ASKEY WWAN - Modem
按 [完成] 關閉精靈。
< 上一步(B)
完成
取消

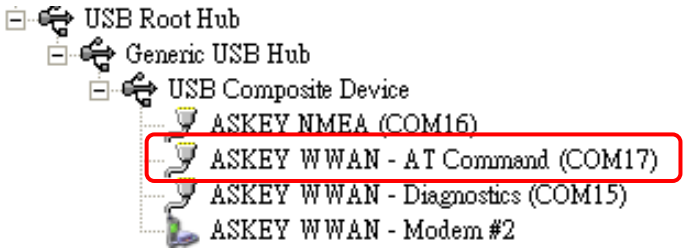
# 4. HOW TO SEND AT COMMANDS

This section briefly describes how to send AT commands using HyperTerminal to communicate with the ASKEY Wan module.

HyperTerminal is included in Windows XP but not in Windows Vista or Windows 7. However, it can be downloaded free for personal use from its creator's website: http://www.hilgraeve.com/.

**STEP 1.** First, start the device manager. You can do this by going to "Start" menu and selecting "Run". Type "devmgmt.msc" in the next dialogue box as displayed below:

**STEP 2.** Check the port used by the AT command interface. In this example, the AT command port is COM17.

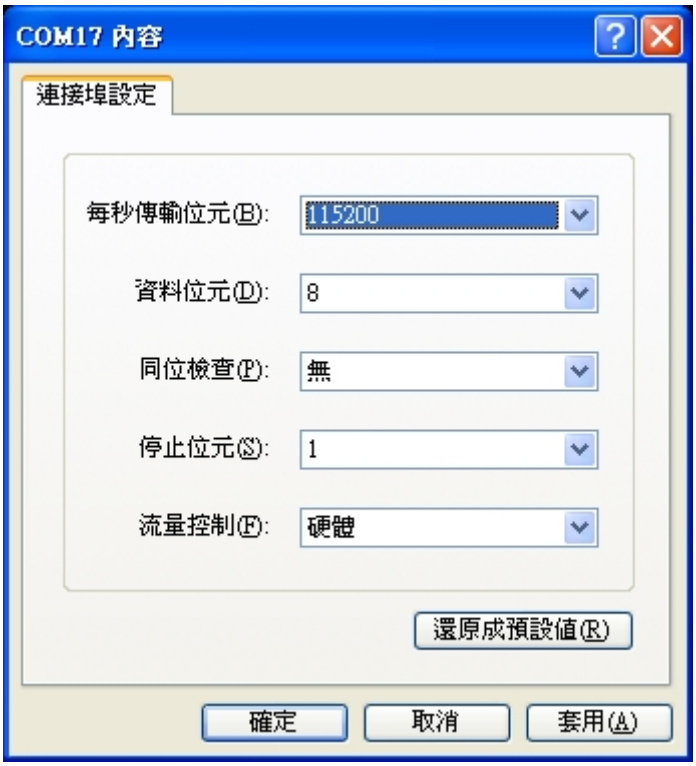


**STEP 3.** Open HyperTerminal via the "Start" menu in Windows:
Start→All Programs→Accessories→Communication→HyperTerminal

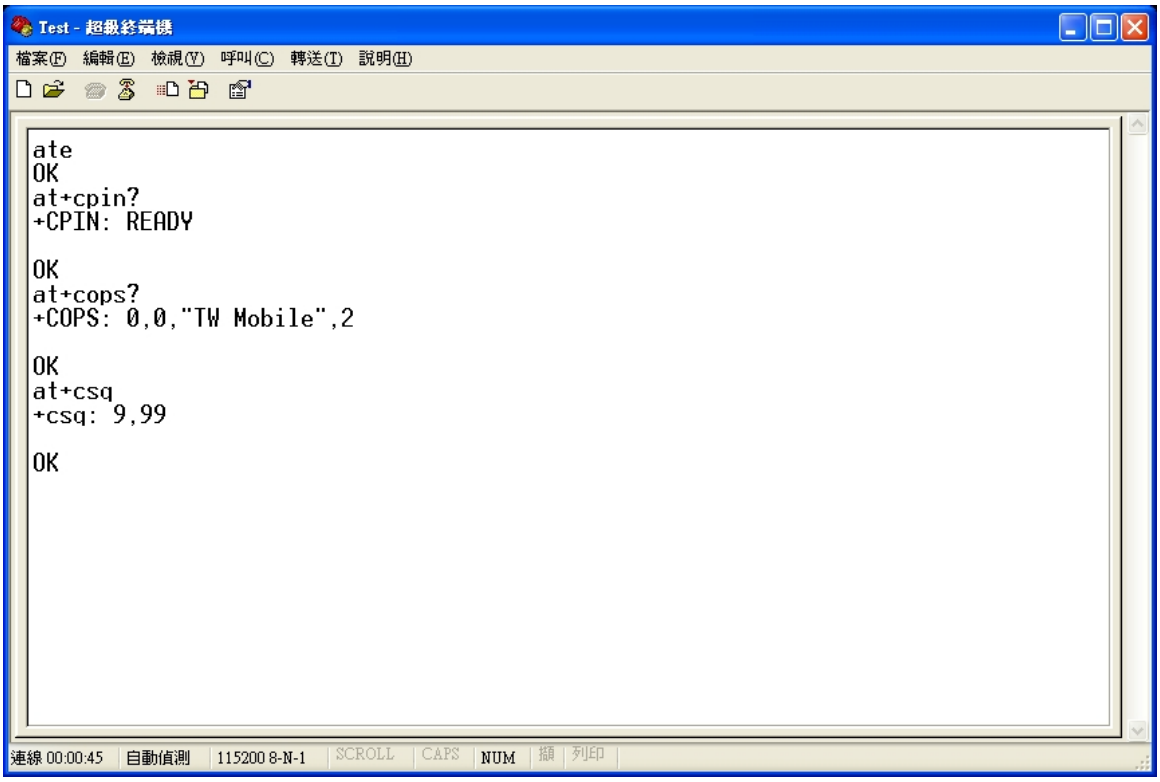
**STEP 4.** Enter a name for your HyperTerminal connection and press OK.

**STEP 5.** In the next window, change the "Connect using:" field to the AT command port you checked under STEP2. Then click OK.

**STEP 6.** Now the next window will appear. Modify the "Bits per second" field to 115200 and click OK.



HyperTerminal is now configured and you are ready to issue AT commands to the module. The figure below shows a typical HyperTerminal session. If you don't have visual feedback of what you are typing, you need to turn echo on by typing "ate", as shown in the example below.




When you close HyperTerminal, you have the opportunity to save your HyperTerminal profile. Saved profiles can be found under HyperTerminal in the "Start" menu.

Start→All Programs→Accessories→Communication→HyperTerminal

# 5. SETTING UP A PACKET SWITCHED DATA CALL

Before attempting the Data connection, ensure you are registered to the network. Also, the APN for your operator should be set correctly in the module. This can be done with the following AT command:

AT+CGDCONT=1,"IP","internet"

Alternatively, you can enter +CGDCONT=1,"IP","internet" into this field:

Device Manager → Choose ASKEY WWAN – Modem #2 → content

You only have to set this command once for each module as this setting is stored in the non-volatile memory of the module.

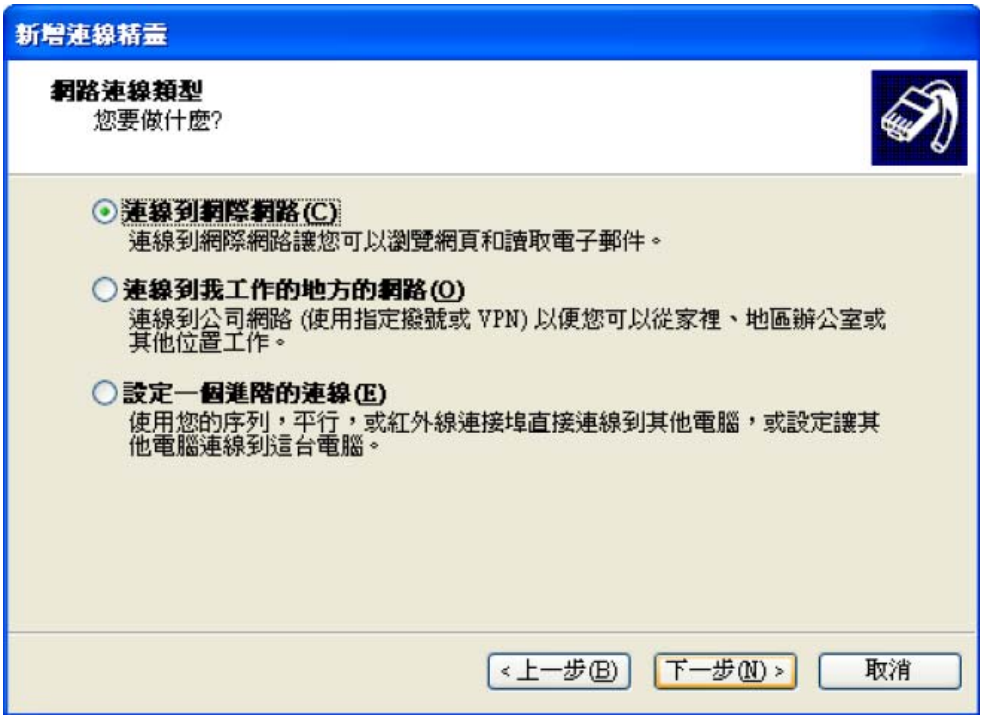
To verify the APN setting, just type this command: AT+CGDCONT?

## 5.1 Using Modem interface (Dial-up)

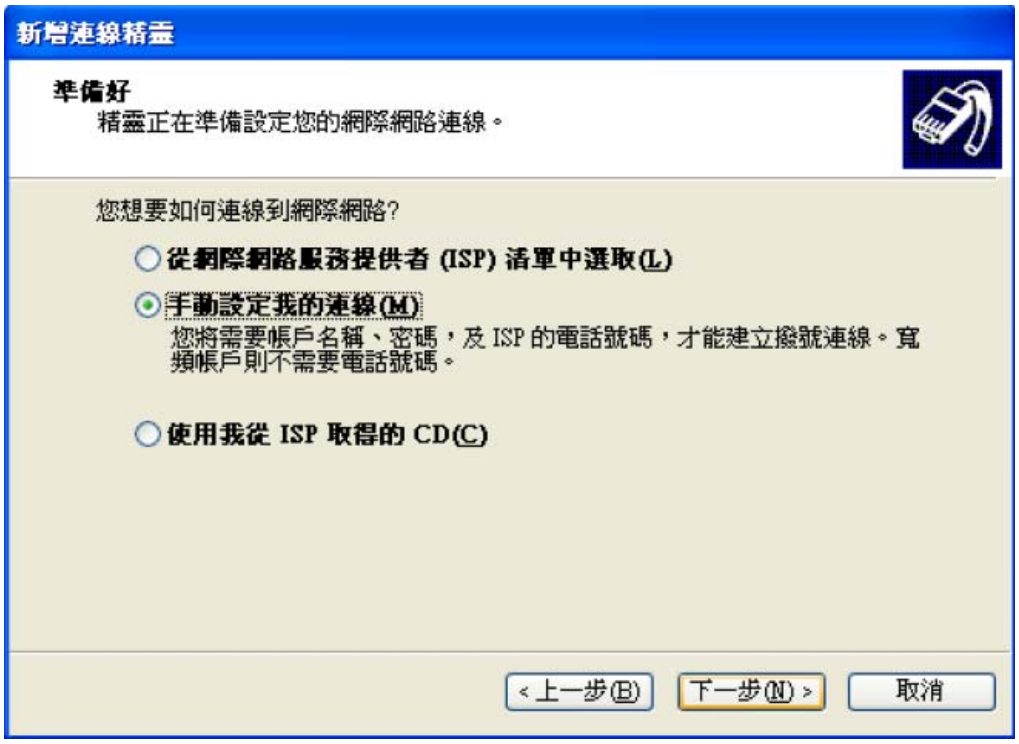
It is possible to set up a data call using Windows RAS dial-up networking. This section explains how to set up a RAS dial-up connection.

**STEP 1.** Go to Start → Control Panel → Network Connections, and click on the icon "New Connection Wizard". The next screen will appear:

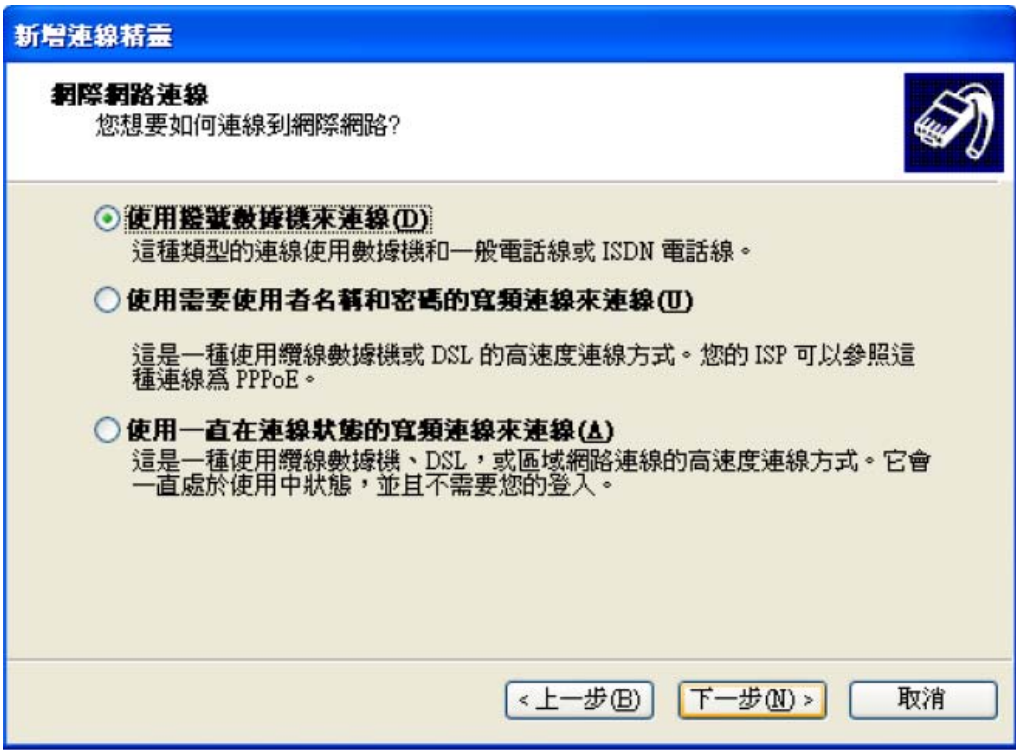
**STEP 2.** Click "Next" and following figure will appear. Select "Connect to the Internet" and click "Next" again.



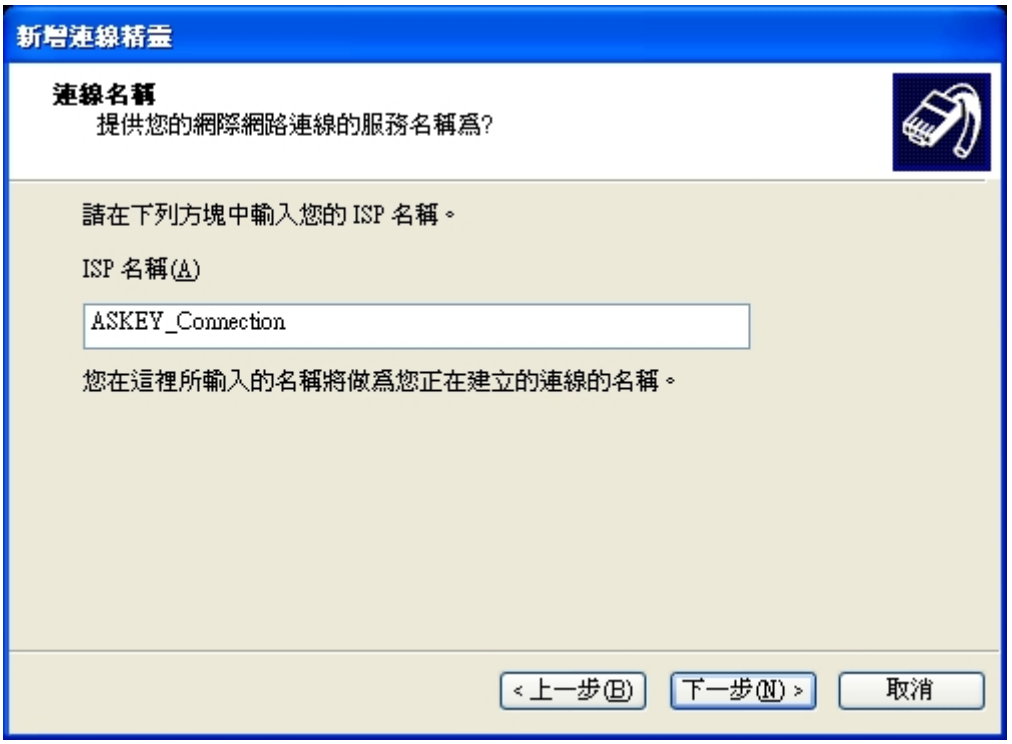
**STEP 3.** Select "Set up the connection manually", and click the "Next" button.



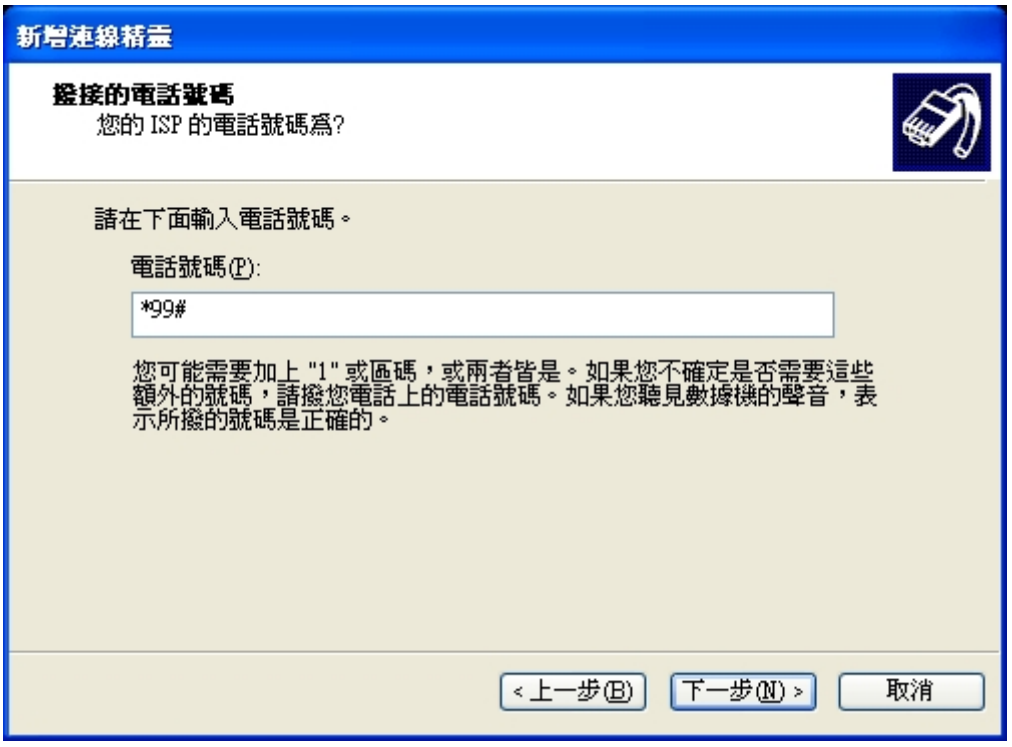

**STEP 4.** Choose the "Connect using a dial-up modem" option, and click the "Next" button.



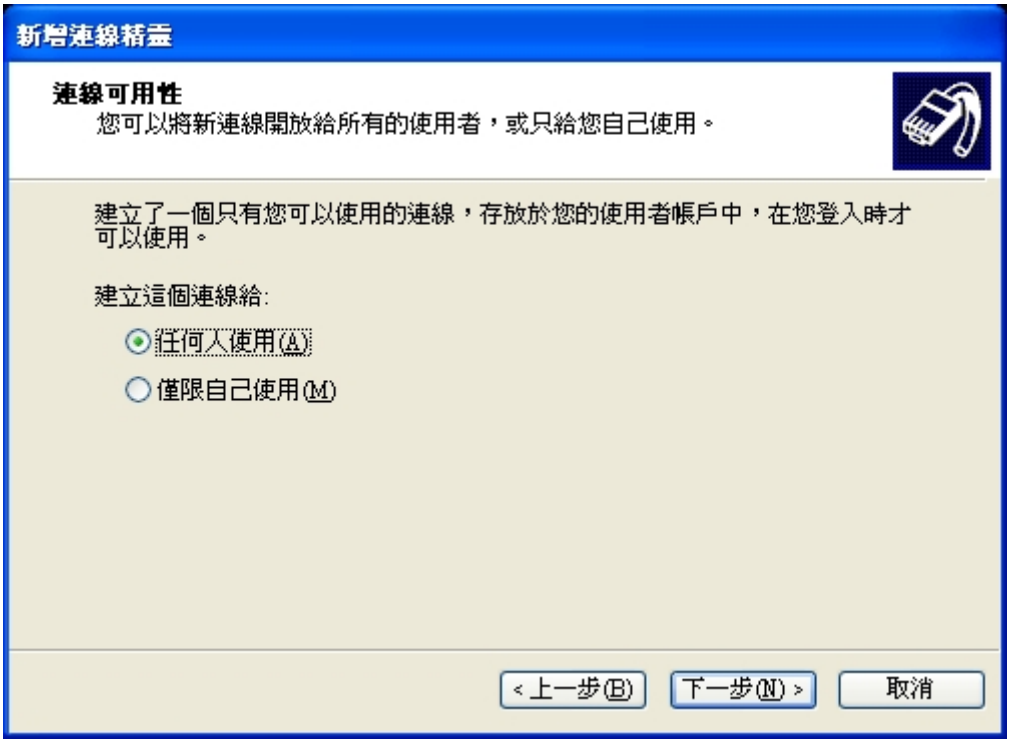
**STEP 5.** Type a name for the connection that you should select the next time you need this dial-up connection, and click the “Next” button.



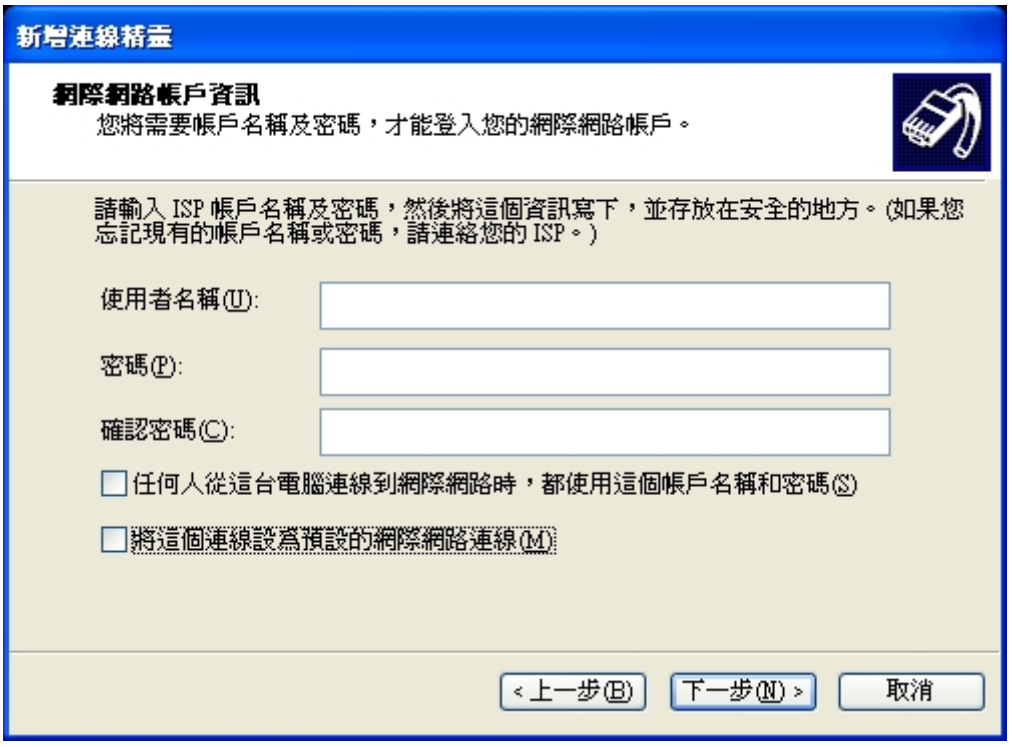

**STEP 6.** Type in *99# for the telephone number and click the “Next” button.



**STEP 7.** Choose the option you like, and then click the “Next” button.




**STEP 8.** If your service provider requires you to enter your username and password to set up a PS data call connection, please enter them using the screen below.

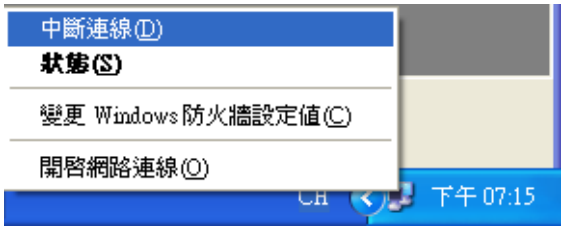


**STEP 9.** The connection is set up and ready to use. Click the "Finish" button to close the wizard. This window also offers the possibility to add the connection into the Desktop by checking the available check box.

**STEP 10.** Then, if your module is registered on the network, you can use the configured dial-up connection to activate a PDP context and make an Internet connection. Go to Start → Connect to → "ASKEY_Connection" and select it.

**STEP 11.** Click the dial button. After a while, a connection to the Internet is made.

**STEP 12.** To disconnect, go to the appropriate network icon and select “Disconnect” from the context menu (via right mouse button).


中斷連線(D)
狀態(S)
變更 Windows 防火牆設定值(C)
開啓網路連線(O)
CH
下午 07:15

## FCC Regulations:

●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.

●This device 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 radiated 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 or more 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user‘s authority to operate the equipment.

## RF Exposure Information

This Modular Approval is limited to OEM installation for mobile and fixed applications only. The antenna installation and operating configurations of this transmitter, including any applicable source-based time-averaging duty factor, antenna gain and cable loss must satisfy MPE categorical Exclusion Requirements of §2.1091.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons, must not be collocated or operating in conjunction with any other antenna or

transmitter, except in accordance with FCC multi-transmitter product procedures.

The end user has no manual instructions to remove or install the device and a separate approval is required for all other operating configurations, including portable configurations with respect to 2.1093 and different antenna configurations.

Maximum antenna gain allowed for use with this device is 2.3 dBi.

When the module is installed in the host device, the FCC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: “Contains FCC ID: 118N-WWIlOOll”.

R&TTE Regulation:

In all cases assessment of the final product must be mass against the Essential requirements of the R&TTE Directive Articles 3.1(a) and (b), safety and EMC respectively, as well as any relevant Article 3.3 requirements.

The maximum antenna gain for frequeny 900 is 2.18 dBi; for frequeny 1800 is 3.45 dBi and the antenna separation distance is 20cm.