

Neo_N703 WCDMA Module User Guide

Version 1.0



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Thank you for purchasing Neoway N703 WCDMA Module

Note:

This manual briefly describes the preparation, the process for installing and safety precautions for using Neoway N703 WCDMA Module.

You are recommended to read the manual before using the N703.

The signal strength and the transmission rate are affected by the actual environment.

1 Getting to Know the N703

The follow figure shows the appearance of the N703. The actual produce may differ.



They are used to connect antennas. N703 has an external antenna.

The max gain which is allowed of external antenna is:

900M: <2.1dBi

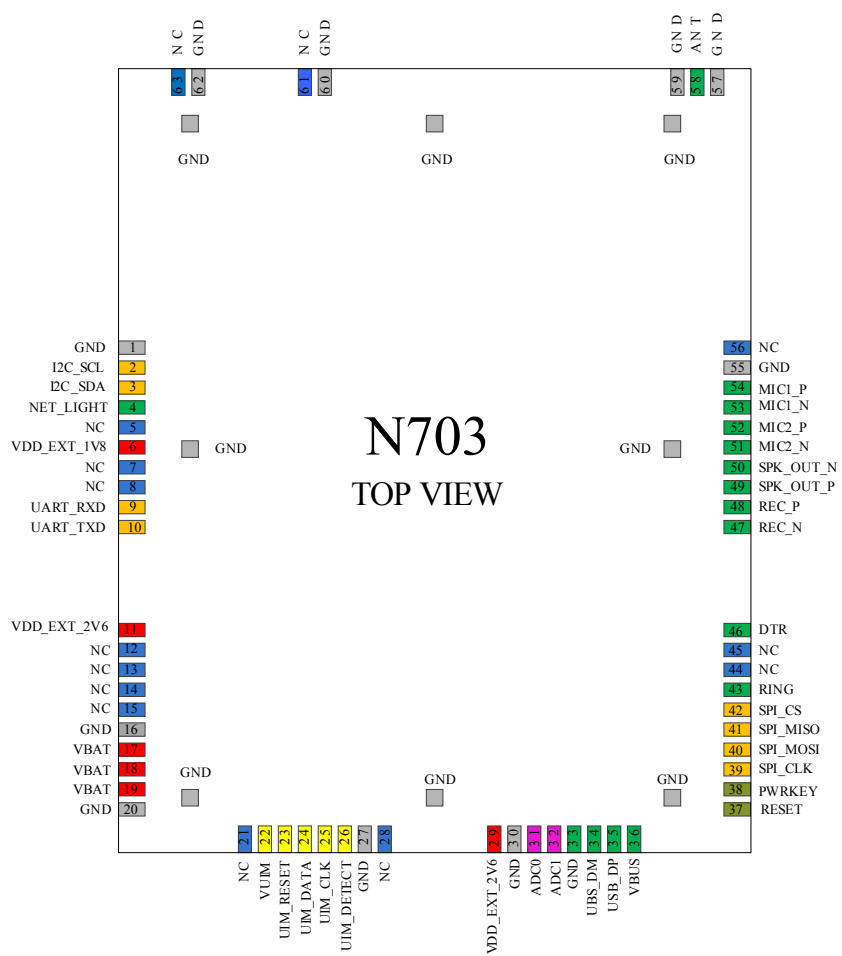
1800M: <2.6dBi

2100M: <4.3dBi

850M: <0dBi

1900M: <2.6dBi

Top view of N703



1.1 N703 Pin Description

N703 pin description

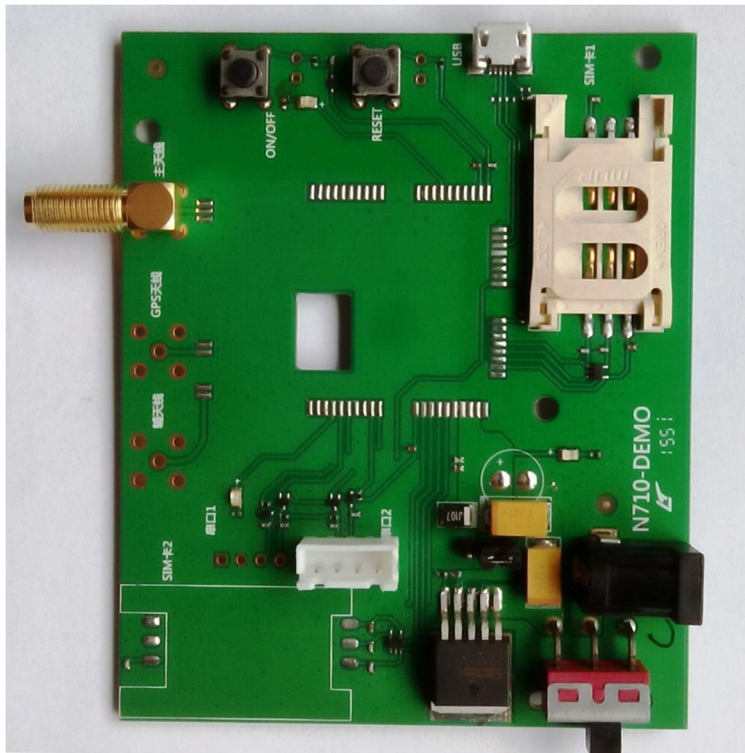
Pin	Name	I/O	Function	Level Feature (V)	Remarks
Power Supply and Switch Interfaces					
17/18/19	VABT	P	Main power supply input		3.5 V to 4.3 V (3.9 V is recommended)
1/16/20/ 27/30/33 /55/57/5 9/60/62	GND	P	GND		
6	VDD_EXT_1 V8	P	1.8 V power supply output		Supply power for IO level shifting circuit.
11/29	VDD_EXT_2 V6	P	2.6 V power supply output		Load capability: <20 mA
37	RESET	DI	Reset input	-0.3V<V _{IL} <0.6	Low level

38	PWRKEY	DI	ON/OFF control	$1.2V < V_{IH} < 2.1V$	Low level
UART Interface					
9	UART_RXD	DI	UART data receive	$-0.3V < V_{IL} < 0.6$ $1.2V < V_{IH} < 2.1V$	Data communication
10	UART_TXD	DO	UART data transmit	$1.35V < V_{OL} < 1.8V$ $0 < V_{OH} < 0.45V$	
UIM Interfaces					
22	VUIM	P	UIM power supply output		Compatible with 1.8/2.85 V UIM card
23	UIM_RESET	DO	UIMreset	$-0.3V < V_{IL} < 0.35 * V_{UIM}$	
24	UIM_DATA	DI/O	UIMdata I/O	$0.65 * V_{UIM} < V_{IH} < V_{UIM} + 0.3V$	
25	UIM_CLK	DO	UIMclock output	V_{UIM} $-0.45 < V_{OH} < V_{UIM}$ $0 < V_{OL} < 0.45V$	
26	UIM_DETECT	DI	UIM detect	$-0.3V < V_{IL} < 0.6$ $1.2V < V_{IH} < 2.1V$	
Audio Interfaces					
47	REC_N	AO	Negative electrode of receiver output		Class AB differential receiver amplifier
48	REC_P	AO	Positive electrode of receiver output		
49	SPK_OUT_P	AO	Positive electrode of speaker output		Class D differential speaker amplifier
50	SPK_OUT_N	AO	Negative electrode of speaker output		
51	MIC2_N	AI	Negative electrode of differential MIC input		MIC bias embedded
52	MIC2_P	AI	Positive electrode of differential MIC input		
53	MIC1_N	AI	Negative electrode of differential MIC input		
54	MIC1_P	AI	Positive electrode of differential MIC input		
USB Interfaces					
34	USB_DM	DI/O	USB data negative signal		USB2.0, used for firmware download and

35	USB_DP	DI/O	USB data positive signal		data transmission
36	VBUS	P	USB voltage test		4.2V~5.5V, typically 5V
SPI Interfaces					
39	SPI_CLK	DO	SPI clock output	-0.3V<V _{IL} <0.6, 1.2V<V _{IH} <2.1V, 0<V _{OL} <0.45V 1.35V<V _{OH} <1.8V	Used in host mode
40	SPI_MOSI	DI/O	SPI data input		
41	SPI_MISO	DI/O	SPI data output		
42	SPI_CS	DO	SPI enabling		
ADC					
31	ADC0	AI	ADC0 input		12 bit, detectable voltage range: 0 V to 2.1 V
32	ADC1	AI	ADC1 input		
I2C Interfaces					
2	I2C_SCL	DO	I2C clock output	-0.3V<V _{IL} <0.6, 1.2V<V _{IH} <2.1V, 1.35V<V _{OH} <1.8V 0<V _{OL} <0.45V	Connected to I2C components
3	I2C_SDA	DI/O	I2C data cable		
Network LED Indicator					
4	NET_LIGHT	DO	Indicate network status	-0.3V<V _{OL} <0.91V 2.15V<V _{OH} <2.6V	
Sleep Mode Controlling					
46	DTR	DI	Sleep mode control	-0.3V<V _{IL} <0.6, 1.2V<V _{IH} <2.1V	
SMS and Incoming Call Ring					
43	RING	DO	SMS and incoming call ring	0<V _{OL} <0.45V, 1.35V<V _{OH} <1.8V	
Antenna Interfaces					
58	ANT	AI/O	2G/3G antenna		50 Ω impedance
NC Interfaces					
5/7/8/21/ 28/44/45 /56	NC		Reserved pins		Leave them not connected. Do not pull up or down.
Reserved RF Interfaces					
61	NC				
63	NC				



For Example, Welding the N703 onto Embedded Main Board.



1.4 Requirements for the PC

To use the N703, the PC must meet the following requirements:

- Windows 2000 SP4, Windows Xp SP2, Windows Vista, Windows 7-10 and Linux 2.6.18 or above.
- The hardware of your PC must meet or exceed the recommended system requirements for the installed version of OS.
- Display resolution:800*600 or above.
- At least one WWAN Mini PCI Express interface or one USB interface .

To use the N703, the MCU must meet the following requirements:

- At least one USB interface or one Uart interface.

2 Using N703 with Mini PCI Express Board on PC



- ① Screw holes
- ② Main antenna
- ③ N703 Module
- ④ Mini PCI Express connector

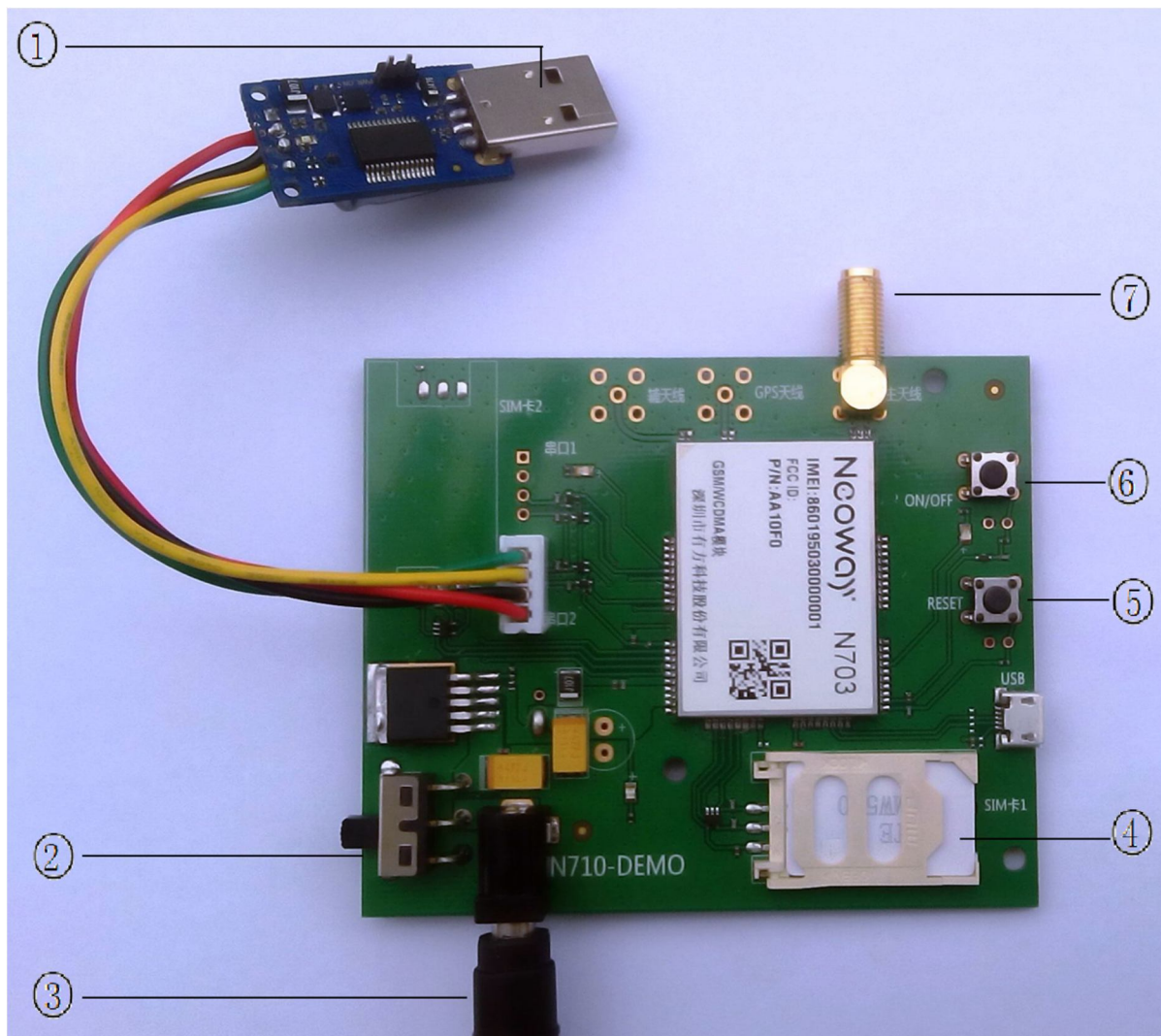
Installing the N703 Mini PCI Express Board on the Main Board of the PC

- Step 1** Insert the mini PCI Express connector of the N703 into the WWAN Mini PCI Express interface on the main board of the PC.
- Step 2** Press downward to fix the N703 in the module slot.
- Step 3** Use a screwdriver to fix the N703 onto the main board of the PC with two screws provided in the packing box
- Step 4** Insert the connector of the main antenna into the Main antenna interface of the N703 Mini PCI Board.

3 Using N703 with Embedded Main Board on PC

You can also use N703 Module with your computer to connect to the internet, One N703 Module and a Embedded Main Board (Demo) is needed.

3.1 N703 Embedded Main Board (Demo) description



- ① Connect USB-to-Serial (PL2303) to a computer.
- ③ Connect to a DC 5V power supply.
- ② DC 5V power supply switch.
- ④ Insert a GSM or WCDMA SIMcard for Using.
- ⑤ N703 Module RESET Key.
- ⑥ N703 Module ON/OFF Key.
- ⑦ N703 Module antenna interfaces

Then you can Starting the N703 Demo Board with next 4 Step on your computer:

- Step 1** Turn on the DC 5V power supply switch. The LED indicator of the N703 Demo board is on.
- Step 2** Short press on the On/Off button. The N703 demo board is started.
- Step 3** Installing PL2303 Driver Guide on PC
- Step 4** Installing Modulation Modem

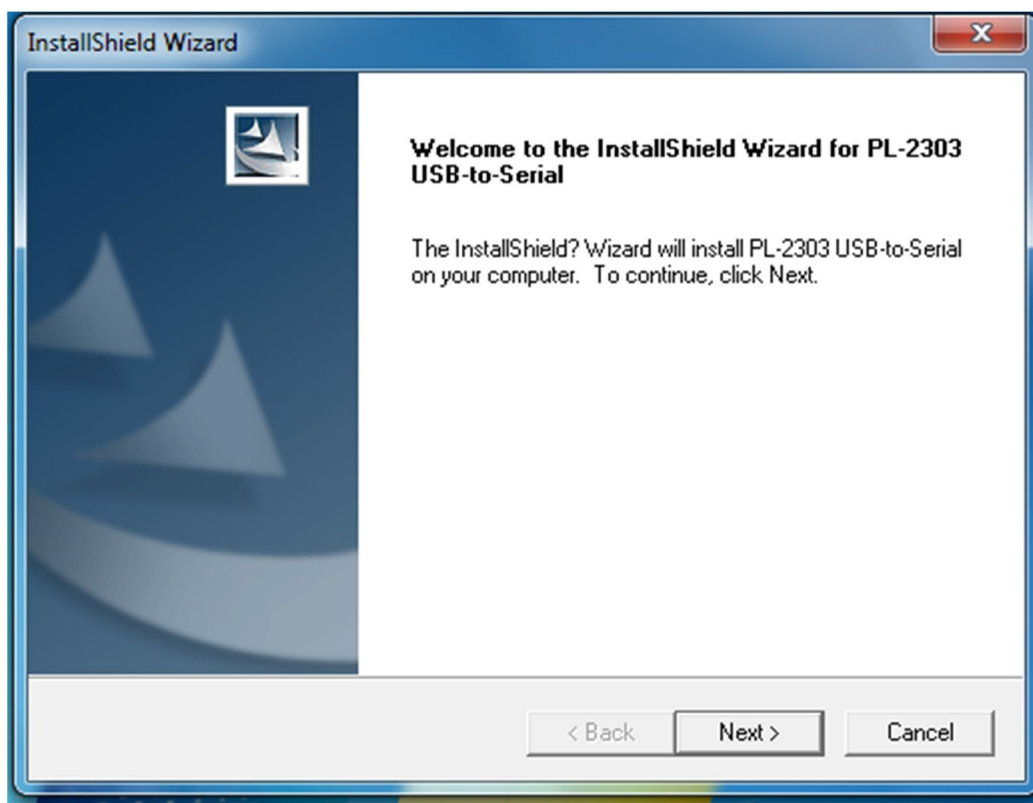
3.2 Installing PL2303 Driver Guide on PC

Install the PL2303 driver on the computer.

- Step 1** Select the correct version of the driver based on your operating system.

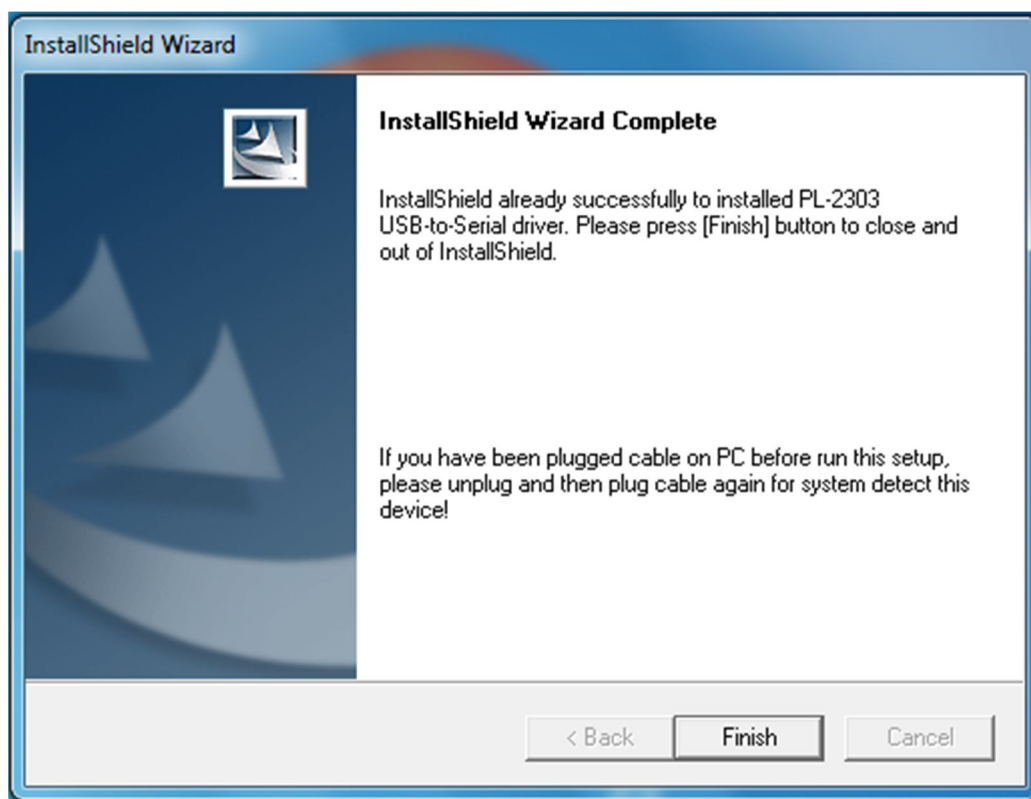
名称	修改日期	类型
PL-2303 Driver Installer.exe	2004/6/4 14:27	应用程序
PL2303-Driver_XP2K_v204102.exe	2008/10/1 16:03	应用程序

- Step 2** Double-click the installer.

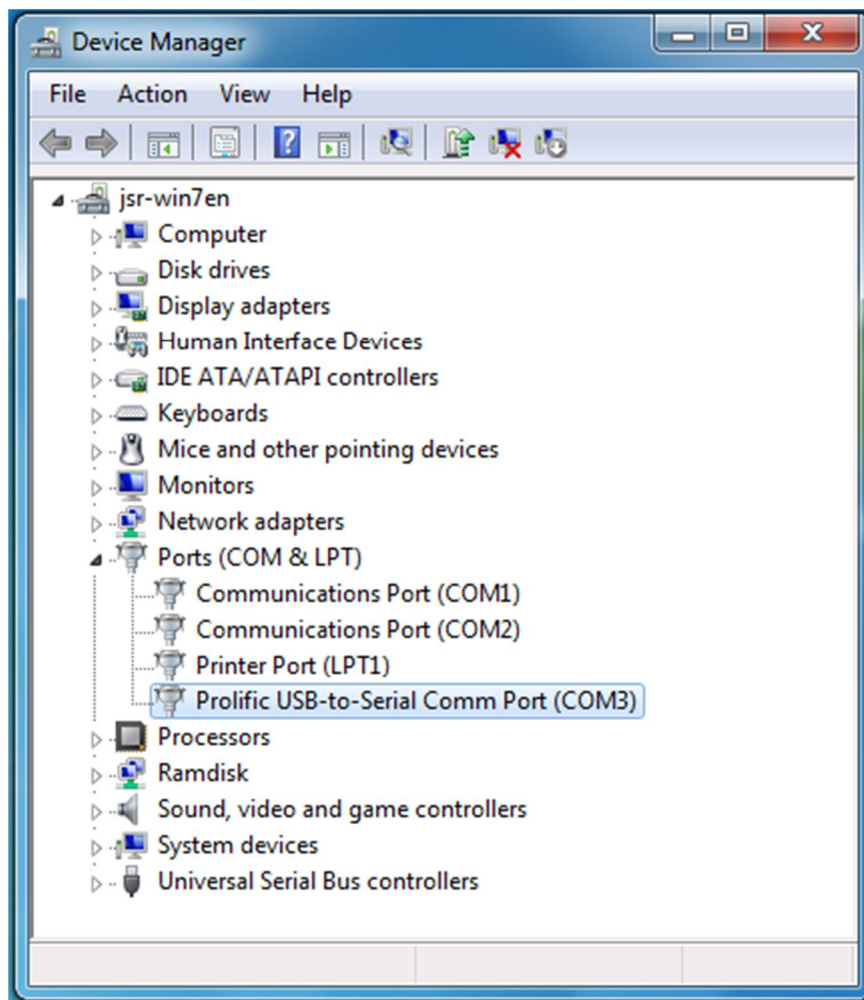


- Step 3** Click **Next** and then **Finish**.

The driver is installed successfully.



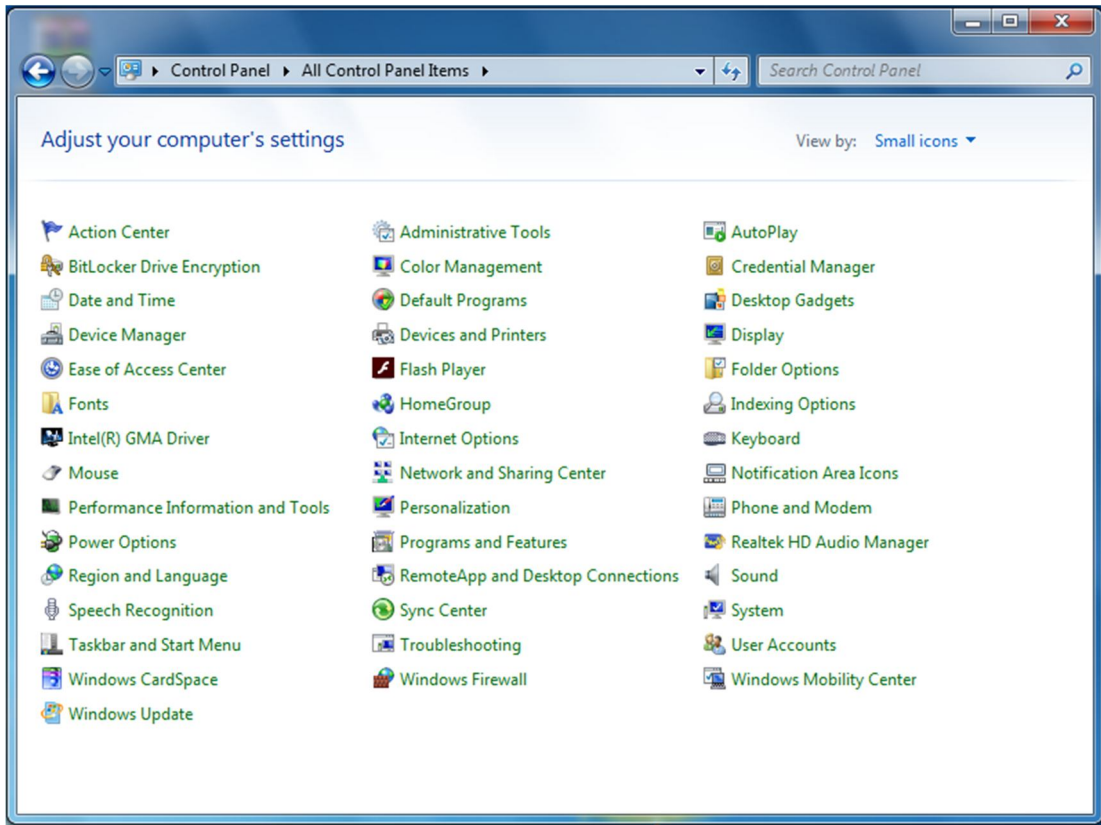
Step 4 In Device Manager, check the ports. You can see the USB-to-Serial in the list.



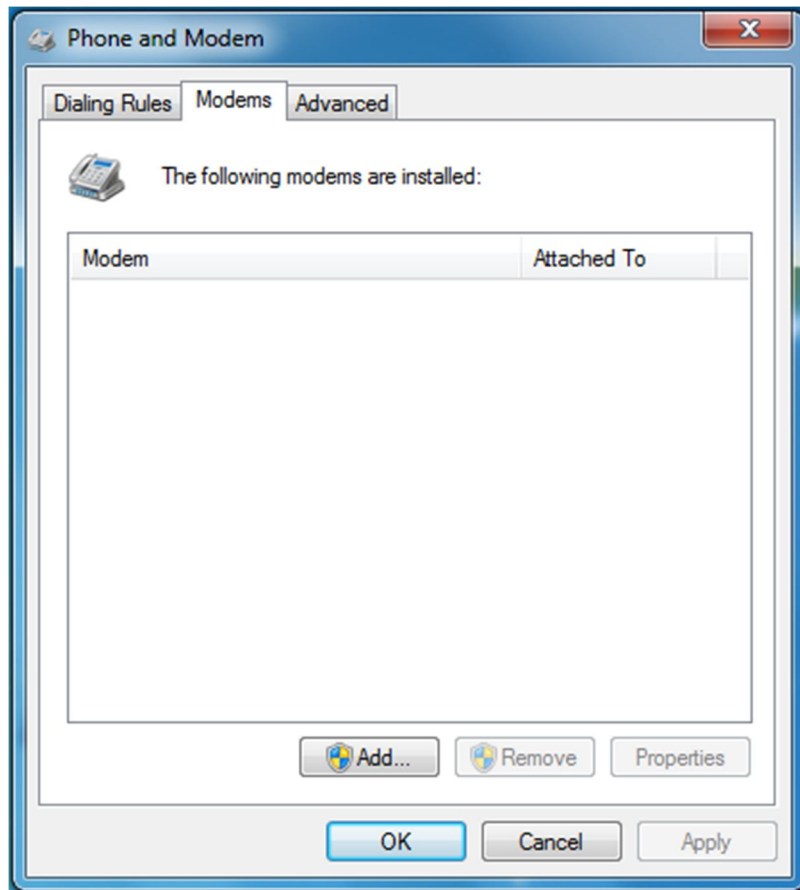
3.3 Installing Modulation Modem

Step 1 Click Start > Control Panel.

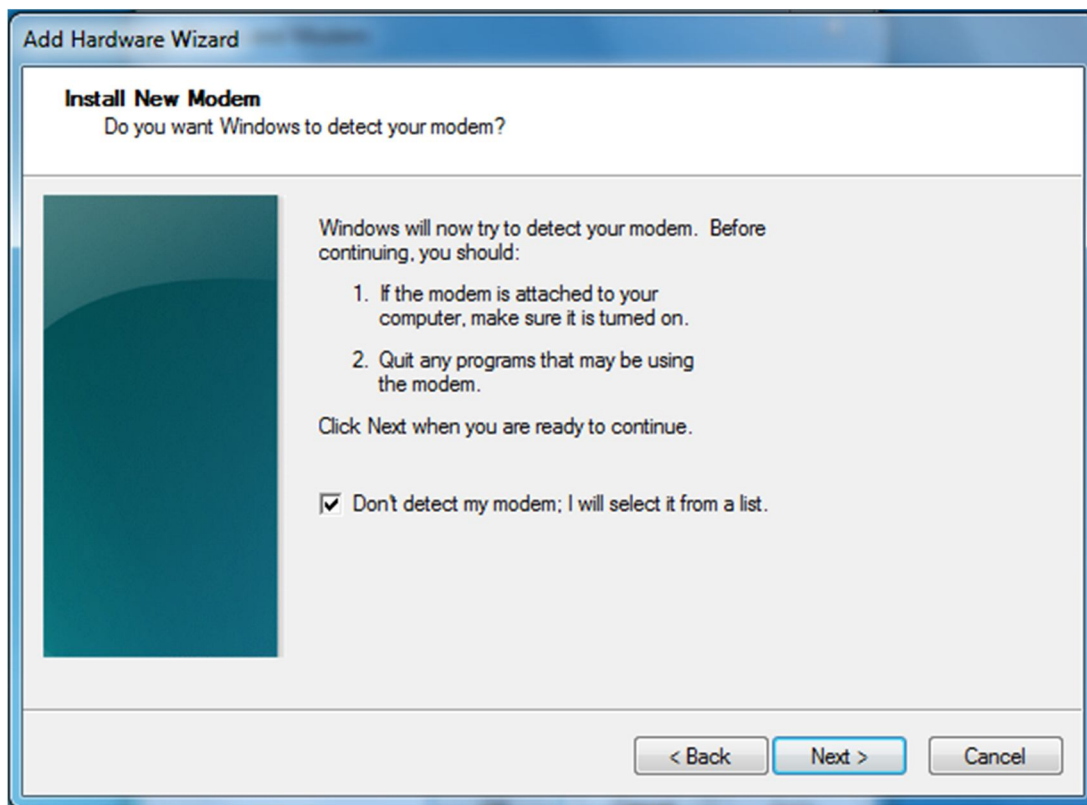
Step 2 In Control Panel, click **Phone and Modem**.
The Phone and Modem dialog box is displayed.



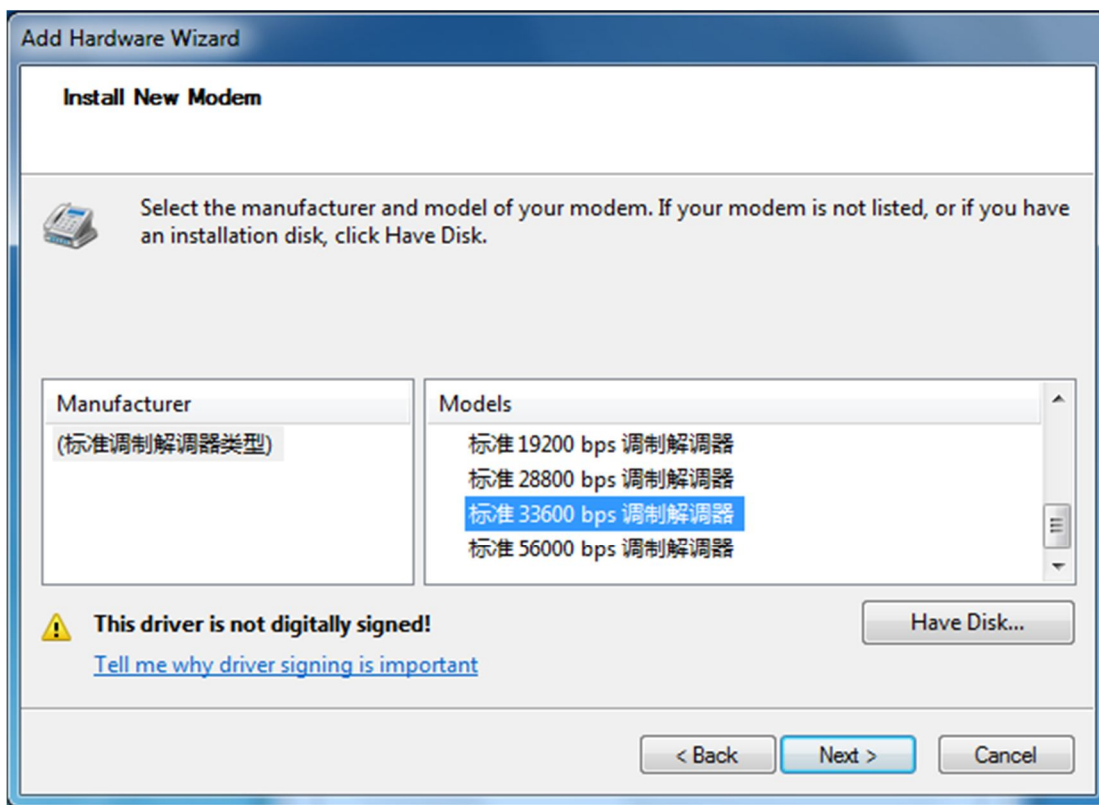
Step 3 On the Modems tab of **Phone and Modem**, click **Add**.



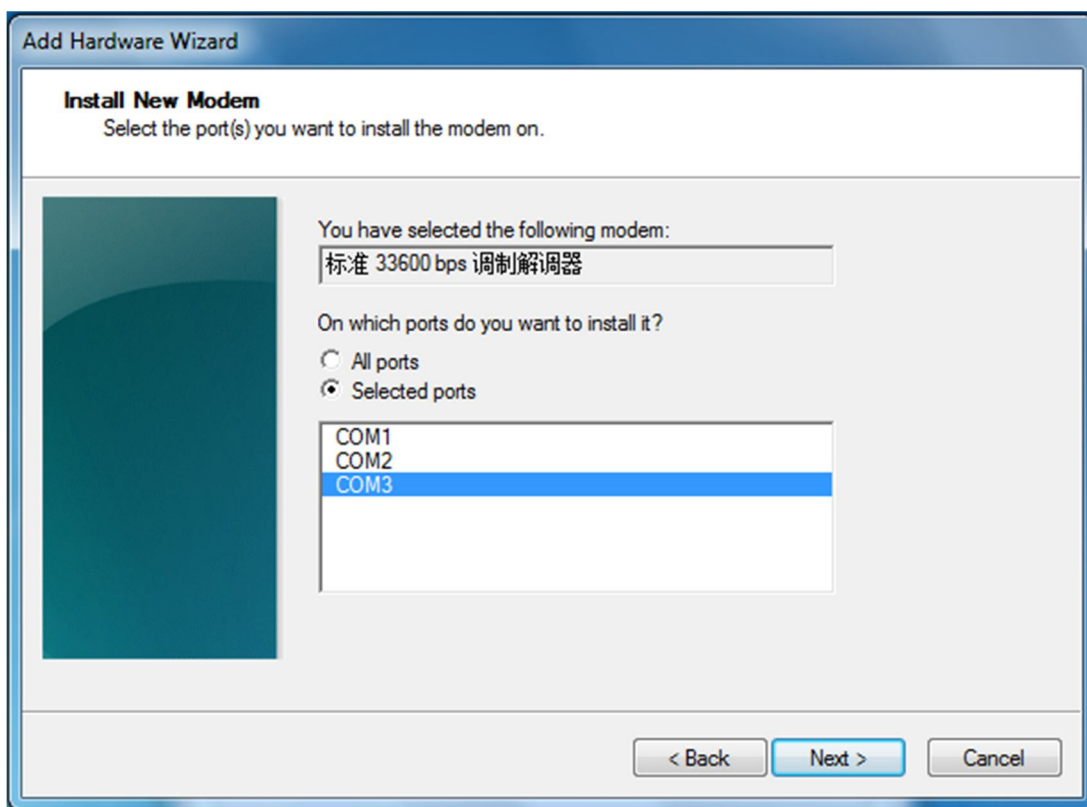
Step 4 In the Add Hardware Wizard, select Don't detect my modem; I will select it from a list and click Next.



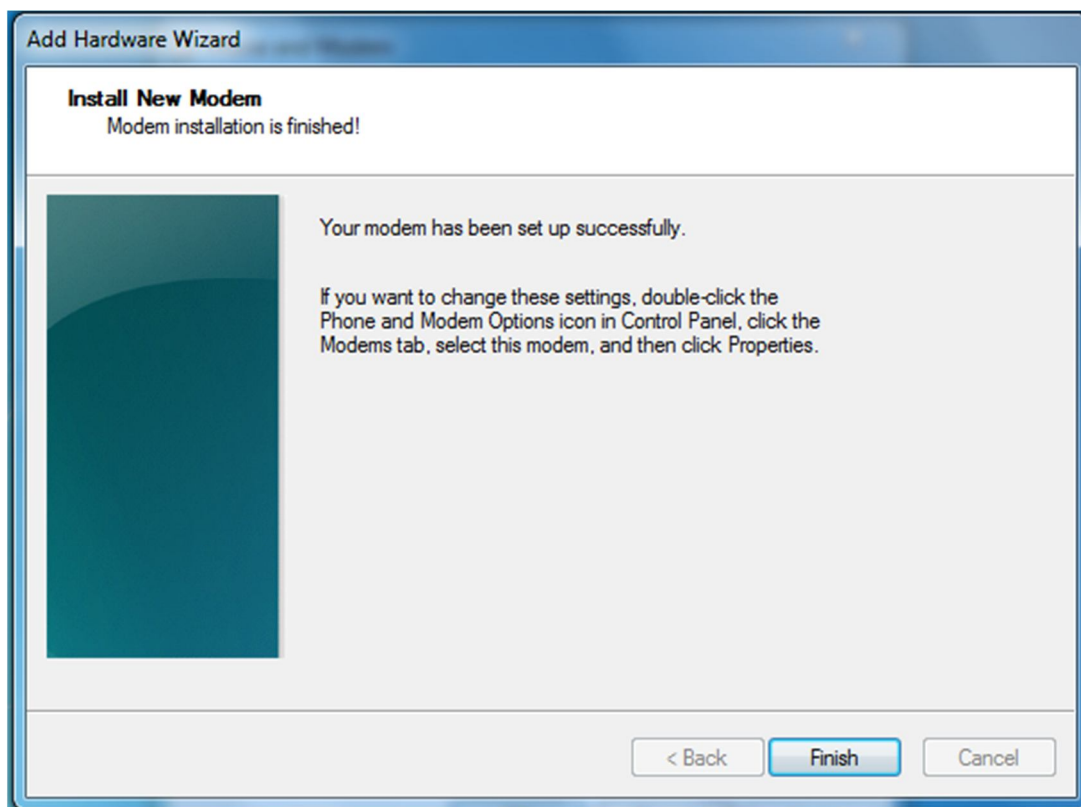
Step 5 Select the Standard 33600bps Modem and click Next.



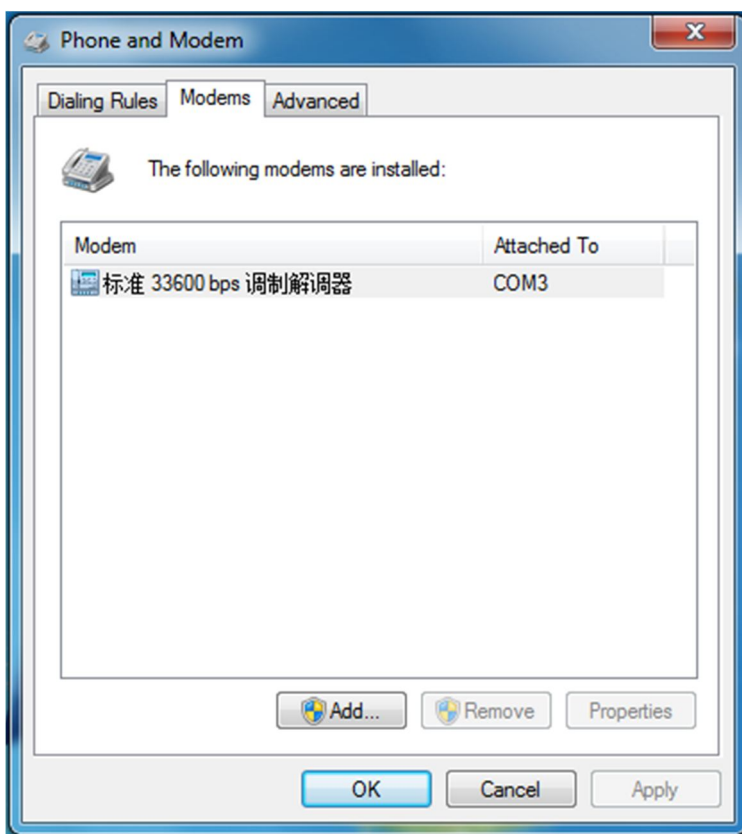
Step 6 Click **Selected ports**, select the correct port, and click **Next**.



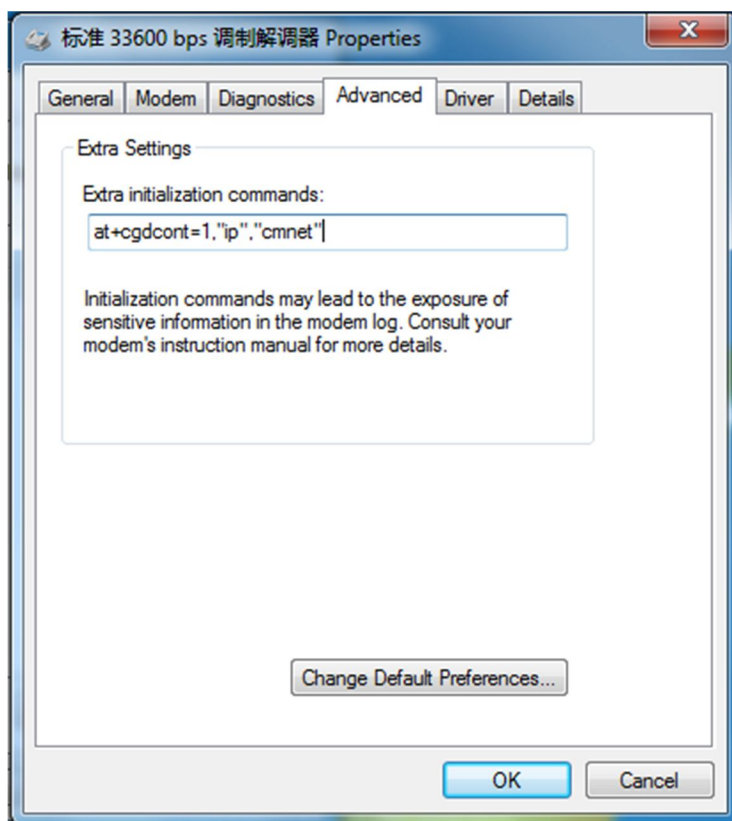
Step 7 Click **Finish**.
The modem is installed successfully.



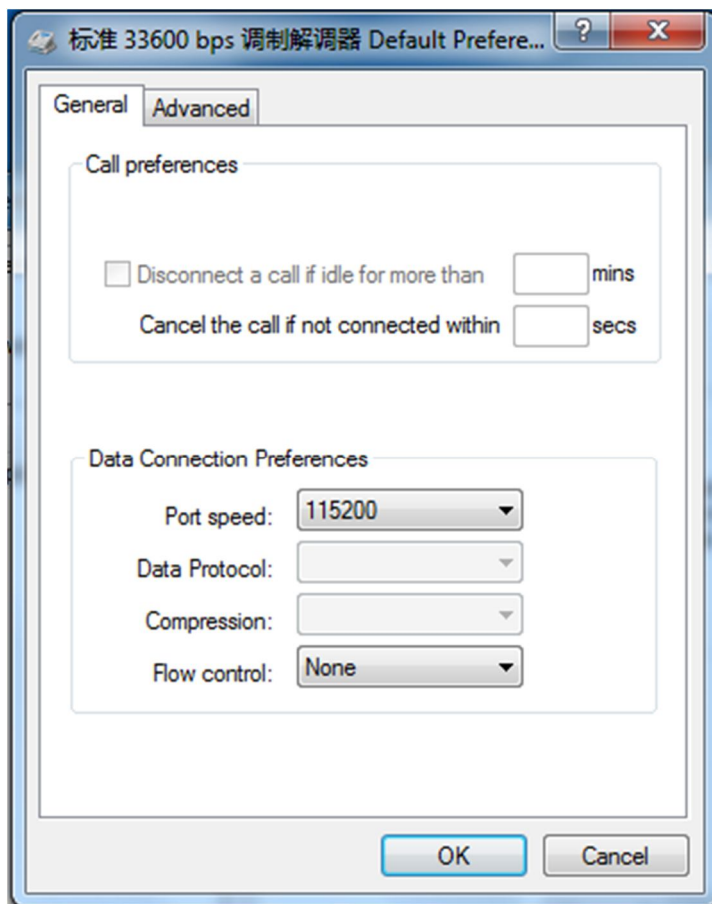
Step 8 In the following dialog box, select current port and click **Properties**.



Step 9 On the Advanced tab, add at+cgdcont=1,"ip","cmnet" to Extra initialization commands:.

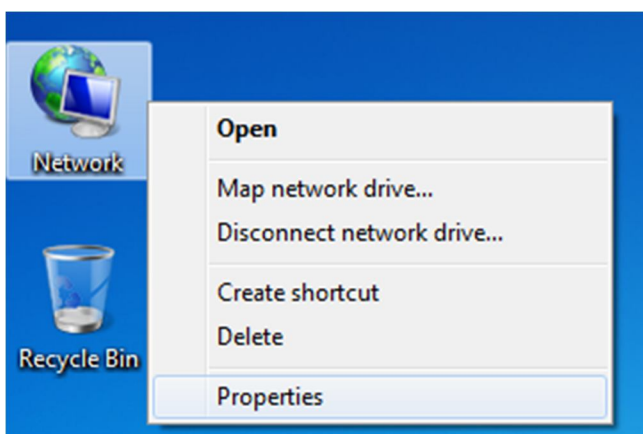


Step 10 Click **Change Default Preferences** and set the **Flow control** to **None**. Click **OK**.
The modem setting is completed.

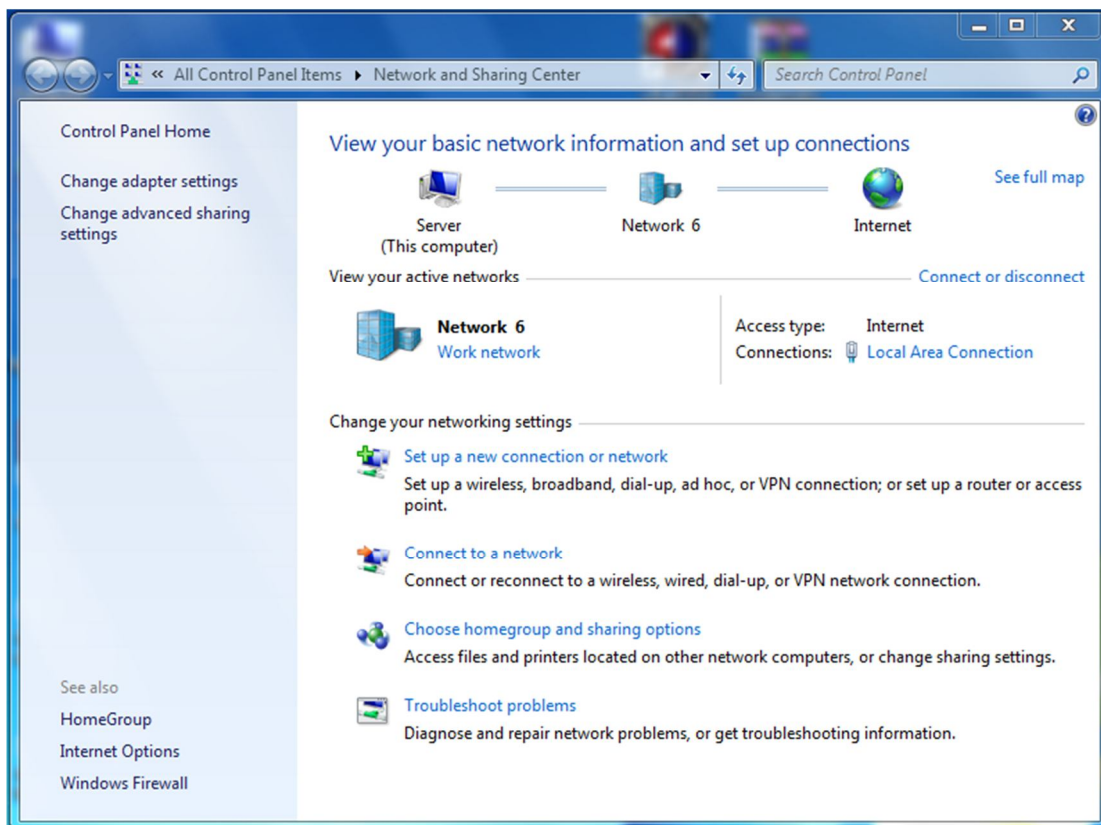


3.4 Setting Up a New Connection

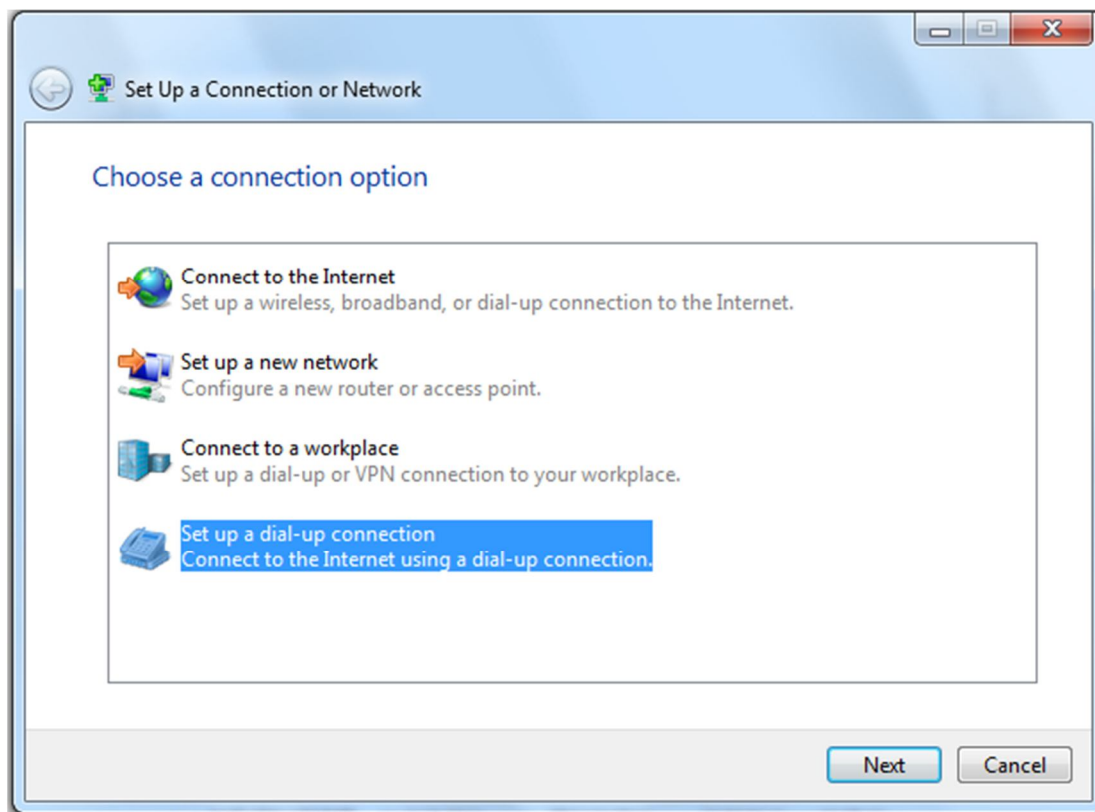
Step 1 Right-click **Network** and choose **Properties** from the pop-up menu.



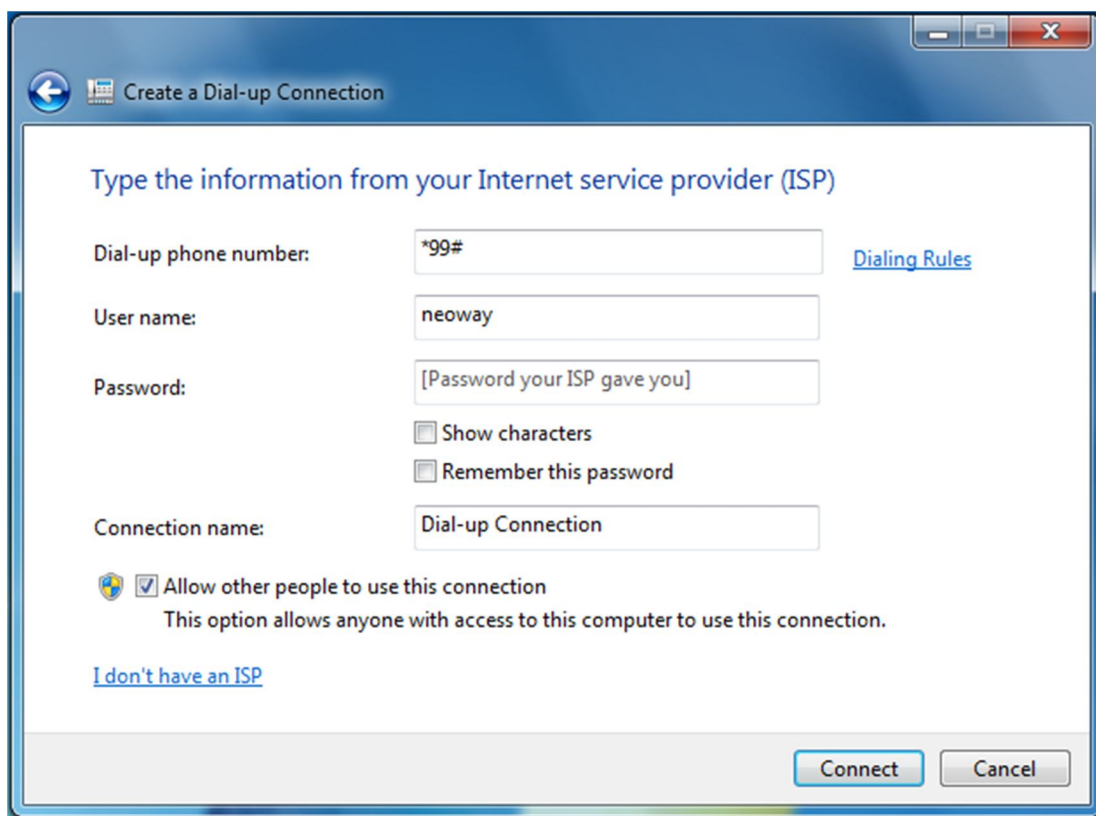
Step 2 In the Network and Sharing Center, click Set up a new connection or network.



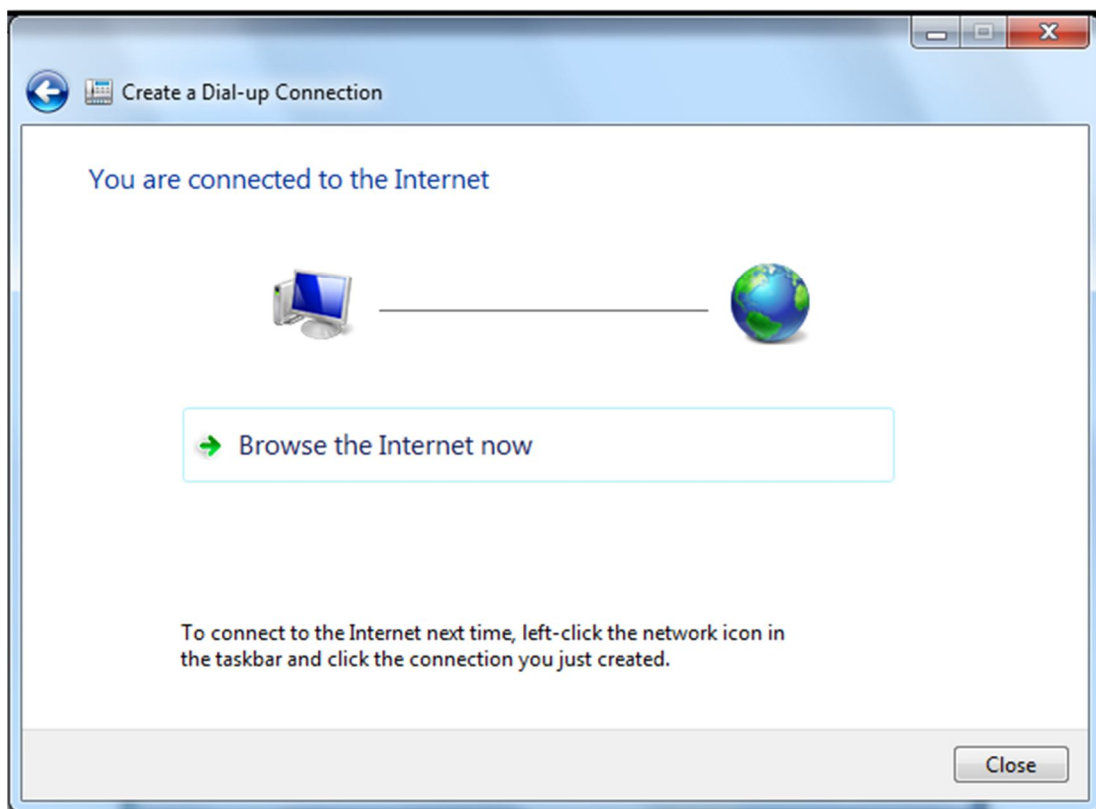
Step 3 On the Choose a connection option page, select Set up a dial-up connection and click Next.



Step 4 In the following dialog box, fill information as shown and click **Connect**.



If the following page is displayed after you click Connect, dial-up connection is set up successfully.



Step 5 On the **Set Network Location** page, select your location. You can browse the internet now.



4 Safety Information

Read the safety information carefully to ensure the correct and safe use of your wireless device.

4.1 Interference

Do not use your wireless device if using the device is prohibited or when it causes danger or interference with electric devices.

4.2 Medical Device

- Do not use your wireless device and follow the rules and regulations set forth by the hospitals and health care facilities.
- Some wireless devices may affect the performance of the hearing aids. For any such problems, consult your service provider.
- If you are using an electronic medical device, consult the doctor or device manufacturer to confirm whether the radio wave affects the operation of this device.

4.3 Area with Inflammables and Explosives

To prevent explosions and fires in areas that are stored with inflammable and explosive devices, do not use your wireless device and observe the rules. Areas stored with inflammables and explosives include but are not limited to the following

- Gas station.
- Fuel depot (such as the bunk below the deck of a ship).
- Container/Vehicle for storing or transporting fuels or chemical products.
- Areas where air contains chemical substances and particles (such as granules, dust, or metal powder).
- Area indicated with the "Explosives" sign.
- Area indicated with the "Power off bi-direction wireless equipment" sign.
- Area where you are generally suggested to stop the engine of a vehicle.

Federal Communications Commission Notice (United States): Before a wireless device model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure.

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

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

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operate in conjunction with any other antenna or transmitter.

NOTE: 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 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.

For PCB Antenna Module:

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

"Contains Transmitter Module FCC ID: PJ7-1721" or "Contains FCC ID: PJ7-1721"