Modem to USB/RS-232 Converter

GTM-200M

User Manual

Version 1.0.1 Sep 2022

Warranty

All products manufactured by ICP DAS are under warranty regarding defective materials for a period of one year, beginning from the date of delivery to the original purchaser.

Warning

ICP DAS assumes no liability for any damage resulting from the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, not for any infringements of patents or other rights of third parties resulting from its use.

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Contact US

If you have any problem, please feel free to contact us. You can count on us for quick response.

Email: service@icpdas.com

Symbol description

RoHS

Manufacture of this product strictly abide by the rules of lead-free and does not contain any harmful substances.

WEEE

This symbol means this product must be collected at the time of discarding in the EU.

HOT SURFACE DO NOT TOUCH

This symbol means this product's enclosure may be with high temperature, do not touch before cooling or else will be burned.

USB

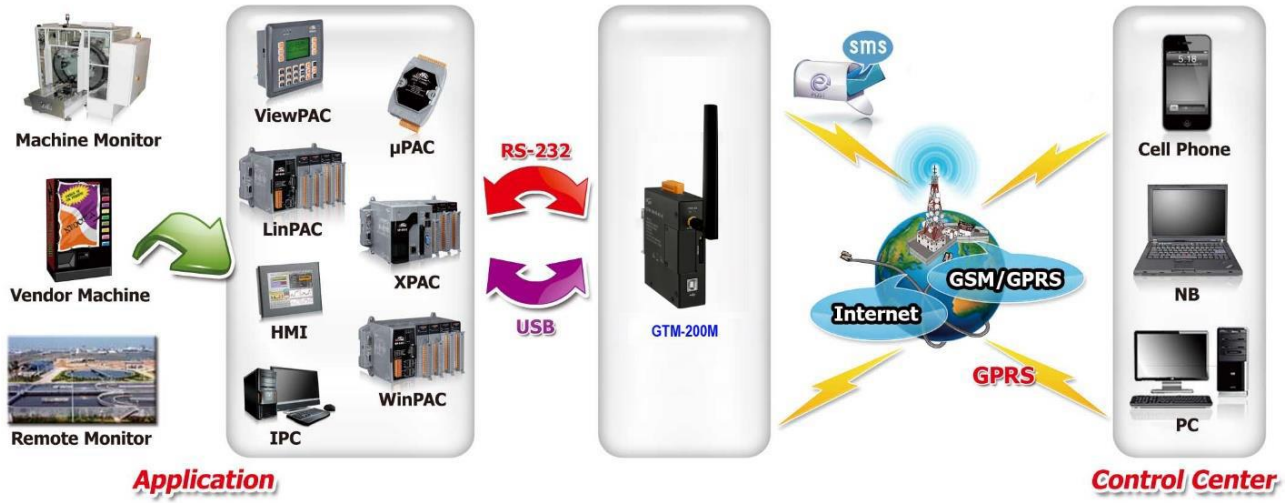
This product support USB 2.0 interface.

Table of Contents

1. Introduction

GTM-200M is an industrial modem converter with RS-232 and USB interfaces. Customers can choose to match different communication modules according to the needs of the field, which can support different frequency bands.

The GTM-200M also provides an integrated Library, allowing customers to focus on and speed up the development of applications without having to deal with the command problems of different communication modules. The standard interface can be easily matched with various PLCs and PCs, and SMS transmission and 3G/4G connection can be quickly implemented through the Library.



2. Hardware Specifications

2.1 Hardware Specifications

Item	GTM-200M
Comm. Interface	
COM Port	RxD, TxD, GND
COM Port Baud Rate	9600 bps ~ 115200 bps (default : 115200 bps)
USB	USB 2.0 (high speed)
USB Driver Support	Windows 10
LED Indicators	
Power	Red
3G/GSM	Green
Power	
Protection	Power reverse polarity protection
Frame Ground Protection	ESD, Surge, EFT, Hi-Pot
Required Supply Voltage	+10 V_{DC} ~ +30 V_{DC}
Rated Current	30 ~ 15 mA / 10 ~ 30 V_{DC}
Reset Input	
Input Type	Isolated, 3750 V_{rms}
On Voltage Level	+3.5 V_{DC} ~ +30V_{DC}
Off Voltage Level	+1 V_{DC} max.
Input Impedance	3 kΩ, 0.25W
Mechanical	
Casing	Metal
Dimensions (W x L x H)	28 mm x 78.5 mm x 100 mm
Installation	DIN-Rail
Environment	
Operation Temperature	-25℃ to 70℃
Storage Temperature	-40℃ to 80℃
Humidity	5~90% RH, non-condensing

2.2 Accessories Specifications

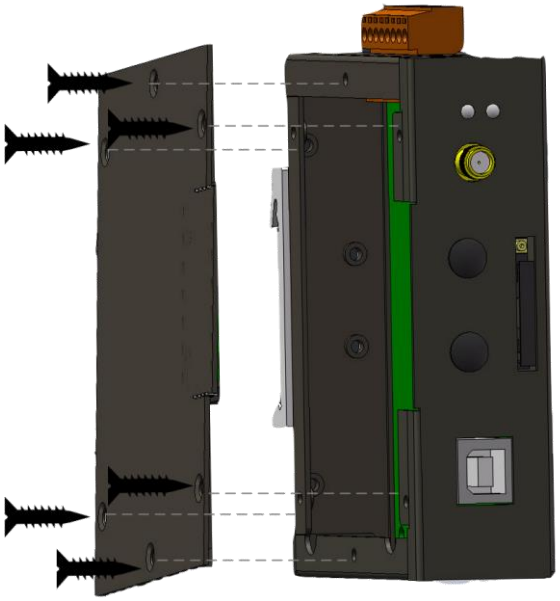
Module (Optional)	EC25-E	EC20-CE	LE910C4-WWX
category	LTE CAT.4		
Frequency band			
4G	FDD LTE: B1/B3/B5/B7/B8/B20 TDD LTE: B38/B40/B41	FDD LTE: B1/B3/B8/ TDD LTE: B38/B39/B40/B41	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B19/B20/B26/B28
3G	WCDMA: B1/B5/B8	WCDMA:B1/B8 TD-SCDMA:B34/B39 CDMA2000:BC0	B1/B2/B4/B5/B8/B19
GSM	B3/B8	900/1800MHz	B2/B3/B5/B8
Scope of use			
Area	Taiwan, Europe, Middle East, Africa, Korea, Thailand, India	China, Europe, Middle East, Africa, Korea, Thailand	Europe, North America, Africa, Asia Pacific
Certification	Regulatory: GCF/ CE/KC/NCC/RCM/NBTC/FAC/ICASA	Regulatory: GCF/ CE/KC/NCC/DoC/CCC/ SRRC/NAL/ICASA	Regulatory: GCF/FCC/CE
Environmental			
Temperature range	-40°C ~+85°C		
Dimensions (W x L x H)	51.0mm x 30.0mm x 4.9mm		

2.3 Assembly process

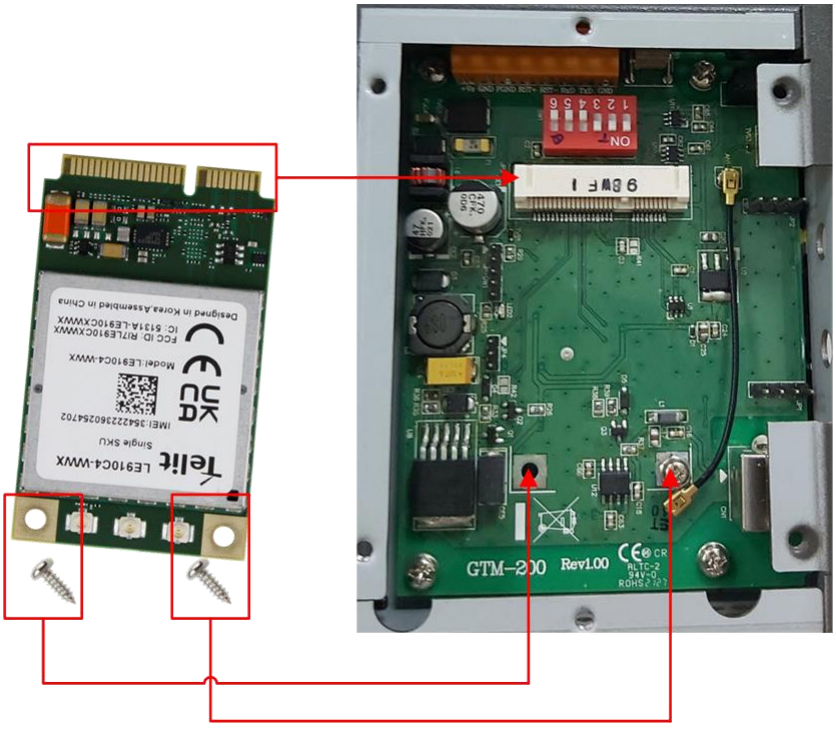
When the communication module is purchased, please refer to the following installation method for installation :

※Please refer to the order information at the bottom of the GTM-200M order page for optional communication modules.

Step 1 : Remove the side panel , there are 6 black screws.

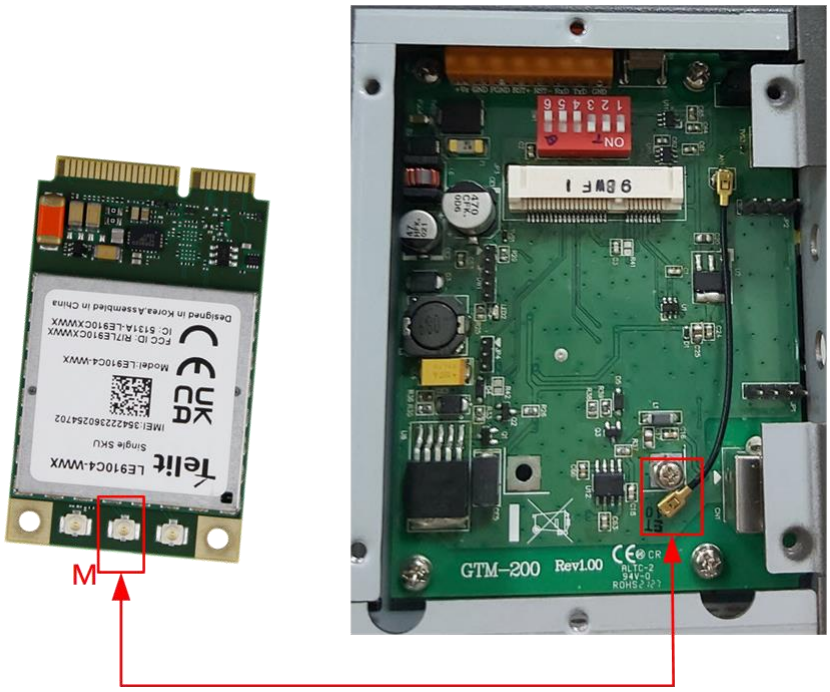


Step 2: Insert the communication module into the PCIE slot position and lock the 2 silver screws.

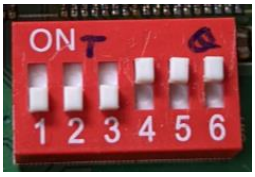
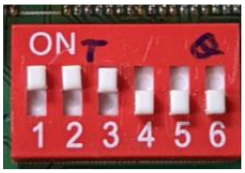


Step 3 : Connect the 4G IPEX plug to the communication module (Main) position

※Note: The main position of different modules is different, and the main contact of communication module can be referred to Appendix 7.1



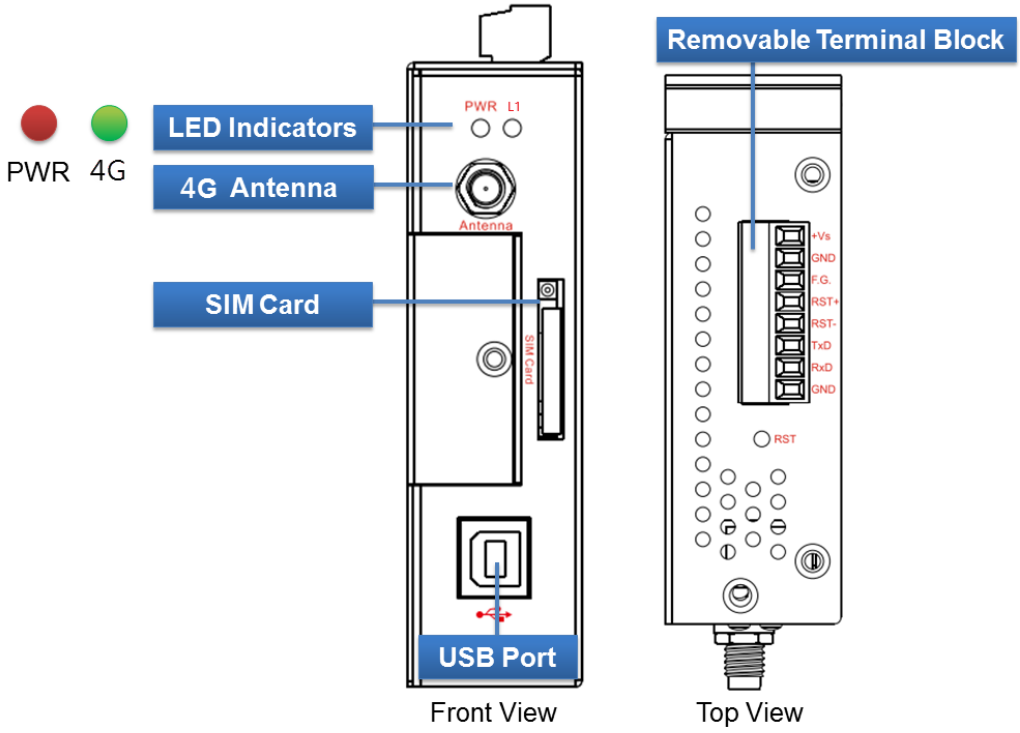
Step 4 : Adjust the mode according to the optional module and make sure the Switch is in the correct position, please refer to the following diagram

Optional Module Switching Mode
EC20-CE、EC25-E
 Turns numbers **4, 5** and **6 to ON** Turns numbers **1,2** and **3 to OFF**
LE910C4-WWX
 Turns numbers **1,2** and **3 to ON** Turns numbers **4, 5** and **6 to OFF**

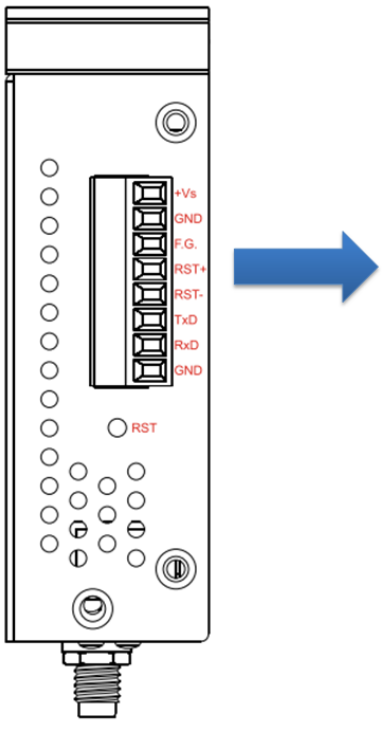
Step 5: Install the side panel and lock back a total of 6 screws.

3. Hardware Appearance

3.1 View of the GTM-200M Panel

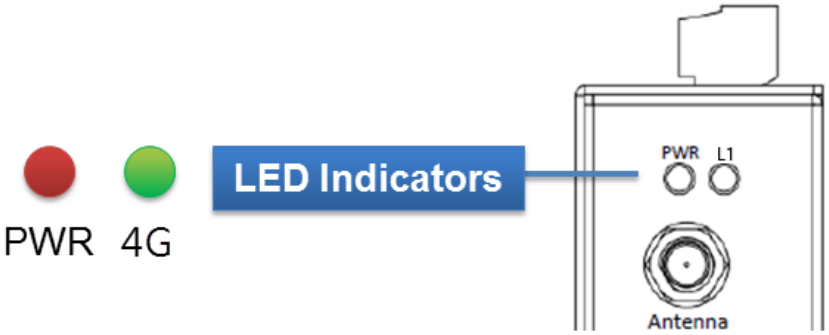


3.2 Pin Assignments



Power Input +10 ~ +30 VDC	+Vs
	GND
Frame Ground	F.G.
Reset	RST+
	RST-
RS-232	TxD
	RxD
	GND

3.3 LED Indicators



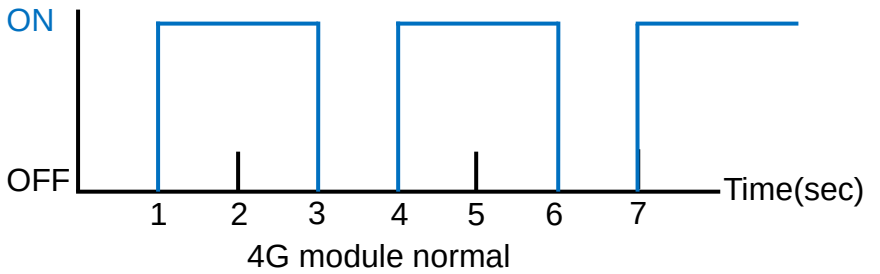
There are two LED indicators to help users to judge the various conditions of GTM-200M. The description is as follows：

A. PWR(Red)：The PWR LED can indicate the status of Power module.

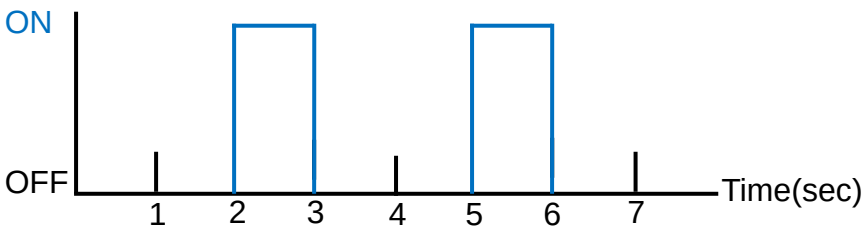
Power normal	Power fail
Always ON	Always OFF

B. 4G (Green)：The modem LED can indicate the status of GSM module.

4G module normal	4G module fail	Data transmission
ON 2 sec and OFF 1 sec	OFF or ON 1 sec and OFF 2 sec	Blinking per 0.2 sec



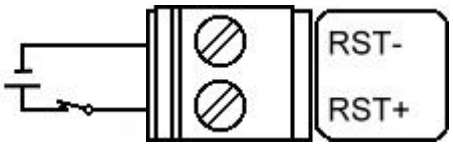
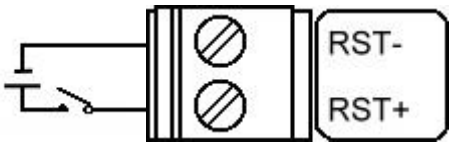
4G module normal



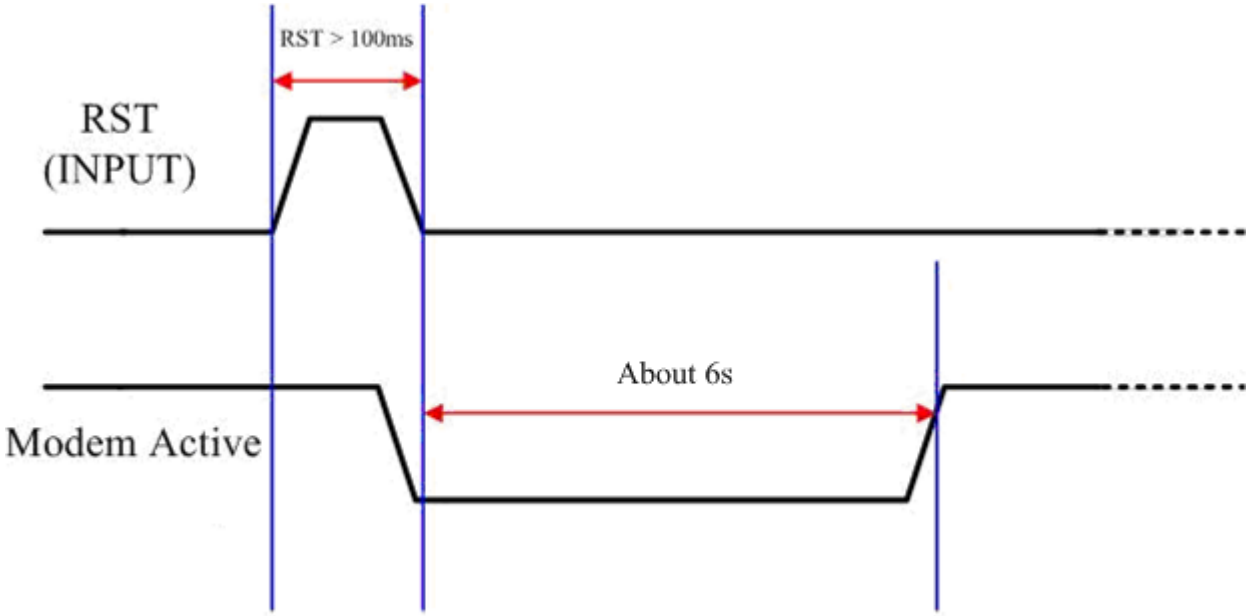
4G module fail

4. Hardware Wire Connection

4.1 Reset Wire Connection

Input Type	Reset State ON	Reset State OFF
Reset Input		

Reset Input	
ON Voltage Level	+3.5 V_{DC} ~ +30 V_{DC}
OFF Voltage Level	+1 V_{DC} max.

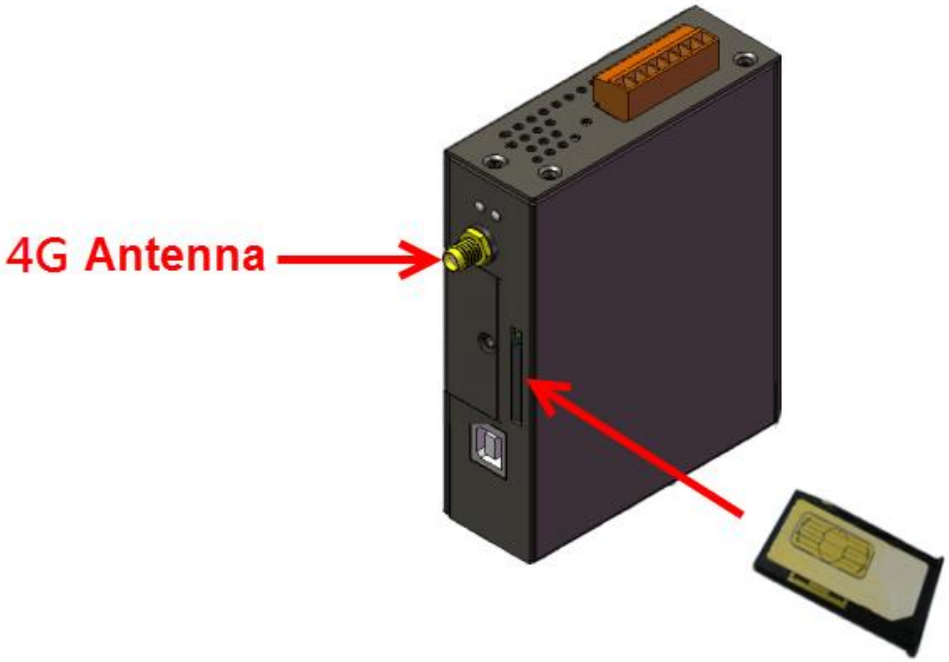


Timing of restarting the modem

4.2 Installation

The GTM-200M should be installed by a properly authorized technician in a location that is out of the reach of the general public.

➢ SIM card and 4G antenna installation



WARNING! HOT SURFACE DO NOT TOUCH

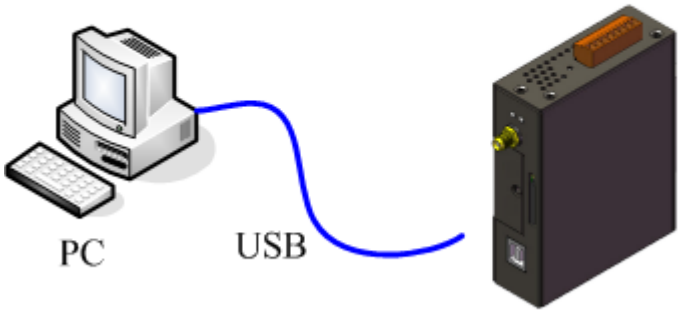
The product's enclosure may be with high temperature, do not touch before cooling or else will be burned.

SAFETY INSTRUCTION NOTES

The unit installation to final system and the DC source (SELV, Limited Power Source) that is intended to connect with power input pins (DC.+VS / DC.GND) should be complied with requirements of EN 60950-1. Be sure before connect to input pins.

4.3 Quick Test

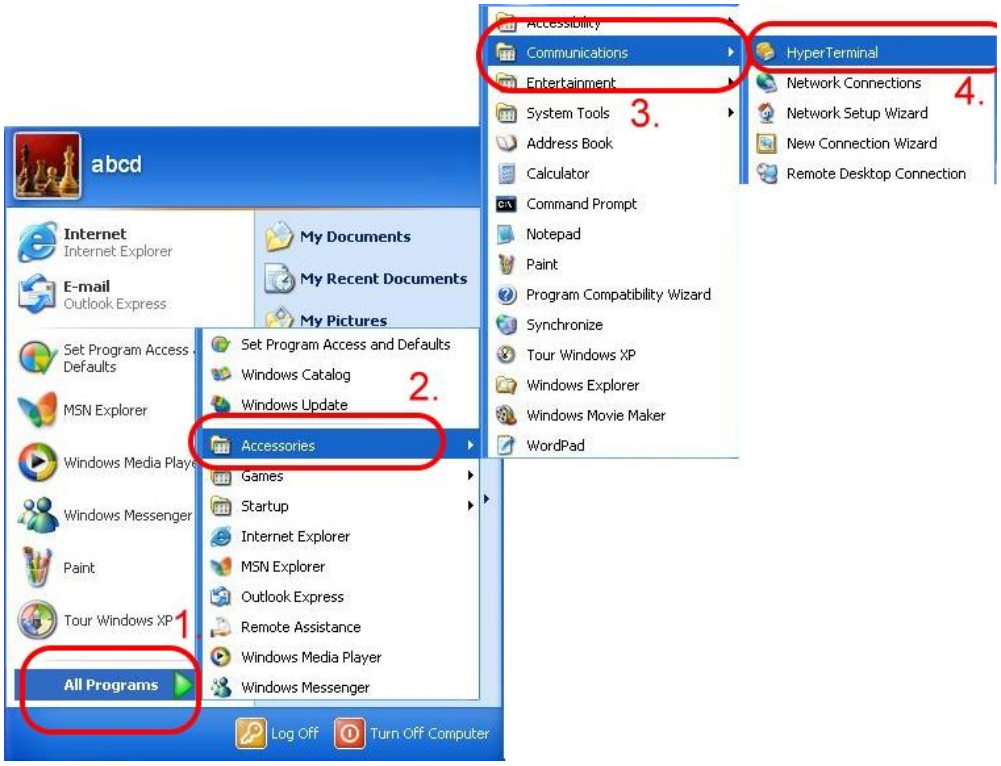
4.3.1 Hardware installation



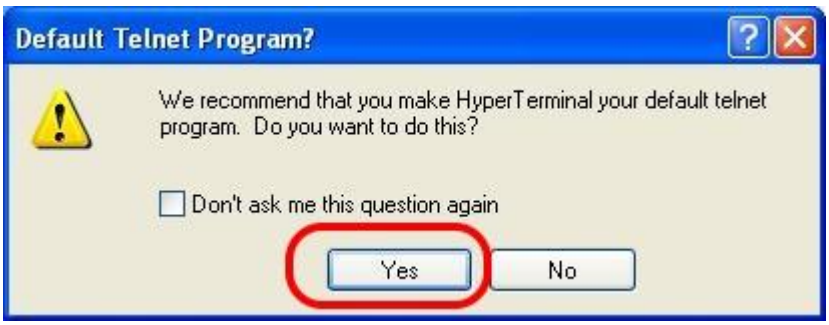
GTM-200M

4.3.2 Software installation (Hyper terminal)

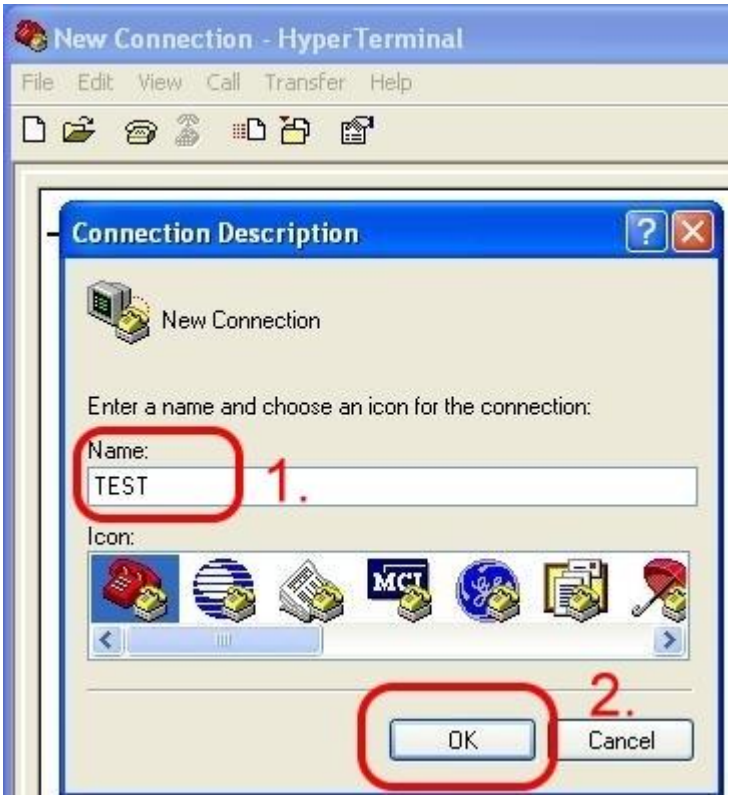
Step 1：Start → All Programs → Accessories → Communications → Hyper Terminal



Step 2：If there is a pop-up form that says "Default Telnet Program?", please select "Yes"



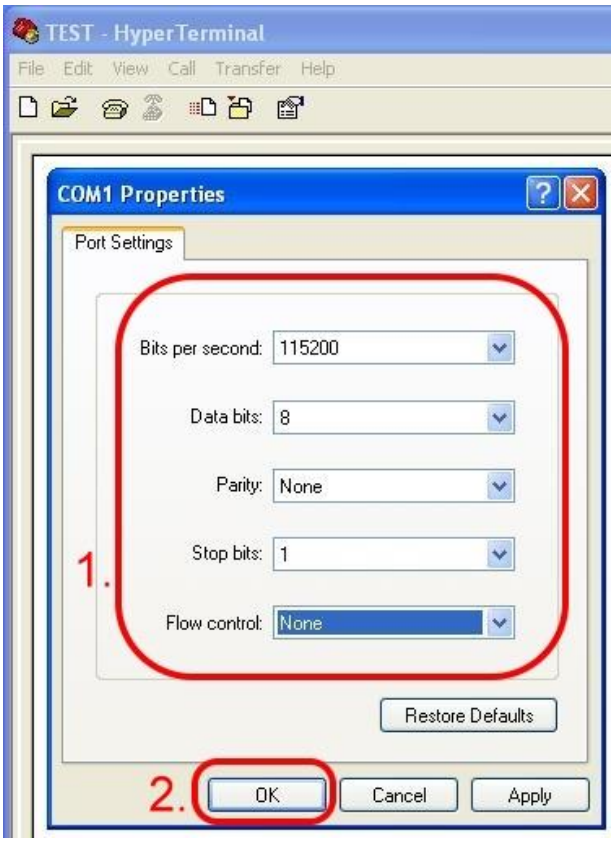
Step 3：Input new connection name → Click "OK"



Step 4：Select your PC serial port → Click "OK"

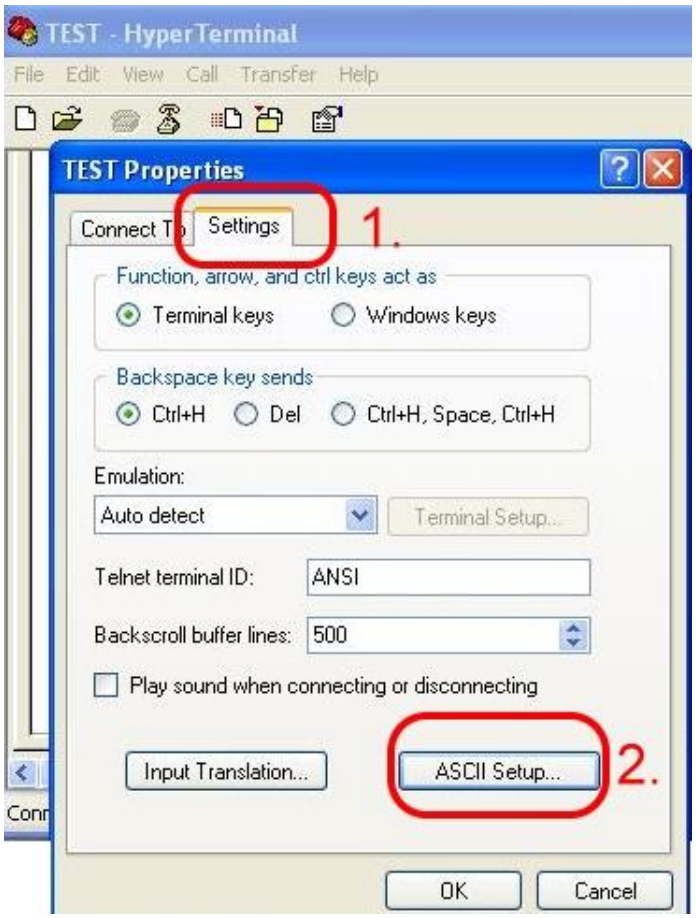
Step 5：Please refer to the following settings

Bits per second	115200
Data bits	8
Parity	None
Stop bits	1
Flow control	None

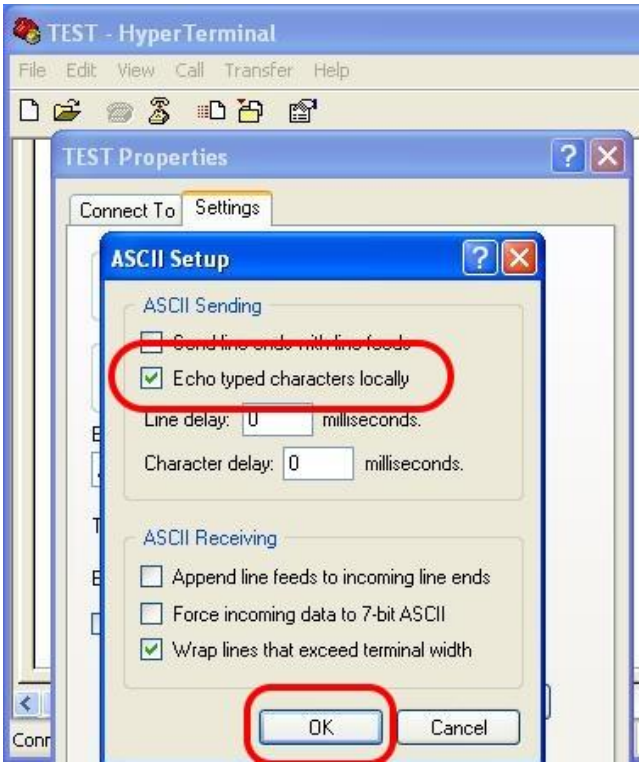


Step 6：File → Properties

Step 7：Settings → Click "ASCII Setup…"



Step 8：Select "Echo typed characters locally" → Click "OK"



Step 9：Input "AT" and press "Enter", then you will receive "AT OK"

5. GPRS Connection

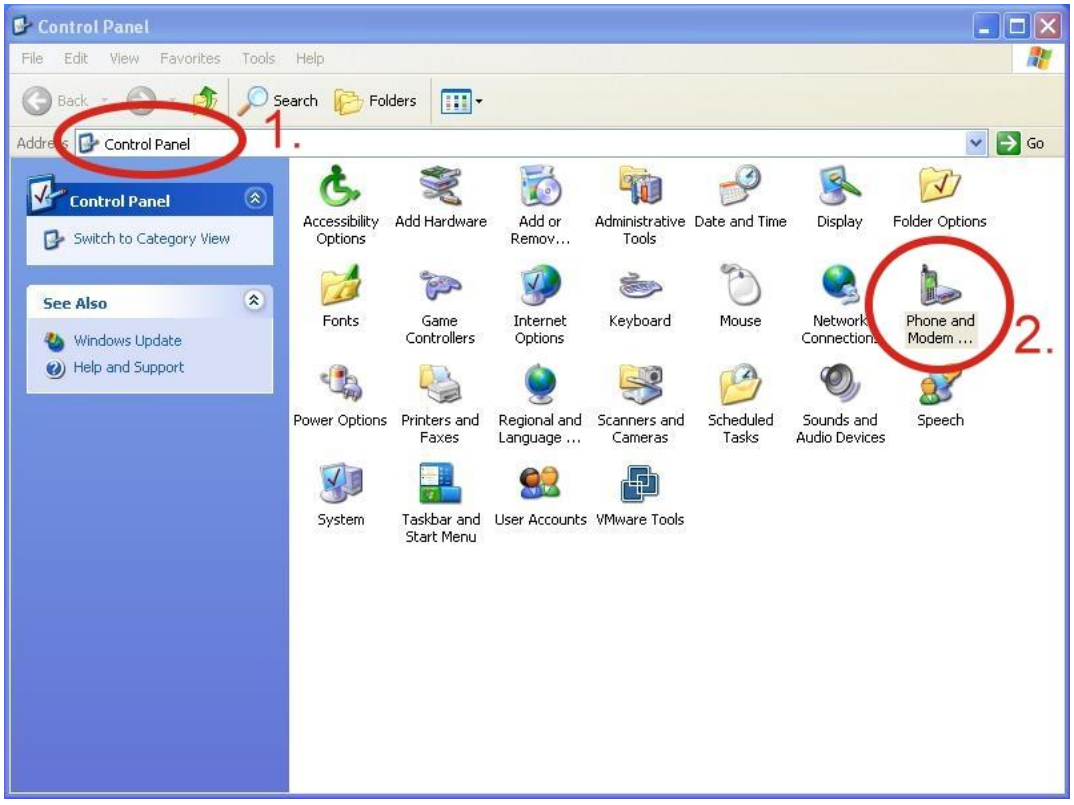
5.1 XPAC-8000 (Microsoft Windows XP)

5.1.1 GTM-200M Hardware Requirement

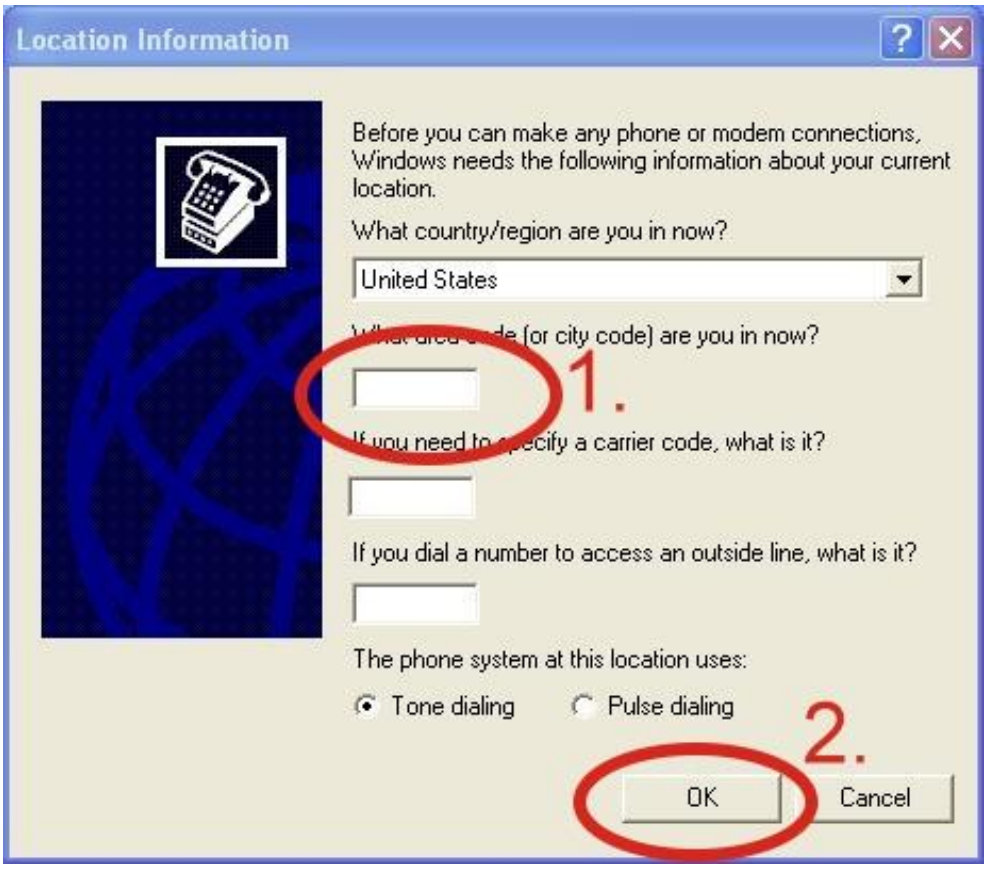
A. GTM-200M (Please install USB driver first)
B. XPAC-8000
C. USB cable

5.1.2 Create a New Modem

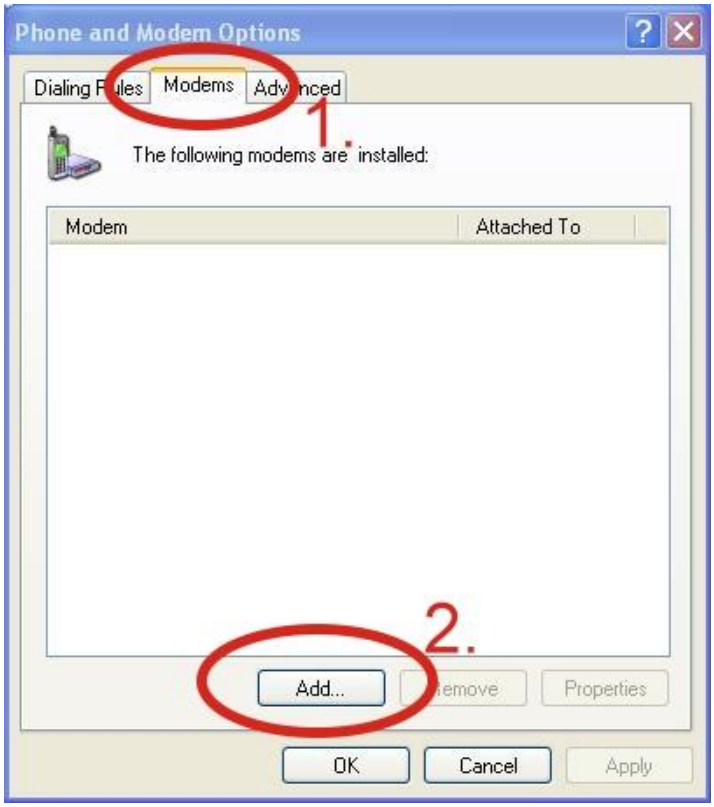
Step 1：Control Panel → Double-click "Phone and Modem Options"



Step 2：Set the area code for the first time → Click "OK"

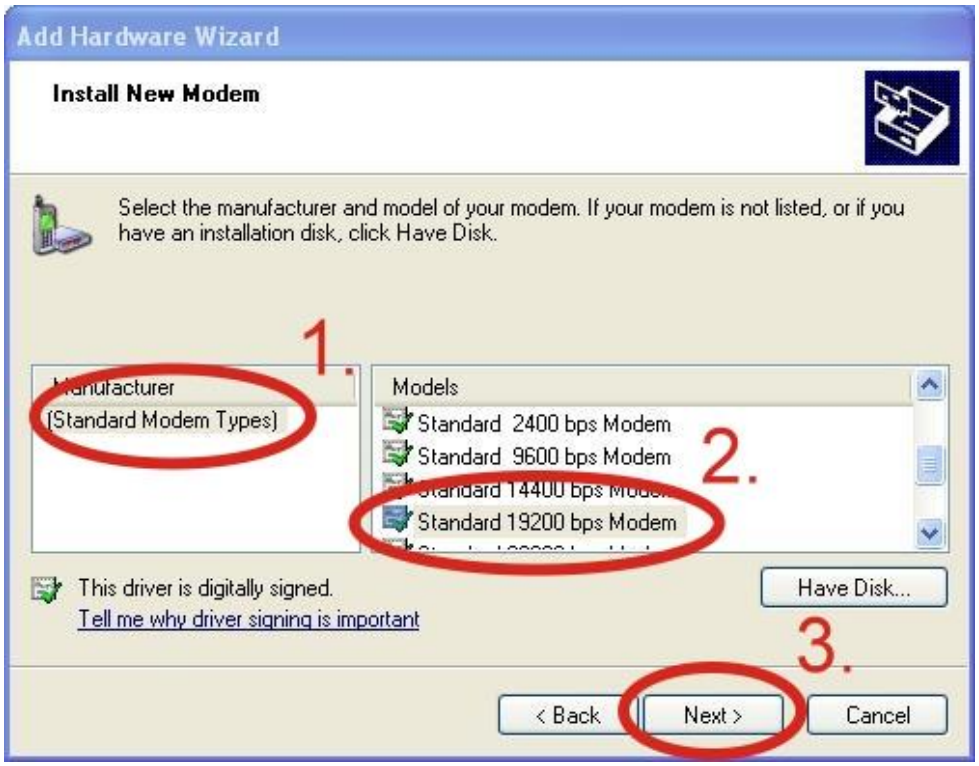


Step 3：Control Panel → Double-click "Phone and Modem Options" → Modem → Click "Add"

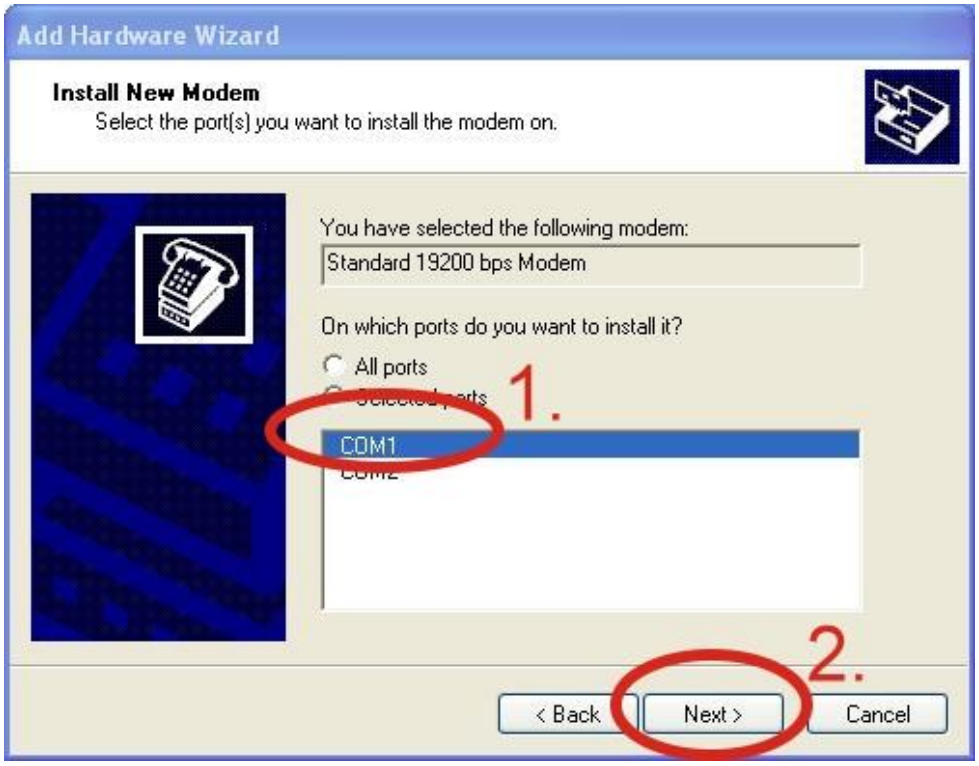


Step 4：Select "Don 't detect my modem; I will select it from a list." → Click "Next"

Step 5：Select "Standard Modem Types" → Select "Standard 19200 bps Modem" → Click "Next"

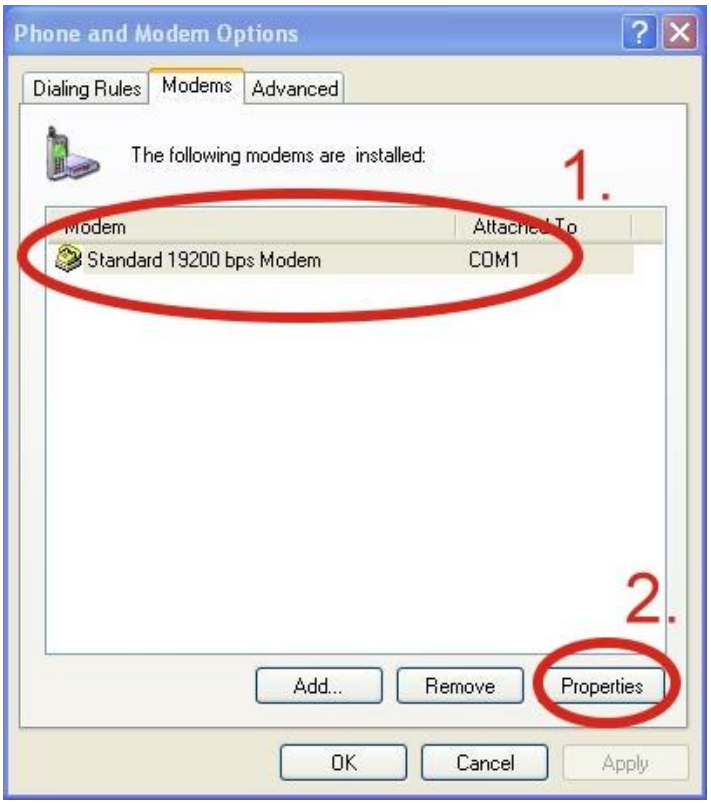


Step 6：Select your COM Port to connect to the modem → Click "Next"

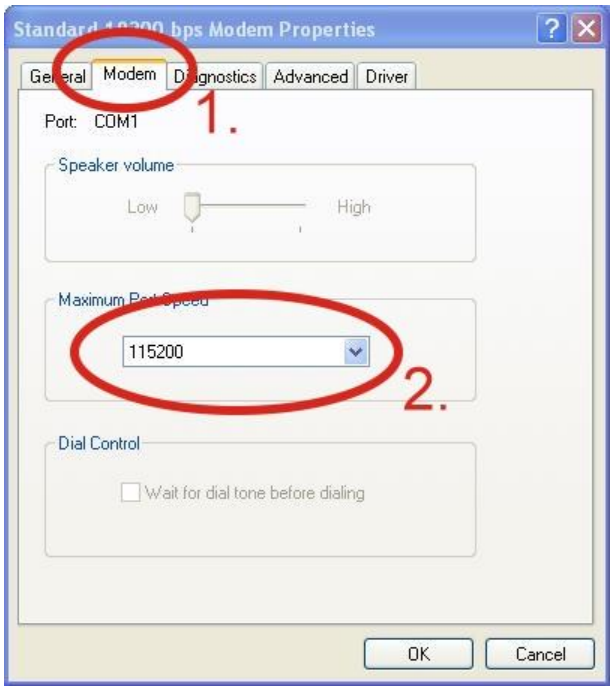


Step 7：Click "Finish" to finish the install new modem.

Step 8：Control Panel → Double-click "Phone and Modem Options" → Modem → Select "Standard 19200 bps Modem" → Click "Properties"



Step 9：Modem → Maximum Port Speed → 115200

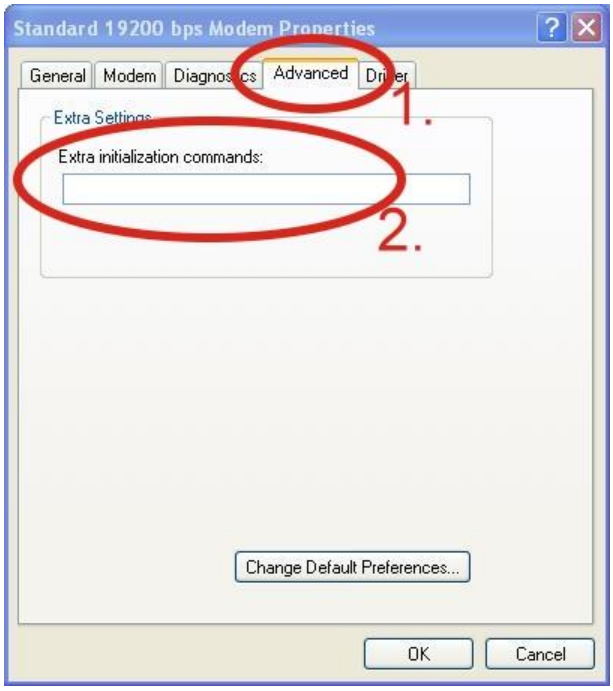


Step 10：Advanced → Extra initialization commands

Note：GPRS's APN must be provided from your Telecom. CO., LTD.

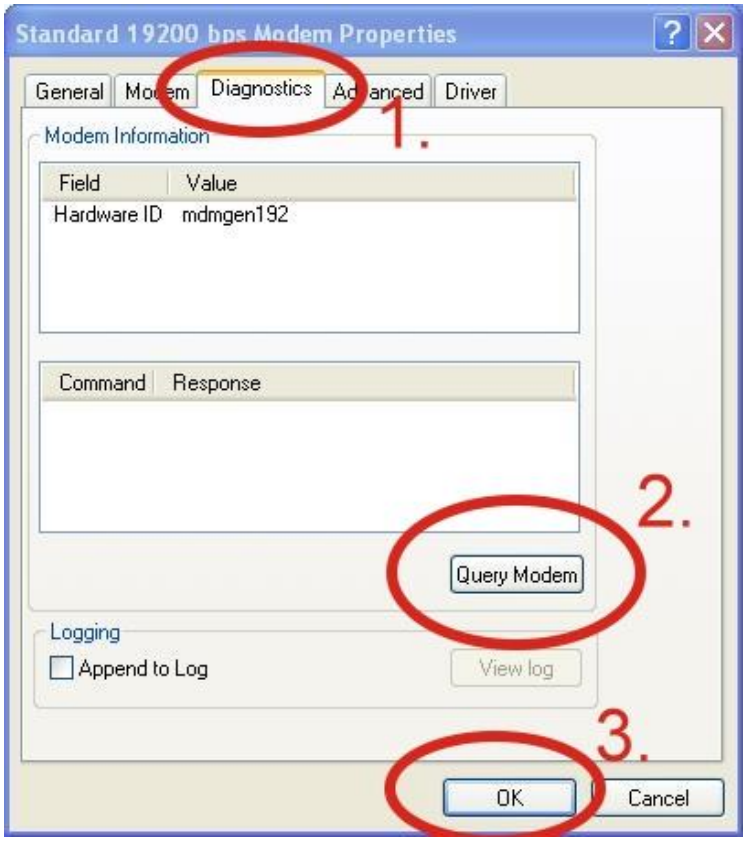
For example in Taiwan: AT+CGDCONT=1,"IP","INTERNET"

For example in China: AT+CGDCONT=1,"IP"," CMNET"

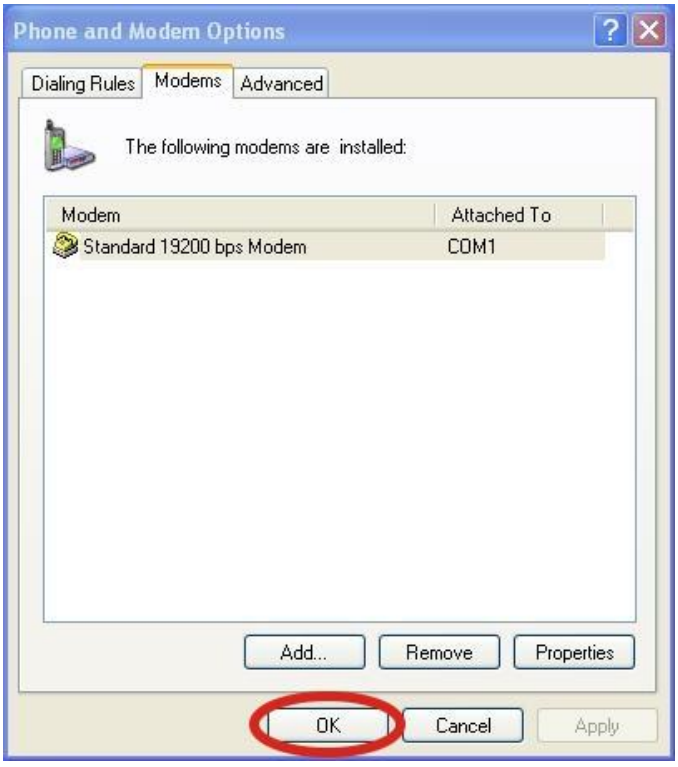


Step 11：Diagnostics → Query Modem → Click "OK"

Note：If user queries modem that gets an Error, Please try again.

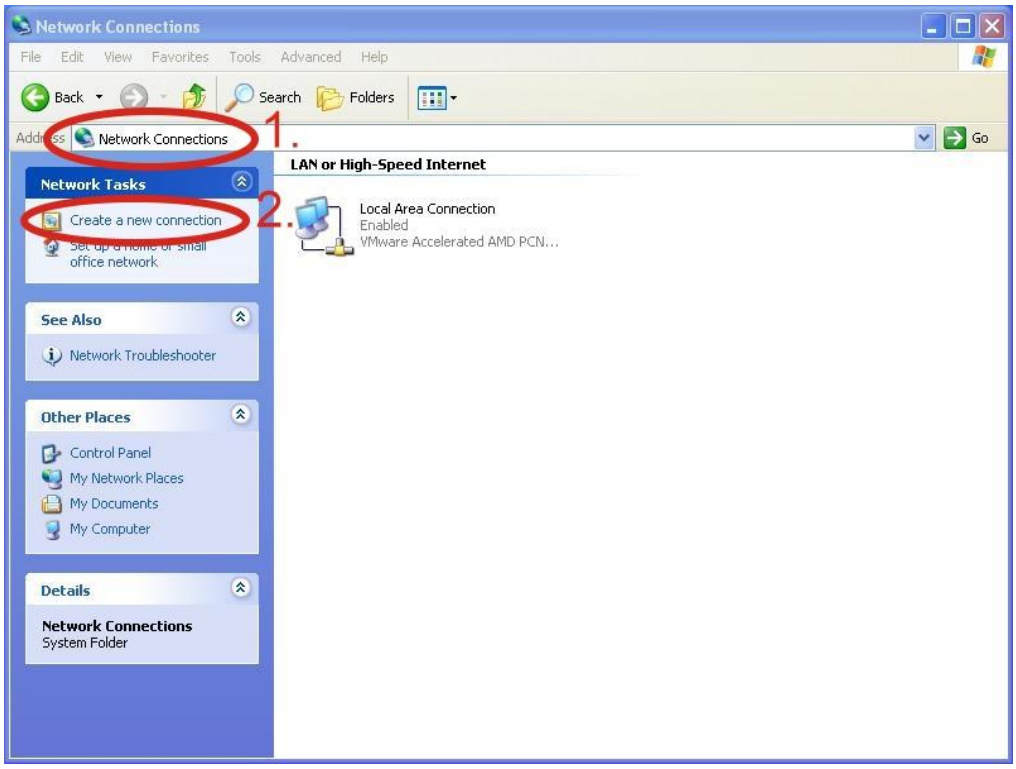


Step 12：Click "OK"



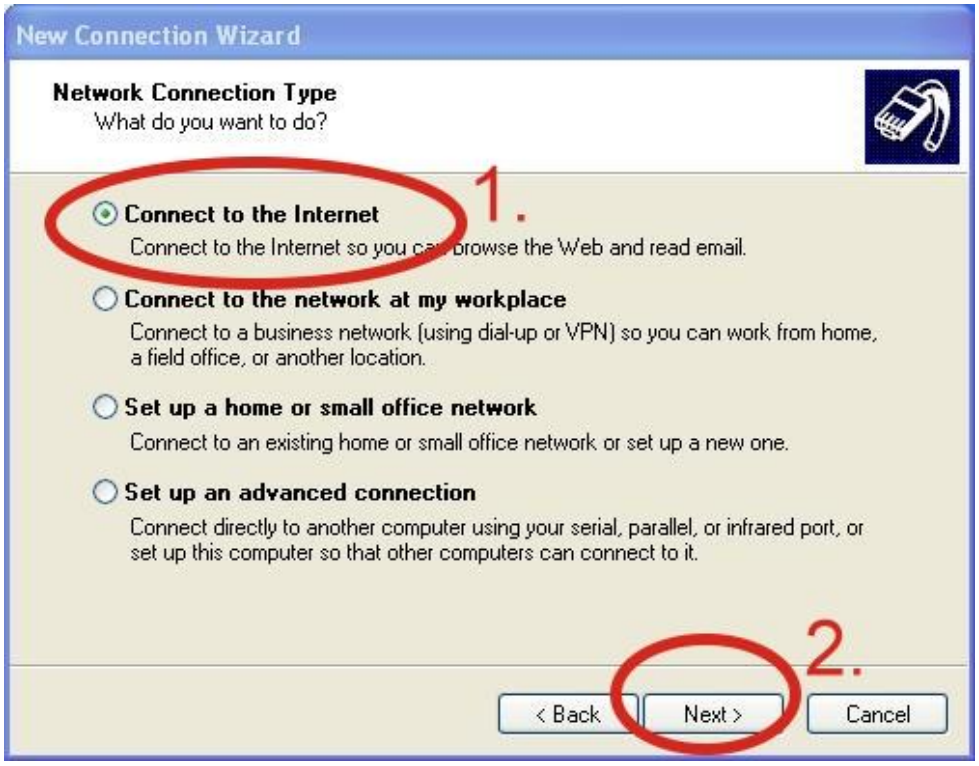
5.1.3 Create a New Dial-up and Networking Connection

Step 1：Control Panel → Network Connections → Click "Create a new connection"

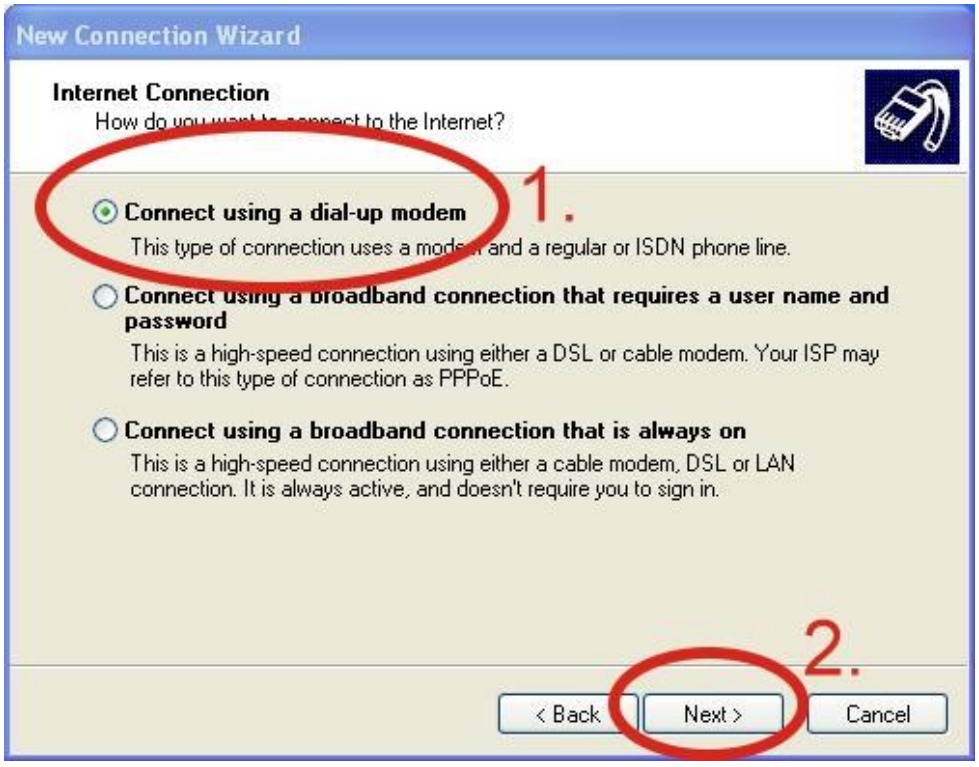


Step 2：Click "Next"

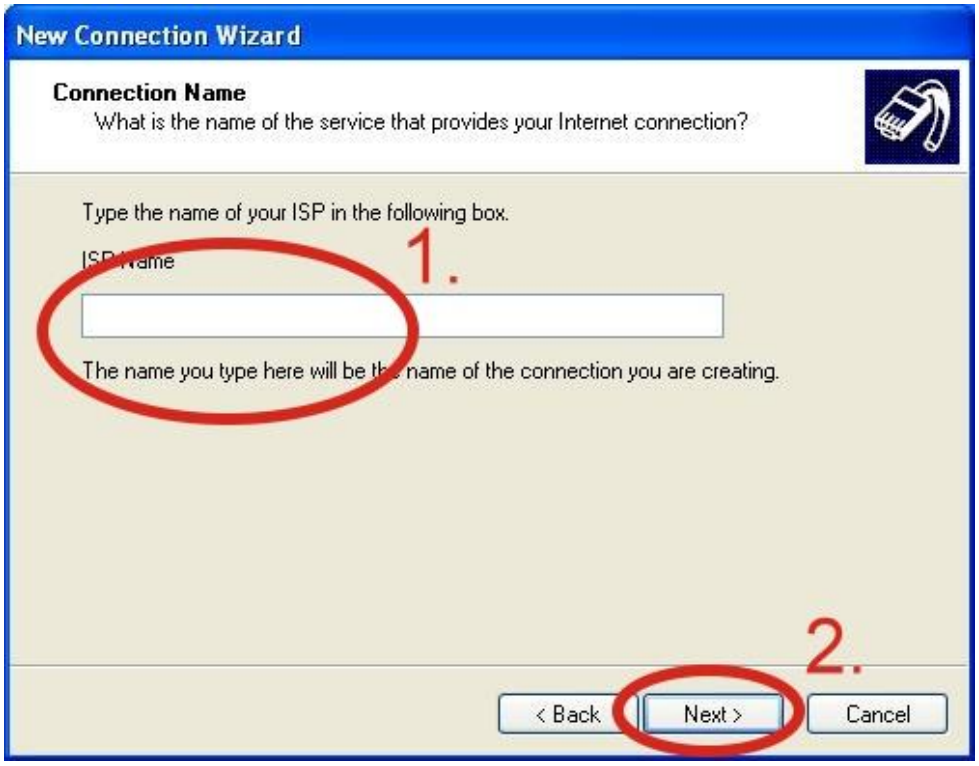
Step 3：Select "Connect to the Internet" → Click "Next"



Step 4：Select "Connect using a dial-up modem" → Click "Next"



Step 5：ISP Name → Your GPRS 's name → Click "Next"



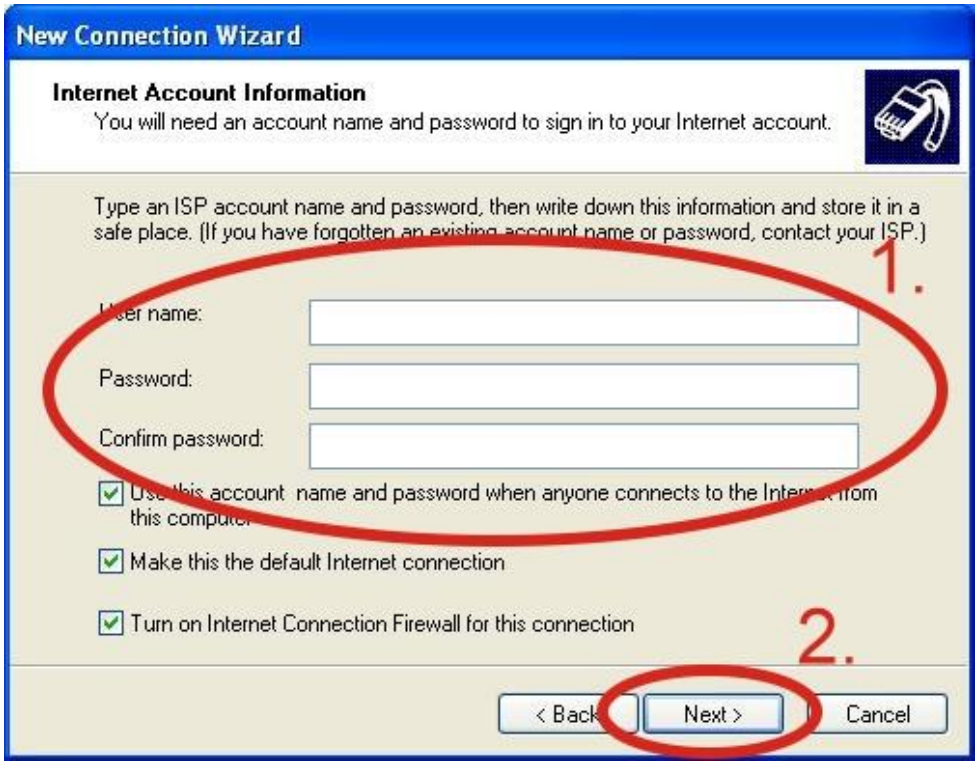
Step 6：Phone Number: → Click "Next"

Note：Phone Number must be provided from your Telecom. CO., LTD.

For example in Taiwan: *99***1#

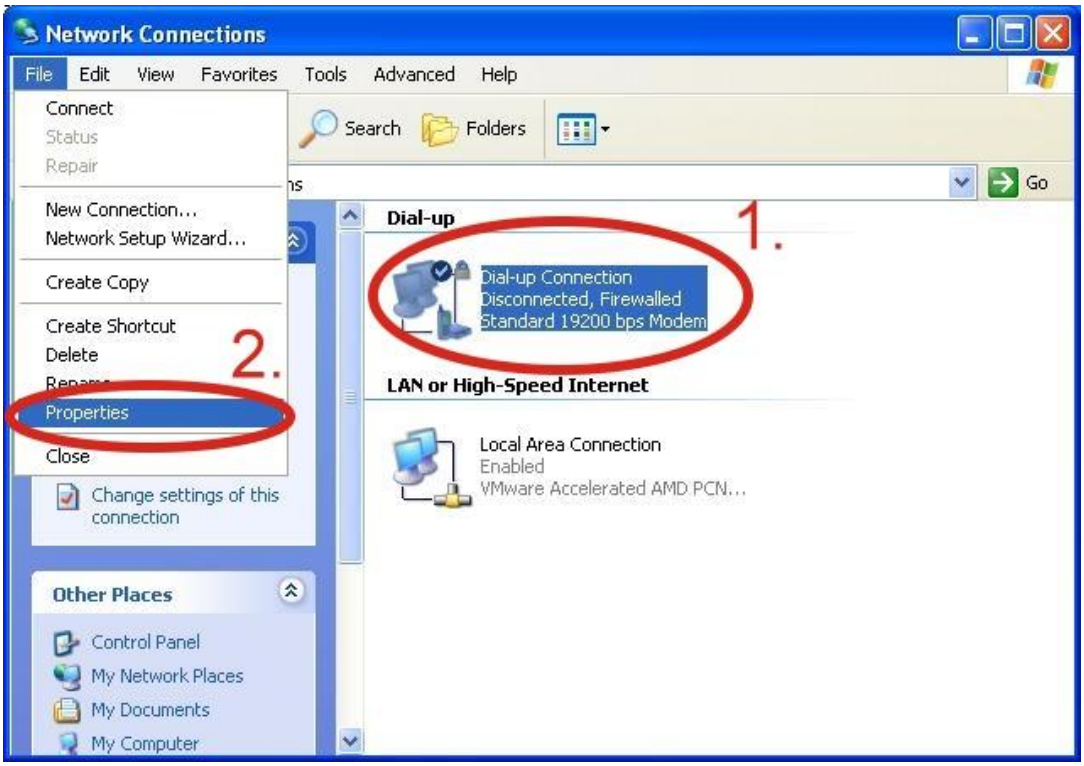
Step 7：GPRS ‘s User name and GPRS ‘s Password → Click “Next”

Note：GPRS’s User name and GPRS’s Password must be provided from your Telecom. CO., LTD.



Step 8：Click “Finish”

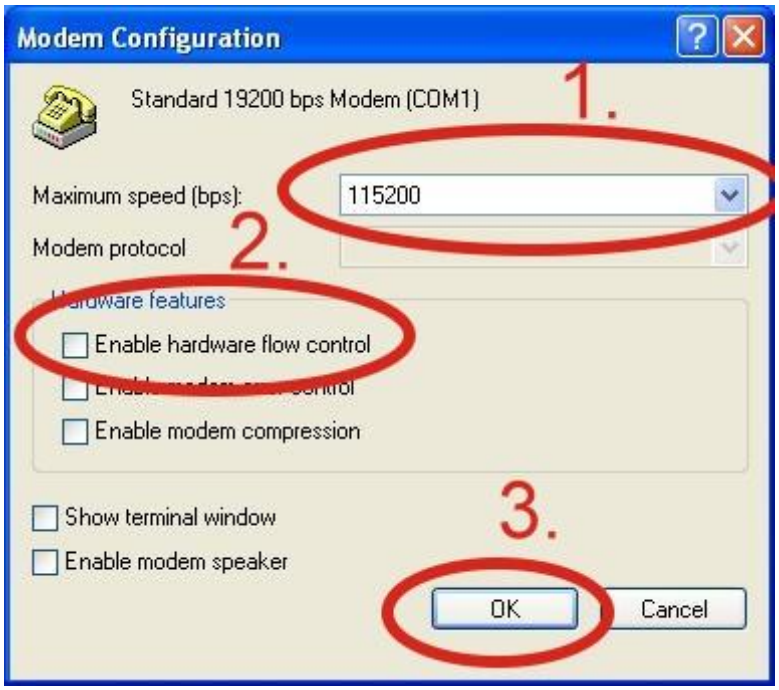
Step 9：Control Panel → Network Connections → Click "Your GPRS 's name" → File → Properties



Step 10：General → Select "Standard 19200 bps Modem" → Click "Configure"

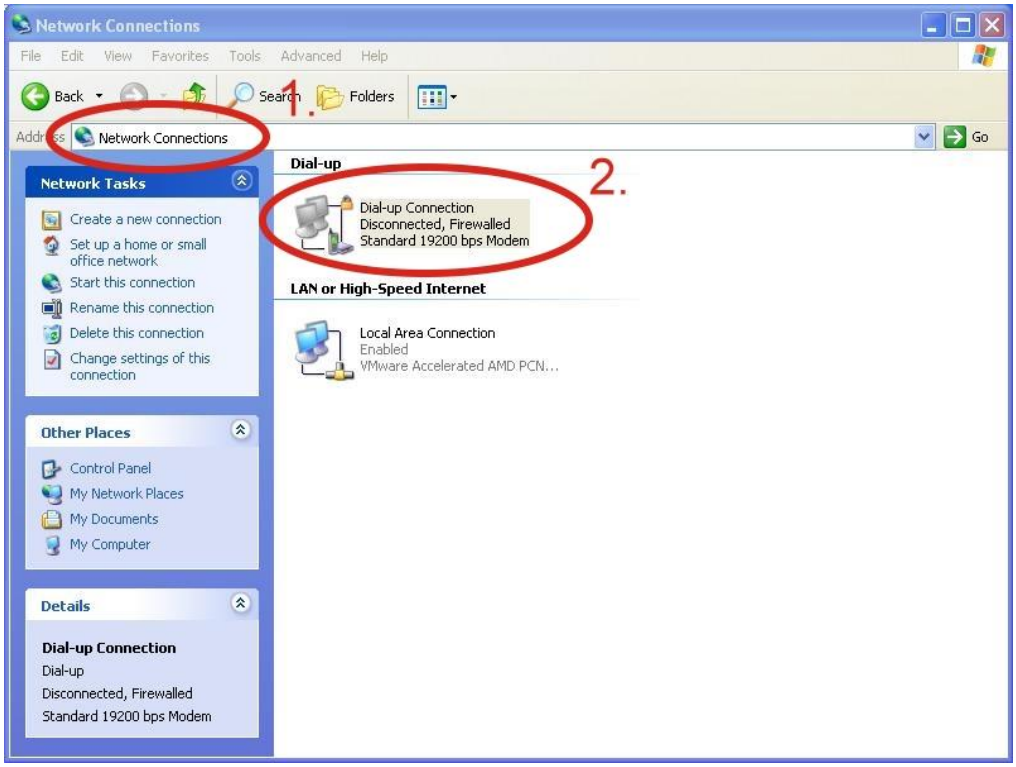
Step 11：Maximum speed(bps) → Select "115200" → disable "Enable hardware flow control"（Note）→ Click "OK"

Note：Please don 't select "Enable hardware flow control"



Step 12：Click "OK"

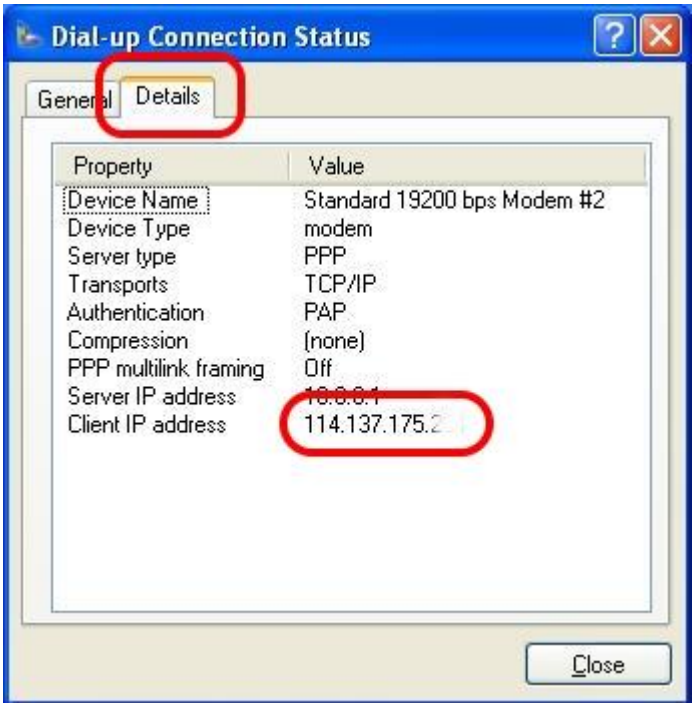
Step 13：Control Panel → Network Connections → Double-Click "Your GPRS 's name"



Step 14：Click "Dial"

Step 15：If you connect to internet successfully, your toolbar has new logo

Step 16：You can Double-Click the new logo → Click "Details" → Get your IP address



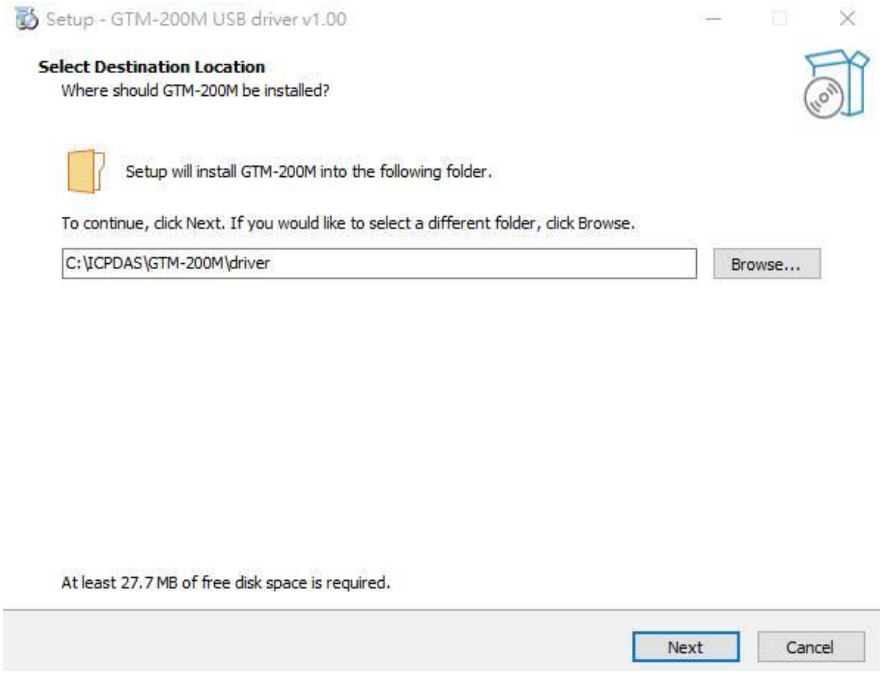
6. USB Driver Installation

6.1 Microsoft Windows 10 OS

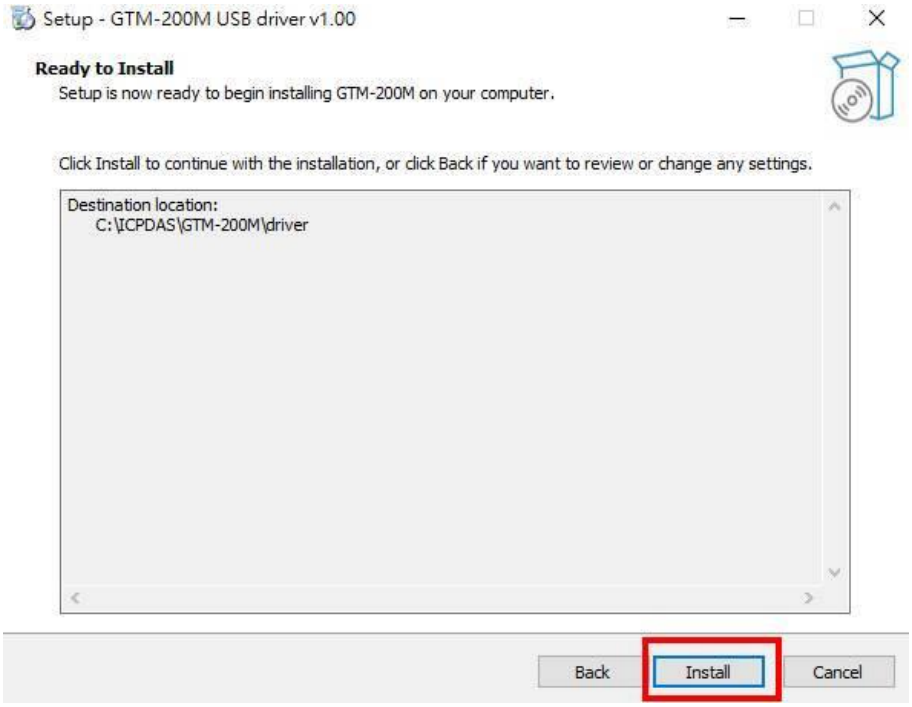
Step 1：Double Click "GTM-200M USB driver V1.00.exe" to install the driver.

※If you have purchased GTM-205M and GTM-204M series devices, it is recommended to remove the device driver before installing the GTM-200M USB driver.

Step 2：Click "Next".



Step 3：Select "Install"



Step 5：Click "Finish"

Step 6：Connect the USB of GTM-200M with the PC

Step 7：Finish the all install steps. Please open "Device manager", and you will found new device items in your computer, as shown below:

- EC20 Module

- EC25 Module

- LE910C4-WWX Module

7. Appendix

7.1 Communication Module Reference Contact

EC20-CE	EC25-E	LE910C4-WWX
Main -- ●	Main -- ●	Main -- ●
		

8. Revision History

Revision	Date	Author	Description
1.0.0	2016/06/14	Eddie	First Release
1.0.1	2022/09/20	Patty	Modify Installation Process and add Appendix 7.1