

GTM-205M-5G Series

Industrial 5G Modem

User's Manual V1.2





High Quality, Industrial Data Acquisition, and Control Products

Warranty

All products manufactured by ICP DAS are warranted against defective materials for a period of one year from the date of delivery to the original purchaser.

Warning

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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 Super Speed Plus

This product support USB 3.1 Super Speed Plus.

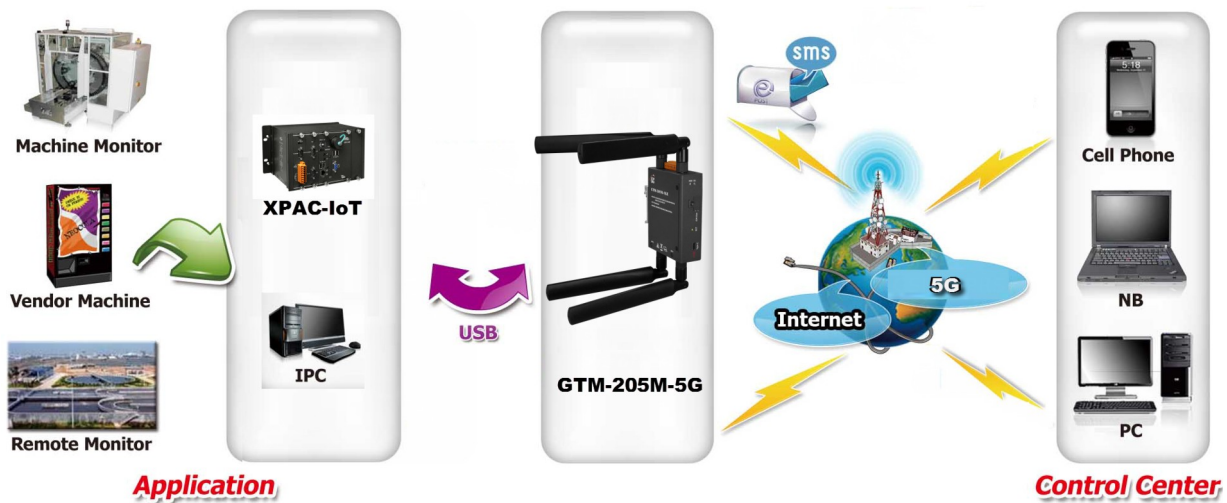


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1. Introduction

The GTM-205M-5G Series is an industrial 5G NR modem with USB Super Speed Plus interfaces that work at frequencies of 5G NR n1/n2/n3/n5/n7/n8/n12/n20/n28/n41/n66/n71/n77/n78/n78 and LTE Global Bands and WCDMA B1/B2/B3/B4/B5/B6/B8/B19 . The modems utilize the 5G, 4G or 3G network to transfer data. The features of the GTM-205M-5G Series allow a variety of PAC and PC applications to take advantage of SMS and 5G or 4G or 3G connectivity.

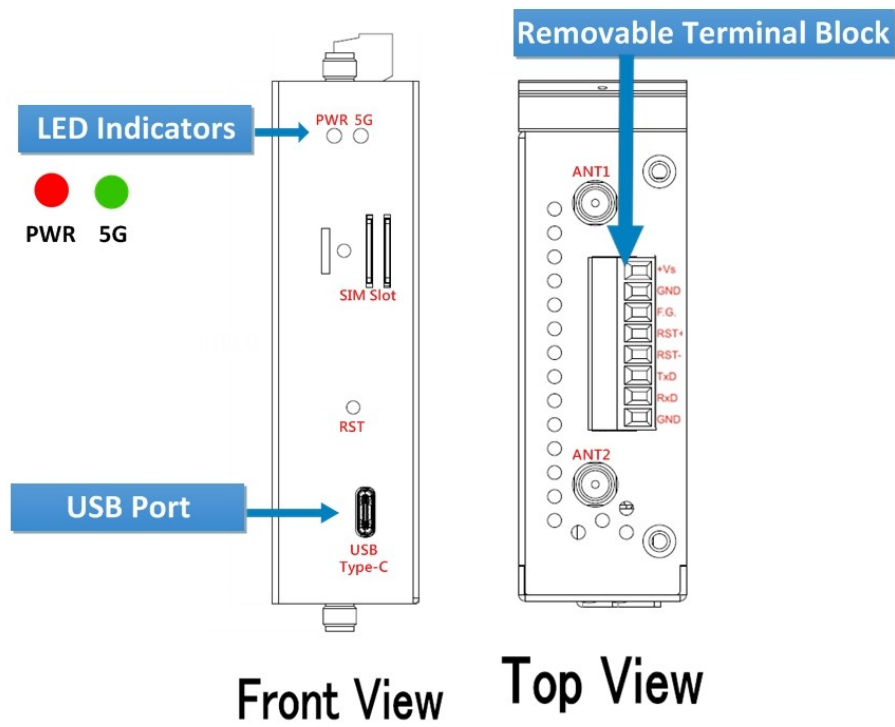


2. Hardware Specifications

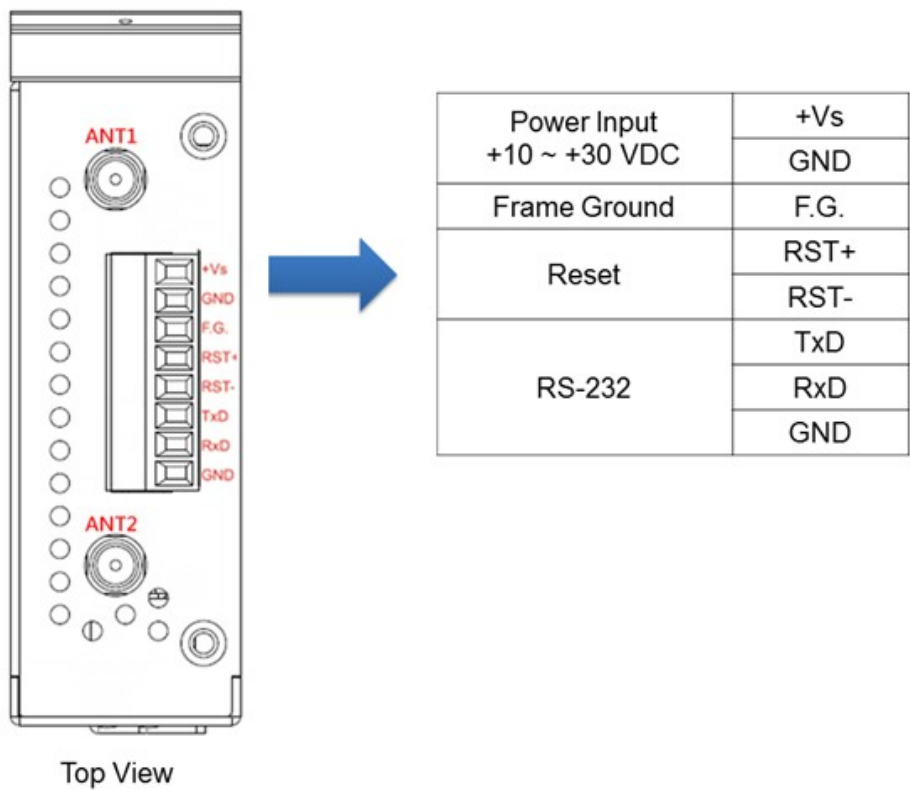
Item	GTM-205M-5GE	GTM-205M-5GC	GTM-205M-5GT
3G System			
Frequency Band (WCDMA)	B1/B2/B3/B4/B5/B6/B8/B19		B1/B2/B4/B5/B6/B8/B9/B19
4G System			
Frequency Band(FDD)	B1/B2/B3/B4/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71		
Frequency Band(TDD)	B34/B38/B39/B40/B41/B42/B43/B48		B34/B38/B39/B40/B41/B42/B46(LAA)/B48(CBRS)
5G System			
Frequency Band	n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n66/n71/n77/n78/n79		n1/n2/n3/n5/n7/n8/n12/n20/n28/n38/n41/n66/n71/n77/n78/n79
SMS			
SMS	MT, MO, CB, Text, and PDU mode		
Comm. Interface			
COM Port	RxD, TxD, GND(Only for Reset)		
COM Port Baud Rate	115200 bps		
USB	USB 3.1 (Super Speed Plus)		
USB Driver Support	Windows 10,Windows 11		
LED Indicators			
Power	Red		
5G	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°C to 70°C		
Storage Temperature	-40°C to 80°C		
Humidity	5~90% RH, non-condensing		
GNSS			
Satellite system	GPS, GLONASS, BeiDou, Galileo		

3. Hardware Appearance

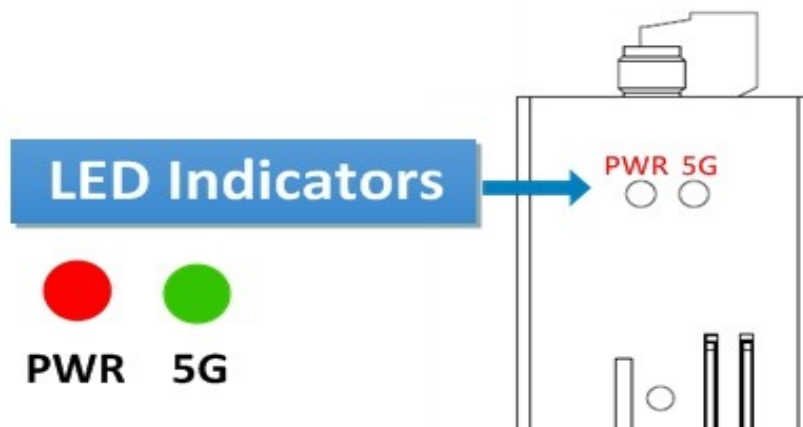
3.1 View of the GTM-205M-5G Panel



3.2 Pin Assignments



3.3 LED Indicators



There are two LED indicators to help users to judge the various conditions of GTM-205M-5G. The description is as follows :

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

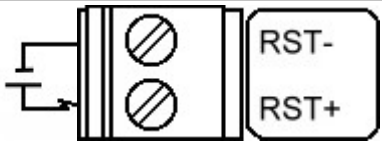
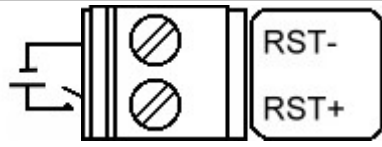
Power normal	Power fail
Always ON	Always OFF

- B. 5G (Green) : The modem LED can indicate the status of 5G module.

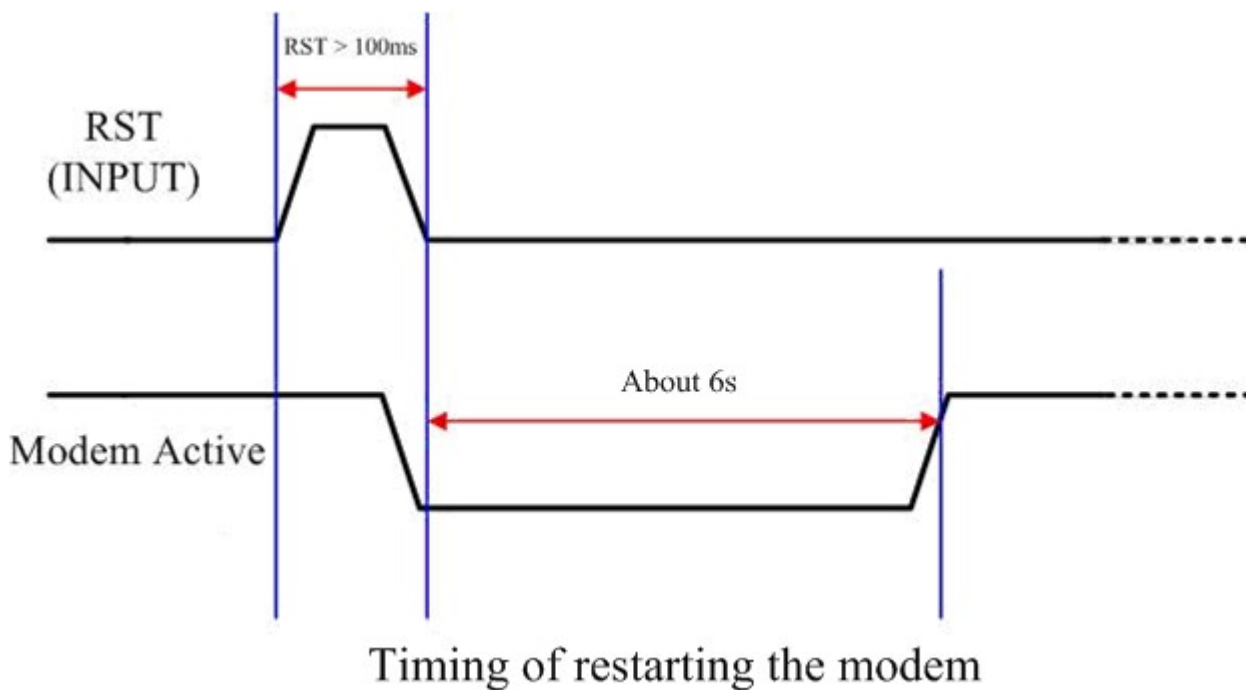
5G module normal	5G module fail
Always ON	Always OFF

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.



4.2 Installation

GTM-205M-5G should be installed by technical person who should be with the proper authorization.

GTM-205M-5G should install on the location that general person will not be touch.

Note : SIM card is preset to slot 1, GTM-205M-5GE and GTM-205M-5GT do not support slot 2.



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.

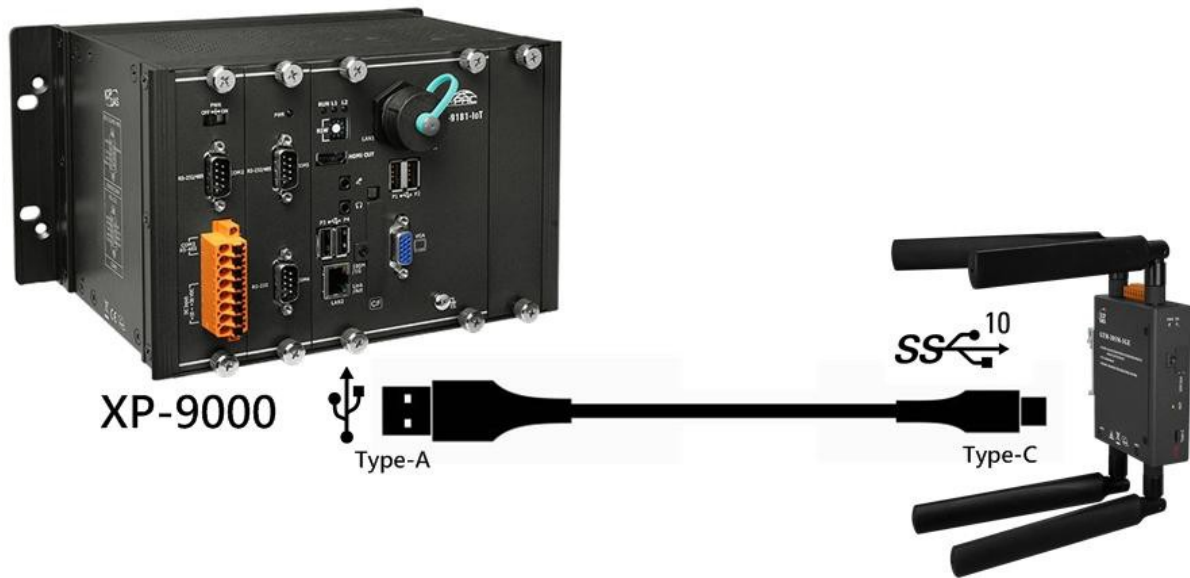
SAFETY INSTRUCTION NOTES



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

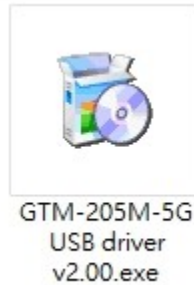
4.3.1 Hardware installation



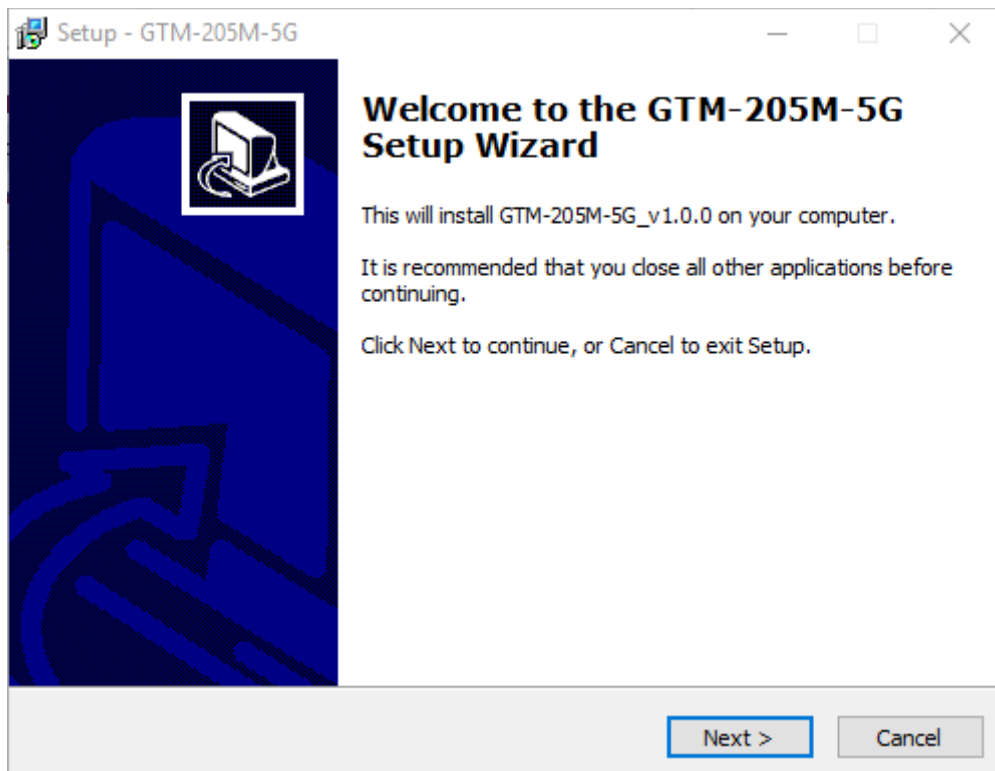
5. USB driver installation

5.1 XP 9000 IoT (Microsoft Windows IoT)

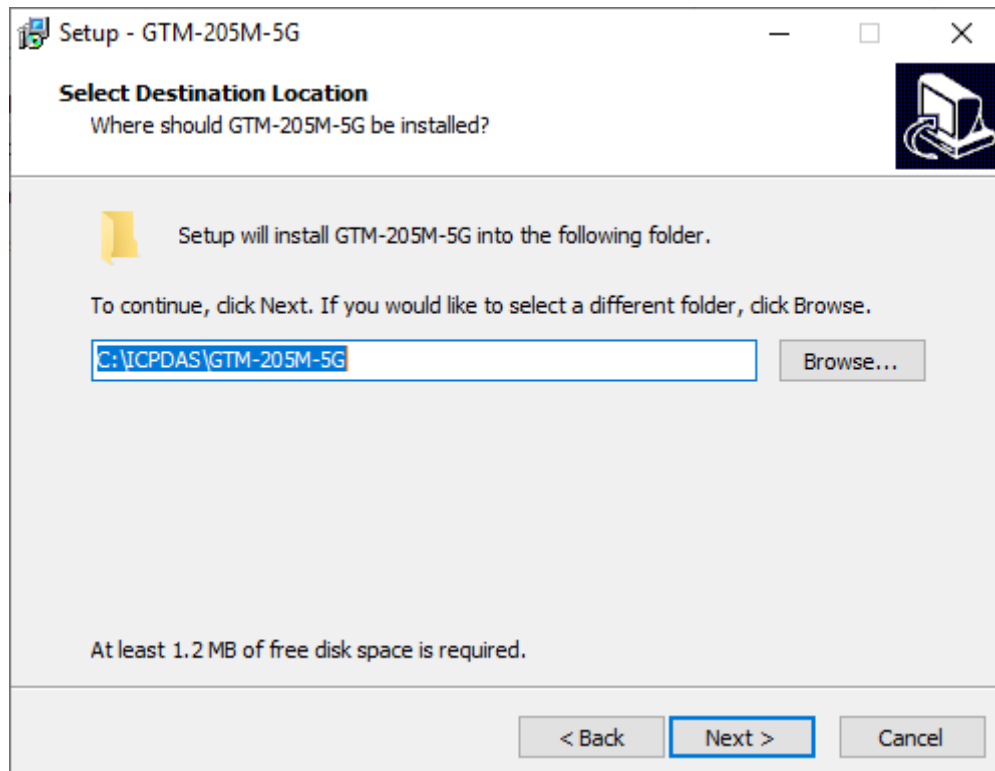
Step 1 : Install the appropriate USB driver GTM-205M-5GT USB driver v2.00 .exe



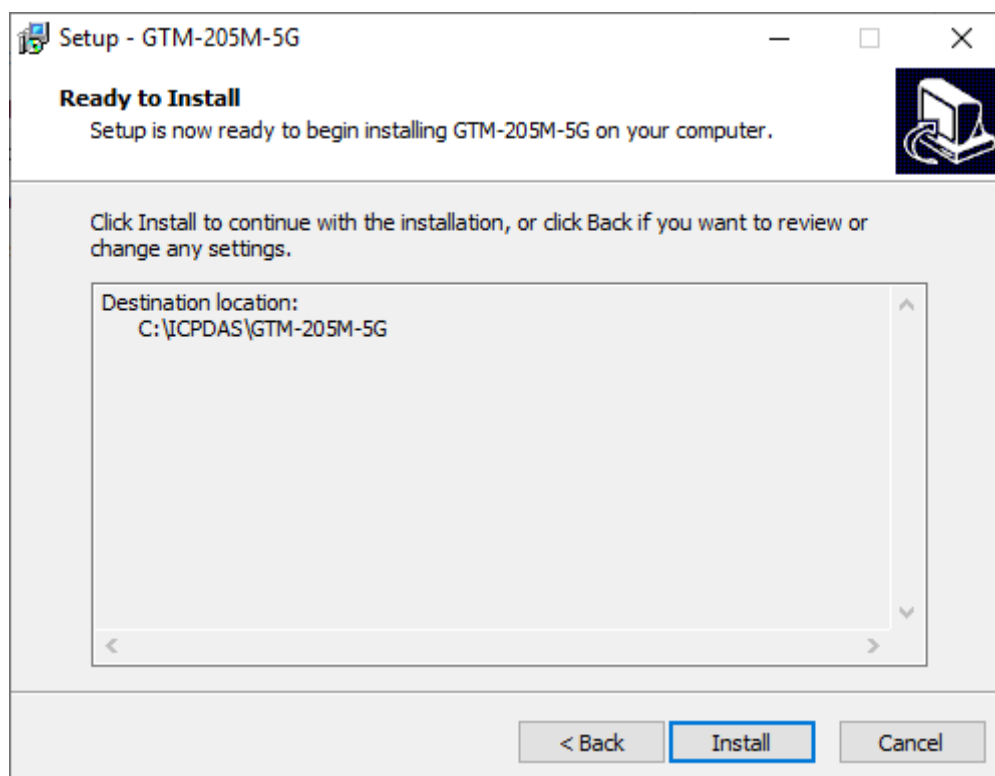
Step 2 : Double click GTM-205M-5G USB driver V1.00 .exe to install the driver ,and Click Next



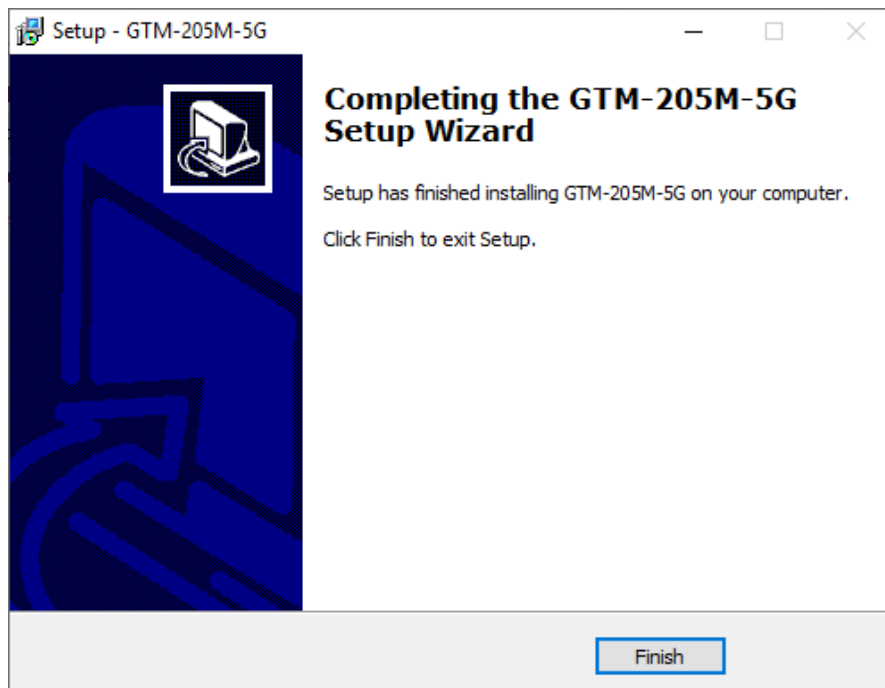
Step 3: Click "Next"



Step 4: Click "Install"

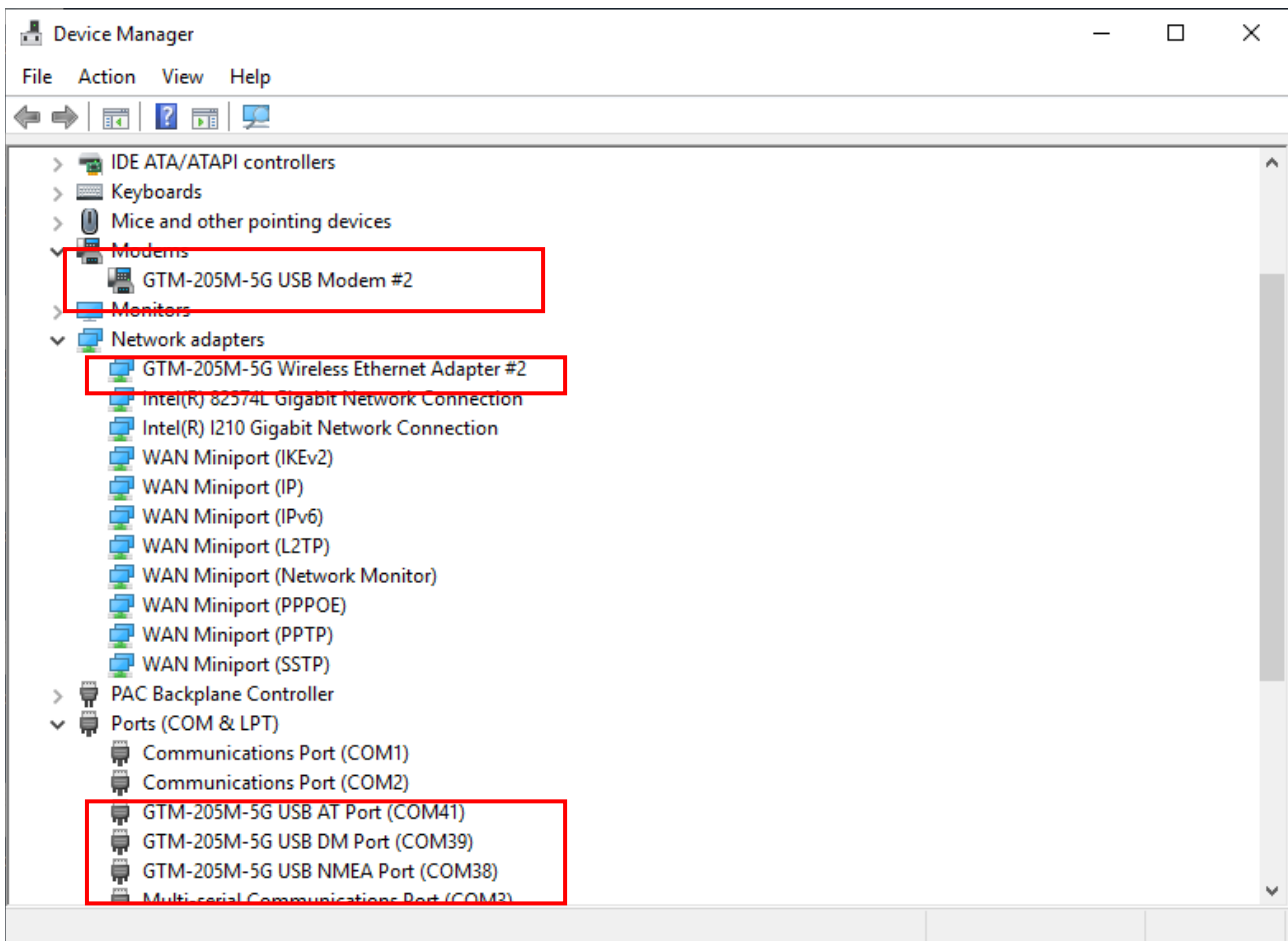


Step 5: Click “Finish”



Step 6: Connect GTM-205M-5G and PC via USB cable

Step 7: Check the device manager, total of 5 driver. The names are: USB NMEA Port, USB AT Port, USB Modem, USB DM Port and Wireless Ethernet Adapter:

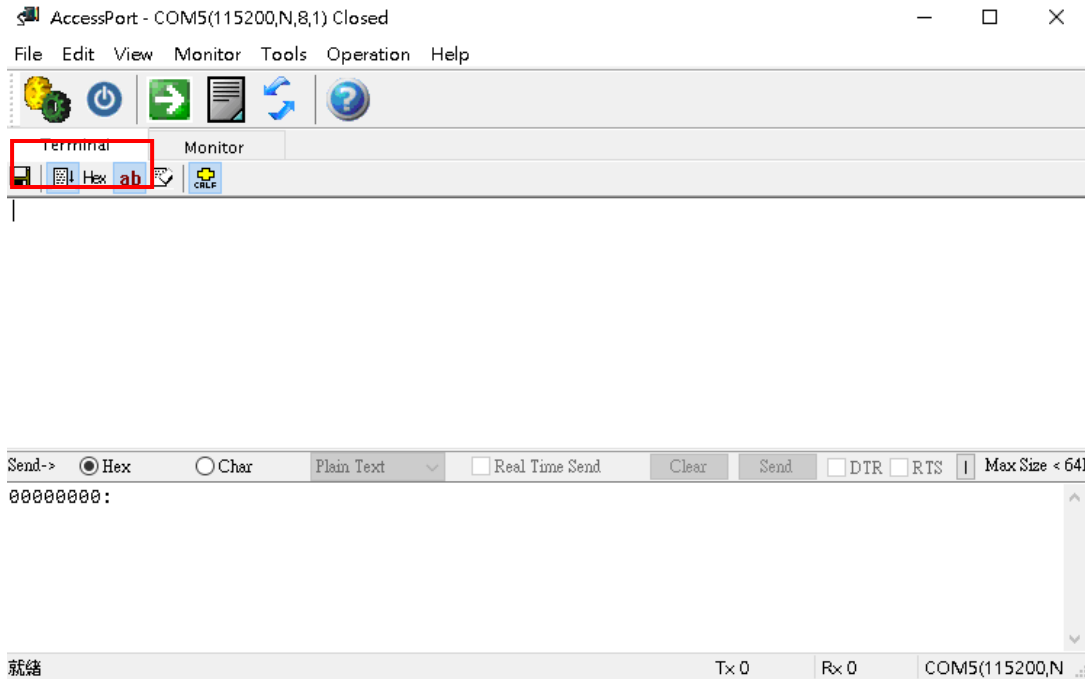


5.2 Test Com Port communication

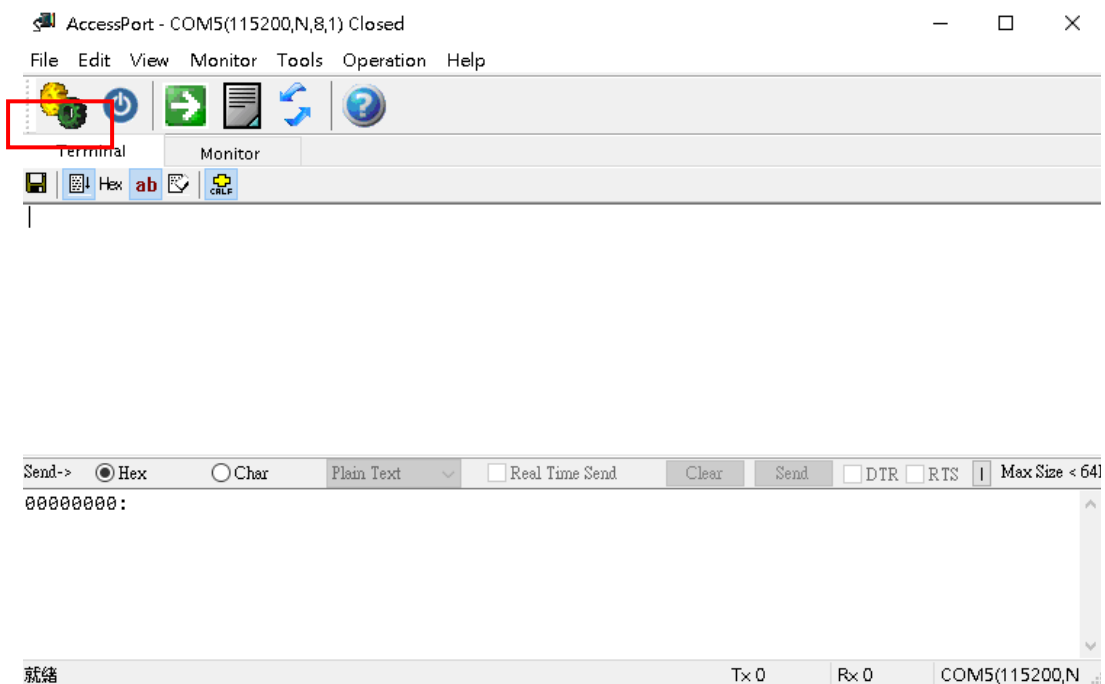
5.2.1 Test by Access Port software

The following uses AccessPort137 version to test

Step 1: Open the Access Port software and select the Terminal option

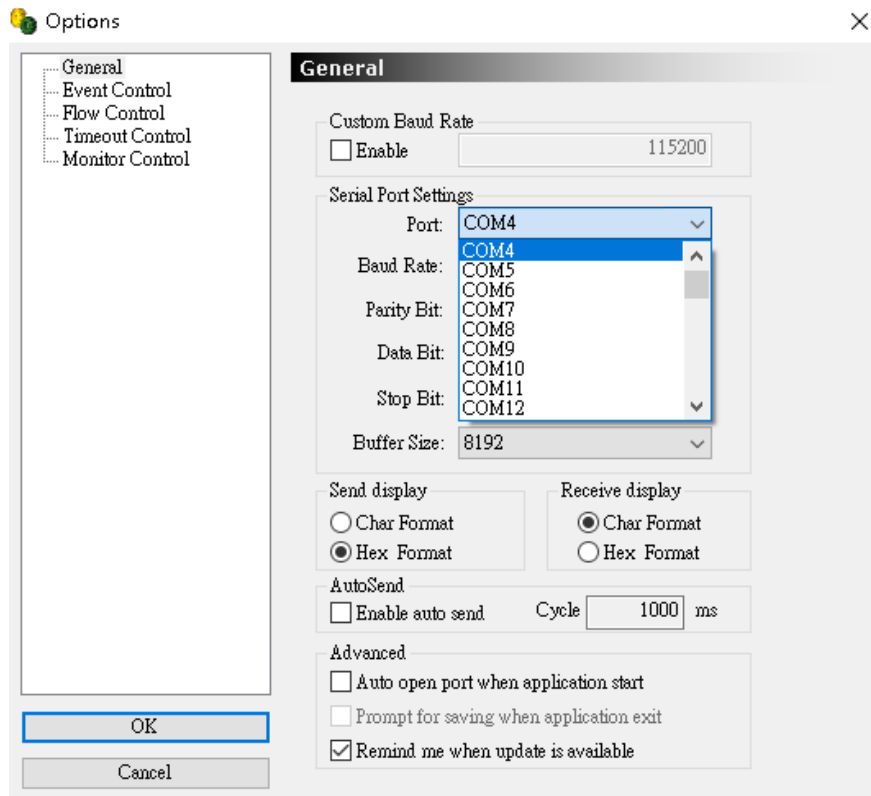


Step 2: Press "Parameter Configuration" in the upper left corner to set Com Port and parameters

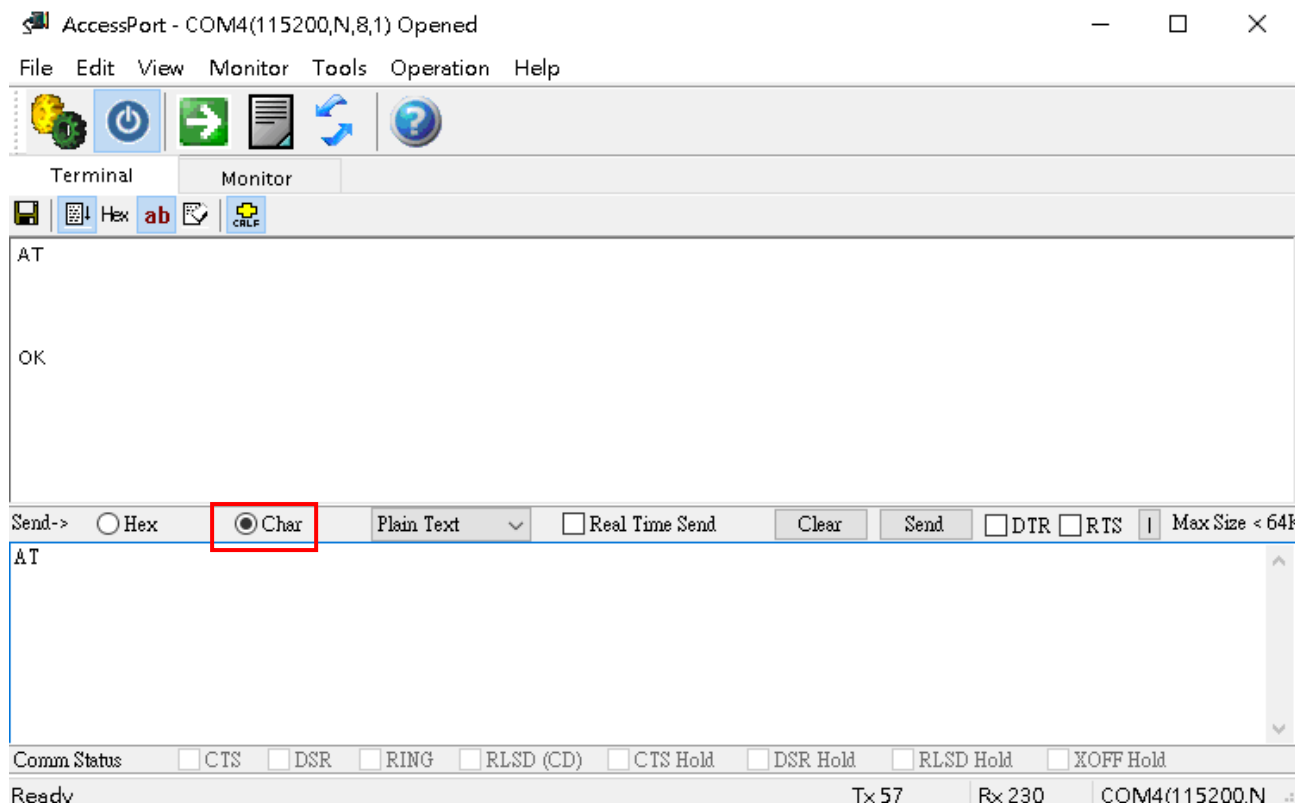


Step 3: Select the port number of "GTM 205M 5G USB AT Port", this example is COM4 Baud Rate:

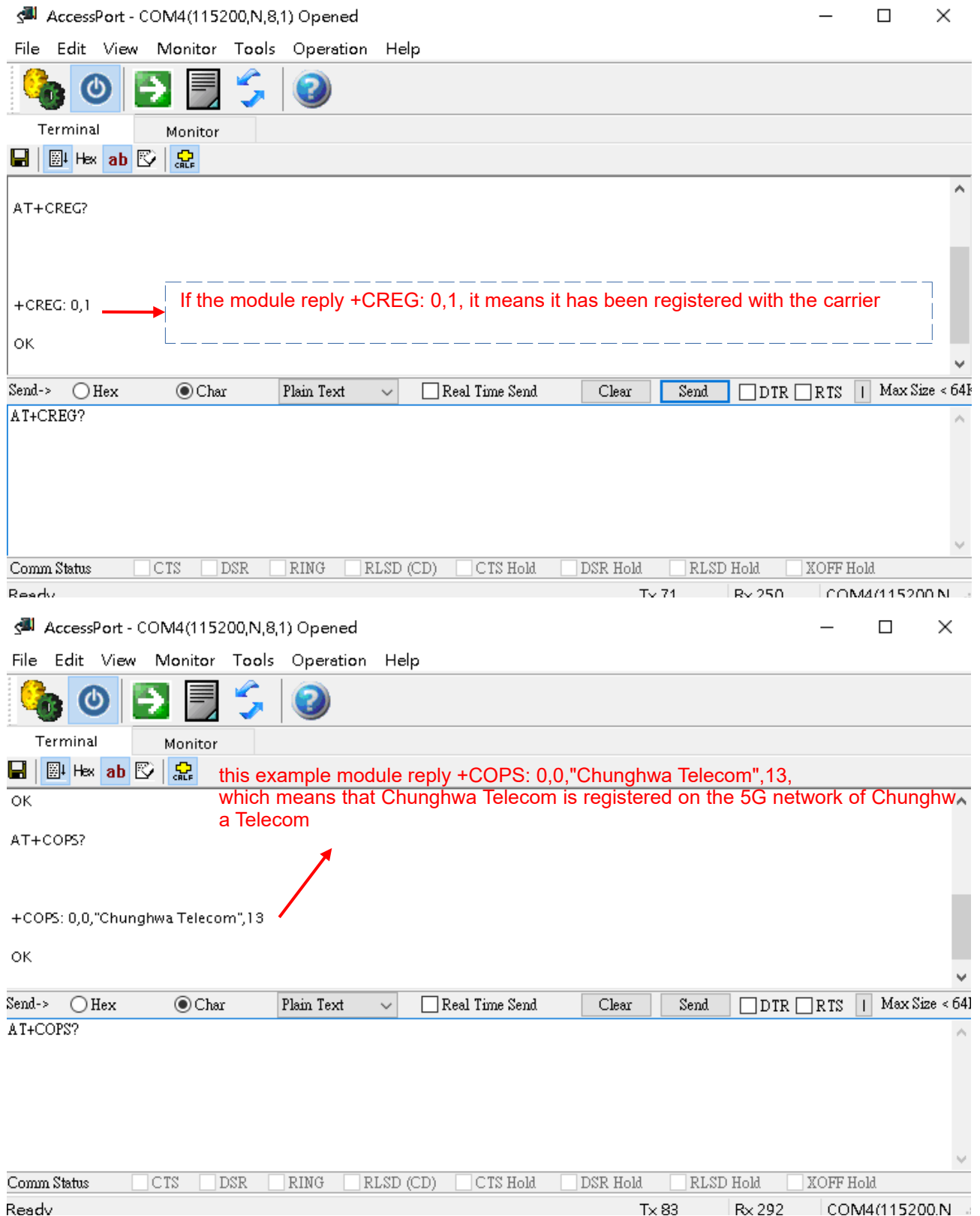
115200, Parity: NONE, Data Bit: 8, Stop Bit: 1



Step 4: Select "Char" in the sending window, and enter AT Command, in this example AT, if the communication is normal, the module will reply: OK



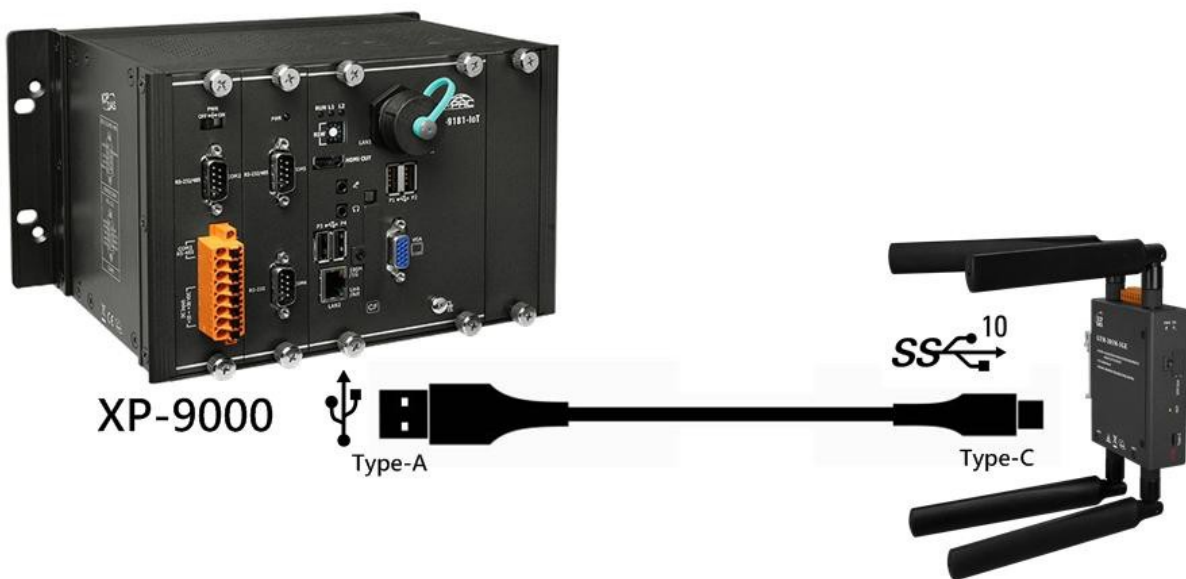
Step 5: If the 5G SIM card has been inserted, you can enter CERG, COPS, etc. to inquire about the registration status



6. Connect with XP 9000 IoT (Microsoft Windows IoT)

6.1 GTM-205M-5G Hardware requirements

- A. GTM-205M-5G (Please install the USB driver first)
- B. XPAC-9000-IoT
- C. USB cable (USB 3.1 Type-A to Type-C)



6.2 Windows 10 Cellular

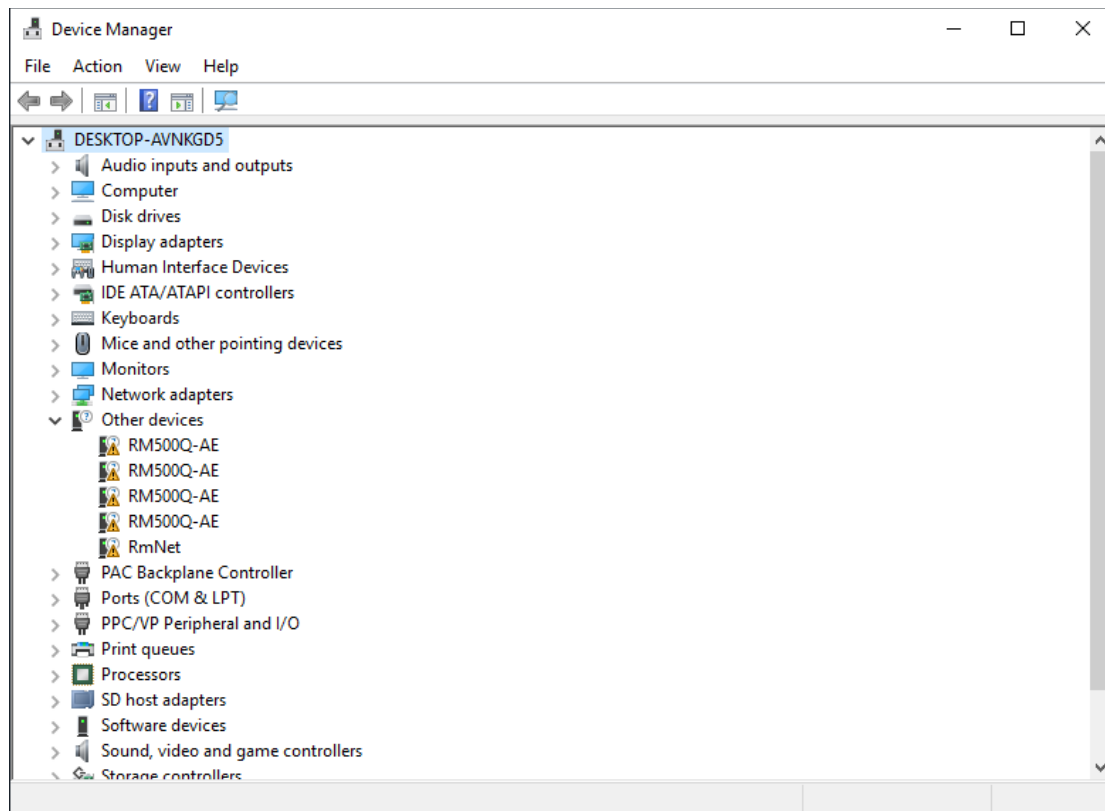


Related references:

<https://support.microsoft.com/en-us/windows/cellular-settings-in-windows-905568ff-7f31-3013-efc7-3f396ac92cd7>

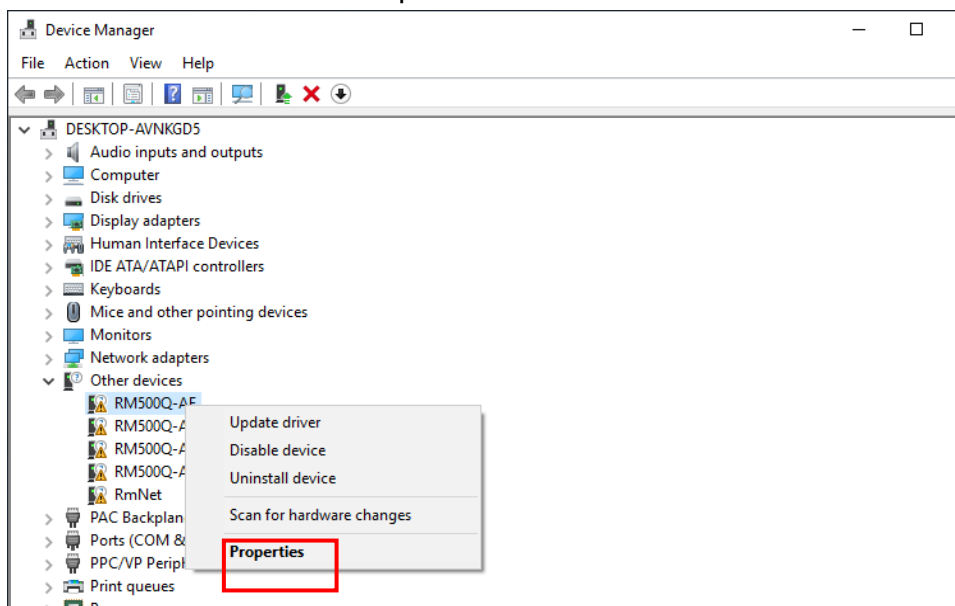
FAQ

Q01. The driver cannot be installed correctly and an exclamation mark appears.

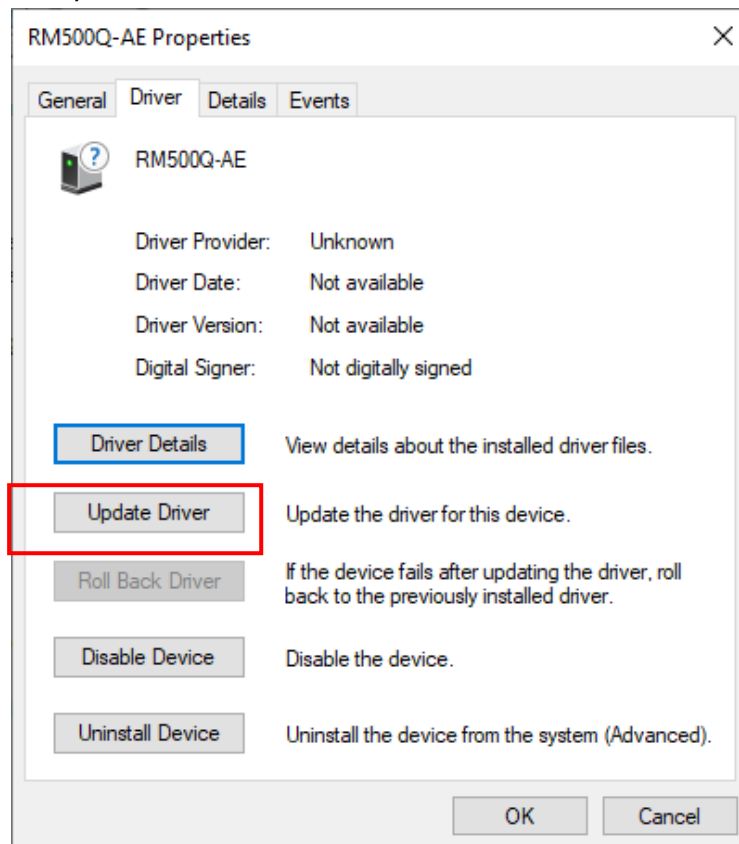


A01. Check the device manager, if an exclamation point appears, please follow the steps below:

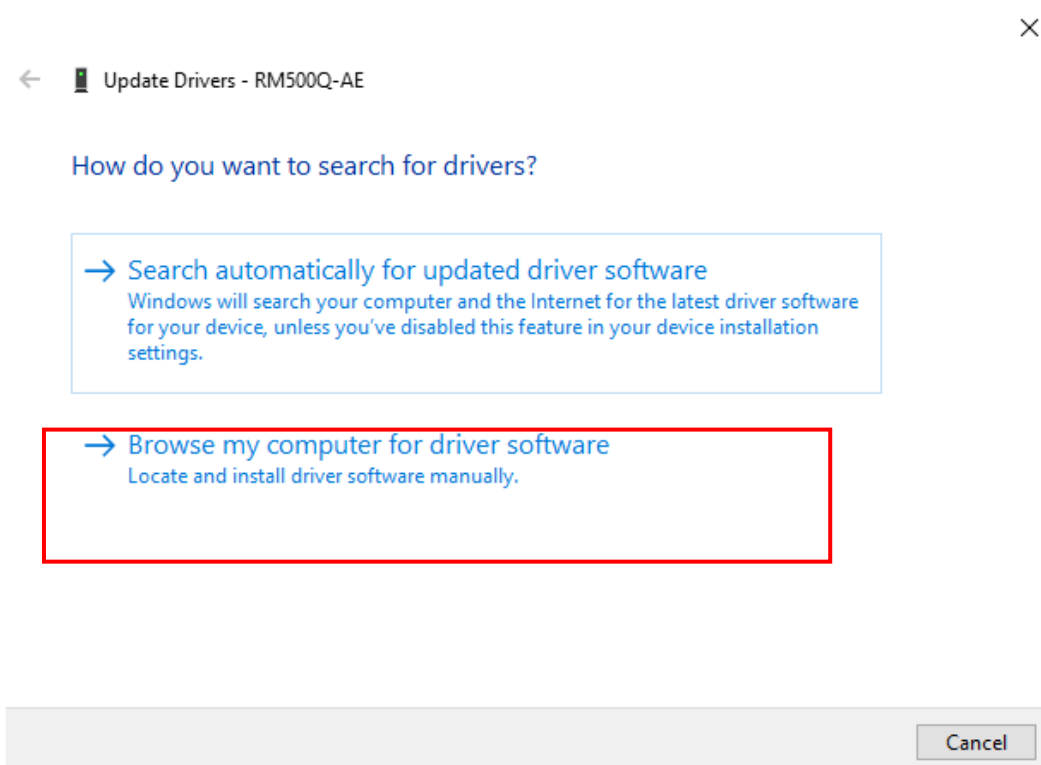
Step 1: Please click the right mouse button on "RM500Q-AE/GL" or "Cinterion PID 0x00B3 USB" and select Properties



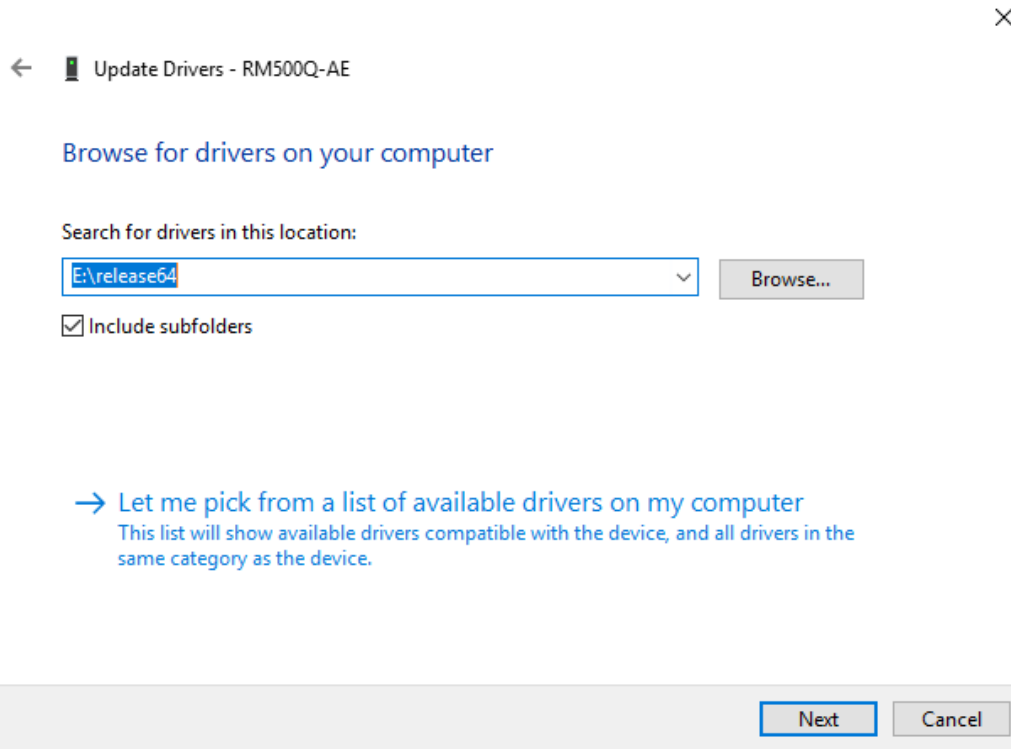
Step 2: Choose to update the driver



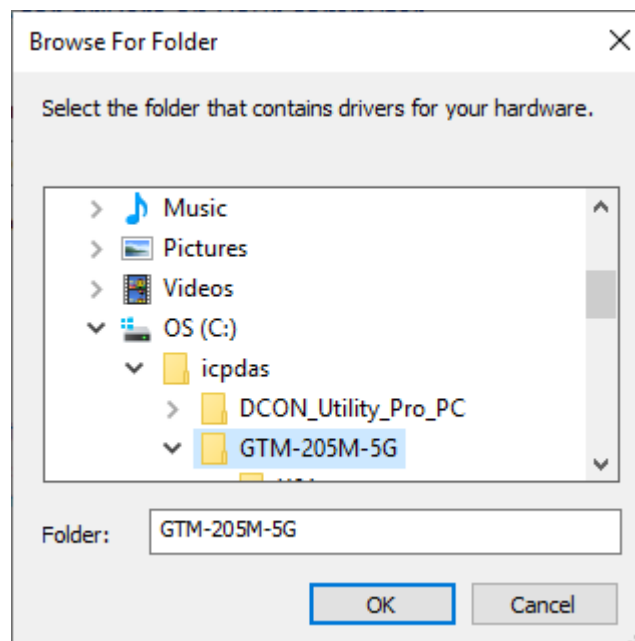
Step 3: Choose "Browse my computer for driver software"



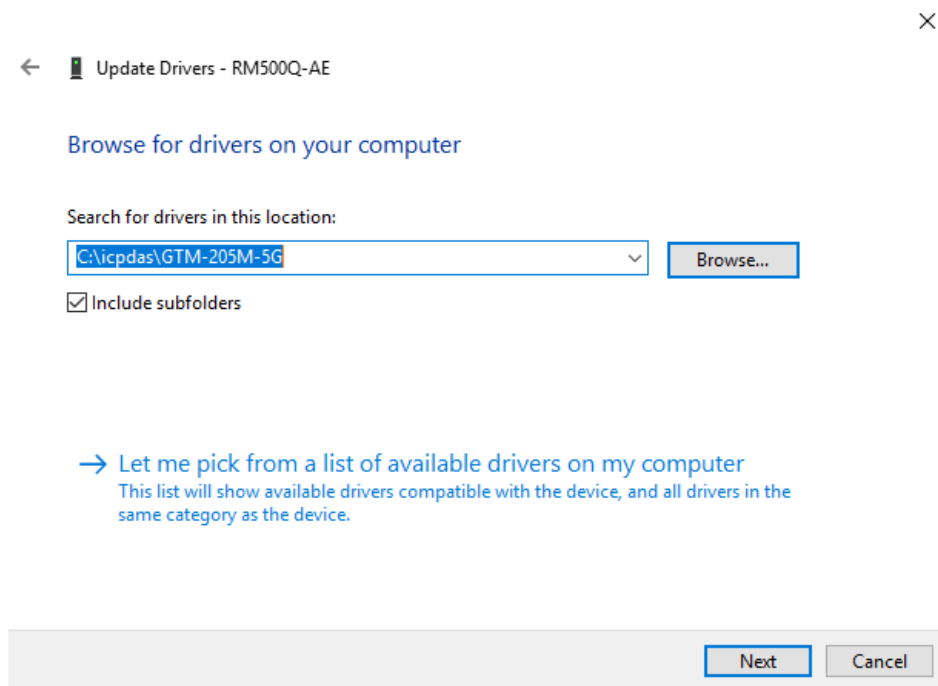
Step 4: Click the "Browse" button.



Step 5: Choose default Driver setup path(C:\ICPDAS\GTM-205M-5G), click "OK"

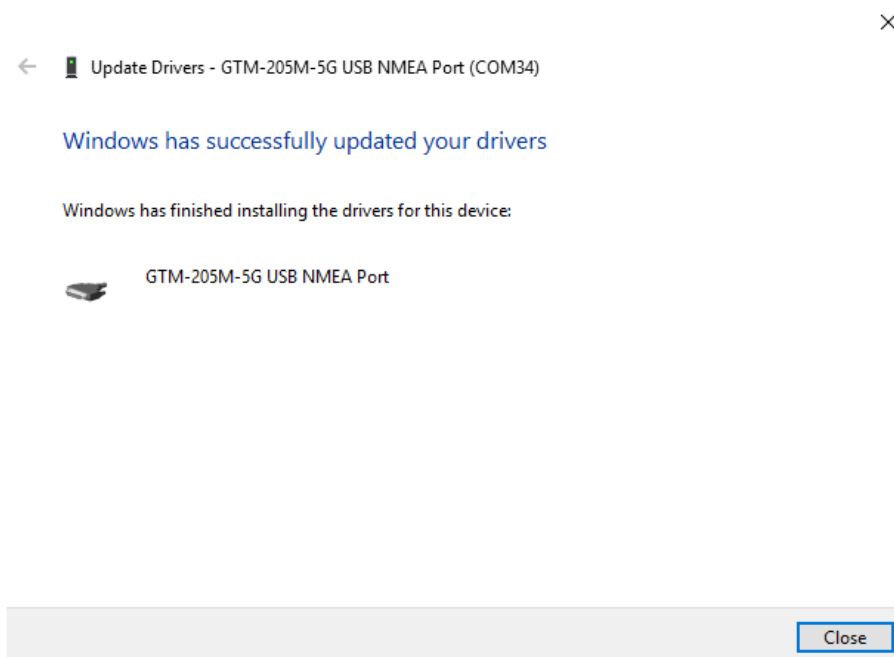


Step 6: After confirming that the path is correct, click the "Next" button



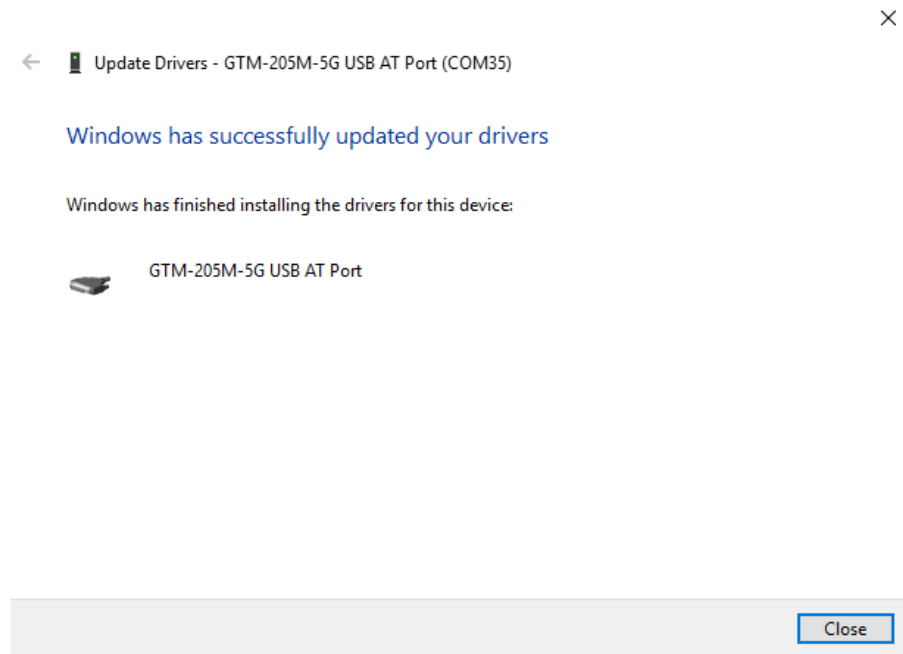
Step 7: After completing the driver installation, please complete a total of 5 drivers one after another. The names are: USB NMEA Port, USB AT Port, USB Modem, USB DM Port and Wireless Ethernet Adapter

● USB NMEA Port

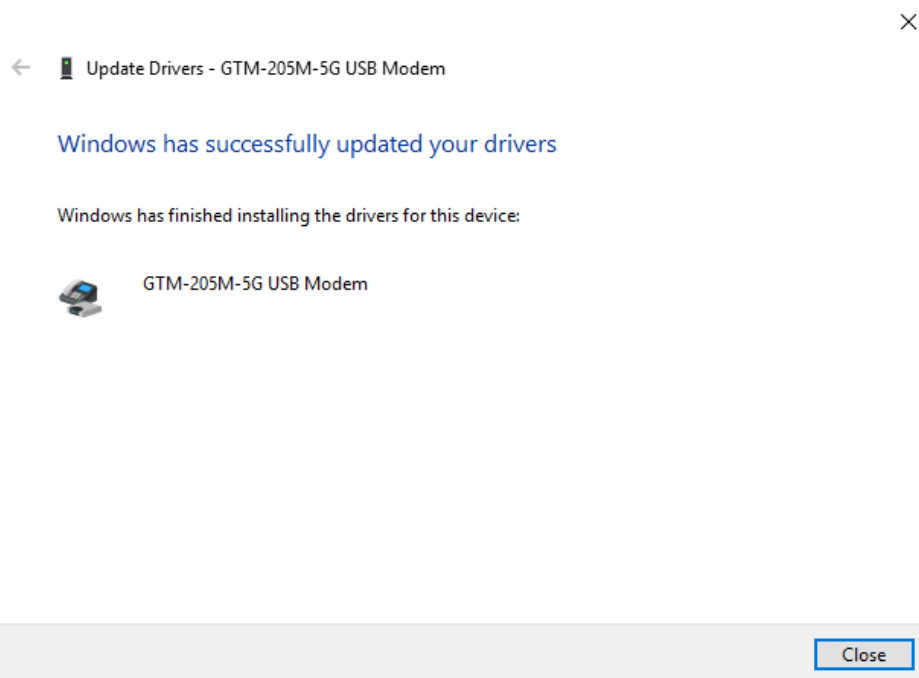


- **USB AT Port**

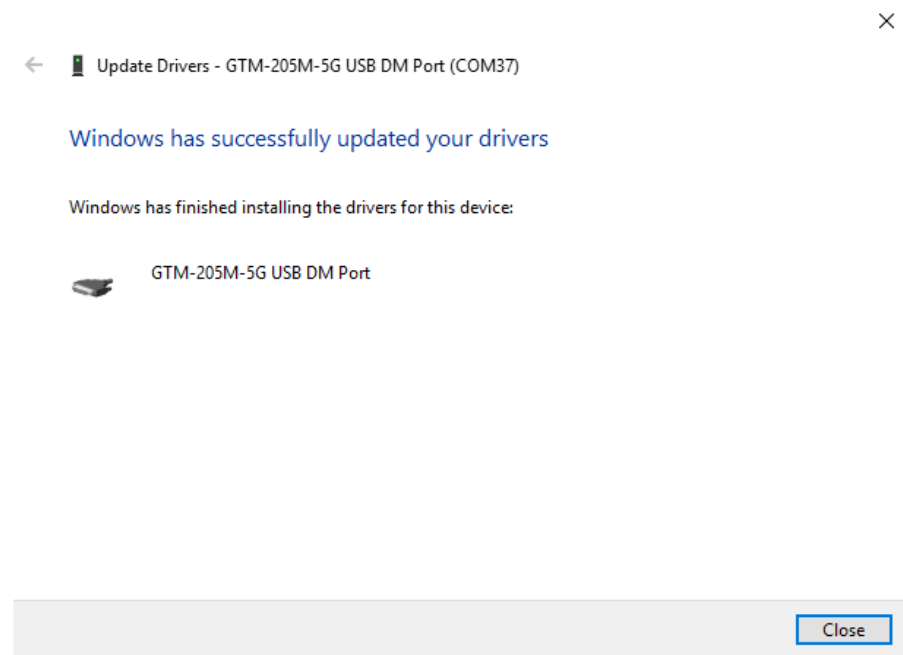
Note: GTM-205M-5GT driver AT port is shared with Modem port, so AT port will not be displayed.



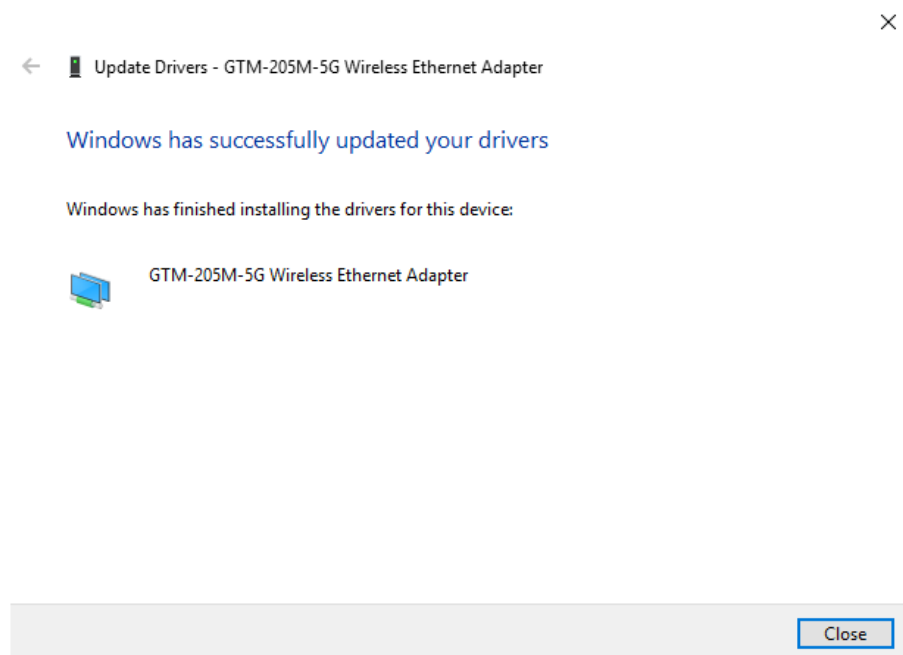
- **USB Modem**



- **USB DM Port**



- **Wireless Ethernet Adapter**



7. Revision History

Revision	Date	Author	Description
1.0	2021/08/02	Eddie	First Release
1.1	2022/08/17	Patty	Modify Hardware Specifications & USB driver installation
1.2	2023/05/19	Patty	Update USB Driver Support