BARTEC

Setting up the LTE- (WWAN-) module (Cellular driver) English translation

Agile X IS

Type 17-A1B4-..../.....

ATEX / IECEx Zone 1

UL Class I Division 1, UL Class I Zone 0 und 1

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Proviso: Technical changes reserved. Changes, mistakes and printing errors do not substantiate any claim to damages.

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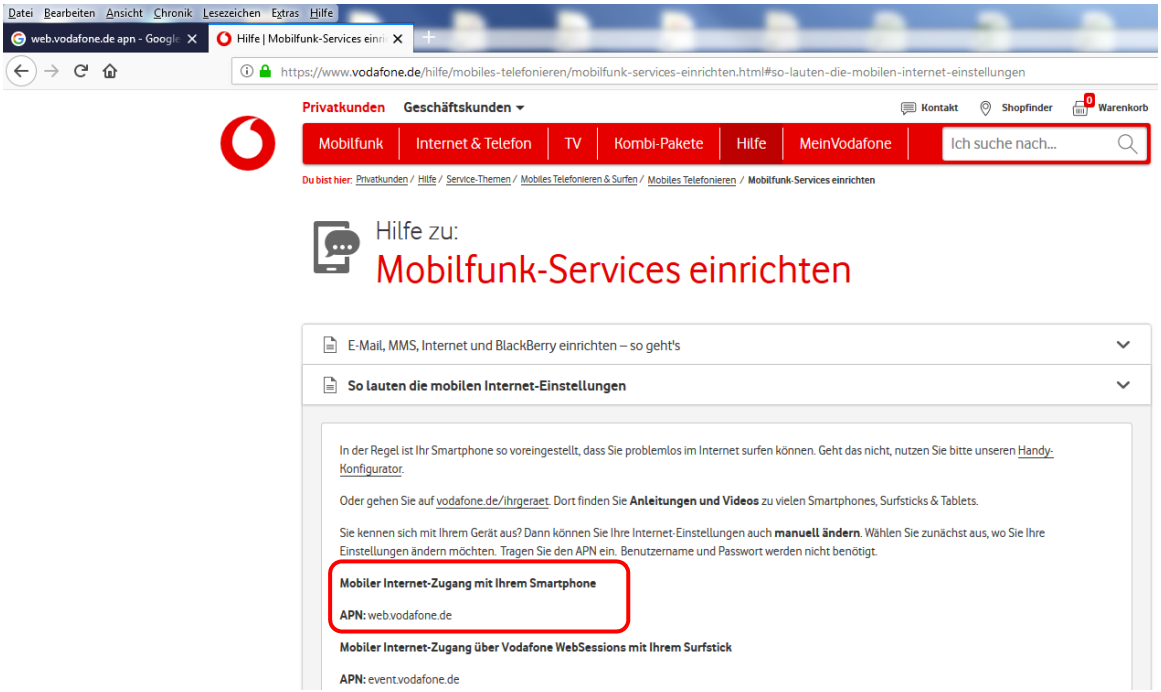
1. Note

To set up the built-in LTE module (Gemalto PLX-8), the driver from the driver package "WWAN_ALSx_PLSx_driver_package_v1.00.37.01.zip" or latest is required.
The driver allows you to set up the SIM card. Depending on the provider, the PIN of the SIM card and the provider's APN will be required.

- The PIN of the SIM card can be found in the letter of your provider.
- The APN can also be found in the documentation of your provider or on its website.

E.g. for Vodafone:
https://www.vodafone.de/hilfe/mobiles-telefonieren/mobilfunk-services-einrichten.html



2. Requirements

To set up proper function you need the following:

- Agile X IS with built-in LTE module
- SIM card
  (Instructions for installation can be found in BARTEC's user manual for Agile X IS, document no. 11 -A1B0-7D0001)
- Driver "WWAN_ALSx_PLSx_driver_package_v1.00.37.01" or latest
  Download page: http://automation.bartec.de/tabletpc.htm
  → Agile X IS industrial tablet PC for use in Zone 1 / Div. 1
  → Tools

3. Enable/disable the LTE-module

3.1 Setup

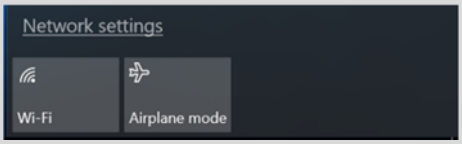
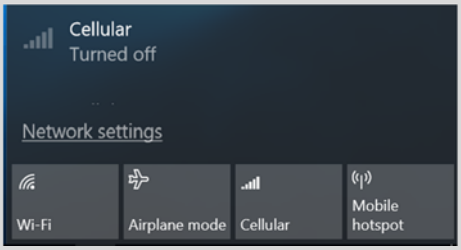
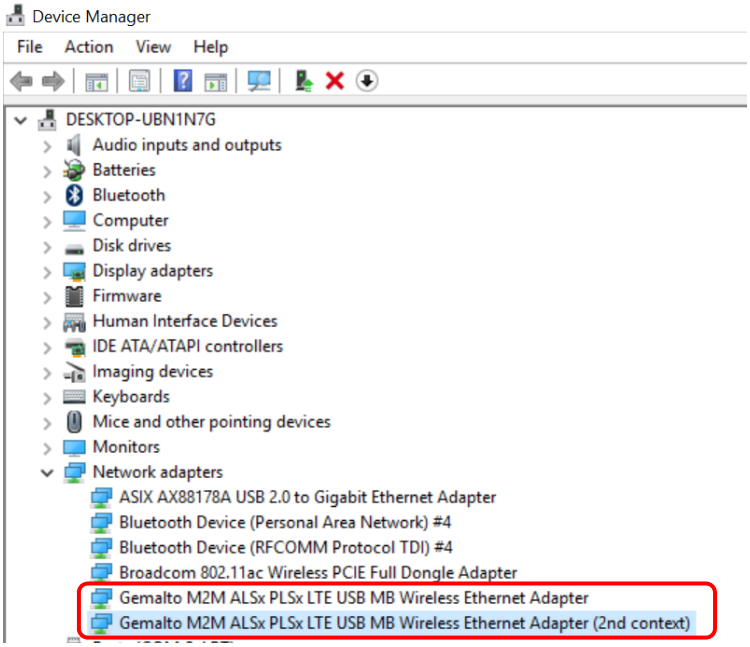
3.1.1 LTE-module – Enabling in HotTab tool

The HotTab Tool is used to switch on or off the tablet PC's peripheral modules. All other settings are done via operating system and the associated driver for the module.	
The HotTab Tool can be started on the desktop or via the tablet's "Home" button	 or 
Select "Device ON/OFF" in HotTab-tool-menu.	
In the "Device ON/OFF" menu, peripheral modules can be switched on and off.	
Symbol white = module is switched off	
Symbol orange = module is switched on	

3.1.2 LTE-module – Enabling in operating system environment

The LTE module is recognized by the operating system as soon as it is switched on in the HotTab Tool. In the taskbar, quick access is possible by clicking the wireless connection icon. In the menu, the LTE module (Cellular) can be activated and deactivated. • grey Cellular symbol = module switched off • blue Cellular symbol = module is switched on

When the Agile X IS is rebooted, it takes about 30 seconds until the operating system recognizes the LTE module as a Cellular device. Requirement is the presence of the correct module driver (see below). The Cellular device will be deactivated by a new boot process and must be switched on manually.

After rebooting the Agile X IS	The LTE module is recognized as a cellular device after approx. 30 seconds
	
After switching on the LTE module 2 separate network adapters are shown in Device Manager. (This can be used to check that the LTE module is recognized and powered on properly.)	
	

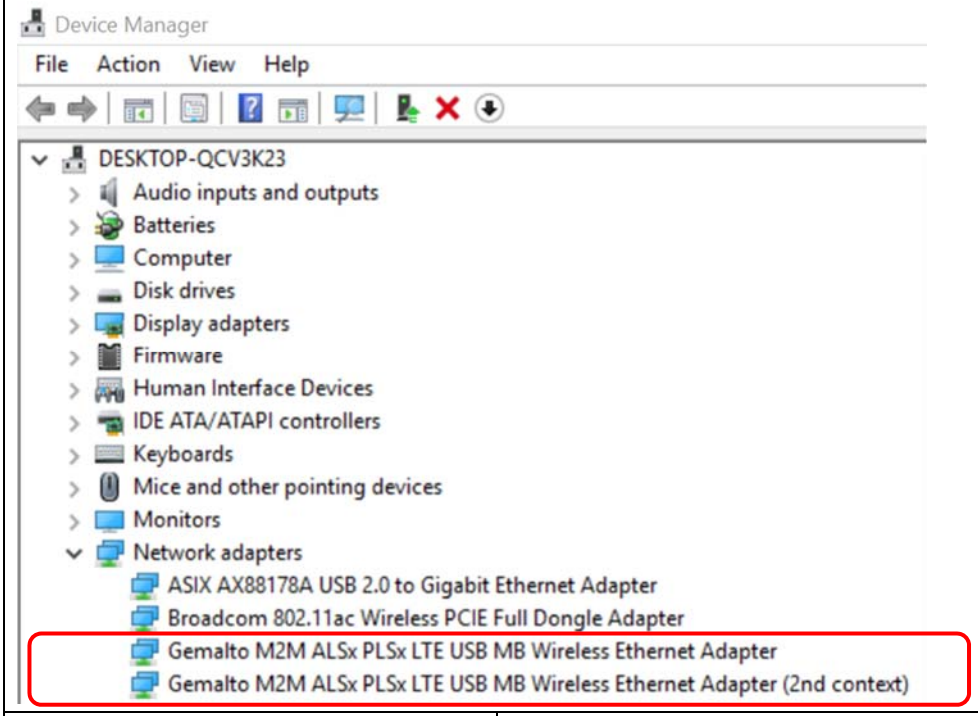
4. Update driver

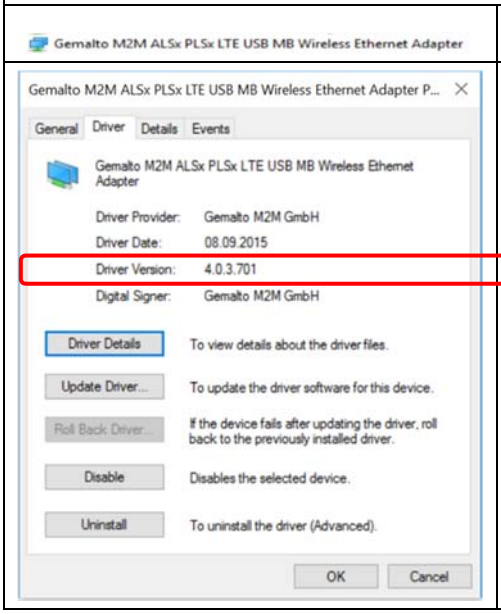
4.1.1 Check driver version

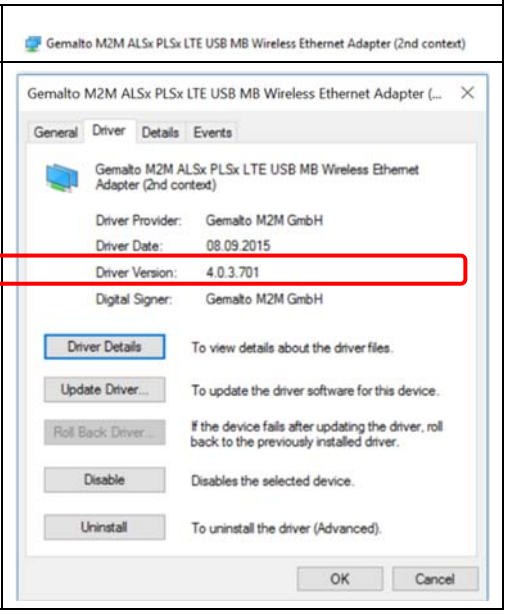
- Check the correct driver version in the Device Manager Version v4.0.3.701 or later
  => no further action is needed if driver version is correct.

If the driver does not comply with version v4.0.3.701 (or later), it is not possible to use the built-in LTE module as a Cellular module because the installed driver does not support Cellular functions and does not allow connection to a mobile network.

Right-click on a Gemalto adapter → Select settings in the menu displayed → Select the driver tab → Check driver version







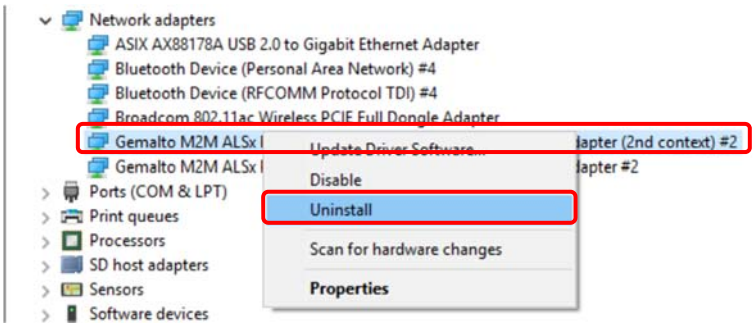
4.1.2 Uninstall driver in place

Driver uninstalling is needed only if the current driver version is not v4.0.3.701 or later.

Uninstall both Gemalto network adapters :

- Gemalto M2M ALSx PLSx LTE USB CDC-ECM Wireless Ethernet Adapter (2nd context) #2
- Gemalto M2M ALSx PLSx LTE USB CDC-ECM Wireless Ethernet Adapter #2

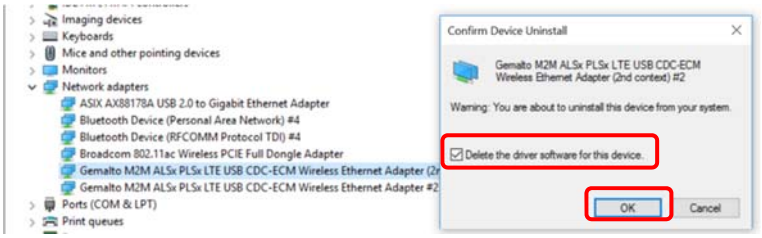
Right-click on the first Gemalto adapter → select "Uninstall"



Check "Delete the driver software for this device" in the window which is popping up.

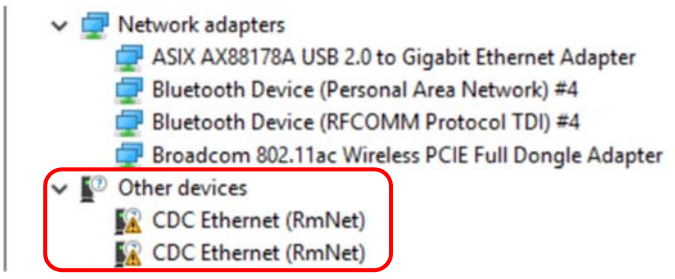
→ Confirmation with "Ok"

→ the first Gemalto adapter is uninstalled

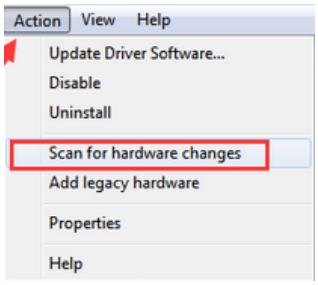


Repeat the process for the second network adapter.

The uninstallation is now complete. Both adapters uninstalled appear in section “Other Devices" as "CDC Ethernet (RmNet)".



If the adapters cannot be found under "Other devices", scan the system for hardware changes. To do this, open pull-down menu "Actions" and select "Search for hardware changes".

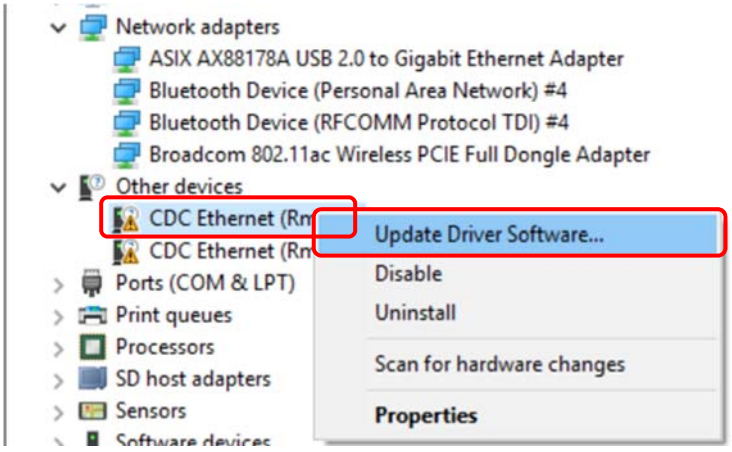


4.1.3 New driver Installation

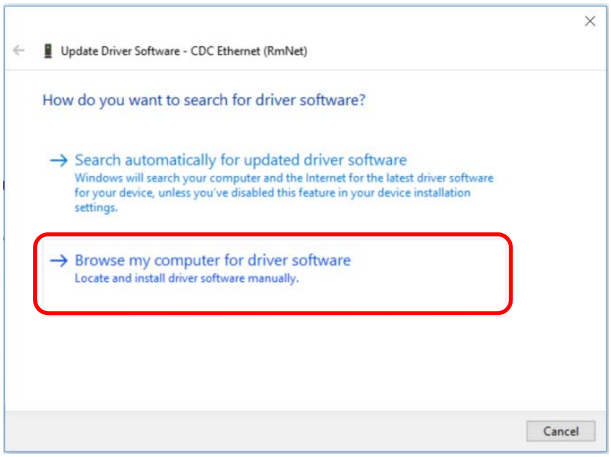
To install the new drivers, the following driver package is required.

- "WWAN_ALSx_PLSx_driver_package_v1.00.37.01.zip" or later

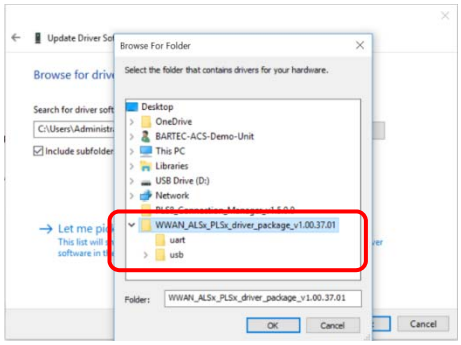
→ Right-click on the first CDC Ethernet device → choose "Update Driver Software…"

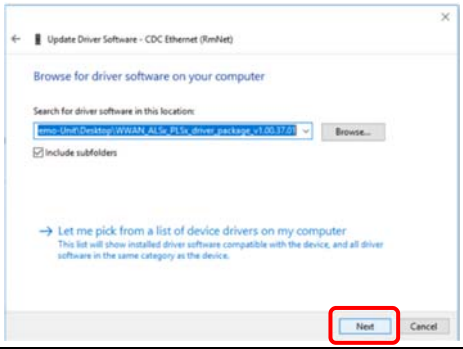


→ Choose "Browse my Computer for driver software"



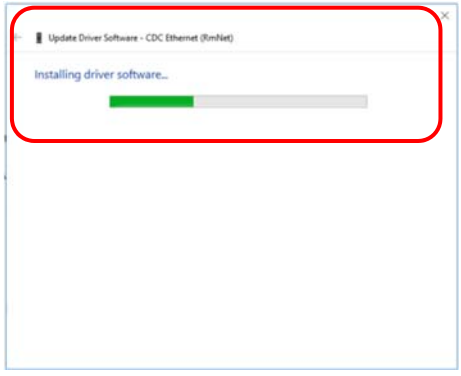
→ Select the path of the driver and start with "Next"

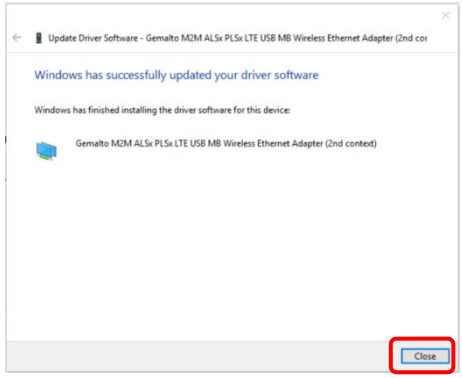




→ The installation is started.

→ If the driver for the first module will be installed, end the process with "Close".



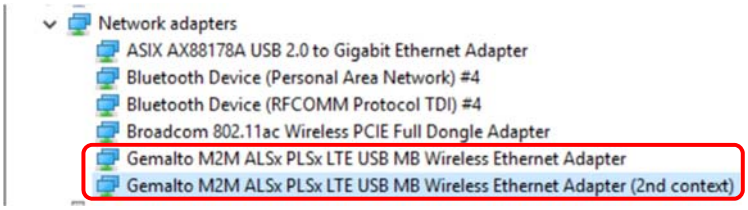


→ Repeat the procedure described above for the second CDC Ethernet device.

→ Right-click on the second CDC Ethernet device.

→ Choose “Update Driver Software…“.

→ After complete installation, 2 Gemalto LTE Ethernet Adapters are shown under “Network Adapters”.



5. Settings and setup of the LTE module

The setup and settings for the LTE module are done at operating system level.

(The settings described here are done in Windows 10 IoT Enterprise CBB (Current Branch for Business) OS version 1607).

For further information about the wireless settings in Windows 10, see Microsoft.

e.g.

https://support.microsoft.com/de-de/help/10739/windows-10-cellular-settings

5.1.1 Note/Information

Insert SIM card according to the instructions in Agile X IS manual, document no. 11-A1B0-7D0001.
→ Perform a restart that the SIM card is recognized correctly.

We recommend reboot of the device after inserting of the SIM card, this ensures that the system recognizes the detection and setup correctly.

When setting up note the following hints.
Depending on the provider and/or mobile network, the device may vary slightly.
The following information is important:

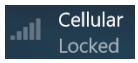
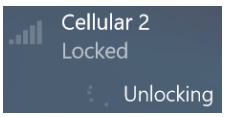
- SIM card PIN
  Take it from the letter of your provider.
- SIM card PUK
  Take it from the letter of your provider in case that unlocking is necessary after several incorrect entries of the PIN.
- APN (Access Point Name)
  This information can be found in the documentation or on the website of your provider.

- The LTE-Modul must be switched on in HotTab tool. 
- The taskbar provides quick access to the wireless connections via the wireless icon. The LTE module (Cellular) must be activated.

Note:

- 2 cellular adapters are displayed, including the current status bars.

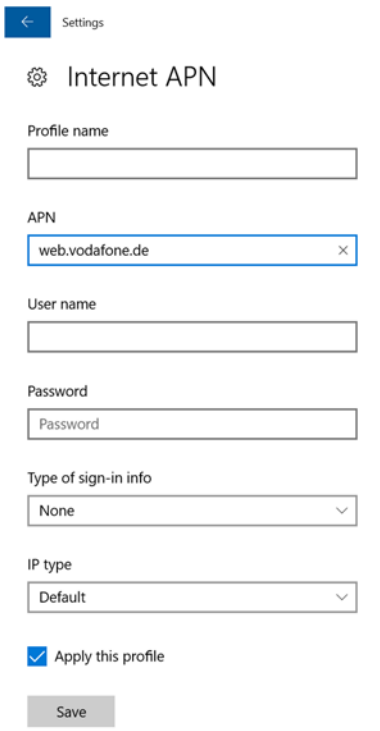
Cellular Vodafone (HSPA) Vodafone Turned off	2 cellular adapters are displayed. Note: The built-in LTE module is also suitable for SIM cards that can process two different APNs. The system selects the active module independently.

Important symbols of the Cellular Status Indicator:	
Symbol	**Meaning of the status indicator**
	No SIM card inserted, or SIM card not recognized.
	LTE-module “Cellular“  is switched off.
	The SIM card is recognized and locked. → PIN entry required.
	The SIM card is recognized and PIN entry is done. The card is currently unlocking.
	The connection to the mobile network is interrupted/ disconnected.
	The LTE-module is connected to a mobile network. e.g. to Vodafone network • The bars indicate the signal strength • The blue background indicates an existing network connection.

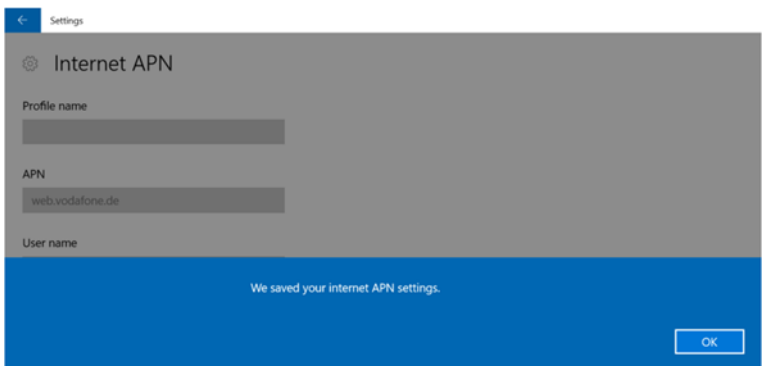
5.1.2 Setup

After inserting the SIM card restarting and switching on the LTE module (Cellular), the mobile network and the provider data are automatically loaded. If no automatic detection is done, the APN and other custom settings can be entered manually.
The settings can be changed in the following menu: → Start  → Settings  → Network & Internet  → Cellular  → Choose "Advanced Settings" on the active Cellular mobile network. 

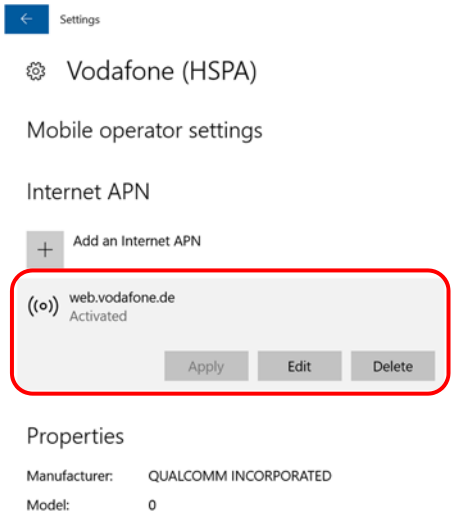
→ Enter APN and - if necessary - further provider-dependent settings.
The following example demonstrates it for Vodafone mobile network.



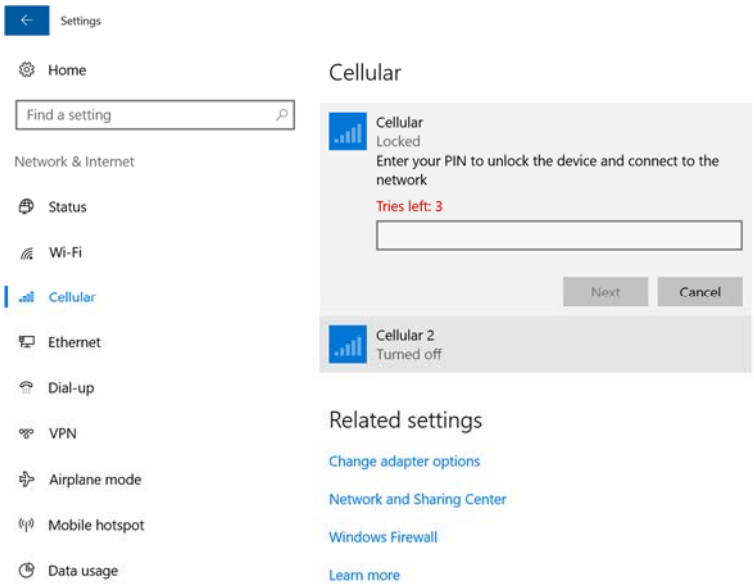
→ Confirm with "Save" to save the settings.



→ In menu "Cellular" a new profile with the entered APN is created.

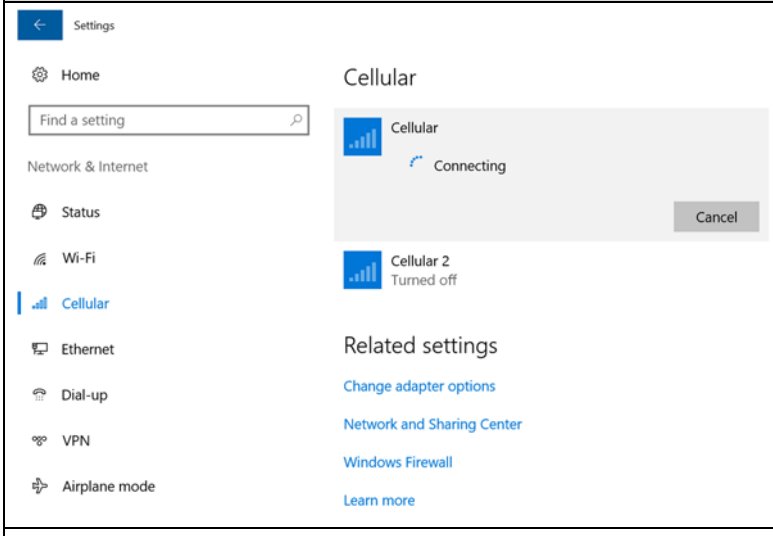


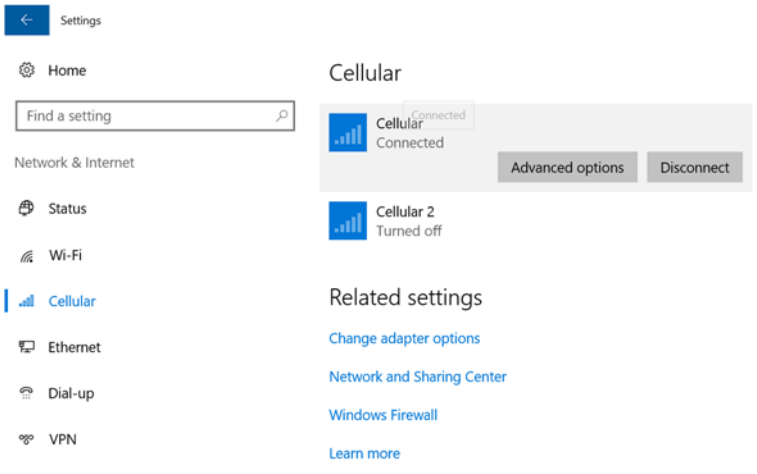
→ To establish a connection to a mobile network, it may be necessary to enter the PIN of the SIM card.



→ The connection to the mobile network is established after entering a valid PIN.

The connection may take some time and depends on the signal strength of the mobile network in the area.





5.1.3 Change PIN

The settings can be changed in the following menu:

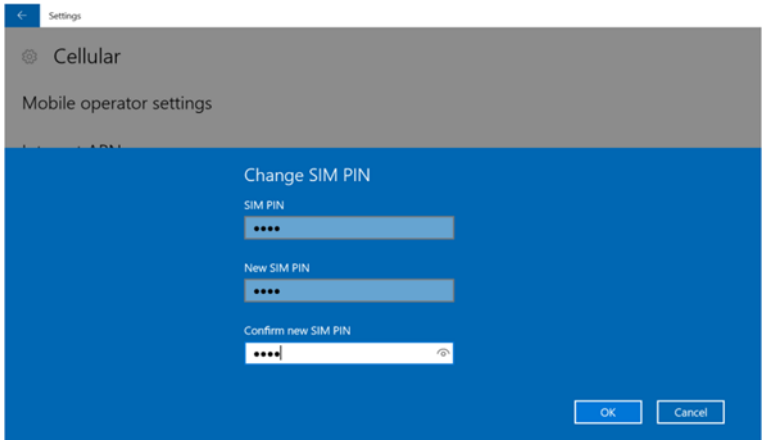
→ Start → Settings → Network & Internet → Cellular

→ Choose ”Advanced Settings“ on the active Cellular mobile network

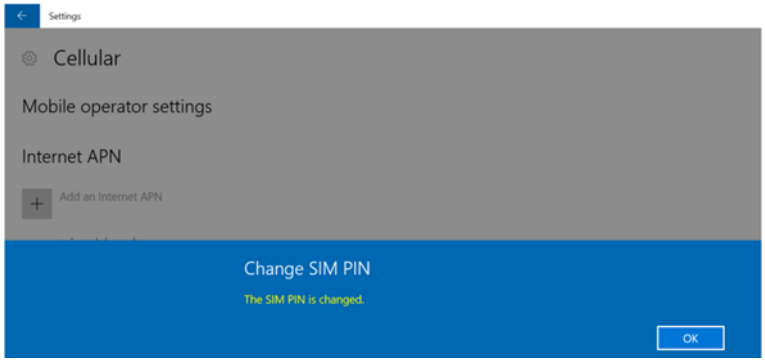
→ Choose “Change SIM PIN“

- Enter current PIN
- Then enter the new PIN, re-enter it and confirm with OK.

Remember the new PIN well and keep it in a safe place.



→ The PIN is changed



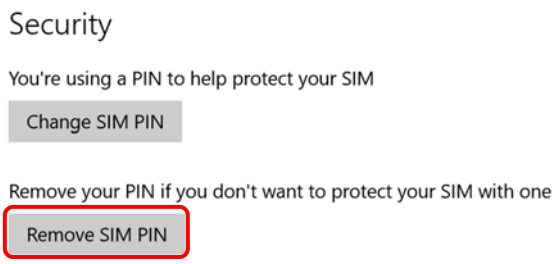
5.1.4 Remove PIN (deactivation)

The settings can be changed in the following menu:

→ Start → Settings → Network & Internet → Cellular

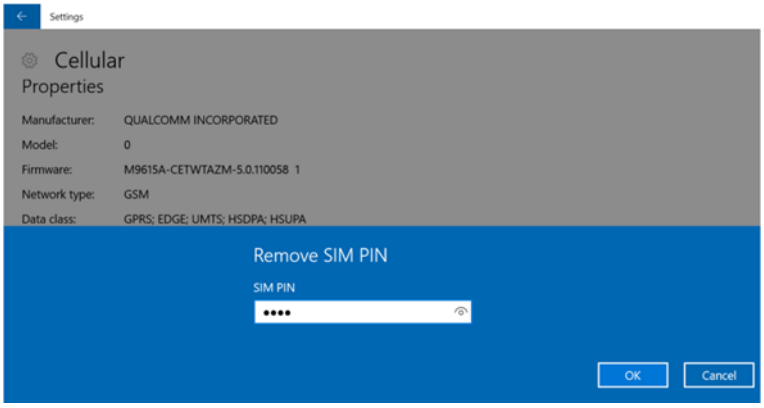
→ Choose ”Advanced Settings“ on the active Cellular mobile network

→ Choose “Remove SIM PIN“

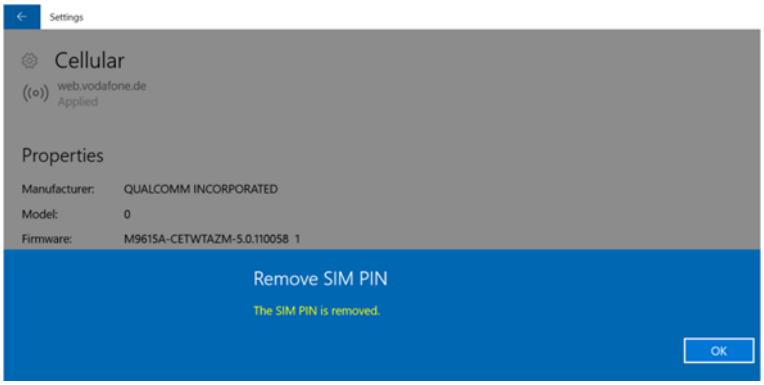


→ Enter current PIN

Store the PIN well. It will be needed to reactivate the PIN entry in future.



→ The PIN entry is removed.



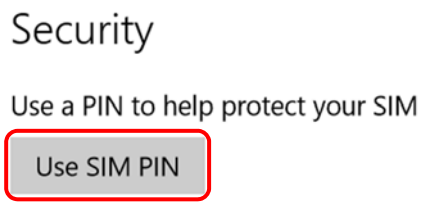
5.1.5 Use PIN (activation)

The settings can be changed in the following menu:

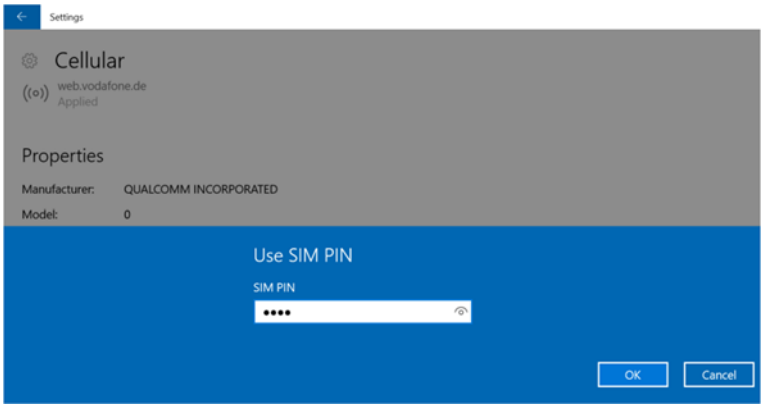
→ Start → Settings → Network & Internet → Cellular

→ Choose "Advanced Settings" on the active Cellular mobile network

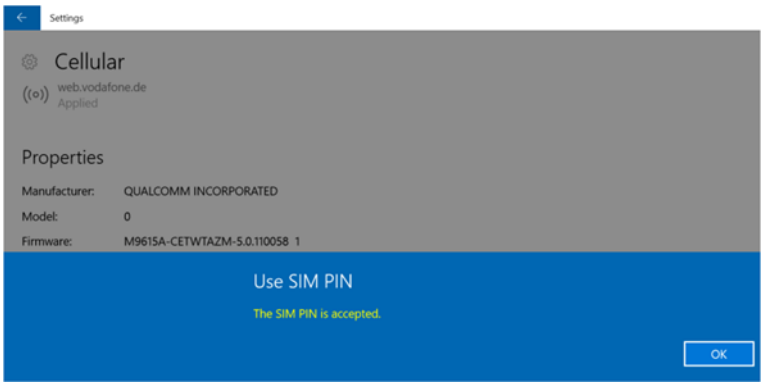
→ Choose "Use SIM Pin" for PIN activation.



→ Enter PIN



→ The PIN entry is activated again.



6. Troubleshooting

Already known issues and possible troubleshooting's are listed below.

6.1.1 SIM card is not recognized

If the SIM card will be not detected, it may be caused by:

Reason:	Contacts of the SIM card are heavily soiled or broken.
Solution:	Check the SIM card and replace it if the contacts are damaged.
Reason:	SIM card not inserted.
Solution:	Check if SIM card is inserted correctly. Insert the SIM card according to the instructions in Agile X IS manual with document no. 11-A1B0-7D0001.
Reason:	Driver not up to date.
Solution:	Check driver and replace if necessary (see chapter 4)

6.1.2 Problem with PIN entry

If there are problems with entering the SIM card's PIN it may be due to the following reasons:

Reason:	Wrong PIN
Solution:	Check the provider's letter to determine if the entered PIN is correct.
Reason:	Previously, Gemalto's Connection Manager might have been used When using the Connection Manager, it may happen that settings have been defined by this tool, which are causing conflicts while using the Cellular driver.
Solution:	Perform recovery or reinstall the operating system. Then install the latest drivers for the LTE module to avoid conflicts/incompatibility with older software.