

IQRF USB Drivers

Installation guide



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IQRF USB devices and drivers

IQRF devices with USB connectivity utilizes **Custom class** with **VID / PID by MICRORISC**. Additionally, several of them supports also **CDC class**.

WinUSB driver

USB driver **by verified publisher** based on the **WinUSB** by Microsoft is available for the following IQRF devices:

IQRF USB device	Minimal FW version
CK-USB-02	2.0
CK-USB-04	1.04
CK-USB-04A	1.11
GW-USB-04	1.20
GW-USB-05	1.04
GW-GSM-02A	3.03
GW-WIFI-01	0.49
GW-ETH-02A	2.66

MPUSB driver

USB driver **by not verified publisher** based on the **MPUSB** by Microchip is available for all IQRF USB devices (with any FW versions).

Installation package

This package is not necessary when using IQRF IDE development environment. USB drivers are installed within the IQRF IDE installation procedure in this case.

The installation package is intended for:

- Custom and CDC classes, selectable during the installation
- All IQRF USB devices
- All IQRF IDE versions
- Operating systems Windows Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10. The MPUSB driver is also applicable on Windows XP.

The contents of the installation package:

- | | |
|--|---|
| • IQRF_WinUSB_drivers_setup.exe | Drivers for current IQRF USB devices.
For Windows Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10. |
| • IQRF_MPUSB_drivers_setup.exe | Drivers for older IQRF USB devices.
For Windows XP, Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10. |
| • Install_Guide_USB_drivers_yymmdd.pdf | This Installation guide. |

For using the WinUSB driver, the `IQRF_WinUSB_drivers_setup.exe` or IQRF IDE 4.30 or higher must be installed.

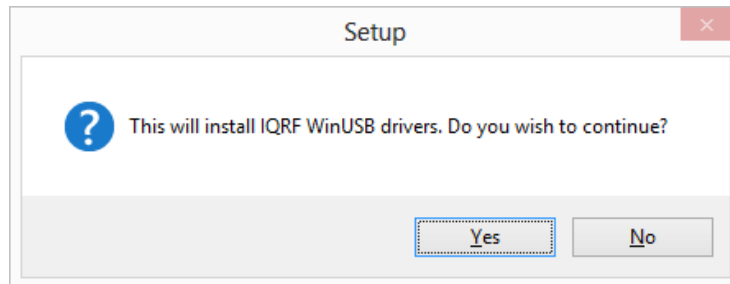
For using the MPUSB driver, the `IQRF_MPUSB_drivers_setup.exe` or IQRF IDE 4.23 or lower must be installed.

IQRF WinUSB driver installation

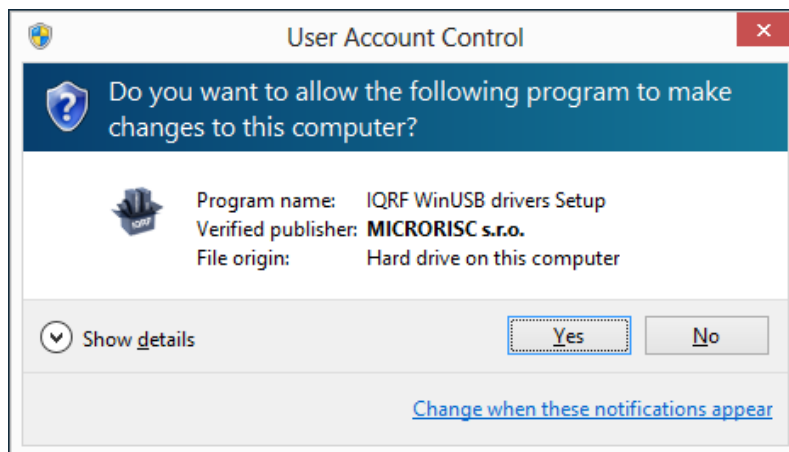
Windows 7, Windows 8, Windows 8.1 and Windows 10

Before installation, do not get any IQRF USB device connected.

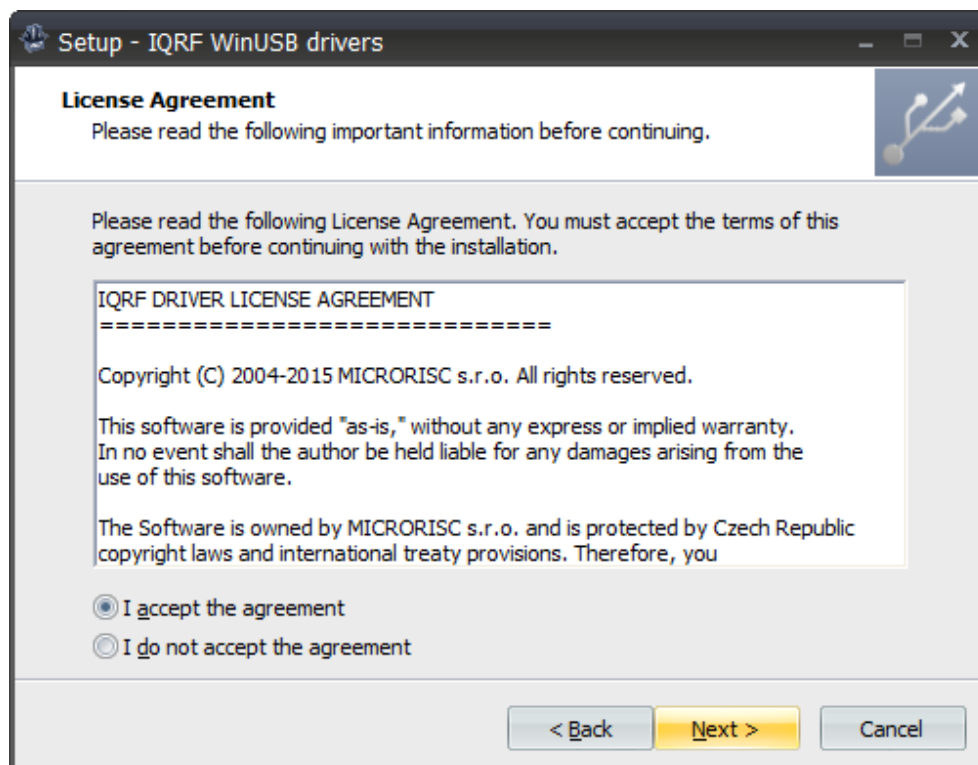
1. Invoke the installer (IQRF_WinUSB_drivers_setup_yymmdd.exe)
2. Follow the instructions

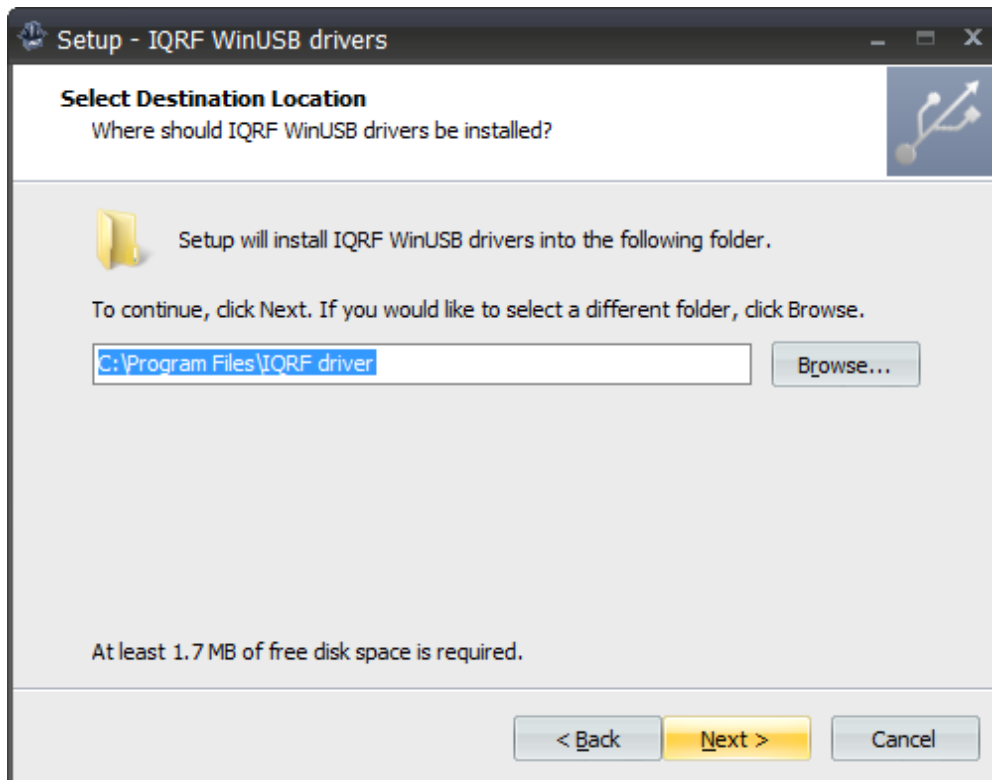


3. Allow to install drivers from verified publisher

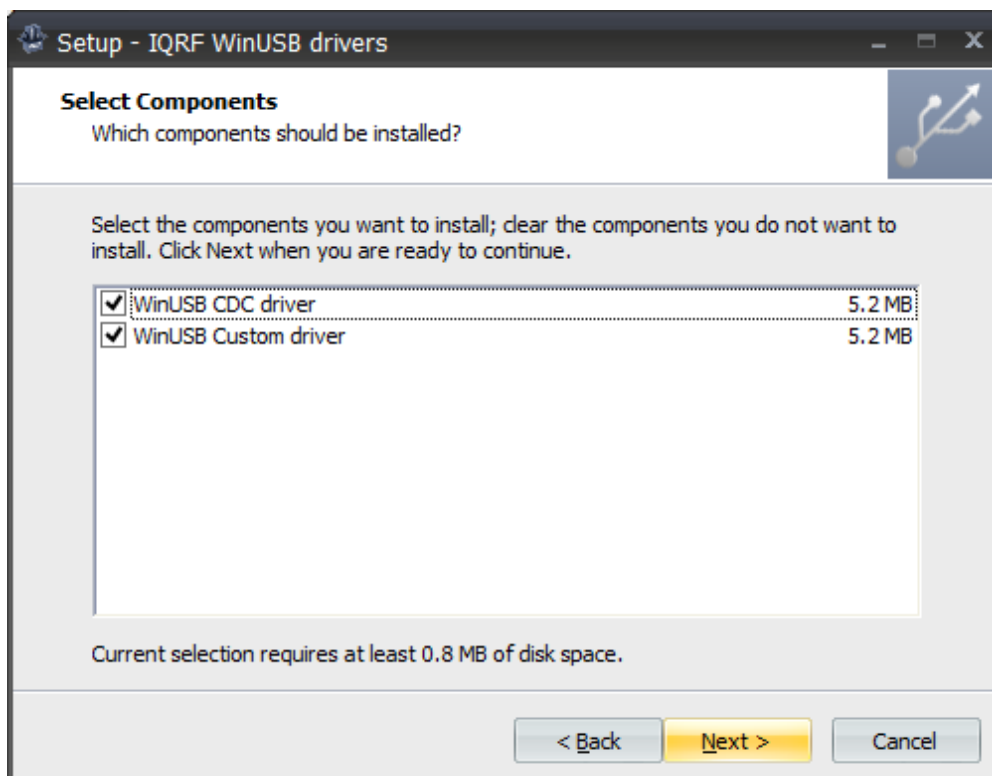


4. Continue installing

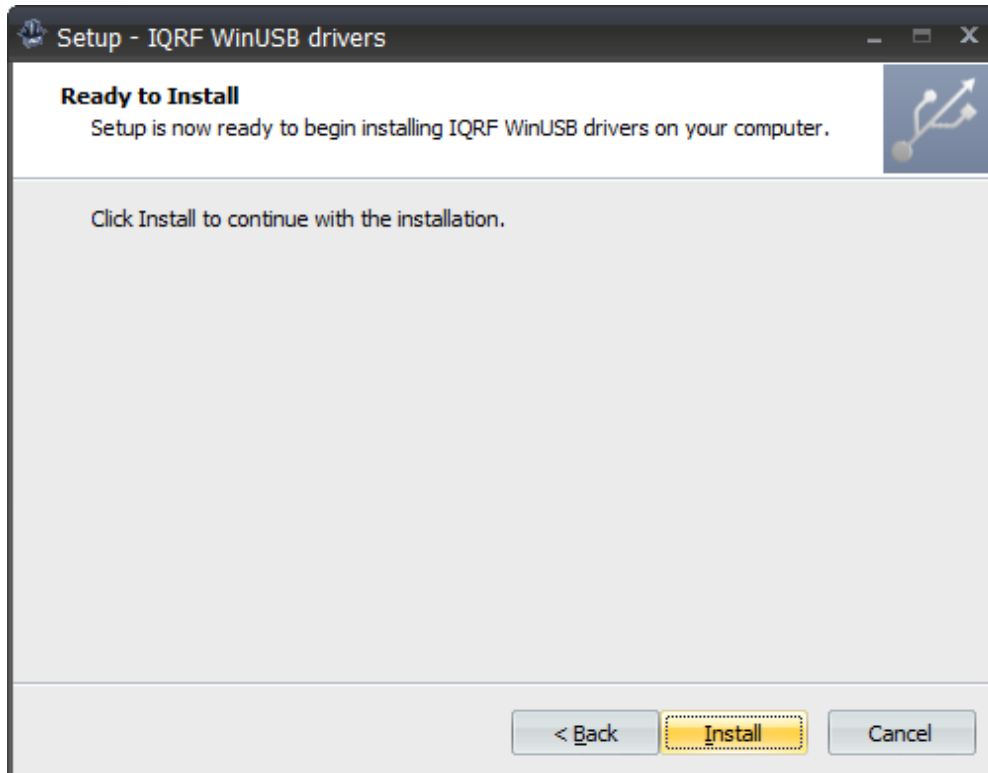




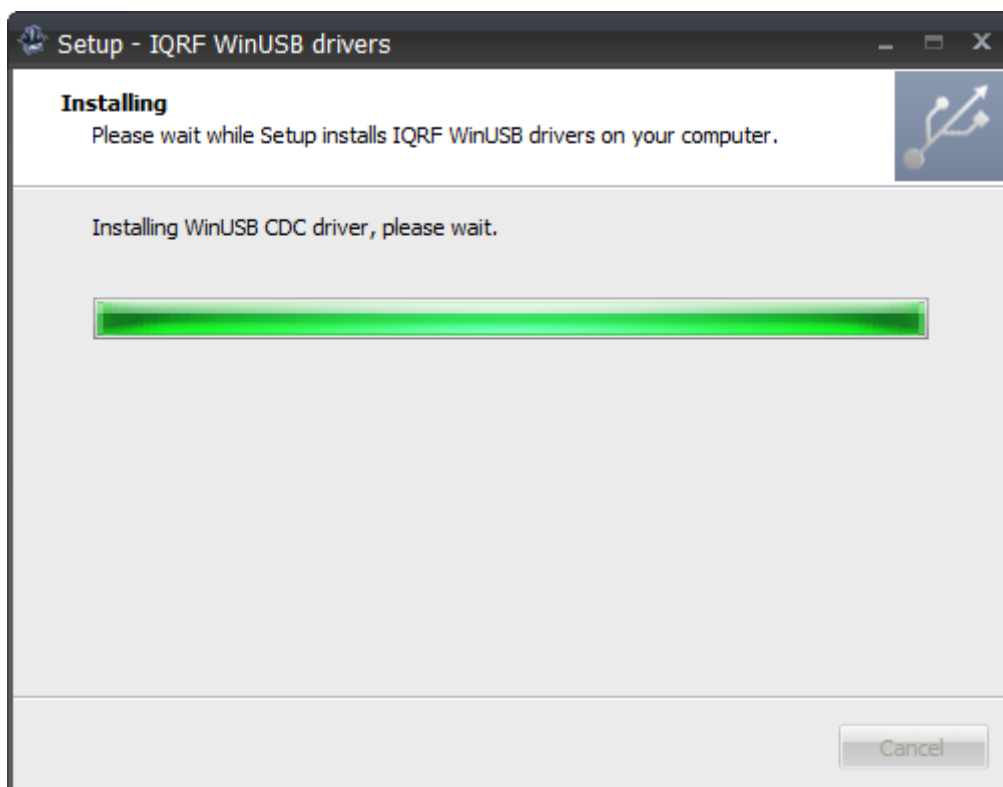
5. Select which drivers to install (Custom and/or CDC)



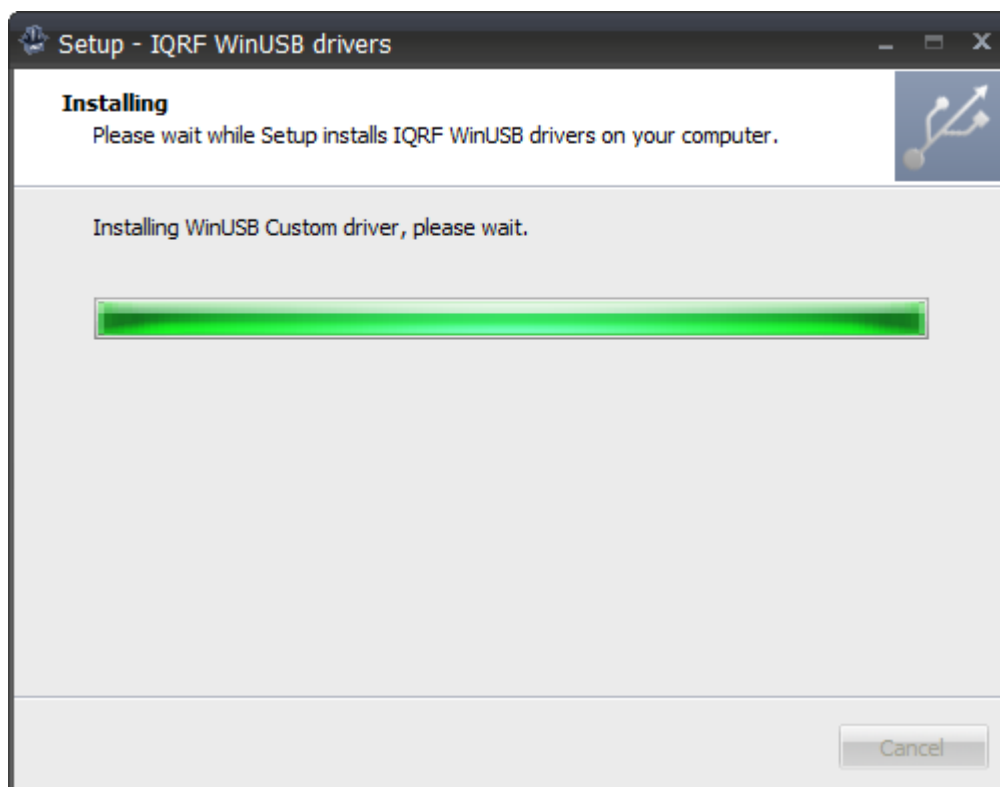
6. Installing of selected drivers



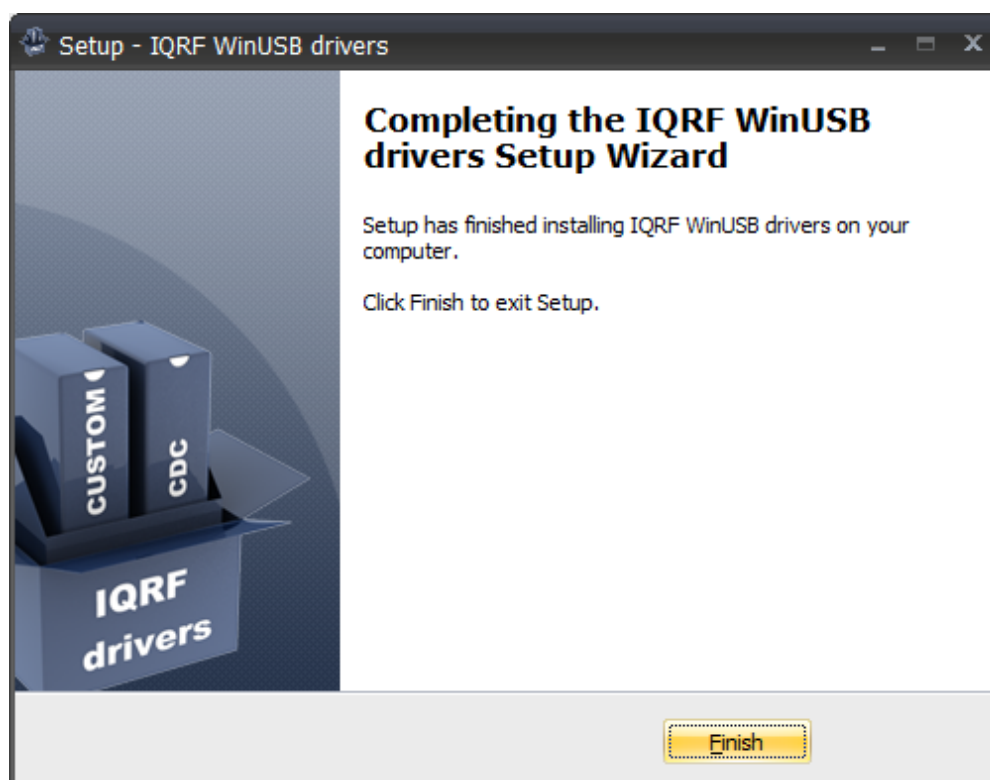
7. CDC driver (if requested) installing



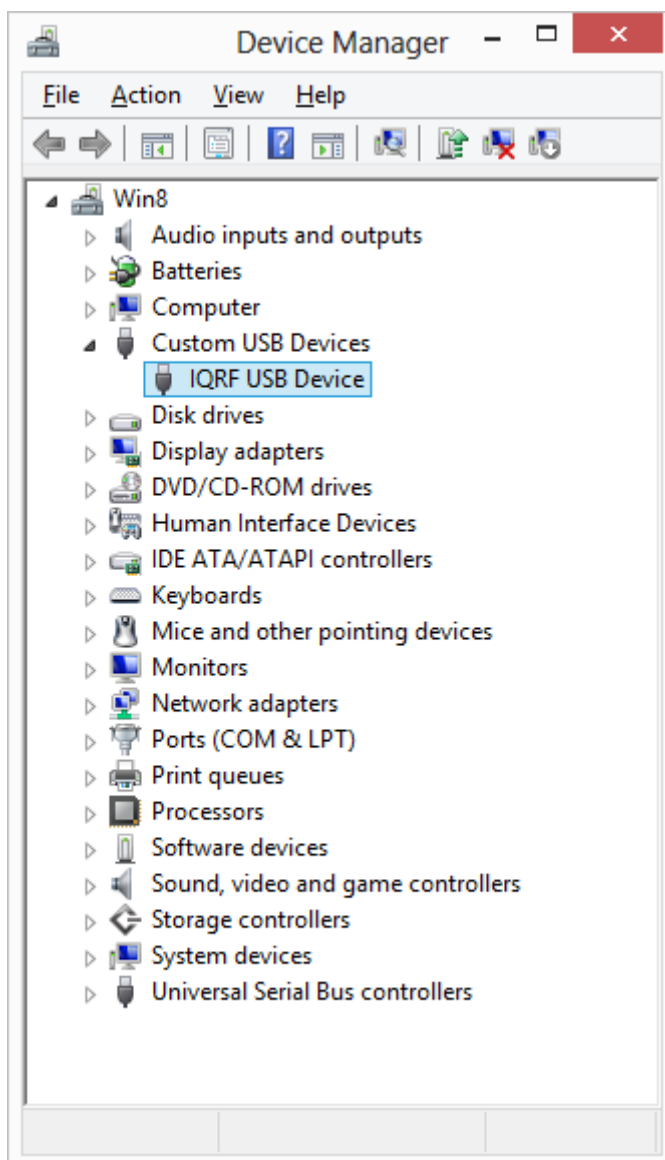
8. Custom driver (if requested) installing



9. Finish the installation

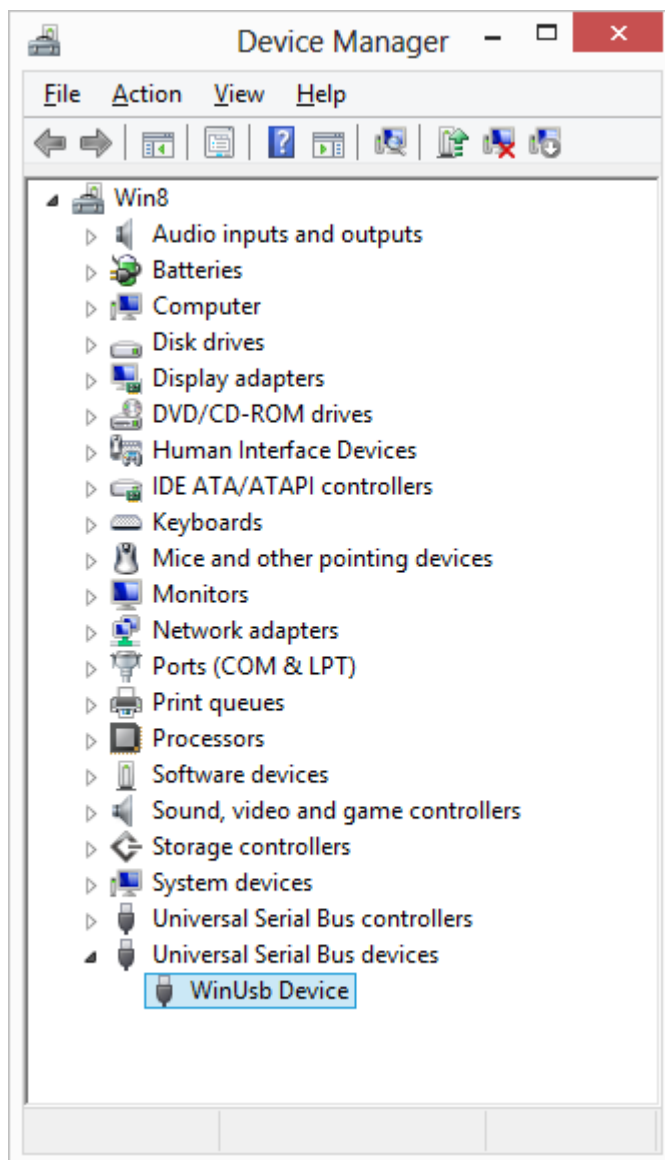


10. After successful installation connect IQRF USB device. The drivers should be indicated in Windows device manager, e.g. as follows:

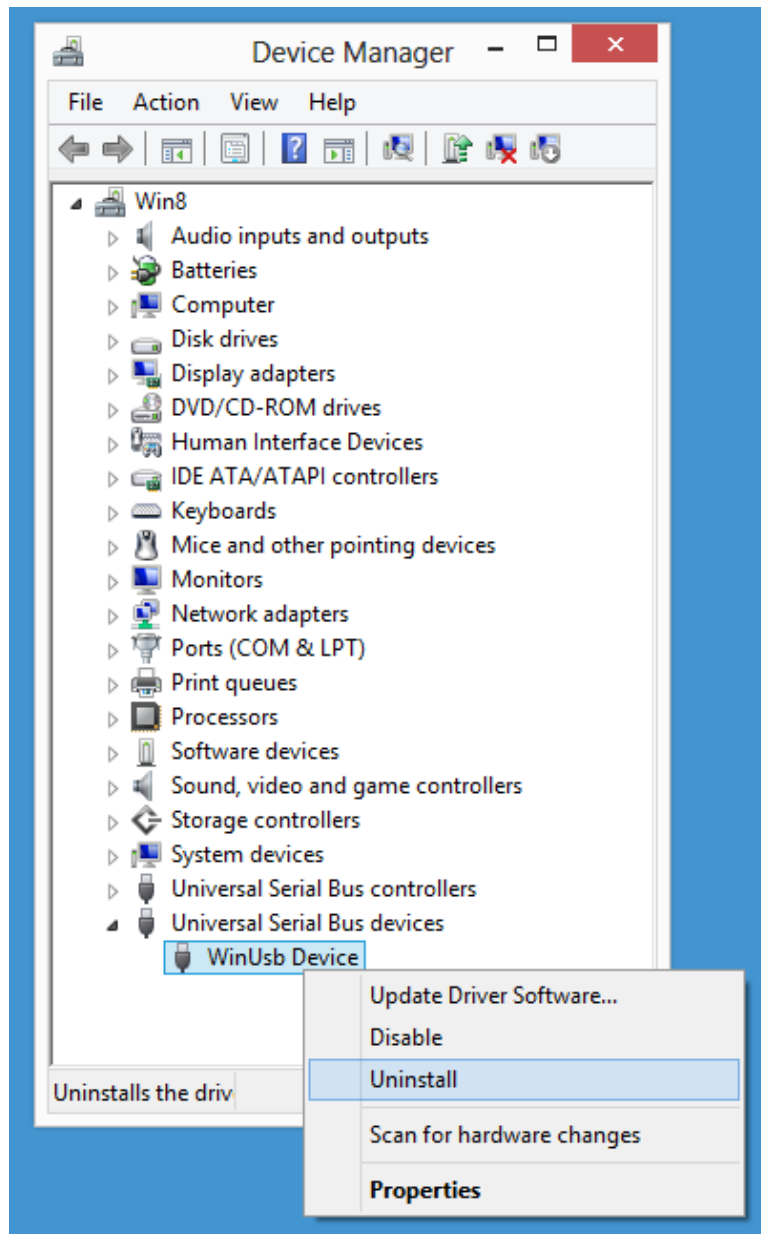


All the following steps are valid for Windows 8, 8.1 and 10 only.

11. If the following setup appears, continue to points 12. and 13.



12. Uninstall the driver using *Uninstall* in pop-up menu invoked in Windows Device manager:



Then confirm the uninstallation.



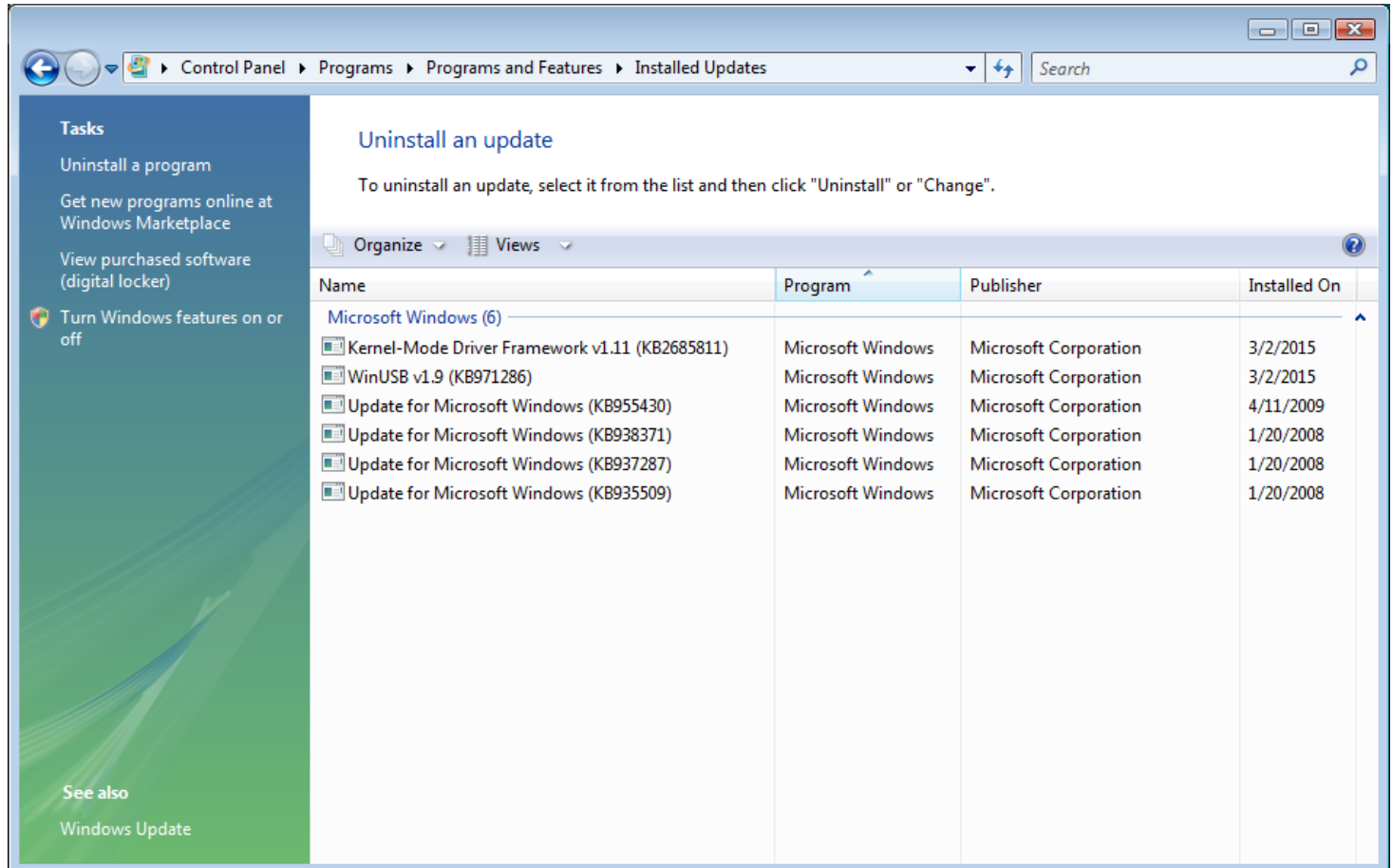
13. Disconnect and then reconnect the USB device. Successful installation result should correspond to point 10. above.

Windows Vista

Before installation, do not get any IQRF USB device connected.

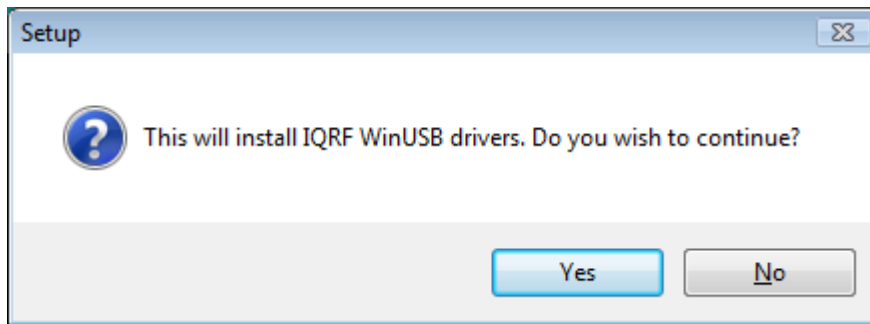
Before installation, you should have updated your Windows operating system for all available updates.

To check the updates, open *Control Panel\Programs\Programs and Features -> Installed Updates*. It is not necessary for Windows Vista SP2 or higher.

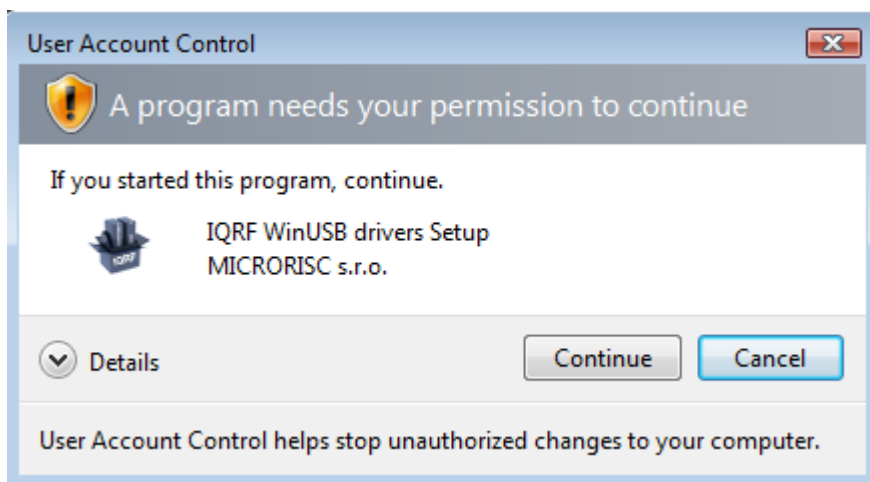


If the updates are missing, install them from www.microsoft.com.

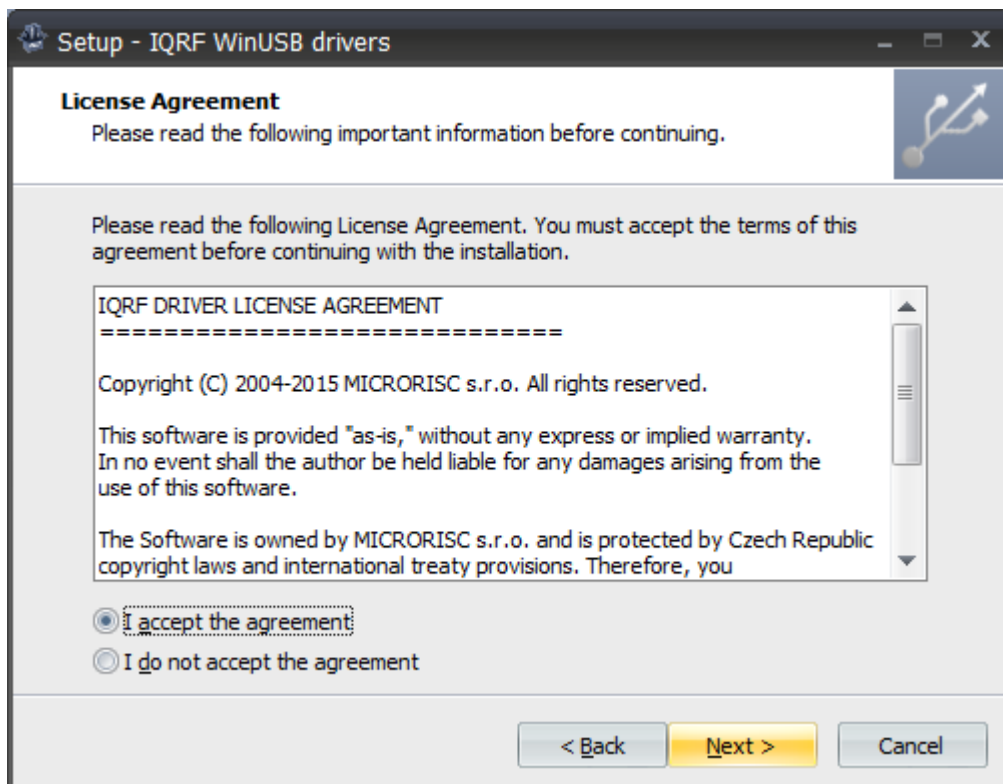
1. Invoke the installer (IQRF_WinUSB_drivers_setup_yymmdd.exe)
2. Follow the instructions

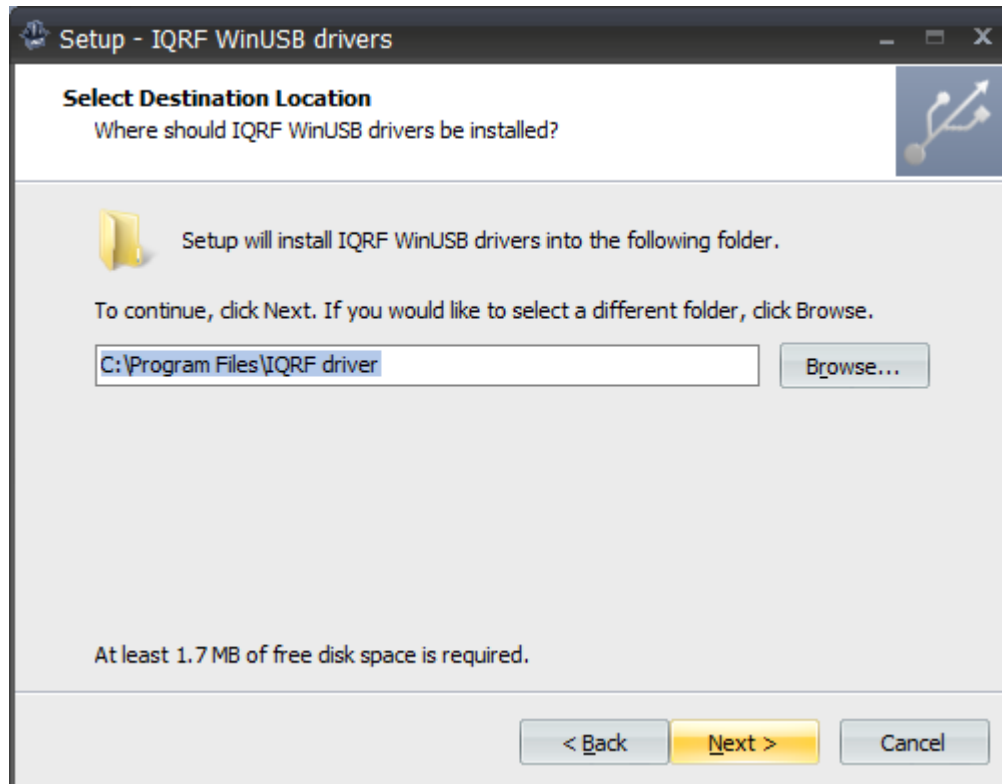


3. Allow to install drivers from verified publisher

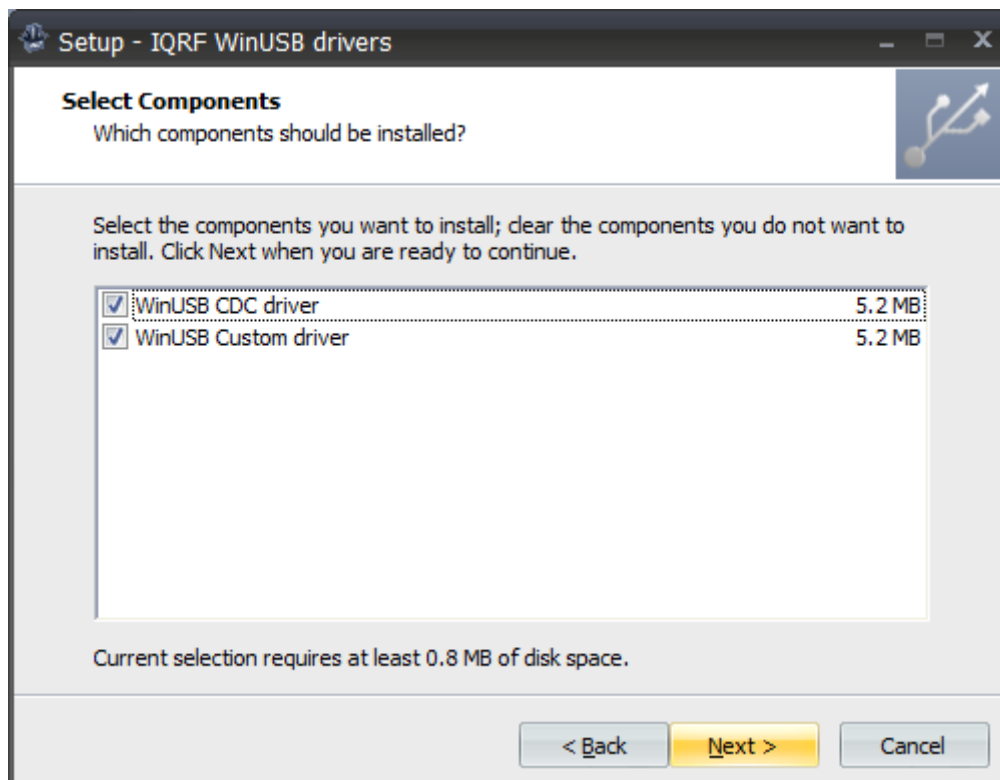


4. Continue installing

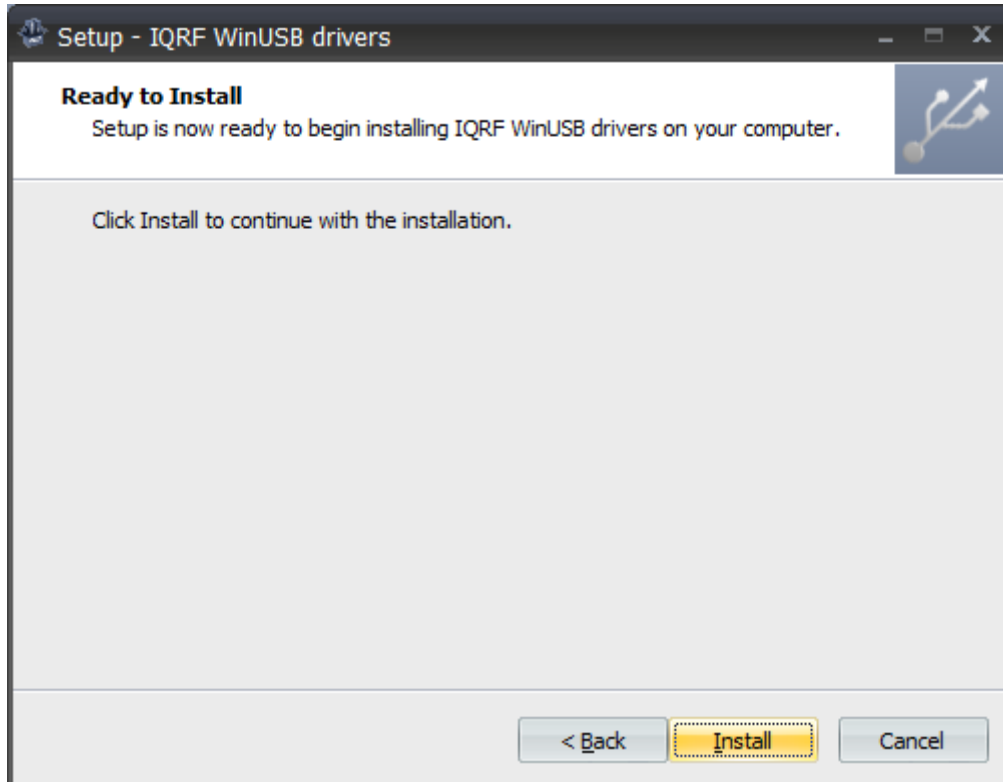




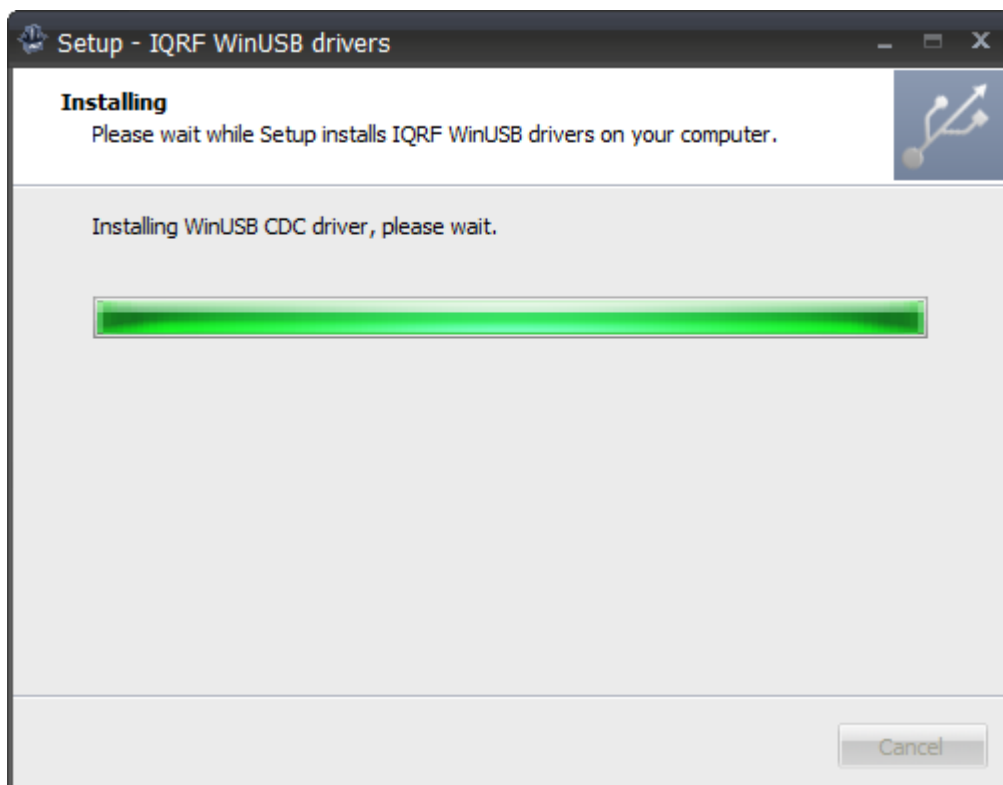
5. Select which drivers to install (Custom and/or CDC)



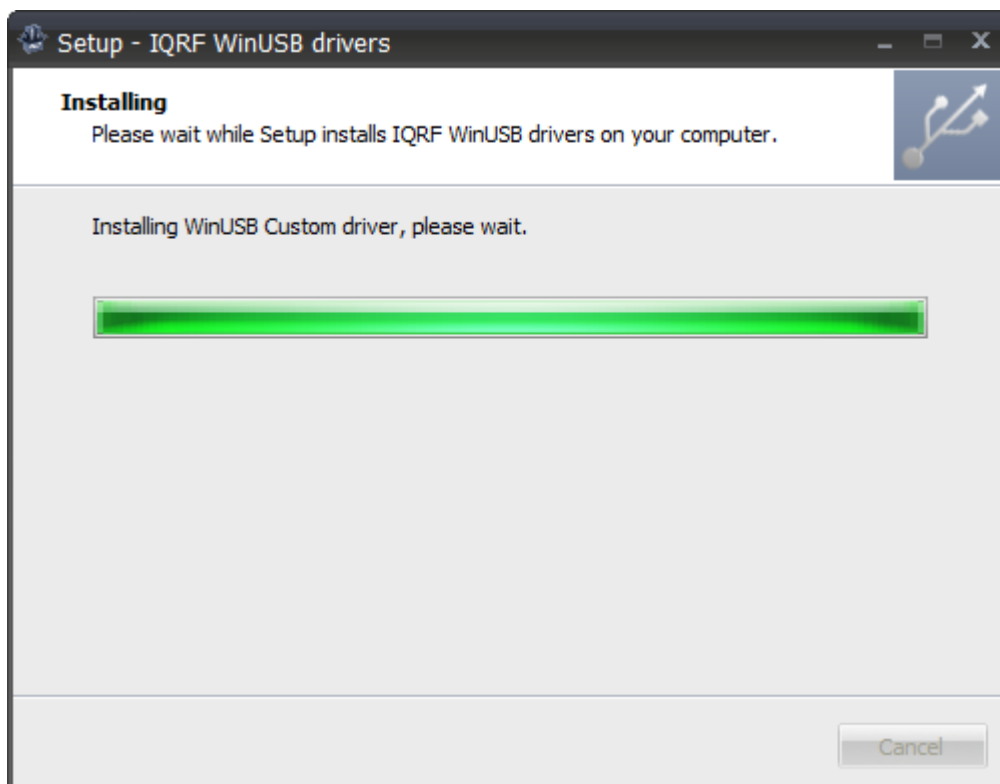
6. Installing of selected drivers



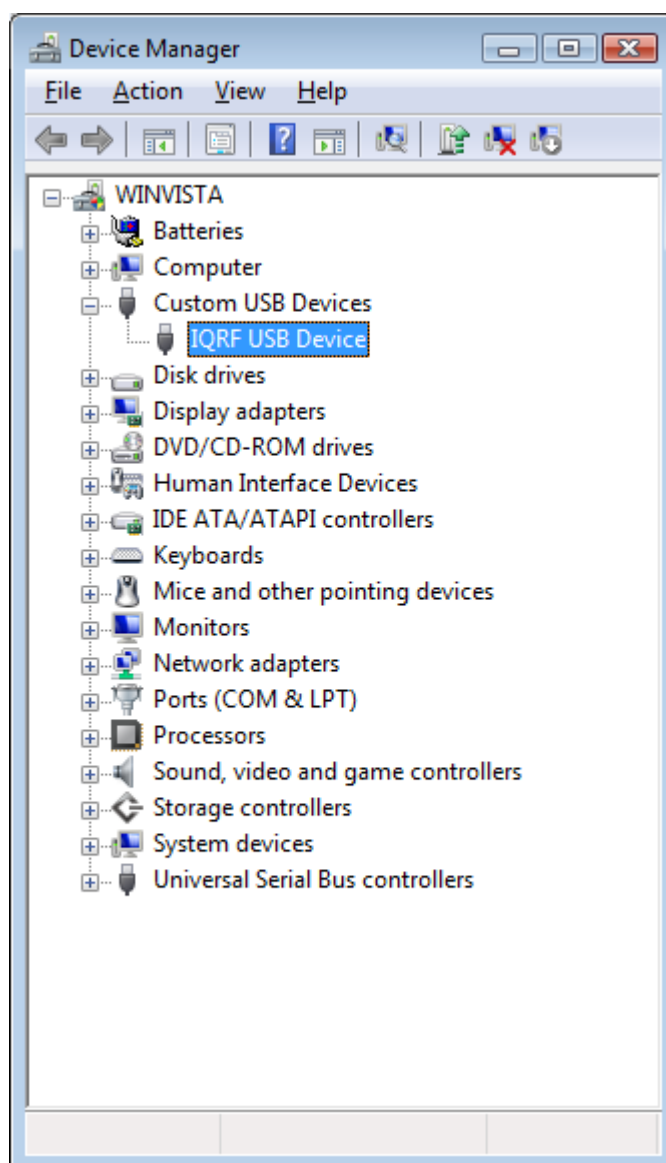
7. CDC driver (if requested) installing



8. Custom driver (if requested) installing Finish the installation



After successful installation connect IQRF USB device. The drivers should be indicated in Windows device manager, e.g. as follows:

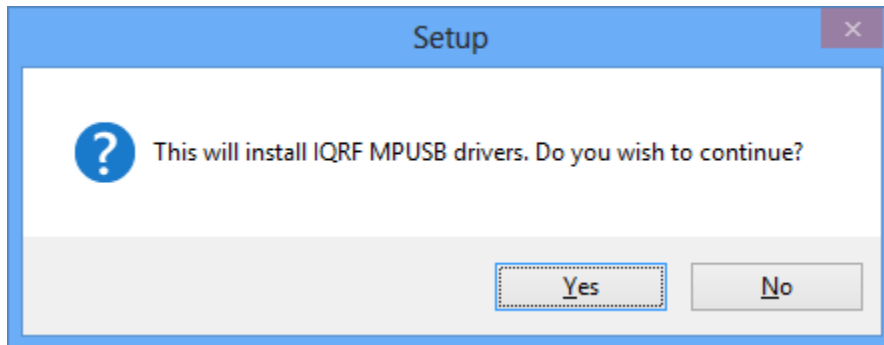


IQRF MPUSB driver installation

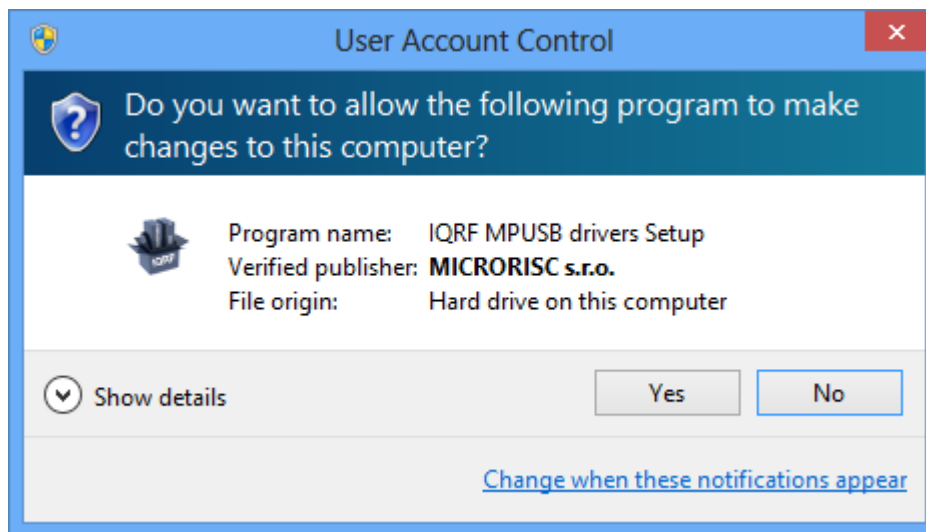
Windows Vista, Windows 7, Windows 8 (32 b), Windows 8.1 (32 b) and Windows 10 (32 b)

Before installation, do not get any IQRF USB device connected.

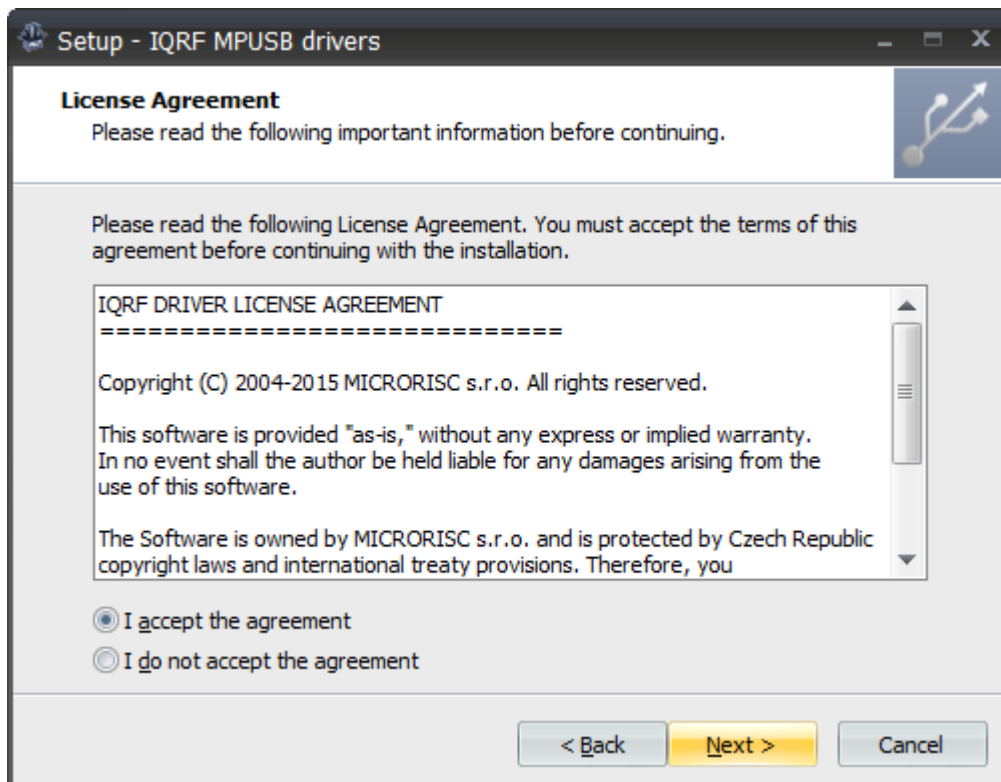
1. Invoke the installer (IQRF_MPUSB_drivers_setup_yymmdd.exe)
2. Follow the instructions

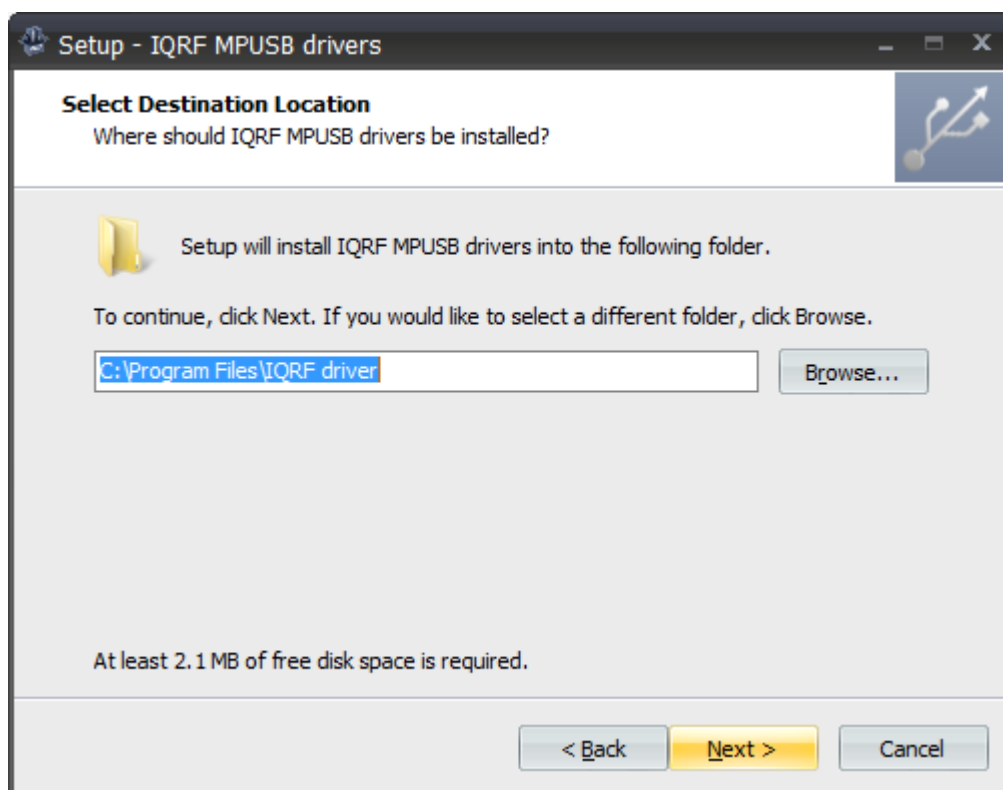


3. Allow to install drivers from verified publisher

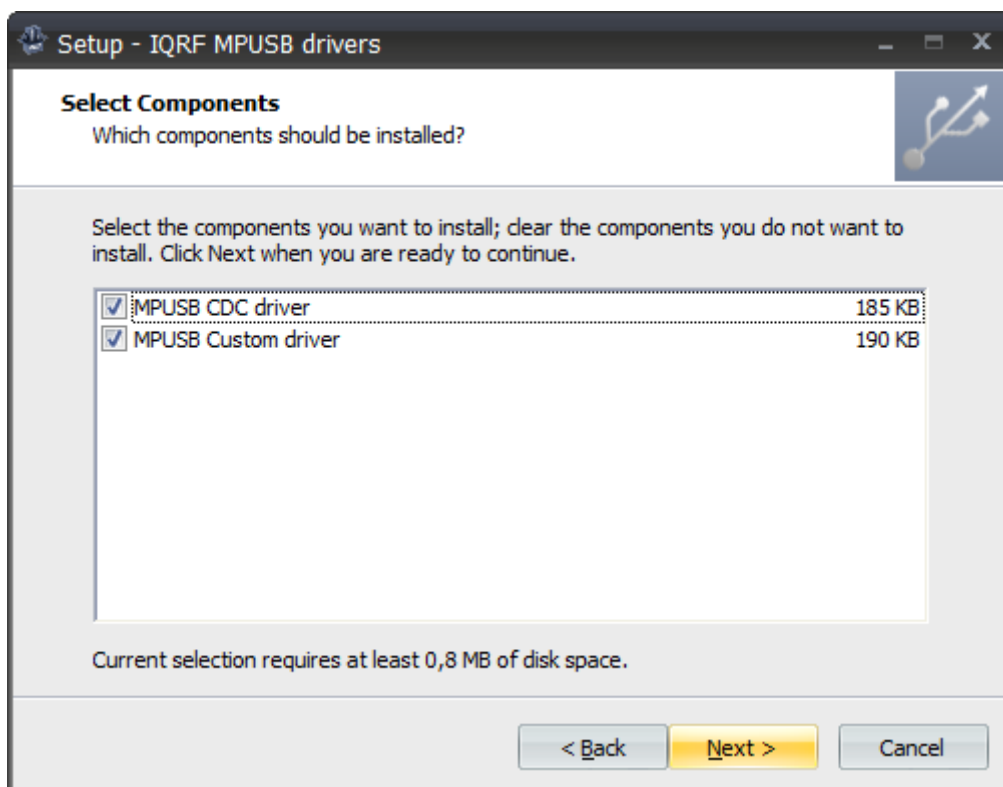


4. Continue installing

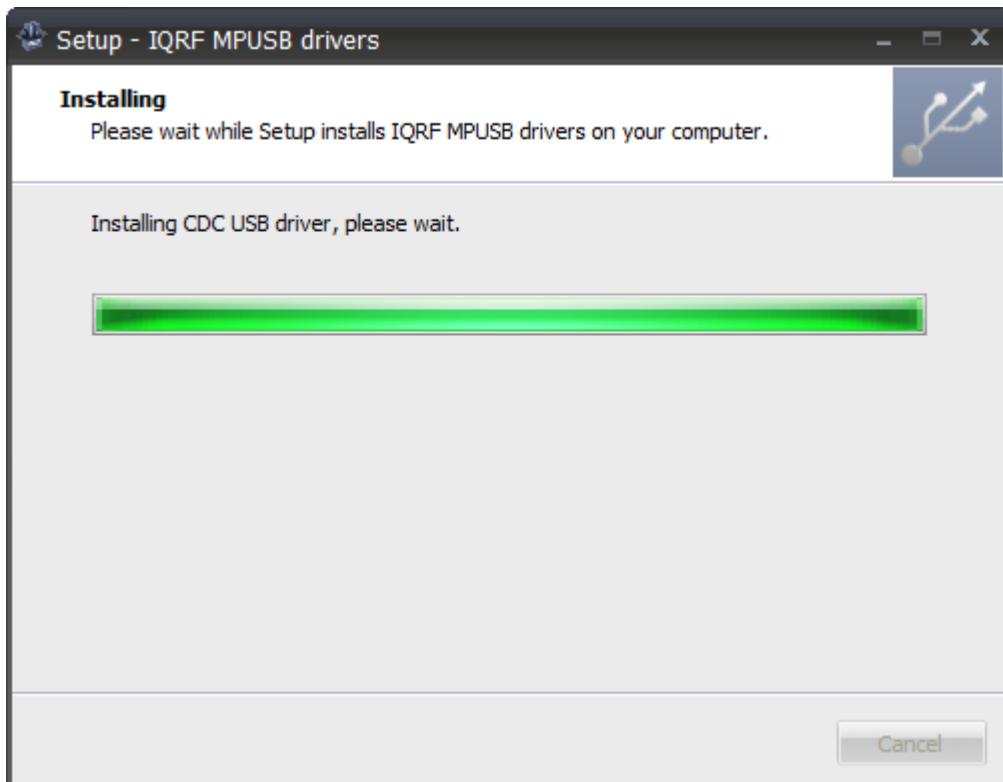
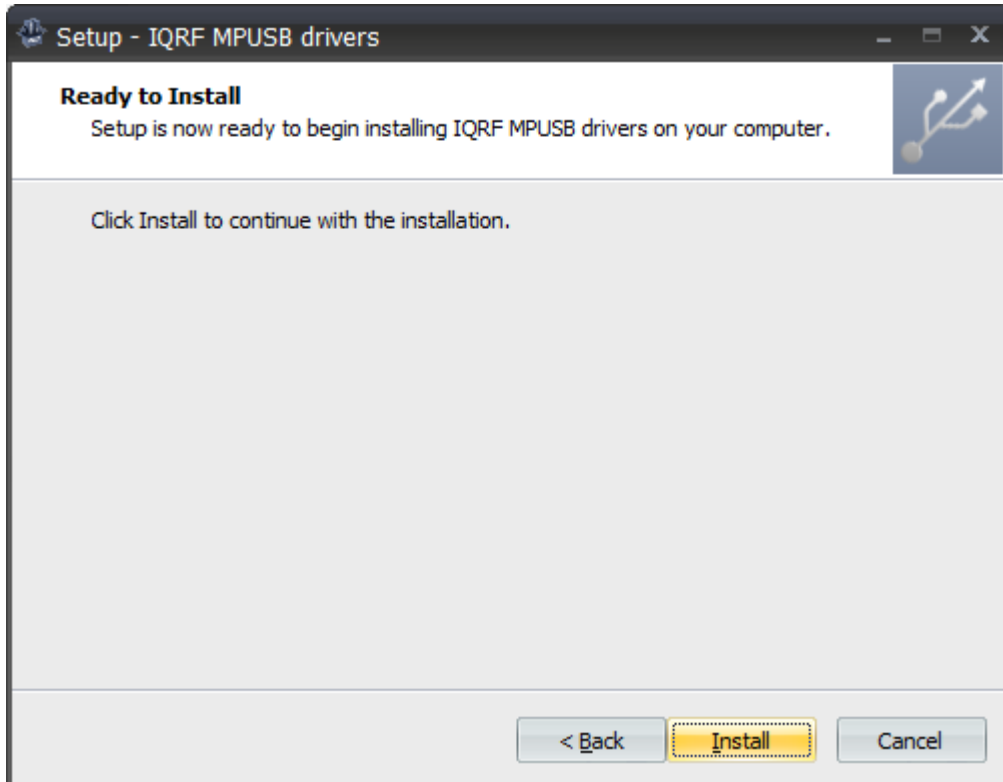




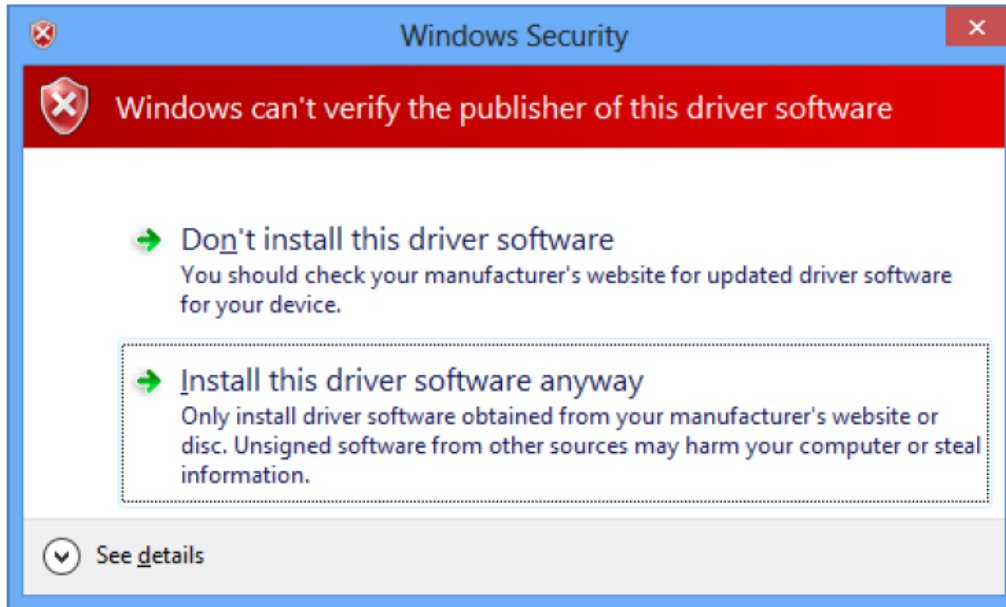
5. Select which drivers to install (Custom and/or CDC)



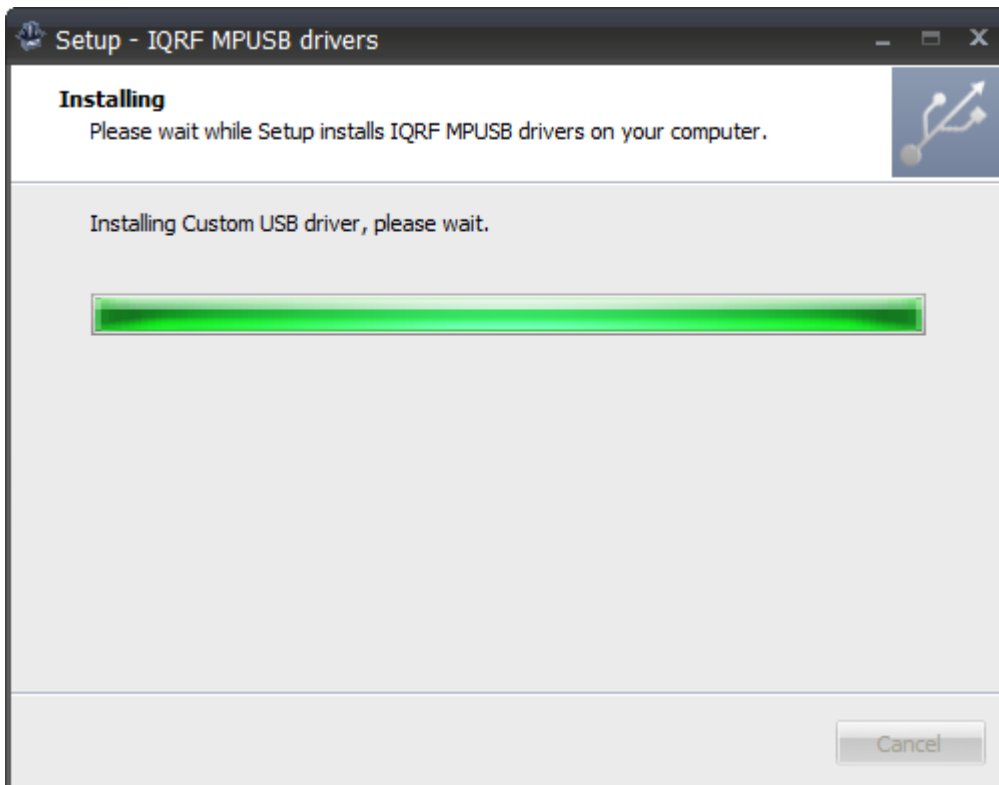
6. CDC class driver installing (if requested, otherwise go to point 8)



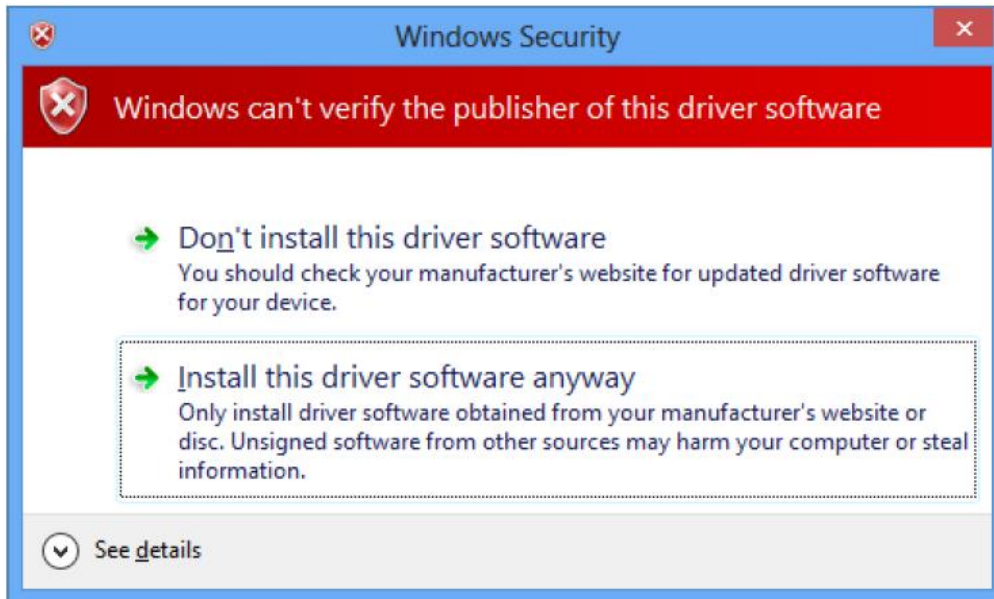
7. Confirm installing the driver from unknown publisher



8. Custom class driver installation (if requested, otherwise go to point 10)



9. Confirm installing the driver from unknown publisher



10. Finish the installation

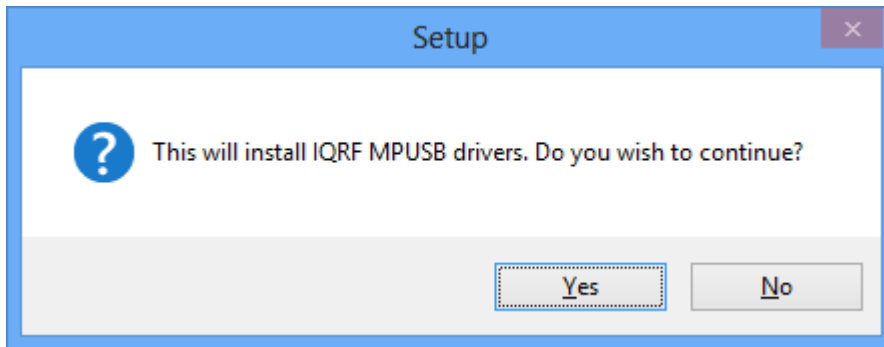


After connecting an IQRF USB device the driver is assigned automatically.

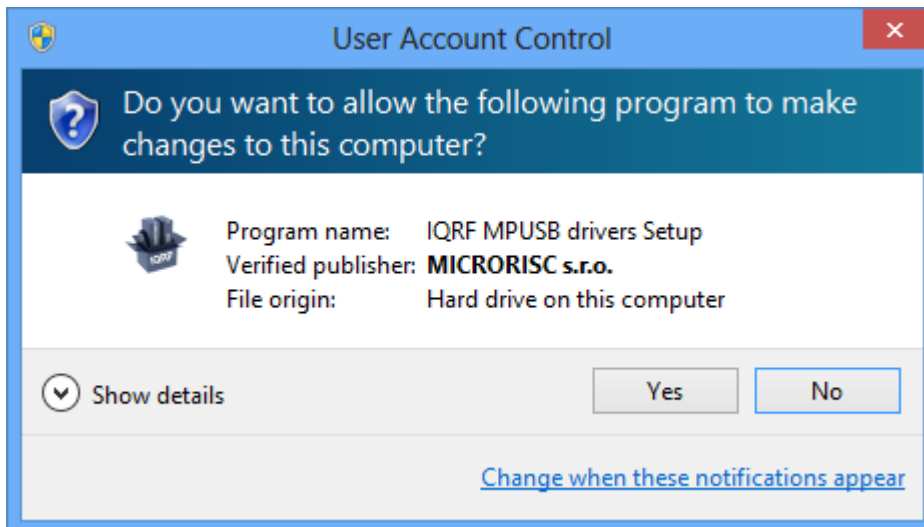
Windows 8 (64 b), Windows 8.1 (64 b) and Windows 10 (64 b)

Before installation, do not get any IQRF USB device connected.

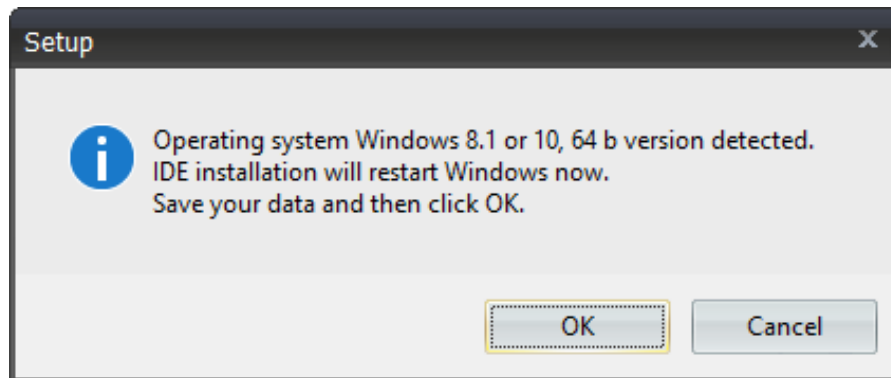
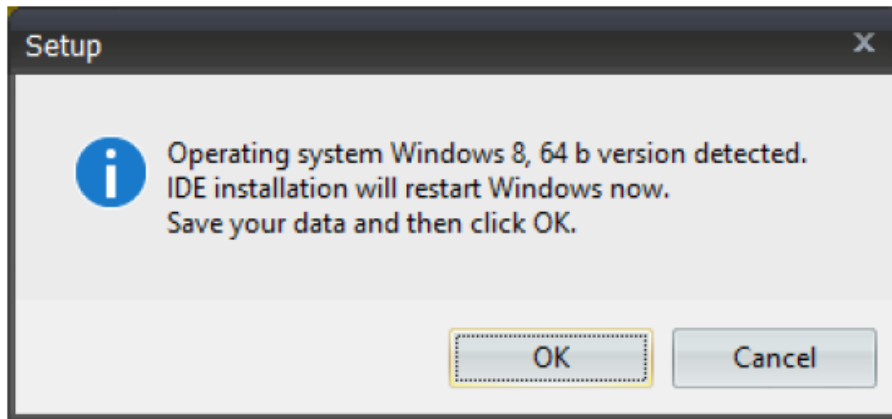
1. Invoke the installer (IQRF_MPUSB_drivers_setup_ymmdd.exe)
2. Follow the instructions



3. Allow to install drivers from verified publisher

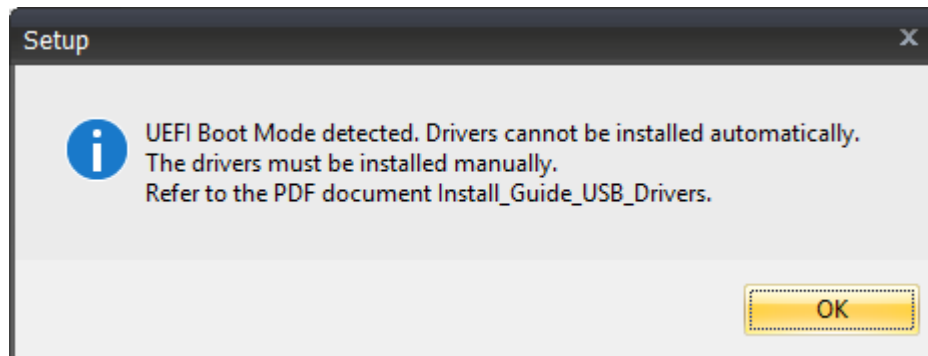


4. Windows 8, 8.1 or 10 (64b) detected. Thus, Windows must be restarted now.

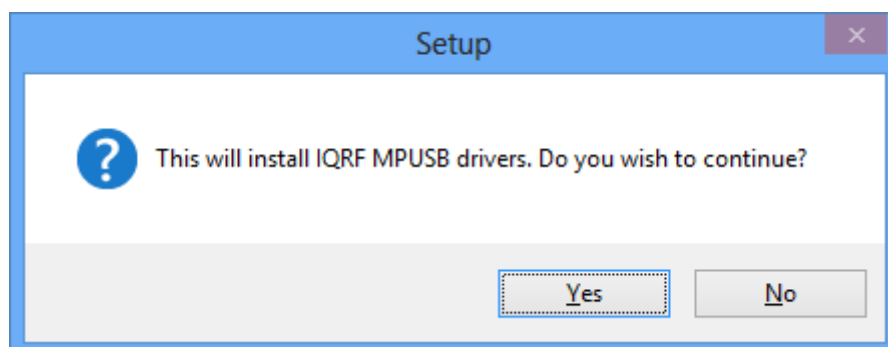


Save data in your other programs possibly running and then confirm OK.

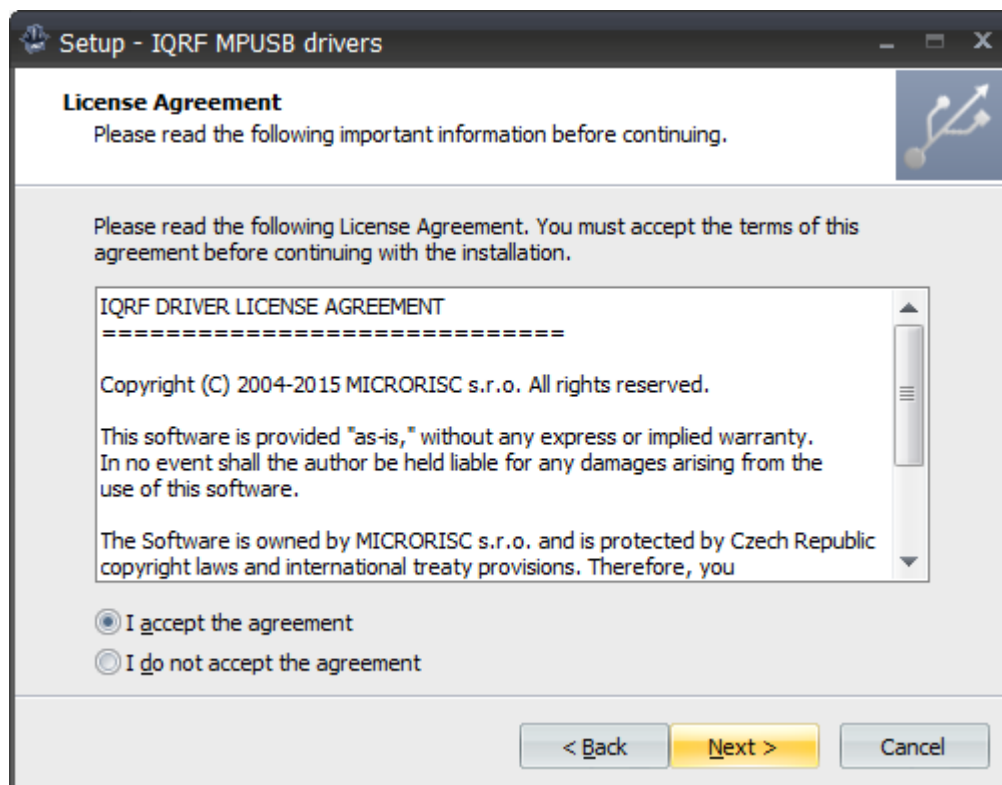
If UEFI Boot mode is detected (see the screenshot below), the drivers can not be installed automatically. In this case, after installation is completed, go to chapter *Troubleshooting* below.



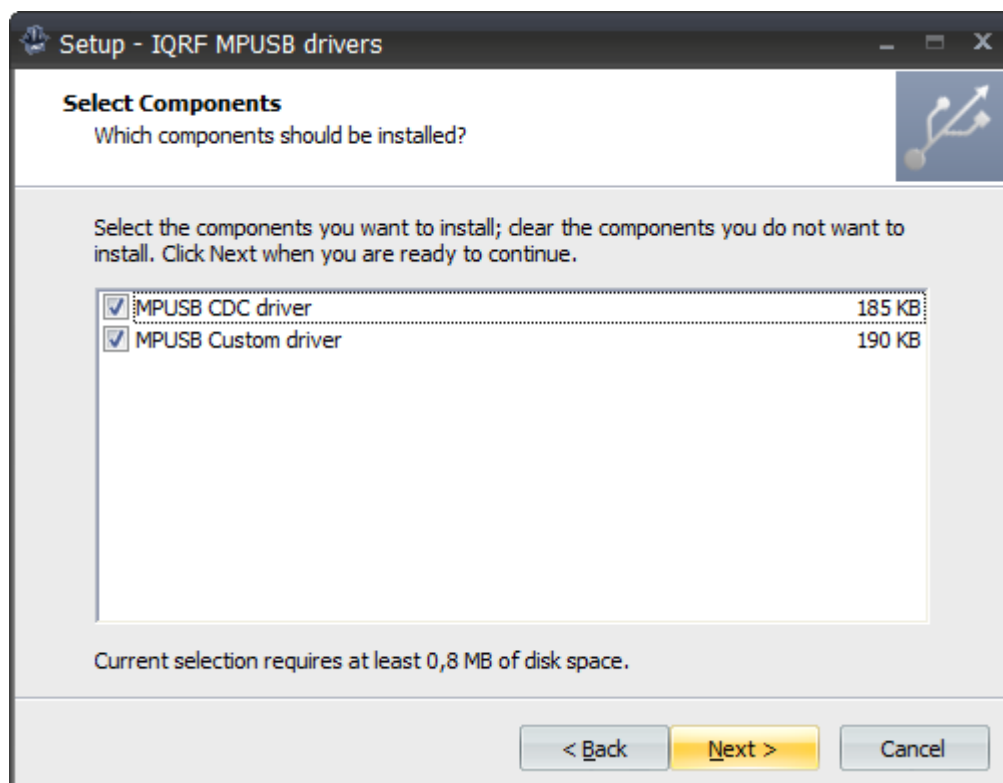
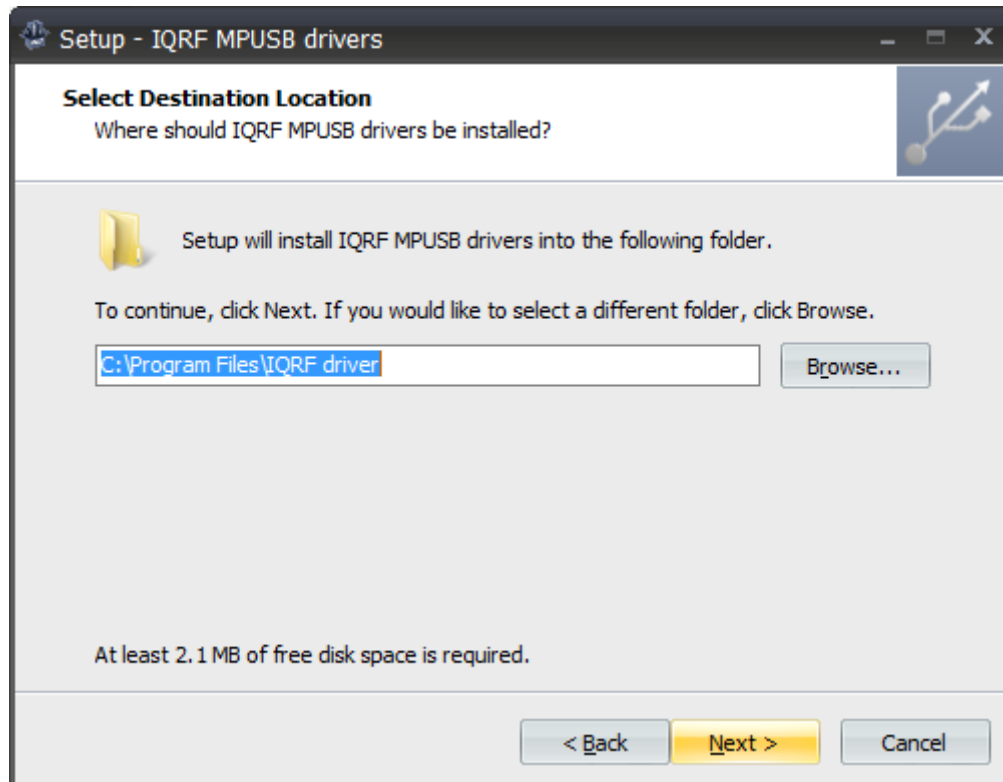
5. After restarting, wait until Windows is switched from the metro to the desktop mode and installation continues (Setup).



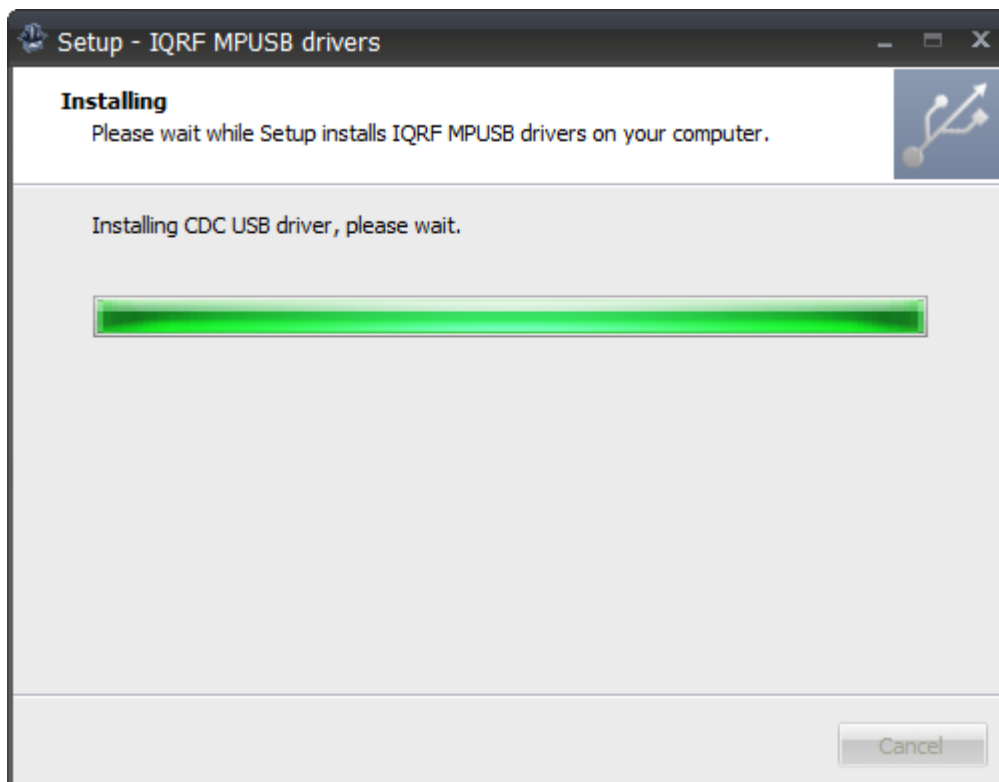
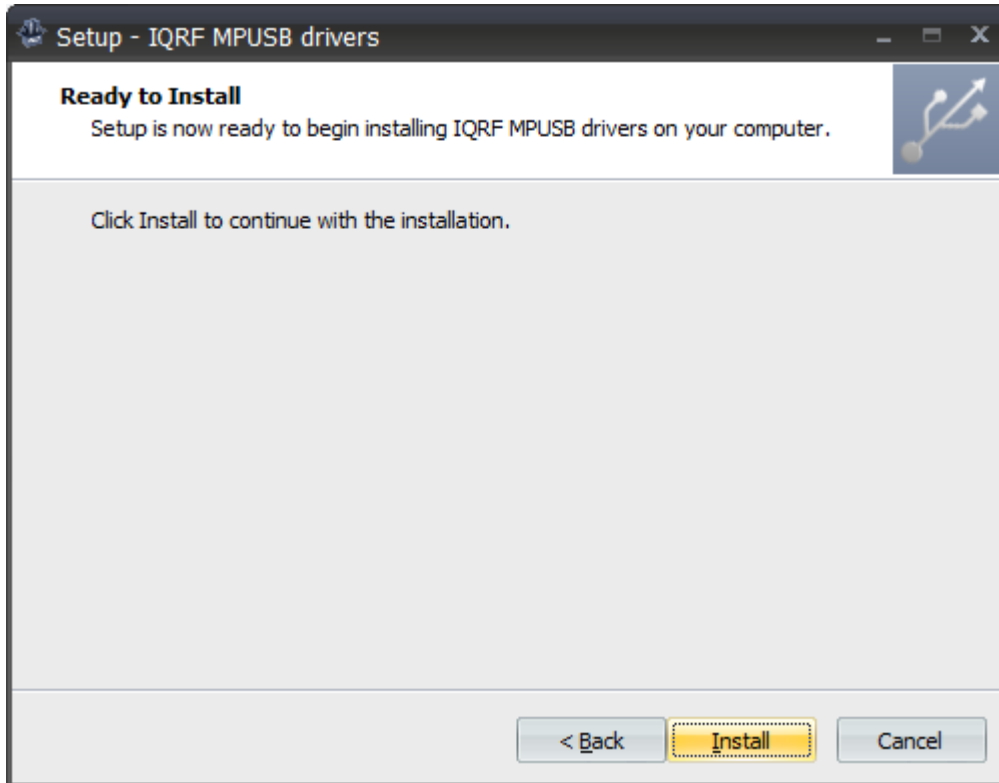
6. Continue installing



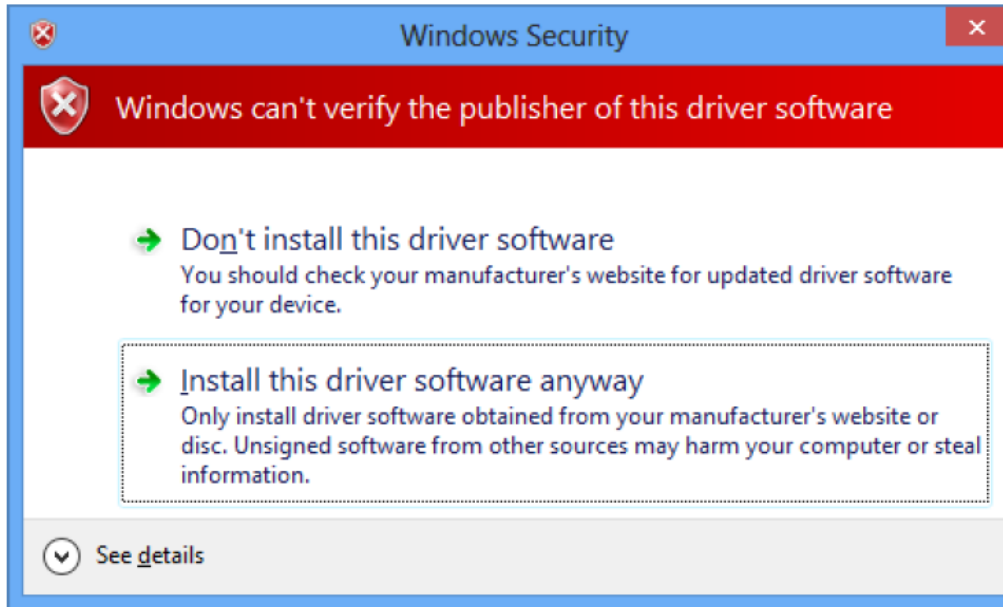
7. Select which drivers to install (Custom and/or CDC)



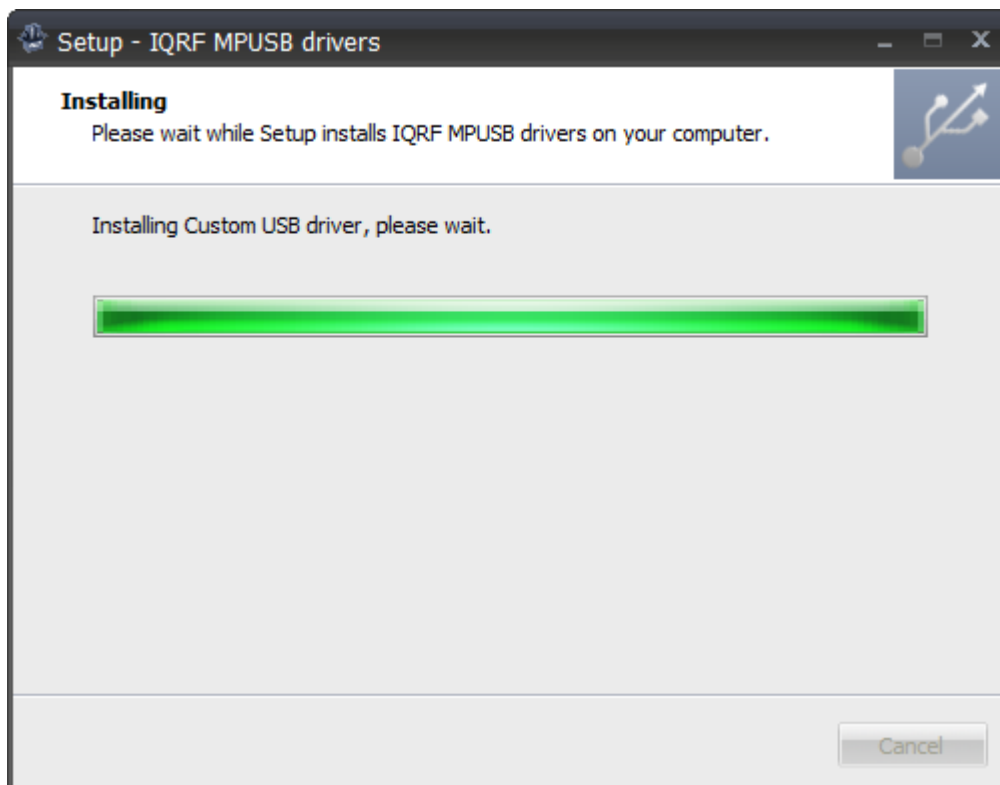
8. CDC class driver installing (if requested, otherwise go to point 10)



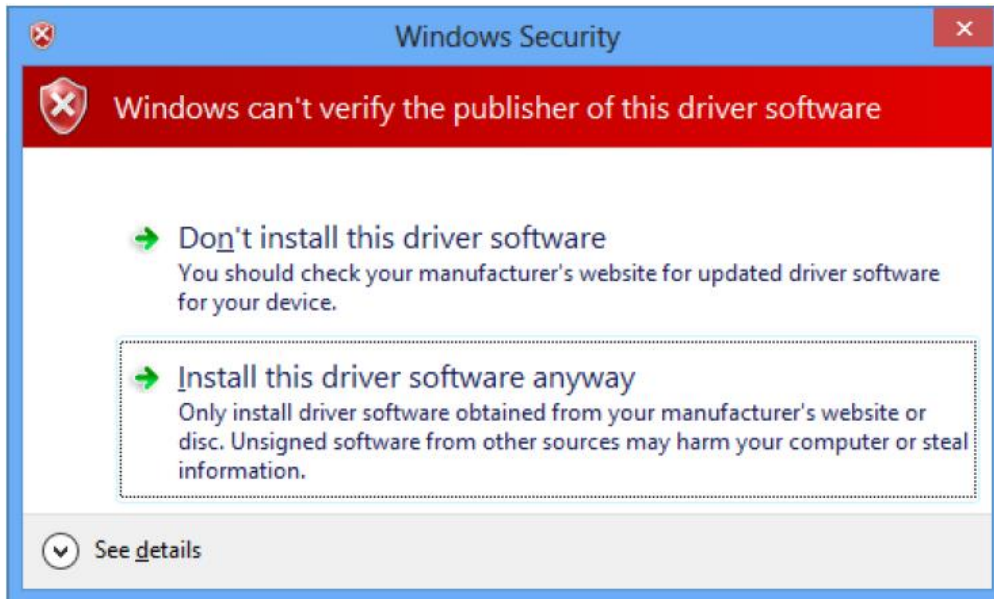
9. Confirm installing the driver from unknown publisher



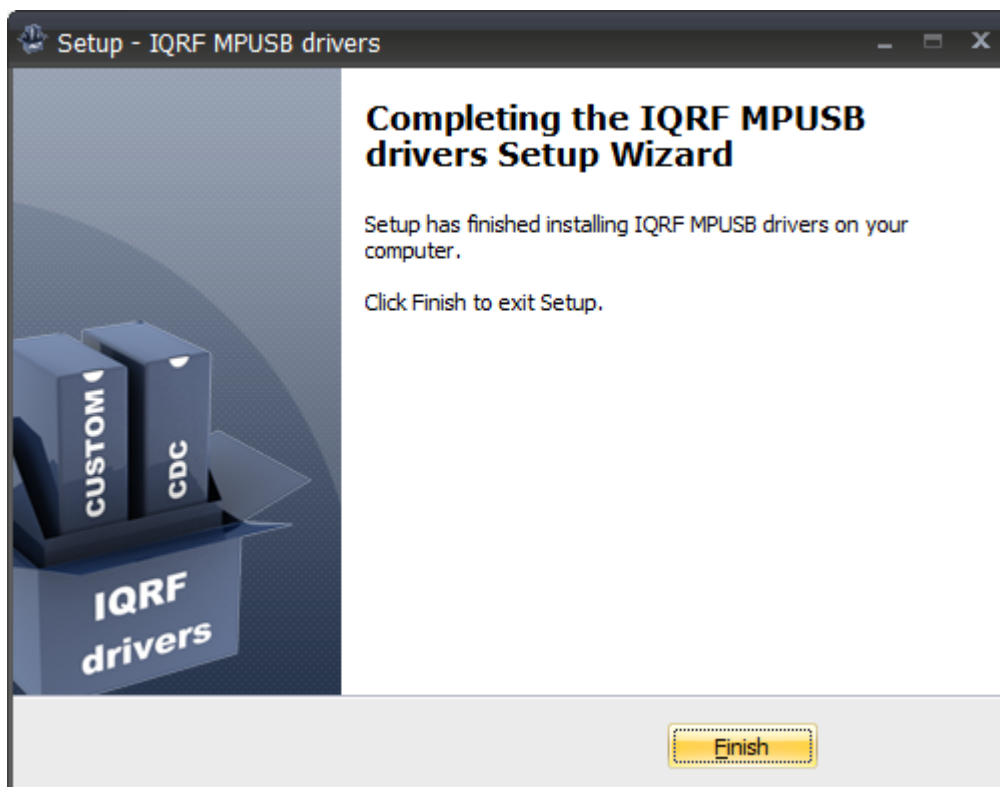
10. Custom class driver installation (if requested, otherwise go to point 12)



11. Confirm installing the driver from unknown publisher



12. Finish the installation and restart the computer.



After connecting an IQRF USB device the driver is assigned automatically.

Troubleshooting

When automatic installation of drivers on 64-bit Windows 8, 8.1 or 10 failed (e.g. in UEFI Boot mode), the following procedure should be done to install the drivers manually.

I. How to enable installation of not signed driver

Windows 8:

1. Change PC Settings (hotkeys Win+I) – Fig. 1, Fig. 2
2. General → Advanced startup → Restart now – Fig. Win8_5
3. Troubleshoot – Fig. 6
4. Advanced Options – Fig. 7
5. Startup settings – Fig. 8
6. Restart – Fig. 9
7. Disable driver signature enforcement (hotkey F7) – Fig. 10

Windows 8.1:

1. Change PC Settings (hotkeys Win+I) – Fig. 1, Fig. 2
2. Update and recovery – Fig. Win8.1_3
3. Recovery – Fig. Win8.1_4
4. Advanced startup → Restart now – Fig. Win8.1_5
5. Troubleshoot – Fig. 6
6. Advanced Options – Fig. 7
7. Startup settings – Fig. 8
8. Restart – Fig. 9
9. Disable driver signature enforcement (hotkey F7) – Fig. 10

Windows 10:

1. Change PC Settings (hotkeys Win+I) – Fig. Win10_1,
2. Update and recovery – Fig. Win10_1
3. Recovery – Fig. Win10_2
4. Advanced startup → Restart now – Fig. Win10_2
5. Troubleshoot – Fig. 6
6. Advanced Options – Fig. 7
7. Startup settings – Fig. 8
8. Restart – Fig. 9
9. Disable driver signature enforcement (hotkey F7) – Fig. 10

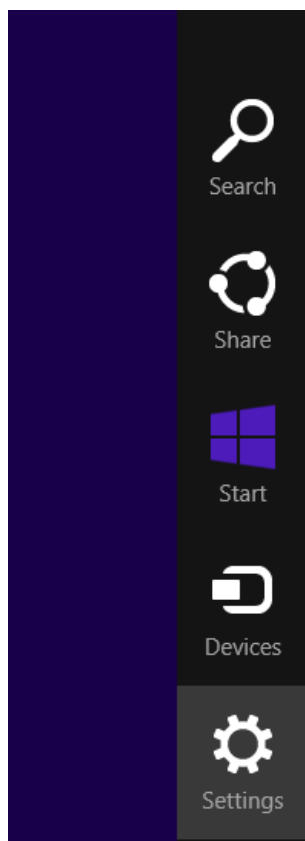


Fig. 1

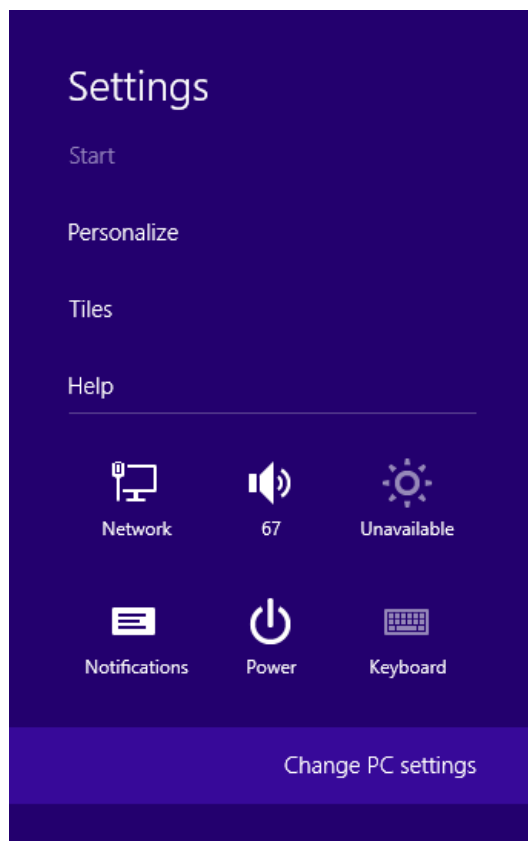


Fig. 2

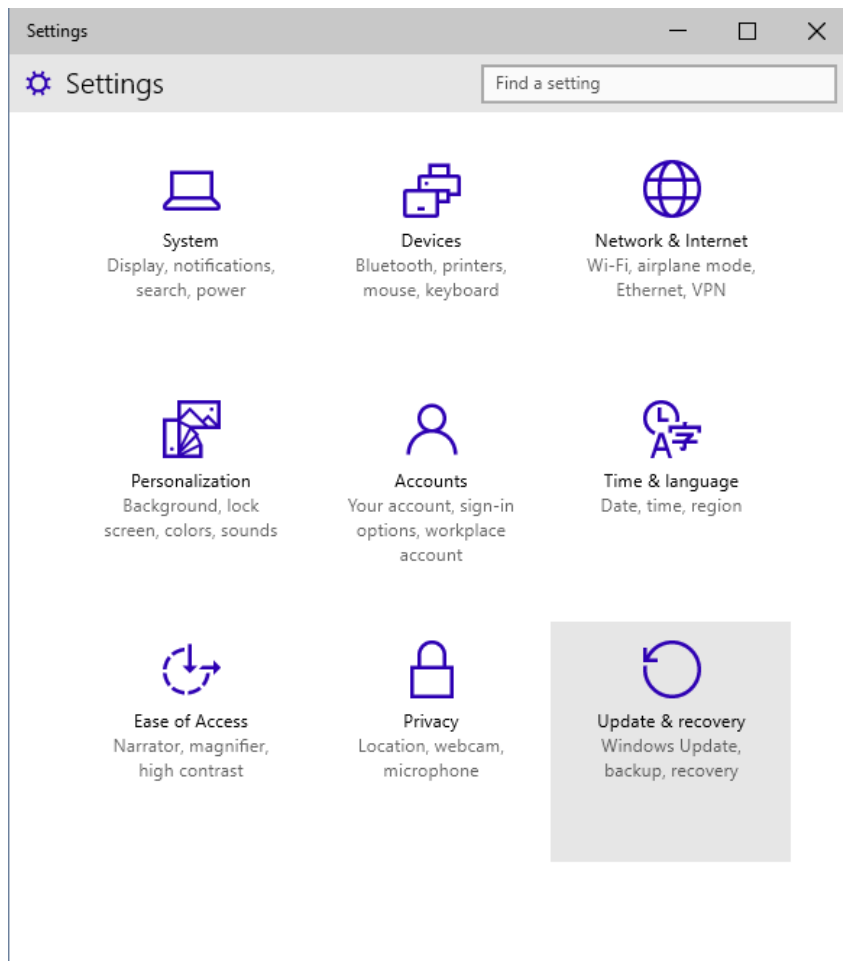


Fig. Win10_1

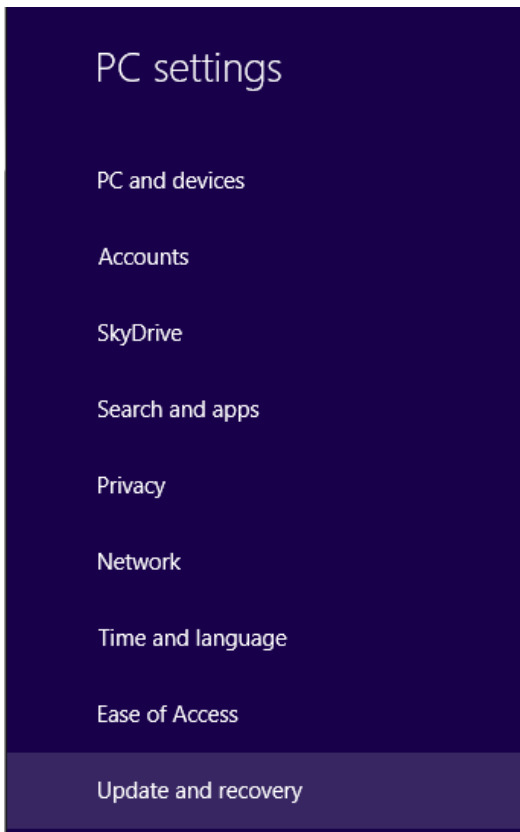


Fig. Win 8.1_3

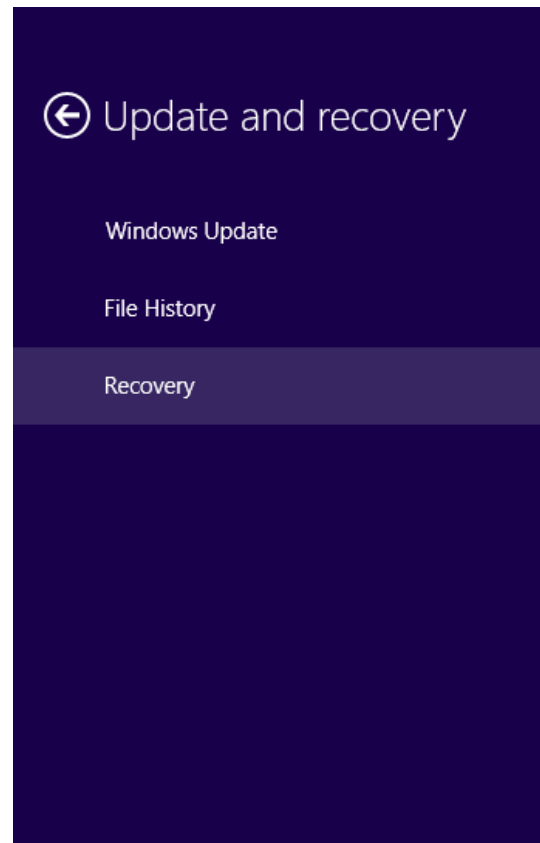


Fig 8.1_4

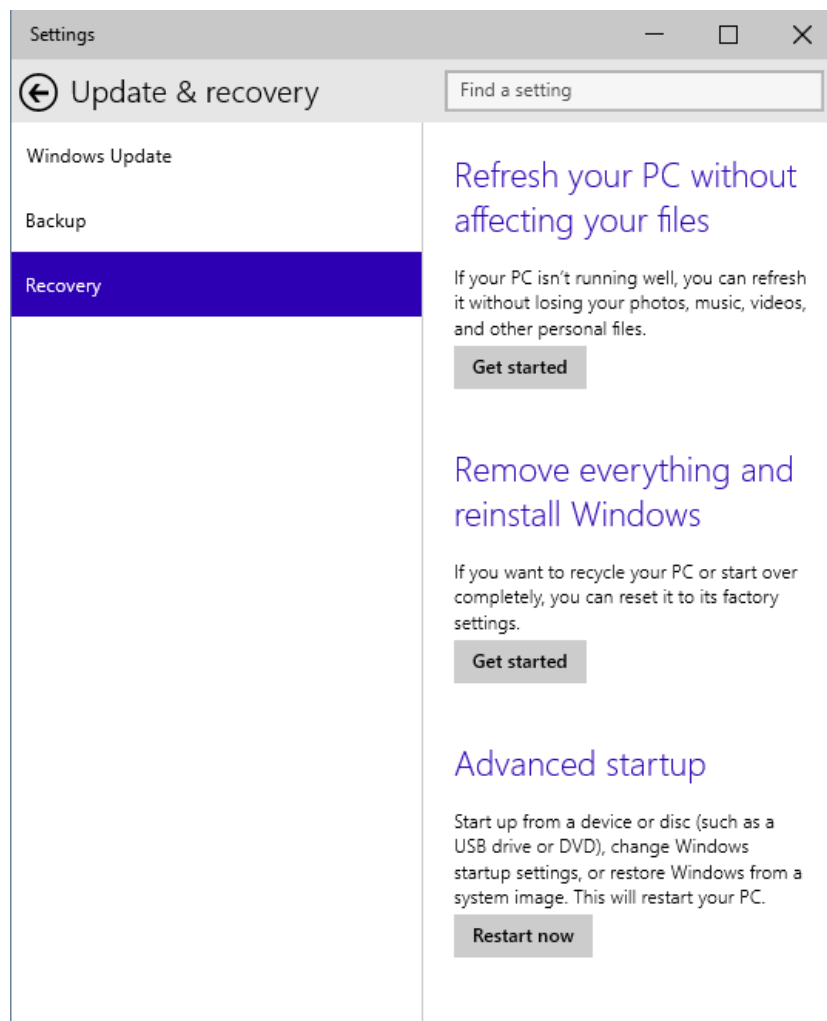


Fig. Win 10_2

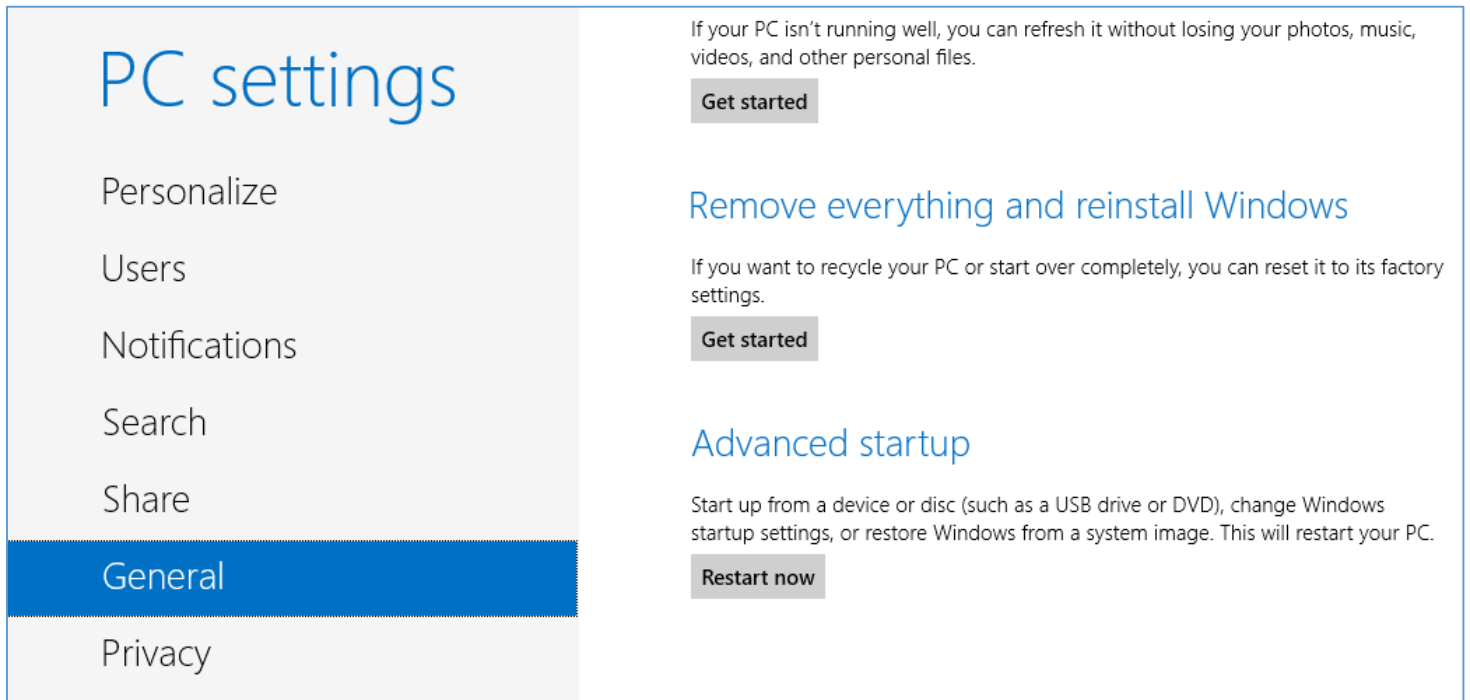


Fig. Win 8_5

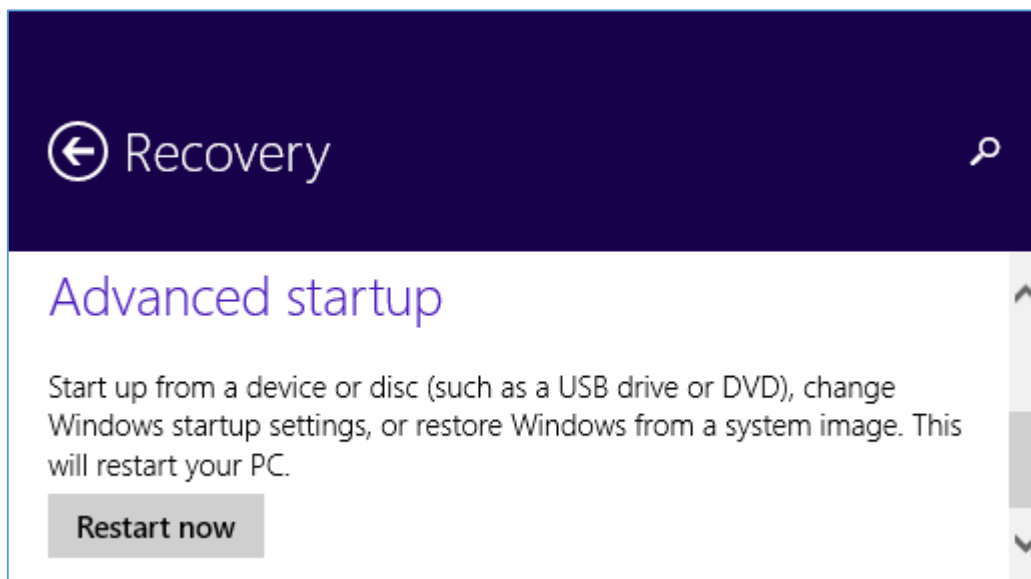


Fig. Win 8.1_5

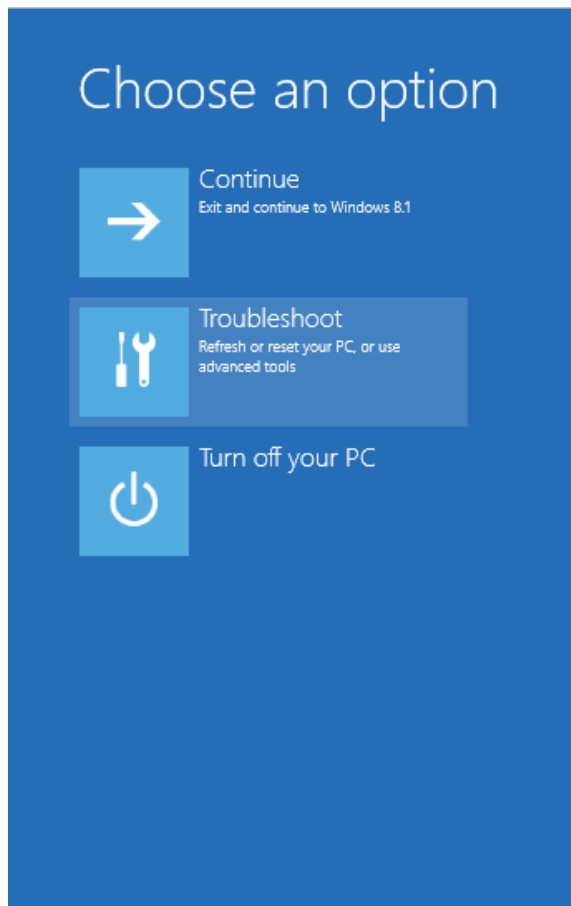


Fig. 6

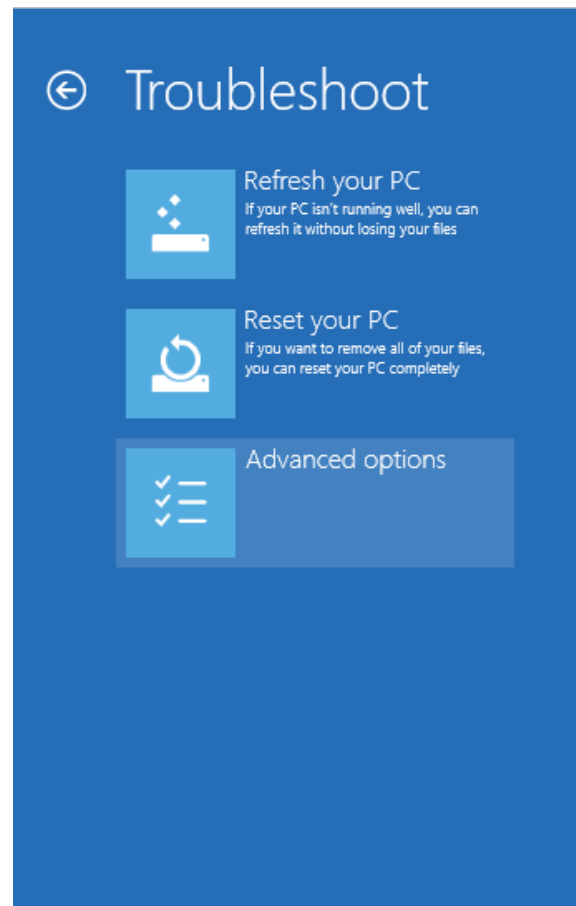


Fig. 7

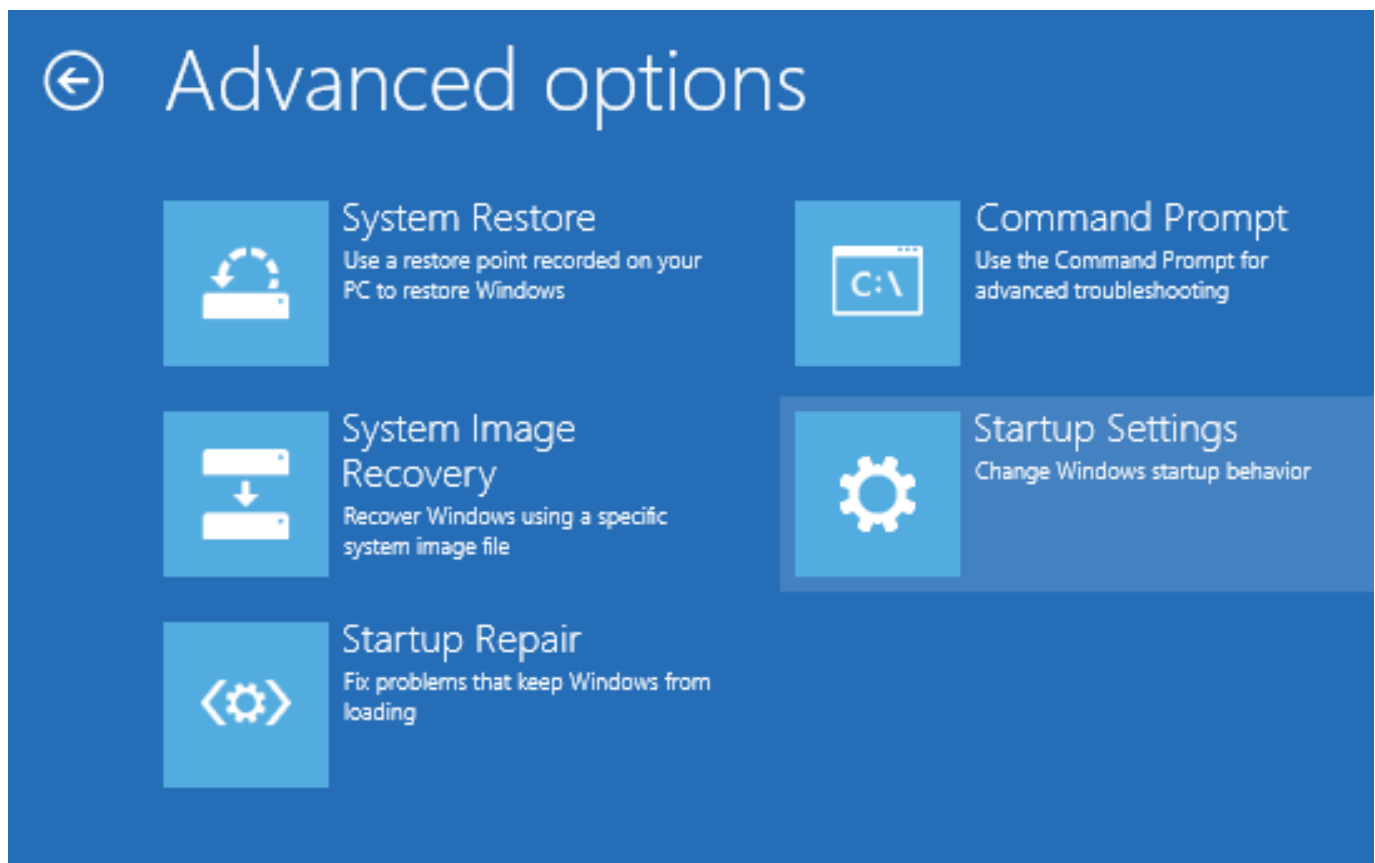


Fig. 8

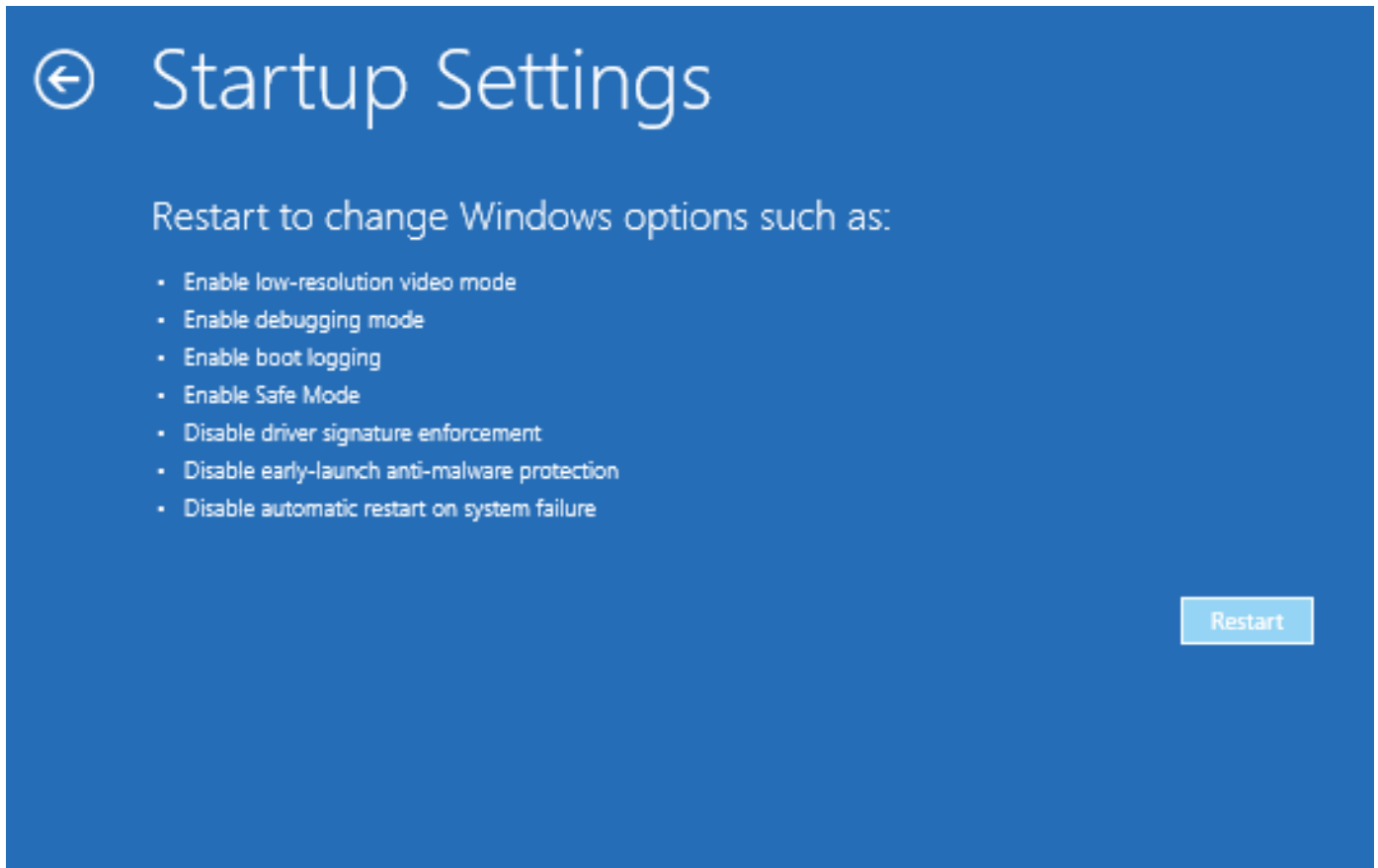


Fig. 9

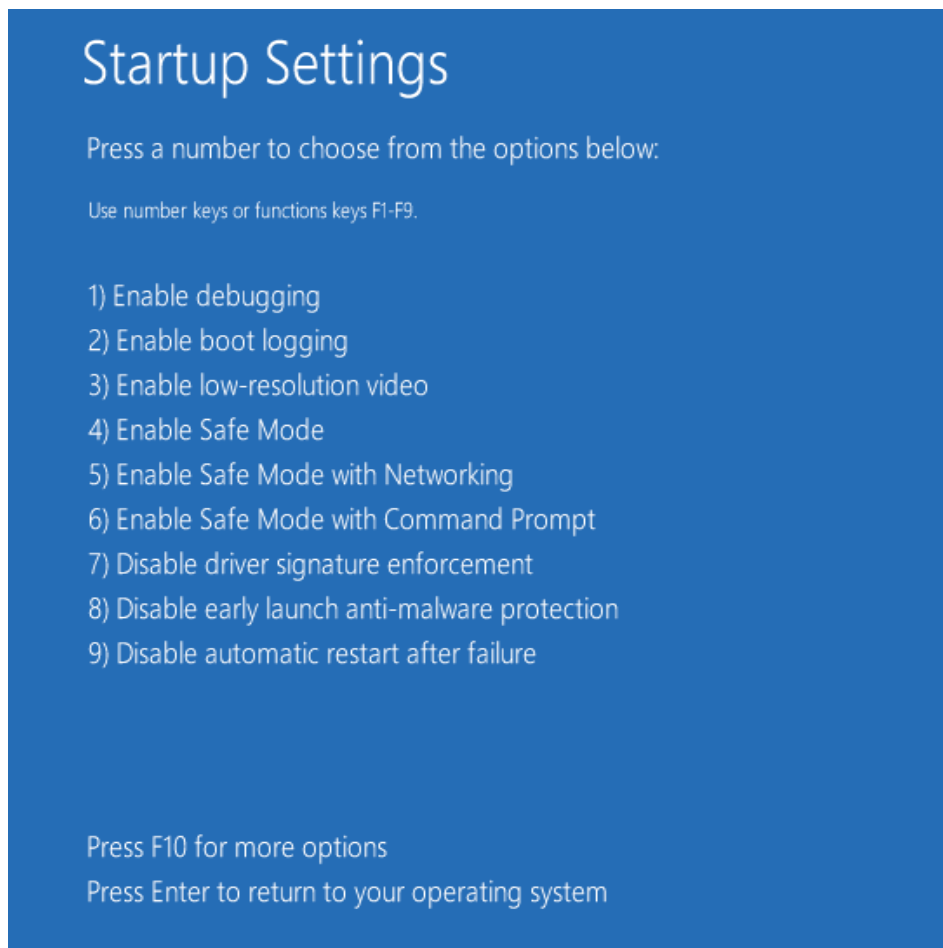


Fig. 10

II. Custom driver installation (Windows 8, Windows 8.1 and Windows 10)

1. Connect IQRF USB device
2. Windows Device manager (hotkeys Win+X) – Fig. 11
3. Other device → Unknown device → Update Driver Software – Fig. 12
4. Browse my computer for driver software – Fig. 13
5. Setup the path to subdirectory USB Drivers
 - under the directory where IQRF IDE is installed – Fig. 14 – when installing within the IQRF IDE installation (from IQRF iqrfr_ide_4xx_setup_yymmdd.exe file)
 - under directory c:\Program Files\IQRF driver\ (or to another location specified by the user during the installation) – when installing from IQRF_MPUSB_drivers_setup_yymmdd.exe file.
6. Install this driver software anyway – Fig. 15
7. All is O.K. notice – Fig. 16

III. CDC driver installation (Windows 8, Windows 8.1 and Windows 10)

1. Launch IQRF IDE, menu Tools → USB Classes → Switch to CDC mode → Yes – Fig. 17, Fig.18
2. Windows Device manager (hotkeys Win+X) – Fig. 11
3. Other device → Unknown device → Update Driver Software – Fig. 12
4. Browse my computer for driver software – Fig. 13
5. Setup the path to subdirectory USB Drivers
 - under the directory where IQRF IDE is installed – Fig. 14 – when installing within the IQRF IDE installation (from IQRF iqrfr_ide_4xx_setup_yymmdd.exe file)
 - under directory c:\Program Files\IQRF driver\ (or to another location specified by the user during the installation) – when installing from IQRF_MPUSB_drivers_setup_yymmdd.exe file.
6. Install this driver software anyway – Fig. 15
7. All is O.K. notice – Fig. 19

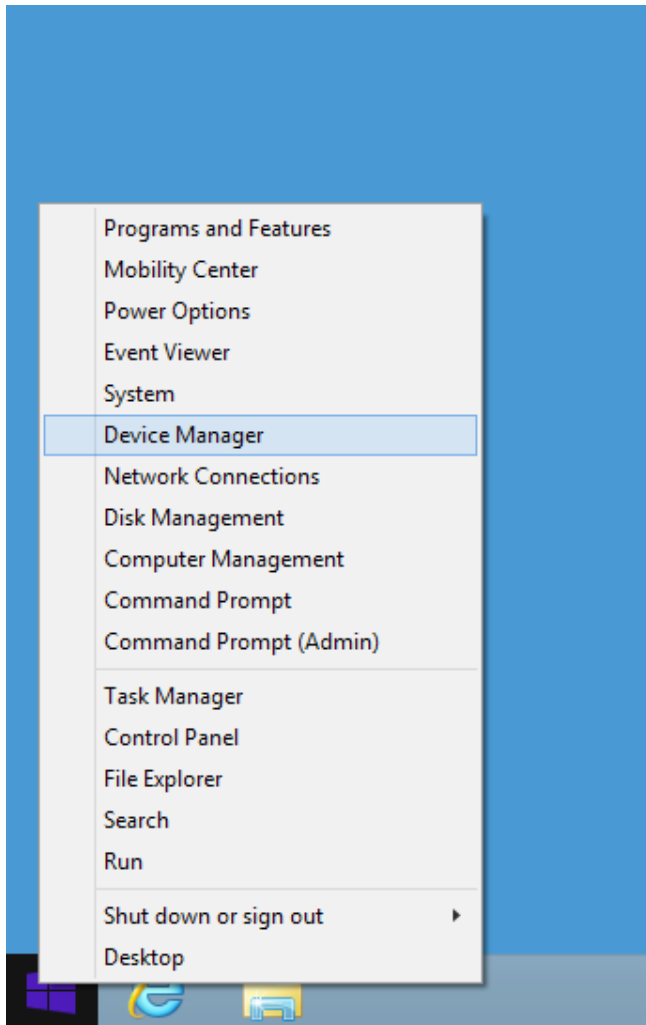


Fig. 11

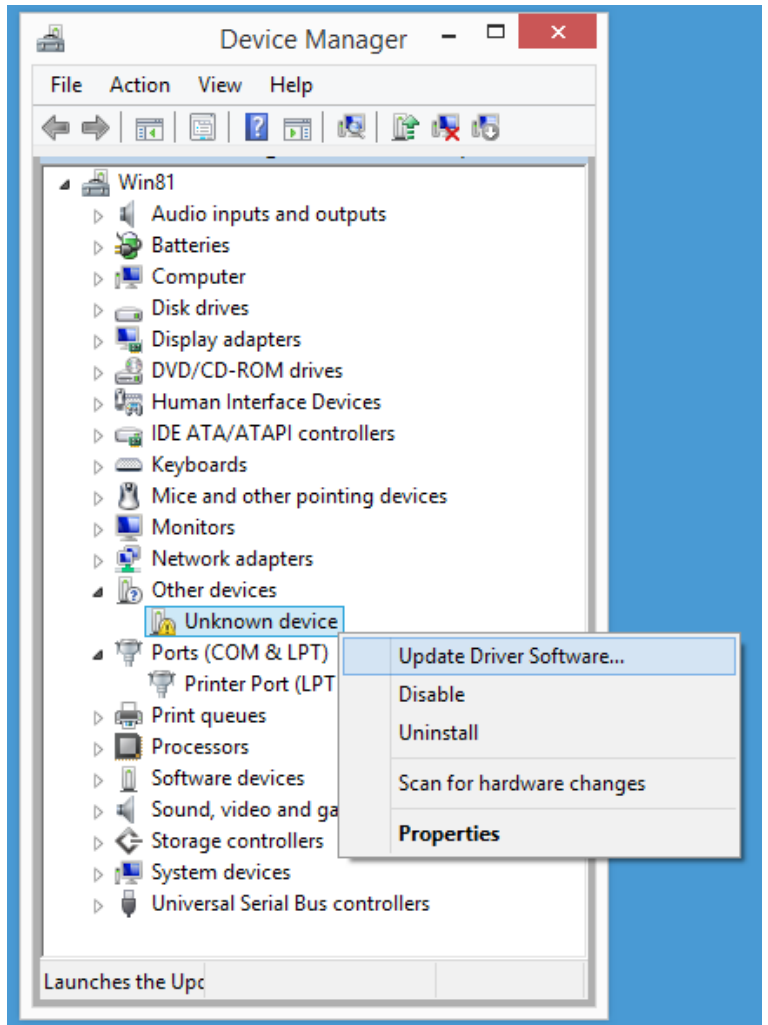


Fig. 12

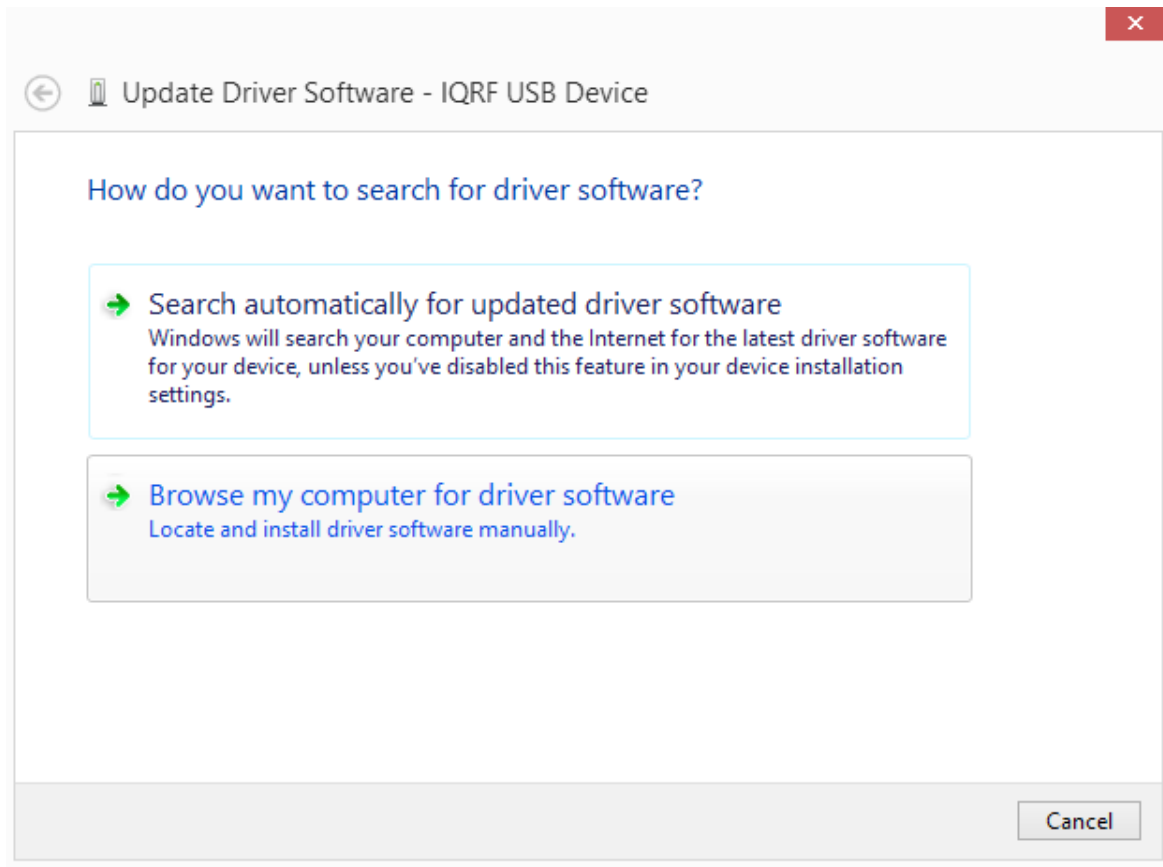


Fig. 13

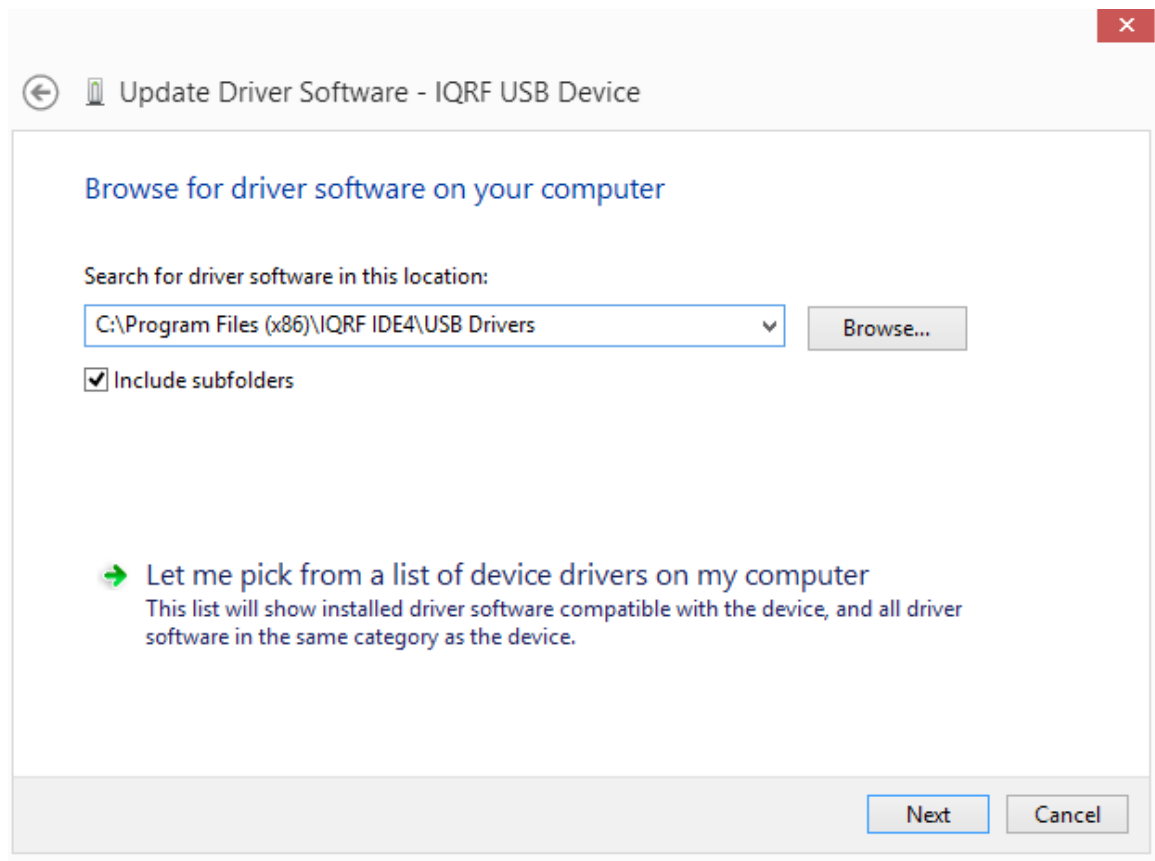


Fig. 14

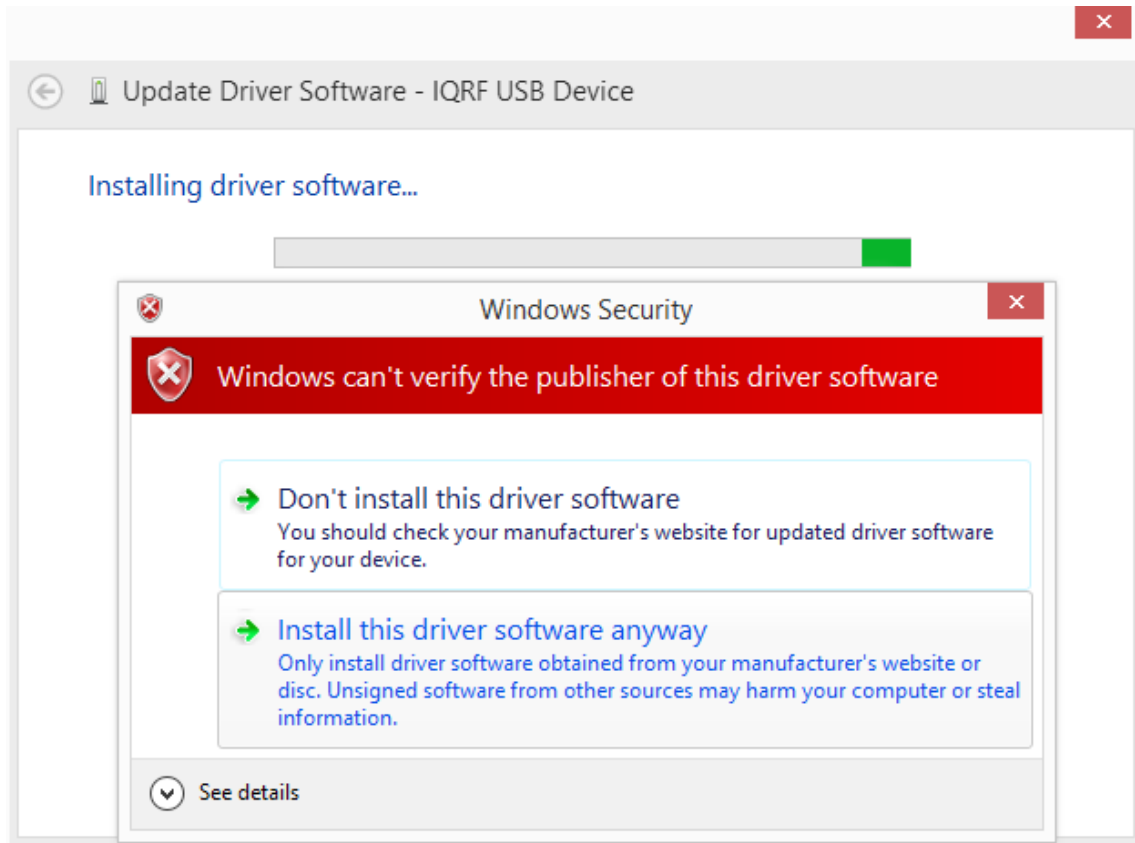


Fig. 15

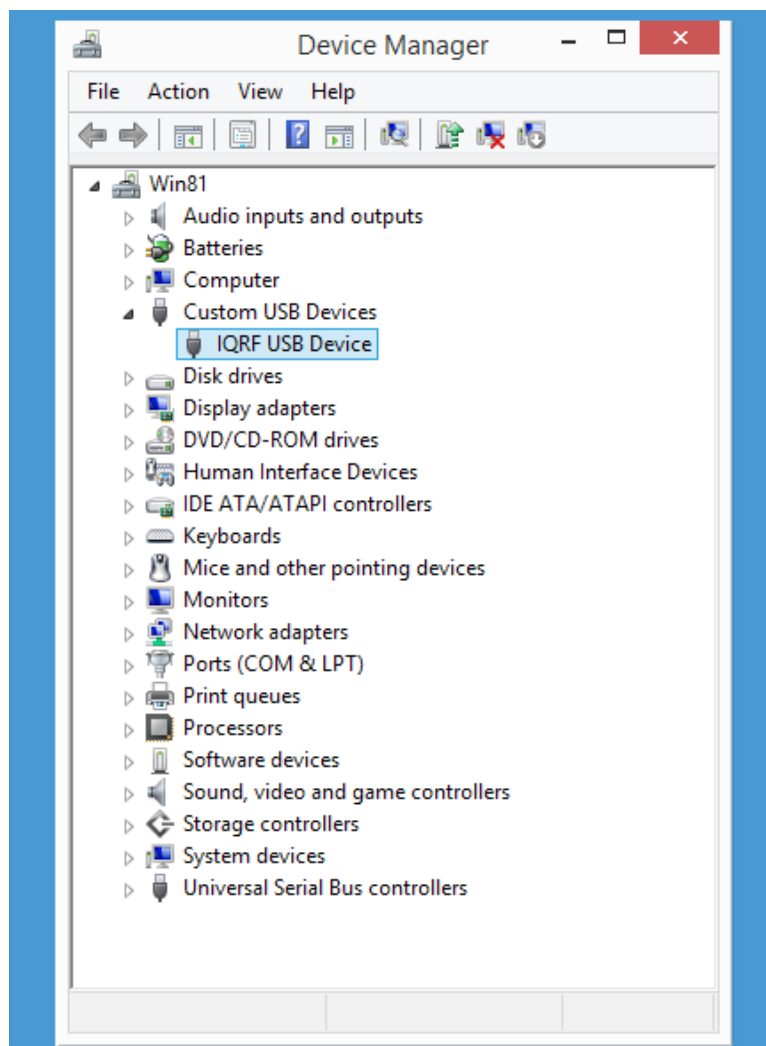


Fig. 16

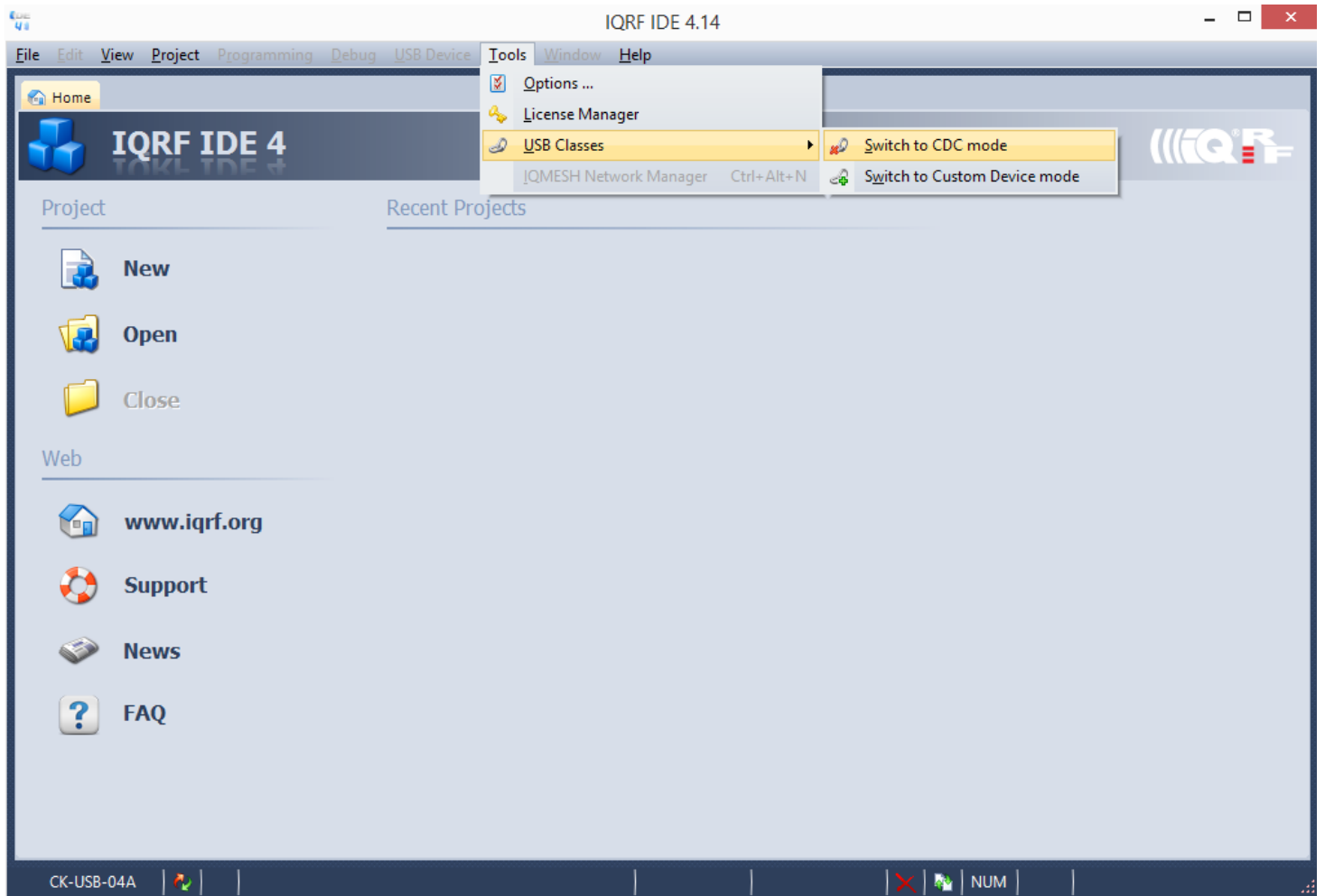


Fig. 17

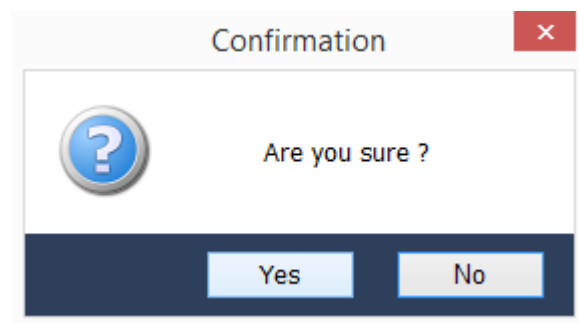


Fig. 18

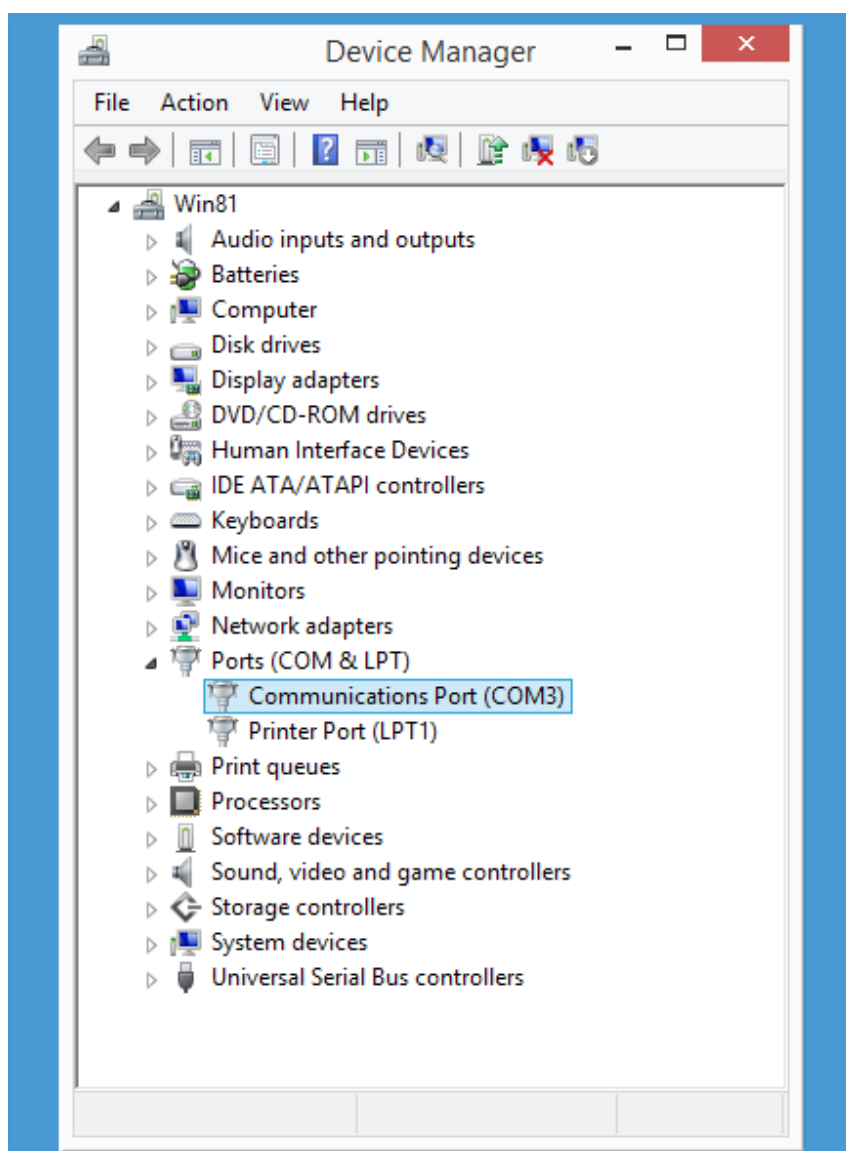
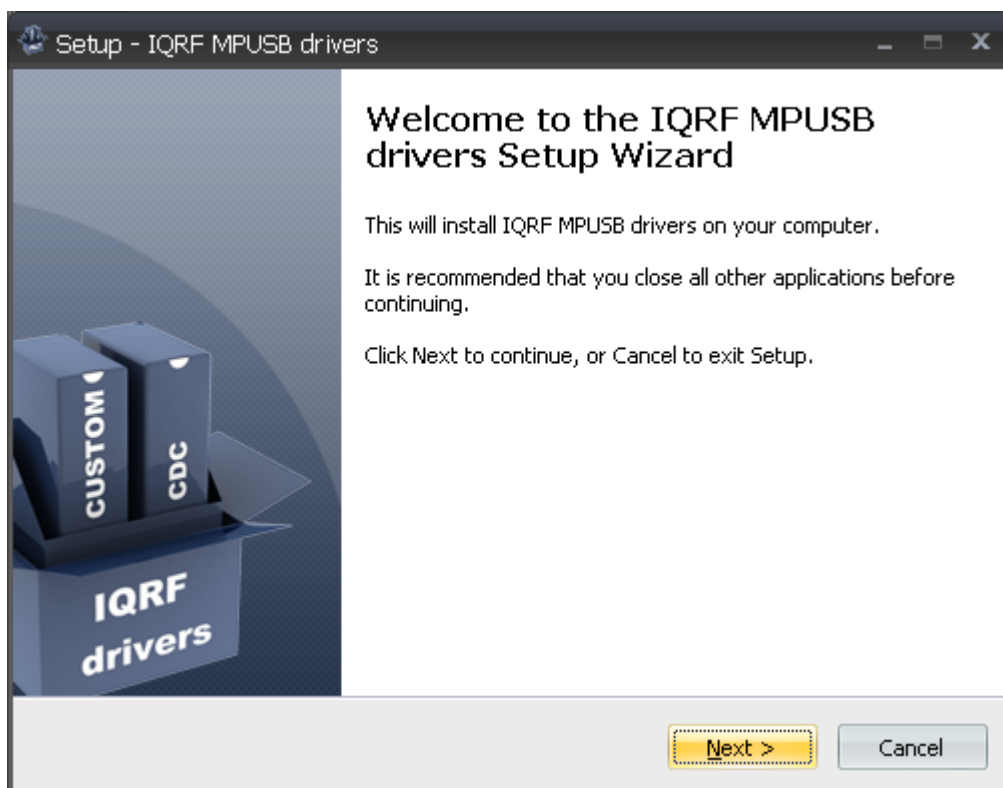
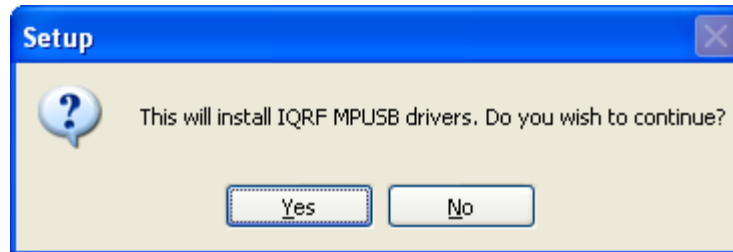


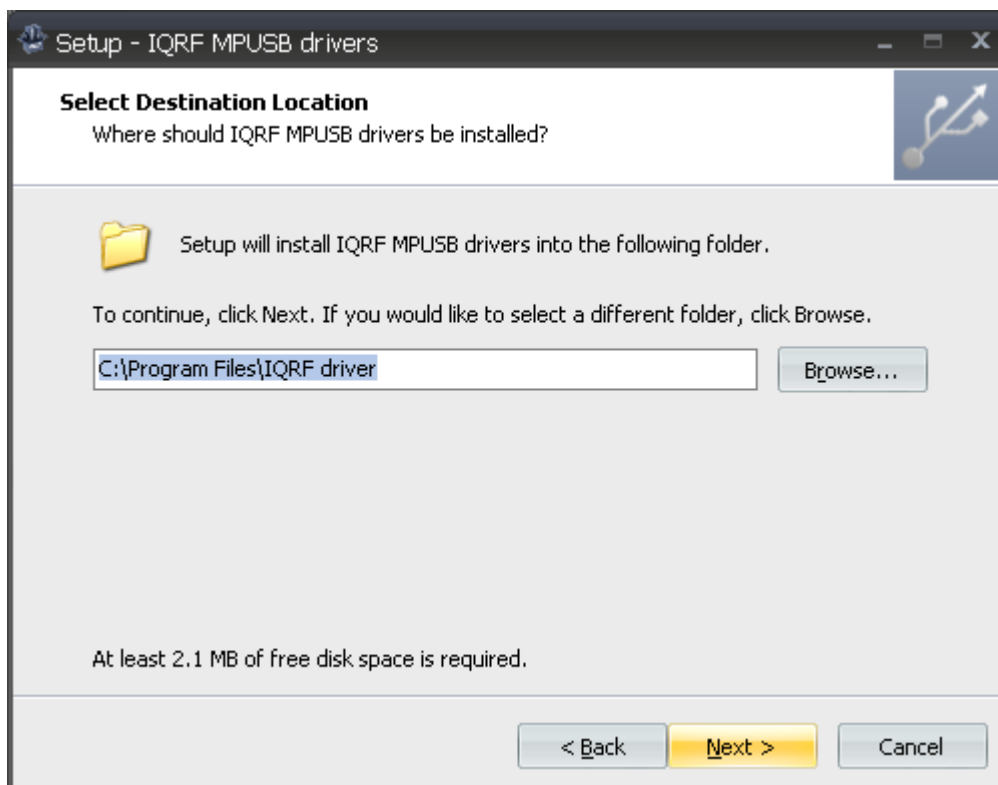
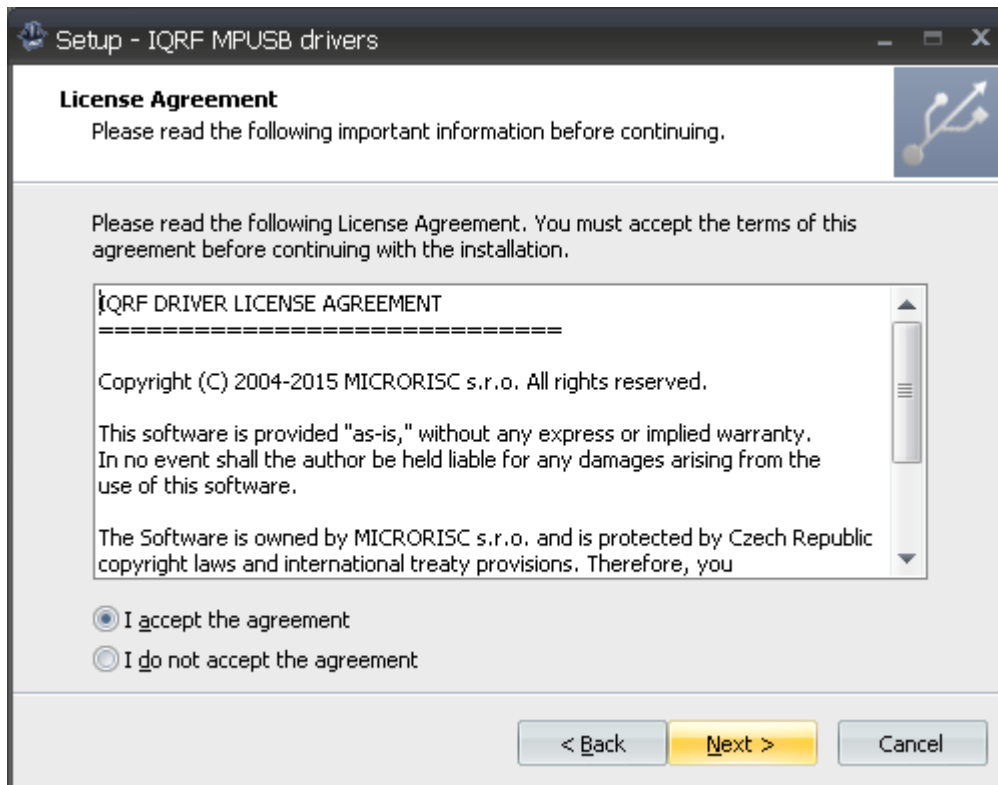
Fig. 19

Windows XP

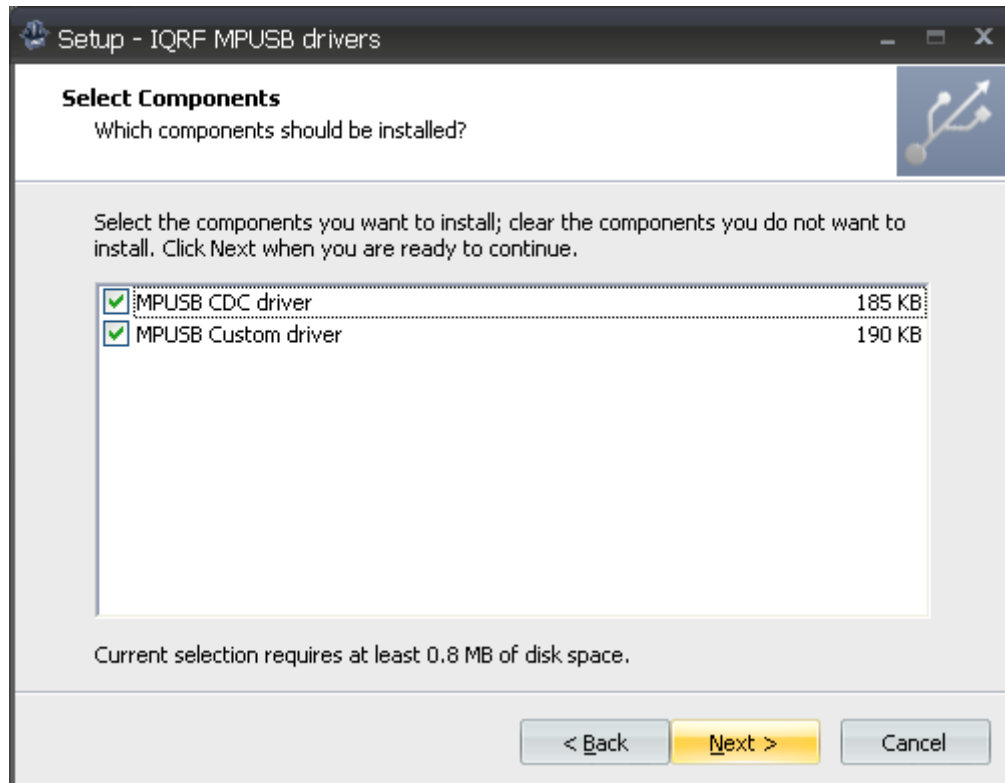
Before installation, do not get any IQRF USB device connected.

1. Invoke the installer (IQRF_MPUSB_drivers_setup_yymmdd.exe)
2. Follow the instructions

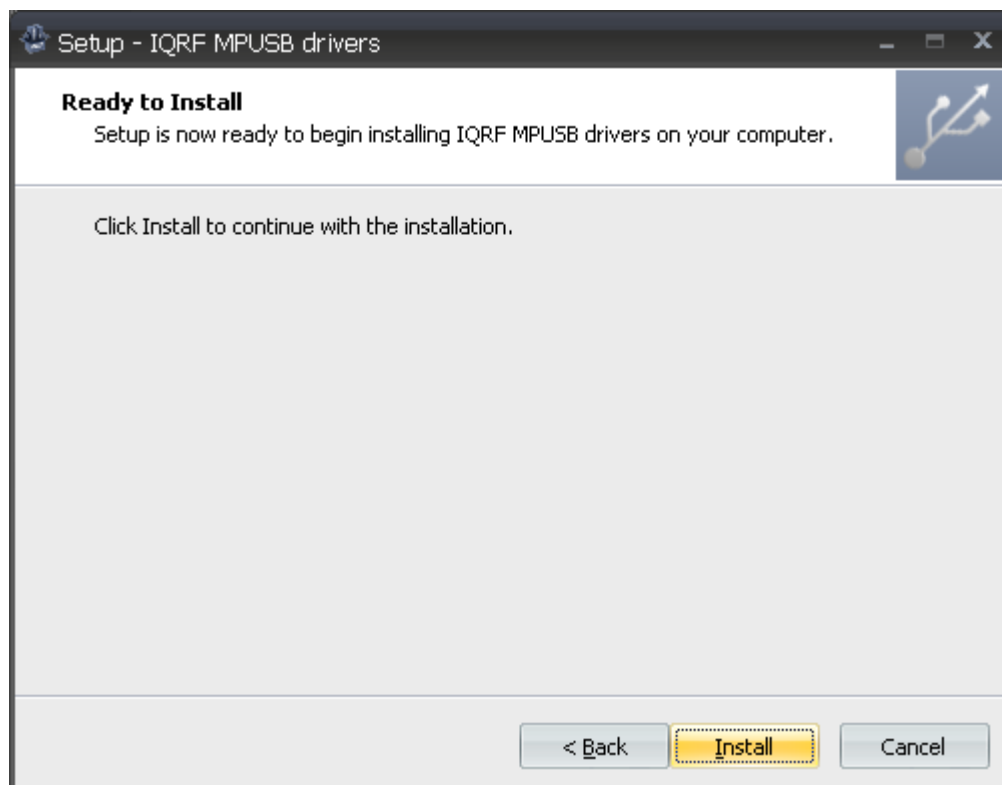




3. Select which drivers to install (Custom and/or CDC)



4. Confirm installing



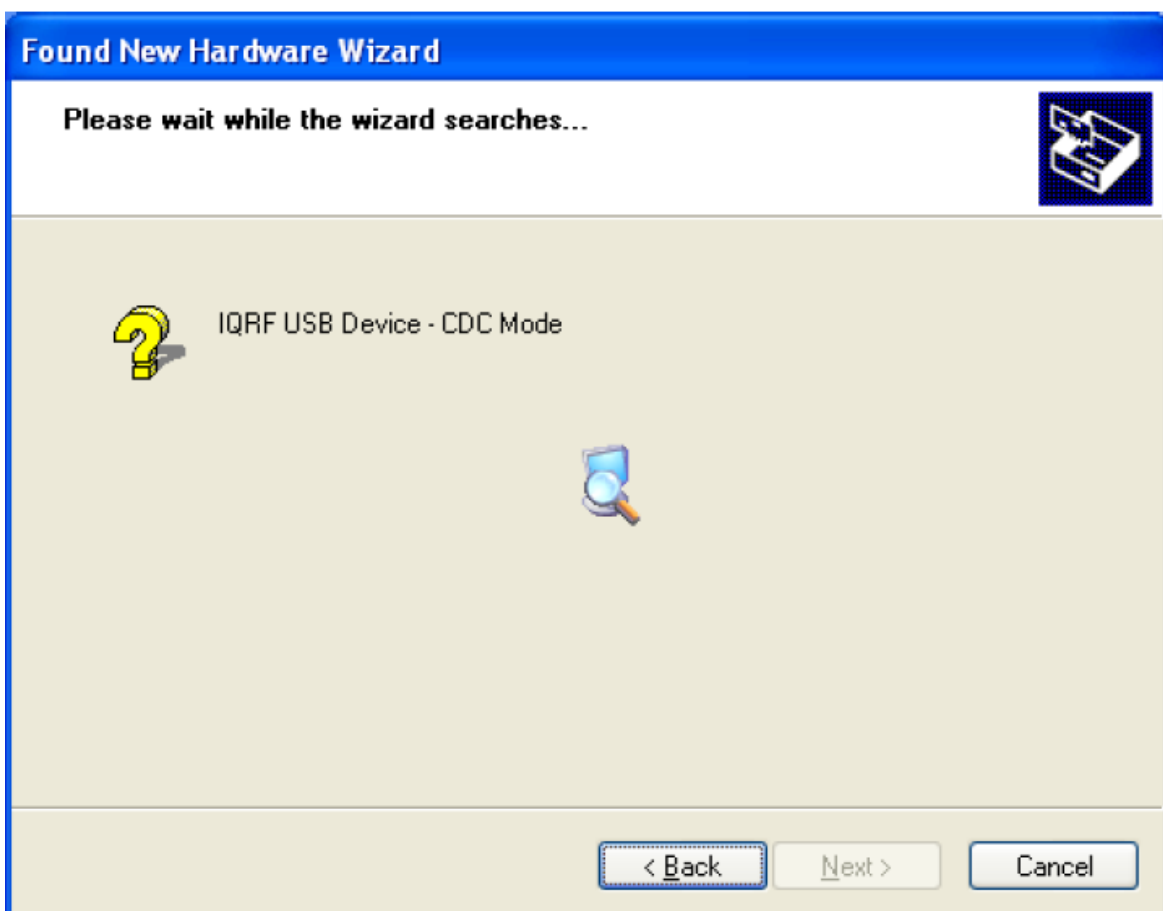
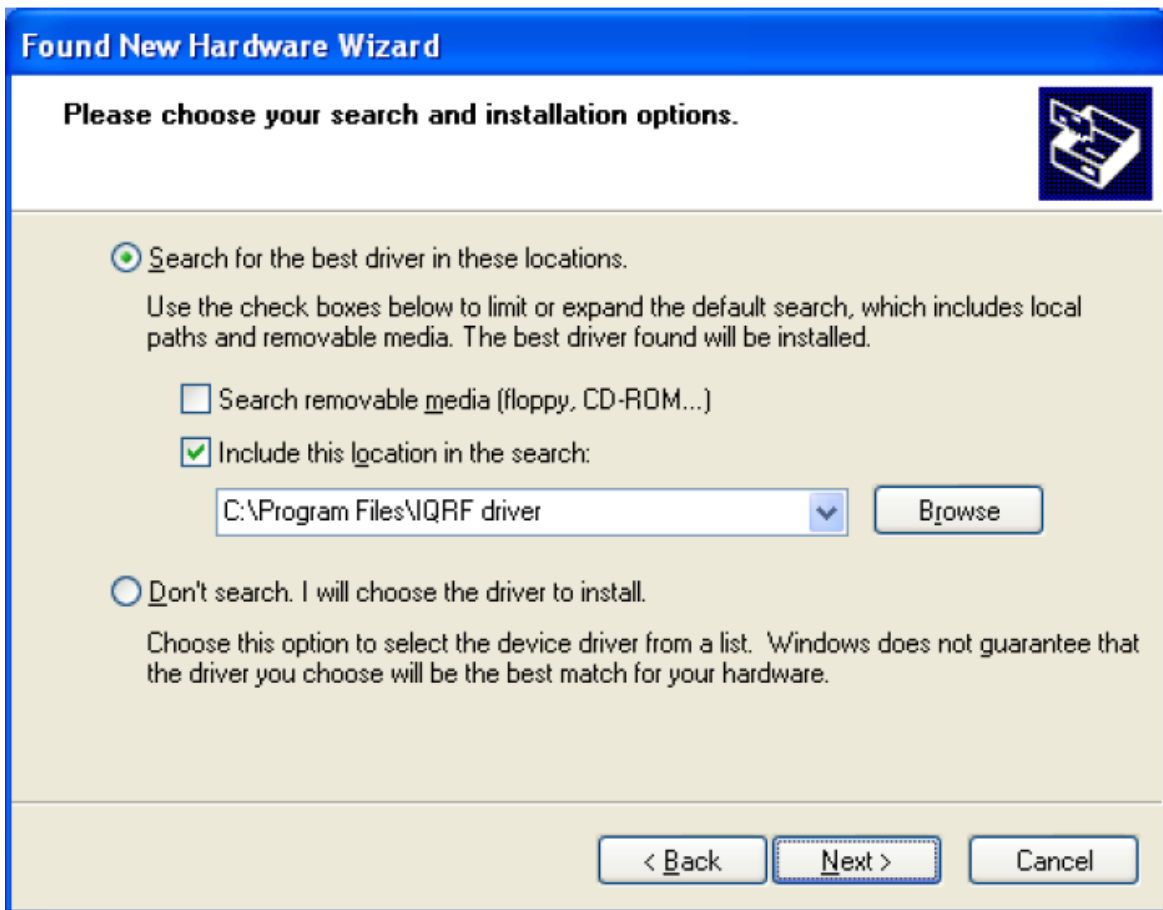
5. Finish the installation

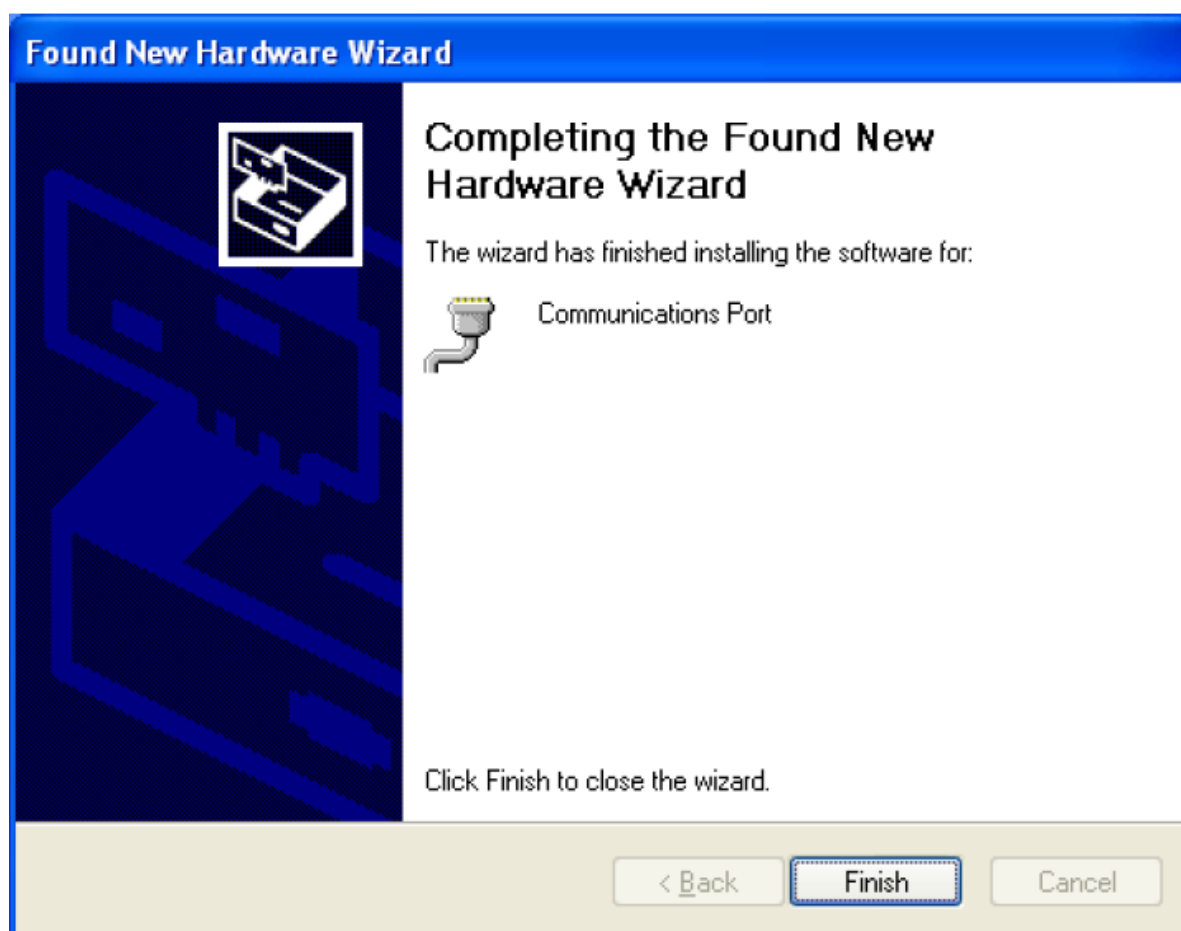


After connecting an IQRF USB device, the driver must be assigned manually:

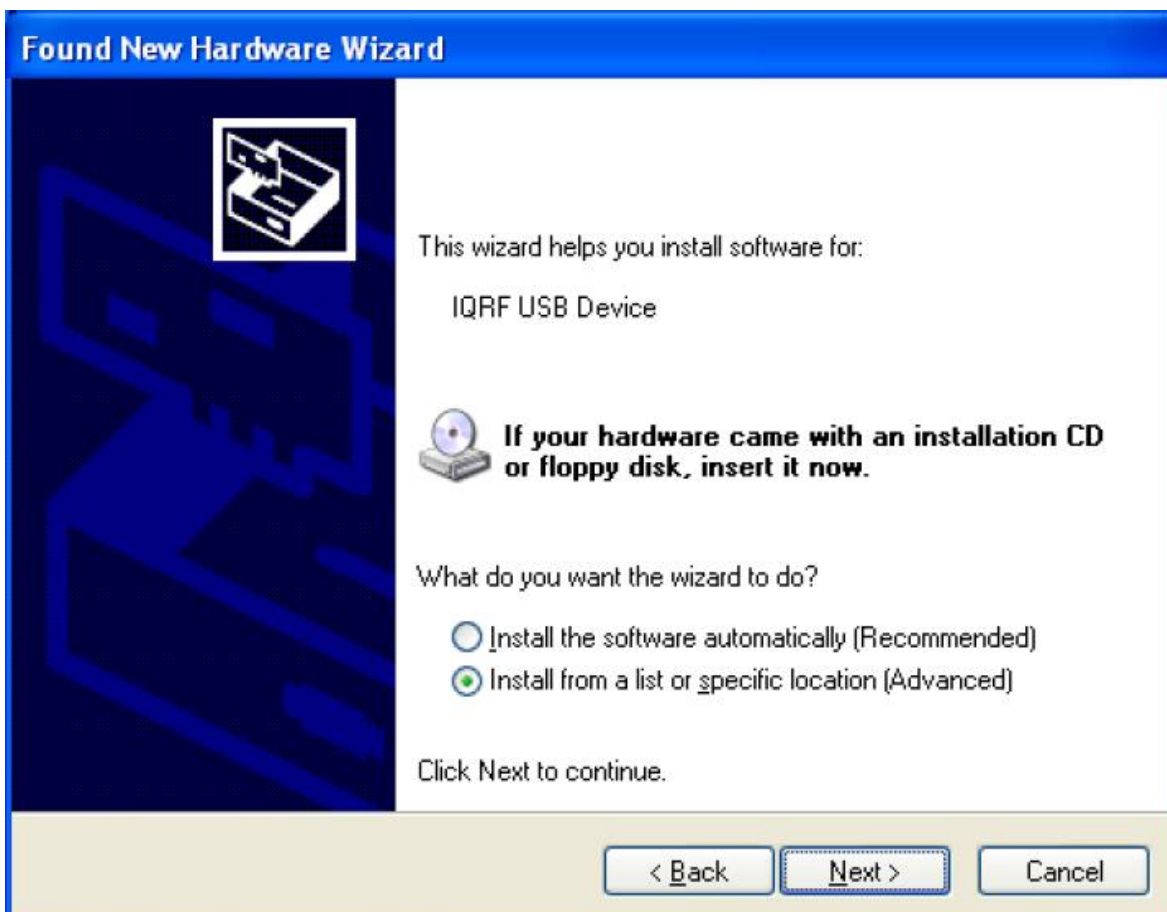
Assigning the CDC class driver

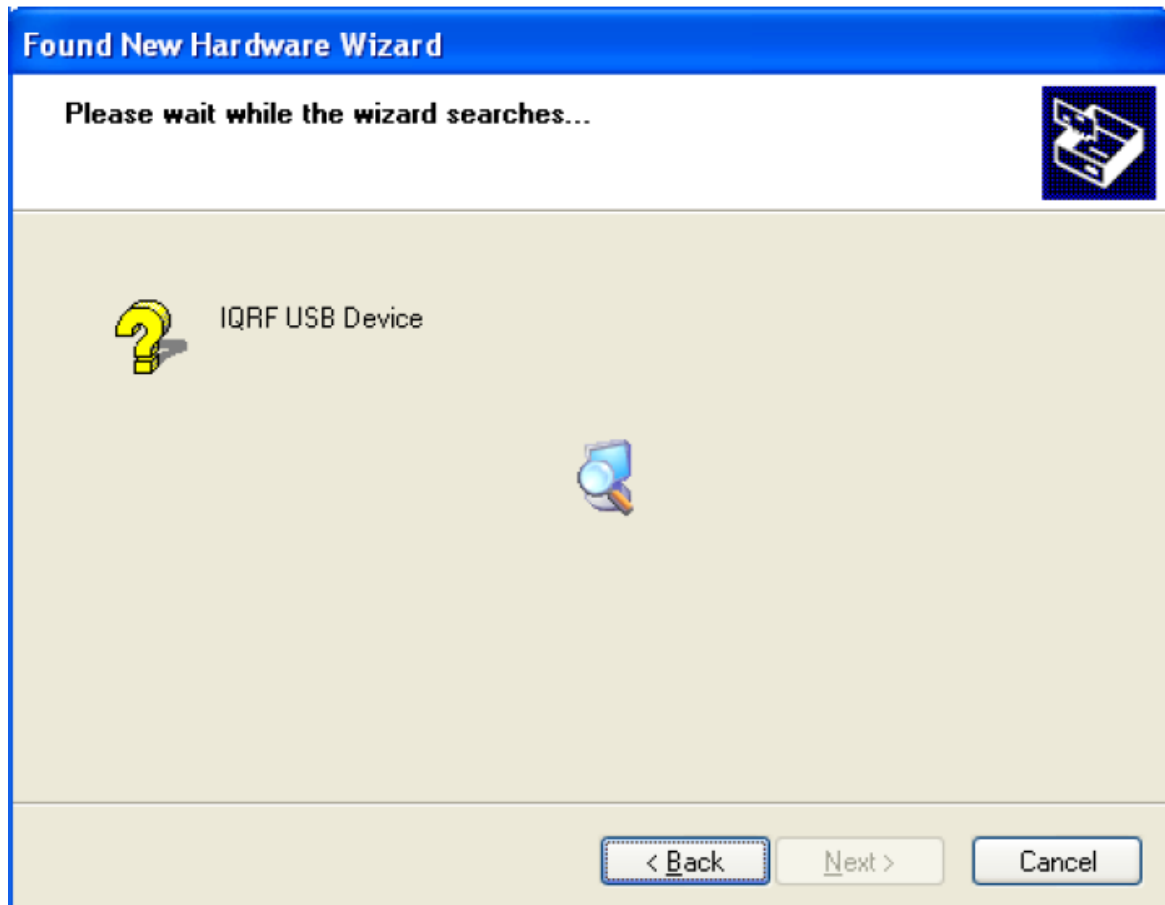
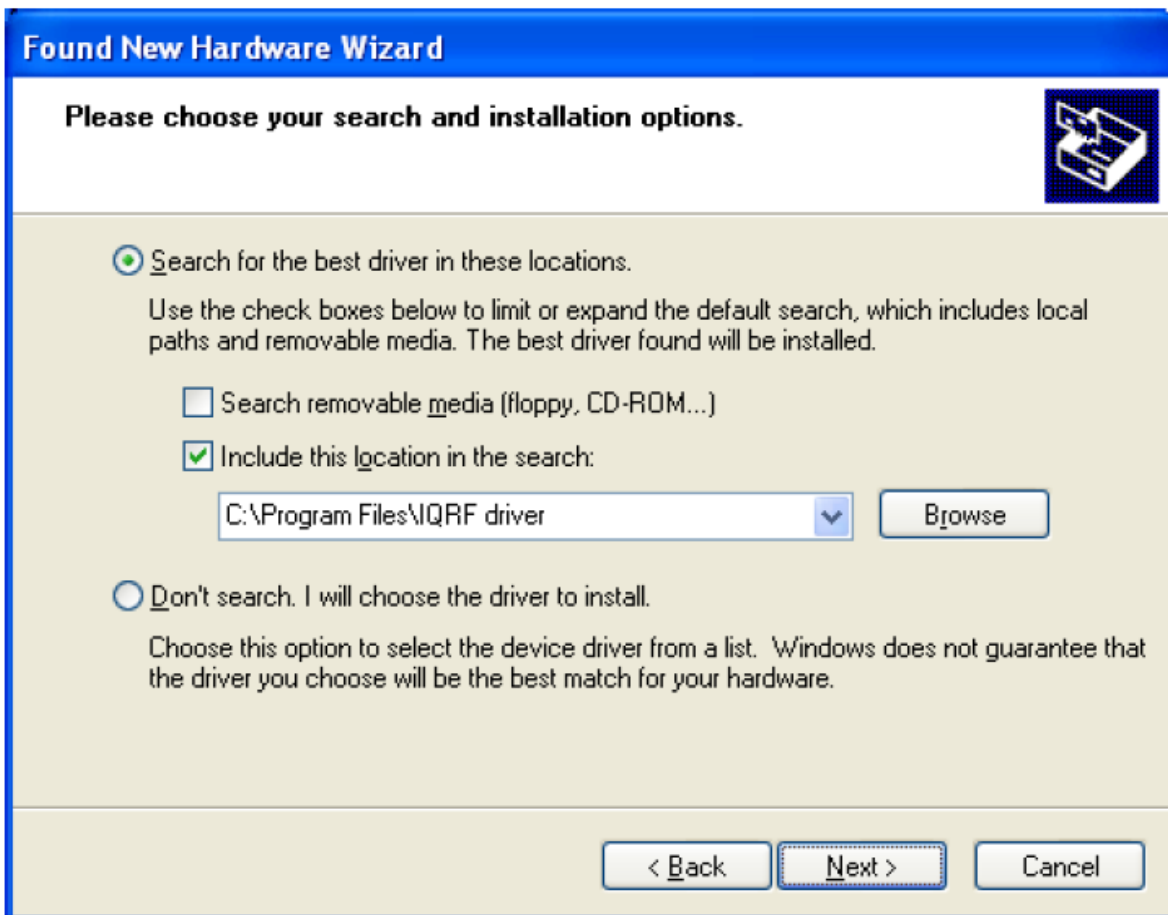






Assigning the Custom class driver







Migration between MPUSB and WinUSB

The Windows operating system stores the driver setup for every USB device and for every USB port plug at given computer. Therefore:

- If both WinUSB and MPUSB drivers are requested to operate at the same time, the procedure described below has to be repeated by connecting the USB device successively in every USB port plug.
- If just one of USB drivers is requested, the uninstallation should be simply completed by removing the old driver (*Uninstall* using the pop-up menu). Then Windows will perform setup of other USB plugs automatically.

Migration from MPUSB to WinUSB

The following procedure is applicable to Custom device as well as CDC device (COMx).

1. Invoke *Windows Device manager*, e.g. from IQRF IDE - menu *Tools*
2. Select *IQRF USB Device* and (using the pop-up menu) *Update Driver Software*

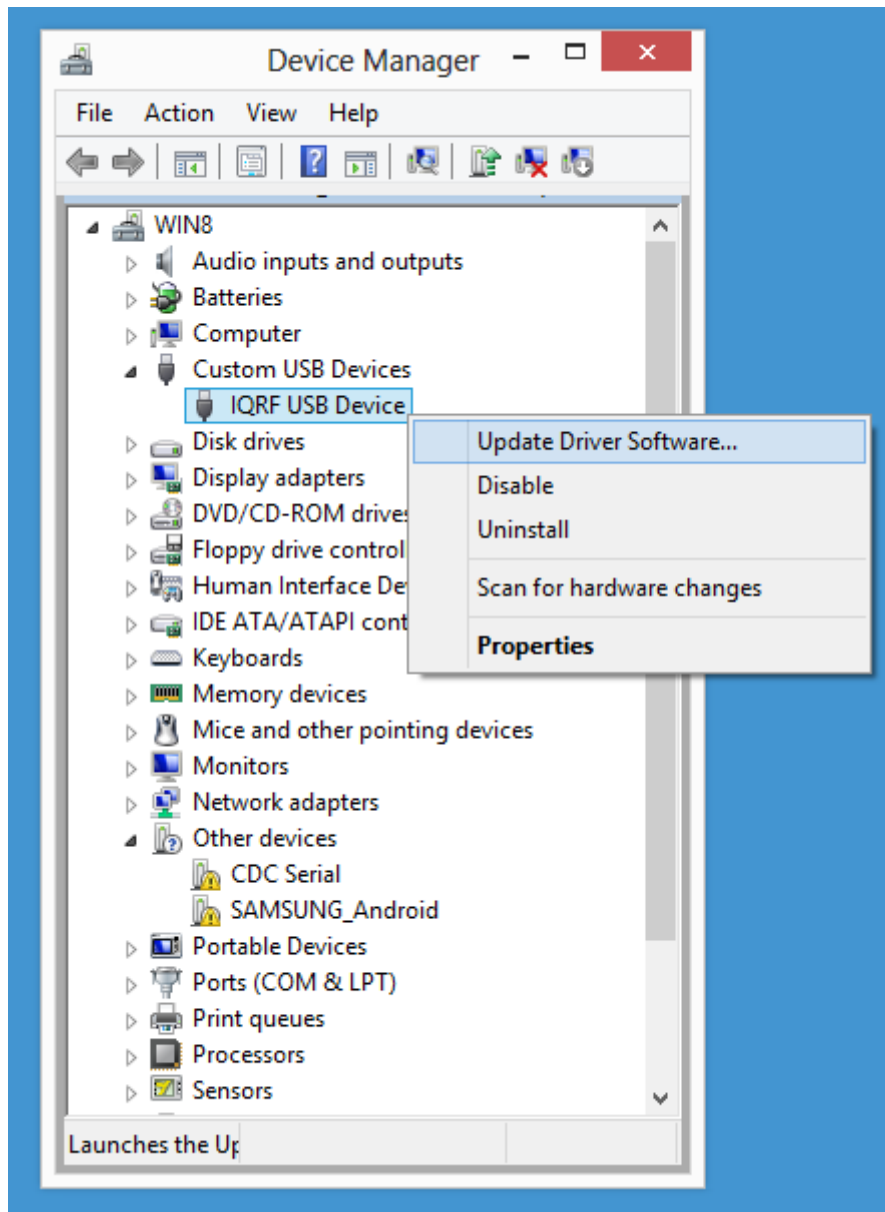


Fig. 21

3. Browse the driver manually

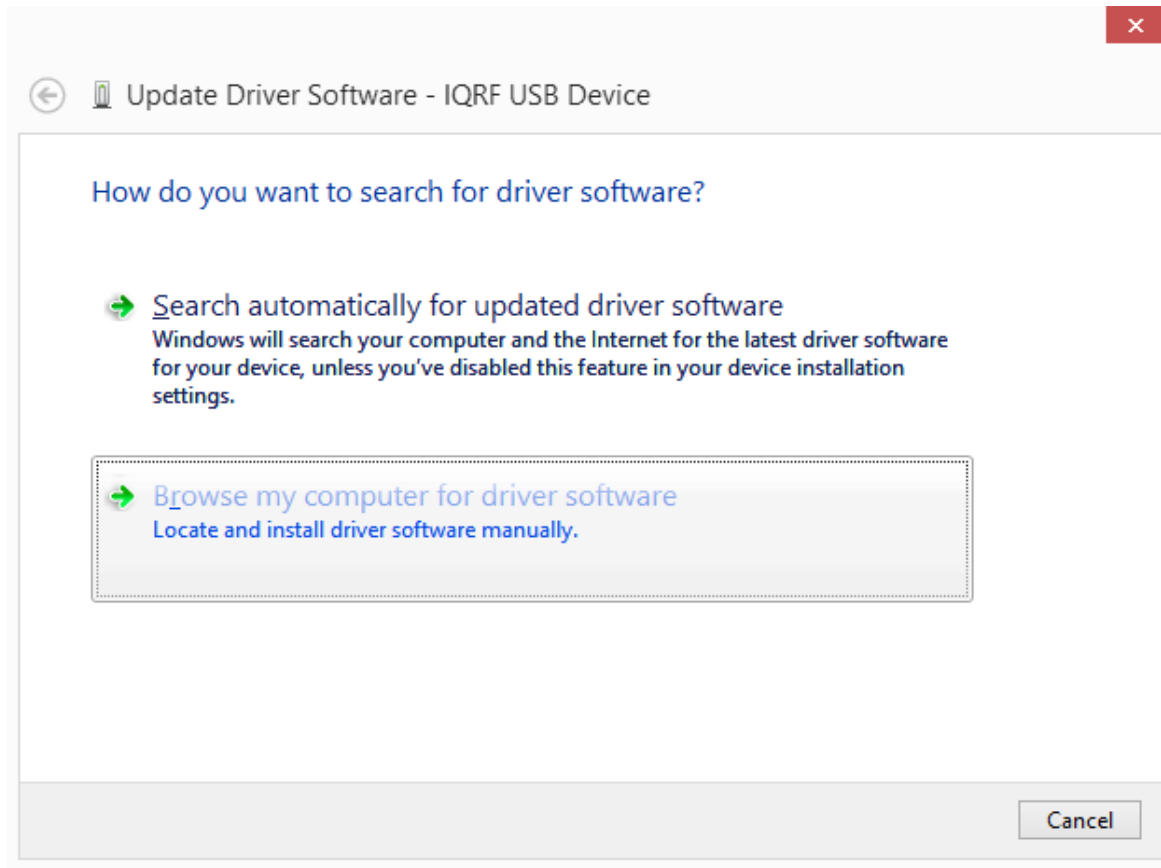


Fig. 22

4. Select the driver from the list

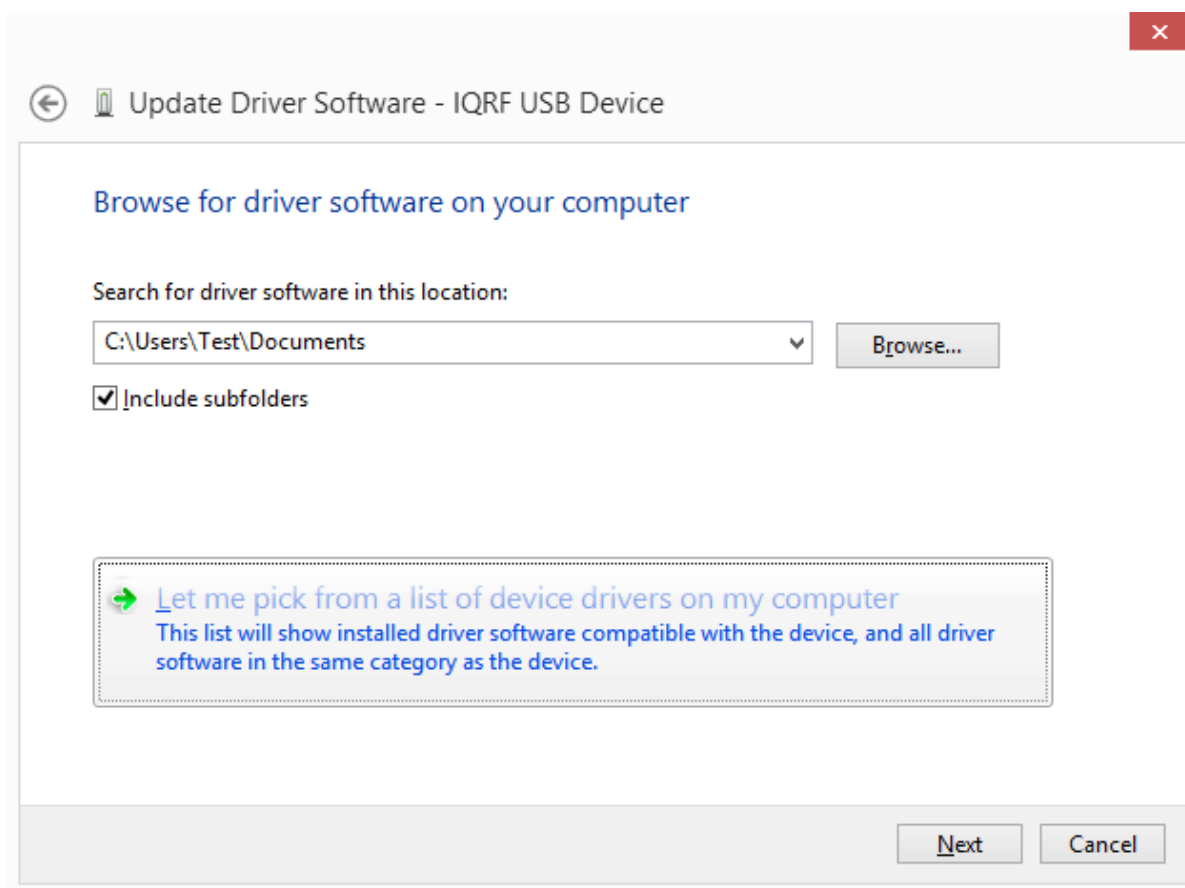



Fig. 23

5. If WinUSB driver is already installed, select the signed *IQRF USB Device* (with icon ) and go to point 9.

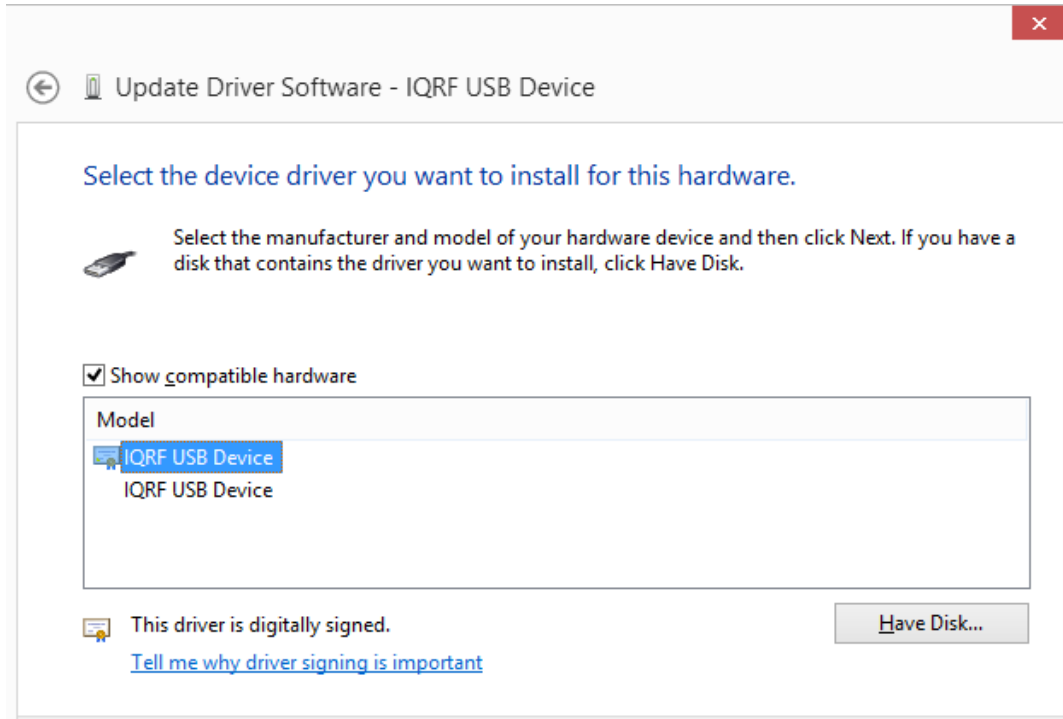


Fig. 24

If WinUSB driver is not installed, continue with points 6 to 8.

6. Select the *Have Disk* button

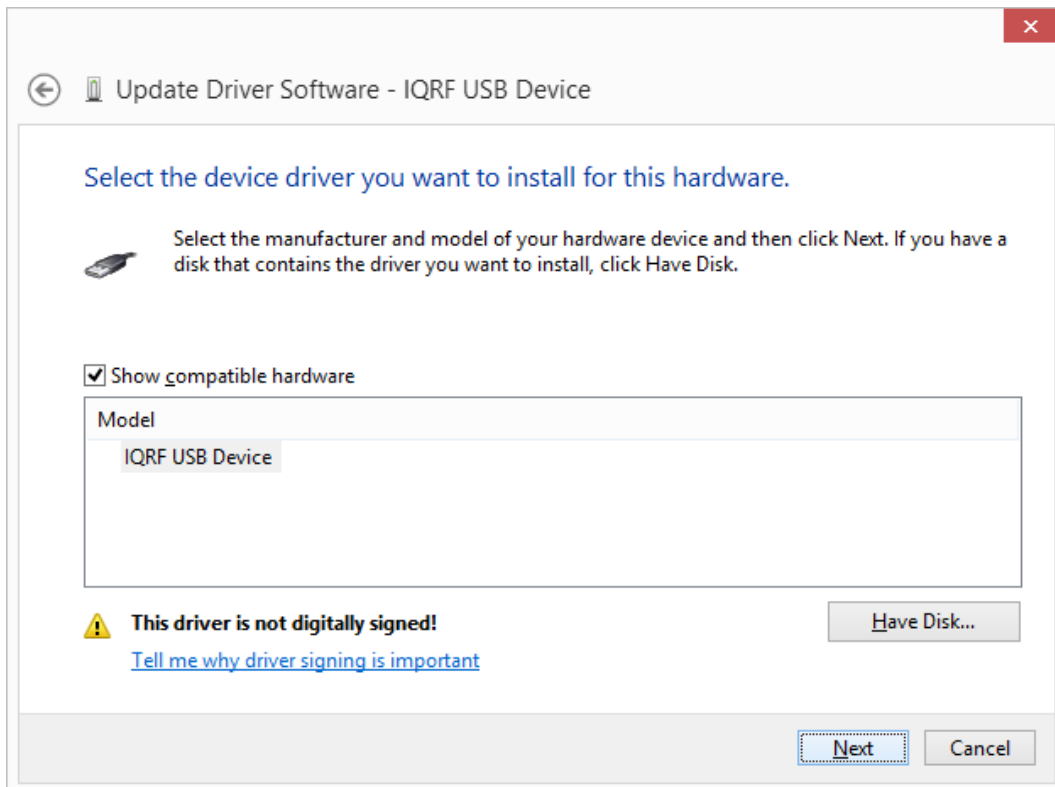


Fig. 25

7. Use the *Browse* button and navigate to the driver

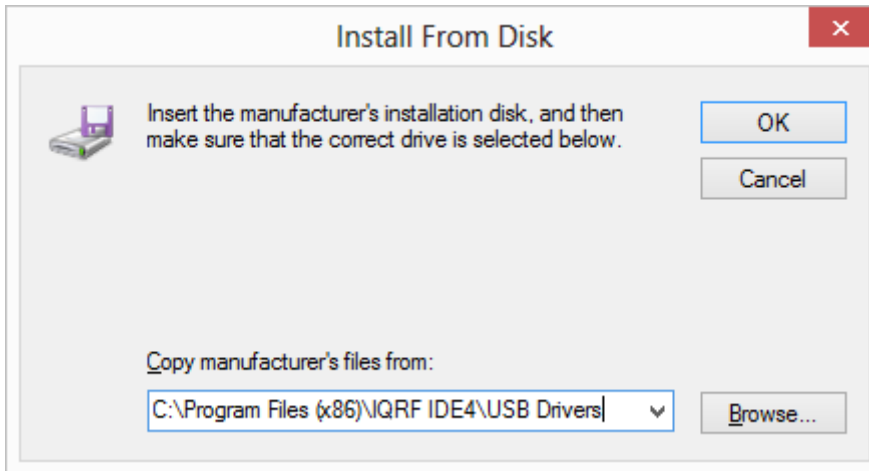


Fig. 26

8. Setup the path to subdirectory `USB Drivers`
- under the directory where IQRF IDE is installed – when installing within the IQRF IDE installation (from `iqrf_ide_4xx_setup_yymmdd.exe` file)
 - under directory `c:\Program Files\IQRF driver\` (or to another location specified by the user during the installation) – when installing from `IQRF_WinUSB_drivers_setup_yymmdd.exe` file.
9. Successfull update is indicated as follows:

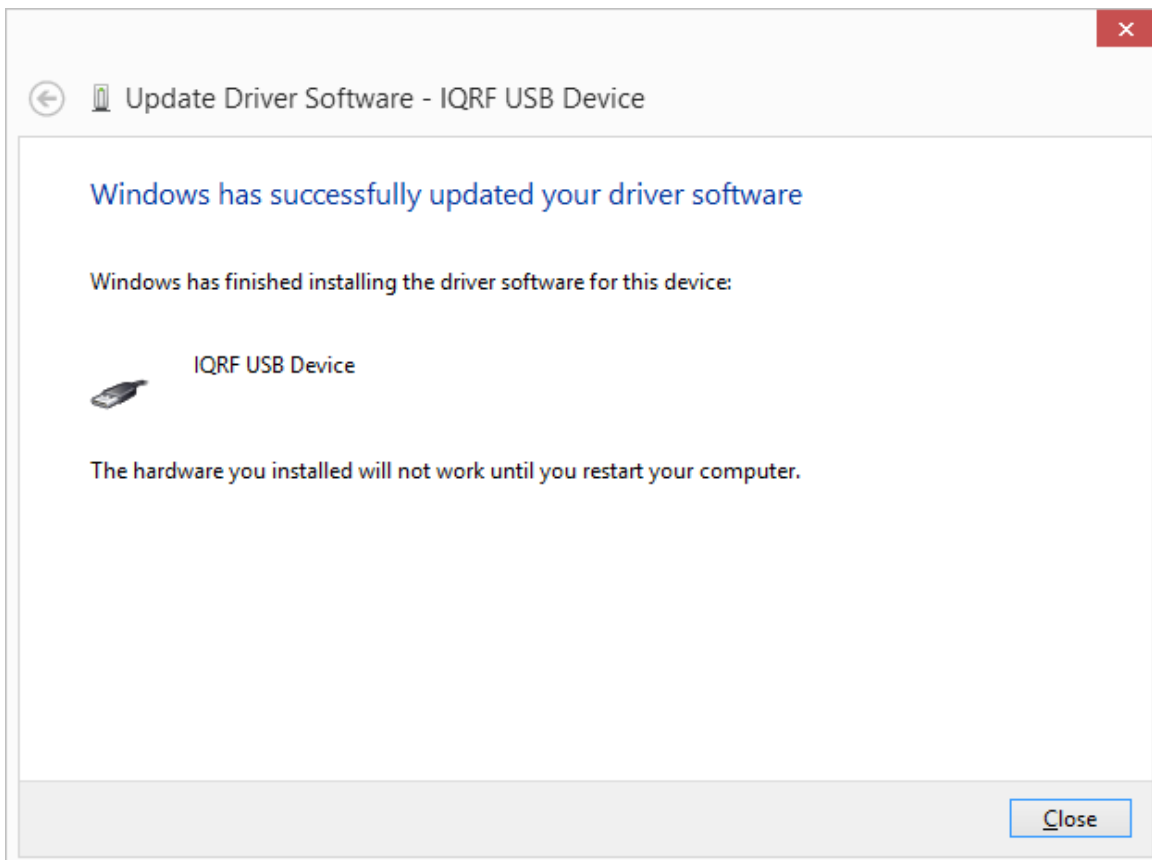


Fig. 27

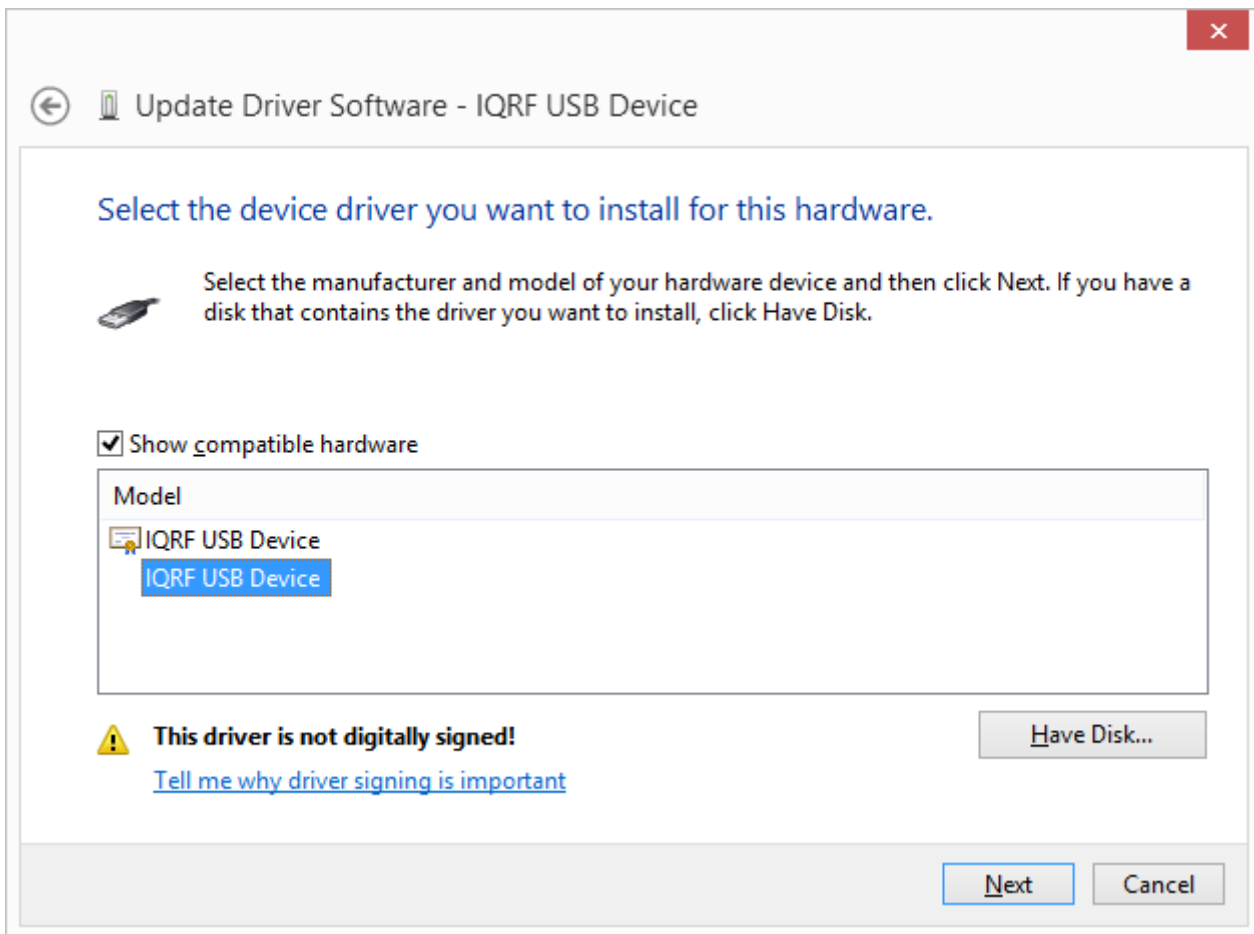
It is recommended to disconnect and then reconnect the IQRF USB device and (when requested) to perform Windows reset.

Migration from WinUSB to MPUSB

Because of an unsigned driver is to be installed, it is necessary to follow the procedure in chapter *Troubleshooting* first.

Then the following procedure is applicable to Custom device as well as CDC device (COMx).

1. Invoke *Windows Device manager*, e.g. from IQRF IDE - menu *Tools*.
2. Select *IQRF USB device* and (using the pop-up menu) *Update Driver Software* – Fig. 21.
3. Browse the driver manually – Fig. 22.
4. Select the driver from the list – Fig.23.
5. If MPUSB driver is already installed, select the unsigned *IQRF USB Device* and go to point 9 – Fig.24.
If MPUSB driver is not installed, continue with points 6 to 8.
6. Select the *Have Disk* button.



7. Use the *Browse* button and navigate to the driver – Fig. 26.
8. Setup the path to subdirectory `USB Drivers`
 - under the directory where IQRF IDE is installed – when installing within the IQRF IDE installation (from `iqrf_ide_4xx_setup_yymmdd.exe` file).
 - under directory `c:\Program Files\IQRF driver\` (or to another location specified by the user during the installation) – when installing from `IQRF_MPUSB_drivers_setup_yymmdd.exe` file.
9. Successfull update is indicated as on Fig. 27.
It is recommended to disconnect and then reconnect the IQRF USB device and (when requested) to perform Windows reset.

Document revision

- 170810 Page *Sales and Service* updated.
- 150812 Updated for WinUSB driver 1.07. Chapter *Migration between MPUSB and WinUSB* added. Windows 10 non-beta.
- 150319 Updated for WinUSB driver (by verified publisher) and for Windows 8.1 and Windows 10 beta.
- 121210 First release, for MPUSB driver, by not verified publisher

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