DataApex
Clarity™
CHROMATOGRAPHY SOFTWARE

AGILENT ICF FOR GC

Clarity Control Module   ENG

Contents

To facilitate the orientation in the **Agilent ICF for GC** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

Open File (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name.

WORK1 (capitals) indicates the name of the file and/or directory.

ACTIVE (capital italics) marks the state of the station or its part.

Chromatogram (blue underlined) marks clickable links referring to related chapters.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, some sections are written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of relevant information.

Caution: Warns the user of possibly dangerous or very important information.

▌**Marks the problem statement or trouble question.**

Description: Presents more detailed information on the problem, describes its causes, etc.

Solution: Marks the response to the question, presents a procedure how to remove it.

1 Agilent ICF for GC

This manual describes the use of the **Agilent ICF for GC** (Instrument Control Framework) with the **Clarity** software. The list of ICF versions that **Clarity** comes with is available on www.dataapex.com website on ICF control product page.
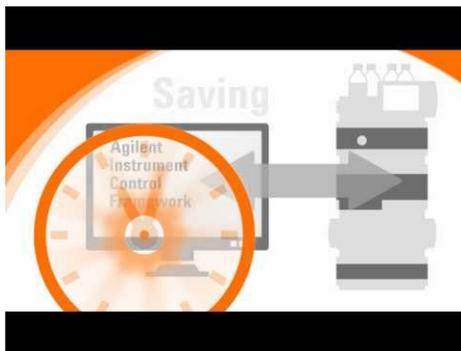

Fig. 1: Agilent ICF

The **Clarity** chromatography station enables to control various laboratory equipment from **Agilent** using the **Agilent ICF for GC**. It is library developed by **Agilent** which can be run within the **Clarity** Chromatography Station environment. This manual describes the basic use within the **Clarity**.

Thus the **Agilent ICF** dialogs and setup windows are displayed within **Clarity**, the manuals are supplied by the Agilent company both for the instrument and the configuration dialogs of the **ICF**. For the detailed help of the respective controlled instruments and functions of the **Agilent ICF** dialogs, press the *Help* or *F1* button in the displayed dialogs. Remember that some of the dialogs embedded into the Method Setup window are also part of the **Agilent ICF** library and pressing the F1 key also displays the Agilent ICF for GC **Help** which is not created by **DataApex Ltd.**.

For complete list of controlled instruments by the **Agilent ICF** library, see the **Clarity** Controls web-page: www.dataapex.com/controls.

2 Requirements

2.1 Software requirements

Agilent ICF for GC requires **Microsoft .NET version 4.7.2** or higher for correct installation and operation. This versions is already installed on majority of PCs. Nonetheless you will be notified during the installation if your PC is missing required version of **Microsoft .NET** - then follow the instructions there. For complete list of .NET requirements, see the .NET Framework System Requirements on Microsoft web page.

Supported operating systems:
- **Windows 8.1 (32/64 bit)**
- **Windows 10 (32/64 bit)**
- **Windows 11 (64 bit)**

Note: Although Agilent ICF does not state other **Windows OS** between supported, the system may work on other OS versions as well e.g., Windows 7 SP1 (32/64 bit). This functionality is not guaranteed though.

Caution: Before installing **Clarity**, make sure that your **Windows** are updated to the latest version.

2.2 Hardware requirements

- Version of firmware must be compatible with the **Agilent ICF GC** installed with **Clarity**.
- LAN interface installed on PC is required.
- Latest available firmware version of the module should be used to ensure maximum compatibility.

Tab. 1: Supported Agilent GC hardware:

	Module type	**Inlets**	**Detectors**
8890	G3540A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3542A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3543A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3545A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
8860	G2790A	S/S, P/P, COC, PCI	TCD, FID, NPD, ECD, FPD, FPD+
Intuvo 9000	G3950A	S/S, MMI, HCM	TCD, FID, NPD, FPD ECD, ECD, NCD, SCD
	G3952A	S/S, MMI, HCM	TCD, FID, NPD, FPD ECD, ECD, NCD, SCD
	G3953A	S/S, MMI, HCM	TCD, FID, NPD, FPD, ECD, NCD, SCD

	Module type	Inlets	Detectors
7890B	G3440B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3442B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3443B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3445B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
7890A	G3440A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3442A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3443A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3445A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
7820	G4350A	S/S, P/P, COC, PCI	TCD, FID, NPD, µECD, FPD, FPD+

Module type		Inlets	Detectors
6890A	G1530A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
6890Plus	G1530A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
6890N	G1530N	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
	G1540N	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, µECD, DualWFPD, AIB
6850	G2630A/B	S/S, P/P, COC, PTV	TCD, FID, NPD, FPD ECD, AIB

Note: Communication between **Clarity** with **Agilent ICF GC** and listed instruments is handled via LAN. All available GC valves are supported.

Tab. 2: Supported Agilent Sampler, Autosampler and Tray hardware:

	Hardware	Module type
8890 and 8860 Series	7693A	G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7650	G4567A Injector
Intuvo 9000 Series	7693A	G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector

	Hardware	Module type
7890Series	7693A	G3430A GC ALS Controller
		G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7683A	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7683B	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector
7820 Series	7693	G3430A GC ALS Controller
		G4513A Injector
	7650	G3430A GC ALS Controller
		G4567A Injector

	Hardware	Module type
6890	7693	G4516A ALS Controller
		G4513A Injector
		G4514 A Tray
		G4515A BCR/Mixer
		G4517A 6890 Plus ALS Card Upgrade
		G4521A LVI Syringe Carriage
		G4522A Colling Accessory
		G4520A Tray with BCR/Mixer
	7693B	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
		G2616A Tray
		G2615A BCR/Mixer
	7683A	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7673C	G1512A ALS Controller
		G1513A Injector
		18596C Tray
		G1926A BCR/Mixer
	7673B	18593B Injector
		18596B Tray
		G2615A BCR/Mixer
6850	7683B	G2613A Injector
	7693	G4513A Injector
	6850	G2880A Injector

Note: Communication for GC samplers and trays is handled through the GC.

Tab. 3: Supported Agilent Headspace Sampler hardware

	Hardware
8697	G4511A
7697A	G4557A
8697	G4511A
G1888	G1888

For complete list of supported Windows OS, instrument firmware and Agilent ICF for GC, see Agilent webpages.

3 Installation procedure

Agilent ICF for GC is not part of the **Clarity** *Typical* installation. To install it, select the *Full* installation or the **Agilent ICF for GC** in the *Choose Components* dialog during the installation of **Clarity**.
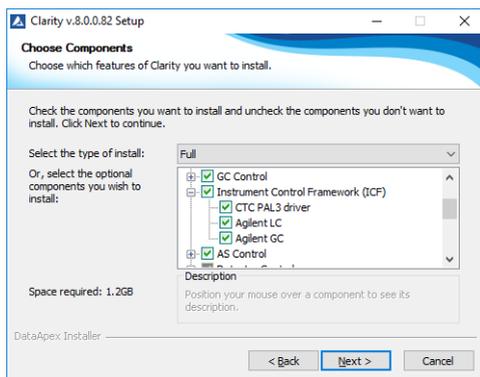
Fig. 2: Full installation of Clarity

3.1 Installing Correct Version of Agilent ICF

Clarity expects a specific version of Agilent ICF. Because other programs may also be using Agilent ICF, it is possible they've installed a different version than is supported by Clarity. In that case in the installation you will be prompted to reinstall it in order to install correct version. Going forward with this step is crucial for correct functionality of Clarity and Agilent ICF.

This situation may also occur during Clarity update when the new version contains updated ICF version.

Note: This reinstallation of Agilent ICF may cause that other programs using it, may not function properly.
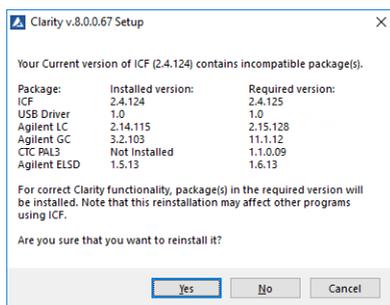
Fig. 3: Installing correct version of Agilent ICF

3.2 Network connections

The instruments supported by **Agilent ICF GC** has to be connected to a site network by LAN. It is recommended to attach the **Agilent** hardware directly to the PC avoiding hubs, switches etc. When using a switch or a hub, multiple **Agilent** hardware can be connected to one PC. Always contact your local LAN administrator who can make the appropriate settings.

Caution: Do not use the **Agilent 68xx** or **Agilent 7890** DHCP server feature.

Caution: **Cross LAN** cable is primarily used for the direct connection of the instrument and the PC. This cable can also be used for the connection of the device to the switch or network socket, but with older switches, the **straight LAN** cable might be necessary.

LAN Settings

PC: LAN card, TCP/IP protocol.

Both PC and supported **Agilent** hardware should be configured on the same IP range.

Tab. 4: Recommended IP settings:

	Agilent Hardware	LAN card
IP	192.168.0.200	192.168.0.1
Port	80	- - -
Subnet Mask	255.255.255.0	255.255.255.0
Default Gateway	192.168.0.1	192.168.0.1
Accept From IP	0.0.0.0	- - -
Accept From Subnet Mask	0.0.0.0	- - -

Firewall
Ensure that the firewall does not block communication from the **Agilent** hardware.

Internet connection
Be aware that many Internet connections are provided using the LAN card. If this is the case a separate LAN card must be configured for each Internet and connected **Agilent** hardware.

3.3 Clarity Configuration
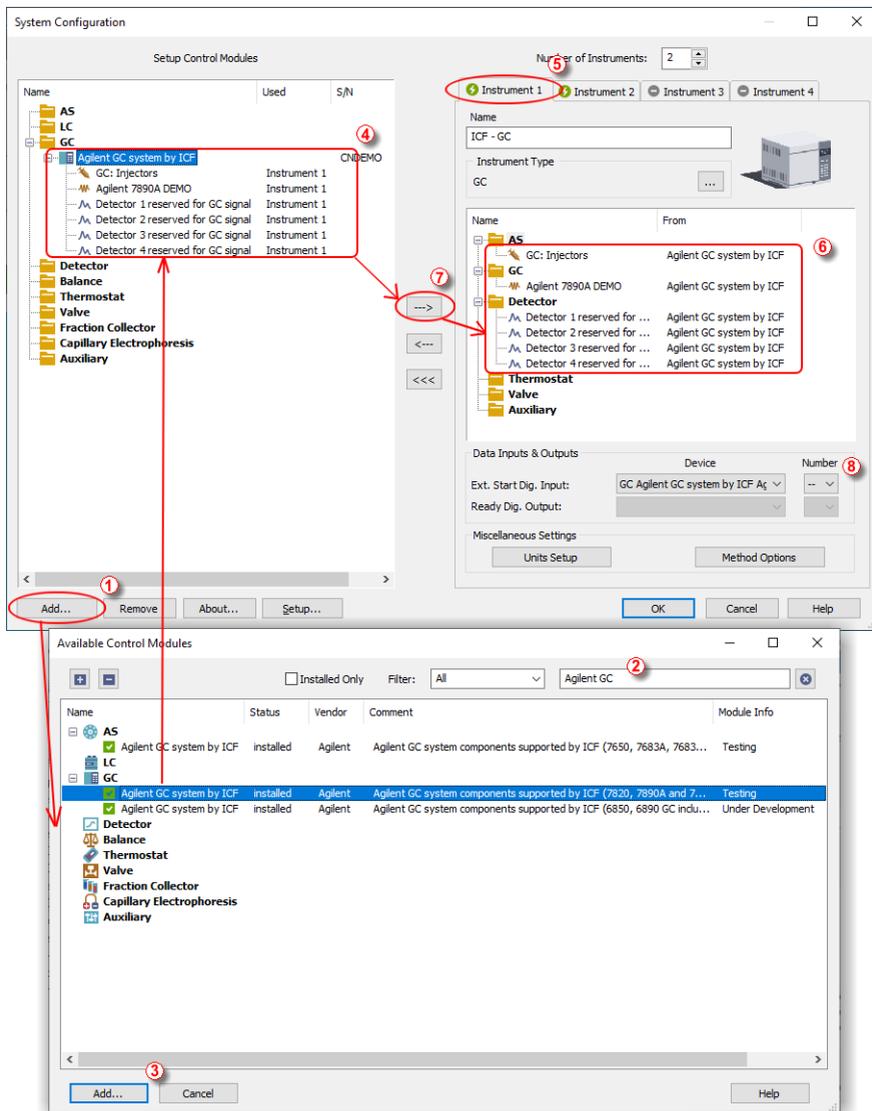
Fig. 4: System Configuration

Caution: Before you start **Clarity**, ensure there is not any other application controlling the
Agilent ICF GC instruments active (for example *Virtual Keyboard* software
applicable for some **78x0** GC types).

- Start the **Clarity** station by clicking on the icon on the desktop.
- Invoke the *System Configuration* dialog accessible from the *Clarity* window using the *System - Configuration...* command.
- Press the *Add* button ① (See **3.3** on pg. **12**.) to invoke the *Available Control Modules* dialog.
- You can specify the searching filter ② to simplify the finding of the driver.
- Select the **Agilent ICF for GC** item and press the *Add* ③ button. The *ICF Setup* dialog will open.
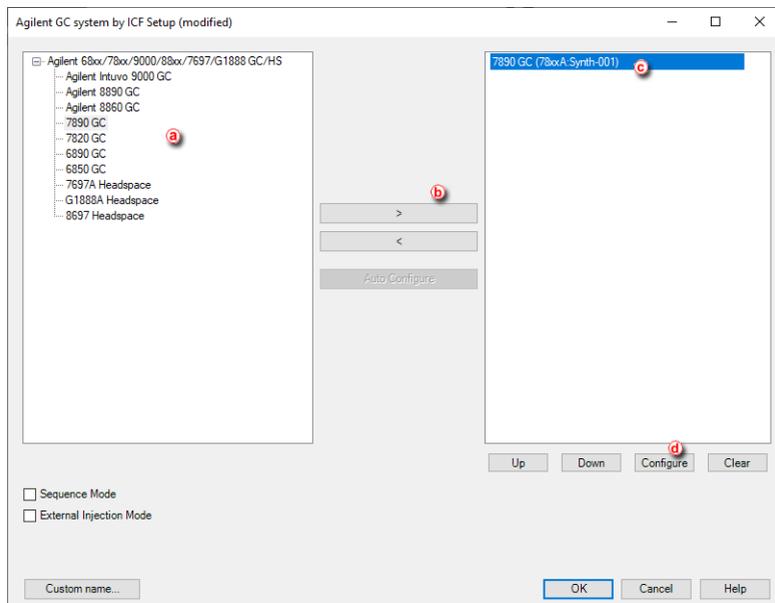
Fig. 5: Agilent ICF Setup

- Select appropriate instrument type ⓐ transfer it from left side using respective button ⓑ to the right side ⓒ .
- Click on the *Configure* button ⓓ in the *ICF Setup* dialog and the *Configure* dialog is displayed for entering the connection parameters.

Note: The *Custom name...* button can be used to alter the name of the module. This change propagates to the module name in the *Setup Control Modules* ④ and in the *Data Inputs & Outputs* ⑧ sections of the *System Configuration* dialog. Default name is used when the field is left empty.
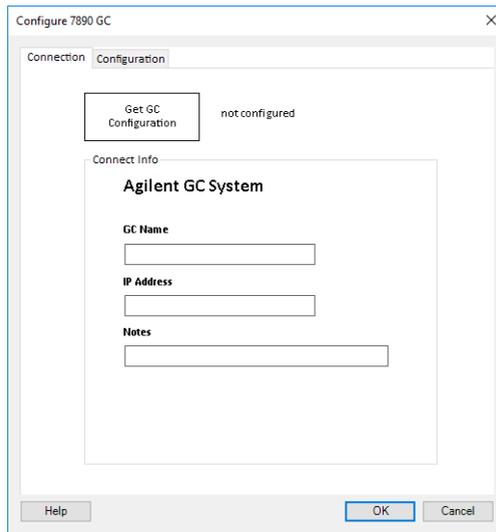
Fig. 6: Connection parameters dialog

- After insertion of the *IP address* or *GC Name* click *Get GC Configuration* button.
- On the *Configuration* tab is loaded configuration from the instrument. Additional behavior of the instrument can be preset here.
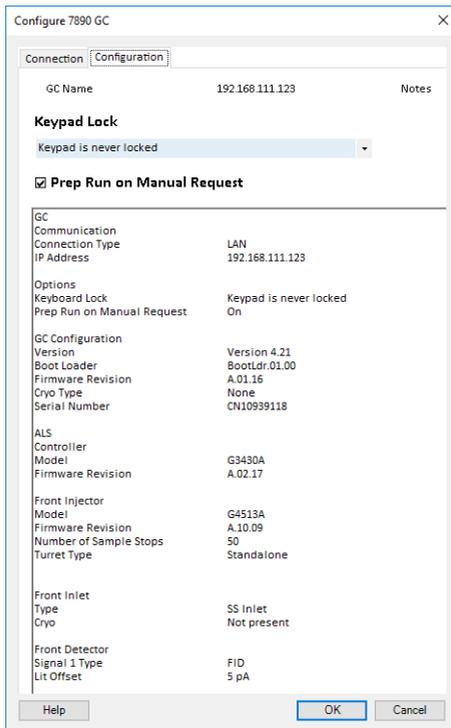
Fig. 7: Configuration parameters dialog

- Then click *OK* button in the lower part of the *ICF Setup* dialog and the instrument will then appear in the **System Configuration** including all modules of the instrument (detector, autosampler etc.).

. . . .

Caution: If you change the configuration of the **Agilent ICF** system (for example remove and add another instruments), the communication parameters like *IP address* will be lost and it is necessary to set them again.

. . . .

Caution: When the *ICF Setup* dialog is open for extended time, communication between **Clarity** and the GC may be lost. In such case an error message will be displayed. After accepting error message is necessary to start with the GC configuration from very beginning starting with clicking the *Add* button ① (See **3.3** on pg. **12**.) in the *System Configuration* dialog.

- After previous steps drag and drop the **ICF** icon from the *Setup Control Modules* list ④ on the left side of the *System Configuration* dialog to the desired *Instrument* ⑤ tab on the right side ⑥ (or use the ⟶ button ⑦ to do so).

- Set the *Ext. Start Dig. Input* ⑧ on the right bottom side of the *System Configuration* dialog if you wish synchronize **Clarity** with *Agilent ICF GC* instrument over LAN. If the settings of the *Ext. Start Dig. Input* is set to default value ⏷ ⑧ the analysis start will be detected by **Clarity** by receiving data from the *Agilent ICF GC* configured detector on this *Agilent ICF GC Instrument*. If this *Agilent ICF GC Instrument* has no *Agilent ICF GC* detector signal configured then it is necessary to set *Ext. Start Dig. Input* value ⏷ ⑧ to value *"1"* - 1⏷ ⑧ to assure correctly synchronized start of the analysis with the *Agilent ICF GC* autosampler's injection.

. . . .

Caution: The *Sequence Mode* enables autosampler to prepare next sample during previous run (sequence will lock one row ahead). For correct operation in the *Sequence Mode* there have to be set corresponding parameters (Enable Sample Overlap) in the *ICF GC Method Setup* dialog (GC tab, section ALS, item Tray/Other).

. . . .

Note: The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

. . . .

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

3.4 Headspace Sampler configuration

To properly setup the **Headspace Sampler**, it should be configured as separate ICF control (not within the GC ICF setup described in "Clarity Configuration" on page 12).

Caution: Before you start **Clarity**, ensure there is not any other application controlling the **Agilent ICF GC** instruments active (for example *Virtual Keyboard* software applicable for some **78x0** GC types).
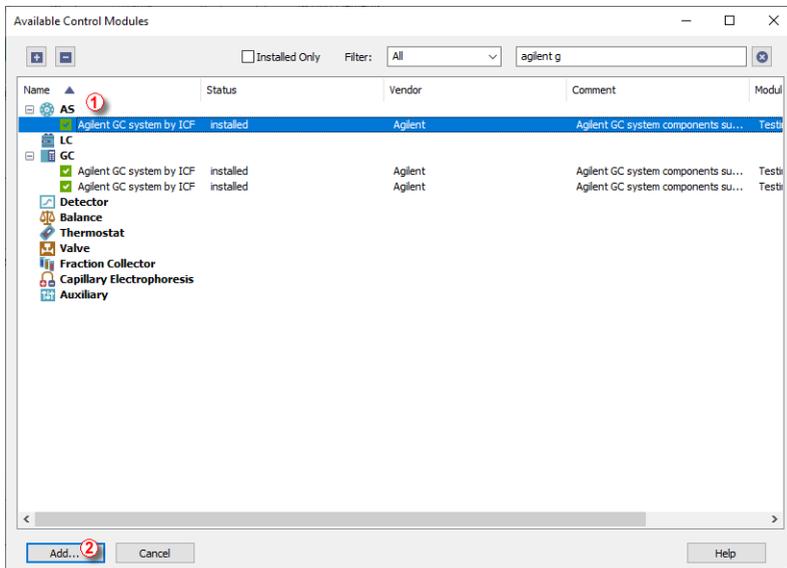
Fig. 8: Available Control Modules

- Add a new module in the *System Configuration*. Select the **Agilent ICF for GC** from the **AS** section ① and press the *Add* ② button. The *ICF Setup* dialog will open.

Note: For more information about adding new modules in the *System Configuration* refer to the chapter "Clarity Configuration" on page 12.
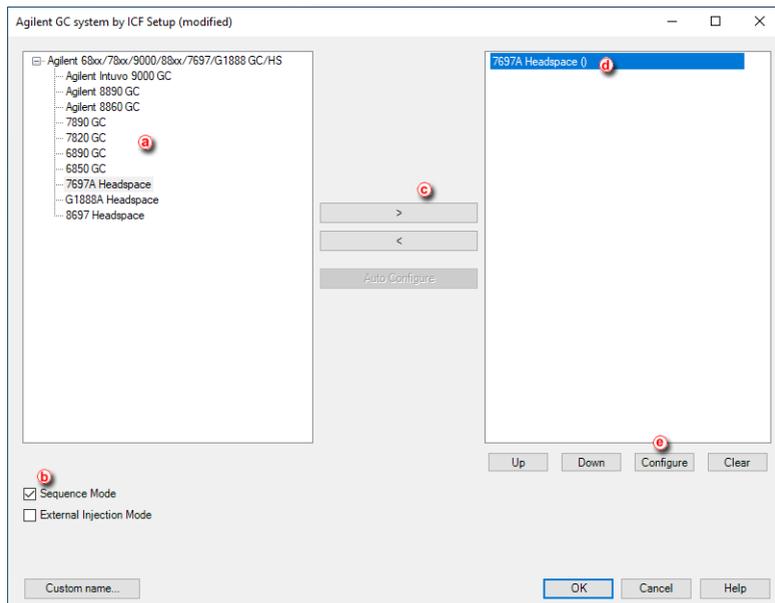
Fig. 9: Agilent ICF Setup

- Select appropriate instrument type ⓐ transfer it to the left side using respective button ⓒ to the right side ⓓ.

- Make sure that the *Sequence Mode* ⓑ is selected for the **Headspace** only.

- Click on the *Configure* button ⓔ in the *ICF Setup* window and the *Configure* dialog will appear.

. . . .

Caution: The *Sequence Mode* enables autosampler to prepare next sample during previous run (sequence will lock one row ahead). In case that *GC* is used in combination with a *Headspace* the *Sequence Mode* must be disabled in the *GC* setup and enabled in the *Headspace* setup.

. . . .

Note: The *Custom name...* button can be used to alter the name of the module. This change propagates to the module name in the *Setup Control Modules* and in the *Data Inputs & Outputs* sections of the *System Configuration* dialog. Default name is used when the field is left empty.
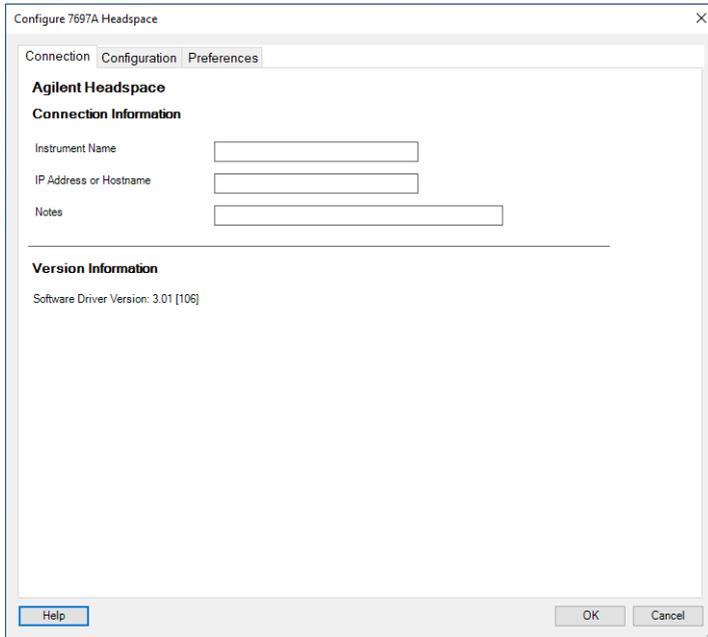
Fig. 10: Connection parameters dialog

- On the *Connection* tab insert the *IP Address* or *Instrument Name*.
- Switch to the *Configuration* tab and click the *Upload Config from Intrument* button.
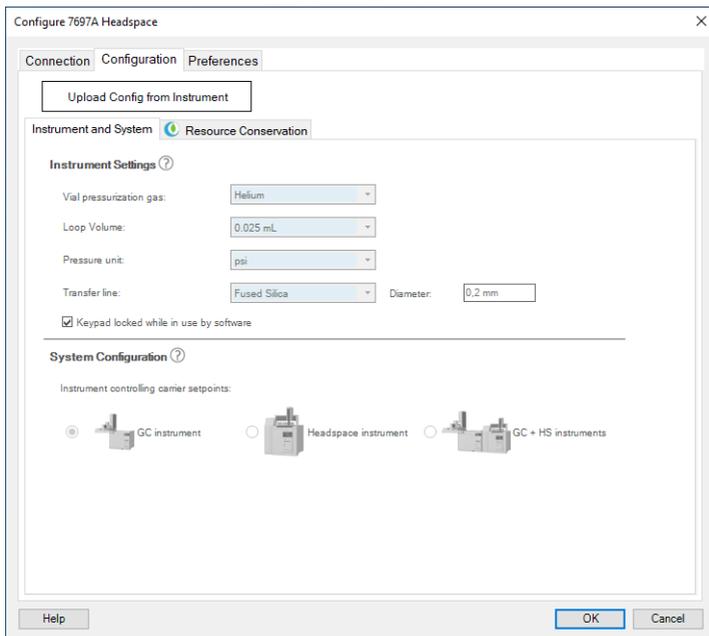
Fig. 11: Configuration parameters dialog

- The configuration from the instrument is loaded on the *Configuration* tab.
- Additional instrument behavior can be preset on the *Preferences* tab.
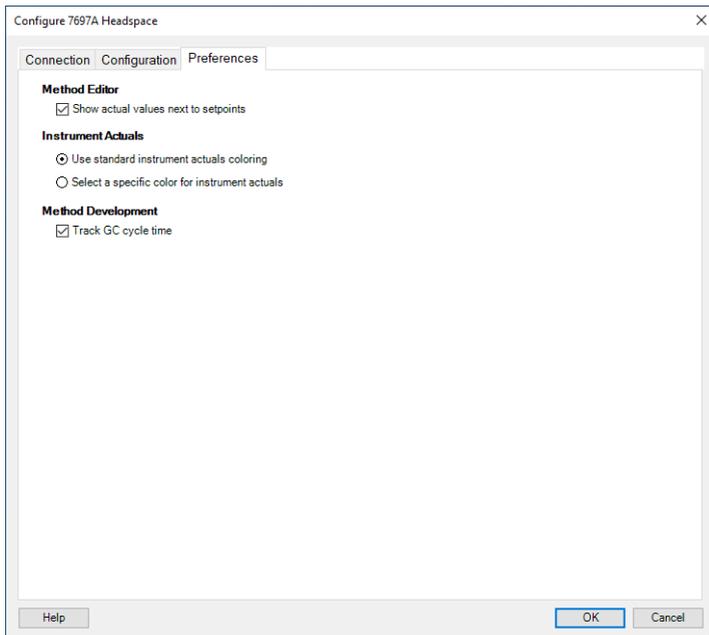
Fig. 12: Preferences parameters dialog

- After the configuration is finished, click the *OK* button to return to the *ICF Setup* dialog.
- Then click *OK* button in the lower part of the *ICF Setup* dialog and the module will then appear in the *System Configuration*.

....

Caution: If you change the configuration of the **Agilent ICF** system (for example remove and add another instruments), the communication parameters like *IP address* will be lost and it is necessary to set them again.

....

Caution: When the *ICF Setup* dialog is open for extended time, communication between **Clarity** and the intrument may be lost. In such case an error message will be displayed. After accepting error message it is necessary to start with the instrument configuration from very beginning starting with clicking the *Add* button (See "Clarity Configuration" on page 12) in the *System Configuration* dialog.
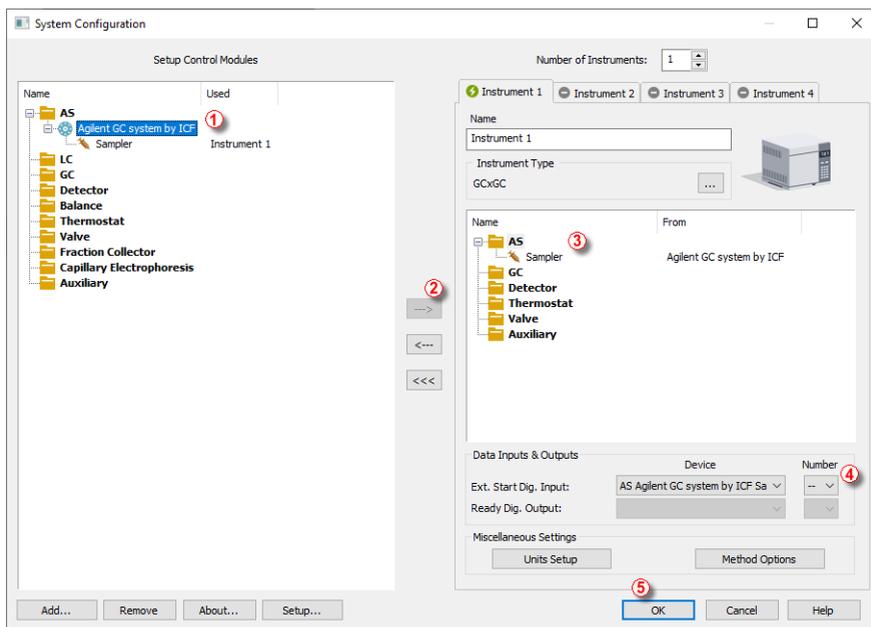
Fig. 13: System Configuration

- After previous steps drag and drop the **ICF** icon from the *Setup Control Modules* list ① on the left side of the *System Configuration* dialog to the desired *Instrument* tab on the right side ③ (or use the ⟶ button ② to do so).

- Set the *Ext. Start Dig. Input* ④ on the right bottom side of the *System Configuration* dialog to the default value ‑ ‑ if the sampler is connected to the GC by synchronization cable. The sampler will trigger the run in the GC and it will propagate to the **Clarity**.

- When the synchronization cable is not present between the GC and the Headspace, the *Ext. Start Dig. Input* ④ should be set to value *"1"* - 1 . In this case the Headspace triggers the run in **Clarity** and it will propagate to the GC. For some GC it is necessary to choose the option *Clarity starts this device* during the setup.

- When all modules have been configured the *System Configuration* dialog can be closed by clicking the *OK* button.

Note: The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

3.5 Installation Qualification of Agilent ICF

Agilent ICF is an external program developed by Agilent and for that reason it must be validated using their utility. If you have installed Clarity with Agilent ICF, **the IQ is valid only if successful validation of ICF is attached**.

The validation of ICF can be performed directly from the *IQ Report.*

Caution: When Clarity expects *Agilent ICF* is installed then **IQ** expects the same. If (due to any reason) the *Agilent ICF* installation is not found within Clarity, the *Installation Qualification Test* status is set by default to *FAILED*. To resolve this, it is necessary to re-install **Agilent ICF** through Clarity reinstallation and then perform **IQ** again.

Fig. 14: IQ Report with ICF installation present

Click the link *"here"* ① , after that it is necessary to click *Run* in two pop-up windows. *Agilent Software Verification Tool* window will open. Select what report file type should be generated and define post-qualification actions. Click *Qualify* ② to run the IQ. The HTML reports are opened in the default browser if the *Open reports* option was enabled. Installed drivers and their versions are listed at the end of the report.
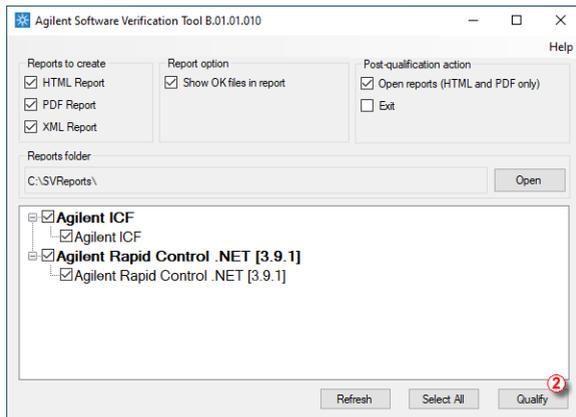
Fig. 15: Agilent Software Verification Tool

Address field of the generated report displays the location of the actual report.
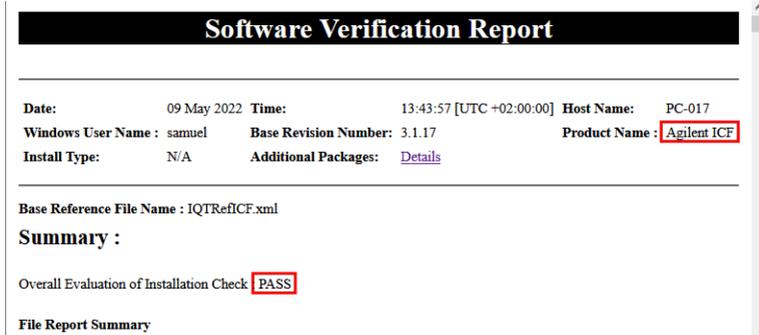
Fig. 16: ICF Report - PASS

4 Using the Agilent ICF GC

There are multiple places for setting the parameters of the **Agilent ICF for GC** in the **Clarity**:

- the Method Setup - GC tab

Caution: Before opening the *Instrument* window with configured **Agilent ICF** devices, ensure there is not any other PC connected to GC. Otherwise there will be raised an error during the connection.

4.1 Method Setup - GC

Fig. 17: Method Setup - GC

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

From **GC tab** ① you can set all parameters for GC or AS control and instrument configuration.

- A window providing graphical plots or curves that represent selected method parameters during the run is located in the upper part of the **GC tab**. The setting of the plots can be made through dedicated button ② .
- For advanced setting of all other parameters use all tabs ③ in the row.

Note: Actual parameters downloaded from GC are used for new method or method adaptation instead of default parameters.

Note: When there is an autosampler used it is necessary to follow numbering rules for vials' positions in *Sequence* and *Single Analysis* dialog. Numbers of vials' positions are dependent on used type of tray. When autoinjector without external tray (for example 16 position autoinjector turret) is used the vials' positions numbers inserted to software have to be from interval <101, 116>. A number for vial position equals to vial position +100, for example for vial placed in position 8 a position number is 108. In case that a 100-position tray is used the vials' positions are from interval <1, 100>, for example for vial placed in position 38 a position number 38 has to be used.

Note: Autoinjector turret without external tray does not support identification of missing vials. In case there will be requested to inject from position where vial is not placed the injection will take place as usual. This injection will result in chromatogram with unexpected signal pattern (for example).

4.2 Method Setup - AS
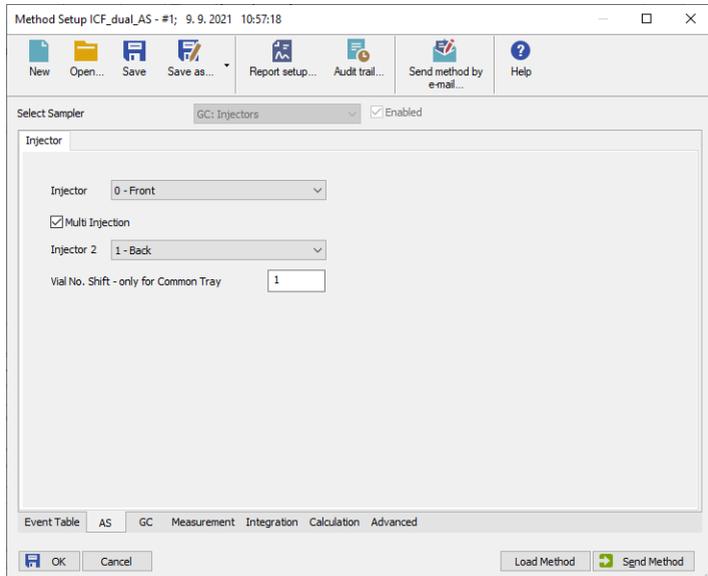
Fig. 18: Method Setup - AS

Injector

Default option where the type of the injector can be selected, i.e. front or back.

Multi Injection

By checking this checkbox, both selected samplers are injecting simultaneously.

Note: Such option is visible only when dual tower samplers are used.

Vial No. Shift

Vial number shift will be applied for second sampler's vial, selected number will be added to the vial number stated in Sequence.

Note: Only when the tray is common for both samplers.

4.3 Device Monitor

The *Device Monitor* window can be invoked by the *Device Monitor* command from the *Analysis* menu or using the **Device Monitor** icon in the *Instrument* window.

You may use icon for accessing *Device Monitor* from all **Clarity** windows. For the **Agilent ICF**, it displays the states of configured **Agilent** system and enables the user to monitor and/or change states of this **Agilent** system.
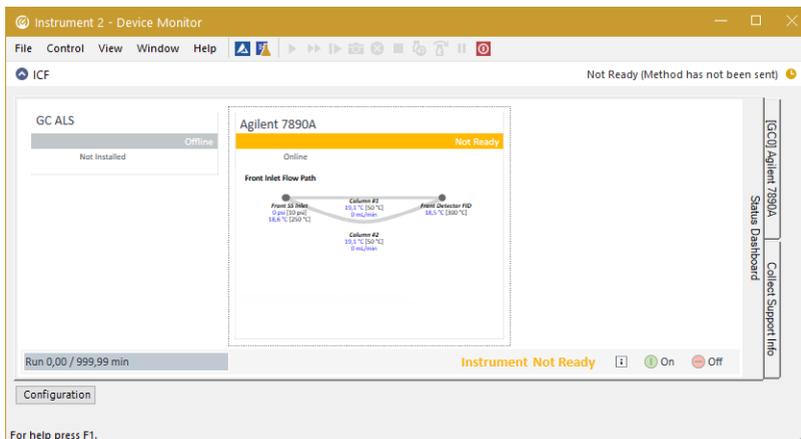
Fig. 19: Device Monitor
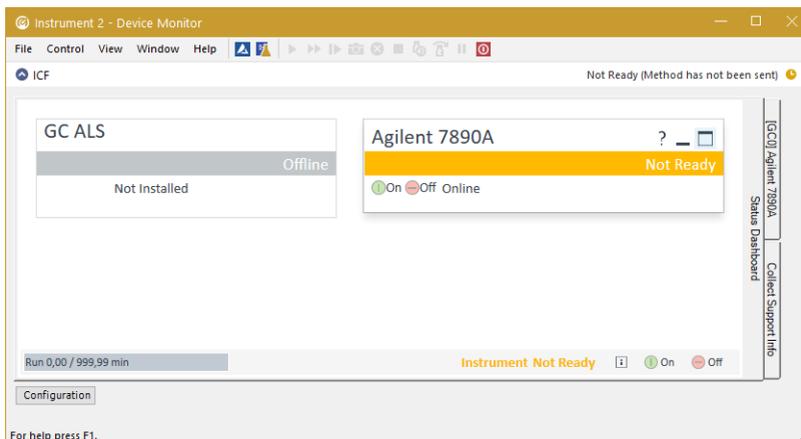
Fig. 20: Device Monitor - simplified view

Button *Configuration* allows to enter and modify configuration of GC directly from the *Device Monitor*. Modifications of configuration may cause that method might need an adaptation before its use in analysis. The *Configuration* feature is not accessible during running analysis or running *Sequence*.

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

Note: Tabs on right side of the *Device Monitor* allowing setting collection of diagnostic information are displayed only when **Clarity** is started under Administrator Windows account. For other Windows accounts, when running **Clarity**, there are displayed fewer tabs on the right side of the *Device Monitor*.

5 Troubleshooting

When the remedy for some problem cannot be discovered easily, the recording of communication between **Clarity** and *Agilent ICF* control module can significantly help the **DataApex** support to discover the cause of the problem. The recording can be found in the **Clarity** installation directory (C:\CLARITY \CFG\DEBUG_ LOGS\PGMLOG by default). Older communication log files are removed and replaced by newer ones, therefore, it is necessary to copy out the communication log which was collected during the problem occurrence soon after it happened.

In case you cannot establish communication with Agilent instruments, please review the following issues:

Check the network connection using the Ping command

The problem in communication between **Clarity** and Agilent instruments may be caused by wrong network configuration, firewall preventing the connection, etc. Run the command line in Windows (for example by pressing the **Windows key** together with the **R** key, in the displayed *Run* window type *cmd* and press *Enter*).

In the command line type ping <ip-address-of-instrument> and press *Enter*. The *IP Address* is the same you entered in the ICF Setup dialog.

5.1 Specific Problems

▌ **Clarity can't be run and it displays "Agilent ICF is not installed correctly." message.**

Cause: The cause of the problem is that the Agilent ICF has a different version than expected by Clarity. It can typically happen when other software also using Agilent ICF decides to reinstall it. Thus next time Clarity expects different version than is installed.
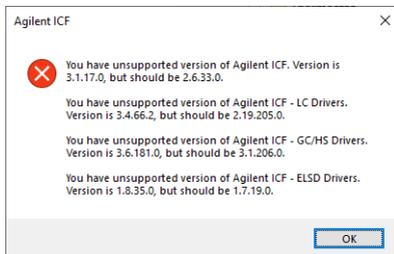

Fig. 21: An Agilent ICF error dialog during Clarity start

Solution: Solution is to reinstall Agilent ICF during Clarity installation. Follow steps described in the chapter **"Installation procedure"** on pg. **9**.

▌ **Headspace autosamplers have not been tested.**

Cause: There have been implemented *Sequence Mode* and *Enable Sample Overlap* functionality but their usage with Headspace autosamplers has not been tested yet.

*Solution:* We are working to fix this situation.

▌ **Print of *Injection Control* is not functional.**

Cause: Agilent ICF is incompatible with some Clarity printing procedures.

Solution: Method parameters of autosampler control are printed together with another GC control method parameters using *Instrument Control* item within *Method* section in *Report Setup* dialog.

▌ **ICF problems during installation or operation.**

Cause: The cause of the problem might be that *Microsoft .NET Framework* is not enabled. Agilent ICF requires *Microsoft .NET Framework* enabled for its function.
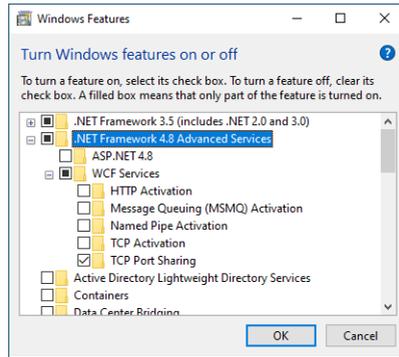
Fig. 22: Turn Windows features on or off - Windows 10
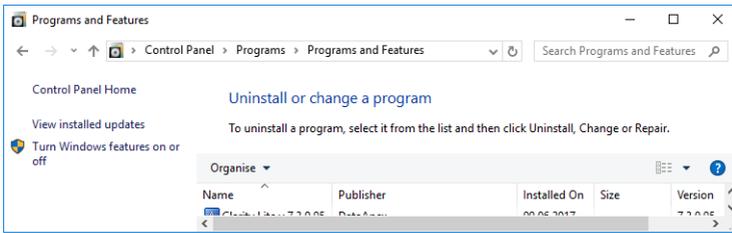
Fig. 23: Location of Turn Windows features on or off in Windows 10

Solution: Check if *Microsoft .NET Framework* is enabled in *Turn Windows features on or off* dialog. If *Microsoft .NET Framework* is not enabled enable it. *Turn Windows features on or off* dialog is accessible in *Control Panel* window under section *Programs* in its subsection *Programs and Features*.

Note: *Microsoft .NET Framework* version 3.5 is not needed. The required version 4.7.2 or higher can be only disabled in Windows 8.1 or newer, where it is installed with system updates.

▋ **Signal #X not available.**

Cause: Incompatible version of the method.

Solution: Change the signal number in the method from X to the different one or create a new method.