



Installing and using CW 10.x for TPMS applications

Revision 5

January 2017

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1. Installing Code Warrior for MCUs v10.x

a. General information

The TPMS projects provided by NXP are compatible with all CodeWarrior versions greater than 10.6.3 (included). Versions below 10.6.3 can be used but require an additional update package installation. This is why we will focus on versions above 10.6.3.

The screenshots refer to version 10.7 but the whole procedure is applicable to all versions above 10.6.3.

All information on Code Warrior for MCU can be found on the CodeWarrior for MCU webpage: www.nxp.com [CW MCU webpage](#). If the link does not work, go to: www.nxp.com > *Software and Tools* > *Software Development Tools* > *CodeWarrior Development Tools* > *CodeWarrior Development Studios* > *CodeWarrior for Microcontrollers*.

An evaluation version can be downloaded from this page (need to sign in).

PRODUCTS APPLICATIONS SUPPORT ABOUT

NXP > Software and Tools > Software Development Tools > CodeWarrior Development Tools > CodeWarrior Development Studios > CodeWarrior for Microcontrollers

CW-MCU10: CodeWarrior® for MCUs (Eclipse IDE) - ColdFire®, 56800/E DSC, Kinetis®, NXP® 56xx, RS08/S08, S12Z v10.7

Overview Documentation Downloads Hardware & Tools Buy/Parametrics Training & Support

Jump To

- Overview
- Features
- Target Applications
- Community Discussion
- Getting Started with CodeWarrior
- System Requirements
- Support Policy

Overview

Our CodeWarrior® for Microcontrollers v10.7 integrates the development tools for the ColdFire®, ColdFire+, DSC, Kinetis®, MPC5xxx, RS08, S08 and S12Z architectures into a single product based on the Eclipse open development platform. The modular installer provided with the tools, however, allows you to select and install only the architecture support you need for your application development.

CodeWarrior IDE Support to Change for Kinetis® Devices. [Read More](#)

[Buy](#) [Download Eval](#)

b. Downloading the IDE

The evaluation version is free. On this page choose the Eclipse IDE for MCUs v10.7. It is also possible to download version 10.6.4 in the panel *Previous*:

Product Information

CodeWarrior Development Tool - Evaluation Software

To register a New Product please click on the button below

[Register](#)

Current

Previous

Version	Description	
10.7	CodeWarrior for MCU Professional Edition (Windows - Eclipse) Evaluation / Updates	Download Log
10.2	CodeWarrior for MCU Professional Edition (Linux - Eclipse) Evaluation / Updates	Download Log

After reading the license agreement, select the desired executable (Offline or Online) and download it either directly by clicking on the file or via the installer:

Product Download


CodeWarrior for MCU Professional Edition (Windows - Eclipse) Evaluation / Updates

Files

License Keys

Notes

[Download Help](#)

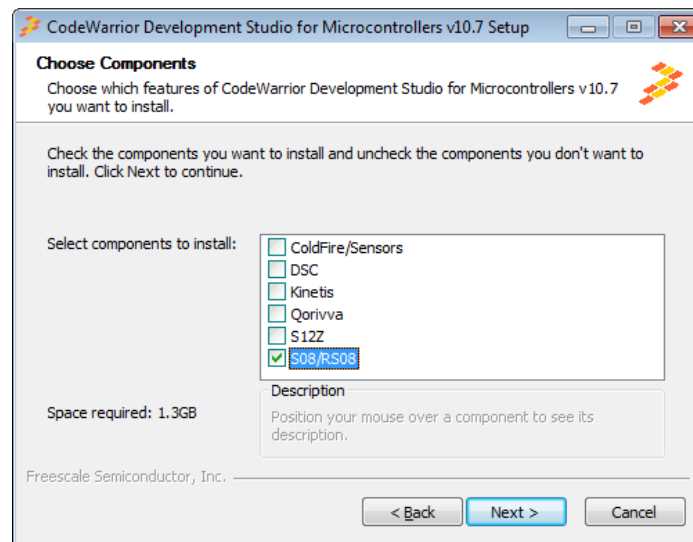
Show All Files  2 Files

<input type="checkbox"/>	+	File Description	File Size	File Name
<input type="checkbox"/>	+	Installer: CodeWarrior for Microcontrollers (Windows Hosted, Eclipse based) v10.7 Offline	1.6 GB	CodeWarrior for Microcontrollers (Windows Hosted, Eclipse based) v10.7 Offline.exe
<input type="checkbox"/>	+	Installer: CodeWarrior for Microcontrollers (Windows Hosted, Eclipse based) v10.7 Online	516.4 MB	CodeWarrior for Microcontrollers (Windows Hosted, Eclipse based) v10.7 Online.exe

c. Installing CW 10.x

Once downloaded the application can be executed.

After having read and accepted the license agreement the following window appears. For TPMS applications, the only necessary components to be installed are **S08/RS08** components. However more components can be installed for further applications.



Then continue and finish the installation.

2. Programming the FXTH reference project

a. Downloading the project

A TPMS reference project can be found on the [FXTH87 webpage: www.nxp.com](http://www.nxp.com) > *Sensors* > *Pressure Sensors* > *Tire Pressure Monitoring Sensors* > *FXTH87* > *Software & Tools*. Under *Lab and Test Software*, the TPMS reference projects and Graphical user interface can be found.

FXTH87: FXTH87 Tire Pressure Monitor Sensor Family

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Lab and Test Software (8)

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	GRB-TPMS-FXTH871511-434 (REV B) Gerber file set TPMS FXTH871511 434MHz ZIP 309.4 kB GRB-TPMS-FXTH871511-434 06/08/2015	Download
	Schematic TPMS FXTH870912 315MHz (REV B) Schematic TPMS FXTH870912 315MHz 900kPa. Board reference : 170-28333 Rev-B, matching network 0402. PDF 64.5 kB SCH-TPMS-FXTH870912-315 04/29/2014	Download
	Schematic TPMS FXTH871511 434MHz (REV B) Schematic TPMS FXTH871511 434MHz 1500kPa. Board reference: 170-28688 Rev-A1, matching network 0603. PDF 55.1 kB SCH-TPMS-FXTH871511-434 06/08/2015	Download

More ▾

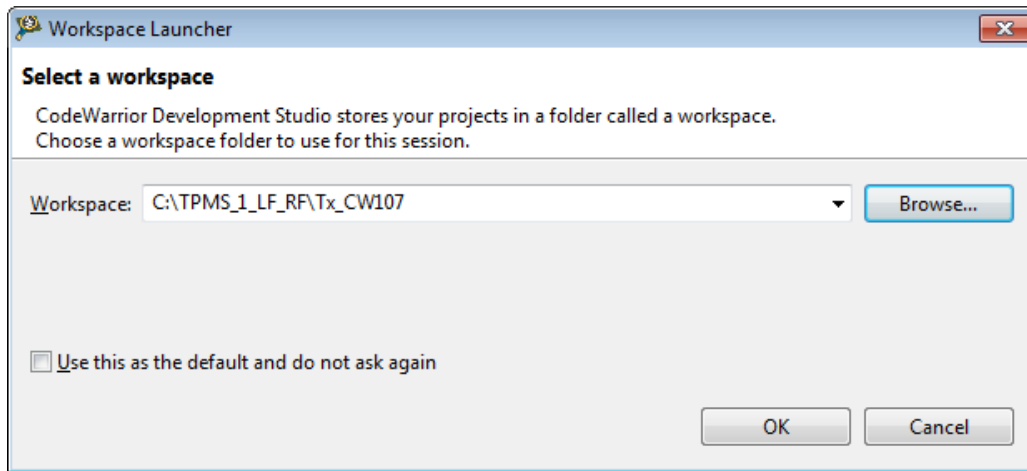
Lab and Test Software (8)

	TPMS FXTH87 MKW01 CW10 Rev4 (REV 4) ZIP 2.5 MB TPMS-FXTH87-MKW01-CW10 05/06/2015	Download
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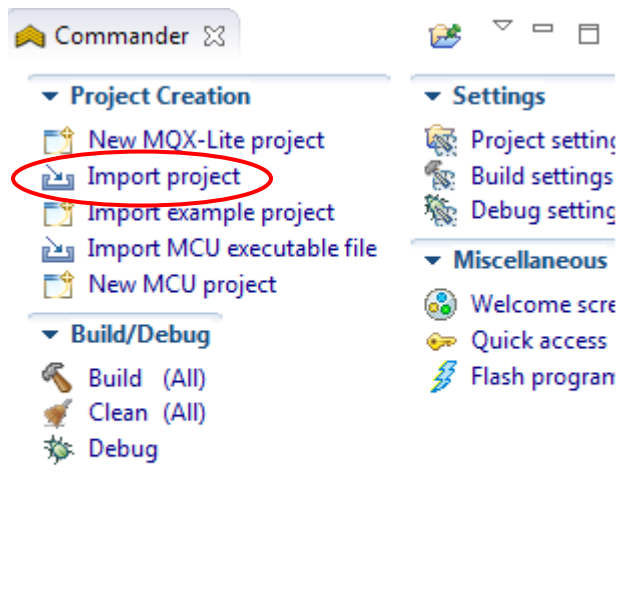
Download the FXTH reference project **TPMS_FXTH87_MKW01_LF_RF_Communication_CW10_RevX** and unzip it. Documentation on the TPMS demo setup can be found in the *Documentation* folder of the project.

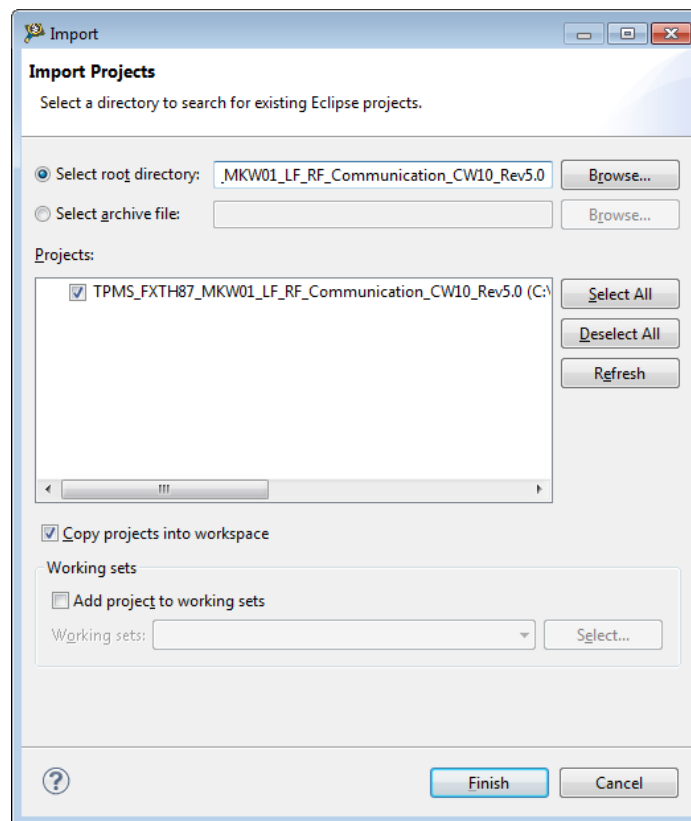
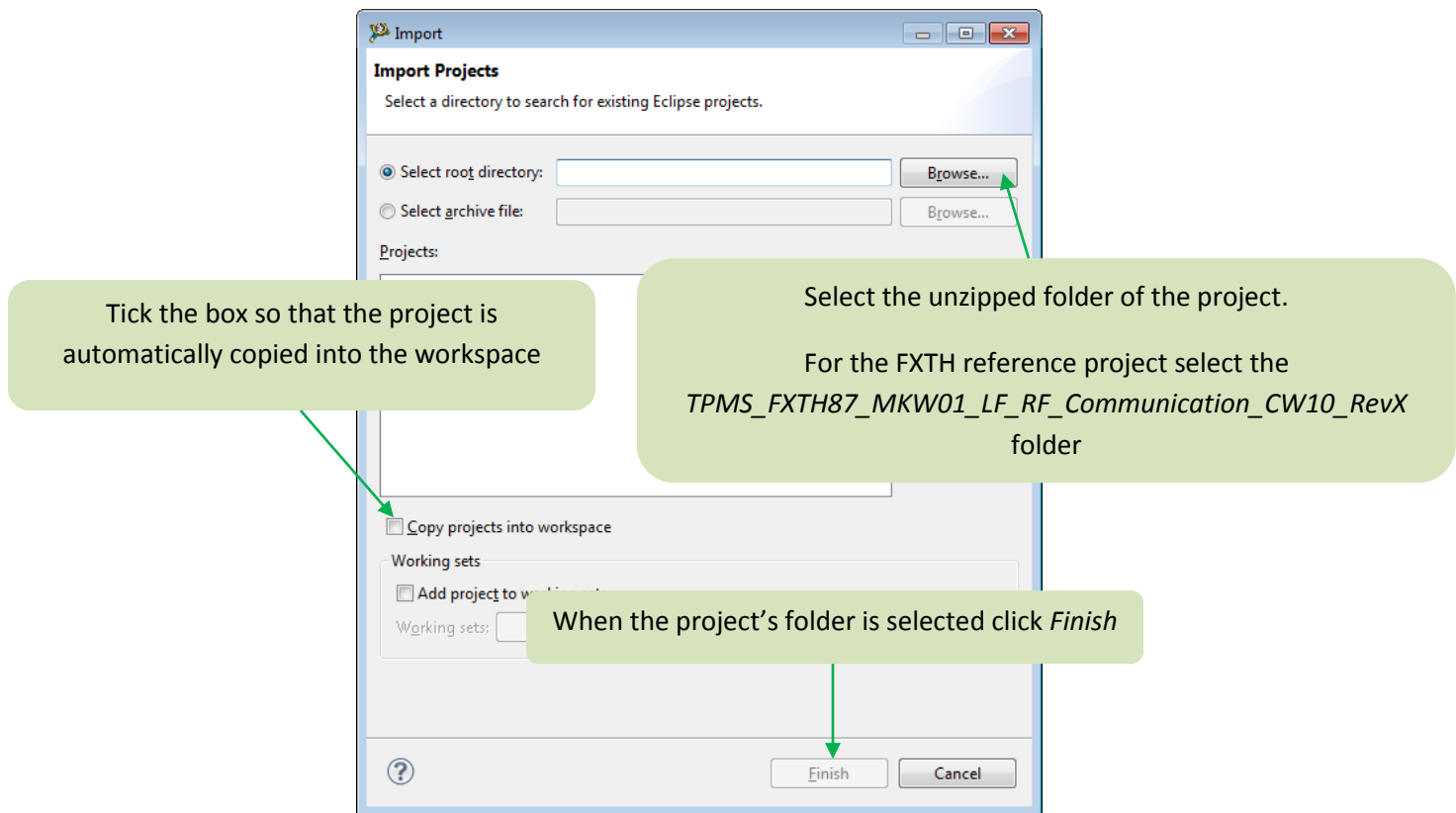
b. Importing the project under CW10.x

Start CodeWarrior v10.x. Select the workspace i.e. the folder in which your project will be stored.

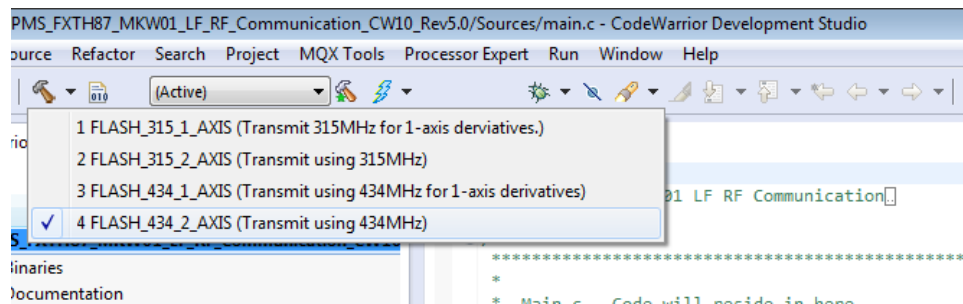
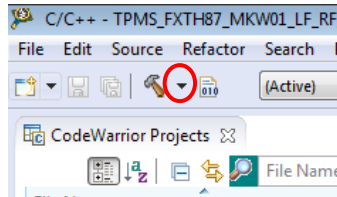


When the IDE is started click on *Import Project* (bottom left panel):





Once the project is opened, build it by clicking on the hammer. Four compilation targets are available, select the appropriate one (here 434MHz, 2-axis device).



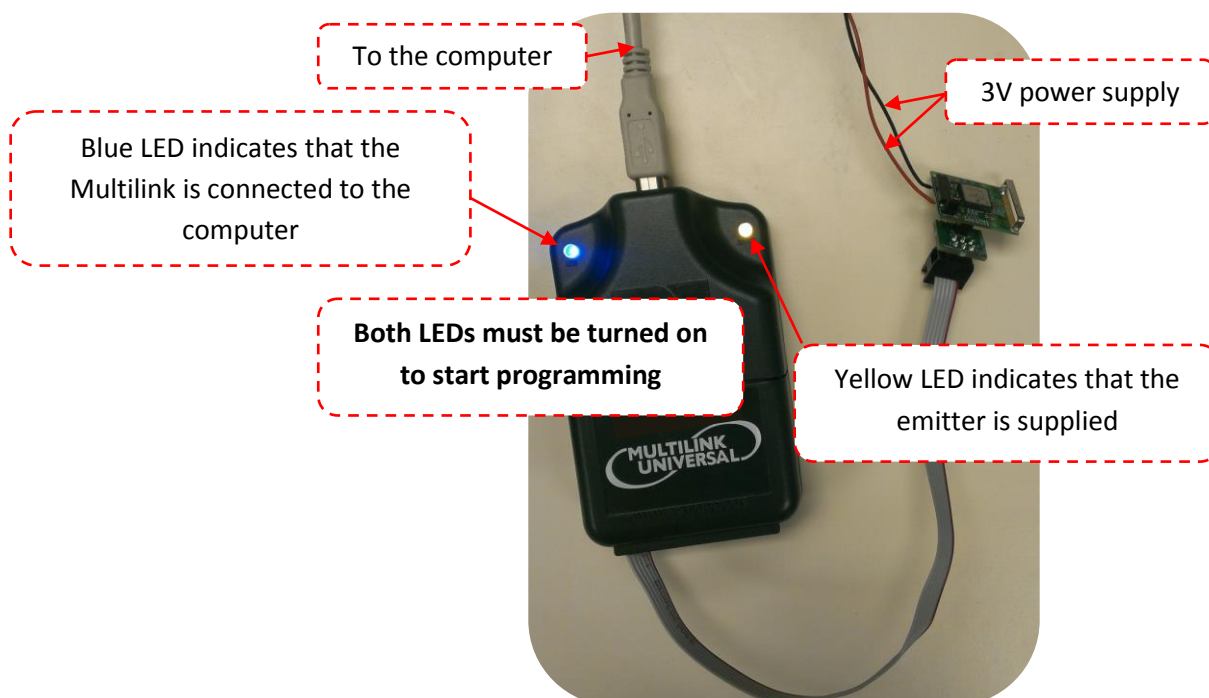
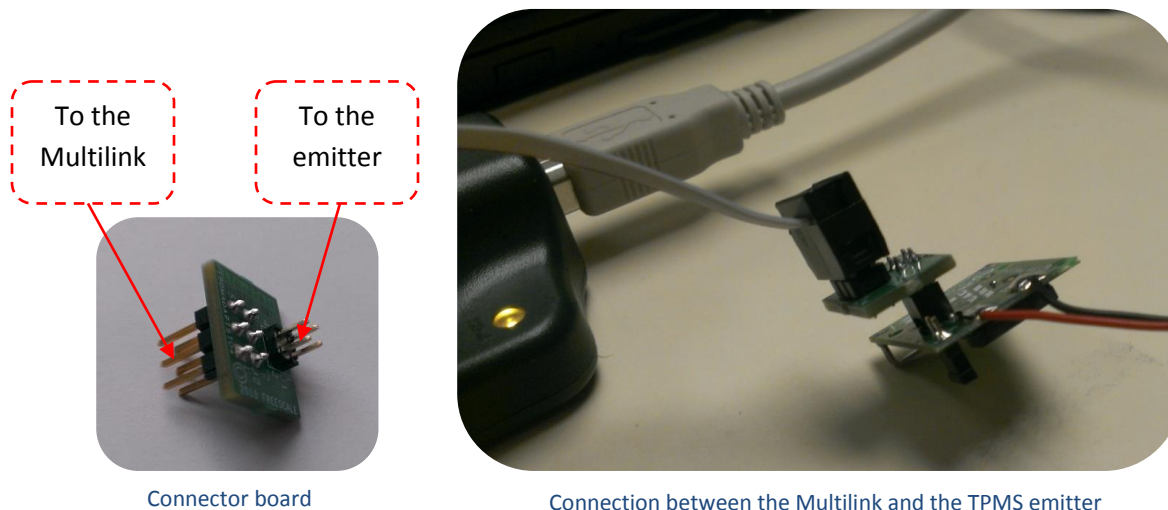
If the compilation error 'No rule to make target' occurs, clean the project before building it (right click on the project and select *Clean Project*).

c. Programming the device

i. Hardware set up

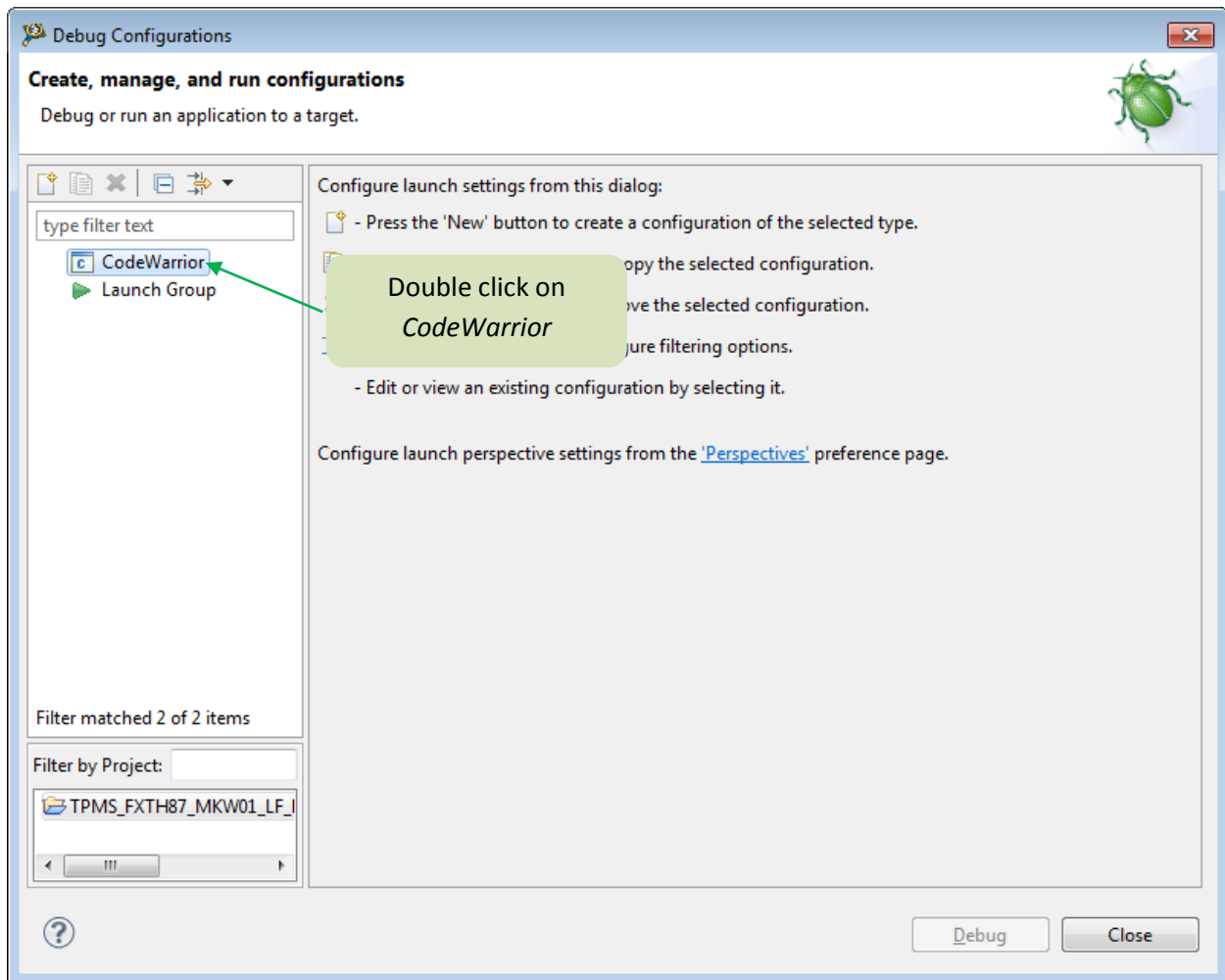
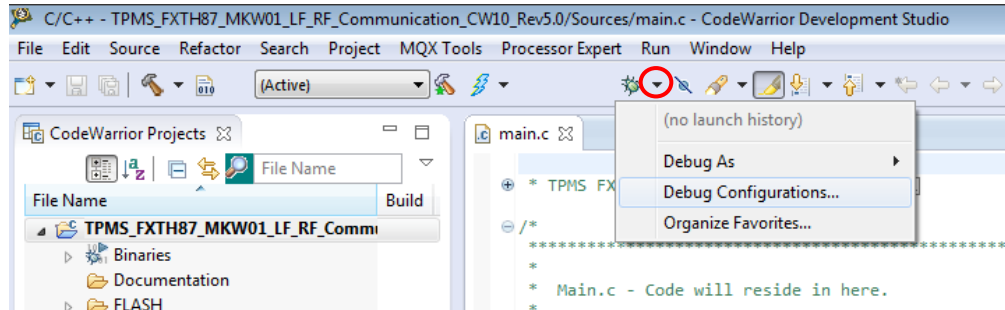
To program the TPMS emitter a P&E's USB Multilink Universal is required. For more information about this product visit [P&E Multilink](#) web page (search for USBMULTILINKBDM on www.nxp.com).

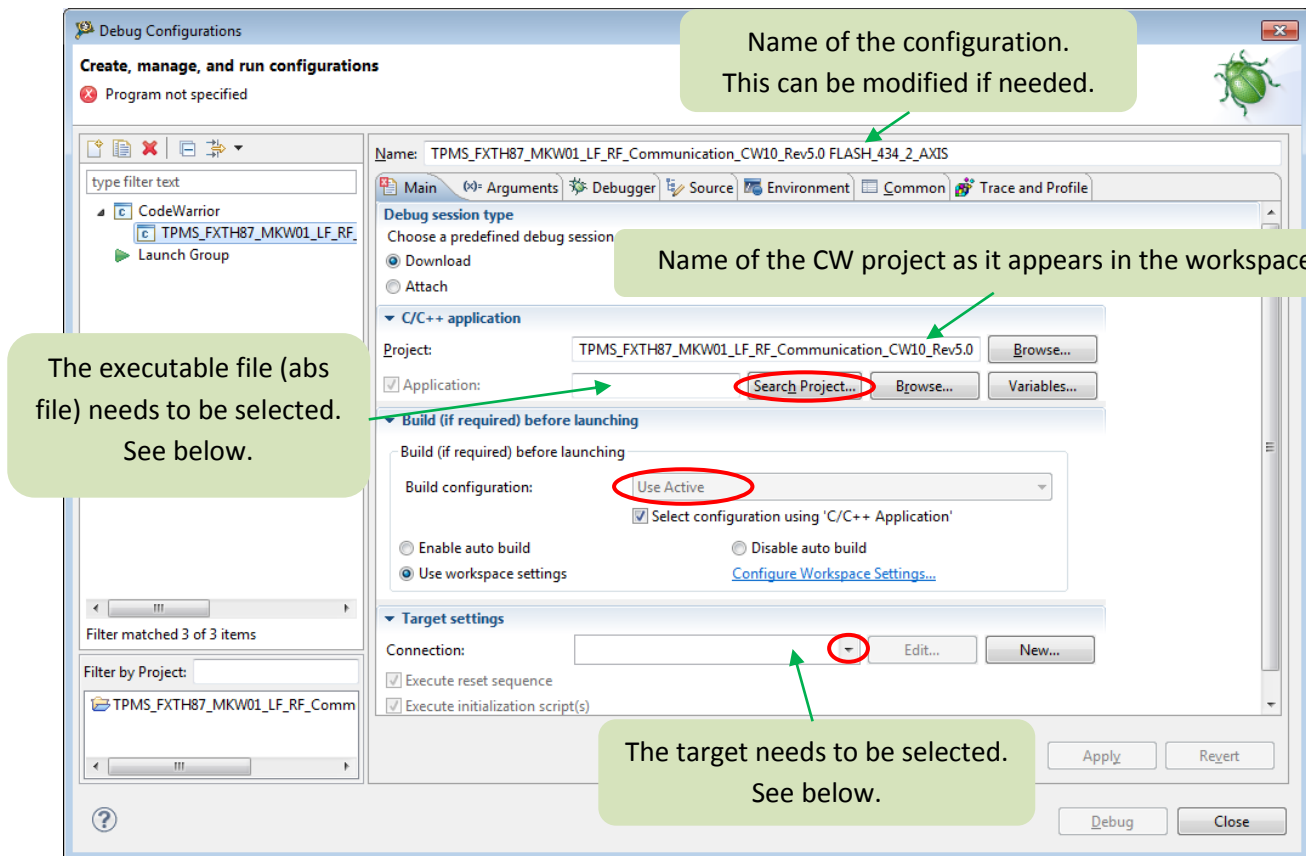
The Multilink connects to the TPMS emitter board via the connector board as shown below:



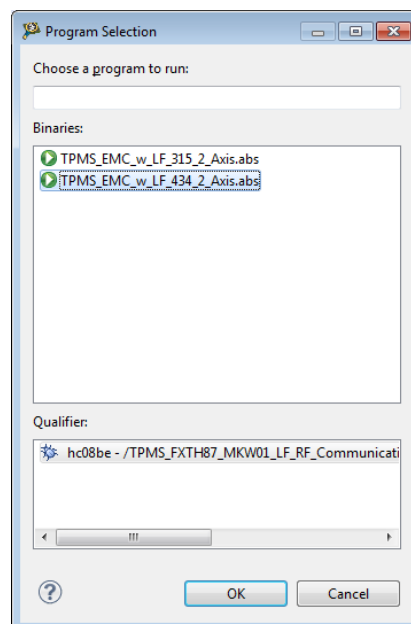
ii. Debug Configuration

Open the *Debug Configuration* window:

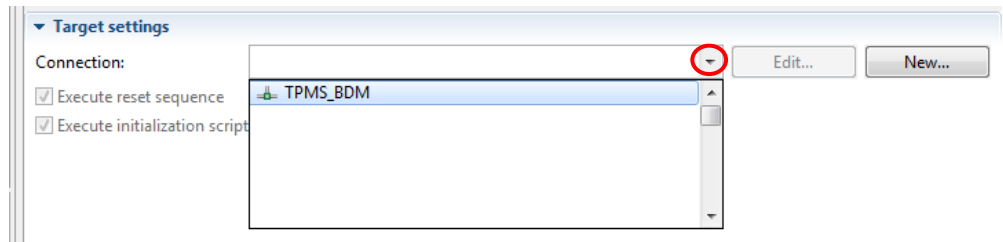




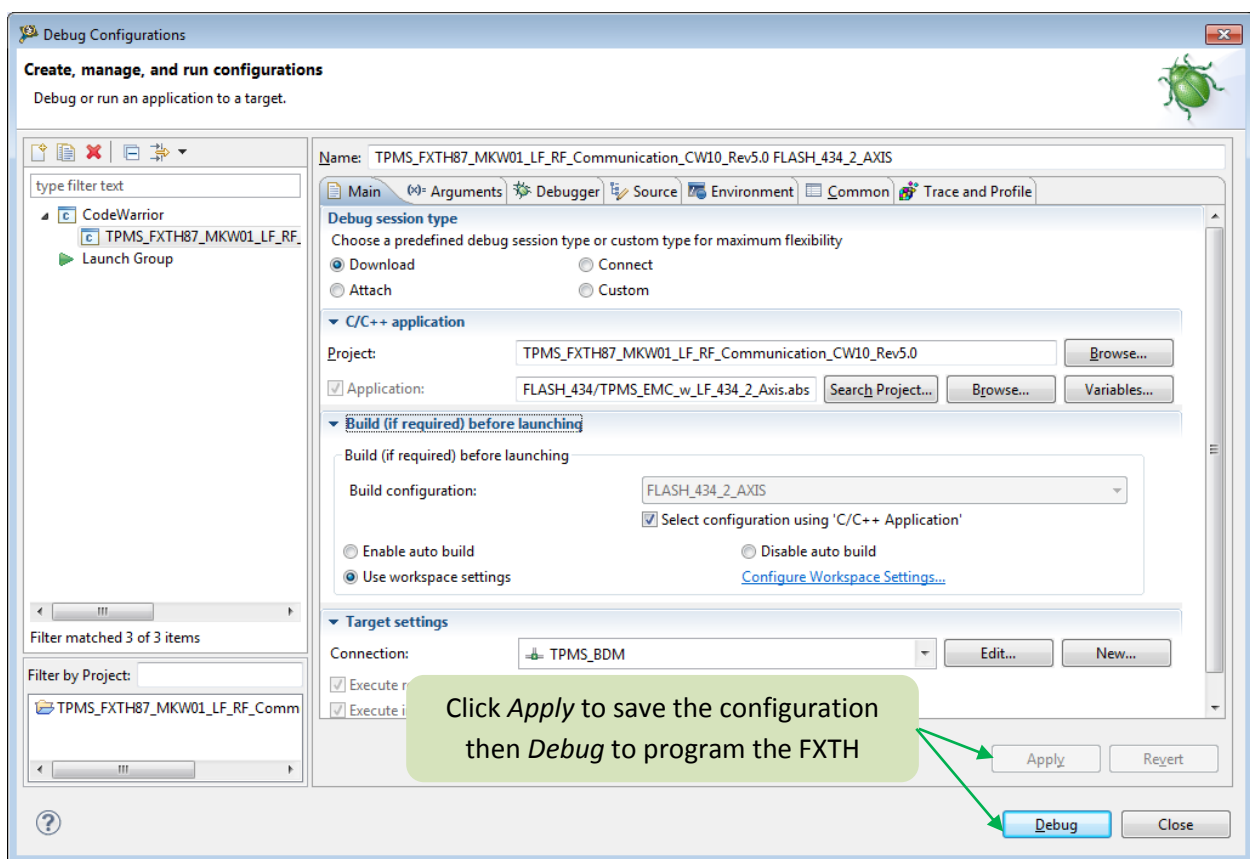
To select the abs file click on *Search Project* and select the frequency used at compilation (here 434MHz). If no binary is available, it means the project has not been built. Build the project in order to select and application file (binary):



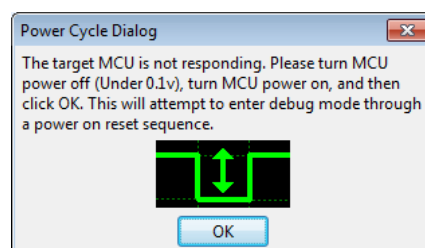
To specify a target, click on the little arrow of the empty connection field and the *TPMS_BDM* connection will be available. Select this connection.



If there is no target available, go to the section *Troubleshooting – Debug configuration: creating a target*.



If the following message appears during programming, turn off then on the FXTH power supply without disconnecting the BDM then click *OK*.



d. Running the program

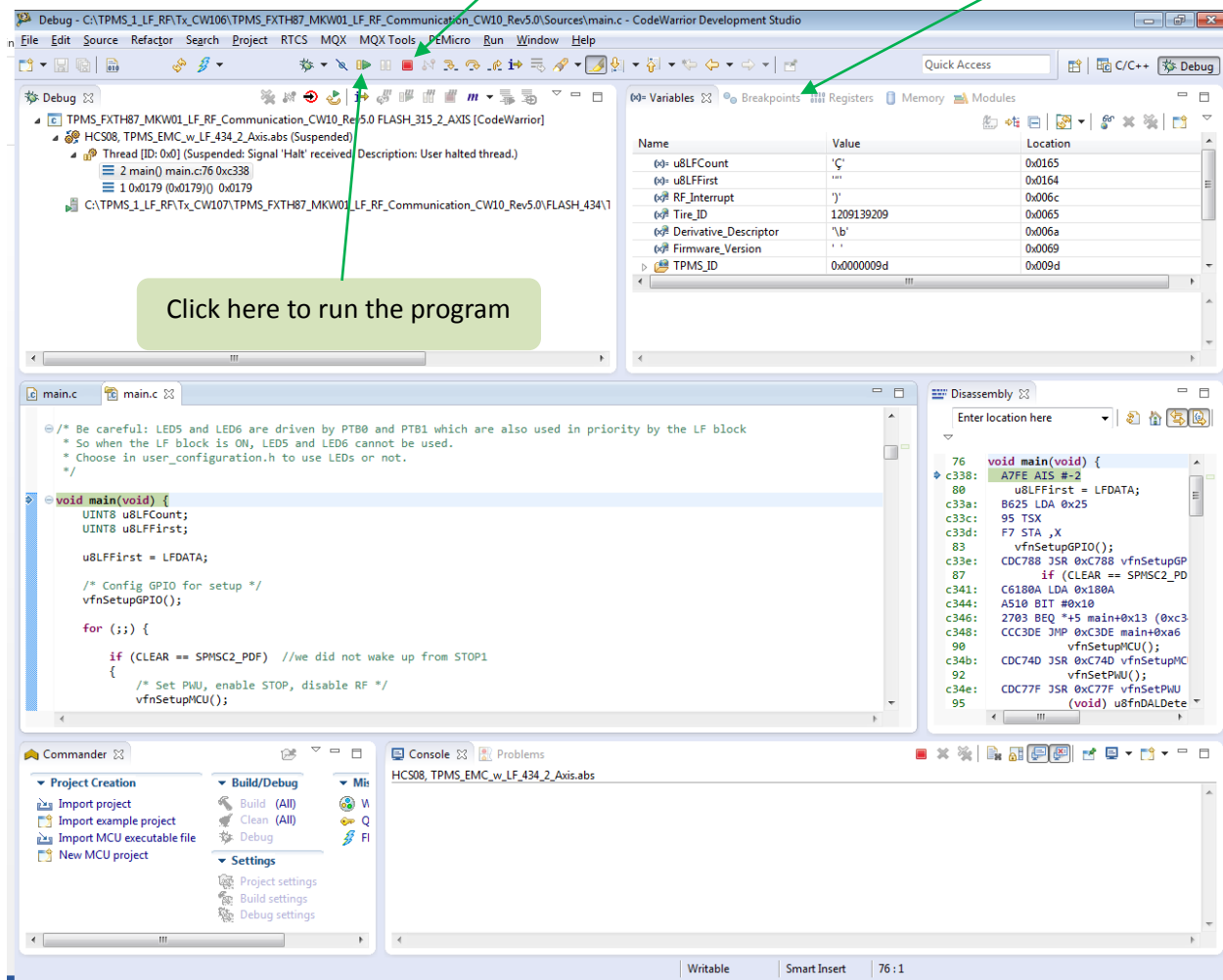
When the debugger has been launched the following window is displayed.

- In order to run the program and leave the debugger click on *Run* then on *Terminate* and leave the *Debug* panel. Disconnect the BDM from the FXTH, then do a **hardware reset** of the TPMS emitter (turn off then on the FXTH after the BDM has been disconnected). The FXTH may not start correctly if the hardware reset is not done after disconnecting the BDM.
- In order to work in debug mode do the following:

Click here to terminate the debug session

In this window the breakpoints can be managed. Look at the important note concerning the breakpoints below.

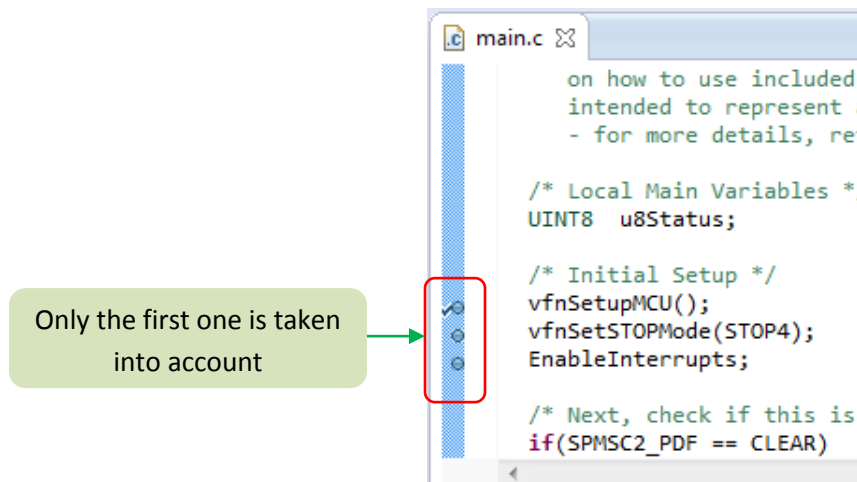
Click here to run the program



Important note – breakpoints:

With TPMS devices it can be used only **ONE** breakpoint at a time. By default one breakpoint is set by the debugger at the beginning of the main. That is why the program is stopped at the beginning of the main after the debugger has been launched.

Once the program has been stopped at the beginning of the main, another (and only one) breakpoint at a time can be set elsewhere. If several breakpoints are set, only the first one will be taken into account.

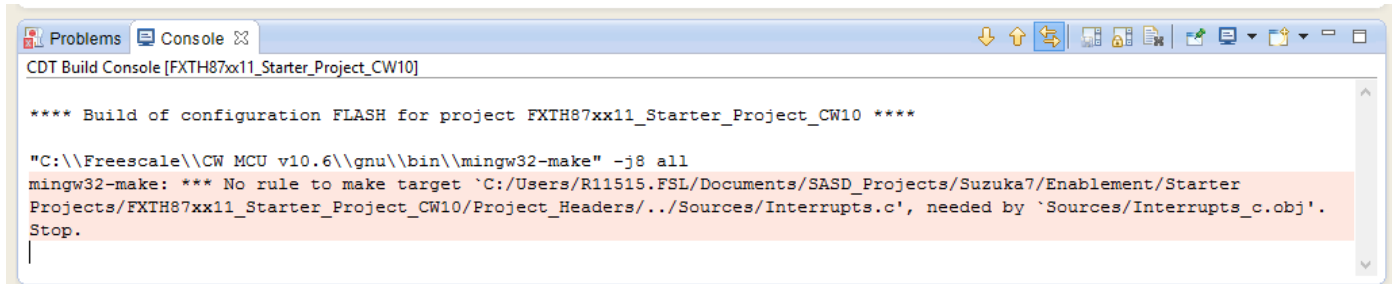


If the user wants to have several breakpoints **it is not possible to have them at the same time**. The only possible thing to do is to set one breakpoint, then when the program stops on this breakpoint the user can delete it (by double clicking on it) and set a new one at another line. Then when the program reaches this other breakpoint the user can delete it, set a new one...

3. Troubleshooting

a. Compilation error 'No rule to make target'

⇒ **No rule to make target**



The screenshot shows the CDT Build Console for the project 'FXTxH87xx11_Starter_Project_CW10'. The output indicates a build of configuration FLASH. The error message is: 'mingw32-make: *** No rule to make target 'C:/Users/R11515.FSL/Documents/SASD_Projects/Suzuka7/Enablement/Starter Projects/FXTxH87xx11_Starter_Project_CW10/Project_Headers/./Sources/Interrupts.c', needed by 'Sources/Interrupts_c.obj'. Stop.'

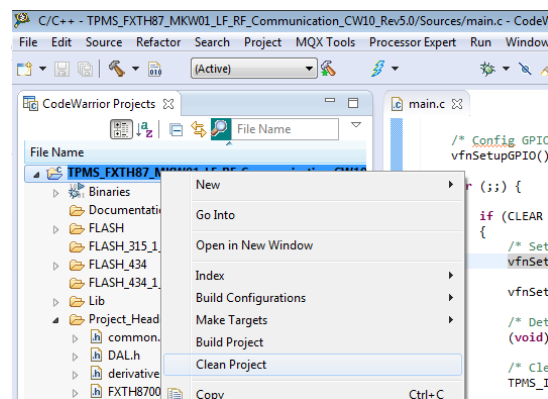
```

**** Build of configuration FLASH for project FXTxH87xx11_Starter_Project_CW10 ****

"C:\Freescall\CW MCU v10.6\gnu\bin\mingw32-make" -j8 all
mingw32-make: *** No rule to make target 'C:/Users/R11515.FSL/Documents/SASD_Projects/Suzuka7/Enablement/Starter
Projects/FXTxH87xx11_Starter_Project_CW10/Project_Headers/./Sources/Interrupts.c', needed by 'Sources/Interrupts_c.obj'.
Stop.

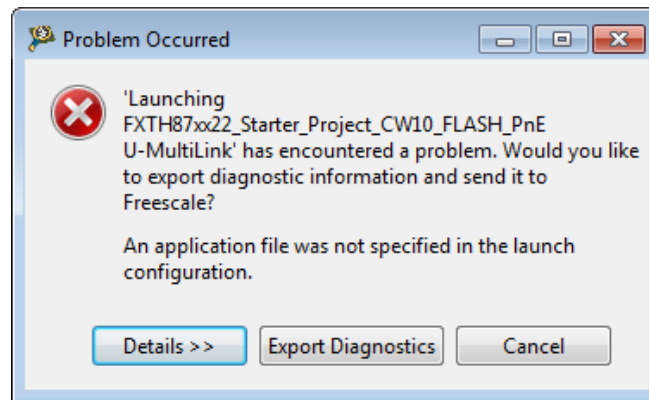
```

It means the project needs to be cleaned before being built. For that, right click on the project and select *Clean Project*. Then try to build it again.

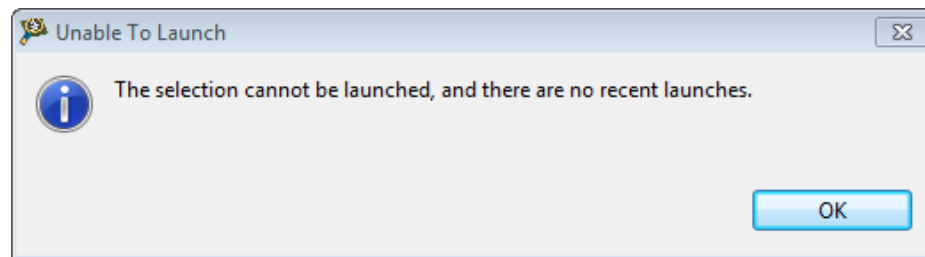


b. When entering the debug session: 'Problem occurred' or 'Unable To Launch'

⇒ **Problem Occurred or Unable To Launch**

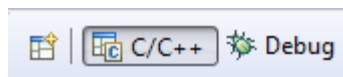


Or

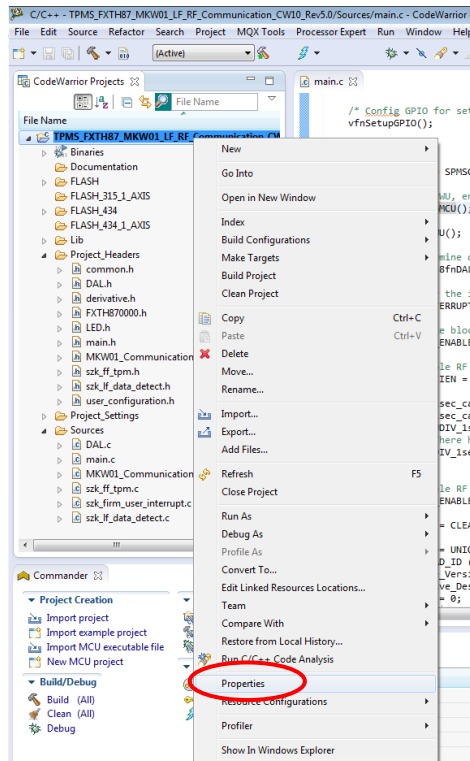


Before programming the device some Debug Configurations need to be (re)selected. To do that the project first needs to be built (be careful of the compilation target selected!).

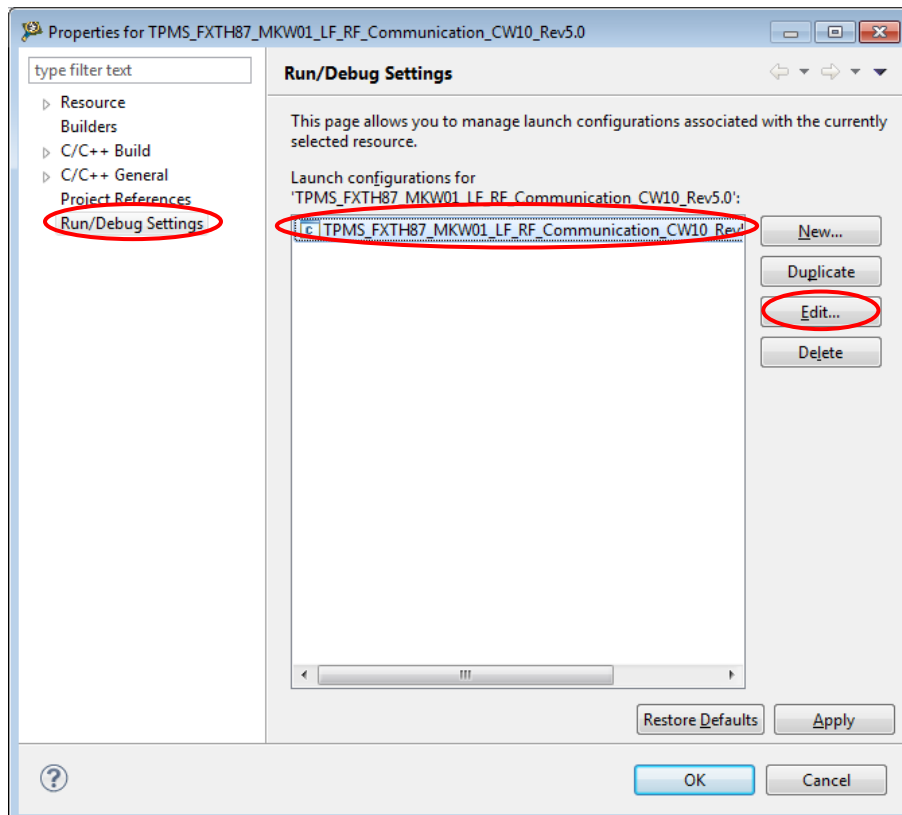
Leave the debugger if it has been launched. To leave the debugger click on C/C++ at the top right part of the CW window.



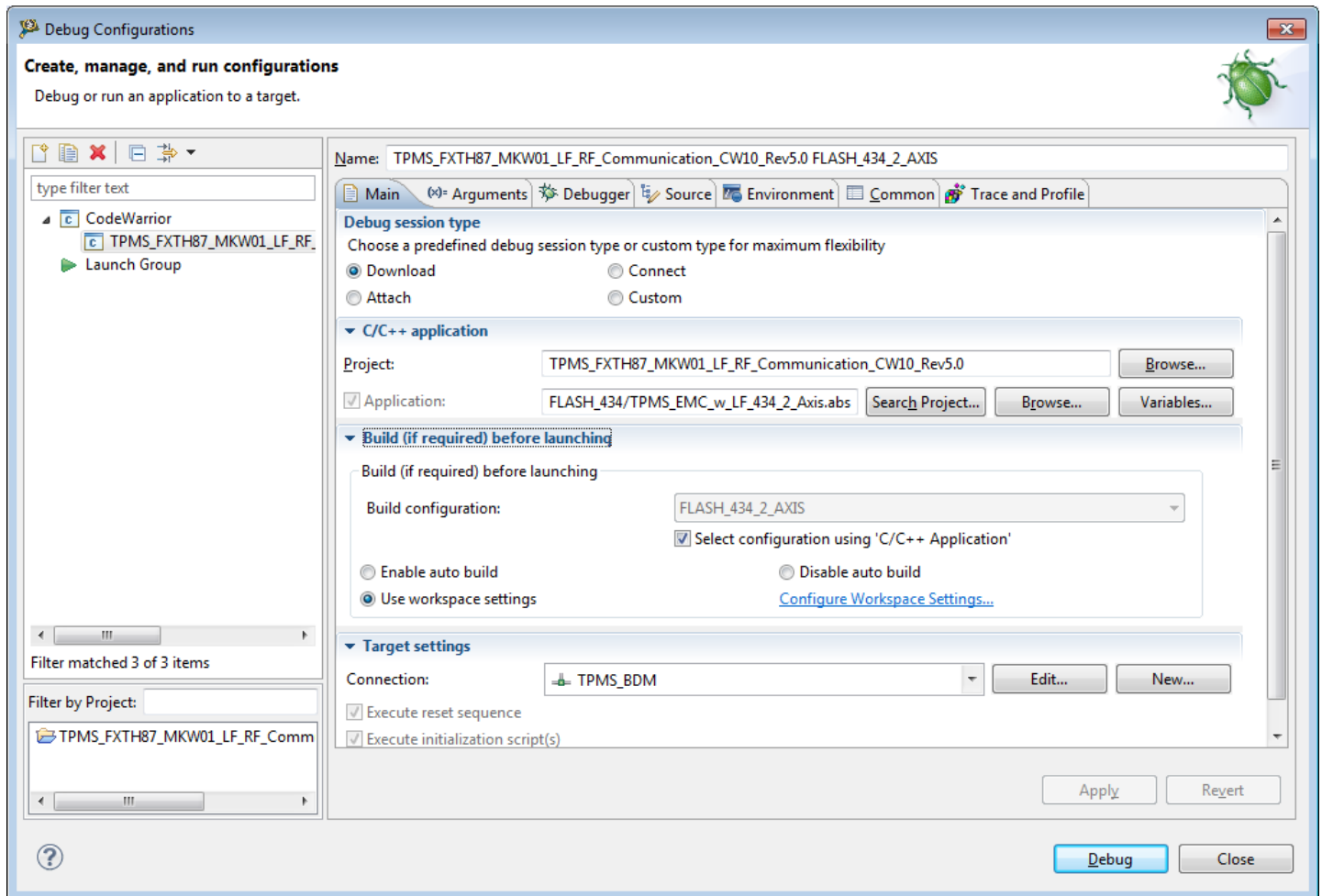
Then build again the project if necessary, right click on the project and select *Properties*:



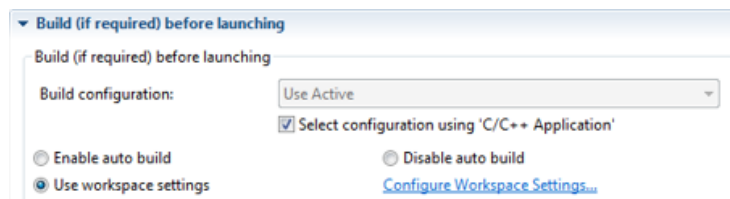
Go to *Run/Debug Settings* and edit the configuration that is used. Here it is the *FLASH_PnE U-Multilink* configuration (the P&E micro Multilink Universal is used to program the device).



The Configuration window should look like the following (it can also be directly accessed via *Run > Debug Configurations* or via the little arrow near the debug button):

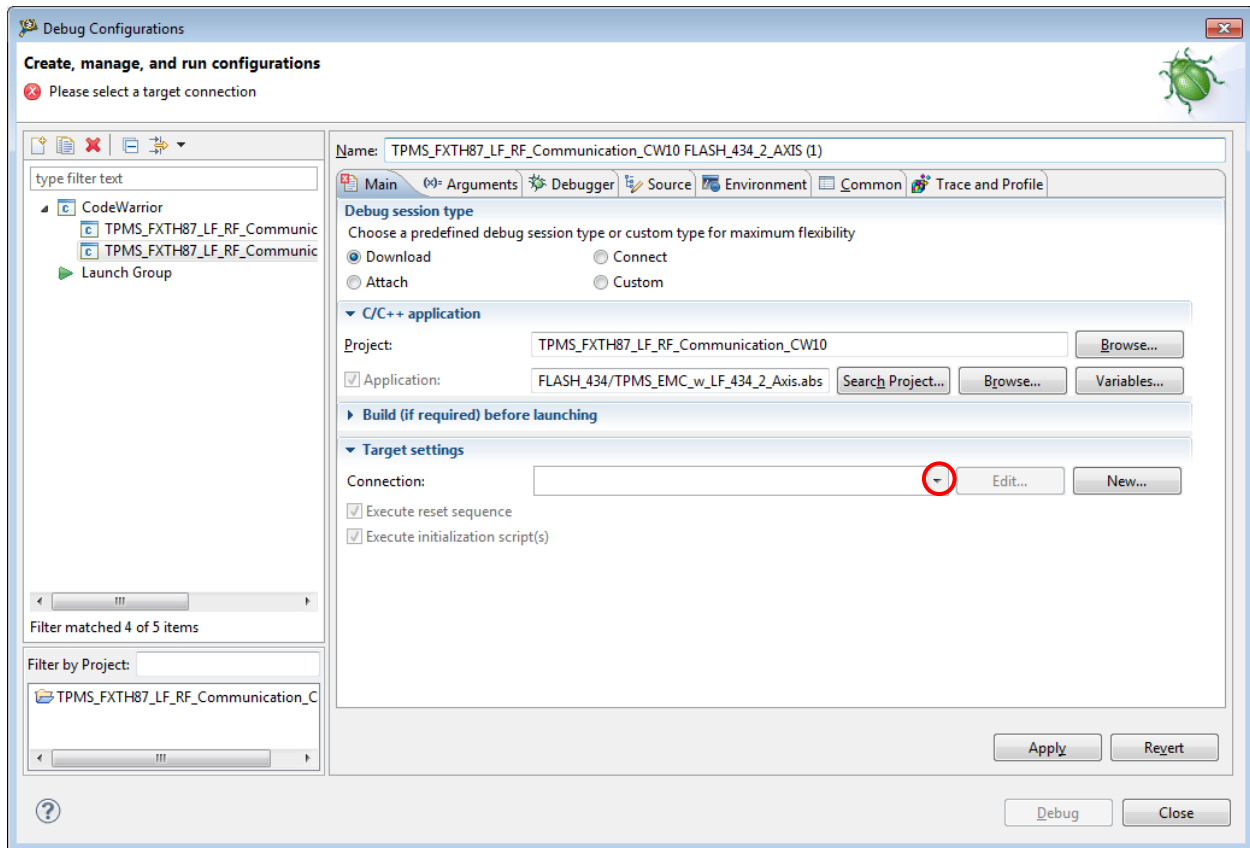


When configuring for the first time, make sure the selected *Build configuration* is *Use Active*:

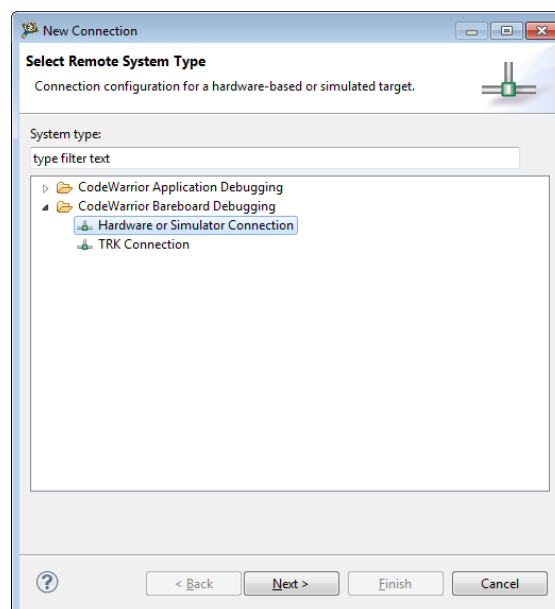


c. Debug configuration: creating a target

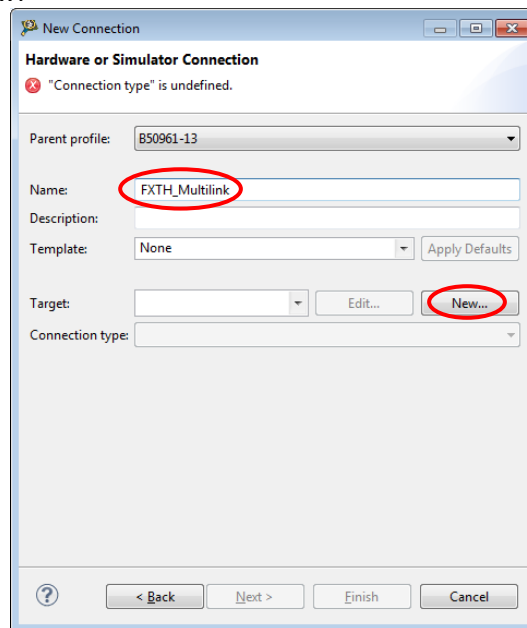
If no target is available when clicking on the little arrow then a new connection needs to be created. For that click on *New*.



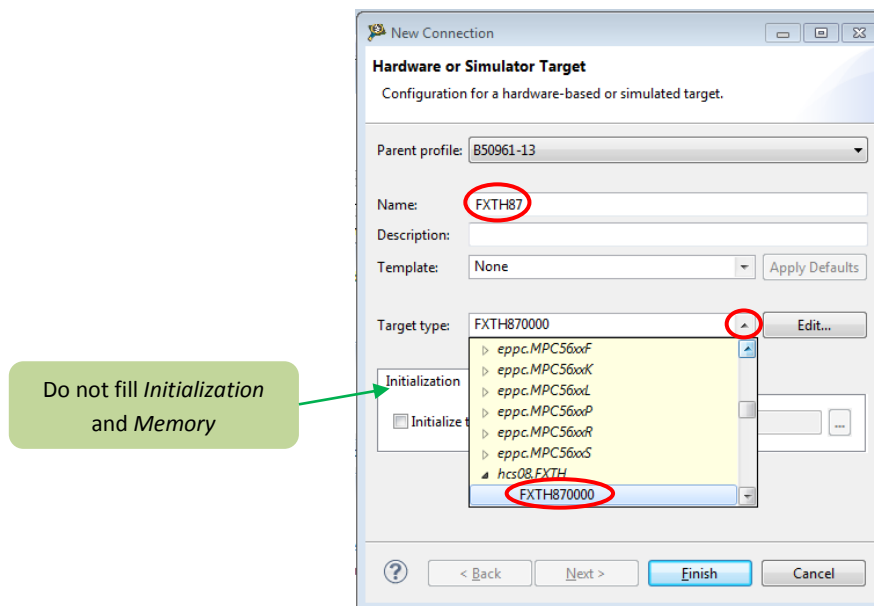
Select Hardware or Simulator Connection:



Enter a name and click on *New*:

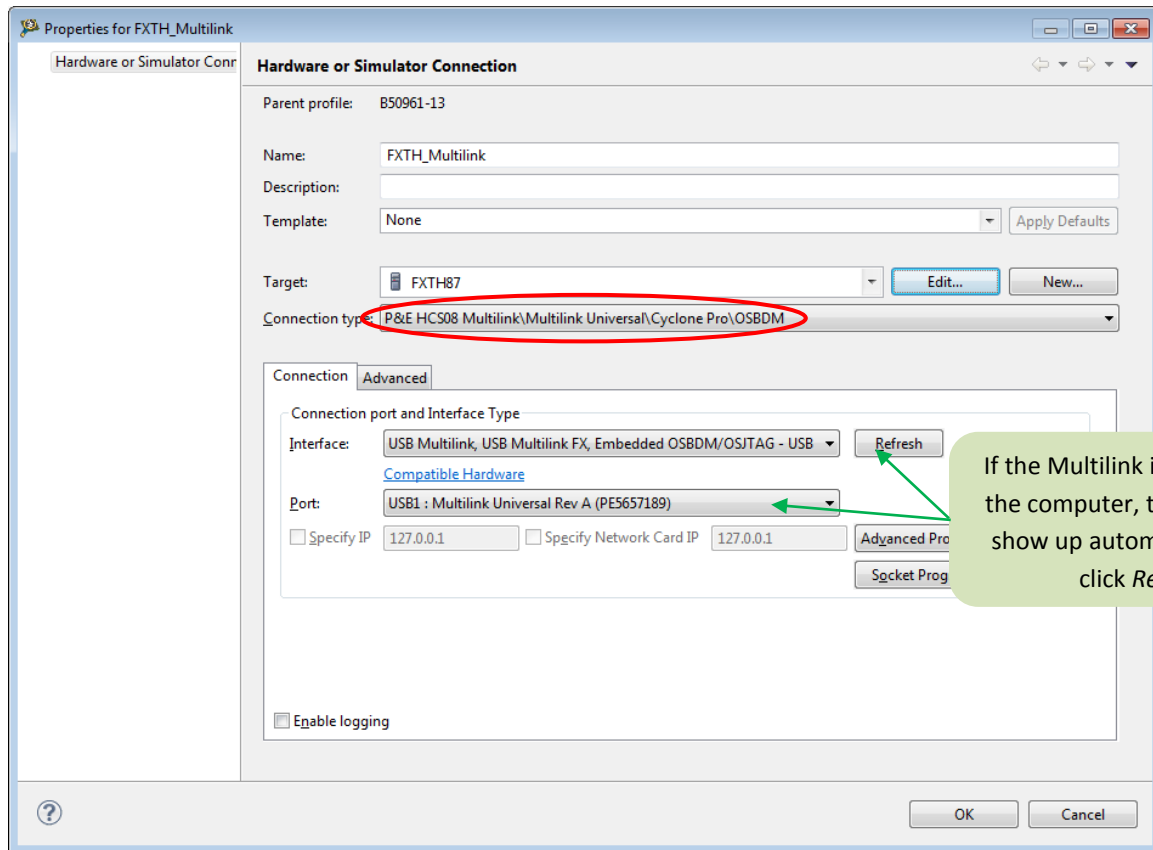


Enter a name and select the target type (click on the little arrow and select FXTM870000 under *hcs08.FXTM*):

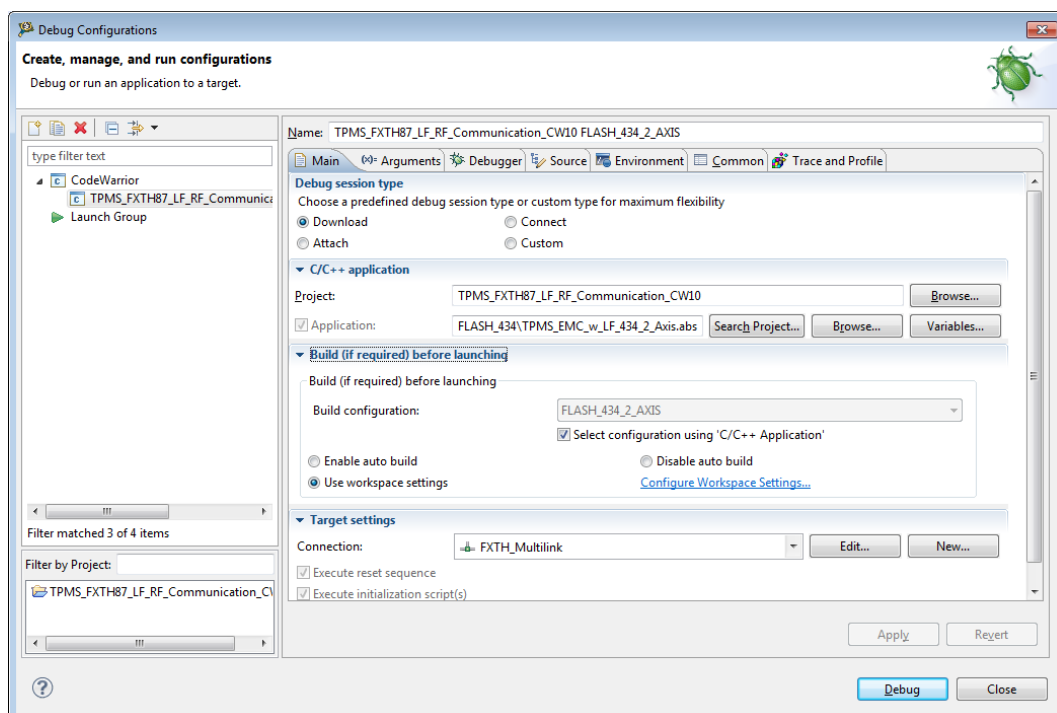


Then click *Finish*.

In *Connection type* select *P&E HCS08 Multilink\Multilink Universal\Cyclone Pro\OSBDM*:

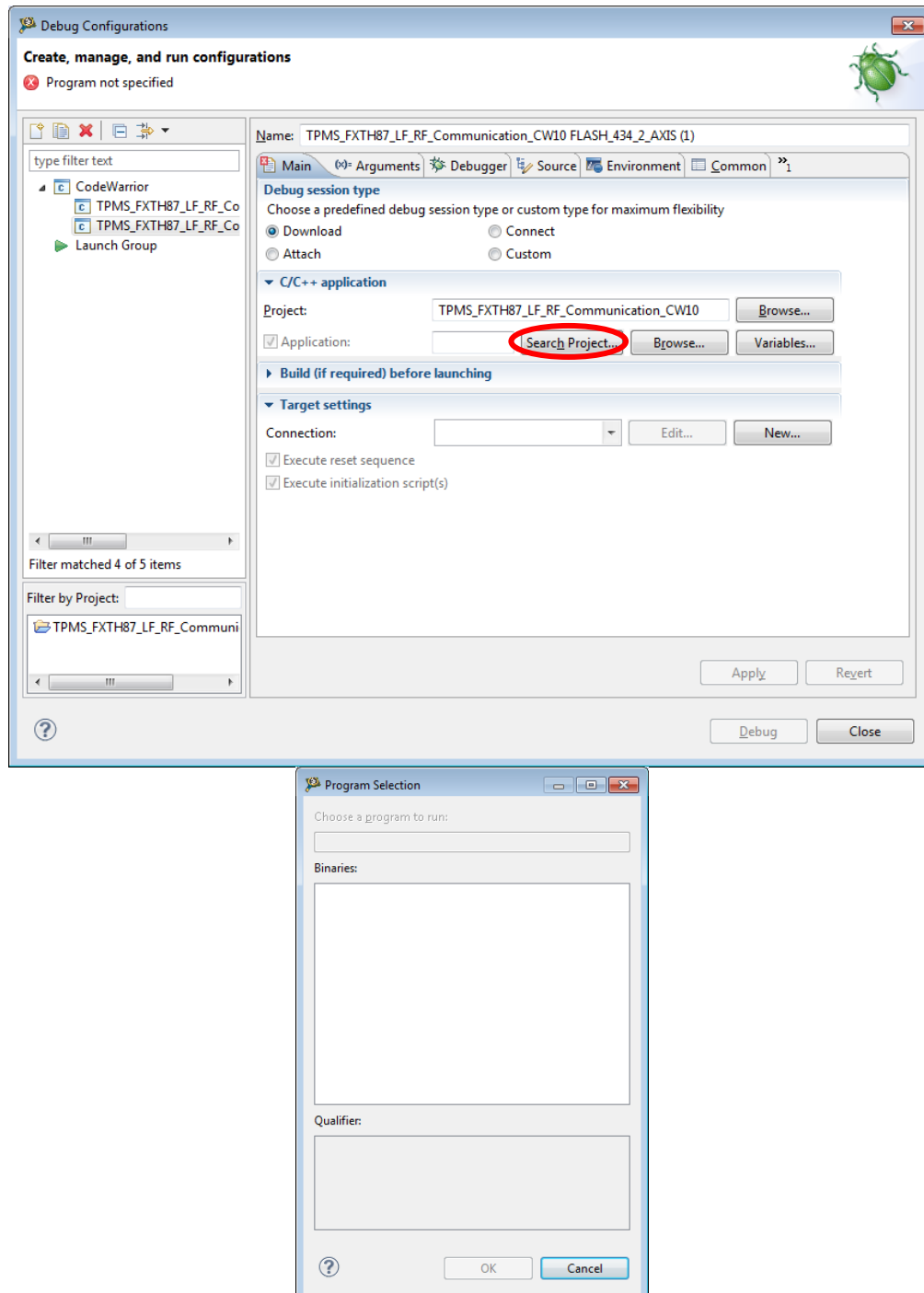


Then click *Finish*.



d. Debug configuration: no binaries/application file available

If no binary/application file is available when clicking on *Search Project* it means the project has not been built. The project needs to be built in order to generate an application file.

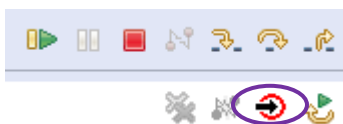


e. In debug mode: the program does not stop at breakpoints

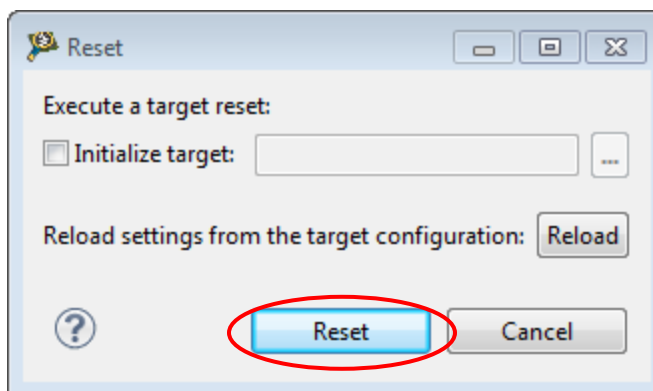
⇒ **If the program does not stop at breakpoints**

Verify that only one breakpoint is set. If it is the case the target probably needs to be reseted.

In the debug window click on *Reset*.



Then click on *Reset* again.



After this the program should stop at the breakpoint. Remove and replace the breakpoint if necessary.