Steps to use the Qt Design Studio using the ModusToolbox™

Customer training workshop (CTW)

May 2025

Scope of work

– This document shows the steps to set up the Qt Design Studio and also use the CYT4DN evaluation kit. It also describes the procedure of debugging and editing of design using the Qt Design Studio from ModusToolbox™ (MTB) environment.

– **Devices and boards supported by ModusToolbox™**

Device series	Lite kit	Device
TRAVEO™ T2G 2D cluster	KIT_T2G_C-2D-6M_LITE	CYT4DNJBZS

Getting started

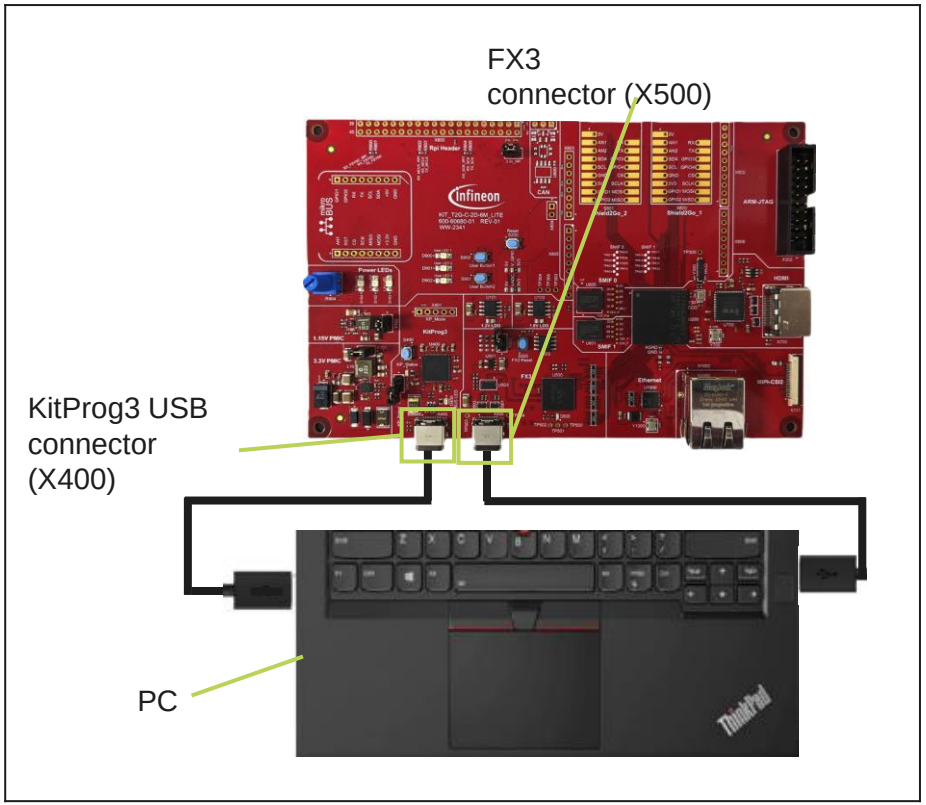
- This section explains the hardware setup. The following table lists the prerequisites for the setup
- This document is explained using TRAVEO™ T2G 2D cluster Lite evaluation kit which mounts the CYT4DN device as an example

Quantity	Description	Remarks
1	KIT_T2G_C-2D-6M_LITE	CYT4DNJBZS evaluation kit
2	Micro USB cable	Type-A to Type-C cable
1	PC	USB-A port
-	ModusToolbox™ software	v3.4 or later
-	Qt Design Studio	v4.7 or later
-	TRAVEO™ T2G Virtual Display Tool	Installer link

Note: It is recommended to use two cables: one to write to the flash via the ModusToolbox™ and another to output JPEG from the board. While both cables are not required simultaneously, having two can simplify the workflow.

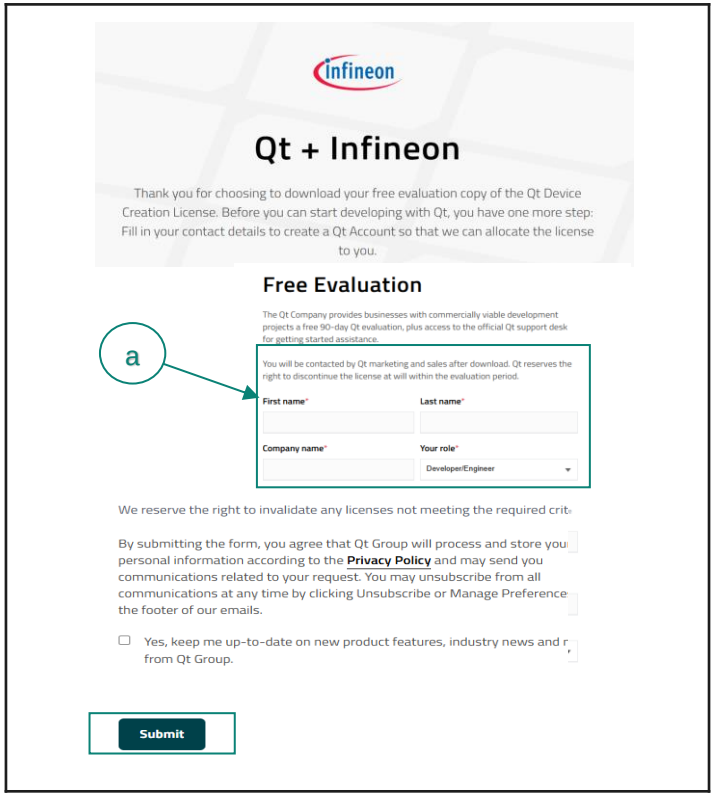
Hardware setup

- This section explains the hardware setup.
- The KitProg3 USB connector (X400) is needed for communicating between the board and ModusToolbox™
- The FX3 connector (X500) is used for outputting the JPEG and graphics from the board



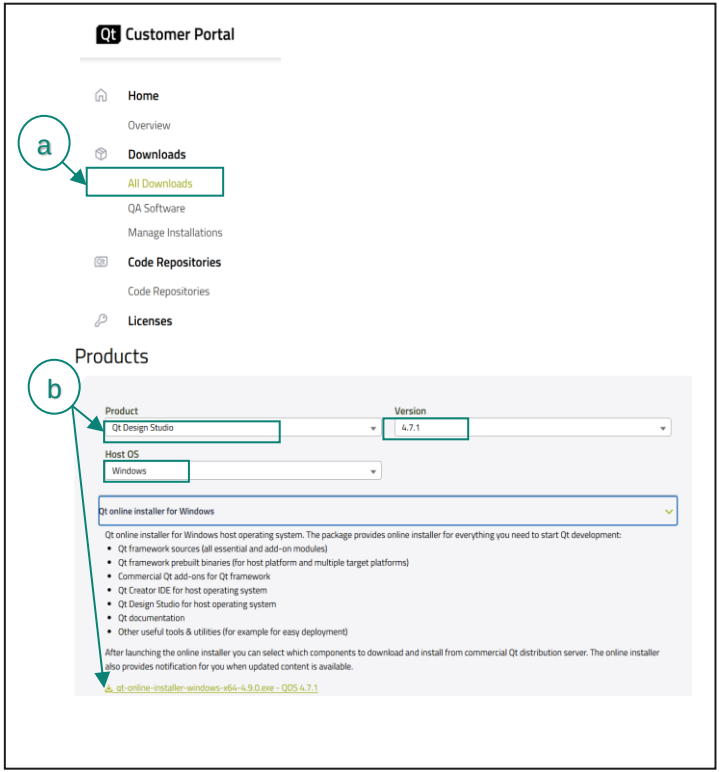
Install the Qt Design Studio

1. To procure the license, go to Qt + Infineon for more details.
   a. Add the valid details in the Evaluation form and click **Submit.**
   b. Shortly after submission, you will receive your login credentials from Qt via email.



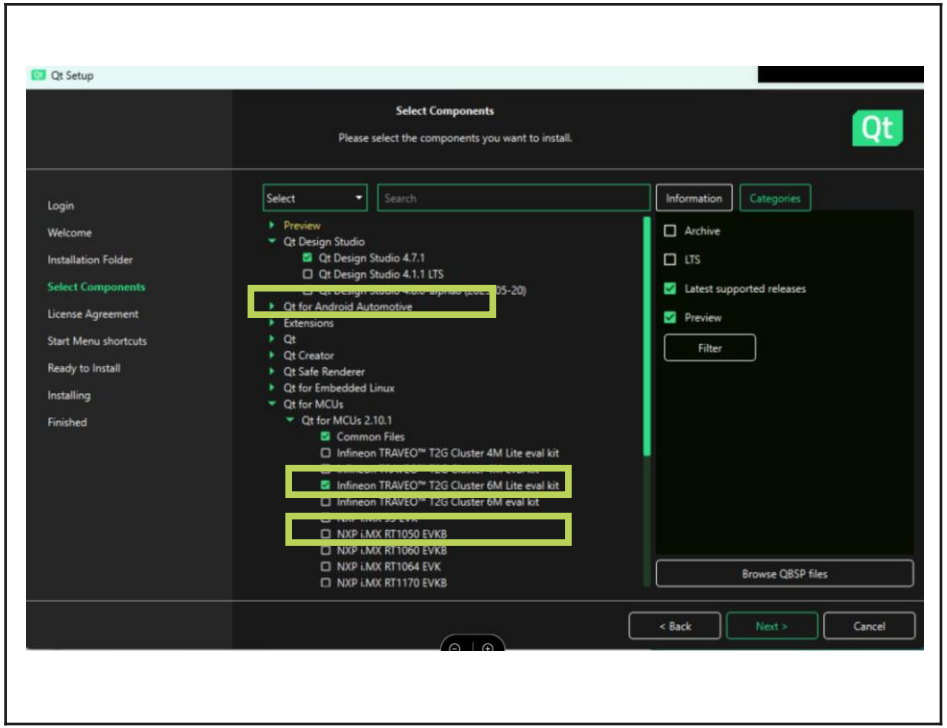
Install the Qt Design Studio (contd.)

2. After your registration, go to Login page.
   a. Download the qt-online-installer.exe from **All Downloads.**
   b. Download the installer.exe, and select the **Products** and **Version** as shown in the figure. The choice of **Host OS** will depend on your development environment.
3. Based on the process that is displayed in qt-online-installer, proceed with the installation of Qt Design Studio.



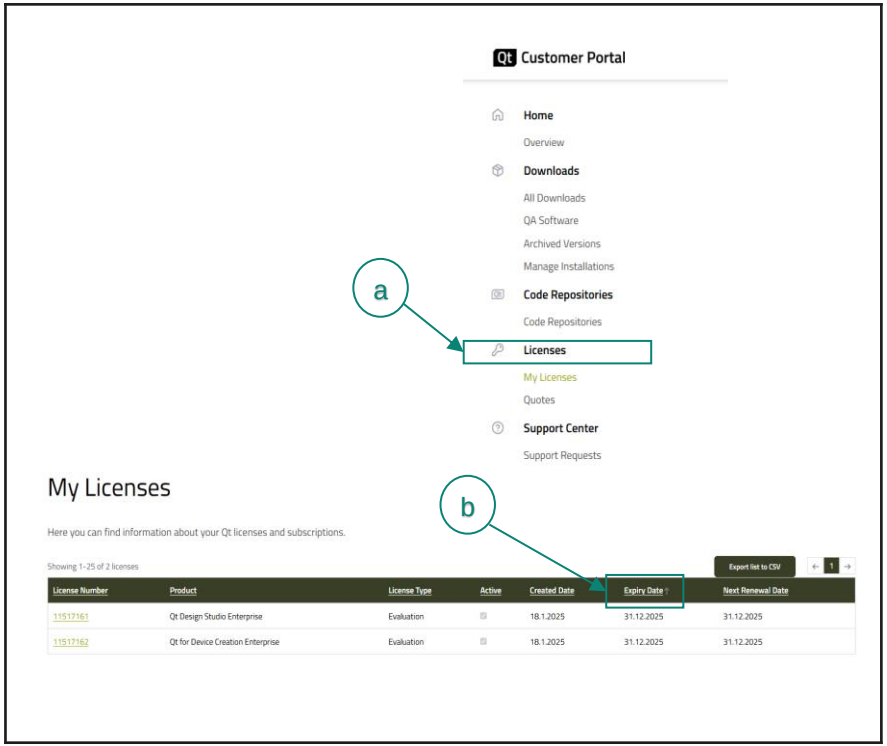
Install the Qt Design Studio (contd.)

Note: During the installation process, ensure that Qt Design Studio is selected as an essential component.



Install the Qt Design Studio (contd.)

4. For your reference,
   a. Check if your license is valid.
   b. Check the expiration date of your Qt Design Studio Enterprise license.



Install and setting the TRAVEO™ T2G Virtual Display Tool

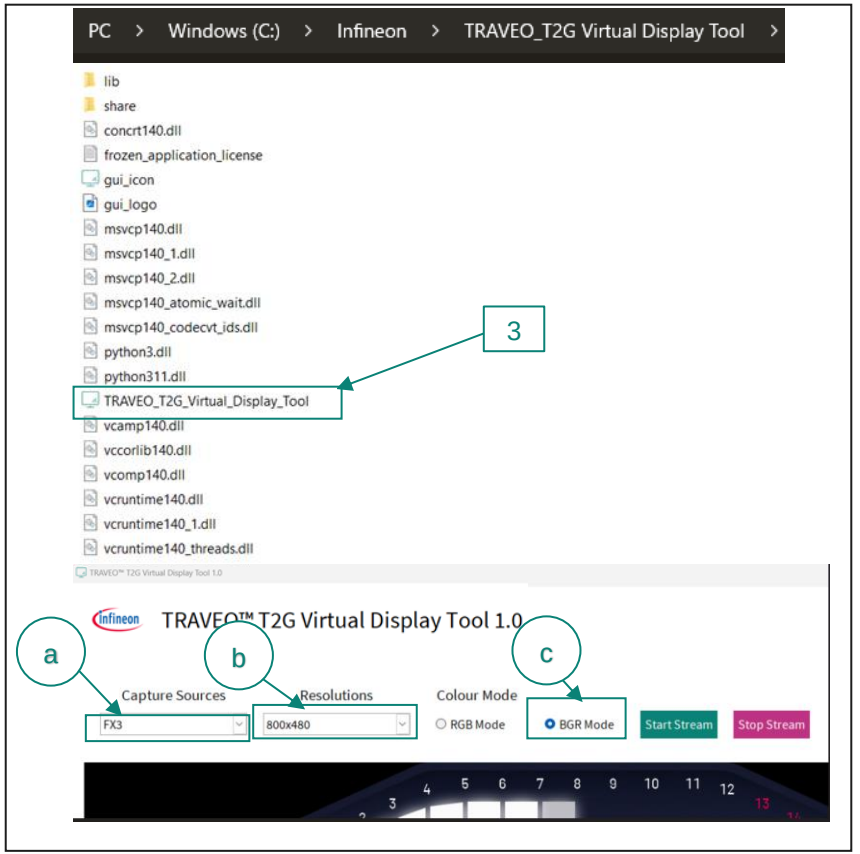
To download the software and display the image, follow the steps below:

1. Click the Installer link and proceed with the installation.
2. Run the following file from an installation folder.

   TRAVEO_T2G_Virtual_Display_Tool.exe

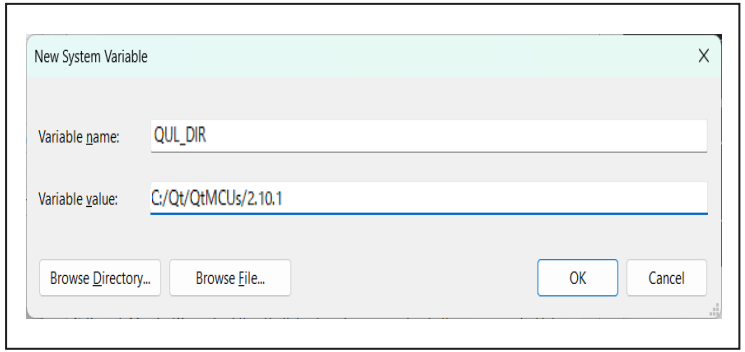
3. To configure the tool for graphics-related code examples, use the following settings.
   a. **Capture Sources**: Set to FX3
   b. **Resolutions**: Set to 800x480
   c. **Colour Mode**: Set to BGR Mode
4. Click the **Start Stream** button to begin streaming.

Note: The capture source FX3 will only be displayed when connected to the FX3 connector (X500).



Prerequisite to create a new application

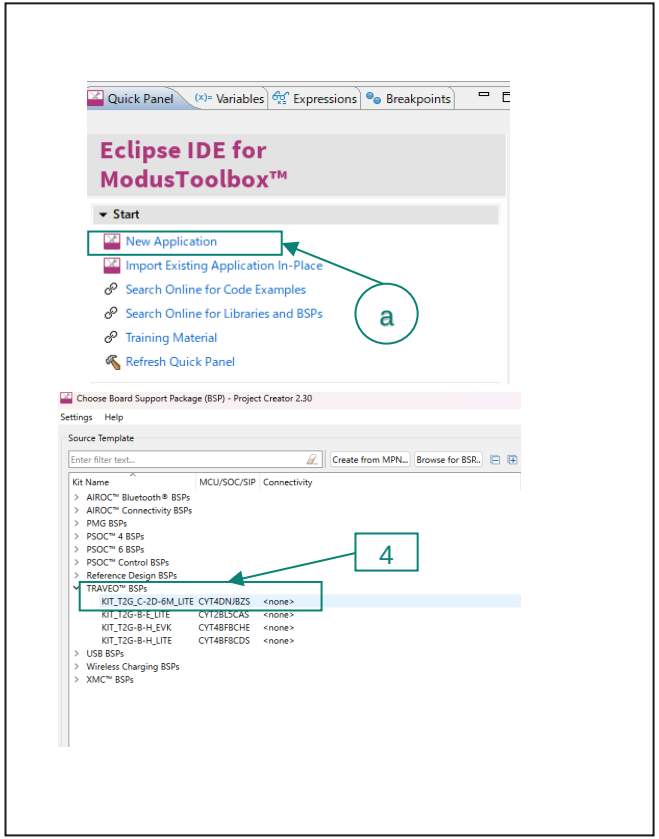
1. Support for additional code example:
   a. In the **Start** menu, search for **Edit environment variable**.
   b. In the popup window, click **New** to create a new variable under **New System Variable**.
   c. Set the following environmental variables:
      - **Variable name**: QUL_DIR
      - **Variable value**: C:/Qt/QtMCUs/2.10.1



Note: When setting the “QUL_DIR” variable with Windows style path separators, it will fail, use the “/“ symbol instead of the “\” use forward slashes (/) instead of backslashes (\) in the path, as Windows-style separators may cause errors. The above Variable value depends on the directory in which QDS is installed.

Create a new application

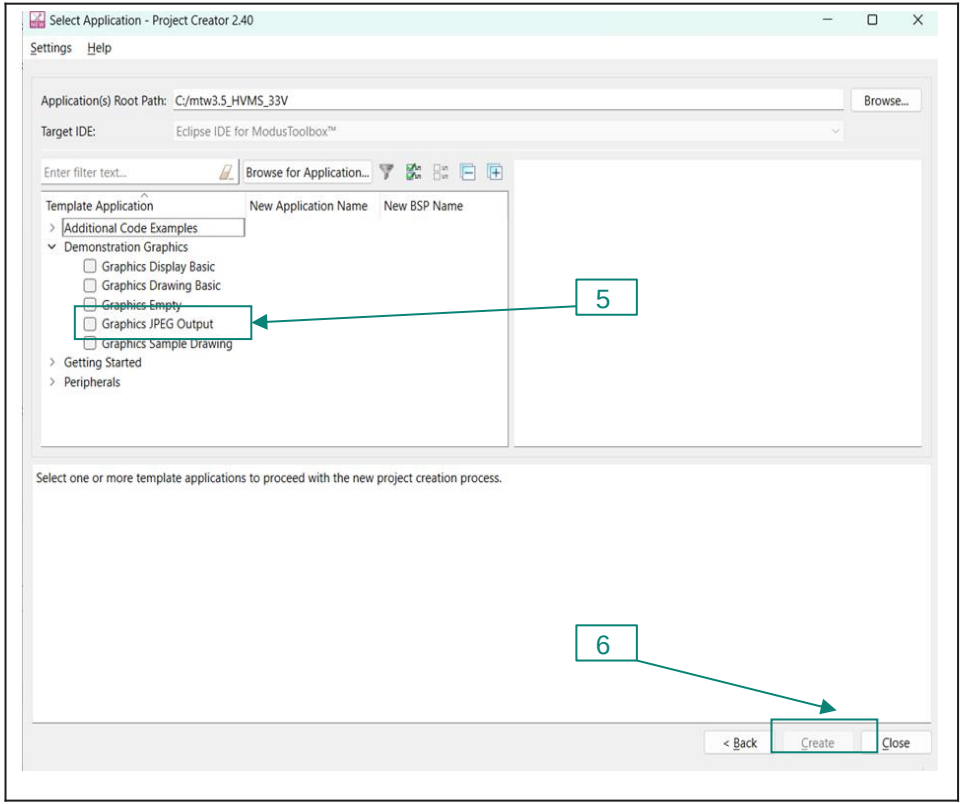
1. Launch **ModusToolbox™** and connect the board and PC using a USB cable (KitProg3 USB connector) to power.
2. Use the Eclipse IDE for ModusToolbox™ software for compiling.
3. Create an application:
   a. Click the **New Application** in the Quick Panel
4. Select the board support package (BSP) file and then click **Next**.



Create a new application (contd.)

5. Select the application of **Graphics JPEG_Output / Graphics_Empty** from Demonstration Graphics category. In this case, it is explained as Graphics_JPEG_Output.

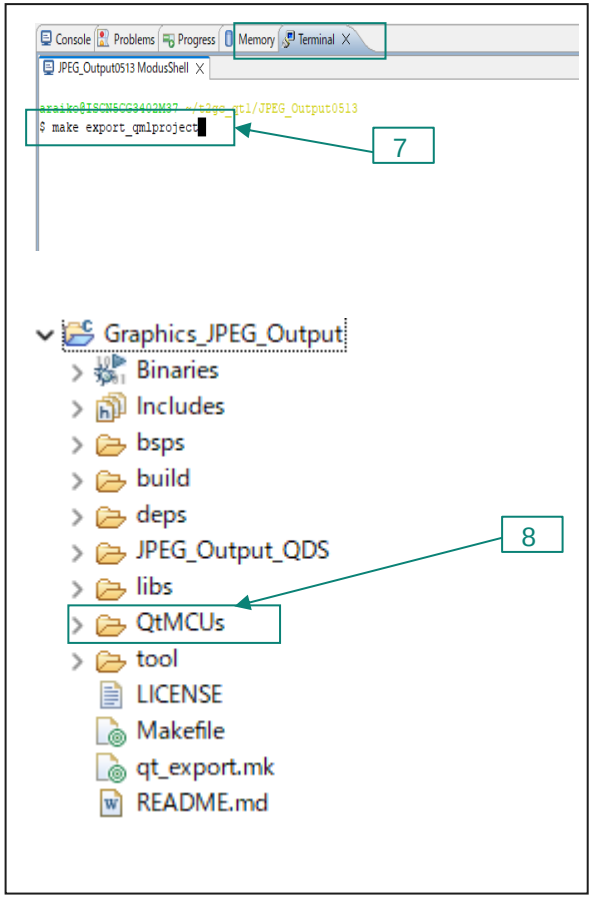
6. Click the **Create** button to begin the project creation process.



Create a new application (contd.)

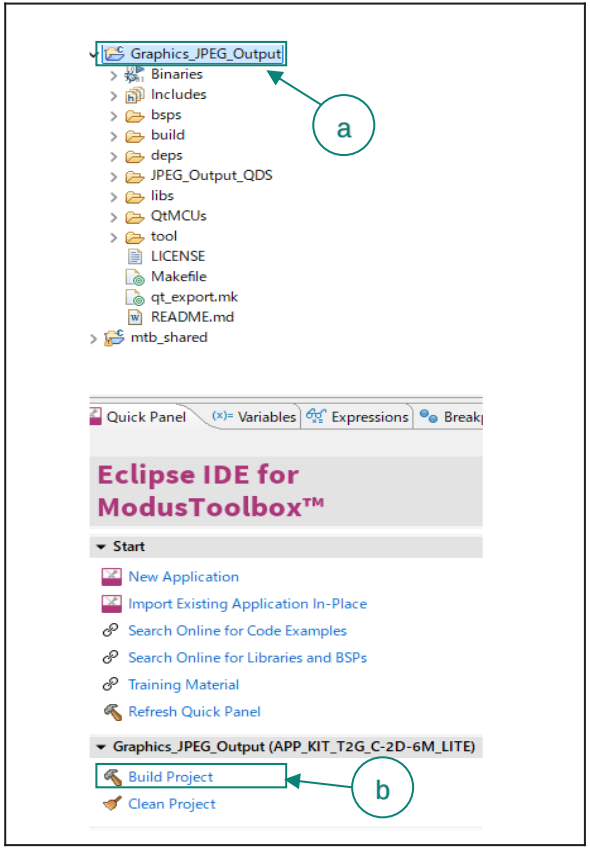
7. Run command in the terminal: “make export_qmlproject” to generate the “QtMCUs”.

8. If the QtMCUs folder is created, the work as generation is complete.



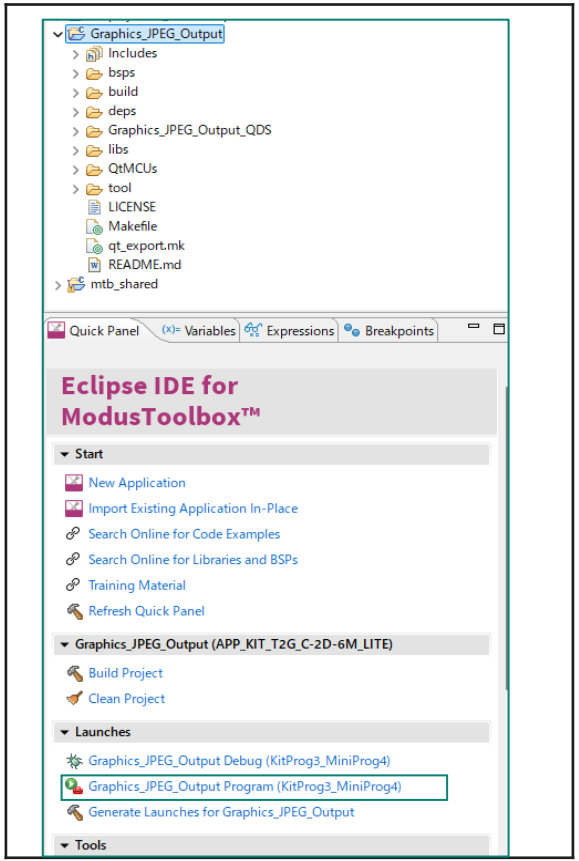
Compiling and programming

1. For compilation:
   a. In the Project Explorer, select the target application project (for example, JPEG_Output, as shown in figure).
   b. In the Quick Panel, scroll down and click **Build Project** in JPEG_Output (APP_KIT_T2G_C-2D-6M_LITE).



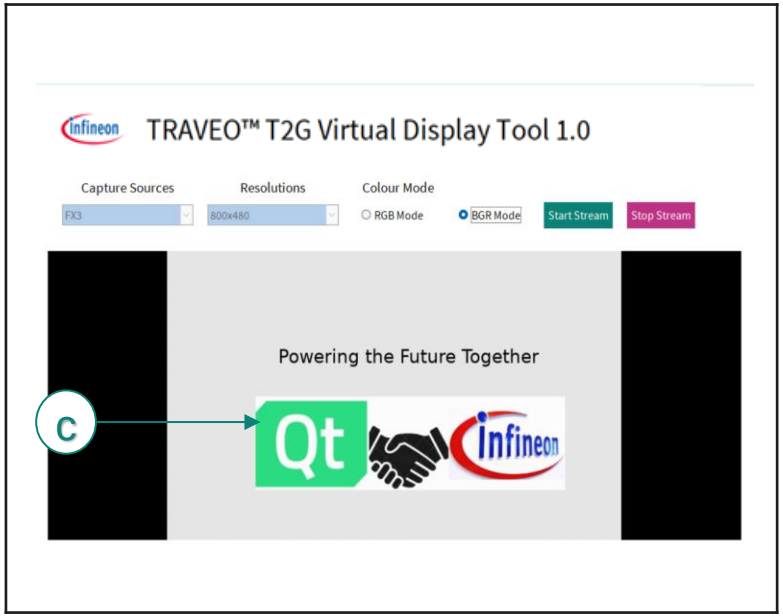
Compiling and programming (contd.)

2. For programming:
   a. Select the target application project in the Project Explorer.
   b. In the Quick Panel, and click **Graphics_JPEG_Output Program (KitProg3_MiniProg4)** in the Launches category.



Run and test

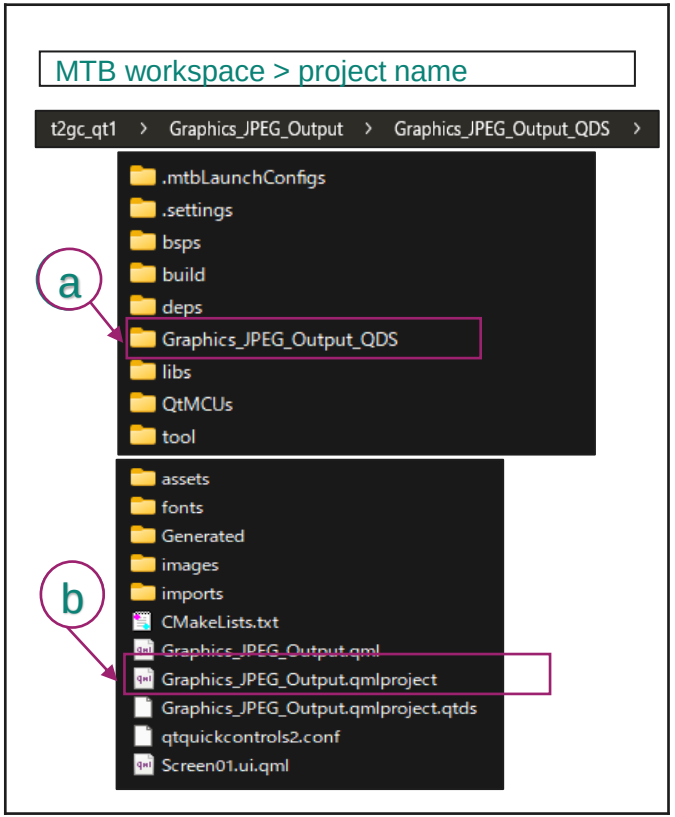
3. To confirm the image display, do the following:
   a. Ensure that the USB cable is connected to the FX3 connector (X500) as described in the Hardware setup
   b. Launch the TRAVEO™ T2G Virtual Display Tool. See Install the TRAVEO™ T2G Virtual Display Tool for more details.
   c. A JPEG image is displayed as shown in the figure.



Steps to modify the image

This section demonstrates how to edit the JPEG image, such as changing the image, adjusting the resolution, modifying the text code, and more. You can modify the content using Qt Design Studio.

1. To Launch the Qt Design Studio for editing JPEG image:
   a. Go to the <project_name>_QDS folder.
   b. Double-click to open the <project_name>.qmlproject.
   c. You can edit it according to the general operation of Qt Design Studio.
   d. When finished modifying the image, exit to the Qt Design Studio.
   e. If you start this process again, you will see the new image file modified by Qt Design Studio in the TRAVEO™ T2G Virtual Display Tool.



References

- **Datasheet**
  - CYT4DN TRAVEO™ T2G 32-bit Automotive MCU based on Arm® Cortex®- M7 dual
- **Architecture reference manual**
  - TRAVEO™ T2G Automotive MCU body controller high architecture reference manual
- **Registers reference manual**
  - TRAVEO™ Automotive MCU: TVII-C-2D-6M cluster 2D registers reference manual
- **PDL**
  - Peripheral driver library (PDL)
- **Training**
  - TRAVEO™ T2G training

Revision history

Document revision	Date	Description of change
**	2025/06/02	Initial release


Infineon