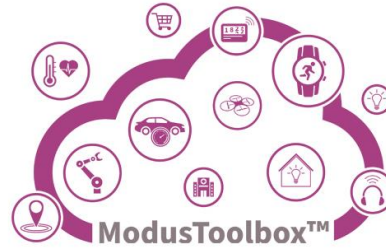


Getting Started with RAB5-OSIRE

Getting Started with Rutronik Adapter Board RAB5-OSIRE



1.) Register or/and login to the Infineon website, press on „myInfineon“ tab.

<https://www.infineon.com>

2.) Download and install the latest [ModusToolbox™](#) software.

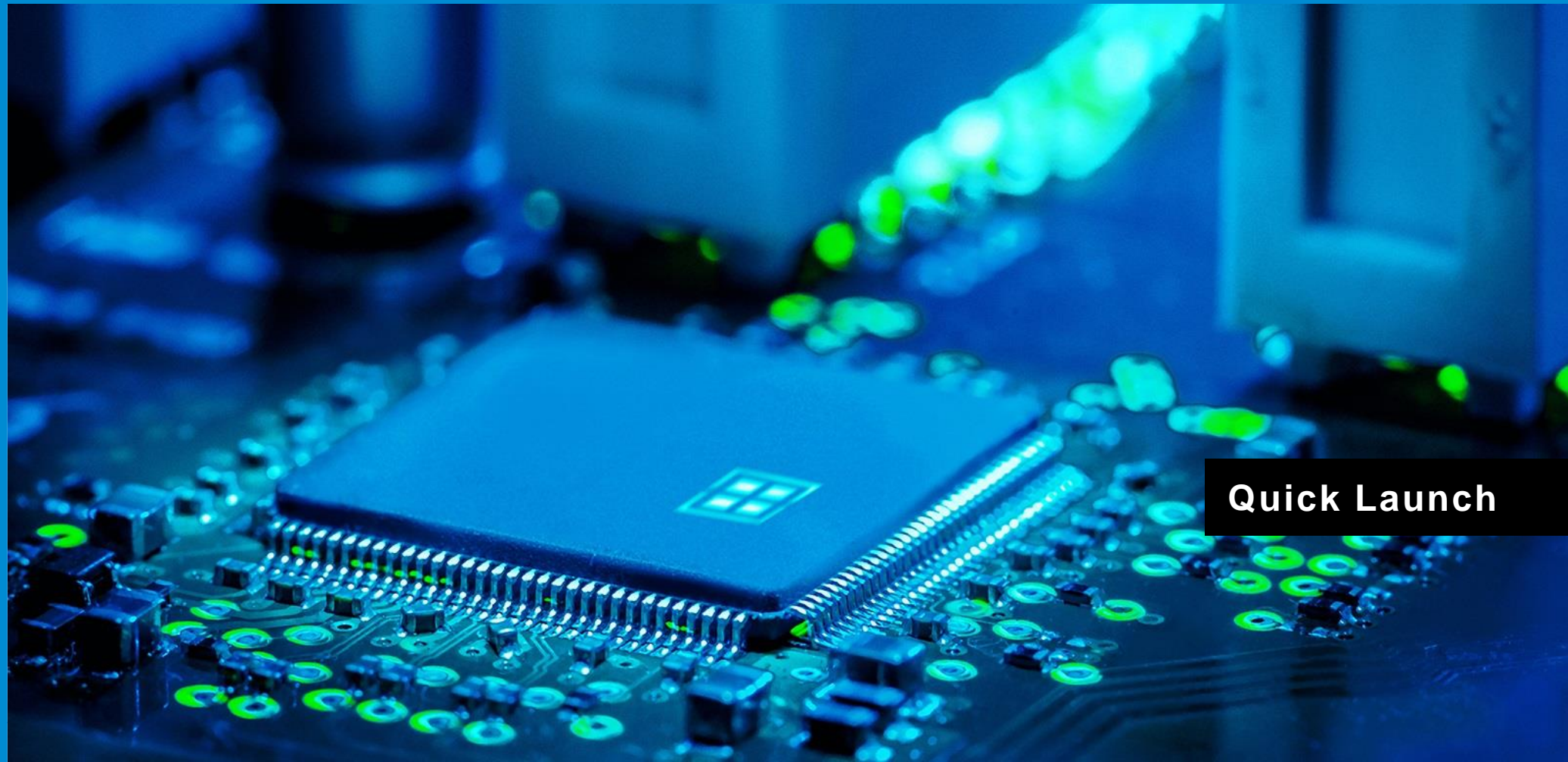
3.) Download the ams OSRAM GUI software from here:

[https://github.com/RutronikSystemSolutions/RAB5-OSIRE Documents and GUI](https://github.com/RutronikSystemSolutions/RAB5-OSIRE_Documents_and_GUI)

4.) [Optional] Get in touch with solutions@rutronik.com to get the ams OSRAM GUI software and the source code for the colour correction algorithms.



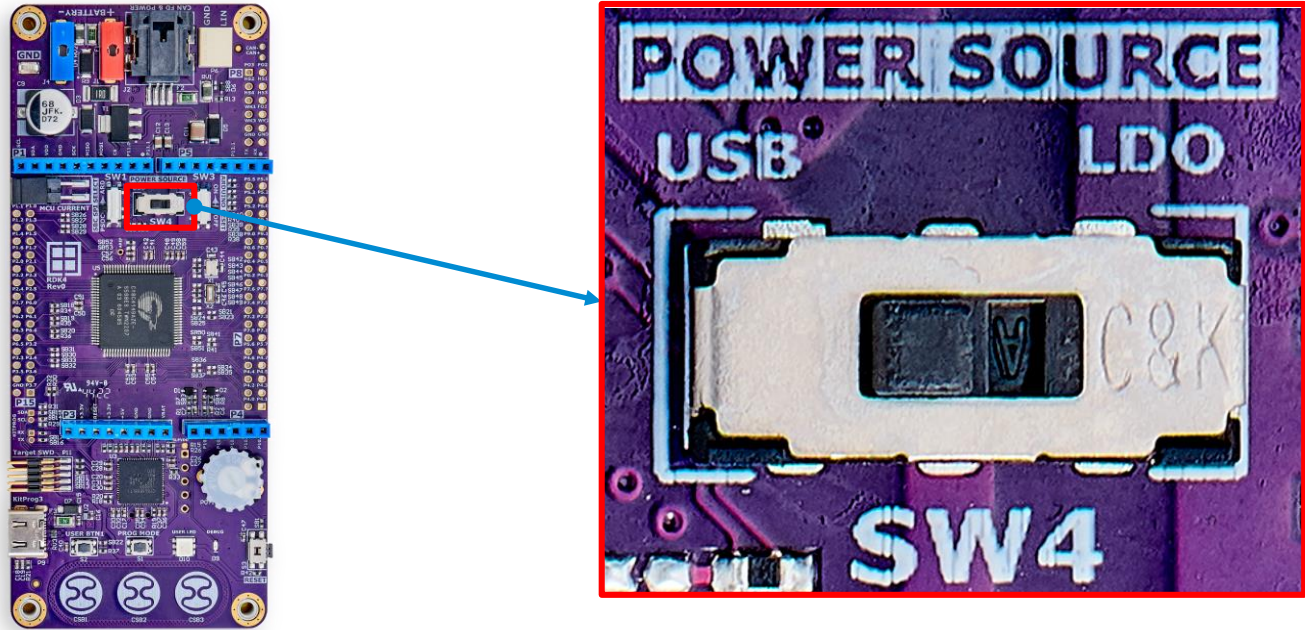
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Quick Launch

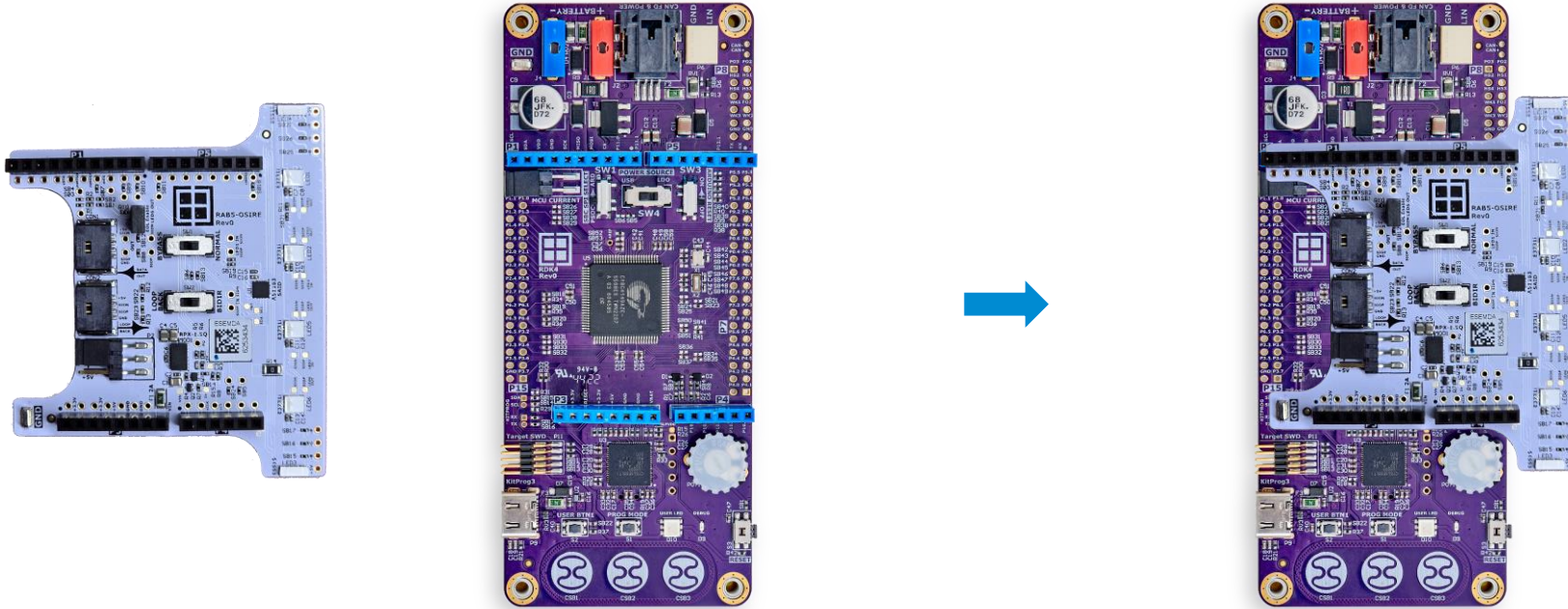
Select USB Power Source

Check if a SW4 is in the “USB” position.



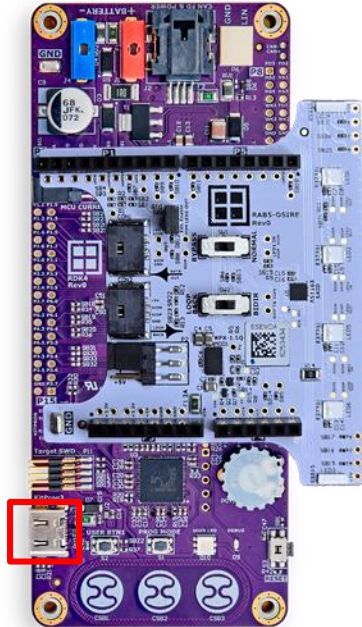
Mount the RAB5-OSIRE

Mount the RAB5-OSIRE adapter board on the RDK4 Rev2 development kit.



Connect the RDK4

Connect the RDK4 to your PC.



Look for the USB-C socket with a marking "KitProg3"



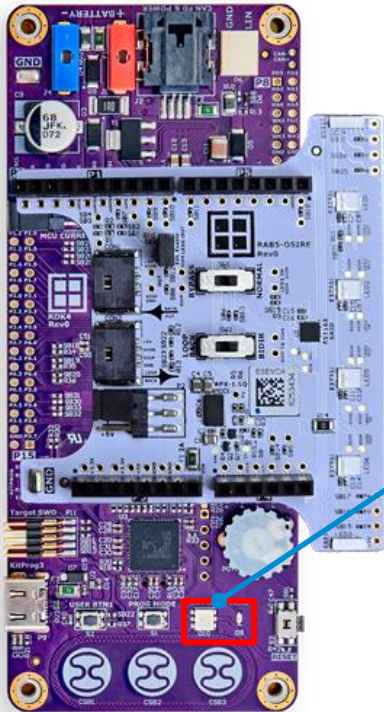
Have a USB Type-C cable



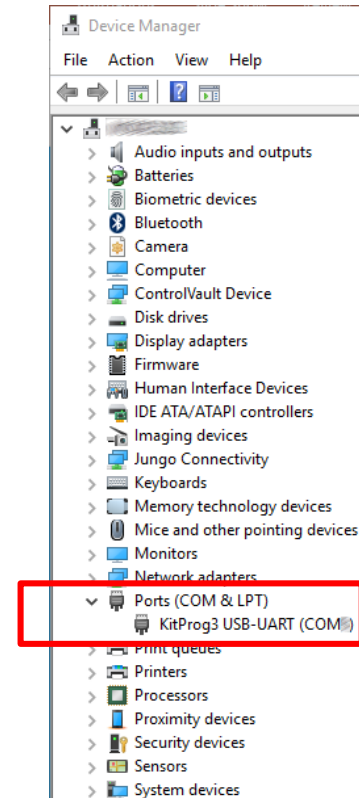
Connect it with your PC

Connect the RDK4

Check if the RDK4 is ready.



“DEBUG” Yellow LED must shine constantly.



The “KitProg3” must be seen in the “Device Manager” window.



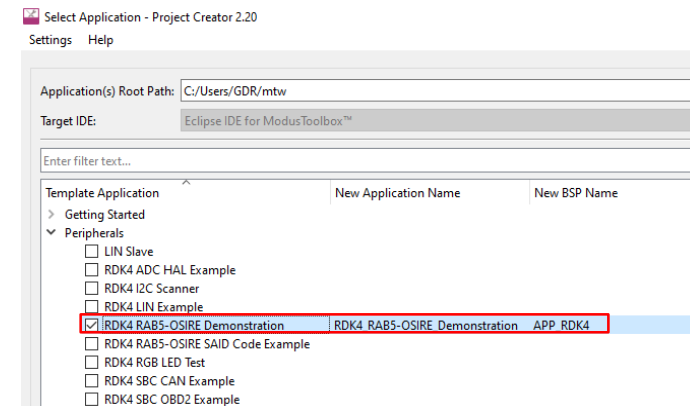
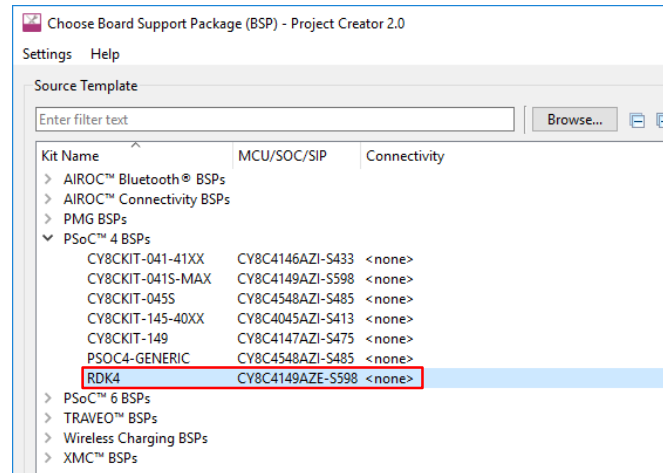
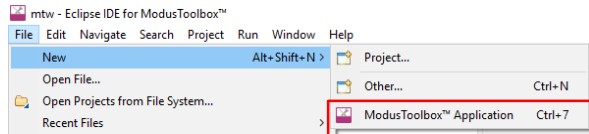
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A close-up photograph of a microcontroller chip mounted on a printed circuit board (PCB). The chip is a square component with numerous pins visible along its edges. The PCB is populated with various other components, including smaller chips and capacitors. The background is blurred, showing more of the circuit board and some electronic equipment. The overall lighting is blue and green, giving it a high-tech appearance.

Running a RAB5-OSIRE code example

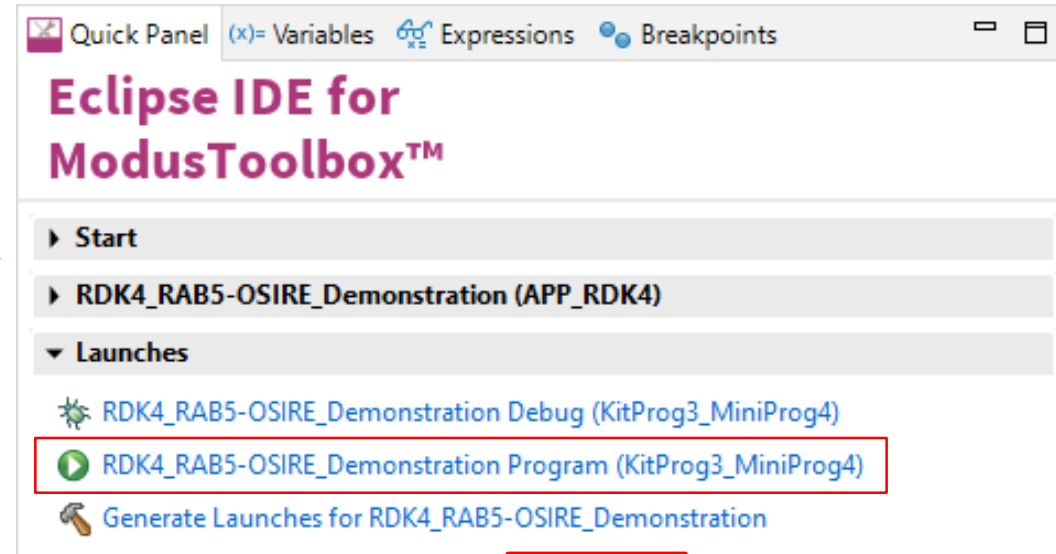
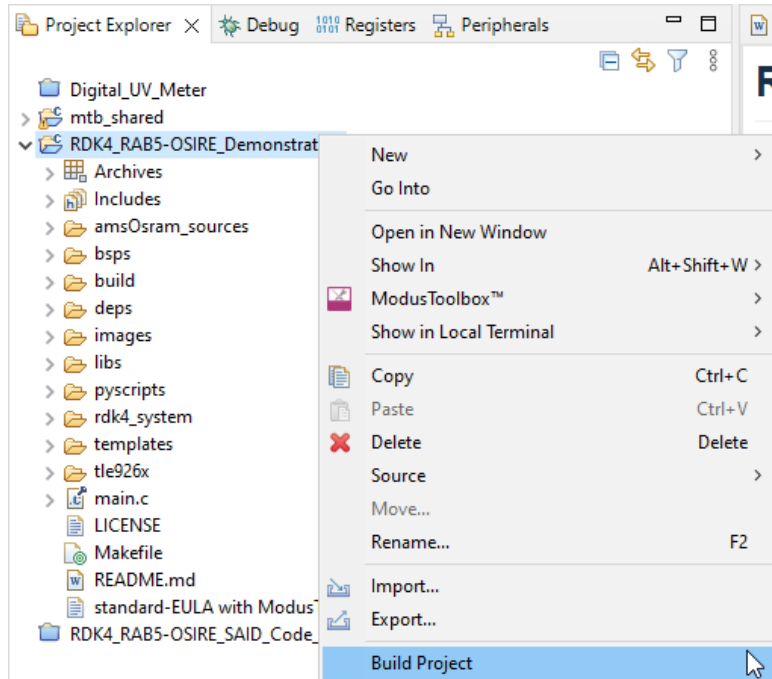
Running a RAB5-OSIRE code example

- 1.) Open the “Project Creator” tool: File → New → ModusToolbox™ Application
- 2.) Select the “RDK4” BSP. It is in the PSoC™ 4 BSPs list.
- 3.) Click on “Next”.
- 4.) Select the “RDK4_RAB5-OSIRE_Demonstration” in a “Peripherals” category.
- 5.) Click on “Create”.

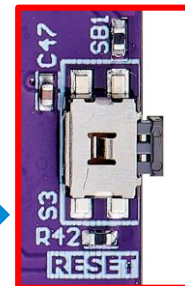


Running a RAB5-OSIRE code example

6.) Build and Program the created project.



7.) Press the “RESET” button on the RDK4 board.



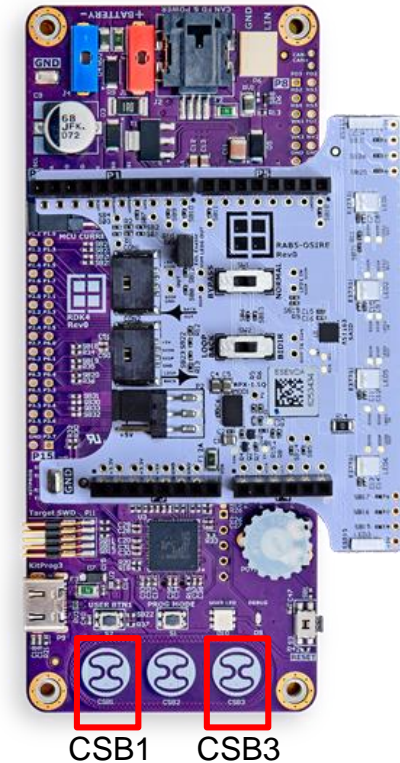
Running a RAB5-OSIRE code example

By default, the „Minimal RGB“ demo mode is always engaged from the startup.

Touch the CSB1 once and you will get into „Color Correction“ mode. The USER LED on the RDK4 will start blinking in YELLOW. From this point, the user needs to decide whether to read all the OTP memory from every OSIRE LED and store it in the microcontroller memory. If you are running this demo for the first time – this is necessary. So to do that please touch the CSB3 button gently and wait until the USER LED starts blinking in GREEN. Touch the CSB1 now and the demo will start. If the memory has been saved previously, you only need to keep pressing the CSB1 and you will get to this mode anyway.

If you further touch the CSB1, you will get into the „Running Lights“ mode. You will see how the LEDs are changing the colours sequentially for every LED, they are updated once per 10 milliseconds. This demo mode is more impressive with a larger number of LEDs (the external LED stripe should be used).

Touching and holding the CSB1 will get you back to the „Minimal RGB“ demo.





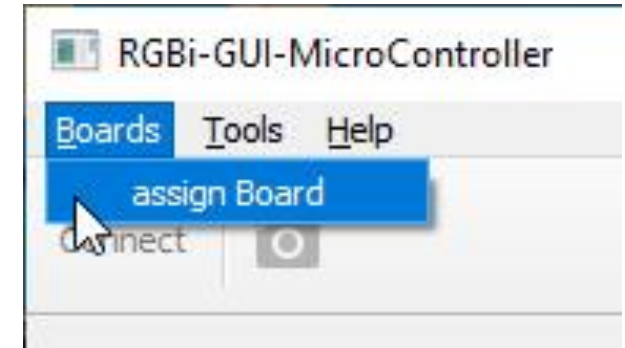
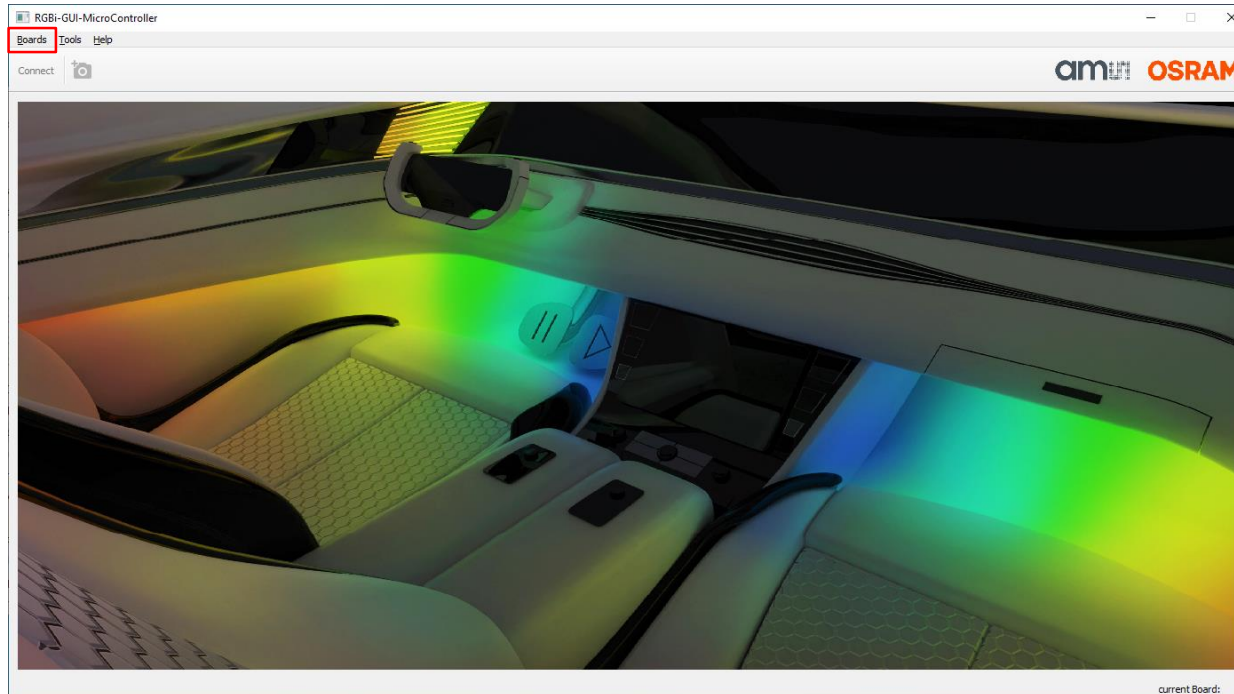
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A close-up photograph of a microcontroller chip mounted on a printed circuit board (PCB). The chip is a square component with numerous pins visible along its edges. The PCB is populated with various other electronic components, including smaller chips and capacitors. The entire image is overlaid with a semi-transparent blue filter, giving it a high-tech, digital feel. In the background, a blurred light source, possibly a soldering iron or a work light, adds to the industrial atmosphere.

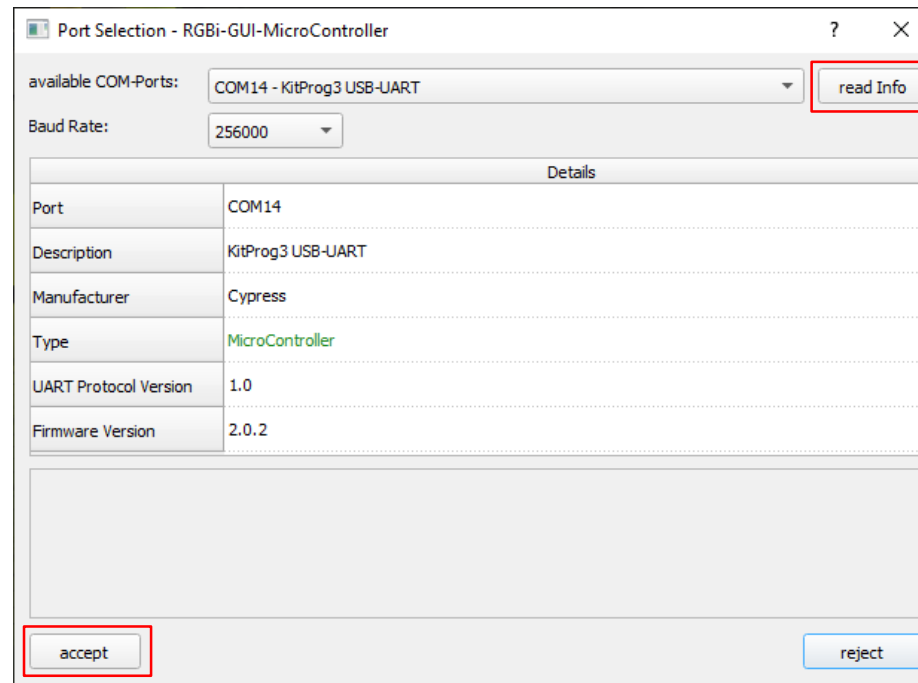
Using the ams OSRAM RGBi-MCU-GUI Software

Using the ams OSRAM RGBi-MCU-GUI Software

- 1.) Prepare the RDK4 and RAB5-OSIRE kit as it is described in “[Quick Launch](#)” and “[Running a RAB-OSIRE code example](#)”
- 2.) Load the ams OSRAM RGBi-GUI-MicroController software.



3.) Select the COM Port where the RDK4 KitProg3 is connected.



Port Selection - RGBi-GUI-MicroController

available COM-Ports: COM14 - KitProg3 USB-UART

Baud Rate: 256000

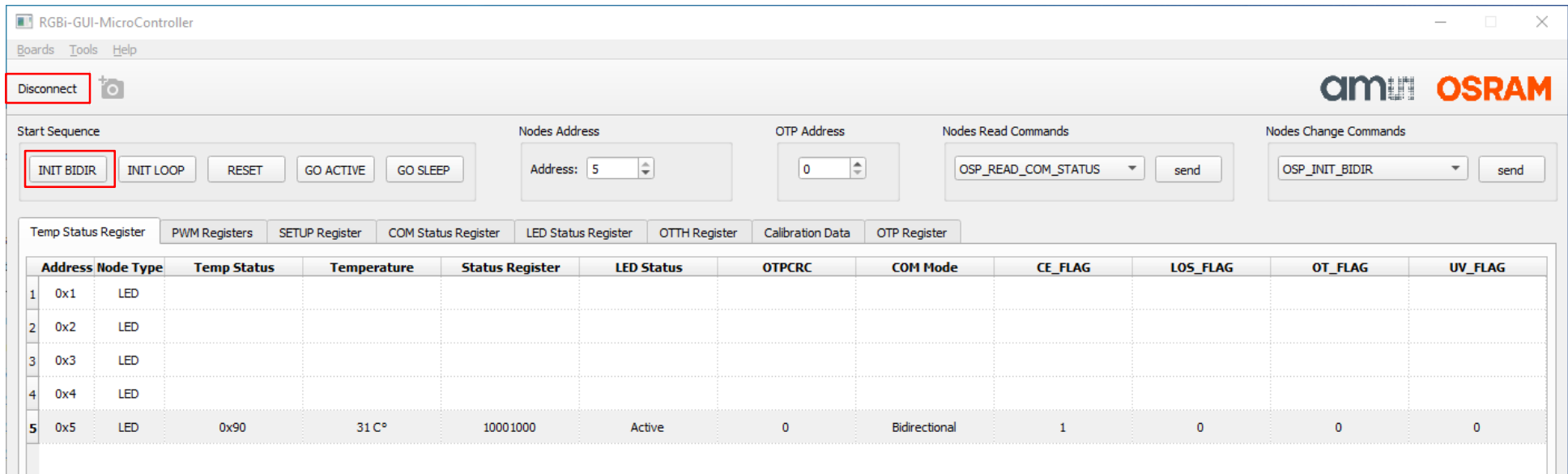
read Info

| Details | |
|-----------------------|-------------------|
| Port | COM14 |
| Description | KitProg3 USB-UART |
| Manufacturer | Cypress |
| Type | MicroController |
| UART Protocol Version | 1.0 |
| Firmware Version | 2.0.2 |

accept reject

4.) Press on the Connect button.

5.) Always start working with LEDs from the INIT_DIR command first. If you need to set all the LEDs at once, please set the address to 0 – it is the broadcasting address.



RGBi-GUI-MicroController

Boards Tools Help

Disconnect

Start Sequence

INIT BIDIR INIT LOOP RESET GO ACTIVE GO SLEEP

Nodes Address

Address: 5

OTP Address

0

Nodes Read Commands

OSP_READ_COM_STATUS send

Nodes Change Commands

OSP_INIT_BIDIR send

Temp Status Register PWM Registers SETUP Register COM Status Register LED Status Register OTTH Register Calibration Data OTP Register

| | Address | Node Type | Temp Status | Temperature | Status Register | LED Status | OTPCRC | COM Mode | CE_FLAG | LOS_FLAG | OT_FLAG | UV_FLAG |
|---|---------|-----------|-------------|-------------|-----------------|------------|--------|---------------|---------|----------|---------|---------|
| 1 | 0x1 | LED | | | | | | | | | | |
| 2 | 0x2 | LED | | | | | | | | | | |
| 3 | 0x3 | LED | | | | | | | | | | |
| 4 | 0x4 | LED | | | | | | | | | | |
| 5 | 0x5 | LED | 0x90 | 31 C° | 10001000 | Active | 0 | Bidirectional | 1 | 0 | 0 | 0 |



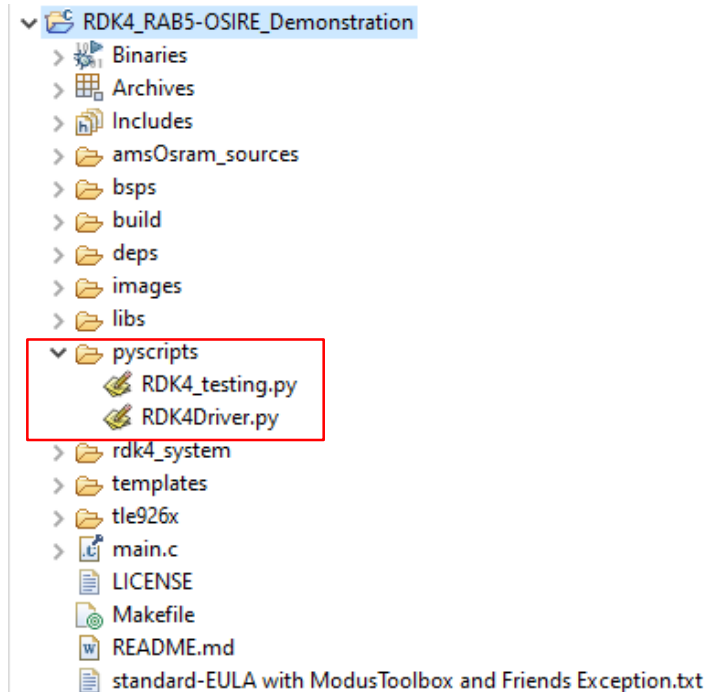
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Running the Python scripts

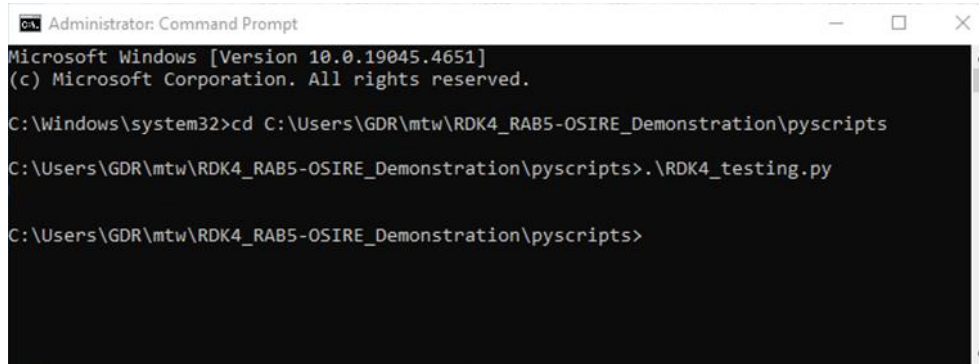
Running the Python scripts

- 1.) Prepare the RDK4 and RAB5-OSIRE kit as it is described in “[Quick Launch](#)” and “[Running a RAB-OSIRE code example](#)”
- 2.) The Python script for the test and the driver are in the demo project.



Running the Python scripts

- 3.) Install the [Python](#).
- 4.) Open the command prompt (administrator rights might be needed).
- 5.) Go to your .py files directory, for example, `cd C:\Users\GDR\mtw\RDk4_RAB5-OSIRE_Demonstration\pyscripts`
- 6.) Run the script: `python .\RDk4_testing.py`
- 7.) *Wait a few seconds for the script to engage.*



```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.19045.4651]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Users\GDR\mtw\RDk4_RAB5-OSIRE_Demonstration\pyscripts

C:\Users\GDR\mtw\RDk4_RAB5-OSIRE_Demonstration\pyscripts>.\RDk4_testing.py

C:\Users\GDR\mtw\RDk4_RAB5-OSIRE_Demonstration\pyscripts>
```

