**STEVAL–LLL002M1: ALED1262 EVALUATION BOARD**

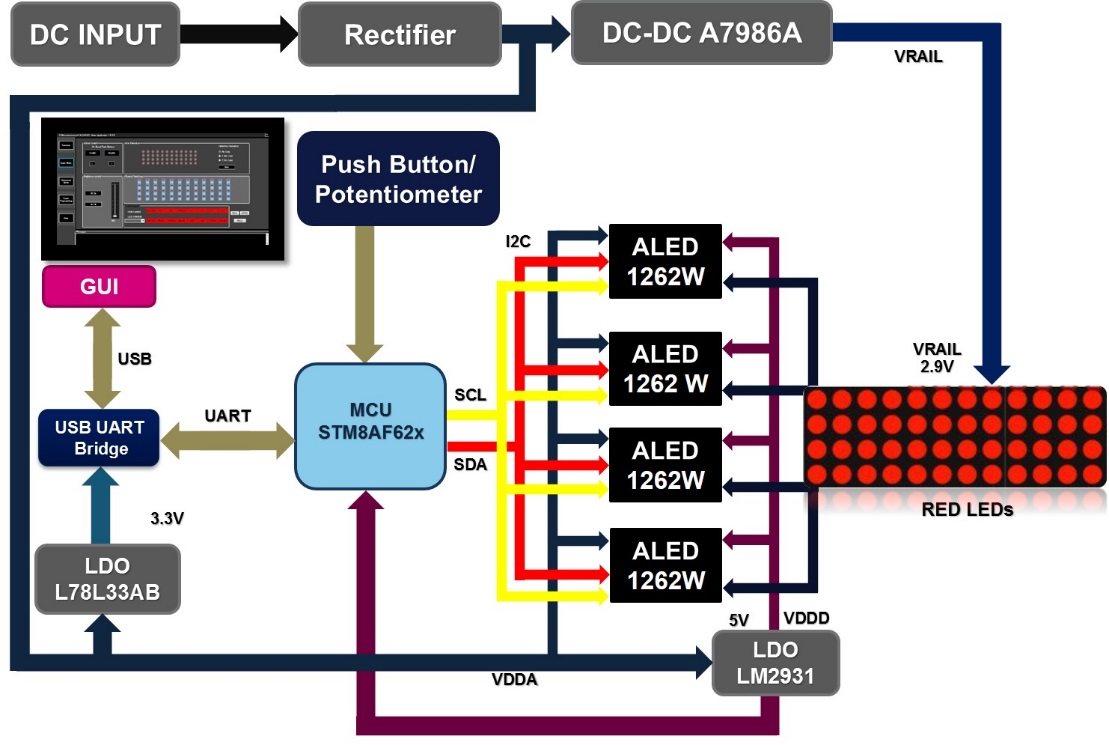
# Setup

The testing procedure for the STEVAL–LLL002M1 requires:

* 1 x STEVAL–LLL002V1 evaluation kit (STEVAL-LLL002M1 and STEVAL-LLL002D1)
* 1 x DC Power supply – Rating:12–20V / 1.5A
* 1 x DC Power Supply – Rating:18V / 100mA
* PC with a free USB port
* 1 x ST-LINK/V2
* 1 x USB cable A type/Mini-USB B type
* 1 x SWIM Programing Cable to program STM8AF62xx

Software requirements:

* Firmware Hex file “STEVAL-LLL002M1.hex”
* Chip Programing Firmware File “
  + STEVAL-LLL002M1 - CS1.hex
  + STEVAL-LLL002M1 - CS2.hex
  + STEVAL-LLL002M1 - CS3.hex
  + STEVAL-LLL002M1 - CS4.hex
* A PC with the following characteristics:
  + Operative system Windows XP / Windows 7
  + Installed software: ST Visual Programmer STM8 (STVP-STM8)  
    **It can be downloaded from** [**http://www.st.com/**](http://www.st.com/) **(code STVP-STM8)**



# Programming the STEVAL–LLL002M1

1. Download and install the ST Visual Programmer STM8 software.
2. Using SWIM programmer cable connect the STEVAL–LLL002M1 board (J3) to the ST-Link/V2.
3. Ensure all Jumpers are closed before powering up the board (J1, J4, J5, J6, J7 and J8).
4. Power up board by applying DC voltage at CN1 with in the range of 12–20V.

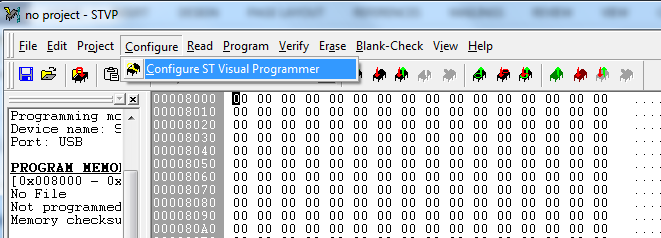
**NOTE:** Power Supply should not be removed from CN1 till the complete programming of the board.

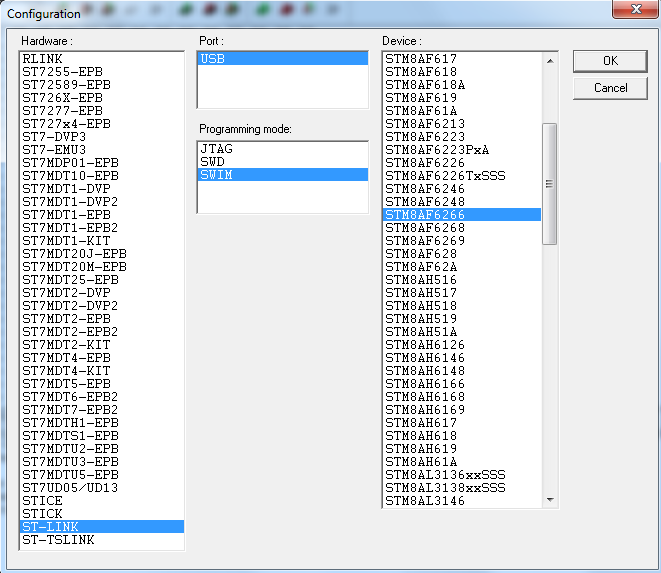
1. Wait for the installation of the ST-LINK/V2 drivers. (STSW-LINK009)

**NOTE:** The ST-LINK/V2 drivers are also available on[**www.st.com.**](http://www.st.com/content/st_com/en/products/embedded-software/development-tool-software/stsw-link009.html)

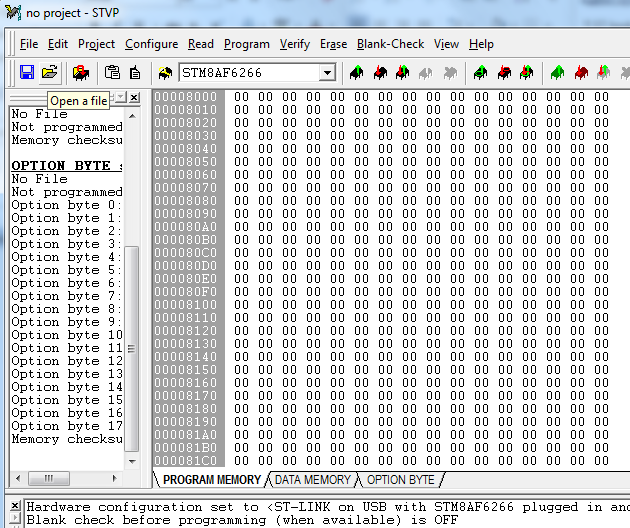
1. Launch ST Visual Programmer.
2. In Configure window select the following and press OK.

* Hardware 🡪 ST-LINK
* PORT 🡪 USB
* Programing MODE 🡪 SWIM
* DEVICE 🡪 STM8AF6266

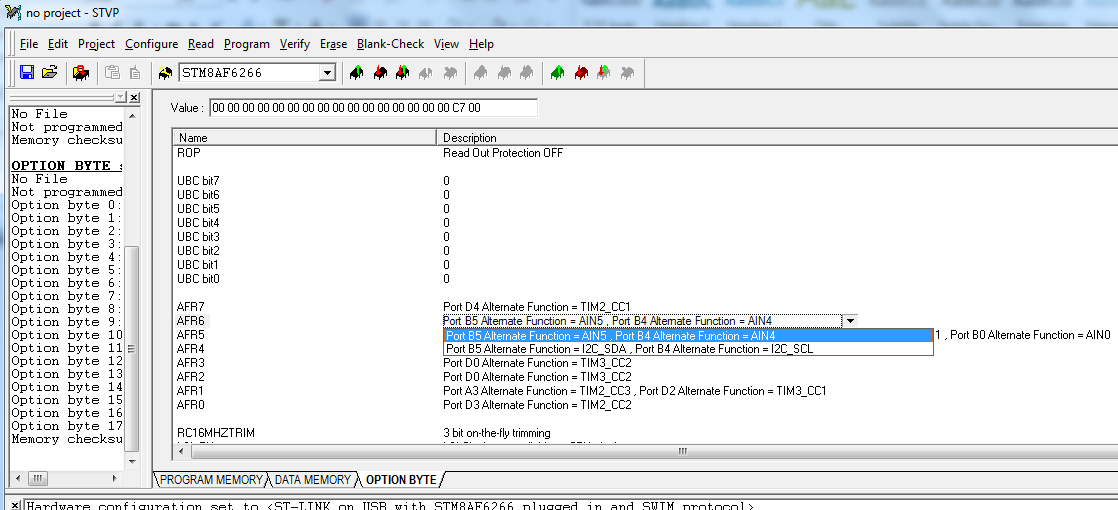




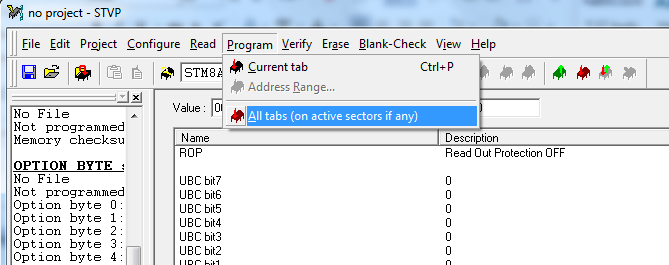
1. Open STEVAL-LLL002M1 - CS1.hex file in a **program memory** window.



1. Select **AFR6** as **Port B5 Alternate Function = I2C\_SDA, Port B4 Alternate Function = I2C\_SCL** in an **option byte** window.



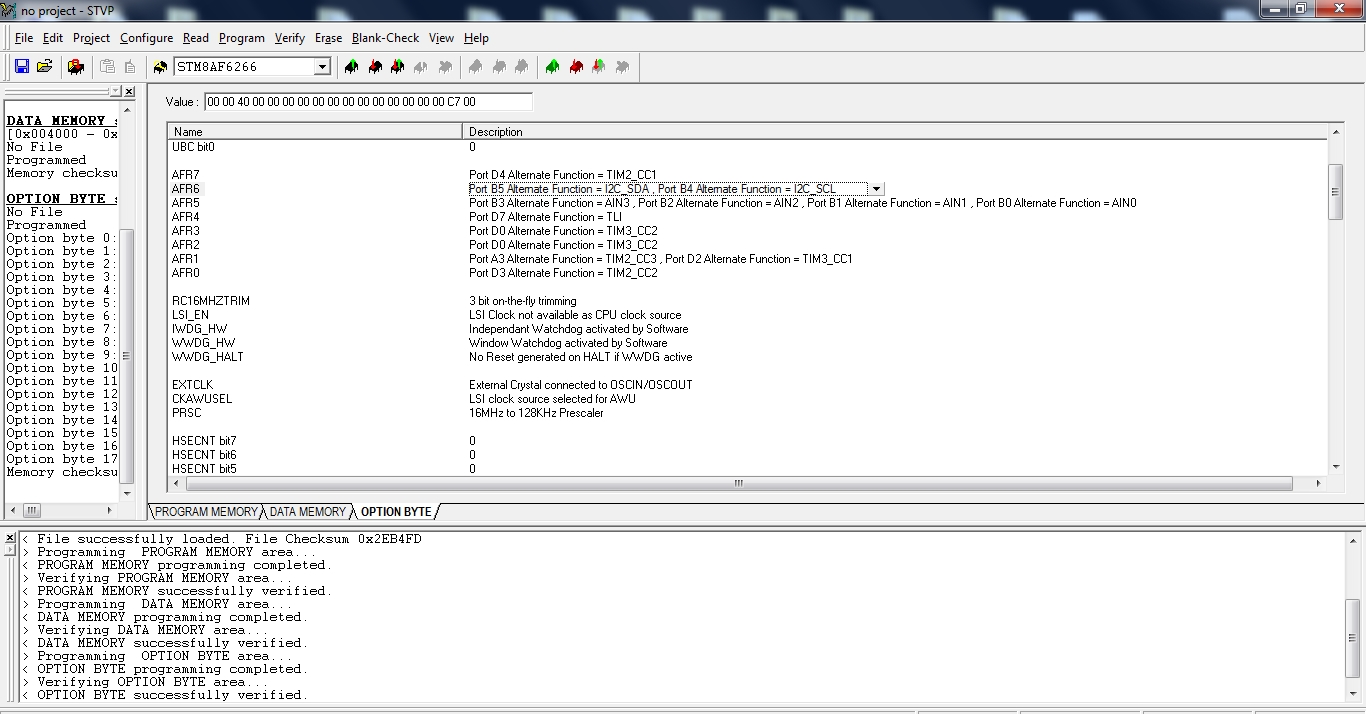
1. Click on Program 🡪 All tabs (on active sensors if any).



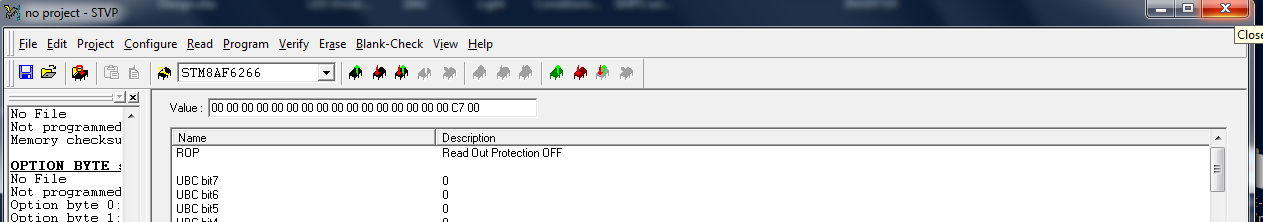
1. After clicking wait till the option byte successfully verified.

**NOTE:** In case of any error check the connections and re-initiate.

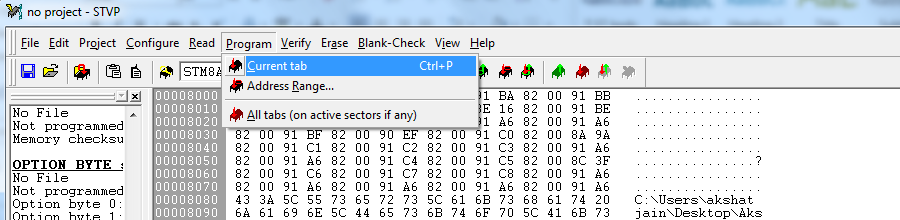
1. Connect **18V** on the STEVAL-LLL002M1 board connections:
   1. 18V – Pin 1 of J2
   2. GND – Pin 5 of J2



1. Close the ST Visual Programmer.



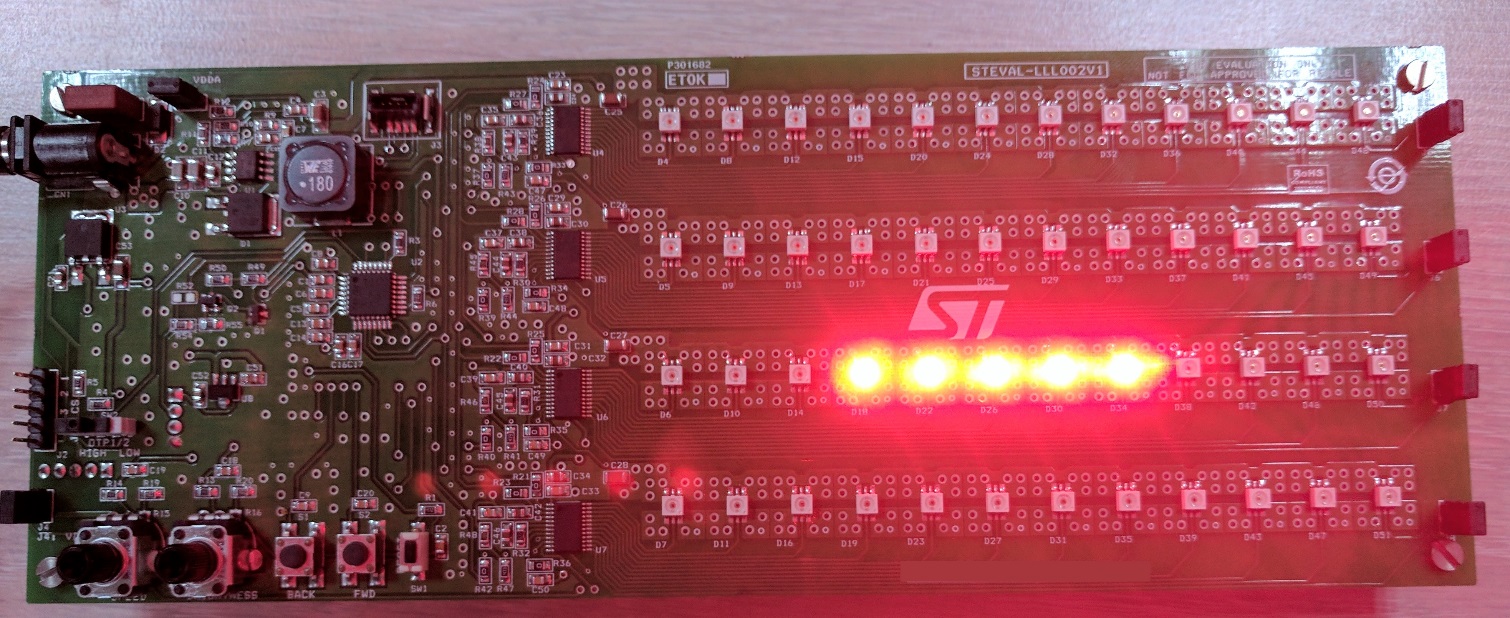
1. Remove 18V from Pin 1 of J2.
2. Re-launch ST Visual Programmer.
3. Open STEVAL-LLL002M1 – CS2.hex file in a **program memory** window.
4. Click on Program 🡪 Current tab.



1. Wait till the program memory get loaded successfully.
2. Connect **18V** on the STEVAL-LLL002M1 board connections:
   1. 18V – Pin 2 of J2
   2. GND – Pin 5 of J2
3. Close the ST Visual Programmer.
4. Remove 18V from Pin 2 of J2.
5. Re-launch ST Visual Programmer.
6. Open STEVAL-LLL002M1 – CS3.hex file in a **program memory** window.
7. Click on Program 🡪 Current tab.
8. Connect **18V** on the STEVAL-LLL002M1 board connections:
   1. 18V – Pin 3 of J2
   2. GND – Pin 5 of J2
9. Wait till the program memory get loaded successfully.
10. Close the ST Visual Programmer.
11. Remove 18V from Pin 3 of J2.
12. Re-launch ST Visual Programmer.
13. Open STEVAL-LLL002M1 – CS4.hex file in a **program memory** window.
14. Click on Program 🡪 Current tab.
15. Connect **18V** on the STEVAL-LLL002M1 board connections:
    1. 18V – Pin 4 of J2
    2. GND – Pin 5 of J2
16. Wait till the program memory get loaded successfully.
17. Close the ST Visual Programmer.
18. Remove 18V and GND from Pin 4 and Pin 5 of J2.
19. Re-launch ST Visual Programmer.
20. Open STEVAL-LLL002M1.hex file in a **program memory** window.
21. Click on Program 🡪 Current tab.
22. Wait till the program memory get loaded successfully.
23. Close the ST Visual Programmer.
24. The final firmware has been uploaded in the MCU. Dot-sequence rail pattern should run on to the board.

# Testing of the evaluation board

1. On powering up the board at **CN1 (12–20V),** the board should display a dot sequence rail pattern.



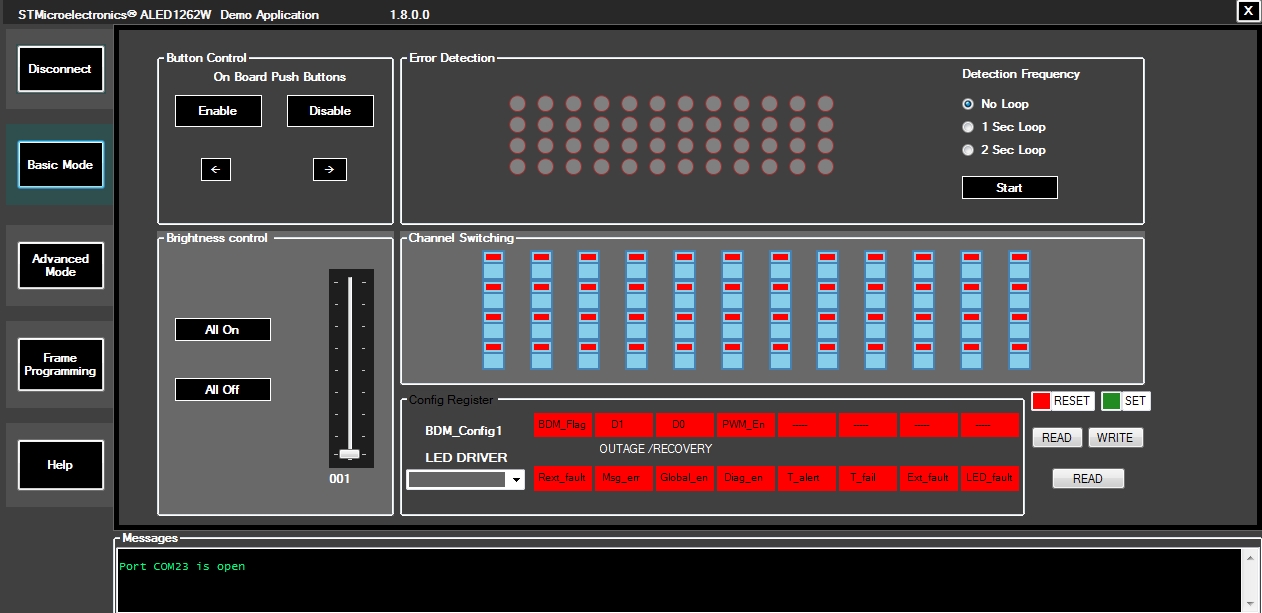
1. STEVAL-LLL002M1 is equipped with 2 push–buttons (S1 and S2) and 2 potentiometers (R15 and R16).
   1. Press S2 and all LED’s should glow.
   2. Moving R16 the brightness should change. The brightness should increase on rotating R16 clock-wise.
   3. Press S1 and dot sequence pattern should come back.
   4. Moving R15 the speed of the dot-sequence rail should change. The speed should increase on rotating R15 clockwise.
   5. Press S1 again, then the board enter in error detection mode.
   6. Remove D48 🡪 D44 should glow.
   7. Remove D49 🡪 D45 should glow.
   8. Remove D50 🡪 D46 should glow.
   9. Remove D51 🡪 D47 should glow.
2. Disconnect the power supply from the board.
3. Connect the USB–UART Bridge (STEVAL–LLL002D1) with the STEVAL–LLL002M1 board.
4. Using USB cable connect the USB–UART Bridge (STEVAL–LLL002D1) with the PC.
5. Re-connect the power supply.
   1. STM32 Virtual COM Port driver will be installed on the PC.
6. Launch Graphic user interface (GUI) for the STEVAL–LLL002V1 kit and click on **connect**.



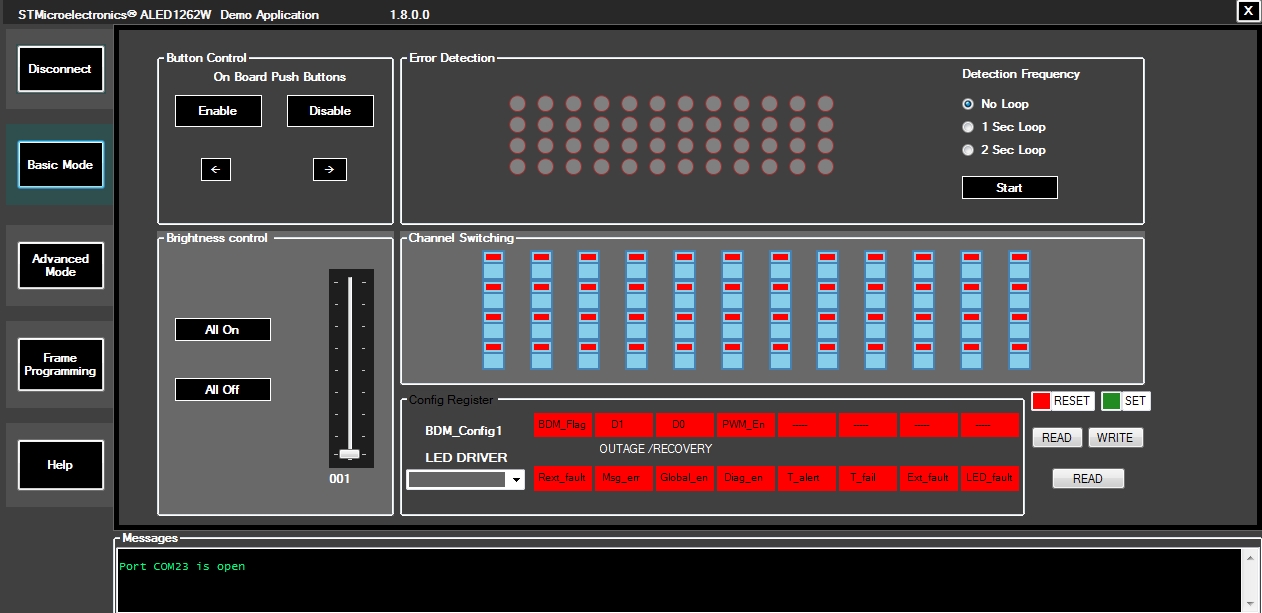
1. **Port COMxx is Open** will appear in the message section.



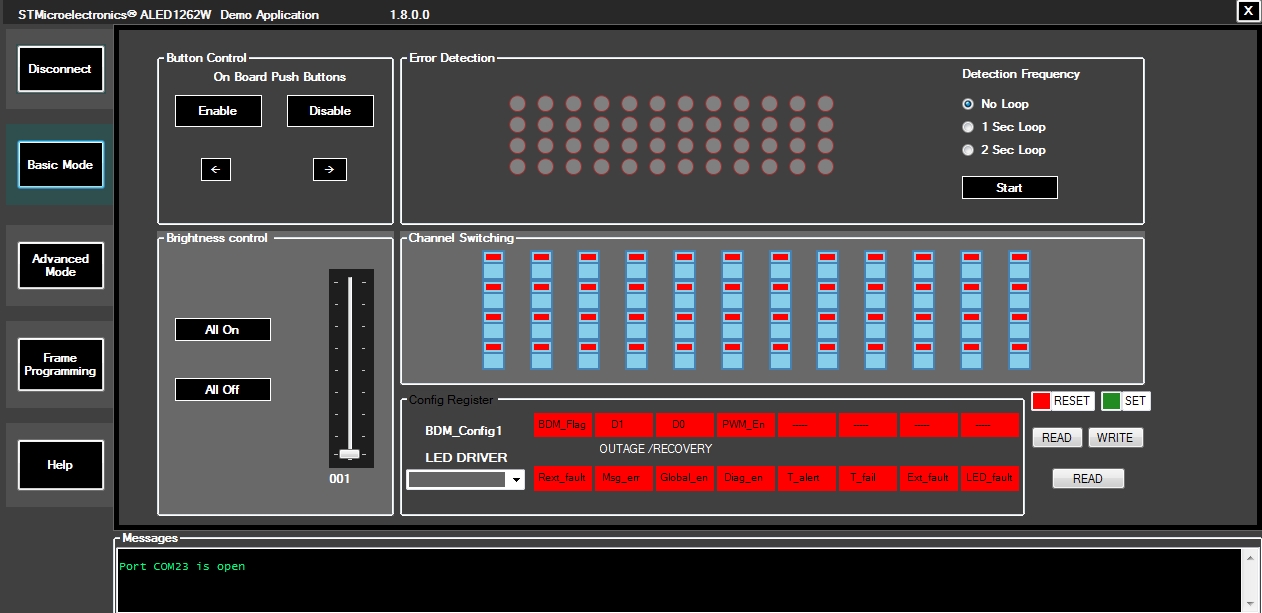
1. Click on **Basic Mode**.



1. Click on **🡪 FWD** icon. The LED pattern/demo on the STEVAL–LLL002M1 board should be changed.



1. Click on **BCK** icon. The LED pattern/demo on the STEVAL–LLL002M1 board should come back to the previous demo.



1. Close the GUI and disconnect the power supply from the STEVAL–LLL002M1 board.