**STEVAL–LLL002D1: USB-UART Bridge**

# Setup

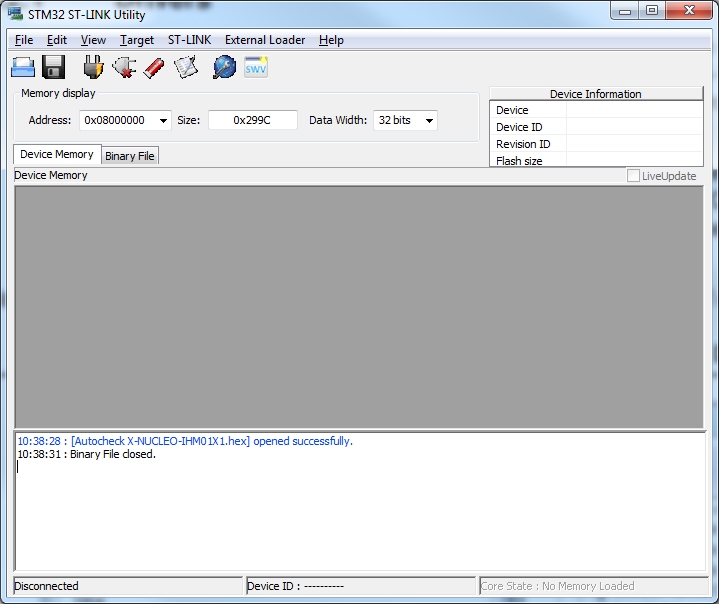
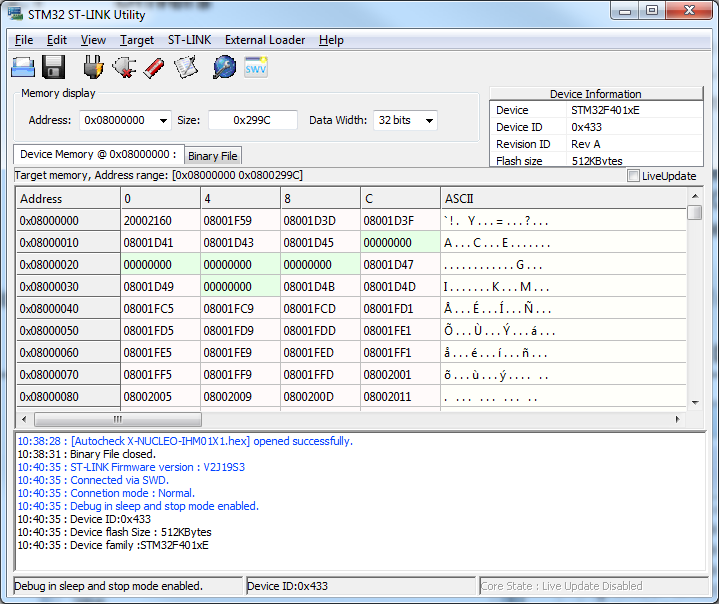
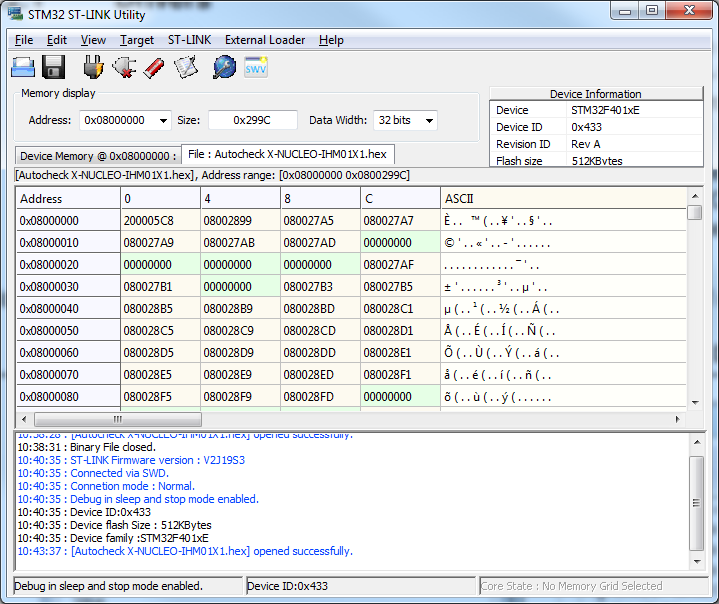
The testing procedure for the STEVAL–LLL002D1 requires:

* 1 x STEVAL–LLL002V1 evaluation kit (STEVAL-LLL002M1 and STEVAL-LLL002D1)
* 1 x DC Power supply – Rating: 3.3V / 100mA
* 1 x DC Power supply – Rating:12–20V / 1.5A
* PC with a free USB port
* 1 x ST-LINK/V2
* 1 x USB cable A type/Mini-USB B type.

Software requirements:

* Firmware file “STEVAL-LLL002D1.hex”
* A PC with the following characteristics:
  + Operative system Windows XP / Windows 7
  + Installed software: STM32 Link utility  
    It can be downloaded from [www.st.com](http://www.st.com) (code STSW- LINK004)

# Programming the STEVAL-LLL002D1 USB-UART Bridge

1. Power up board using DC **power supply 3.3 V, connector J6, pin1 (VDD) & pin4 (GND).**
2. Connect the board to the ST-Link through SWD connector cable (refer to schematic for connections).
3. Wait for the installation of the ST-LINK/V2 drivers is completed.  
   **NOTE: The ST-LINK/V2 drivers are also available on** [**www.st.com**](http://www.st.com)**.** (STSW-LINK009)
4. Run STM32 ST-LINK Utility.
5. Click on “Connect to the target” button:   
   
6. Open the “STEVAL-LLL002D1.hex” firmware file:  
   
7. Program the board:  
   
8. Close the STM32 ST-LINK Utility.

# Testing procedure

1. Connect STEVAL-LLL002D1 (USB-UART Bridge) with the STEVAL-LLL002M1 LED driver board.
2. Supply STEVAL-LLL002M1 board through DC power adapter with rating: 12–20V / 1.5A.
3. On powering up the board, the dot-sequence rail pattern should run on to the board.
4. Voltage across C52 should be 3.3 V.
5. Toggle between different demos using S1 and S2.
6. Now, connect STEVAL-LLL002D1 (USB-UART Bridge) board to PC using USB cable.
7. Open “ALED1262W Demo Application”
8. Click “Connect”. Board should get connected to GUI for PC communication.
9. Enter “Basic Mode”
10. On/Off LED channel on the GUI and observe on to the STEVAL-LLL002M1 LED driver board.
11. Change LED brightness using brightness slider to observe change in LED brightness.
12. Go to “Frame Programming”
13. Select Preset1 and program the board and observe frame programming pattern.