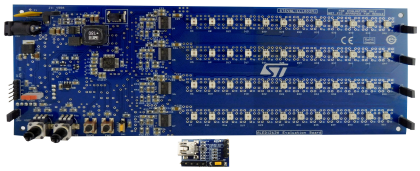
STEVAL-LLL002V1

Data brief

Evaluation kit for automotive rear lights with pattern animations based on ALED1262ZT and STM8AF6266



Features

- Various pre-configured and programmable patterns on the 12 x 4 red LED matrix
  - 7 bit PWM local dimming control with non-linear steps to adjust brightness to human eye perception
  - Speed control
  - Push buttons to switch modes
- Safety standalone mode function and OTP pre-programmed mode for custom configuration
- Fast I²C interface with selectable extended Hamming encoding
- Open error simulation and real-time detection
- 12 to 24 V DC power supply with reverse polarity protection
- GUI for advanced driver configuration
- USB-UART bridge (STEVAL-LLL002D1) for PC connection
- RoHS and WEEE compliant

Product summary	
Evaluation kit for automotive rear lights with pattern animations based on ALED1262ZT and STM8AF6266	STEVAL-LLL002V1
Main board with ALED1262ZT LED driver	STEVAL-LLL002M1 (not available separately)
USB-UART bridge	STEVAL-LLL002D1 (not available separately)
GUI for STEVAL-LLL002V1 evaluation kit for rear automotive lighting applications	STSW-LLL002V1
Automotive-grade 12-channel LED driver	ALED1262ZT
Automotive 8-bit MCU with 32 Kbytes Flash, LIN, 16 MHz CPU, integrated EEPROM	STM8AF6266
3 A step-down switching regulator for automotive applications	A7986A

Description

The STEVAL-LLL002V1 evaluation kit consists of the STEVAL-LLL002M1 main board and the STEVAL-LLL002D1 USB-UART bridge.

It has been designed to test and evaluate ALED1262ZT performance.

The STEVAL-LLL002M1 is a LED array driver system evaluation board with local dimming and diagnostics for automotive applications. It is based on the ALED1262ZT 12-channel LED driver controlled through the STM8AF6266 microcontroller I²C interface.

A 48 red LED matrix is driven by four ALED1262ZT LED drivers.

The on-board A7986A DC-DC converter, accepting standard adapter input voltages with reverse polarity protection, provides the voltages and power for the board operation.

The STEVAL-LLL002V1 evaluation kit jumpers simulate LED open circuit faults and the 4-pin SWIM connector is used to debug and develop the STM8AF6266 microcontroller firmware.

The evaluation kit can operate in bus driven mode (BDM), standalone mode (SAM) and GUI mode.

In the bus driven mode, the board is controlled via on-board push buttons and potentiometers. Commands to the ALED1262ZT driver are sent by STM8A microcontroller over I²C bus.

In the standalone mode, the STEVAL-LLL002V1 evaluation kit is not controlled by the MCU and you can select two possible output configurations using OTP ½ SPDT switch (SW2).

In the GUI mode, the board is connected to a PC via USB-UART bridge and you can observe and control various features of the driver through the graphical user interface.

1 Schematic diagrams

Figure 1. STEVAL-LLL002M1 circuit schematic

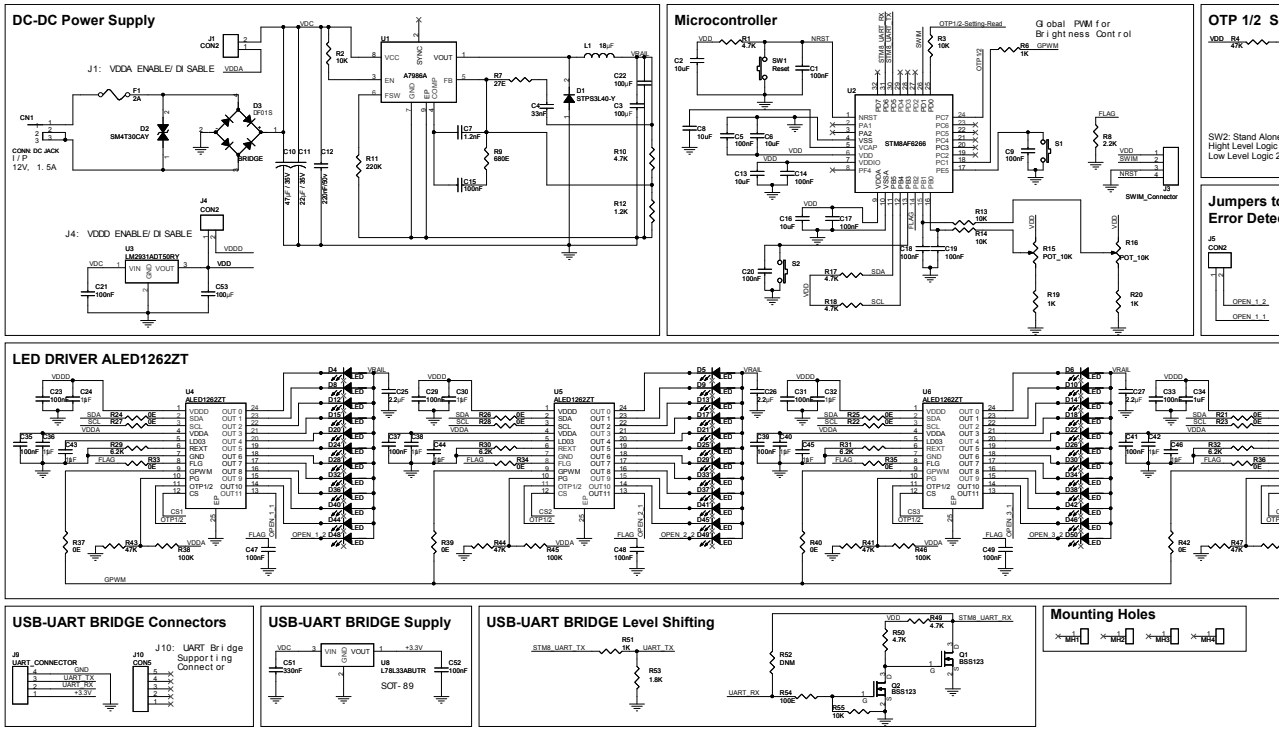
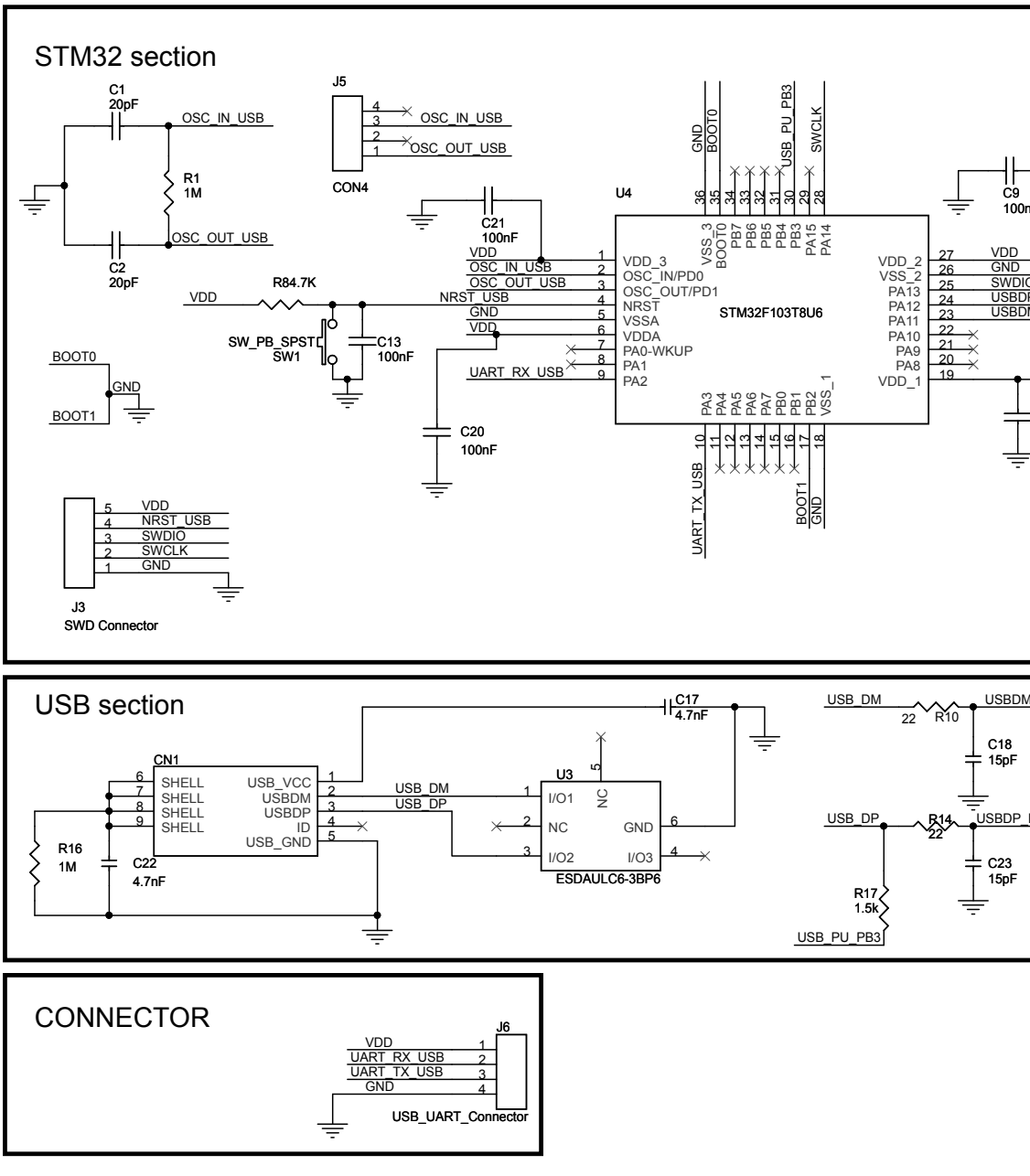


Figure 2. STEVAL-LLL002D1 circuit schematic



Revision history

Table 1. **Document revision history**

Date	Version	Changes
03-Jun-2019	1	Initial release.

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