

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

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.

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

Schematic diagrams



Figure 1. STEVAL-LLL002M1 circuit schematic

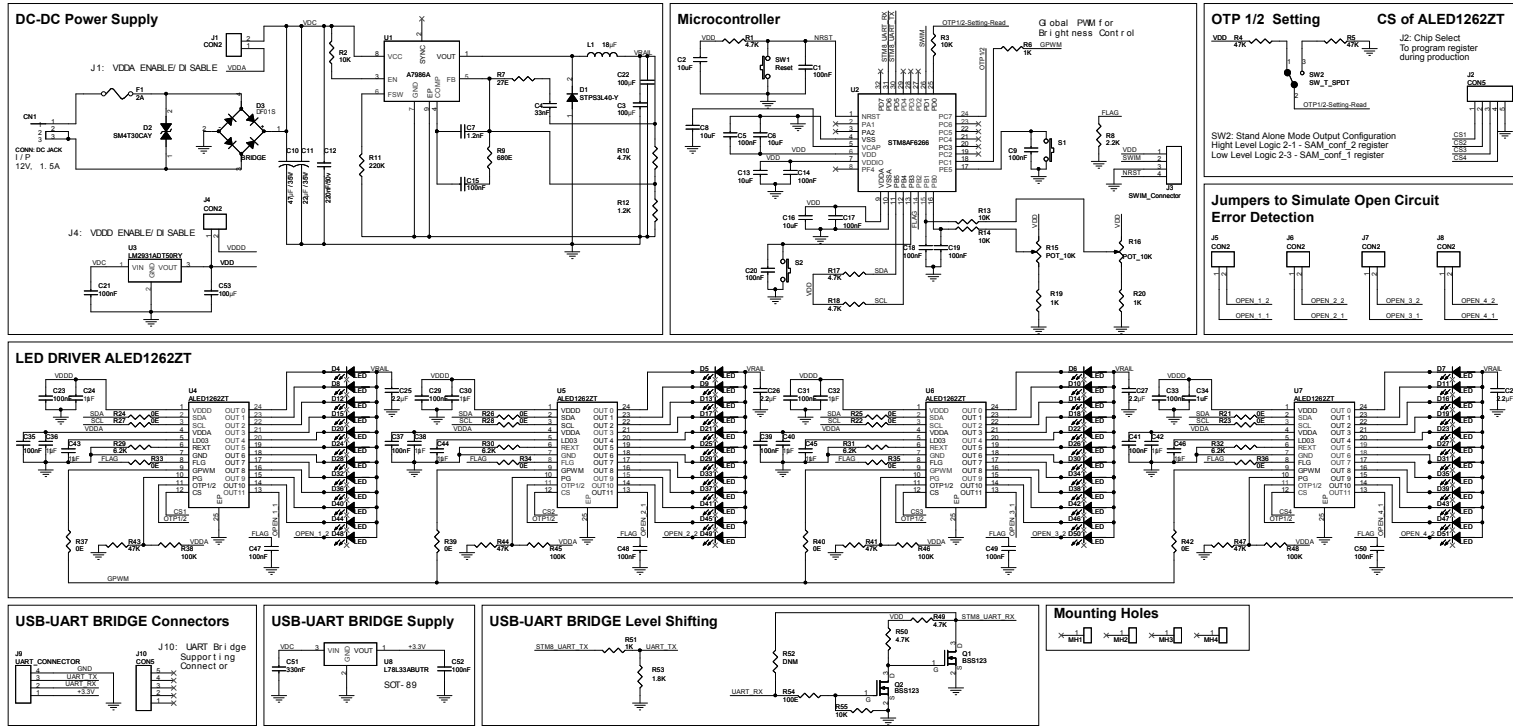
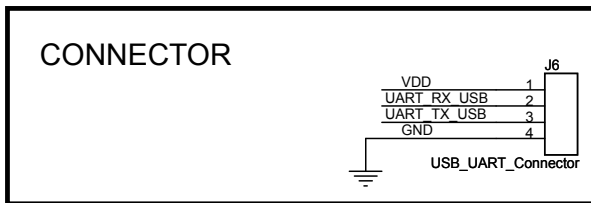
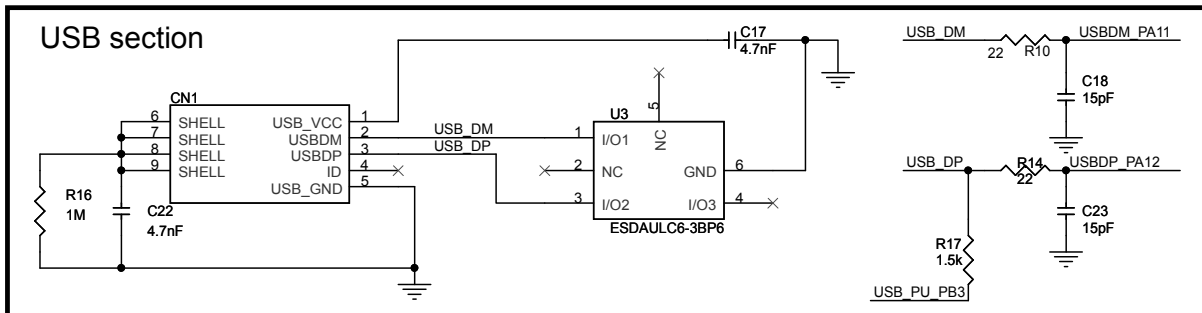
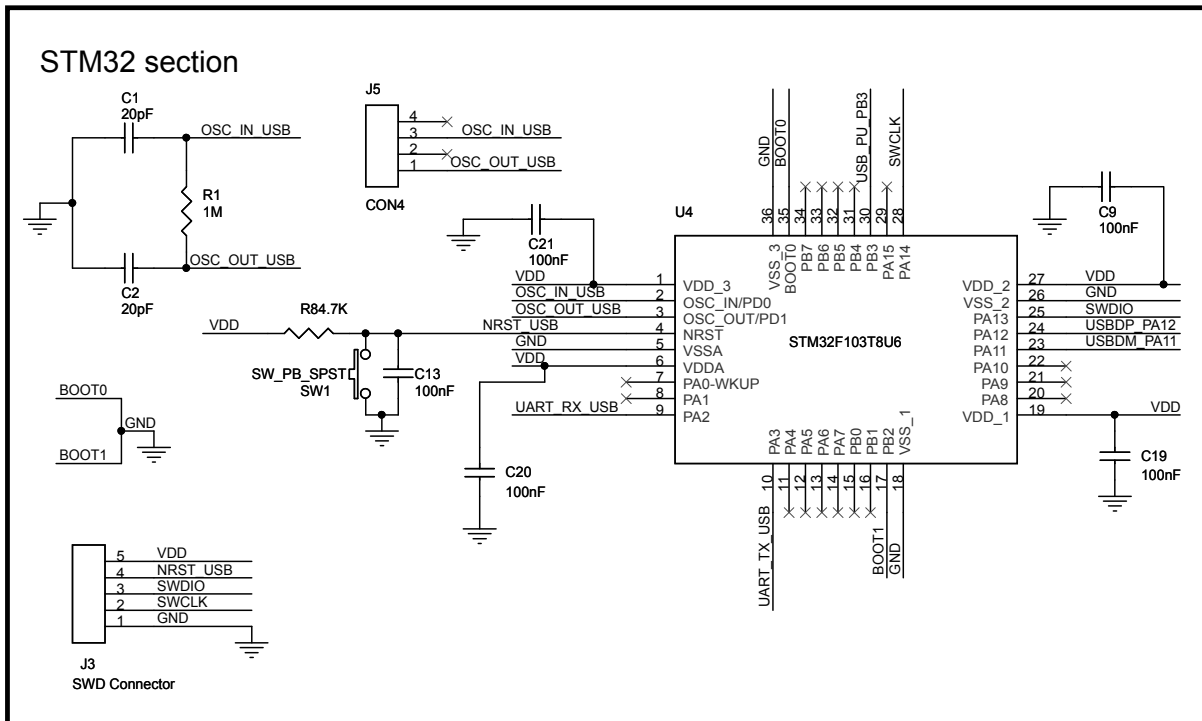


Figure 2. STEVAL-LLL002D1 circuit schematic



Revision history

Table 1. Document revision history

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

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, please refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2019 STMicroelectronics – All rights reserved