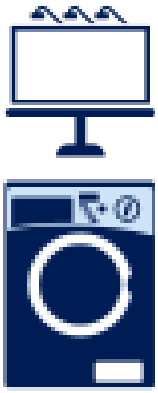
STEVAL-LLL005V1

Data brief

60 LED (6 x 10) cost-effective matrix display based on STP16CPC26 with Bluetooth low energy and Android app



Features

- Cost effective 16-bit LED driving scheme
- Driver for 6x10 LED matrix with individual LED control and row-wise scanning
- USB Type-C and DC jack connector for DC input power
- Bluetooth Smart connectivity and Android application for hassle free demonstration
- Connector for stacking multiple LED drivers in daisy chain configuration
- Preconfigured demos (selected through on-board switches):
  - with brightness control
  - with speed control
  - with blink rate (flashing) control

Description

The STP16CPC26 low voltage 16-bit constant current LED sink driver on the STEVAL-LLL005V1 evaluation board ensures a cost effective 6x10 LED matrix with individual LED control.

The LED driver evaluation board includes a jumper to select between powering the board through a standard DC jack input or a USB Type-C connector, as well as two control switches.

An Android app is also available for enhanced user experience and control.

The SPBTLE-RF very low power module for Bluetooth Smart v4.1 allows communication with the board via your smartphone.

The STM32F030 mainstream ARM Cortex-M0 Value line MCU with 64 Kbytes of Flash, 48 MHz CPU manages driving and transmission of data over BLE.

Summary table	
STEVAL-LLL005V1 evaluation board	STEVAL-LLL005V1
STP16CPC26 low voltage 16-bit constant current LED sink driver	STP16CPC26
SPBTLE-RF very low power module for Bluetooth Smart v4.1	SPBTLE-RF
STM32F030 mainstream ARM Cortex-M0 Value line MCU	STM32F030

1 Schematic diagrams

Figure 2. Input power jack and USB Type-C section

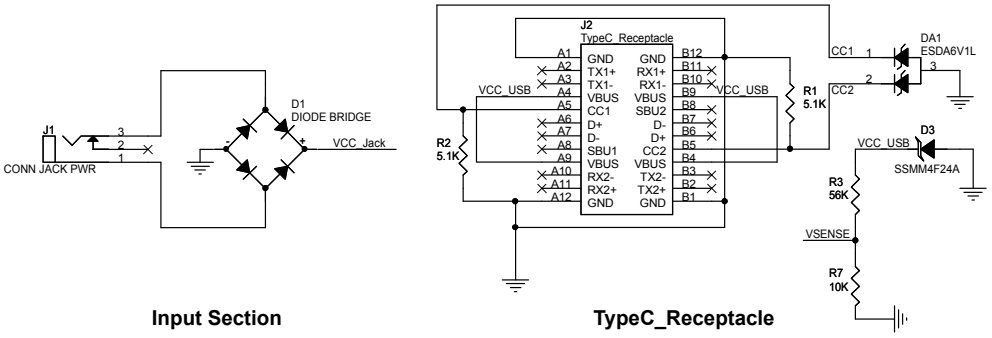


Figure 3. DC-DC step down and LDO regulator section

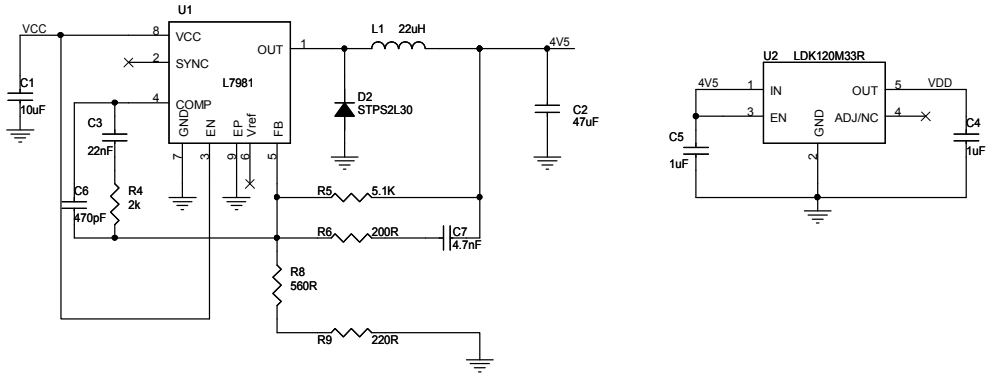


Figure 4. **Microcontroller section**

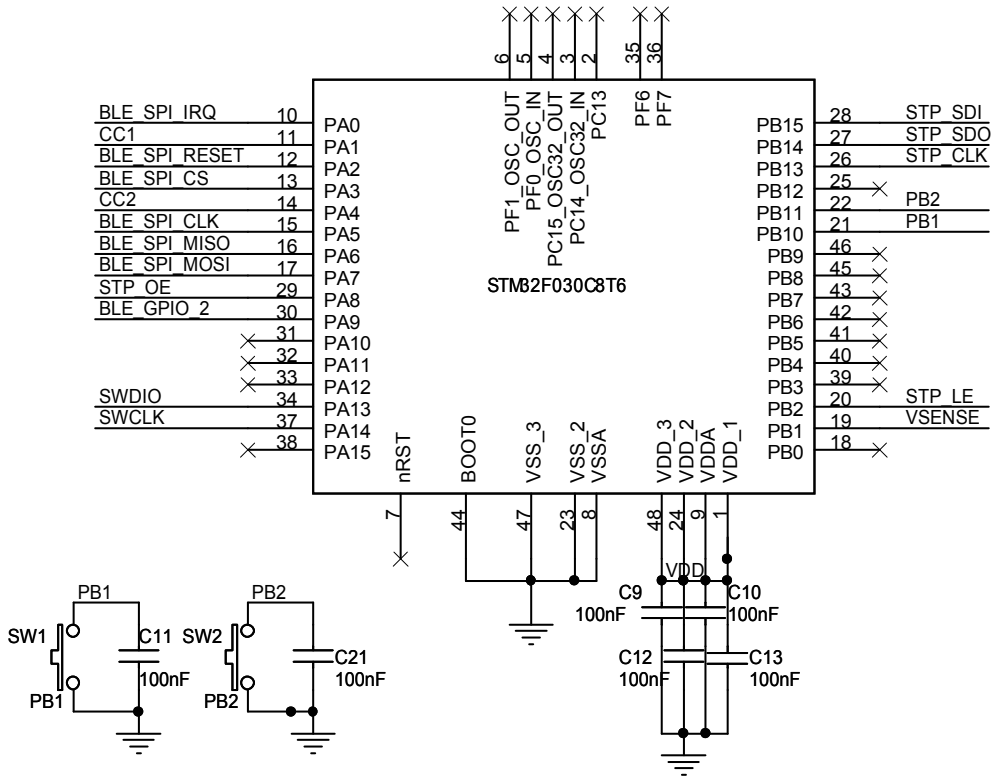
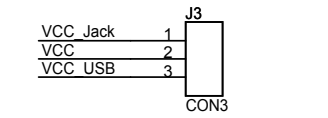
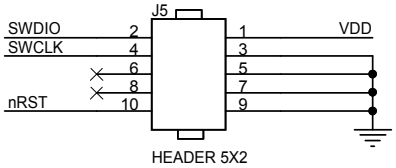


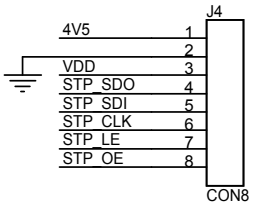
Figure 5. **Input power selection, board extension and programming connector section**



Input Selection Jumper



Programming Connector



Male Connector

Figure 6. **SPBTLE-RF section**

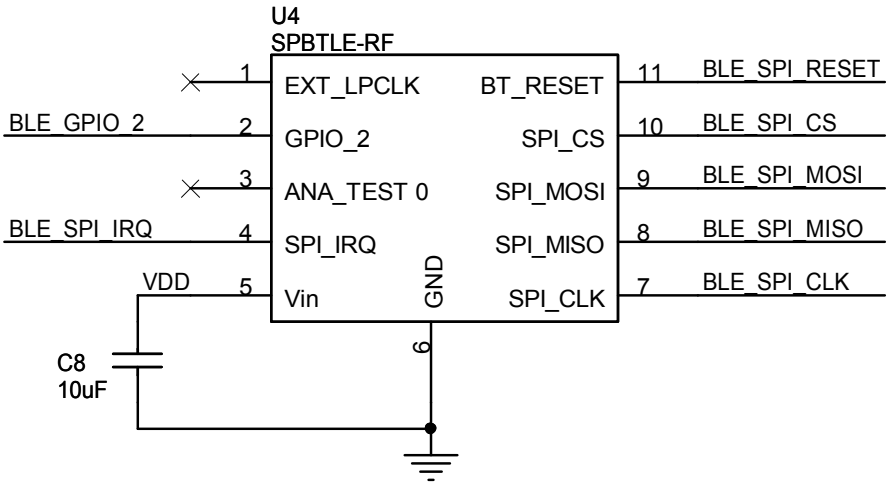
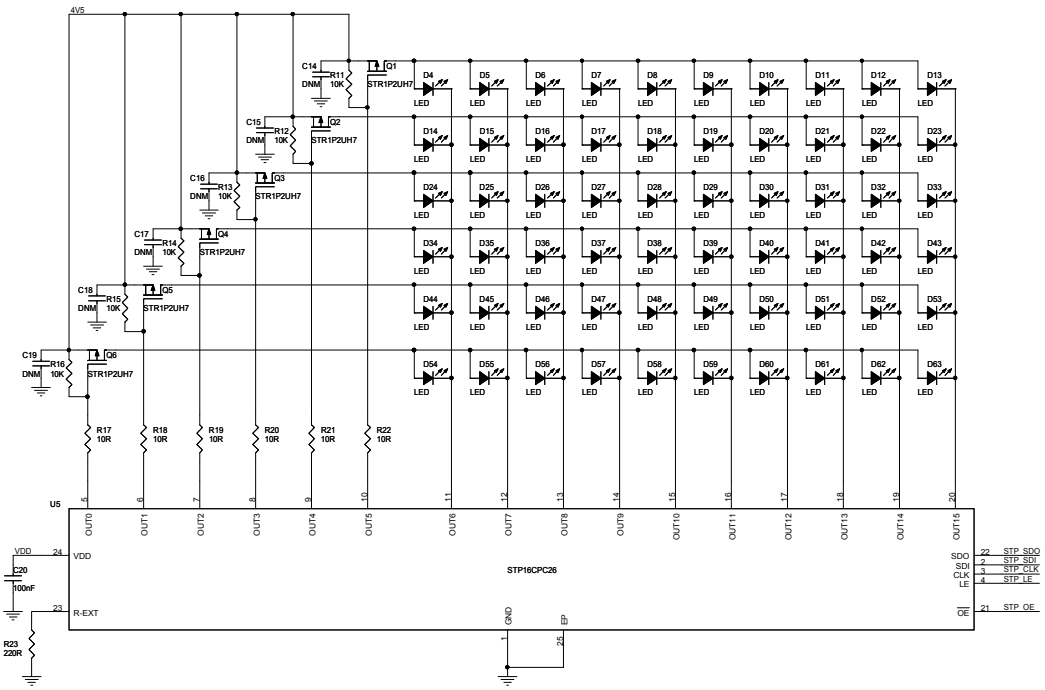


Figure 7. **LED driver and LEDs section**



Revision history

Table 1. **Document revision history**

Date	Version	Changes
09-Jan-2018	1	Initial release.