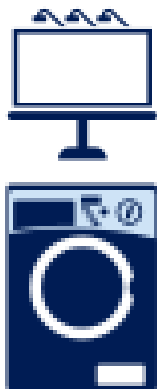
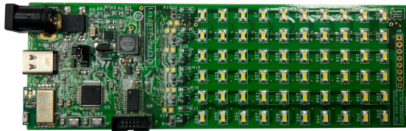


## 60 LED (6 x 10) cost-effective matrix display based on STP16CPC26 with Bluetooth low energy and Android app



### 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.

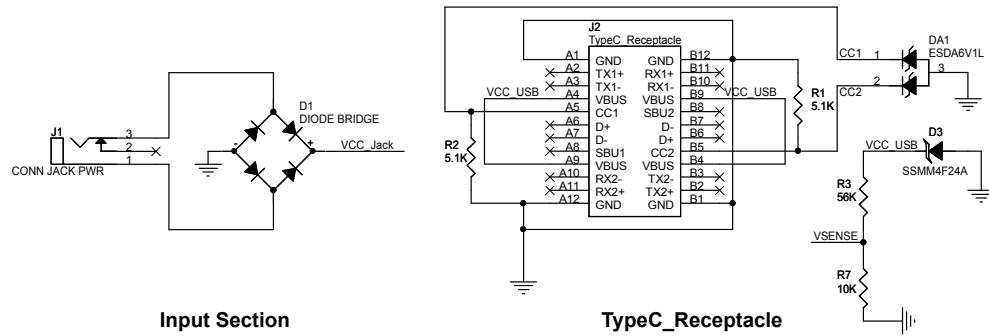
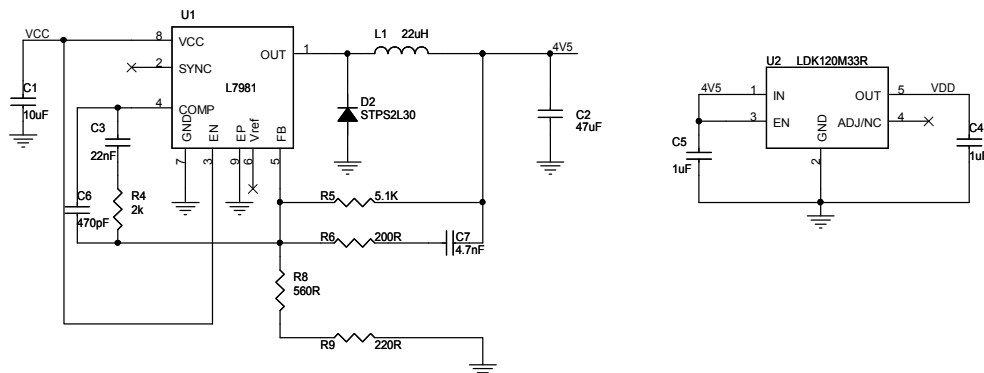
An Android app is also available for enhanced user experience and control.

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	<a href="#">STEVAL-LLL005V1</a>
STP16CPC26 low voltage 16-bit constant current LED sink driver	<a href="#">STP16CPC26</a>
SPBTLE-RF very low power module for Bluetooth Smart v4.1	<a href="#">SPBTLE-RF</a>
STM32F030 mainstream ARM Cortex-M0 Value line MCU	<a href="#">STM32F030</a>

# 1 Schematic diagrams

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

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


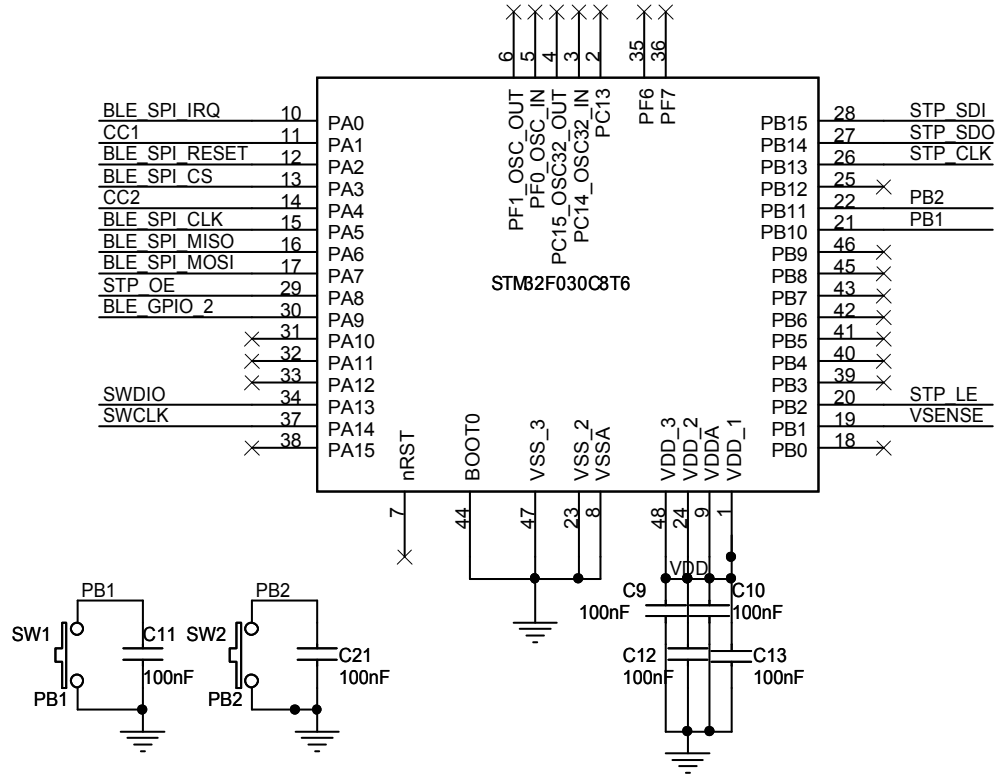
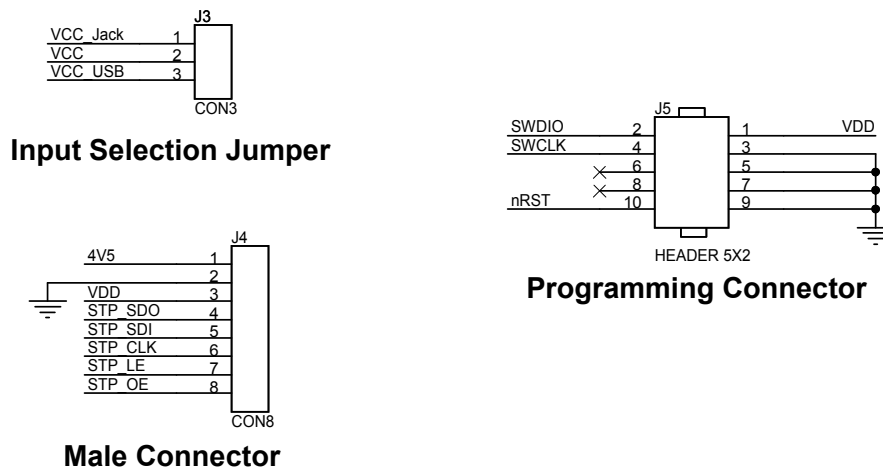
**Figure 4. Microcontroller section**

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


Figure 6. SPBTLE-RF section

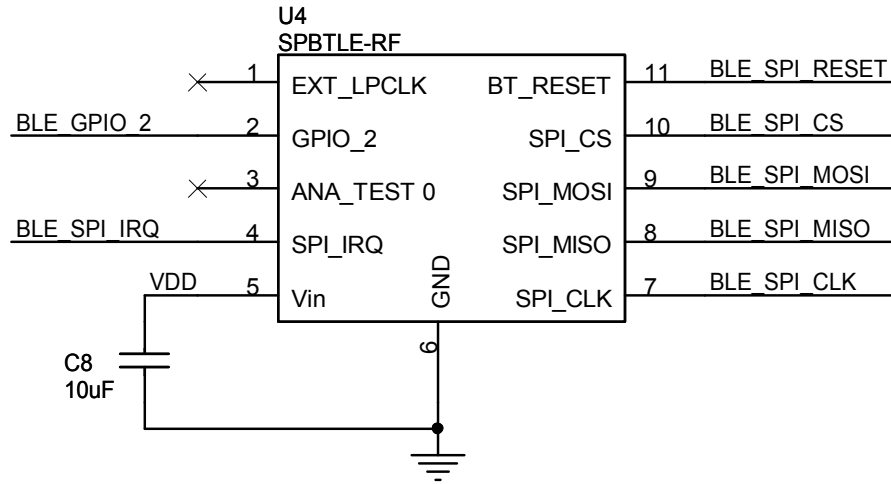
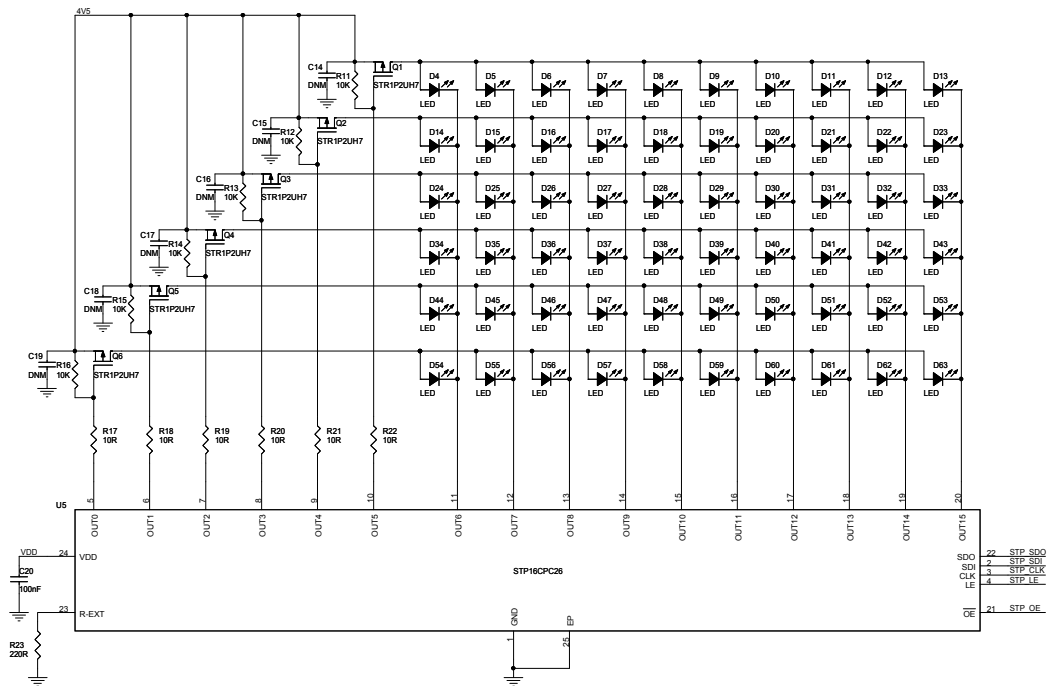


Figure 7. LED driver and LEDs section



## Revision history

**Table 1. Document revision history**

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

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