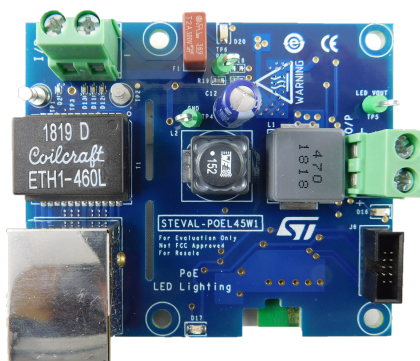


## 45 W PoE powered LED lighting with BLE control



### Features

- PoE-PD IEEE 802.3af/at/bt compliant
- Constant current output, working in buck topology
- Output Current – 1.4 A with < 0.05% current regulation
  - Number of LEDs connected at output: 6 – 11 White LEDs (3.3 V each)
- LED driver input voltage range 37 – 57 V<sub>DC</sub>
- Peak Efficiency at maximum load > 95%
- Standby power consumption of LED driver < 100 mW
- Comprehensive set of protections:
  - open/no-load circuit protection
  - short/overload circuit protection
- Wireless On/Off and dimming control
  - PoE Lighting android application available on Google Play store
- LED dimming technique:
  - Digital dimming with 1% resolution
- RoHS compliant
- WEEE compliant

### Description

The **STEVAL-POEL45W1** is a PoE-enabled constant current LED driver with a **PM8805** Power over Ethernet interface, **LED6000** LED driver and Bluetooth module **SPBTLE-1S** for smart dimming control.

The PM8805 is a highly integrated device, embedding a double active bridge, a hot-swap MOSFET and an IEEE802.3bt-compliant Powered Device (PD) PoE interface.

The LED6000 is a step-down monolithic switching regulator designed to source up to 3 A<sub>DC</sub> current for high power LED driving. The 250 mV typical R<sub>SENSE</sub> voltage drop enhances the efficiency. Digital dimming is implemented by driving the dedicated DIM pin.

The SPBTLE-1S is a Bluetooth® low Energy System-on-Chip application processor certified module, compliant with BT specifications v4.2 and BQE qualified.

The STEVAL-POEL45W1 evaluation board is designed to provide a power output of 48 W and can dim LEDs down to 1% of the maximum brightness without any flicker.

Remote on/off and dimming control can be managed through the **PoE Lighting** android application available free of charge on the Google Play store.

Product summary	
45 W PoE-enabled constant current LED driver with BLE control	<b>STEVAL-POEL45W1</b>
IEEE802.3bt PoE-PD interface with integrated dual-active bridge	<b>PM8805</b>
3 A, 61 V monolithic current source with dimming capability	<b>LED6000</b>
very low power application module for Bluetooth® Smart v4.2	<b>SPBTLE-1S</b>

## Schematic diagrams

Figure 1. STEVAL-POEL45W1 board schematic (1 of 2)

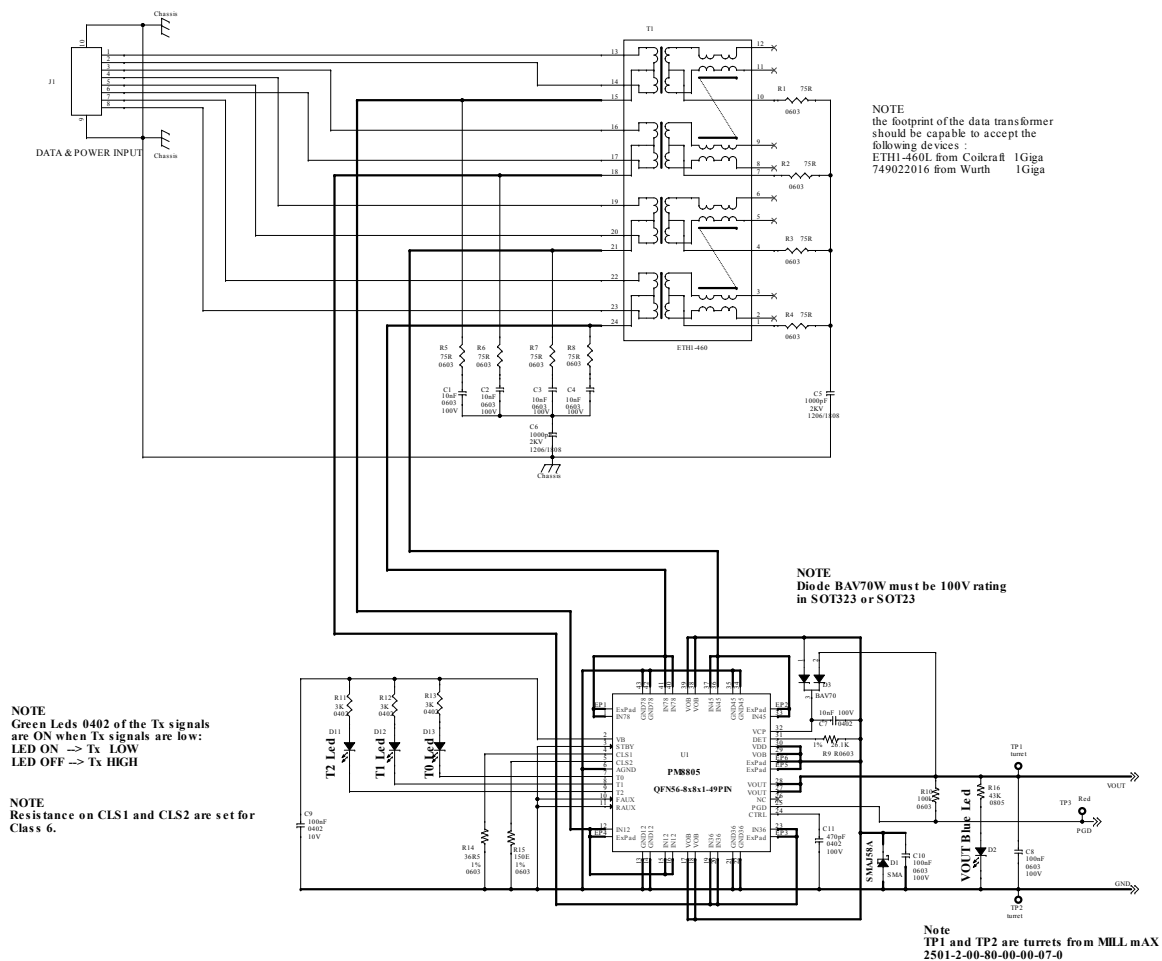
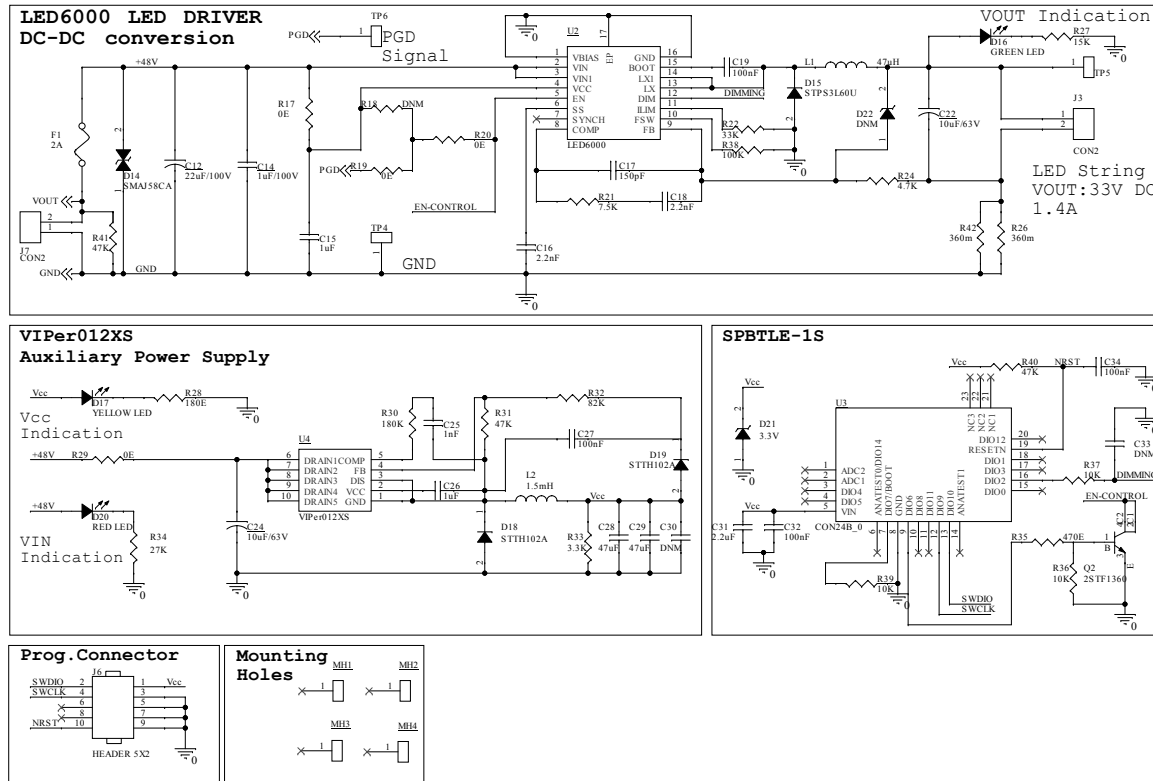


Figure 2. STEVAL-POEL45W1 board schematic (2 of 2)



## Revision history

**Table 1. Document revision history**

Date	Version	Changes
10-Oct-2018	1	Initial release.



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