STEVAL-ILL082V1
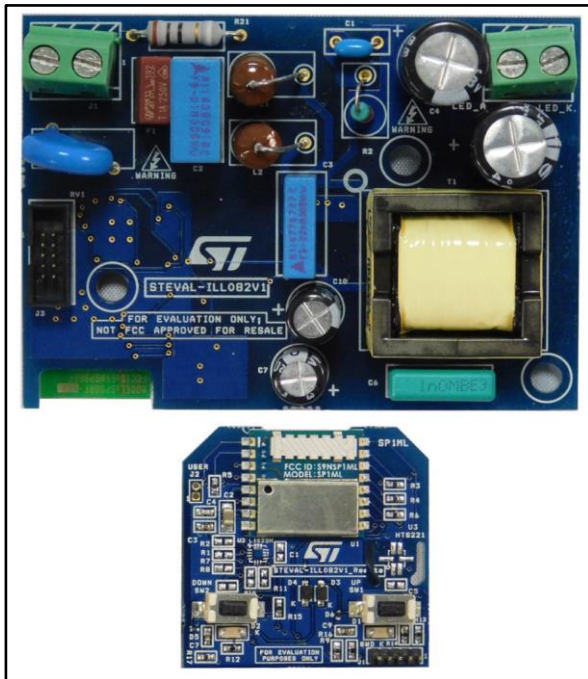
Smart home lighting based on HVLED815PF and SPSGRF

Description

The STEVAL-ILL082V1 evaluation board is an offline LED driver based on the HVLED815PF, coupled with Sub-GHz connectivity based on the SPSGRF-868 low power programmable RF transceiver module. The interface between the HVLED815PF and the SPSGRF is managed by an STM32L0 ultra-low-power ARM® Cortex®-M0+ MCU. The microcontroller and connectivity module are supplied by the LED driver through an auxiliary winding.

The LED driver evaluation board can operate in standalone mode in communication with the bundled STEVAL-ILL082V1_Remote controller based on SP1ML to help to reduce development and certification time.

The board can also be rendered visible to cloud applications with the addition of a wireless bridge.

Features

- LED driver features:
    - 10 W flyback converter with quasi-resonant operation
    - Primary side regulation, no optocoupler required
    - High power factor and low THD
    - Open circuit and short-circuit LED management
    - ±1% LED current regulation
    - Dimming range: 2.5% to 100%
- Sub-GHz connectivity features:
    - Works with the bundled STEVAL-ILL082V1_remote controller based on SP1ML-868 sub-GHz module
    - Allows remote lamp powering on and off
    - Allows lamp remote dimming
    - Standby power consumption: < 0.5 W
- RoHS compliant

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Schematic diagrams

Figure 1: STEVAL-ILL082V1 circuit schematic (1 of 2)
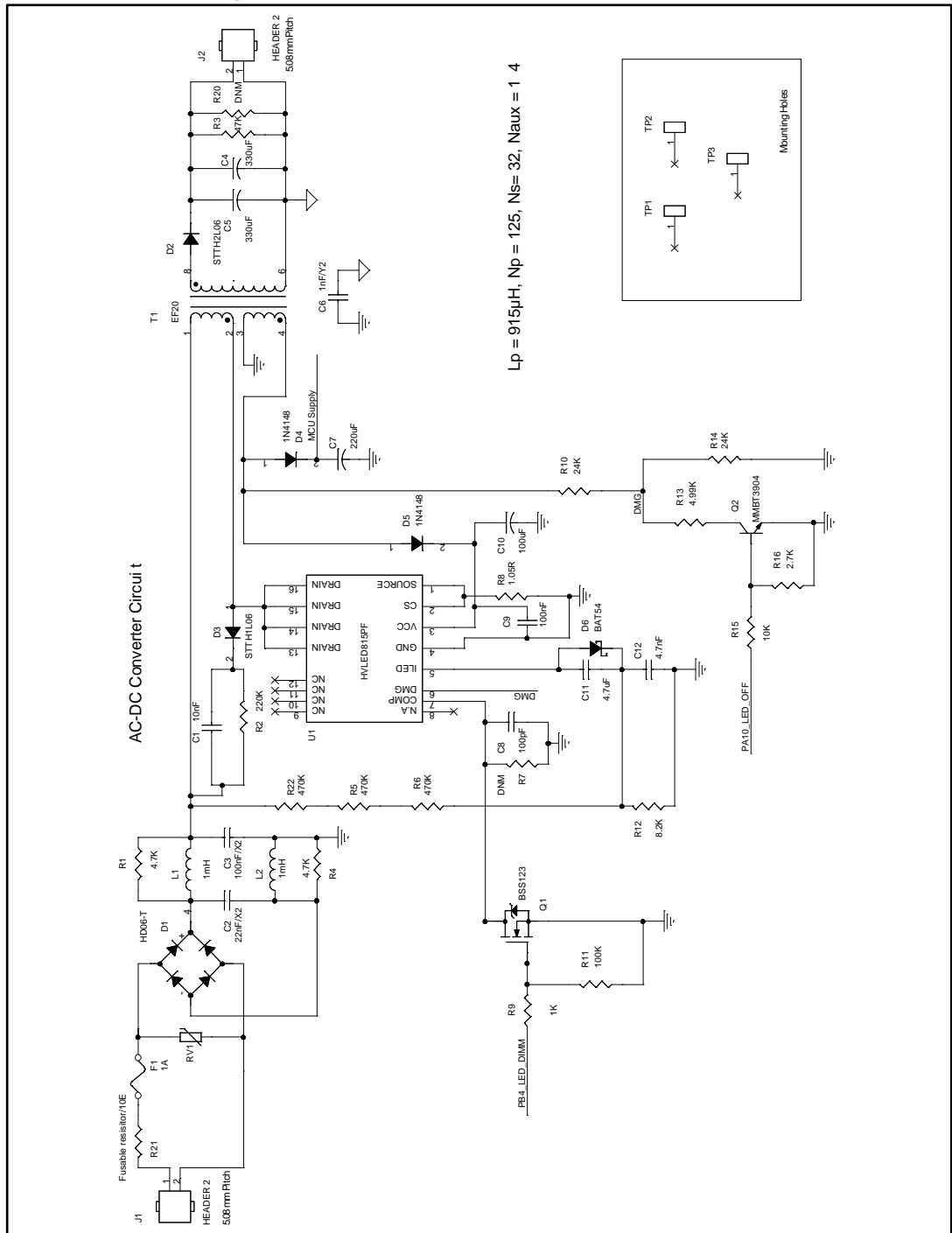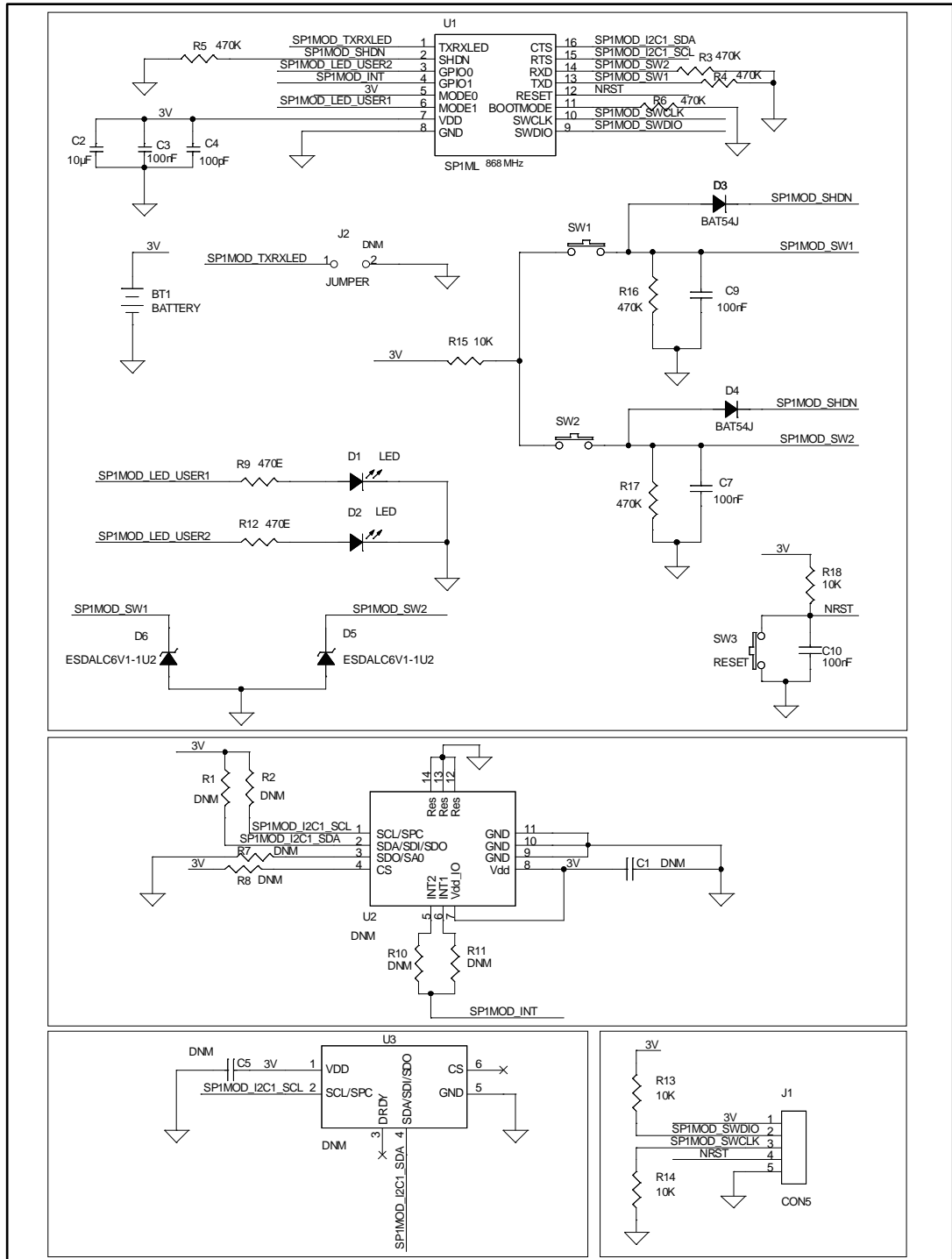
Figure 2: STEVAL-ILL082V1 circuit schematic (2 of 2)

Figure 3: STEVAL-ILL082V1_Remote circuit schematic

Revision history

Table 1: Document revision history

Date	Version	Changes
07-Feb-2017	1	Initial release.
24-Oct-2017	1	Updated cover page Features and Description

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