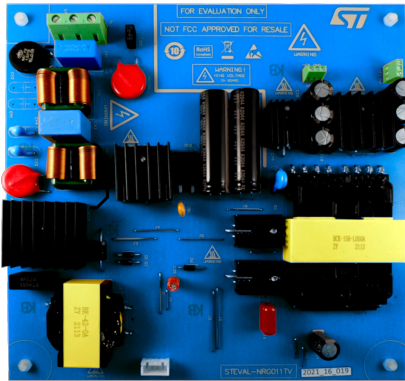


200 W power supply based on STNRG011 digital combo for LED TV



Features

- STNRG011 digital controller:
 - TM PFC with resonant HB-LLC converter
- Input voltage range: 90 – 264 V_{AC}
- 12 V/4 A, 65 V/2.3 A output voltage
- Full load power: 200 W continuous operation
- Full load efficiency greater than 91% at 115 and 230 V_{AC}
- No load mains consumption: less than 120 mW
- Full set of programmable parameters
- High flexibility thanks to the configurable NVM
- Black box functionality with the embedded EEPROM

Description

The **STEVAL-NRG011TV** is a 200 W LED TV SMPS providing 12 V regulated output voltage (for MCU supply and audio system applications) and 65 V output voltage for LED back lighting.

The design is based on the **STNRG011** IC digital combo that controls a two-stage AC/DC SMPL.

The front-end is a transition mode PFC pre-regulator and the second stage is an LLC HB resonant converter.

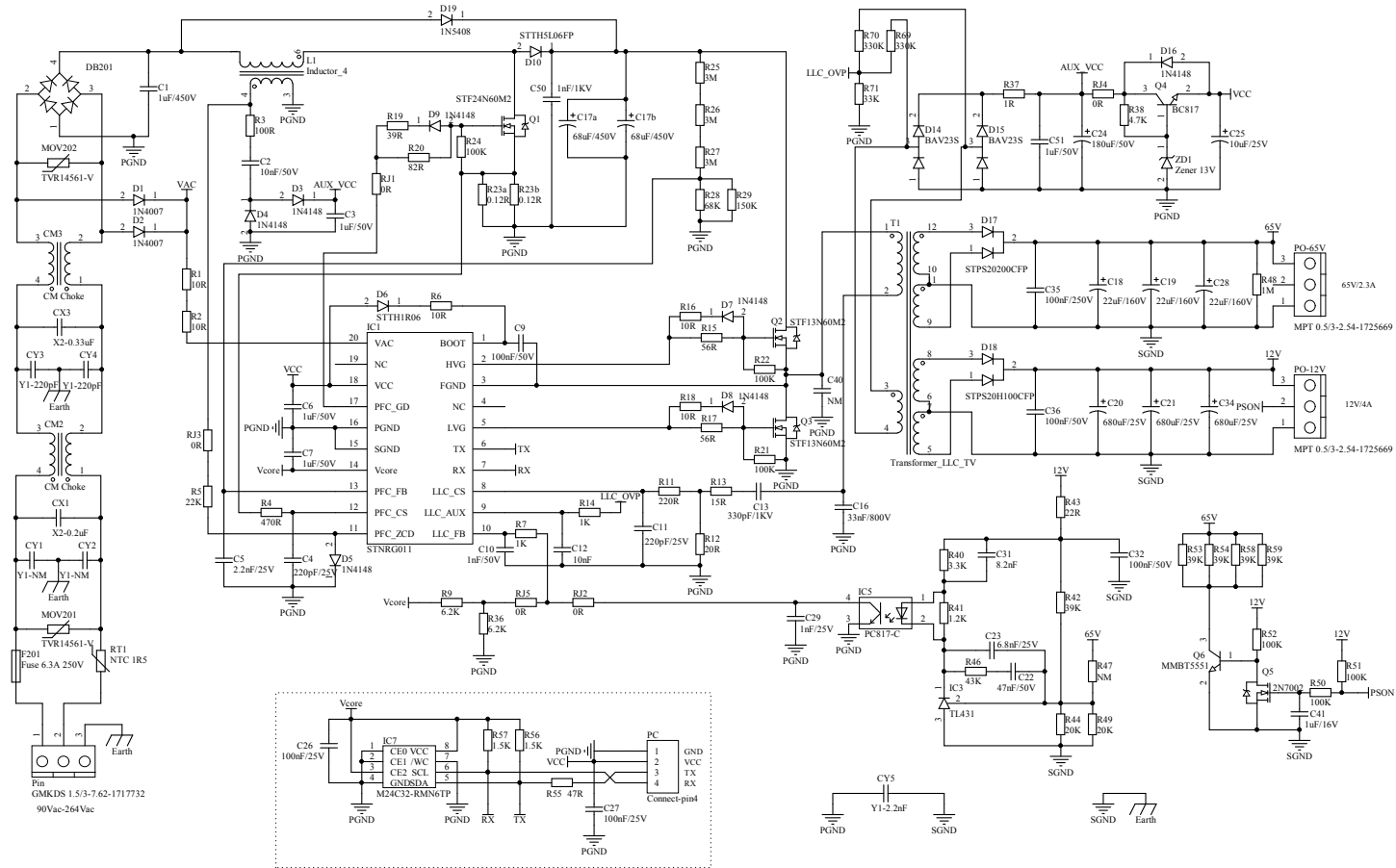
Thanks to the **STNRG011** IC, the user can take full advantage of digital implementation without the need of writing code.

A complete set of parameters, stored in the controller non-volatile memory (NVM), allows the configuration and fine tuning of the application.

Product summary	
200 W power supply based on STNRG011 digital combo for LED TV	STEVAL-NRG011TV
Digital combo multi-mode PFC and time-shift LLC resonant controller	STNRG011
Applications	LED / OLED TV

1 Schematic diagrams

Figure 1. STEVAL-NRG011TV circuit schematic



Revision history

Table 1. Document revision history

Date	Version	Changes
14-May-2021	1	Initial release.

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