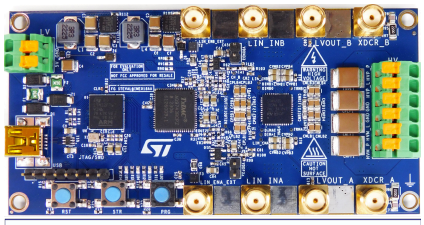
STEVAL-IME018A

Data brief

Dual channels ±100 V, 3 A linear amplifier and 2 A pulser transmitter



The picture shown is for illustration purpose only.
Actual product may vary depending on buyer's selection and availability.

Product summary	
Dual channels ±100 V, 3A linear amplifier and 2 A pulser transmitter	STEVAL-IME018A
Dual channel ±100 V, high voltage 3 A linear amplifier and 2 A pulser transmitter	STHV200Q
Applications	Medical ultrasound imaging/NDT ultrasound transmission/ Piezoelectric transducer drivers/Industrial

Features

- 3 A linear amplifier and 2 A pulser transmitter
- 2-channel high-voltage output (XDCR)
- Typical load directly connected on XDCRs (220 Ω/220 pF)
- 2-channel low voltage output (LVOUT)
- No loads on LVOUT
- USB connector to change programs and waveforms
- Button interface to program, start and stop the generation of the waveforms
- LEDs to monitor STHV200 behavior
- System based on STM32 and external DAC dual 10-bit
- Low-voltage supplies generated on board
- Only 1 external supply needed (5 V) for LV supplies rails generation
- Dedicated connector for the 4 high-voltage supplies rails
- GUI or textual interface to configure STEVAL-IME018A by yourself

Description

The STEVAL-IME018A is an evaluation kit that demonstrates STHV200 performance, a fully integrated high-voltage driver including both a dual-channel linear and dual-channel pulser driver.

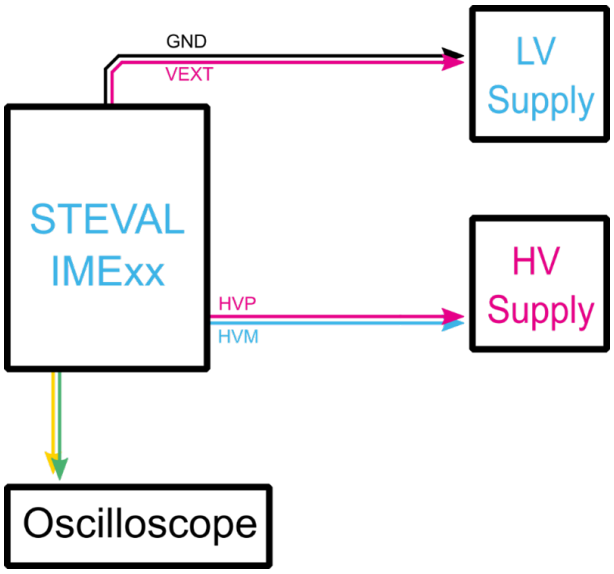
STHV200 is specifically designed for pulse generation in high-end multichannel medical ultrasound applications.

Pulser and linear driver share the same high-voltage output node XDCR and allow the user to select which output stage to use according to each specific application. The device can support a wide range of operating modes such as pulsed wave, continuous wave, and elastography.

For demonstration purposes, dedicated connectors have been added to which the probes of an oscilloscope or an analog front-end can be connected to display or process the high-voltage signals generated by the STHV200. There are also programming, start and reset buttons, and a GUI is provided to facilitate demo-kit programming operations.

1 Block diagram

Figure 1. **STEVAL-IME018A block diagram**



2 Schematic diagrams

Notice: These schematics are for illustration purpose only. Actual product may vary depending on buyer's selection and availability.

Figure 2. STEVAL-IME018A circuit schematic (1 of 5)

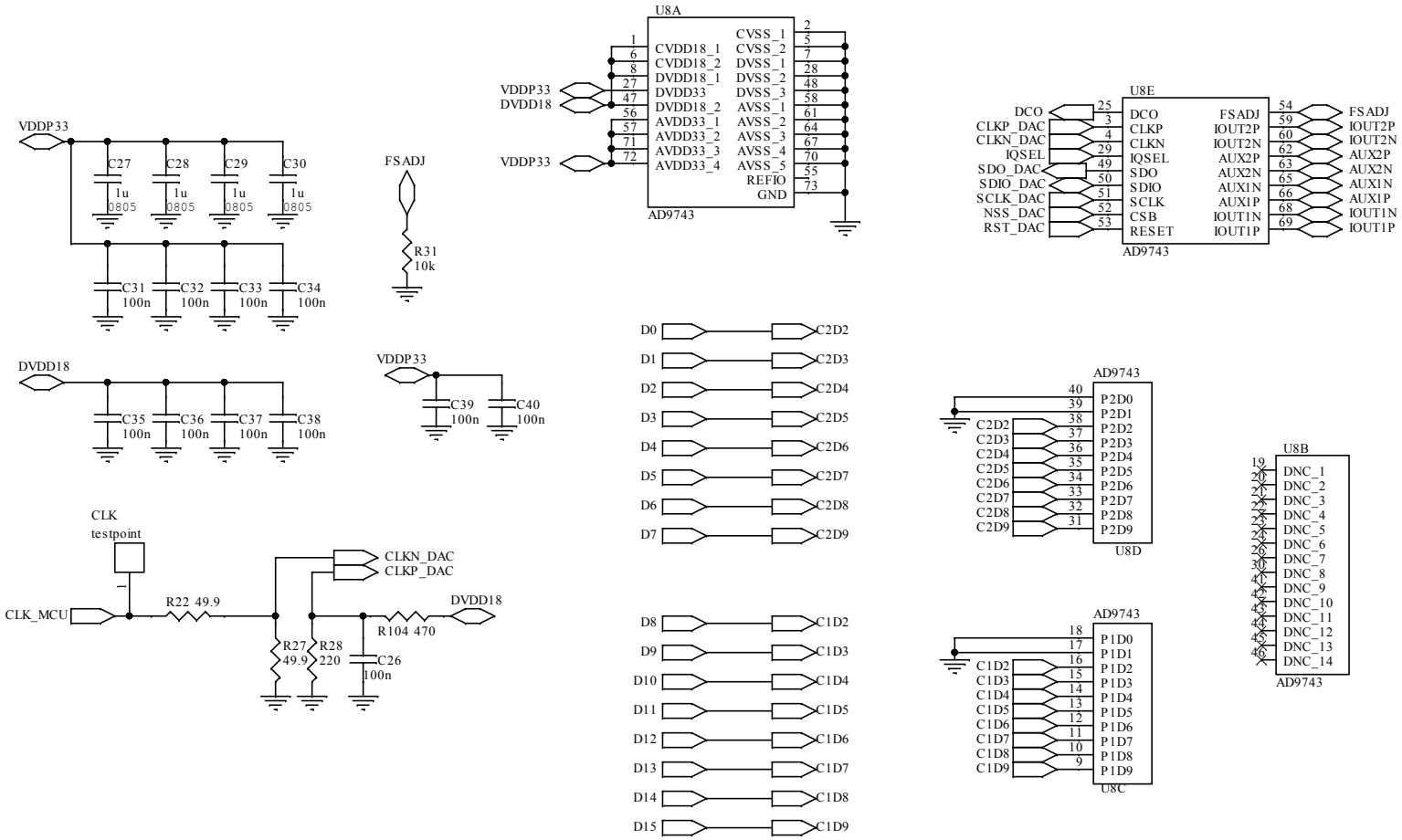


Figure 3. STEVAL-IME018A circuit schematic (2 of 5)

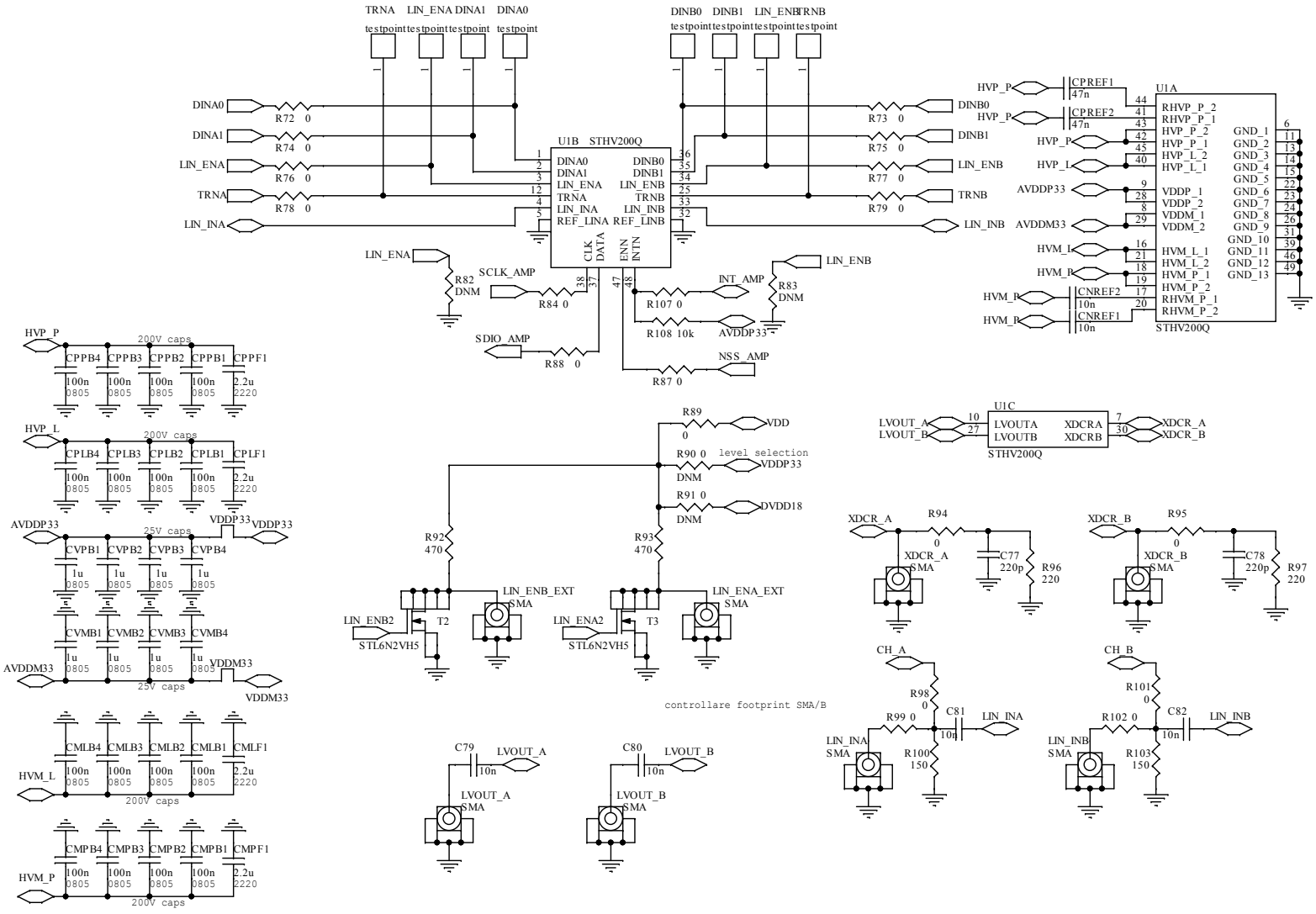


Figure 4. STEVAL-IME018A circuit schematic (3 of 5)

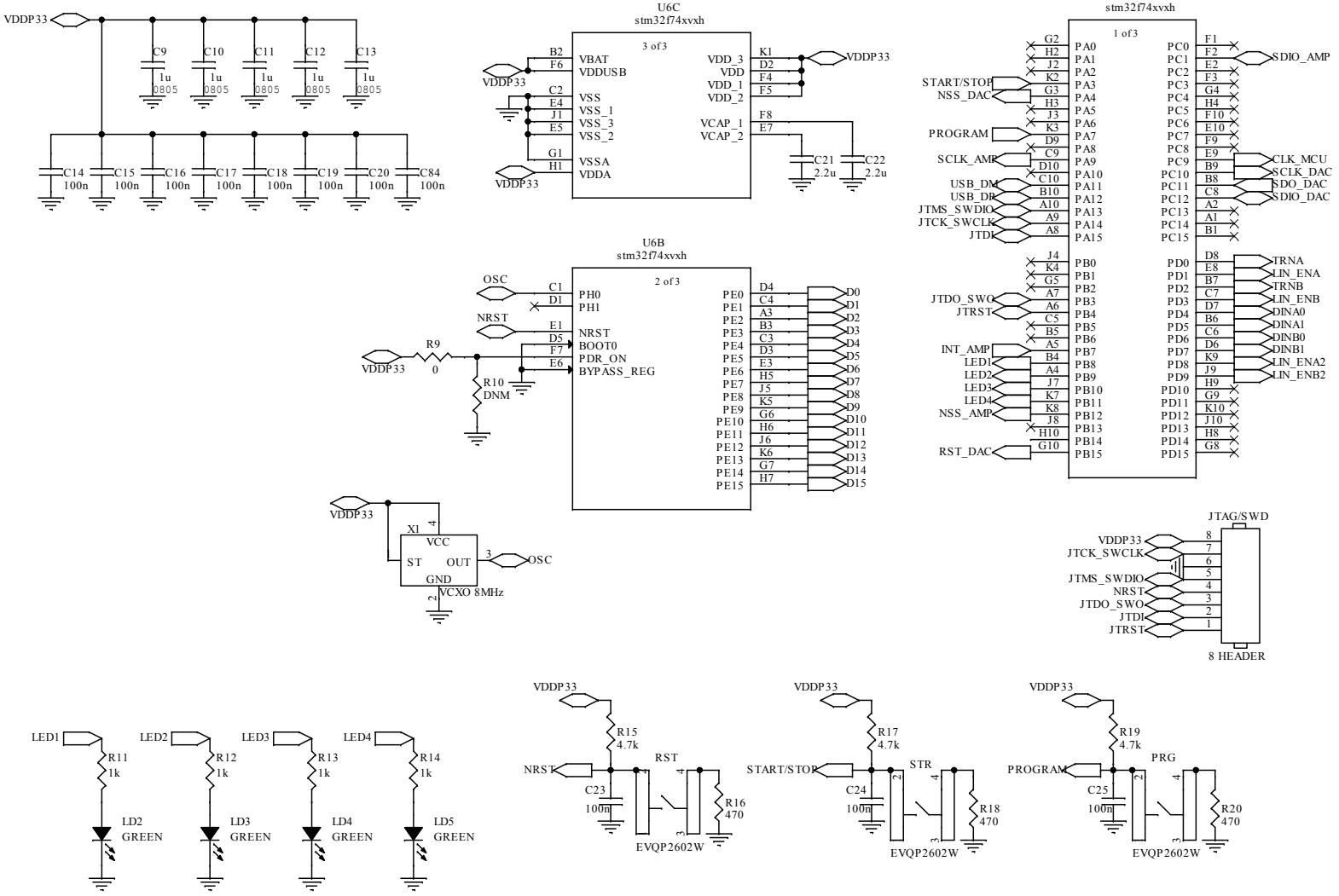


Figure 5. **STEVAL-IME018A circuit schematic (4 of 5)**

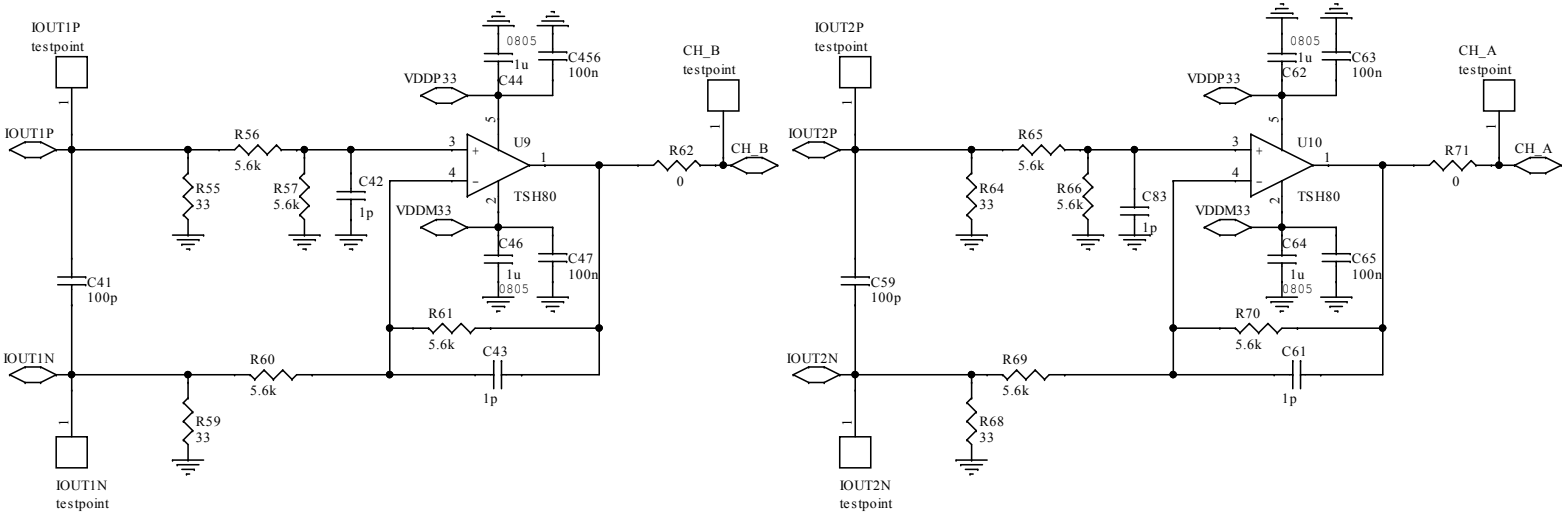
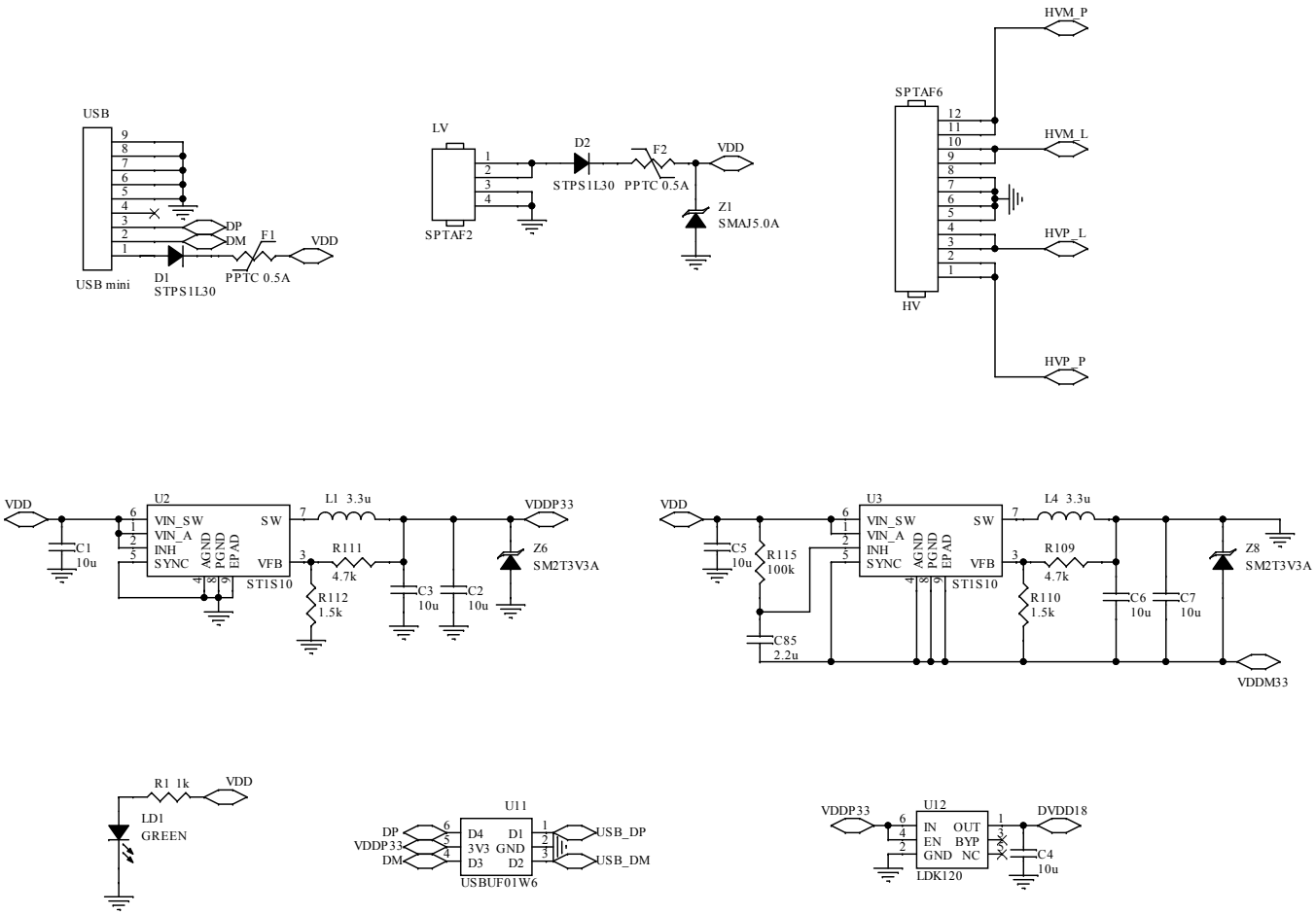


Figure 6. STEVAL-IME018A circuit schematic (5 of 5)



3 Custom evaluation boards information

Notice: *These evaluation boards are custom designed and built, in small quantities, according to specific requests from customers and are destined for evaluation and testing of ST products in a research and development setting. Please contact ST to provide your specific requests and get your custom built board(s).*

Revision history

Table 1. **Document revision history**

Date	Version	Changes
15-Mar-2024	1	Initial release.

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