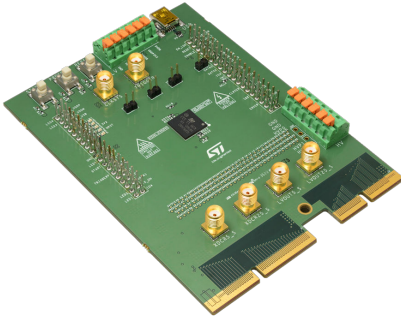


64-channel high-speed ultrasound pulser with integrated transmit beamformer



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

Features

- 64-channel high-voltage output (XDCR)
- 64-channel low-voltage output (LVOUT)
- No loads on XDCR and LVOUT
- USB connector to change programs and waveforms
- Button interface to program, start and stop the generation of the waveforms
- LEDs to monitor [STHVUP64](#) behaviour
- System based on STM32
- 2-layers (modules) staked
- STM32-Nucleo64 board
- [STHVUP64](#) module
- Low-voltage supplies generated on board
- Only 1 external supply needed (7-12 V) for LV supplies rails generation
- Dedicated connector for the 4 high-voltage supplies rails
- GUI or textual interface to configure [STEVAL-IME016A](#) by yourself

Description

[STEVAL-IME017A](#) is an evaluation kit that demonstrates [STHVUP64](#) performances, a 64-channel monolithic high-voltage and high-speed pulser with an integrated beamformer.

[STHVUP64](#) is specifically designed for pulse generation in multichannel low-power and ultraportable medical ultrasound applications.

The waveforms generated by [STHVUP64](#) are described with sequences of up to 32 states stored in the device memory. With each state it is possible to configure each individual output channel to be connected to high-voltage supplies (positive or negative), clamped to the ground, or left in high-impedance. The [STHVUP64](#) also embeds a digital core that manages the delay profile used in the beamformer of the channels.

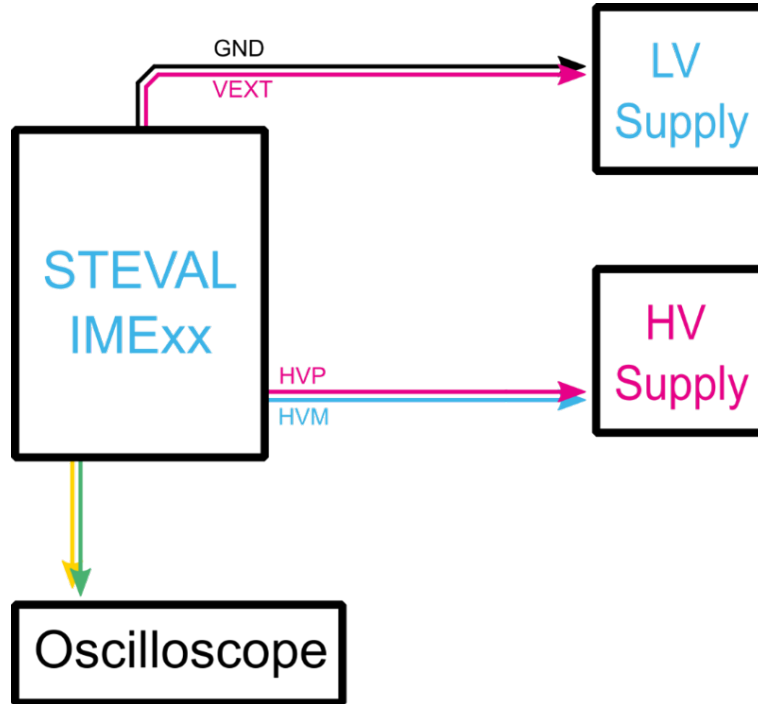
For demonstration purposes, dedicated connectors have been added to which the probes of an oscilloscope or an analog front-end can be connected to display or process the high-voltage signals generated by the [STHVUP64](#). There are also programming, start and reset buttons, and a GUI is provided to facilitate demo-kit programming operations.

Product summary

64-channel high-speed ultrasound pulser with integrated transmit beamformer	STEVAL-IME017A
64 channels ± 100 V, $\pm 0.2/0.4$ A, 3/5-level RTZ, TR switch, high-speed ultrasound pulser with integrated transmit beamformer	STHVUP64
Applications	Medical ultrasound imaging/Pulse wave generators/Ultra-portable ultrasound imaging

1 Block diagram

Figure 1. STEVAL-IME017A block diagram



2 Schematic diagrams

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

Figure 2. STEVAL-IME017A circuit schematic (1 of 3)

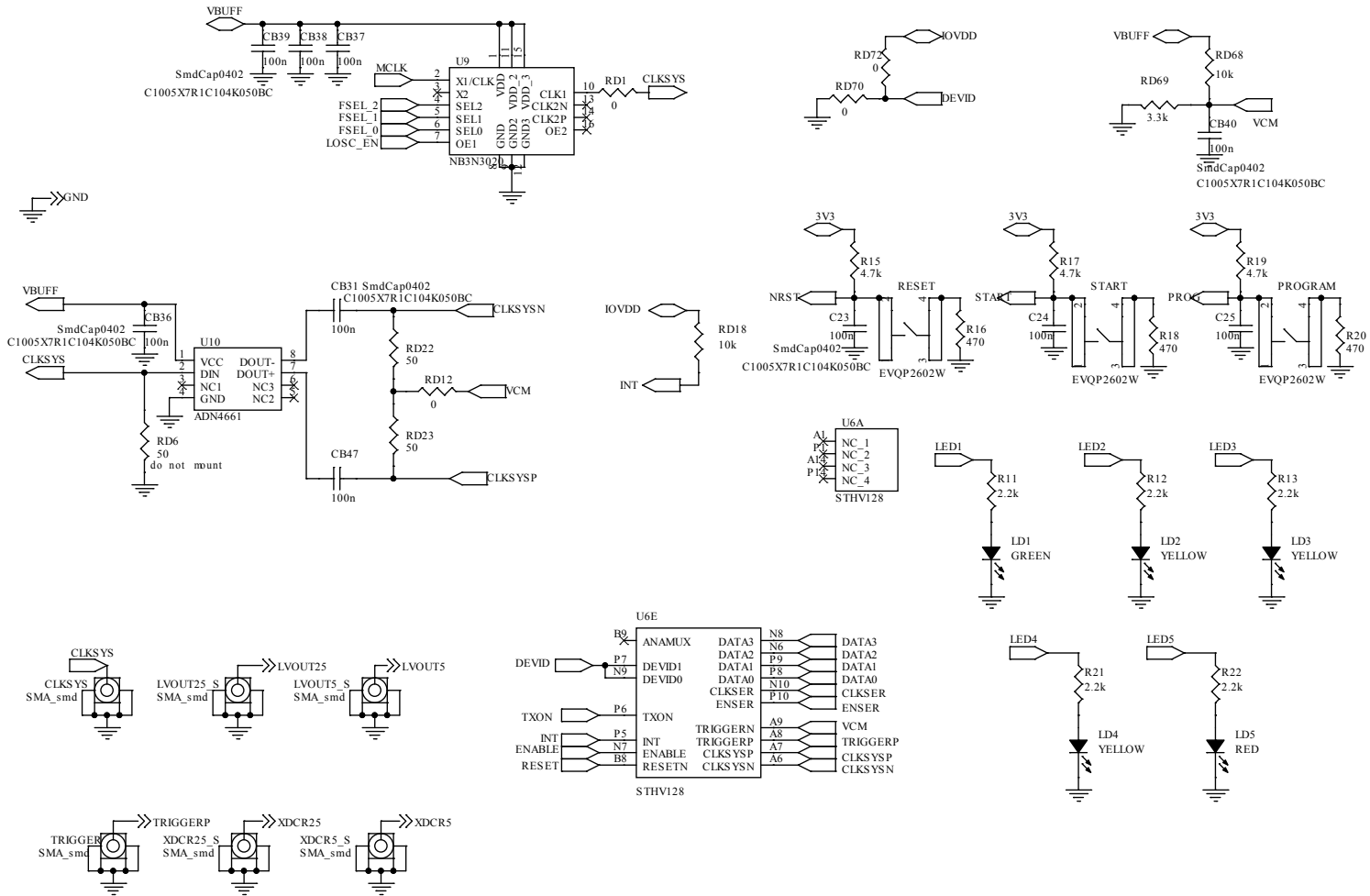
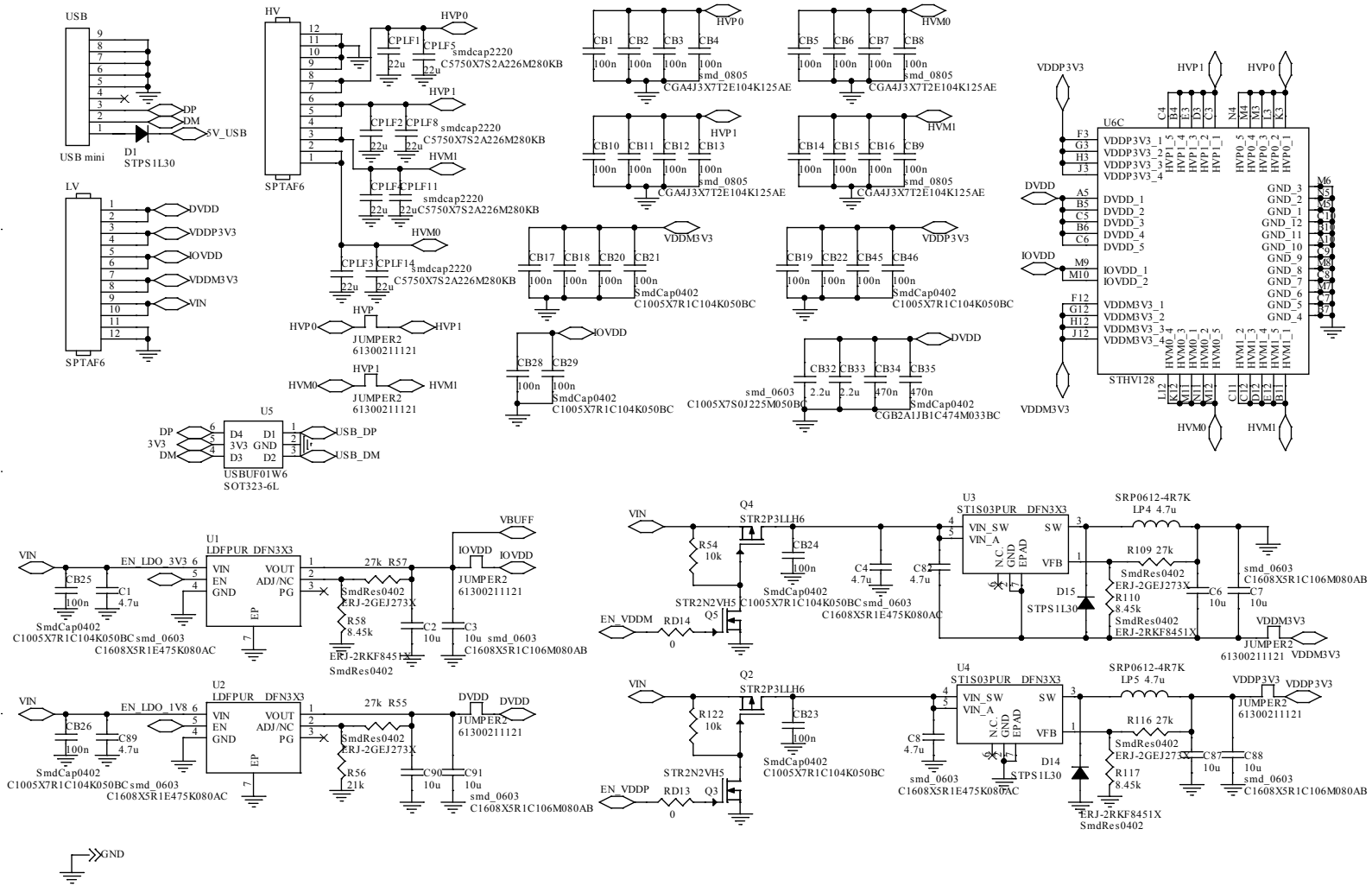


Figure 4. STEVAL-IME017A circuit schematic (3 of 3)





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
26-Oct-2023	1	Initial release.

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