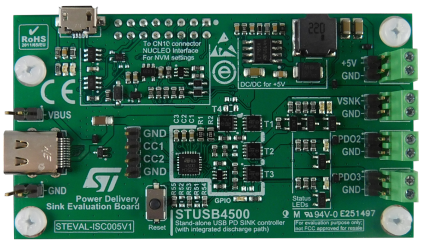
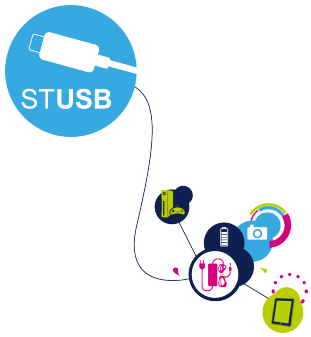
STEVAL-ISC005V1

Data brief

Evaluation board for the STUSB4500 USB Power Delivery controller





Product summary	
STUSB4500 evaluation board	STEVAL-ISC005V1
Stand-alone USB PD controller	STUSB4500
2 A step-down switching regulator	L7985
STM32 Nucleo-64 development board with STM32F072RB MCU	NUCLEO-F072RB

Features

- USB PD port (sink)
- STUSB4500 USB Power Delivery controller, certified for:
  - USB type-C™ (rev1.2)
  - USB PD (rev2.0)
  - TID: 1000133
- Compliant with USB PD (rev3.0)
- 5 V on-board DC-DC
- V_{BUS} power switches and discharge path
- Support to up to 3 power data objects (PDO)
- Short-to-V_{BUS} protections on CC pins (22 V) and V_{BUS} pins (28 V)
- Customizable start-up profiles
- Multiple output paths
- Compatible with NUCLEO-F072RB development board for configuration and debug interface
- CE certified
- RoHS and China RoHS compliant

Description

The STEVAL-ISC005V1 evaluation board is a ready-to-use USB PD sink based on STUSB4500. It handles the USB PD negotiation with a source to enable one or more charging paths.

An L7985 device ensures step-down conversion from the negotiated V_{BUS} sink input to output a 5 V regulated supply which optionally allows powering an MCU evaluation board or any other system.

Several LEDs report power availability on each of the 4 available outputs.

The USB PD sink port is pre-configured with three different PDOs to address a broad range of applications (5 V, 15 V and 20 V).

PDOs can be easily customized thanks to a graphical user interface (GUI).

1 STEVAL-ISC005V1 schematic diagrams

Figure 1. **STEVAL-ISC005V1 circuit schematic - STUSB4500**

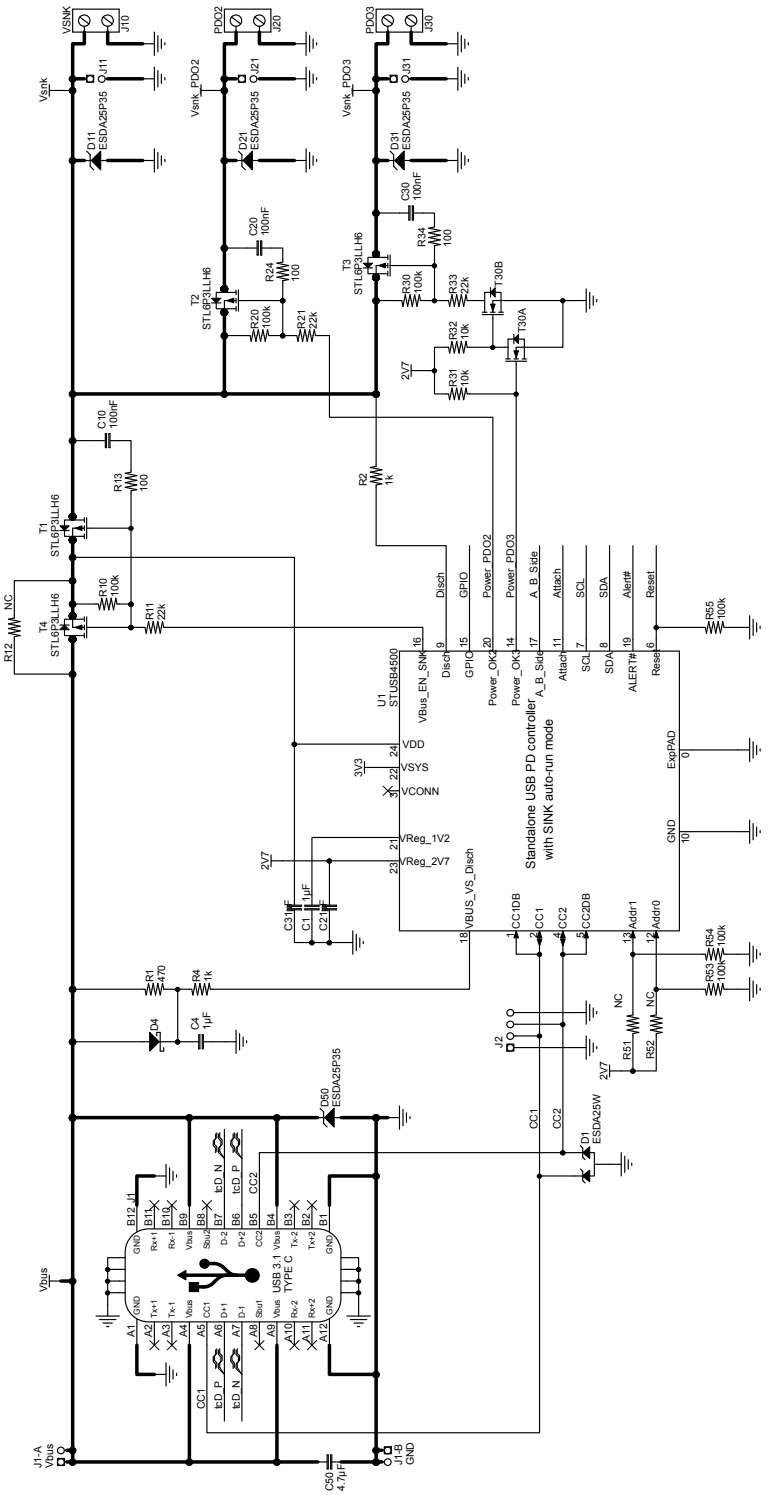


Figure 2. **STEVAL-ISC005V1 circuit schematic - LEDs**

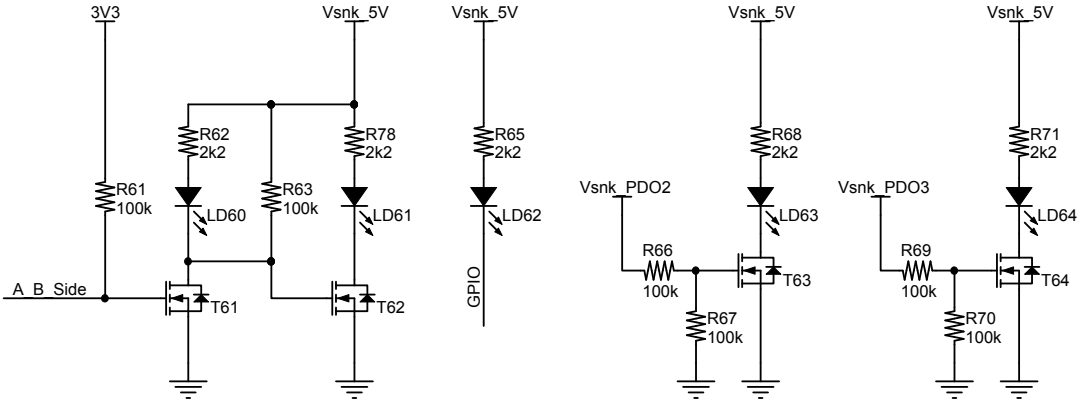


Figure 3. **STEVAL-ISC005V1 circuit schematic - +5 V generation**

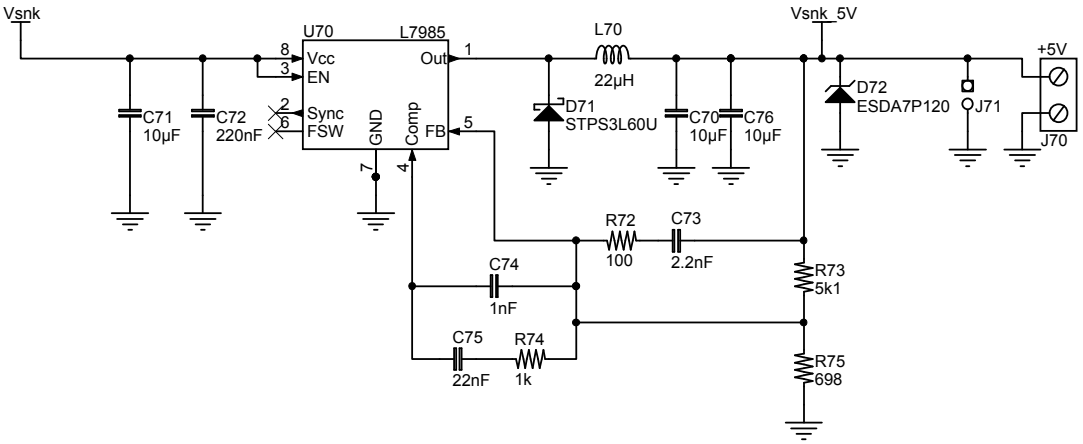
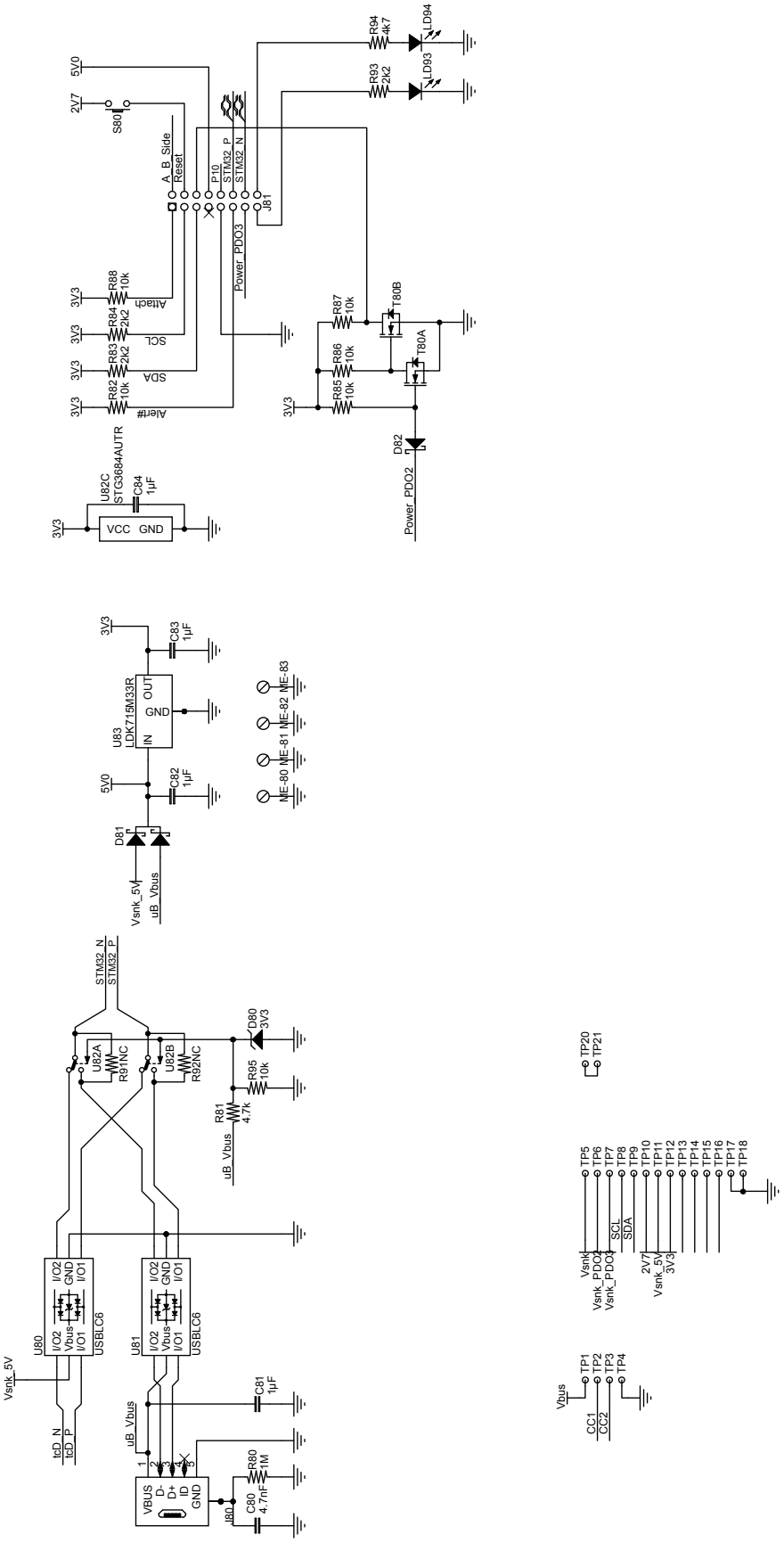


Figure 4. STEVAL-ISC005V1 circuit schematic - USB-Nucleo interface for I²C access



Revision history

Table 1. **Document revision history**

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