Evaluation board for the STUSB4500 USB Power Delivery controller

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
- VBUS power switches and discharge path
- Support to up to 3 power data objects (PDO)
- Short-to-VBUS protections on CC pins (22 V) and VBUS 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 VBUS 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).
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

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<tr>
<th>Date</th>
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<tr>
<td>10-Apr-2018</td>
<td>1</td>
<td>Initial release.</td>
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Table 1. Document revision history