STSW-USBC2DP

Data brief

Software package for USB Type-C™ to DisplayPort™ adapter board

Features

- Software package with application firmware for the STEVAL-USBC2DP USB Type-C to DisplayPort adapter.
- The application firmware is based on the X-CUBE-USB-PD certified software, designed for the ARM® 32-bit Cortex®-M0 STM32F072 microcontroller embedded on the adapter evaluation board.

Description

The STSW-USBC2DP software package contains application firmware in binary format designed to demonstrate the STEVAL-USBC2DP functionality.

The application firmware embeds the X-CUBE-USB-PD software which is compliant with the USBPD 3.0 specification.

The compact USB Type-C to DisplayPort adapter reference design, with USB Type-C connector and DisplayPort connector, exploits Alternate Mode of the USB Type-C and Power Delivery specifications to offer a comprehensive VESA® DisplayPort Standard interface.

With this adapter, you can connect a monitor with a DisplayPort interface to any laptop, tablet or smartphone with a USB Type-C connector that is compliant with the Type-C to DisplayPort Alternate Mode specification and supports DP Alternate Mode.

The DisplayPort Alternate Mode allows video data to be delivered through the SuperSpeed USB lines on the Type-C connector, while Auxiliary lanes (AUX) and hot plug detection (HPD) signals are sent through other Type-C lines.

The high-performance ARM® Cortex®-M0 32-bit STM32F072 microcontroller achieves DisplayPort Alt Mode negotiation through Vendor Defined Messages (VDM) according to the USB Power Delivery Specification. The messages are transmitted along configuration channel (CC), through a simple discrete analog front end (AFE) interface between the STM32 MCU and the USB Type-C connector.

The STM32 microcontroller runs the ST USB Middleware stack and the embedded USB 2.0 controller provides the Billboard Device Class support, as required by the USB Power Delivery standard, and the Device Firmware Upgrade capability.

For further information about USB Type-C™ and Power Delivery DisplayPort Alternate Mode, refer to TA0356 on www.st.com.

Product summary	
Software package for USB Type-C to DisplayPort adapter board	STSW-USBC2DP
X-CUBE-USB-PD software expansion for STM32Cube	X-CUBE-USB-PD
STEVAL-USBC2DP USB Type-C™ to DisplayPort™ adapter	STEVAL-USBC2DP
STM32F072 series 32-bit ARM Cortex MCU with crystal-less USB 2.0 FS interface	STM32F072
Applications	Connectivity

Revision history

Table 1. Document revision history

Date	Version	Changes
16-Feb-2018	1	Initial release.
14-Apr-2020	2	Added cover image. Updated cover page features, description and product summary table.

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