# USB Power Delivery PHY with Channel Configuration Control

ANX7401 is a USB Power Delivery (USB-PD) PHY with an On-chip Microcontroller (OCM). The OCM enables ANX7401 to manage the signal switching, Channel Configuration (CC) detection, USB Power Delivery charging and Vendor Defined Message (VDM) protocol, and other functions, as defined in the USB Type-C™ v1.1 and USB Power Delivery v2.0 specifications. ANX7401 is designed as a companion IC to various CPUs and Application Processors (APs) to enable notebook PCs, tablets, and smartphones to use the reversible USB Type-C (USB-C™) receptacle as a Downstream Facing Port (DFP). In the DFP configuration, ANX7401 has HPD output to support DisplayPort™ Alternate Mode as defined by VESA®.

Features

- On-chip Microcontroller (OCM) to implement USB-PD messaging and DisplayPort related functions
- DisplayPort Alternate Mode communication support through USB-PD structured VDM messaging
- 5V-tolerant CC/VCONN signals
- Dead battery detection support
- I2C slave mode to support external MCU/IC
- VBUS control and USB_ID pins to control external Power Management Integrated Circuits (PMICs) or USB charger IC based on the USB-PD configuration

- 3.3V power supply for analog part (1.0V Core power generated by internal regulator)
- 1.8V~3.3V power supply for digital IO
- Supports the following
  - USB Power Delivery Specification v2.0 on CC wire
  - DisplayPort Alternate Mode on USB Type-C Standard
- Designed to the following specifications
  - USB Type-C Cable and Connector Specification v1.1
  - USB Power Delivery Specification v2.0
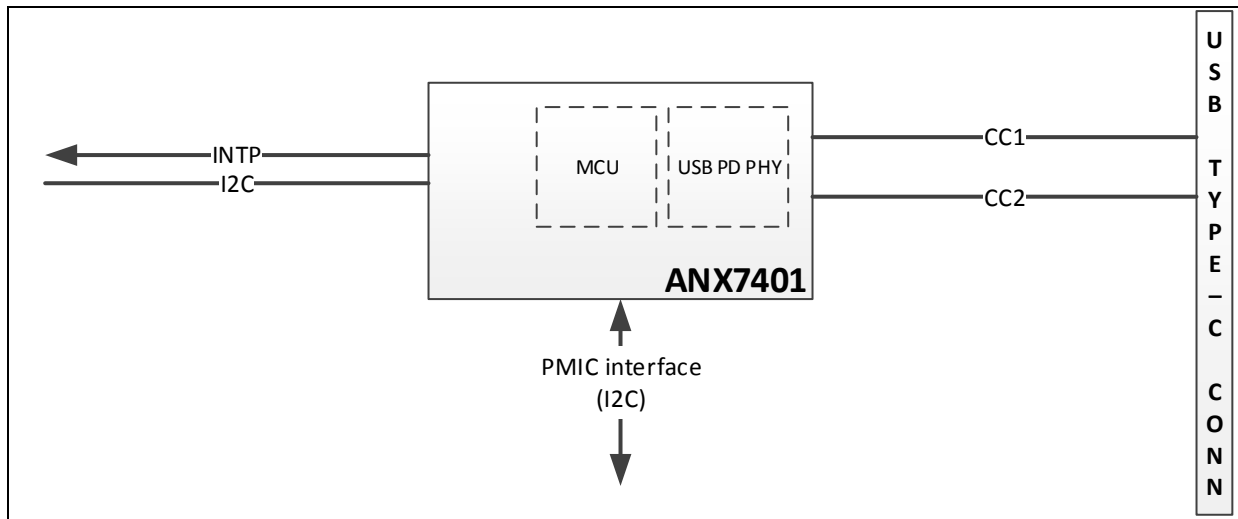
Related Products

Part Number	Description
ANX7408	USB3 Switch, USB-PD and Channel Configuration Controller
ANX7428	DP Alternate Mode (up to 4L), USB3 Switch, USB-PD and Channel Configuration Controller
ANX7430	USB 3.1 Gen 2 10G Re-timer (1x1, 1x2)
ANX7440	10G Active Mux (6x4) with Integrated Re-timers for USB 3.1/DisplayPort
ANX7688	HDMI to USB Type-C Bridge (Port Controller with MUX)