Preliminary
ANX7406
Product Brief

USB-C™ Port Controller

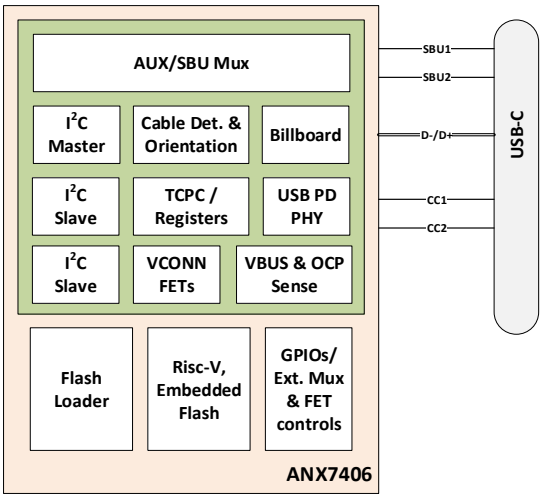
ANX7406 is a USB Type-C™ (USB-C) Port Controller that complies with the latest USB4 Version 1.0, USB Type C R2.0, and USB-PD v3.1 (r1.0) specifications. ANX7406 integrates the logic to manage cable attach and detach, orientation, and role detection. The on-chip microcontroller (OCM) facilitates USB-PD v3.0 messaging for fast charging, USB4, USB3.2, DisplayPort™ (DP) Alternate Mode (Alt Mode), and Thunderbolt3 Alternate Mode. ANX7406 can be configured as a Downstream Facing Port (DFP) or a Dual-Role Port (DRP), making it an ideal solution for various applications such as notebooks, desktops, and 2-in-1 PCs. ANX7406 supports a TCPC-compliant register interface and utilizes its 2 of I2C Slave ports for communication with an upstream embedded controller and PCH.

Features

- USB-PD Support: UFP and DFP
  - Chunking and unchunking
  - TCPCI compliant
  - Fast role swap (FRS)
  - Integrated VCONN switch
  - VBUS sense with 36V over current and over voltage protection
  - USB Billboard class (low speed)
- Embedded RISC-V core and secure FW update
  - 96KB instruction RAM, 16KB execution RAM
  - 512KB flash for FW storage
  - AES128 FW encryption with SHA256 signature
  - FW update through I2C and billboard device
- System Interface and IO control
  - 2x I2C slave interfaces; 1x I2C master interface
  - HPD signal for DP applications
  - Role select configuration pin
- Industry standard compatibility
  - USB Type-C r2.0 specification
  - USB Power Delivery v3.1 r1.0 specification
  - DisplayPort 2.0 specification
  - DisplayPort Alternate Mode over USB Type-C V2.0 specification
  - Universal Serial Bus (USB) Type-C Port Controller Interface r2.0 specification
- Dead battery detection support
- 36V overvoltage protection for CC1/CC2, SBU1/SBU2, VBUS
- Package
  - QFN-48, 6mm x 6mm,

Applications

Notebooks, desktops, and 2-in-1s



Related Products

Part Number	Description
ANX7447	USB Type-C Crosspoint Switch with On-chip Microcontroller

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