

USB-C™ Crosspoint Switch with Re-timers for USB 3.1 (5G)/DP (8.1G)

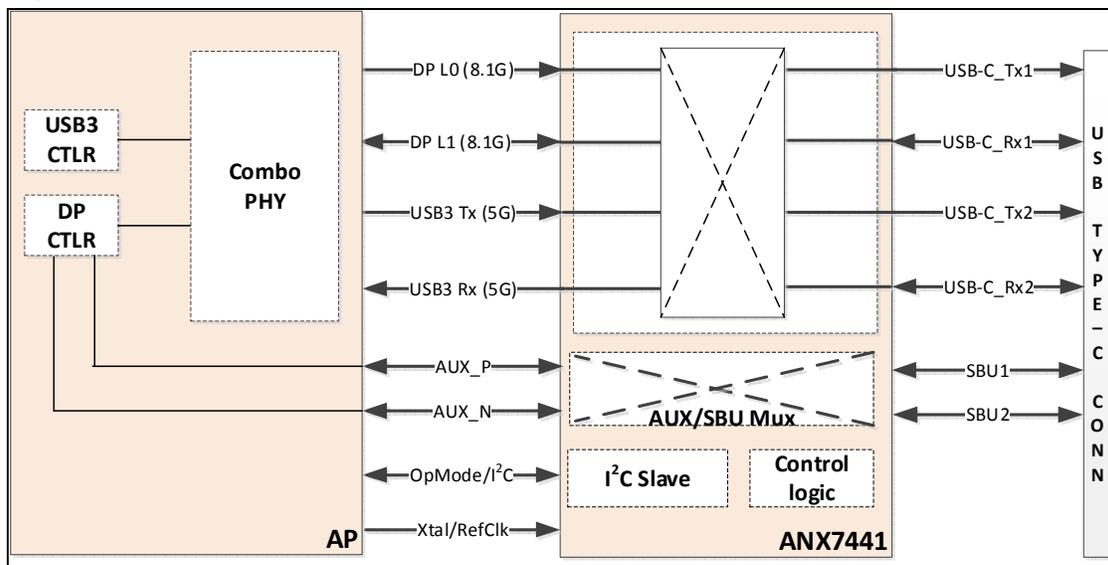
ANX7441 is a crosspoint switch capable of supporting USB 3.1 Gen 1 (up to 5G), DisplayPort™ Alt Mode (up to 8.1G) and concurrent USB3.1 (up to 5G), and DisplayPort Alt Mode (8.1G) over a single USB Type-C™ (USB-C) port. ANX7441 has protocol aware built-in re-timers to recover both the USB or DisplayPort (DP) signals with insertion loss compensation of up to 23dB. ANX7441 is supported by a digital switch to ensure the enhanced signals from the re-timer are preserved and outputted over the USB-C connector. Also, ANX7441 integrates the SBU/AUX mux for switching DP AUX signals and reducing overall system BOM cost.

Features

- Integrated crosspoint switch
 - Integrated crosspoint switch supports USB3.1, DisplayPort, or concurrent USB3.1 and DisplayPort signals to the USB-C connector
 - Integrated SBU/AUX mux with dynamic SBU termination for DisplayPort AUXP/AUXN signals
- Protocol aware built-in re-timer
 - Integrated USB3.1 protocol aware re-timer supporting up to Gen 1 @ 5Gbps
 - Integrated DisplayPort protocol aware re-timer transparent or Link training-tunable PHY repeater (LTTPR) mode supporting up to HBR3 @ 8.1Gbps
 - Insertion loss compensation to recover up to 23dB channel loss (supports USB3.1 Gen 1/ DisplayPort 1.4 compliant signals over extended PCB trace and FlexPCB cable)
 - Advanced power management for USB power states (Ux states) and DP link training support
- Reference clock for re-timers
 - Utilizes a 24MHz crystal or 1.05V swing single-ended clock source; optionally, 38.4MHz ref clock configuration available
- Control interfaces
 - I²C Slave interface, up to 1MHz
 - FLIP/OpMode pins
- Industry standard compatibility
 - USB 3.1 Gen 1 specification
 - DisplayPort 1.4 specification
 - USB Type-C r1.2 specification
- Power supply
 - Analog power supply at 1.8V
 - I/O power supply at 1.8V
 - SBU termination supply at 3.3V
- Package
 - WLCSP-59, 3mm x 2.6mm, 0.45mm Z-height, 0.35mm ball-pitch
- Commercial temperature range of 0C to 70C

Applications

Mobile phones, tablets, notebooks, desktops, camera



Related Products

Part Number	Description
ANX7401	USB-PD and Channel Configuration Controller
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 Gen2 10G Re-timer (1x1, 1x2)
ANX7440	10G Active Mux (6x4) with Integrated Re-timers for USB 3.1/DisplayPort
ANX7490	10G USB 3.1 Re-timer (1-Port)
ANX7496	8.1G DisplayPort 4-lanes Re-timer

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