

LT8711UX --- Product Brief

Type-C/DP1.2 to HDMI2.0 Converter with USB3.0

Switch

Features

● USB Type-C

- Compliant with VESA DisplayPort Alt Mode on USB Type-C Standard V1.0
- Compliant with USB Power Delivery Specification R2.0, V1.0
- Compatible with USB Type-C Cable and Connector Specification R1.2
- Built-in CC controller for plug and orientation detection
- Dual CC ports for charger and normal communication
- Flexible USB Type-C switching for USB3.0 5Gbps and DisplayPort Alt Mode up to 5.4Gbps
- Compliant with HDMI 1.4b Alt Mode on USB Type-C Specification V1.0

● DP1.2 Receiver

- Compliant with VESA DP1.2
- Support 1.62/2.7/5.4Gbps
- Support 1/2/4 lanes
- Support SSC
- 1Mbps AUX channel
- Compliant with HDCP1.3
- Adaptive receiver equalization for PCB, cable and connector losses
- Support lane swap(arbitrarily) and polarity inversion(independent)
- Receiver PHY is HDMI signal compatible

● HDMI2.0 Transmitter

- Compliant with HDMI2.0, HDMI1.4 and DVI1.0
- Compliant with HDCP2.2 HDCP1.4
- Data rate up to 6Gbps
- Support UHD 4k@60Hz(RGB and YCbCr 4:4:4)
- Support TMDS scrambling for EMI/RFI reduction
- Support SCDC(Status and Control Data Channel)

- Support CEC
- AC-couple capable
- Support channel swap(arbitrarily) and polarity inversion(independent)
- Programmable transmitter swing and pre-emphasis
- Downstream receiver sensing
- 5V tolerance DDC/HPD I/Os

● Digital Audio Outputs

- I2S and SPDIF interface(SPDIF shared with SD0)
- 8-channel LPCM or compressed audio
- Sample rate up to 192kHz

● Miscellaneous

- DP receiver to HDMI transmitter bypass to support HDMI Alt Mode
- Internal or external oscillator
- Integrated microprocessor
- Embedded SPI flash for firmware and HDCP keys
- GPIOs for VBUS/VCONN/AUX and other system control
- Integrated 100/400kHz I2C slave
- Firmware update through SPI, AUX or I2C interface
- Low power consumption
- Optional automatic power down
- Power supply: 3.3V for I/O and 1.2V for core
- ESD 4kV HBM
- Temperature Range: -40°C ~ +85°C
- 88-pin QFN 10*10 package

Description

The LT8711UX is a high performance Type-C/DP1.2 to HDMI2.0 converter, designed to connect a USB Type-C source or a DP1.2 source to an HDMI2.0 sink.

The LT8711UX integrates a DP1.2 compliant receiver, and an HDMI2.0 compliant transmitter. Also, two CC

controllers are included for CC communication to implement DP Alt Mode and power delivery function, one for upstream Type-C port and another for downstream port. On-chip USB3.0 switch is a high-speed bi-directional passive switch which provides flexible switching to accommodate connector flipping. This switch also handles muxing between 2-ch data / 2-ch video and all 4-ch video.

Two digital audio output interfaces are available, I2S and SPDIF. Both support 8-ch LPCM or compressed audio at maximum 192kHz sample rate.

The device is capable of automatic operation which is enabled by an integrated microprocessor that uses an embedded SPI flash for firmware storage. System control is also available through the use of a dedicated configuration I2C slave interface.

Application

- Docking Station
- Dongle

Block Diagram

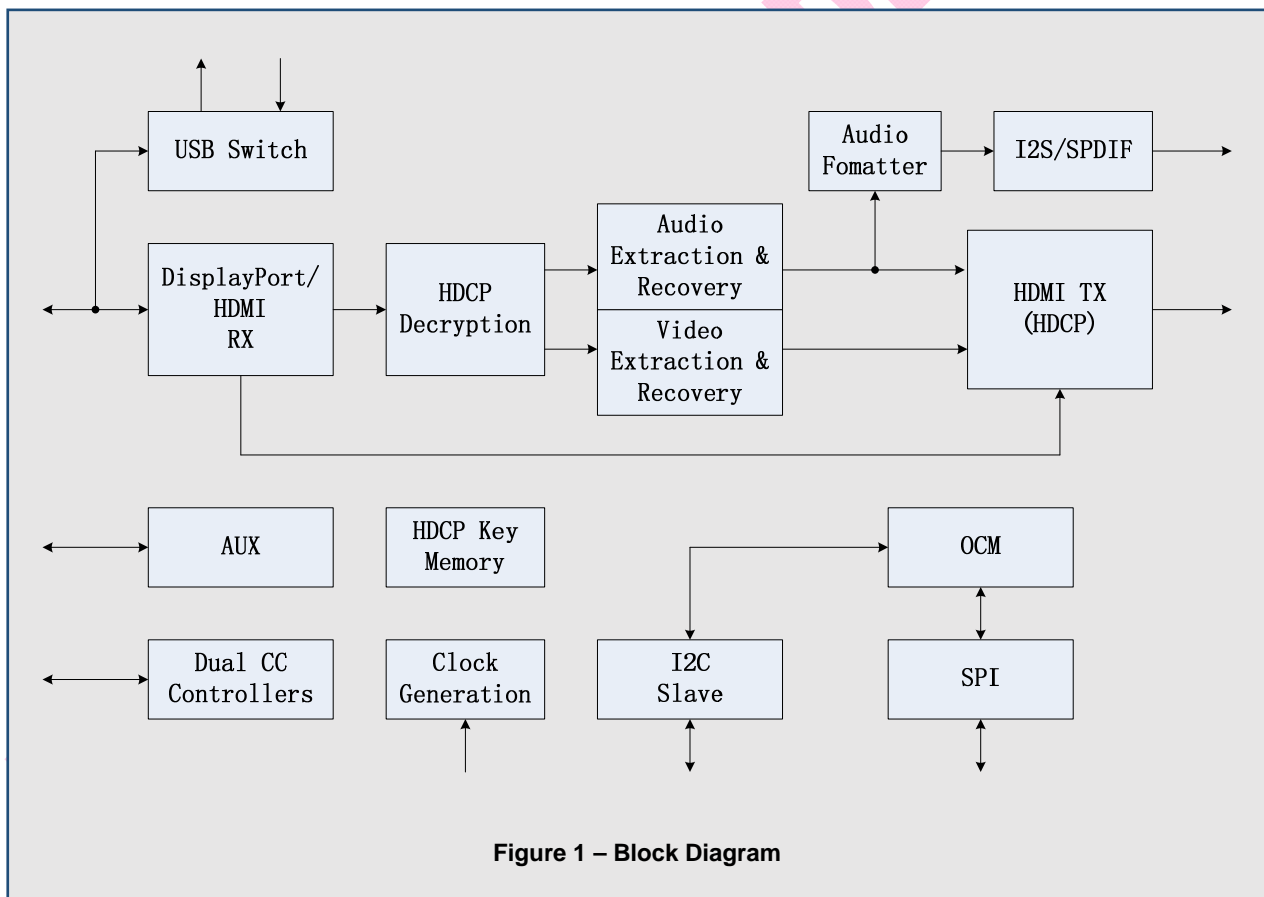


Figure 1 – Block Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT8711UX	-40°C to +85°C	QFN88 10*10	Tray

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