

# LT9611UXD --- Product Brief

## Dual-Port MIPI to HDMI2.0 Converter

### 1. Features

#### ● Dual-Port MIPI DSI/CSI Receiver

- Compliant with D-PHY1.2 & DSI-2 1.0 & CSI-2 2.0
- 1/2 configurable ports
- 1 clock lane and 1/2/3/4 configurable data lanes per port
- 80Mbps~2.5Gbps per data lane
- Support data lane swap and PN swap
- 3D support: two ports simultaneously receiving L and R frames or odd-L/even-R alternative pixels
- DSI support both burst mode and non-burst mode
- DSI support video formats:

CSC disabled: Packed 16/18/24/30/36-bit RGB, Loosely Packed 18-bit RGB, Packed 16/24-bit YCbCr4:2:2, Loosely Packed 20-bit YCbCr4:2:2, Packed 12-bit YCbCr4:2:0

CSC enabled: Packed 16/18/24/30/36-bit RGB, Loosely Packed 18-bit RGB, Packed 16/24-bit YCbCr4:2:2, Loosely Packed 20-bit YCbCr4:2:2

- CSI support video formats:  
CSC disabled: RGB565/666/888, YUV422 8/10-bit, Legacy YUV420 8-bit  
CSC enabled: RGB565/666/888, YUV422 8/10-bit

#### ● HDMI2.0 Transmitter

- Data rate up to 6Gbps
- Support HDCP 1.4/2.3
- Support HDCP repeater
- Support HDR10 and Dolby Vision
- Support CEC
- Programmable transmitter swing and pre-emphasis
- Support lane swap and PN swap

#### ● Digital Audio Input

- I2S interface supports up to 2-channel audio, with sample rates of 32~192 KHz and sample sizes of 16~24 bits

- SPDIF interface supports PCM, Dolby digital, DTS digital audio at up to 192KHz frame rate
- Compliant with IEC60958 or IEC61937

#### ● Miscellaneous

- CSC: RGB <-> YUV444 <-> YUV422
- Integrated 100/400KHz I2C slave
- External oscillator 24MHz, +/-50ppm
- Integrated microprocessor
- Embedded SPI flash for firmware and HDCP keys
- Firmware update through SPI or I2C interface
- Power supply: 3.3V and 1.2V

### 2. General Description

LT9611UXD is a high performance Dual-Port MIPI to HDMI2.0 converter.

For MIPI input, LT9611UXD features configurable single-port or dual-port with 1 high-speed clock lane, and 1~4 high-speed data lanes operating at maximum 2.5Gbps/lane, Up to 12dB equalization makes it suitable for long distance application.

The HDMI interface includes 4 TMDS clock/data pairs, DDC, and HPD signal. The HDMI transmitter is capable of supporting up to 6Gbps data rate. HDMI transmitter incorporates HDCP engines which support both HDCP1.4/2.3.

Two digital audio input interfaces are available, I2S or SPDIF. The I2S interface supports 2-ch LPCM and the SPDIF interface supports 2-ch LPCM or compressed audio, both at maximum 192 KHz 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 configuration I2C slave interface.

### 3. Applications

- STB
- DVD/BD
- PTV Box

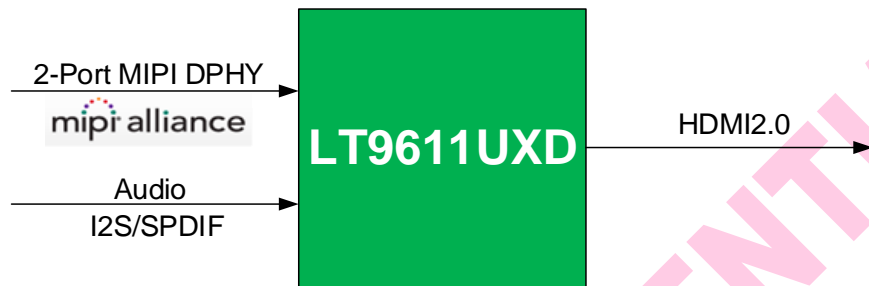


Figure 3.1 Application Diagram

### 4. Ordering Information

Table 4.1 Ordering Information

Product Name	Part Number	Product Status	Package	Bonding Wire	Grade	Operating Temperature Range	Stack Die Option	Packing Method	MPQ
LT9611UXD	LT9611UXD_U2Q07CED	Preview	QFN64 (7.5*7.5)Saw	Cu	E	-40°C to +85°C	D	Tray	2600pcs

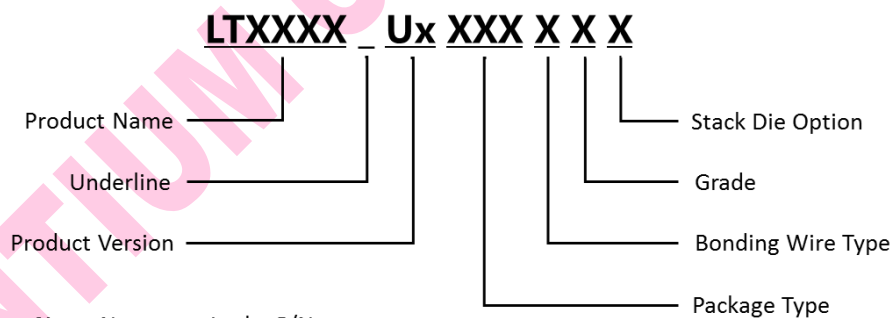


Figure 4.1 Part Number Naming Rules

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