

LT9611EX --- Product Brief

Dual-Port MIPI to HDMI1.4 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~2Gbps per data lane
- 3D support: two ports simultaneously receiving L and R frames or odd-L/even-R alternative pixels
- Support both burst mode and non-burst mode
- Support RGB666, loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2 video format
- Support port swap, lane swap and PN swap

● HDMI1.4 Transmitter

- Compliant with HDMI1.4 and DV11.0
- Compliant with HDCP1.4
- Support HDCP repeater
- Support HDR10
- Support CEC
- Programmable transmitter swing and pre-emphasis
- Support lane swap
- Support PN swap(all lanes controlled simultaneously)

● 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

LT9611EX is a high performance Dual-Port MIPI to HDMI1.4 converter.

For MIPI input, LT9611EX features configurable single-port or dual-port with 1 high-speed clock lane, and 1~4 high-speed data lanes operating at maximum 2Gbps/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 3.4Gbps data rate. HDMI transmitter incorporates HDCP engines which support both HDCP1.4.

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
LT9611EX	LT9611EX_U2Q07CED	Preview	QFN64 (7.5*7.5)Saw	Cu	E	-40°C to +85°C	D	Tray	2600pcs

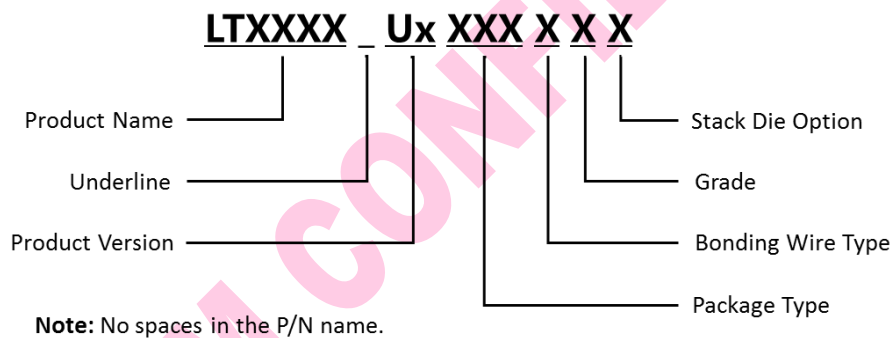


Figure 4.1 Part Number Naming Rules

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