LT6911D --- Product Brief

HDMI1.4 to Dual-port MIPI DSI/CSI with Audio

1. Features

- **HDMI1.4 Receiver**
  - Compliant with HDMI1.4 and DVI1.0
  - Compliant with HDCP1.4
  - Support HDCP repeater
  - Data rate up to 3.4Gbps
  - Adaptive receiver equalization
  - AC-couple capable
  - Support data channel swap(arbitrarily) and polarity inversion(independent)
  - Support 4k@30Hz
  - Support deep color: 8/10 bpc
  - Support CEC
  - Support static HDR
  - Support TMDS descrambling for EMI/RFI reduction
  - 5V tolerance DDC/HPD I/Os
  - Integrated EDID shadow
- **Single/Dual-Port MIPI DSI/CSI Transmitter**
  - Compliant with DCS1.1, D-PHY1.2 & DSI1.3 & CSI-2 1.3
  - 1/2 configurable ports
  - 1 clock lane and 1/2/3/4 configurable data lanes per port
  - 80Mbps~2Gbps per data lane
  - Programmable transmitter swing and pre-emphasis
  - Support lane swap(arbitrarily) and polarity inversion(independent)
  - 3D support: two ports simultaneously transmitting side by side alternative pixels
  - DSI support both burst mode and non-burst mode
  - DSI support 16/20/24-bit YCbCr4:2:2, 24/30-bit RGB, 12-bit YCbCr4:2:0, CSI support RGB888/666, YUV422 8/10-bit
  - Maximum 64 pixels overlap for each half
  - Video stream copy mode for each port
- **Digital Audio Output**
  - I2S interface supporting 8-channel audio, with sample rates of 32~192 kHz and sample sizes of 16~24 bits
  - SPDIF interface supporting PCM, Dolby Digital, DTS digital audio at up to 192kHz frame rate
  - IEC60958 or IEC61937 compatible
- **Miscellaneous**
  - CSC: RGB <-> YUV444 <-> YUV422
  - External oscillator 24MHz
  - Integrated microprocessor
  - Embedded SPI flash for firmware and HDCP keys
  - GPIOs for system controls
  - Integrated 100/400kHz I2C slave
  - Firmware update through I2C interface
  - Power supply: 3.3V for I/O and 1.2V for core

2. General Description

The LT6911D is a high performance HDMI1.4 to MIPI DSI/CSI converter for VR, Smart phone, Display applications.

The HDMI1.4 input supports data rate up to 3.4Gbps which provides sufficient bandwidth for 4k@30Hz video. Also, HDCP1.4 is supported for data decryption.

For MIPI DSI/CSI output, LT6911D features configurable single-port or dual-port MIPI DSI/CSI with 1 high-speed clock lane, and 1~4 high-speed data lanes operating at maximum 2Gbps/lane, which can support a total bandwidth of up to 16Gbps. LT6911D supports burst mode DSI video data transferring, also supports flexible video data mapping path. Two digital audio output interfaces are available, I2S and SPDIF. The I2S interface supports 8-ch LPCM and the SPDIF interface supports 2-ch LPCM or compressed audio, both 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 configuration I2C slave interface.

3. Applications

- Mobile system
- Display
- VR

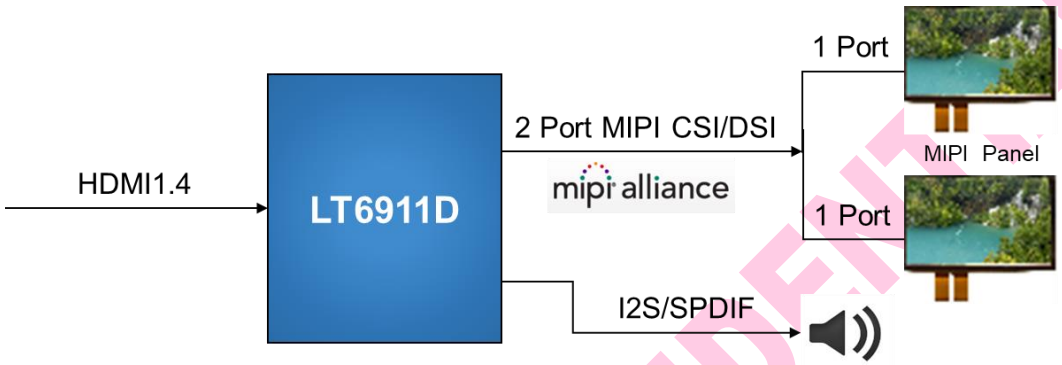

Figure 3.1 Application Diagram

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
LT6911D	LT6911D_U2Q07CED	Preview	QFN64 (7.5*7.5) Saw	Cu	E	−40°C to +85°C	D	Tray	2600pcs

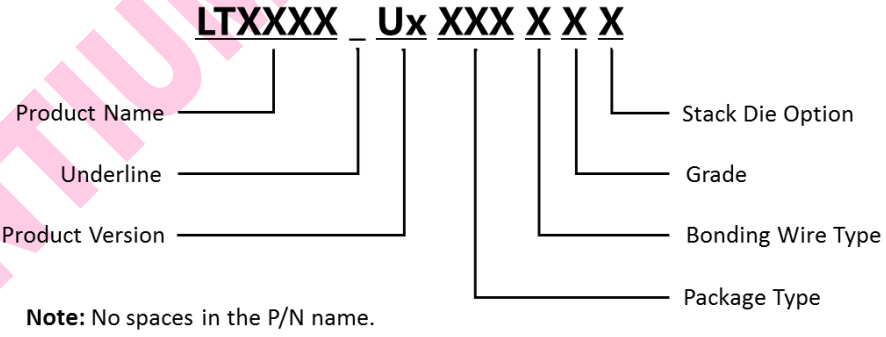

Figure 4.1 Part Number Naming Rules

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Sales: sales@lontium.com