

LT6911GX --- Product Brief

HDMI2.1 to Quad-port MIPI/LVDS with Audio

1. Features

● HDMI2.1 Receiver

- Compliant with HDMI2.1/2.0b/1.4 and DVI1.0
- Data rate up to 8Gbps
- Support HDCP 1.4/2.2/2.3
- Support HDCP repeater
- Support 8k@30Hz,
- Support 8k@60Hz with DSC data or YUV 4:2:0
- Support HDR10 and HDR12
- Support FEC
- Support CEC
- Integrated EDID shadow (max 512-byte)

● Four-Port MIPI® DSI/CSI Transmitter

- Compliant with D-PHY1.2 & DSI 1.3 & CSI-2 1.3 ; 1 clock lane, and 12/3/4 configurable data lanes; 2.5Gbps per data lane
- Compliant with C-PHY1.0 & DSI-2 1.0 & CSI-2 2.0; 1/2/3 configurable data lanes; 5.7Gbps per data lane
- Support 1, 2, 4 configurable port
- Support 4K@120Hz
- Support 8k@60Hz with DSC data or YUV 4:2:0
- Support overlap mode
- DSI Support 16/20/24-bit YCbCr4:2:2, 24/30/36-bit RGB, 12-bit YCbCr4:2:0, compressed pixel stream
- CSI Support RGB888/666, YUV422 8/10bit, YUV420 8bit(legacy)
- Support side by side 3D
- Support channel swap and polarity inversion
- Support port swap

● Four-Port LVDS Transmitter

- Compatible with VESA and JEIDA standard
- 1/2/4 configurable ports

- 1 Clock lane and 3/4/5 configurable data lanes
- Data rate up to 1.2Gbps per data lane
- Support 4k@60Hz
- Support side by side 3D
- Programmable transmitter swing
- Support SSC
- Support channel swap and polarity inversion
- Support port swap

● 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

- VESA DSC v1.2a decode and encode
- Zoom scaling up and down
- Vertical blanking interval expansion
- CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
- Integrated 100/400KHz I2C slave
- Integrated microprocessor
- External oscillator 25MHz, +/-100ppm
- Embedded SPI flash for firmware and HDCP keys
- Embedded SDRAM
- Firmware update through SPI or I2C interface
- Power supply: 3.3V for I/O and 1.1V for core

2. Description

The LT6911GX is a high performance HDMI2.1 to MIPI or LVDS chip for VR/Display application.

HDCP RX as the upstream of HDCP repeater, can cooperate with HDCP TX of other chips to realize the repeater function.

For HDMI2.1 input, LT6911GX can be configured as 3/4

lane. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 32Gbps.

For MIPI output, LT6911GX features configurable single-port or dual-port or quad-port MIPI@DSI/CSI with 1 high-speed clock lane and 1~4 high-speed data lanes operating at maximum 2.5Gb/s/lane with D-PHY, which can support a total bandwidth of up to 40Gbps for four port. Also support 5.7Gb/s/lane with C-PHY, which can support a total bandwidth of up to 68.4Gbps for four port.

For LVDS output, LT6911GX can be configured as single, dual or quad-port LVDS with 1 high-speed clock lane, and 3~5 high-speed data lanes, operating at maximum 1.2Gbps per lane, which can support a total

bandwidth of up to 24Gbps. LT6911GX supports flexible video data mapping path for 2D and 3D applications.

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 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.

LT6911GX is fabricated in advanced CMOS process and implemented in 9mmx9mm BGA169 package.

3. Applications

- VR
- Display

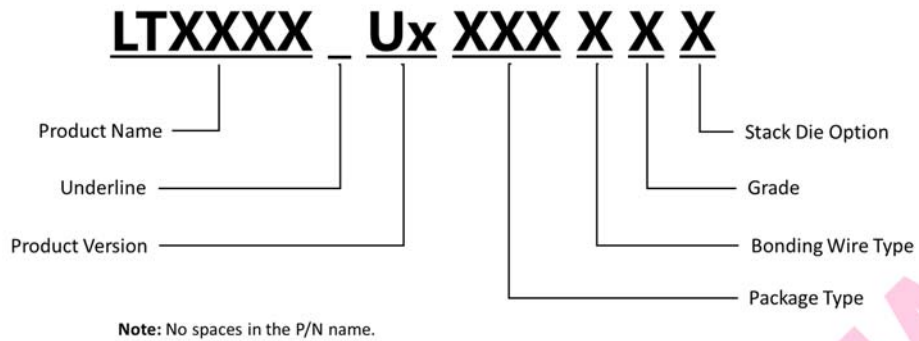


Figure 3.1 Application Diagram

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
LT6911GX	LT6911GX_U1B00AEI	Preview	BGA169 (9*9)	Au	Consumer	TBD	I	Tray



Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

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