

# LT7911UX --- Product Brief

## Type-C/DP to Quad-port MIPI with Audio

### 1. Features

#### ● Type-C

- Compliant with VESA DisplayPort alt mode on USB Type-C standard 1.0
- Compliant with USB power delivery specification 3.0
- Compliant with USB Type-C cable and connector specification 1.3
- Built-in dual CC controllers for charger and normal communication
- Data roles supported: DFP, UFP and DRP
- Power roles supported: source and sink

#### ● DP1.4 Receiver

- Compliant with DisplayPort specification 1.4 for 1.62Gbps, 2.7Gbps, 5.4Gbps, 8.1Gbps
- Compliant Embedded DisplayPort specification version 1.4
- Support DisplayPort 1/2/4 lanes
- Support HDCP 1.3/2.3
- Support HDCP repeater
- Support 8K@30Hz YUV 4:2:2/YUV 4:2:0, 8K@60Hz with compression data
- Support HDR10 and HDR12
- Support FEC
- Support Adaptive-sync
- Support ASSR for eDP

#### ● 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, 8k@60Hz with compression 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)
- Video stream copy mode for each port
- 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 (v1.1 compatible) decode and encode
- Zoom scaling up and down
- CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
- Integrated 100/400KHz I2C slave
- External oscillator 25MHz, +/-100ppm
- Integrated microprocessor
- Embedded SPI flash for firmware and HDCP keys
- Embedded SDRAM
- Vertical blanking interval expansion
- Firmware update through SPI or I2C interface
- Power supply: 3.3V for I/O and 1.1V for core

### 2. Description

The LT7911UX is a high performance Type-C/DP1.4 to MIPI 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 DP1.4 input, LT7911UX can be configured as 1/2/4 lane. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 32.4Gbps.

For MIPI output, LT7911UX 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.

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.

LT7911UX is fabricated in advanced CMOS process and implemented in 9mmx9mm BGA169 package.

### 3. Applications

- Mobile system
- Display
- VR

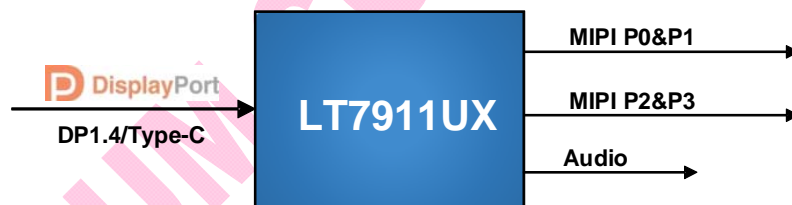
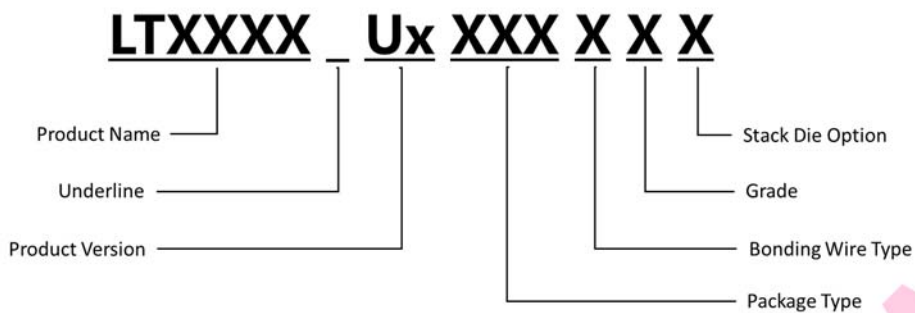


Figure 3.1 Application Diagram

### 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
LT7911UX	LT7911UX_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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