

# LT6211GX --- Product Brief

## HDMI2.1 to Quad-port LVDS with Audio

### 1. Features

#### ● HDMI2.1 Receiver

- Compliant with HDMI2.1, HDMI2.0b, HDMI1.4 and DVI1.0
- Data rate up to 8Gbps
- Support HDCP 1.4/2.3
- Support HDCP repeater
- Support 8k@30Hz, 8k@60Hz with compression data or YUV 4:2:0
- Support HDR10 and HDR12
- Support FEC
- Support CEC
- Integrated EDID shadow (max 512-byte)

#### ● 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 per port
- 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 (v1.1 compatible) decode

- Zoom scaling up and down
- 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 LT6211GX is a high performance HDMI2.1 to 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, LT6211GX 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 LVDS output, LT6211GX 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. LT6211GX 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.

and implemented in 9mmx9mm BGA169 package.

LT6211GX is fabricated in advanced CMOS process

### 3. Applications

- AR/VR
- Display

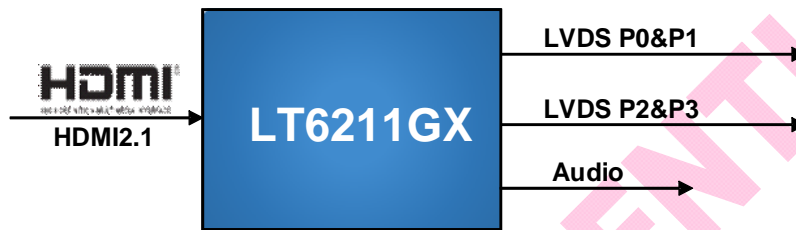
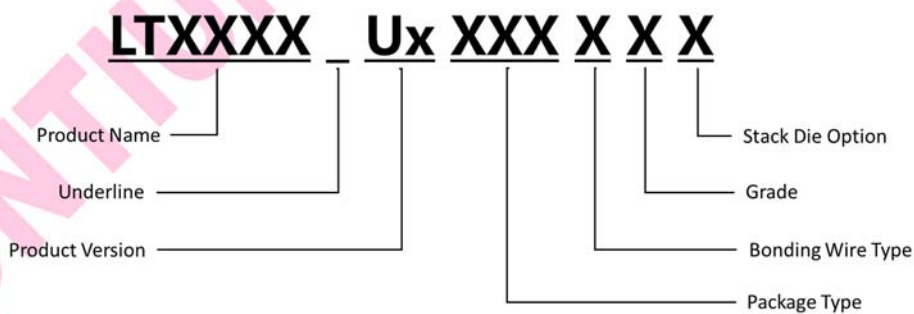


Figure 3.1 Application Diagram

### 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
LT6211GX	LT6211GX_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

**Copyright © 2019-2020 Lontium Semiconductor Corporation, All rights reserved.**

### **Lontium Semiconductor Proprietary & Confidential**

This document and the information it contains belong to Lontium Semiconductor. Any review, use, dissemination, distribution or copying of this document or its information outside the scope of a signed agreement with Lontium is strictly prohibited.

LONTIUM DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THOSE OF NONINFRINGEMENT, MERCHANTABILITY, TITLE AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMERS EXPRESSLY ASSUME THEIR OWN RISK IN RELYING ON THIS DOCUMENT.

LONTIUM PRODUCTS ARE NOT DESIGNED OR INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS WHERE A MALFUNCTION OF A LONTIUM DEVICE COULD RESULT IN A PERSONAL INJURY OR LOSS OF LIFE.

Lontium assumes no responsibility for any errors in this document, and makes no commitment to update the information contained herein. Lontium reserves the right to change or discontinue this document and the products it describes at any time, without notice. Other than as set forth in a separate, signed, written agreement, Lontium grants the user of this document no right, title or interest in the document, the information it contains or the intellectual property in embodies.

### **Trademarks**

Lontium™ 龙迅™ and ClearEdge™ is a registered trademark of Lontium Semiconductor. All other brand names, product names, trademarks, and registered trademarks contained herein are the property of their respective owners.

**Visit our corporate web page at: [www.lontiumsemi.com](http://www.lontiumsemi.com)**

**Technical support: [support@lontium.com](mailto:support@lontium.com)**

**Sales: [sales@lontium.com](mailto:sales@lontium.com)**