LONTIUM SEMICONDUCTOR

LT6211UXC --- Product Brief

HDMI2.0 to Dual-Port LVDS with Audio

Features

- **HDMI2.0 Receiver**
  - Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
  - Compliant with HDCP2.2 and HDCP1.4
  - Data rate up to 3Gbps
  - Adaptive receiver equalization
  - AC-couple capable
  - Support channel swap(arbitrarily) and polarity inversion(independent)
  - Support 4k@30Hz
  - Supported 3D formats:
    Direct 3D output: frame packing(progressive)
    2-way 2D L/R output: side-by-side(half/full), line alternative
  - Supported video formats:
    CSC disabled: 24-bit RGB
    CSC enabled: 24-bit YCbCr4:4:4, 16/20/24-bit YCbCr4:2:2
  - HDR support
  - Support TMDS descrambling for EMI/RFI reduction
  - Support SCDC
  - 5V tolerance DDC/HPD I/Os
  - Integrated EDID shadow
- **Single/Dual-Port LVDS Transmitter**
  - Compatible with VESA and JEIDA standard
  - 1/2 configurable ports
  - 1 clock lane and 3/4 configurable data lanes per port
  - 1.2Gbps per data lane
  - Programmable transmitter swing
  - Support lane swap(arbitrarily) and polarity inversion(independent)
  - 6-bit and 8-bit color depth
  - 3D support: direct 3D output, 2-way 2D L/R output
- **Digital Audio Output**

- I2S interface supporting 2-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
  - 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
  - ESD 4kV HBM
  - Temperature Range: -40℃ ~ +85℃
  - Package: QFN64(7.5mm*7.5mm)
  - Pin compatible with LT6211C

Description

The LT6211UXC is a high performance HDMI2.0 to LVDS converter for VR, Display applications.

The HDMI2.0 input supports data rate up to 3Gbps which provides sufficient bandwidth for 4k@30Hz video. Also HDCP2.2 is supported for data decryption.

For LVDS output, LT6211UXC can be configured as single-port or dual-port LVDS with 1 high-speed clock lane, and 3~4 high-speed data lanes operating at maximum 1.2Gbps/lane, which can support a total bandwidth of up to 9.6Gbps. LT6211UXC 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 2-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.
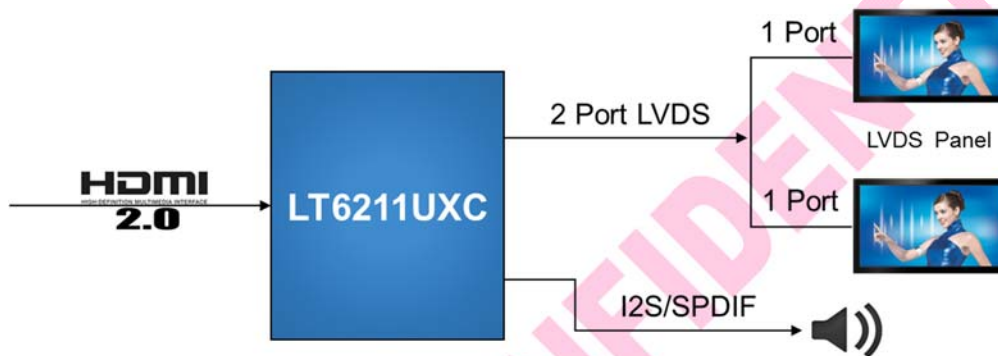
Applications

- Docking Station
- Display
- VR

Figure1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT6211UXC	-40℃ to +85℃	QFN64 (7.5*7.5)	Tray

Visit our corporate web page at: www.lontiumsemi.com
Technical support: support@lontium.com
Sales: sales@lontium.com