LT7211B --- Product Brief

Type-C/DP/eDP to Quad-port LVDS & MIPI DSI/CSI with Audio

1. Features

- **Type-C**
  - Compliant with VESA DisplayPort Alt Mode on USB Type-C Standard version1.0
  - Compliant with USB Power Delivery Rev.2.0
  - Compatible with USB Type-C V1.1
  - Built-in CC controller for plug and orientation detection
  - One-port CC for UFP communication.

- **DP/eDP Receiver**
  - Compliant with DisplayPort Specification 1.2 for 1.62Gbps, 2.7Gbps ,5.4Gbps
  - Compliant with Embedded DisplayPort (eDP) Specification version 1.4
  - Support DisplayPort 1, 2, 4 lanes
  - Support HDCP 1.3
  - Support eDP Authentication: Alternative Scramble Seed Reset
  - Adaptive DisplayPort Receiver Equalization for PCB, cable and connector losses

- **Single/Dual-Port/Quad-Port LVDS Transmitter**
  - Compatible with VESA and JEIDA standard
  - 1/2/4 Configurable Port
  - 1 clock lane and 4 configurable data lanes per port
  - Data Lane and Polarity Swapping
  - Support Maximum Data Rate 1.2Gbps/lane
  - Output Color Depth supports 6-bit and 8-bit
  - Video stream copy mode for each port
  - Side-by-side 3D support

- **Single/Dual-Port/Quad-Port MIPI® DSI/CSI Transmitter**
  - Compliant with DCS1.02, D-PHY1.2& DSI1.02 &CSI-2 1.0
  - 1 Clock Lane, and 1~4 Configurable Data Lanes per port
  - 1/2/4 configurable port
  - 80Mbps~1.5Gbps per data lane
  - Maximum 64pixels overlap for each half
  - Both non-burst and burst video mode supported
  - Support RGB666, Loosely RGB666, RGB888, RGB565, 16-bit YCbCr4:2:2,20-bit YCbCr4:2:2,24-bit YCbCr 4:2:2 Video Format
  - Video stream copy mode for each port
  - Side-by-side 3D support

- **Miscellaneous**
  - 3.3V/1.2V Supply Power
  - Internal CSC support conversions between YCbCr 4:4:4 and RGB, and between YCbCr 4:2:2 and YCbCr 4:4:4
  - Support SPDIF and 8-channel IIS audio output
  - Support 100KHz I2C slave
  - Integrated Microprocessor
  - Temperature Range: -40^0C ~ $+85^0$C
  - ESD 2kV HBM

2. General Description

The LT7211B is a high performance Type-C/DP1.2 to MIPI®DSI/CSI/LVDS chip for VR/Display application.

For DP1.2 input, LT7211B can be configured as 1,2,4 lane. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 21.6Gbps.

For MIPI®DSI/CSI output, LT7211B 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 1.5Gbps/lane, which can support a total bandwidth of up to 24Gbps. LT7211B supports burst mode DSI video

data transferring, also supports flexible video data mapping path. For LVDS output, LT7211B can be configured as single-port or dual-port or quad-port.

For 2D video stream, the same video stream can be mapped to two separated panels, for 3D video format, left side data can be sent to one panel, and right side data can be sent to another panel.

With embedded MCU and flash, LT7211B supports EDID buffer, DP/eDP input detection and determines to enter into power saving mode automatically. When the receiver of LT7211B locks the input signal, MCU can read the recovered timing parameters by MSA registers to match the ASSR. The DPCD registers are accessible via system I2C when debugging the link training.

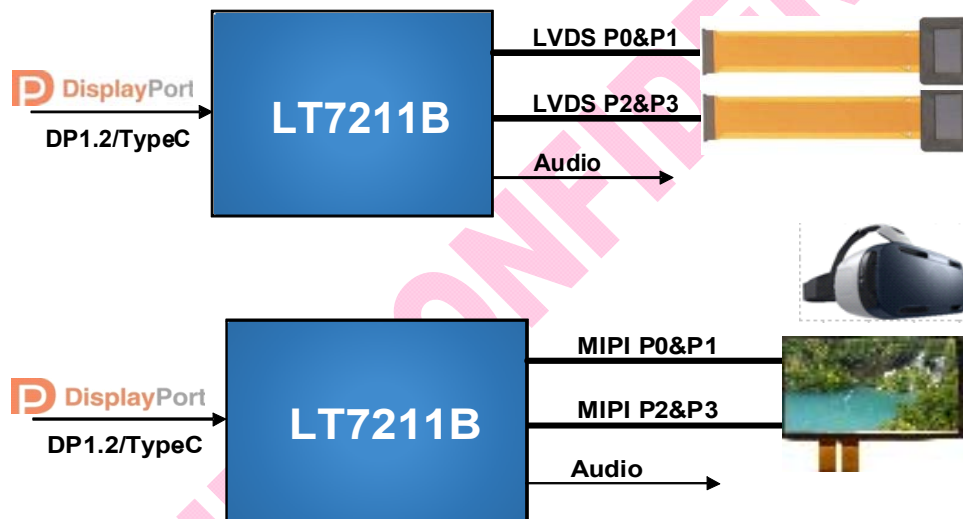# 3. Applications

- Mobile system
- VR
- Video conference system

Figure 3.1   Application Diagram

4. Ordering Information

Table 4.1   Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT7211B	-40℃ to+85℃	BGA144 (7*7)	Tray

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