LT7911D --- Product Brief

Type-C/DP/eDP to Dual-port MIPI DSI/CSI with Audio

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
  - Dual-port CC for charger and normal communication
- **DP/eDP Receiver**
  - Compliant with DisplayPort Specification 1.2 for 1.62Gbps, 2.7Gbps ,5.4Gbps
  - Compliant with DisplayPort Specification version 1.2 and Embedded DisplayPort (eDP) Specification version 1.4
  - Support DisplayPort 1, 2 , 4 lanes
  - Support HDCP 1.3
  - Support eDP Authentication: Alternative Scramble Seed Reset and Alternative Framing
  - Fast and full Link Training for embedded DisplayPort system
  - Adaptive DisplayPort Receiver Equalization for PCB, cable and connector losses
  - Support AUX and IIC for firmware updating
- **Single/Dual-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 configurable port
  - 80Mb/s~1.5Gb/s per data lane
  - Data lane and polarity swapping
  - 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, 12-bit YCbCr4:2:0Video Format
  - Video stream copy mode for each single/dual-port
  - Side-by-side 3D support
  - Port swap
- **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 2-channel IIS audio output
  - Support 100KHz and 400KHz I2C slave
  - Power from phone or adapter mode selection
  - Integrated Microprocessor
  - Embedded EDID shadow
  - Temperature Range: -40°C ~ +85°C
  - ESD 4kV HBM
  - Package:QFN64 7.5x7.5

Description

The LT7911D is a high performance DP1.2 to MIPI®DSI/CSI chip for VR/Smart phone/Display application.

For DP1.2 input, LT7911D can be configured as 1,2,4 lane, also support lane swap function. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 21.6Gbps.

For MIPI®DSI/CSI output, LT7911D features configurable single-port or dual-port or MIPI®DSI/CSI with 1 high-speed clock lane and 1~4 high-speed data lanes operating at maximum 1.5Gb/s/lane, which can support a total bandwidth of up to 12Gbps. LT7911D supports burst mode DSI video data transferring, also support flexible video data mapping path.

With sophisticated MCU and the Embedded Flash, LT7911D support EDID buffer, DP/eDP input detection and determine to enter into power saving mode automatically. When the receiver of LT7911D 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 full link training. Once the fast link training used, system time will save at least 400ms.
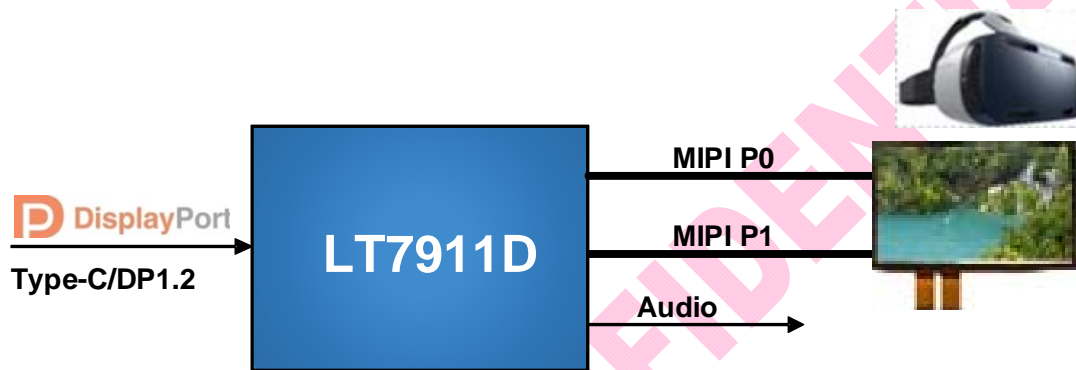
Applications

- Mobile system
- VR

Figure 1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT7911D	-40℃ to+85℃	QFN64 (7.5*7.5)	Tray

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