

LT7911 --- Product Brief

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

Features

● Type-C

- Compliant with VESA DisplayPort Alt Mode on USB Type-C Standard version 1.0
- 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/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
- 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 YCbCr4:2:0 Video 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 8-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

Description

The LT7911 is a high performance Type-C/DP1.2 to MIPI®DSI/CSI chip for VR/Smart phone/Display application.

For DP1.2 input, LT7911 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, LT7911 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 1.5Gb/s/lane, which can support a total bandwidth of up to 24Gbps. LT7911 supports Burst mode DSI video data transferring, also support flexible video data mapping path.

With sophisticated MCU and the Embedded Flash, LT7911 support EDID buffer, DP/eDP input detection and determine to enter into power saving mode automatically. When the receiver of LT7911 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

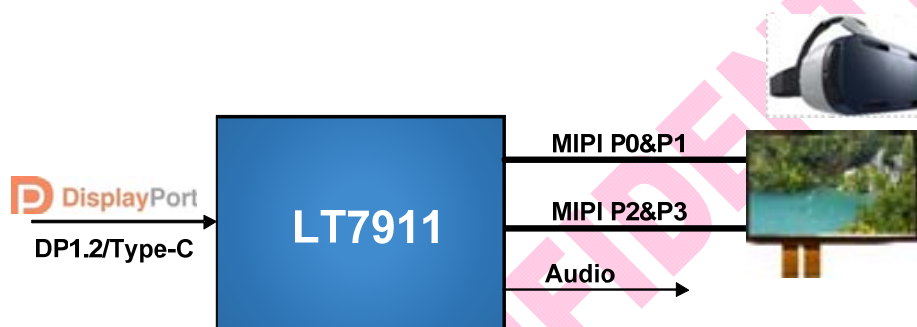


Figure 1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT7911	-40°C to+85°C	QFN128 (14*14)	Tray

Copyright © 2016-2017 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

Technical support: support@lontium.com

Sales: sales@lontium.com