LT86121EX --- Product Brief

HDMI2.1 Repeater with DSC Encoder

Features

- **HDMI2.1 Receiver**
  - Compliant with the HDMI 2.1 specification
  - Support FRL mode with 3, 6 or 8Gbps Data Rate
  - Support HDCP 1.4/2.2/2.3
  - Support HDR
  - Support FEC
  - Support SCDC
  - Support 8k@30Hz, 8k@60Hz with DSC
- **HDMI2.1 Transmitter**
  - Compliant with the HDMI 2.1 specification
  - Support FRL mode with 3, 6 or 8Gbps Data Rate
  - Support HDCP 1.4/2.2/2.3
  - Support HDR
  - Support FEC
  - Support channel swap and polarity inversion
- **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**
  - Power supply: 3.3V for I/O and 1.1V for core
  - VESA DSC v1.2a (v1.1 compatible)
  - CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
  - Integrated CEC Controller
  - Support SPDIF and 8-channel IIS audio output
  - Embedded SPI flash for firmware and HDCP keys
  - GPIOs for system controls
  - Support 100KHz and 400KHz I2C slave
  - Integrated Microprocessor
  - Embedded EDID shadow.
  - Temperature Range: -40°C ~ +85°C
  - ESD 4kV HBM

Applications

Description

The LT86121EX is a high performance HDMI2.1 repeater designed for long cable application. It should be paired with LT86121EX for longest cable reach. In paired mode, several unique features can be enabled to reduce bandwidth requirement and optimize performance.

Both the HDMI2.1 input and output support data rate up to 8Gbps which provides sufficient bandwidth for 8k@30Hz video. Also HDCP2.2 is supported for data decryption.

In paired mode, DSC encoder can be used to reduce data rate and hence bandwidth requirement.

Furthermore, FEC can be activated to correct data error and help to enhance system error tolerance level. These unique techniques together will significantly extend transmission distance.

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.

LT86121EX internally integrates an 8-bit OCM and SPI flash memory (stacked die) to run program. Online software upgrade is also supported for LT86121EX.

LT86121EX is fabricated in advanced CMOS process and implemented in 10mmx10mm QFN88 package. This package is RoHS compliant and specified to operate from -40°C to +85°C.

- Active Cables
- Surveillance

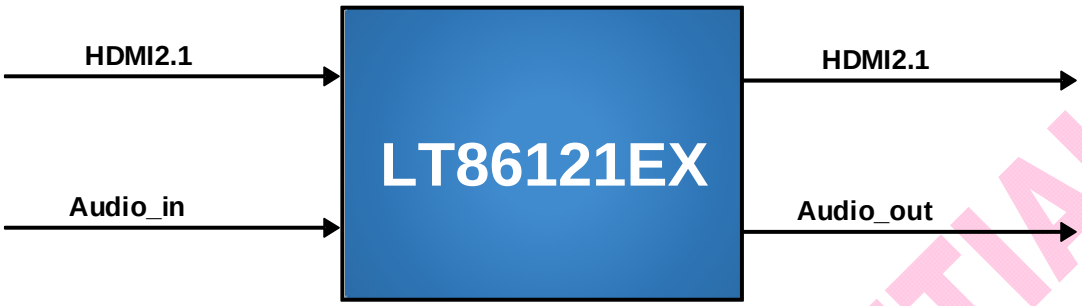

Figure1. Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT86121EX	-40℃ to+85℃	QFN88 (10*10)	Tray

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