

LT8711GX --- Product Brief

Type-C/DP1.4a to HDMI2.1 Converter

1. Features

● Type-C

- Compliant with VESA DisplayPort Alt Mode on USB Type-C Standard 2.0
- DP Alt Mode support pin assignment C, D and E
- Compliant with USB power delivery specification 3.0
- Compliant with USB Type-C cable and connector specification 1.3
- Built-in dual CC controllers for charger and normal communication
- Data roles supported: DFP, UFP and DRP
- Power roles supported: source and sink
- Support USB Billboard function

● DP1.4a Receiver

- Compliant with DisplayPort specification 1.4a for 1.62Gbps, 2.7Gbps, 5.4Gbps and 8.1Gbps
- Compliant with Embedded DisplayPort specification version 1.4b
- Support DisplayPort 1/2/4 lanes
- Support HDCP 1.3/2.2/2.3
- Support HDCP repeater
- Support RGB 6/8/10/12 bpc, YCbCr4:4:4/YCbCr4:2:2/YCbCr4:2:0 8/10/12 bpc
- Support up to 8K@30Hz YCbCr4:2:2 10 bpc or YCbCr4:2:0 12 bpc
- Support up to 4K@120Hz YCbCr4:2:2 10 bpc or YCbCr4:2:0 12 bpc
- Support up to 8K@60Hz DSC bitstream bypass
- Support static HDR10
- Support FEC
- Support ASSR for eDP

● HDMI2.1 Transmitter

- Compliant with HDMI2.1, HDMI2.0b, HDMI1.4 and DVI1.0
- Data rate up to 12Gbps

- Support HDCP 1.4/2.2/2.3
- Support HDCP repeater
- Support RGB 8/10/12 bpc, YCbCr4:4:4/ YCbCr4:2:2/ YCbCr4:2:0 8/10/12 bpc
- Support up to 8K@30Hz RGB/YCbCr4:4:4/ YCbCr4:2:2 8bpc or YCbCr4:2:0 12 bpc
- Support up to 4K@120Hz RGB/YCbCr4:4:4/ YCbCr4:2:2 8bpc or YCbCr4:2:0 12 bpc
- Support up to 8K@60Hz DSC bitstream bypass
- Support static HDR10
- Support FEC
- Support CEC

● Digital Audio Input or Output

- I2S interface supports up to 8-channel audio, with sample rates of 32~192 KHz and sample sizes of 16~24 bits
- SPDIF interface supports PCM, Dolby digital, DTS digital audio at up to 192KHz frame rate
- Compliant with IEC60958 or IEC61937

● DSC Decoder and Encoder

- Compliant with DSC 1.2a
- Support up to hactive 4096
- Support up to pixel clock 1.2GHz
- Support 1/2/4 slices
- Support color space RGB, YCbCr4:4:4, YCbCr4:2:2, and YCbCr4:2:0
- Support color depth 8bit and 10bit
- Support bpp precision 1 bit
- Support only constant refresh rate

● Miscellaneous

- Support PD Charge
- CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
- Integrated 100/400KHz I2C slave
- Integrated microprocessor
- External oscillator 25MHz, +/-50ppm
- Embedded SPI flash for firmware and HDCP keys

- Firmware update through SPI or I2C or USB interface
- Power supply: 3.3V and 1.1V

2. General Description

The LT8711GX is a high performance Type-C/DP1.4a to HDMI2.1 converter, designed to connect a USB Type-C source or a DP1.4a source to an HDMI2.1 sink.

The LT8711GX integrates a DP1.4a compliant receiver, and an HDMI2.1 compliant transmitter. Also, one CC controller is included for CC communication to implement DP alt mode and power delivery function, because it is one DRP (Dual Role port).

For DP1.4a input, LT8711GX can be configured as 1/2/4 lanes. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 32.4Gbps.

For HDMI2.1 output, LT8711GX can be configured as 3/4 lanes. The maximum bandwidth is up to 32Gbps. It allow for the highest resolutions of 8K@30Hz or 8K@60Hz with compression data.

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.

LT8711GX is fabricated in advanced CMOS process and implemented in 10mmx10mm QFN88 package.

3. Applications

- Docking Station
- Dongle

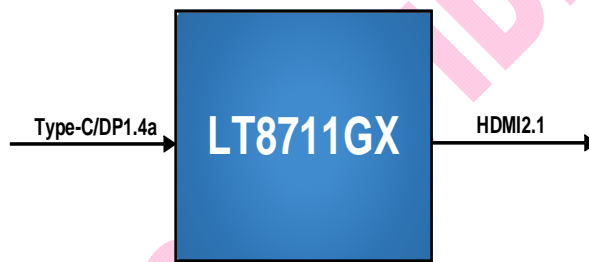
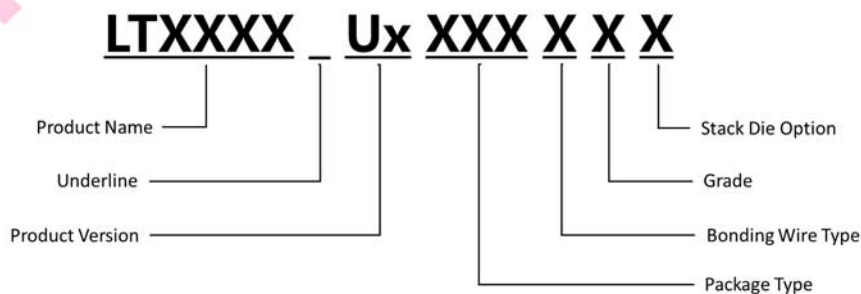


Figure 3.1 Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Product Name	Part Number	Product Status	Package	Bonding Wire	Grade	Operating Temperature Range	Stack Die Option	Packing Method	MPQ
LT8711GX	LT8711GX_U3Q02AED	Preview	QFN88 (10*10)Saw	Au	E	TBD	D	Tray	1680pcs



Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

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