LT6711GX --- Product Brief

HDMI2.1 to DP1.4a with Type-C

1. Features

- **HDMI2.1 Receiver**
  - Compliant with HDMI2.1, HDMI2.0b, HDMI1.4 and DVI1.0
  - Data rate up to 8Gbps
  - Support HDCP 1.4/2.2/2.3
  - Support HDCP repeater
  - Support 8K@30Hz
  - Support 4K@120Hz
  - Support HDR10
  - Support FEC
  - Support CEC
  - Support VRR
  - Integrated EDID shadow (max 512-byte)

- **DP1.4a Transmitter**
  - Compliant with DisplayPort specification 1.4a for 1.62Gbps, 2.7Gbps, 5.4Gbps, 8.1Gbps
  - Compliant Embedded DisplayPort specification version 1.4b
  - Support DisplayPort 1/2/4 lanes
  - Support HDCP 1.3/2.2/2.3
  - Support HDCP repeater
  - Support 8K@30Hz YUV 4:2:2 or YUV 4:2:0
  - Support 4K@120Hz YUV 4:2:2 or YUV 4:2:0
  - Support HDR10
  - Support FEC
  - Support Adaptive-Sync
  - Support ASSR for eDP

- **USB Type-C**
  - Compliant with VESA DisplayPort alt mode on USB Type-C standard 1.0
  - DP alt mode only support pin assignment C、E
  - Compliant with USB power delivery specification 3.0
  - Compliant with USB Type-C cable and connector specification 1.3

- Built-in CC controller for charger and normal communication
- Data roles supported: DFP and UFP
- Power Roles Supported: source and sink
- Support USB Billboard function

- **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

- **Miscellaneous**
  - VESA DSC v1.2a (v1.1 compatible) decode and encode support up to 4K@120Hz
  - CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
  - Integrated 100/400KHz I2C slave
  - Integrated microprocessor
  - External oscillator 25MHz, +/-100ppm
  - Embedded SPI flash for firmware and HDCP keys
  - Firmware update through SPI or I2C or USB interface
  - Power supply: 3.3V ,1.1V and 1.8V

2. General Description

The LT6711GX is HDMI2.1 to DP1.4a converter with internal Type-C Alternate Mode switch and PD controller.

For HDMI2.1 input, LT6711GX can be configured as 3/4 lanes. Adaptive equalization makes it suitable for long cable application and the maximum bandwidth is up to 32Gbps. It allow for the highest resolutions of 8K@30Hz or 8K@60Hz with compression data.

For DP1.4a output, it consists of 4 data lanes, support 1.62, 2.7, 5.4 or 8.1Gbps link speeds. The build-in optional SSC function reduces EMI effect.

In order to be adaptable to the latest USB Type-C system, LT6711GX integrates a high performance bi-directional

Super-Speed controlled by CC logic and PD management unit to relieve mobile system design complexity and BOM cost.

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.

LT6711GX is fabricated in advanced CMOS process and implemented in 10mmx10mm QFN88 package.

3. Applications

- Mobile systems, VR/AR
- Digital video cameras and Digital still cameras
- Cellular handsets, PAD/Tablets

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
LT6711GX	LT6711GX_U2Q02AED	Preview	QFN88 (10*10)Saw	Au	E	TBD	D	Tray	1680pcs
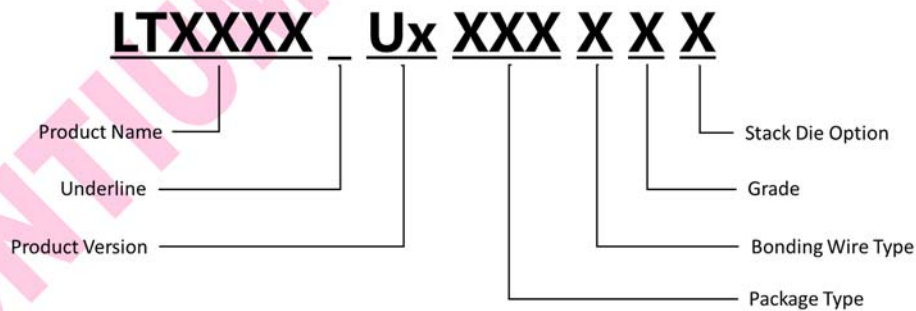
Note: No spaces in the P/N name.

Figure 4.1 Part Number Naming Rules

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