

# LT86204UX --- Product Brief

## HDMI2.0 2-In 4-Out Matrix Switch

### 1. Features

#### z HDMI2.0 Receiver

- f Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
- f Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
- f Data rate up to 6Gbps
- f Support up to 4Kx2K@60Hz
- f Adaptive receiver equalization
- f Support polarity inversion
- f Support 3D and HDR(only for bypass mode)
- f Support 8/10/12-bit color depth
- f Support TMDS descrambling for EMI/RFI reduction
- f Support SCDC and CEC2.0
- f Support ARC TX
- f Integrated 256-byte EDID shadow
- f 5V tolerance DDC/HPD I/Os

#### z HDMI2.0 Transmitter

- f Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
- f Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
- f Data rate up to 6Gbps
- f Support up to 4Kx2K@60Hz
- f Programmable transmitter swing and pre-emphasis
- f Support channel swap
- f Support 3D and HDR(only for bypass mode)
- f Support 8/10/12-bit color depth
- f Support TMDS scrambling for EMI/RFI reduction
- f Support SCDC and CEC2.0
- f 5V tolerance DDC/HPD I/O

#### z Digital Audio Output/Input

- f I2S interface supports 8  
2-channel audio input  
and sample sizes of
- f SPDIF interface supports DVI, Dolby Digital, DTS  
digital audio input and output up to 192kHz frame rate
- f IEC60958 or IEC61937 compatible

#### z Miscellaneous

- f Internal Rterm calibration
- f CSC: RGB <-> YUV444 <-> YUV422<-> YUV420
- fScaler: 4Kx2K@60/50/30Hz to 1080P@60/50/30Hz  
(3840x2160 to 1920x1080 or 4096x2160 to 2048x1080)
- f Support horizontally split one stream to two  
stream(3840x1080@60Hz to 1920x1080@60Hz and  
1920x1080@60Hz)
- f Support horizontally combine two synchronous stream  
to one stream(1920x1080@60Hz and  
1920x1080@60Hz to 3840x1080@60Hz)
- f External crystal supports 25MHz(+/-100ppm)
- f Integrated microprocessor
- f Integrated SPI master for embedded SPI flash
- f Embedded SPI flash for firmware and HDCP keys
- f Integrated 100/400kHz I2C slave for debug and  
firmware update
- f 1.2V core power supply & 3.3V I/O power supply

### 2. General Description

The LT86204UX HDMI2.0/1.4 switch features a 2:4 switch compliant with HDMI2.0/1.4 specification, max 6Gbps high speed data rate, adaptive equalization RX input and pre-emphasized TX output.

LT86204UX HDMI2.0/1.4 switch automatically detects the cable loss, and adaptively optimize the equalization setting. It supports RX termination resistor calibration to

#### z Standalone s

#### z Multiple inpr

#### z Project

#### z



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     |
|--------------|--------------------|----------------|-------------------|--------------|-------|-----------------------------|------------------|----------------|---------|
| LT86204UX    | LT86204UX_U1Q00CED | MP             | QFN128 (14*14)Saw | Cu           | E     | -40°C to +85°C              | D                | Tray           | 1190pcs |



Figure 4.1 Part Number Naming Rules



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