LT8411 - USB 3.0/2.0 Repeater

1.General Description

Lontium Semiconductor's LT8411 is a deeply-optimized USB repeater IC that enhances signal quality by performing cable/board trace loss compensation under USB3.0 and 2.0 specification respectively.

When operating in USB3.0 mode, LT8411 is a 5 Gbit/s SuperSpeed repeater device with advanced power management. Each channel consists of a high-speed receiver (Rx) with 16-level programmable equalization, a high-speed transmitter (Tx) with 16-level programmable output swing and de-emphasis, low-frequency periodic signal (LFPS) detection and automatic plug/unplug by Rx termination sensing.

When operating in USB2.0 mode, it provides high-speed (up to 480 Mbit/s) signal length extension over cat5/5e/6 cable and extends USB device up to 80 meters from the location of USB hub/host over CAT6 cable, 60 meters over CAT5e cable and 50 meters over CAT5 cable. It eliminates the 5 meters distance limitation under USB2.0 mode.

LT8411 is powered by 3.3V supply and available in small 48-pin (7.0mm x 7.0mm) QFN package.

2. Features

- Supports USB3.0 SuperSpeed (5 Gbit/s), USB 2.0 high-speed and USB 1.1(low-speed and full-speed)
- Supports LFPS detection and receiver termination sensing under USB3.0
- Supports adaptive receive equalization under USB2.0
- Extend one USB2.0 device up to 80 meters
- Supports hot plug
- Internal pull-up and pull-down resistor under USB2.0
- Pin control and expanded feature I2C control mode
- Single 3.3V power supply
- 48-pin QFN package
- 0° to 85°C operating temperature range
- ±2kV HBM ESD Protection on All Pins

3. Application Diagram

- Desktop PC, laptop PC, docking stations
- Servers and workstations
- Data storage systems
- Active cable and port dongles

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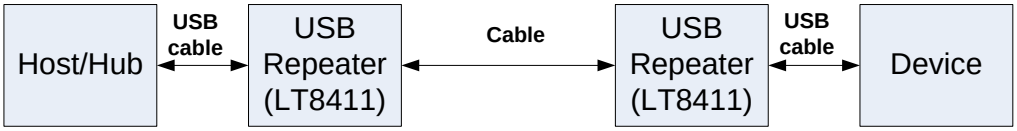

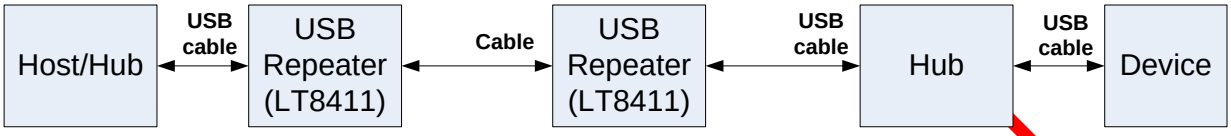

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