PRODUCT BRIEF

PI3HDX1204B1

HDMI 2.0 Limiting ReDriver with 6Gbps, High EQ, Low Jitter and DP++ Level Shifter

Description

PI3HDX1204B1 is suitable for HDMI 2.0 6.0 Gbps ReDriver with programmable high equalization, output swing and de-emphasis control mode. Max EQ is +22dB @ 6Gbps and can deliver 2x better additive jitter performance than other traditional ReDriver.

In addition, it can support the Dual-mode DisplayPort Level Shifter application for HDMI 2.0 compliant output signals.

The device EQ/SW/De-emphasis configuration can be supported by either the pin-strapping or the I²C programming to optimize differential signal performance over the variety of physical mediums.

Features

➔ HDMI 2.0 compliant Limiting-type Redriver to compensate high insertion loss of the long TMDS signal transmission

➔ Support Dual-mode DP HBR3 to HDMI 2.0 Level Shifting

➔ Double the jitter performance than conventional CMOS-process redriver

➔ Input EQ support 16 steps up to +22.2dB @ 3GHz (6 Gbps), 4 steps De-emphasis and 4 steps output voltage swing setting

➔ Independent each channel configuration for Equalization, Output Swing and De-emphasis

➔ Built-in channel activity detector with selectable input termination between 50Ω to V_{DD} and 200kΩ to V_{DD}

➔ Pin Strap and I²C selectable device programming mode support

➔ Supply Voltage: 3.3V

➔ Industrial Temperature Range: -40ºC to 85ºC

➔ Packaging (Pb-free & Green): 42-contact TQFN (3.4x9mm)

Applications

➔ Notebooks, Desktops and AIO PCs

➔ HDMI Active cables

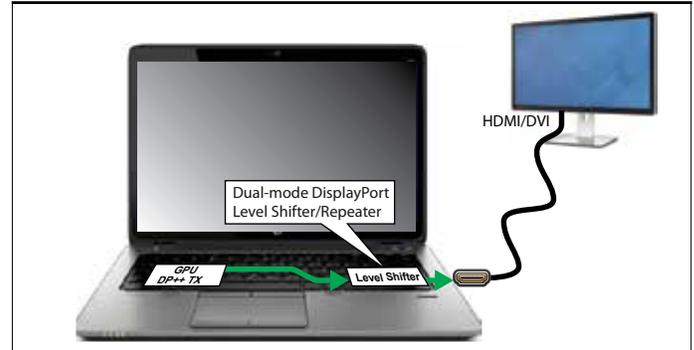➔ Internal board connection inside video system

Applications

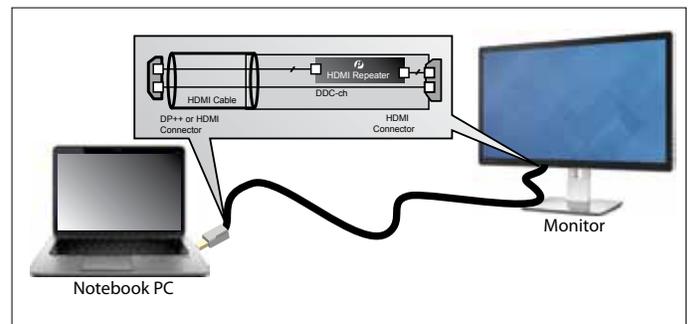

Figure 1-1 DP++ to HDMI2.0 Level Shifter

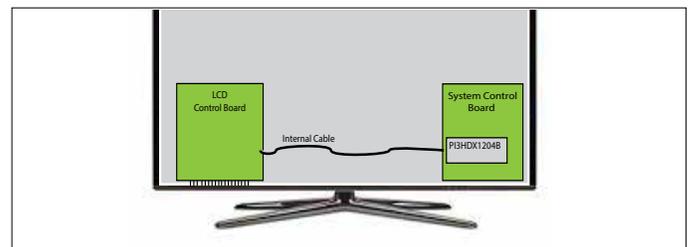**Figure 1-2 HDMI 2.0 active cable application**

Figure 1-3 TMDS Connection inside TV

Ordering Information

Ordering Number	Package Code	Package Description
PI3HDX1204B1 ZHEX	ZH	Pb-free & Green 42-pin TQFN (3.5x9mm), Tape & Reel.
PI3HDX1204B1 ZHIEX	ZH	Industrial-temp, Pb-free & Green 42-pin TQFN (3.5x9mm) Tape & Reel.

Suffix: I = Industrial Temp, E = Pb-free and Green, X = Tape/Reel