



## Description

VPP1101PNG is a highly integrated DisplayPort receiver, capable of support 1/2/4 lanes of DisplayPort input at Reduced or High Bit Rate, and compliant to DisplayPort V1.1a Standard. VPP1101PNG outputs, in LVTTTL, can be configured either in single or dual bus mode to support display format up-to WQXGA (2560x1600-60RB) at 6/8/10-bit color depth. VPP1101 also supports the second stream for audio path at up-to 192KHz sample rate of 30-bit per data in S/PDIF or I2S format.

## Features

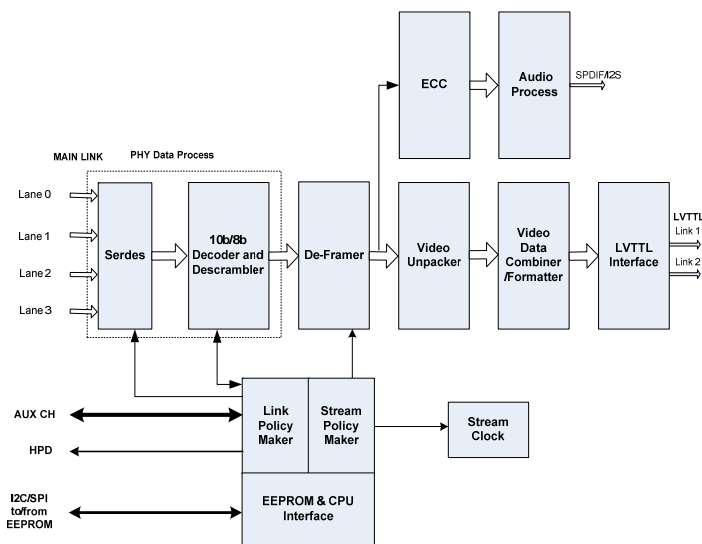
- ◆ Standards compliance: DisplayPort 1.1a, HDCP v1.3, and EDID v1.4
- ◆ Supports 1/2/4 main link lanes from the source for data rates of 1.62Gbps (RBR) and 2.7Gbps (HBR)
- ◆ Adaptive receiver equalization to compensate for PCB, cable, or connector signal loss up to 15db
- ◆ Built-in PRBS7 test pattern generation
- ◆ AC coupled for low voltage chipset operation
- ◆ Supports integration into LCD panels for direct drive displays
- ◆ High speed bi-directional auxiliary channel (AUX CH) capable of I2C mapping over AUX CH between the source and the VPP1101PNG
- ◆ Dual I2Cs or I2C+SPI
- ◆ Supported output resolution
  - Monitor panel: Up to 2560x1600 @60Hz reduced-blanking mode
  - TV panel: Up to FullHD 1920x1080p @120Hz
- ◆ Supports up to 24 bits per pixel at 1080p @120Hz
- ◆ Faithfully recover the data stream based on Attribute Packet
- ◆ Capable to support DisplayPort compliant cable up-to 30-meter
- ◆ Supports a minimum of 1080p at 24bpp 50/60Hz over 4 lane at 30-meter cable
- ◆ Video input options
  - Input pixel data depth 6/8/10/12 bits
  - Input pixel format supports RGB444
- ◆ Video output options
  - Single or dual-port LVTTTL data output
  - Compatible with VESA panel interface standards
  - Selectable rising/falling edge data sample
  - Support 6/8/10-bit color depth output
  - Supports output pixel formats RGB444 18/24/30 bits, YCbCr444 18/24/30 bits, YCbCr422 12/16/20 bits, and YCbCr422 ITU-R BT.656 6/8/10 bits

- ◆ Digital audio interface supports high-end and low-end audio system
  - S/PDIF output supports PCM, Dolby Digital, DTS digital audio transmission (up to 192 kHz Fs) compliant to IEC 60958 and IEC 61937
  - One I2S output for connection to external low-cost audio DAC up to 192kHz
  - Error correction
  - Audio mute
- ◆ Built-in OTP, or external EEPROM, or SPI ROM
- ◆ Provides exceptional Secured Content Protection with HDCP 1.3 for digital content for video and audio streams.
- ◆ Advanced design for test (DFT) for added reliability
  - High-speed loop-back testing
  - At speed production testing
- ◆ 128L LQFP or 132L QFN 10x10x0.85mm package
- ◆ RoHS compliant green package

## Applications

- ◆ DTV with DisplayPort input
- ◆ Projector with DisplayPort input
- ◆ Direct Drive PC Monitor or TV Monitor with DisplayPort input

## Block Diagram



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