V-by-One 1.4 Transmitter

Features

- Compliant with V-by-One 1.4 specification
- Support for up to 8 channels, with up to 4 Gbps data rate per channel
- Supports up to 40-bit Deep-Color in RGB/YCbCCr/RGBW/RGB/Y format Digital Video Output with selectable edge clocking
- Supports scrambling and 8b/10b encoding
- Process: SMIC 40 nm LL 1P7M 1T
- Temperature Range: -40 – 125°C
- Power Consumption:
  Analog: 115 mA, 3.3 V + 60 mA, 1.1 volt
  Digital: 40 mA, 1.1 V
  In Power Down Mode: 10 µA total
- Deliverables
  LEF
  LEB
  Verilog model

Applications

High speed data transmission of video signals based on internal connection of the equipment.

Block Diagram:

```
LANE_EN0  LANE_EN1
BYTE_MODE0 BYTE_MODE1
PIX CLK

DE        HSYNC    VSYNC
VIDEO_O[39:0]  ODCK

CTL[23:0]  LOCKN  HTPDN

Ctrl Decoder  PLL

Video Input Remapping

Scrambler

Encoder

Serializer

CH0 +/-  CH1 +/-  CH2 +/-  CH(2^n-1) +/-
```