

## HDMI TX PHY

### OVERVIEW

The HDMI (High Definition Multimedia Interface) TX PHY core is compatible with the HDMI v1.4 / v2.0 spec.

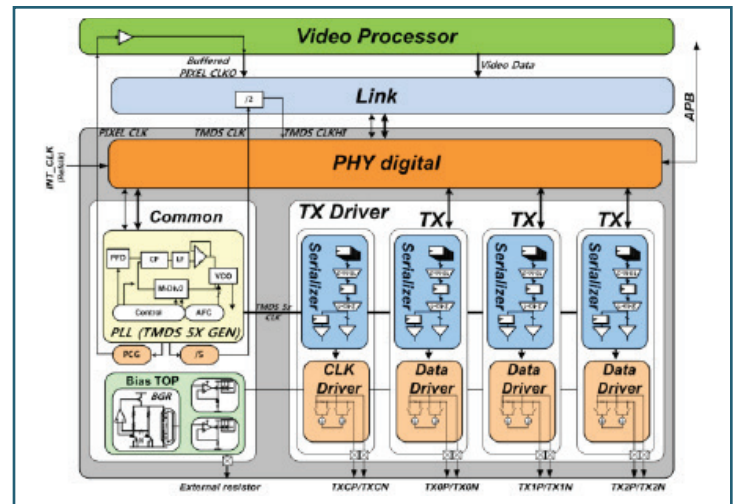
The HDMI TX PHY core supports 1080p video resolution including deep-color mode, 3D, and 4K x 2K video format.

The HDMI TX PHY core can generate both pixel clock and TMDS clock from a reference clock, which eliminate a need for separate pixel clock generator in an SOC. HDMI TX PHY core also support loop-back test using pattern generator/comparer.

For deep color mode, the HDMI TX PHY core supports all pixel clock frequencies specified in HDMI specifications with 1.25X and 1.5X TMDS clocks.

### KEY FEATURES

- Samsung Foundry 14nm low power CMOS device technology
- 1.8V, 0.8V dual power supply
- Compliant to HDMI 2.0 specification
- Supports 25MHz to 594MHz TMDS clock
  - A/UXGA format for PC
- Supports internal loop-back for low cost at-speed test
- Supports programmable analog characteristics through JTAG, APB register control
- 60-bit CMOS interface with LINK logic for relaxed timing constraint between LINK and PHY
- Integrated pixel clock generator
- Supports on-chip source termination



### DELIVERABLES

- Front-end: Timing LIB, Verilog model, Sample test bench
- Back-end: Physical view LEF, GDSII layout, DRC, LVS
- Documentation: Datasheet including User's guide

# SAMSUNG Foundry

For more information, please contact us at [IP@silvaco.com](mailto:IP@silvaco.com).

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