APIX2 Transmitter with HDMI and HDCP Support

Data Sheet

ADV7680

FEATURES

- APIX®2 transmitter with HDCP
  - High-bandwidth Digital Content Protection (HDCP) 1.4 support with internal preprogrammed HDCP keys
  - Dual-channel encryption engine supports simple daisy-chain implementation for remote displays
  - Independent encryption of video and audio
  - Up to 3000 Mbps sustained downstream link bandwidth
  - Up to 187.5 Mbps upstream link bandwidth
  - Media independent interface (MII), serial port interface (SPI), I^2C, GPI and GPO interfaces for sideband communication
- High-Definition Multimedia Interface (HDMI®) receiver
  - Supports all HDMI video resolutions up to the maximum APIX® video link bandwidth of 2.57 Gbps
  - All mandatory and additional 3D video formats supported
  - HDCP 1.4 decryption support
  - Hardware controller for automated HDCP repeater functions across APIX and HDMI HDCP blocks
  - HDCP repeater support, up to 24 KSVs supported
  - Integrated CEC controller, CEC 1.4 compatible
  - Adaptive TMDS equalizer
  - 5 V detect and Hot Plug™ assert
- ITU-R BT.656 support
  - 8-bit ITU-R BT.656 interface with embedded timing
  - 720p supported at 148.5 MHz clock rate
- Audio support
  - HDMI audio extraction support
  - Advanced audio muting feature
  - Supports time division multiplexed (TDM) I^2S audio I/O
  - On-chip SRC for synchronization to external master clocks
- General
  - Dual interrupt controller with APIX link status reporting
  - Internal EDID RAM
  - Any-to-any 3 × 3 color space conversion (CSC) matrix
  - 64-lead LFCSP, 9 mm × 9 mm package
- Qualified for automotive applications

APPLICATIONS

- Automotive infotainment
- Infotainment head units
- Rear seat entertainment systems
- Automotive media port applications
- HDMI repeaters and video switches

SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

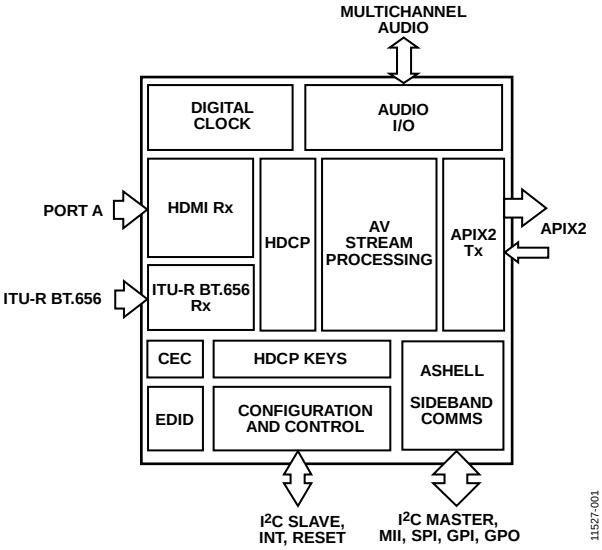

Figure 1.

For more information about the ADV7680, including the complete data sheet, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

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Advanced Television Solutions by Analog Devices

Rev. SpB **Document Feedback**

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NOTES

APIX® is a registered mark of INOVA Semiconductors GMbH.

I²C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

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