APIX2 Transmitter with Dual Port HDMI and HDCP Support

Data Sheet

ADV7682

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
  - Support for two independent video streams and two synchronous audio streams
  - Up to 3000 Mbps sustained downstream link bandwidth
  - Up to 187.5 Mbps upstream link bandwidth
  - Media independent interface (MII), serial port interface (SPI), I²C, and GPIO interfaces for sideband communication
- Dual 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 on each port
  - 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
- 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
  - Supports multiplexed (TDM) I²S audio I/O
  - On-chip SRC for synchronization to external master clocks and to synchronize two independent audio streams
- General
  - Dual interrupt controller with APIX link status reporting
  - Internal EDID RAM
  - 100-lead LQFP_EP, 14 mm × 14 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

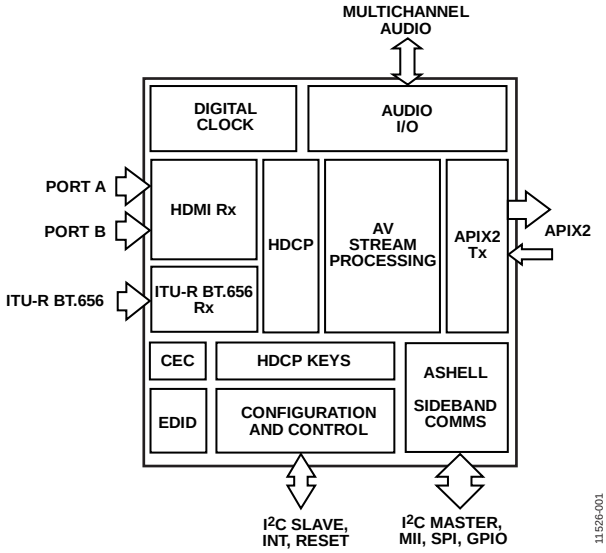

Figure 1.

For more information about the ADV7682, 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. Sp0 **Document Feedback**

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NOTES

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

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