# 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

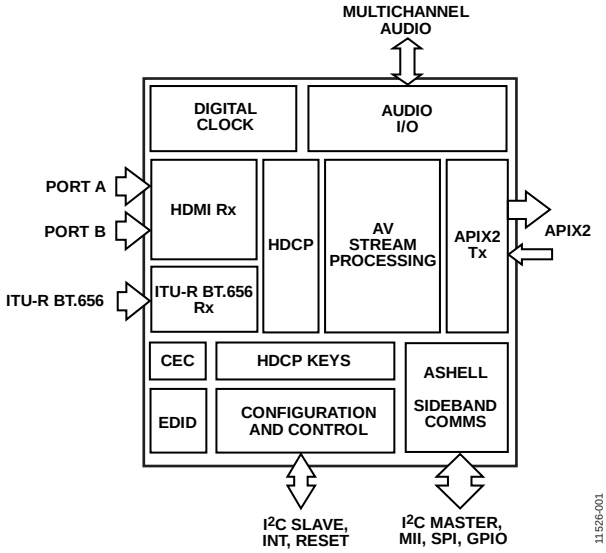


*Figure 1.*

*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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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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