

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 daisychain 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

 $\label{eq:Media} \textbf{Media independent interface (MII), serial portinterface (SPI),}$

I²C, 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) I2S 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

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

Advantiv Advanced Television Solutions by Analog Devices

Rev. SpB

Document Feedback

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

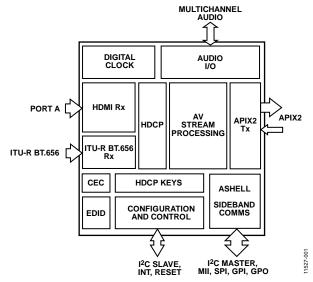


Figure 1.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A. Tel: 781.329.4700 ©2013–2016 Analog Devices, Inc. All rights reserved. Technical Support www.analog.com

ADV7680 Data Sheet

NOTES

APIX® is a registered mark of INOVA Semiconductors GMbH.

 $I^2 C\ refers\ to\ a\ communications\ protocol\ originally\ developed\ by\ Philips\ Semiconductors\ (now\ NXP\ Semiconductors).$

©2013–2016 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners.

D11527F-0-4/16(SpB)



www.analog.com