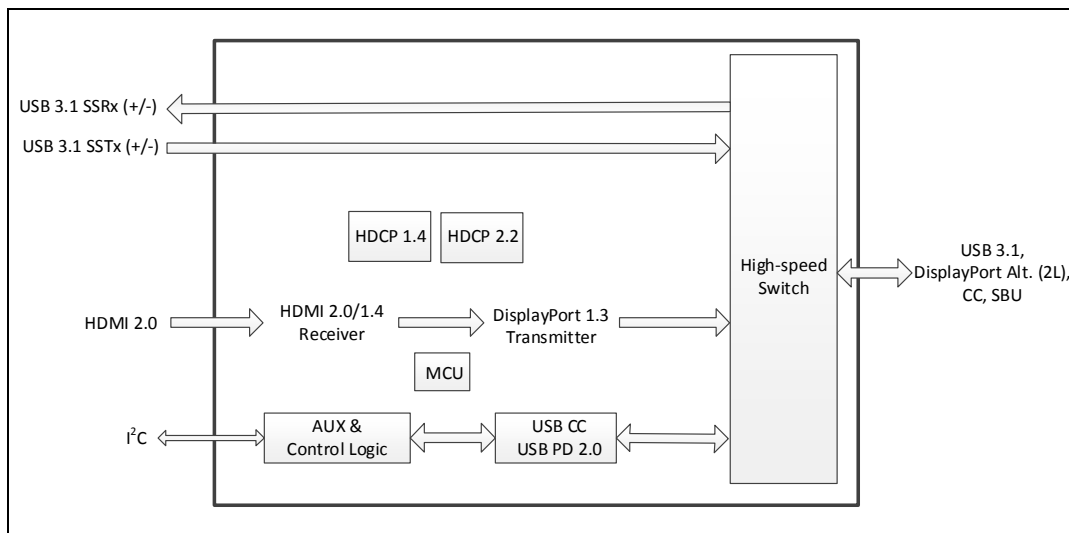


HDMI to USB Type-C™ Bridge (Port Controller with MUX)

ANX7688 is an ultra-low power **4K Ultra-HD (4096x2160p60)** mobile HD transmitter designed for portable devices, such as smartphones, tablets, Ultrabooks, docking stations, sports cameras, camcorders, etc. ANX7688 supports simultaneous audio, video, and data transfer from a mobile device. ANX7688 converts HDMI™ 2.0 to DisplayPort™ 1.3 Ultra-HD (4096x2160p60) including an intelligent crosspoint switch to support USB Type-C™ (USB-C™). The integrated crosspoint switch supports USB 3.1 data transfer along with the DisplayPort Alternate Mode signaling over USB Type-C. Additionally, an on-chip microcontroller (OCM) is available to manage the signal switching, Channel Configuration (CC) detection, USB Power Delivery (USB-PD), Vendor Defined Message (VDM) protocol support and other functions as defined in the USB Type-C and USB Power Delivery specifications. Overall, the ANX7688 is designed as a single bridge IC from the HDMI2.0 and USB 3.1 interfaces of the Application Processors to enable a USB Type-C connector on mobile devices.

Features

- Standard compliance
 - DisplayPort1.3, HDMI2.0/1.4b, HDCP2.2/1.4, USB PD 2.0
- Integrated USB Type-C support
 - USB3.1 Gen1 (5.0Gbps)
 - DisplayPort Alternate Mode
 - Simultaneous USB 3.1 Gen1 (5.0Gbps) and DisplayPort Alternate Mode
 - USB-PD 2.0 on CC wire
 - On-chip microcontroller to implement USB-PD messaging and DisplayPort related functions
- DisplayPort transmitter
 - DisplayPort transmitter (2-lanes @6.75Gbps)
 - Configurable 1-lane or 2-lane output supports: HBR2.5, HBR2, HBR, and RBR data rates
 - Ultra-HD (3840x2160p60) or 4K (4096x2160p60) maximum video resolution
 - Stereo (3D) video output support
- AUXP and AUXN support
- HDCP2.2 and HDCP1.4 support
- HDMI 2.0 receiver
 - Supports max pixel clock rates up to 600 Mpixels/sec
 - Up to 36bpp color depth support
 - Up to Ultra-HD (3840x2160p60) or 4K (4096x2160p60) maximum video resolution
 - Up to 8-channels digital audio support
- System operation
 - Reference input clock: 27MHz
 - Slave I²C device control interface
 - Built-in video BIST patterns and audio tone generator for system self-test
- Power supply requirements
 - 1.0V, 1.8V, and 3.3V
- Package: VFPGA



Related Products

Part Number	Description
ANX7625	MIPI-DSI/DPI to USB Type-C Bridge (Port Controller with MUX)
ANX7805	SlimPort Transmitter (Full-HD, 1080p60) with RGB-24, MIPI-DSI, SPDIF, I ² S and SLIMbus inputs
ANX7816	SlimPort Transmitter (Ultra-HD, 2160p30) with HDMI input

Copyright ©2016 Analogix Semiconductor, Inc.
3211 Scott Blvd., Suite 100
Santa Clara, CA 95054, USA
+1 (408) 988-8848

<http://www.analogix.com/>

©2016 Analogix Semiconductor, Inc. All Rights reserved.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY EXPRESS REPRESENTATIONS OF WARRANTIES. IN ADDITION, ANALOGIX SEMICONDUCTOR INC. DISCLAIMS ALL IMPLIED REPRESENTATIONS AND WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

This document contains proprietary information of Analogix Semiconductor, Inc. or under license from third parties. No part of this document may be reproduced in any form or by any means or transferred to any third party without the prior written consent of Analogix Semiconductor, Inc.

The information contained in this document is not designed or intended for use in on-line control of aircraft, aircraft navigation or aircraft communications; or in the design, construction, operation or maintenance of any nuclear facility. Analogix disclaims any express or implied warranty of fitness for such uses.

Analogix Semiconductor, Inc., the Analogix Logo, and WideEye™ SerDes, CoolHD™, and SlimPort® are trademarks of Analogix Semiconductor, Inc., in the United States and other countries.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

DisplayPort and the DisplayPort logo are trademarks or registered trademarks of the Video Electronics Standards Association, VESA®.

USB and the USB logo are trademarks or registered trademarks of USB Implementers Forum, Inc., creators of USB technology.

All other trademarks and registered trademarks are the property of their respective owners.