

MCDP2900 DisplayPort1.4 to HDMI2.0 Converter

■ GENERAL DESCRIPTION

The MCDP2900 is an advanced DisplayPort1.4-to-HDMI2.0 protocol converter targeted for TVs, Game consoles and other consumer equipment as well as for mobile PC, tablet accessory applications. This device is an active protocol converter with HDCP1.x/ HDCP2.2 repeater supporting HDR video quality for deep color media content playback. This device is highly suitable for video sources such as BD players, Game consoles and STBs for streaming 4K HDR protected content over HDMI2.0 interface. It is also a seemly solution for TVs, monitors, docking stations, dongles and other video accessory designs featuring DP Alt mode over USB Type-C interface.

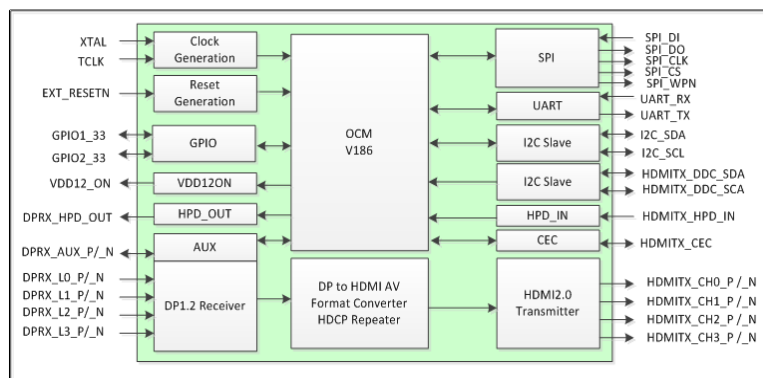
The MCDP2900 supports UHD video formats, resolutions as high as 4096x 2160 @ 60 Hz in RGB/YCbCr video color formats with a color depth of 16 bpc as long as it fits within the DP and HDMI link bandwidth. This device supports pixel encoding conversion from RGB or YCbCr444 to YCbCr422/420 function. Thus HDR video with deep color up to 12bpc at 4Kp60Hz is supported through the conversion of RGB/YCbCr444 over DP link with horizontal expansion to CEA timings to YCbCr420 on the HDMI TX output.

The MCDP2900 has higher level of security features such as encrypted on-chip key storage, secure firmware, secure boot and protected IOs. It is a low power device with enhanced ESD protection.

■ FEATURES

- DisplayPort1.4 receiver
- HDMI2.0 transmitter
- Video stream handling 600MHz, 16bpp
- Max video resolution 4K2k60Hz
- RGB/YUV444 color space conversion
- Chroma down sampling
- High Dynamic Range (HDR) imaging
- Steroscopic 3D forwarding
- Horizontal blanking expansion
- SCDC read request handling
- CEC tunneling, snooping
- Metadata handling-CEA infoframe, HDR
- HDCP1.x/2.2 TX/RX/repeater
- Advanced Security- Secure boot, FW
- Power: 600mW active; 0.3mW standby
- ESD: HBM +/-6KV; CDM 500V
- 64 LFBGA (7mm x 7mm) package

■ BLOCK DIAGRAM



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