NS5324 HDMI Receiver with ARC and IR
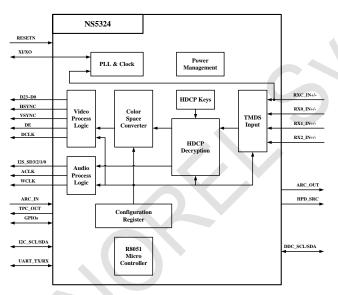
1.Introduction

NS5324 is a HDMI (High-Definition Multimedia Interface) receiver compatible with HDMI 2.0/HDMI 1.4/DVI 1.0. NS5324 supports video formats up to 4Kx2K 60Hz/2K144Hz/1080P240Hz. NS5324 contains HDCP1.4/2.2 decryption engine.

NS5324 includes a flexible 24-bit video data interface compatible with CEA-861 using separate sync signals or BT1120 using embedded sync. NS5324 support 4 audio output signals configurable as either SPDIF or I2S. NS5324 supports multi-channel Dolby Digital, DTS, AAC and 8-channel PCM formats with up to 192KHz sample rate.

NS5324 also supports HDMI ARC feature and two-way pass through of GPIO, UART, IR signaling.

2.Block Diagram

3.Features

3.1 Video Input

- Supports 18 Gb/s HDMI 2.0 compatible input, backward compatible with HDMI 1.4.

- Supports video formats up to 4Kx2K 60Hz/2K144Hz/1080P240Hz.

3.2 HDCP

- Built in HDCP 1.4 /HDCP 2.2 decryption engine.

3.3 Color Depth

- Supports 24/30/36 color depth.

3.4 Video Output

- Support 24-bit CEA-861 interface with separate syncs and 16-bit BT-1120 interface with embedded syncs.

- Flexible 24-bit video data interface with arbitrary bit-mapping capability.

- Supports 24/30/36 color depth(HDMI) convert to 24-bit CEA-861 interface or 16-bit BT-1120 interface.

3.5 Video Format Conversion

- Integrated Color Space Converter (CSC) capable of converting among 8/10/12-bit RGB 4:4:4, YUV 4:4:4 and YUV 4:2:2 pixel formats.

- Supports 8/10/12-bit RGB 4:4:4, YUV 4:4:4 and YUV 4:2:2 to YUV 4:2:0 conversion.

3.6 HDR

- Supports static HDR.

3.7 Audio

- Supports 4 audio output signals as either SPDIF or I2S.

- Supports up to 192 kHz 8-channel PCM and compressed audio formats such as Dolby Digital, DTS, AAC.

- Supports high bit rate (HBR) audio output up to 768 kHz.

- Support HDMI Audio Return Channel (ARC) to deliver a single IEC 60958-1 stream from Sink to Source with up to 48KHz sample rate.

3.8 Host Interface

- Serial Peripheral Interface (SPI).

- Support bi-directional transfer of GPIO, UART, IR, I2C, ARC signaling with remote end.

3.9. Microprocessor

- Built-in enhanced microprocessor.

3.10.Packaging

- Provided in 88-pin QFN package.