

# NS5325 HDMI Transmitter with ARC and IR

## 1. Introduction

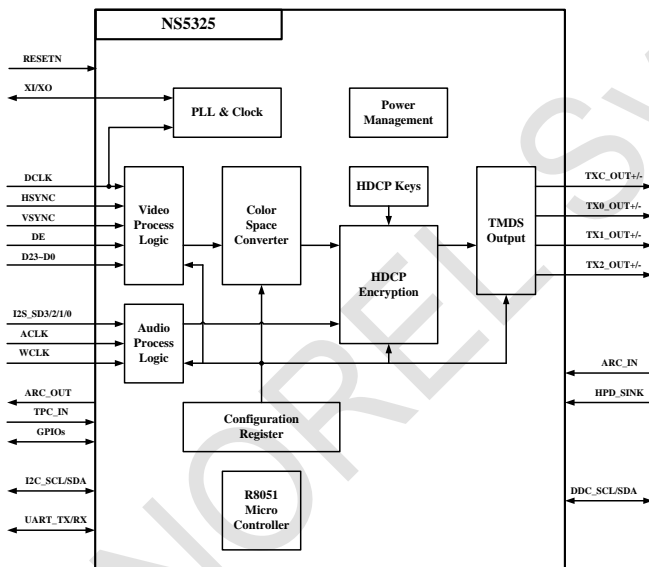
NS5325 is HDMI (High-Definition Multimedia Interface) transmitter compatible with HDMI 2.2/HDMI 1.4/DVI v1.0.

NS5325 supports video formats up to 4Kx2K 60Hz/2K144Hz/1080P240Hz. NS5325 contains HDCP 1.4/2.2 encryption engine.

NS5325 includes a flexible 24-bit video data interface compatible with CEA-861 using separate sync signals or BT1120 using embedded sync. NS5325 support 4 audio input signals configurable as either SPDIF or I2S. NS5325 supports multi-channel Dolby Digital, DTS, AAC and 8-channel PCM formats with up to 192KHz sample rate.

NS5325 also supports HDMI ARC feature and two-way pass through of GPIO, UART, IR signaling.

## 2. Block Diagram



## 3. Features

### 3.1 Video Output

- Supports 18 Gb/s HDMI 2.0 compatible output, 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 encryption engine.

### 3.3 Color Depth

- Supports 24/30/36 color depth.

### 3.4 Video Input

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

### 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 YUV 4:2:0 to conversion RGB 4:4:4, YUV 4:4:4 and YUV 4:2:2.

### 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.

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