# Radxa 4K HDMI IN to MIPI CSI-2 Adapter

## A High Definition Video Bridging Device

Revision 1.1

2026-09-20

Radxa Computer

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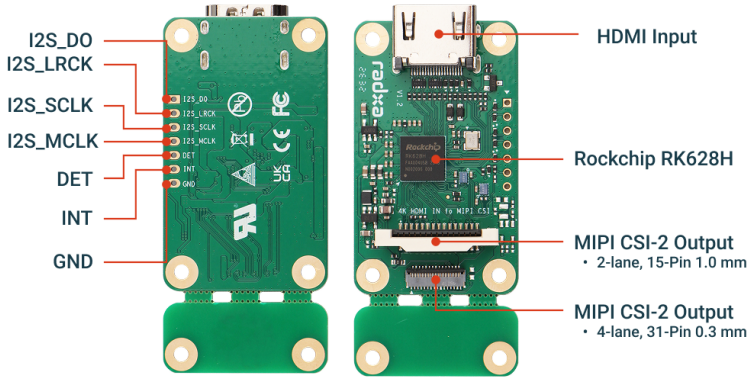
# 1 Revision Control Table

| Version | Date | Changes from previous version |
|---|---|---|
| 1.0 | 2026-09-02 | First release |
| 1.1 | 2026-09-20 | Add auxiliary signals and compatible products, refine audio output |

# 2 Introduction

Powered by the Rockchip RK628H, the Radxa 4K HDMI IN to MIPI CSI-2 Adapter is a high-performance video bridge that converts 4K HDMI video signals to MIPI CSI-2 with simultaneous I2S audio output. It enables development boards to quickly integrate high-definition video and audio signals for video capture and embedded vision applications such as video surveillance, video conferencing, and multimedia devices.




*Note:* The actual board layout or component locations may change over time, but the main connector types and locations will remain the same.

# 3 Features

## 3.1 4K HDMI Input

Supports ultra-high-definition HDMI input for high-resolution video capture.

## 3.2 High-Bandwidth MIPI CSI Output

4-lane MIPI CSI, up to 4K@30fps.

## 3.3 Stable Video Bridging

Uses the Rockchip RK628H for stable HDMI to MIPI CSI conversion.

## 3.4 Radxa Z-Form Factor Compatible

Can be directly mounted on Radxa Z-form factor mini boards. For non-Z applications, the extra section can be trimmed for more flexible integration.

## 3.5 EDID Adaptive

Automatically negotiates output resolution for better compatibility and display performance.

## 3.6 I2S Audio Output

Enables synchronized audio and video capture.

## 3.7 Built for Vision Development

Suitable for video capture, image processing, and embedded vision applications.

# 4 Specifications

| | |
|---|---|
| **Video Processor** | Rockchip RK628H |
| **Video Input** | HDMI Input<br>- Up to 4K@30fps |
| **Video Output** | MIPI CSI-2 Output<br>- 1x 2-lane MIPI CSI (15-Pin, 1.0 mm pitch)<br>- 1x 4-lane MIPI CSI (31-Pin, 0.3 mm pitch)<br>- 4-lane MIPI CSI, up to 4K@30fps |
| **Audio Output** | HDMI Audio Extraction<br>- I2S Digital Audio Output<br>- Pins: DOUT, LRCK, SCLK, MCLK |
| **Auxiliary Signals** | HDMI Detection and Interrupt<br>- Signals: DET, INT |
| **Mechanical Dimensions** | 30 mm × 65 mm |
| **Compatible Products** | ROCK 3C / ROCK 4D<br>ROCK 5A / 5B / 5B+ / 5C / 5T |

# 5 Pin Definition

## 5.1 15-Pin MIPI CSI

| Pin Number | Description | Pin Number | Description |
|---|---|---|---|
| 1 | NC | 9 | GND |
| 2 | I2C_SDA | 10 | MIPI_CSI0_TX1P |
| 3 | I2C_SCL | 11 | MIPI_CSI0_TX1N |
| 4 | NC | 12 | GND |
| 5 | EN | 13 | MIPI_CSI0_TX0P |
| 6 | GND | 14 | MIPI_CSI0_TX0N |
| 7 | MIPI_CSI0_TX_CKP | 15 | GND |
| 8 | MIPI_CSI0_TX_CKN | | |

## 5.2 31-Pin MIPI CSI

| Pin Number | Description | Pin Number | Description |
|---|---|---|---|
| 1 | GND | 17 | MIPI_CSI0_TX_CKN |
| 2 | MIPI_CSI0_TX3N | 18 | MIPI_CSI0_TX_CKP |
| 3 | MIPI_CSI0_TX3P | 19 | GND |
| 4 | GND | 20 | NC |
| 5 | MIPI_CSI0_TX2N | 21 | GND |
| 6 | MIPI_CSI0_TX2P | 22 | NC |
| 7 | GND | 23 | EN |
| 8 | NC | 24 | I2C3_SCL_M0_MIPI |
| 9 | NC | 25 | I2C3_SCL_M0_MIPI |
| 10 | GND | 26 | EN |
| 11 | MIPI_CSI0_TX1N | 27 | CM_RST_L |
| 12 | MIPI_CSI0_TX1P | 28 | NC |

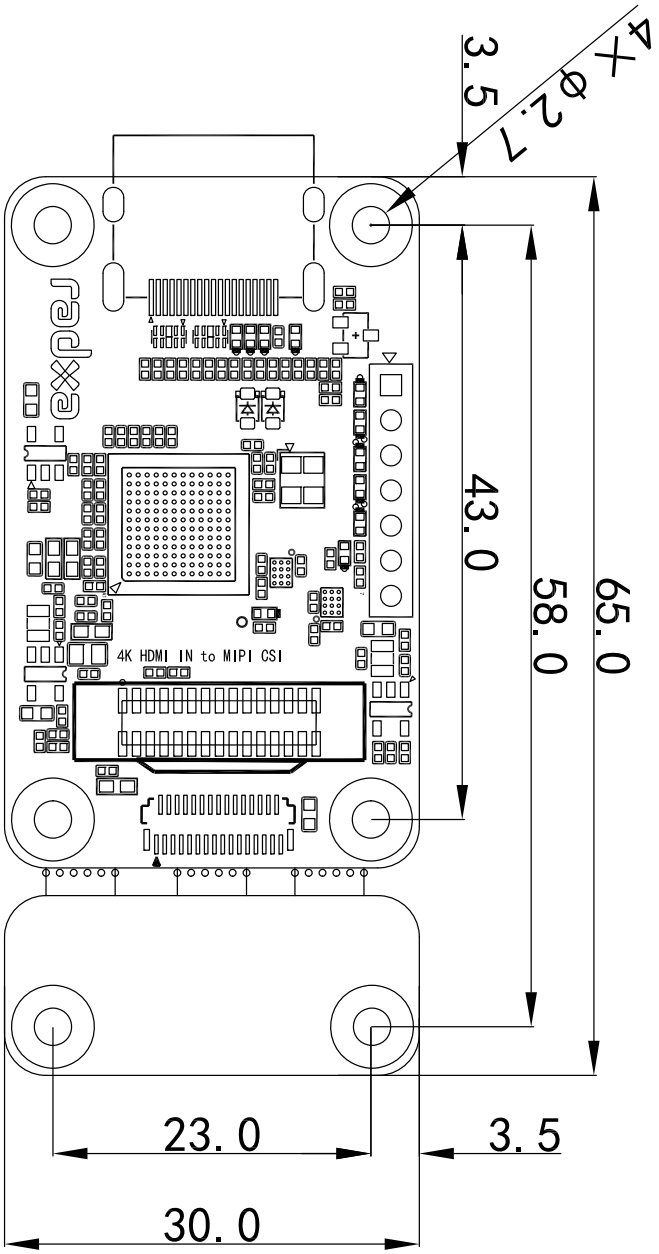
| Pin Number | Description | Pin Number | Description |
|---|---|---|---|
| 13 | GND | 29 | NC |
| 14 | MIPI_CSI0_TX0N | 30 | 5V |
| 15 | MIPI_CSI0_TX0P | 31 | 5V |
| 16 | GND | | |

## 6 Package List

- 1x Radxa 4K HDMI IN to MIPI CSI-2 Adapter
- 1x FPC AC006 (31P 0.3 mm to 31P 0.3 mm, Opposite Side FPC Cable)
- 1x FPC AC014 (15P 1.0 mm to 15P 1.0 mm, Opposite Side FPC Cable)

# 7 Mechanical Specification

Unit: mm



## 8 Availability

Radxa guarantees availability of the Radxa 4K HDMI IN to MIPI CSI-2 Adapter until at least September 2031.

## 9 Support

For support, please see the support documentation section of the Radxa Website website and post questions on the Radxa Forum.