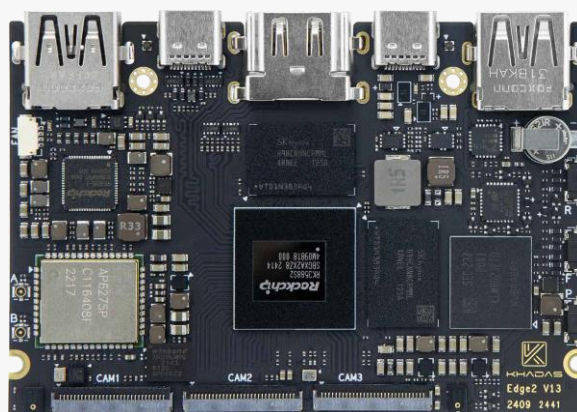


Documentation of Changes from Edge 2 v12 to v13

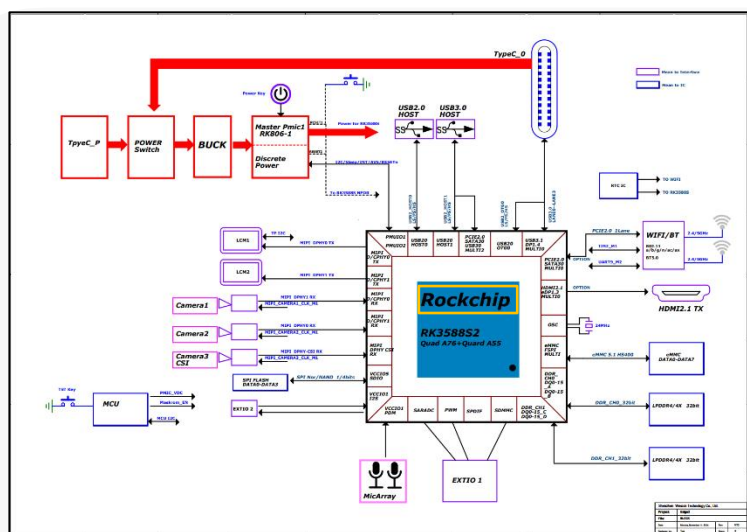
In this article, we will delineate the changes between Edge 2 v12 and v13, to help users understand the technical enhancements and advantages behind the version update.



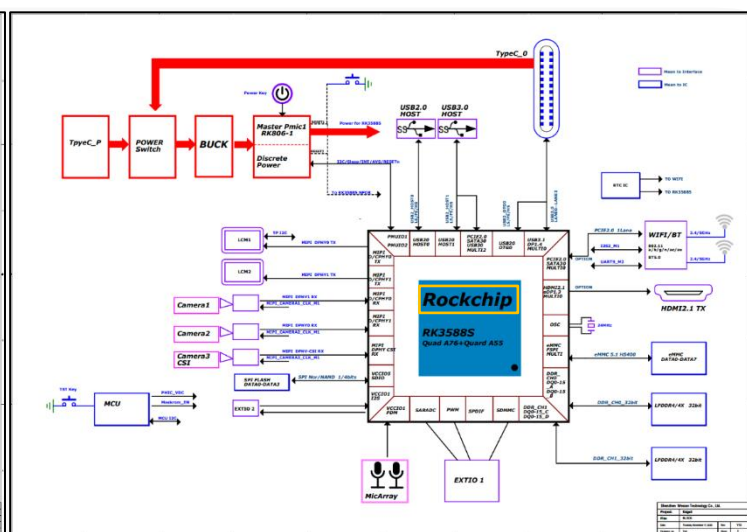
Edge 2 v13

What has changed?

1. The Edge 2 SoC was upgraded from the RK3588S to RK3588S2, and this has resulted in changes to the I/O capabilities of the Edge 2 v13; see the schematics for more details.



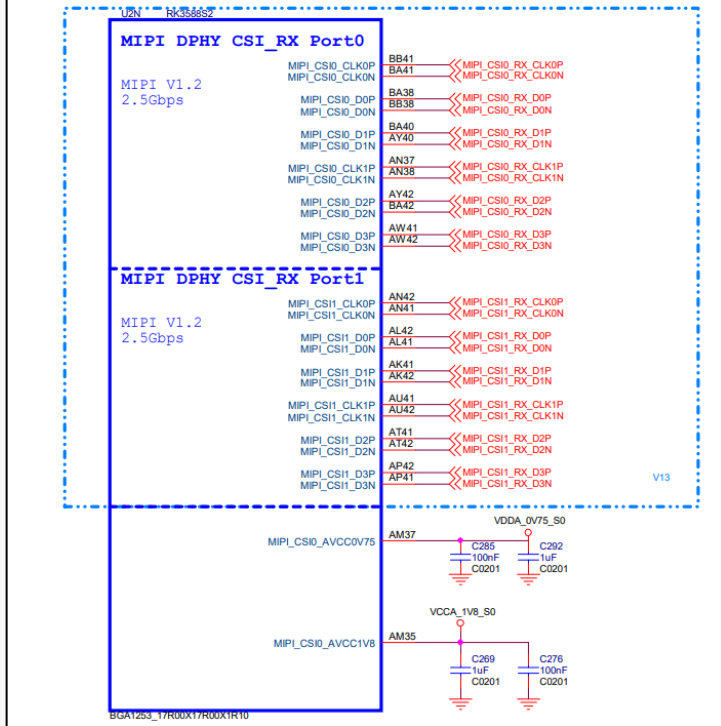
Edge 2 v13



Edge 2 v12

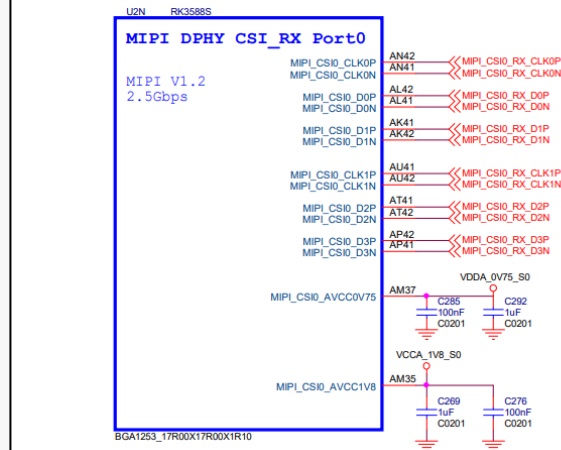
2. MIPI_DPHY CSIO RX can support up to 2 cameras (2-lanes), whilst MIPI_D/C PHY0 and MIPI_D/C PHY1 support 1 camera each (4-lanes); a total of 4 MIPI cameras.

RK3588S2 (MIPI_DPHY CSIO RX)



Edge 2 v13

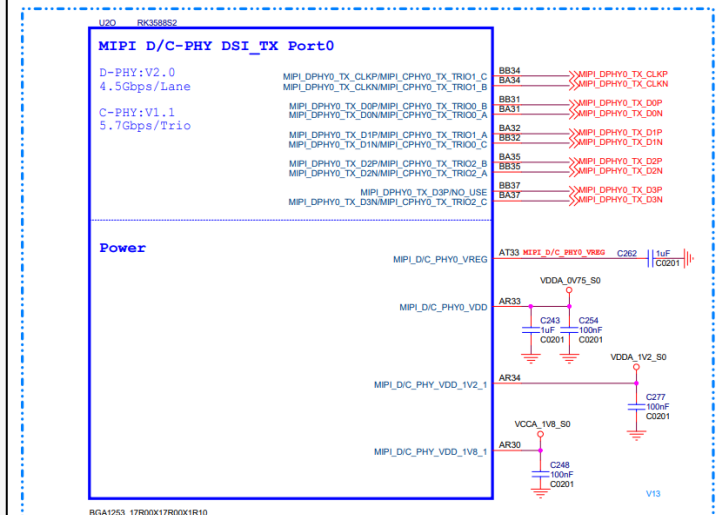
RK3588S (MIPI_DPHY CSIO RX)



Option1	Sensor1 x4Lane	MIPI_CSI_RX_D0-3 MIPI_CSI_RX_CLK0
Option2	Sensor1 x2Lane + Sensor2 x2Lane	MIPI_CSI_RX_D0-1 MIPI_CSI_RX_CLK0 MIPI_CSI_RX_D2-3 MIPI_CSI_RX_CLK1

Edge 2 v12

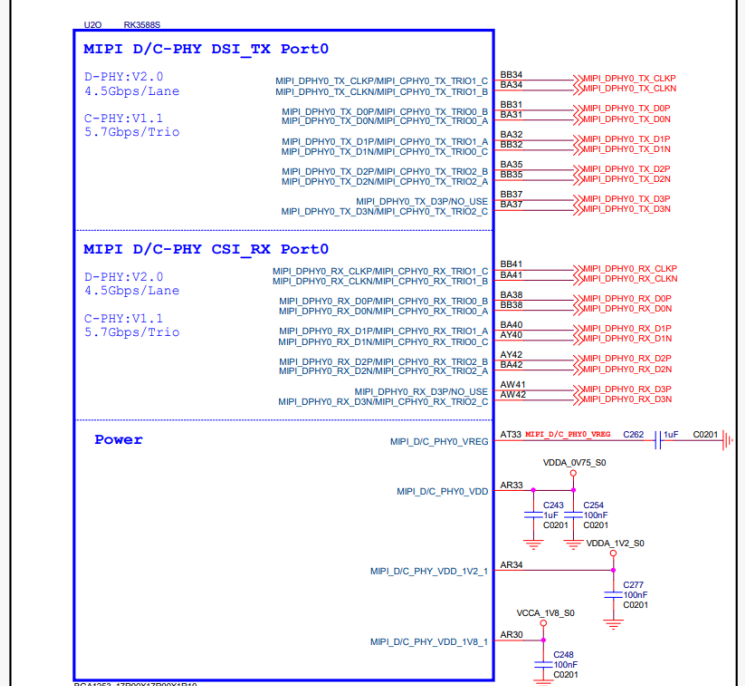
RK3588S2 (MIPI_D/C PHY0)



Option1	Sensor1 x4Lane	MIPI_CSI_RX_D0-3 MIPI_CSI_RX_CLK0
Option2	Sensor1 x2Lane + Sensor2 x2Lane	MIPI_CSI_RX_D0-1 MIPI_CSI_RX_CLK0 MIPI_CSI_RX_D2-3 MIPI_CSI_RX_CLK1

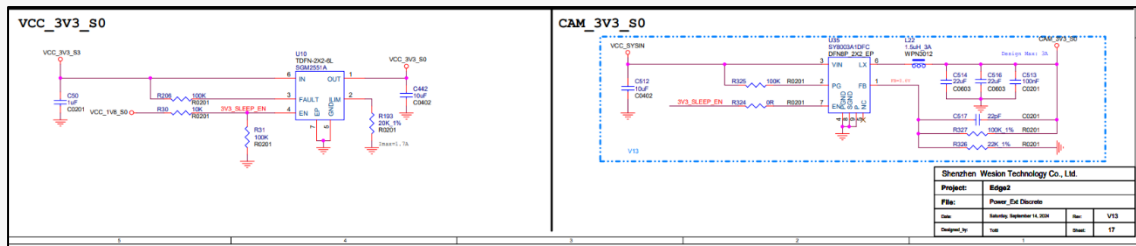
Edge 2 v13

RK3588S (MIPI_D/C PHY0)

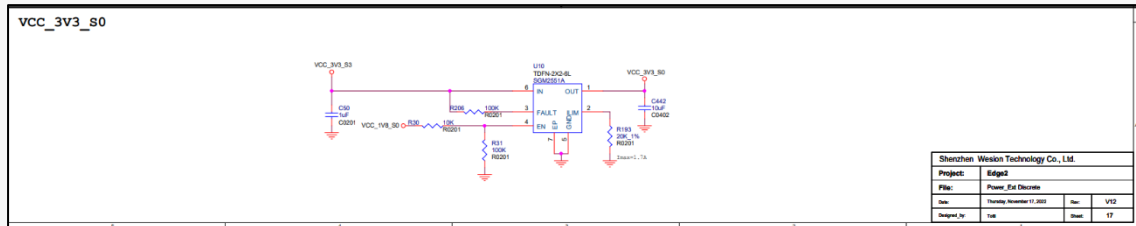


Edge 2 v12

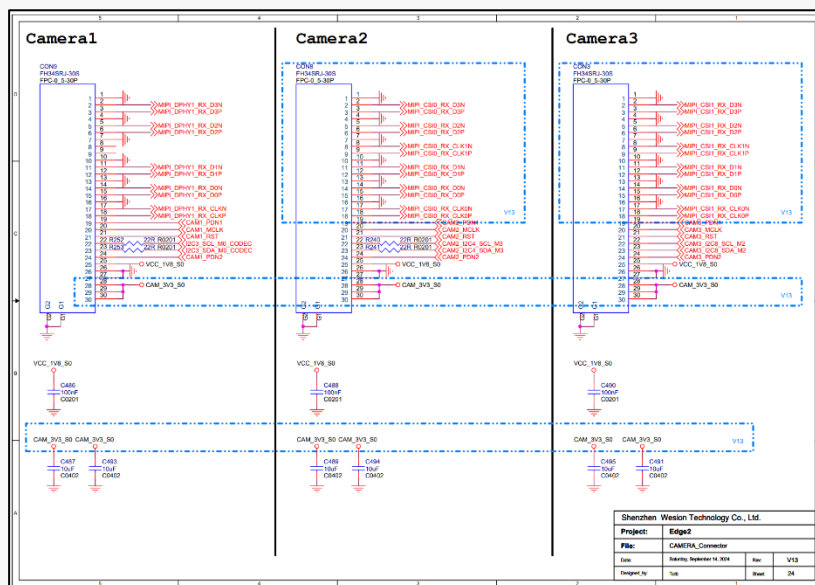
3. A separate DC-DC circuit was designed to power the MIPI cameras



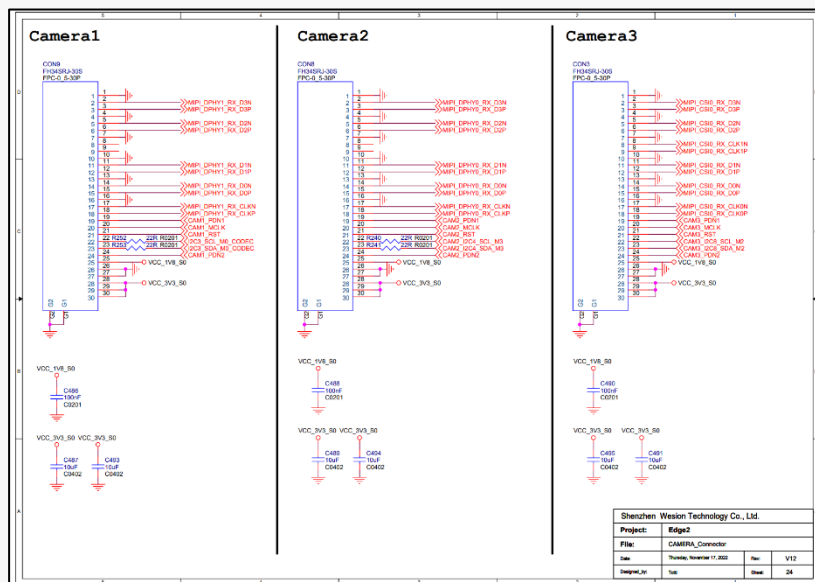
Edge 2 v13



Edge 2 v12



Edge 2 v13

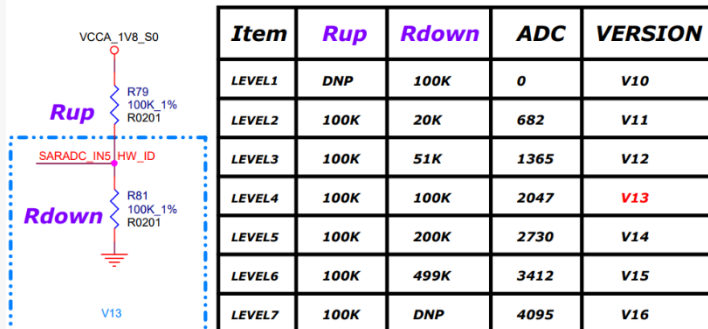


Edge 2 v12

The DC-DC circuit is designed to improve the current stability of the power supply during a cold start (transient inrush current) when multiple cameras are installed; reducing interference caused by current fluctuations.

4. After the version upgrade, the corresponding HW_ID is adjusted to facilitate hardware/software management.

BOARD ID CONFIG



Edge 2 v13

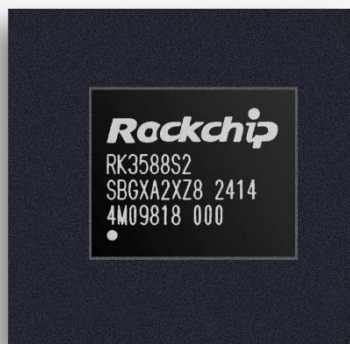
BOARD ID CONFIG



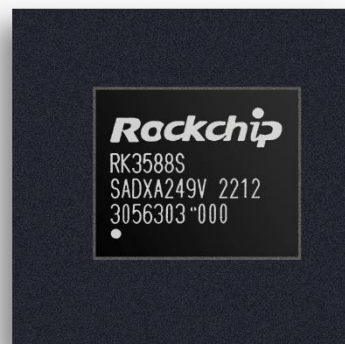
Edge 2 v12

5.PCB Modifications

Silkscreen update for new SoC (RK3588S2)

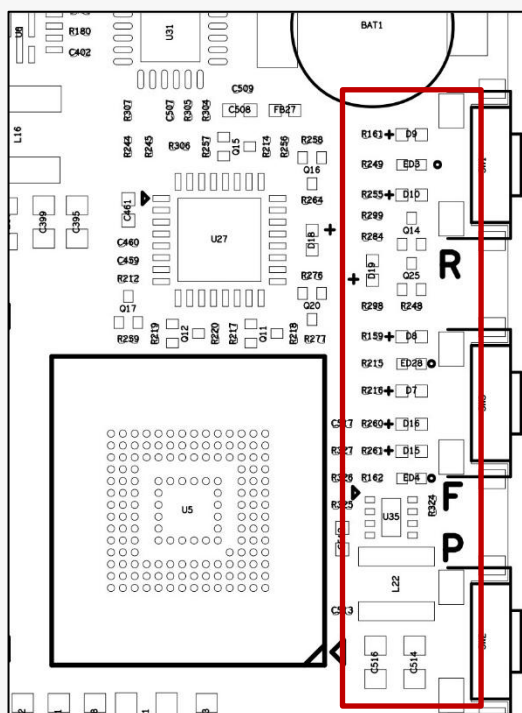


Edge 2 v13

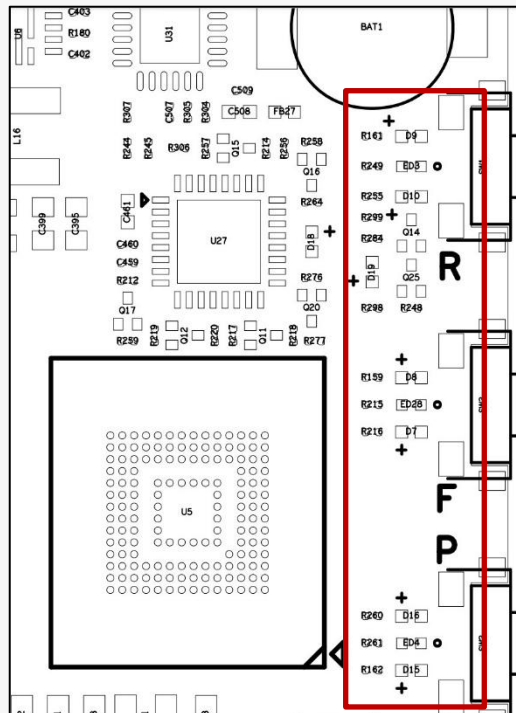


Edge 2 v12

Addition of the separate DC-DC circuit for MIPI cameras



Edge 2 v13



Edge 2 v12

PCB silkscreen version update



Edge 2 v13



Edge 2 v12

6. Other Considerations

Software Compatibility:

- Android 14 and Android 13 (versions 20240611 and later): Can be used directly.
- Android 12 and Android 13 (versions prior to 20240611): Require downloading a software patch. Download link: https://dl.khadas.com/development/patches/rk3588s_camera_compatible_with_rk3588s2_patch.gz.tar

Relevant Certifications:

The Edge 2 v13 certification is still in progress. Please contact us if you have any special requirements.