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### 3. References and Discussion

- a. Schematic Google Sheet: <https://goo.gl/2Ju1re>
- b. Gitter Room: <https://gitter.im/iMX-RT-Camera/Lobby>

### Block Diagram



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### Schematic



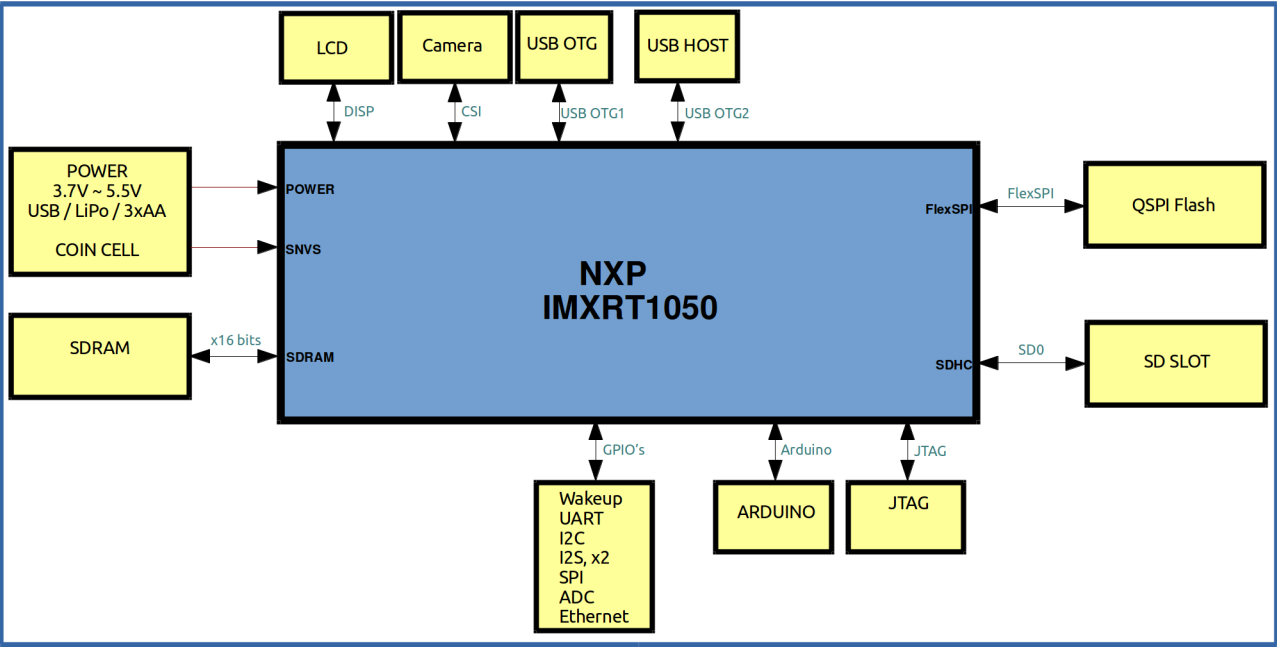
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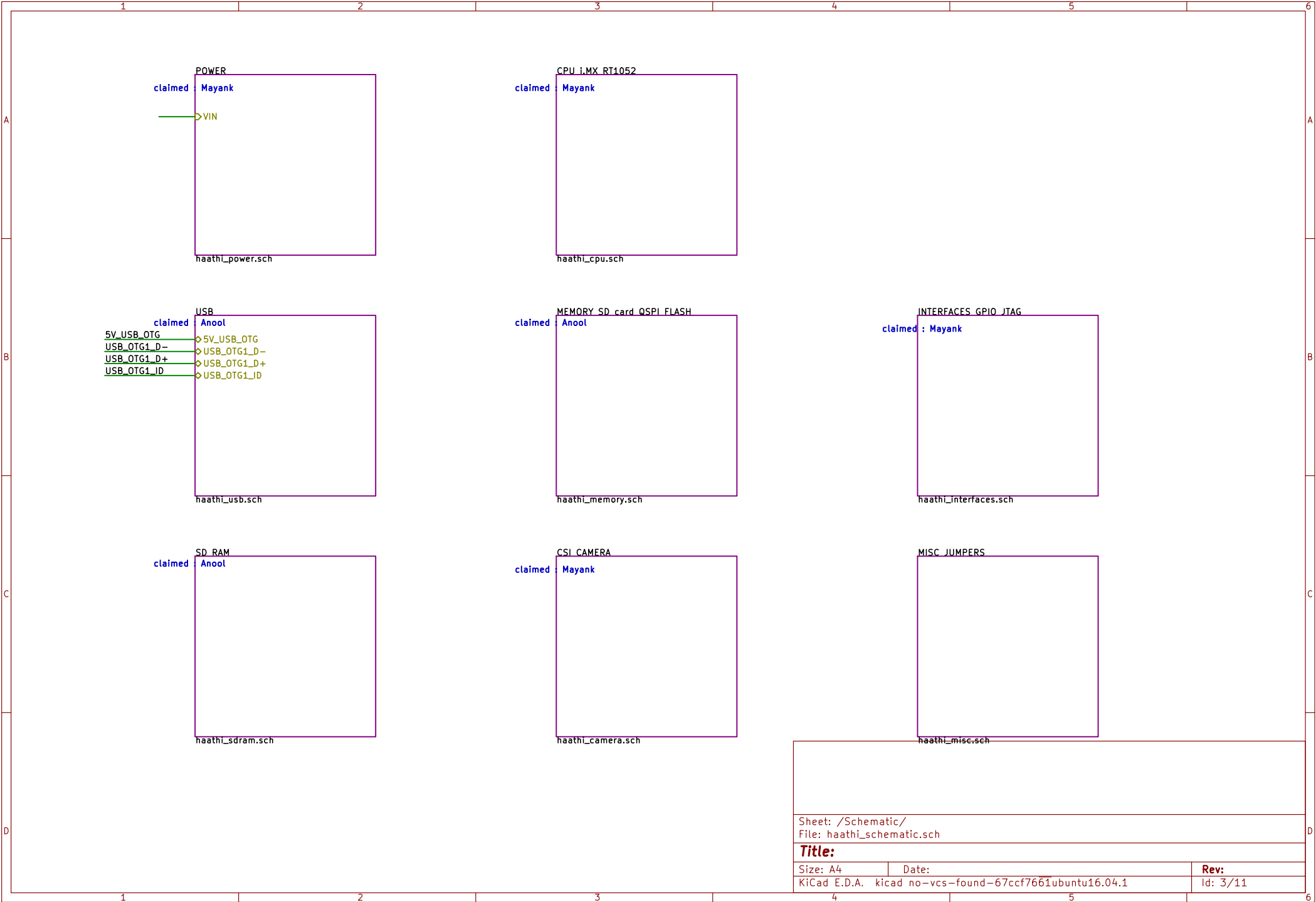
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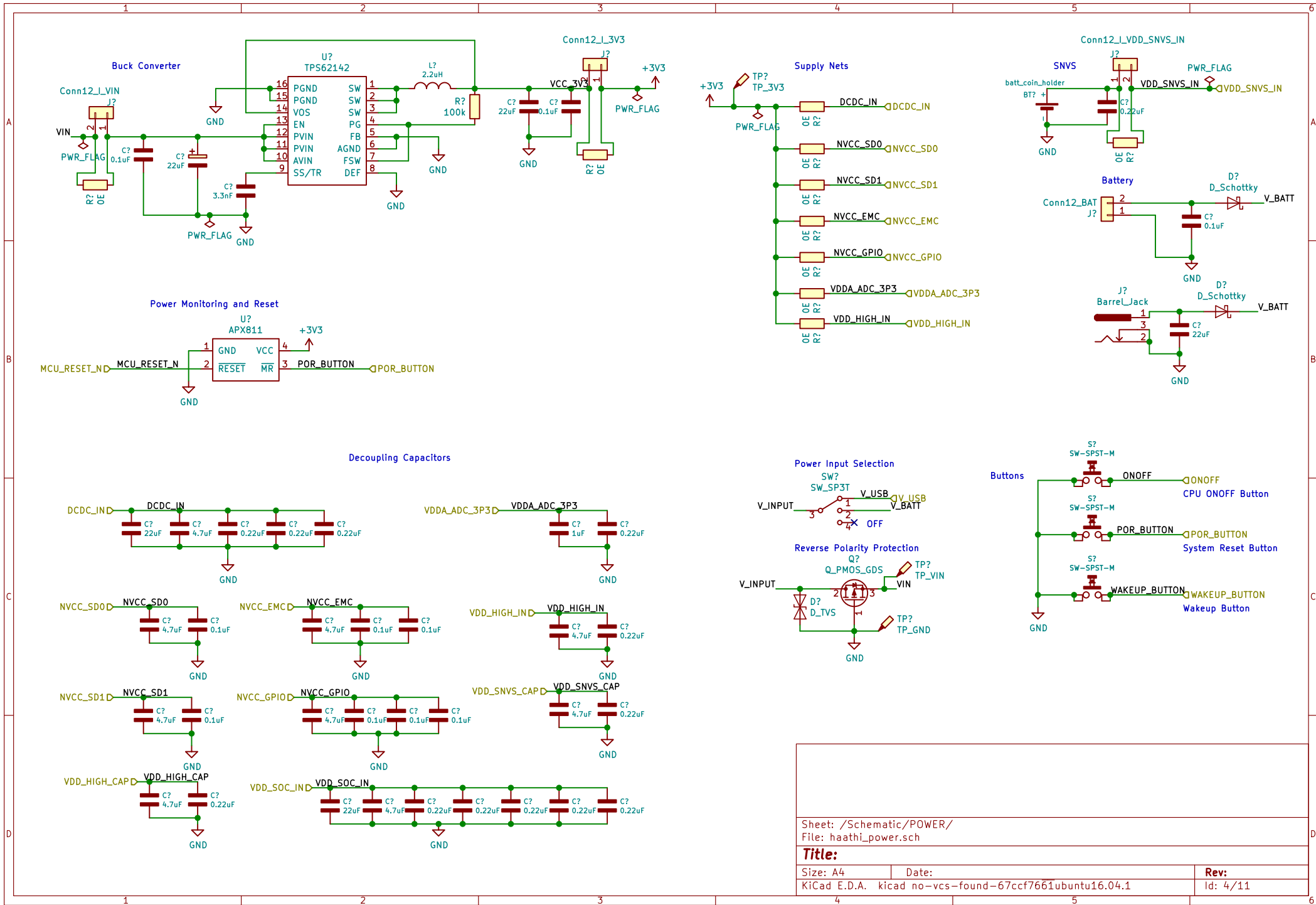
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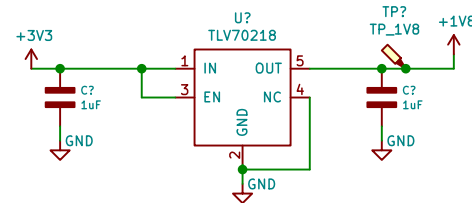
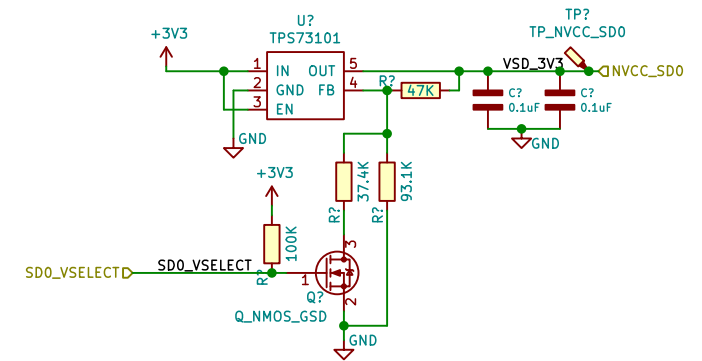
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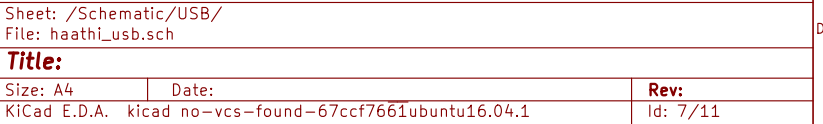
The schematic diagram illustrates the hardware connections for the i.MX RT1052 CPU board. It is divided into several functional blocks:

- MCU Power Circuit:** This section shows the power management for the MCU, including the VDD\_SNVS\_IN, VDD\_SNVS\_CAP, VDD\_HIGH\_IN, VDD\_HIGH\_CAP, VDDA\_ADC\_3P3, VDDA\_ADC\_3P3, VDD\_SOC\_IN, VDD\_SOC\_CAP, VDD\_USB\_CAP, and VDD\_USB\_CAP. It also includes the DCDC\_OUT and DCDC\_OUT pins.
- LCD Interface:** This section shows the connection to the LCD display, including the LCDIF\_CLK, LCDIF\_ENABLE, LCDIF\_HSYNC, LCDIF\_VSYNC, LCDIF\_D0, LCDIF\_D1, LCDIF\_D2, LCDIF\_D3, LCDIF\_D4, LCDIF\_D5, LCDIF\_D6, LCDIF\_D7, LCDIF\_D8, LCDIF\_D9, LCDIF\_D10, LCDIF\_D11, LCDIF\_D12, LCDIF\_D13, LCDIF\_D14, and LCDIF\_D15.
- Boot Configuration:** This section shows the boot mode configuration, including the BOOT\_MODE[0] and BOOT\_MODE[1] pins, and the BOOT\_MODE[0] and BOOT\_MODE[1] pins.
- USB\_OTG:** This section shows the connection to the USB device, including the USB\_OTG1\_D+, USB\_OTG1\_D-, USB\_OTG2\_D+, and USB\_OTG2\_D- pins.
- SD Interface:** This section shows the connection to the SD card, including the SD1\_CMD, SD1\_CLK, SD1\_D0, SD1\_D1, SD1\_D2, and SD1\_D3 pins.
- GPIO Configurations:** This section shows the connection to various GPIO pins, including the GPIO\_AD\_B0\_00, GPIO\_AD\_B0\_01, GPIO\_AD\_B0\_02, GPIO\_AD\_B0\_03, GPIO\_AD\_B0\_04, GPIO\_AD\_B0\_05, GPIO\_AD\_B0\_06, GPIO\_AD\_B0\_07, GPIO\_AD\_B0\_08, GPIO\_AD\_B0\_09, GPIO\_AD\_B0\_10, GPIO\_AD\_B0\_11, GPIO\_AD\_B0\_12, GPIO\_AD\_B0\_13, GPIO\_AD\_B0\_14, and GPIO\_AD\_B0\_15.

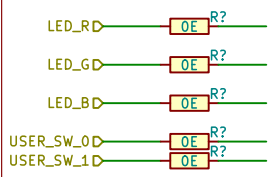
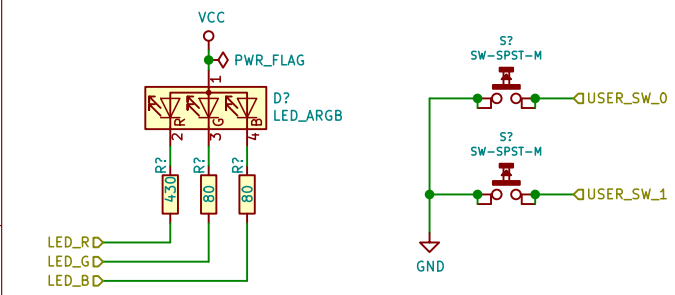
The diagram is a complex network of lines and components, with many labels and part numbers. It is a detailed representation of the hardware connections for the i.MX RT1052 CPU board.



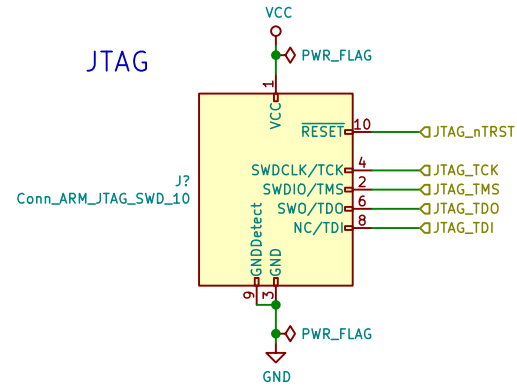
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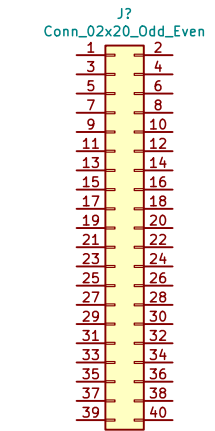
## User Buttons and RGB LED



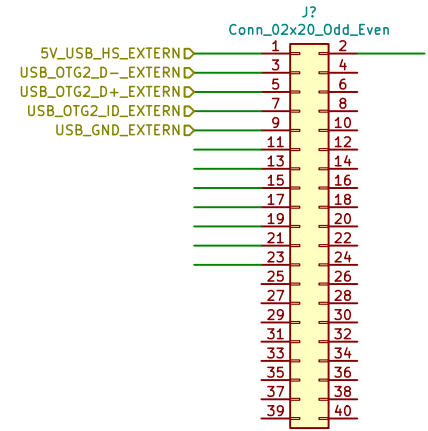
## JTAG



## GPIO Breakout



Raspberry Pi compatible Header



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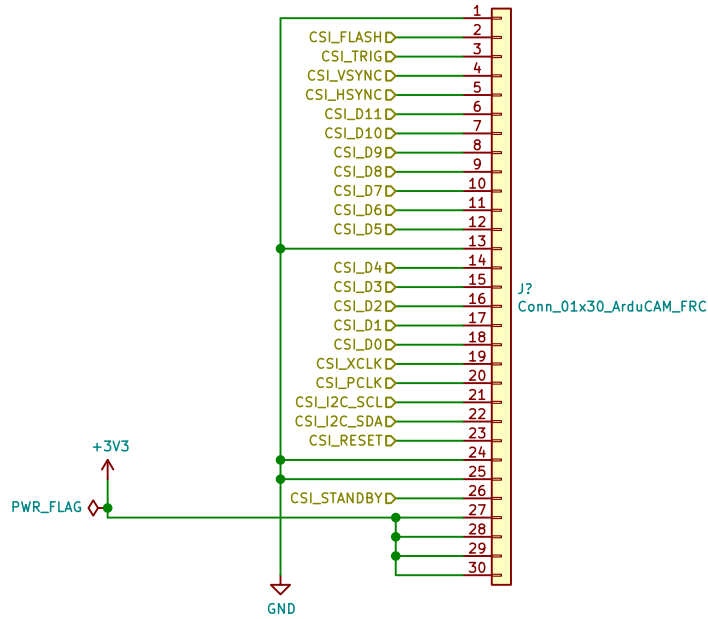
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A						
B						
C						
D						
	1	2	3	4	5	6

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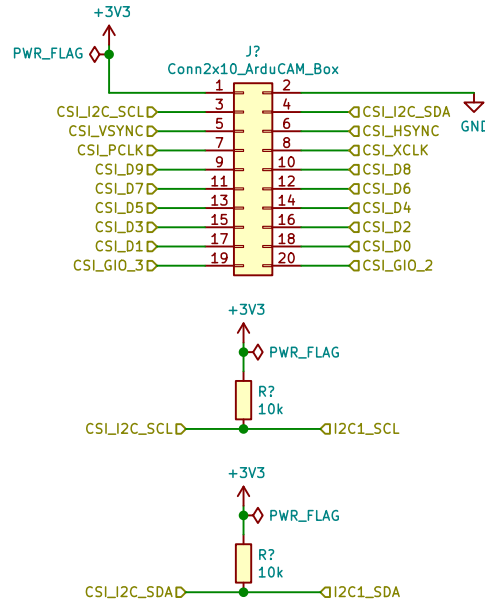
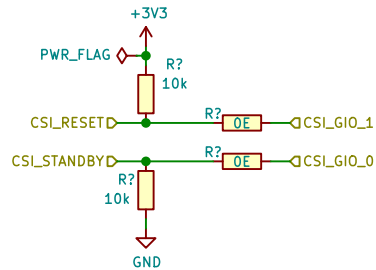
## Camera FRC Connector

## Arducam Camera Connector

## CSI Pin Mappings



CSI\_FLASH → CSI\_GPIO\_3  
CSI\_TRIG → CSI\_GPIO\_2



CSI\_PCLK → GPIO\_AD\_B1\_04  
CSI\_XCLK → GPIO\_AD\_B1\_05  
CSI\_VSYNC → GPIO\_AD\_B1\_06  
CSI\_HSYNC → GPIO\_AD\_B1\_07

CSI\_D11 → GPIO\_B1\_08  
CSI\_D10 → GPIO\_B1\_09  
CSI\_D9 → GPIO\_AD\_B1\_08  
CSI\_D8 → GPIO\_AD\_B1\_09  
CSI\_D7 → GPIO\_AD\_B1\_10  
CSI\_D6 → GPIO\_AD\_B1\_11  
CSI\_D5 → GPIO\_AD\_B1\_12  
CSI\_D4 → GPIO\_AD\_B1\_13  
CSI\_D3 → GPIO\_AD\_B1\_14  
CSI\_D2 → GPIO\_AD\_B1\_15  
CSI\_D1 → GPIO\_B1\_11  
CSI\_D0 → GPIO\_B1\_10

CSI\_GPIO\_3 → GPIO\_EMC\_33  
CSI\_GPIO\_2 → GPIO\_EMC\_32

CSI\_GPIO\_1 → GPIO\_EMC\_31  
CSI\_GPIO\_0 → GPIO\_EMC\_30

CSI\_DATA\_20..23 (Table 4-1 Ref Manual)

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B						
C						
D						
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