



iMX8MP-SOM-xGB-IND

User Manual

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What is iMX8MP-SOM-xGB-SOM

[iMX8MP-SOM-4GB-IND](#) is system on module development board with

- MIMX8ML8CVNKZAB Quad core Cortex-A53 @1600Mhz + Arm Cortex-M7 @800 Mhz
- 512KB Cache
- Vivante GC520L, Vivante GC7000UL
- HDMI HD1080p60 H.264, HD1080p60 H.265, VP8 video codec, VP9 video codec
- MIPI-DSI
- LVDS 4/8 lanes
- LPDDR4
- PMIC
- NPU 2.3 TOPS
- 2 x Gigabit Ethernet (1 x TSN)
- 2 x MIPI-CSI camera
- 1 x ISP camera
- 2 x USB3 with OTG
- 1 x PCIe 3.0
- 2 x CAN FD
- 3 x SPI
- 5 x I2C
- 3 x SDIO eMMC 5.1
- 4 x UART 5Mbit
- 4 x PWM
- Audio: ASRC, HiFi 4 DSP, SAI/I2S, eARC

iMX8MP-SOM features:

[iMX8MP-SOM-4GB-IND](#) exposes all MIMX8ML8CVNKZAB GPIOs and features in very compact format. It takes care for power supply and high speed memory signals complexities.

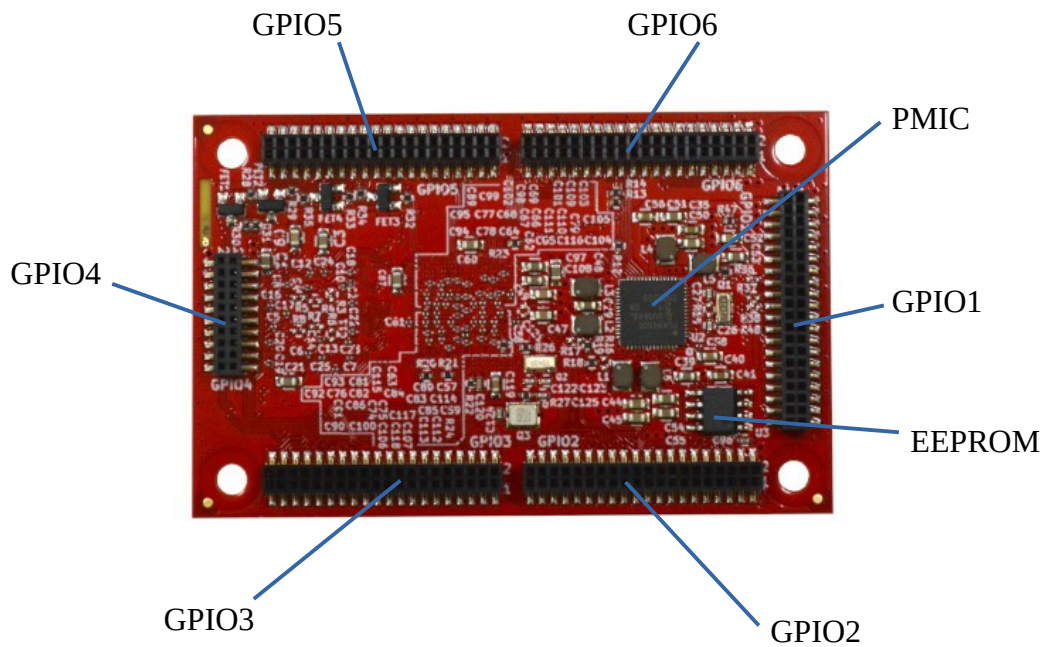
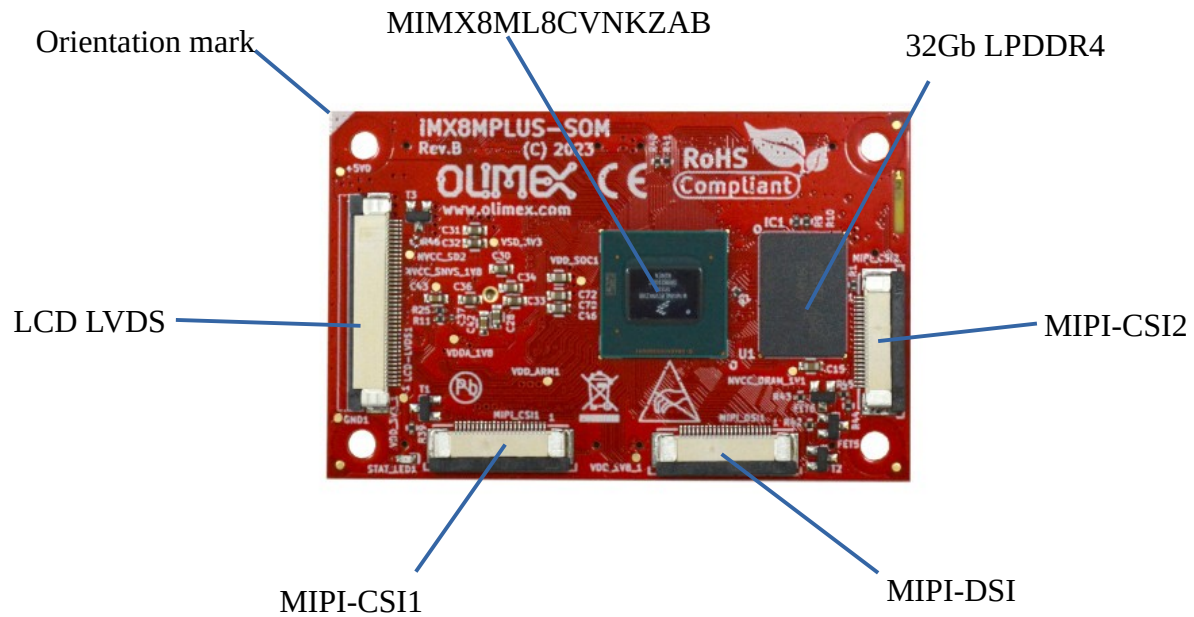
- MIMX8ML8CVNKZAB Quad core Cortex-A53 @1600Mhz + Arm Cortex-M7 @800 Mhz
- 4GB LPDDR4 RAM
- PMIC PCA9450
- 24 Mhz crystal
- 32.768 kHz crystal
- Linux configuration EEPROM
- Power LED
- User LED
- 5x 40 pin + 1x 20 pin total 220 pin connectors with 1.27 mm/0.05" step
- Operating temperature -20+85C
- Dimensions: 70 x 43 mm

Order codes for iMX8MP-SOM and accessories:

<u>iMX8MP-SOM-4GB-IND</u>	module with iMX8MPLUS, 4GB LPDDR4, EEPROM, PMIC
<u>iMX8MP-SOM-EVB</u>	evaluation board for iMX8MP-SOM which can be used as reference design
<u>MICRO-SD-16GB-CLASS10</u>	16GB microSD card
<u>SY1005E</u>	power adapter 5V 2A
<u>USB-SERIAL-F</u>	serial debug cable for console log
<u>CABLE-HDMI-50CM</u>	HDMI cable
<u>BATTERY-LIPO1400mAh</u>	LiPo battery for standalone operation
<u>LCD/LCD-OLinuXino-5CTS</u>	5 inch LCD 800x480 pixels with capacitive touch panel
<u>LCD-OLinuXino-7CTS</u>	7 inch LCD 1024x600 pixels with capacitive touch panel
<u>LCD-OLinuXino-10CTS</u>	10 inch LCD 1024x600 pixels with capacitive touch panel
<u>UEXT modules</u>	There are temperature, humidity, pressure, magnetic field, light sensors. Modules with LCDs, LED matrix, Relays, Bluetooth, Zigbee, WiFi, GSM, GPS, RFID, RTC, EKG, sensors and etc.

HARDWARE

iMX8MP-SOM layout:

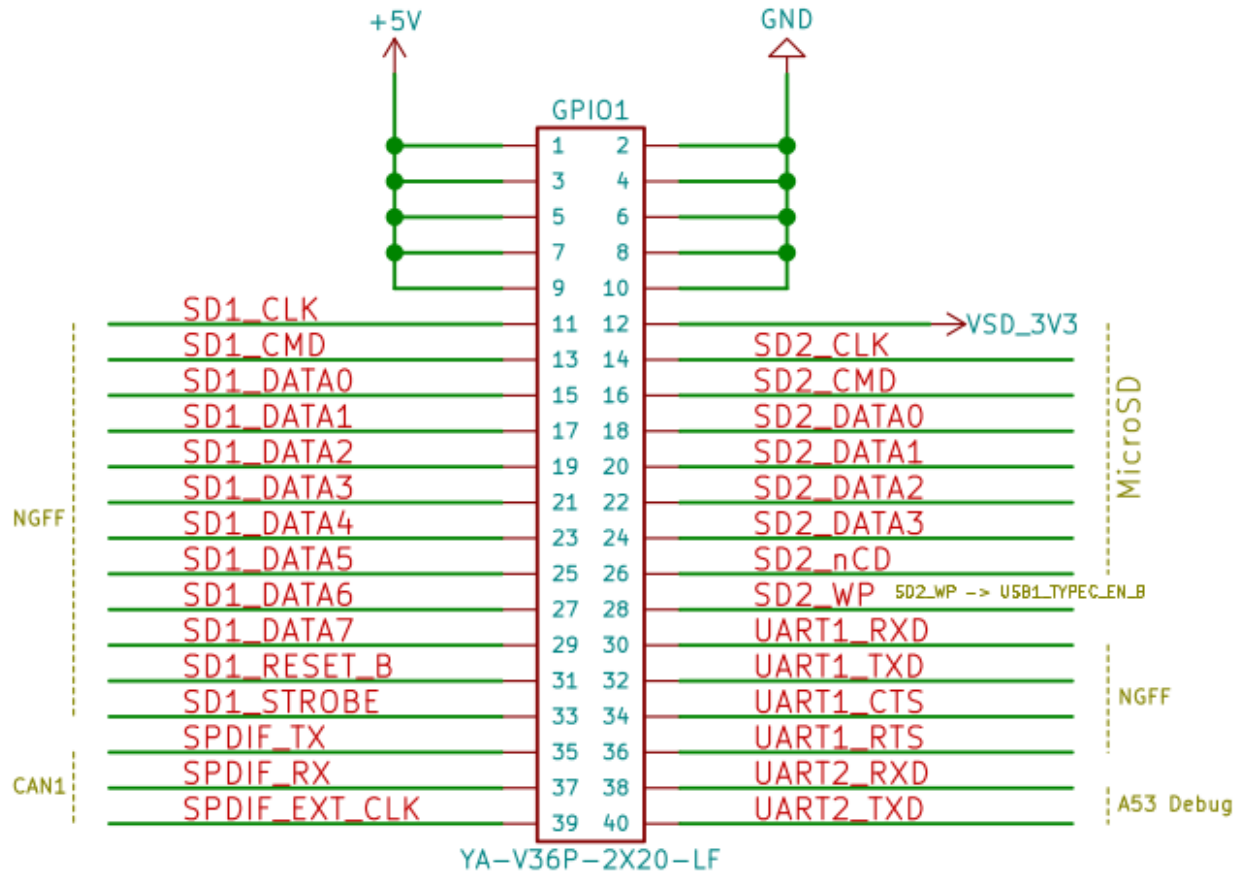


iMX8MP-SOM schematics:

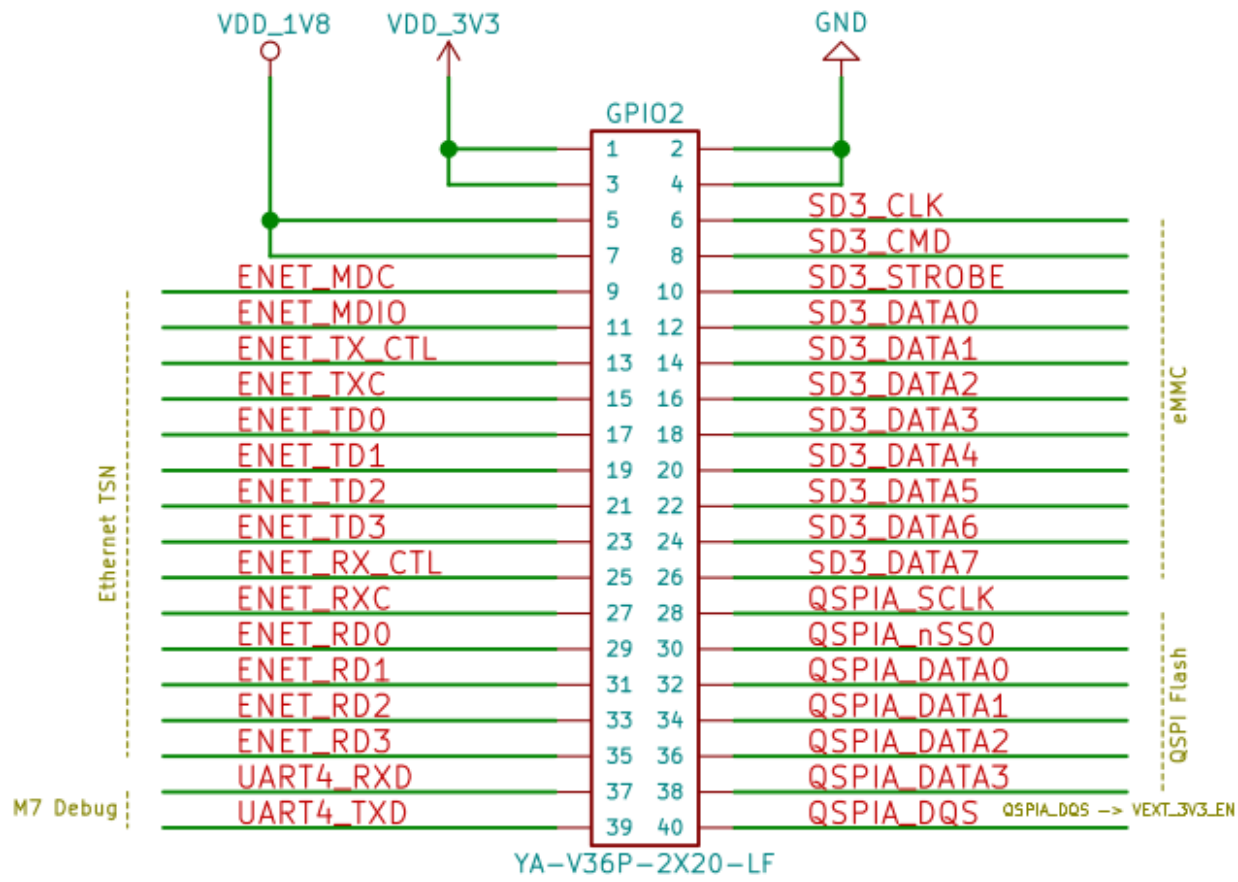
[iMX8MP-SOM-4GB-IND](#) latest schematic is on Olimex web.

iMX8MP-SOM connectors:

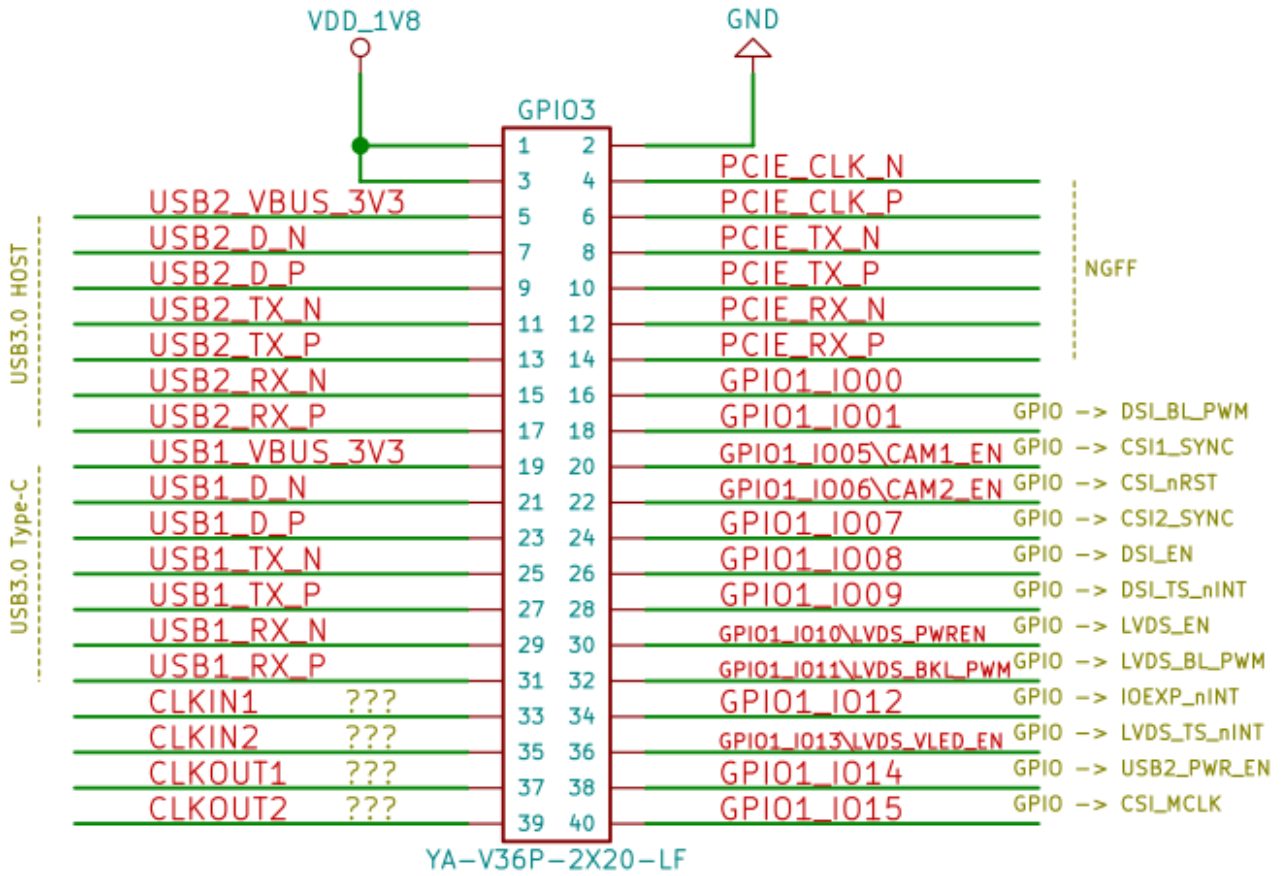
GPIO1



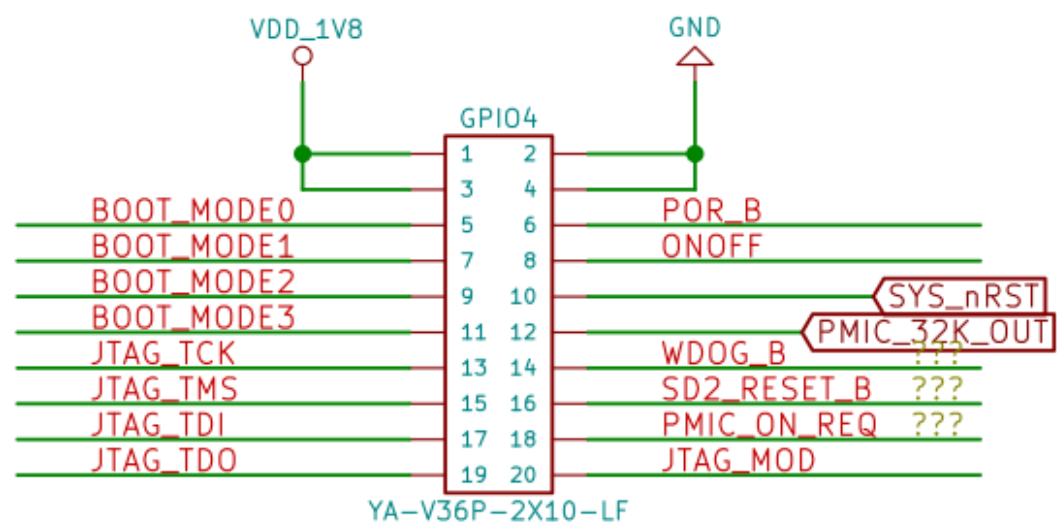
GPIO2



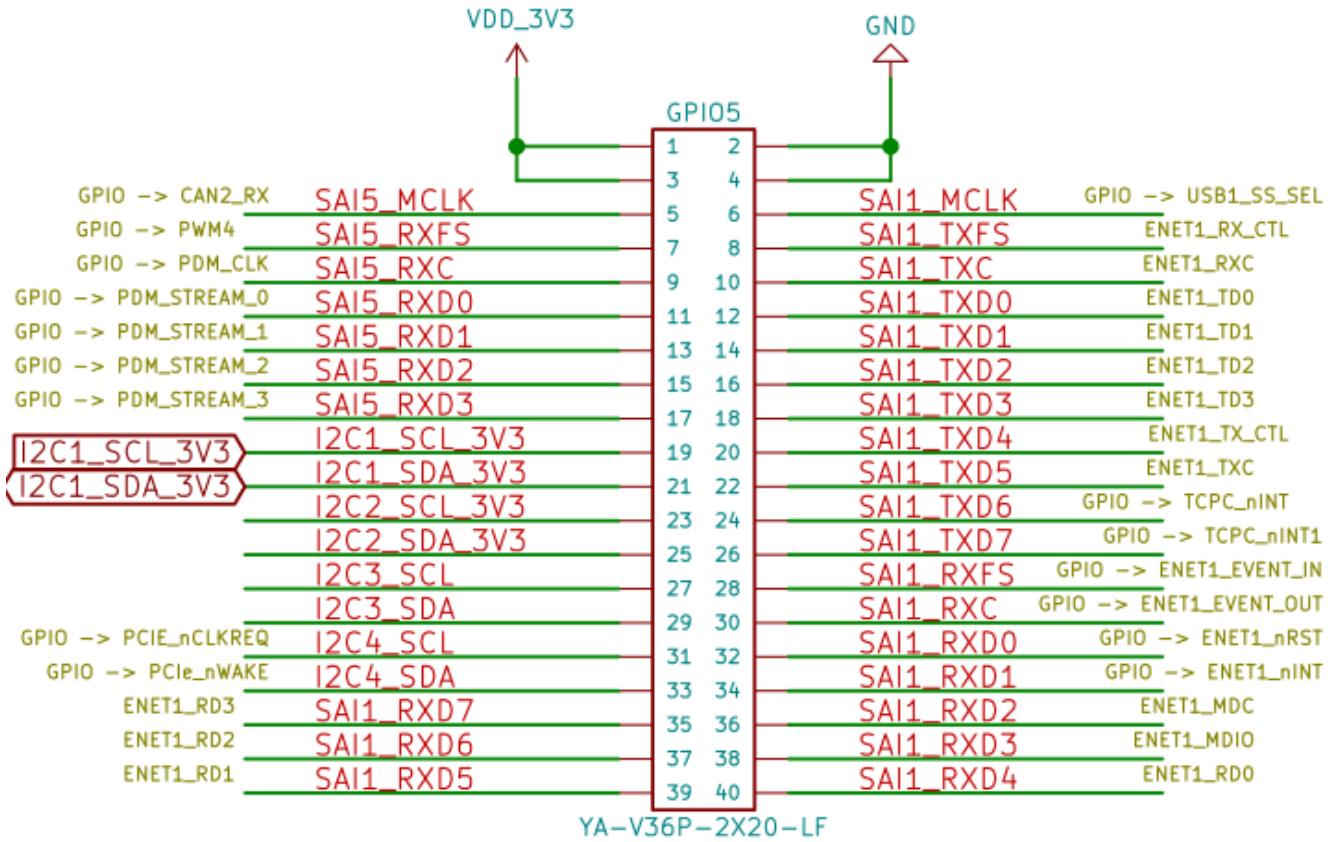
GPIO3



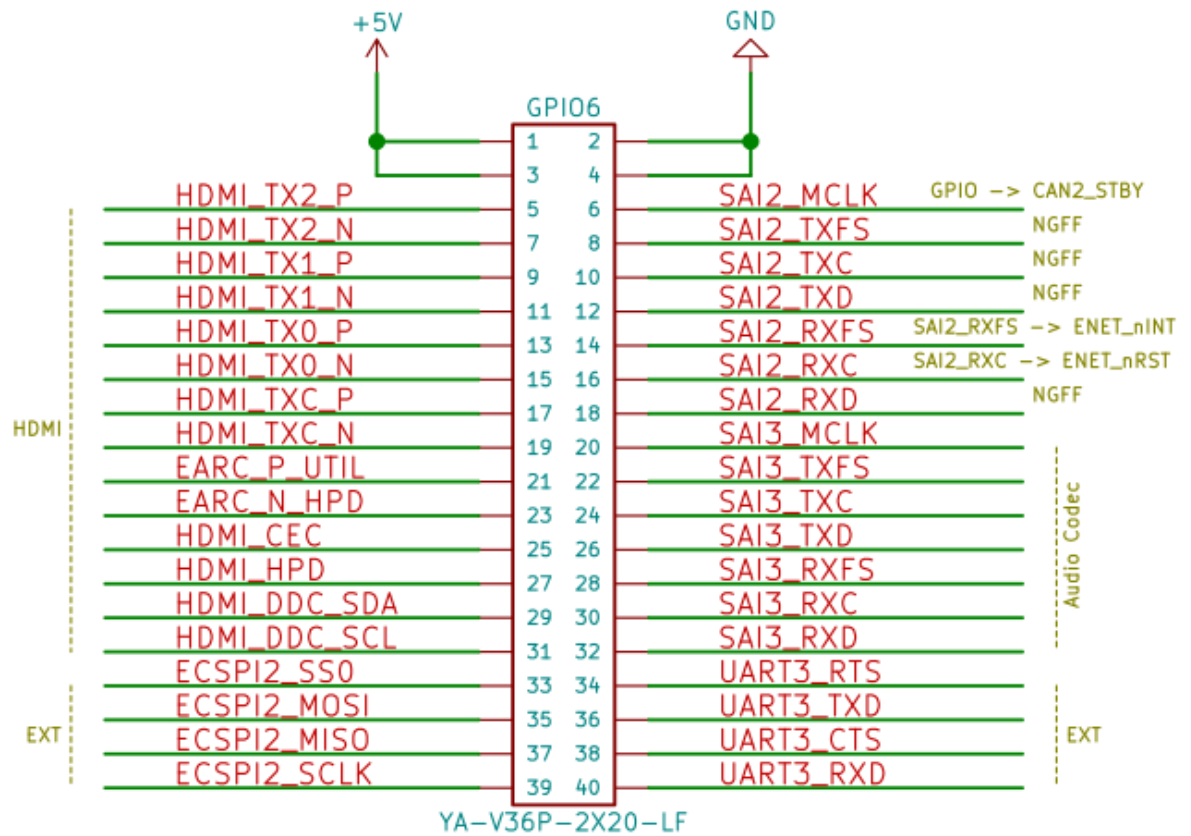
GPIO4



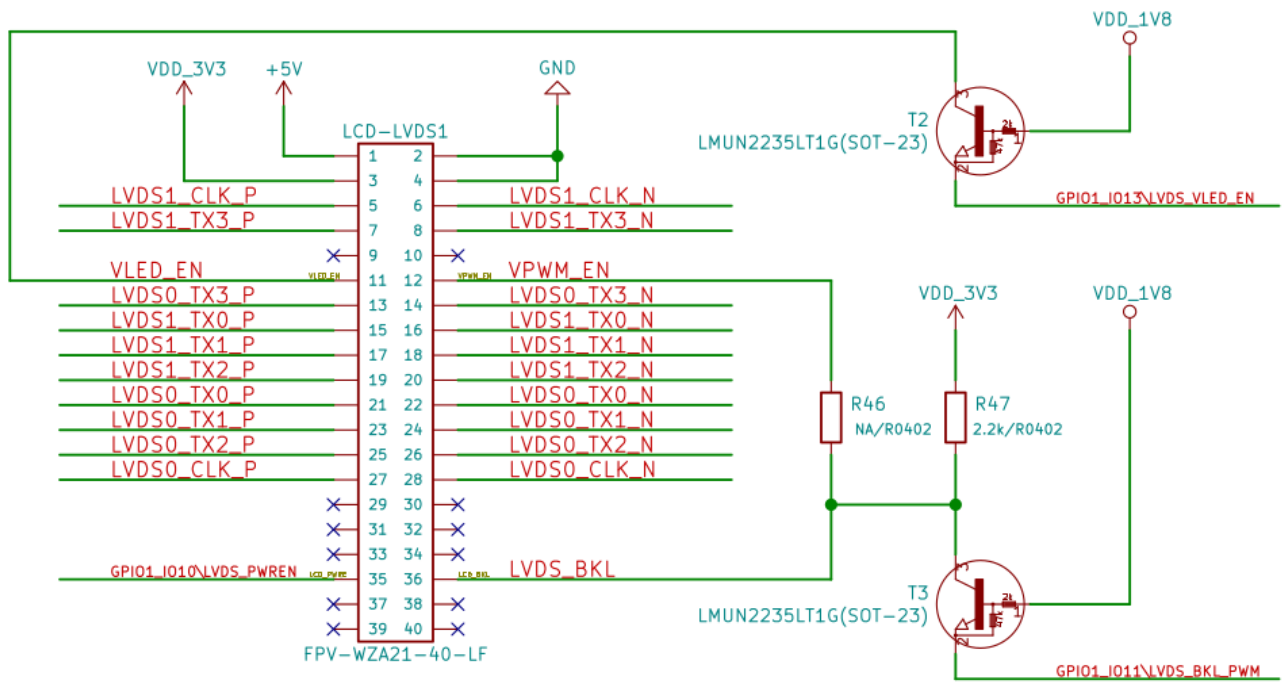
GPIO5



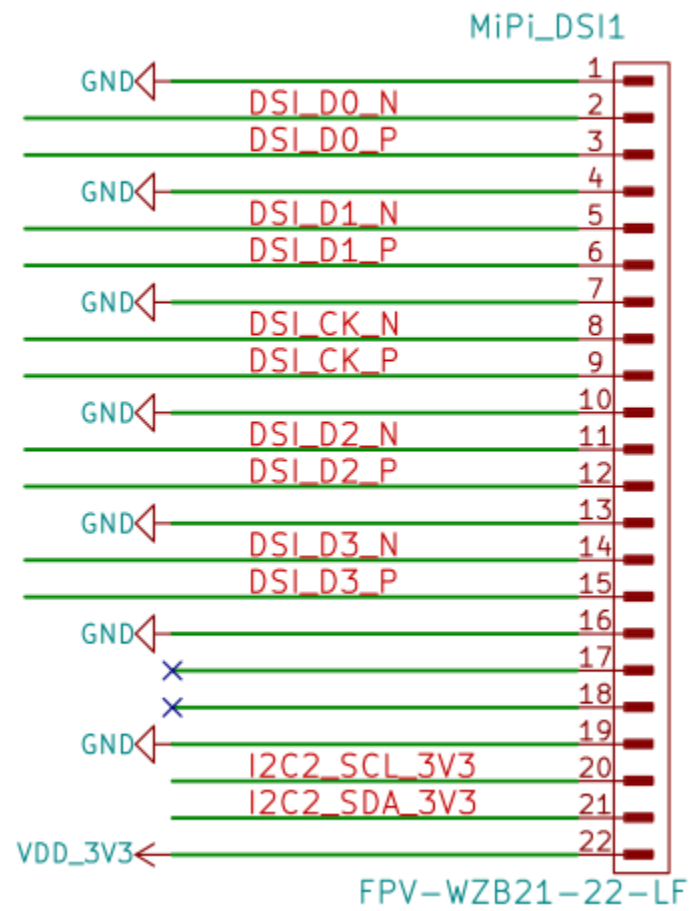
GPIO6



LCD

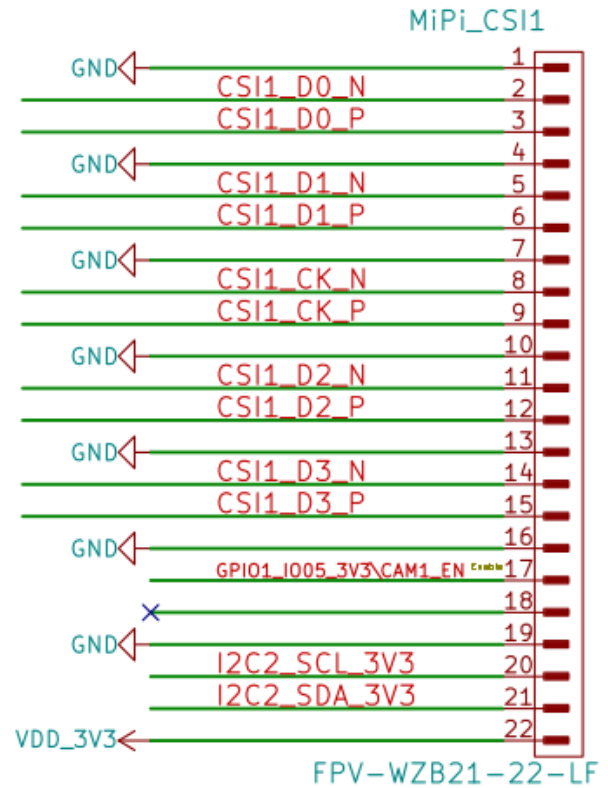
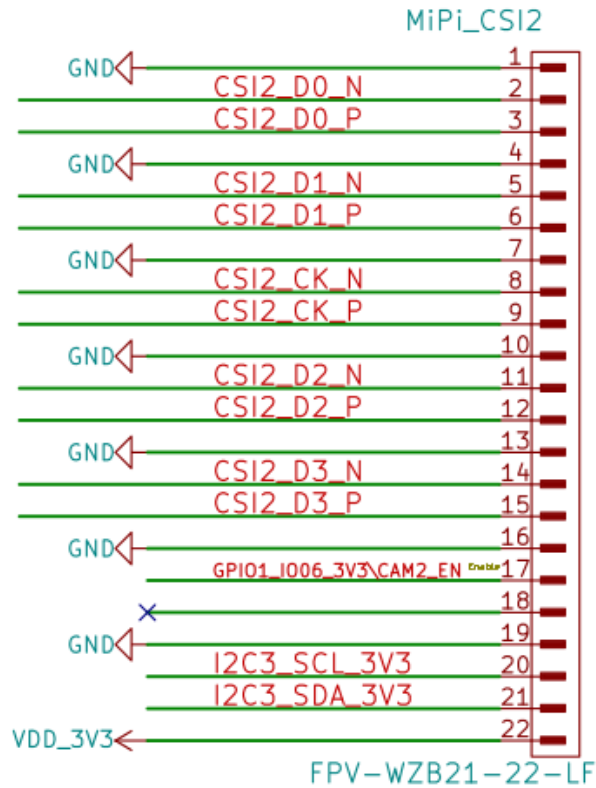


MIPI-DSI



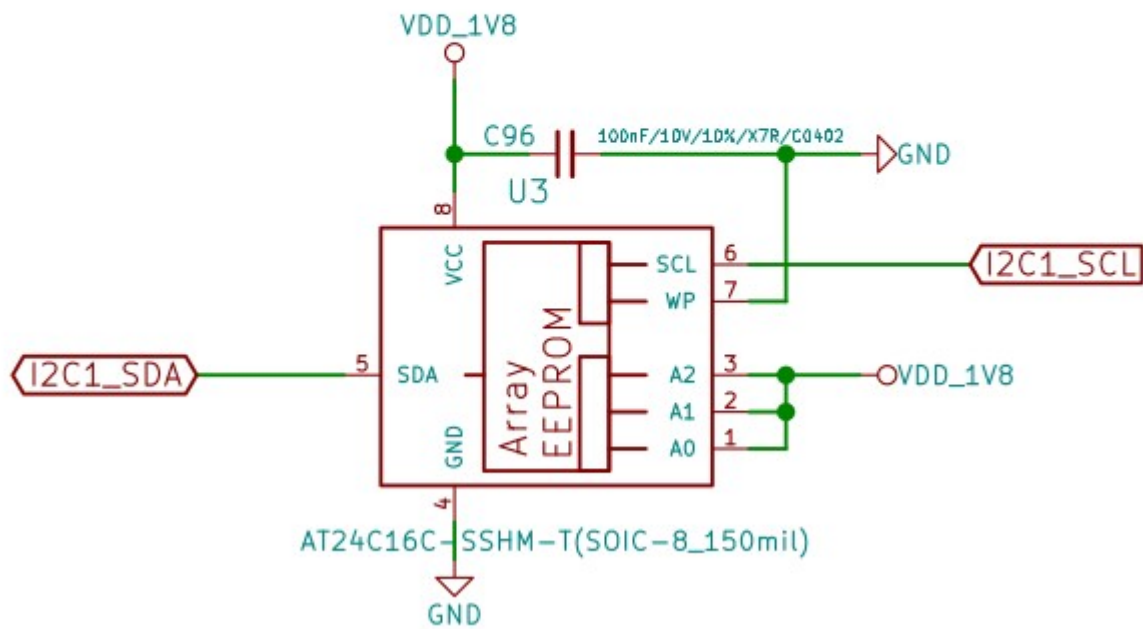
MIPI-CSI

Note: MiPi_CSI1, MiPi_CSI2 and MiPi_DSI1 are RPi compatible!

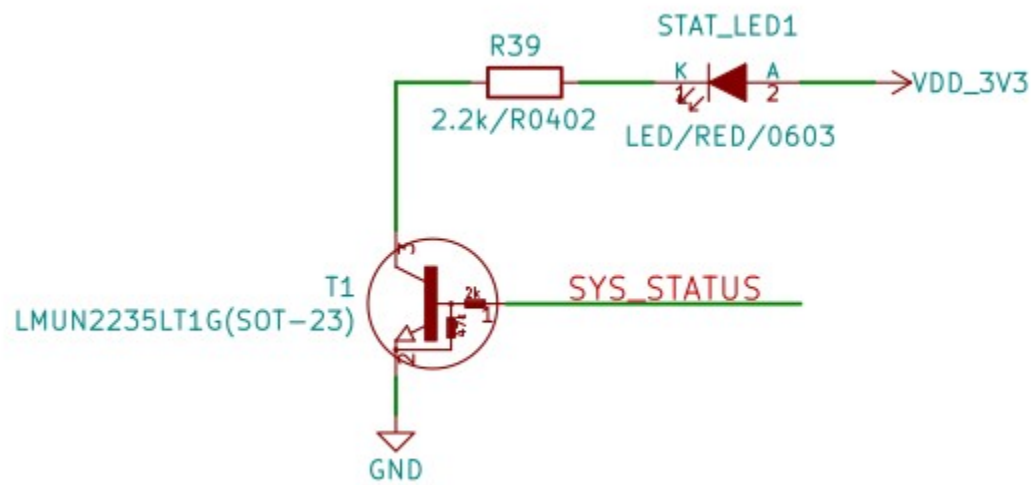


EEPROM

EEPROM
I2C Address: 0x50–0x57



User LED



SOFTWARE

- [Recommended Olimage Linux images](#) and [changelog](#)
- [Olimage Linux guide](#)

Revision History

Revision 1.0 May 2024 initial