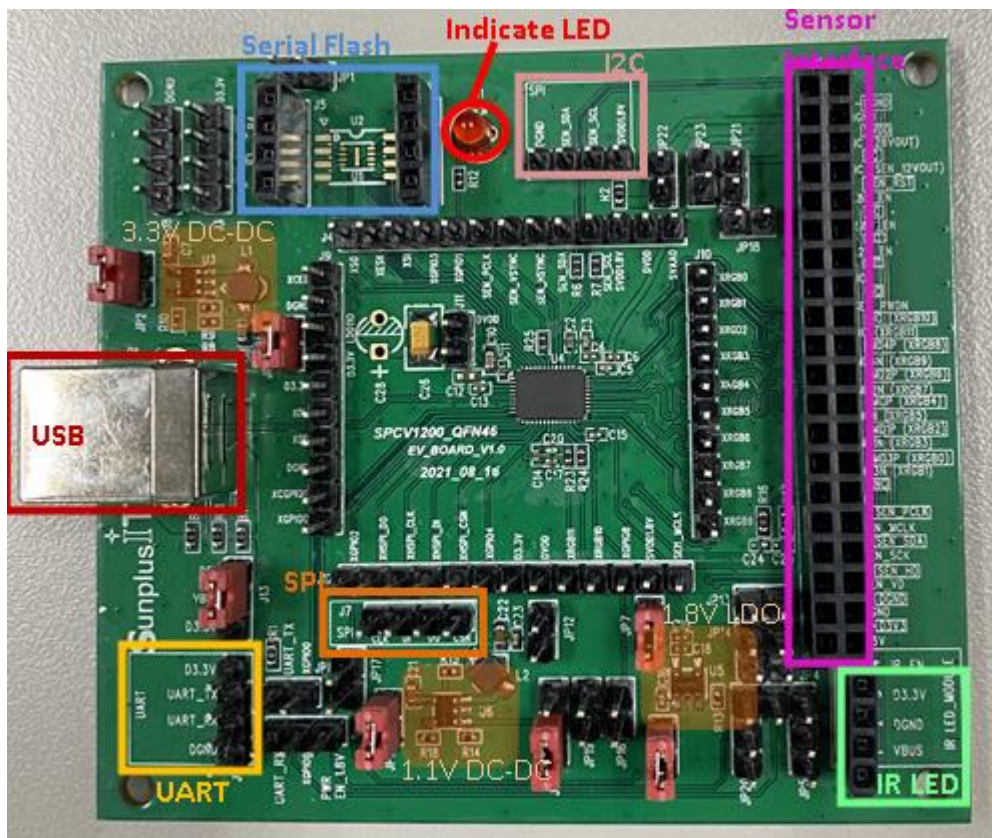


## SPCV1200A EV Board V1.0 User Guide

### INTRODUCTION

The SPCV1200A is an IOT camera controller with USB2.0 video setting port for easy setup and development. This chip mainly integrates a CMOS sensor interface, a 10-bit high quality image signal processor and a built-in JPEG encoder. It supports JPEG-format images compression from a CMOS sensor with the resolution of up to FHD/3M. The CMOS sensor interface is MIPI CSI-2 serial interface or DVP interface. Furthermore, a high quality image processing engine is integrated into the SPCV1200A. The 3A (AE / AWB / AF) function and USB bus protocols are both handled by the SPCV1200A.



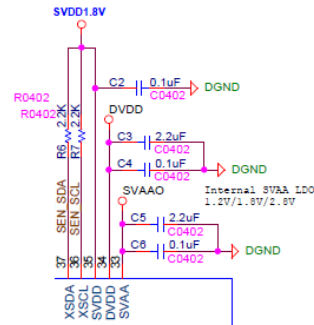
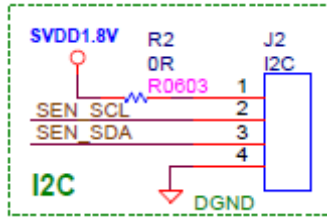
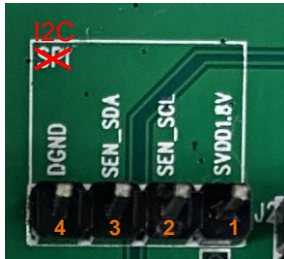
PCB & Function Diagram

## 1. I2C Interface

The I2C\_SCL is programmable up to 400 KHz

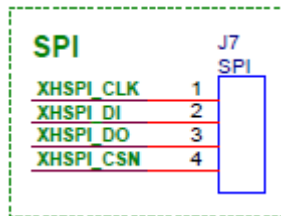
SEN\_SCL, SEN\_SDA with pull-up resistor in PCB (R6 & R7, 2.2K ohm)

\*This I2C the same with Sensor Interface in H1 Pin7, Pin8



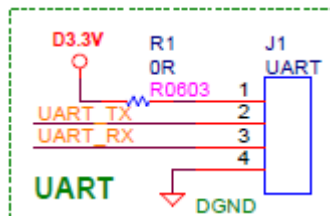
## 2. SPI interface

SPI can be configured master or slave mode by FW. Max clock up to 48 MHz



## 3. UART Interface

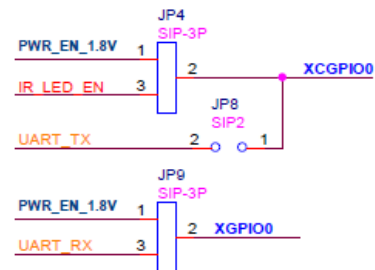
Max baud rate up to 256000bps



PCB jumper configure for UART used

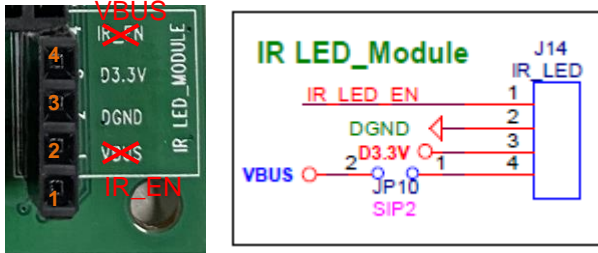
UART\_TX--->JP4 NC, JP8 Short

UART\_RX--->JP9 2&3 Short



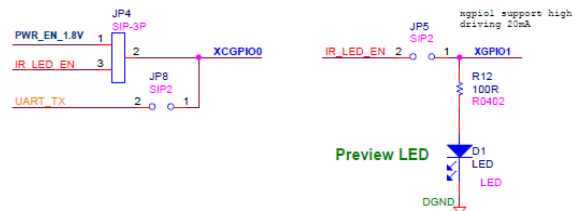
## 4. IR LED

Control IR\_LED\_EN signal for capture image in night vision



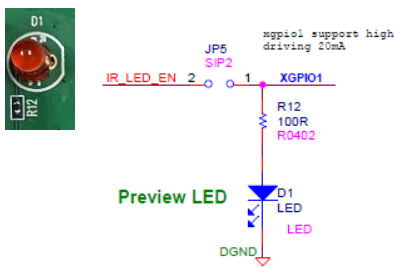
PCB jumper configure for XCGPIO0 as IR\_LED\_EN---> JP4 2&3 Short, JP8 & JP5 NC

PCB jumper configure for XGPIO1 as IR\_LED\_EN---> JP5 Short, JP4 2&3 NC



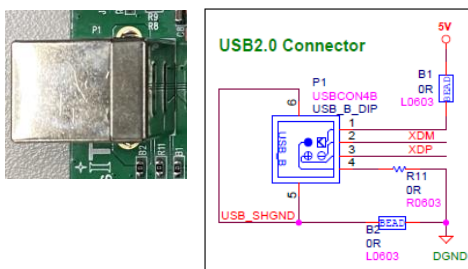
## 5. Indicate LED

Indicate preview processing



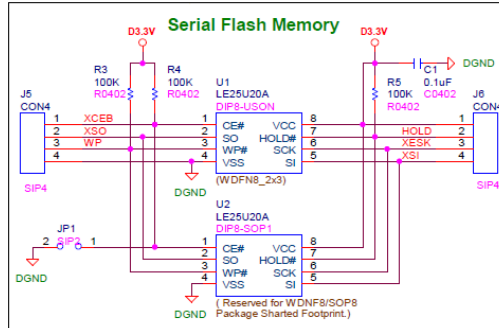
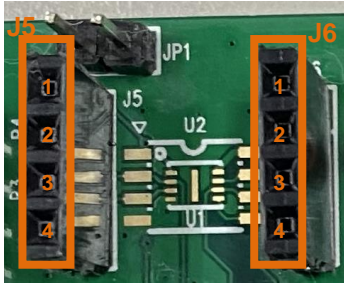
## 6. USB

For download FW to serial flash, system power supply and video setting



## 7. Serial flash

For FW store (Default use GD25Q40C)



## 8. Sensor Interface

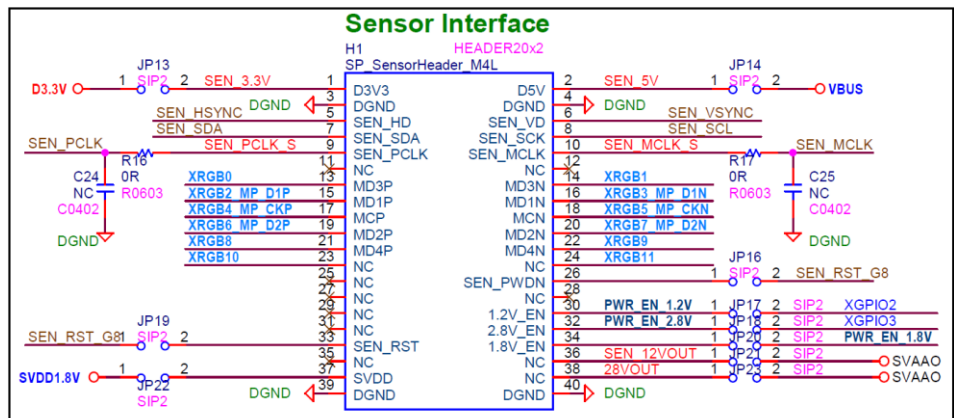
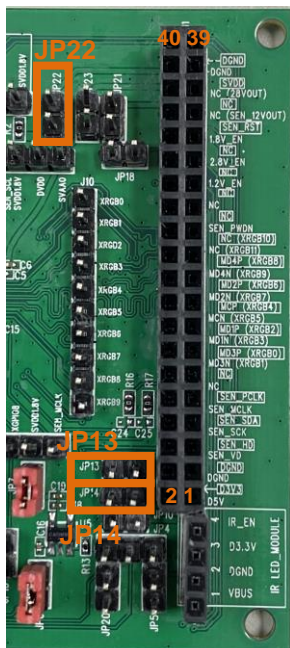
Support MIPI CSI-2 lane or DVP interface (MCLK/PCLK/HSYNC/VSYNC) for CMOS sensor

Configure sensor through the I2C bus

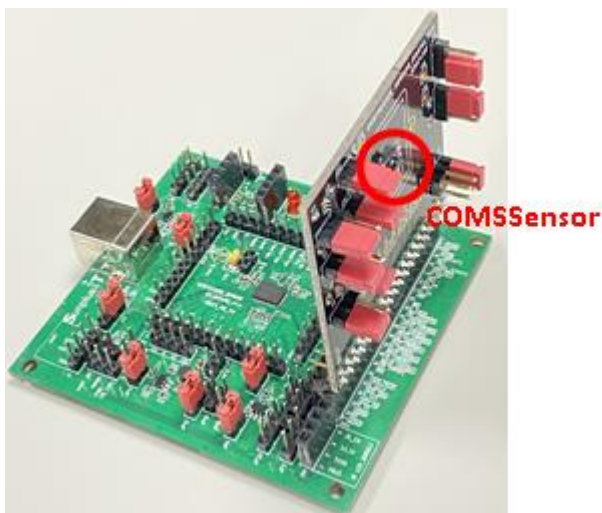
SEN\_RST, SEN\_PWDN for sensor status control

PWR\_EN\_1.2V, PWR\_EN\_1.8V, PWR\_EN\_2.8V for sensor power up sequence control

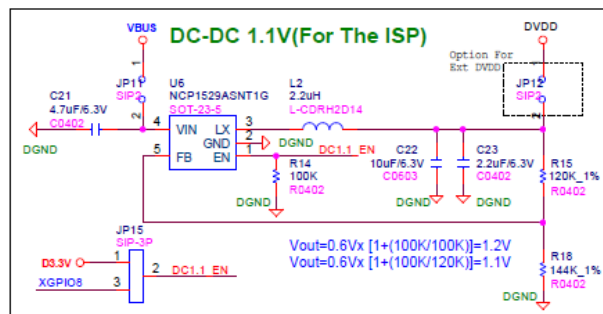
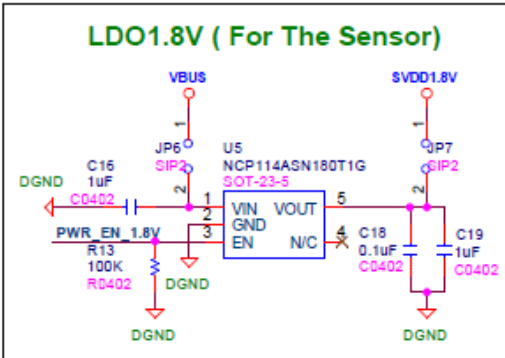
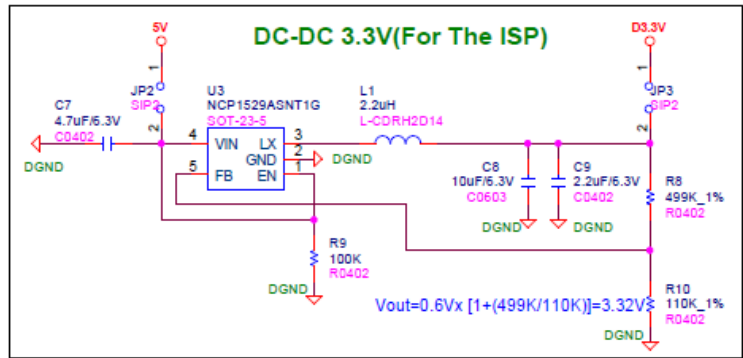
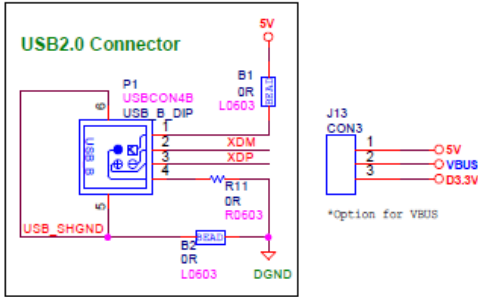
JP13, JP14, JP22 jumper is power option between EV Board and sensor



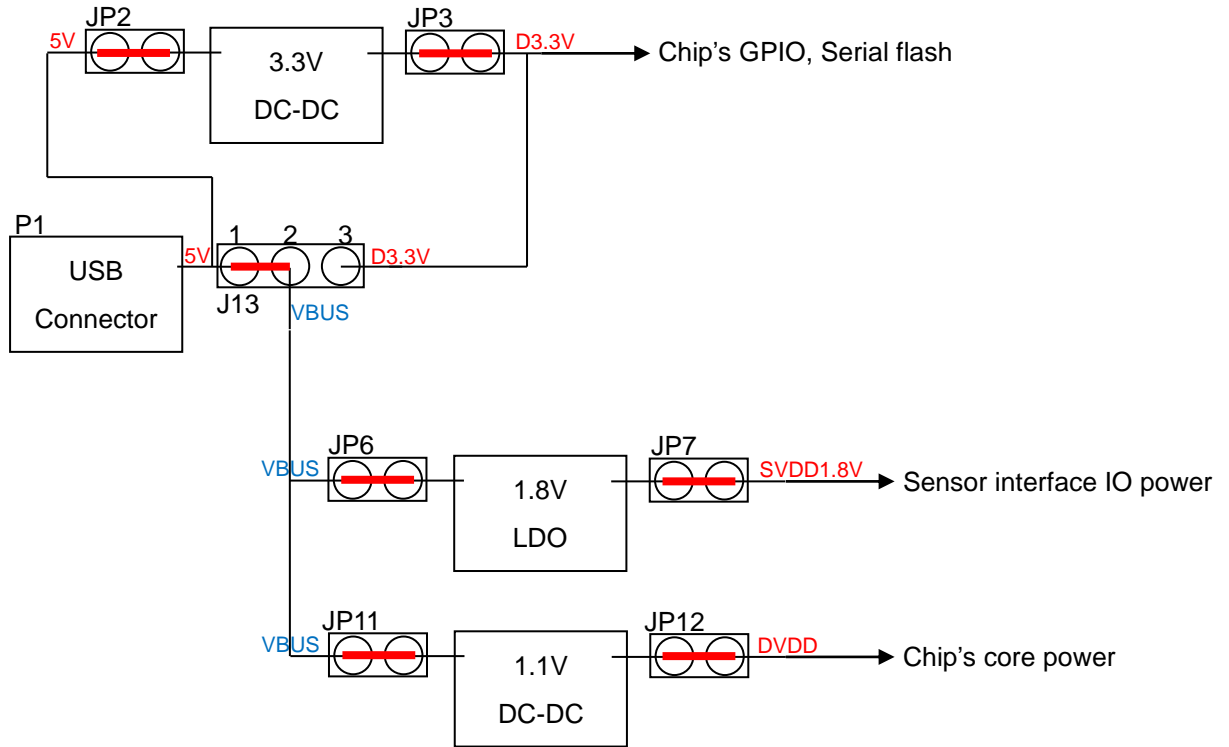
Sensor assembly directions



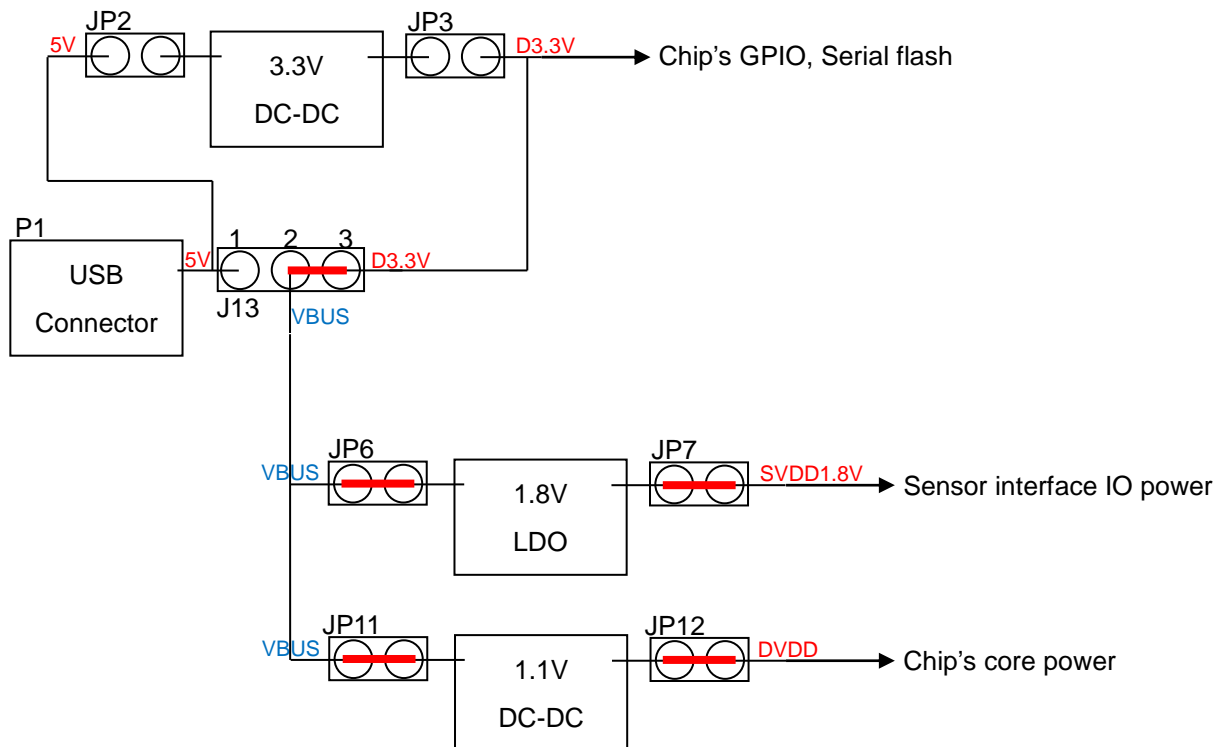
## 9. Power options



Case 1: Power supply from USB connector



Case 2: D3.3V from Ext-Power Supply (Bypass 3.3V DC-DC of PCB)



## REVISION CONTROL

<i>Revision</i>	<i>Date</i>	<i>Update History</i>
V0.1	2022/03/10	Initial release