

Load Capacitance of 18pF matched with 2*27pF in series
 $(2/27) \times 1 = 13.5\text{pF}$
 + 5pF parasitic capacitance

The schematic diagram illustrates the internal wiring of the USB4105-GF-A module. On the left, a yellow box represents the module's pin headers with the following labels: GND, VBUS, CC1, Dp1, Dn1, SBU1, GND, VBUS, CC2, Dp2, Dn2, SBU2, MNT 1, MNT 2, MNT 3, and MNT 4. The module is labeled "USB4105-GF-A" at the bottom left.

Key connections and components include:

- VBUS Connections:** Two pins are connected to a common VBUS line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).
- CC1 and CC2 Connections:** These pins are connected to a common CC line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).
- Dp1 and Dp2 Connections:** These pins are connected to a common Dp line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).
- Dn1 and Dn2 Connections:** These pins are connected to a common Dn line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).
- SBU1 and SBU2 Connections:** These pins are connected to a common SBU line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).
- MNT 1, MNT 2, MNT 3, and MNT 4 Connections:** These pins are connected to a common MNT line, which is then connected to a 5V input (VIN) through a 5.1kΩ pull-down resistor (R5) and to ground (GND) through a 5kΩ resistor (R7).

At the bottom, a note states: "5.1kΩ ohm pull down resistors used to configure current pull of 1.5A".

Pin connection diagram for the ESP32C3 module. The diagram shows the module's pins on the left and right, with their functions and connections. A yellow box highlights the module's internal components: CHIP_EN, XTAL_P, XTAL_N, XTAL_32K_P, XTAL_32K_N, SPI_HOLD, SPI_WP, SPI_CS, SPI_CLK, SPI_DI, SPI_DO, SPIHD, SPIWP, SPICS0, SPICLK, SPID, SPIQ, VDD3P3, VDD3P3_RTC, VDD3P3_CPU, VDD3P3_SPI, VDDA, MTMS, MTDI, MICK, MTDO, U0RXD, U0TXD, LNA_IN, GPIO2, GPIO3, GPIO8, GPIO9, GPIO10, GPIO18, GPIO19, GND, I2C_SCL, I2C_SDA, CAN_TX, CAN_RX, BOOTSEL, DATA_N, and DATA_P. Connections include 3V3_RF to VDD3P3, 3V3 to VDDA, 3V3 to VDD3P3_RTC, VDD3P3_CPU, and VDD3P3_SPI, and GND to GND. XTAL_32K_P and XTAL_32K_N are connected to 32KHz XTAL optional for RTC and sleep modes. SPI_HOLD, SPI_WP, SPI_CS, SPI_CLK, SPI_DI, and SPI_DO are connected to SPIHD, SPIWP, SPICS0, SPICLK, SPID, and SPIQ respectively. I2C_SCL, I2C_SDA, CAN_TX, CAN_RX, BOOTSEL, DATA_N, and DATA_P are connected to GPIO2, GPIO3, GPIO8, GPIO9, GPIO10, GPIO18, and GPIO19 respectively. U0RXD and U0TXD are connected to U0RXD and U0TXD. LNA_IN is connected to LNA_IN. GND is connected to GND.

Maximum bus speed is 400 kHz
Pin Capacitance 10nF

MPU-6050

Exposed Pad is NC stated in datasheet

The diagram shows the W25Q128JVSQI memory device (U3) connected to an SPI interface. The device is represented by a yellow rectangle with pins on the left and right. The left pins are labeled with their functions and pin numbers: SPI CS (1), SPI CLK (6), SPI DI (5), SPI DO (7), SPI WP (2), and SPI HOLD (4). The right pins are labeled VCC (8), GND (4), and GND. The device is connected to a VDD_SPI supply (8V) and a GND. A 100nF capacitor (C11) is connected between VDD_SPI and GND. The device is labeled U3 and W25Q128JVSQI.

RS Pin setting IC Active

Termination equates to cut off frequency of ~1.1MHz

Title ESP32 DAQ			
Size A3	Number		Revision v1
Date: 2/21/2024	Sheet of		
File: C:\Users\...\Schematic.SchDoc	Drawn By: Peter Khouly		