

[illegible]

The image displays three circuit diagrams for a microcontroller system, likely an Arduino Uno or similar, showing the connection of a USB module, an SPI controller, and an ADC decoupling bank.

USB and +3.3V LDO: This diagram shows the power supply section. A USB module (J1) is connected to a 5V USB source. The 5V is regulated by an LDO (U2, ST1L08SPU33R) to provide a +3.3V output. The LDO is decoupled with capacitors C2 (4.7uF) and C3 (1uF). The 5V line is also decoupled with C1 (100pF). A green LED (D2) is connected to the 5V line, and a green LED (D3) is connected to the +3.3V line. The LDO's enable pin (EN) is connected to the 5V line through a 330 ohm resistor (R3). The LDO's output pin (VOUT) is connected to the +3.3V line through a 330 ohm resistor (R3). The LDO's ground pin (GND) is connected to the GND line through a 330 ohm resistor (R3). The LDO's input pin (VIN) is connected to the 5V line through a 330 ohm resistor (R3). The LDO's output pin (VOUT) is connected to the +3.3V line through a 330 ohm resistor (R3). The LDO's ground pin (GND) is connected to the GND line through a 330 ohm resistor (R3). The LDO's input pin (VIN) is connected to the 5V line through a 330 ohm resistor (R3).

SPI Controller: This diagram shows the SPI controller (U3, MCP2210-LMQ) connected to the microcontroller. The SPI controller's VDD is connected to the +3.3V line through a 1uF capacitor (C19). The SPI controller's VSS is connected to the GND line through a 1uF capacitor (C21). The SPI controller's RST pin is connected to the +3.3V line through a 330 ohm resistor (R8). The SPI controller's D+ and D- pins are connected to the USB module's D+ and D- pins through a 1k resistor (R4). The SPI controller's GP0/CS0 pin is connected to the microcontroller's GP0 pin. The SPI controller's GP1/CS1 pin is connected to the microcontroller's GP1 pin. The SPI controller's GP2/CS2 pin is connected to the microcontroller's GP2 pin. The SPI controller's SCK pin is connected to the microcontroller's SCK pin. The SPI controller's MOSI pin is connected to the microcontroller's MOSI pin. The SPI controller's MISO pin is connected to the microcontroller's MISO pin. The SPI controller's GP3 pin is connected to the microcontroller's GP3 pin. The SPI controller's GP4 pin is connected to the microcontroller's GP4 pin. The SPI controller's GP5 pin is connected to the microcontroller's GP5 pin. The SPI controller's GP6 pin is connected to the microcontroller's GP6 pin. The SPI controller's GP7 pin is connected to the microcontroller's GP7 pin. The SPI controller's GP8 pin is connected to the microcontroller's GP8 pin.

ADC Decoupling Bank: This diagram shows the ADC decoupling bank (U4B, ADAR7251) connected to the microcontroller. The ADC decoupling bank's AVDD1, AVDD2, and AVDD3 pins are connected to the +3.3V line through capacitors C28 (10uF), C30 (10uF), and C31 (10uF). The ADC decoupling bank's DVDD1, DVDD2, and DVDD3 pins are connected to the +3.3V line through capacitors C34 (10uF), C39 (100nF), and C43 (100nF). The ADC decoupling bank's IOVDD1 and IOVDD2 pins are connected to the +3.3V line through capacitors C32 (10uF), C35 (10uF), and C38 (100nF). The ADC decoupling bank's AGND1 and AGND2 pins are connected to the GND line through capacitors C41 (100nF) and C42 (100nF). The ADC decoupling bank's DGND1, DGND2, and DGND3 pins are connected to the GND line through capacitors C43 (100nF), C44 (100nF), and C45 (100nF). The ADC decoupling bank's REGOUT_DIGITAL pin is connected to the microcontroller's REGOUT_DIGITAL pin. The ADC decoupling bank's SPI_XFR pin is connected to the microcontroller's SPI_XFR pin. The ADC decoupling bank's PLL_CS pin is connected to the microcontroller's PLL_CS pin. The ADC decoupling bank's BGT_CS pin is connected to the microcontroller's BGT_CS pin. The ADC decoupling bank's ADC_CS pin is connected to the microcontroller's ADC_CS pin. The ADC decoupling bank's SCK pin is connected to the microcontroller's SCK pin. The ADC decoupling bank's MOSI pin is connected to the microcontroller's MOSI pin. The ADC decoupling bank's MISO pin is connected to the microcontroller's MISO pin.

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The diagram shows a PCB layout for an SPI Control interface. It includes several functional blocks:

- Power and Ground Connections (Left):** Five pins are shown with connections to +3.3V, +3.3VA, +1V8, PWR_FLAG, and PWR_FLAG. The PWR_FLAG pins are connected to GND and GNDA.
- TP2, TP3, TP4, TP5 (Middle-Left):** Four pins are shown with connections to GND, GND, GND, and GNDREF. A label 'TP8_ProbeGND' is also present.
- H1 MNT_HOLE to H6 MNT_HOLE (Middle-Right):** Six pins are shown, each connected to GND.
- Standoff Components (Right):** Six pins are shown, each connected to a standoff component (M1, M2, M3, M4, M5, M6).

Below the diagram, there is a table with the following information:

Prabodh J.		
Sheet: /		
File: spi_control.sch		
Title: SPI Control		
Size: B	Date: 2020-01-04	Rev: A
KiCad E.D.A. kicad (5.1.5)-3		Id: 1/1

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Rev: A
d: 1/1