

**Power Input and Muxing**

J11 PWR\_MUX

3.3V\_SYS 3.3V\_PWR\_BRD 1 4 5V\_PWR\_BRD 5

3.3V\_LDO\_OUT 3 6 VBUS 6

3.3V\_SYS

AGND

C1 10u

C2 0.1u

R3 10k

C3 1u

AGND

U1 ESP32-C6-WROOM-1-N8

3V3

GPI016

UART\_TXD

UART\_RXD

3.3V\_SYS

10k R10

TFT\_RESET\_N

TFT\_CONN J7

SPI\_MOSI

SPI\_CLK

AGND

3.3V\_SYS

3.3V\_SYS

AGND

R5 10k

NFC\_INT

NFC\_RST

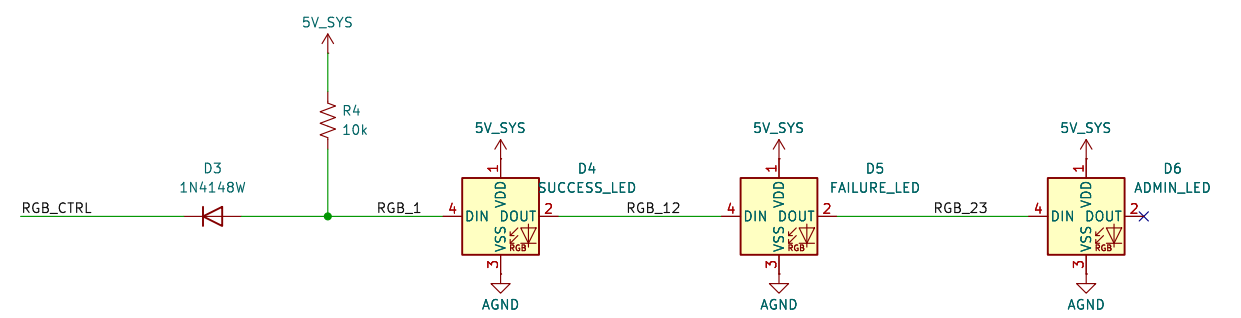
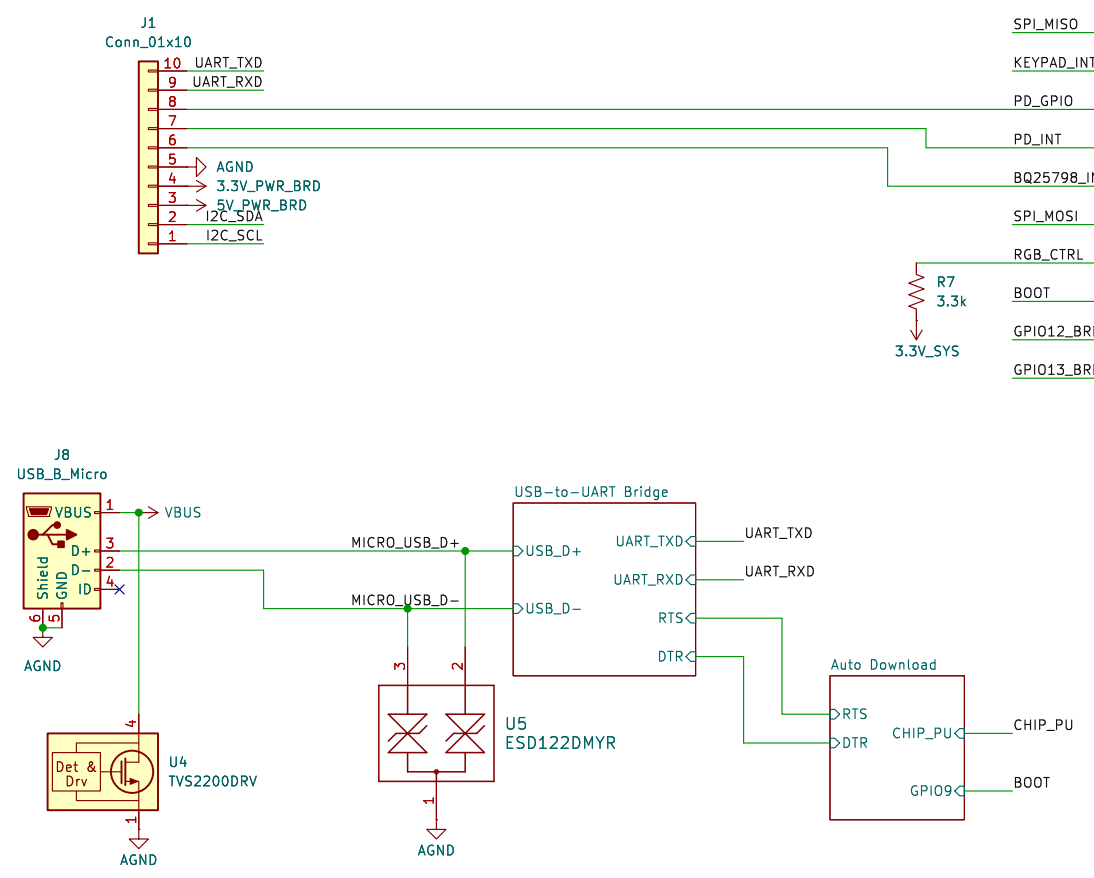
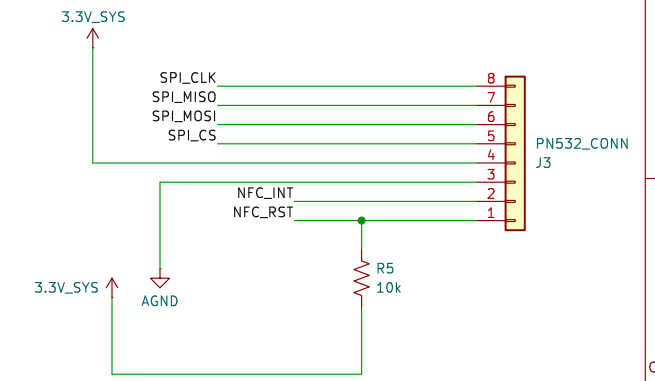
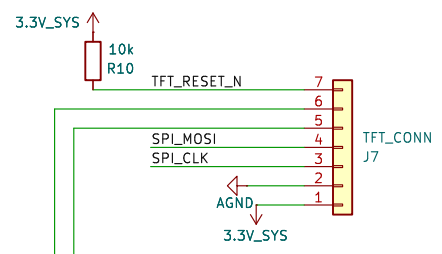
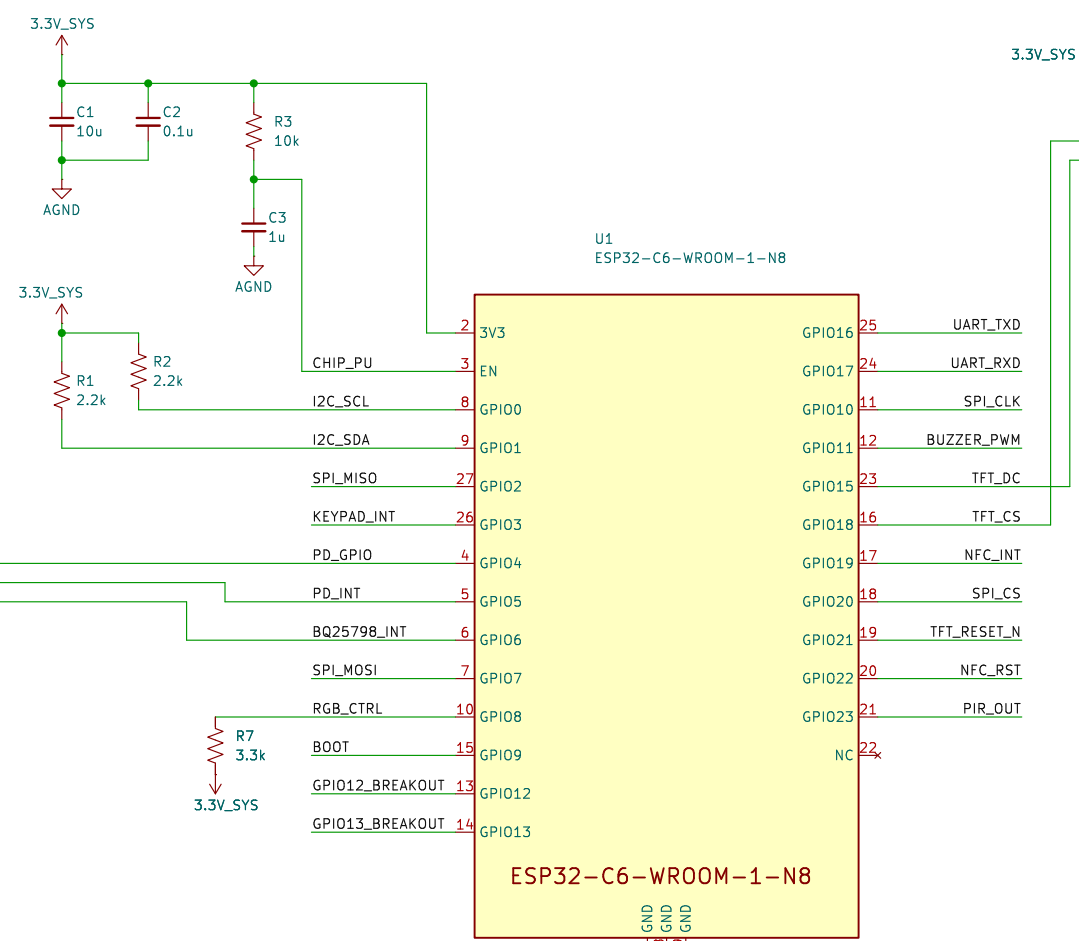
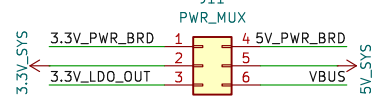
PN532\_CONN J3

SPI\_CLK

SPI\_MISO

SPI\_MOSI

SPI\_CS



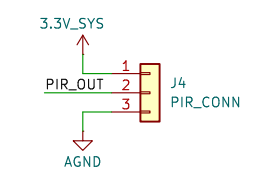
The schematic diagram illustrates the hardware configuration for the SCAN mainboard. It features an ESP32-C6-WROOM-1-N8 module connected to a USB-to-UART Bridge (U3) and an Auto Download module (U4). The USB-to-UART Bridge is connected to a USB\_B\_Micro port (J8) and a TVS2200DRV (U5). The Auto Download module is connected to the ESP32's GPIO13 and GPIO13\_BREAKOUT. A buzzer (BZ1) is connected to the Buzzer\_PWM pin. A PIR sensor (J4) is connected to the PIR\_OUT pin. The diagram is divided into sections 1 through 8, with a title block on the right.

**Senior Design Group 35**

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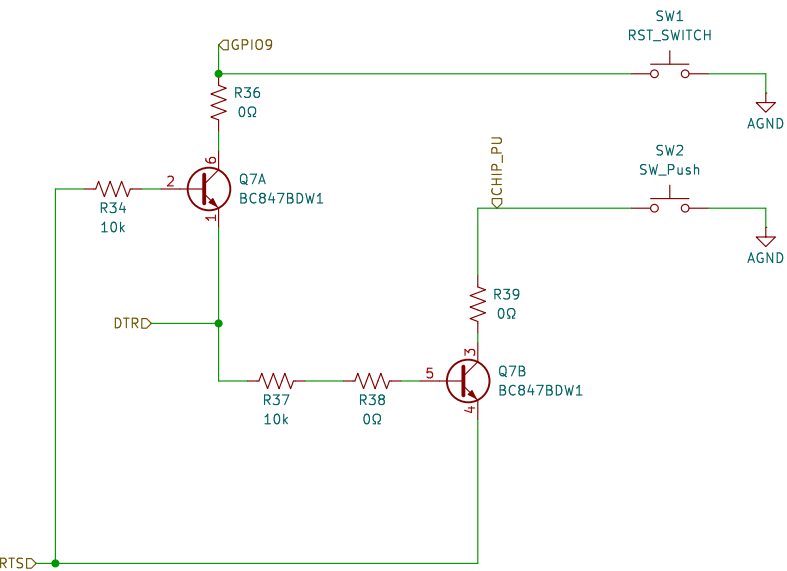
**Title: SCAN**

Size: B Date: 2025-01-30 Rev: v1.1  
KiCad E.D.A. 8.0.6 Id: 1/3



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# Auto Download



# USB-to-UART Bridge

