8 Module Schematics

This is the reference design of the module. For modules with PSRAM, the VDD_SPI voltage is fixed to 3.3 V or 1.8 V via eFuse, so their VDD_SPI voltage will not be affected by the GPIO45 level. However, for other modules, please ensure that GPIO45 is not pulled high when the module is powered up by the external circuit.
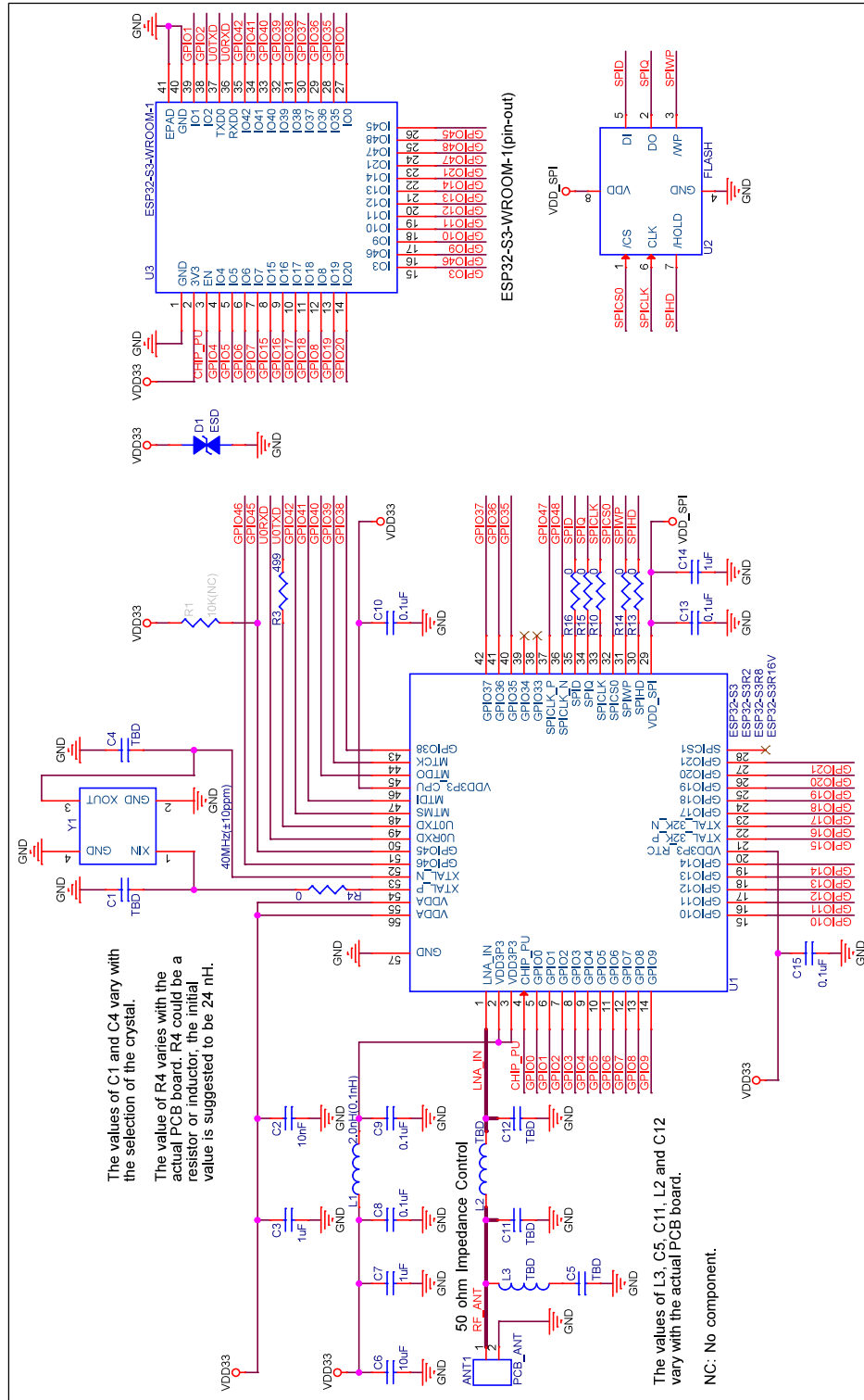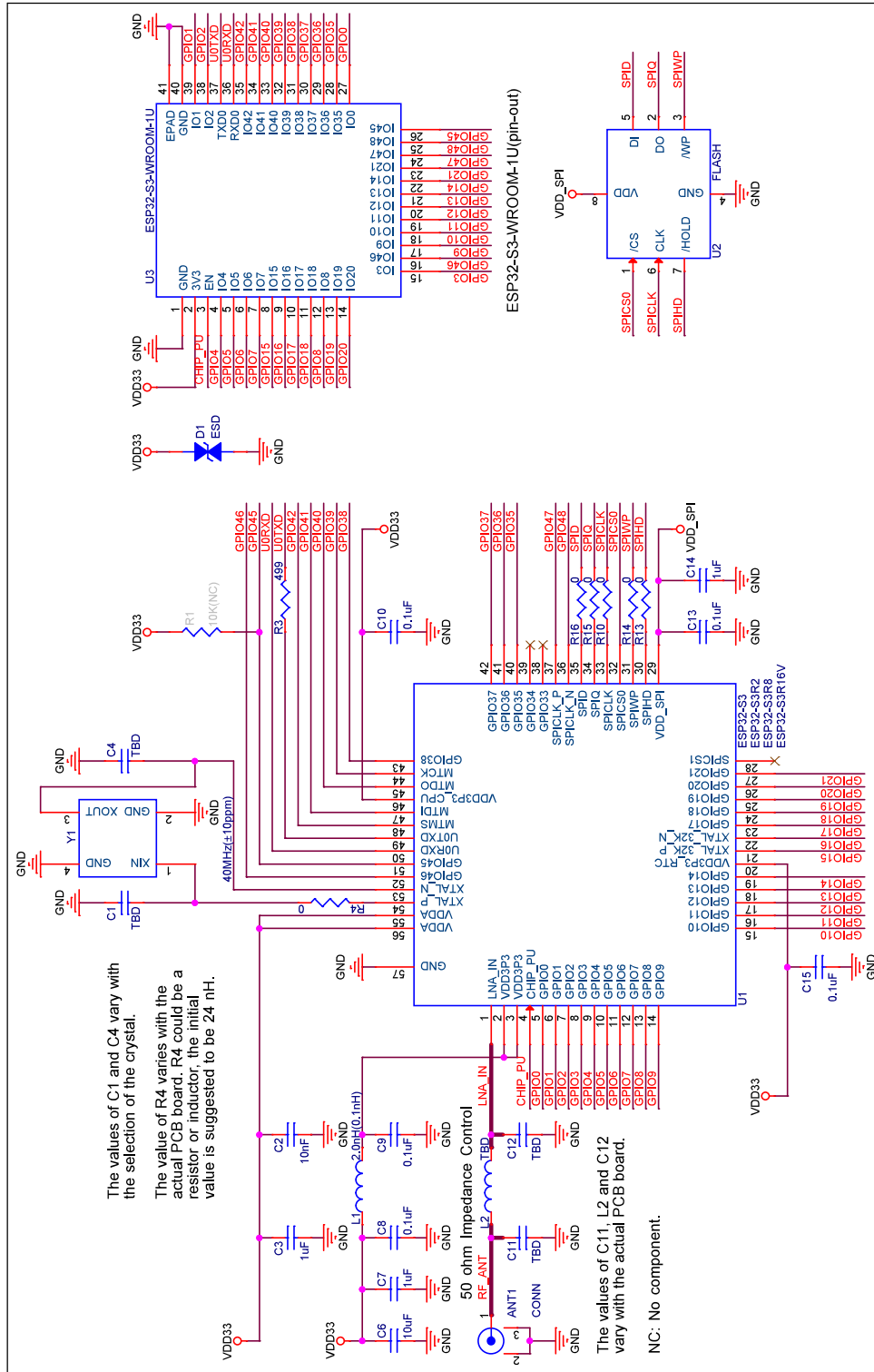

Figure 5: ESP32-S3-WROOM-1 Schematics

Figure 6: ESP32-S3-WROOM-1U Schematics

9   Peripheral Schematics

This is the typical application circuit of the module connected with peripheral components (for example, power supply, antenna, reset button, JTAG interface, and UART interface).
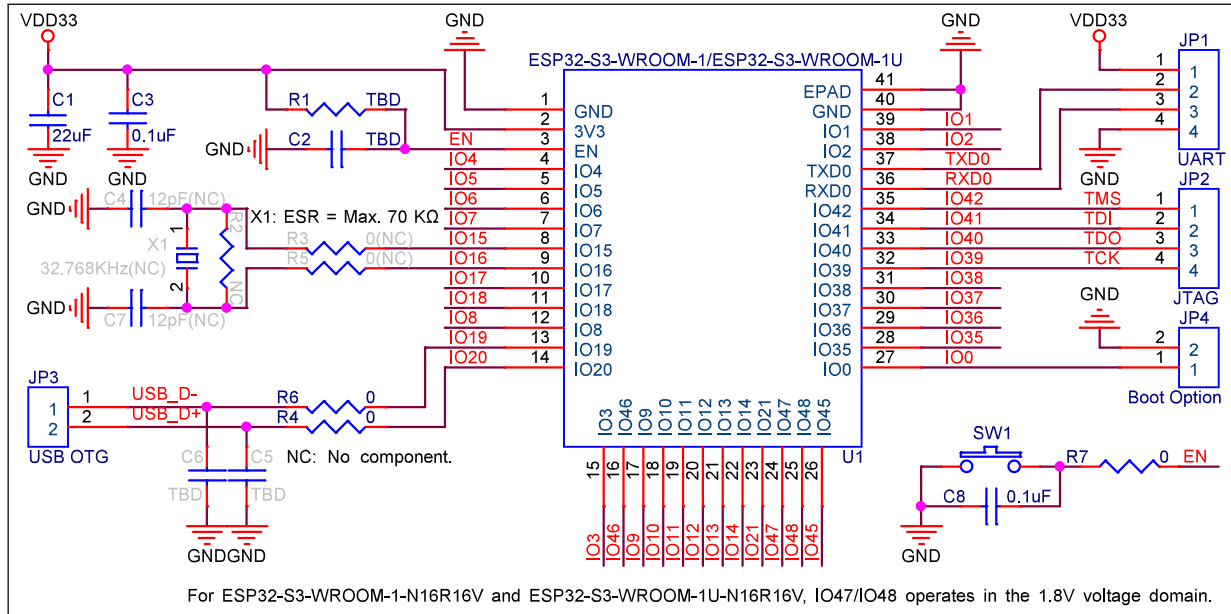

Figure 7: Peripheral Schematics

- Soldering the EPAD to the ground of the base board is not a must, however, it can optimize thermal performance. If you choose to solder it, please apply the correct amount of soldering paste. Too much soldering paste may increase the gap between the module and the baseboard. As result, the adhesion between other pins and the baseboard may be poor.

- To ensure that the power supply to the ESP32-S3 chip is stable during power-up, it is advised to add an RC delay circuit at the EN pin. The recommended setting for the RC delay circuit is usually R = 10 kΩ and C = 1 μF. However, specific parameters should be adjusted based on the power-up timing of the module and the power-up and reset sequence timing of the chip. For ESP32-S3's power-up and reset sequence timing diagram, please refer to ESP32-S3 Series Datasheet > Section Power Supply.