BearPi-IoT Std

Revision B02

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框架说明

BearPi-IoT Std开发板总体上由以下功能模块构成

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02 存储部分，板载64M QSPI-FLASH

03 5V电源输入，通过降压电路降为3.3V，为整个开发板供电

04 电源指示灯

05 E53接口，遵循物联网俱乐部E53接口标准而设计，为开发者提供快捷的案例扩展方式

06 液晶显示屏部分，搭载1.3寸TFT 液晶显示屏，为开发者提供一个直观的交互界面

07 主控部分，为整个开发板的核心，相当于整个开发板的大脑

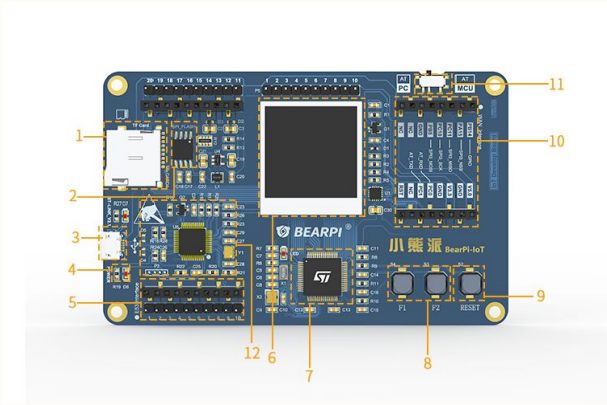
08 用户按键部分，包含两个用户按键，方便开发者进行二次开发

09 复位按键，可对开发板进行复位

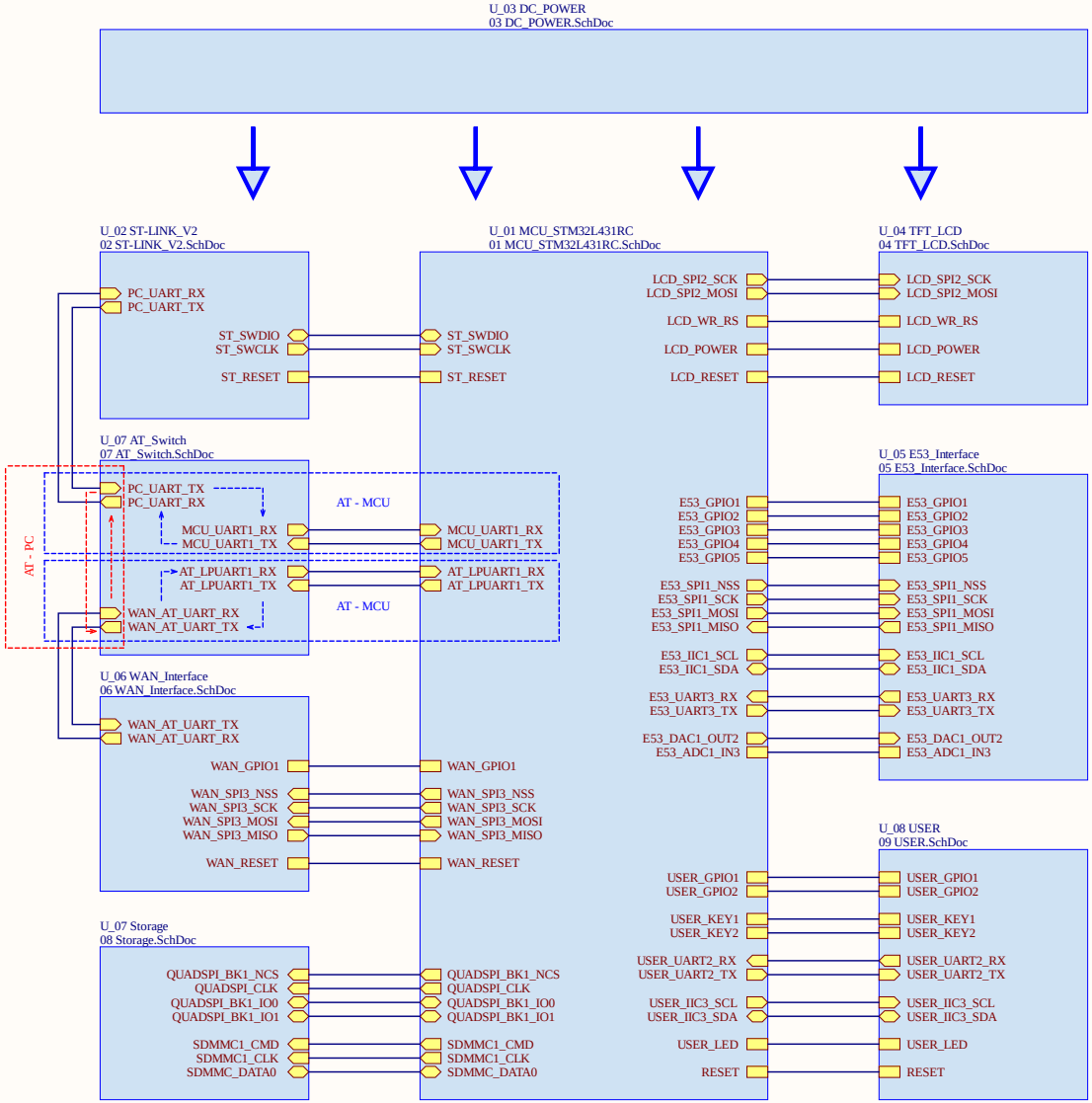
10 WAN接口，同样遵循物联网俱乐部WAN网络接口标准而设计，为开发者提供快捷的通讯扩展方式

11 AT模式切换开关，可在PC-扩展板、MCU-扩展板两种模式下进行切换

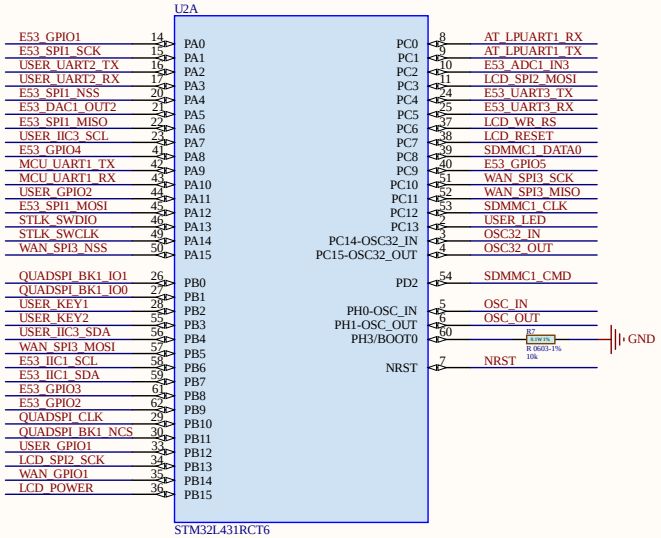
12 烧录下载部分，为用户烧录、下载、仿真程序提供一个快捷的方式



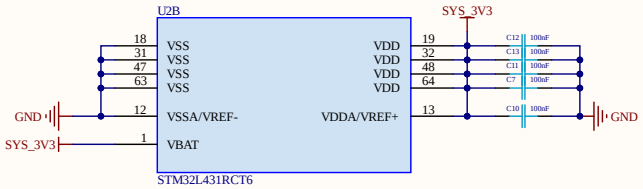
BearPi-IoT Std Overview



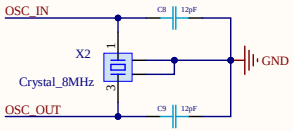
STM32L431RCT6 IO部分



STM32L431RCT6 电源部分



主时钟



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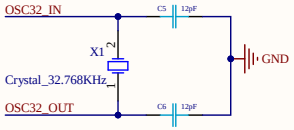
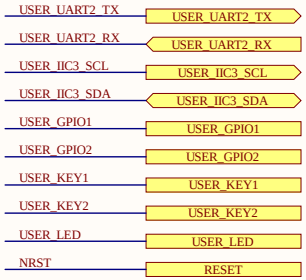
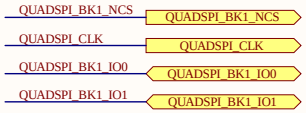


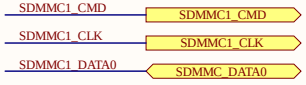
USER



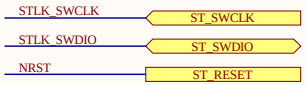
QSPI FLASH



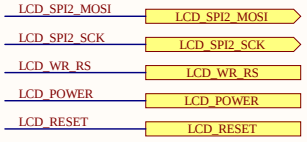
SD CARD



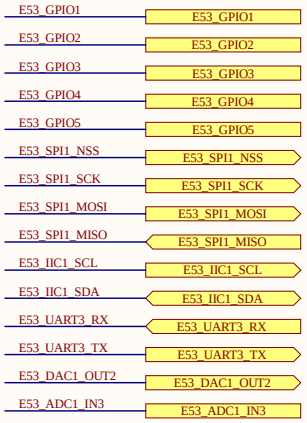
ST-LINK V2



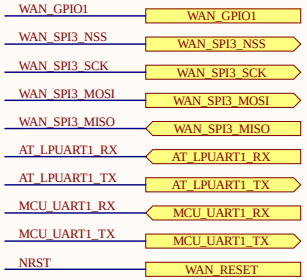
1.3' TFT LCD



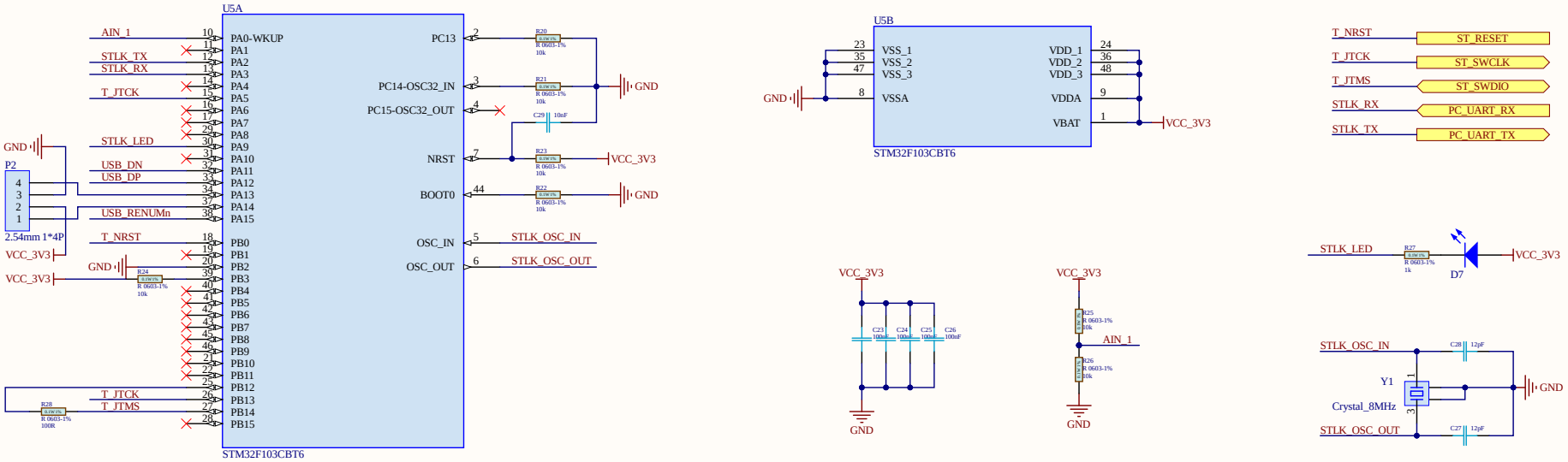
E53 Interface



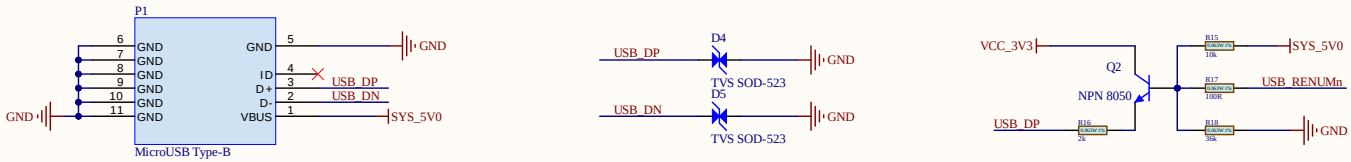
WAN Interface



ST-LINK V2

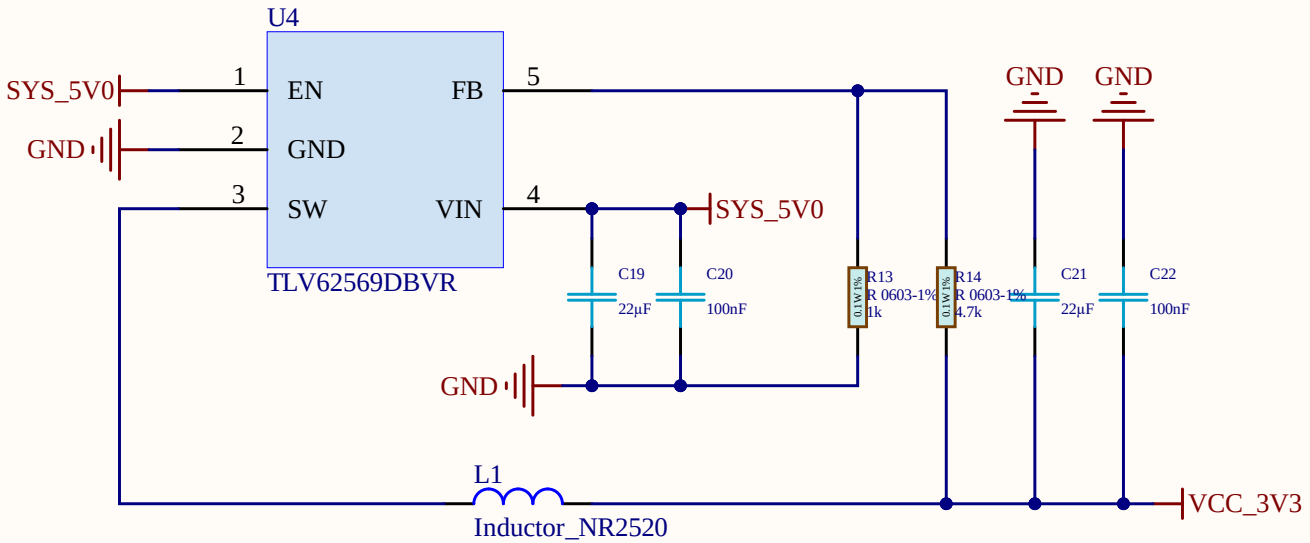


Micro USB

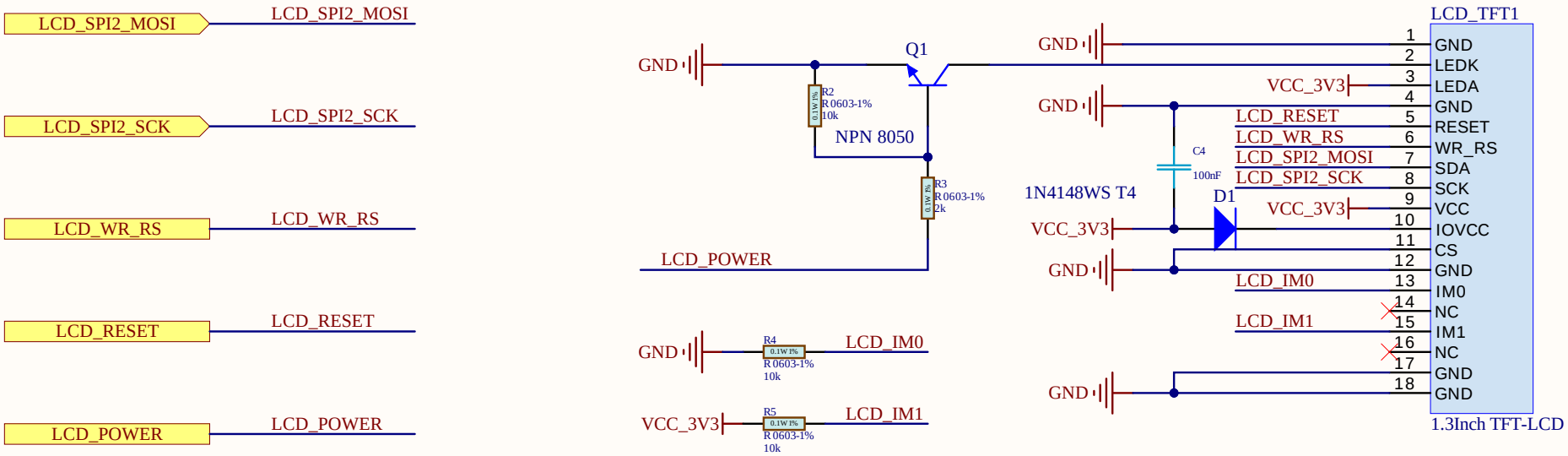


DC POWER

DC-DC降压电路，由Micro USB输入5V电压，通过该降压电路将5V降压至3.3V，从而向MCU等电路送电

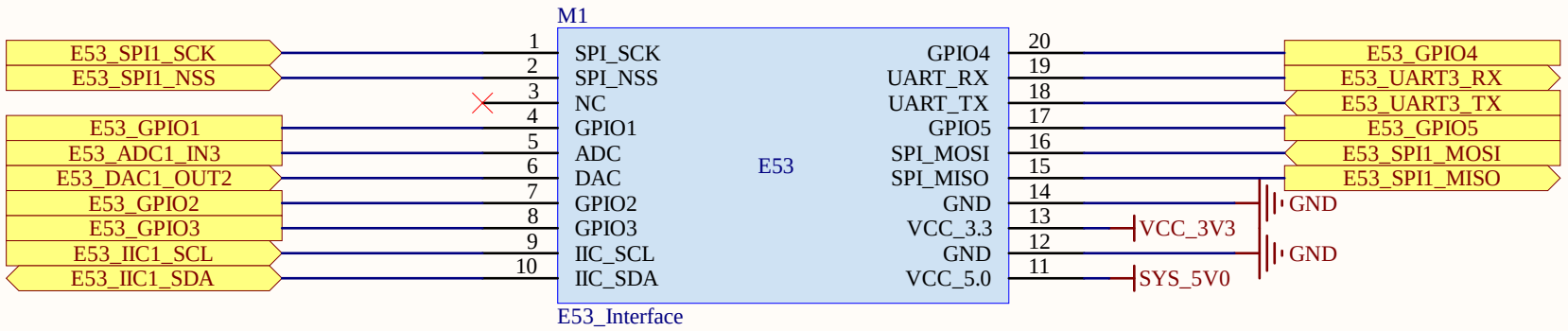


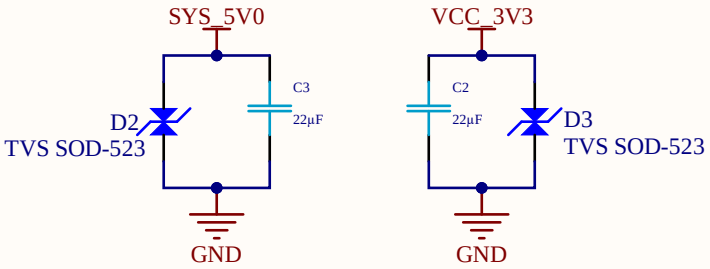
1.3' TFT LCD


LCD_SPI2_MOSI
LCD_SPI2_MOSI
LCD_SPI2_SCK
LCD_SPI2_SCK
LCD_WR_RS
LCD_WR_RS
LCD_RESET
LCD_RESET
LCD_POWER
LCD_POWER
GND
Q1
R2
R 0603-1%
10k
NPN 8050
R3
R 0603-1%
2k
LCD_POWER
GND
R4
0.1W 1%
R 0603-1%
10k
LCD_IM0
VCC_3V3
R5
0.1W 1%
R 0603-1%
10k
LCD_IM1
GND
GND
C4
100nF
1N4148WS T4
D1
VCC_3V3
GND
VCC_3V3
LCD_RESET
LCD_WR_RS
LCD_SPI2_MOSI
LCD_SPI2_SCK
VCC_3V3
LCD_IM0
LCD_IM1
GND
LCD_TFT1
1 GND
2 LEDK
3 LEDA
4 GND
5 RESET
6 WR_RS
7 SDA
8 SCK
9 VCC
10 IOVCC
11 CS
12 GND
13 IM0
14 NC
15 IM1
16 NC
17 GND
18 GND
1.3Inch TFT-LCD

E53 Interface

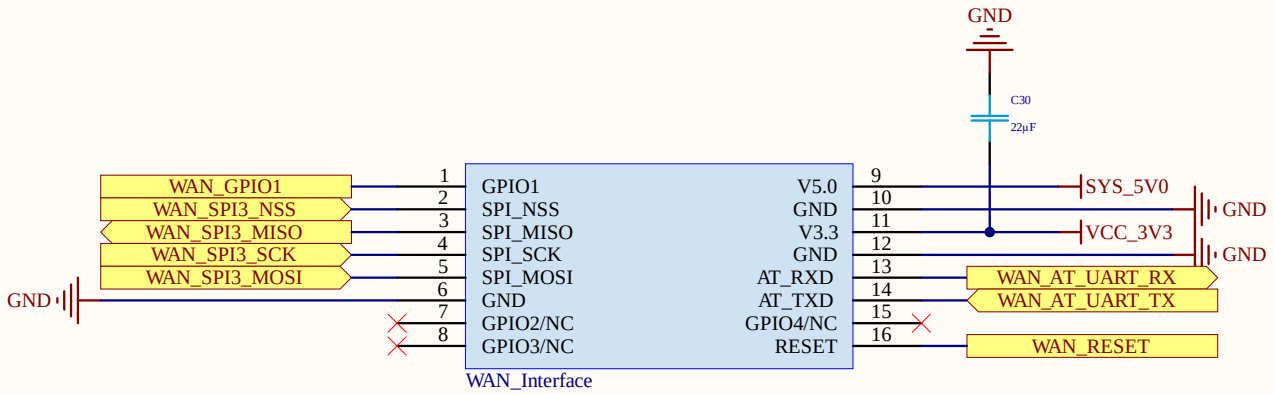
E53案例扩展接口，遵循物联网俱乐部E53接口标准，可接入已有的E53_SC1、E53_SC2、E53_ST1、E53_SF1、E53_IA1、E53_IS1等案例扩展板





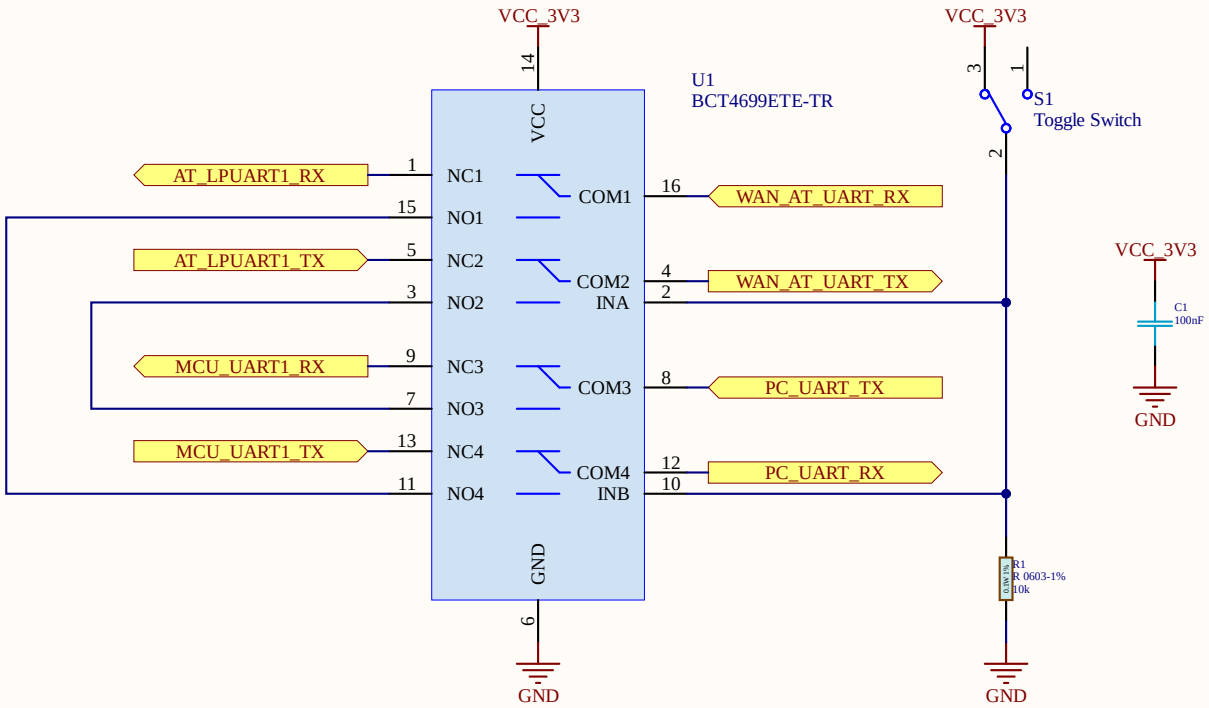
WAN Interface

WAN通讯扩展接口，遵循物联网俱乐部WAN网络接口标准，可接入已有的NB35-A、NB28、WIFI8266、G26、4G600S等通讯扩展板

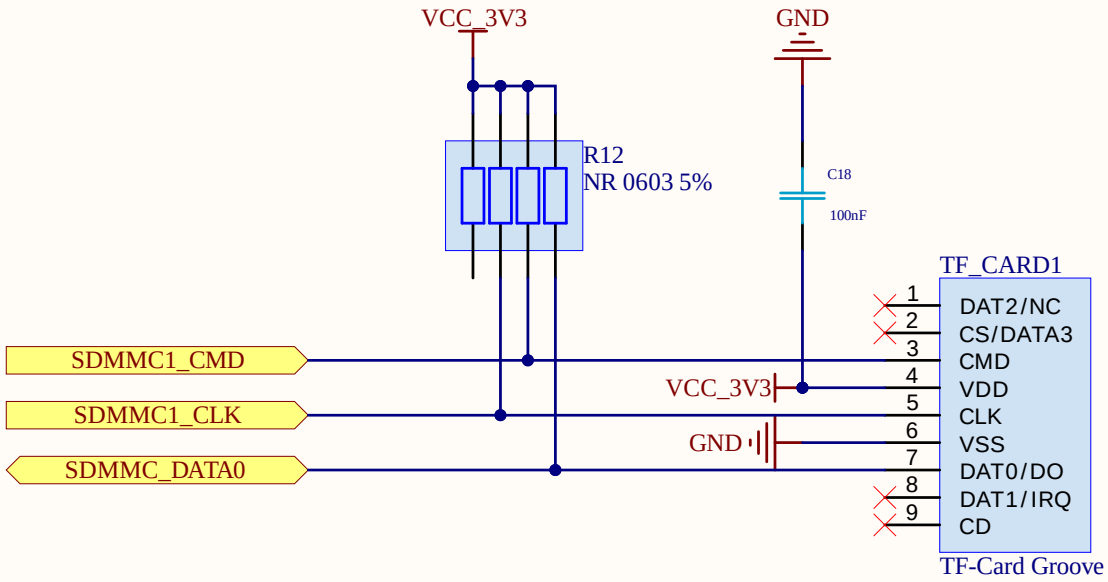


AT SWITCH

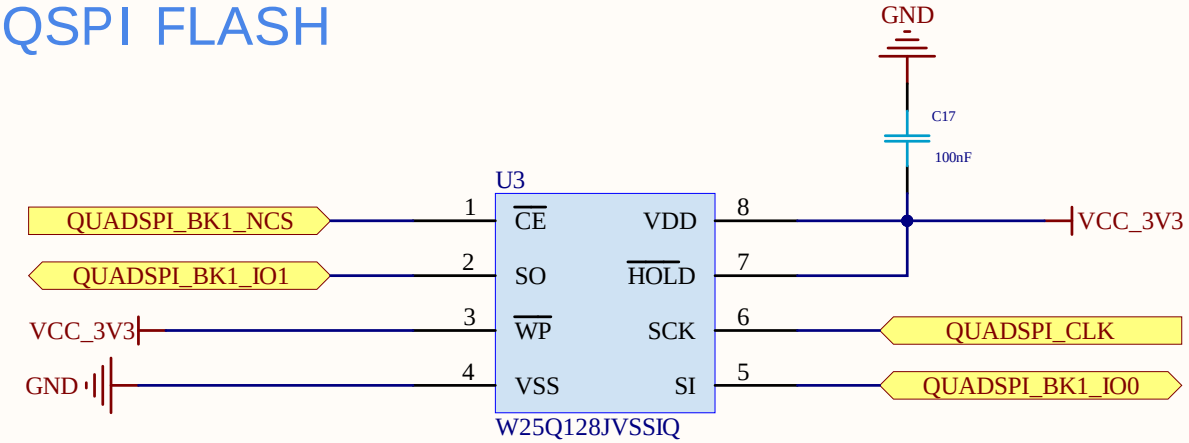
AT模式切换开关，可在PC-扩展板、MCU-扩展板两种模式下进行切换



SD Card

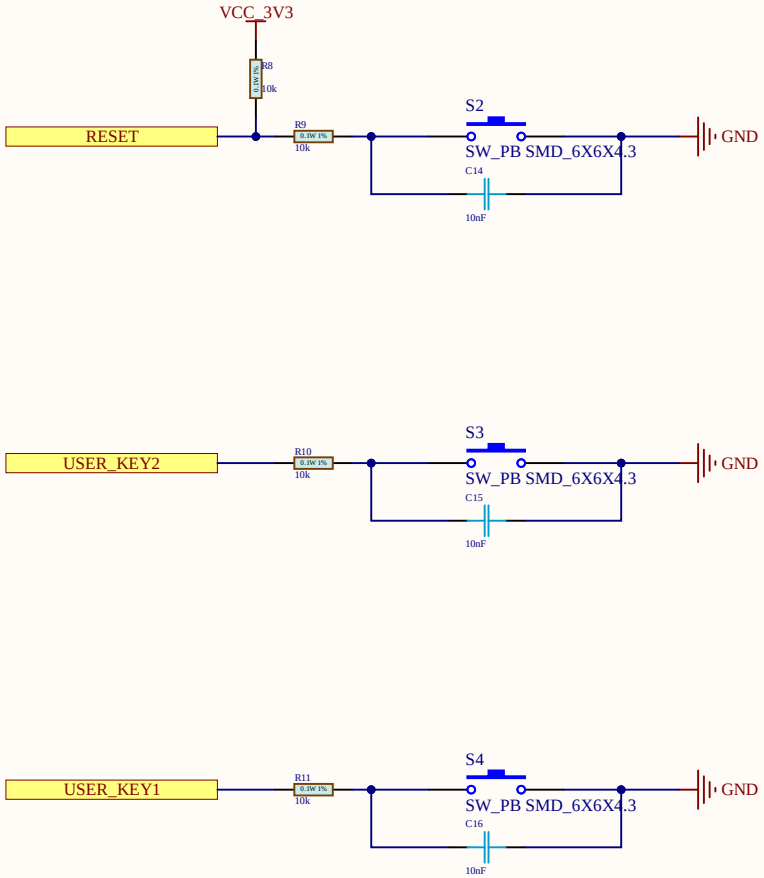


QSPI FLASH



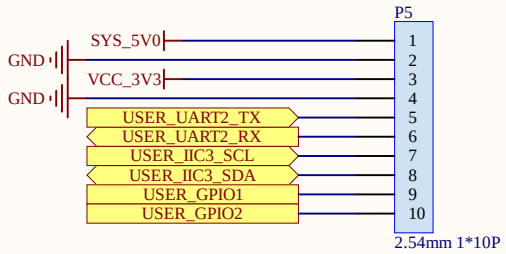
USER KEY

用户按键，包含一个复位按键和两个可编程按键



RESERVE

保留接口，包含一组串口，一组IIC接口和两个可编程GPIO



USER LED