

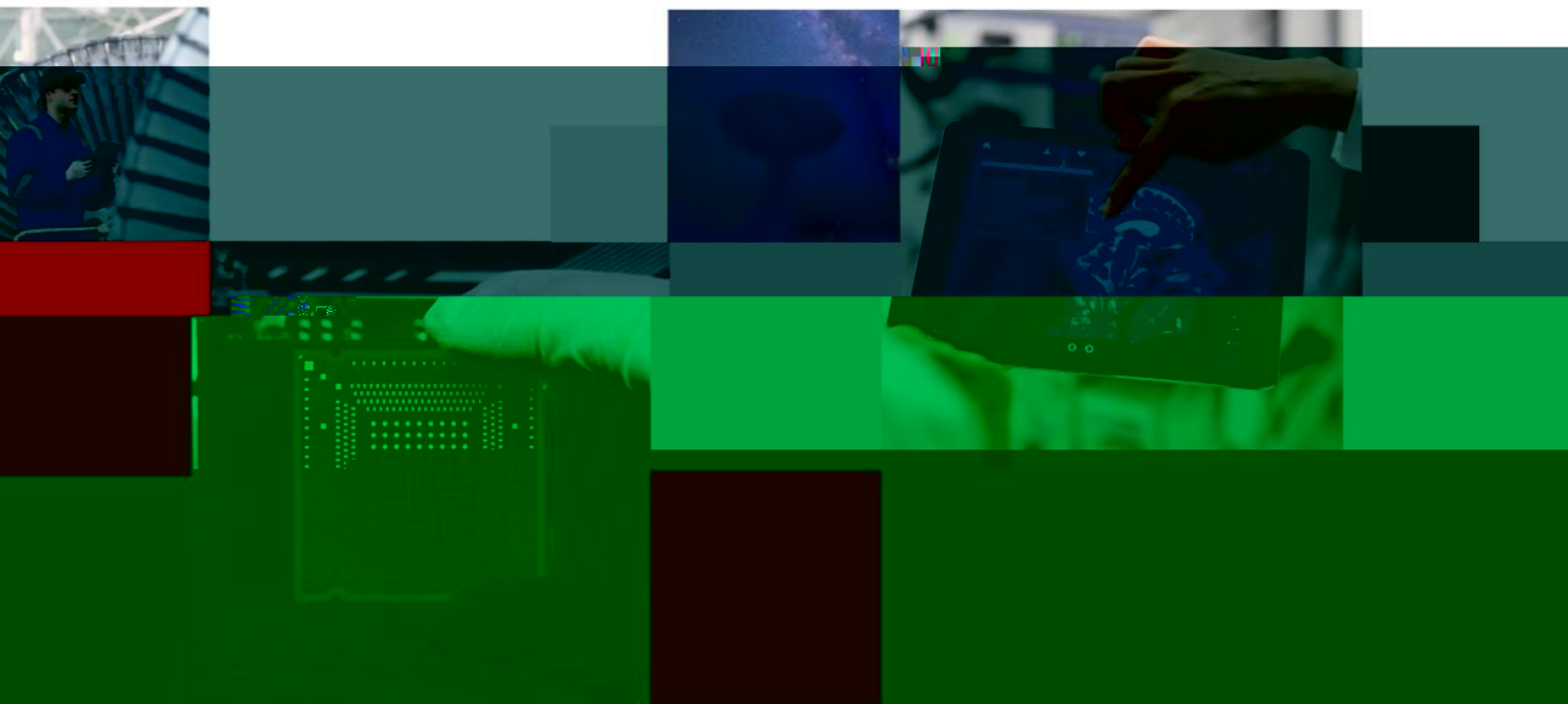
# EC800X QuecDuino EVB

EC800X QuecDuino EVB

V1.1

2024-12-25

LX

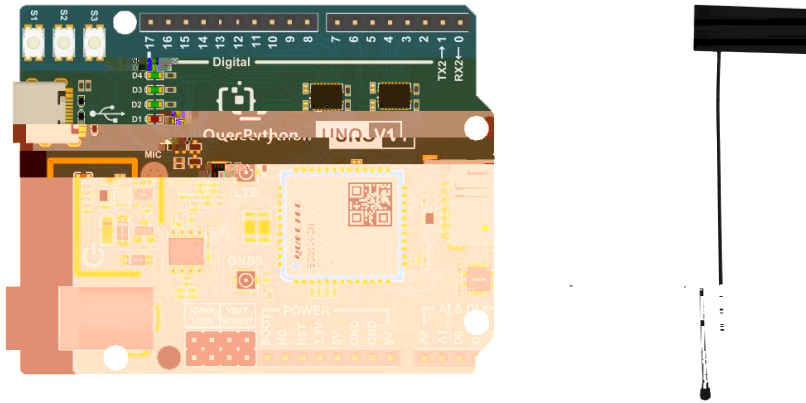


# 1

EC800X QuecDuino EVB                      EC800  
EC800M                      EC800K                      EG800K                      EC800E

## 1.1 EC800X QuecDuino EVB

QuecDuino EVB 4G FPC



1 EVB

### Features

#### CPU

EC800 / EG800 Module Series

#### Pins

22x digital pins (GPIO), D0-D3,0-17 up to

2x analog input pins (ADC), A0-A1

#### Peripherals

Antenna Interface,LTE & GNSS(option)

SIM Interface, NANO SIM

USB 2.0, TypeC

Arduino female header Interface

Audio(option)

1xMIC onboard

1x 3W Class-D Stereo Amplifier

#### Power

Recommended input voltage (VIN) is 4.5-5.25 V/2A

Power via USB-C® at 5 V

Power via DC05® at 5-16V

3.3V/200mA output

#### Communication

4x UART (pin 0, 7) up to

1x SPI (pin 10-13, ICSP header)

1x I2C (pin 16, 17, SDA, SCL)

3x KEY(S1-S3)

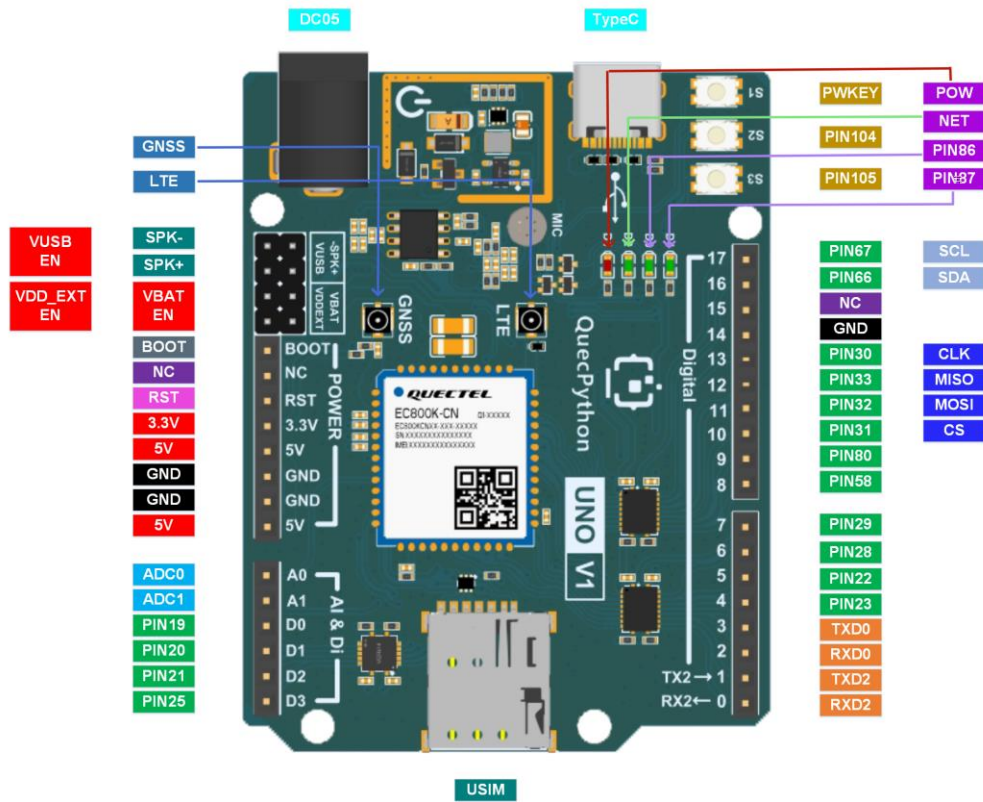
4x LED(D1-D4)

1x RESET(Pull-down reset Module)

1x BOOT(According to different model modules pull up or Pull-down the BOOT pin, Before power-on)

## 2

### 2.1



### 2.2

1

		DC
BOOT	USB_BOOT	
NC		
RST	RESET	

3.3V		3.3V/200mA
5V	/	5V/2A V1.1
GND		
GND		
5V	/	5V/2A V1.1
A0	ADC0	0-1.2 V
A1	ADC1	0-1.2 V
D0	I/O 19	3.3V
D1	I/O 20	3.3V
D2	I/O 21	3.3V
D3	I/O 25	3.3V
0		3.3V
1		3.3V
2		3.3V
3		3.3V
4	I/O 23	3.3V
5	I/O 22	3.3V
6	I/O 28	3.3V
7	I/O 29	3.3V
8	I/O 58	3.3V
9	I/O 80	3.3V
10	I/O 31	3.3V
11	I/O 32	3.3V
12	I/O 33	3.3V
13	I/O 30	3.3V
14		
15	NC	
16	I/O 66	3.3V

17	I/O	67	3.3V
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1

EVB 5V TypeC DC

5V 5V V1.1

2A TypeC DC 5V

USB USB

2

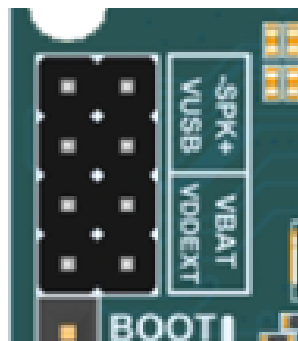
Pin0 Pin1 AT 115200

AT 4800 9600 19200 38400

57600 115200 230400 460800 921600bps AT

open C QuecPython UART2

3



VBAT VUSB VDD\_EXT

VBAT

4 BOOT



BOOT  
BOOT

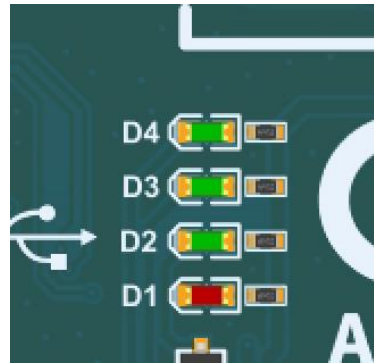
BOOT

BOOT GND

## 2.3

EVB 4

D1



D2

2

D2	200ms /1800ms	
	1800ms /200ms	
	125ms /125ms	

D3 D4

86 87

### 3 SIM



EVB NANO SIM USIM ETSI IMT-2000  
1.8 V 3.0 V USIM

### 4 USB

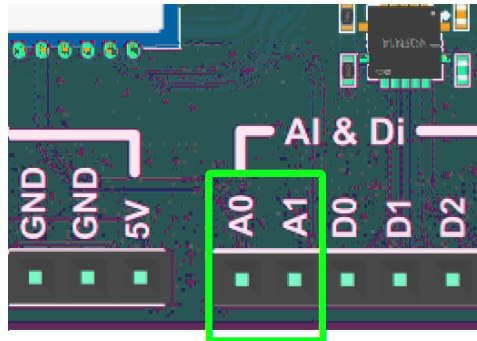


EVB 1 TypeC USB USB USB 2.0  
USB 2.0 480 Mbps 12 Mbps  
AT GNSS NMEA

## 5 ADC

EVB 2

ADC



### 3 ADC

参数	最小值	典型值	最大值	单位
ADC0 电压	0	-	1.2	V
ADC1 电压	0	-	1.2	V
ADC 分辨率	-	-	12	位

## 6

### 6.1

#### 6.1.1

5

引脚名	引脚号	I/O	描述	备注
ANT_MAIN	35	AIO	主天线接口	50 Ω 特性阻抗。

#### 备注

模块支持 Wi-Fi Scan 功能。由于共用主天线接口，两种功能不可同时使用。时分复用，Wi-Fi Scan 只接收不发送。

6

工作频段	发送 (MHz)	接收 (MHz)
1920~1980	2110~2170	LTE-FDD B1
1710~1785	1805~1880	LTE-FDD B3
824~849	869~894	LTE-FDD B5
880~915	925~960	LTE-FDD B8
2010~2025	2010~2025	LTE-TDD B34
2570~2620	2570~2620	LTE-TDD B38
1880~1920	1880~1920	LTE-TDD B39
2300~2400	2300~2400	LTE-TDD B40
2535~2675	2535~2675	LTE-TDD B41

## 6.1.2

7

## 6.1.3

8

频段	接收灵敏度 (典型值) (dBm)			3GPP 要求 (主集 + 分集)
	主集	分集	主集 + 分集	
LTE-FDD B1 (10 MHz)	-99.5 dBm	-	-	-96.3 dBm
LTE-FDD B3 (10 MHz)	-99.0 dBm	-	-	-93.3 dBm
LTE-FDD B5 (10 MHz)	-98.5 dBm	-	-	-94.3 dBm
LTE-FDD B8 (10 MHz)	-99.0 dBm	-	-	-93.3 dBm
LTE-TDD B34 (10 MHz)	-100.0 dBm	-	-	-96.3 dBm
LTE-TDD B38 (10 MHz)	-99.0 dBm	-	-	-96.3 dBm
LTE-TDD B39 (10 MHz)	-100.0 dBm	-	-	-96.3 dBm
LTE-TDD B40 (10 MHz)	-100.5 dBm	-	-	-96.3 dBm
LTE-TDD B41 (10 MHz)	-99.0 dBm	-	-	-94.3 dBm

## 6.2 GNSS

- EVB GNSS GNSS
- GPS BDS GLONASS Galileo
- NMEA 0183 NMEA AT USB
- UART 1 Hz
- GNSS AT

### 6.2.1

9

GPS	1575.42 ±1.023 (L1)	MHz
BDS	1561.098 ±2.046 (B1I)	
Galileo	1575.42 ±2.046 (E1)	
GLONASS	1597.5~1605.8 (L1)	

### 6.2.2 GNSS

10 GNSS

参数	条件	典型值	单位
灵敏度	捕获	-146	dBm
	重捕	-160	
	追踪	-160	
首次定位时间	冷启动 @ 空旷区域	28	s
	温启动 @ 空旷区域	27	
	热启动 @ 空旷区域	3.7 <sup>3</sup>	

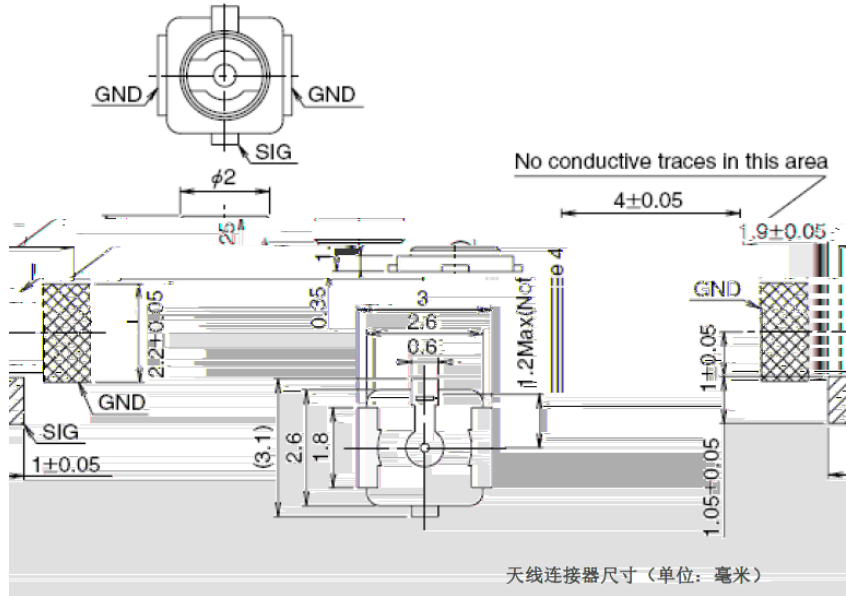
定位精度: 2.5m (CEP), 5m (95%)

#### 备注

1. 追踪灵敏度: 指接收机可以保持对目标信号的跟踪和定位所需的最低信号电平 (持续定位至少 2 分钟)
2. 重捕灵敏度: 指接收机从信号丢失后重新捕获信号所需的最低信号电平
3. 冷启动: 指接收机在没有任何先验信息的情况下首次定位所需的时间

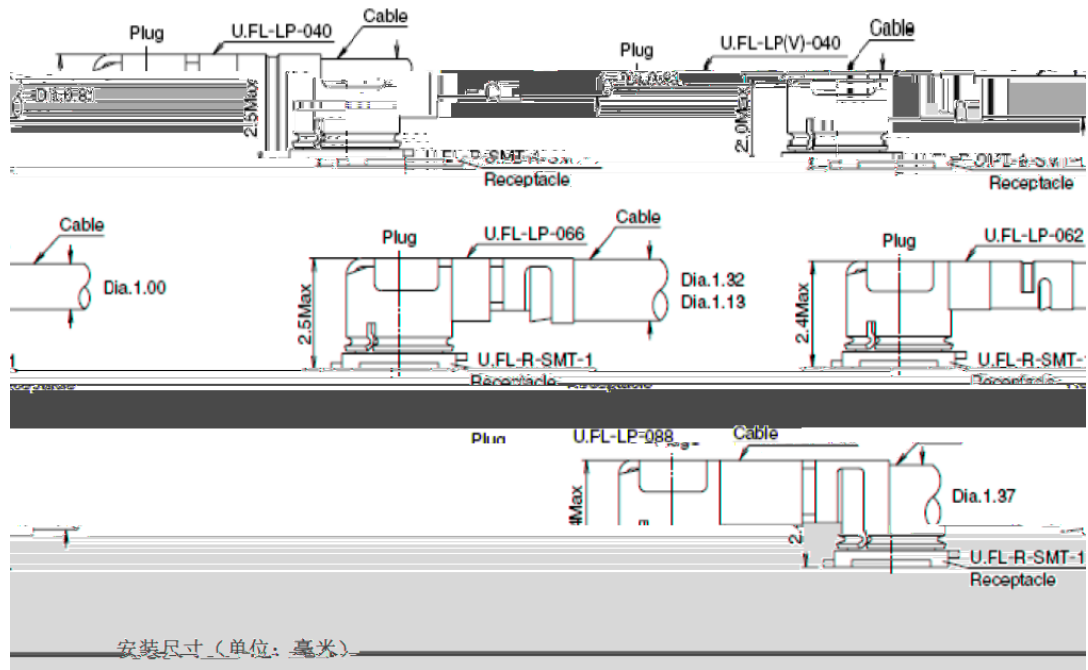
### 6.3

### EVB



### U.FL-LP

U.FL-LP-010			U.FL-LP-020			U.FL-LP-040			U.FL-LP-050		
3.4	4	5	4	4	4	4	4	4	4	4	4
0mm Max. 9mm Nom.)	2.4mm Max. (2.3mm Nom.)	2.4mm Max. (2.3mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)	2.5mm Max. (2.4mm Nom.)
Coaxial cable	Coaxial cable	Coaxial cable	cable	Coaxial cable	Coaxial cable	Coaxial cable	Coaxial cable	Coaxial cable	Coaxial cable	Coaxial cable	Coaxial cable
34.8	46.5	75.7	53.7	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1
YFS											
连接系列						U.FL-LP					



IPEX

<https://www.i-pex.com>

## 7

### 7.1

11

TypeC	-0.3	6	V
DC	-0.3	16	V
3.3V	-0.3	3.4	V
	-0.3	3.4	V
ADC0	-	1.2	V
ADC1	-	1.2	V
5V	-	2	A

## 7.2

12

TypeC		4.5	5.0	5.25	V
DC		4.5	12	16	V
I	LTE	-	1.5	2	A

## 7.3

13 ESD V

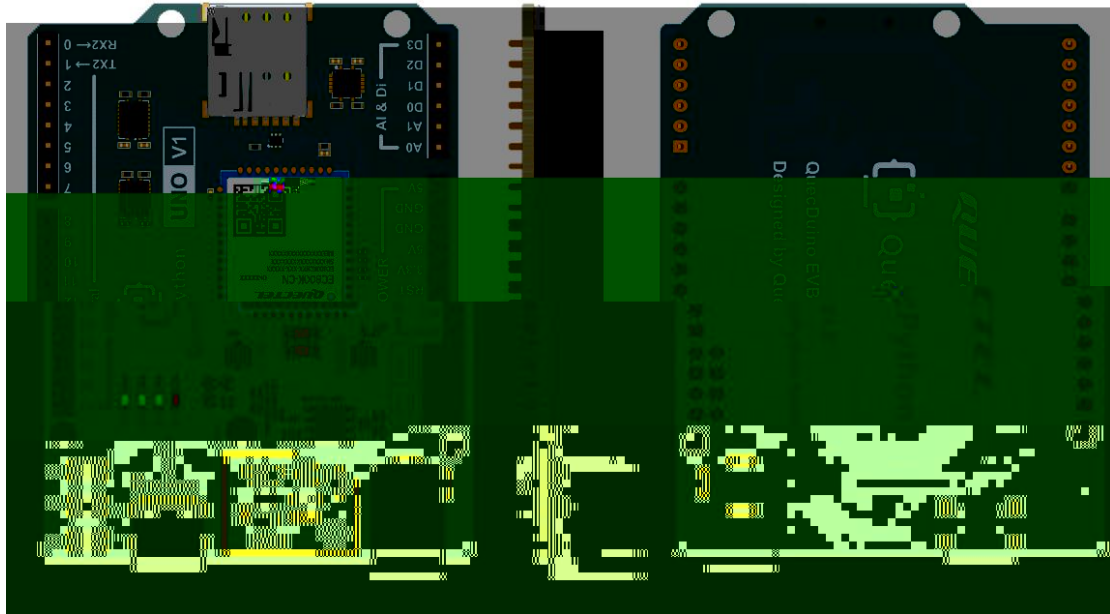
5V GND	8	10		KV
USB	8	10		KV

# 8

## 8.1



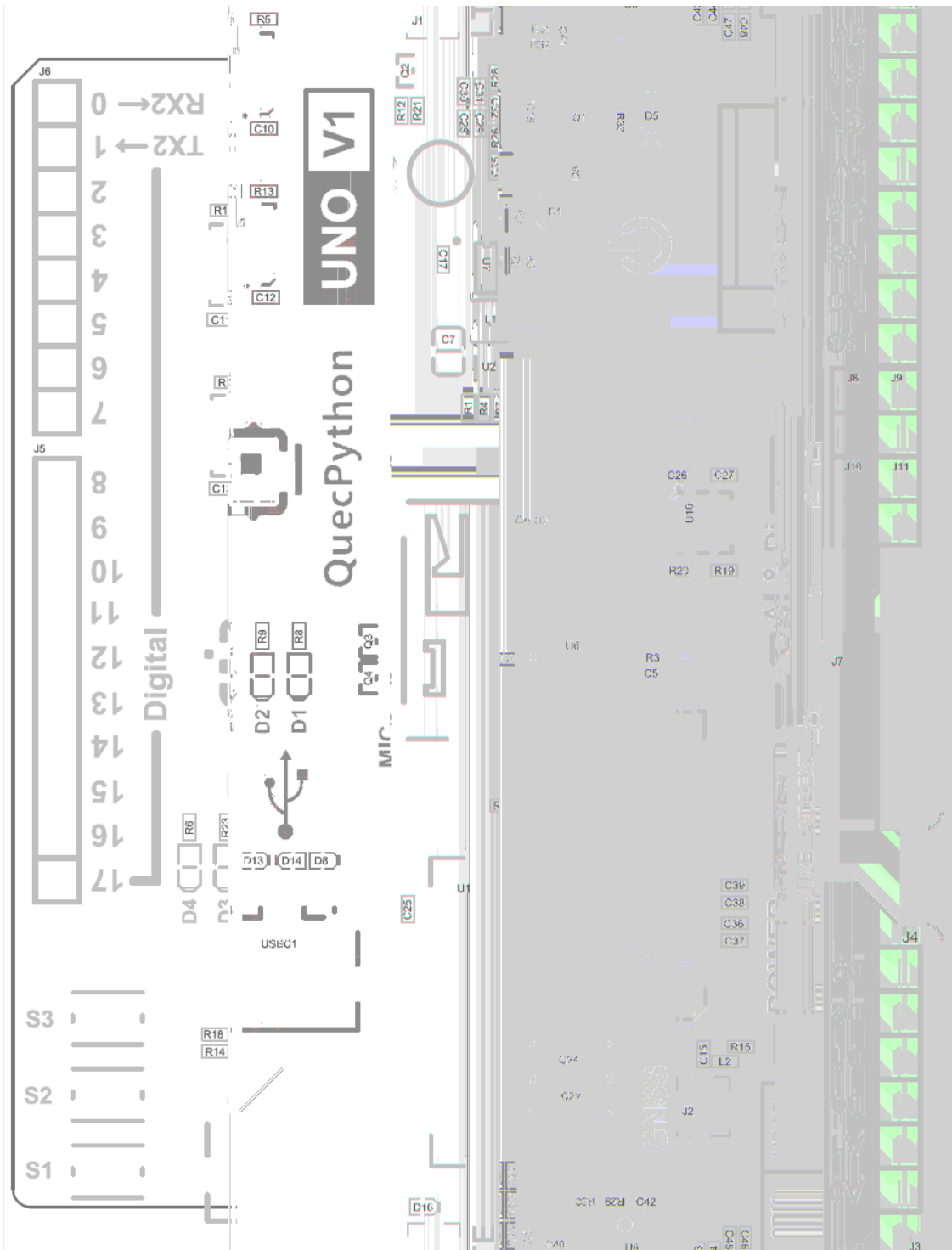
## 8.2

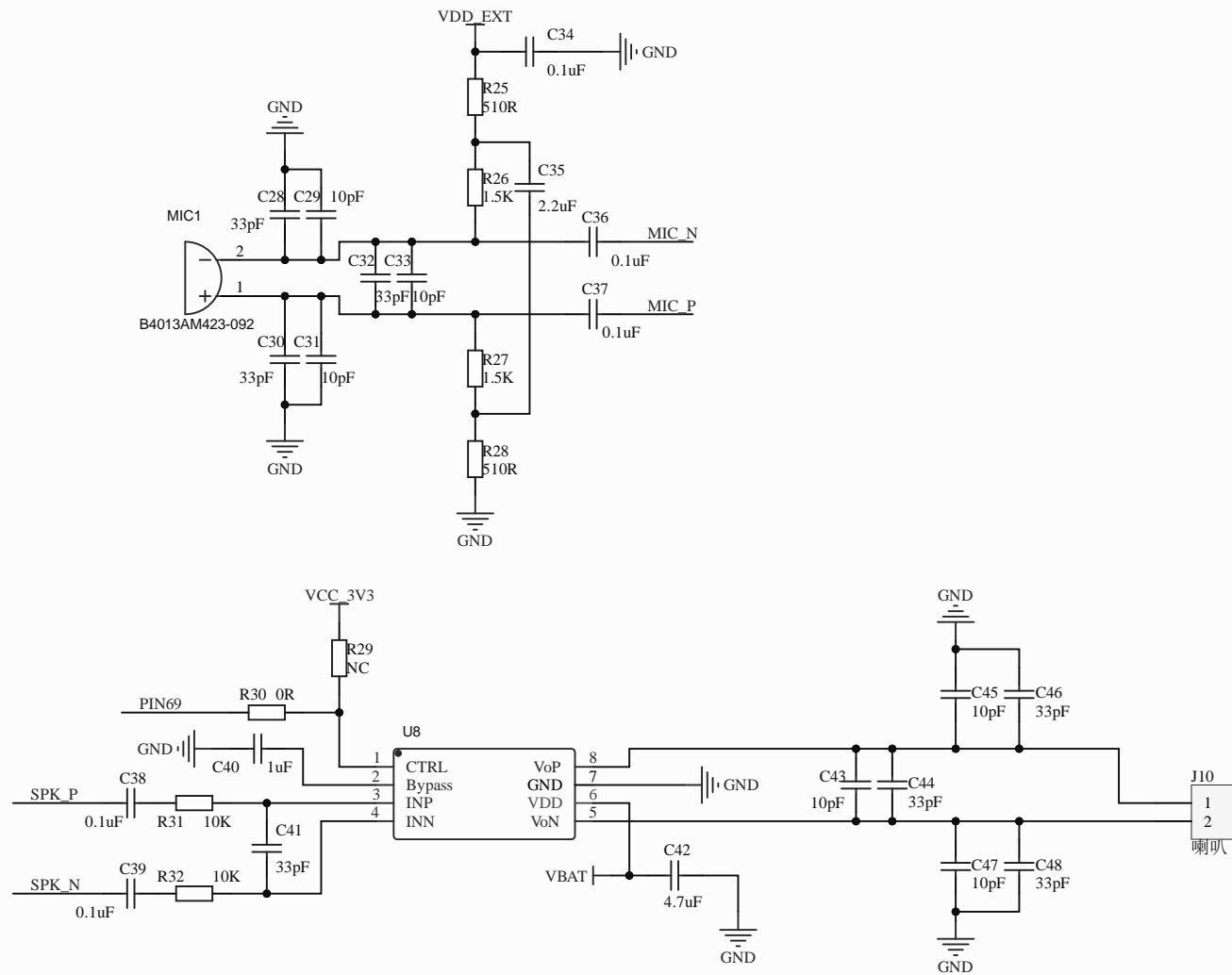


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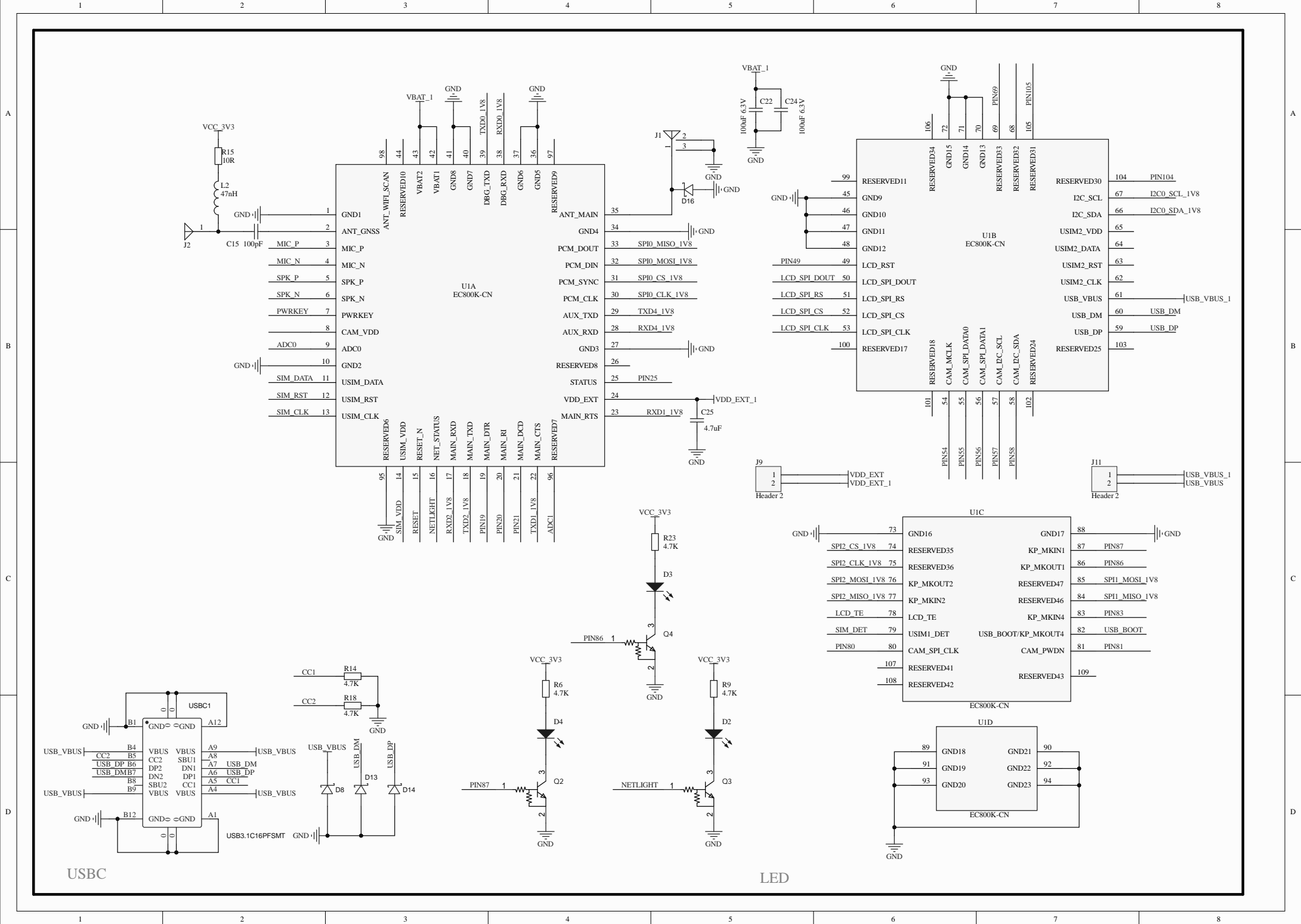
- 1
- 2

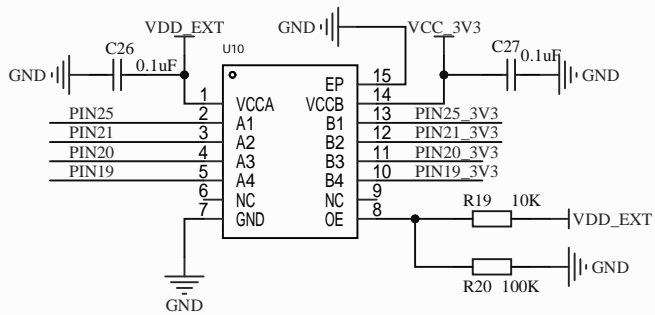
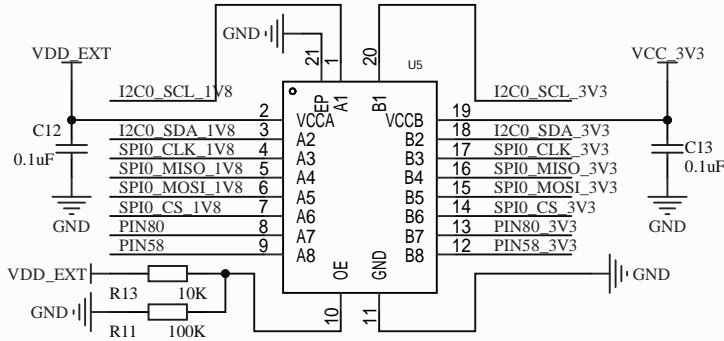
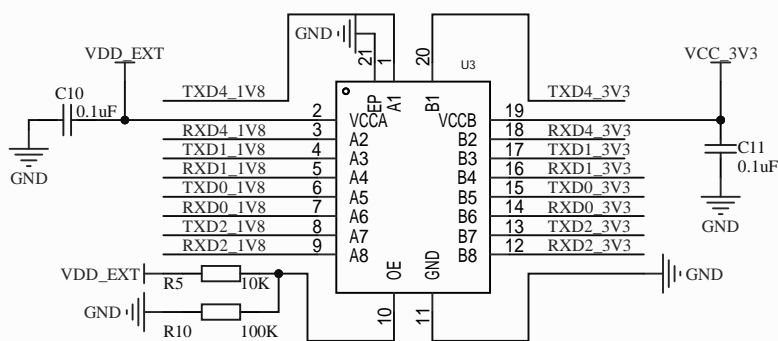
## 10 EVB



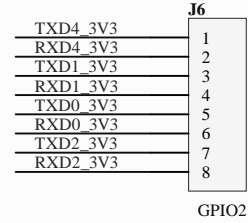
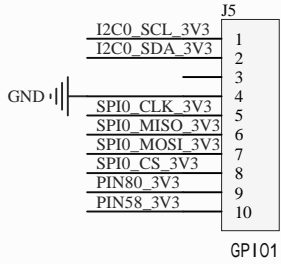
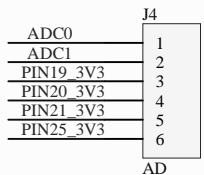
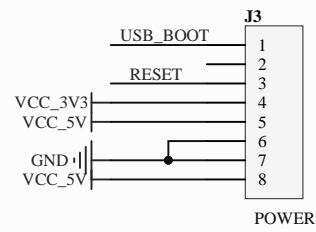
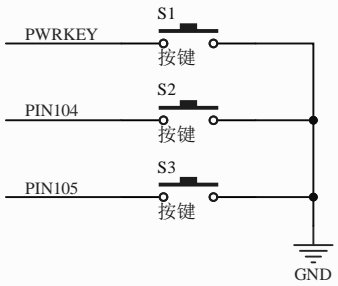


AUDIO





### 电平转换



### 按键和排母

1

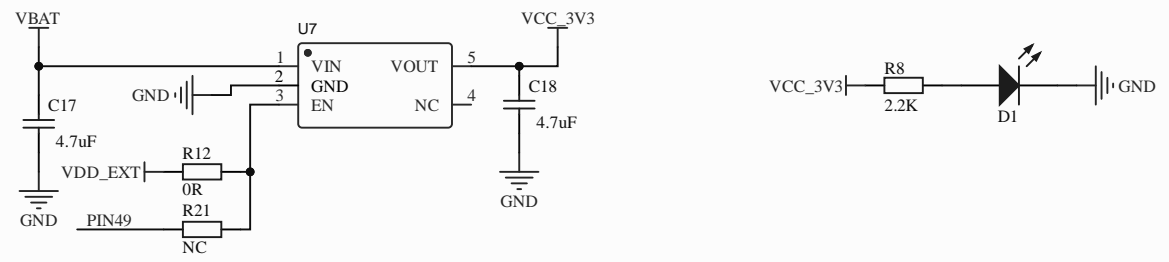
2

3

4

A

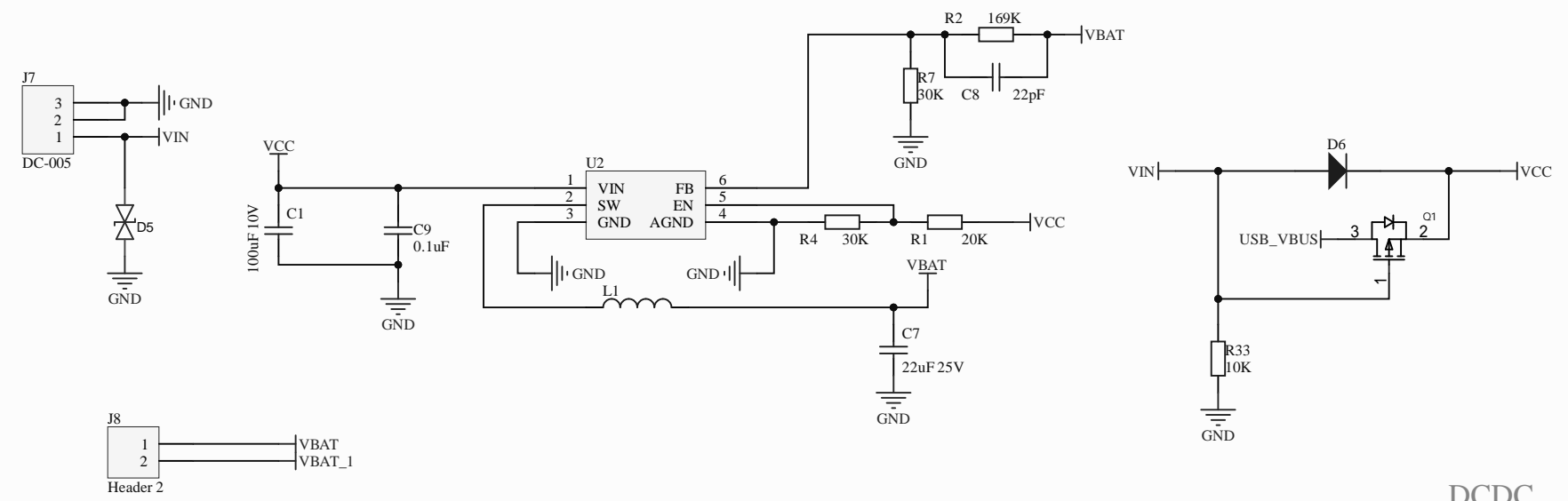
A



LDO

B

B



DCDC

D

D

1

2

3

4

