

EC800X QuecDuino EVB

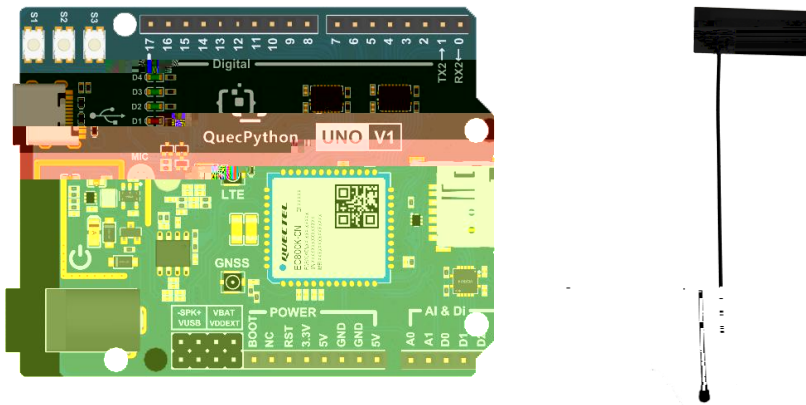


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EC800X QuecDuino EVB EC800
EC800M EC800K EG800K EC800E

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)

| | | |
|------|--------|------------|
| 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 |

BOOT
BOOT

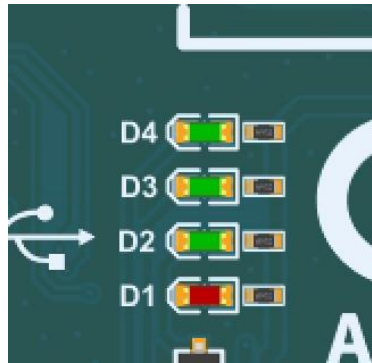
BOOT

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

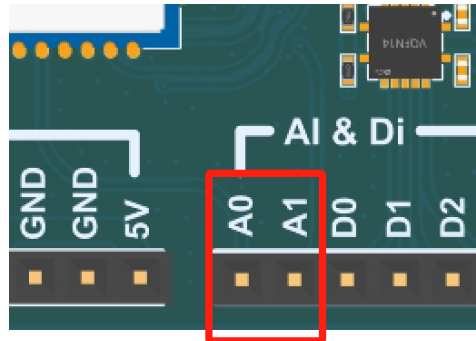


EVB 1 TypeC USB USB USB 2.0
USB 2.0 480 Mbps 12 Mbps
AT GNSS NMEA

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。

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

6.1.2

7

| 频段 | 最大值 | 最小值 |
|-----------------------------|--------------|-----------|
| LTE-FDD B1/B3/B5/B8 | 23 dBm ±2 dB | < -39 dBm |
| LTE-TDD B34/B38/B39/B40/B41 | 23 dBm ±2 dB | < -39 dBm |

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

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| | | |
|---------|-----------------------|-----|
| 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

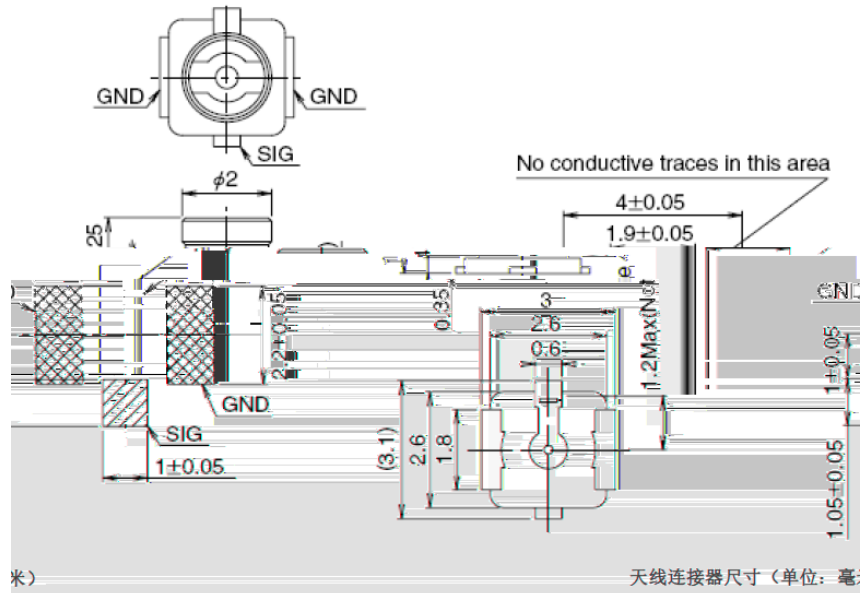
| 参数 | 条件 | 典型值 | 单位 |
|--------|------------|------------------|-----|
| 灵敏度 | 捕获 | -146 | dBm |
| | 重捕 | -160 | |
| | 追踪 | -160 | |
| 首次定位时间 | 冷启动 @ 空旷区域 | 28 | s |
| | 温启动 @ 空旷区域 | 27 | |
| | 热启动 @ 空旷区域 | 3.7 ³ | |
| 定位精度 | CEP-50 | 2 | m |

备注

1. 追踪灵敏度：模块可以保持对导航信号的跟踪和定位所需的最低信号电平。(持续定位至少3分钟)
2. 重捕灵敏度：模块接收的导航信号失锁后，在5分钟内重新捕获导航信号所需的最低信号电平。
3. 捕获灵敏度：模块进行冷启动时，在3分钟内捕获导航信号所需的最低信号电平。

6.3

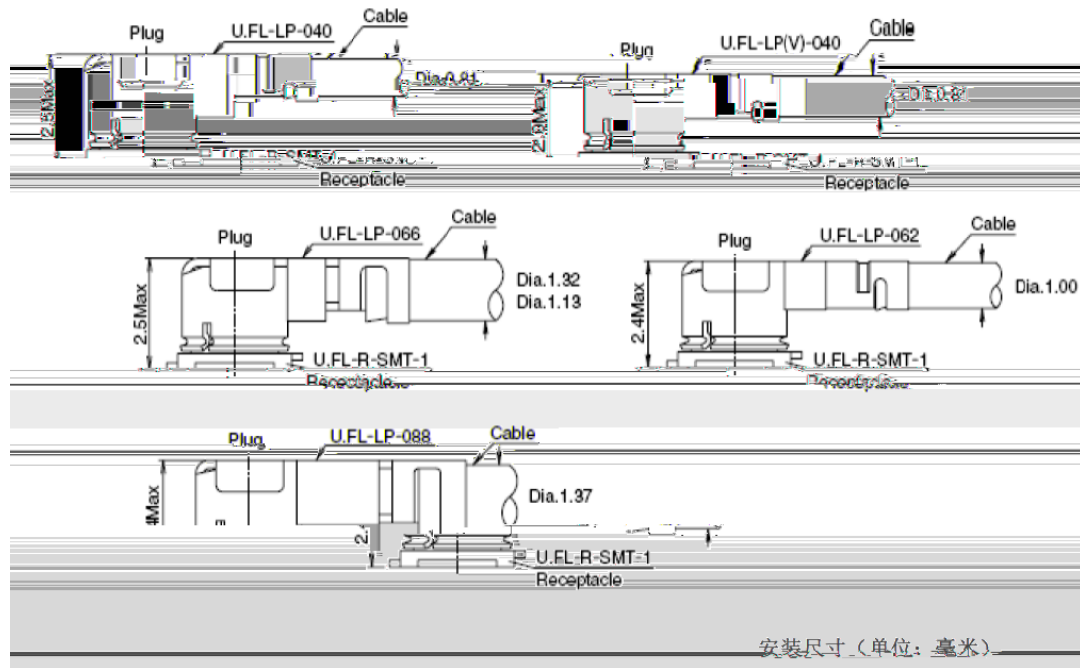
EVB



U.FL-LP

| | U.FL-LP-040 | U.FL-LP-050 | U.FL-LP-060 | U.FL-LP-080 | U.FL-LP-090 |
|--------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Part No. | | | | | |
| Mated Height | 2.0mm Max. (1.9mm 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.) |
| Weight (mg) | 34.8 | 45.5 | 71.7 | 53.7 | 59.0 |
| RoHS | YES | | | | |

U.FL-LP 连接系列



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

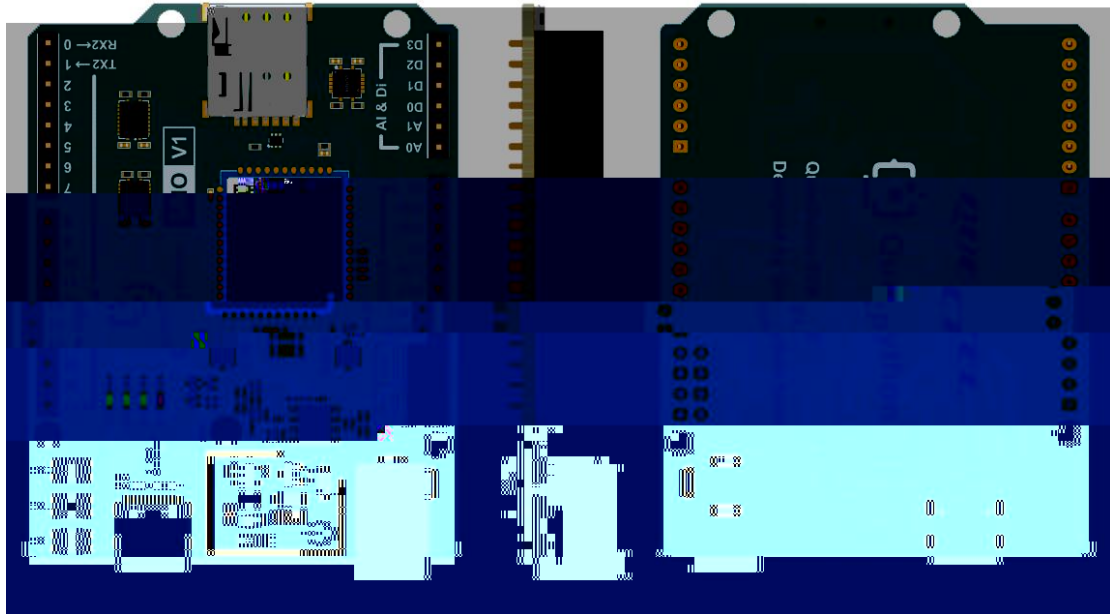
| TypeC | | 4.5 | 5.0 | 5.25 | V |
|-------|-----|-----|-----|------|---|
| DC | | 4.5 | 12 | 16 | V |
| I | LTE | - | 1.5 | 2 | A |

7.3

13 ESD

| 5V GND | 8 | 10 | | KV |
|--------|---|----|--|----|
| USB | 8 | 10 | | KV |

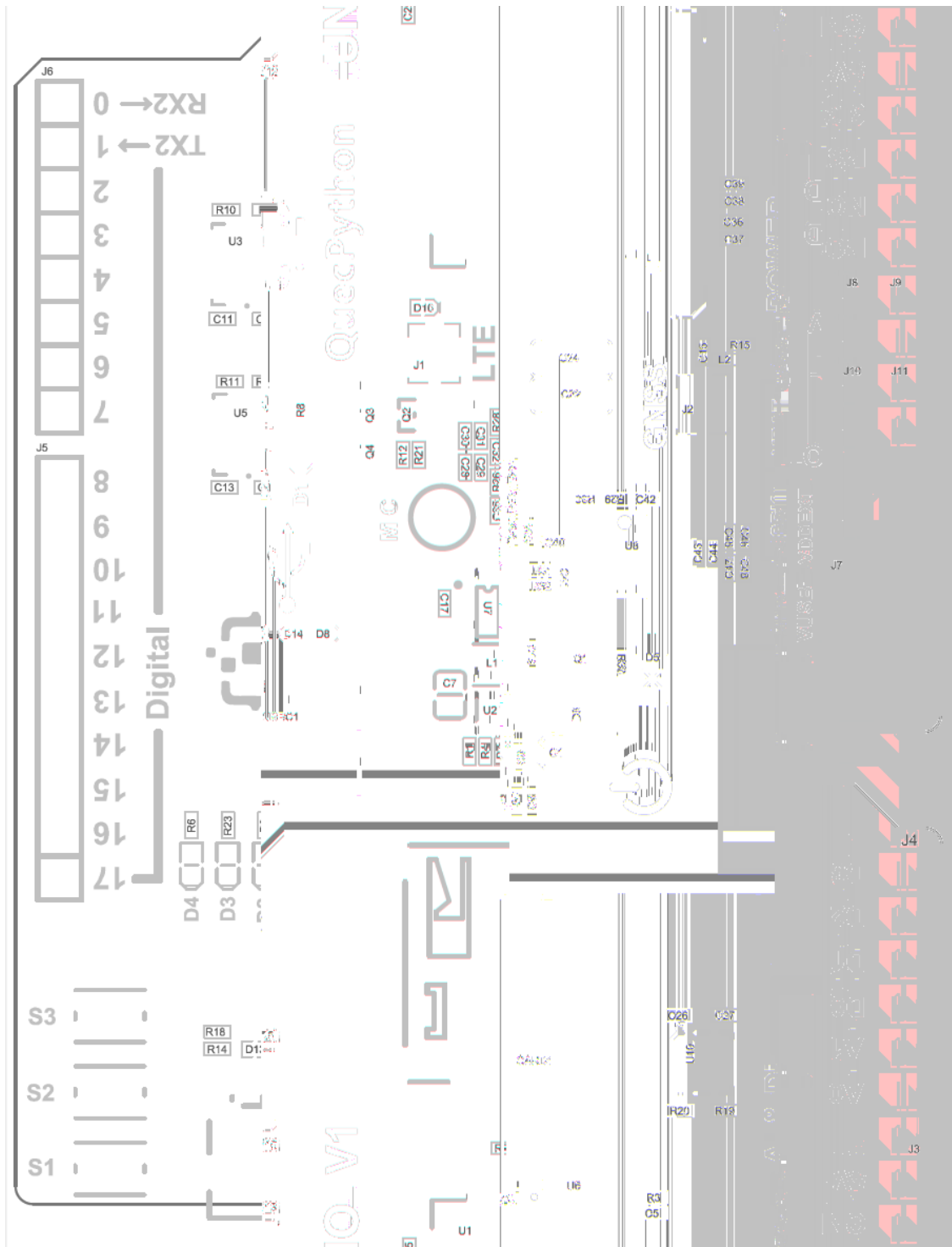
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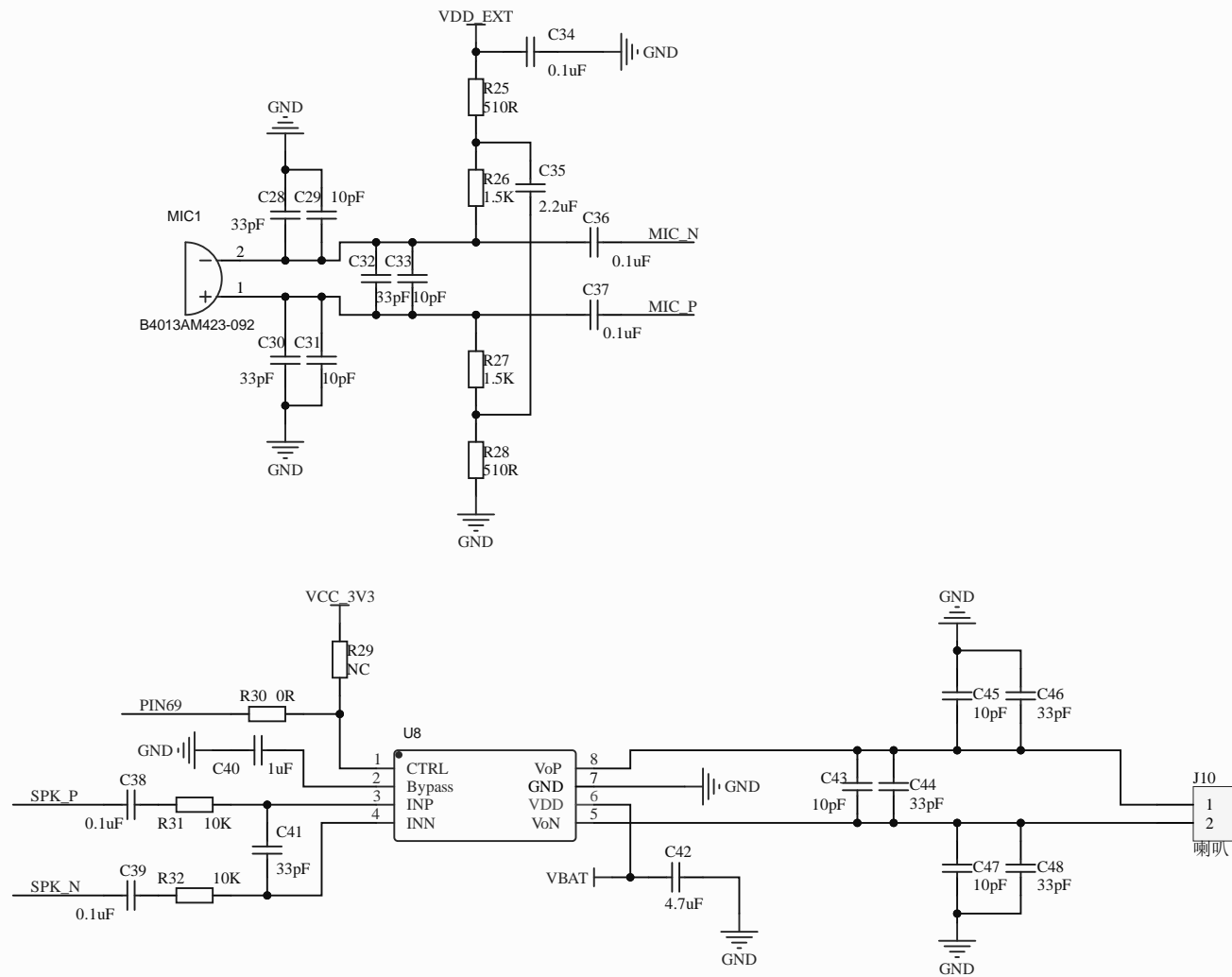


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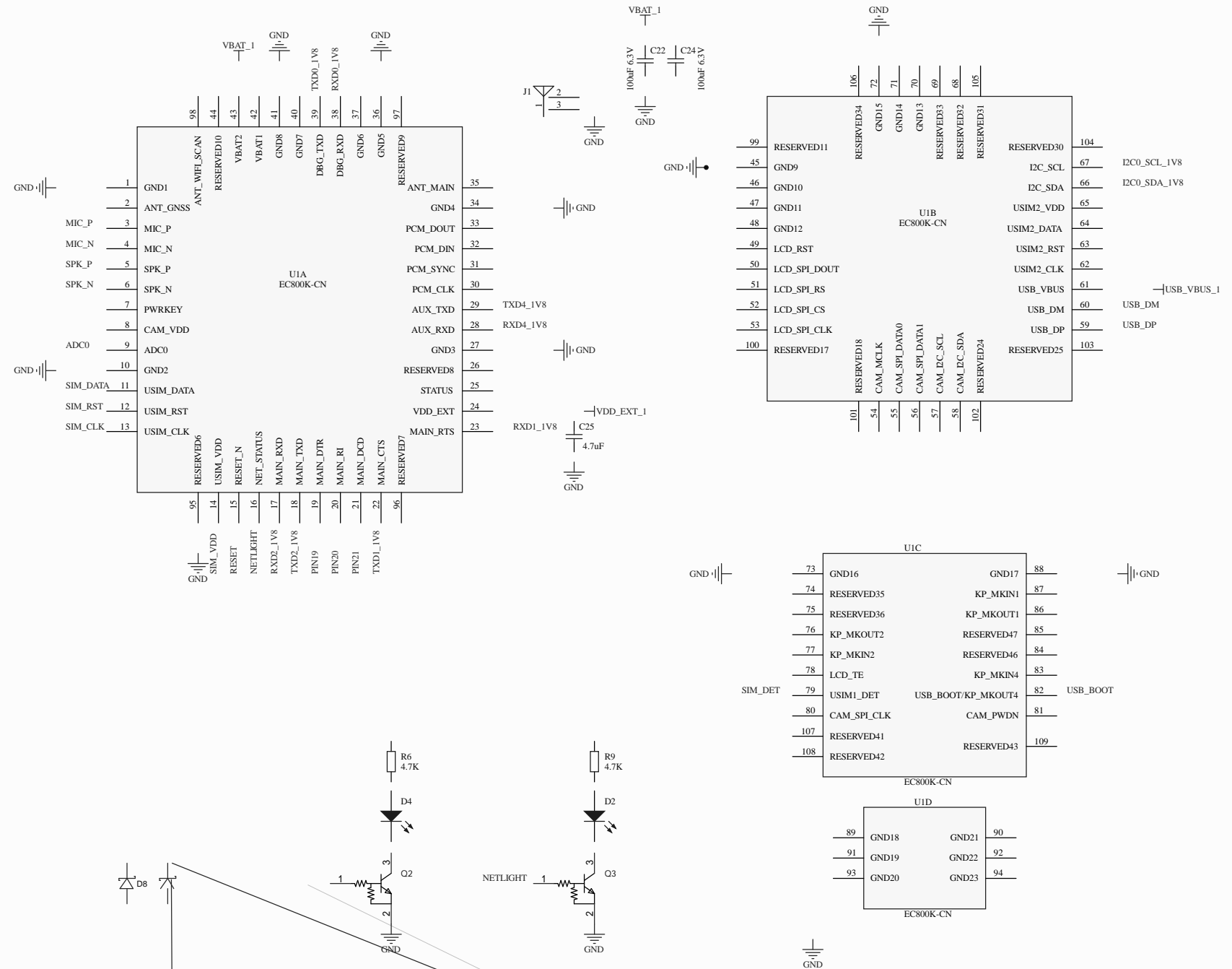
- 1
- 2

10 EVB



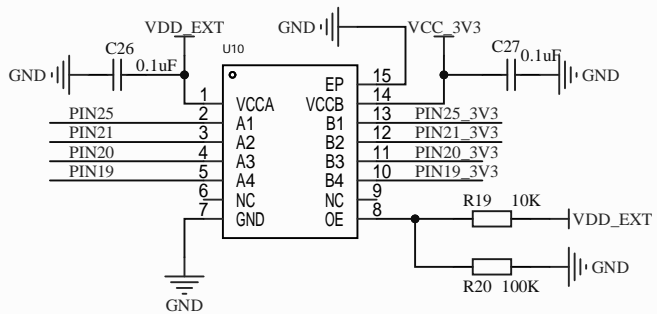
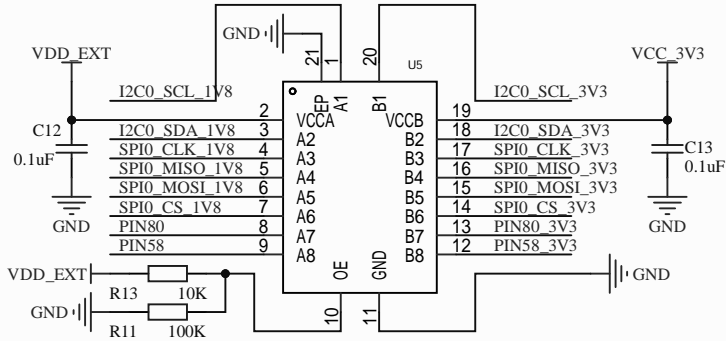
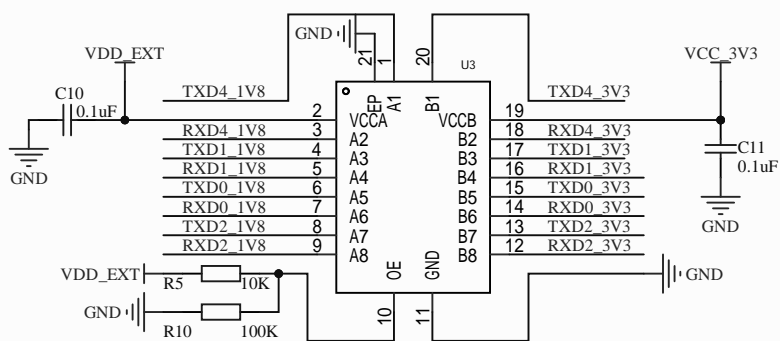


AUDIO

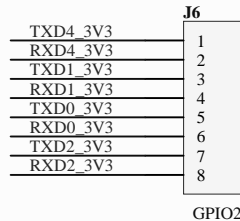
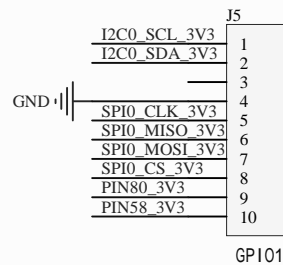
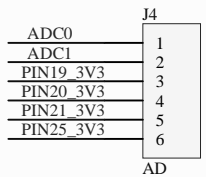
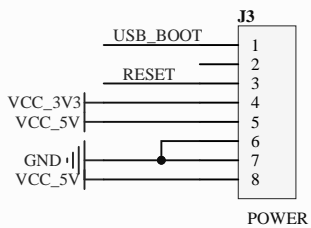


USBC

LED



电平转换



按键和排母

1

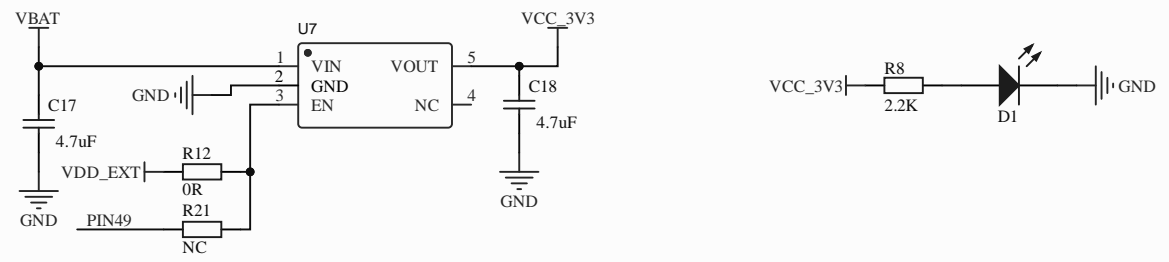
2

3

4

A

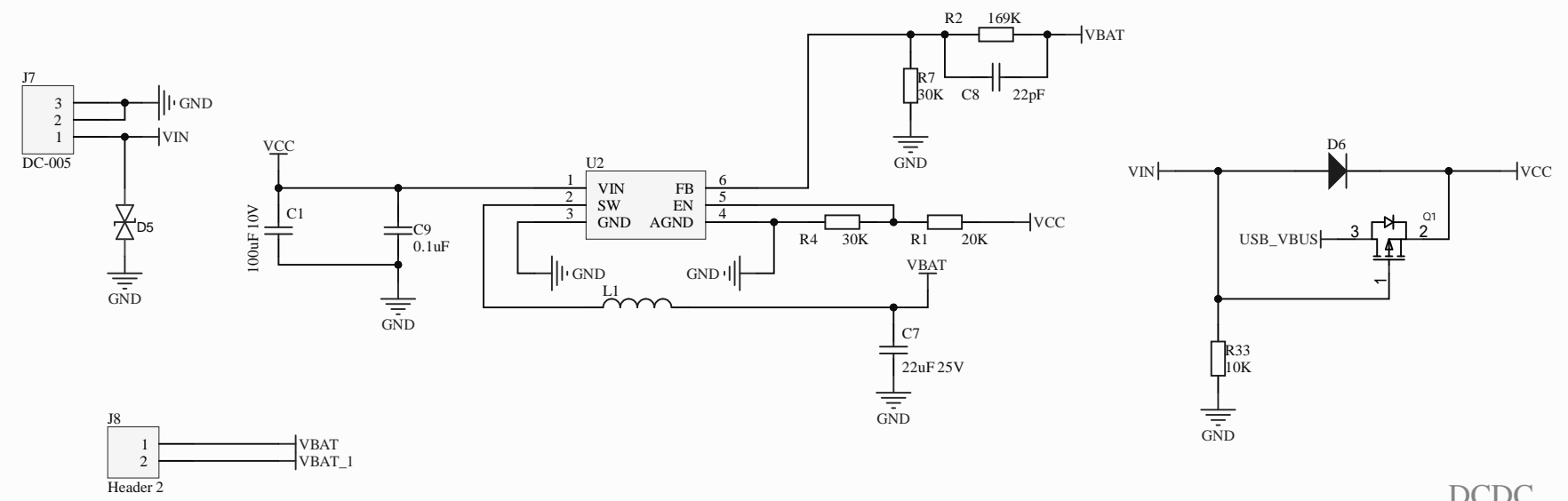
A



LDO

B

B



DCDC

C

C

D

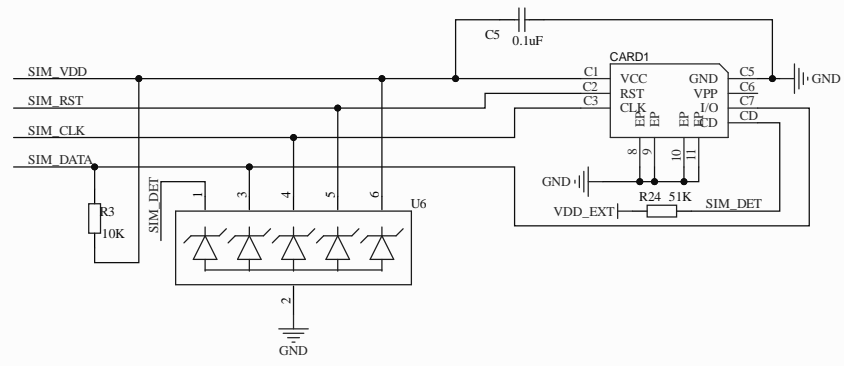
D

1

2

3

4



USIM