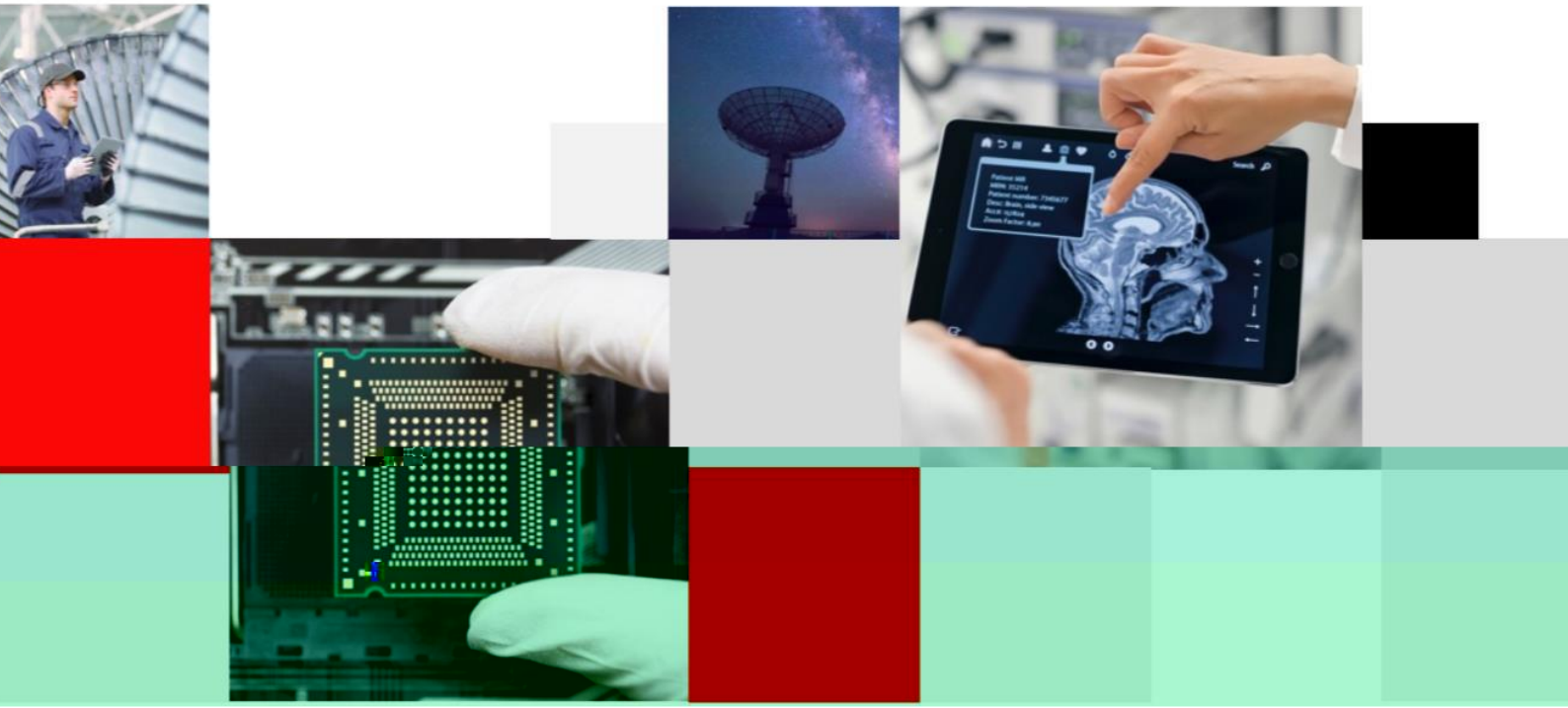
EC800X QuecDuino EVB

EC800X QuecDuino EVB V1.1

2024-12-25

LX



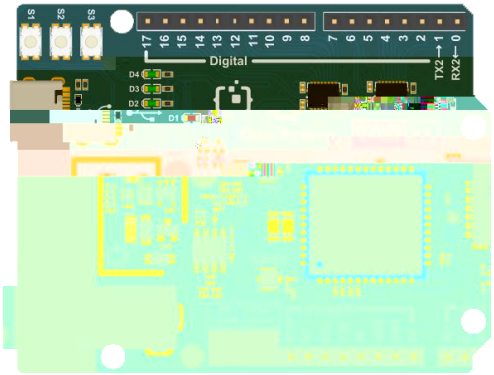
1

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)

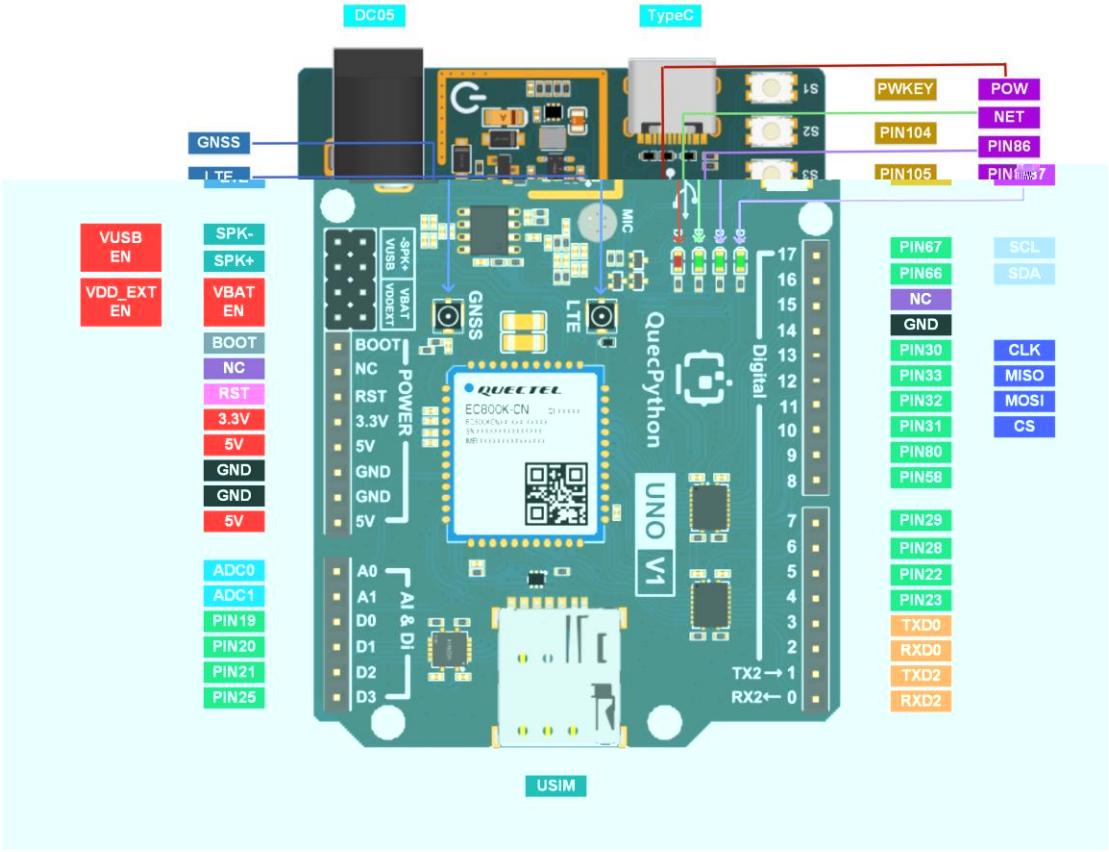
4x LED(D1-D4)

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

1

EVB 5V TypeC DC

5V 5V V1.1

2A TypeC DC 5V

USB USB

2

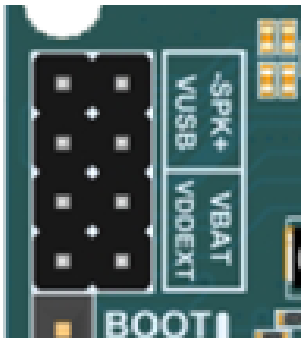
Pin0 Pin1 AT 115200

AT 4800 9600 19200 38400

57600 115200 230400 460800 921600bps AT

open C QuecPython UART2

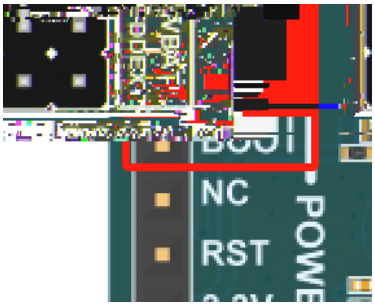
3



VBAT VUSB VDD_EXT

VBAT

4 BOOT

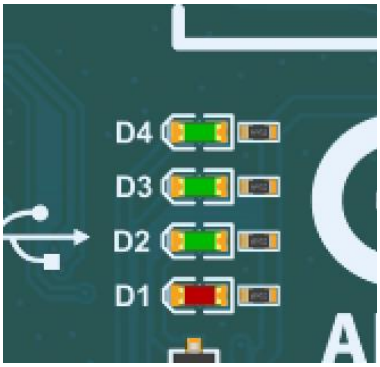


BOOT BOOT BOOT GND

BOOT

2.3

EVB 4 D1



D2

2

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

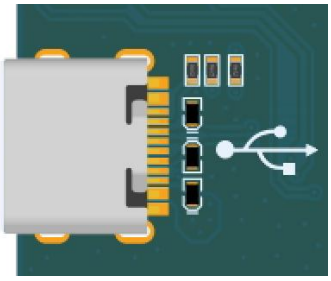
D3 D4 86 87

3 SIM

EVB NANO SIM USIM ETSI IMT-2000

1.8 V 3.0 V USIM

4 USB



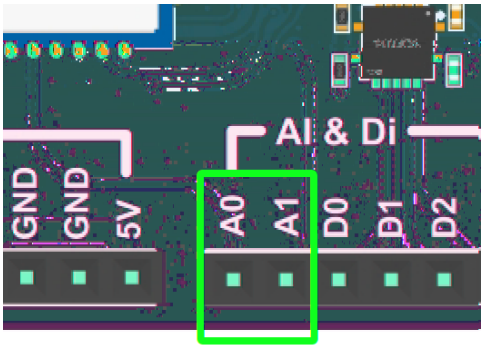
EVB 1 TypeC USB USB USB 2.0

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

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

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 3	

备注

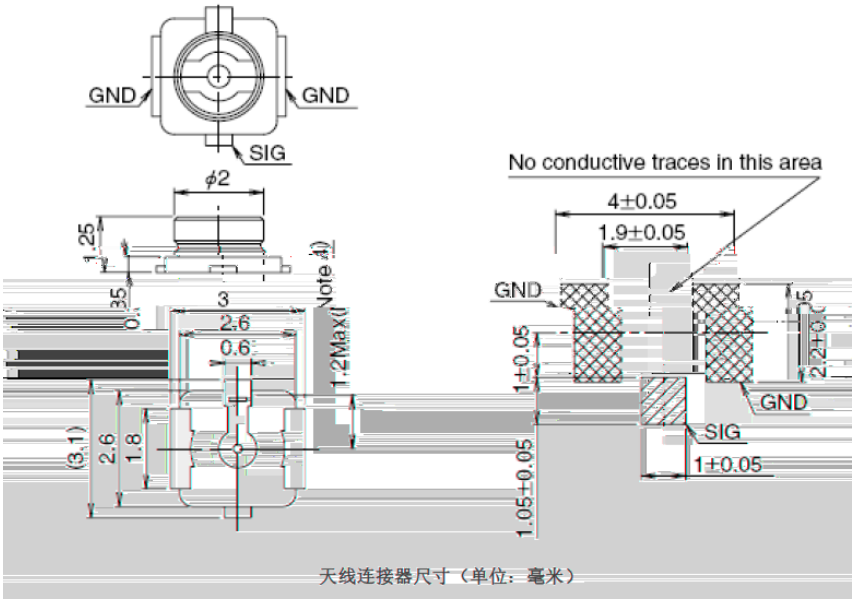
1 追踪灵敏度：模块可以保持对导航信号的跟踪和定位所需的最低信号电平（持续定位至少 3 分钟）。

2 重捕灵敏度：模块在接收导航信号发生 3 分钟以上中断后，重新捕获导航信号所需的最低信号电平。

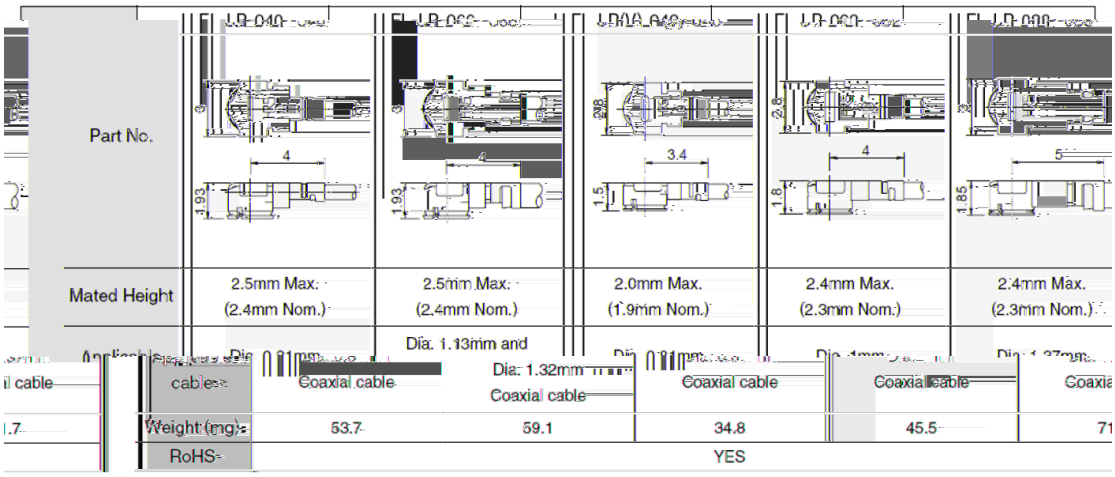
3 捕获灵敏度：模块进行冷启动后 3 分钟内，捕获导航信号并成功定位所需的最低信号电平。

6.3

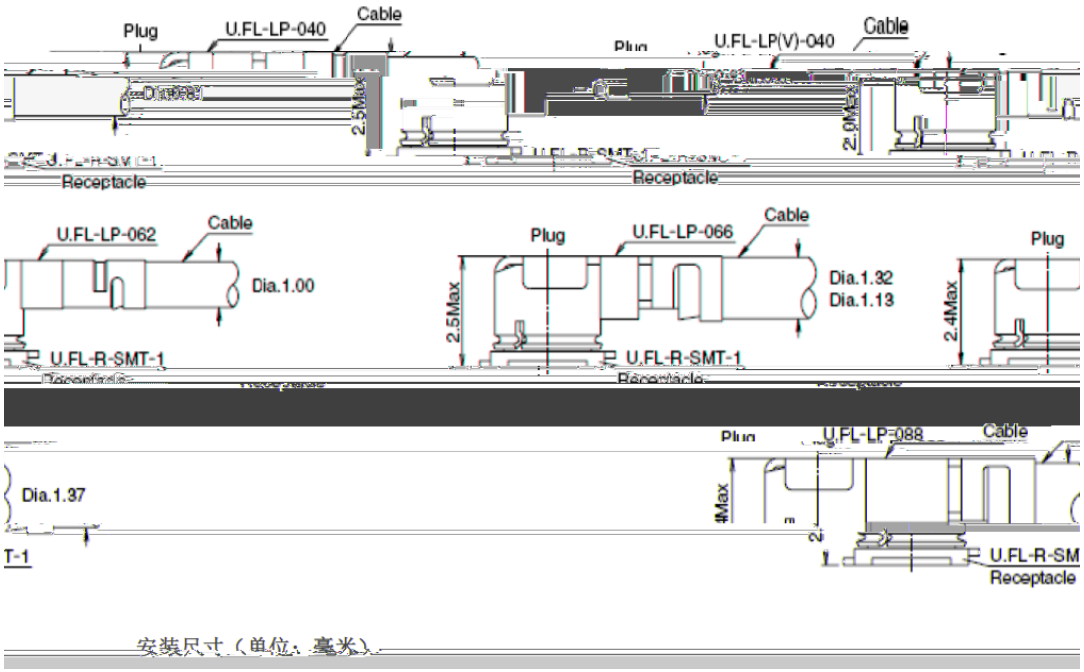
EVB



U.FL-LP



U. FL-LP 连接线系列



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			
DC		4.5	12
I	LTE	-	1.5

7.3

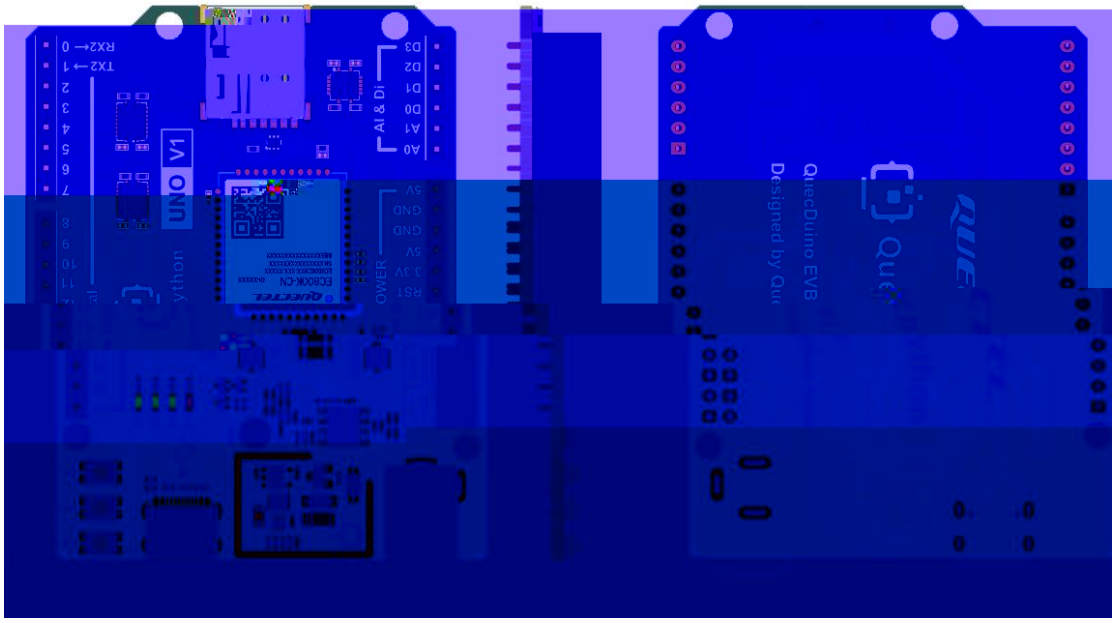
13 ESD V

8

8.1

17,78 (mm)
53,34 (mm)
25 (mm)
12,084 (mm)
22,86 (mm)
1,27 (mm)
19,31 (mm)
2,54 (mm)
3 (mm)
3,2 (mm)

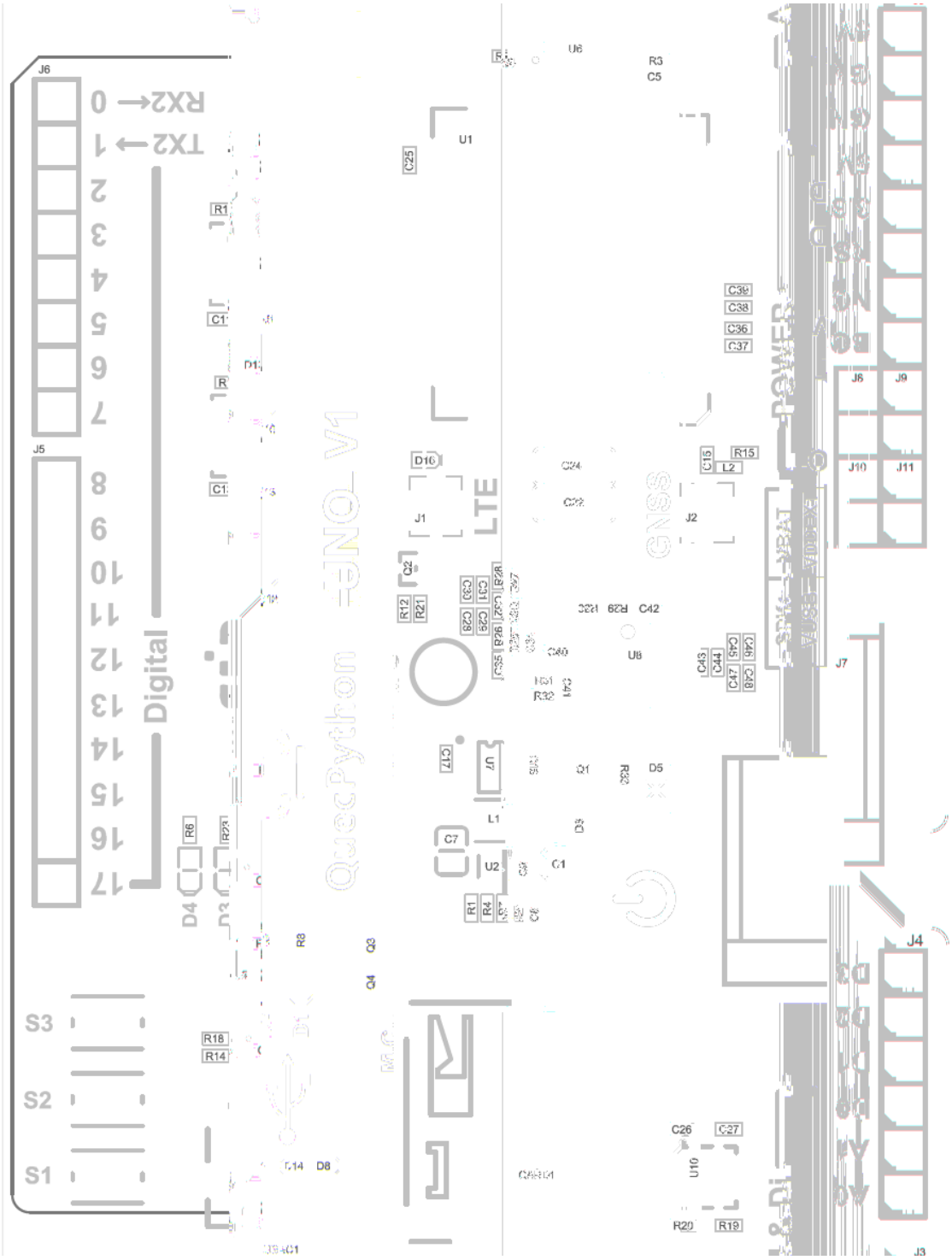
8.2

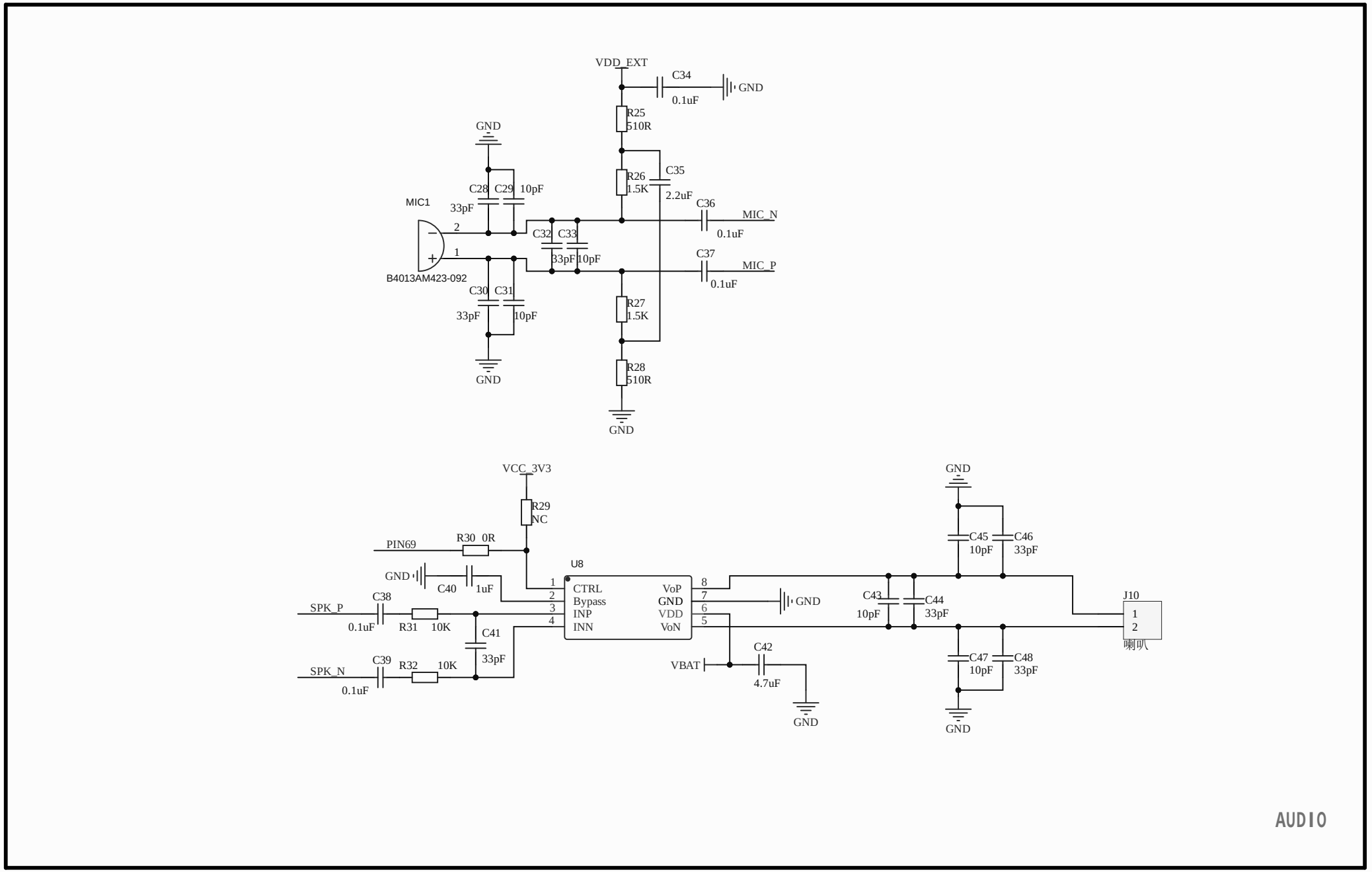


9

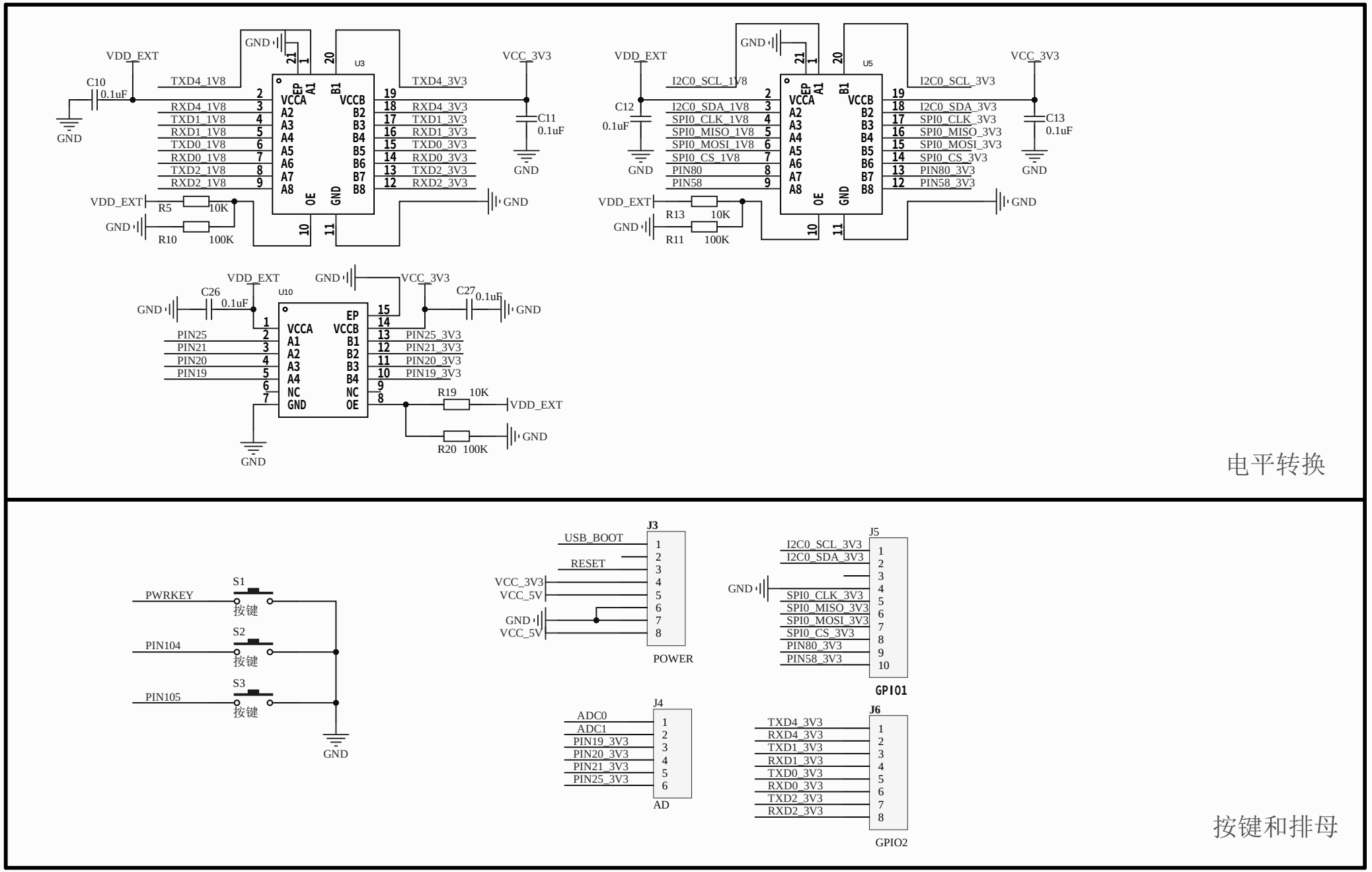
1
2

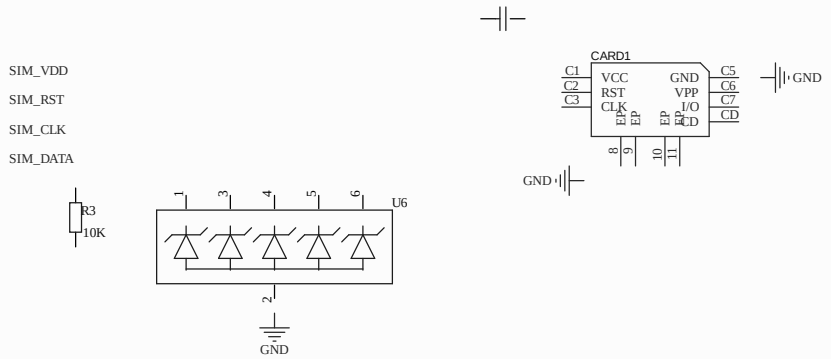
10 EVB


QuecPython EC600N_V1
LTE
GNSS
POWER
Digital
J6
J5
J1
J2
J3
J4
J7
J8
J9
J10
J11
S1
S2
S3
U1
U2
U6
U7
U8
U10
D16
D8
D5
D4
L1
L2
C25
C24
C22
C42
C7
C17
C26
C27
R3
C5
R1
R4
R6
R8
R12
R21
R15
R18
R14
R20
R19
C15
C36
C37
C38
C39
C43
C44
C45
C46
C47
C48
Q1
Q3
Q4


VDD_EXT
C34
0.1uF
GND
R25
510R
GND
C28
C29
10pF
MIC1
33pF
2
1
B4013AM423-092
R26
1.5K
C35
2.2uF
C36
MIC_N
0.1uF
C32
C33
33pF
10pF
C37
MIC_P
0.1uF
C30
C31
33pF
10pF
R27
1.5K
GND
R28
510R
GND
VCC_3V3
R29
NC
PIN69
R30
0R
GND
C40
1uF
U8
1
2
3
4
CTRL
Bypass
INP
INN
VoP
GND
VDD
VoN
8
7
6
5
GND
C38
SPK_P
0.1uF
R31
10K
C41
33pF
C39
SPK_N
0.1uF
R32
10K
C42
VBAT
4.7uF
GND
GND
C45
10pF
C46
33pF
C43
10pF
C44
33pF
C47
10pF
C48
33pF
GND
J10
1
2
喇叭
AUDIO

RESERVED30
I2C_SCL
I2C_SDA
SIM2_VDD
M2_DATA
M2_RST
2_CLK
_VBUS
B_DM
B_DP
ED25
104
67
66
65
64
63
62
61
60
59
103
I2C0_SCL_1V8
I2C0_SDA_1V8
USB_VBUS_1
USB_DM
USB_DP
GND


U3
VDD_EXT
GND
VCC_3V3
C10
0.1uF
C11
0.1uF
TXD4_1V8
RXD4_1V8
TXD1_1V8
RXD1_1V8
TXD0_1V8
RXD0_1V8
TXD2_1V8
RXD2_1V8
TXD4_3V3
RXD4_3V3
TXD1_3V3
RXD1_3V3
TXD0_3V3
RXD0_3V3
TXD2_3V3
RXD2_3V3
VCCA
VCCB
EP
A1
B1
A2
B2
A3
B3
A4
B4
A5
B5
A6
B6
A7
B7
A8
B8
OE
R5
10K
R10
100K
U5
C12
C13
I2C0_SCL_1V8
I2C0_SDA_1V8
SPI0_CLK_1V8
SPI0_MISO_1V8
SPI0_MOSI_1V8
SPI0_CS_1V8
PIN80
PIN58
I2C0_SCL_3V3
I2C0_SDA_3V3
SPI0_CLK_3V3
SPI0_MISO_3V3
SPI0_MOSI_3V3
SPI0_CS_3V3
PIN80_3V3
PIN58_3V3
R13
10K
R11
100K
U10
C26
C27
PIN25
PIN21
PIN20
PIN19
PIN25_3V3
PIN21_3V3
PIN20_3V3
PIN19_3V3
NC
R19
10K
R20
100K
电平转换
S1
S2
S3
PWRKEY
PIN104
PIN105
按键
J3
USB_BOOT
RESET
VCC_3V3
VCC_5V
POWER
J5
GPIO1
J4
ADC0
ADC1
PIN19_3V3
PIN20_3V3
PIN21_3V3
PIN25_3V3
AD
J6
GPIO2
按键和排母


SIM_VDD
SIM_RST
SIM_CLK
SIM_DATA
R3
10K
U6
1
3
4
5
6
2
GND
CARD1
C1
C2
C3
VCC
RST
CLK
GND
VPP
I/O
CD
C5
C6
C7
CD
EP
EP
EP
EP
8
9
10
11
GND
GND

USIM