

System block diagram

POWER

VANA_LDO_3V3
LDO_1V8
DCDC 2A 3V3

USB-OTG
TYPE C

USB-UART
TYPE C

8路CAN口

3路TSN
P1/P3
可作以太网
10M/100M
1000M

HPM6E00FULLPORTRevB

JTAG20PIN

FLASH 128Mb

1.3寸 TFTLCD

RASPBERRY
-PI

3路ETHERCAT
P1可作以太网
10M/100M

RESET KEY
KEYA KEYB
KEYC KEYD
BOOT SW
LEDx2

修订历史

内容

时间

HPM6E00FULLPORTRevB

20240912

更新点：

1、ESC的phy地址修改为
01H,10H,11H,
并修正RevA ESC
RJ45 LED 错误

2、ESC的phy兼容JL1111
RTL8201F YT8512
YT8522,默认为JL1111

3、ESC的每路RJ45的4个信号
通过排针引出

4、增加USB丝印，
并调整user key丝印

5、调整LCD插座靠近排线1.5mm

6、将板子右上角的安装孔
由原来的GND改成5V

System block diagram 
先楫半导体

Sheet File:

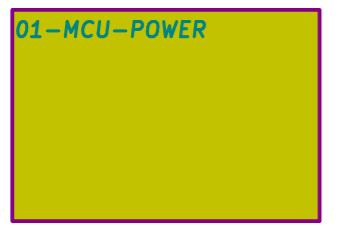
Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 0/28

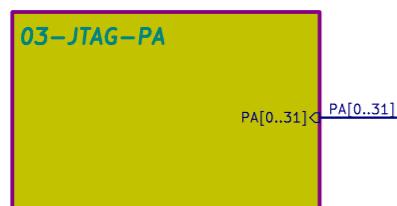
MCU



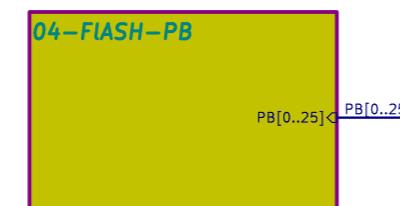
File: 01-MCU-POWER.kicad_sch



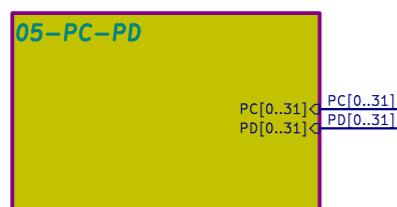
File: 02-USB-OSC.kicad_sch



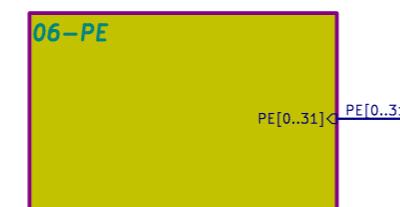
File: 03-JTAG-PA.kicad_sch



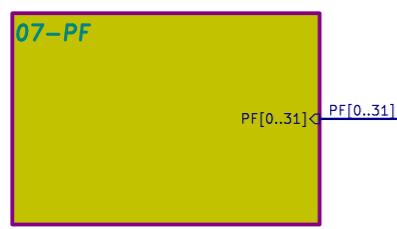
File: 04-FLASH-PB.kicad_sch



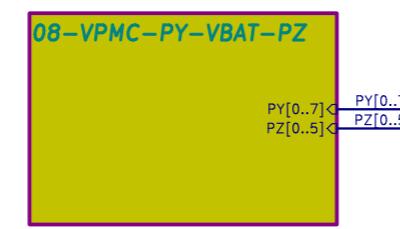
File: 05-PC-PD.kicad_sch



File: 06-PE.kicad_sch



File: 07-PF.kicad_sch

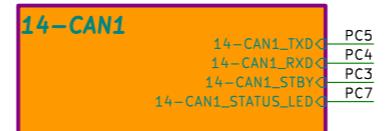


File: 08-VPMC-PY-VBAT-PZ.kicad_sch

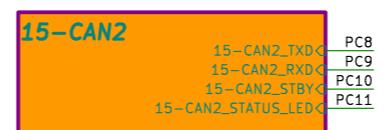
8路CAN 工业总线



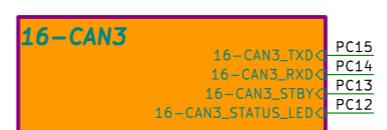
File: 13-CAN.kicad_sch



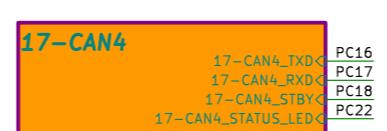
File: 13-CAN.kicad_sch



File: 13-CAN.kicad_sch

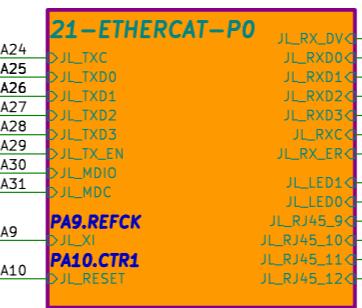


File: 13-CAN.kicad_sch

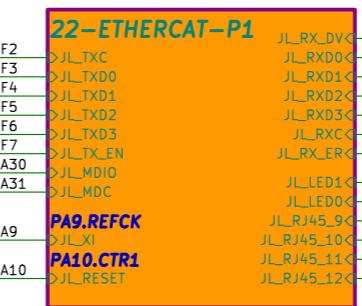


File: 13-CAN.kicad_sch

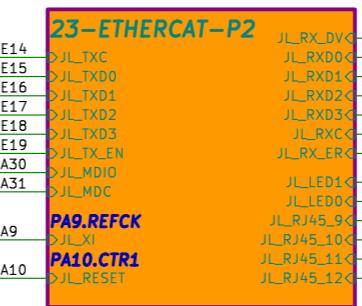
EtherCAT 工业以太网



File: 14-ETHERCAT.kicad_sch



File: 14-ETHERCAT.kicad_sch



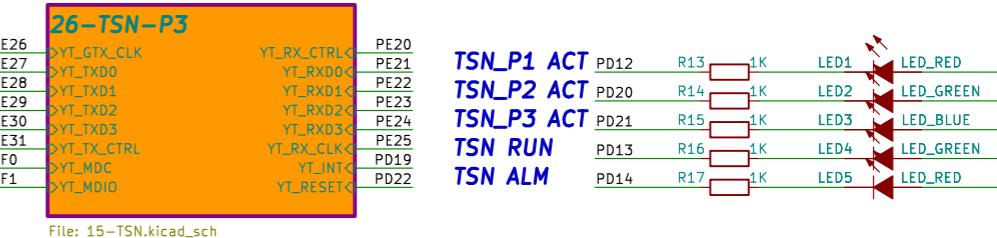
File: 14-ETHERCAT.kicad_sch



File: 15-TSN.kicad_sch



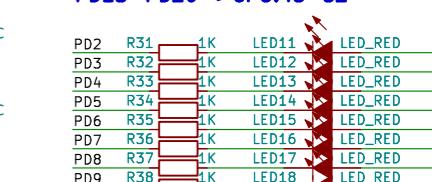
File: 15-TSN.kicad_sch



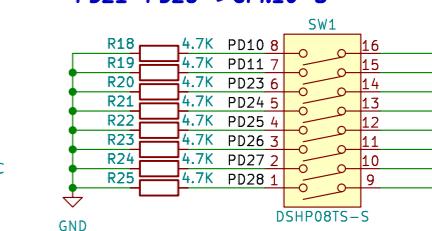
File: 15-TSN.kicad_sch

PA30 PA31既可作 EtherCAT 的 SMI
也可作普通以太网的 SMI
P1口作普通以太网10/100M

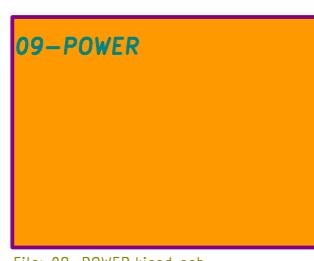
PD13-PD20->GPO.45-52



PD21-PD28->GPI.10-3

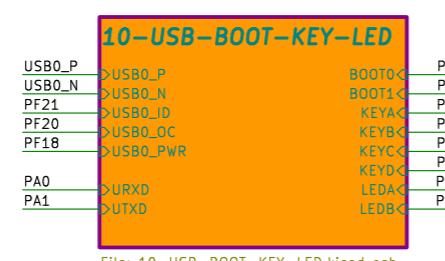


POWER



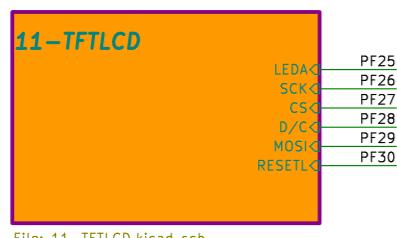
File: 09-POWER.kicad_sch

MISC



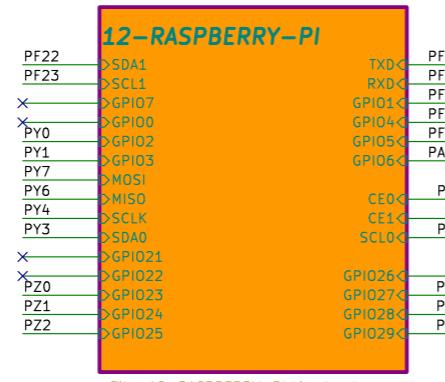
File: 10-USB-BOOT-KEY-LED.kicad_sch

TFTLCD

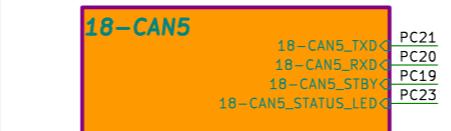


File: 11-TFTLCD.kicad_sch

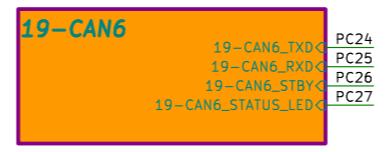
RASPBERRY-PI



File: 12-RASPBERRY-PI.kicad_sch



File: 13-CAN.kicad_sch



File: 13-CAN.kicad_sch



File: 13-CAN.kicad_sch

TSN 交换机 & 以太网



File: 15-TSN.kicad_sch



File: 15-TSN.kicad_sch



File: 15-TSN.kicad_sch

P00 PF1既可用作TSN P3口的SMI
也可用作普通以太网的SMI

P1 P3口可任意选择一路用
作普通以太网10/100/1000M

MAINENTRY

Sheet File: HPM6E00 FULL PORT MAINENTRY

Title: HPM6E00FULLPORTRevB

Size: A3 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6 Id: 1/28



1

2

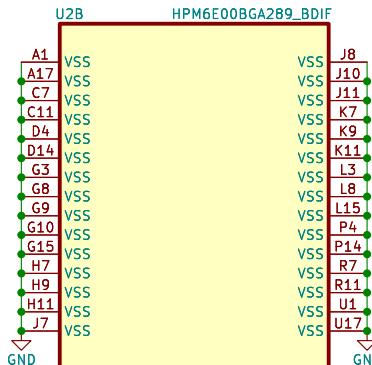
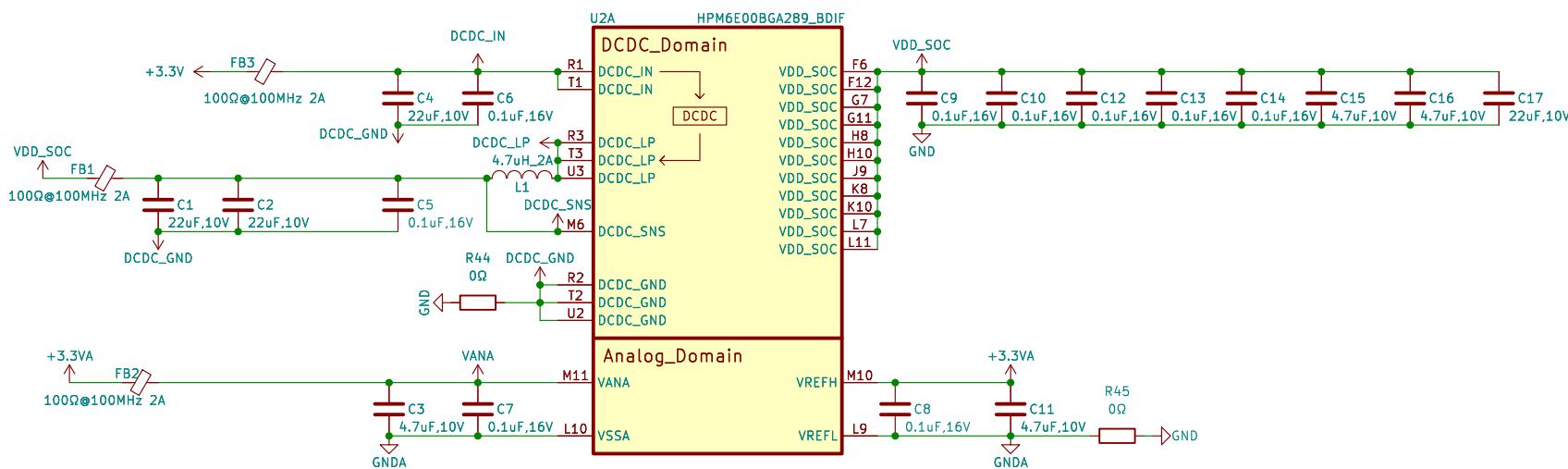
3

4

5

6

MCU_POWER



MCU_POWER



Sheet File: 01-MCU-POWER

Title: HPM6E00FULLPORTRevB

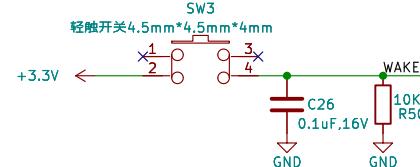
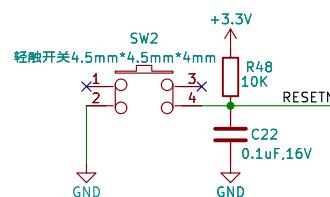
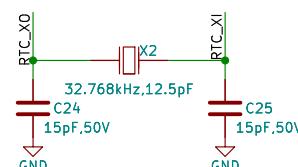
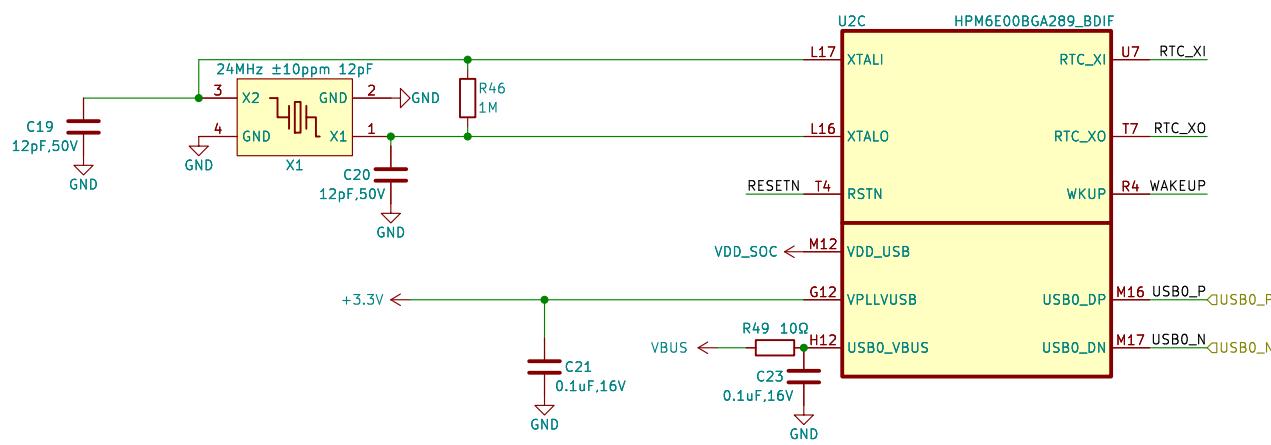
Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 2/28

A4

MCU_USB_OSC



MCU_USB_OSC



Sheet File: 02-USB-OSC

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

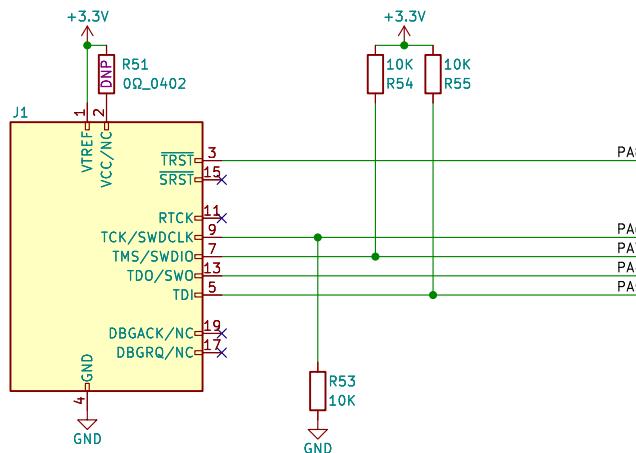
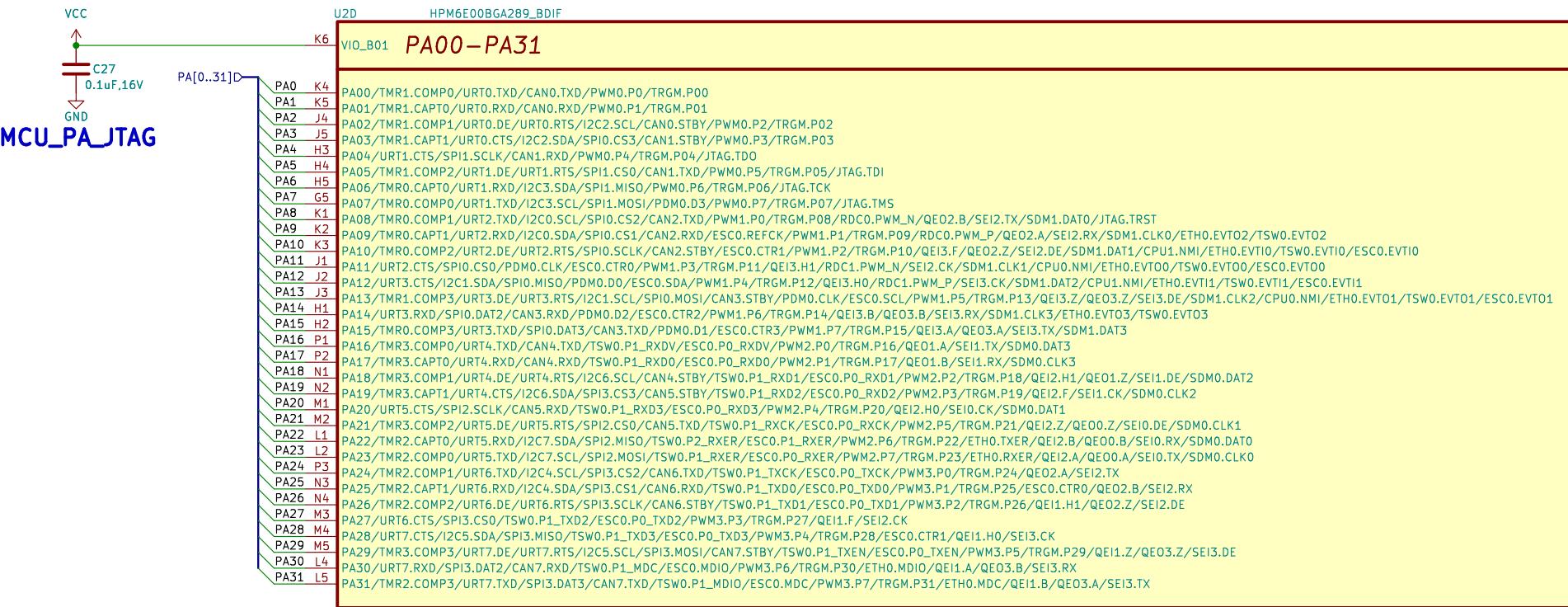
A4

A

B

C

D



MCU_PA_JTAG



Sheet File: 03-JTAG-PA

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 4/28

1

2

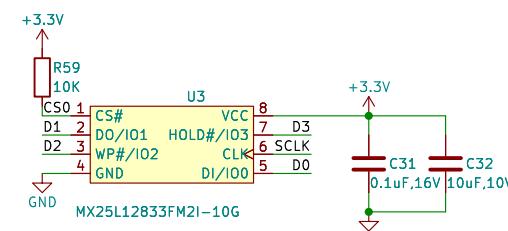
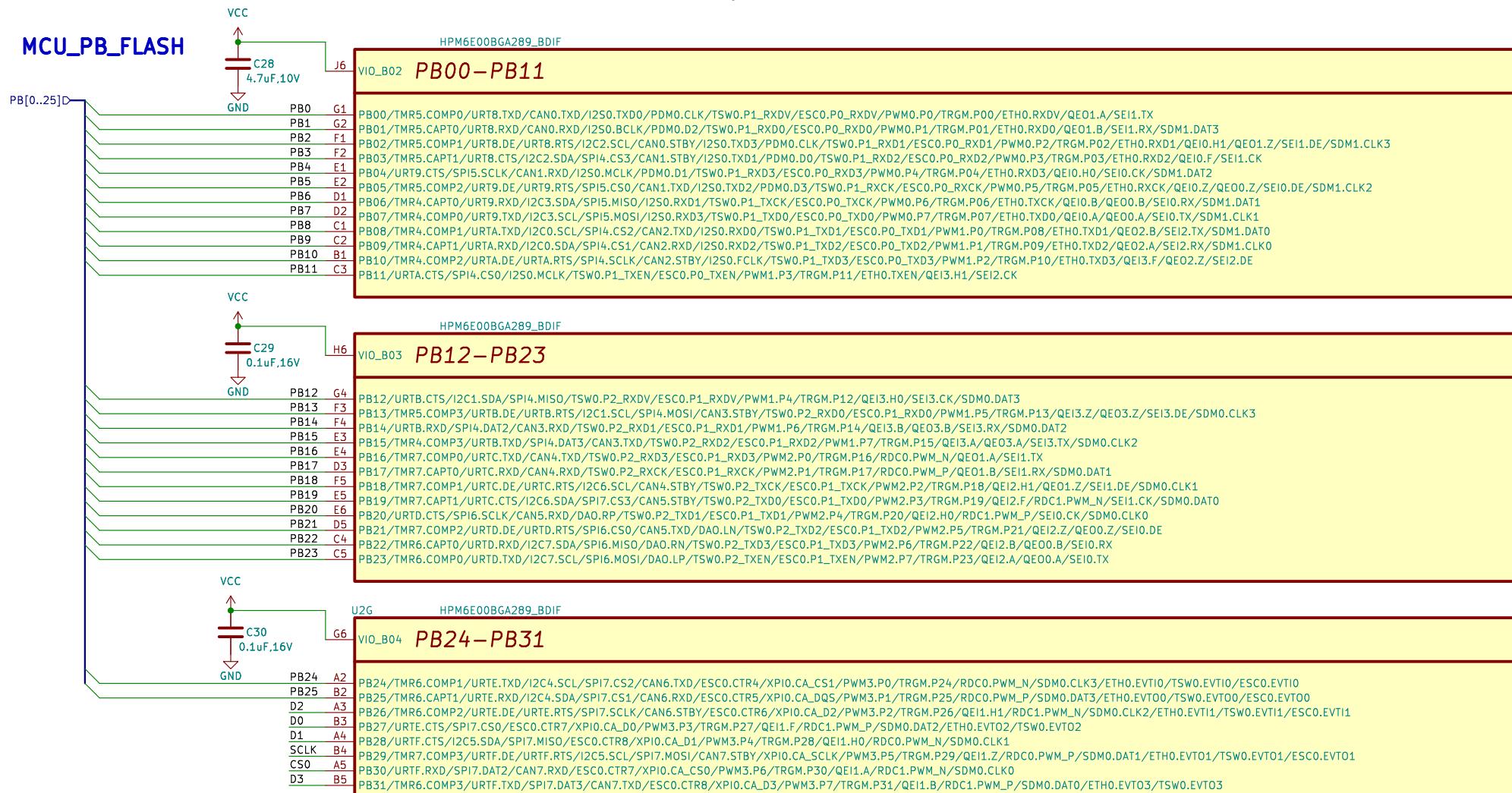
3

4

5

6

MCU_PB_FLASH



MCU_PB_FLASH



Sheet File: 04-FLASH-PB

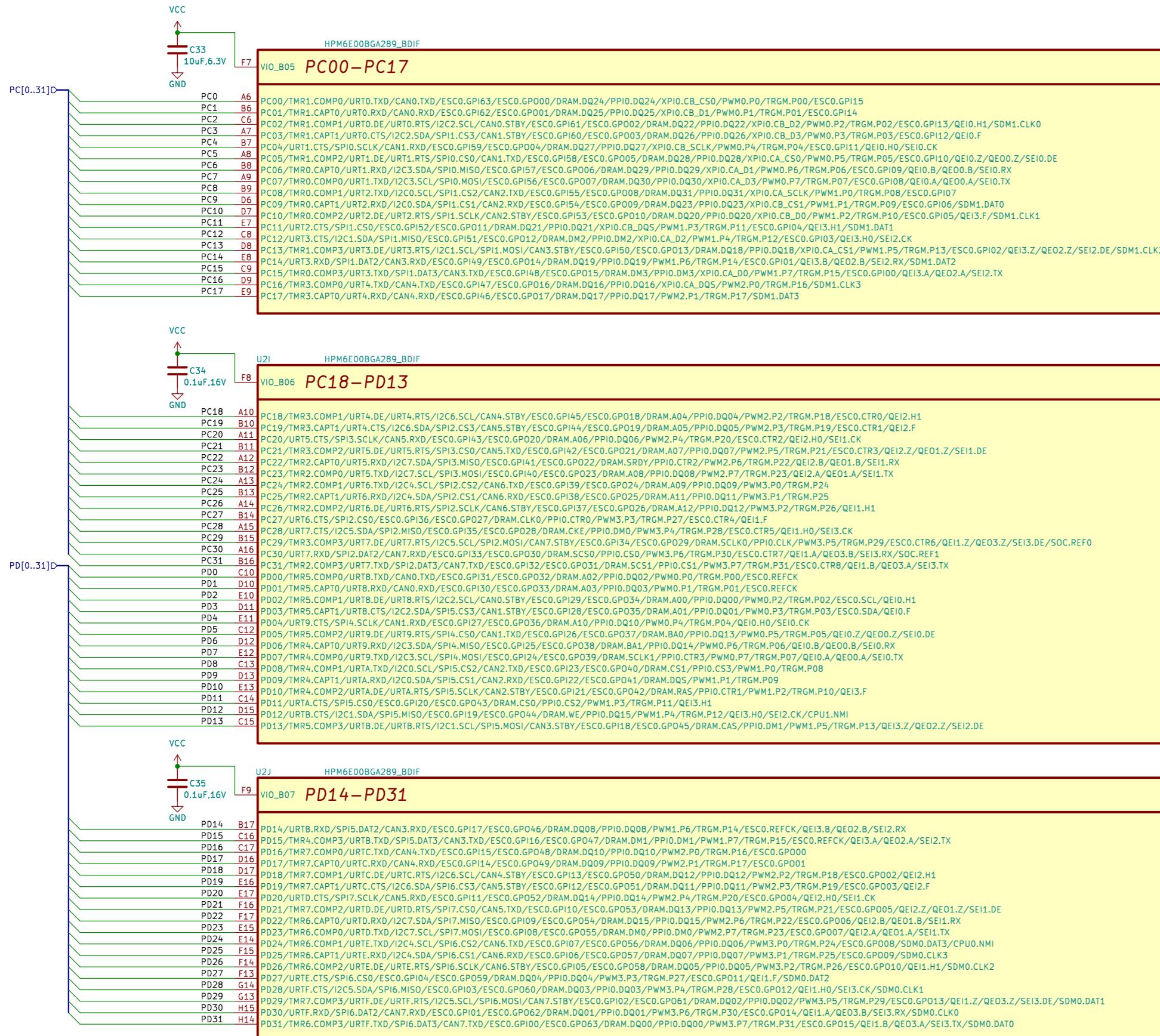
Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 5/28

MCU_PC_PD



MCU_PC_PD



Sheet File: 05-PC-PD

Title: HPM6E00FULLPORTRevB

Size: A3 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 6/28

1

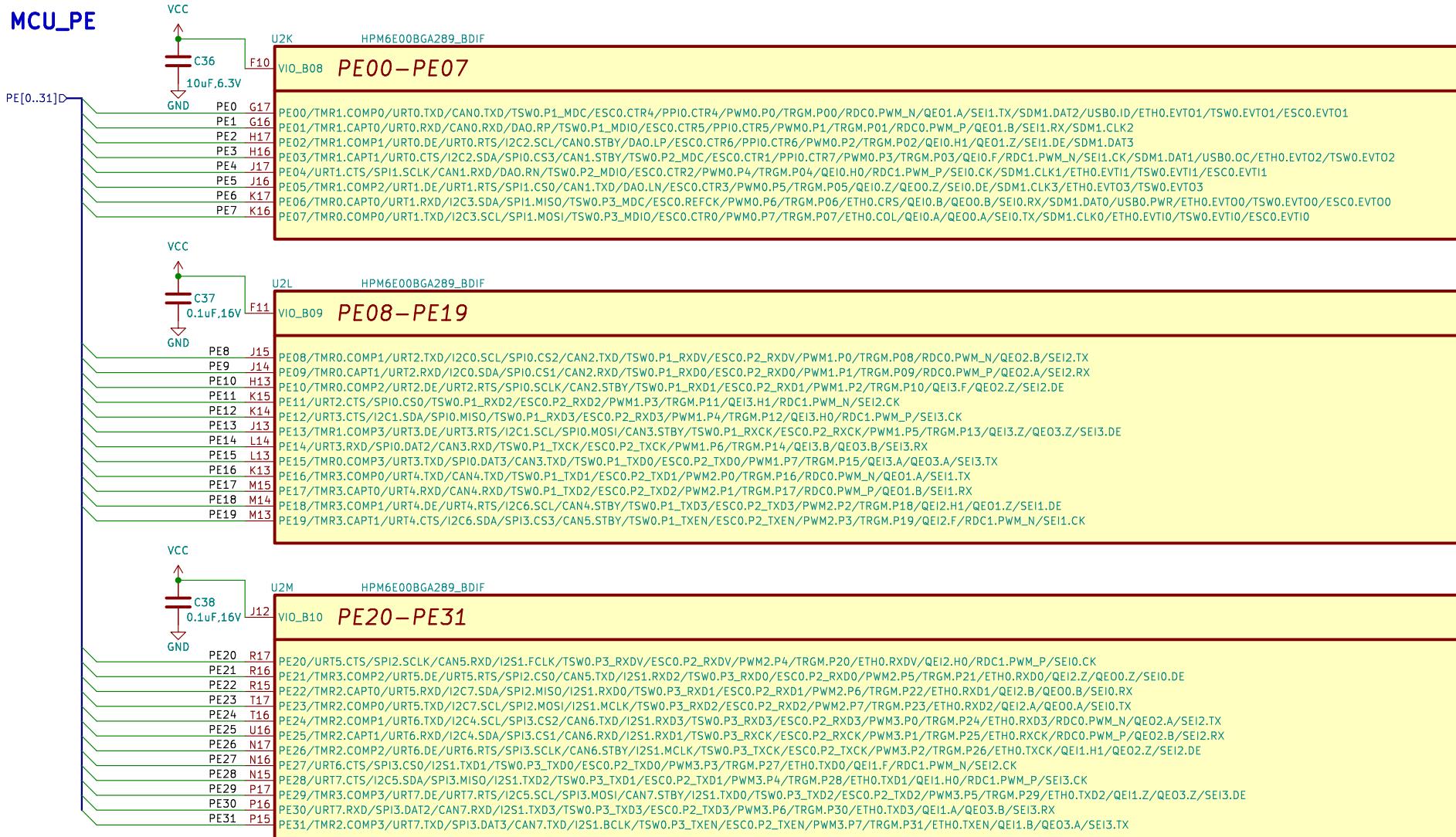
2

3

4

5

6

MCU_PE**MCU_PE**

Sheet File: 06-PE

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 7/28

A4

1

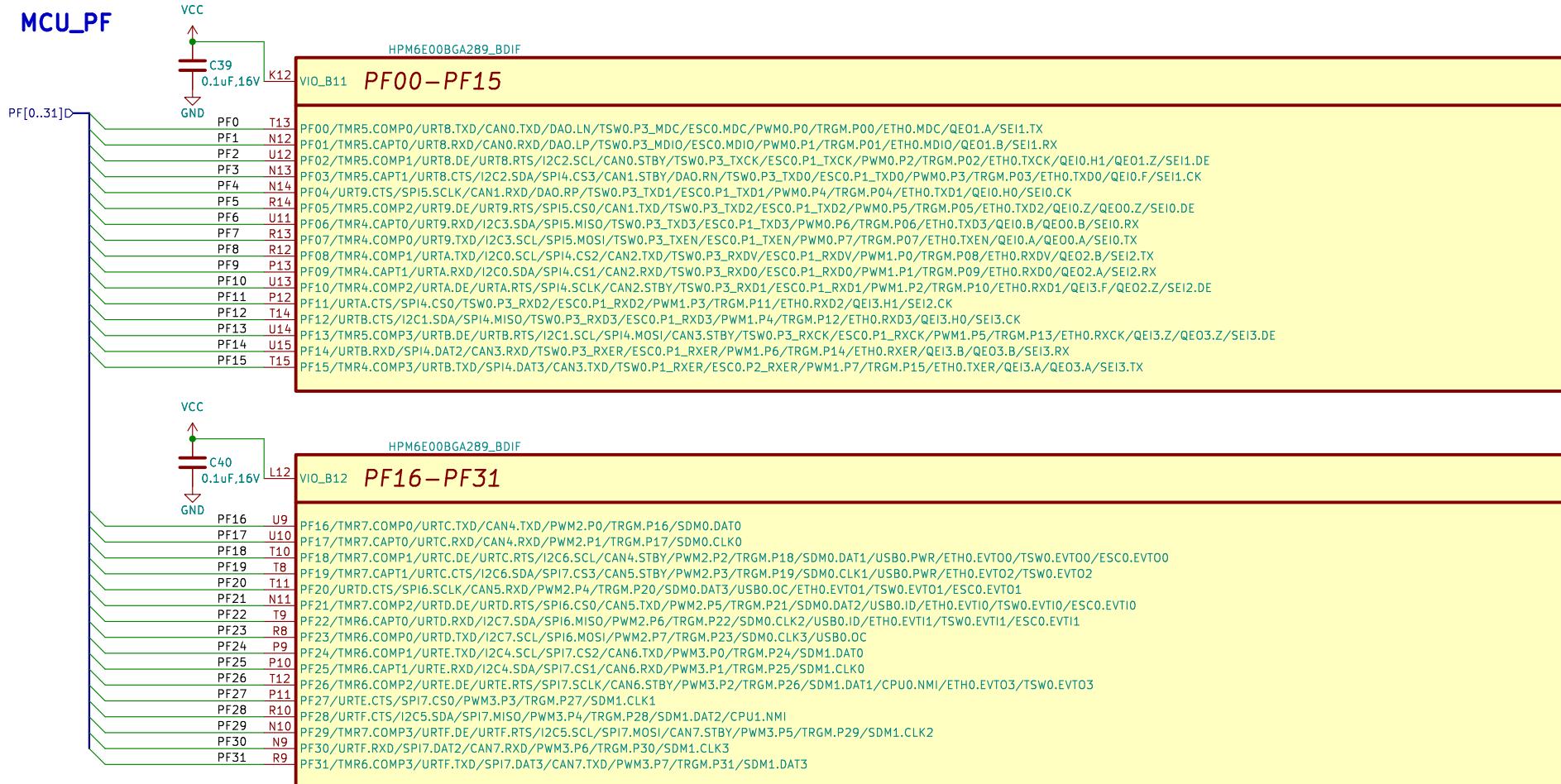
2

3

4

5

6

MCU_PF**MCU_PF**

Sheet File: 07-PF

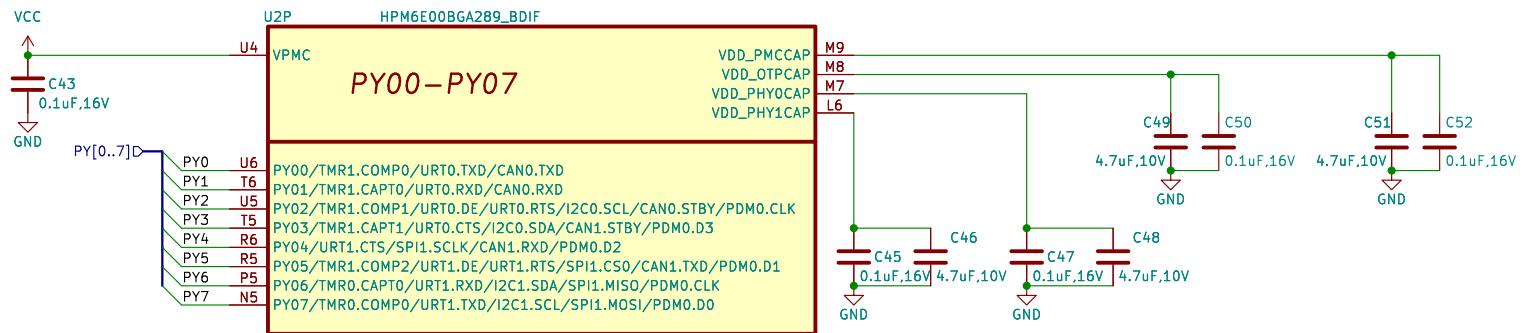
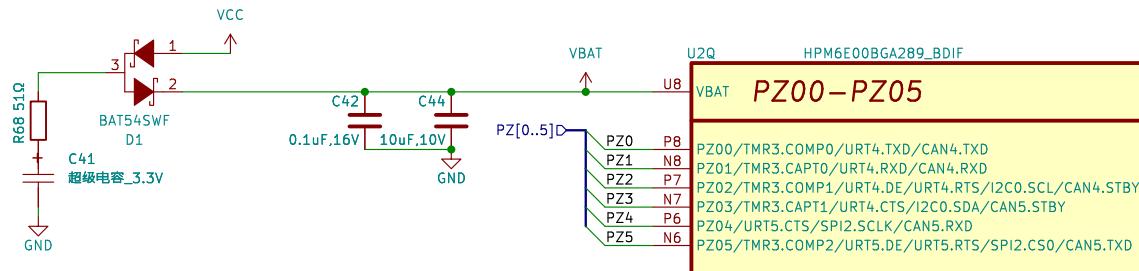
Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 8/28

A4

MCU_VPMC_PY**MCU_VBAT_PZ****超级电容****MCU_VPMC_VBAT**

Sheet File: 08-VPMC-PY-VBAT-PZ

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 9/28

1

2

3

4

5

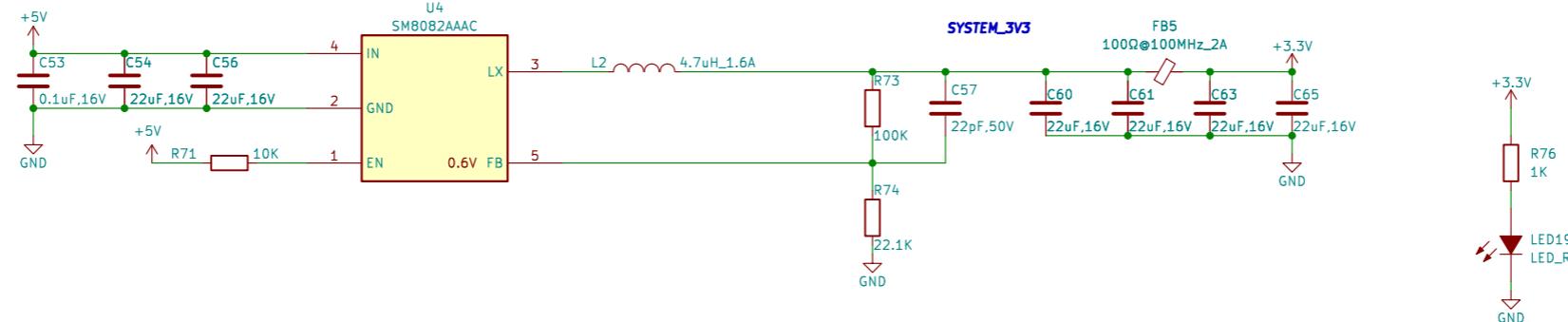
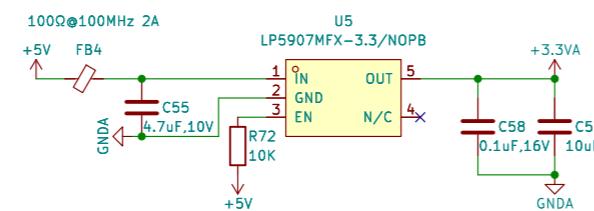
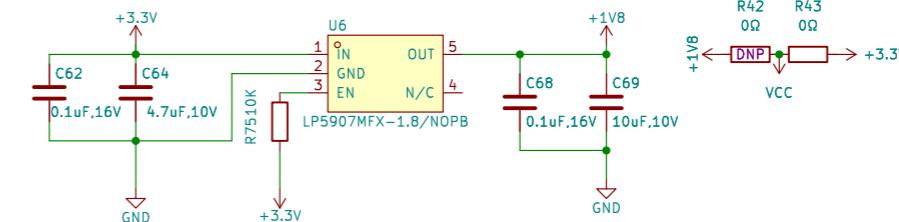
6

A

B

C

D

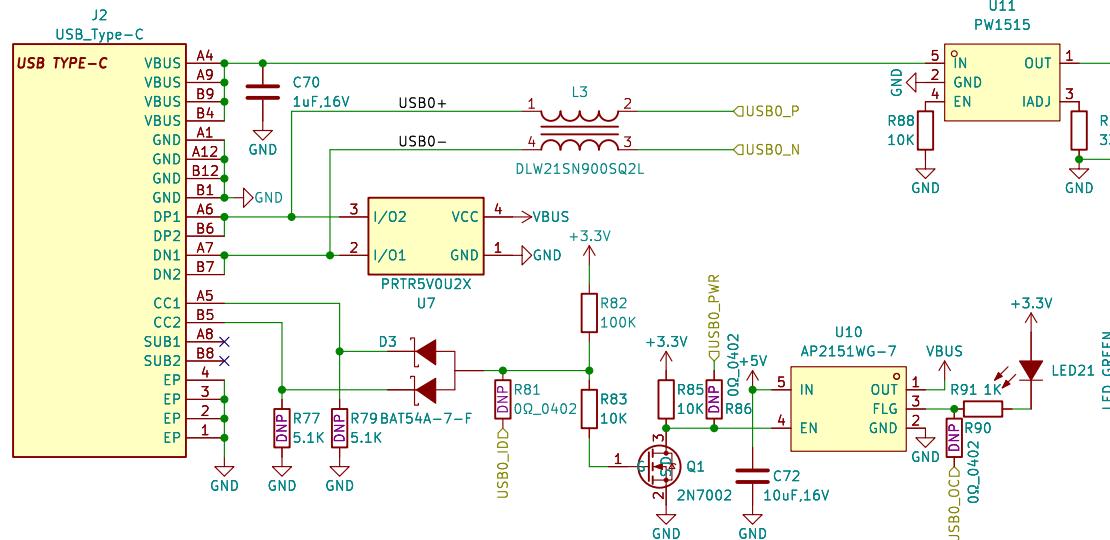
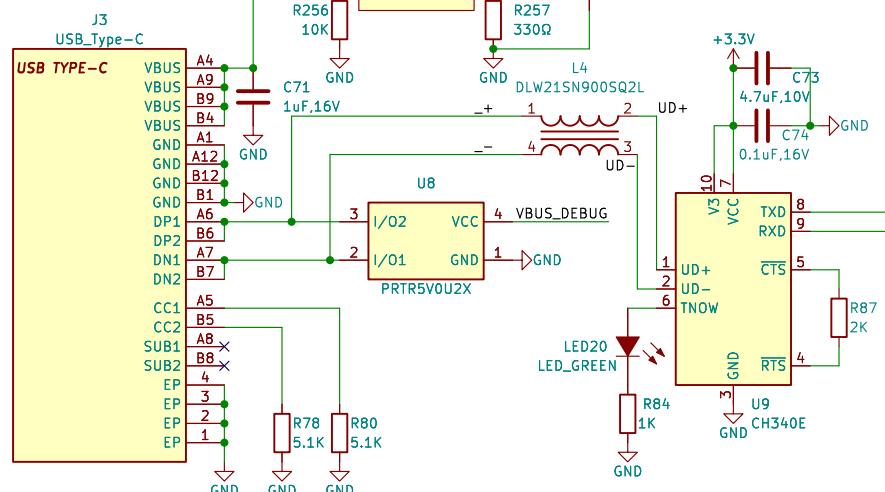
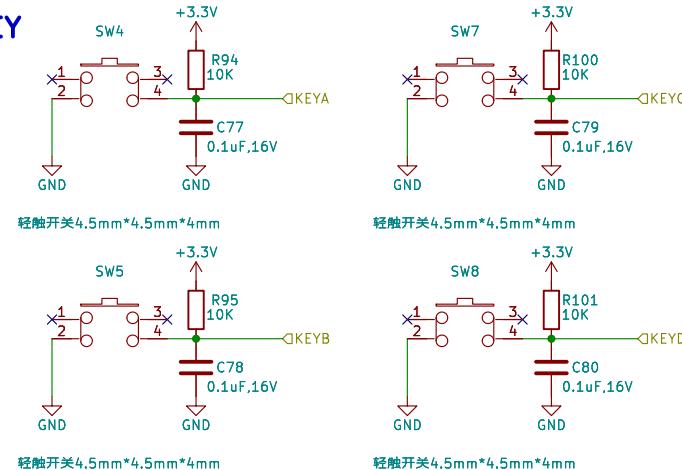
USB-TypeC 5V INPUT**ANALOG REFERENCE 3V3****LDO 1V8 IO BANK POWER SELECTED****POWER**

Sheet File: 09-POWER

Title: HPM6E00FULLPORTRevB

Size: A3 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6 Id: 10/28

USB-OTG**USB_CH340****BOOT****LED****KEY****MISC**

Sheet File: 10-USB-BOOT-KEY-LED

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 11/28

A4

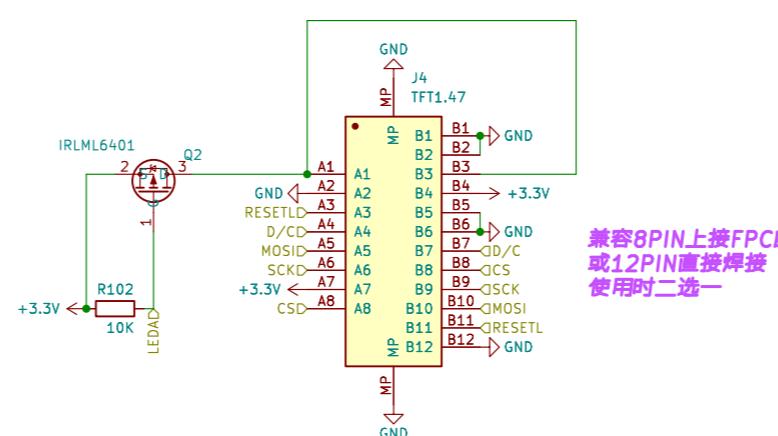
A

B

C

D

11-TFTLCD



兼容8PIN上接FPC
或12PIN直接焊接
使用时二选一

TFTLCD



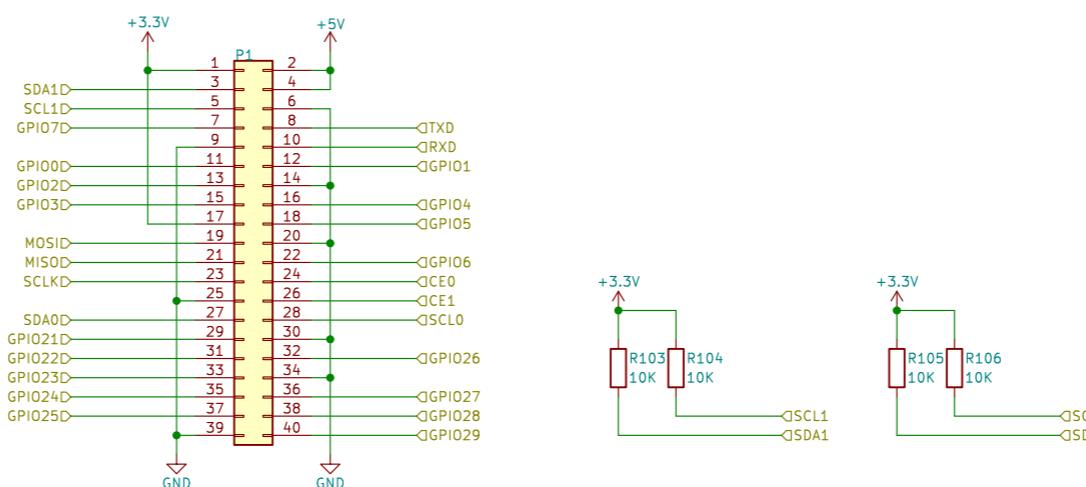
Sheet File: 11-TFTLCD		
Title: HPM6E00FULLPORTRevB		
Size: A3	Date: 2024-09-12	Rev: RevA
KiCad E.D.A. kicad 7.0.6		Id: 12/28

A

B

C

D

12-RASPBERRY-PI**RASPBERRY-PI**

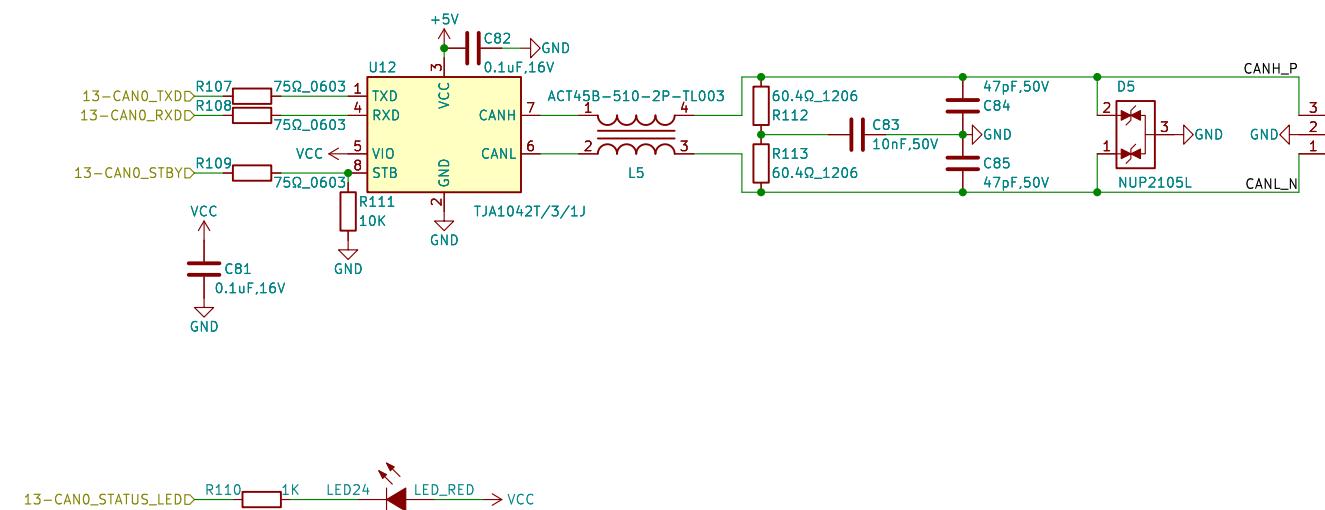
Sheet File: 12-RASPBERRY-PI

Title: HPM6E00FULLPORTRevB

Size: A3 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6 Id: 13/28

13-CANO



CAN



Sheet File: 13-CANO

Title: HPM6E00FULLPORTRevB

Size: A4	Date: 2024-09-12	Rev: RevA
----------	------------------	-----------

KiCad E.D.A. kicad 7.0.6

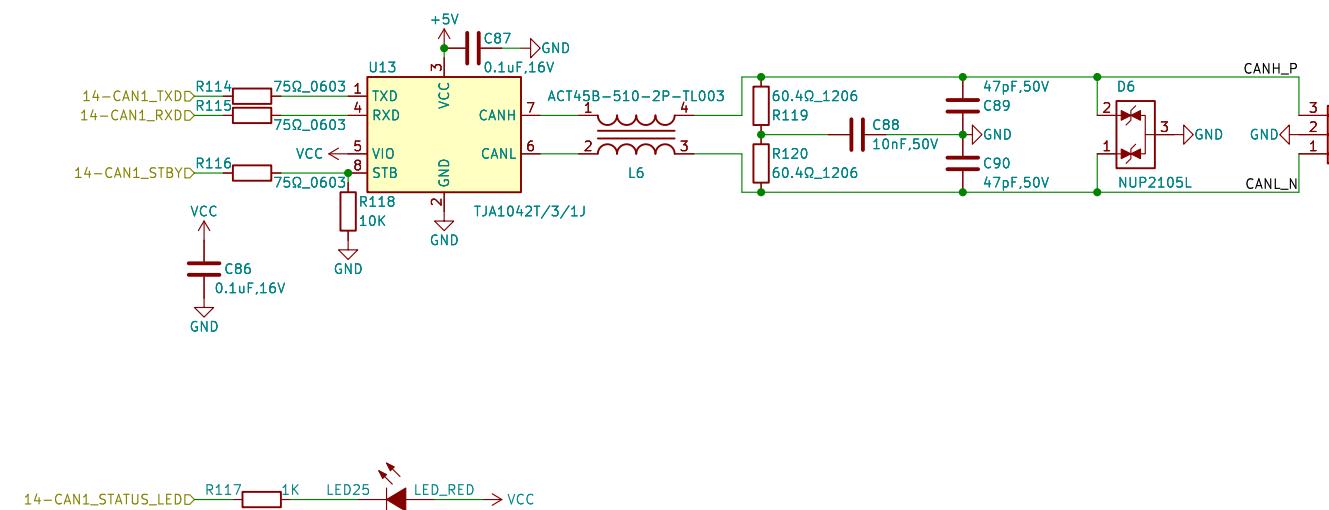
Id: 14/28

A

B

C

D

14-CAN1**CAN**

Sheet File: 14-CAN1

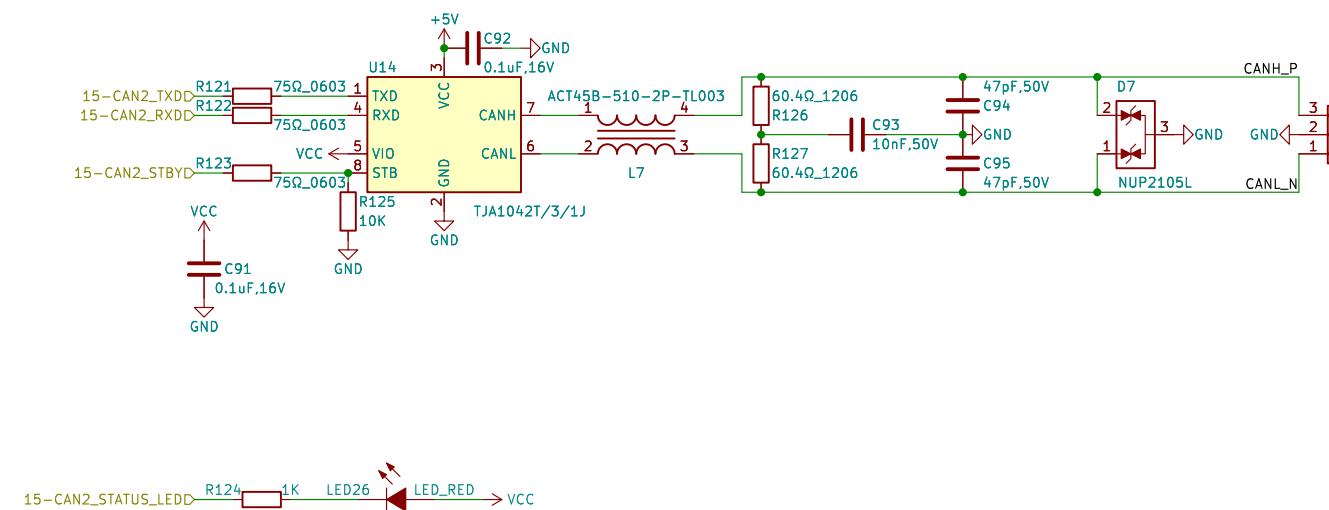
Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 15/28

15-CAN2



CAN



Sheet File: 15-CAN2

Title: HPM6E00FULLPORTRevB

Size: A4	Date: 2024-09-12	Rev: RevA
----------	------------------	-----------

KiCad E.D.A. kicad 7.0.6

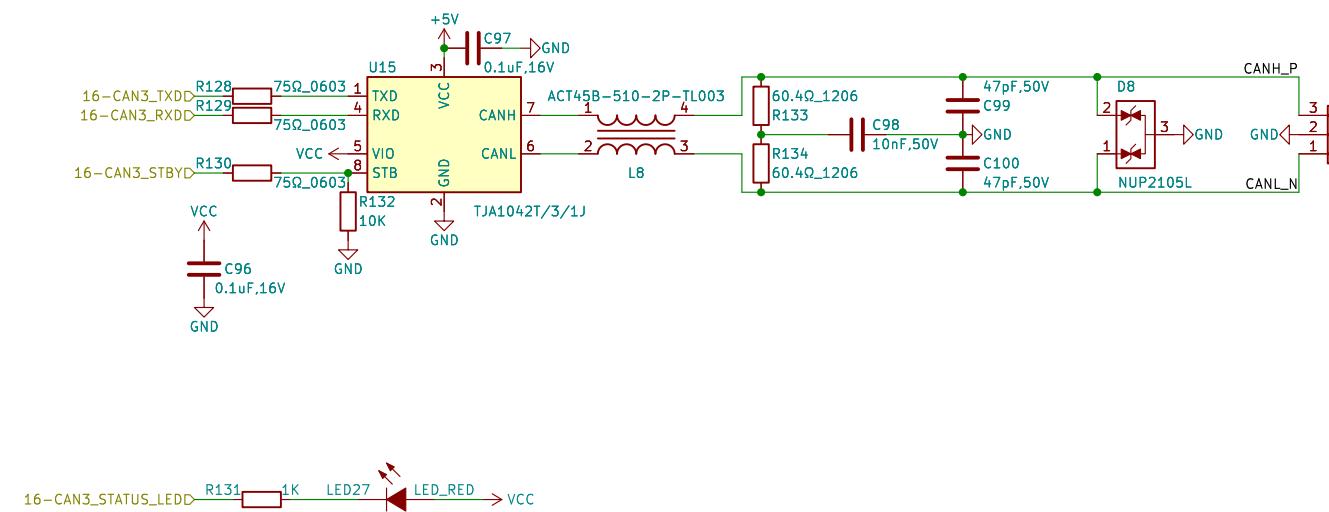
Id: 16/28

A

B

C

D

16-CAN3**CAN**

Sheet File: 16-CAN3

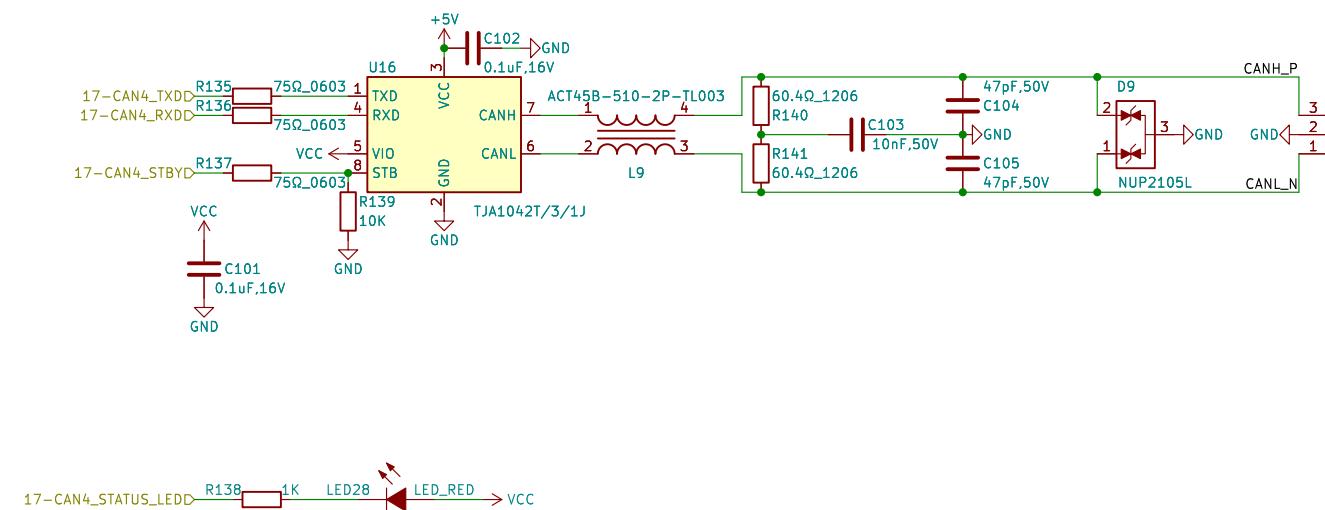
Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 17/28

17-CAN4



CAN



Sheet File: 17-CAN4

Title: HPM6E00FULLPORTRevB

Size: A4	Date: 2024-09-12	Rev: RevA
----------	------------------	-----------

KiCad E.D.A. kicad 7.0.6

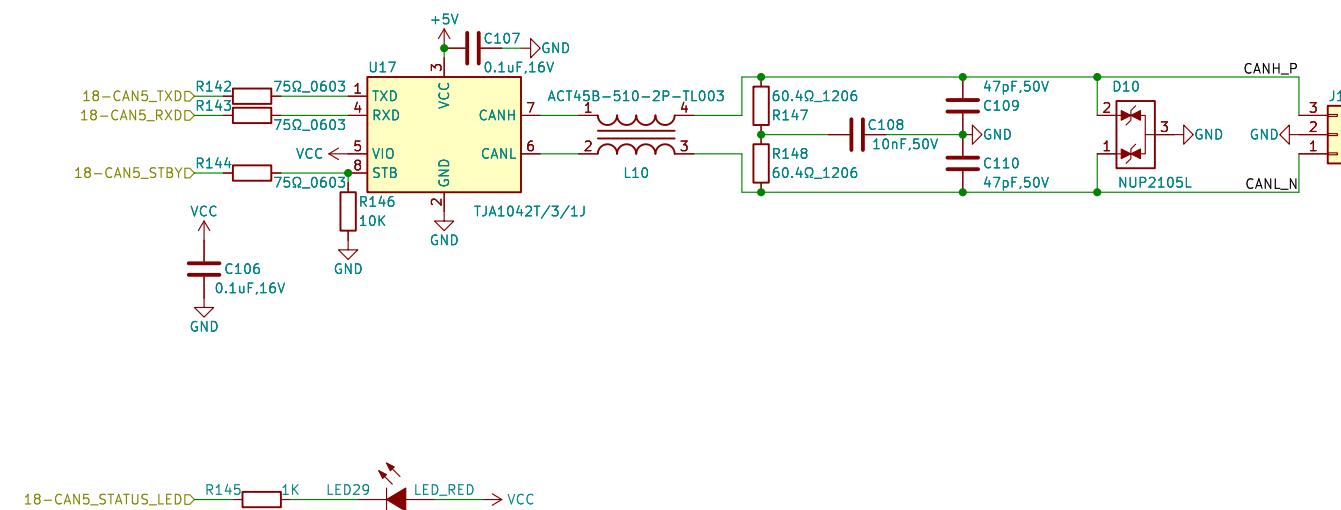
Id: 18/28

A

B

C

D

18-CAN5

CAN



Sheet File: 18-CAN5

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6 Id: 19/28

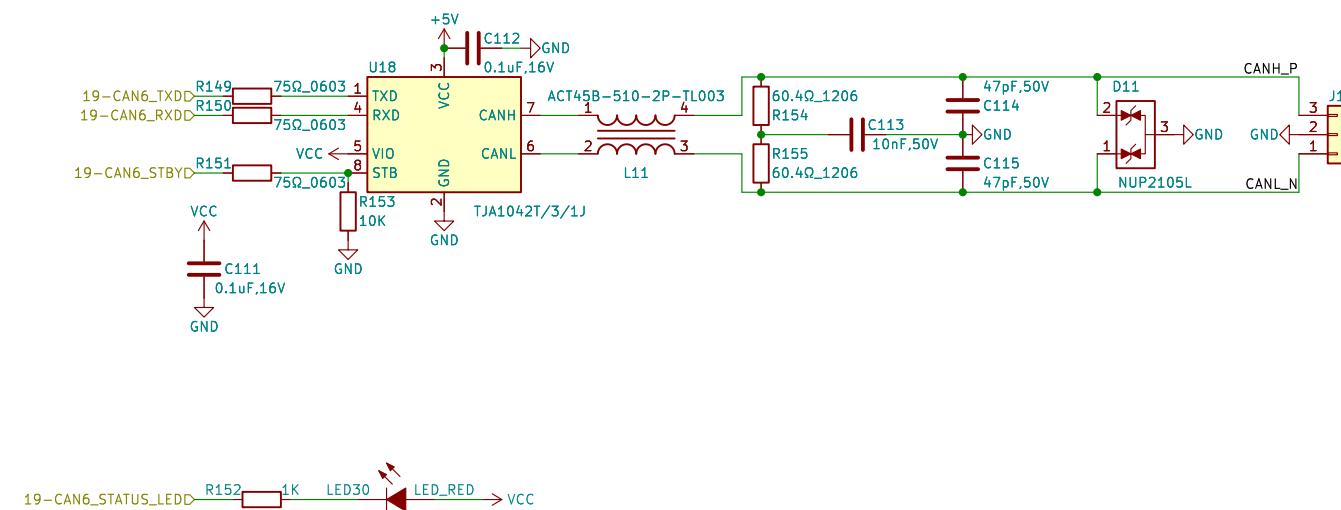
A

B

C

D

19-CAN6



CAN



Sheet File: 19-CAN6

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 20/28

1

2

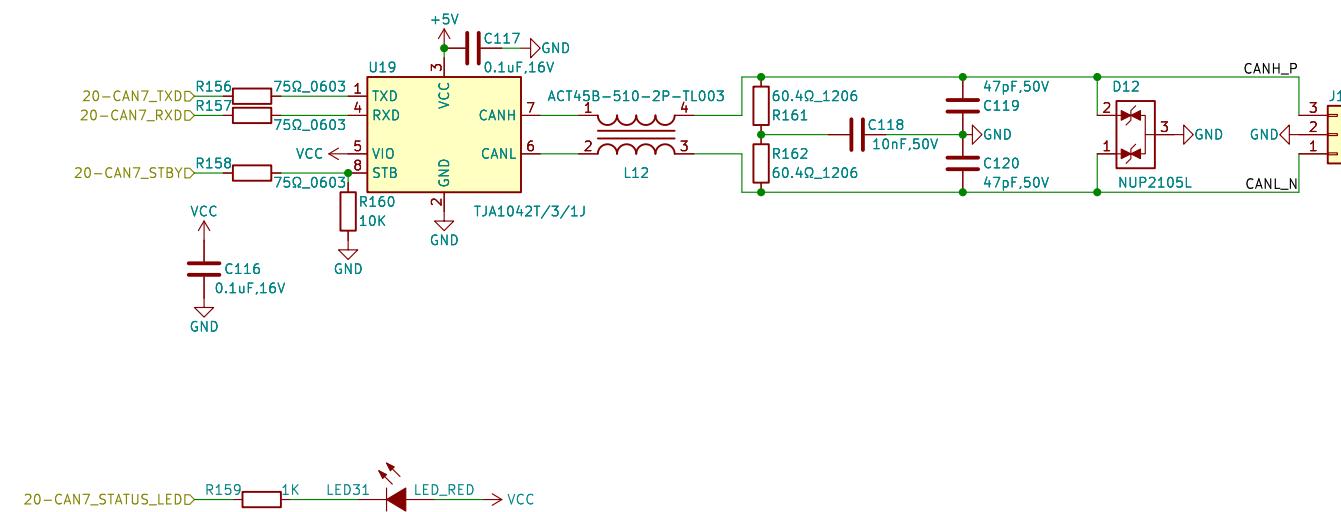
3

4

5

6

20-CAN7



CAN



Sheet File: 20-CAN7

Title: HPM6E00FULLPORTRevB

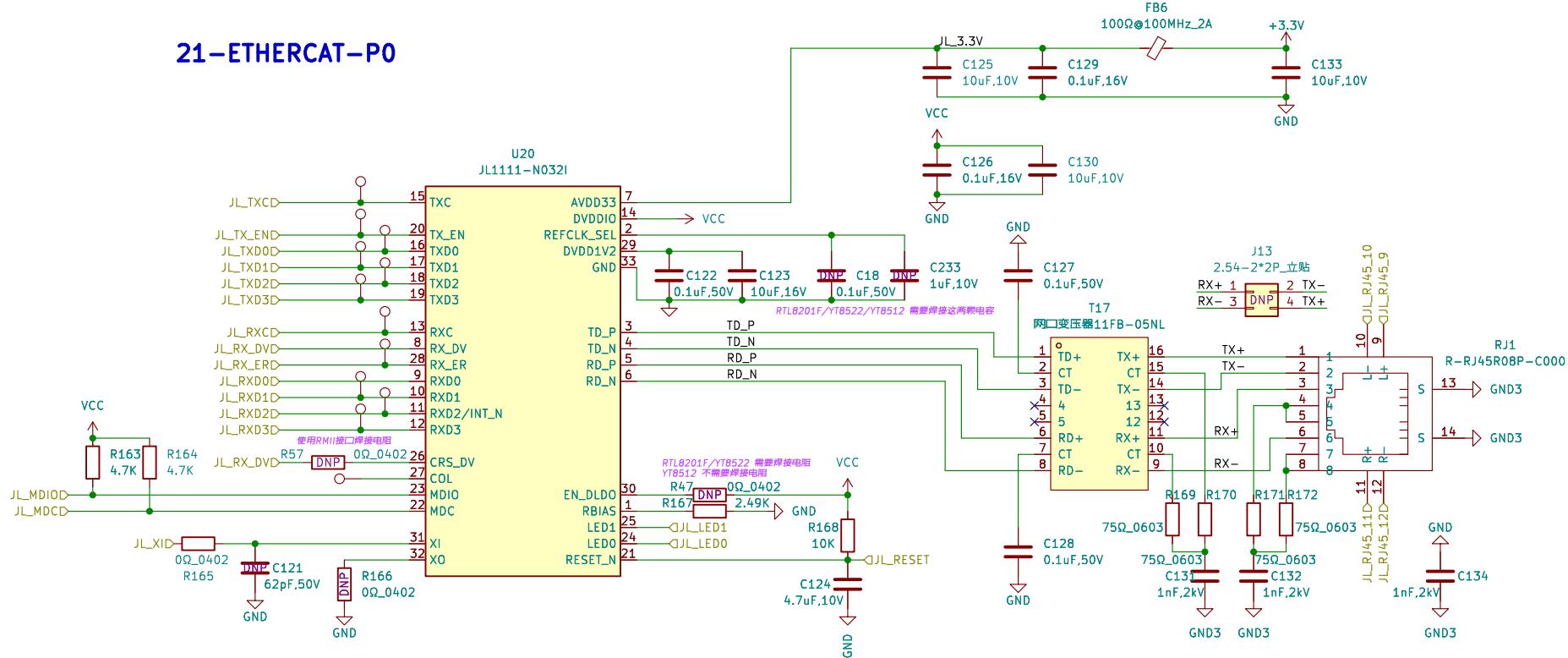
Size: A4	Date: 2024-09-12	Rev: RevA
----------	------------------	-----------

KiCad E.D.A. kicad 7.0.6

Id: 21/28

A4

21-ETHERCAT-P0



ETHERCAT



Sheet File: 21-ETHERCAT-PO

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

A4

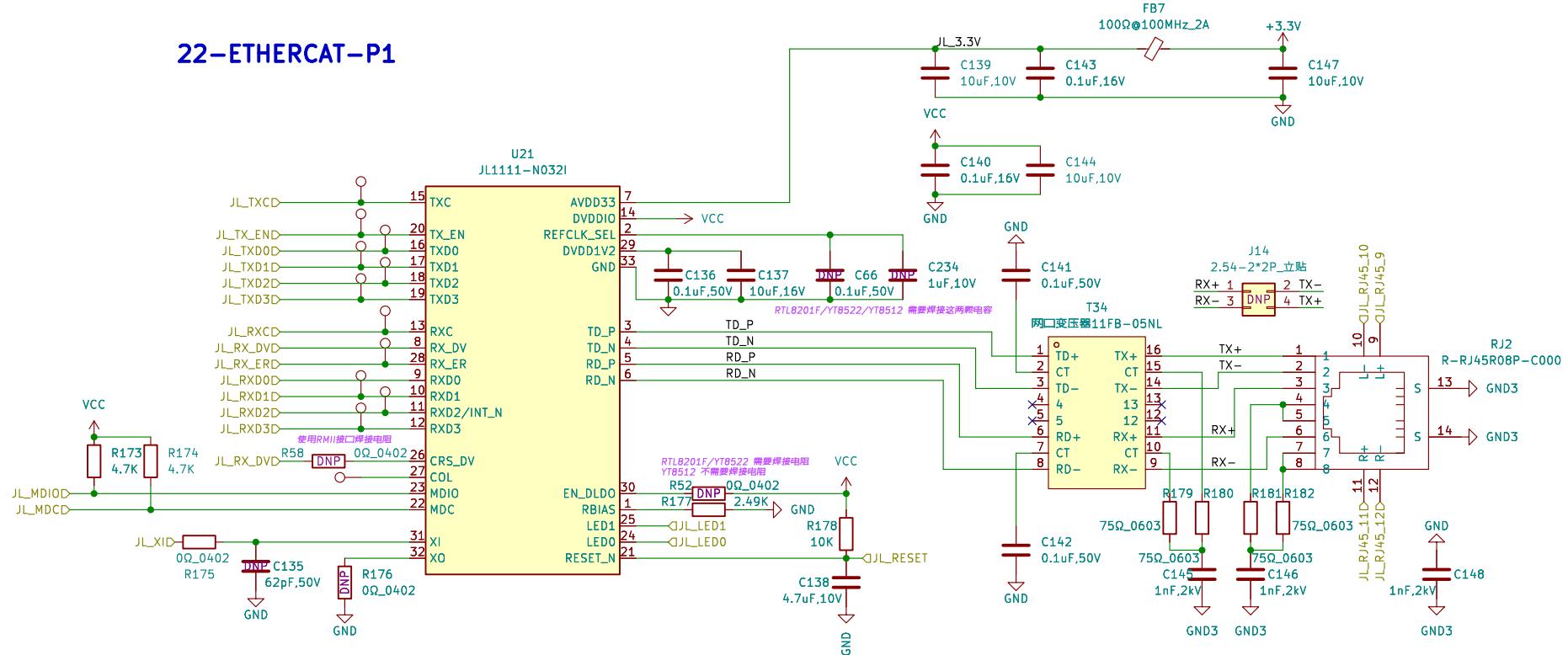
A

B

C

D

22-ETHERCAT-P1



ETHERCAT



Sheet File: 22-ETHERCAT-P1

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 23/28

A4

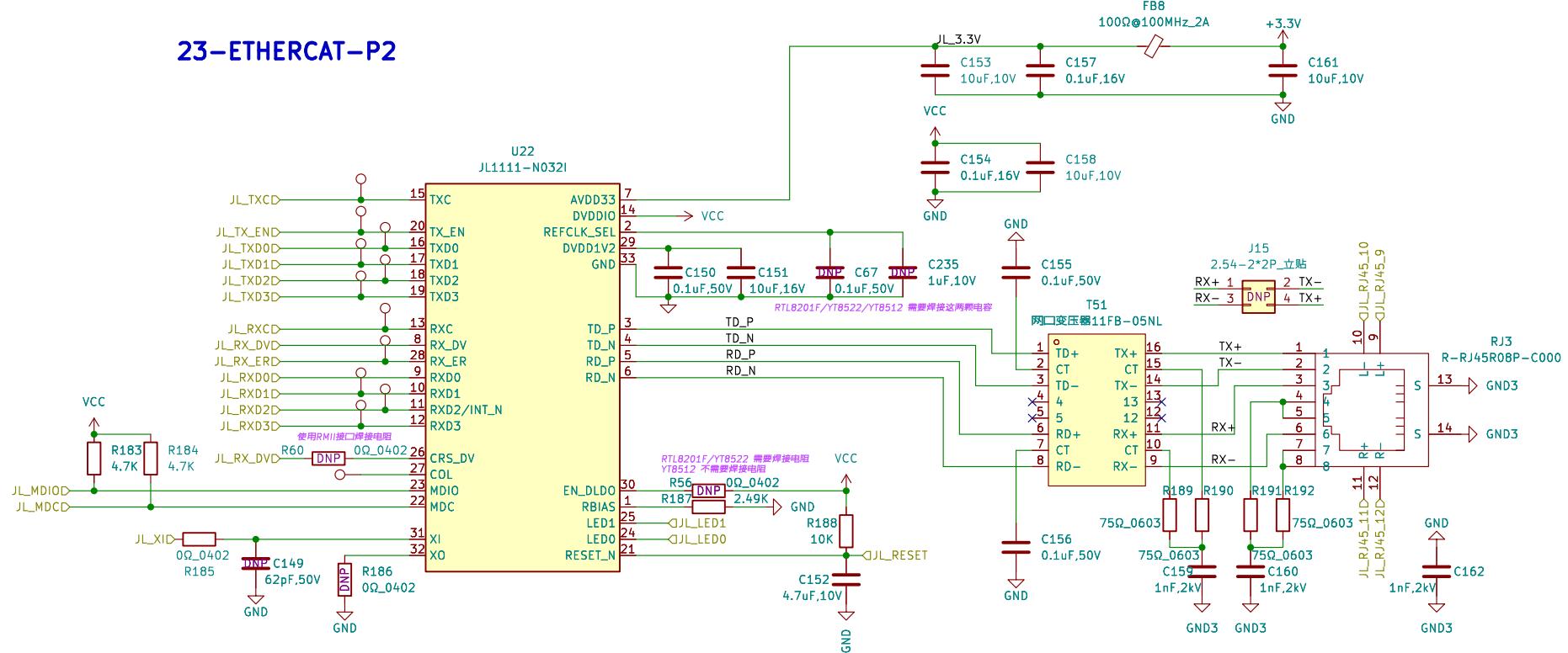
A

B

C

D

23-ETHERCAT-P2



ETHERCAT



Sheet File: 23-ETHERCAT-P2

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 24/28

A4

1

2

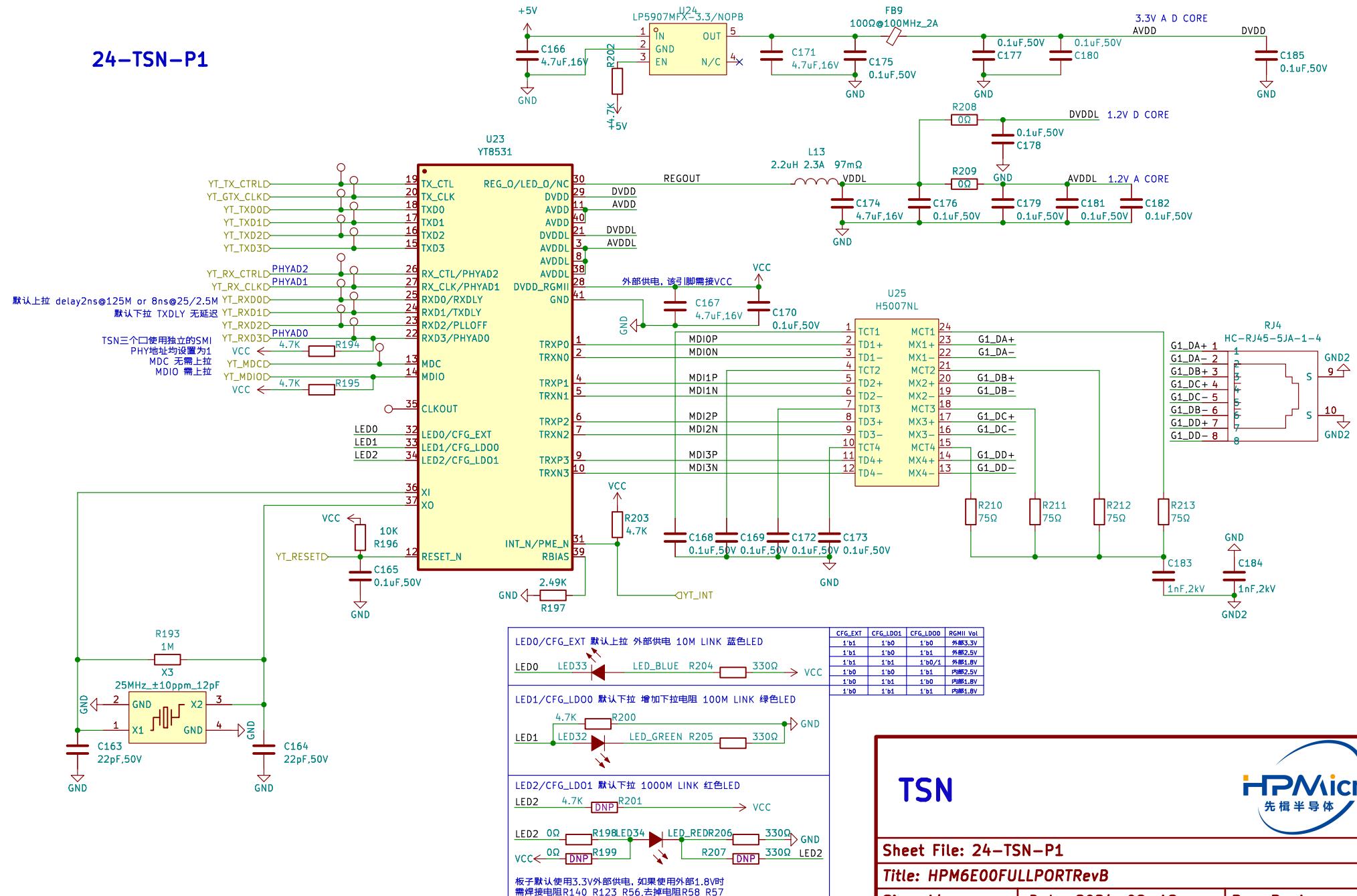
3

4

5

6

24-TSN-P1



TSN



Sheet File: 24-TSN-P1

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 25/28

A4

1

2

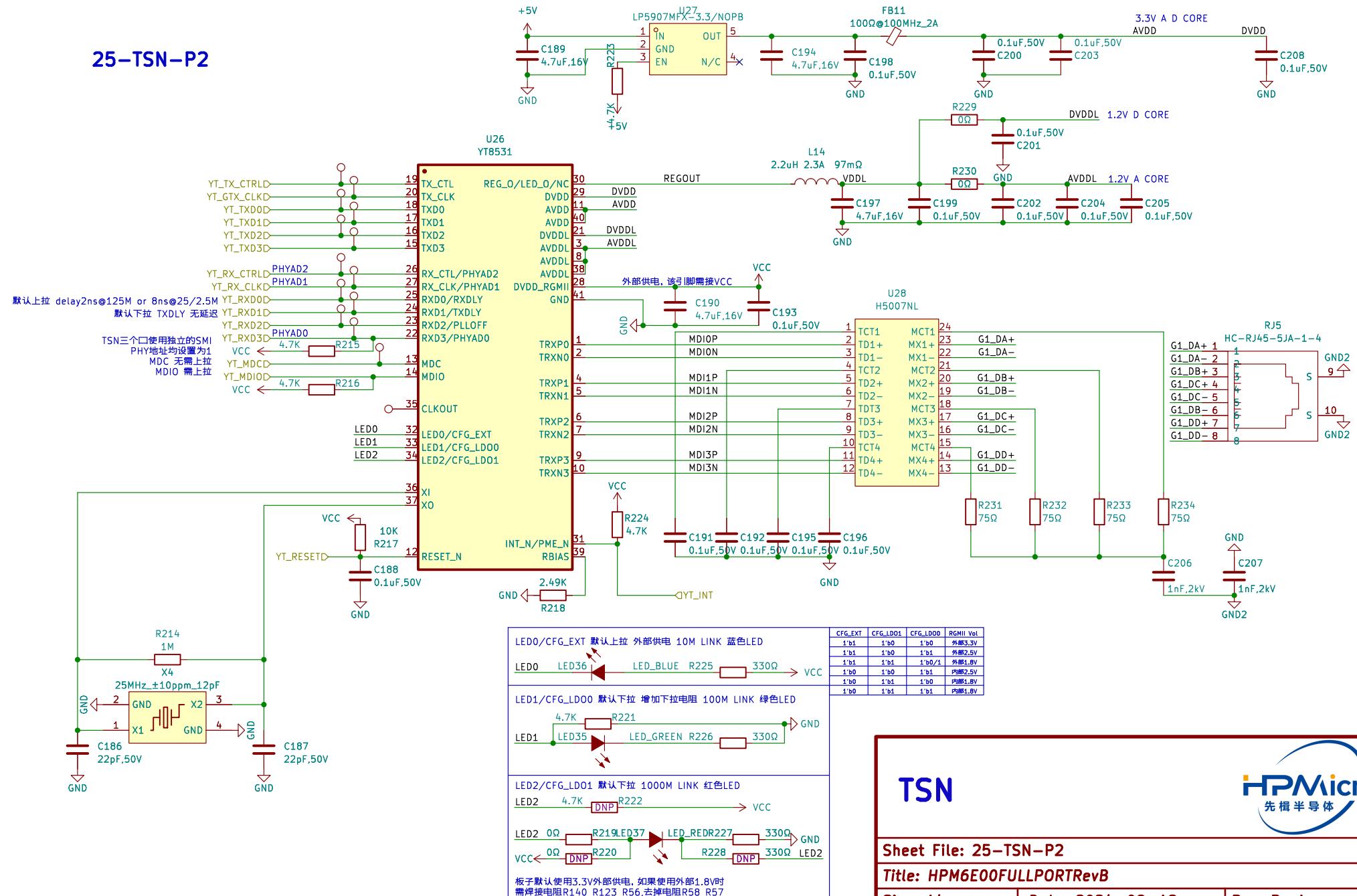
3

4

5

6

25-TSN-P2



TSN



Sheet File: 25-TSN-P2

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12 Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 26/28

A4

1

2

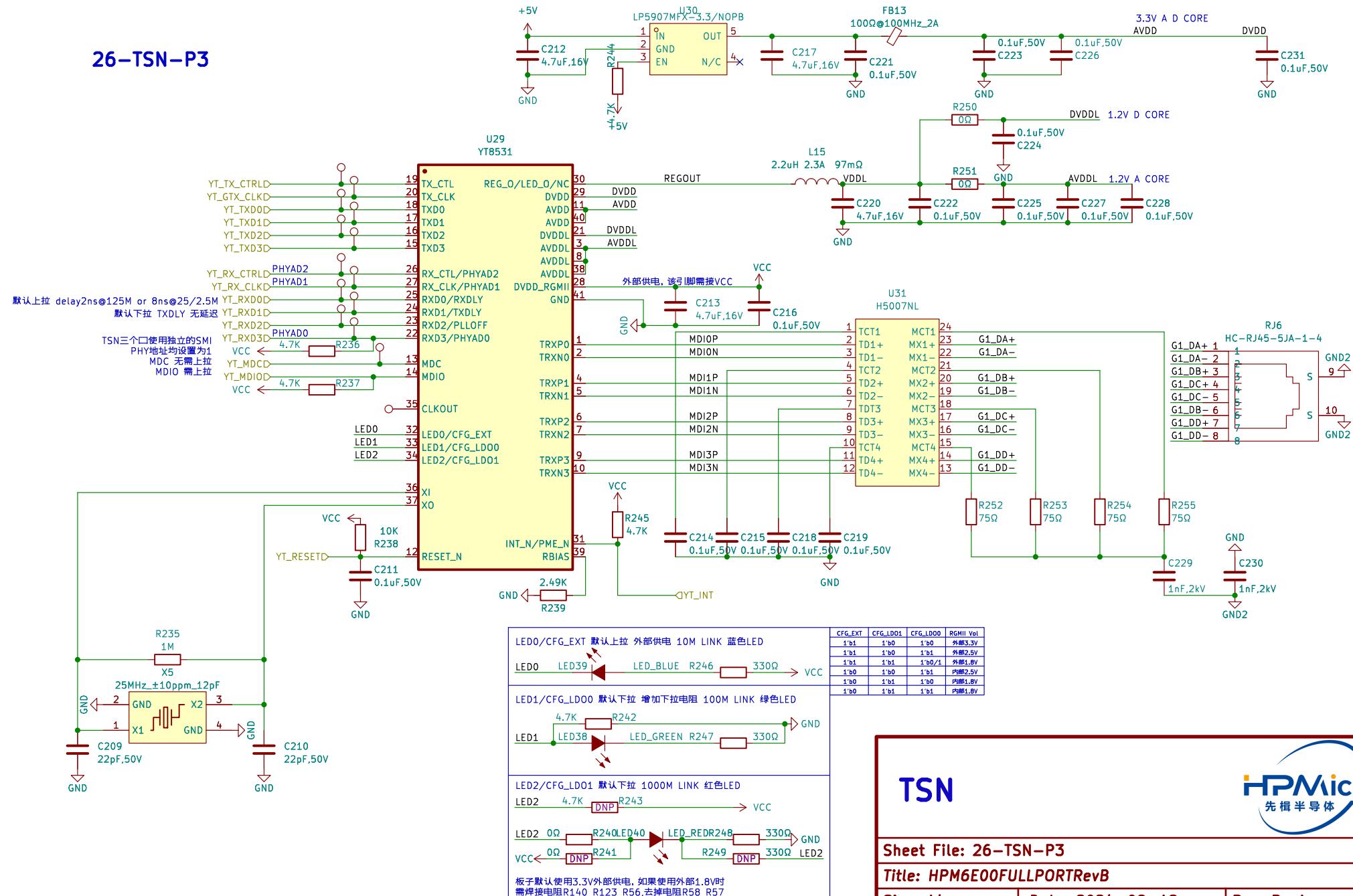
3

4

5

6

26-TSN-P3



TSN



Sheet File: 26-TSN-P3

Title: HPM6E00FULLPORTRevB

Size: A4 Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 27/28

A4