

System block diagram

POWER

VANA_LDO_3V3
LDO_1V8
DCDC 2A 3V3

USB-OTG
TYPE C

USB-UART
TYPE C

8路CAN□

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



Sheet File:

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 0/28

MCU

01-MCU-POWER

File: 01-MCU-POWER.kicad_sch

03-JTAG-PA

File: 03-JTAG-PA.kicad_sch

05-PC-PD

File: 05-PC-PD.kicad_sch

07-PF

File: 07-PF.kicad_sch

02-USB-OSC

File: 02-USB-OSC.kicad_sch

04-FIASH-PB

File: 04-FIASH-PB.kicad_sch

06-PE

File: 06-PE.kicad_sch

08-VPMC-PY-VBAT-PZ

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

8路CAN 工业总线

13-CAN0

File: 13-CAN.kicad_sch

14-CAN1

File: 13-CAN.kicad_sch

15-CAN2

File: 13-CAN.kicad_sch

16-CAN3

File: 13-CAN.kicad_sch

17-CAN4

File: 13-CAN.kicad_sch

18-CAN5

File: 13-CAN.kicad_sch

19-CAN6

File: 13-CAN.kicad_sch

20-CAN7

File: 13-CAN.kicad_sch

EtherCAT 工业以太网

21-ETHERCAT-P0

File: 14-ETHERCAT.kicad_sch

22-ETHERCAT-P1

File: 14-ETHERCAT.kicad_sch

23-ETHERCAT-P2

File: 14-ETHERCAT.kicad_sch

24-TSN-P1

File: 15-TSN.kicad_sch

26-TSN-P3

File: 15-TSN.kicad_sch

EtherCAT P0
PHY ADDR 01h

PA11.CTR0<-LINK0

EtherCAT P1
PHY ADDR 10h

PA14.CTR2<-LINK1

EtherCAT P2
PHY ADDR 11h

PA15.CTR3<-LINK2

PA30 PA31既作 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

09-POWER

File: 09-POWER.kicad_sch

MISC

10-USB-BOOT-KEY-LED

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

TFTLCD

11-TFTLCD

File: 11-TFTLCD.kicad_sch

RASPBERRY-PI

12-RASPBERRY-PI

File: 12-RASPBERRY-PI.kicad_sch

MAINENTRY



Sheet File: HPM6E00 FULL PORT MAINENTRY

Title: HPM6E00FULLPORTRevB

Size: A3

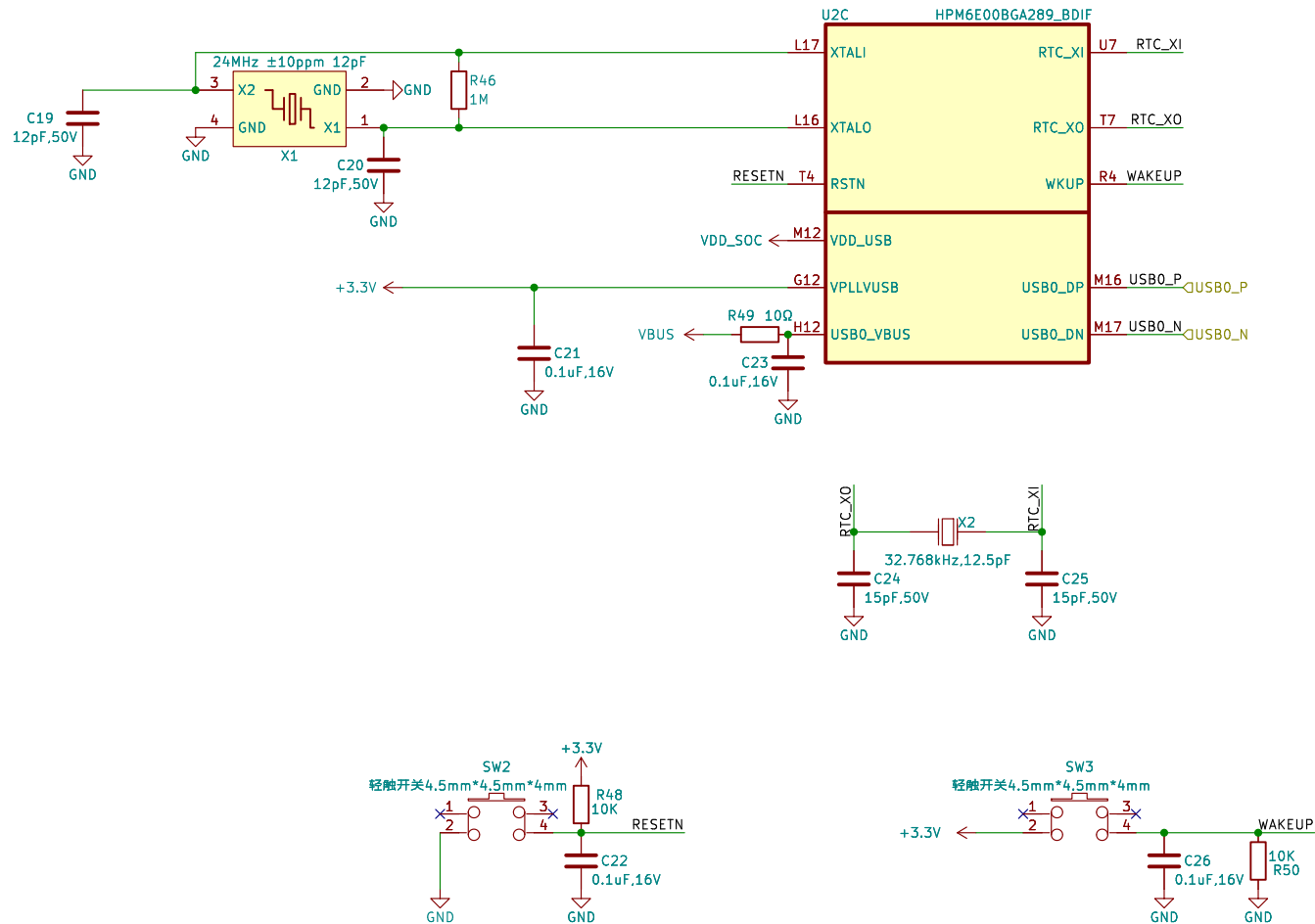
Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 1/28

MCU_USB_OSC



MCU_USB_OSC



Sheet File: 02-USB-OSC

Title: HPM6E00FULLPORTRevB

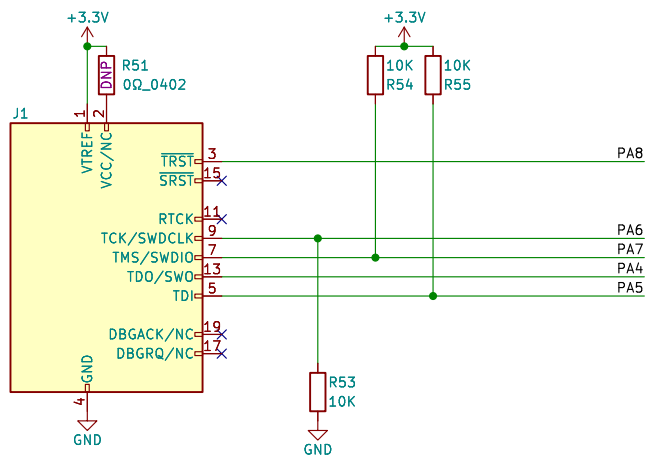
Size: A4

Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 3/28



MCU_PA_JTAG



Sheet File: 03-JTAG-PA

Title: HPM6E00FULLPORTRevB

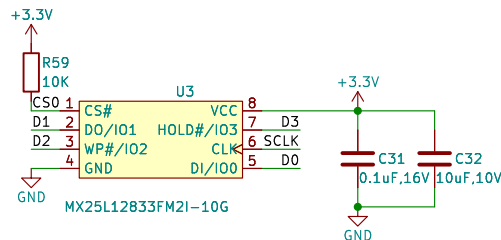
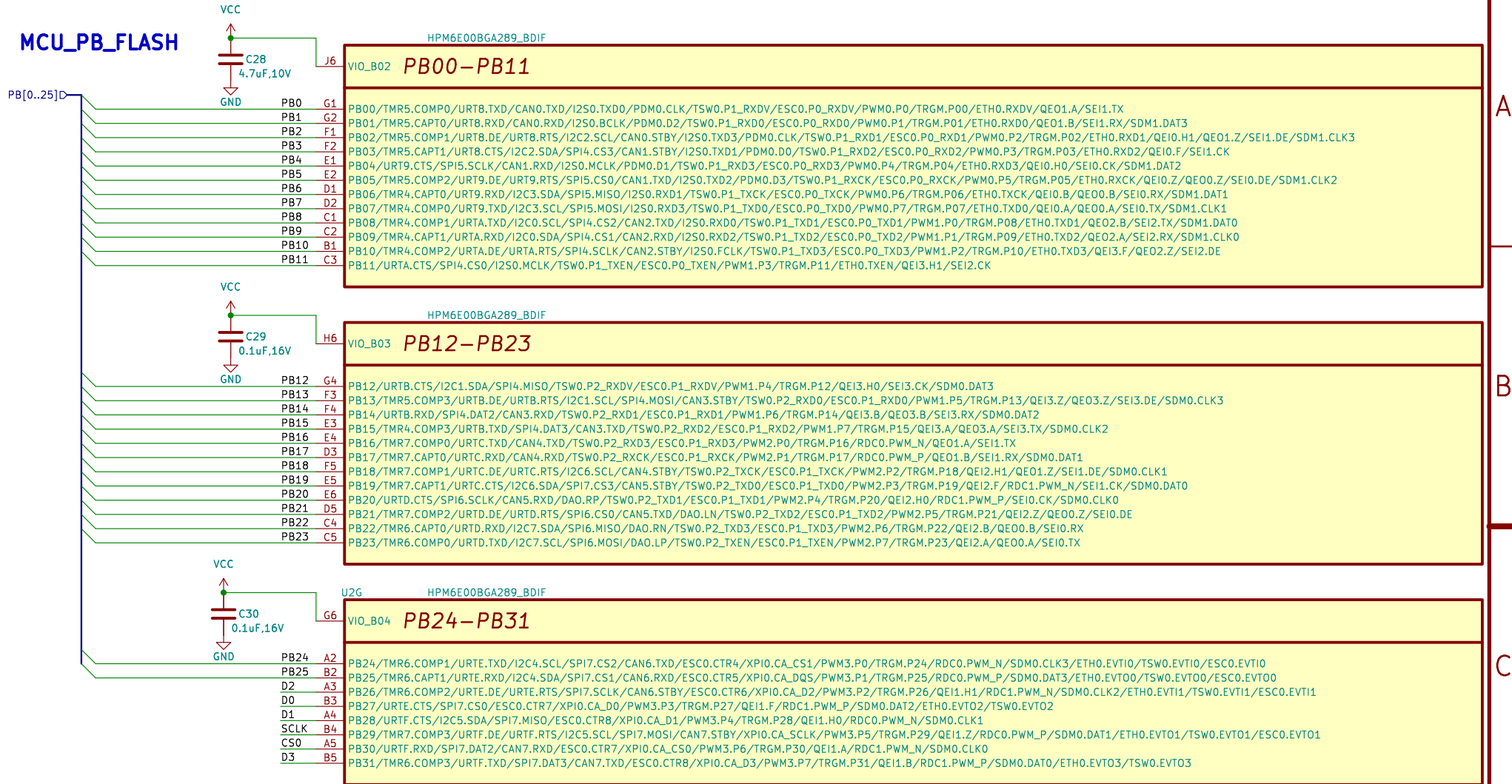
Size: A4

Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 4/28



MCU_PB_FLASH



Sheet File: 04-FLASH-PB

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

Rev: RevA

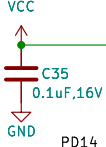
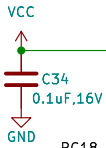
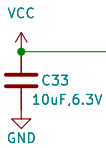
KiCad E.D.A. kicad 7.0.6

Id: 5/28

MCU_PC_PD

PC[0..31]D

PD[0..31]D



VIO_B05		PC00-PC17
PC0	A6	PC00/TMR1.COMPO/URT0.TXD/CAN0.TXD/ESC0.GPI63/ESC0.GP000/DRAM.DQ24/PPIO.DQ24/XPIO.CB_CS0/PWM0.P0/TRGM.P00/ESC0.GPI15
PC1	B6	PC01/TMR1.CAPT0/URT0.RXD/CAN0.RXD/ESC0.GPI62/ESC0.GP001/DRAM.DQ25/PPIO.DQ25/XPIO.CB_D1/PWM0.P1/TRGM.P01/ESC0.GPI14
PC2	C6	PC02/TMR1.COMP1/URT0.DE/URT0.RTS/I2C2.SCL/CAN0.STBY/ESC0.GPI61/ESC0.GP002/DRAM.DQ22/PPIO.DQ22/XPIO.CB_D2/PWM0.P2/TRGM.P02/ESC0.GPI13/QEI0.H1/SDM1.CLK0
PC3	A7	PC03/TMR1.CAPT1/URT0.CTS/I2C2.SDA/SPI1.CS3/CAN1.STBY/ESC0.GPI60/ESC0.GP003/DRAM.DQ26/PPIO.DQ26/XPIO.CB_D3/PWM0.P3/TRGM.P03/ESC0.GPI12/QEI0.F
PC4	B7	PC04/URT1.CTS/SPI0.SCLK/CAN1.RXD/ESC0.GPI59/ESC0.GP004/DRAM.DQ27/PPIO.DQ27/XPIO.CB_SCLK/PWM0.P4/TRGM.P04/ESC0.GPI11/QEI0.H0/SEI0.CK
PC5	A8	PC05/TMR1.COMP2/URT1.DE/URT1.RTS/SPI0.CS0/CAN1.TXD/ESC0.GPI58/ESC0.GP005/DRAM.DQ28/PPIO.DQ28/XPIO.CA_CS0/PWM0.P5/TRGM.P05/ESC0.GPI10/QEI0.Z/QE00.Z/SEI0.DE
PC6	B8	PC06/TMR0.CAPT0/URT1.RXD/I2C3.SDA/SPI0.MISO/ESC0.GPI57/ESC0.GP006/DRAM.DQ29/PPIO.DQ29/XPIO.CA_D1/PWM0.P6/TRGM.P06/ESC0.GPI09/QEI0.B/QE00.B/SEI0.RX
PC7	A9	PC07/TMR0.COMPO/URT1.TXD/I2C3.SCL/SPI0.MOSI/ESC0.GPI56/ESC0.GP007/DRAM.DQ30/PPIO.DQ30/XPIO.CA_D3/PWM0.P7/TRGM.P07/ESC0.GPI08/QEI0.A/QE00.A/SEI0.TX
PC8	B9	PC08/TMR0.COMP1/URT2.TXD/I2C0.SCL/SPI1.CS2/CAN2.TXD/ESC0.GPI55/ESC0.GP008/DRAM.DQ31/PPIO.DQ31/XPIO.CA_SCLK/PWM1.P0/TRGM.P08/ESC0.GPI07
PC9	D6	PC09/TMR0.CAPT1/URT2.RXD/I2C0.SDA/SPI1.CS1/CAN2.RXD/ESC0.GPI54/ESC0.GP009/DRAM.DQ23/PPIO.DQ23/XPIO.CB_CS1/PWM1.P1/TRGM.P09/ESC0.GPI06/SDM1.DAT0
PC10	D7	PC10/TMR0.COMP2/URT2.DE/URT2.RTS/SPI1.SCLK/CAN2.STBY/ESC0.GPI53/ESC0.GP010/DRAM.DQ20/PPIO.DQ20/XPIO.CB_D0/PWM1.P2/TRGM.P10/ESC0.GPI05/QEI3.F/SDM1.CLK1
PC11	E7	PC11/URT2.CTS/SPI1.CS0/ESC0.GPI52/ESC0.GP011/DRAM.DQ21/PPIO.DQ21/XPIO.CB_DQ5/PWM1.P3/TRGM.P11/ESC0.GPI04/QEI3.H1/SDM1.DAT1
PC12	C8	PC12/URT3.CTS/I2C1.SDA/SPI1.MISO/ESC0.GPI51/ESC0.GP012/DRAM.DM2/PPIO.DM2/XPIO.CA_D2/PWM1.P4/TRGM.P12/ESC0.GPI03/QEI3.H0/SEI2.CK
PC13	D8	PC13/TMR1.COMP3/URT3.DE/URT3.RTS/I2C1.SCL/SPI1.MOSI/CAN3.STBY/ESC0.GPI50/ESC0.GP013/DRAM.DQ18/PPIO.DQ18/XPIO.CA_CS1/PWM1.P5/TRGM.P13/ESC0.GPI02/QEI3.Z/QE02.Z/SEI2.DE/SDM1.CLK2
PC14	E8	PC14/URT3.RXD/SPI1.DAT2/CAN3.RXD/ESC0.GPI49/ESC0.GP014/DRAM.DQ19/PPIO.DQ19/PWM1.P6/TRGM.P14/ESC0.GPI01/QEI3.B/QE02.B/SEI2.RX/SDM1.DAT2
PC15	C9	PC15/TMR0.COMP3/URT3.TXD/SPI1.DAT3/CAN3.TXD/ESC0.GPI48/ESC0.GP015/DRAM.DM3/PPIO.DM3/XPIO.CA_D0/PWM1.P7/TRGM.P15/ESC0.GPI00/QEI3.A/QE02.A/SEI2.TX
PC16	D9	PC16/TMR3.COMPO/URT4.TXD/CAN4.TXD/ESC0.GPI47/ESC0.GP016/DRAM.DQ16/PPIO.DQ16/XPIO.CA_DQ5/PWM2.P0/TRGM.P16/SDM1.CLK3
PC17	E9	PC17/TMR3.CAPT0/URT4.RXD/CAN4.RXD/ESC0.GPI46/ESC0.GP017/DRAM.DQ17/PPIO.DQ17/PWM2.P1/TRGM.P17/SDM1.DAT3

VIO_B06		PC18-PD13
PC18	A10	PC18/TMR3.COMP1/URT4.DE/URT4.RTS/I2C6.SCL/CAN4.STBY/ESC0.GPI45/ESC0.GP018/DRAM.A04/PPIO.DQ04/PWM2.P2/TRGM.P18/ESC0.CTR0/QEI2.H1
PC19	B10	PC19/TMR3.CAPT1/URT4.CTS/I2C6.SDA/SPI2.CS3/CAN5.STBY/ESC0.GPI44/ESC0.GP019/DRAM.A05/PPIO.DQ05/PWM2.P3/TRGM.P19/ESC0.CTR1/QEI2.F
PC20	A11	PC20/URT5.CTS/SPI3.SCLK/CAN5.RXD/ESC0.GPI43/ESC0.GP020/DRAM.A06/PPIO.DQ06/PWM2.P4/TRGM.P20/ESC0.CTR2/QEI2.H0/SEI1.CK
PC21	B11	PC21/TMR3.COMP2/URT5.DE/URT5.RTS/SPI3.CS0/CAN5.TXD/ESC0.GPI42/ESC0.GP021/DRAM.A07/PPIO.DQ07/PWM2.P5/TRGM.P21/ESC0.CTR3/QEI2.Z/QE01.Z/SEI1.DE
PC22	A12	PC22/TMR2.CAPT0/URT5.RXD/I2C7.SDA/SPI3.MISO/ESC0.GPI41/ESC0.GP022/DRAM.SRDY/PPIO.CTR2/PWM2.P6/TRGM.P22/QEI2.B/QE01.B/SEI1.RX
PC23	B12	PC23/TMR2.COMPO/URT5.TXD/I2C7.SCL/SPI3.MOSI/ESC0.GPI40/ESC0.GP023/DRAM.A08/PPIO.DQ08/PWM2.P7/TRGM.P23/QEI2.A/QE01.A/SEI1.TX
PC24	A13	PC24/TMR2.COMP1/URT6.TXD/I2C4.SCL/SPI2.CS2/CAN6.TXD/ESC0.GPI39/ESC0.GP024/DRAM.A09/PPIO.DQ09/PWM3.P0/TRGM.P24
PC25	B13	PC25/TMR2.CAPT1/URT6.RXD/I2C4.SDA/SPI2.CS1/CAN6.RXD/ESC0.GPI38/ESC0.GP025/DRAM.A11/PPIO.DQ11/PWM3.P1/TRGM.P25
PC26	A14	PC26/TMR2.COMP2/URT6.DE/URT6.RTS/SPI2.SCLK/CAN6.STBY/ESC0.GPI37/ESC0.GP026/DRAM.A12/PPIO.DQ12/PWM3.P2/TRGM.P26/QEI1.H1
PC27	B14	PC27/URT6.CTS/SPI2.CS0/ESC0.GPI36/ESC0.GP027/DRAM.CLK0/PPIO.CTR0/PWM3.P3/TRGM.P27/ESC0.CTR4/QEI1.F
PC28	A15	PC28/URT7.CTS/I2C5.SDA/SPI2.MISO/ESC0.GPI35/ESC0.GP028/DRAM.CKE/PPIO.DM0/PWM3.P4/TRGM.P28/ESC0.CTR5/QEI1.H0/SEI3.CK
PC29	B15	PC29/TMR3.COMP3/URT7.DE/URT7.RTS/I2C5.SCL/SPI2.MOSI/CAN7.STBY/ESC0.GPI34/ESC0.GP029/DRAM.SCLK0/PPIO.CLK/PWM3.P5/TRGM.P29/ESC0.CTR6/QEI1.Z/QE03.Z/SEI3.DE/SOC.REF0
PC30	A16	PC30/URT7.RXD/SPI2.DAT2/CAN7.RXD/ESC0.GPI33/ESC0.GP030/DRAM.SCS0/PPIO.CS0/PWM3.P6/TRGM.P30/ESC0.CTR7/QEI1.A/QE03.B/SEI3.RX/SOC.REF1
PC31	B16	PC31/TMR2.COMP3/URT7.TXD/SPI2.DAT3/CAN7.TXD/ESC0.GPI32/ESC0.GP031/DRAM.SCS1/PPIO.CS1/PWM3.P7/TRGM.P31/ESC0.CTR8/QEI1.B/QE03.A/SEI3.TX
PD0	C10	PD00/TMR5.COMPO/URT8.TXD/CAN0.TXD/ESC0.GPI31/ESC0.GP032/DRAM.A02/PPIO.DQ02/PWM0.P0/TRGM.P00/ESC0.REFCK
PD1	D10	PD01/TMR5.CAPT0/URT8.RXD/CAN0.RXD/ESC0.GPI30/ESC0.GP033/DRAM.A03/PPIO.DQ03/PWM0.P1/TRGM.P01/ESC0.REFCK
PD2	E10	PD02/TMR5.COMP1/URT8.DE/URT8.RTS/I2C2.SCL/CAN0.STBY/ESC0.GPI29/ESC0.GP034/DRAM.A00/PPIO.DQ00/PWM0.P2/TRGM.P02/ESC0.SCL/QEI0.H1
PD3	D11	PD03/TMR5.CAPT1/URT8.CTS/I2C2.SDA/SPI5.CS3/CAN1.STBY/ESC0.GPI28/ESC0.GP035/DRAM.A01/PPIO.DQ01/PWM0.P3/TRGM.P03/ESC0.SDA/QEI0.F
PD4	E11	PD04/URT9.CTS/SPI4.SCLK/CAN1.RXD/ESC0.GPI27/ESC0.GP036/DRAM.A10/PPIO.DQ10/PWM0.P4/TRGM.P04/QEI0.H0/SEI0.CK
PD5	C12	PD05/TMR5.COMP2/URT9.DE/URT9.RTS/SPI4.CS0/CAN1.TXD/ESC0.GPI26/ESC0.GP037/DRAM.BA0/PPIO.DQ13/PWM0.P5/TRGM.P05/QEI0.Z/QE00.Z/SEI0.DE
PD6	D12	PD06/TMR4.CAPT0/URT9.RXD/I2C3.SDA/SPI4.MISO/ESC0.GPI25/ESC0.GP038/DRAM.BA1/PPIO.DQ14/PWM0.P6/TRGM.P06/QEI0.B/QE00.B/SEI0.RX
PD7	E12	PD07/TMR4.COMPO/URT9.TXD/I2C3.SCL/SPI4.MOSI/ESC0.GPI24/ESC0.GP039/DRAM.SCLK1/PPIO.CTR3/PWM0.P7/TRGM.P07/QEI0.A/QE00.A/SEI0.TX
PD8	C13	PD08/TMR4.COMP1/URTA.TXD/I2C0.SCL/SPI5.CS2/CAN2.TXD/ESC0.GPI23/ESC0.GP040/DRAM.CS1/PPIO.CS3/PWM1.P0/TRGM.P08
PD9	D13	PD09/TMR4.CAPT1/URTA.RXD/I2C0.SDA/SPI5.CS1/CAN2.RXD/ESC0.GPI22/ESC0.GP041/DRAM.DQ5/PWM1.P1/TRGM.P09
PD10	E13	PD10/TMR4.COMP2/URTA.DE/URTA.RTS/SPI5.SCLK/CAN2.STBY/ESC0.GPI21/ESC0.GP042/DRAM.RAS/PPIO.CTR1/PWM1.P2/TRGM.P10/QEI3.F
PD11	C14	PD11/URTA.CTS/SPI5.CS0/ESC0.GPI20/ESC0.GP043/DRAM.CS0/PPIO.CS2/PWM1.P3/TRGM.P11/QEI3.H1
PD12	D15	PD12/URTB.CTS/I2C1.SDA/SPI5.MISO/ESC0.GPI19/ESC0.GP044/DRAM.WE/PPIO.DQ15/PWM1.P4/TRGM.P12/QEI3.H0/SEI2.CK/CPU1.NMI
PD13	C15	PD13/TMR5.COMP3/URTB.DE/URTB.RTS/I2C1.SCL/SPI5.MOSI/CAN3.STBY/ESC0.GPI18/ESC0.GP045/DRAM.CAS/PPIO.DM1/PWM1.P5/TRGM.P13/QEI3.Z/QE02.Z/SEI2.DE

VIO_B07		PD14-PD31
PD14	B17	PD14/URTB.RXD/SPI5.DAT2/CAN3.RXD/ESC0.GPI17/ESC0.GP046/DRAM.DQ08/PPIO.DQ08/PWM1.P6/TRGM.P14/ESC0.REFCK/QEI3.B/QE02.B/SEI2.RX
PD15	C16	PD15/TMR4.COMP3/URTB.TXD/SPI5.DAT3/CAN3.TXD/ESC0.GPI16/ESC0.GP047/DRAM.DM1/PPIO.DM1/PWM1.P7/TRGM.P15/ESC0.REFCK/QEI3.A/QE02.A/SEI2.TX
PD16	C17	PD16/TMR7.COMPO/URTC.TXD/CAN4.TXD/ESC0.GPI15/ESC0.GP048/DRAM.DQ10/PPIO.DQ10/PWM2.P0/TRGM.P16/ESC0.GP000
PD17	D16	PD17/TMR7.CAPT0/URTC.RXD/CAN4.RXD/ESC0.GPI14/ESC0.GP049/DRAM.DQ09/PPIO.DQ09/PWM2.P1/TRGM.P17/ESC0.GP001
PD18	D17	PD18/TMR7.COMP1/URTC.DE/URTC.RTS/I2C6.SCL/CAN4.STBY/ESC0.GPI13/ESC0.GP050/DRAM.DQ12/PPIO.DQ12/PWM2.P2/TRGM.P18/ESC0.GP002/QEI2.H1
PD19	E16	PD19/TMR7.CAPT1/URTC.CTS/I2C6.SDA/SPI6.CS3/CAN5.STBY/ESC0.GPI12/ESC0.GP051/DRAM.DQ11/PPIO.DQ11/PWM2.P3/TRGM.P19/ESC0.GP003/QEI2.F
PD20	E17	PD20/URTD.CTS/SPI7.SCLK/CAN5.RXD/ESC0.GPI11/ESC0.GP052/DRAM.DQ14/PPIO.DQ14/PWM2.P4/TRGM.P20/ESC0.GP004/QEI2.H0/SEI1.CK
PD21	F16	PD21/TMR7.COMP2/URTD.DE/URTD.RTS/SPI7.CS0/CAN5.TXD/ESC0.GPI10/ESC0.GP053/DRAM.DQ13/PPIO.DQ13/PWM2.P5/TRGM.P21/ESC0.GP005/QEI2.Z/QE01.Z/SEI1.DE
PD22	F17	PD22/TMR6.CAPT0/URTD.RXD/I2C7.SDA/SPI7.MISO/ESC0.GPI09/ESC0.GP054/DRAM.DQ15/PPIO.DQ15/PWM2.P6/TRGM.P22/ESC0.GP006/QEI2.B/QE01.B/SEI1.RX
PD23	E15	PD23/TMR6.COMPO/URTD.TXD/I2C7.SCL/SPI7.MOSI/ESC0.GPI08/ESC0.GP055/DRAM.DM0/PPIO.DM0/PWM2.P7/TRGM.P23/ESC0.GP007/QEI2.A/QE01.A/SEI1.TX
PD24	F14	PD24/TMR6.COMP1/URTE.TXD/I2C4.SCL/SPI6.CS2/CAN6.TXD/ESC0.GPI07/ESC0.GP056/DRAM.DQ06/PPIO.DQ06/PWM3.P0/TRGM.P24/ESC0.GP008/SDM0.DAT3/CPU0.NMI
PD25	F15	PD25/TMR6.CAPT1/URTE.RXD/I2C4.SDA/SPI6.CS1/CAN6.RXD/ESC0.GPI06/ESC0.GP057/DRAM.DQ07/PPIO.DQ07/PWM3.P1/TRGM.P25/ESC0.GP009/SDM0.CLK3
PD26	F14	PD26/TMR6.COMP2/URTE.DE/URTE.RTS/SPI6.SCLK/CAN6.STBY/ESC0.GPI05/ESC0.GP058/DRAM.DQ05/PPIO.DQ05/PWM3.P2/TRGM.P26/ESC0.GP010/QEI1.H1/SDM0.CLK2
PD27	F13	PD27/URTE.CTS/SPI6.CS0/ESC0.GP059/DRAM.DQ04/PPIO.DQ04/PWM3.P3/TRGM.P27/ESC0.GP011/QEI1.F/SDM0.DAT2
PD28	G14	PD28/URTF.CTS/I2C5.SDA/SPI6.MISO/ESC0.GPI03/ESC0.GP060/DRAM.DQ03/PPIO.DQ03/PWM3.P4/TRGM.P28/ESC0.GP012/QEI1.H0/SEI3.CK/SDM0.CLK1
PD29	G13	PD29/TMR7.COMP3/URTF.DE/URTF.RTS/I2C5.SCL/SPI6.MOSI/CAN7.STBY/ESC0.GPI02/ESC0.GP061/DRAM.DQ02/PPIO.DQ02/PWM3.P5/TRGM.P29/ESC0.GP013/QEI1.Z/QE03.Z/SEI3.DE/SDM0.DAT1
PD30	H15	PD30/URTF.RXD/SPI6.DAT2/CAN7.RXD/ESC0.GPI01/ESC0.GP062/DRAM.DQ01/PPIO.DQ01/PWM3.P6/TRGM.P30/ESC0.GP014/QEI1.A/QE03.B/SEI3.RX/SDM0.CLK0
PD31	H14	PD31/TMR6.COMP3/URTF.TXD/SPI6.DAT3/CAN7.TXD/ESC0.GPI00/ESC0.GP063/DRAM.DQ00/PPIO.DQ00/PWM3.P7/TRGM.P31/ESC0.GP015/QEI1.B/QE03.A/SEI3.TX/SDM0.DAT0

MCU_PC_PD



Sheet File: 05-PC-PD

Title: HPM6E00FULLPORTRevB

Size: A3

Date: 2024-09-12

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MCU_PE

PE[0..31]D

VCC

C36

10uF,6.3V

GND

U2K

HPM6E00BGA289_BDIF

F10

PE00-PE07

PE0 G17
PE1 G16
PE2 H17
PE3 H16
PE4 J17
PE5 J16
PE6 K17
PE7 K16

PE00/TMR1.COMP0/URT0.TXD/CAN0.TXD/TSW0.P1_MDC/ESC0.CTR4/PPIO.CTR4/PWM0.P0/TRGM.P00/RDC0.PWM_N/QE01.A/SEI1.TX/SDM1.DAT2/USB0.ID/ETH0.EVT01/TSW0.EVT01/ESC0.EVT01
PE01/TMR1.CAPT0/URT0.RXD/CAN0.RXD/DAO.RP/TSW0.P1_MDIO/ESC0.CTR5/PPIO.CTR5/PWM0.P1/TRGM.P01/RDC0.PWM_P/QE01.B/SEI1.RX/SDM1.CLK2
PE02/TMR1.COMP1/URT0.DE/URT0.RTS/I2C2.SCL/CAN0.STBY/DAO.LP/ESC0.CTR6/PPIO.CTR6/PWM0.P2/TRGM.P02/QE10.H1/QE01.Z/SEI1.DE/SDM1.DAT3
PE03/TMR1.CAPT1/URT0.CTS/I2C2.SDA/SPIO.CS3/CAN1.STBY/TSW0.P2_MDC/ESC0.CTR1/PPIO.CTR7/PWM0.P3/TRGM.P03/QE10.F/RDC1.PWM_N/SEI1.CK/SDM1.DAT1/USB0.OC/ETH0.EVT02/TSW0.EVT02
PE04/URT1.CTS/SPI1.SCLK/CAN1.RXD/DAO.RN/TSW0.P2_MDIO/ESC0.CTR2/PWM0.P4/TRGM.P04/QE10.H0/RDC1.PWM_P/SEIO.CK/SDM1.CLK1/ETH0.EVT11/TSW0.EVT11/ESC0.EVT11
PE05/TMR1.COMP2/URT1.DE/URT1.RTS/SPI1.CS0/CAN1.TXD/DAO.LN/ESC0.CTR3/PWM0.P5/TRGM.P05/QE10.Z/QE00.Z/SEIO.DE/SDM1.CLK3/ETH0.EVT03/TSW0.EVT03
PE06/TMR0.CAPT0/URT1.RXD/I2C3.SDA/SPI1.MISO/TSW0.P3_MDC/ESC0.REFCK/PWM0.P6/TRGM.P06/ETH0.CRS/QE10.B/QE00.B/SEIO.RX/SDM1.DAT0/USB0.PWR/ETH0.EVT00/TSW0.EVT00/ESC0.EVT00
PE07/TMR0.COMP0/URT1.TXD/I2C3.SCL/SPI1.MOSI/TSW0.P3_MDIO/ESC0.CTR0/PWM0.P7/TRGM.P07/ETH0.COL/QE10.A/QE00.A/SEIO.TX/SDM1.CLK0/ETH0.EVT10/TSW0.EVT10/ESC0.EVT10

VCC

C37

0.1uF,16V

GND

U2L

HPM6E00BGA289_BDIF

F11

PE08-PE19

PE8 J15
PE9 J14
PE10 H13
PE11 K15
PE12 K14
PE13 J13
PE14 L14
PE15 L13
PE16 K13
PE17 M15
PE18 M14
PE19 M13

PE08/TMR0.COMP1/URT2.TXD/I2C0.SCL/SPIO.CS2/CAN2.TXD/TSW0.P1_RXDV/ESC0.P2_RXDV/PWM1.P0/TRGM.P08/RDC0.PWM_N/QE02.B/SEI2.TX
PE09/TMR0.CAPT1/URT2.RXD/I2C0.SDA/SPIO.CS1/CAN2.RXD/TSW0.P1_RXD0/ESC0.P2_RXD0/PWM1.P1/TRGM.P09/RDC0.PWM_P/QE02.A/SEI2.RX
PE10/TMR0.COMP2/URT2.DE/URT2.RTS/SPIO.SCLK/CAN2.STBY/TSW0.P1_RXD1/ESC0.P2_RXD1/PWM1.P2/TRGM.P10/QEI3.F/QE02.Z/SEI2.DE
PE11/URT2.CTS/SPIO.CS0/TSW0.P1_RXD2/ESC0.P2_RXD2/PWM1.P3/TRGM.P11/QEI3.H1/RDC1.PWM_N/SEI2.CK
PE12/URT3.CTS/I2C1.SDA/SPIO.MISO/TSW0.P1_RXD3/ESC0.P2_RXD3/PWM1.P4/TRGM.P12/QEI3.H0/RDC1.PWM_P/SEI3.CK
PE13/TMR1.COMP3/URT3.DE/URT3.RTS/I2C1.SCL/SPIO.MOSI/CAN3.STBY/TSW0.P1_RXCK/ESC0.P2_RXCK/PWM1.P5/TRGM.P13/QEI3.Z/QE03.Z/SEI3.DE
PE14/URT3.RXD/SPIO.DAT2/CAN3.RXD/TSW0.P1_TXCK/ESC0.P2_TXCK/PWM1.P6/TRGM.P14/QEI3.B/QE03.B/SEI3.RX
PE15/TMR0.COMP3/URT3.TXD/SPIO.DAT3/CAN3.TXD/TSW0.P1_TXD0/ESC0.P2_TXD0/PWM1.P7/TRGM.P15/QEI3.A/QE03.A/SEI3.TX
PE16/TMR3.COMP0/URT4.TXD/CAN4.TXD/TSW0.P1_TXD1/ESC0.P2_TXD1/PWM2.P0/TRGM.P16/RDC0.PWM_N/QE01.A/SEI1.TX
PE17/TMR3.CAPT0/URT4.RXD/CAN4.RXD/TSW0.P1_TXD2/ESC0.P2_TXD2/PWM2.P1/TRGM.P17/RDC0.PWM_P/QE01.B/SEI1.RX
PE18/TMR3.COMP1/URT4.DE/URT4.RTS/I2C6.SCL/CAN4.STBY/TSW0.P1_TXD3/ESC0.P2_TXD3/PWM2.P2/TRGM.P18/QEI2.H1/QE01.Z/SEI1.DE
PE19/TMR3.CAPT1/URT4.CTS/I2C6.SDA/SPI3.CS3/CAN5.STBY/TSW0.P1_TXEN/ESC0.P2_TXEN/PWM2.P3/TRGM.P19/QEI2.F/RDC1.PWM_N/SEI1.CK

VCC

C38

0.1uF,16V

GND

U2M

HPM6E00BGA289_BDIF

J12

PE20-PE31

PE20 R17
PE21 R16
PE22 R15
PE23 T17
PE24 T16
PE25 U16
PE26 N17
PE27 N16
PE28 N15
PE29 P17
PE30 P16
PE31 P15

PE20/URT5.CTS/SPI2.SCLK/CAN5.RXD/I2S1.FCLK/TSW0.P3_RXDV/ESC0.P2_RXDV/PWM2.P4/TRGM.P20/ETH0.RXDV/QEI2.H0/RDC1.PWM_P/SEIO.CK
PE21/TMR3.COMP2/URT5.DE/URT5.RTS/SPI2.CS0/CAN5.TXD/I2S1.RXD2/TSW0.P3_RXD0/ESC0.P2_RXD0/PWM2.P5/TRGM.P21/ETH0.RXD0/QEI2.Z/QE00.Z/SEIO.DE
PE22/TMR2.CAPT0/URT5.RXD/I2C7.SDA/SPI2.MISO/I2S1.RXD0/TSW0.P3_RXD1/ESC0.P2_RXD1/PWM2.P6/TRGM.P22/ETH0.RXD1/QEI2.B/QE00.B/SEIO.RX
PE23/TMR2.COMP0/URT5.TXD/I2C7.SCL/SPI2.MOSI/I2S1.MCLK/TSW0.P3_RXD2/ESC0.P2_RXD2/PWM2.P7/TRGM.P23/ETH0.RXD2/QEI2.A/QE00.A/SEIO.TX
PE24/TMR2.COMP1/URT6.TXD/I2C4.SCL/SPI3.CS2/CAN6.TXD/I2S1.RXD3/TSW0.P3_RXD3/ESC0.P2_RXD3/PWM3.P0/TRGM.P24/ETH0.RXD3/RDC0.PWM_N/QE02.A/SEI2.TX
PE25/TMR2.CAPT1/URT6.RXD/I2C4.SDA/SPI3.CS1/CAN6.RXD/I2S1.RXD1/TSW0.P3_RXCK/ESC0.P2_RXCK/PWM3.P1/TRGM.P25/ETH0.RXCK/RDC0.PWM_P/QE02.B/SEI2.RX
PE26/TMR2.COMP2/URT6.DE/URT6.RTS/SPI3.SCLK/CAN6.STBY/I2S1.MCLK/TSW0.P3_TXCK/ESC0.P2_TXCK/PWM3.P2/TRGM.P26/ETH0.TXCK/QEI1.H1/QE02.Z/SEI2.DE
PE27/URT6.CTS/SPI3.CS0/I2S1.TXD1/TSW0.P3_TXD0/ESC0.P2_TXD0/PWM3.P3/TRGM.P27/ETH0.TXD0/QEI1.F/RDC1.PWM_N/SEI2.CK
PE28/URT7.CTS/I2C5.SDA/SPI3.MISO/I2S1.TXD2/TSW0.P3_TXD1/ESC0.P2_TXD1/PWM3.P4/TRGM.P28/ETH0.TXD1/QEI1.H0/RDC1.PWM_P/SEI3.CK
PE29/TMR3.COMP3/URT7.DE/URT7.RTS/I2C5.SCL/SPI3.MOSI/CAN7.STBY/I2S1.TXD0/TSW0.P3_TXD2/ESC0.P2_TXD2/PWM3.P5/TRGM.P29/ETH0.TXD2/QEI1.Z/QE03.Z/SEI3.DE
PE30/URT7.RXD/SPI3.DAT2/CAN7.RXD/I2S1.TXD3/TSW0.P3_TXD3/ESC0.P2_TXD3/PWM3.P6/TRGM.P30/ETH0.TXD3/QEI1.A/QE03.B/SEI3.RX
PE31/TMR2.COMP3/URT7.TXD/SPI3.DAT3/CAN7.TXD/I2S1.BCLK/TSW0.P3_TXEN/ESC0.P2_TXEN/PWM3.P7/TRGM.P31/ETH0.TXEN/QEI1.B/QE03.A/SEI3.TX

MCU_PE



Sheet File: 06-PE

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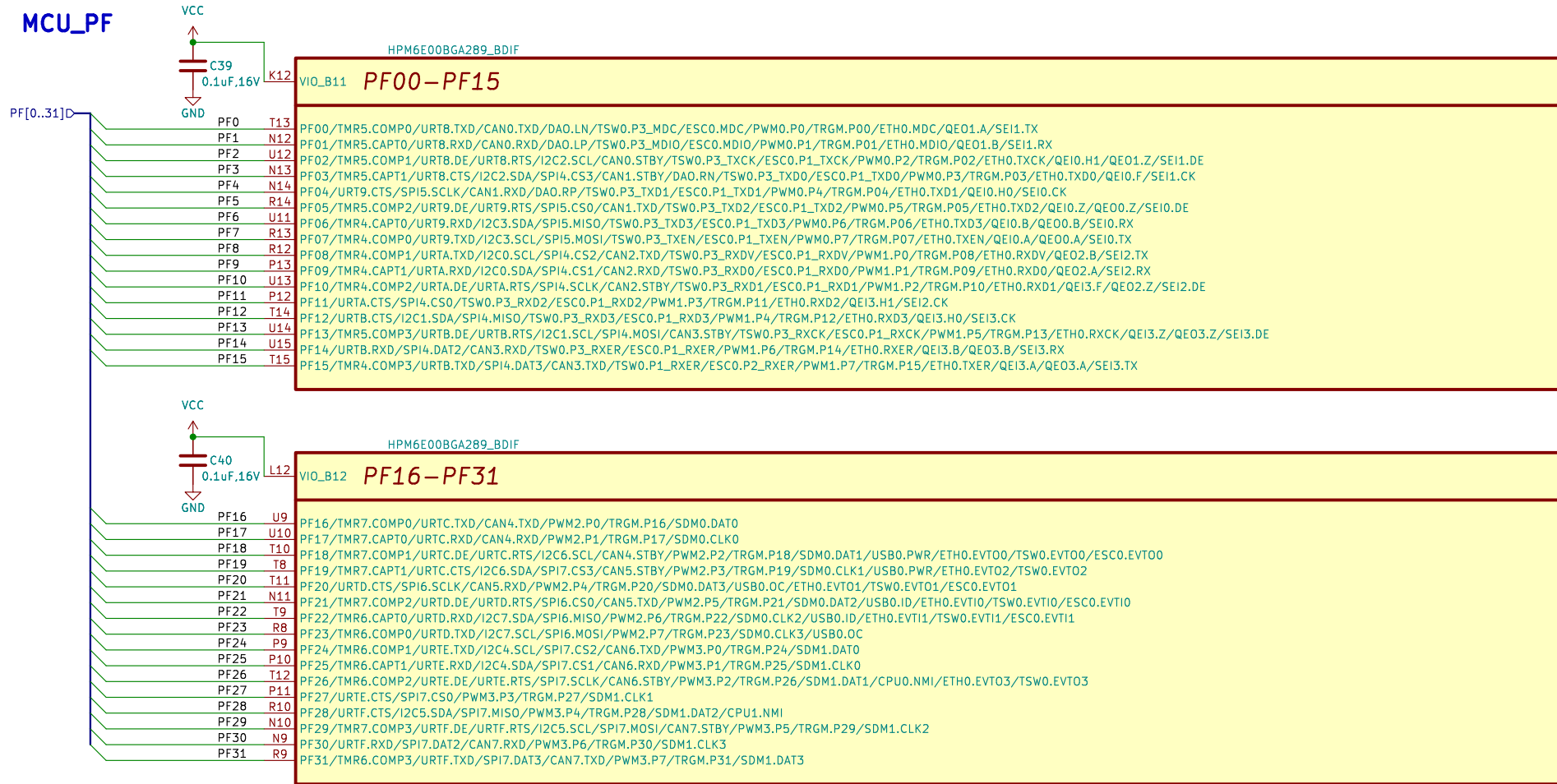
Size: A4

Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 7/28



A

B

C

D

MCU_PF



Sheet File: 07–PF

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024–09–12

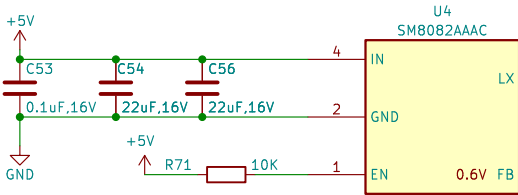
Rev: RevA

KiCad E.D.A. kicad 7.0.6

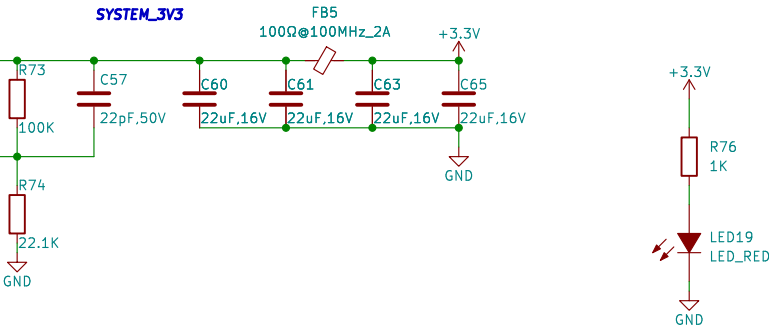
Id: 8/28

A4

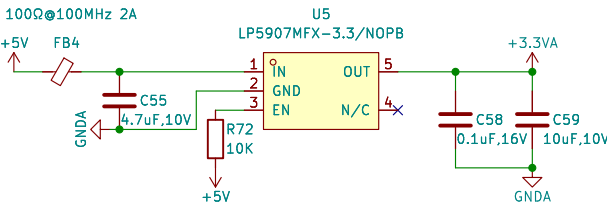
USB-TypeC 5V INPUT



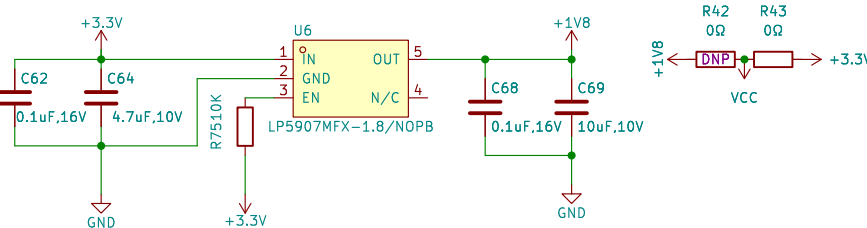
SYSTEM_3V3



ANALOG REFERENCE 3V3



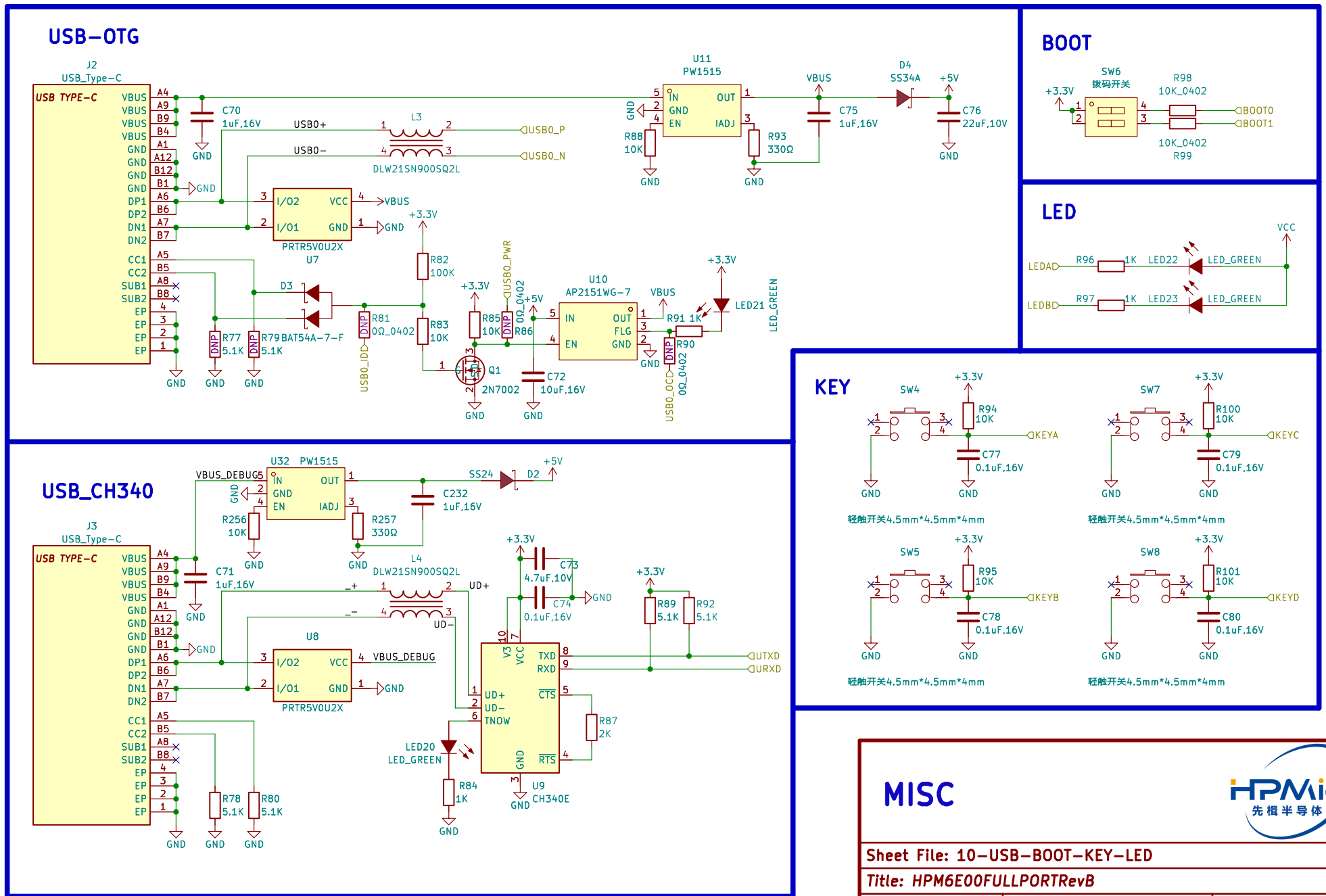
LDO 1V8 IO BANK POWER SELECTED



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



MISC



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

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

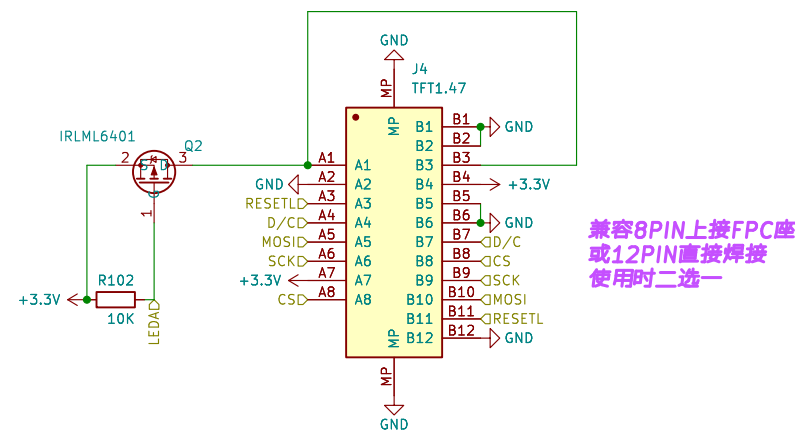
Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 11/28

A4

11-TFTLCD

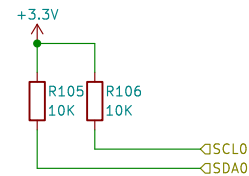
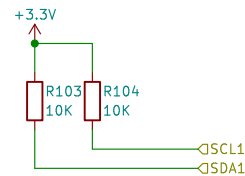
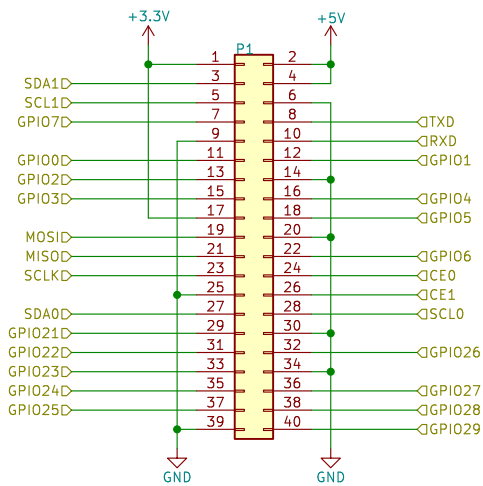


TFTLCD



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

12-RASPBERRY-PI



RASPBERRY-PI



Sheet File: 12-RASPBERRY-PI

Title: HPM6E00FULLPORTRevB

Size: A3

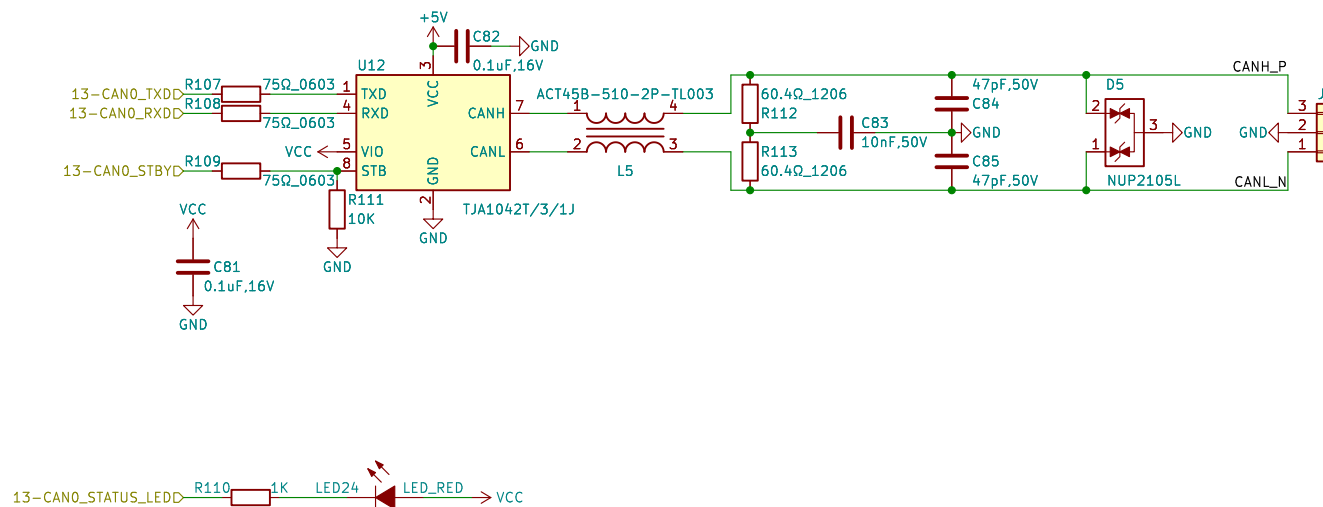
Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 13/28

13-CAN0



CAN



Sheet File: 13-CAN0

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

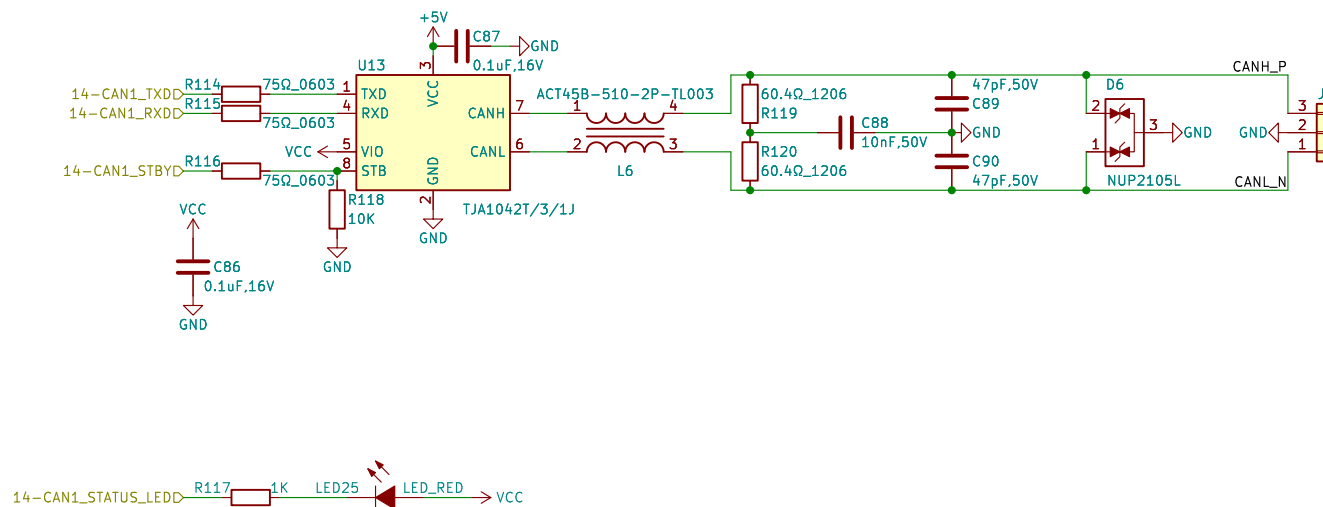
Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 14/28

A4

14-CAN1



CAN



Sheet File: 14-CAN1

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

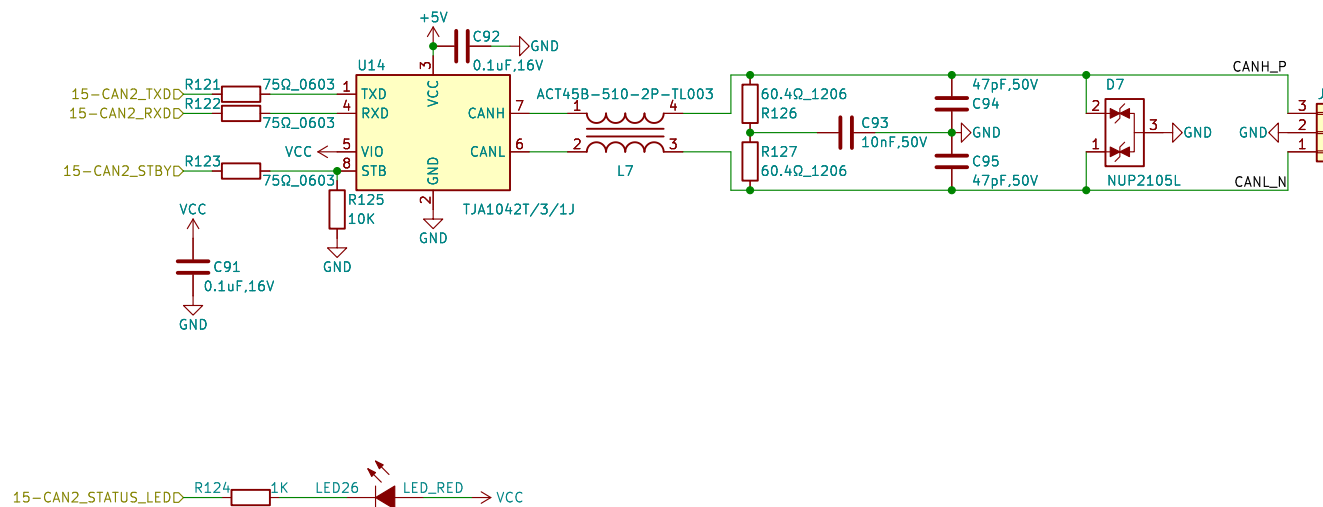
Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 15/28

A4

15-CAN2



CAN



Sheet File: 15-CAN2

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

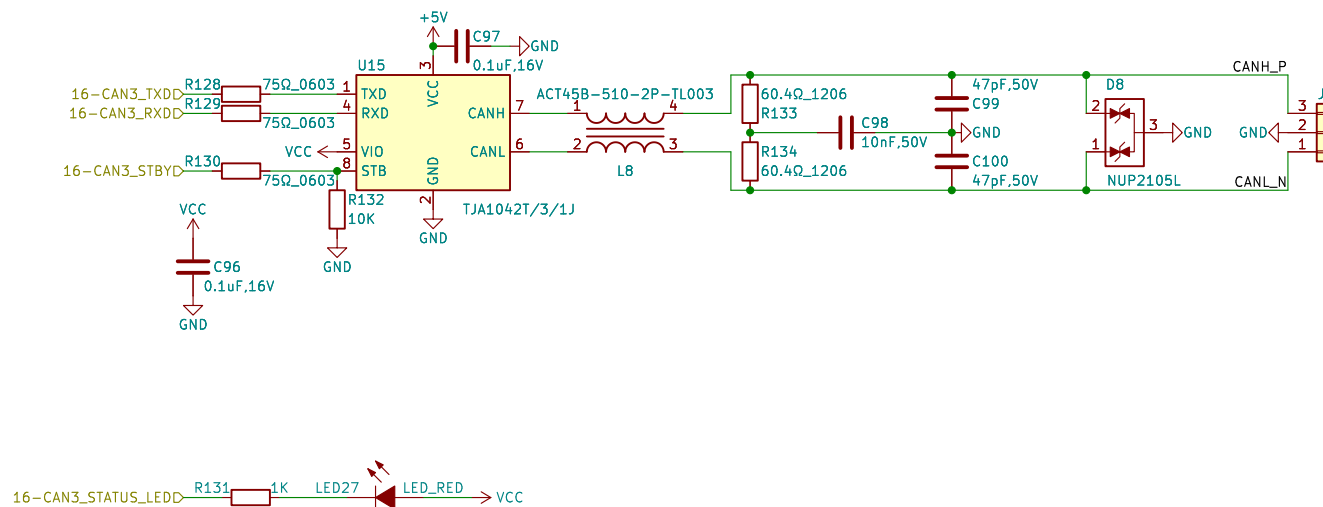
Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 16/28

A4

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

A4

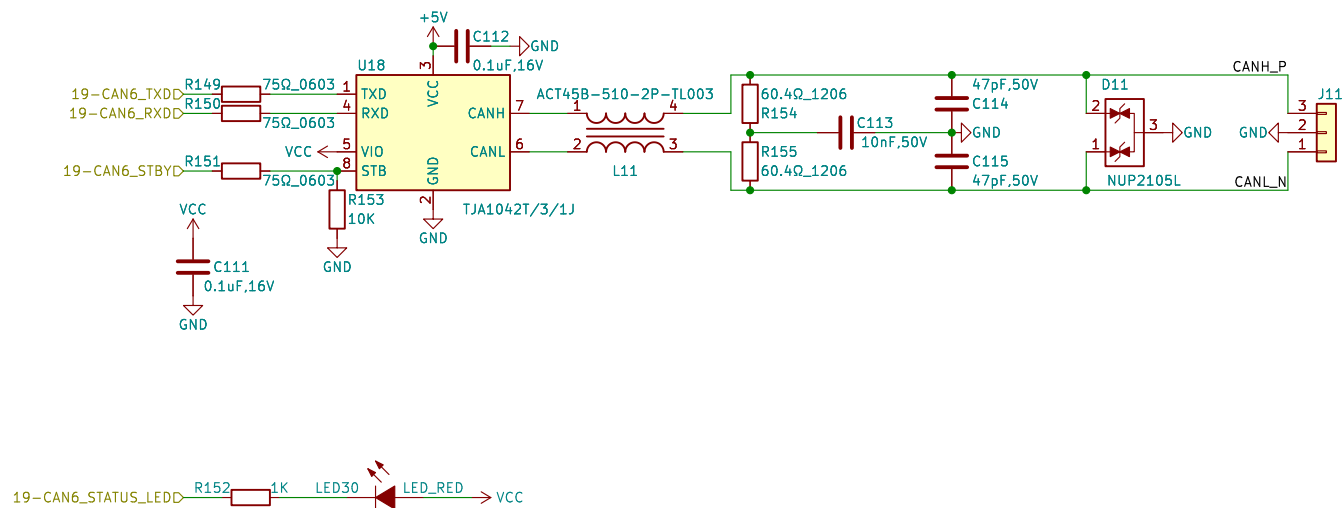


Id: 18/28



Id: 19/28

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

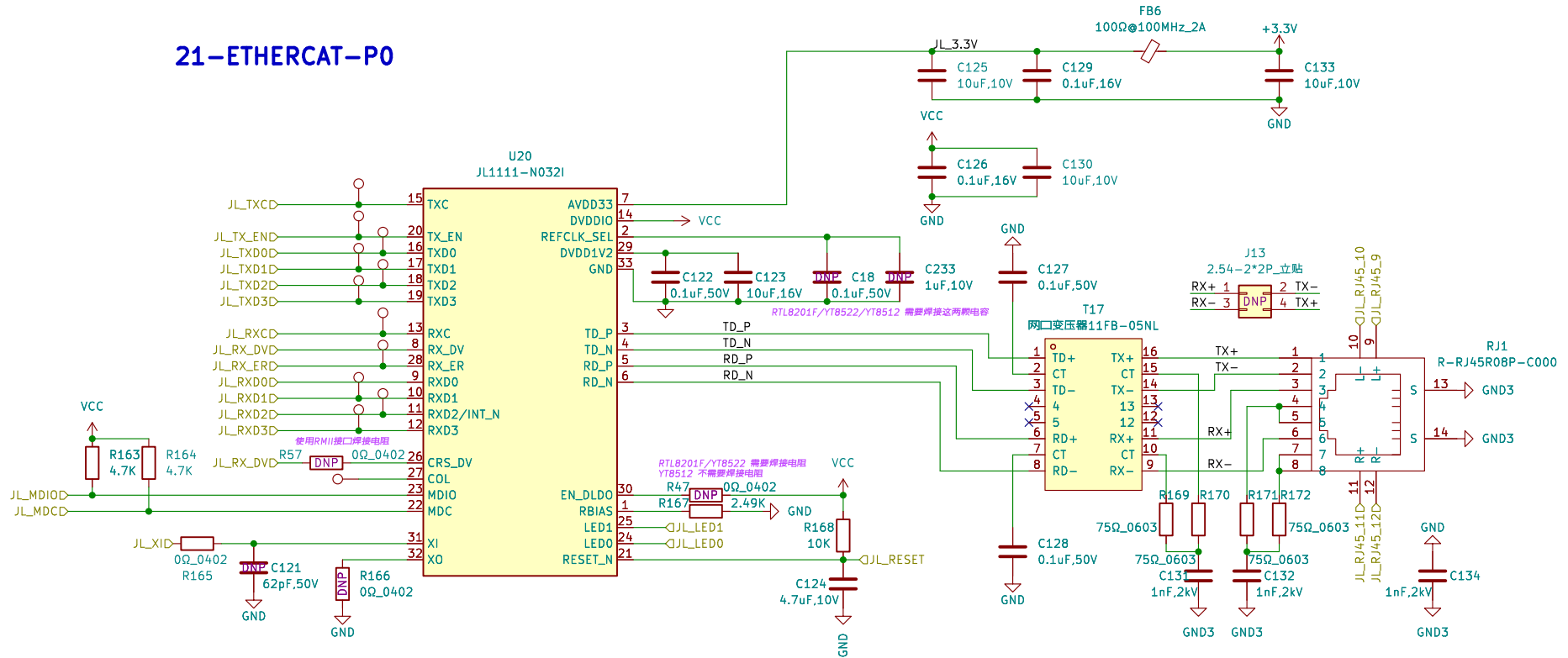
Id: 20/28

A4

[illegible]

Id: 21/28

21-ETHERCAT-P0



ETHERCAT



Sheet File: 21-ETHERCAT-P0

Title: HPM6E00FULLPORTRevB

Size: A4

Date: 2024-09-12

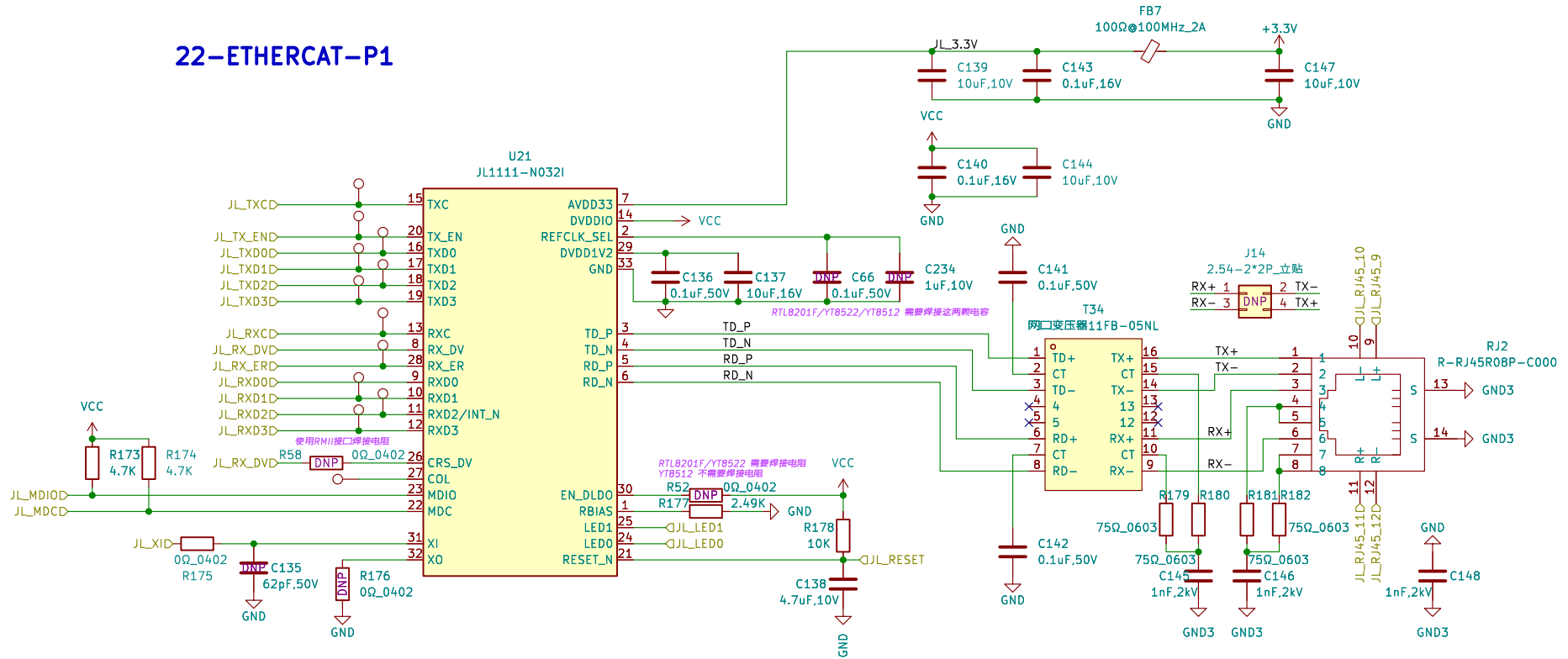
Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 22/28

A4

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

1	2	3	4	5	6
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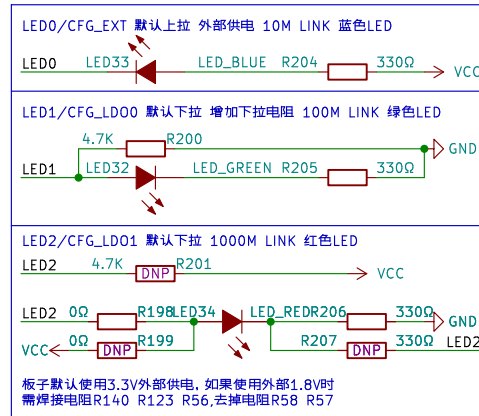
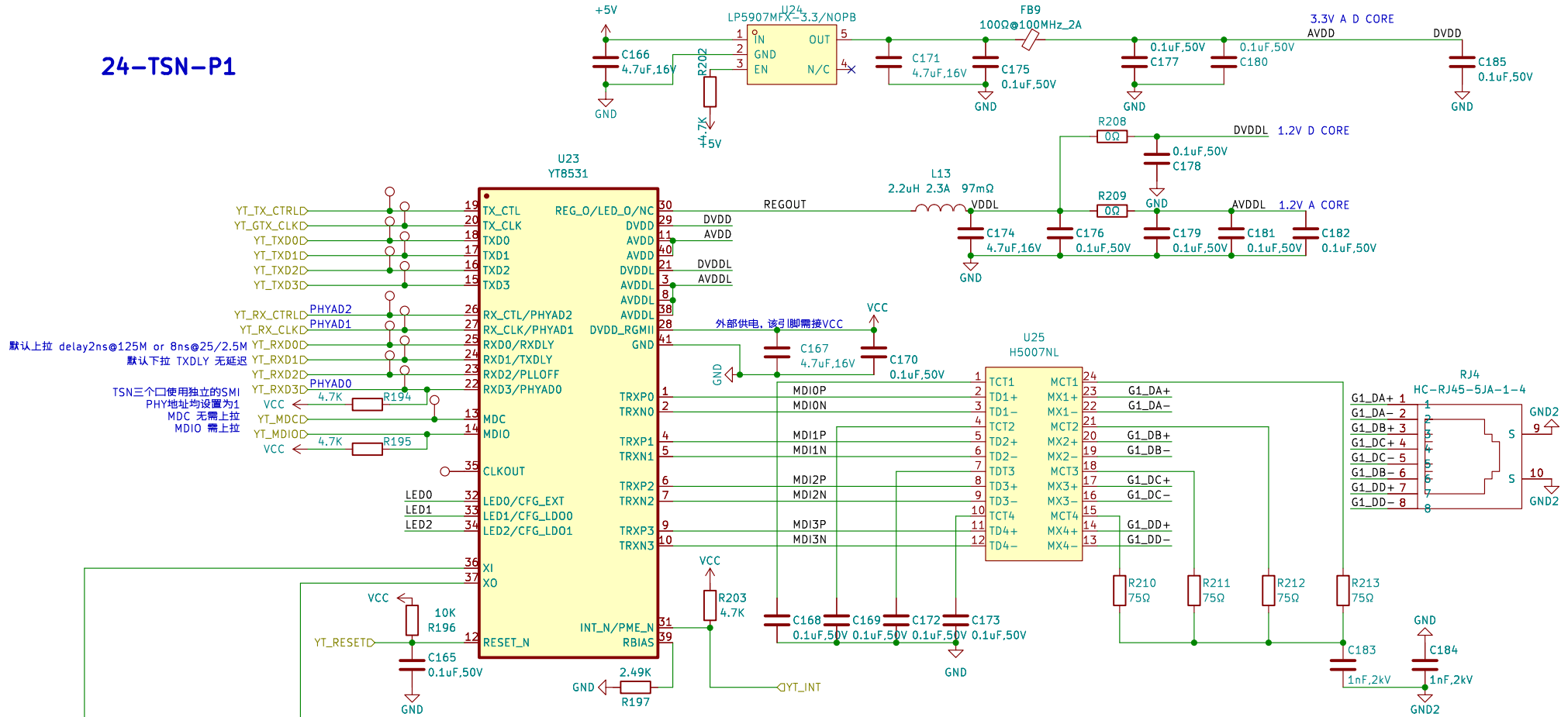


B



D

24-TSN-P1



CFG_EXT	CFG_LD01	CFG_LD00	RGMIIL Vol
1'b1	1'b0	1'b0	外部3.3V
1'b1	1'b0	1'b1	外部2.5V
1'b1	1'b1	1'b0/1	外部1.8V
1'b0	1'b0	1'b1	内部2.5V
1'b0	1'b1	1'b1	内部1.8V

TSN



Sheet File: 24-TSN-P1

Title: HPM6E00FULLPORTRevB

Size: A4

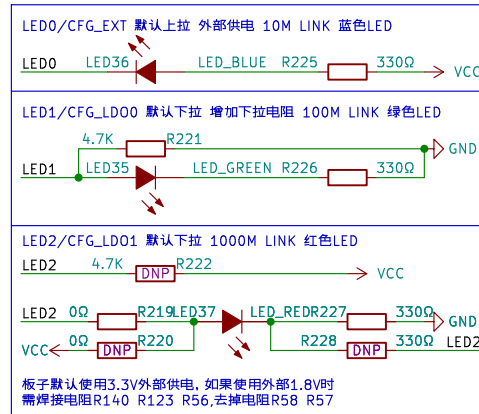
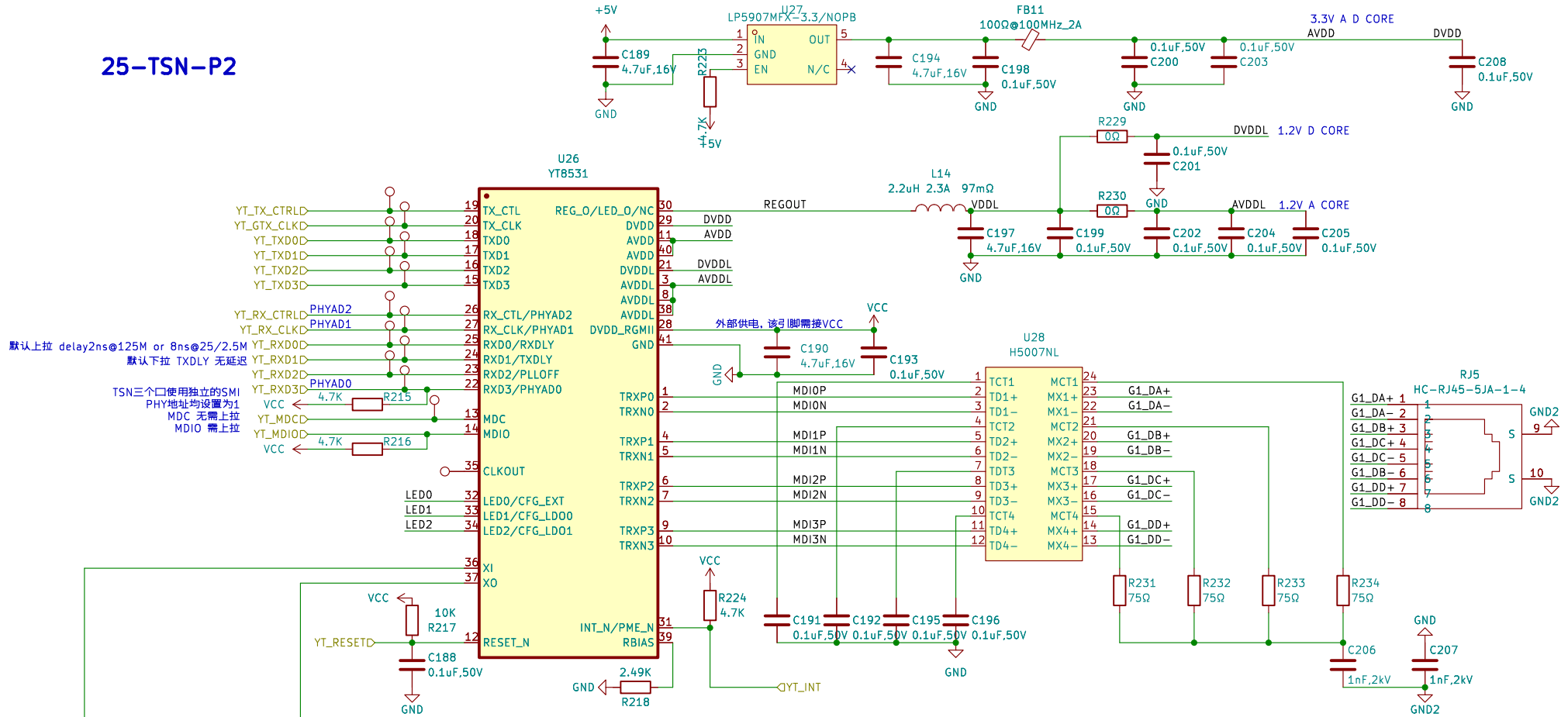
Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 25/28

25-TSN-P2



CFG_EXT	CFG_LD01	CFG_LD00	RGMI Vol
1'b1	1'b0	1'b0	外部3.3V
1'b1	1'b0	1'b1	外部2.5V
1'b1	1'b1	1'b0/1	外部1.8V
1'b0	1'b0	1'b1	内部2.5V
1'b0	1'b1	1'b1	内部1.8V
1'b0	1'b1	1'b1	内部1.8V

TSN



Sheet File: 25-TSN-P2

Title: HPM6E00FULLPORTRevB

Size: A4

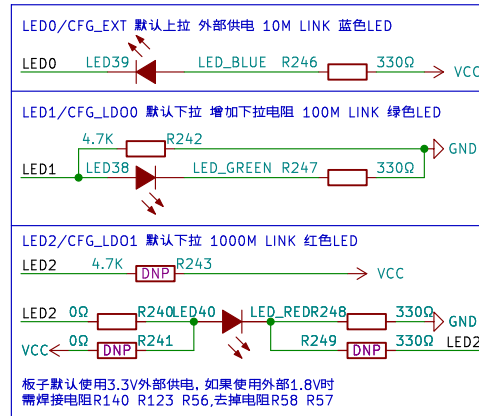
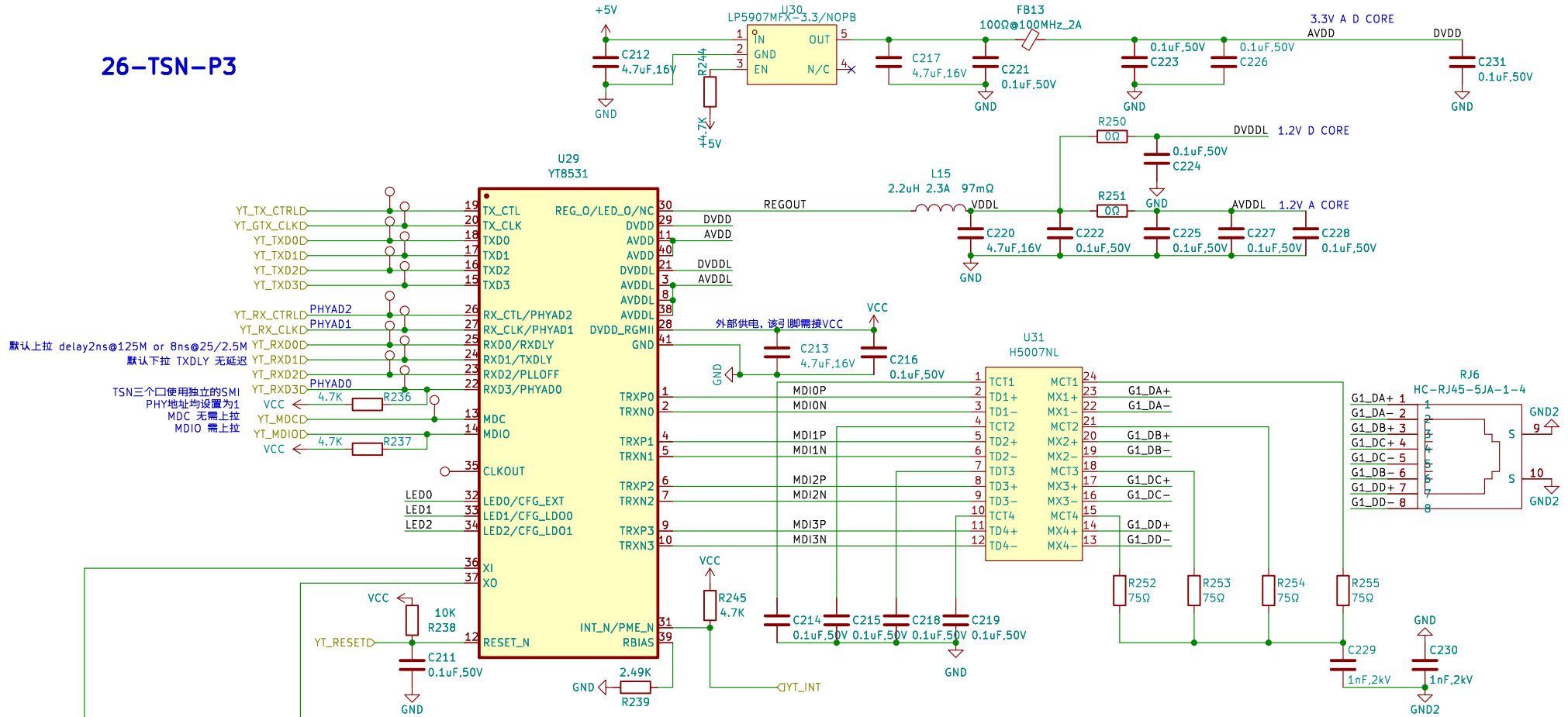
Date: 2024-09-12

Rev: RevA

KiCad E.D.A. kicad 7.0.6

Id: 26/28

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