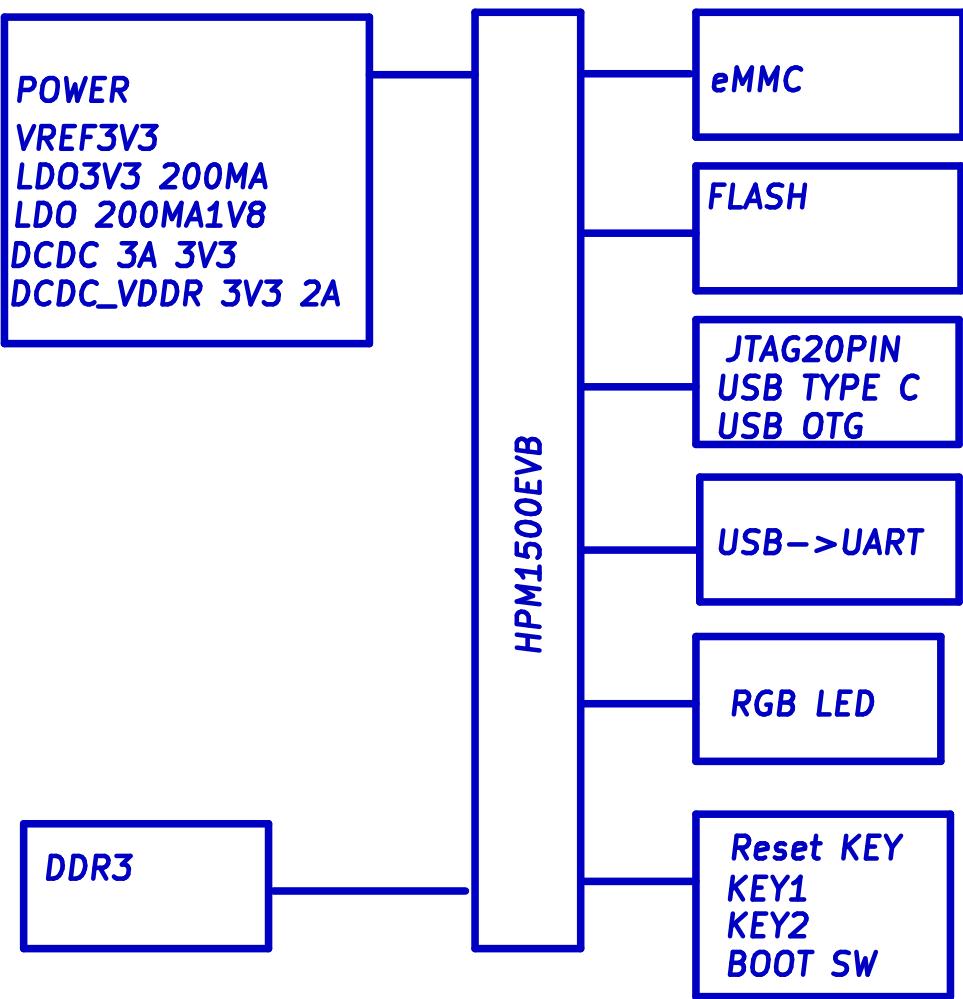


## System block diagram



修订历史	
内容	时间
HPM1500_DDR3_CORE_RevA JTAG 调试接口 (20pin) MCU+DDR Power by USB port eMMC as boot XPI as boot Boot code LED as indicator Button UART 300pin connector(100pin * 3)	20230312

## System block diagram



Sheet:  
File: HPM1500\_DDR3\_CORE\_RevB.kicad\_sch

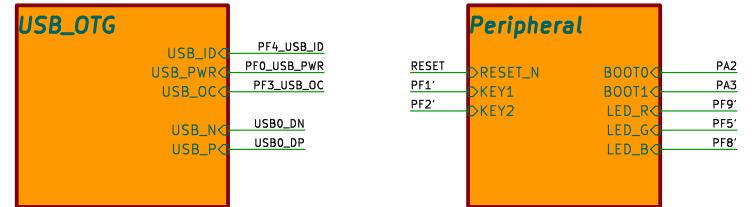
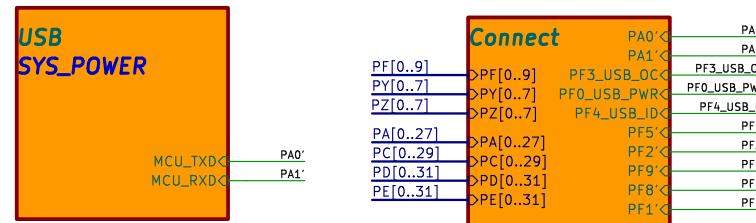
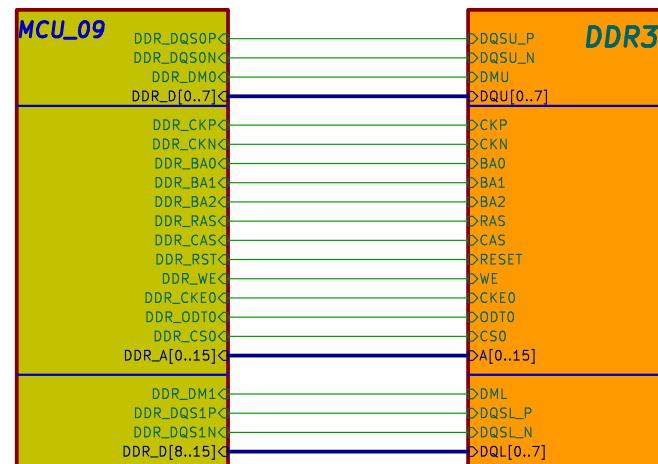
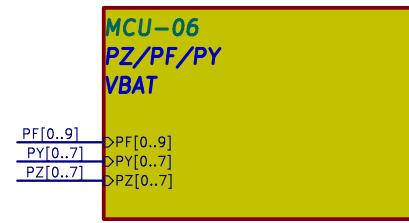
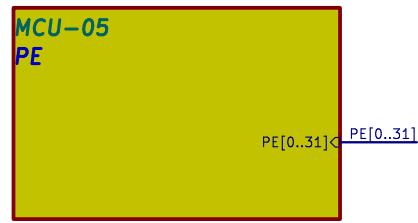
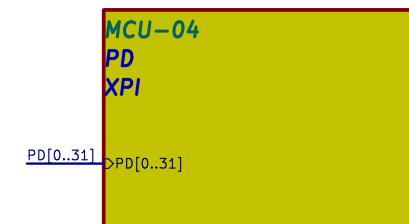
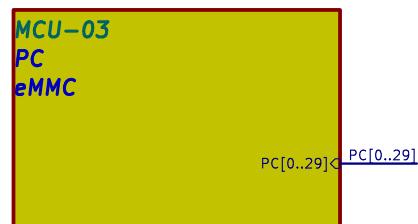
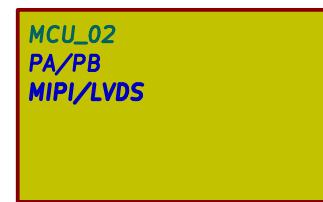
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Size: A4 Date:

KiCad E.D.A. kicad 7.0.2

Rev:

Id: 1/16



01-Main



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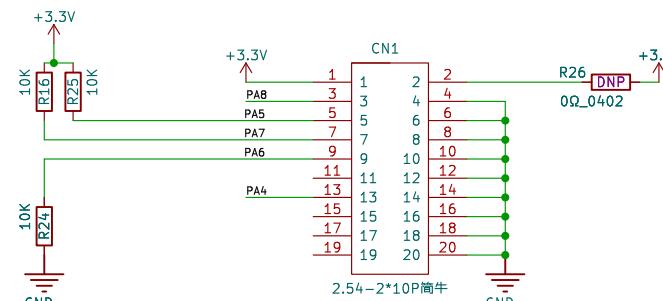
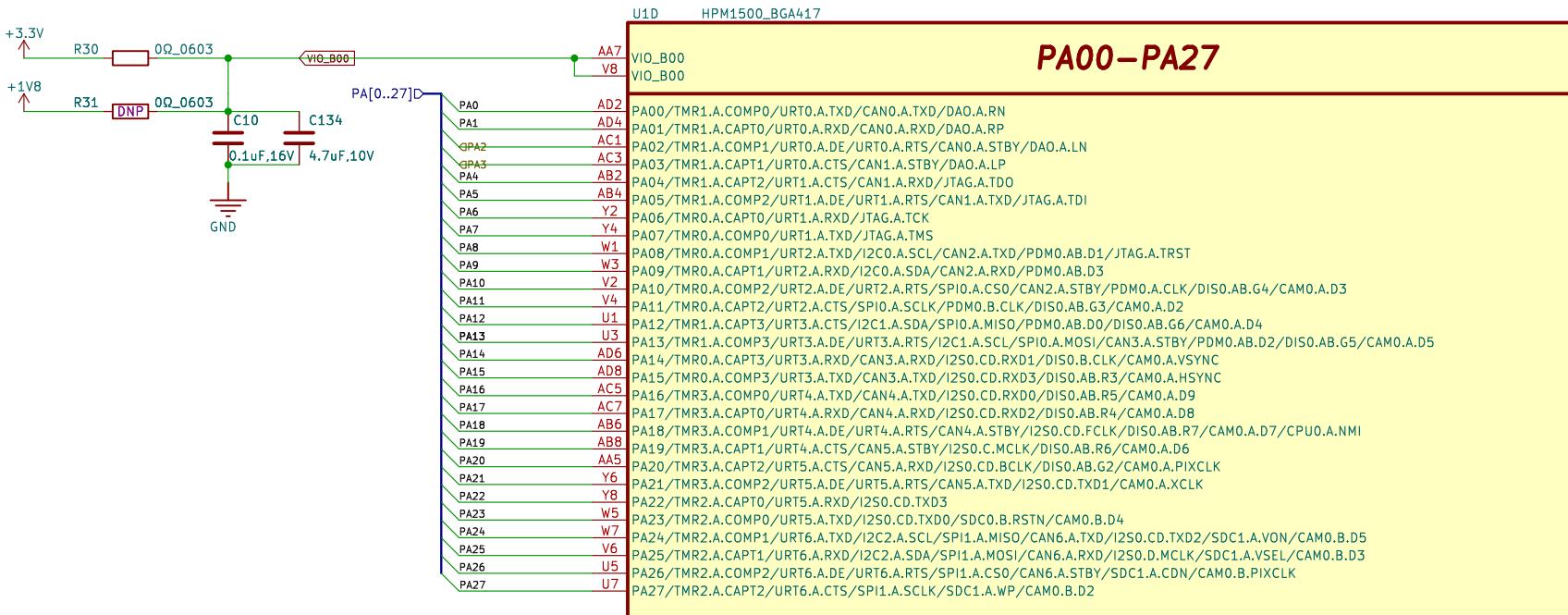
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KiCad E.D.A. kicad 7.0.2

Rev:

Id: 2/16



02\_MCU\_01

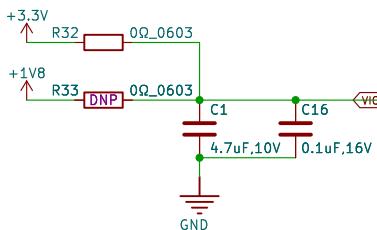


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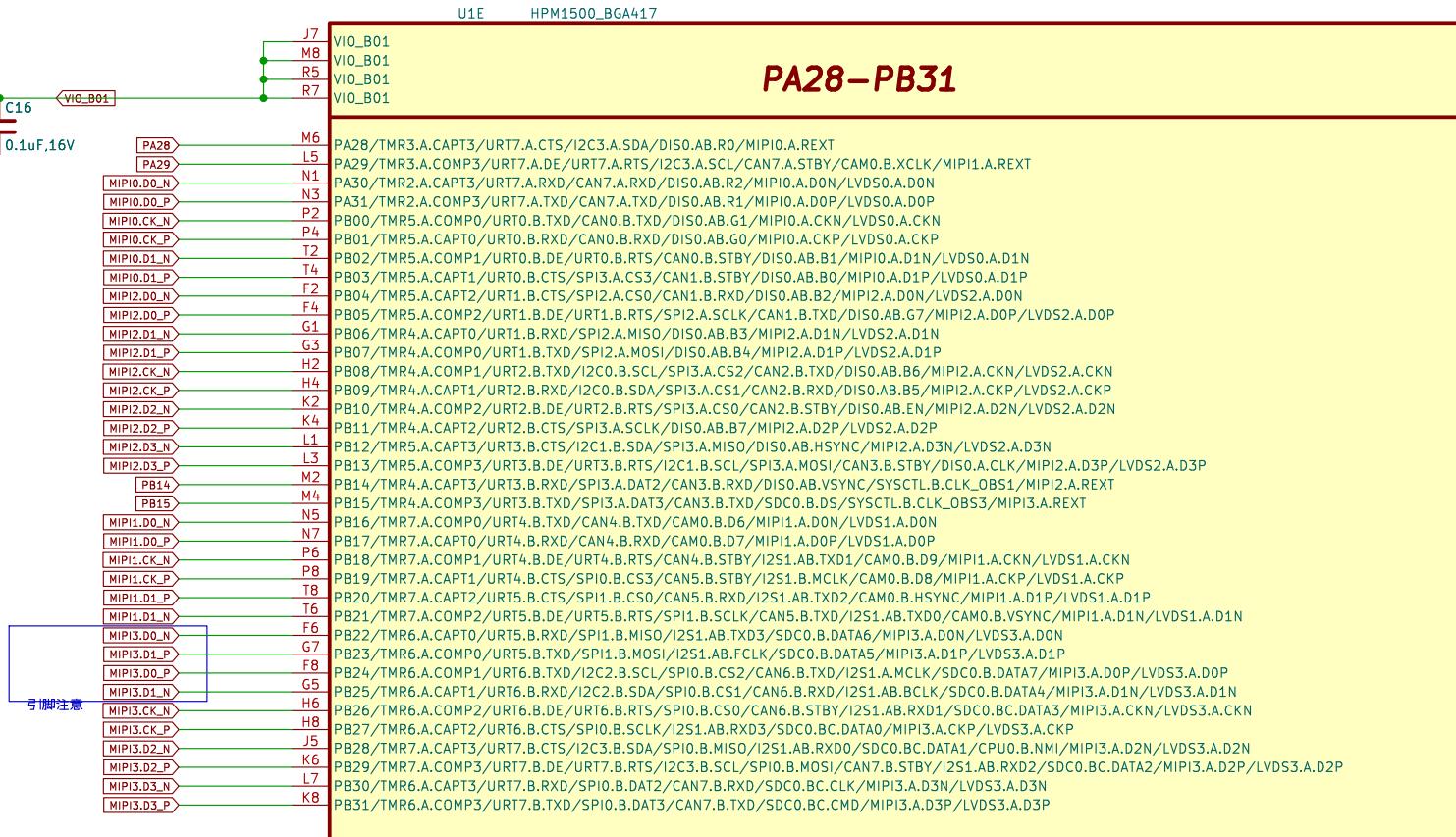
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Size: A4 Date:  
KiCad E.D.A. kicad 7.0.2

Rev:  
Id: 3/16



**MIPI/LVDS**



03 MCU\_02



Sheet: MCU\_02  
File: MCU\_02.kicad\_sch

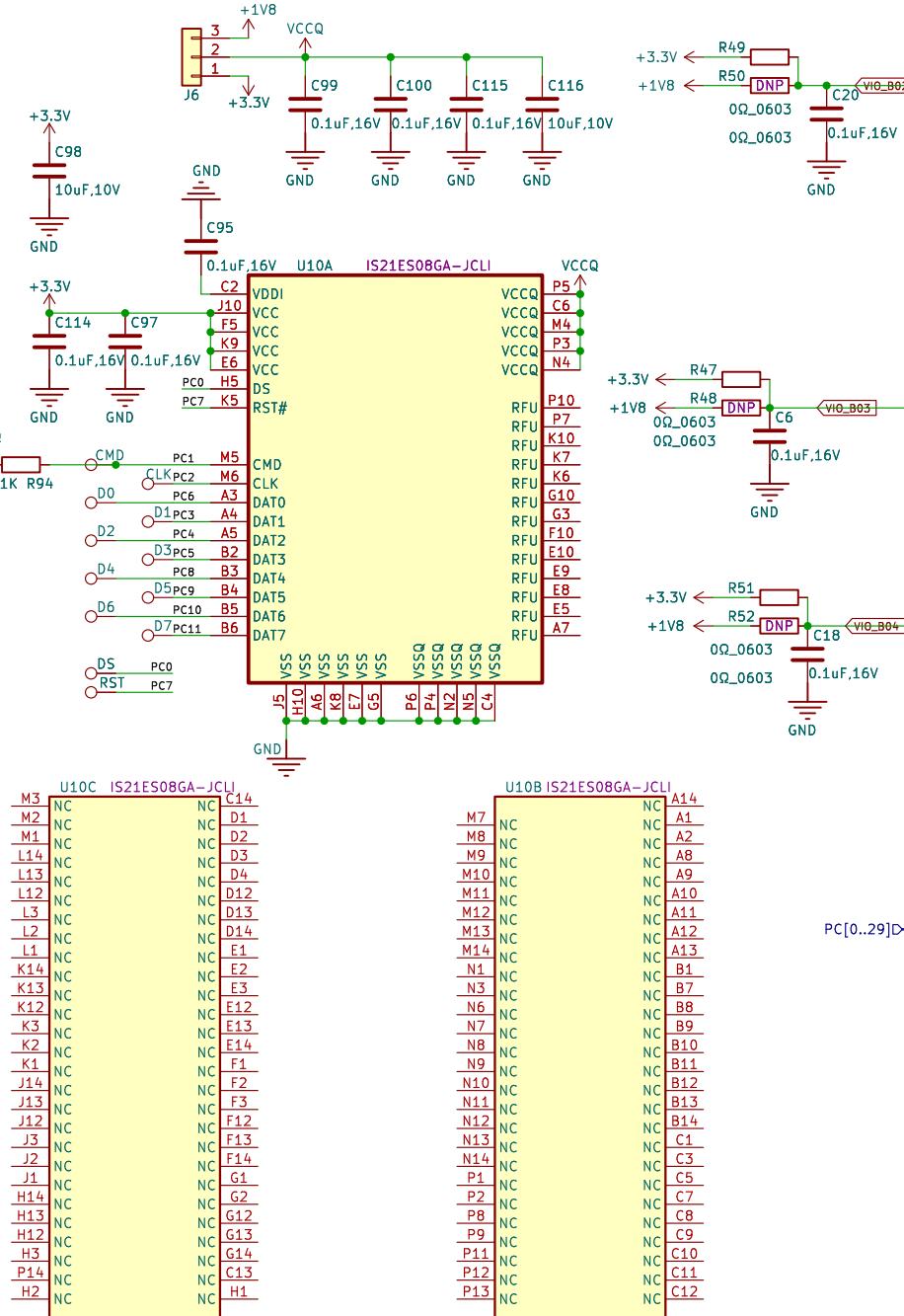
Title:

Size: A4 Date:

KiCad E.D.A. kicad 7.0.2

Rev:

Id: 4/16



PC00–PC11

PC0	E3	PC00/TMR1.B.COMPO/URTO.C.TXD/CANO.C.TXD/12S2.B.MCLK/SDC0.A.DS/XPL_SLV.A.DQS
PC1	B4	PC01/TMR1.B.COMPO/URTO.C.RXD/CANO.C.RXD/12S2.A.BRXD2/SDC0.A.CMD/CPU.O.CNM1/XPI_SLV.A.CLK
PC2	D4	PC02/TMR1.B.COMP1/URTO.C.DE/URTO.C.RTS/CANO.C.STBY/12S2.A.B.RXD3/SDC0.A.CLK/XPL_SLV.A.CSN
PC3	A5	PC03/TMR1.B.CAPT1/URTO.C.CTS/CAN1.C.STBY/12S2.AB.RXD0/SDC0.A.DATA1/XPL_SLV.A.ADQ1
PC4	C5	PC04/TMR1.B.CAPT2/URT1.C.CTS/SPI2.B.CSO/CAN1.C.RXD/12S2.AB.RXD1/SDC0.A.DATA2/XPL_SLV.A.ADQ3
PC5	B6	PC05/TMR1.B.COMP2/URT1.C.DE/URT1.C.RTS/SPI2.B.SCLK/CAN1.C.TXD/12S2.AB.BCLK/SDC0.A.DATA3/XPL_SLV.A.ADQ2
PC6	D6	PC06/TMR0.B.CAPTO/URT1.C.RXD/SPI2.B.MISO/12S2.AB.FCLK/SDC0.A.DATA0/XPI_SLV.A.ADQ0
PC7	E7	PC07/TMR0.B.COMPO/URT1.C.TXD/SPI2.B.MOSI/12S2.A.B.MCLK/SDC0.A.RSTN
PC8	A7	PC08/TMR0.B.COMP1/URT2.C.TXD/12C0.C.SCL/CAN2.C.TXD/12S2.AB.TDX2/DAO.B.LN/SDC0.A.DATA4/XPL_SLV.A.ERR
PC9	C7	PC09/TMR0.B.CAPT1/URT2.C.RXD/12C0.C.SDA/CAN2.C.RXD/12S2.AB.TDX3/DAO.B.LP/SDC0.A.DATA5/XPL_SLV.A.RDY
PC10	B8	PC10/TMR0.B.COMP2/URT2.C.DE/URT2.C.RTS/CAN2.C.STBY/12S2.AB.TDX0/DAO.B.RN/SDC0.A.DATA6
PC11	D8	PC11/TMR0.B.CAPT2/URT2.C.CTS/12S2.AB.TDX1/DAO.B.RP/SDC0.A.DATA7

PC12-PC17

PC12	E9	PC12/TMR1.B.CAPT3/URT3.C.CTS/1C21.C.SDA/SPI13.B.MISO/PDM0.CD.D0/SDC1.AC.DATA3
PC13	F10	PC13/TMR1.B.COMP3/URT3.C.DE/URT3.C.RTS/1C21.C.SCL/SPI13.B.MOSI/CAN3.C.STBY/PDM0.C.CLK/SDC1.AC.CMD
PC14	H10	PC14/TMR0.B.CAPT3/URT3.C.RXD/SPI13.B.CS0/CAN3.C.RXD/PDM0.CD.D1/SDC1.AC.DATA2
PC15	E11	PC15/TMR0.B.COMP3/URT3.C.TXD/SPI13.B.SCLK/CAN3.C.TXD/PDM0.CD.D2/SDC1.AC.DATA1
PC16	G11	PC16/TMR3.B.COMP0/URT4.C.TXD/CAN4.C.TXD/PDM0.D.CLK/SDC1.AC.CLK
PC17	F12	PC17/TMR3.B.CAPTO/URT4.C.RXD/CAN4.C.RXD/PDM0.CD.D3/SDC1.AC.DATA0

PC18–PC29

PC18	B10	PC18/TMR3.B.COMP1/URT4.C.DE/URT4.C.RTS/CAN4.C.STBY/12S1.CD.RXD2/SDC1.B.DATA3/ETH0.A.TXD3
PC19	D10	PC19/TMR3.B.CAP1/URT4.C.CTS/SPI1.C.CS3/CAN5.C.STBY/12S1.CD.RXD3/SDC1.B.DATA2/ETH0.A.TXD2/ADC0.A.DBG
PC20	A11	PC20/TMR3.B.CAP1/URT5.C.CTS/SPI1.C.CS0/CAN5.C.RXD/12S1.CD.RXD0/SDC1.B.CLK/ETH0.A.TXCK
PC21	C11	PC21/TMR3.B.COMP2/URT5.C.DE/URT5.C.RTS/SPI1.C.CSL/CAN5.C.TXD/12S1.CD.RXD1/SDC1.B.CMD/ETH0.A.TXEN
PC22	B12	PC22/TMR2.B.CAP1/URT5.C.RXD/SPI1.C.MOSI/12S1.CD.BCLK/SDC1.B.DATA1/ETH0.A.TXD0
PC23	D12	PC23/TMR2.B.COMP0/URT5.C.TXD/SPI1.C.MOSI/12S1.CD.FCLK/SDC1.B.DATA0/ETH0.A.TXD1/SYSCtl.B.CLK_OBS0
PC24	A13	PC24/TMR2.B.COMP1/URT6.C.TXD/12C2.C.SCL/SPI1.C.CS2/CAN6.C.TXD/12S1.CD.TXD0/SDC1.C.CDN/ETH0.A.RXD2
PC25	C13	PC25/TMR2.B.CAP1/URT6.C.RXD/12C2.C.SDA/SPI1.C.CS1/CAN6.C.RXD/12S1.CD.TXD1/SDC1.C.VSEL/ETH0.A.RXD3
PC26	B14	PC26/TMR2.B.COMP2/URT6.C.DE/URT6.C.RTS/SPI1.C.CS0/CAN6.C.STBY/12S1.CD.TXD2/SDC1.C.WP/ETH0.A.RXCK
PC27	D14	PC27/TMR2.B.CAP1/URT7.C.CTS/SPI1.C.CSLK/12S1.CD.TXD3/SDC1.C.VON/ETH0.A.RXDV/SYSCtl.B.CLK_OBS2
PC28	B16	PC28/TMR3.B.CAP1/URT7.C.CTS/SPI1.C.CSLK/12S1.CD.TXD3/SDC1.C.MCLK/ETH0.A.RXD1
PC29	D16	PC29/TMR3.B.COMP3/URT7.C.RTS/12C3.C.SDA/SPI1.C.MISO/12S1.CD.MCLK/ETH0.A.RXD0

PC[0..29] → PC[0..29]

04 MCU 03



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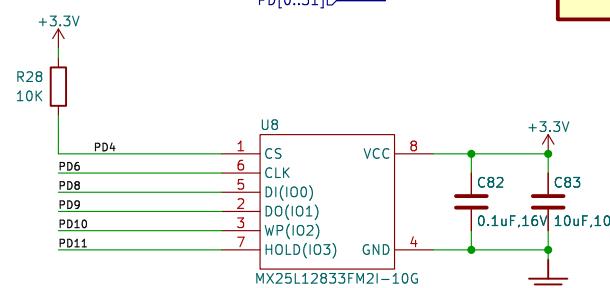
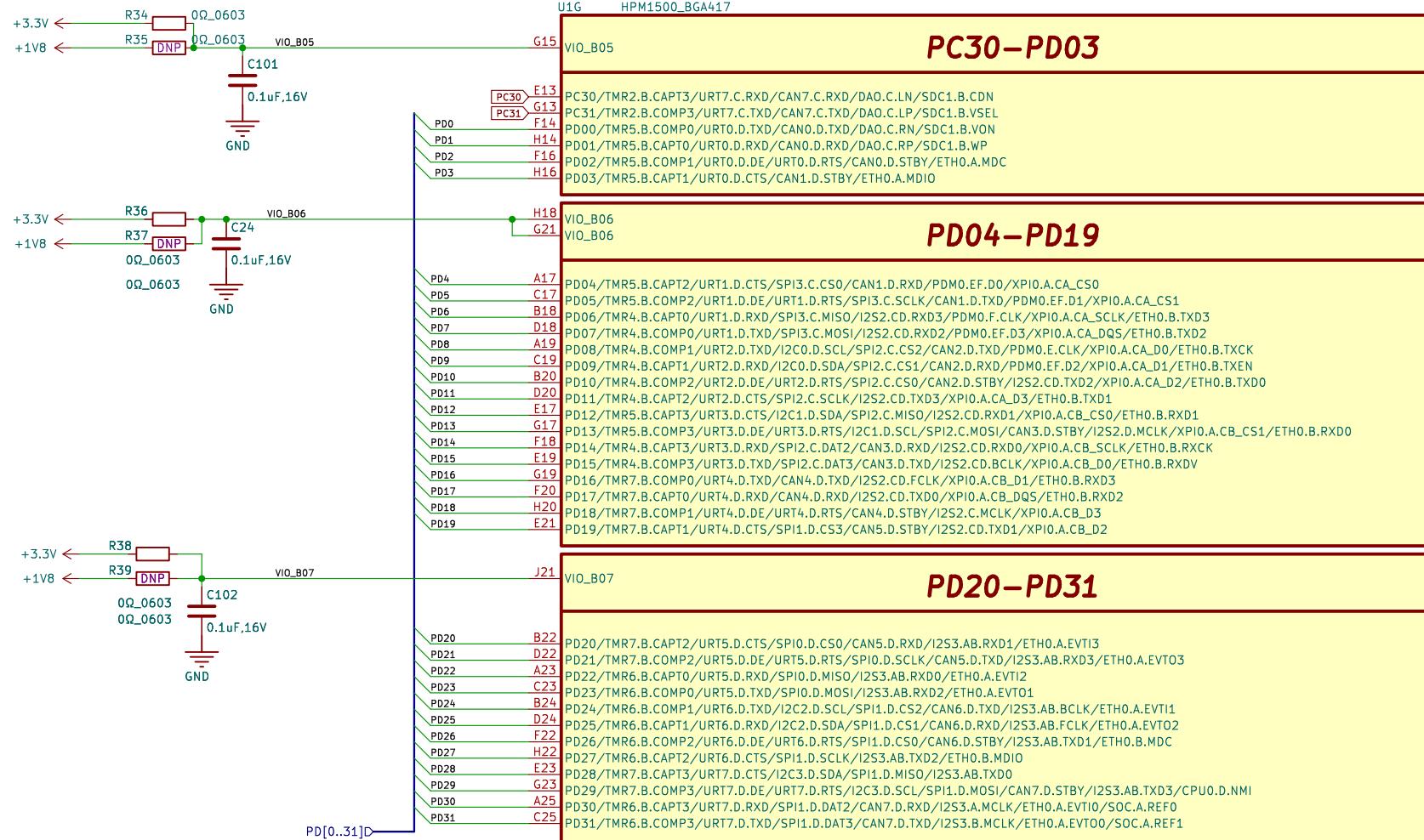
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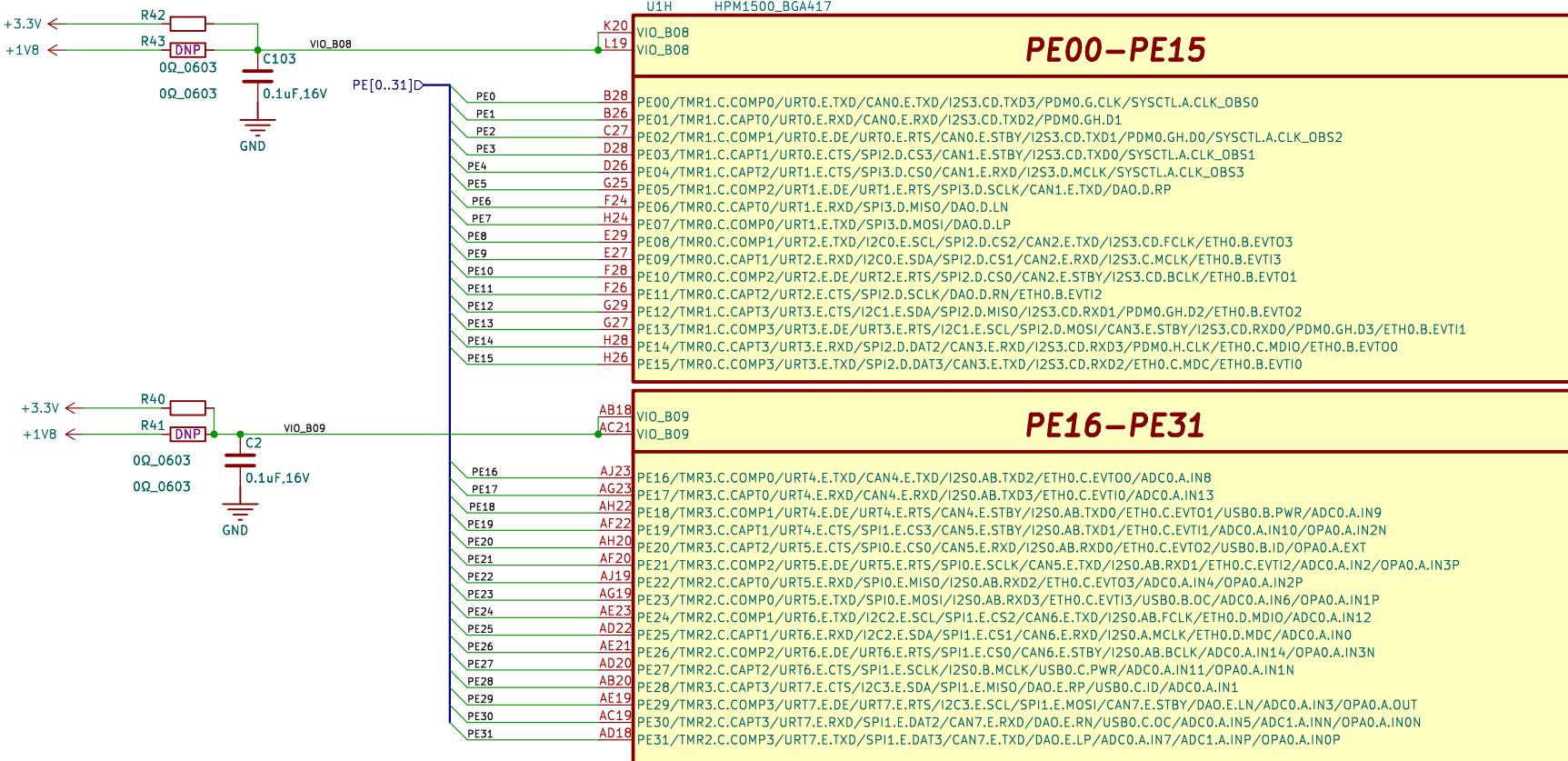
KiCad E.

4

**Rev:**

Id: 5/16





06 MCU\_05



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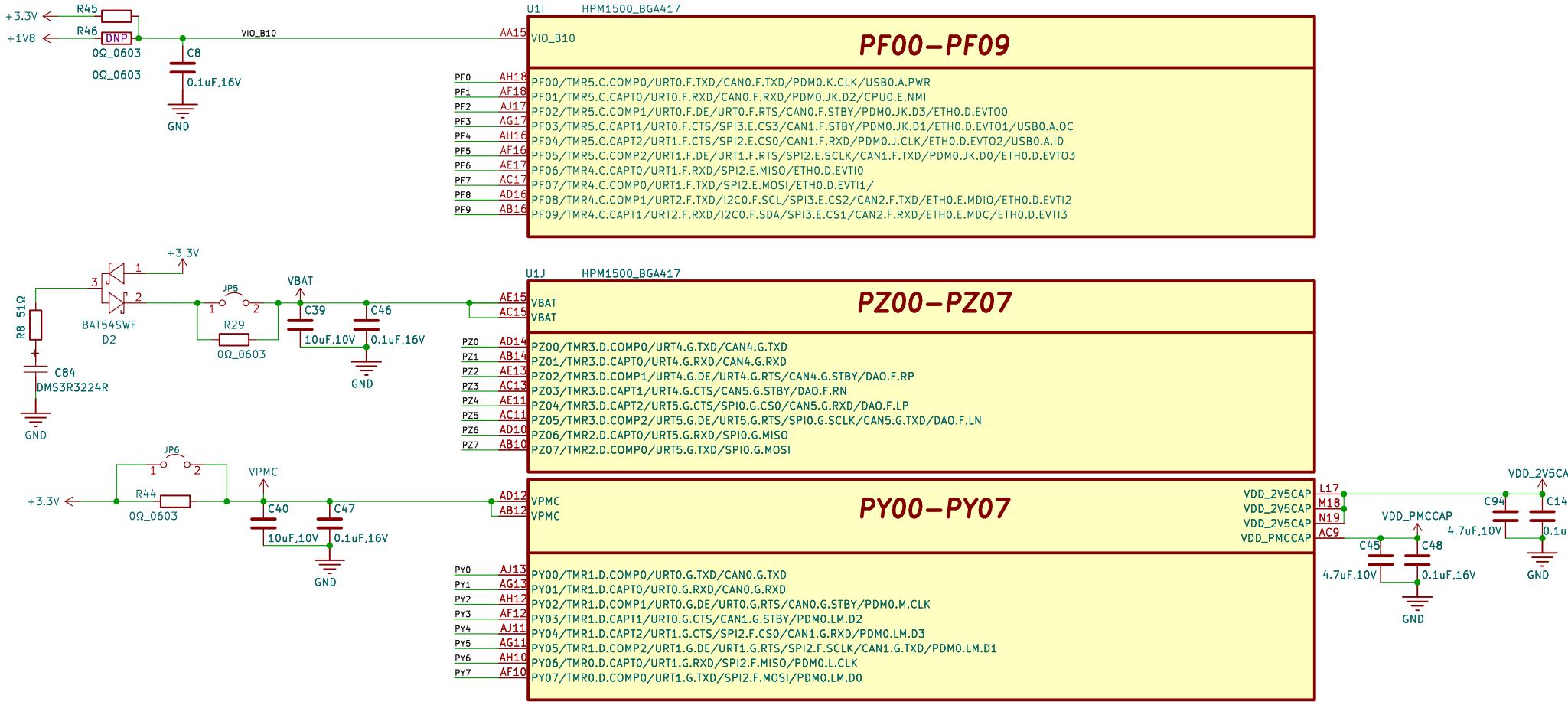
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Size: A4 Date:

Rev:

KiCad E.D.A. kicad 7.0.2

Id: 7/16



07 MCU\_06



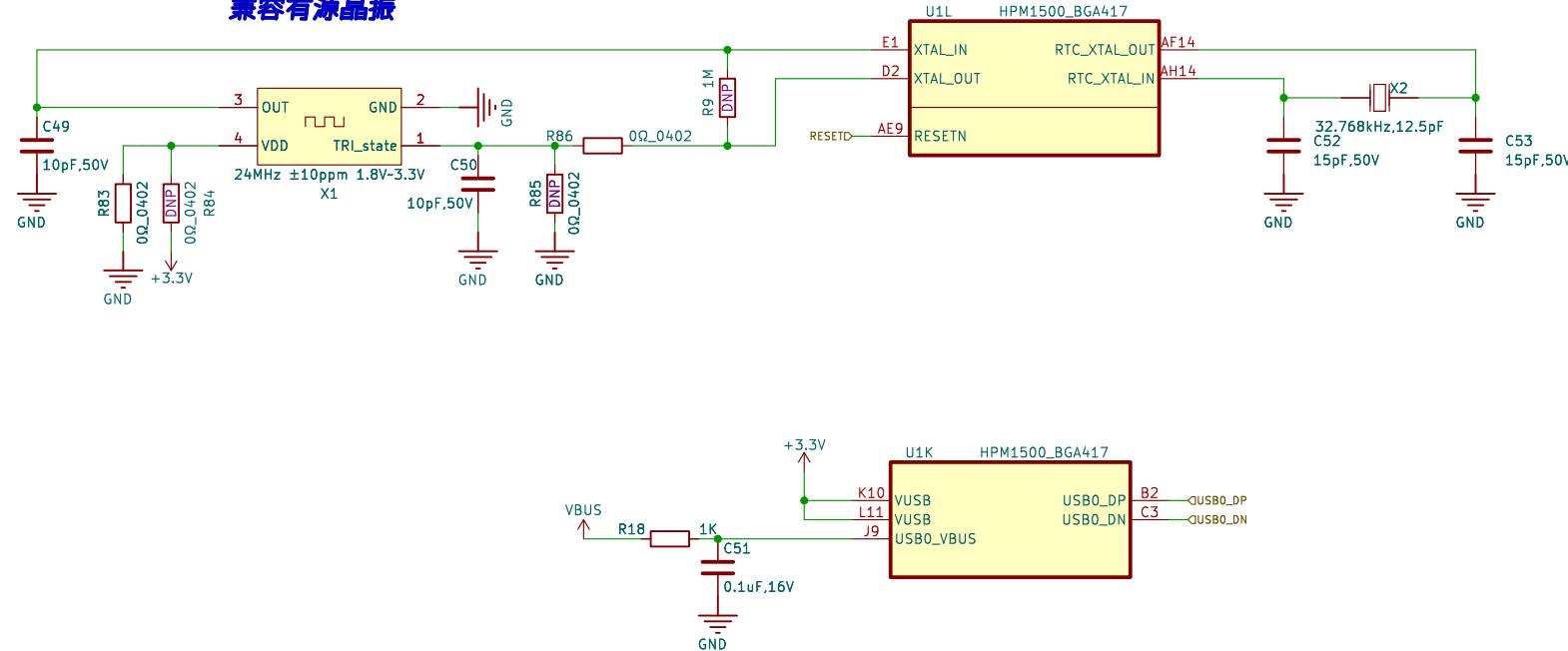
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Size: A4 Date:  
KiCad E.D.A. kicad 7.0.2

Rev:  
Id: 8/16

**默认焊接无源晶振  
兼容有源晶振**



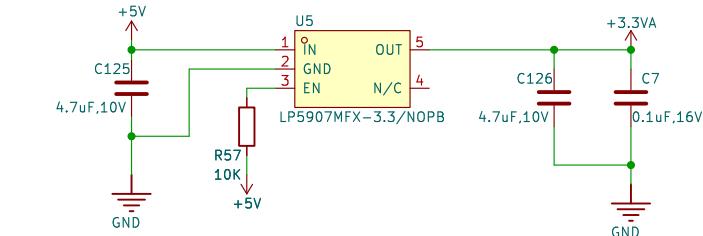
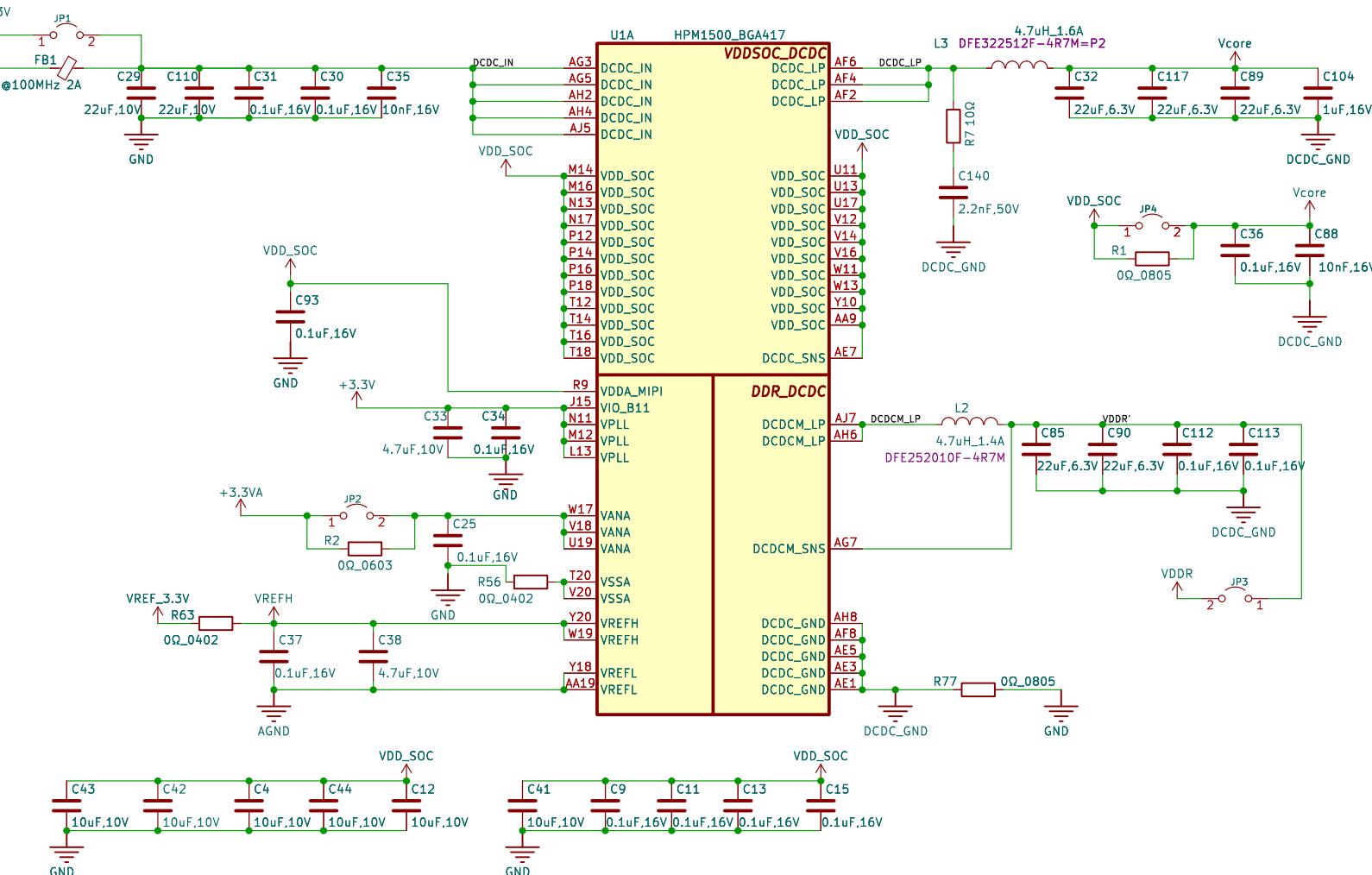
08 MCU\_07



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Size: A4	Date:	Rev:
KiCad E.D.A.	kicad 7.0.2	Id: 9/16



09 MCU\_08



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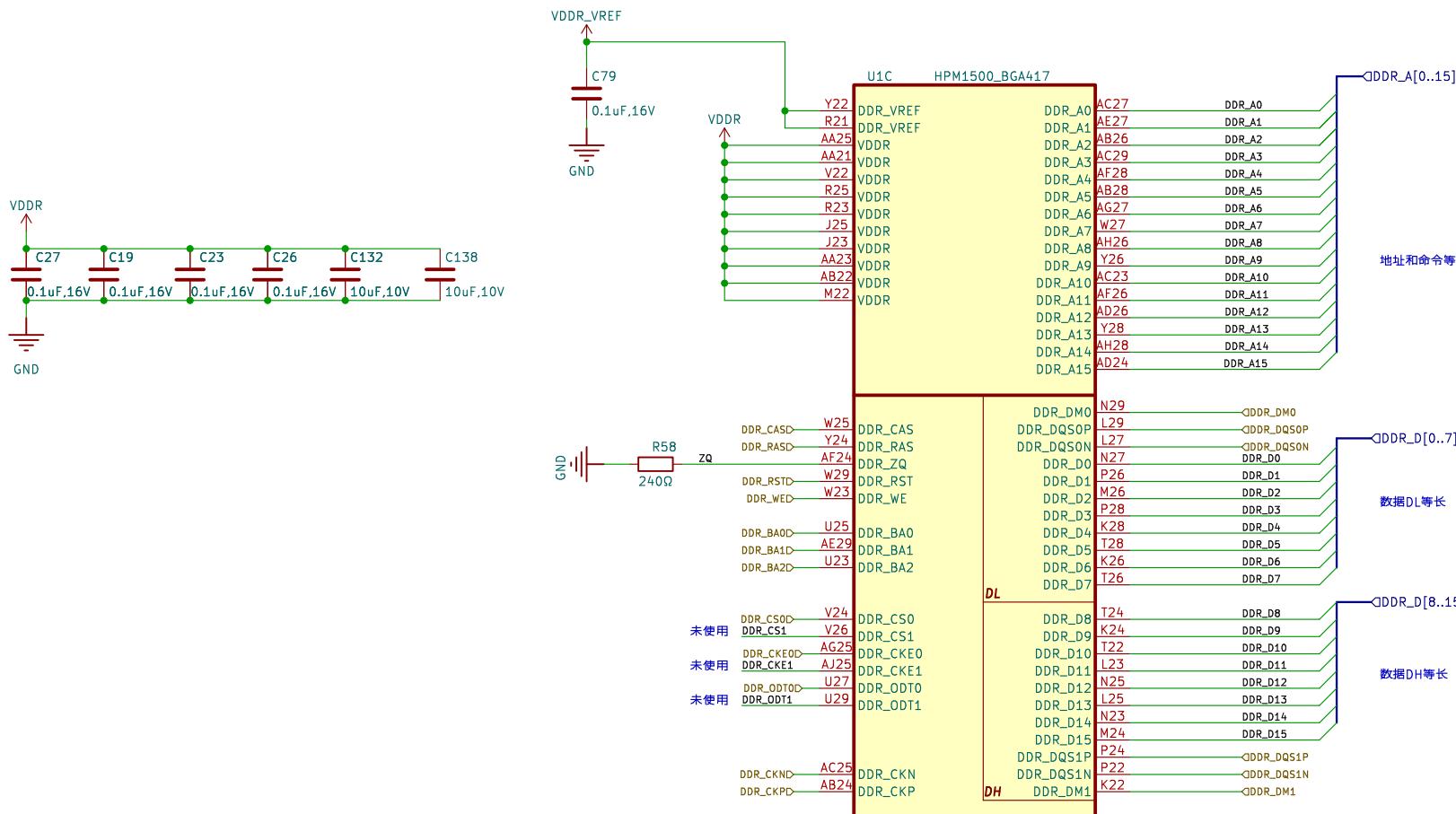
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Rev:

KiCad E.D.A. kicad 7.0.2

Id: 10/16



10 MCU\_09



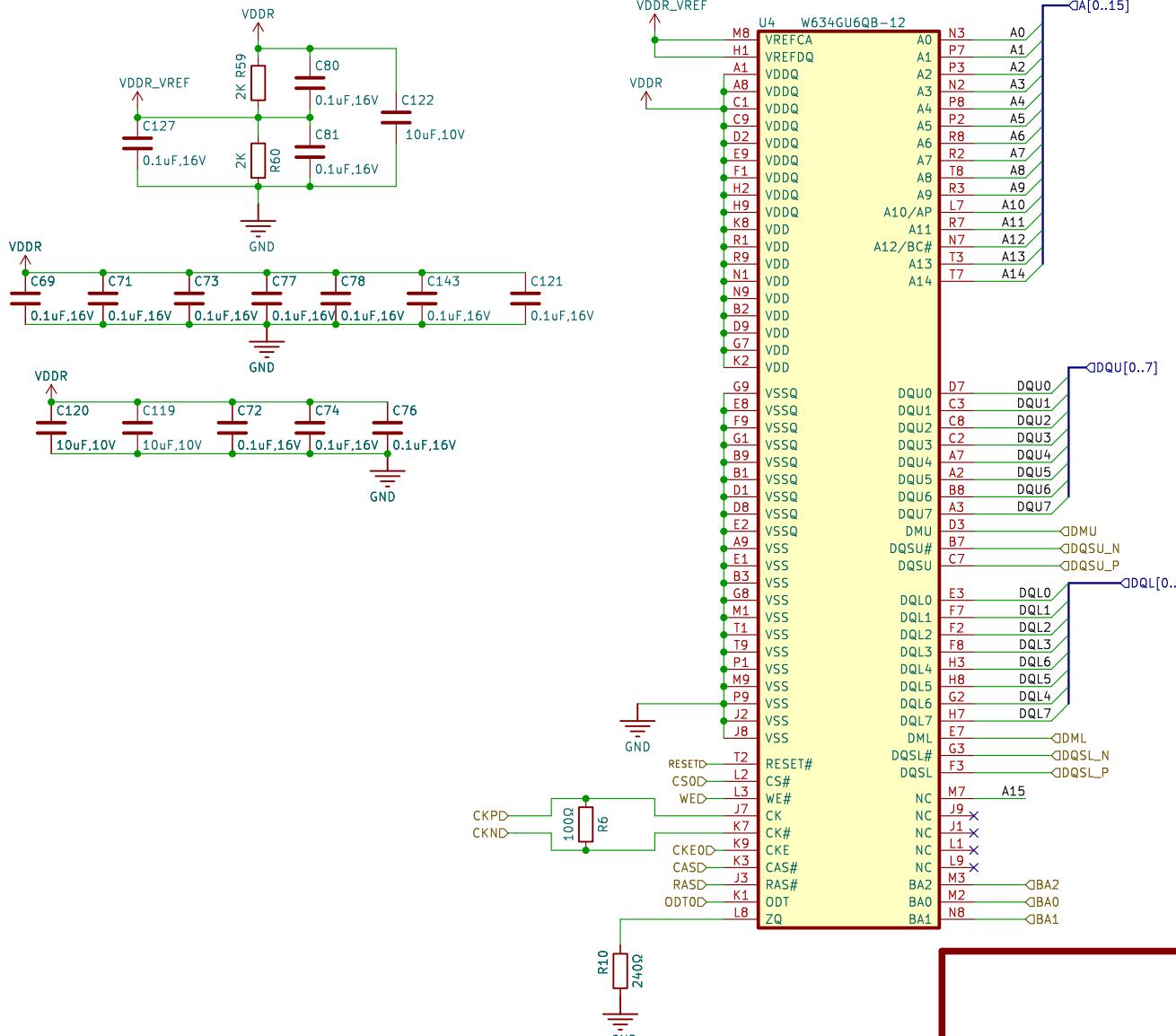
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Title

Size: A4 Date:

Rev:

Id: 11/16



D6 D4 交换

11\_DDR3

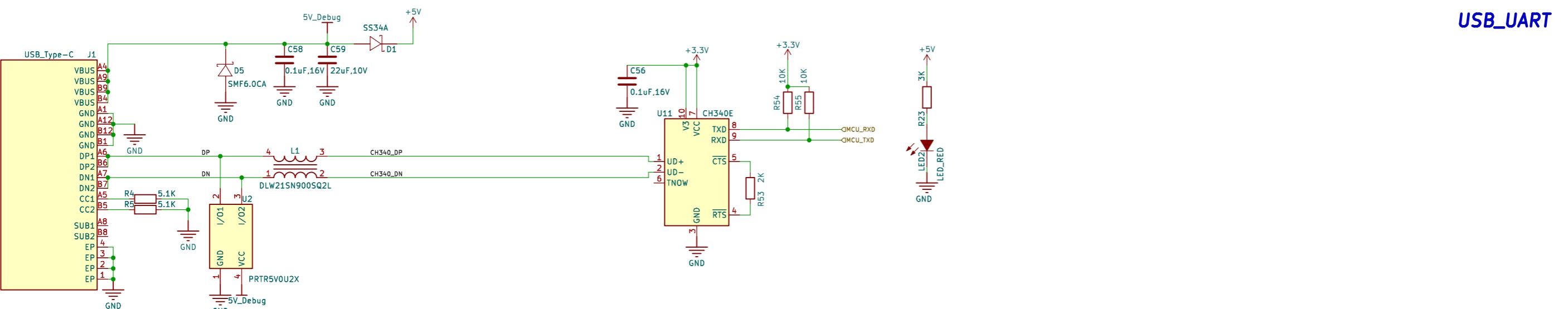


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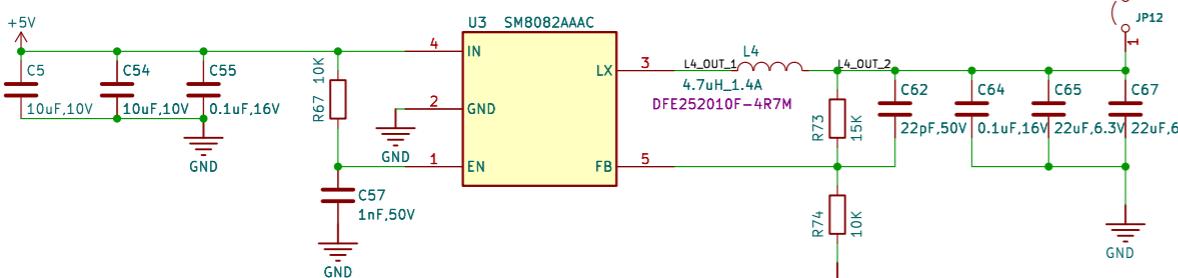
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KiCad E.D.A. kicad 7.0.2

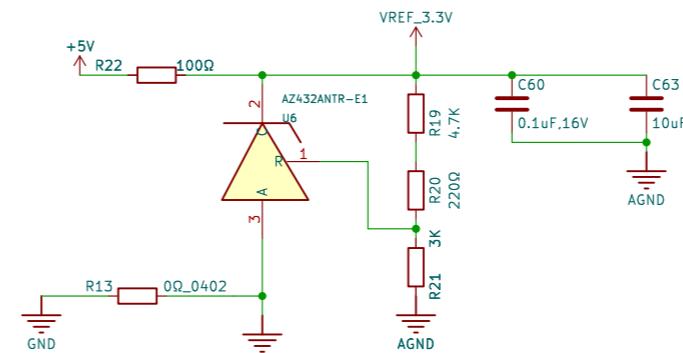
Rev:  
Id: 12/16



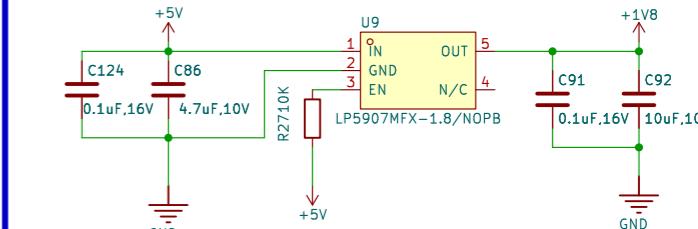
外部DDR 电源 DDR3\_1.5V



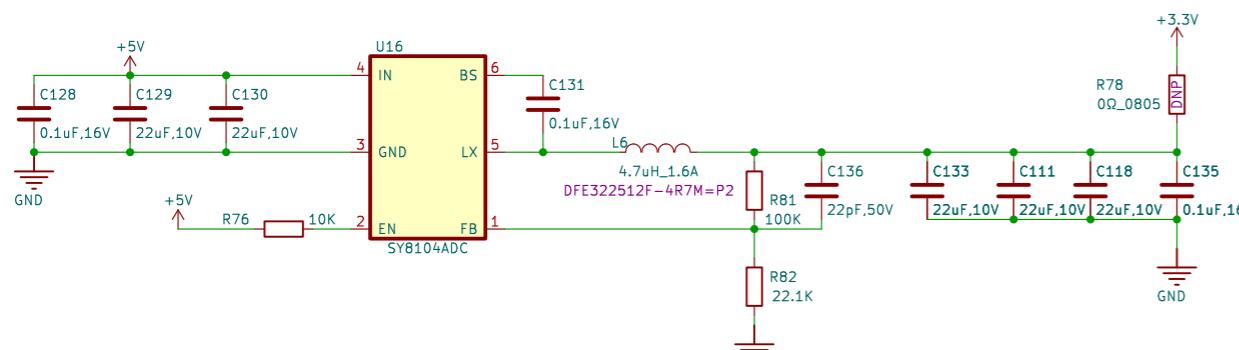
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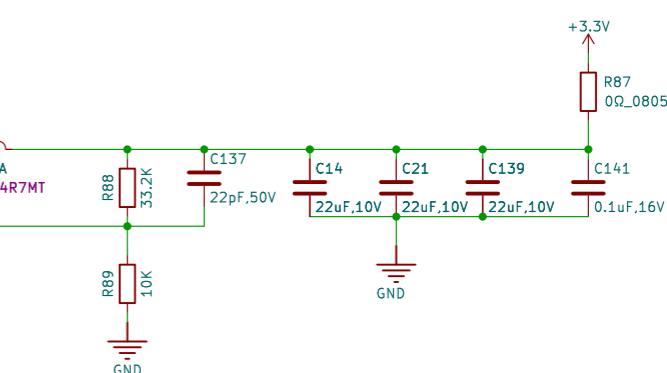
LDO-1V8



备用



SYSTEM\_3V3



12\_USB

The logo for HPMicro, featuring the company name in a stylized blue font with a swoosh graphic.

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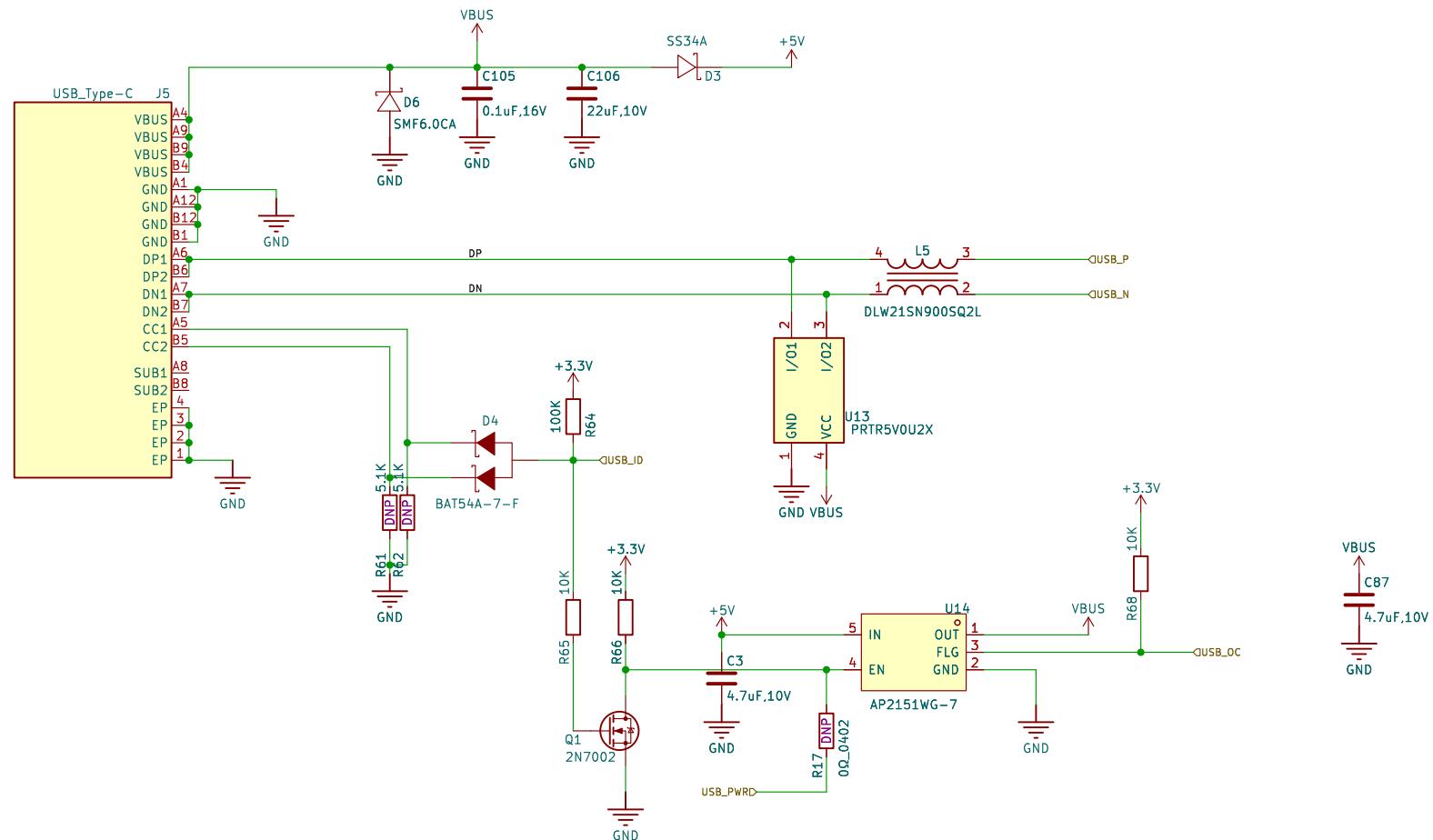
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Rev:

Id: 13/16



13\_USB\_OTG

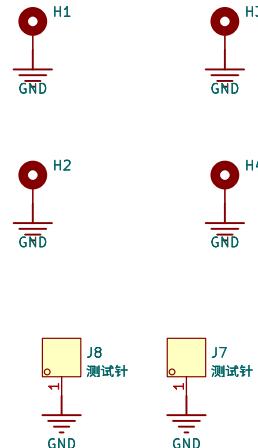
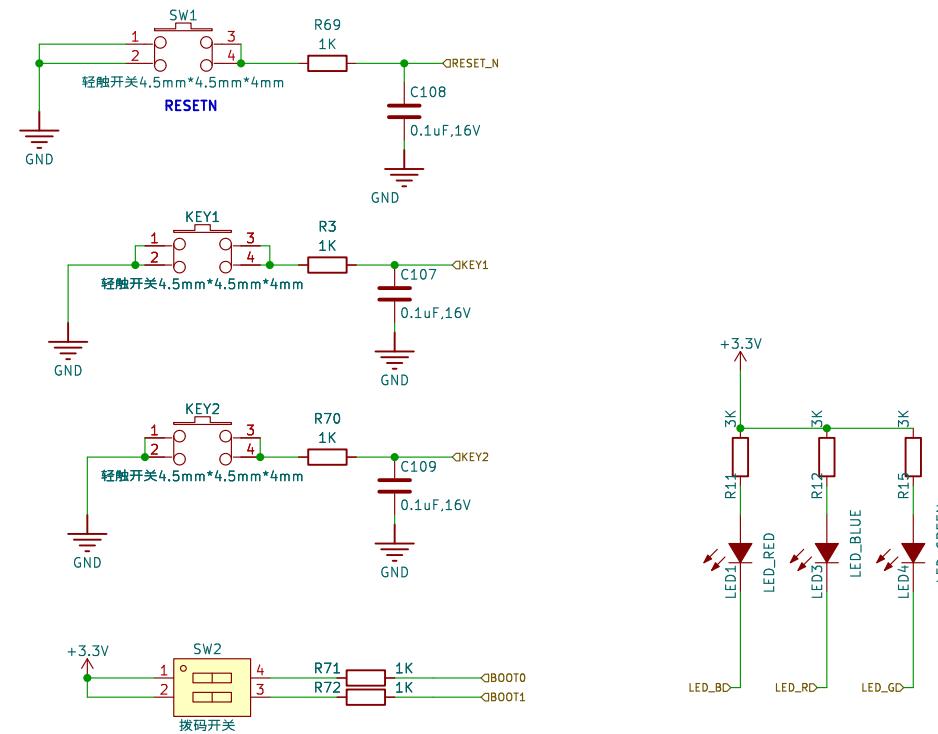


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Size: A4 Date:  
KiCad E.D.A. kicad 7.0.2

Rev:  
Id: 14/16



## 14\_Peripheral

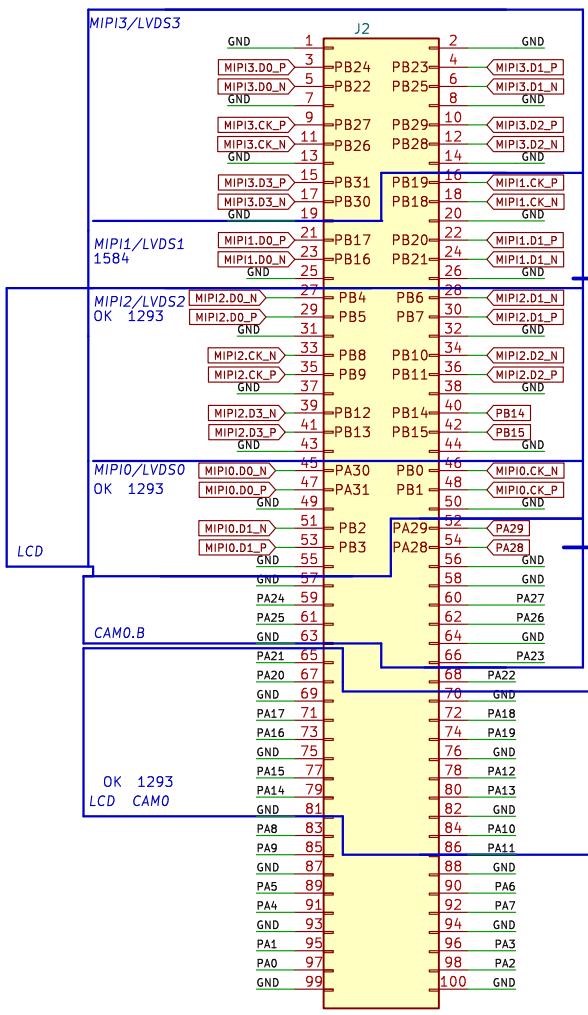


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**Title:**

Size: A4 Date:

KiCad E.D.A. kicad 7.0.2



CAMO.B

LCD DISO.AB.R[0]  
1436-1293=143mil  
底板可以少走143mil

板对板连接器100P\_0.8mm\_公头

PA[0..27] D PA[0..27]  
PC[0..29] D PC[0..29]  
PD[0..31] D PD[0..31]  
PE[0..31] D PE[0..31]

PY[0..7] D PY[0..7]  
PZ[0..7] D PZ[0..7]  
PF[0..9] D PF[0..9]

{PB30/31\_N PB30/31\_P PB28/29\_N PB26/27\_N PB26/27\_P PB23/25\_N PB23/25\_P PB22/24\_N PB22/24\_P}

{PB18/19\_N PB18/19\_P PB16/17\_N PB16/17\_P PB20/21\_N PB20/21\_P}

{PB14/15\_N PB14/15\_P PB10/11\_N PB10/11\_P PB6/7\_N PB6/7\_P PB12/13\_N PB12/13\_P PB8/9\_N PB8/9\_P PB4/5\_N PB4/5\_P}

{PB0/1\_P PB0/1\_N PB2/3\_P PB2/3\_N PA30/31\_P PA30/31\_N}

JP9 JP10 JP11 JP12 JP13 JP14 JP15 JP16 JP17

PF0 1 2 GPF0\_USB\_PWR

PF3 1 2 GPF3\_USB\_OC

PF4 1 2 GPF4\_USB\_ID

PA1 1 2 GPA1'

PA0 1 2 GPA0'

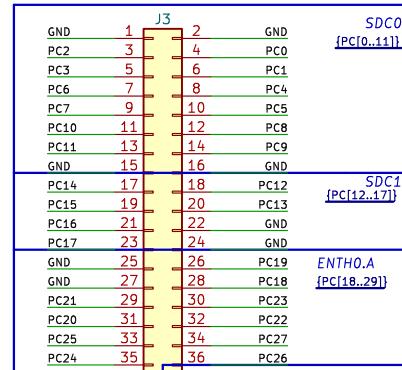
JP13 1 2 GPF2'

PF1 1 2 GPF1'

PF5 1 2 GPF5'

PF8 1 2 GPF8'

PF9 1 2 GPF9'



板对板连接器100P\_0.8mm\_公头



15\_Connect



Sheet: Connect  
File: Connect.kicad\_sch  
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Size: A4 Date:  
KiCad E.D.A. kicad 7.0.2 Rev:  
Id: 16/16