PCB Layout Information

项目名称：	吉利3.0 ZCUD产品项目		
项目编号：	AP230152	项目经理：	张红玲
LAYOUT工程师：	梁岩	应用工程师：	刘铮/冯成民

输入信息：
Input Information:

输入时间： Input Time:	2024-08-02	PCB ERP Number:	825503134
原理图名称： Shematics Name :	825503134_ZCU_SCH	版本： Version:	V1.3
DXF文件名称： DXF File Name:	825503134_BCM_DXF	DXF状态： DXF State:	
PCB层数： PCB Layer Number:	6 Layers	PCB基材： PCB Base Material:	FR4
表面处理： Surface Handing:	HASL	板厚： Thickness:	1.6mm+/-0.14
外层铜厚： Finished Copper Thickness:	50um	1和2层间距： Layer1 to Layer2 :	0.16mm
2和3层间距： Layer2 to Layer3 :	0.5mm	3和4层间距： Layer3 to Layer4 :	0.24mm
其他要求： Other :	-		

输出信息：
Output Information:

LAYOUT文件名称： LAYOUT File Name:	825503134_BCM_LAYOUT_brd	版本： Version:	V1.3
DXF文件名称： DXF File Name:	825503134_BCM_DXF		
emp/emn文件名称： emp/emn File Name:	NA	注意：导出三维信息时， 输入和输出文件都应为英文字符，否则不能正确生成。	
Gerber文件名称： Gerber File Name:	TOP.art GND.art PWR.art BOT.art Soldermask_Top.art Soldermask_Bot.art Silkscreen_Top.art Silkscreen_Bot.art Assembly_Top.art Assembly_Bot.art Drill_Dimention.art Drill_Dimention.pdf		
Drill文件名称： Drill File Name:	Ger_Con_Drill.drl		
Route文件名称： Route File Name:	Ger_Con_Route.rou	注意：如果PCB上有异形孔，请生成ROUTE文件。	
其他输出： Other :	-		

需要注意的问题：
Need to Attention ！：

敏感信号线： Sensitive Signal Line:	
易干扰信号线： Interference Signal Line:	LIN BUS
射频信号线： RF Signal Line:	LF driver antenna terminal
等长信号线： Same Delay Signal Line :	-
差分对： Differetial Signal Line:	CAN BUS
大电流： High Current:	
其他： Other :	NA
其他： Other :	NA

DV BOM

其他详见原理图内部信息。
如有未尽事宜，请和应用工程师沟通。

经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	00_INFORMATION

Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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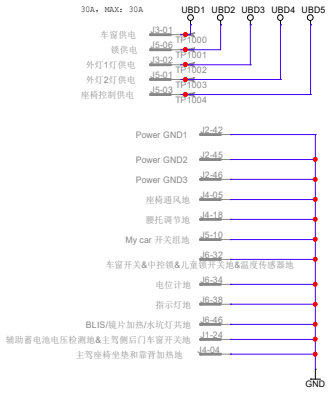
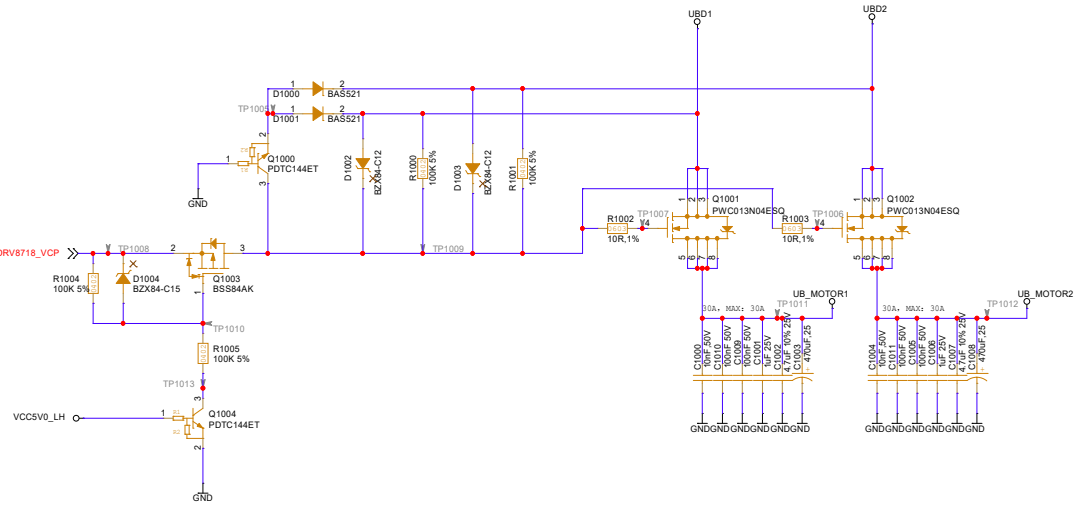
电源&地

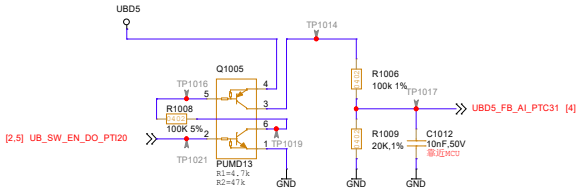
PCB
825503134

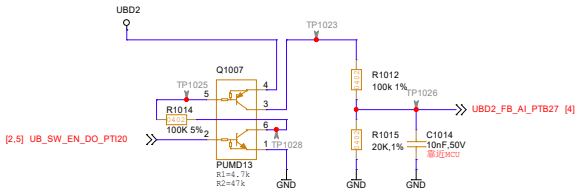


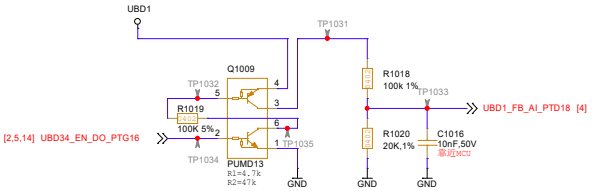
功率防反

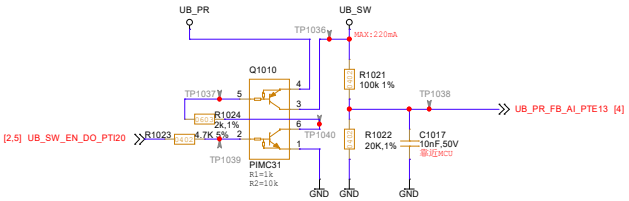


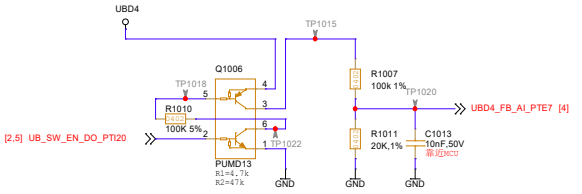
电源监控

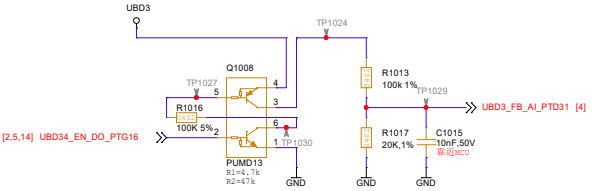












DV BOM

Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 01_POWER1	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
Date: Wednesday, August 07, 2024	Sheet 2 of 32		

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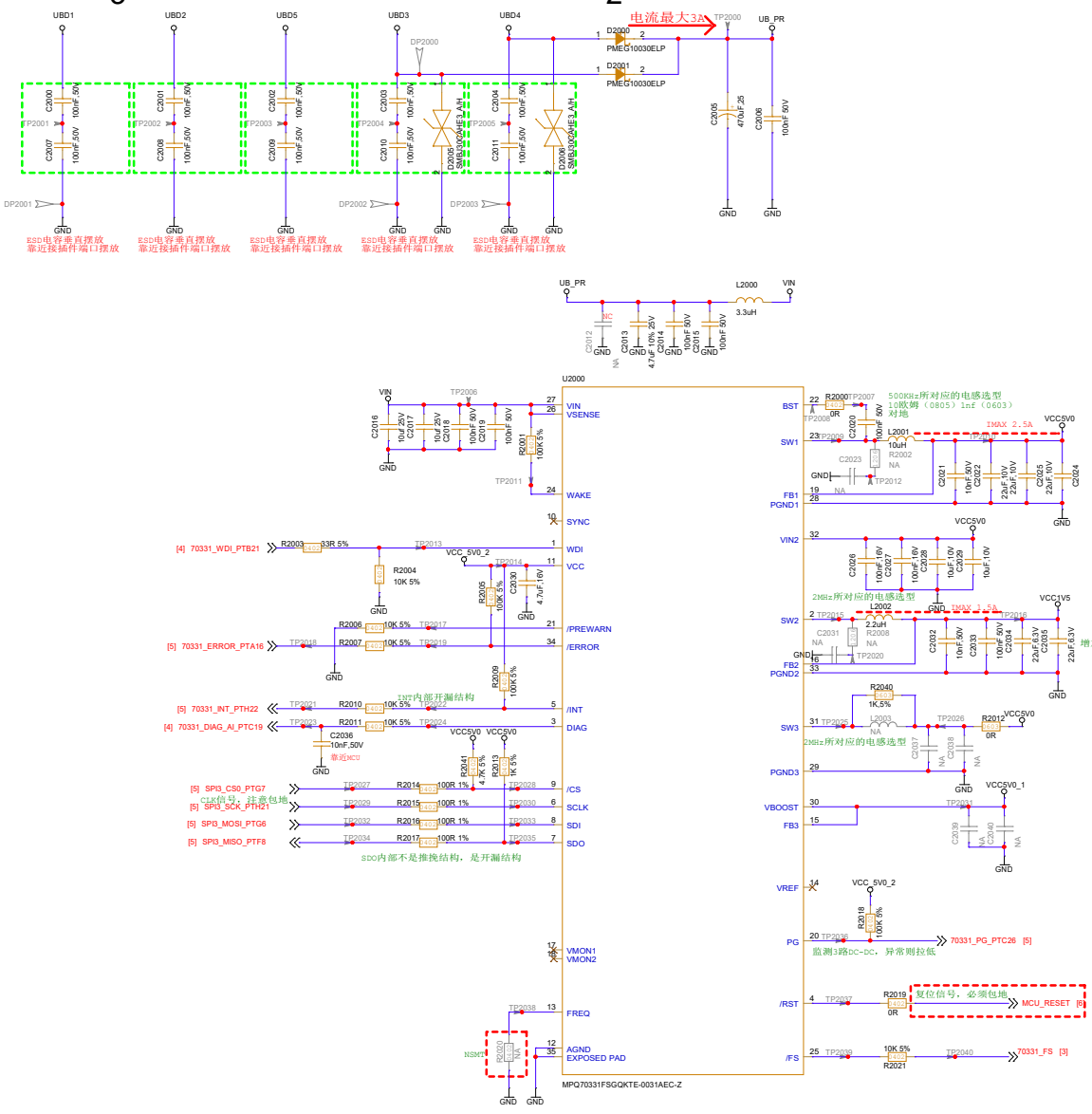
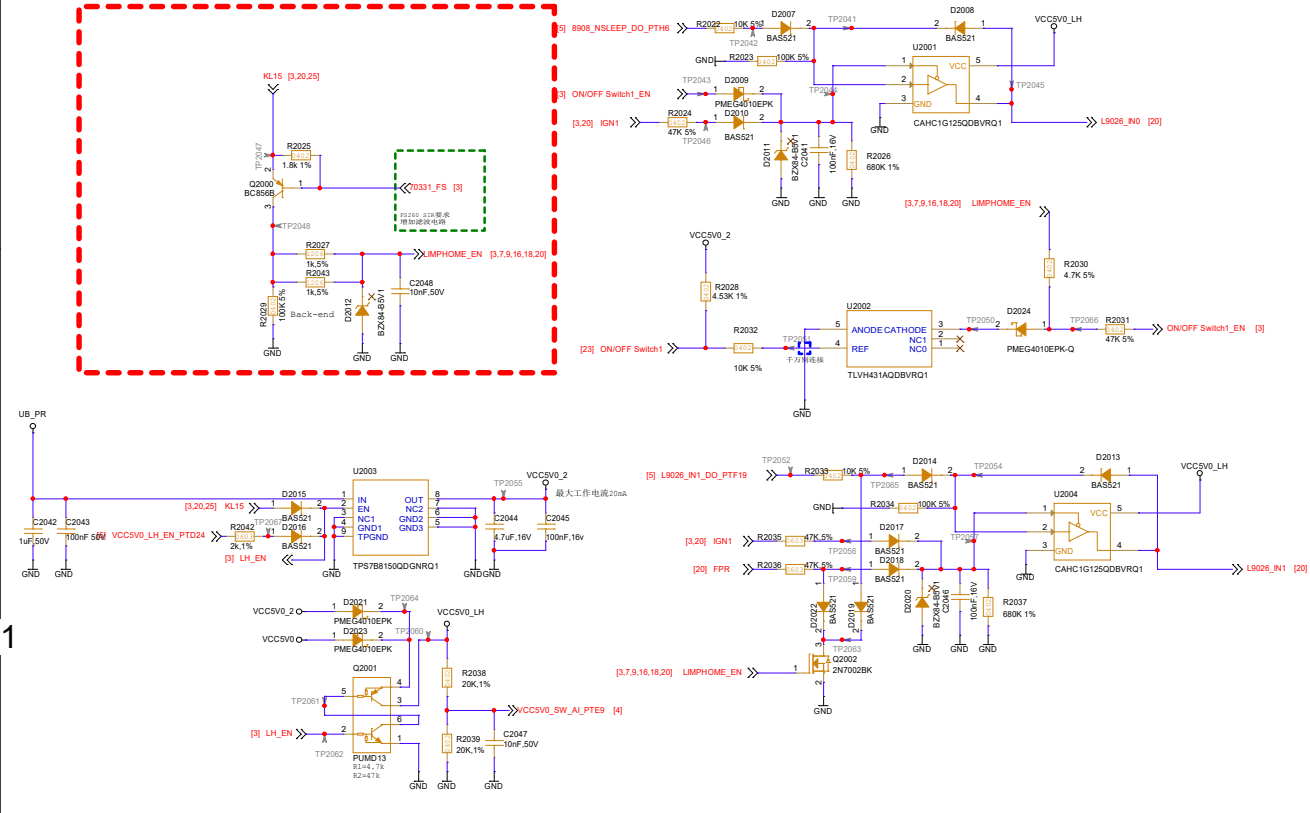


Limphome使能电路



DV BOM

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	02_POWER2_MPQ70331

Size	Designer / Date	Check / Date	Confirm / Date
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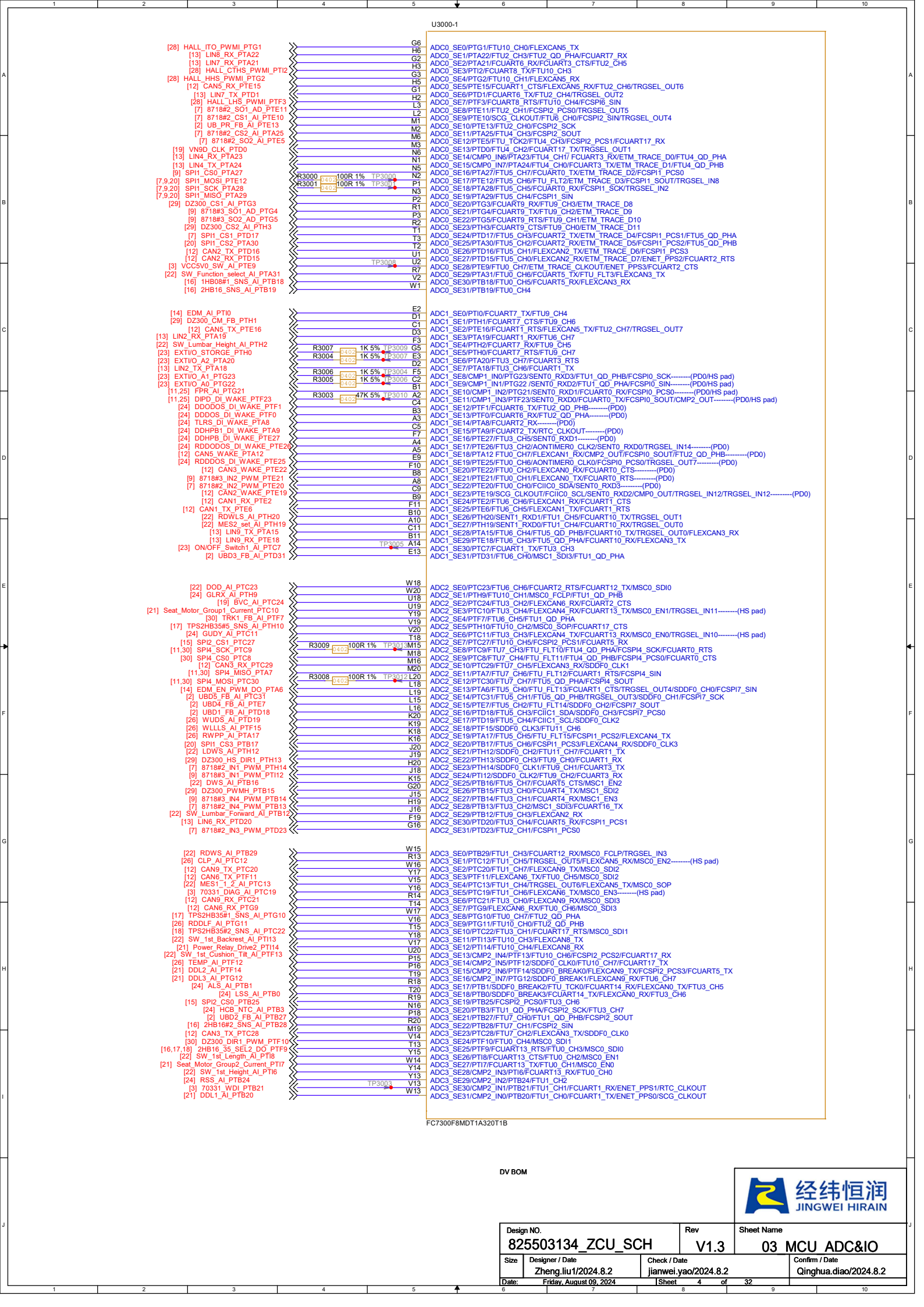
U3000-1
[28] HALL_ITO_PWMI_PTG1
[13] LIN8_RX_PTA22
[13] LIN7_RX_PTA21
[28] HALL_CTHS_PWMI_PTI2
[28] HALL_HHS_PWMI_PTG2
[12] CAN5_RX_PTE15
[13] LIN7_TX_PTD1
[28] HALL_LHS_PWMI_PTF3
[7] 8718#2_SO1_AD_PTE11
[7] 8718#2_CS1_AI_PTE10
[2] UB_PR_FB_AI_PTE13
[7] 8718#2_CS2_AI_PTA25
[7] 8718#2_SO2_AI_PTE5
[19] VN9D_CLK_PTD0
[13] LIN4_RX_PTA23
[13] LIN4_TX_PTA24
[9] SPI1_CS0_PTA27
[7,9,20] SPI1_MOSI_PTE12
[7,9,20] SPI1_SCK_PTA28
[7,9,20] SPI1_MISO_PTA29
[29] DZ300_CS1_AI_PTG3
[9] 8718#3_SO1_AD_PTG4
[9] 8718#3_SO2_AD_PTG5
[29] DZ300_CS2_AI_PTH3
[7] SPI1_CS1_PTD17
[20] SPI1_CS2_PTA30
[12] CAN2_TX_PTD16
[12] CAN2_RX_PTD15
[3] VCC5V0_SW_AI_PTE9
[22] SW_Function_select_AI_PTA31
[16] 1HB08#1_SNS_AI_PTB18
[16] 2HB16_SNS_AI_PTB19
R3000 0402 100R 1% TP3000
R3001 0402 100R 1% TP3001
TP3008
G6 H6 G2 H3 G3 H5 G1 H2 L3 L2 M1 M2 M6 M3 N6 N1 N5 N2 P1 N3 P2 R1 P3 R2 T1 T3 T2 U1 U2 R7 V2 W1
ADC0_SE0/PTG1/FTU10_CH0/FLEXCAN5_TX
ADC0_SE1/PTA22/FTU2_CH3/FTU2_QD_PHA/FCUART7_RX
ADC0_SE2/PTA21/FCUART6_RX/FCUART3_CTS/FTU2_CH5
ADC0_SE3/PTI2/FCUART8_TX/FTU10_CH3
ADC0_SE4/PTG2/FTU10_CH1/FLEXCAN5_RX
ADC0_SE5/PTE15/FCUART1_CTS/FLEXCAN5_RX/FTU2_CH6/TRGSEL_OUT6
ADC0_SE6/PTD1/FCUART6_TX/FTU2_CH4/TRGSEL_OUT2
ADC0_SE7/PTF3/FCUART8_RTS/FTU10_CH4/FCSPI6_SIN
ADC0_SE8/PTE11/FTU2_CH1/FCSPI2_PCS0/TRGSEL_OUT5
ADC0_SE9/PTE10/SCG_CLKOUT/FTU6_CH0/FCSPI2_SIN/TRGSEL_OUT4
ADC0_SE10/PTE13/FTU2_CH0/FCSPI2_SCK
ADC0_SE11/PTA25/FTU4_CH3/FCSPI2_SOUT
ADC0_SE12/PTE5/FTU_TCK2/FTU4_CH3/FCSPI2_PCS1/FCUART17_RX
ADC0_SE13/PTD0/FTU4_CH2/FCUART17_TX/TRGSEL_OUT1
ADC0_SE14/CMP0_IN6/PTA23/FTU4_CH1/ FCUART3_RX/ETM_TRACE_D0/FTU4_QD_PHA
ADC0_SE15/CMP0_IN7/PTA24/FTU4_CH0/FCUART3_TX/ETM_TRACE_D1/FTU4_QD_PHB
ADC0_SE16/PTA27/FTU5_CH7/FCUART0_TX/ETM_TRACE_D2/FCSPI1_PCS0
ADC0_SE17/PTE12/FTU5_CH6/FTU_FLT2/ETM_TRACE_D3/FCSPI1_SOUT/TRGSEL_IN8
ADC0_SE18/PTA28/FTU5_CH5/FCUART0_RX/FCSPI1_SCK/TRGSEL_IN2
ADC0_SE19/PTA29/FTU5_CH4/FCSPI1_SIN
ADC0_SE20/PTG3/FCUART9_RX/FTU9_CH3/ETM_TRACE_D8
ADC0_SE21/PTG4/FCUART9_TX/FTU9_CH2/ETM_TRACE_D9
ADC0_SE22/PTG5/FCUART9_RTS/FTU9_CH1/ETM_TRACE_D10
ADC0_SE23/PTH3/FCUART9_CTS/FTU9_CH0/ETM_TRACE_D11
ADC0_SE24/PTD17/FTU5_CH3/FCUART2_TX/ETM_TRACE_D4/FCSPI1_PCS1/FTU5_QD_PHA
ADC0_SE25/PTA30/FTU5_CH2/FCUART2_RX/ETM_TRACE_D5/FCSPI1_PCS2/FTU5_QD_PHB
ADC0_SE26/PTD16/FTU5_CH1/FLEXCAN2_TX/ETM_TRACE_D6/FCSPI1_PCS3
ADC0_SE27/PTD15/FTU5_CH0/FLEXCAN2_RX/ETM_TRACE_D7/ENET_PPS2/FCUART2_RTS
ADC0_SE28/PTE9/FTU0_CH7/ETM_TRACE_CLKOUT/ENET_PPS3/FCUART2_CTS
ADC0_SE29/PTA31/FTU0_CH6/FCUART5_TX/FTU_FLT3/FLEXCAN3_TX
ADC0_SE30/PTB18/FTU0_CH5/FCUART5_RX/FLEXCAN3_RX
ADC0_SE31/PTB19/FTU0_CH4
[14] EDM_AI_PTI0
[29] DZ300_CM_FB_PTH1
[12] CAN5_TX_PTE16
[13] LIN2_RX_PTA19
[22] SW_Lumbar_Height_AI_PTH2
[23] EXTI/O_STORGE_PTH0
[23] EXTI/O_A2_PTA20
[13] LIN2_TX_PTA18
[23] EXTI/O_A1_PTG23
[23] EXTI/O_A0_PTG22
[11,25] FPR_AI_PTG21
[11,25] DIPD_DI_WAKE_PTF23
[24] DDODOS_DI_WAKE_PTF1
[24] DDDOS_DI_WAKE_PTF0
[24] TLRS_DI_WAKE_PTA8
[24] DDHPB1_DI_WAKE_PTA9
[24] DDHPB_DI_WAKE_PTE27
[24] RDDODOS_DI_WAKE_PTE26
[12] CAN5_WAKE_PTA12
[24] RDDDOS_DI_WAKE_PTE25
[12] CAN3_WAKE_PTE22
[9] 8718#3_IN2_PWM_PTE21
[7] 8718#2_IN2_PWM_PTE20
[12] CAN2_WAKE_PTE19
[12] CAN1_RX_PTE2
[12] CAN1_TX_PTE6
[22] RDWLS_AI_PTH20
[22] MES2_set_AI_PTH19
[13] LIN9_TX_PTA15
[13] LIN9_RX_PTE18
[23] ON/OFF_Switch1_AI_PTC7
[2] UBD3_FB_AI_PTD31
R3007 0402 1K 5% TP3009
R3004 0402 1K 5% TP3007
R3006 0402 1K 5% TP3004
R3005 0402 1K 5% TP3006
R3003 0402 47K 5% TP3010
TP3005
E2 D1 C1 D3 F3 G5 E3 D2 F5 C2 B1 A2 C4 B3 A3 C5 F7 A4 A5 E9 F10 B8 A8 C9 B9 F11 B10 A10 C11 B11 A14 E13
ADC1_SE0/PTI0/FCUART7_TX/FTU9_CH4
ADC1_SE1/PTH1/FCUART7_CTS/FTU9_CH6
ADC1_SE2/PTE16/FCUART1_RTS/FLEXCAN5_TX/FTU2_CH7/TRGSEL_OUT7
ADC1_SE3/PTA19/FCUART1_RX/FTU6_CH7
ADC1_SE4/PTH2/FCUART7_RX/FTU9_CH5
ADC1_SE5/PTH0/FCUART7_RTS/FTU9_CH7
ADC1_SE6/PTA20/FTU3_CH7/FCUART3_RTS
ADC1_SE7/PTA18/FTU3_CH6/FCUART1_TX
ADC1_SE8/CMP1_IN0/PTG23/SENT0_RXD3/FTU1_QD_PHB/FCSPI0_SCK--------(PD0/HS pad)
ADC1_SE9/CMP1_IN1/PTG22 /SENT0_RXD2/FTU1_QD_PHA/FCSPI0_SIN--------(PD0/HS pad)
ADC1_SE10/CMP1_IN2/PTG21/SENT0_RXD1/FCUART0_RX/FCSPI0_PCS0--------(PD0/HS pad)
ADC1_SE11/CMP1_IN3/PTF23/SENT0_RXD0/FCUART0_TX/FCSPI0_SOUT/CMP2_OUT--------(PD0/HS pad)
ADC1_SE12/PTF1/FCUART6_TX/FTU2_QD_PHB--------(PD0)
ADC1_SE13/PTF0/FCUART6_RX/FTU2_QD_PHA--------(PD0)
ADC1_SE14/PTA8/FCUART2_RX--------(PD0)
ADC1_SE15/PTA9/FCUART2_TX/RTC_CLKOUT--------(PD0)
ADC1_SE16/PTE27/FTU3_CH5/SENT0_RXD1--------(PD0)
ADC1_SE17/PTE26/FTU3_CH2/AONTIMER0_CLK2/SENT0_RXD0/TRGSEL_IN14--------(PD0)
ADC1_SE18/PTA12 FTU0_CH7/FLEXCAN1_RX/CMP2_OUT/FCSPI0_SOUT/FTU2_QD_PHB---------(PD0)
ADC1_SE19/PTE25/FTU0_CH6/AONTIMER0_CLK0/FCSPI0_PCS0/TRGSEL_OUT7---------(PD0)
ADC1_SE20/PTE22/FTU0_CH2/FLEXCAN0_RX/FCUART0_CTS---------(PD0)
ADC1_SE21/PTE21/FTU0_CH1/FLEXCAN0_TX/FCUART0_RTS---------(PD0)
ADC1_SE22/PTE20/FTU0_CH0/FCIIC0_SDA/SENT0_RXD3---------(PD0)
ADC1_SE23/PTE19/SCG_CLKOUT/FCIIC0_SCL/SENT0_RXD2/CMP0_OUT/TRGSEL_IN12/TRGSEL_IN12---------(PD0)
ADC1_SE24/PTE2/FTU6_CH6/FLEXCAN1_RX/FCUART1_CTS
ADC1_SE25/PTE6/FTU6_CH5/FLEXCAN1_TX/FCUART1_RTS
ADC1_SE26/PTH20/SENT1_RXD1/FTU1_CH5/FCUART10_TX/TRGSEL_OUT1
ADC1_SE27/PTH19/SENT1_RXD0/FTU1_CH4/FCUART10_RX/TRGSEL_OUT0
ADC1_SE28/PTA15/FTU6_CH4/FTU5_QD_PHB/FCUART10_TX/TRGSEL_OUT0/FLEXCAN3_RX
ADC1_SE29/PTE18/FTU6_CH3/FTU5_QD_PHA/FCUART10_RX/FLEXCAN3_TX
ADC1_SE30/PTC7/FCUART1_TX/FTU3_CH3
ADC1_SE31/PTD31/FTU6_CH0/MSC1_SDI3/FTU1_QD_PHA
[22] DOD_AI_PTC23
[24] GLRX_AI_PTH9
[19] BVC_AI_PTC24
[21] Seat_Motor_Group1_Current_PTC10
[30] TRK1_FB_AI_PTF7
[17] TPS2HB35#5_SNS_AI_PTH10
[24] GUDY_AI_PTC11
[15] SPI2_CS1_PTC27
[11,30] SPI4_SCK_PTC9
[30] SPI4_CS0_PTC8
[12] CAN3_RX_PTC29
[11,30] SPI4_MISO_PTA7
[11,30] SPI4_MOSI_PTC30
[14] EDM_EN_PWM_DO_PTA6
[2] UBD5_FB_AI_PTC31
[2] UBD4_FB_AI_PTE7
[2] UBD1_FB_AI_PTD18
[26] WUDS_AI_PTD19
[26] WLLLS_AI_PTF15
[26] RWPP_AI_PTA17
[20] SPI1_CS3_PTB17
[22] LDWS_AI_PTH12
[29] DZ300_HS_DIR1_PTH13
[7] 8718#2_IN1_PWM_PTH14
[9] 8718#3_IN1_PWM_PTI12
[22] DWS_AI_PTB16
[29] DZ300_PWMH_PTB15
[9] 8718#3_IN4_PWM_PTB14
[7] 8718#2_IN4_PWM_PTB13
[22] SW_Lumbar_Forward_AI_PTB12
[13] LIN6_RX_PTD20
[7] 8718#2_IN3_PWM_PTD23
R3009 0402 100R 1% TP3013
R3008 0402 100R 1% TP3012
W18 W20 U18 U19 Y19 V19 V20 T18 M15 M18 M16 M20 L20 L18 L19 L15 L16 K20 K19 K18 K16 J20 J19 H20 J18 K15 G20 J15 H19 J16 F19 G16
ADC2_SE0/PTC23/FTU6_CH6/FCUART2_RTS/FCUART12_TX/MSC0_SDI0
ADC2_SE1/PTH9/FTU10_CH1/MSC0_FCLP/FTU1_QD_PHB
ADC2_SE2/PTC24/FTU3_CH2/FLEXCAN6_RX/FCUART2_CTS
ADC2_SE3/PTC10/FTU3_CH4/FLEXCAN4_RX/FCUART13_TX/MSC0_EN1/TRGSEL_IN11--------(HS pad)
ADC2_SE4/PTF7/FTU6_CH5/FTU1_QD_PHA
ADC2_SE5/PTH10/FTU10_CH2/MSC0_SOP/FCUART17_CTS
ADC2_SE6/PTC11/FTU3_CH3/FLEXCAN4_TX/FCUART13_RX/MSC0_EN0/TRGSEL_IN10--------(HS pad)
ADC2_SE7/PTC27/FTU10_CH5/FCSPI2_PCS1/FCUART5_RX
ADC2_SE8/PTC9/FTU7_CH3/FTU_FLT10/FTU4_QD_PHA/FCSPI4_SCK/FCUART0_RTS
ADC2_SE9/PTC8/FTU7_CH4/FTU_FLT11/FTU4_QD_PHB/FCSPI4_PCS0/FCUART0_CTS
ADC2_SE10/PTC29/FTU7_CH5/FLEXCAN3_RX/SDDF0_CLK1
ADC2_SE11/PTA7/FTU7_CH6/FTU_FLT12/FCUART1_RTS/FCSPI4_SIN
ADC2_SE12/PTC30/FTU7_CH7/FTU5_QD_PHA/FCSPI4_SOUT
ADC2_SE13/PTA6/FTU5_CH0/FTU_FLT13/FCUART1_CTS/TRGSEL_OUT4/SDDF0_CH0/FCSPI7_SIN
ADC2_SE14/PTC31/FTU5_CH1/FTU5_QD_PHB/TRGSEL_OUT3/SDDF0_CH1/FCSPI7_SCK
ADC2_SE15/PTE7/FTU5_CH2/FTU_FLT14/SDDF0_CH2/FCSPI7_SOUT
ADC2_SE16/PTD18/FTU5_CH3/FCIIC1_SDA/SDDF0_CH3/FCSPI7_PCS0
ADC2_SE17/PTD19/FTU5_CH4/FCIIC1_SCL/SDDF0_CLK2
ADC2_SE18/PTF15/SDDF0_CLK3/FTU11_CH6
ADC2_SE19/PTA17/FTU5_CH5/FTU_FLT15/FCSPI1_PCS2/FLEXCAN4_TX
ADC2_SE20/PTB17/FTU5_CH6/FCSPI1_PCS3/FLEXCAN4_RX/SDDF0_CLK3
ADC2_SE21/PTH12/SDDF0_CH2/FTU11_CH7/FCUART1_TX
ADC2_SE22/PTH13/SDDF0_CH3/FTU9_CH0/FCUART1_RX
ADC2_SE23/PTH14/SDDF0_CLK1/FTU9_CH1/FCUART3_TX
ADC2_SE24/PTI12/SDDF0_CLK2/FTU9_CH2/FCUART3_RX
ADC2_SE25/PTB16/FTU5_CH7/FCUART5_CTS/MSC1_EN2
ADC2_SE26/PTB15/FTU3_CH0/FCUART4_TX/MSC1_SDI2
ADC2_SE27/PTB14/FTU3_CH1/FCUART4_RX/MSC1_EN3
ADC2_SE28/PTB13/FTU3_CH2/MSC1_SDI3/FCUART16_TX
ADC2_SE29/PTB12/FTU9_CH3/FLEXCAN2_RX
ADC2_SE30/PTD20/FTU3_CH4/FCUART5_RX/FCSPI1_PCS1
ADC2_SE31/PTD23/FTU2_CH1/FCSPI1_PCS0
[22] RDWS_AI_PTB29
[26] CLP_AI_PTC12
[12] CAN9_TX_PTC20
[12] CAN6_TX_PTF11
[22] MES1_1_2_AI_PTC13
[3] 70331_DIAG_AI_PTC19
[12] CAN9_RX_PTC21
[12] CAN6_RX_PTG9
[17] TPS2HB35#1_SNS_AI_PTG10
[26] RDDLF_AI_PTG11
[18] TPS2HB35#2_SNS_AI_PTC22
[22] SW_1st_Backrest_AI_PTI13
[21] Power_Relay_Drive2_PTI14
[22] SW_1st_Cushion_Tilt_AI_PTF13
[26] TEMP_AI_PTF12
[21] DDL2_AI_PTF14
[21] DDL3_AI_PTG12
[24] ALS_AI_PTB1
[24] LSS_AI_PTB0
[15] SPI2_CS0_PTB25
[24] HCB_NTC_AI_PTB3
[2] UBD2_FB_AI_PTB27
[16] 2HB16#2_SNS_AI_PTB28
[12] CAN3_TX_PTC28
[30] DZ300_DIR1_PWM_PTF10
[16,17,18] 2HB16_35_SEL2_DO_PTF9
[22] SW_1st_Length_AI_PTI8
[21] Seat_Motor_Group2_Current_PTI7
[22] SW_1st_Height_AI_PTI6
[24] RSS_AI_PTB24
[3] 70331_WDI_PTB21
[21] DDL1_AI_PTB20
TP3003
W15 R13 W16 Y17 V15 Y16 R14 T14 W17 V16 T15 Y18 V17 U20 P15 P16 T19 R18 T20 R19 N16 P18 R20 M19 V14 T13 Y15 W14 Y14 Y13 V13 W13
ADC3_SE0/PTB29/FTU1_CH3/FCUART12_RX/MSC0_FCLP/TRGSEL_IN3
ADC3_SE1/PTC12/FTU1_CH5/TRGSEL_OUT5/FLEXCAN5_RX/MSC0_EN2--------(HS pad)
ADC3_SE2/PTC20/FTU1_CH7/FLEXCAN9_TX/MSC0_SDI2
ADC3_SE3/PTF11/FLEXCAN6_TX/FTU0_CH5/MSC0_SDI2
ADC3_SE4/PTC13/FTU1_CH4/TRGSEL_OUT6/FLEXCAN5_TX/MSC0_SOP
ADC3_SE5/PTC19/FTU1_CH6/FLEXCAN6_TX/MSC0_EN3--------(HS pad)
ADC3_SE6/PTC21/FTU3_CH0/FLEXCAN9_RX/MSC0_SDI3
ADC3_SE7/PTG9/FLEXCAN6_RX/FTU0_CH6/MSC0_SDI3
ADC3_SE8/PTG10/FTU0_CH7/FTU2_QD_PHA
ADC3_SE9/PTG11/FTU10_CH0/FTU2_QD_PHB
ADC3_SE10/PTC22/FTU3_CH1/FCUART17_RTS/MSC0_SDI1
ADC3_SE11/PTI13/FTU10_CH3/FLEXCAN8_TX
ADC3_SE12/PTI14/FTU10_CH4/FLEXCAN8_RX
ADC3_SE13/CMP2_IN4/PTF13/FTU10_CH6/FCSPI2_PCS2/FCUART17_RX
ADC3_SE14/CMP2_IN5/PTF12/SDDF0_CLK0/FTU10_CH7/FCUART17_TX
ADC3_SE15/CMP2_IN6/PTF14/SDDF0_BREAK0/FLEXCAN9_TX/FCSPI2_PCS3/FCUART5_TX
ADC3_SE16/CMP2_IN7/PTG12/SDDF0_BREAK1/FLEXCAN9_RX/FTU6_CH7
ADC3_SE17/PTB1/SDDF0_BREAK2/FTU_TCK0/FCUART14_RX/FLEXCAN0_TX/FTU3_CH5
ADC3_SE18/PTB0/SDDF0_BREAK3/FCUART14_TX/FLEXCAN0_RX/FTU3_CH6
ADC3_SE19/PTB25/FCSPI2_PCS0/FTU3_CH6
ADC3_SE20/PTB3/FTU1_QD_PHA/FCSPI2_SCK/FTU3_CH7
ADC3_SE21/PTB27/FTU7_CH0/FTU1_QD_PHB/FCSPI2_SOUT
ADC3_SE22/PTB28/FTU7_CH1/FCSPI2_SIN
ADC3_SE23/PTC28/FTU7_CH2/FLEXCAN3_TX/SDDF0_CLK0
ADC3_SE24/PTF10/FTU0_CH4/MSC0_SDI1
ADC3_SE25/PTF9/FCUART13_RTS/FTU0_CH3/MSC0_SDI0
ADC3_SE26/PTI8/FCUART13_CTS/FTU0_CH2/MSC0_EN1
ADC3_SE27/PTI7/FCUART13_TX/FTU0_CH1/MSC0_EN0
ADC3_SE28/CMP2_IN3/PTI6/FCUART13_RX/FTU0_CH0
ADC3_SE29/CMP2_IN2/PTB24/FTU1_CH2
ADC3_SE30/CMP2_IN1/PTB21/FTU1_CH1/FCUART1_RX/ENET_PPS1/RTC_CLKOUT
ADC3_SE31/CMP2_IN0/PTB20/FTU1_CH0/FCUART1_TX/ENET_PPS0/SCG_CLKOUT
FC7300F8MDT1A320T1B
DV BOM
经纬恒润
JINGWEI HIRAIN
Design NO. 825503134_ZCU_SCH
Rev V1.3
Sheet Name 03_MCU_ADC&IO
Size
Designer / Date Zheng.liu1/2024.8.2
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Confirm / Date Qinghua.diao/2024.8.2
Date: Friday, August 09, 2024
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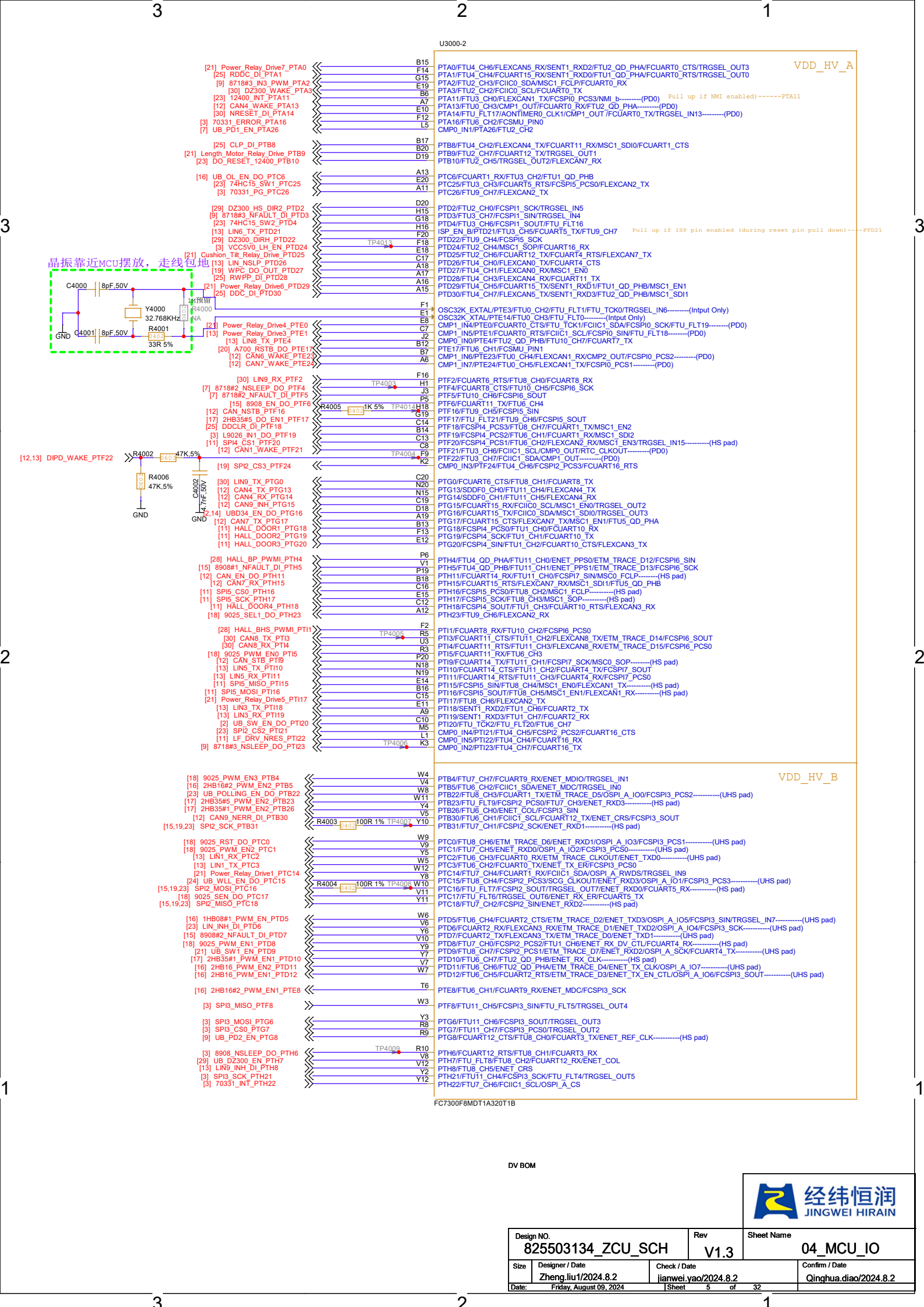
U3000-2
VDD_HV_A
VDD_HV_B
晶振靠近MCU摆放，走线包地
C4000 8pF,50V
Y4000 32.768KHz
C4001 8pF,50V
R4001 33R 5%
GND
R4000 NA
R4002 47K,5%
R4006 47K,5%
C4002 4.7nF,50V
R4003 100R 1%
R4004 100R 1%
R4005 1K 5%
TP4013
TP4003
TP4014
TP4004
TP4005
TP4006
TP4007
TP4008
TP4009
PTA0/FTU4_CH6/FLEXCAN5_RX/SENT1_RXD2/FTU2_QD_PHA/FCUART0_CTS/TRGSEL_OUT3
PTA1/FTU4_CH4/FCUART15_RX/SENT1_RXD0/FTU1_QD_PHA/FCUART0_RTS/TRGSEL_OUT0
PTA2/FTU2_CH3/FCIIC0_SDA/MSC1_FCLP/FCUART0_RX
PTA3/FTU2_CH2/FCIIC0_SCL/FCUART0_TX
PTA11/FTU3_CH0/FLEXCAN1_TX/FCSPI0_PCS3/NMI_b---------(PD0) Pull up if NMI enabled)------PTA11
PTA13/FTU0_CH3/CMP1_OUT/FCUART0_RX/FTU2_QD_PHA---------(PD0)
PTA14/FTU_FLT17/AONTIMER0_CLK1/CMP1_OUT /FCUART0_TX/TRGSEL_IN13---------(PD0)
PTA16/FTU6_CH2/FCSMU_PIN0
CMP0_IN1/PTA26/FTU2_CH2
PTB8/FTU4_CH2/FLEXCAN4_TX/FCUART11_RX/MSC1_SDI0/FCUART1_CTS
PTB9/FTU2_CH7/FCUART12_TX/TRGSEL_OUT1
PTB10/FTU2_CH5/TRGSEL_OUT2/FLEXCAN7_RX
PTC6/FCUART1_RX/FTU3_CH2/FTU1_QD_PHB
PTC25/FTU3_CH3/FCUART5_RTS/FCSPI5_PCS0/FLEXCAN2_TX
PTC26/FTU9_CH7/FLEXCAN2_TX
PTD2/FTU2_CH0/FCSPI1_SCK/TRGSEL_IN5
PTD3/FTU3_CH7/FCSPI1_SIN/TRGSEL_IN4
PTD4/FTU3_CH6/FCSPI1_SOUT/FTU_FLT16
ISP_EN_B/PTD21/FTU3_CH5/FCUART5_TX/FTU9_CH7 Pull up if ISP pin enabled (during reset pin pull down)----PTD21
PTD22/FTU9_CH4/FCSPI5_SCK
PTD24/FTU2_CH4/MSC1_SOP/FCUART16_RX
PTD25/FTU2_CH6/FCUART12_TX/FCUART4_RTS/FLEXCAN7_TX
PTD26/FTU4_CH0/FLEXCAN0_TX/FCUART4_CTS
PTD27/FTU4_CH1/FLEXCAN0_RX/MSC1_EN0
PTD28/FTU4_CH3/FLEXCAN4_RX/FCUART11_TX
PTD29/FTU4_CH5/FCUART15_TX/SENT1_RXD1/FTU1_QD_PHB/MSC1_EN1
PTD30/FTU4_CH7/FLEXCAN5_TX/SENT1_RXD3/FTU2_QD_PHB/MSC1_SDI1
OSC32K_EXTAL/PTE3/FTU0_CH2/FTU_FLT1/FTU_TCK0/TRGSEL_IN6---------(Intput Only)
OSC32K_XTAL/PTE14/FTU0_CH3/FTU_FLT0---------(Intput Only)
CMP1_IN4/PTE0/FCUART0_CTS/FTU_TCK1/FCIIC1_SDA/FCSPI0_SCK/FTU_FLT19---------(PD0)
CMP1_IN5/PTE1/FCUART0_RTS/FCIIC1_SCL/FCSPI0_SIN/FTU_FLT18---------(PD0)
CMP0_IN0/PTE4/FTU2_QD_PHB/FTU10_CH7/FCUART7_TX
PTE17/FTU6_CH1/FCSMU_PIN1
CMP1_IN6/PTE23/FTU0_CH4/FLEXCAN1_RX/CMP2_OUT/FCSPI0_PCS2---------(PD0)
CMP1_IN7/PTE24/FTU0_CH5/FLEXCAN1_TX/FCSPI0_PCS1---------(PD0)
PTF2/FCUART6_RTS/FTU8_CH0/FCUART8_RX
PTF4/FCUART8_CTS/FTU10_CH5/FCSPI6_SCK
PTF5/FTU10_CH6/FCSPI6_SOUT
PTF6/FCUART11_TX/FTU6_CH4
PTF16/FTU9_CH5/FCSPI5_SIN
PTF17/FTU_FLT21/FTU9_CH6/FCSPI5_SOUT
PTF18/FCSPI4_PCS3/FTU8_CH7/FCUART1_TX/MSC1_EN2
PTF19/FCSPI4_PCS2/FTU6_CH1/FCUART1_RX/MSC1_SDI2
PTF20/FCSPI4_PCS1/FTU6_CH2/FLEXCAN2_RX/MSC1_EN3/TRGSEL_IN15---------(HS pad)
PTF21/FTU3_CH6/FCIIC1_SCL/CMP0_OUT/RTC_CLKOUT---------(PD0)
PTF22/FTU3_CH7/FCIIC1_SDA/CMP1_OUT---------(PD0)
CMP0_IN3/PTF24/FTU4_CH6/FCSPI2_PCS3/FCUART16_RTS
PTG0/FCUART6_CTS/FTU8_CH1/FCUART8_TX
PTG13/SDDF0_CH0/FTU11_CH4/FLEXCAN4_TX
PTG14/SDDF0_CH1/FTU11_CH5/FLEXCAN4_RX
PTG15/FCUART15_RX/FCIIC0_SCL/MSC1_EN0/TRGSEL_OUT2
PTG16/FCUART15_TX/FCIIC0_SDA/MSC1_SDI0/TRGSEL_OUT3
PTG17/FCUART15_CTS/FLEXCAN7_TX/MSC1_EN1/FTU5_QD_PHA
PTG18/FCSPI4_PCS0/FTU1_CH0/FCUART10_RX
PTG19/FCSPI4_SCK/FTU1_CH1/FCUART10_TX
PTG20/FCSPI4_SIN/FTU1_CH2/FCUART10_CTS/FLEXCAN3_TX
PTH4/FTU4_QD_PHA/FTU11_CH0/ENET_PPS0/ETM_TRACE_D12/FCSPI6_SIN
PTH5/FTU4_QD_PHB/FTU11_CH1/ENET_PPS1/ETM_TRACE_D13/FCSPI6_SCK
PTH11/FCUART14_RX/FTU11_CH0/FCSPI7_SIN/MSC0_FCLP---------(HS pad)
PTH15/FCUART15_RTS/FLEXCAN7_RX/MSC1_SDI1/FTU5_QD_PHB
PTH16/FCSPI5_PCS0/FTU8_CH2/MSC1_FCLP----------(HS pad)
PTH17/FCSPI5_SCK/FTU8_CH3/MSC1_SOP----------(HS pad)
PTH18/FCSPI4_SOUT/FTU1_CH3/FCUART10_RTS/FLEXCAN3_RX
PTH23/FTU9_CH6/FLEXCAN2_RX
PTI1/FCUART8_RX/FTU10_CH2/FCSPI6_PCS0
PTI3/FCUART11_CTS/FTU11_CH2/FLEXCAN8_TX/ETM_TRACE_D14/FCSPI6_SOUT
PTI4/FCUART11_RTS/FTU11_CH3/FLEXCAN8_RX/ETM_TRACE_D15/FCSPI6_PCS0
PTI5/FCUART11_RX/FTU6_CH3
PTI9/FCUART14_TX/FTU11_CH1/FCSPI7_SCK/MSC0_SOP--------(HS pad)
PTI10/FCUART14_CTS/FTU11_CH2/FCUART4_TX/FCSPI7_SOUT
PTI11/FCUART14_RTS/FTU11_CH3/FCUART4_RX/FCSPI7_PCS0
PTI15/FCSPI5_SIN/FTU8_CH4/MSC1_EN0/FLEXCAN1_TX----------(HS pad)
PTI16/FCSPI5_SOUT/FTU8_CH5/MSC1_EN1/FLEXCAN1_RX----------(HS pad)
PTI17/FTU8_CH6/FLEXCAN2_TX
PTI18/SENT1_RXD2/FTU1_CH6/FCUART2_TX
PTI19/SENT1_RXD3/FTU1_CH7/FCUART2_RX
PTI20/FTU_TCK2/FTU_FLT20/FTU6_CH7
CMP0_IN4/PTI21/FTU4_CH5/FCSPI2_PCS2/FCUART16_CTS
CMP0_IN5/PTI22/FTU4_CH4/FCUART16_RX
CMP0_IN2/PTI23/FTU4_CH7/FCUART16_TX
PTB4/FTU7_CH7/FCUART9_RX/ENET_MDIO/TRGSEL_IN1
PTB5/FTU6_CH2/FCIIC1_SDA/ENET_MDC/TRGSEL_IN0
PTB22/FTU8_CH3/FCUART1_TX/ETM_TRACE_D5/OSPI_A_IO0/FCSPI3_PCS2----------(UHS pad)
PTB23/FTU_FLT9/FCSPI2_PCS0/FTU7_CH3/ENET_RXD3----------(HS pad)
PTB26/FTU6_CH0/ENET_COL/FCSPI3_SIN
PTB30/FTU6_CH1/FCIIC1_SCL/FCUART12_TX/ENET_CRS/FCSPI3_SOUT
PTB31/FTU7_CH1/FCSPI2_SCK/ENET_RXD1----------(HS pad)
PTC0/FTU8_CH6/ETM_TRACE_D6/ENET_RXD1/OSPI_A_IO3/FCSPI3_PCS1----------(UHS pad)
PTC1/FTU7_CH5/ENET_RXD0/OSPI_A_IO2/FCSPI3_PCS0----------(UHS pad)
PTC2/FTU6_CH3/FCUART0_RX/ETM_TRACE_CLKOUT/ENET_TXD0----------(UHS pad)
PTC3/FTU6_CH2/FCUART0_TX/ENET_TX_ER/FCSPI3_PCS0
PTC14/FTU7_CH4/FCUART1_RX/FCIIC1_SDA/OSPI_A_RWDS/TRGSEL_IN9
PTC15/FTU8_CH4/FCSPI2_PCS3/SCG_CLKOUT/ENET_RXD3/OSPI_A_IO1/FCSPI3_PCS3----------(UHS pad)
PTC16/FTU_FLT7/FCSPI2_SOUT/TRGSEL_OUT7/ENET_RXD0/FCUART5_RX----------(HS pad)
PTC17/FTU_FLT6/TRGSEL_OUT6/ENET_RX_ER/FCUART5_TX
PTC18/FTU7_CH2/FCSPI2_SIN/ENET_RXD2----------(HS pad)
PTD5/FTU6_CH4/FCUART2_CTS/ETM_TRACE_D2/ENET_TXD3/OSPI_A_IO5/FCSPI3_SIN/TRGSEL_IN7----------(UHS pad)
PTD6/FCUART2_RX/FLEXCAN3_RX/ETM_TRACE_D1/ENET_TXD2/OSPI_A_IO4/FCSPI3_SCK----------(UHS pad)
PTD7/FCUART2_TX/FLEXCAN3_TX/ETM_TRACE_D0/ENET_TXD1----------(UHS pad)
PTD8/FTU7_CH0/FCSPI2_PCS2/FTU1_CH6/ENET_RX_DV_CTL/FCUART4_RX----------(HS pad)
PTD9/FTU8_CH7/FCSPI2_PCS1/ETM_TRACE_D7/ENET_RXD2/OSPI_A_SCK/FCUART4_TX----------(UHS pad)
PTD10/FTU6_CH7/FTU2_QD_PHB/ENET_RX_CLK----------(HS pad)
PTD11/FTU6_CH6/FTU2_QD_PHA/ETM_TRACE_D4/ENET_TX_CLK/OSPI_A_IO7----------(UHS pad)
PTD12/FTU6_CH5/FCUART2_RTS/ETM_TRACE_D3/ENET_TX_EN_CTL/OSPI_A_IO6/FCSPI3_SOUT----------(UHS pad)
PTE8/FTU6_CH1/FCUART9_RX/ENET_MDC/FCSPI3_SCK
PTF8/FTU11_CH5/FCSPI3_SIN/FTU_FLT5/TRGSEL_OUT4
PTG6/FTU11_CH6/FCSPI3_SOUT/TRGSEL_OUT3
PTG7/FTU11_CH7/FCSPI3_PCS0/TRGSEL_OUT2
PTG8/FCUART12_CTS/FTU8_CH0/FCUART3_TX/ENET_REF_CLK----------(HS pad)
PTH6/FCUART12_RTS/FTU8_CH1/FCUART3_RX
PTH7/FTU_FLT8/FTU8_CH2/FCUART12_RX/ENET_COL
PTH8/FTU8_CH5/ENET_CRS
PTH21/FTU11_CH4/FCSPI3_SCK/FTU_FLT4/TRGSEL_OUT5
PTH22/FTU7_CH6/FCIIC1_SCL/OSPI_A_CS
[21] Power_Relay_Drive7_PTA0
[25] RDDC_DI_PTA1
[9] 8718#3_IN3_PWM_PTA2
[30] DZ300_WAKE_PTA3
[23] 12400_INT_PTA11
[12] CAN4_WAKE_PTA13
[30] NRESET_DI_PTA14
[3] 70331_ERROR_PTA16
[7] UB_PD1_EN_PTA26
[25] CLP_DI_PTB8
[21] Length_Motor_Relay_Drive_PTB9
[23] DO_RESET_12400_PTB10
[16] UB_OL_EN_DO_PTC6
[23] 74HC15_SW1_PTC25
[3] 70331_PG_PTC26
[29] DZ300_HS_DIR2_PTD2
[9] 8718#3_NFAULT_DI_PTD3
[23] 74HC15_SW2_PTD4
[13] LIN6_TX_PTD21
[29] DZ300_DIRH_PTD22
[3] VCC5V0_LH_EN_PTD24
[21] Cushion_Tilt_Relay_Drive_PTD25
[13] LIN_NSLP_PTD26
[19] WPC_DO_OUT_PTD27
[25] RWPP_DI_PTD28
[21] Power_Relay_Drive6_PTD29
[25] DDC_DI_PTD30
[21] Power_Relay_Drive4_PTE0
[13] Power_Relay_Drive3_PTE1
[13] LIN8_TX_PTE4
[20] A700_RSTB_DO_PTE17
[12] CAN6_WAKE_PTE23
[12] CAN7_WAKE_PTE24
[30] LIN9_RX_PTF2
[7] 8718#2_NSLEEP_DO_PTF4
[7] 8718#2_NFAULT_DI_PTF5
[15] 8908_EN_DO_PTF6
[12] CAN_NSTB_PTF16
[17] 2HB35#5_DO_EN1_PTF17
[25] DDCLR_DI_PTF18
[3] L9026_IN1_DO_PTF19
[11] SPI4_CS1_PTF20
[12] CAN1_WAKE_PTF21
[12,13] DIPD_WAKE_PTF22
[19] SPI2_CS3_PTF24
[30] LIN9_TX_PTG0
[12] CAN4_TX_PTG13
[12] CAN4_RX_PTG14
[12] CAN9_INH_PTG15
[2,14] UBD34_EN_DO_PTG16
[12] CAN7_TX_PTG17
[11] HALL_DOOR1_PTG18
[11] HALL_DOOR2_PTG19
[11] HALL_DOOR3_PTG20
[28] HALL_BP_PWMI_PTH4
[15] 8908#1_NFAULT_DI_PTH5
[12] CAN_EN_DO_PTH11
[12] CAN7_RX_PTH15
[11] SPI5_CS0_PTH16
[11] SPI5_SCK_PTH17
[11] HALL_DOOR4_PTH18
[18] 9025_SEL1_DO_PTH23
[28] HALL_BHS_PWMI_PTI1
[30] CAN8_TX_PTI3
[30] CAN8_RX_PTI4
[18] 9025_PWM_EN0_PTI5
[12] CAN_STB_PTI9
[13] LIN5_TX_PTI10
[13] LIN5_RX_PTI11
[11] SPI5_MISO_PTI15
[11] SPI5_MOSI_PTI16
[21] Power_Relay_Drive5_PTI17
[13] LIN3_TX_PTI18
[13] LIN3_RX_PTI19
[2] UB_SW_EN_DO_PTI20
[23] SPI2_CS2_PTI21
[11] LF_DRV_NRES_PTI22
[9] 8718#3_NSLEEP_DO_PTI23
[18] 9025_PWM_EN3_PTB4
[16] 2HB16#2_PWM_EN2_PTB5
[23] UB_POLLING_EN_DO_PTB22
[17] 2HB35#5_PWM_EN2_PTB23
[17] 2HB35#1_PWM_EN2_PTB26
[12] CAN9_NERR_DI_PTB30
[15,19,23] SPI2_SCK_PTB31
[18] 9025_RST_DO_PTC0
[18] 9025_PWM_EN2_PTC1
[13] LIN1_RX_PTC2
[13] LIN1_TX_PTC3
[21] Power_Relay_Drive1_PTC14
[24] UB_WLL_EN_DO_PTC15
[15,19,23] SPI2_MOSI_PTC16
[18] 9025_SEN_DO_PTC17
[15,19,23] SPI2_MISO_PTC18
[16] 1HB08#1_PWM_EN_PTD5
[23] LIN_INH_DI_PTD6
[15] 8908#2_NFAULT_DI_PTD7
[18] 9025_PWM_EN1_PTD8
[21] UB_SW1_EN_PTD9
[17] 2HB35#1_PWM_EN1_PTD10
[16] 2HB16_PWM_EN2_PTD11
[16] 2HB16_PWM_EN1_PTD12
[16] 2HB16#2_PWM_EN1_PTE8
[3] SPI3_MISO_PTF8
[3] SPI3_MOSI_PTG6
[3] SPI3_CS0_PTG7
[9] UB_PD2_EN_PTG8
[3] 8908_NSLEEP_DO_PTH6
[29] UB_DZ300_EN_PTH7
[13] LIN9_INH_DI_PTH8
[3] SPI3_SCK_PTH21
[3] 70331_INT_PTH22
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Design NO. 825503134_ZCU_SCH
Rev V1.3
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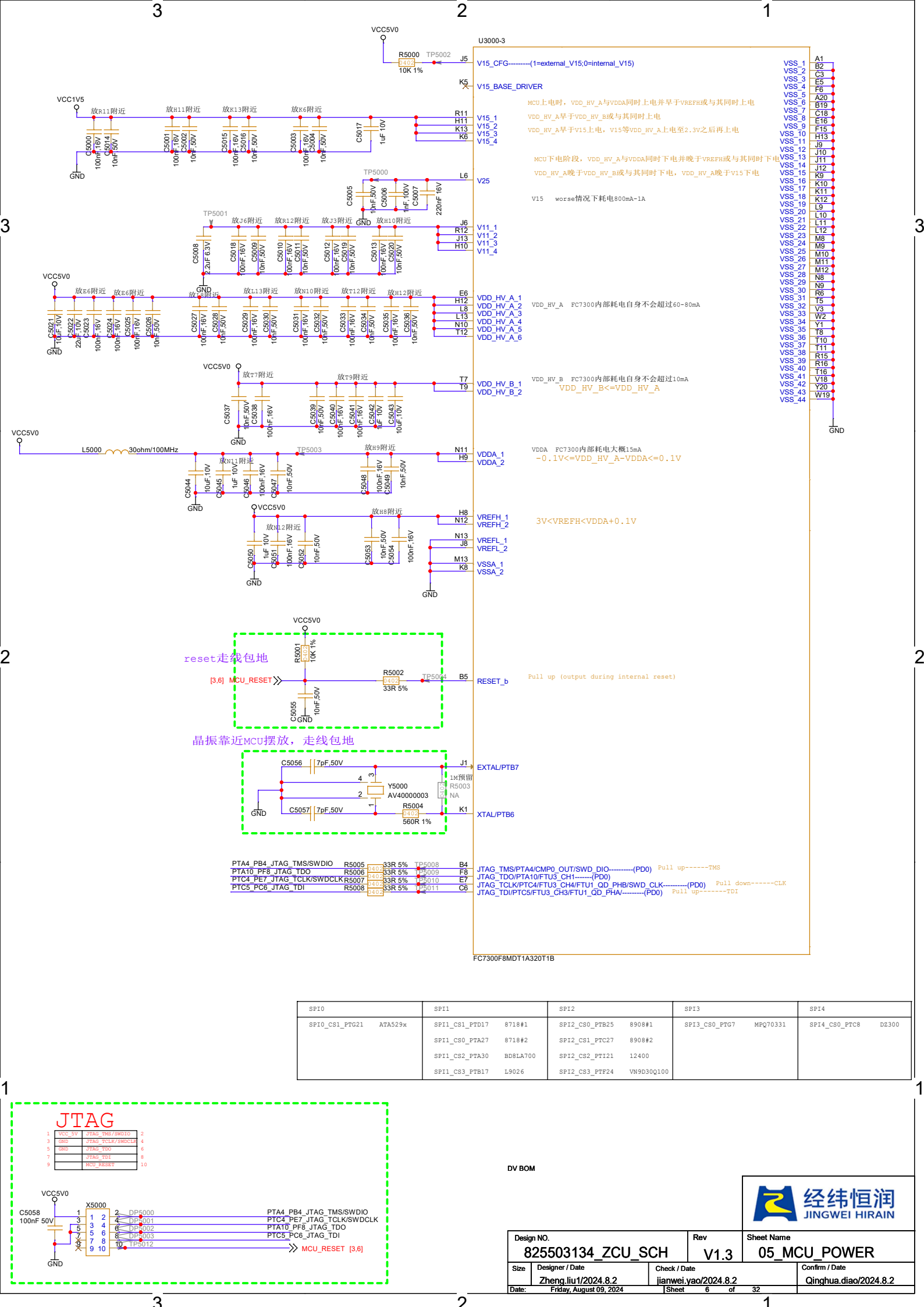

SPI0		SPI1		SPI2		SPI3		SPI4	
SPI0_CS1_PTG21	ATA529x	SPI1_CS1_PTD17	8718#1	SPI2_CS0_PTB25	8908#1	SPI3_CS0_PTG7	MPQ70331	SPI4_CS0_PTC8	DZ300
		SPI1_CS0_PTA27	8718#2	SPI2_CS1_PTC27	8908#2				
		SPI1_CS2_PTA30	BD8LA700	SPI2_CS2_PTI21	12400				
		SPI1_CS3_PTB17	L9026	SPI2_CS3_PTF24	VN9D30Q100				

DV BOM

Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 05_MCU_POWER	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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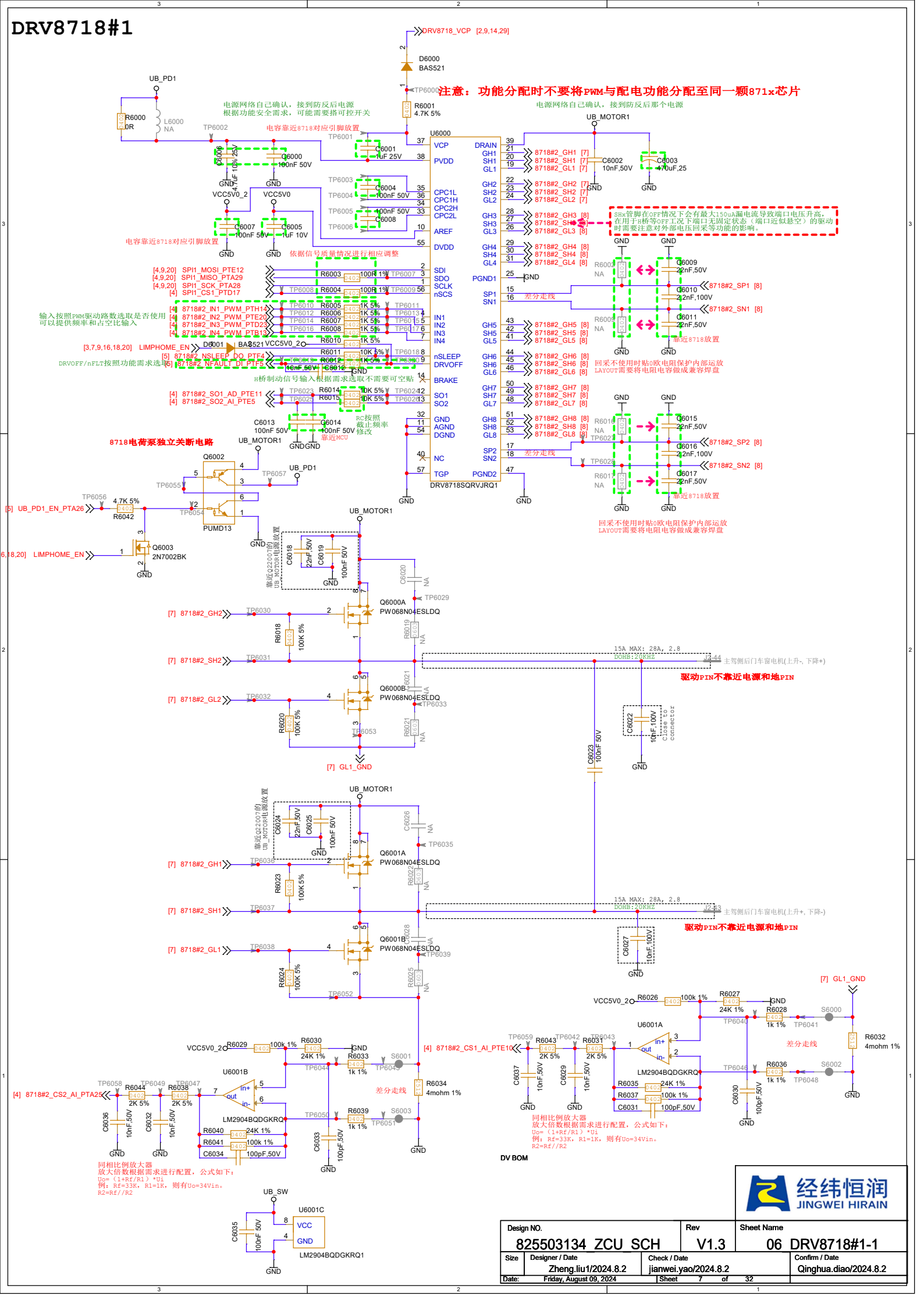
DRV8718#1


DRV8718_VCP [2,9,14,29]
D6000 BAS521
注意：功能分配时不要将PWM与配电功能分配至同一颗871x芯片
电源网络自己确认，接到防反后电源
根据功能安全需求，可能需要搭可控开关
电源网络自己确认，接到防反后那个电源
UB_PD1
R6000 0R
L6000 NA
TP6002
电容靠近8718对应引脚放置
R6001 4.7K 5%
U6000
DRV8718SQRVJRQ1
VCP PVDD CPC1L CPC1H CPC2H CPC2L AREF DVDD SDI SDO SCLK nSCS IN1 IN2 IN3 IN4 nSLEEP DRVOFF BRAKE SO1 SO2 GND AGND DGND NC TGP
DRAIN GH1 SH1 GL1 GH2 SH2 GL2 GH3 SH3 GL3 GH4 SH4 GL4 PGND1 SP1 SN1 GH5 SH5 GL5 GH6 SH6 GL6 GH7 SH7 GL7 GH8 SH8 GL8 SP2 SN2 PGND2
UB_MOTOR1
C6002 10nF,50V
C6003 470uF,25
SHx管脚在OFF情况下会有最大150uA漏电流导致端口电压升高，在用于H桥等OFF工况下端口无固定状态（端口近似悬空）的驱动时需要注意对外部电压回采等功能的影响。
回采不使用时贴0欧电阻保护内部运放
LAYOUT需要将电阻电容做成兼容焊盘
依据信号质量情况进行相应调整
SPI1_MOSI_PTE12
SPI1_MISO_PTA29
SPI1_SCK_PTA28
SPI1_CS1_PTD17
输入按照PWM驱动路数选取是否使用
可以提供频率和占空比输入
LIMPHOME_EN
NSLEEP_DO_PTF4
NFAULT_DI_PTF5
DRVOFF/nFLT按照功能需求选取
H桥制动信号输入根据需求选取不需要可空贴
SO1_AD_PTE11
SO2_AI_PTE5
RC按照截止频率修改
靠近MCU
8718电荷泵独立关断电路
Q6002 PUMD13
UB_PD1_EN_PTA26
Q6003 2N7002BK
Q6000A PW068N04ESLDQ
Q6000B PW068N04ESLDQ
Q6001A PW068N04ESLDQ
Q6001B PW068N04ESLDQ
GH2 SH2 GL2
GH1 SH1 GL1
GL1_GND
15A MAX: 28A, 2.8
DOHB:20KHZ
J2-4 主驾侧后门车窗电机(上升-, 下降+)
J2-3 主驾侧后门车窗电机(上升+, 下降-)
驱动PIN不靠近电源和地PIN
close to connector
CS1_AI_PTE10
CS2_AI_PTA25
U6001A U6001B LM2904BQDGKRQ
差分走线
R6032 4mohm 1%
R6034 4mohm 1%
同相比例放大器
放大倍数根据需求进行配置，公式如下：
Uo=（1+Rf/R1）*Ui
例：Rf=33K，R1=1K，则有Uo=34Vin。
R2=Rf//R2
DV BOM
UB_SW
U6001C LM2904BQDGKRQ1
经纬恒润 JINGWEI HIRAIN
Design NO. 825503134 ZCU SCH
Rev V1.3
Sheet Name 06 DRV8718#1-1
Size
Designer / Date Zheng.liu1/2024.8.2
Check / Date jianwei.yao/2024.8.2
Confirm / Date Qinghua.diao/2024.8.2
Date: Friday, August 09, 2024
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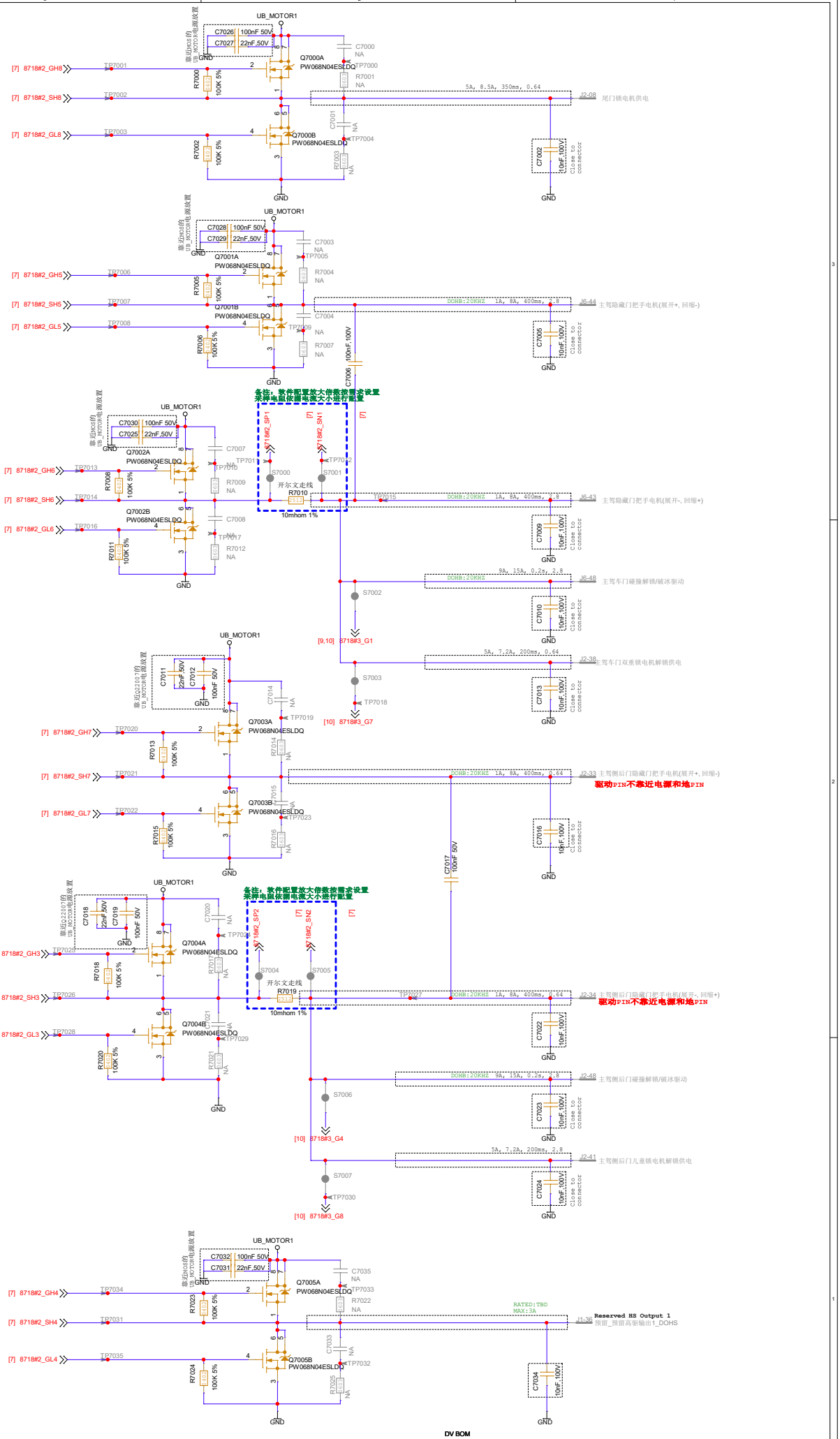

DV BOM

经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	07_DRV8718#1-2

Size	Designer / Date	Check / Date	Confirm / Date
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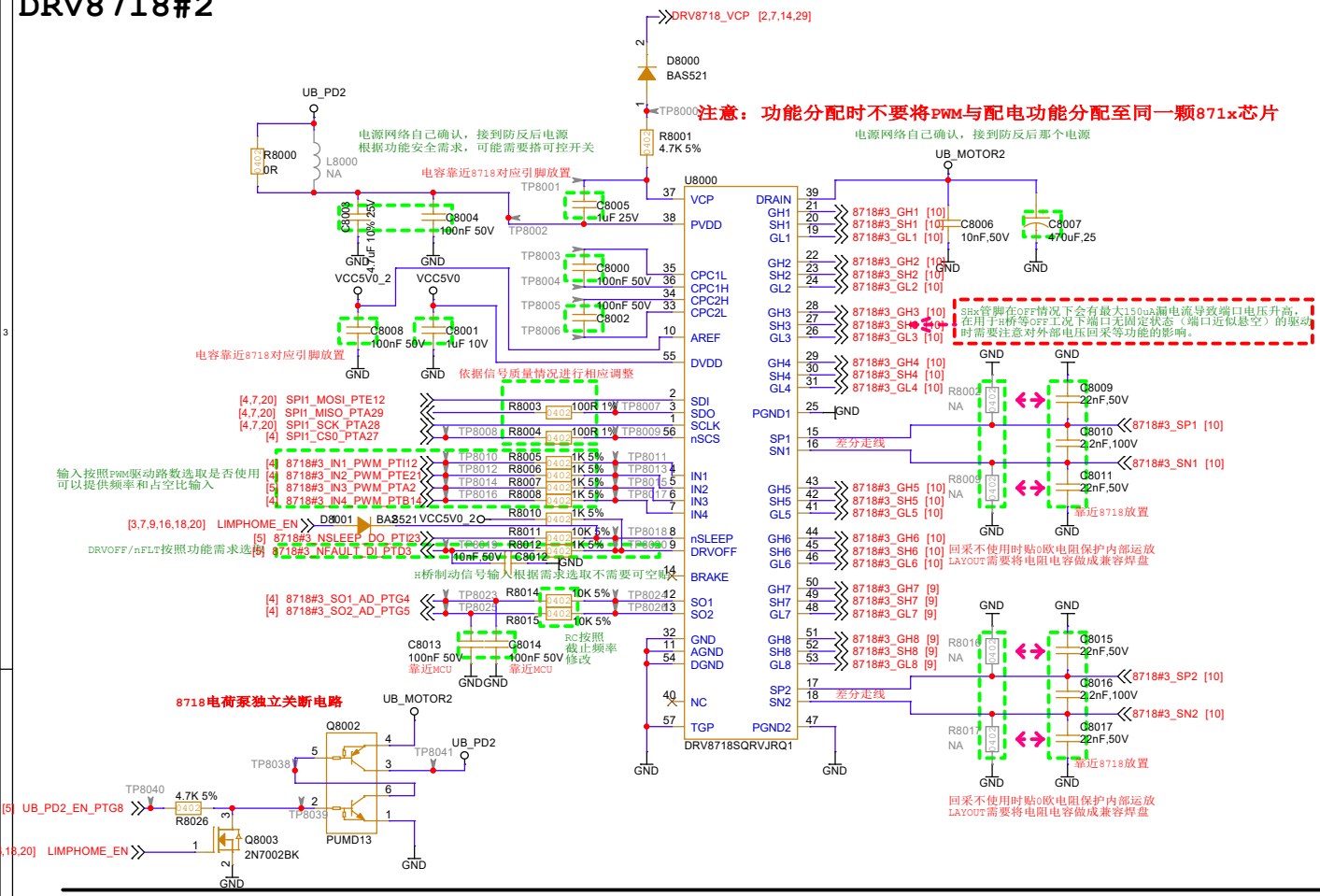
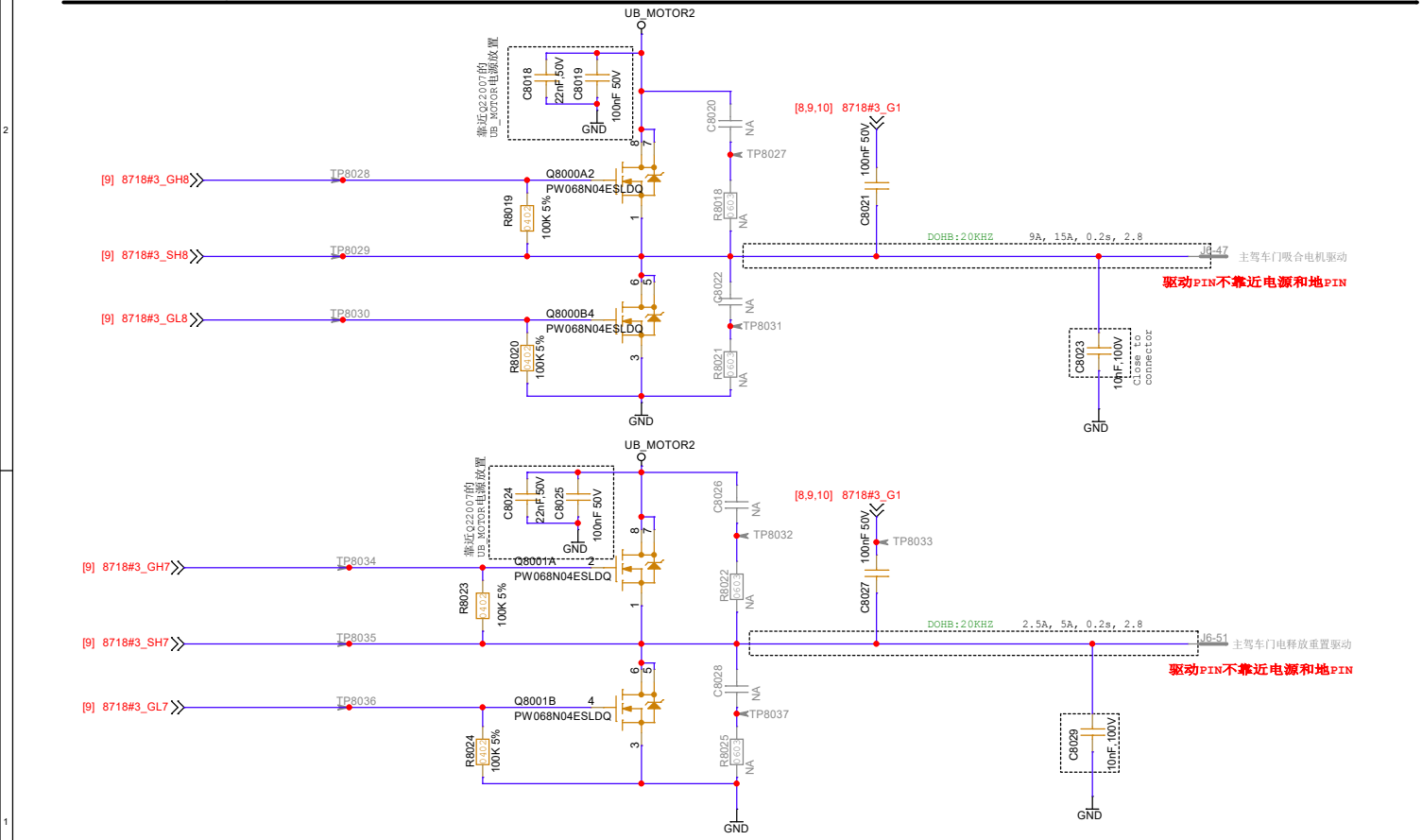
DRV8718#2





DV BOM

经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
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Size	Designer / Date	Check / Date	Confirm / Date
Custom	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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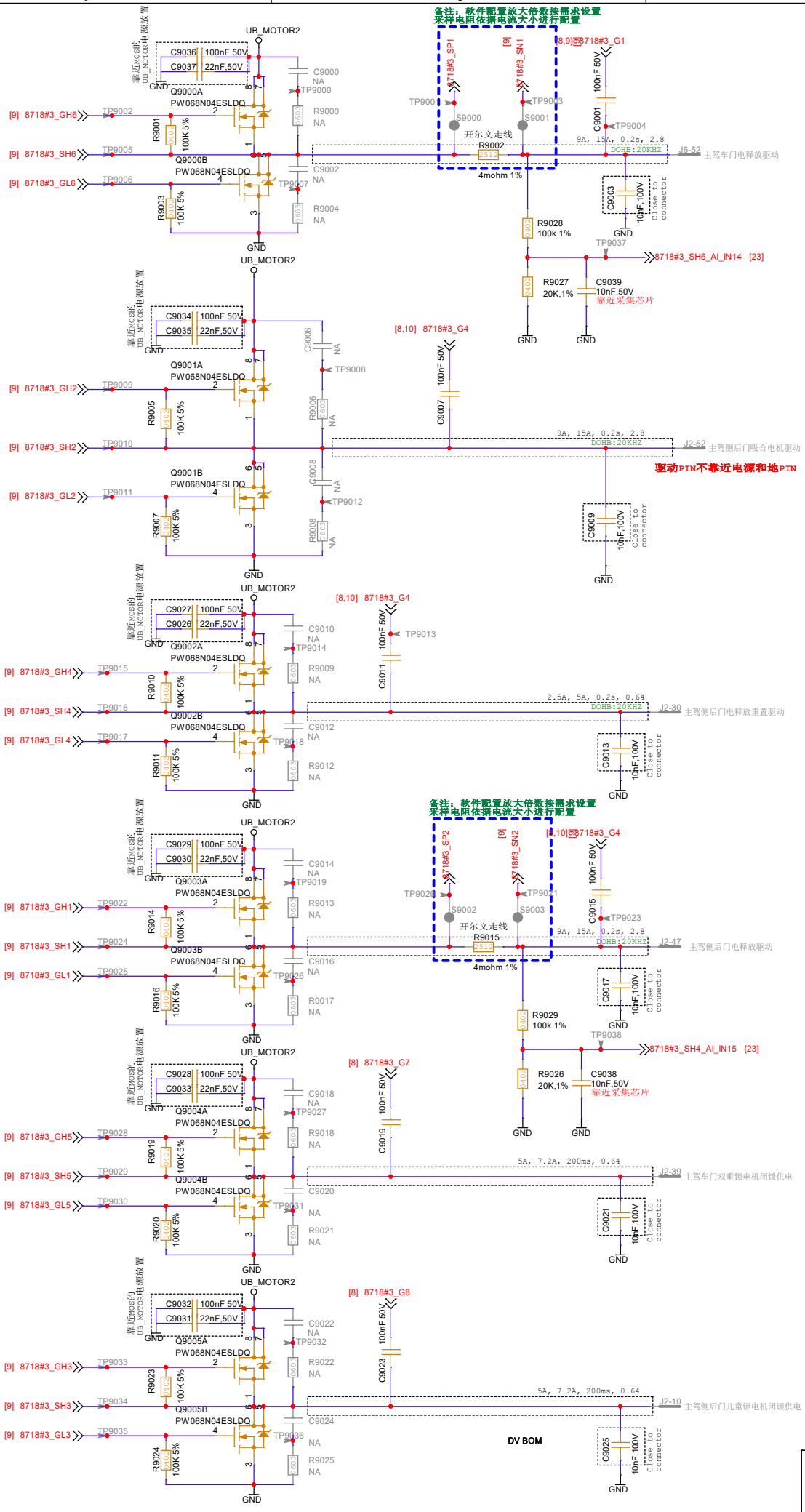

经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
825503134 ZCU SCH	V1.3	09 DRV8718#2-2

Size	Designer / Date	Check / Date	Confirm / Date
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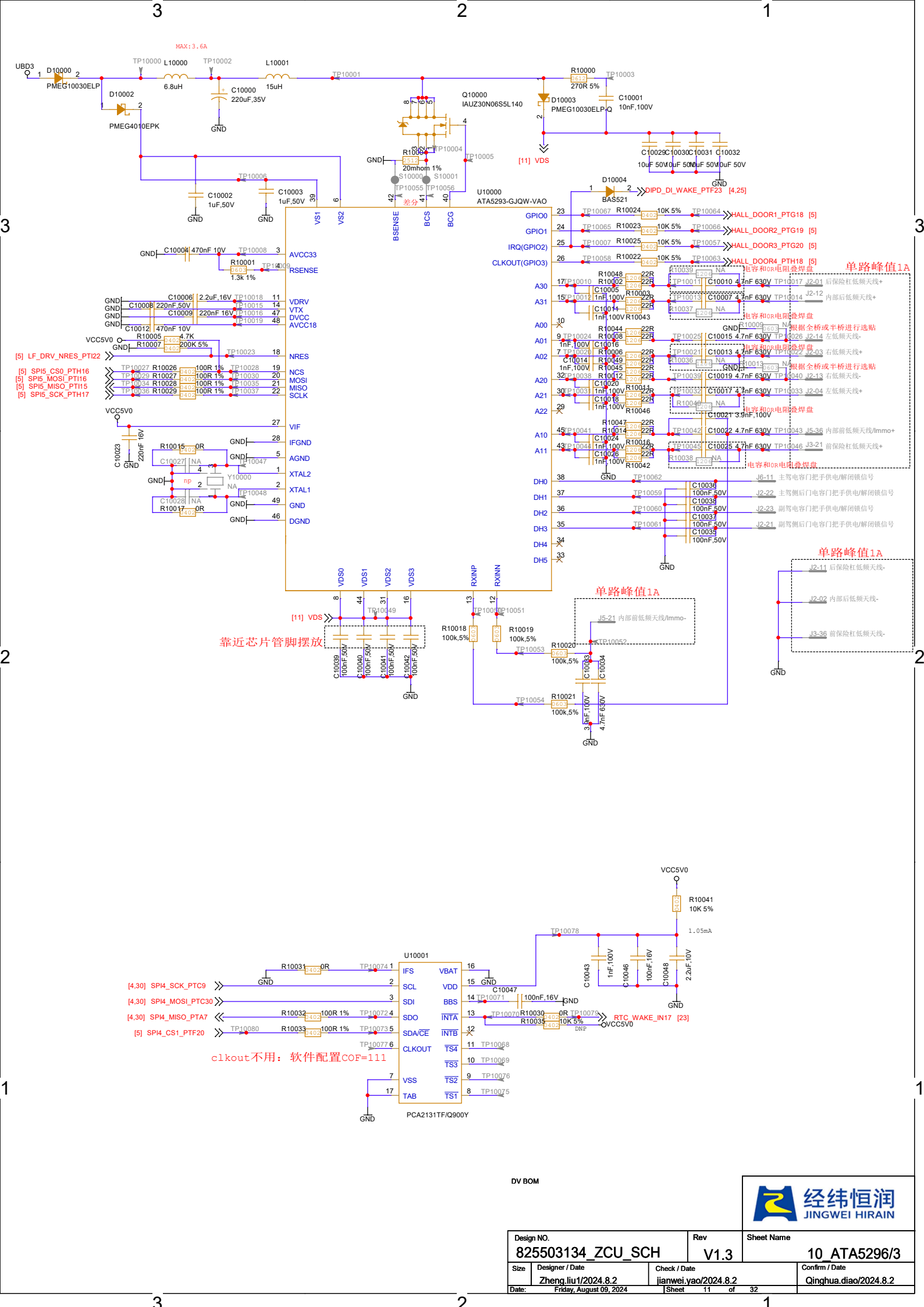

DV BOM

Design NO.	Rev	Sheet Name
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Size	Designer / Date	Check / Date	Confirm / Date
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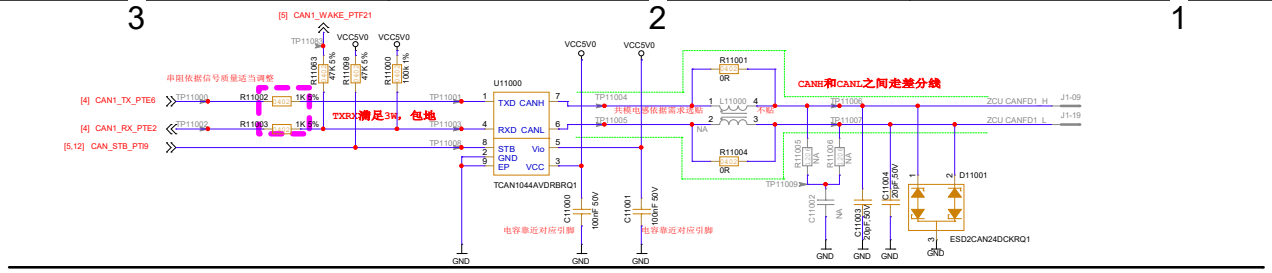

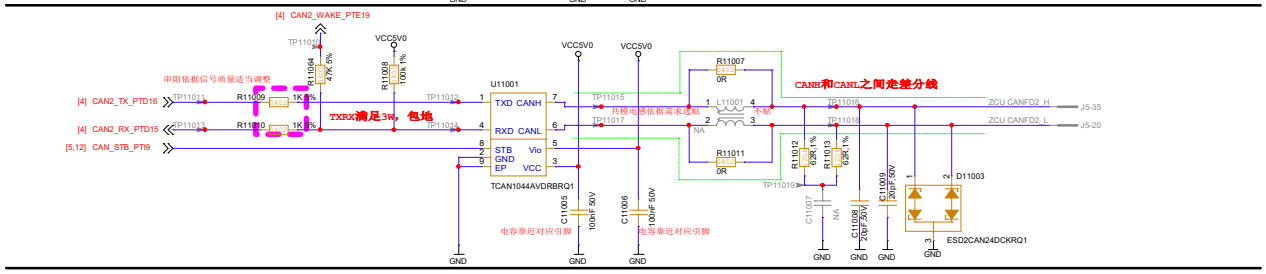

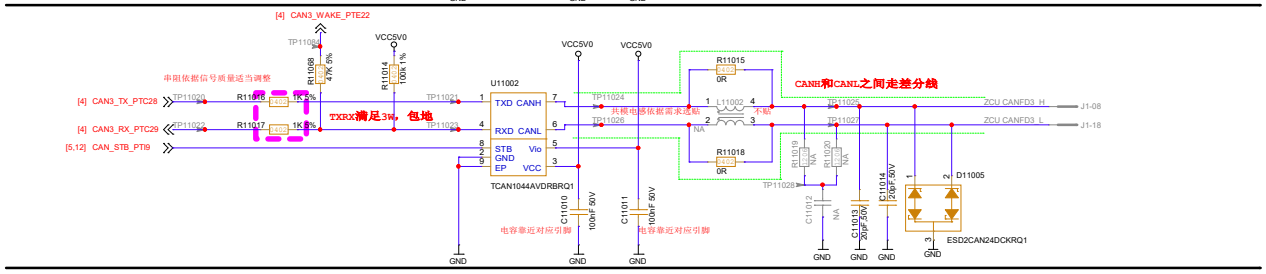

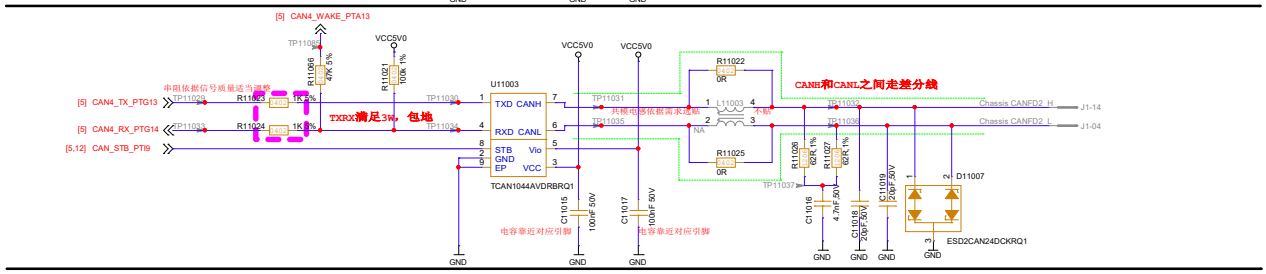

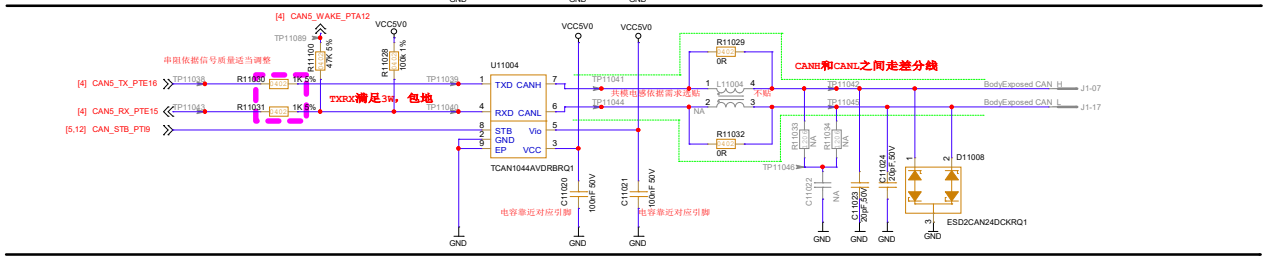

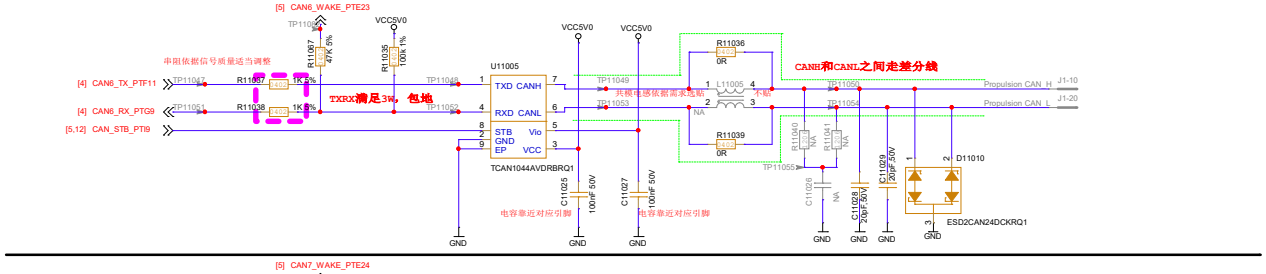

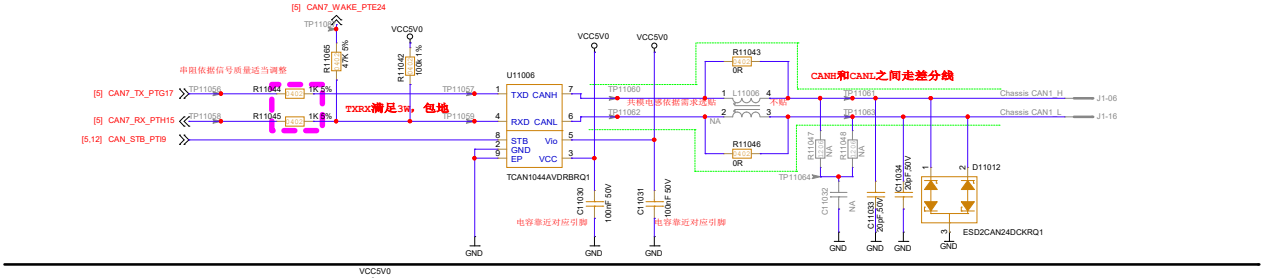

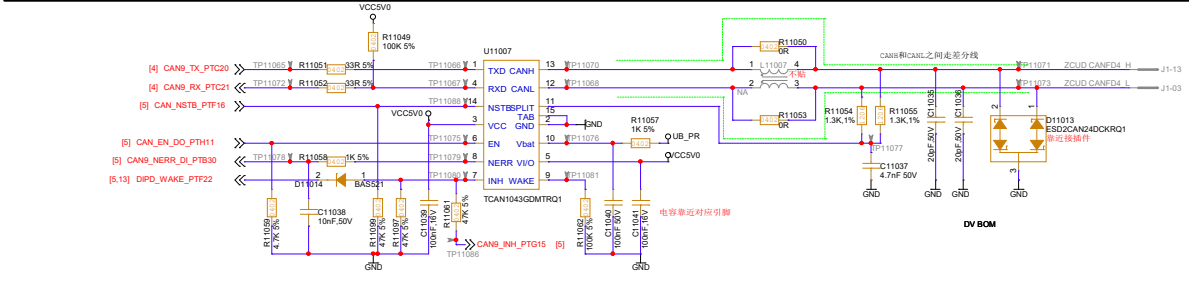

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Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2
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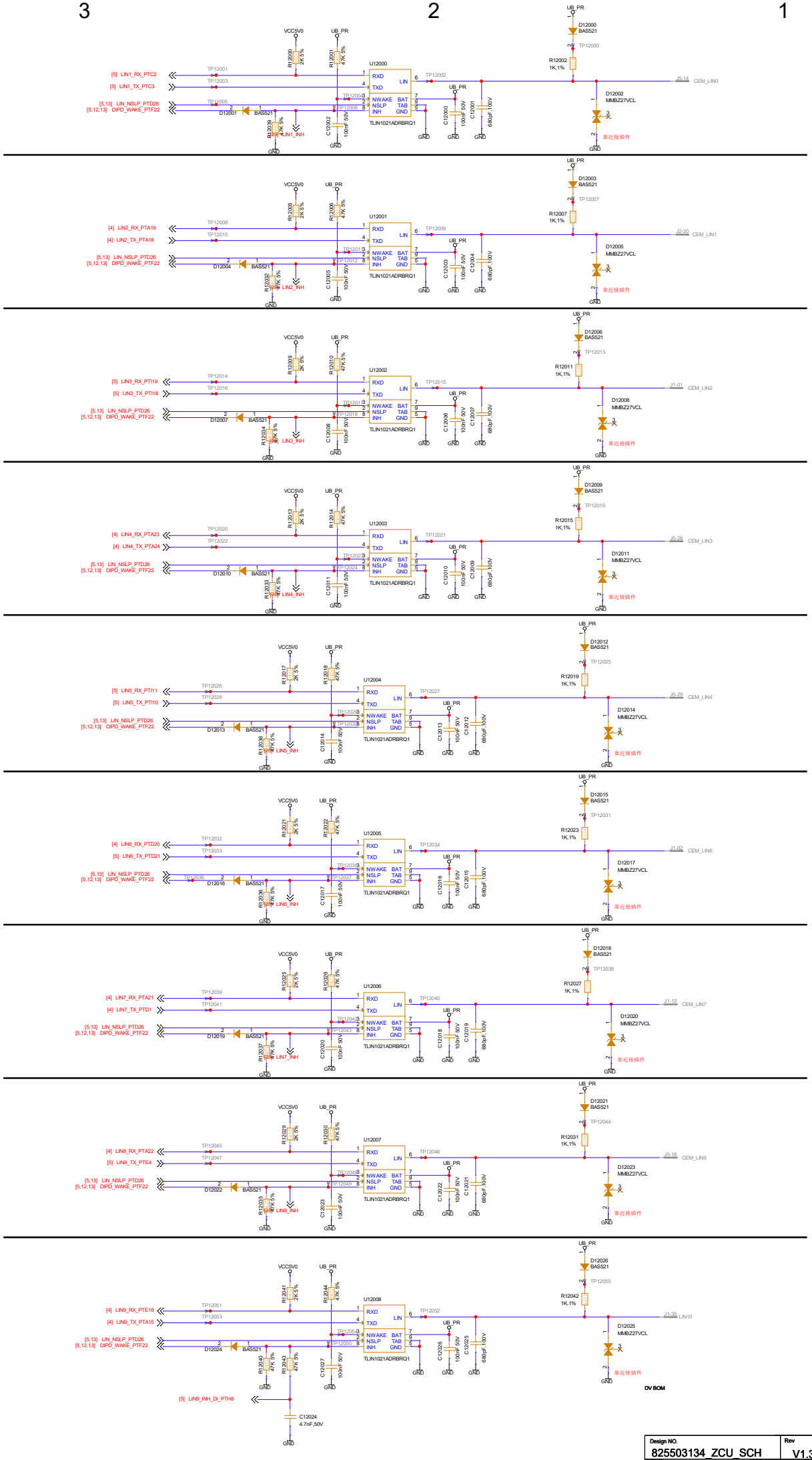
经纬恒润 JINGWEI HIRAIN



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Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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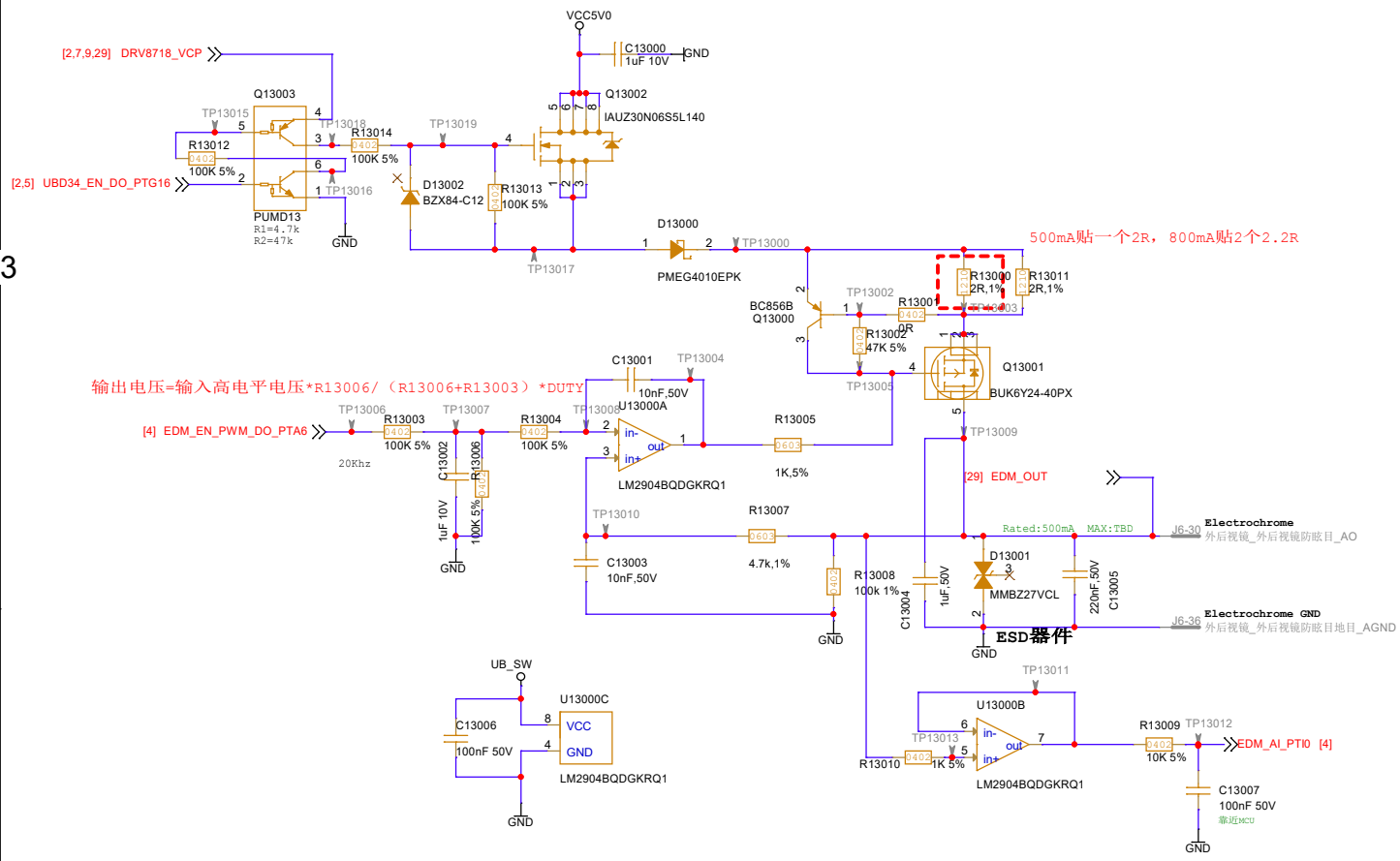
经纬恒润 JINGWEI HIRAIN



DV BOM

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Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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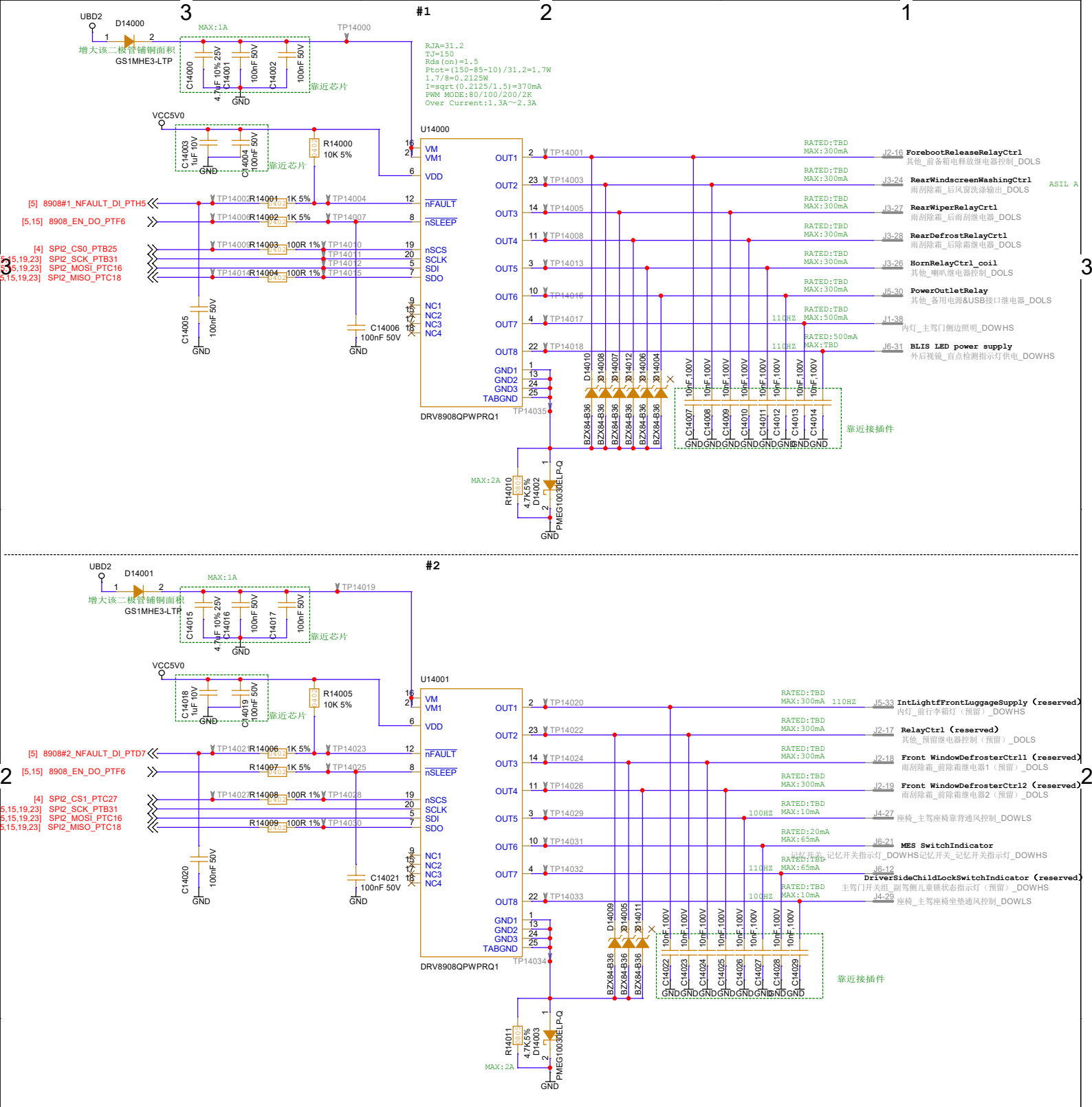
经纬恒润 JINGWEI HIRAIN



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Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 14_HS LS_DRV8908#1	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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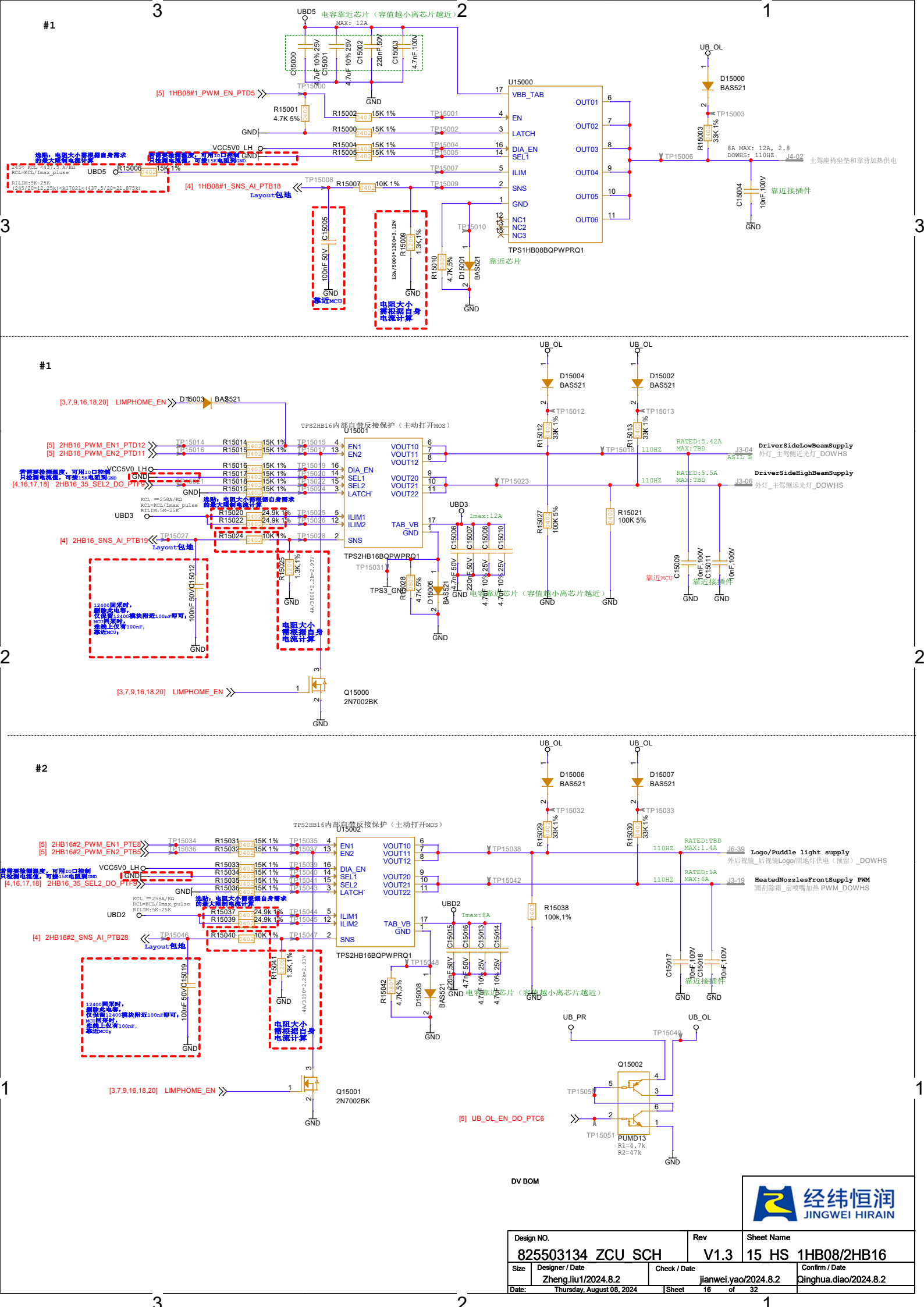
经纬恒润 JINGWEI HIRAIN


#1
UBD5
电容靠近芯片（容值越小离芯片越近）
MAX: 12A
C15000 4.7uF 10% 25V
C15001 4.7uF 10% 25V
C15002 220nF 50V
C15003 4.7nF 100V
GND
[5] 1HB08#1_PWM_EN_PTD5
TP15000
R15001 4.7K 5%
R15002 15K 1%
R15000 15K 1%
R15004 15K 1%
R15005 15K 1%
TP15001
TP15002
TP15004
TP15005
VCC5V0_LH
U15000
VBB_TAB
EN
LATCH
DIA_EN
SEL1
ILIM
SNS
GND
NC1
NC2
NC3
OUT01
OUT02
OUT03
OUT04
OUT05
OUT06
TPS1HB08BQPWPRQ1
UB_OL
D15000 BAS521
TP15003
R15003 33K 1%
TP15006
8A MAX: 12A, 2.8
DOWHS: 110HZ
J4-02
主驾座椅坐垫和靠背加热供电
C15004 10nF,100V
靠近接插件
选型：电阻大小需根据自身需求的最大温制电流计算
R15006 15K 1%
[4] 1HB08#1_SNS_AI_PTB18
Layout包地
TP15008
R15007 10K 1%
TP15007
TP15009
TP15010
C15005 100nF 50V
R15009 1.3K,1%
R15010 4.7K,5%
D15001 BAS521
靠近芯片
靠近MCU
电阻大小需根据自身电流计算
#2
[3,7,9,16,18,20] LIMPHOME_EN
D15003 BAS521
TPS2HB16内部自带反接保护（主动打开MOS）
U15001
[5] 2HB16_PWM_EN1_PTD12
[5] 2HB16_PWM_EN2_PTD11
EN1
EN2
DIA_EN
SEL1
SEL2
LATCH
ILIM1
ILIM2
SNS
VOUT10
VOUT11
VOUT12
VOUT20
VOUT21
VOUT22
TAB_VB
GND
TPS2HB16BQPWPRQ1
[4] 2HB16_SNS_AI_PTB19
TP15027
TP15031
TPS3_GND
R15028 4.7K,5%
D15005 BAS521
R15025 1.3K,1%
C15012 100nF 50V
R15012 33K 1%
R15013 33K 1%
R15027 100K 5%
R15021 100K 5%
UBD3
Imax:12A
C15006
C15007
C15008
C15010
C15009 10nF,100V
C15011 0nF,100V
RATED:5.42A
MAX:TBD
J3-04
ASIL B
DriverSideLowBeamSupply
外灯_主驾侧近光灯_DOWHS
RATED:5.5A
J3-06
DriverSideHighBeamSupply
外灯_主驾侧远光灯_DOWHS
TP15018
TP15023
110HZ
Q15000
2N7002BK
#2
UBD2
[5] 2HB16#2_PWM_EN1_PTE8
[5] 2HB16#2_PWM_EN2_PTB5
[4] 2HB16#2_SNS_AI_PTB28
TP15046
TP15048
TP15049
TP15050
TP15051
R15042 4.7K,5%
D15008 BAS521
R15041 1.3K,1%
R15029 33K 1%
R15030 33K 1%
R15038 100k,1%
C15015
C15016
C15013
C15014
C15017 10nF,100V
C15018 0nF,100V
RATED:TBD
MAX:1.4A
J6-39
Logo/Puddle light supply
外后视镜_后视镜Logo/照地灯供电（预留）_DOWHS
RATED:1A
MAX:6A
J3-19
HeatedNozzlesFrontSupply PWM
雨刮喷霜_前喷嘴加热 PWM_DOWHS
TP15038
TP15042
TP15032
TP15033
Q15001
2N7002BK
[5] UB_OL_EN_DO_PTC6
UB_PR
Q15002
PUMD13
R1=4.7k
R2=47k
DV BOM
经纬恒润
JINGWEI HIRAIN
Design NO.
825503134_ZCU_SCH
Rev
V1.3
Sheet Name
15_HS_1HB08/2HB16
Size
Designer / Date
Zheng.liu1/2024.8.2
Check / Date
jianwei.yao/2024.8.2
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Qinghua.diao/2024.8.2
Date: Thursday, August 08, 2024
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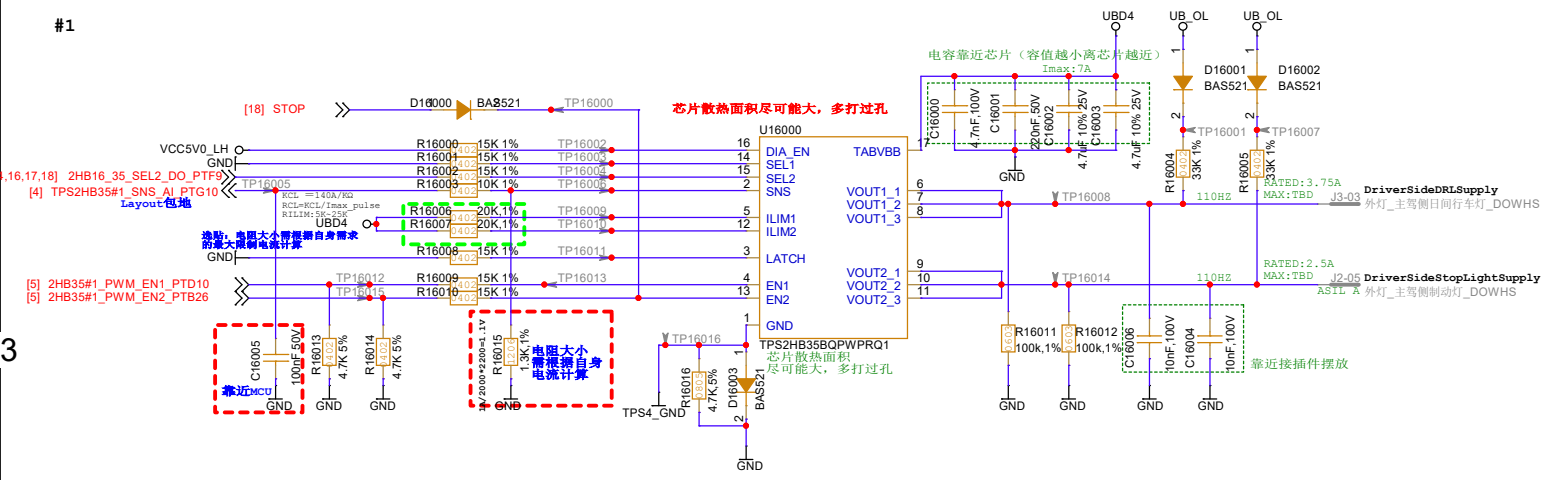
#1



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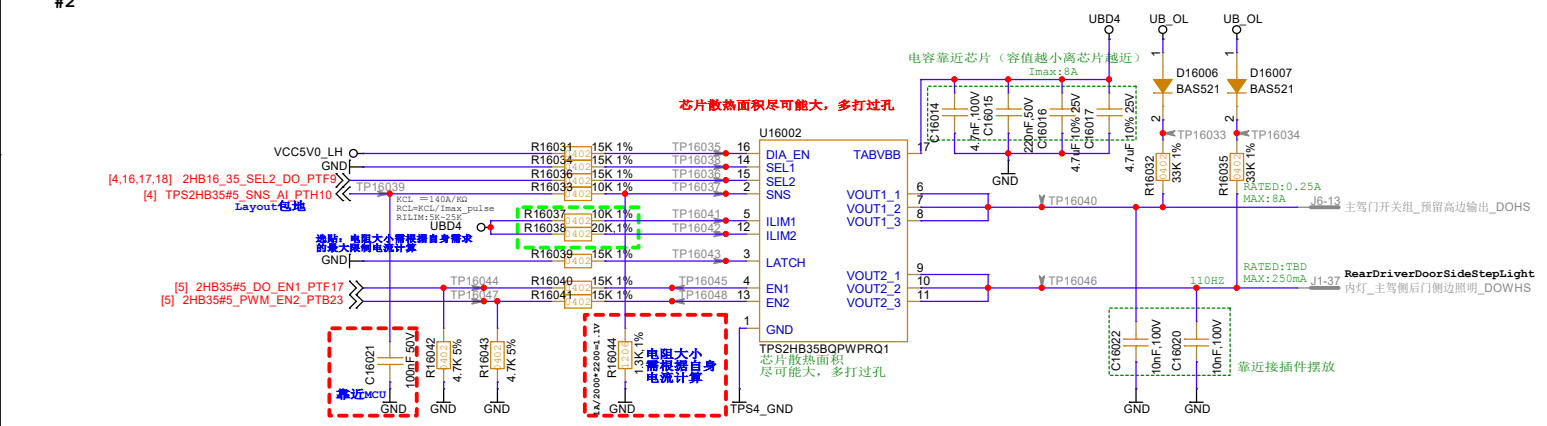

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Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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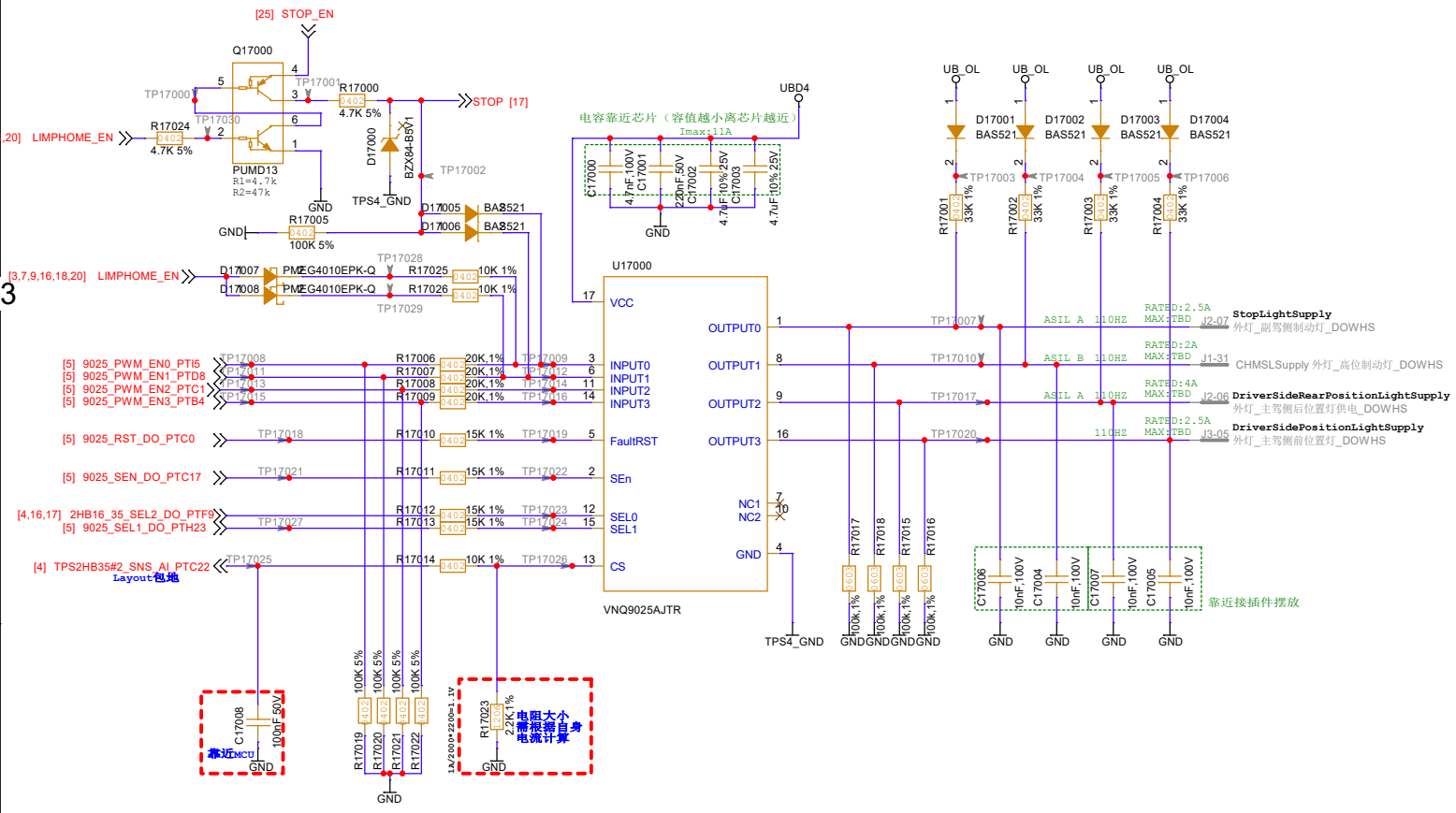
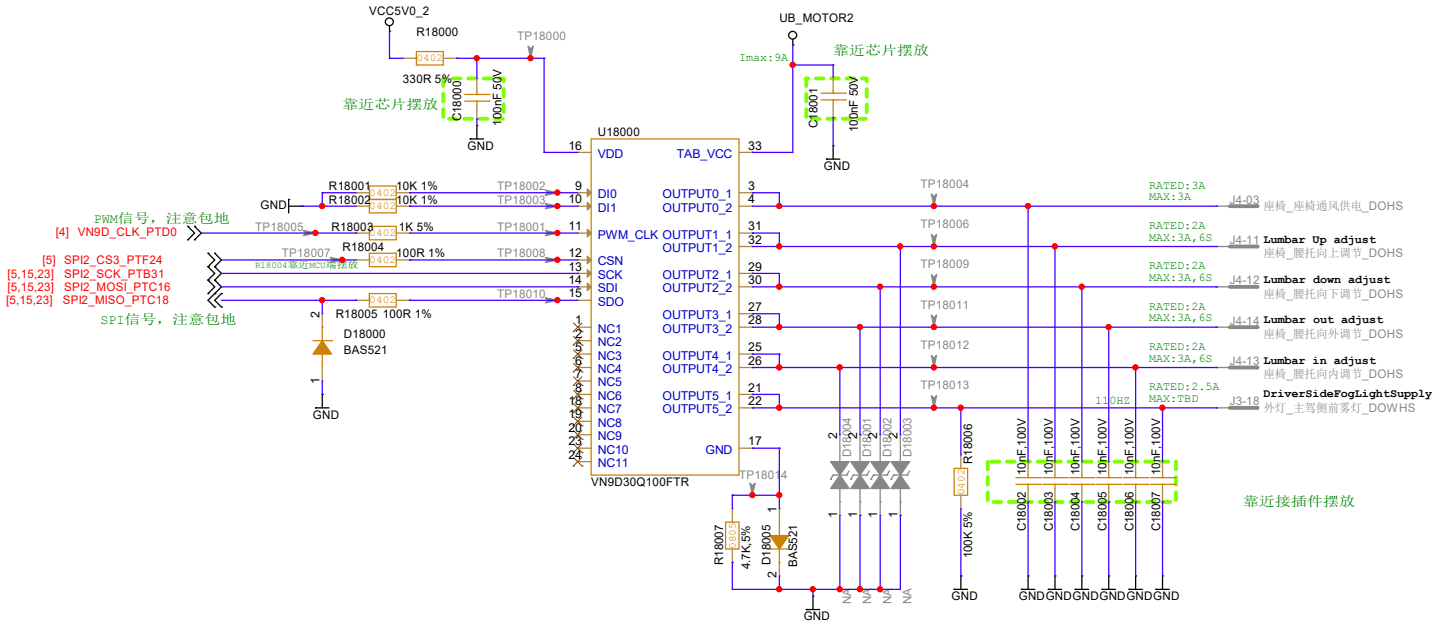
经纬恒润 JINGWEI HIRAIN

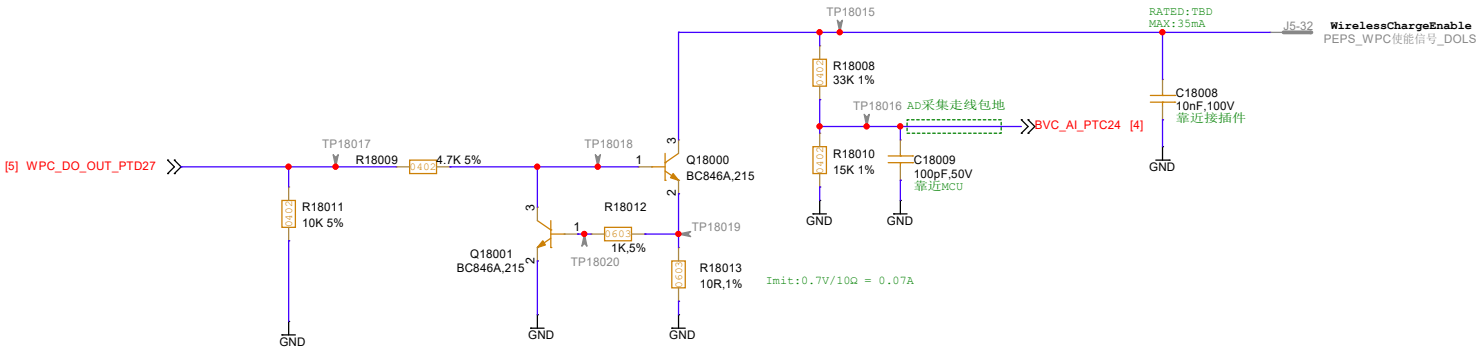


DV BOM

Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 17_HS_VNQ9025	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
Date: Wednesday, August 07, 2024	Sheet 18 of 32		

经纬恒润 JINGWEI HIRAIN





DV BOM

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	18_HS_VN9D30Q100/WPC

Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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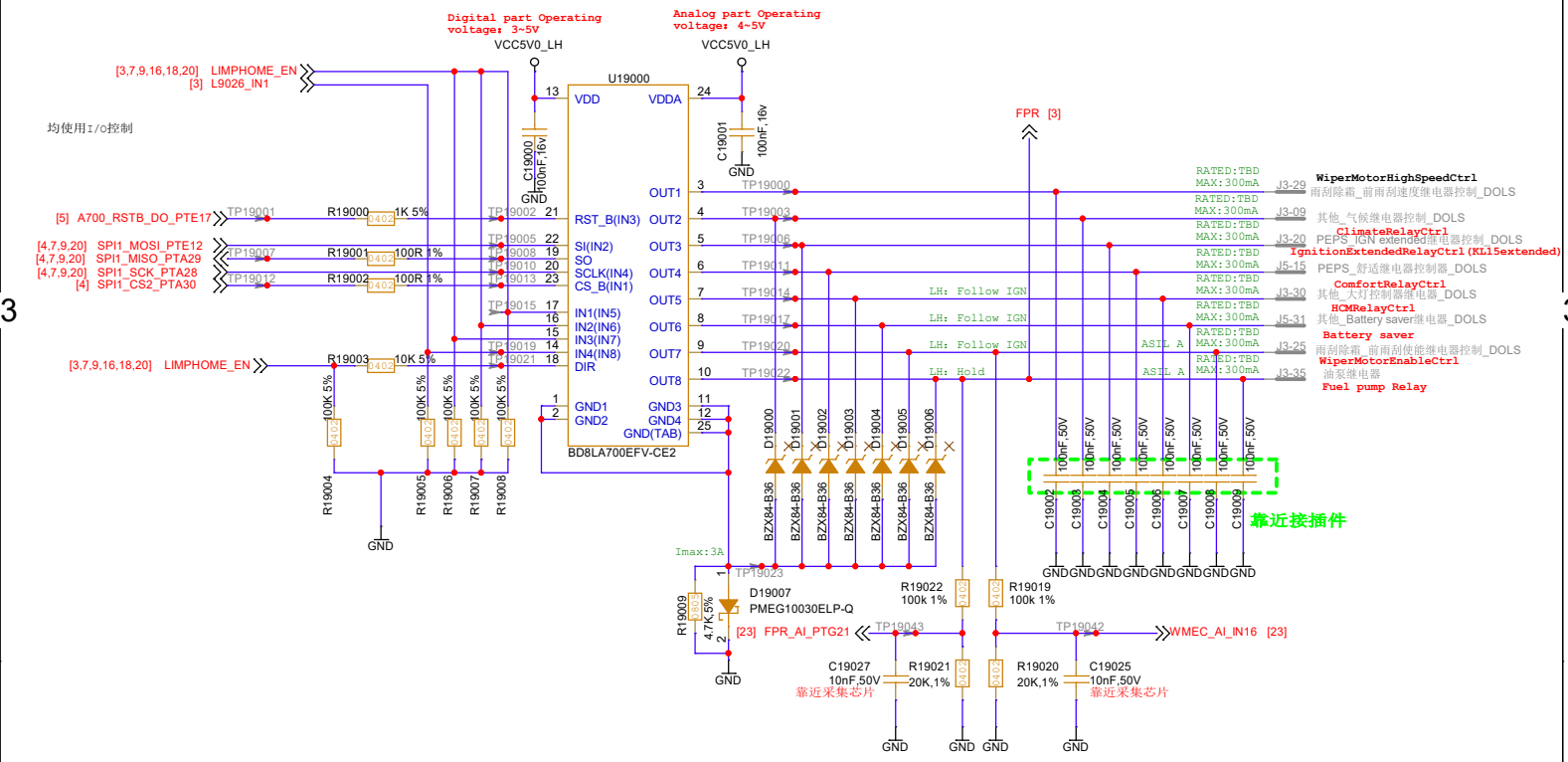
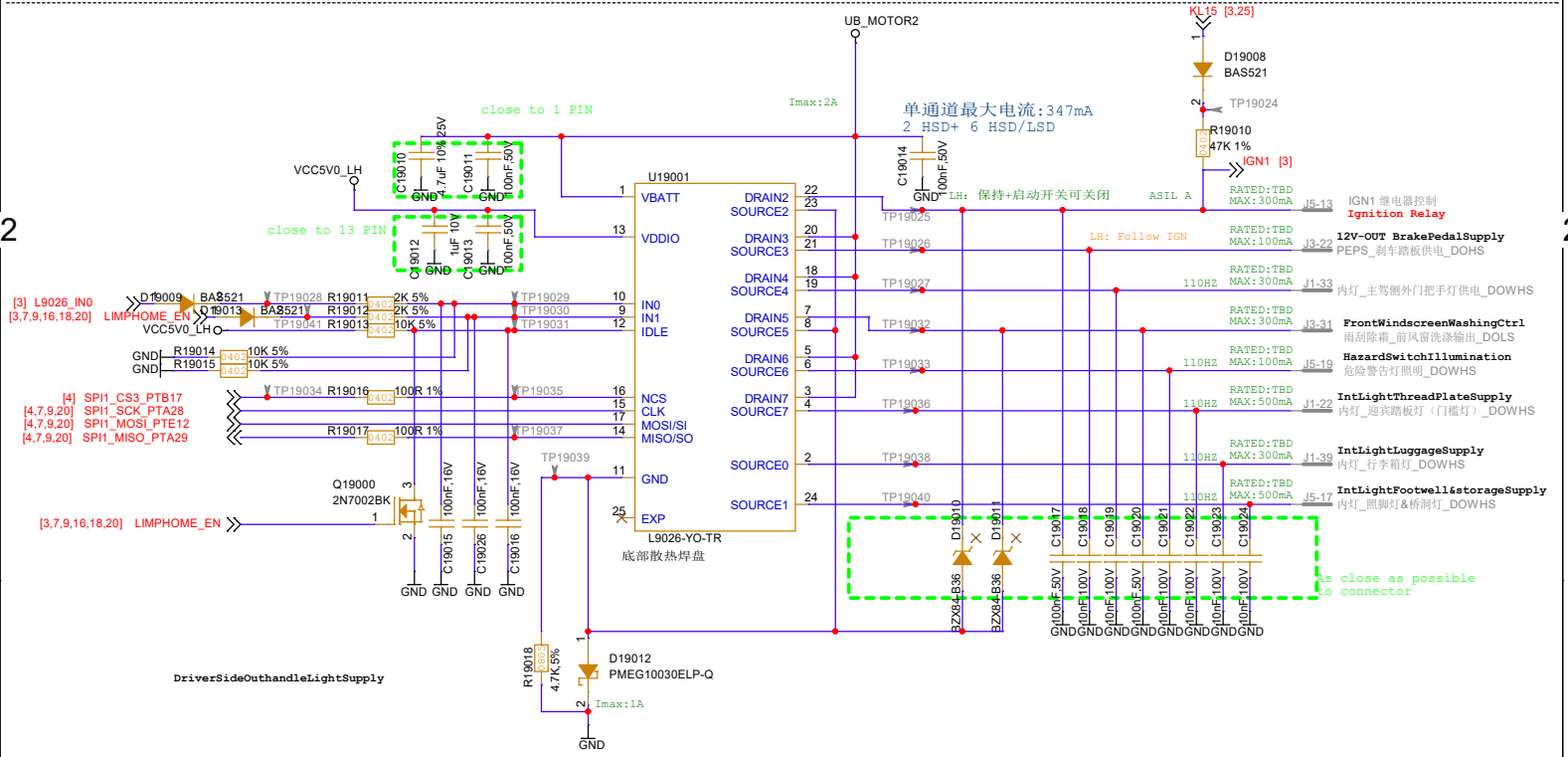
BD8LA700EFV-CE2

#1

1.芯片限流1.2A，正常工作每个通道最高0.5A
2.诊断可以只诊断短电源，开路不去诊断
3.支持PWM驱动，最高5kHz



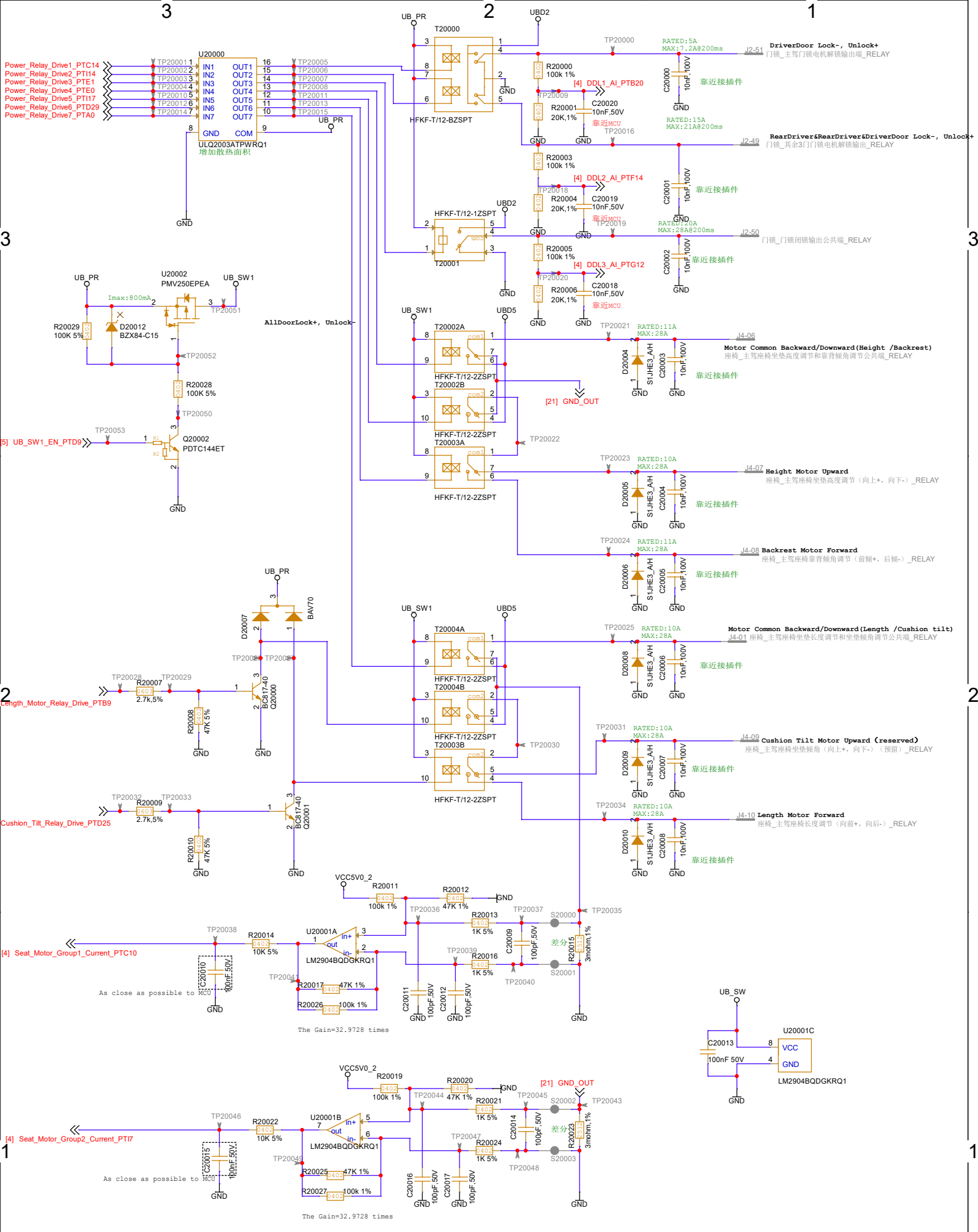
1.DIR管脚是低驱驱动模式选择管脚，拉低时是SPI控制，此时要给RST_B管脚一个高信号（或者直接拉高），DIR管脚拉高时候是直驱模式，symbol中括号里的输入对应相应的输出，高有效。
2.使用SPI模式时候，可以直接控制8个通道的输出，14~17PIN脚（IN1~IN4）管脚可以不用。



DV BOM

Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 19_HS/LS_BD8LA700&L902	
Size Custom	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
Date: Monday, August 12, 2024	Sheet 20 of 32		

经纬恒润 JINGWEI HIRAIN



DV BOM

Design NO.	Rev	Sheet Name
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Size	Designer / Date	Check / Date	Confirm / Date
Custom	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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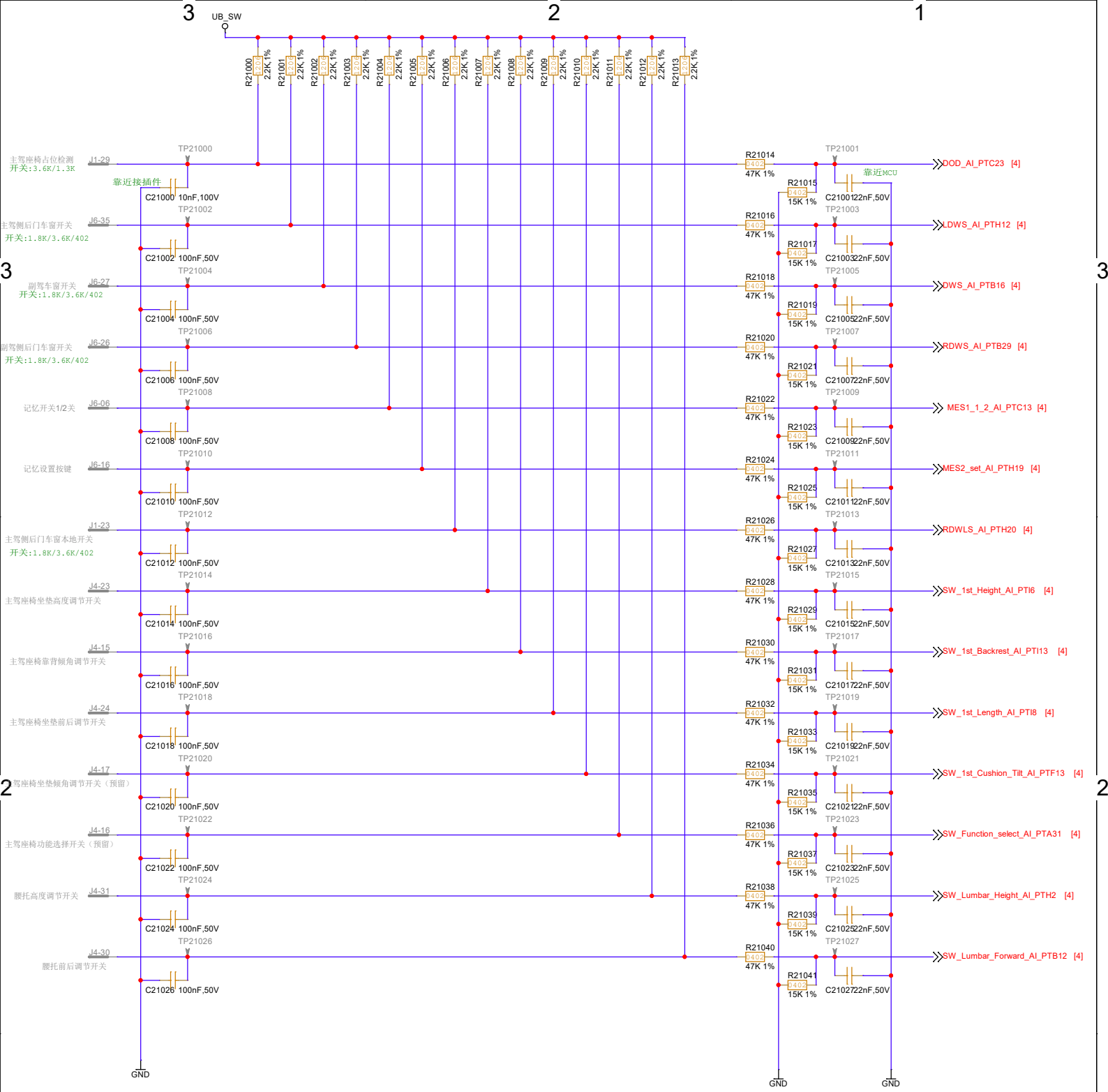

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经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	21_SW_AI12V#1

Size	Designer / Date	Check / Date	Confirm / Date
Custom	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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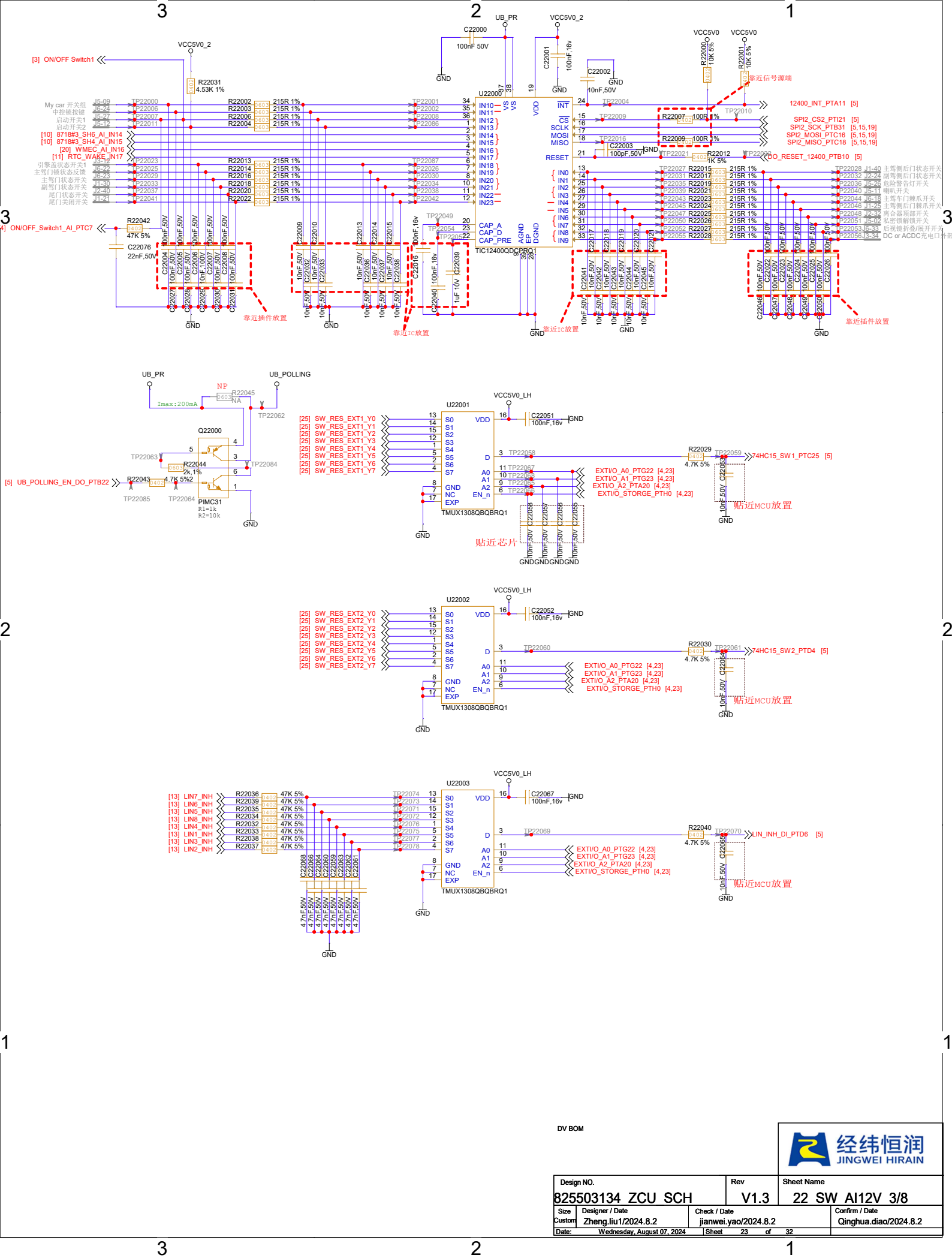

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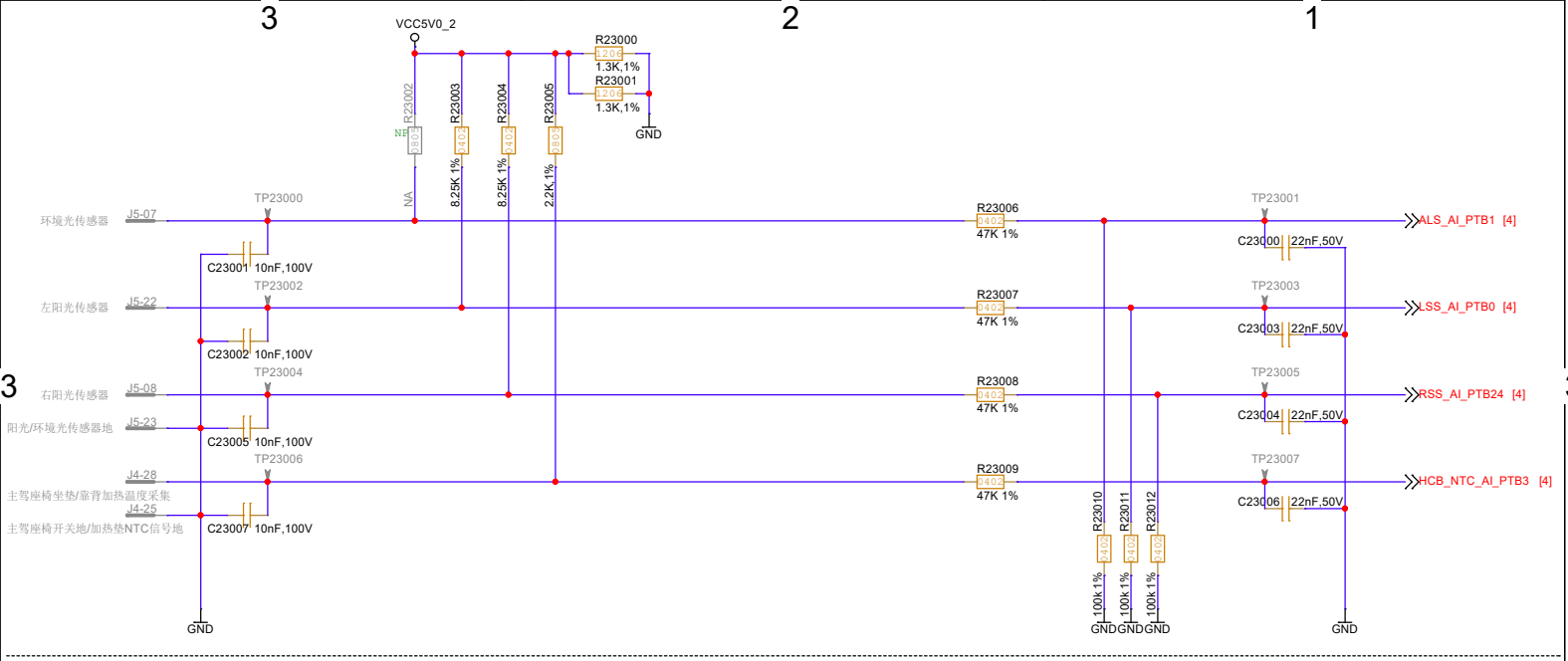
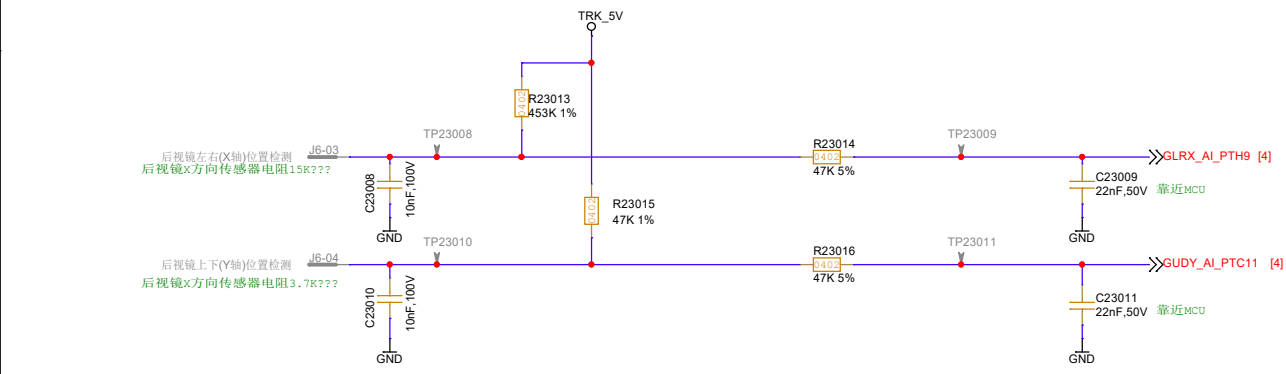
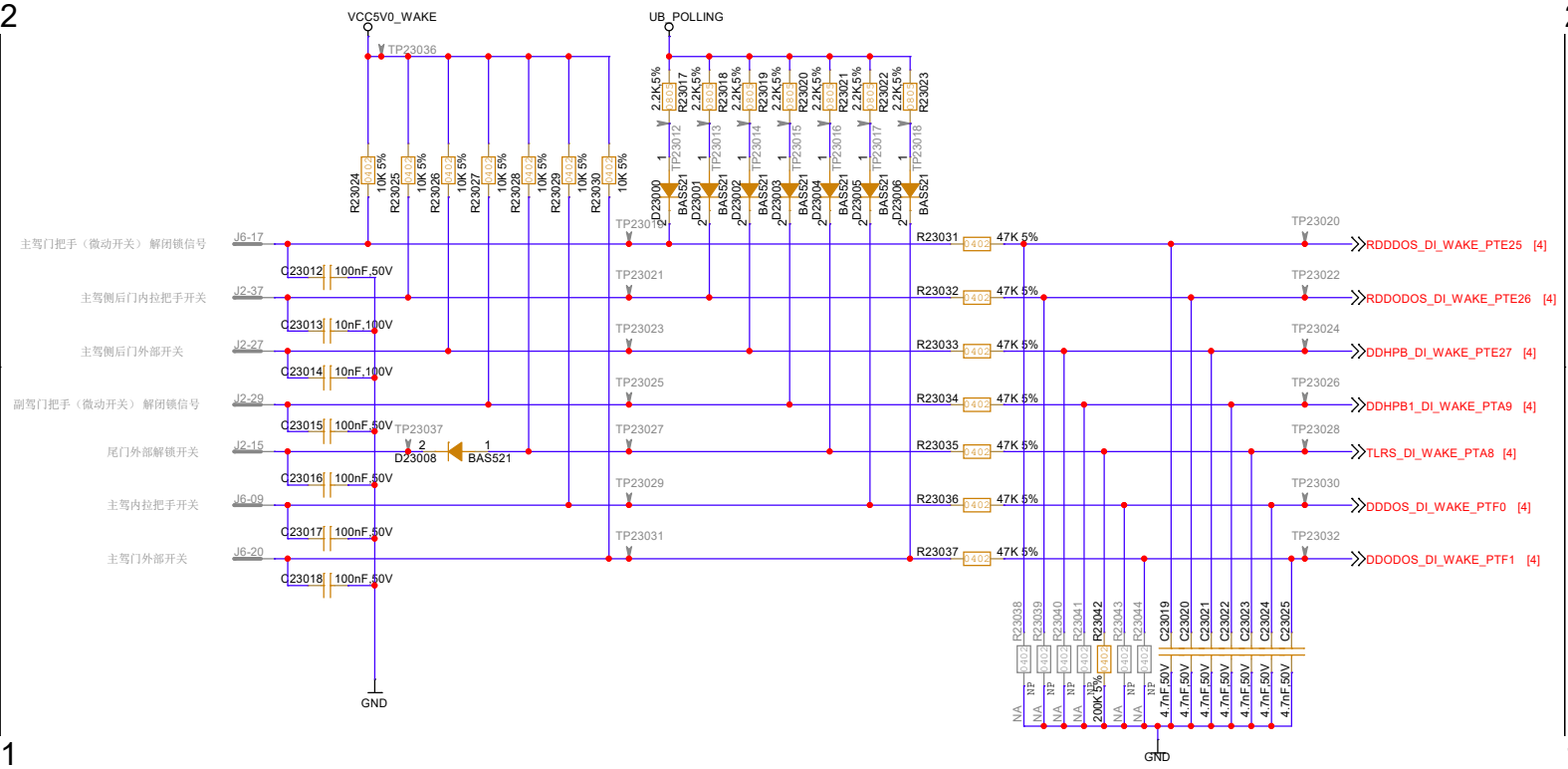
Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 22_SW_AI12V_3/8	
Size Custom	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
Date: Wednesday, August 07, 2024	Sheet 23 of 32		

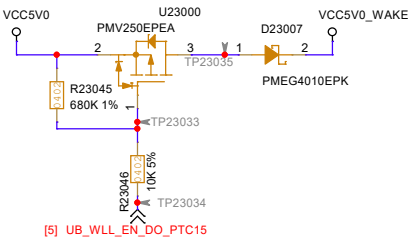
经纬恒润 JINGWEI HIRAIN



后视镜位置采集







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Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	23_SW_AIO5V

Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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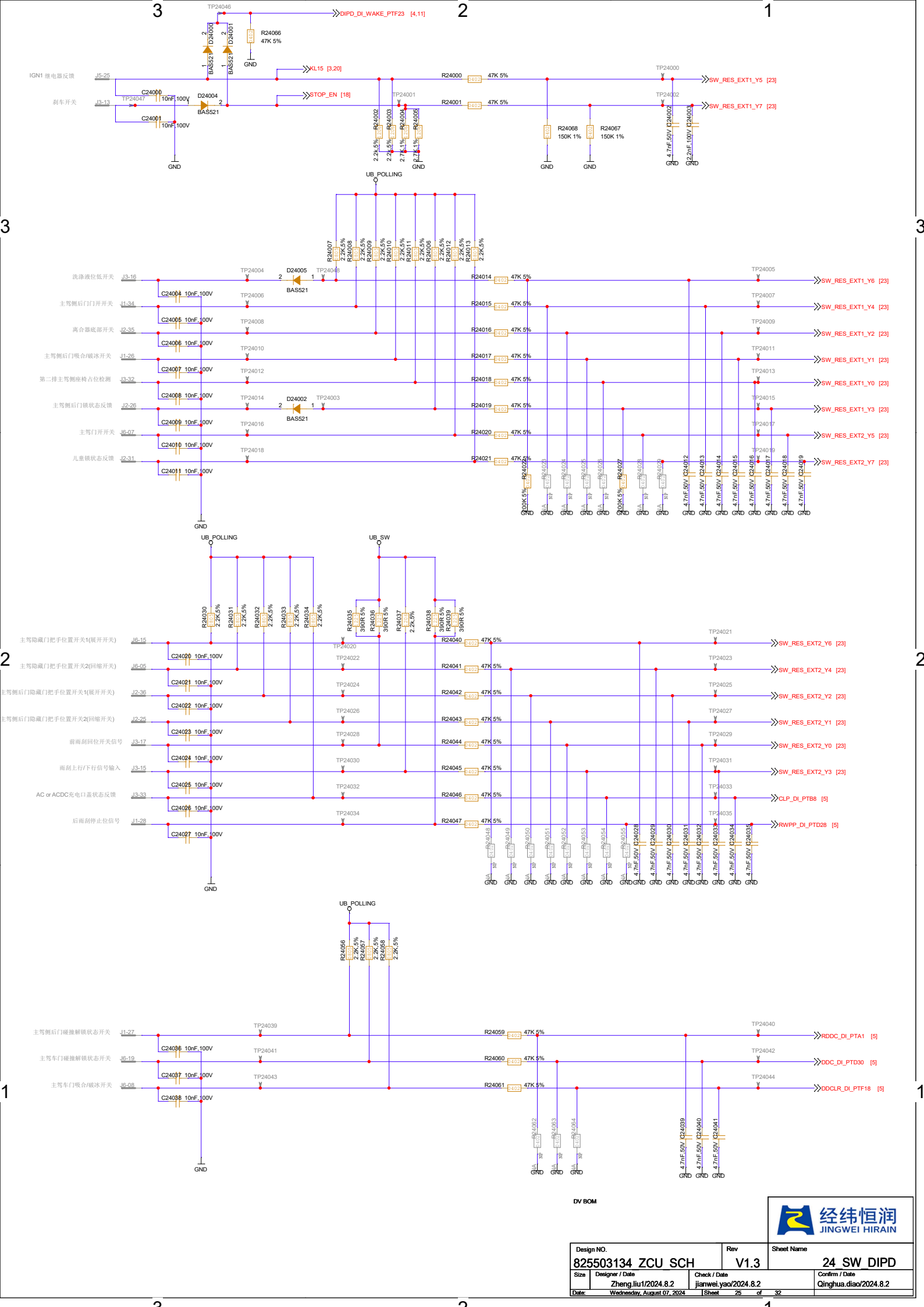

Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 24_SW_DIPD	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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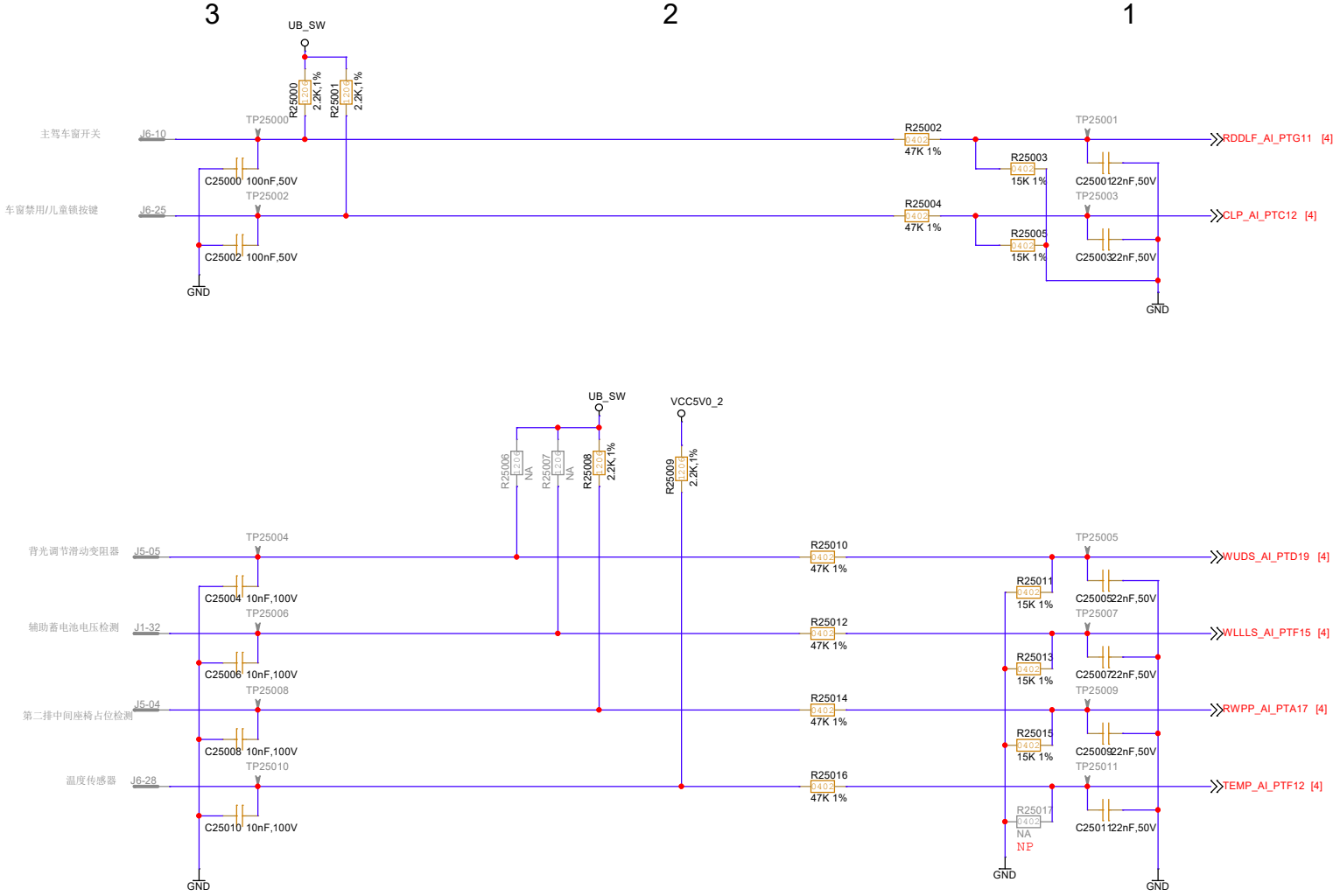

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经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
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Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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经纬恒润 JINGWEI HIRAIN

Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	26_NA

Size	Designer / Date	Check / Date	Confirm / Date
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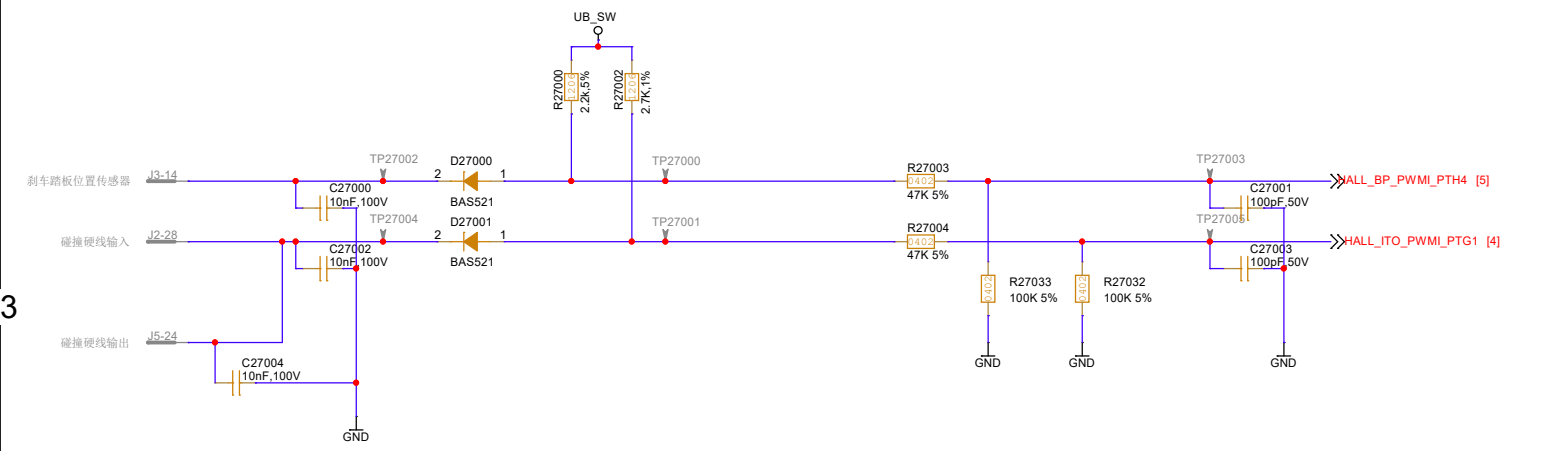
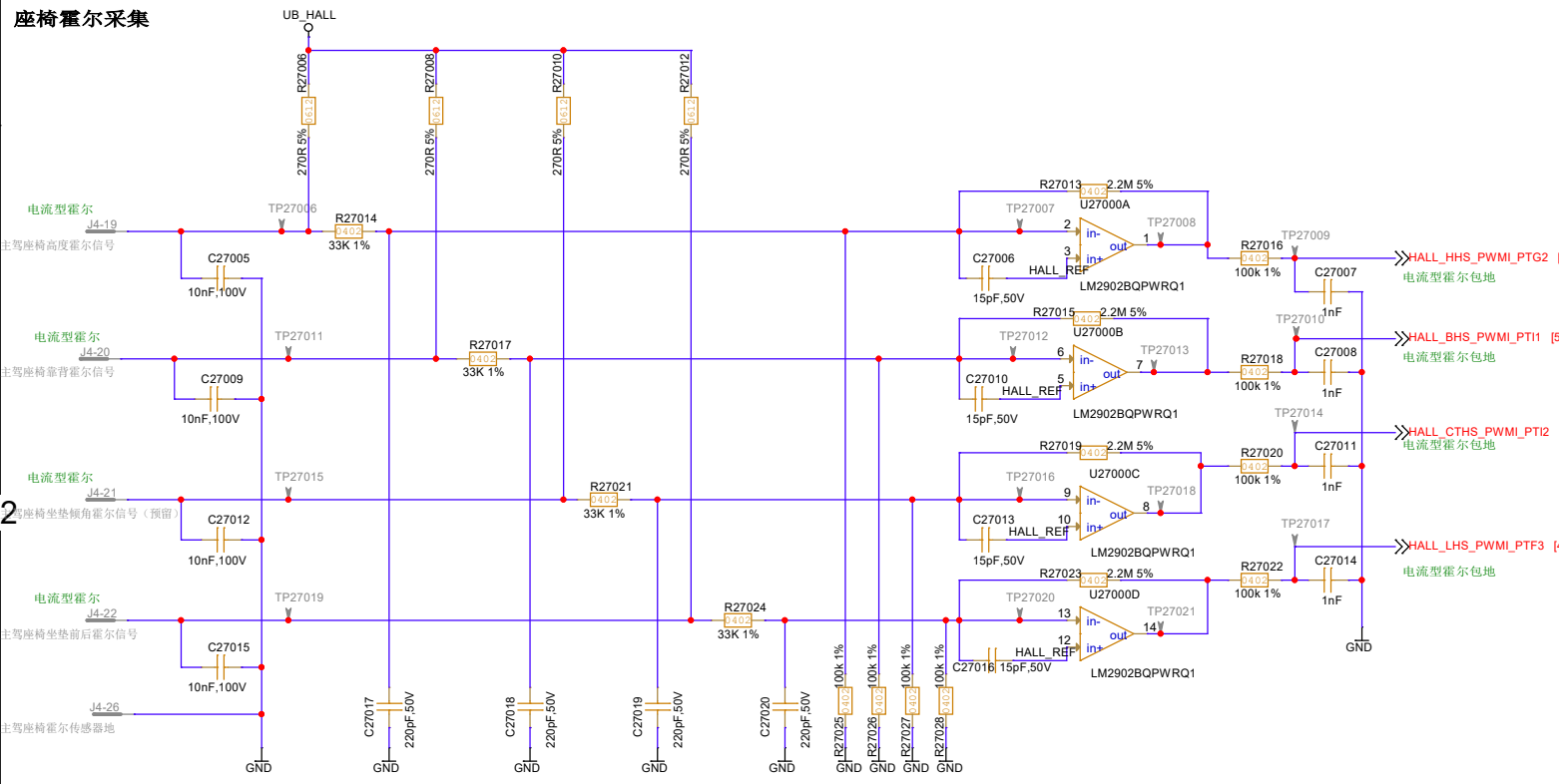
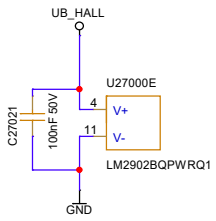
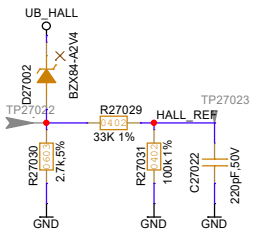


座椅霍尔采集







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Design NO. 825503134_ZCU_SCH	Rev V1.3	Sheet Name 27_SW_DIW	
Size	Designer / Date Zheng.liu1/2024.8.2	Check / Date jianwei.yao/2024.8.2	Confirm / Date Qinghua.diao/2024.8.2
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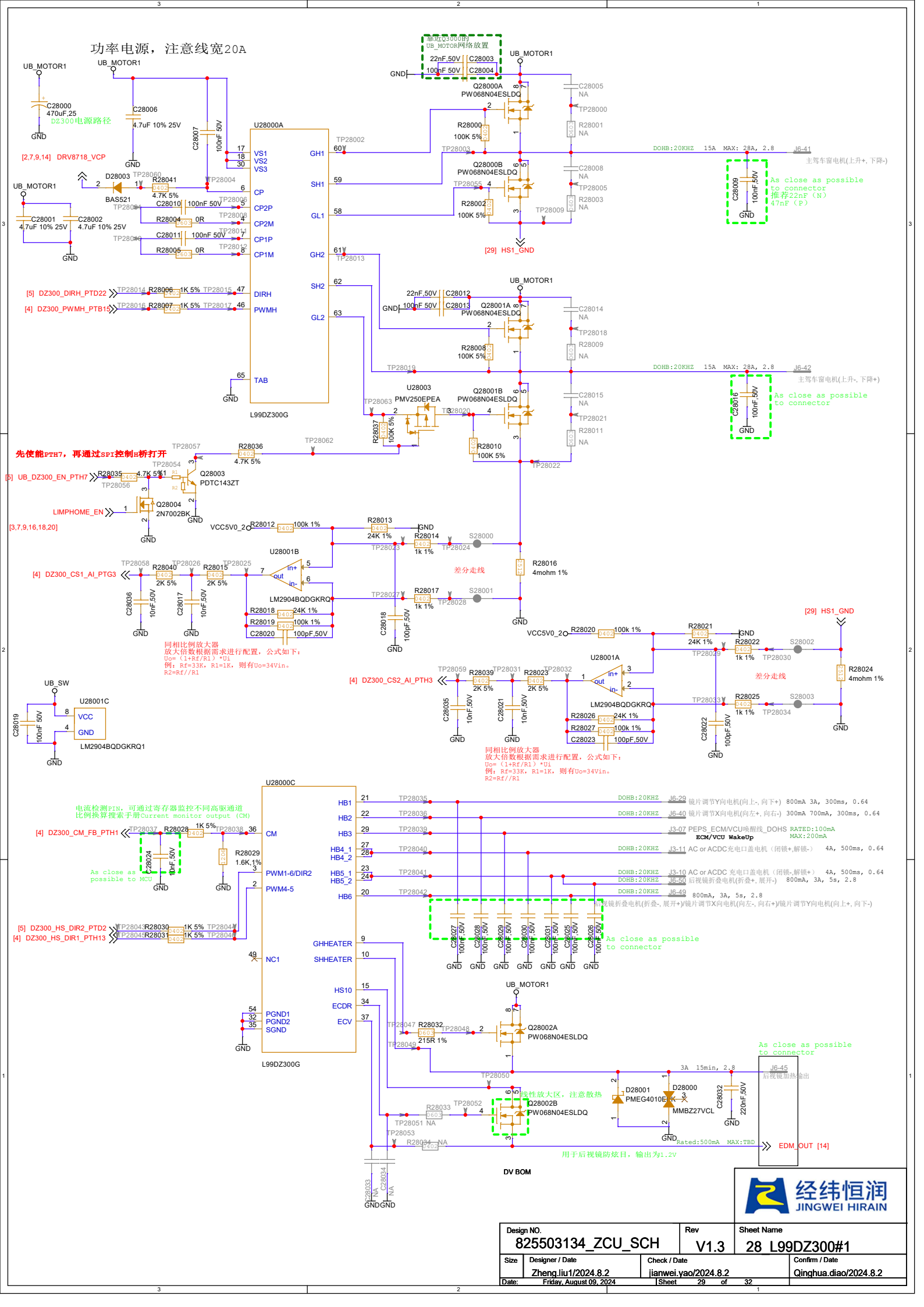
功率电源，注意线宽20A
L99DZ300G
U28000A
U28000C
U28001A
U28001B
U28003
U28001C
Q28000A PW068N04ESLDQ
Q28000B PW068N04ESLDQ
Q28001A PW068N04ESLDQ
Q28001B PW068N04ESLDQ
Q28002A PW068N04ESLDQ
Q28002B PW068N04ESLDQ
Q28003 PDTC143ZT
Q28004 2N7002BK
D28003 BAS521
D28000 MMBZ27VCL
D28001 PMEG4010E
PMV250EPEA
LM2904BQDGKRQ
LM2904BQDGKRQ1
UB_MOTOR1
UB_SW
GND
VCC5V0_2
[2,7,9,14] DRV8718_VCP
[5] DZ300_DIRH_PTD22
[4] DZ300_PWMH_PTB15
[5] UB_DZ300_EN_PTH7
[3,7,9,16,18,20]
LIMPHOME_EN
[4] DZ300_CS1_AI_PTG3
[4] DZ300_CS2_AI_PTH3
[4] DZ300_CM_FB_PTH1
[5] DZ300_HS_DIR2_PTD2
[4] DZ300_HS_DIR1_PTH13
[29] HS1_GND
DZ300电源路径
先使能PTH7，再通过SPI控制H桥打开
差分走线
同相比例放大器
放大倍数根据需求进行配置，公式如下：
Uo=（1+Rf/R1）*Ui
例：Rf=33K，R1=1K，则有Uo=34Vin。
R2=Rf//R1
电流检测PIN，可通过寄存器监控不同高驱通道
比例换算搜索手册Current monitor output (CM)
As close as possible to MCU
As close as possible to connector
线性放大区，注意散热
用于后视镜防炫目，输出为1.2V
DV BOM
DOHB:20KHZ 15A MAX: 28A, 2.8
Rated:500mA MAX:TBD
主驾车窗电机(上升+, 下降-)
后视镜折叠电机(折叠-, 展开+)/镜片调节X向电机(向左-, 向右+)/镜片调节Y向电机(向上+, 向下-)
镜片调节Y向电机(向上-, 向下+) 800mA 3A, 300ms, 0.64
镜片调节X向电机(向左+, 向右-) 300mA 700mA, 300ms, 0.64
PEPS_ECM/VCU唤醒线_DOHS ECM/VCU WakeUp RATED:100mA MAX:200mA
AC or ACDC充电口盖电机（闭锁+,解锁-） 4A, 500ms, 0.64
AC or ACDC 充电口盖电机（闭锁-,解锁+） 4A, 500ms, 0.64
后视镜折叠电机(折叠+, 展开-) 800mA, 3A, 5s, 2.8
800mA, 3A, 5s, 2.8
后视镜加热输出
Design NO. 825503134_ZCU_SCH
Rev V1.3
Sheet Name 28_L99DZ300#1
Size
Designer / Date Zheng.liu1/2024.8.2
Check / Date jianwei.yao/2024.8.2
Confirm / Date Qinghua.diao/2024.8.2
Date: Friday, August 09, 2024
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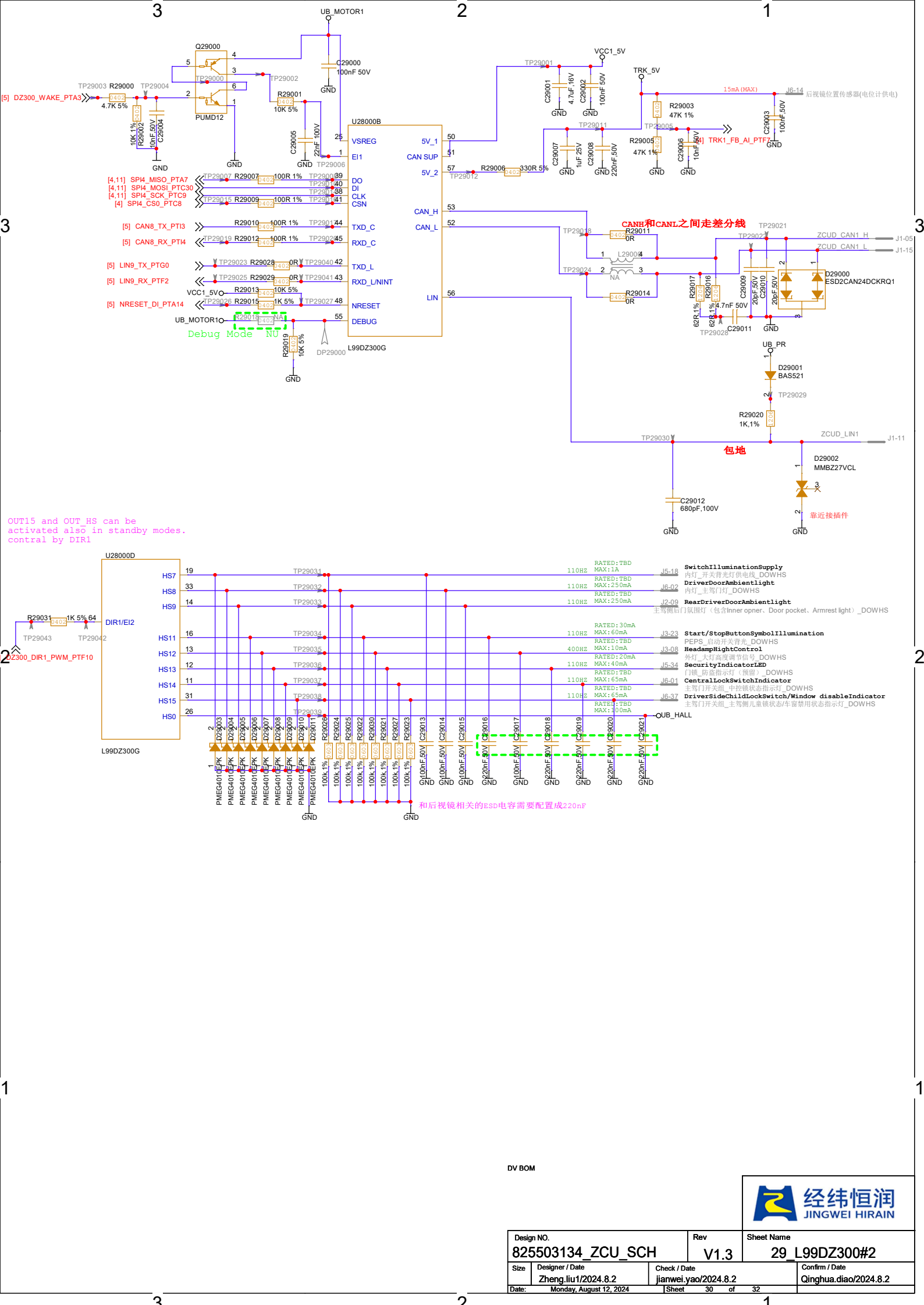
经纬恒润 JINGWEI HIRAIN



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Design NO.	Rev	Sheet Name
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Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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Revision History:

Date	Author	Description	SCH Version	PCB Version	PCBA Version
2023-11-10	zheng.liu1	初版	V1.0	V1.0	V1000A
2024-01-11	zheng.liu1	1、修改UBD1-UBD5接插件顺序与ICD统一 2、修改逻辑电防反二极管为肖特基二极管 3、修改PMIC_SW3管脚供电为VCC5V0同时增加1K电感跳阻 4、更换UB_SW开关管为更大过流能力的PIMC31 5、删除UBD1、2、5的TVS同时更换UBD3、4的TVS为SMB 6、PMIC的CS增加上拉 7、完善LIMPHOME功能电路增加LDO可控及电源合并电路等 8、增加RTC功能电路（晶振电路） 9、修改后门车窗电流采样为运放采集 10、依据供应商要求完善ATA529x芯片外围电路并增加门把手采集功能 11、更换CAN芯片为小封装器件优化CAN唤醒电路 12、更换LIN上拉电阻为高功率电阻 13、额外并联一颗自搭防炫目限流电阻 14、8908防反二极管跟换为小封装二极管 15、增加9D30Q100上SDO二极管及输出续流更换为TVS并增加地防反 16、简化BD8LA700地防反电路 17、更新继电器型号、增加门锁电压回采电路、完善电流回采电路 18、增加12400电路用于唤醒功能替换74HC151 19、删除VCC5V0_SW开关电路 20、依据供应商要求更新DZ300上的ESD电容容值 21、更新车窗电流采样偏置下拉电阻阻值 22、更新TPS系列芯片电流采样反馈电阻阻值	V1.1	V1.1	V1122A
2024-05-11	zheng.liu1	1、车窗驱动增加独立关断电路 2、主驾、主驾后门车门电释放增加独立回采及关断电路 3、座椅控制增加独立关断电路 4、雨刮使能继电器加回采 5、前风窗洗涤输出与雨刮使能放在不同芯片上 6、NV9D30Q100需要独立的PWM输入信号：FTU7_3→FTU4_2 7、TPS1/2HB芯片DIA_EN管脚VCC5V0更换为非常电VCC5V0_LH 8、删除一个12400上INT多余IO口 9、8718的AERF、DRVOFF管脚修改为VCC5V0_2非常电 10、2904偏置供电更新为非常电 11、低频天线的NRES下拉电阻阻值更新为200K 12、1043与1044的STB管脚单独分配 13、自搭防炫目增加供电可控开关 14、VCC5V0_WAKE控制电路更换为PMOS结构 15、L9026输出管脚上拉更换为非常电 16、DZ300的Nreset更换为5V_1上拉 17、CAN、LIN、IO拓展、LDO、TVS更换为TI器件 18、锁存器更换为872003800 19、电流HALL采集上拉电阻更新为1颗 20、8908防反二极管更换为802615089 21、增加外部RTC 22、车窗纹波电机电流回采增加二极滤波 23、自搭防炫目电路更换控制电路串阻阻值 24、低驱钳位管更换为801300560 25、MCU晶振更换晶振为40M晶振 26、E级物料更换： 801200320更换为1uF 0805 50V（A） 801200940更换为1uF 0603 25V（C） 801201060更换为220nF 0603 50V（A） 801201270更换为3.9nF 1206 100V（C） 801201320更换为1nF 0402 100V（C） 801202420更换为10nF 0402 50V（A） 801203401更换为4.7nF 1206 630V（C） 801300190更换为BAS521（C） 802301530更换为390R 2512（C） 802302330、802304050更换为2.7k,5% 0603（A） 802610257更换为1.3k,1% 0603（S） 802610533更换为33k,1% 0402（C） 802610741更换为LM2903BWD（C） 802610761更换为PMEG4010（C） 27、自搭低驱保护电阻更新为10Ω 28、LH电路L9026-IDLE控制更新、LH电路更新分压比例 29、增加启动开关1_MCU回采 30、继电器采样电阻更换为3毫欧 31、UB_POLLING开关三极管更换为PIMC31 32、启动开关背光接线由J5-33改到J3-23，前行李箱灯（预留）接线由J3-23改到J5-33：	V1.2	V1.2	V1200A
2024-08-02	zheng.liu1	1、J1-35变更为LIN通信 2、J1-36硬件方案由TPS2HB35变更为8718驱动 3、删除J1-27的串联二极管，下拉电阻不贴 4、BodyExposed CAN增加唤醒功能 5、IAUC100N04S6N015更换为PWC013N04ESQ 6、JMSL0406AGDQ更换为PW068N04ESLDQ 7、ATA529x的SPI接口从SPI0移至SPI5 8、JMSL0406AGDQ、IAUC100N04S6N015更换平伟MOS 9、增加DZ300的LH关断路径 10、增加油泵继电器电压回采	V1.3	V1.3	V1300A

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Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	30_REVISION

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Debug Information

位号	网络名称	描述
TP1000	UBD1	Power_Window
TP1001	UBD2	Power_Lock
DP2000	UBD3	Power_Exterior Light1
TP1003	UBD4	Power_Exterior Light2
TP1004	UBD5	Power_Seat
DP2001	GND	GND
DP2002	GND	GND
DP2003	GND	GND
TP2000	UB_PR	12V Logic Power
TP2010	VCC5V0	5V Logic Power
TP2016	VCC1V5	1.5V Logic Power

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Design NO.	Rev	Sheet Name
825503134_ZCU_SCH	V1.3	31_DEBUG

Size	Designer / Date	Check / Date	Confirm / Date
	Zheng.liu1/2024.8.2	jianwei.yao/2024.8.2	Qinghua.diao/2024.8.2

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