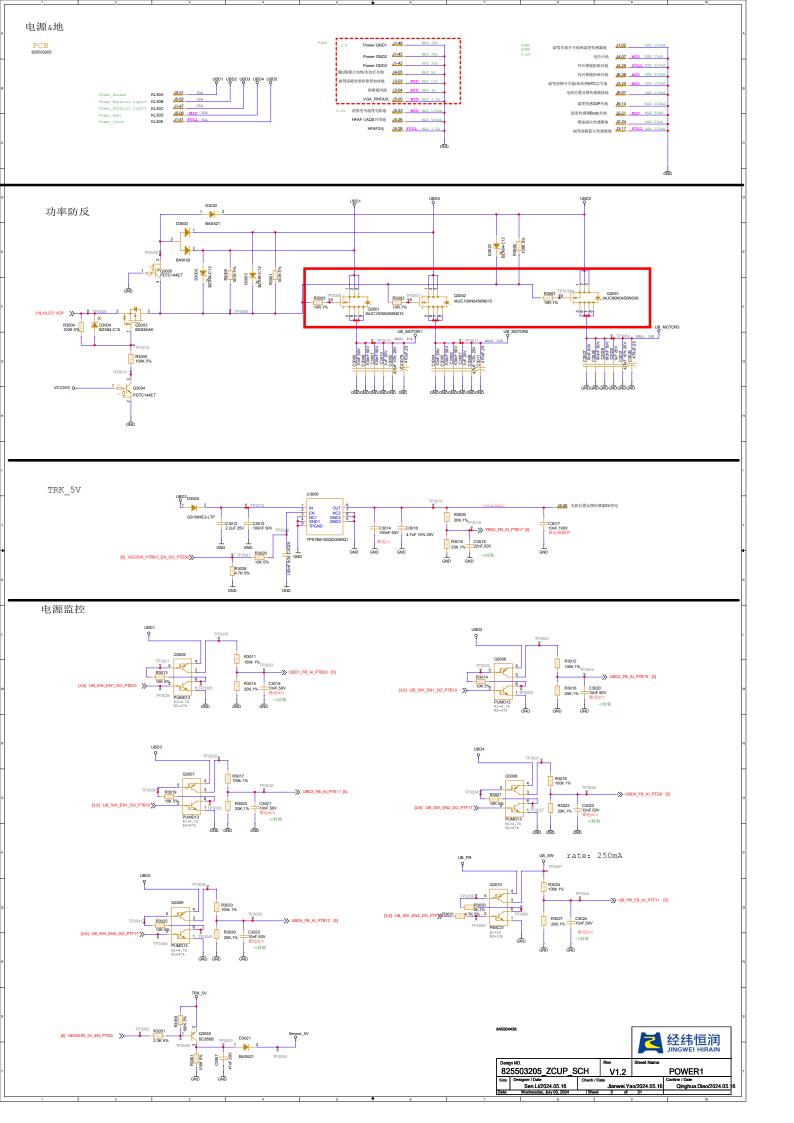
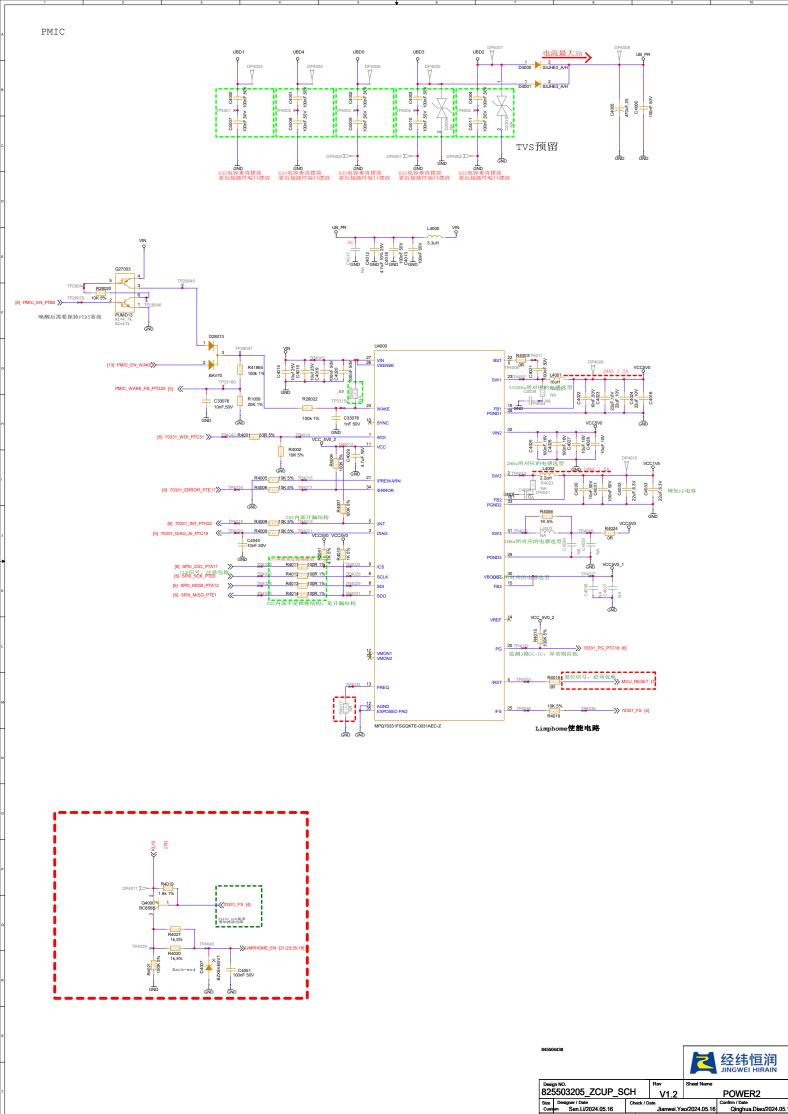
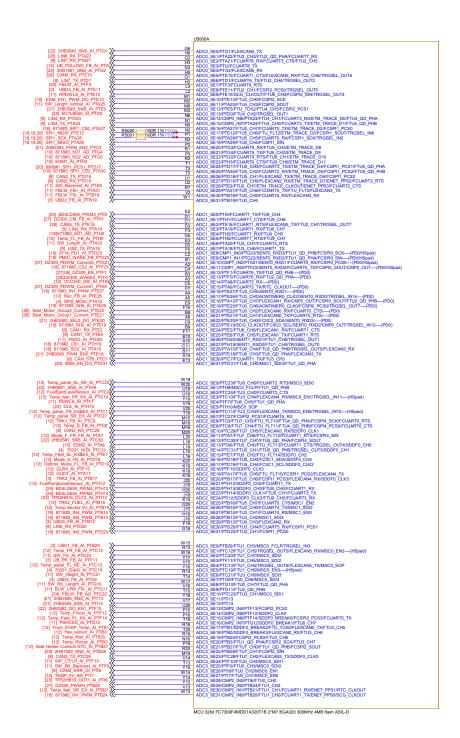
PCB Layout Information						
项目名称:	吉利ZCU_R技术研	发项目				
项目编号:	AP230152		项目经理:	王雅王	昆 张红	
AYOUT工程师:	董慧 应用工程师: 余康/冯文基/李					
《XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXX	(XXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXX	(XXX)	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
输入时间: Input Time:	2024-05-16		PCB ERP Number	825503	205	
原理图名称: Shematics Name :	825503205_ZCU_S	SCH.DSN		版本: Versio	n -	V1.2A
DXF文件名称: DXF File Name:	825503205_ZCU_F	○CB限位图.dxf		DXF状系	፟:	己确认
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+	/-0.1	4
外层铜厚: Finished Copper Thickness:	50um		1和2层间距: Layer1 to Layer2	0.16mm	0.16mm	
2和3层间距: Layer2 to Layer3:	0.5mm		3和4层间距: Layer3 to Layer4	0 24mm	0.24mm	
其他要求: Other :	_	I	<u>-</u>			
*************************************	***********	· · · · · · · · · · · · · · · · · · ·	***************************************	××××××××××××××××××××××××××××××××××××××		***********
Output Information:						
LAYOUT文件名称: LAYOUT File Name:	825503205_ZCU_	_Layout.brd		版本: Versio	n:	V1.2
DXF文件名称: DXF File Name:	825503205_ZCU_	PCB2D.dxf		1		l
emp/emn文件名称: emp/emn File Name:	825503205_ZCU_	PCB3D.emn/emp)	注意: 导出三维 都应为英文	信息的 字符,	t, 输入和输出文件 否则不能正确生成。
Gerber文件名称: Gerber File Name:	GND.art Solo PWR.art Sili BOT.art Sili Asso	dermask_Top.a dermask_Bot.a kscreen_Top.a kscreen_Bot.a embly_Top.art embly_Bot.art	rt Drill_Dimentic rt			
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	意:如果PCB上有昇	形孔,	请生成ROUTE文件。
其他输出: Other :	_					
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	xxxxxxxxxx	XXXX	XXXXXXXXXXXXX
敏感信号线: Sensitive Signal Line:	xxxxxxxxxxxx	XXXXXXXXXX				
易干扰信号线: Interference Signal Line:	XXXXXXXXXXXXXX	XXXXXXXXXXX				
射频信号线: RF Signal Line:	XXXXXXXXXXXXXX	XXXXXXXXXXX				
等长信号线: Same Delay Signal Line:	XXXXXXXXXXXXXXX	XXXXXXXXXXX				
差分对: Differetial Signal Line:	XXXXXXXXXXXXX	XXXXXXXXXXX				
大电流: High Current:	XXXXXXXXXXXXXX	XXXXXXXXXXX				
其他:						
Other : 其他:						
Other :	******	*********	******	*****	XXXX	***********
			845504438			经纬恒润 JINGWEI HIRAIN
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。		Design NO. 825503205_Z Size	Check / Date	2	eet Name INFORMATION Confirm / Date
1 2	3 4	5	Sen.Li/2024 Date: Wednesday, July 6 7		of 3	5.16 Qinghua.Diao/2024.05.16 1 10

Debug Inform	ation	<u>^</u>
位号	网络名称	描述
DP4000	UBD3	Power_Exterior Light3
DP4001	GND	GND
DP4002	GND	GND
DP4003	GND	GND
DP4004	UBD1	Power_Window
DP4005	UBD4	Power_Seat
DP4006	UBD5	Power_Cinch
DP4007	UBD2	Power_Exterior Light2
DP4008	UB-PR	12V Logic Power
DP4009	VCC5V0	5V Logic Power
DP4010	VCC1V5	1.5V Logic Power
DP4011	点火信号	接12V唤醒
DP7010	JTAG_TMS/SWDIO	Mode setting
DP7011	JTAG_TCLK/SWDCLK	Clock
DP7012	JTAG_TDO	Test data output
DP7013	JTAG_TDI	Test data input
DP7014	MCU_RESET	Reset
		L
	Size Des	Seet Name







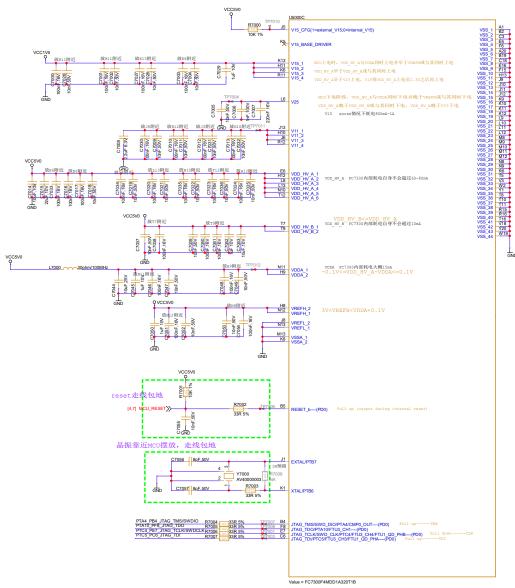
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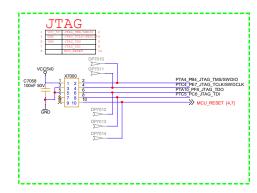
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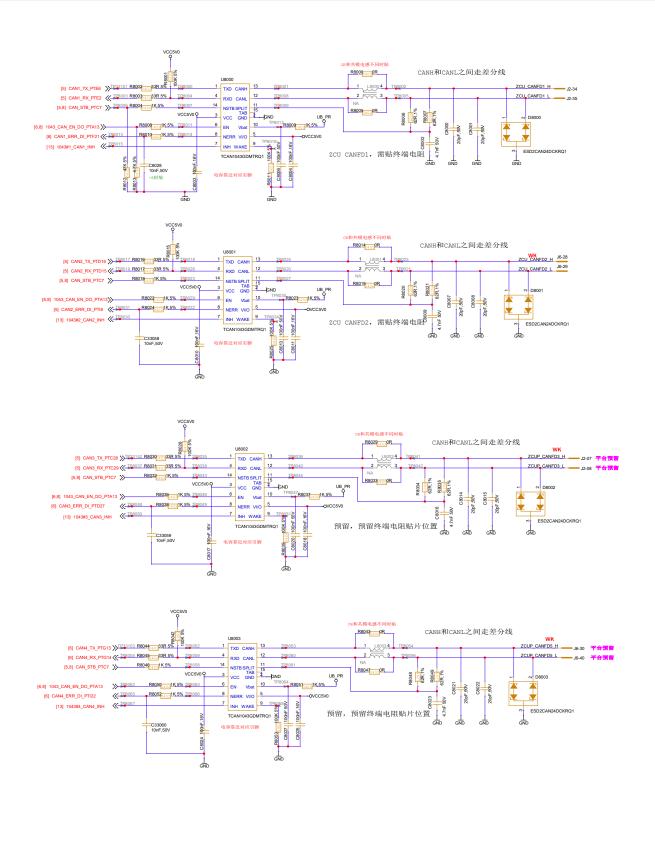
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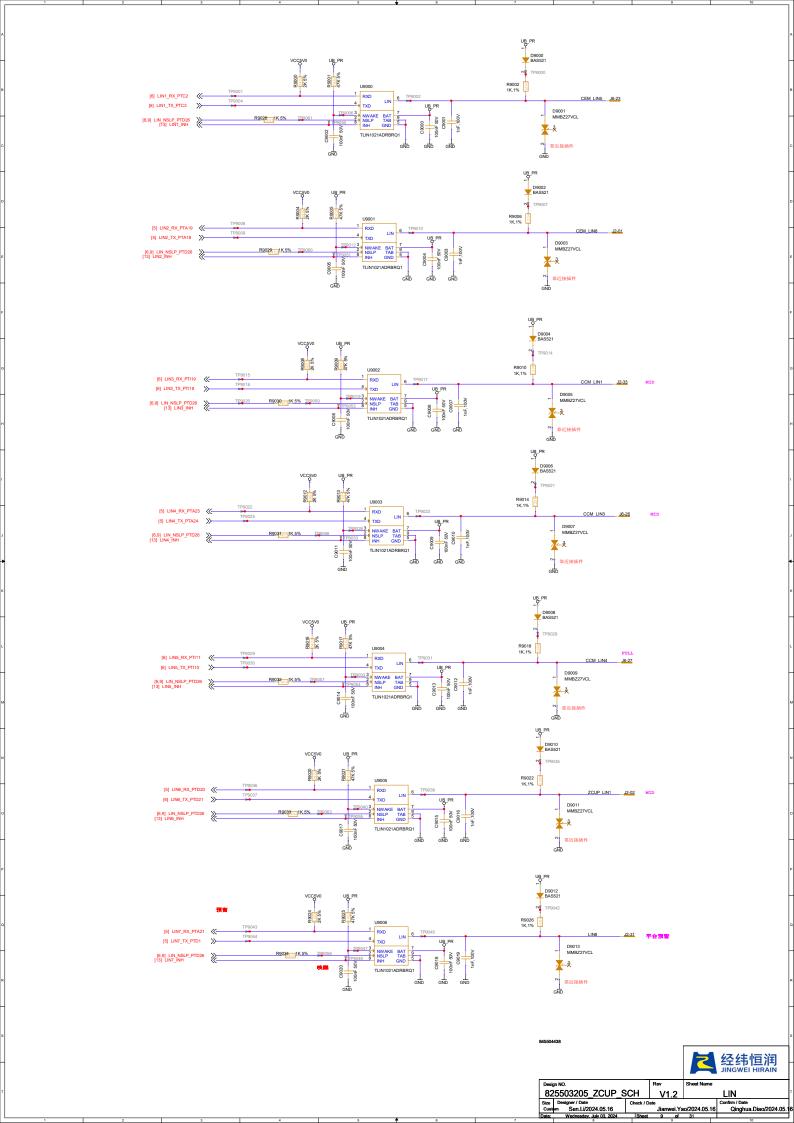


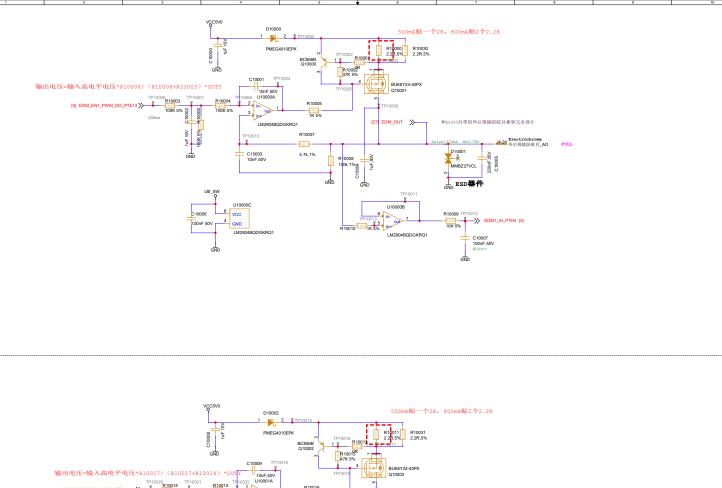
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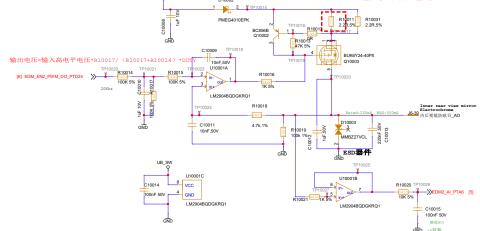




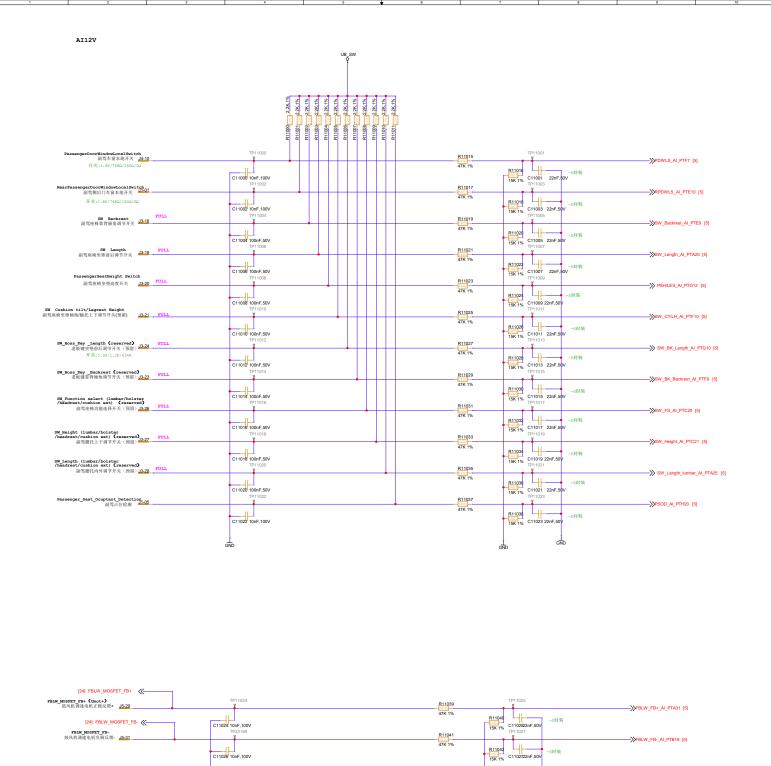




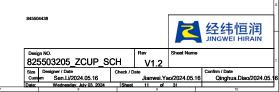








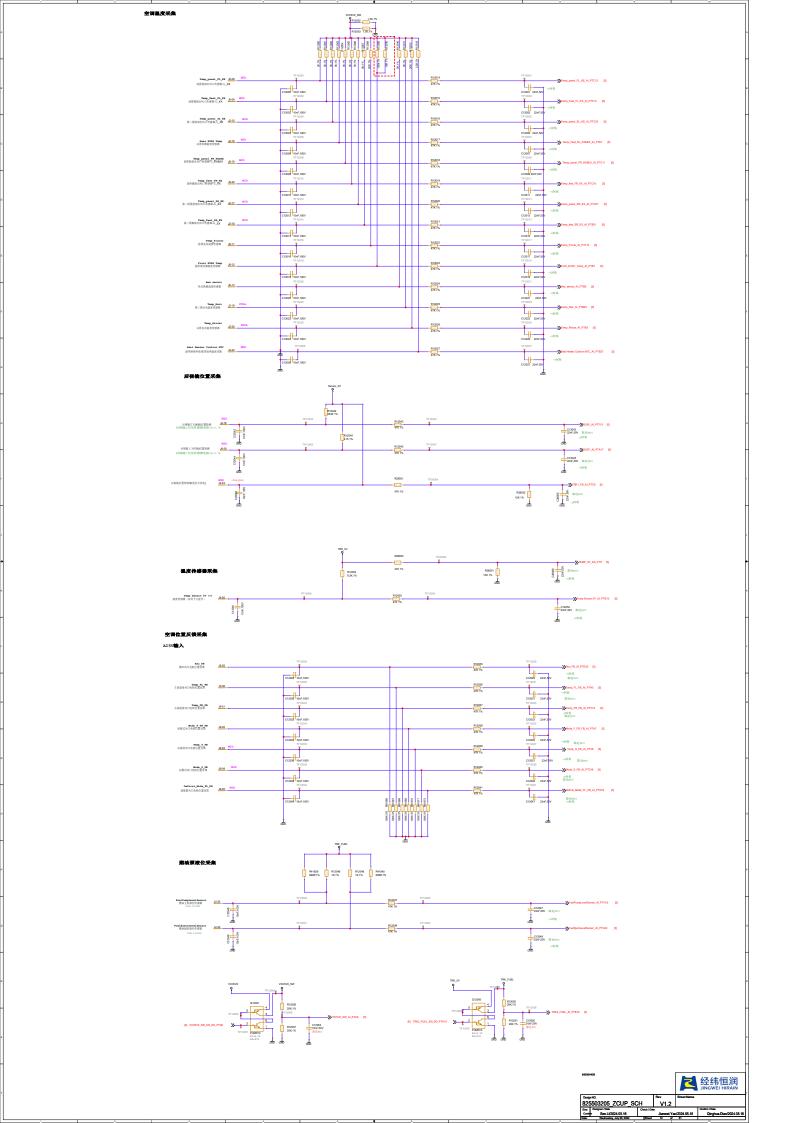
BLW_LPM_FB-鼓风机调速电机负极反馈- J2-03 FULL

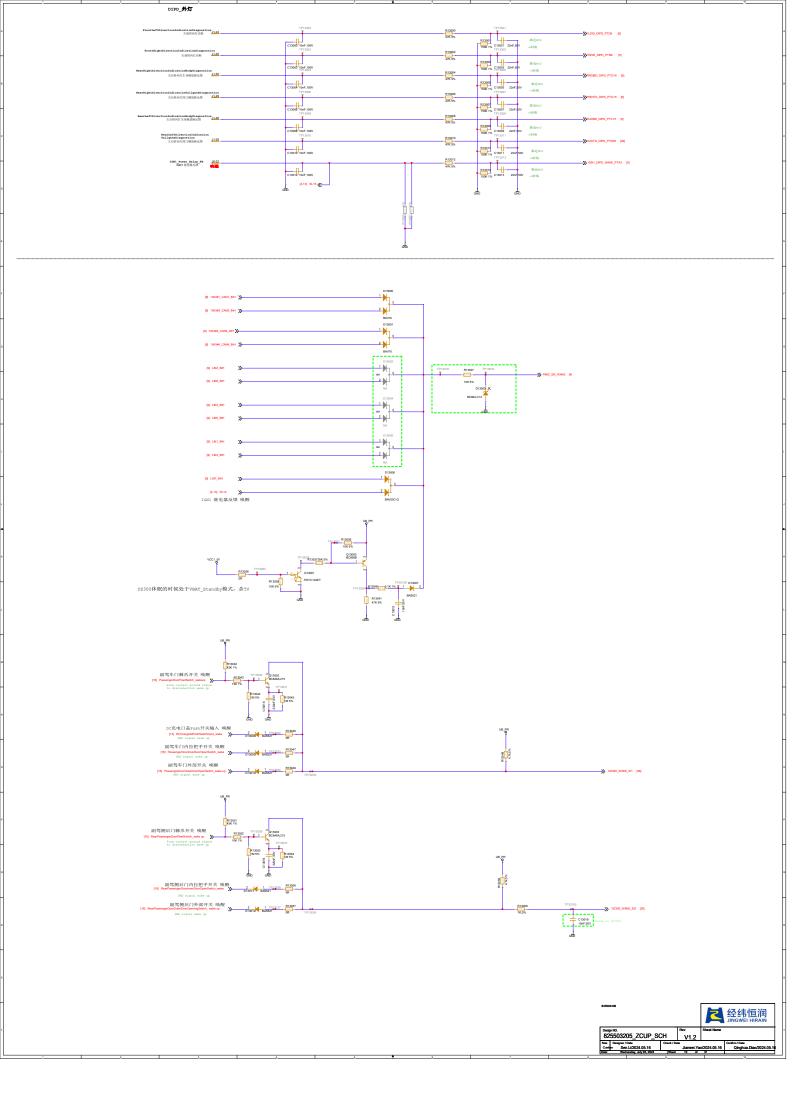


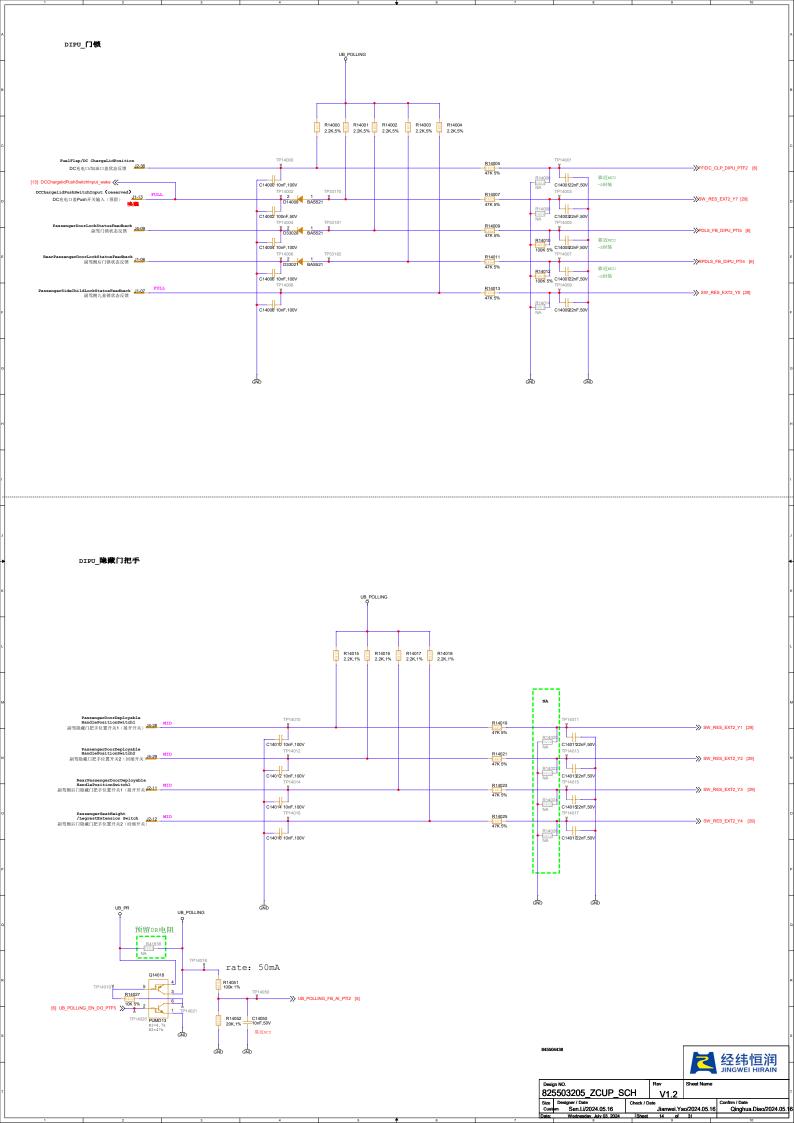
->>BLW_LPM_FB-_AI_PTG11 [5]

TP11029

R11044
[363]
15K 1% C1102922nF,50V







DIPU_空调 UB_POLLING R15000 R15001 R15002 R15003 2.2K,5% 2.2K,5% 2.2K,5% FrontDefrostSwitch 前除霜按键 <u>J6-15</u> R15006 0402 47K 5% ClimateON/OFF Switch 空调ON/OFF按键 J6-16 AutoDefrostSwitch 自动空调按键 J6-17 R15008 0402 47K 5% >> AutoDefrostSwitch_DIPU_PTD6 [6] SeatOccptAtRowSecPass 第二排副驾侧座椅占位检测(预留) NA 6423 R15005 NA 6423 R15007 NA 6423 R15009 NA R15009 NA R15011 C15000 C15002 C15004 C15006 100nF,50V 100nF,50V 10nF,100V

DIPU_电吸合释放 UB_POLLING 2.28.65. ER 10000
2.28.65. ER 10000 TP16000 TP33171

2 1
D16000 BASS21

C16000 100nF,50V R16012
R16013
R1 TP16002 TP33172

2 1
D16001 BAS521 D16001 BASS21
C16002 100nF.50V
TP16002 BASS21
C16004 100nF.50V
TP16006 [13] PassengerDoorPawlSwitch 副驾车门棘爪开关 以4:17 FULL orOpenSwitch 副驾门开开关 C16006 100nF,50V TP16008 1 TP33183 1 TP33183 1 TP16008 1 TP33183 1 TP16010 TP16 副驾车门碰撞解锁状态开关 14-15 FULL >>>SW_RES_EXT1_Y4 [29] >>> SW_RES_EXT2_Y6 [29] C1601t 100.F.00V

TP16012

TP33174

D16003

BASS21

C16012 100.F.50V

TP33175

D16004

BASS21

C16014 100.F.50V |3] RearPassengerLourrams...
| RearPassengerDoorPawlSwitch 副驾側后门棘爪开美 | 12-27 | FULL | 中国 | 12-27 | PULL | TP16016 TP3317/ D16005 BAS521 C16018 100nF,50V →>>> RES EXT1 Y6 [29] P16019

R1603

C160192nF,50V

TP16021

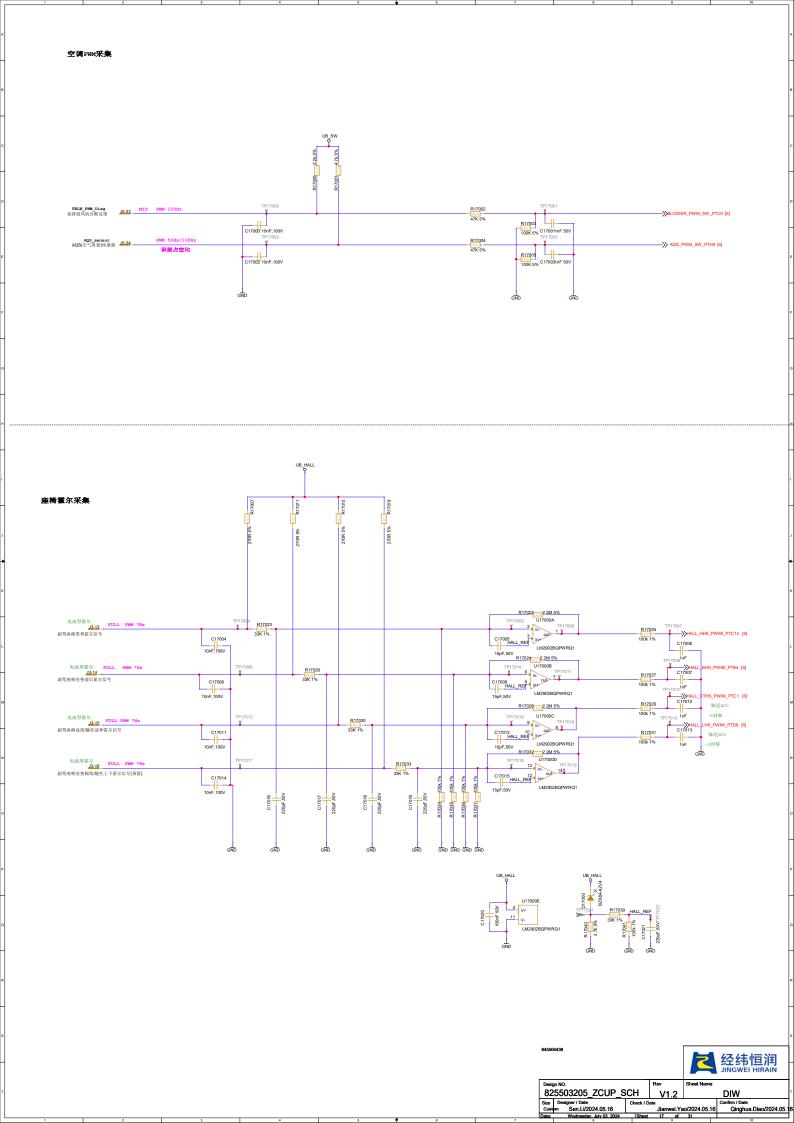
R1603

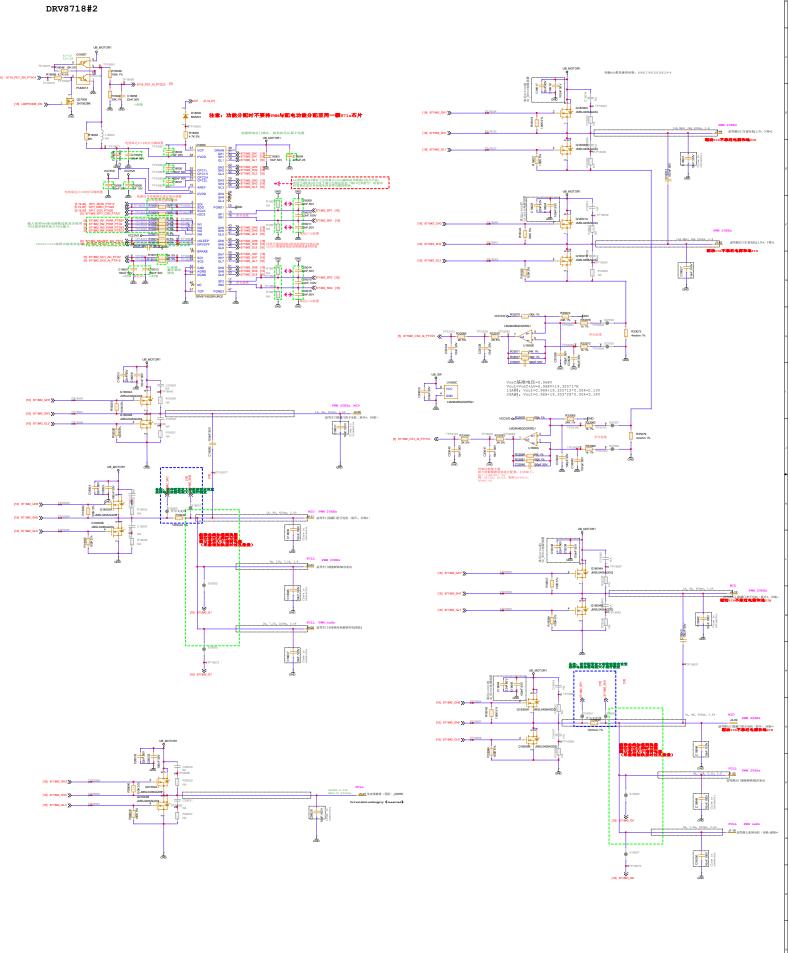
C1602 22nF,50V

TP16023 RearPassengerDoorOpenSwitch 副驾侧后门门开开关 J2-28 TP16020 TP33184

2 1
D33023 BAS521 PassengerDoorCrash unlock status switch 副驾侧后门碰撞解锁状态开关 12-29 ->> SW RES EXT1 Y7 [29] RearPassengerDoorCinch/Ice breaker reset FULL 副驾侧后门吸合/破冰开关 <u>J2-30</u> >>> RPDC/IBR_DIPU_PTD28 [6] NA

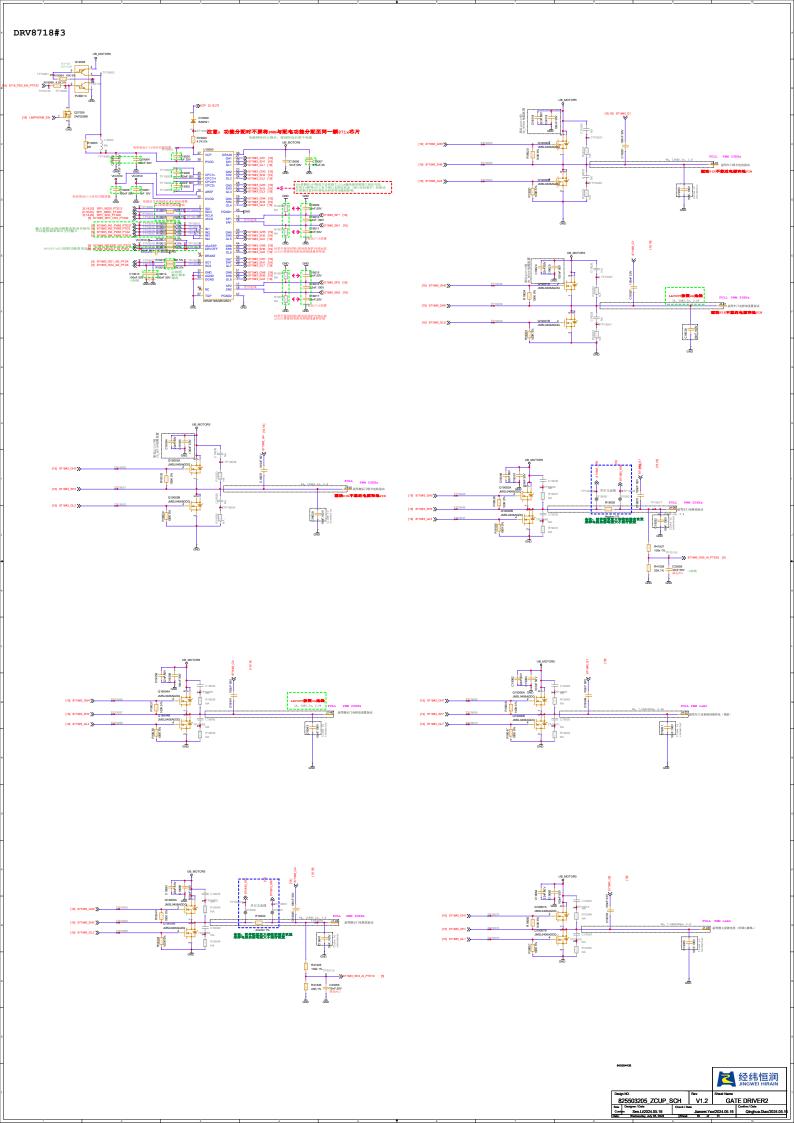
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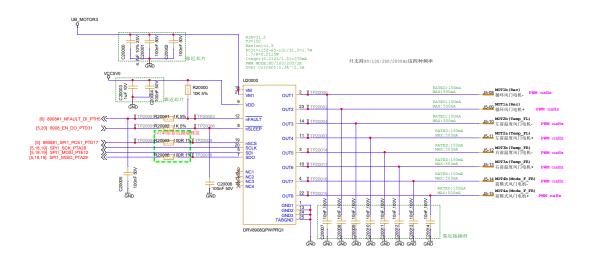


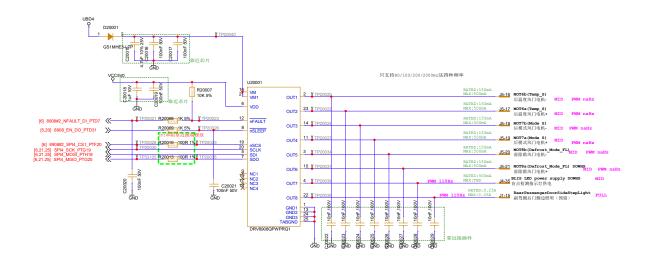
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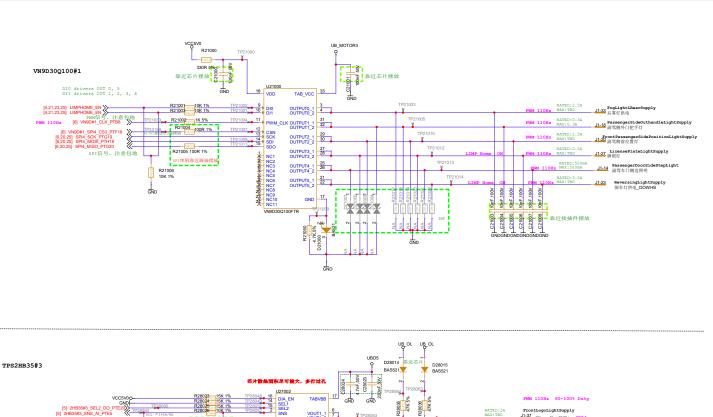


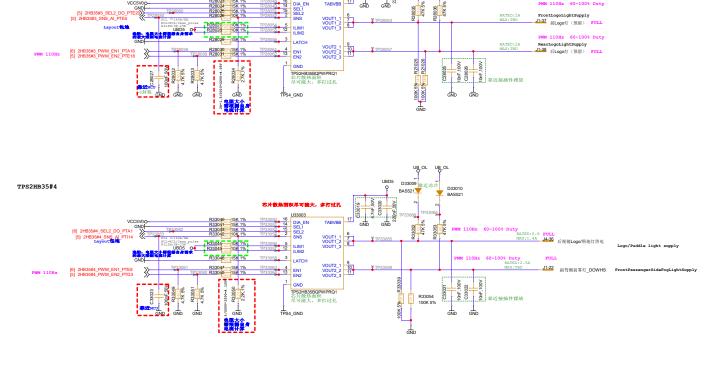


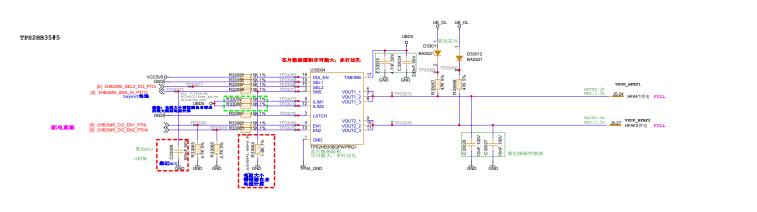




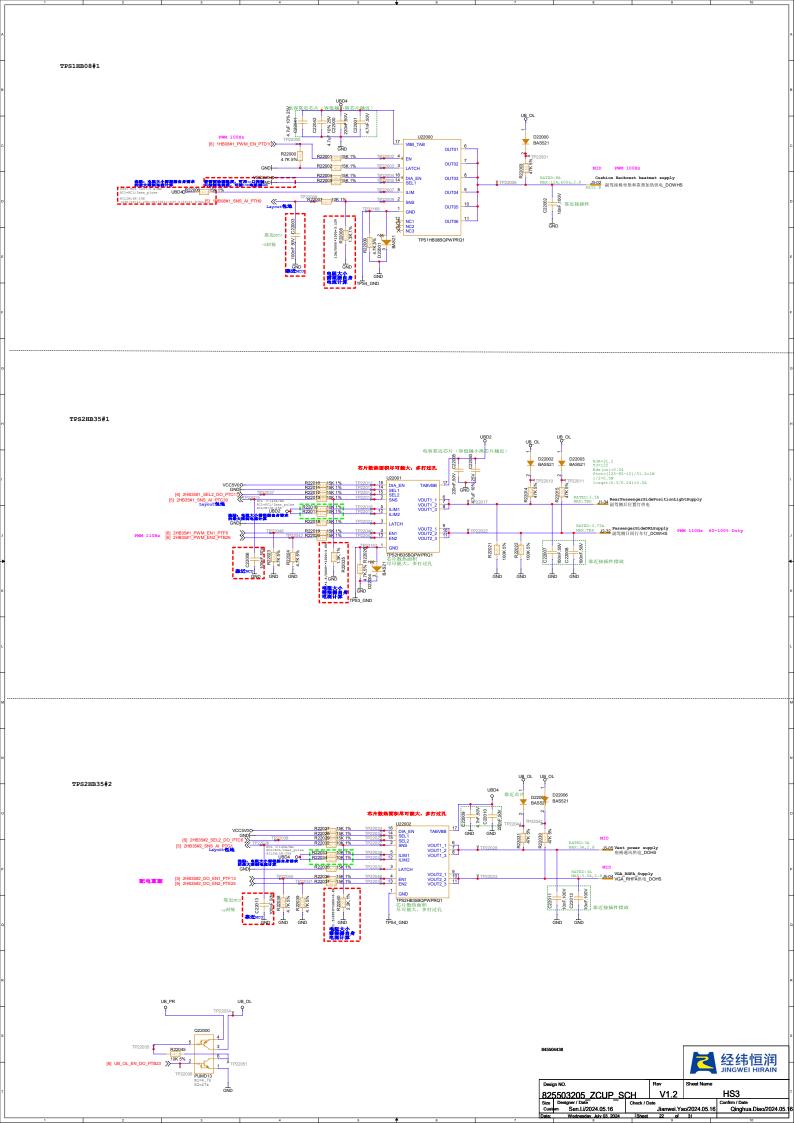
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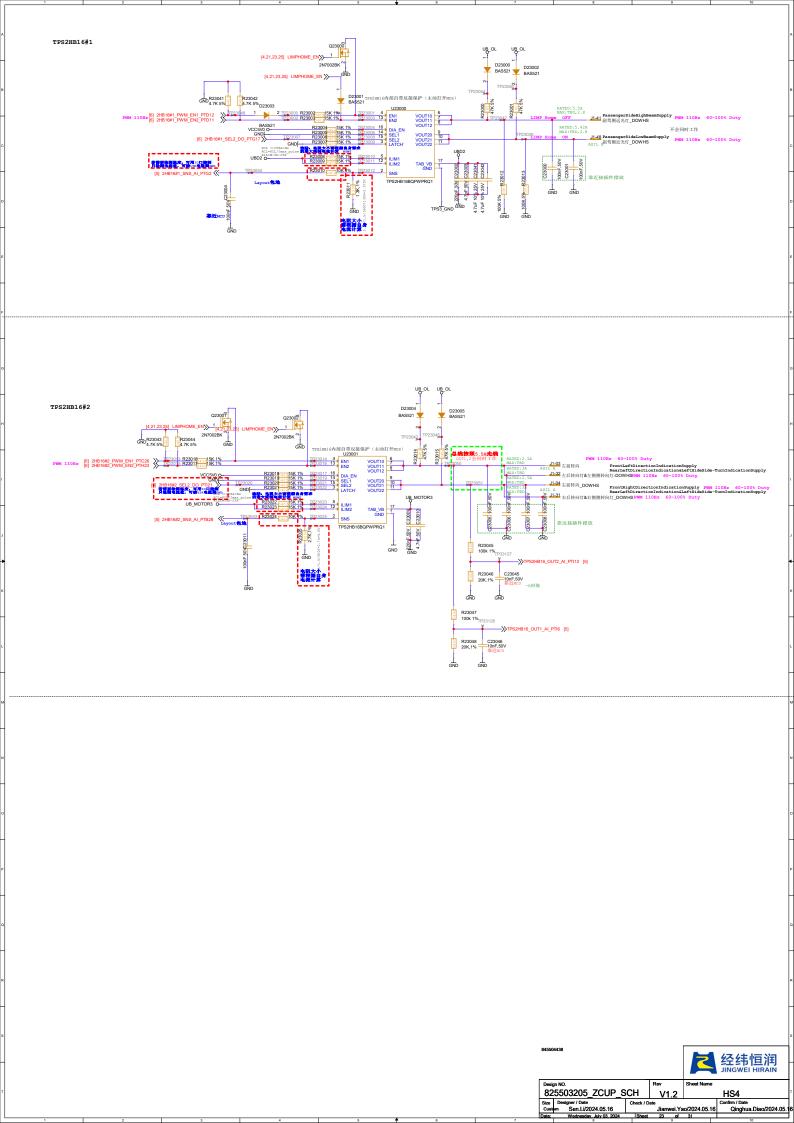


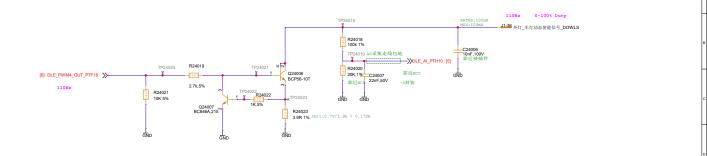


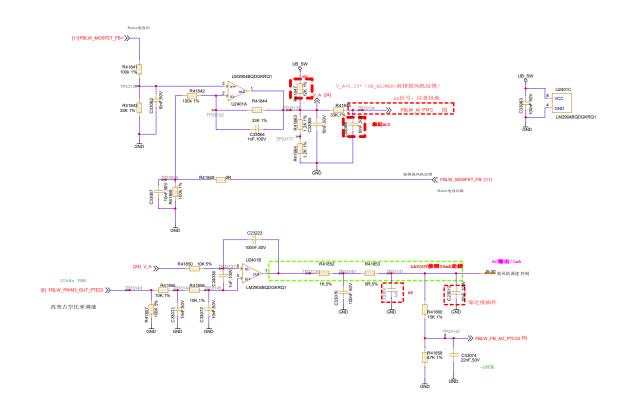


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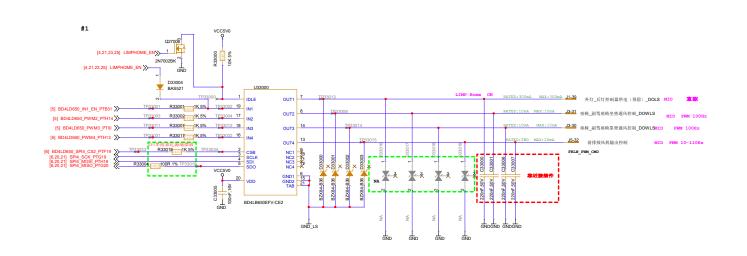


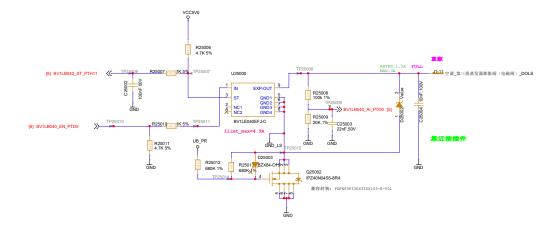










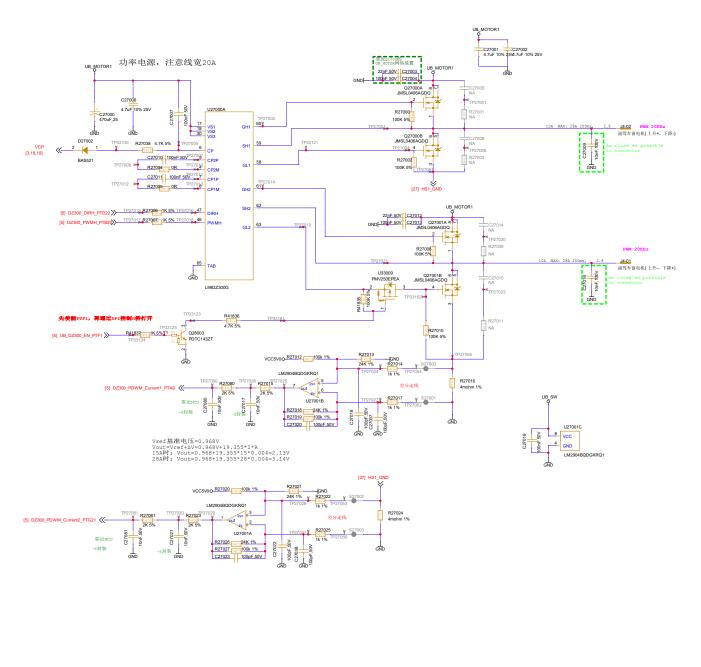


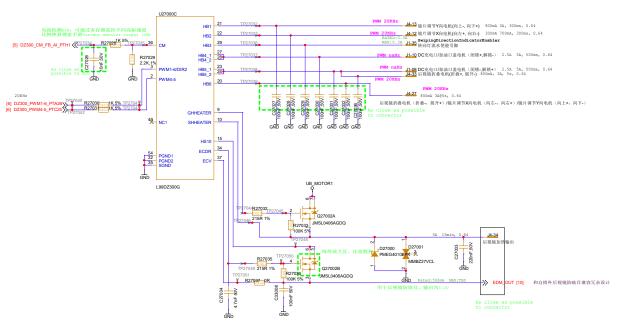


继电器模块短电源需要串30a的保险丝 AllDoorLock+, Unlock-FULL
Motor Common Backward
//Downward(Length & Counhion tilt/Legrest) (reserved)
8.86
副驾座椅坐垫底皮调节/舰托络伸调节和零青倾角调节公共端(预留) | Discoor | Dis UB PR J3-07 Backrest Motor Forward (reserved)
座椅_副驾座椅靠背倾角调节 (前倾+, 后倾-) (预留: FULL
LG-08
Height Motor Upward
/LegrestExtension Forward (reserved)

全坐高度调节(向上+,向下-) 應托基伸调节 (基伸+、缩码-) (预留: T26002 FULL
Motor Common Backward/Downward
(Relight /LegrestExtensionsBackrest) (reserved)
13-01
副驾座椅坐垫长度调节和坐垫倾角调节公共端(預留) 26017 RATED: 9A MAX: 28A 200 MAX: 28A 200 GND GND HFKF-T/12-BZSPT T26001B T26001B 2 FULL J3-09 Length Motor Forward (reserved) 副驾座椅长度调节(向前+,向后-)(预留) HFKF-T/12-2ZSPT 2.8 <u>J3-10</u> CushionTiltMotor
Jage 梅坐垫傾角 (上候*,下候*)/應托(向止*,向下*) (預留) 0402^{47K 1%} R26051 GND 0 1 2 U26001A 1P26022 C26008 100pF,50V R26050 0402 100k 1% GND Vref基准电压=1.599V Vout=Vref+dV=1.599V+31.973*1*R 15A时: Vout=1.599+31.973*15*0.003=3.037V 28A时: Vout=1.599+31.973*28*0.003=4.284V VCC5V0 R26008 100k 1% 3029 R26012 Out 6 U26001B C26012 -s#1% R26013 47K 1% C26013 D T00PF,50V C26014 100pF,50V

| Design NO. | Rev | Sheet Name | State | Provided Provi





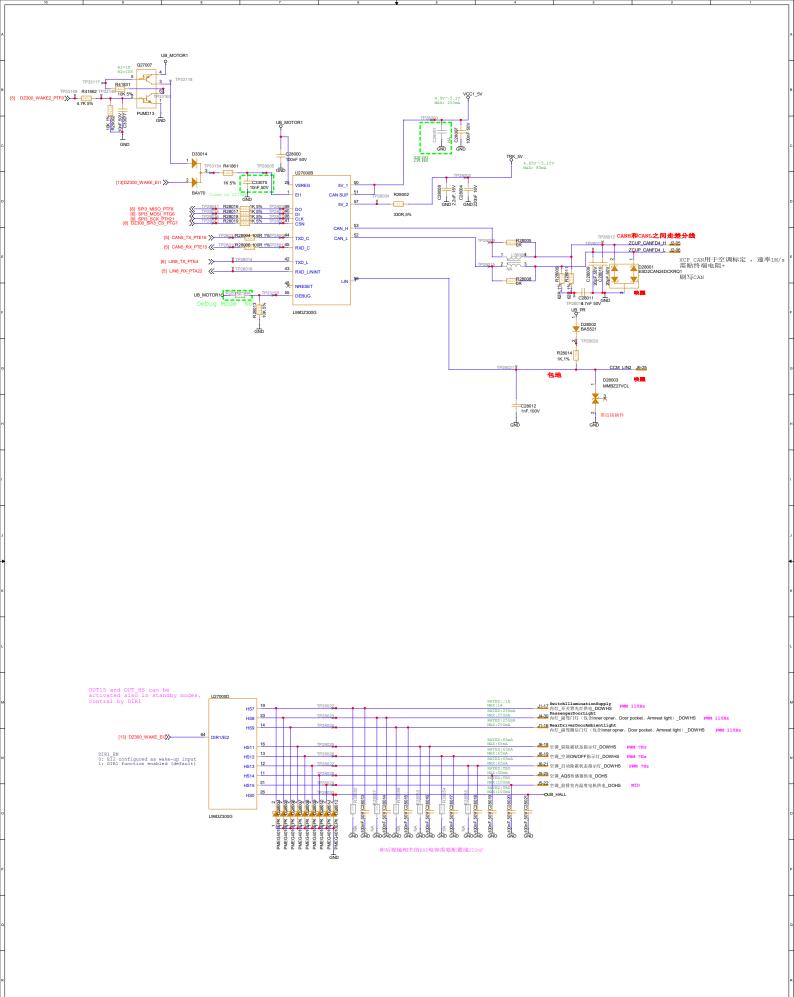
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SBC_01

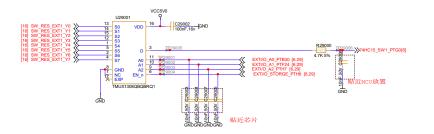
Qinghua.Diao/2024.05.16

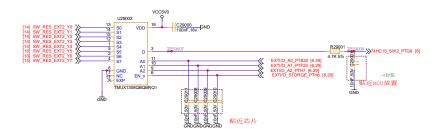
Design NO. 825503205_ZCUP_SCH V1.2

| Size | Designer / Date | Check / Date | Update | Update



| Design NO. | State Name | Sec 1/2 | Sheet Name | Sec 1/2 | State Name | Sec 1/2 | Sec 1/2 | State Name | Sec 1/2 | Sec 1/2 | State Name | Sec 1/2 | Sec 1/2 | State Name | Sec 1/2 | Sec 1/2 | State Name | Sec 1/2 | Se





经纬恒润 JINGWEI HIRAIN Rev V1.2 IO_3/8

Kevision	History:				
Date	Author	Description	SCH Version	PCB Version	PCBA Version
2023-10-01	Wenji.Feng	Inital Revision	V1.0A	V1.0	V1000
2023-11-07	kang.yu	1.CAN替换成TPT1043Q,CAN和LIN的唤醒改到U4000的WAKE 2.IGN1唤醒信号改到4000的WAKE 3.7路DIPU唤醒信号接到L99DZ300的EI1/2上	V1.0A	V1.0	V1000
2022-11-08	kang.yu	1.将J1-12修改改成J2-36	V1.0C	V1.0	V1000
2023-11-14	kang.yu	1.将J1-35 转向灯流水使能引脚和J1-14 内灯_副驾车门及副驾侧后门侧边照明分配的驱动资源互换	V1.1A	V1.1	V1000
2023-11-21	kang.yu	1.修改J5-30鼓风机驱动电路	V1.1A	V1.1	V1000
2023-12-11	kang.yu	1.将LIN的上拉有2*2.2K修改成1.0K上拉	V1.1A	V1.1	V1000
2023-12-13	kang.yu	1.将J3-01和J3-06互换位置。	V1.1A	V1.1	V1000
2023-12-22	kang.yu	1.增加C4051,R10030,R10031,R28060-R28055 2.D4006由SMAJ30CAHE3 A/H改成SMBJ30CAHE3_A/H 3.CAN上的负载电容由47pF改成20pF	V1.1A	V1.1	V1000
2024-01-23	sen.li	1.交换LIN3 RX和LIN3 TX接口位置 2.根据系统需求,更新以下接口名称: 1) J3-20改回"副驾座椅坐垫高度调节开关" 2) J2-16改为"后蒸发器温度传感器" 3) ZCUP MID增加二排座椅占位检测功能打点;增加J2-21空调温度传感器Body共地打点;4) 删除ZCUP LOW J4-7电位计地打点; 5) ZCUP J1-14更名为"副驾车门侧边照明"	V1.2A	V1.2	V1000
2024-04-07	sen.li	1.将2HB16#1采样电阻R23011改为1.3K 将2HB16#2采样电阻R22025改为2.7K 将2HB35#1采样电阻R22040改为1.6K 将2HB35#3采样电阻R22040改为1.6K 将2HB35#5采样电阻R28034改为2.7K 将2HB35#5系样电阻R33064改为1.6K 2.将空调PWM采集电路的下拉电阻R17003和R17005改为100K, 滤波电容C17001和C17003改为1nF 3.CAN和LIN芯片改为同封装TI的料 4.R3009改为20K.0402封装 5.R24019改为2.7K,0603封装 6.晶振芯为40M的物料 7.CAN芯片wRce引脚改为下拉100K电阻到地 8.SPI0 CS0 PTA11修改成SPI0 CS3 PTA11 8718罪2 SPI1 CS0 PTA27修改成 8718#2 SPI1 CS0 PTA27, 8718#3 SPI1 CS0 PTA30修改成 8718#3 SPI1 CS2 PTA30, 只是名字改变,不设计连线和实际功能 9.将8718#2芯片的副驾侧后门车窗电机(J1-44,J1-43)运放 采集电路输出端改为二级RC滤波 10.改TP4037为DP点 11.内外后视镜防眩目限流电阻改为贴两片2.2R (R10000和R10030,R10011和R10031) 12.内外后视镜防眩目b极串阻R1002和R10001改为02 13.D2300芯片CM引脚下拉电阻改为2.2K 14.C4022/C4030/C20018/C2003因为物料等级换料 15.D3005/D20000/D20001/D21000/D22001/D22004因为物料等级换料 16.R12044/R17040因为物料等级换料 17.R2203 R22014 R22015 R22030 R22031 R23000 R23001 R23014 R23015 R28035 R28036 R33052 R33053 R33067 R33068更换为47K电阻 18.更改UB SW可控电源部分电路,并更换Q3010 19.LDO芯片改为TPS7B8150QDGNRQ1,删除TRK2 5V 20.C4026/C4025/C4019/C40201/C4021/C4031因为物料等级换料 21.D21001 D21002 D21003 D21004 D25002因为物料等级换料	V1.2A	V1.2	V1000
2024-04-10	sen.li	1.MCU换成B版本	V1.2A	V1.2	V1000
2024-05-13	sen.li	1.D2300上的车窗驱动增加二级RC滤波 2.修改继电器电流采集计算示例 3.两片8718都增加可控电源电路 4.J4-06和J1-49电释放驱动添加电压采集 5.修改UB SW可控电源电路,改为PIMG31	V1.2A	V1.2	V1000

| Design NO. | Rev | Sheet Name | Section | Steel Name | Section | Sect

Revision	History:		·		
Date	Author	Description	SCH Version	PCB Version	PCBA Version
2024-05-15	sen.li	1. 增加两片3/8译码器,更改DIPU的IO口分配 2. 增加DZ300芯片EI使能控制电路	V1.2A	V1.2	V1000
2024-05-16	sen.li	1.增加DZ300芯片预驱栅极可控电路(功能安全) 2.增加4片CAN芯片NEER管脚电容 3.更改J5-30鼓风机调速控制的电源由VCC5V改为UB_SW 4.继电器采样电阻由2mR改为3mR 5.物料等级变更,数字采集电路的下拉电阻68K改为56K(DIPU1,2.3, DIPD) 6.DZ300V1 5V输出脚的4.7uF电容改为不贴 7.预留UB FOLLING和UB SW之间OR电阻位置(0603) 8.自搭LDO电路Q1001漏极1uF电容增大耐压10V到50V	V1.2A	V1.2	V1000
2024-05-20	sen.li	1.删除CAN芯片NSTB和EN引脚的下拉电阻以及NERR引脚电容(只保留第一片) 2.更新DEBUG页描述,增加烧写头的DP点和点火信号的DP点 3.AI12V和AI5V的47K串阻5%改为1%	V1.2A	V1.2	V1000
2024-05-22	sen.li	物料评审变更: 1.CAN芯片改为降本版本的TI的1043A的料 2. C28008改为801201190 3.C7008换成GCM的 802610529 4.C7029 C7042 C10000 C10008 C20003 C20018 改为802610772	V1.2A	V1.2	V1000
2024-05-23	sen.li	1.更改电阻R4019/R4020/R4021阻值,新增电阻R4027 2.J6-12的上拉电阻改为100K和10K并联 3.UBD3添加电源防反 4.J1-34和J1-23互换位置 5.增加D2300的电荷泵端口和8718的电荷泵并到电源防反电路 6.增加左右转向灯独立电压采集电路	V1.2A	V1.2	V1000
2024-05-24	sen.li	1.燃油泵上拉电阻改为698R和1K并联(0603) 2.更改VN9D/8908#1/TPS2HB16#2电源网络改为MOTOR3, 3.去掉8908#1电源处防反二极管以及TPS2HB16#2电源引脚4.7uF电容 4. SPI的串阻33R全部换成100R	V1.2A	V1.2	V1000
2024-05-28	sen.li	1.根据最新的远端ESD需求,更改J6-15/J6-16/J6-17/J1-13/J3-18 /J3-19/J3-20/J3-21/J3-24/J3-23/J3-26/J3-27/J3-28/J4-31/J4-32 /J2-25/J2-26接插件ESD电容为100nF 2.两个内外防眩目,8718车窗,DZ300车窗,继电器的电流回踩电路的运放改为872001293 3.POLLING的上拉电阻全部改为0805的高功率电阻,目前阻值2.2K	V1.2A	V1.2	V1000
2024-05-29	sen.li	1.电流HALL上拉电阻改为270R 2.MCU芯片PORT口调整: 1).9D30(010的CLK需要单独的一路FTU,改为FTU4 2).需要挪出一路单独的FTU给GPT用,留下FTU5给软件使用 3).HS PAD不能用在SPI上: SPI2改成SPI4 4).ADC通道上电机类的要放在一起 5).抖频的驱动需要FTU分组放在一起: 系统输入车窗电机不参与抖频,所以要单独抽出来换到FTU1	V1.2A	V1.2	V1000
2024-05-30	sen.li	1.整体更新J5-30鼓风机调速自搭电路,整体变更 2. 棘爪开关唤醒电路栅极上拉电阻R13042/R13051由100K改为43K, 充电电容C13018/C13016由100nF改为220nF	V1.2A	V1.2	V1000
2024-06-04	sen.li	1.C33056,C29001,C28027,C33074,C10015,C3018,C23045,C8028电容封装需要换成-S的封装 2.SPI2通信端口改为SPI4(片选通道也对应更改,PORT之前已更改,只改名字) 3.C33068/C33061电容去掉 4.删除TPI1026	V1.2A	V1.2	V1000
2024-06-11	sen.li	1.PMIC的Cs引脚加上拉R2041及上拉源 2.PMIC的WAKE脚RC更改,共用后级RC,删除前级限流电阻。 3.删除8718#3的可控电源回采PTG22端口改为PMIC芯片的WAKE脚回采。 4.增加D2300芯片EII引脚的RC滤波 5.删除数字采集电路中的下拉电阻 6.修改5-30鼓风机调速电路 7.物料变更,更改3/8译码器的芯片。 8.C18058/C33074和C10015改为-S封装 9.PTB31和PPC31交换端口 10.物料变更,原物料降级,Q25002改为兼容封装PDFN65P330X330X105-8 11.R28002改到D2300芯片V2 5V引脚处 12.物料变更,TVS管B8000/D8001/D8002/D8003/D28001改为ESD2CANFD24DBZF 13.J2-21,J4-07,J4-23视图(高中低配)改变 14.MOTORI增加对0wF电解电容C33079 15.四通道低驱芯片输出脚更换为TVSD33016/D33017/D33018/D33019	V1.2A	V1.2	V1000
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| Design NO. | Size | Designer / Date | Custyn | Sen.Li/2024.05.16 | Date: | Wednesday, July 03, 2024 | Sheet | 31 of 31 | Sheet Name | Custyn | Confirm / Date | Cinghua. Diao/2024.05.16 | Confirm / Date | Cinghua. Diao/2024.05.16 | Cin