Content

VULTURE_HMCB_V02

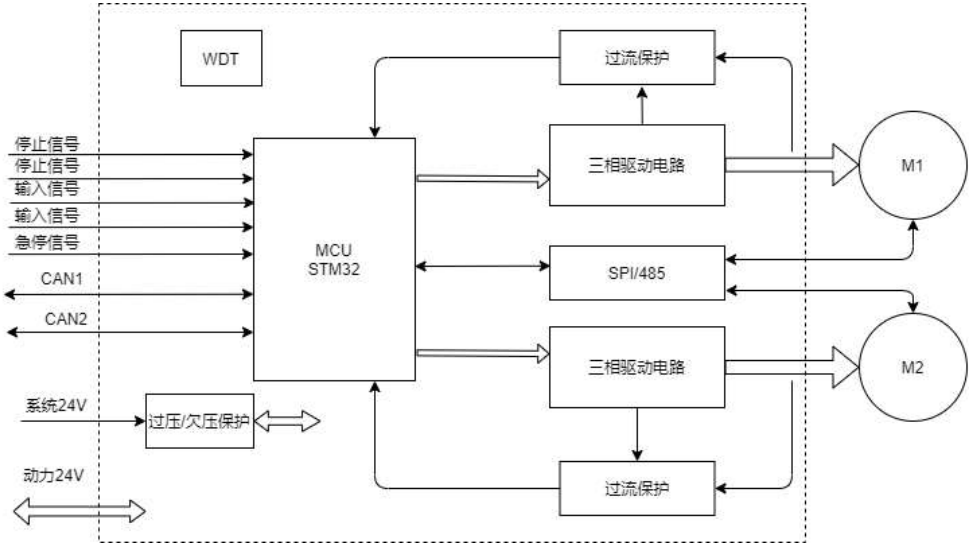
Syrius 炬星	Syriusrobotics Technologies(ShenZhen)		
Title:	VULTURE_HMCB_V02	Document Number:	< XXXXX >
Date:	2024-03-20	VER: V02	SIZE: A3
Author:	LIANGKUAI	Sheet 1	of 18

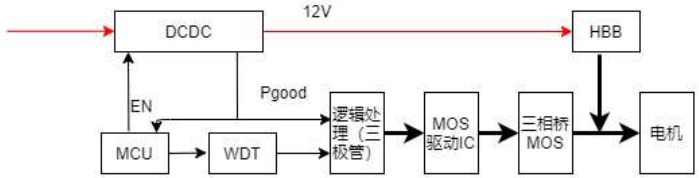
Change List

VER.	WHO	DATA	Description
HMCB_V01	liangkuai	2023.11.29	第一版设计
HMCB_V02	liangkuai	2024.2.28	1，外接泄放电阻识别功能FAIL，使用新的方案。 2，米勒效应修改优化措施导入。更换更佳的功率NMOS 3，动力电源母线电流采集的硬件RC滤波，使用RC=1MS的周期滤波。

Syrius 炬星 Syriusrobotics Technologies(ShenZhen)			
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 2 of 18	

Block Diagram

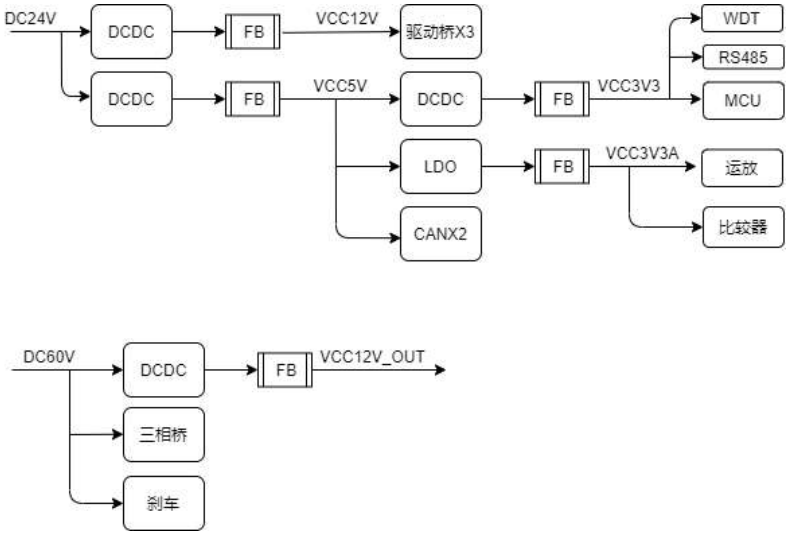




1.MCU 驱动电机前（包括自检），先打开对外12V电源（高电平打开），并检测12V是否正常，对外12V正常后才能驱动mos
2.MCU检测到过流事件，先让电机自由状态，在关闭对外12V输出

Syrius 炬星 Syriusrobotics Technologies(ShenZhen)			
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 3 of 18	

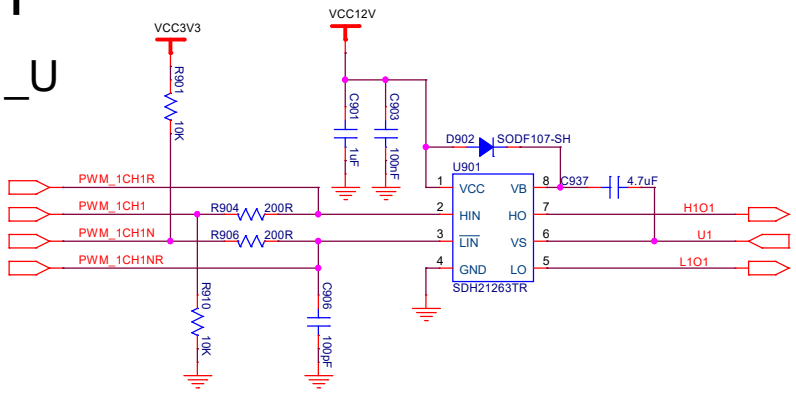
Power Tree

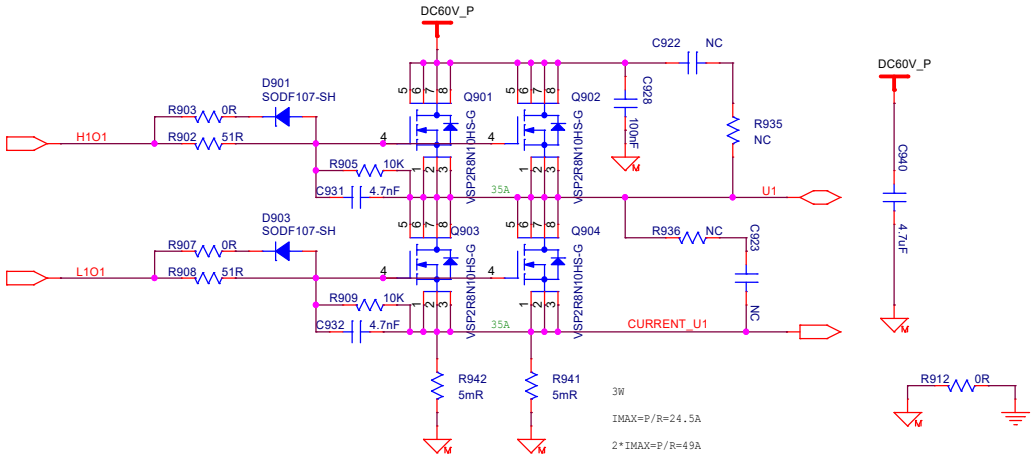


Syrius 炬星 Syriusrobotics Technologies(ShenZhen)			
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 4 of 18	

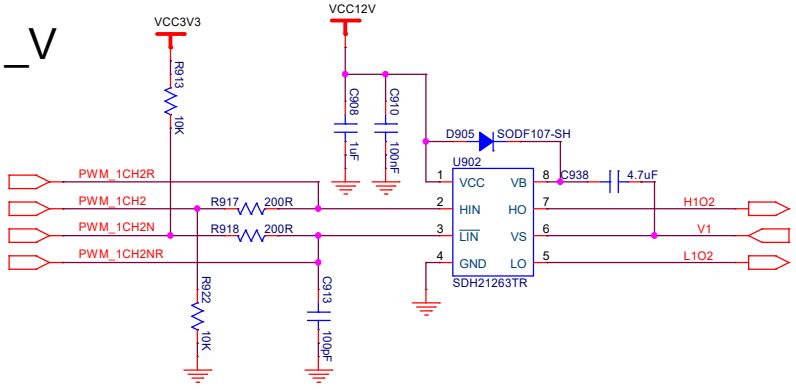
Driver1

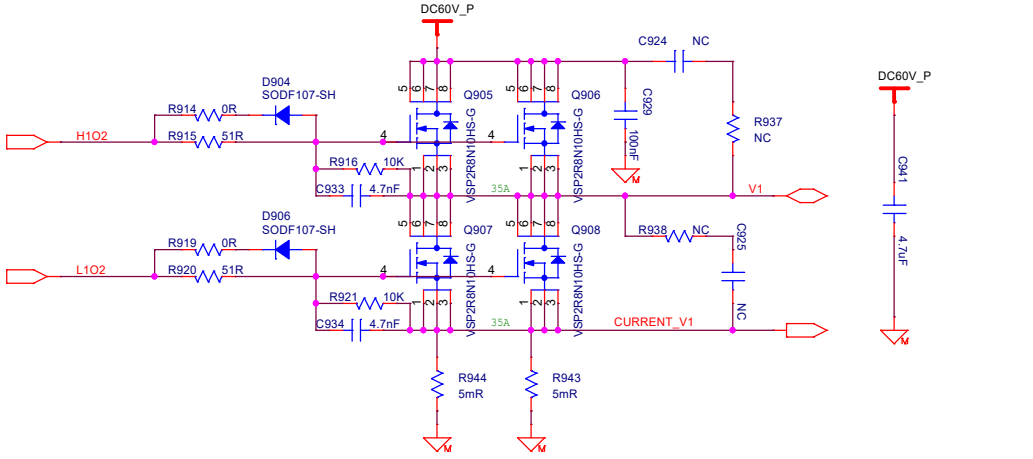
MOTOR1_U





MOTOR1_V





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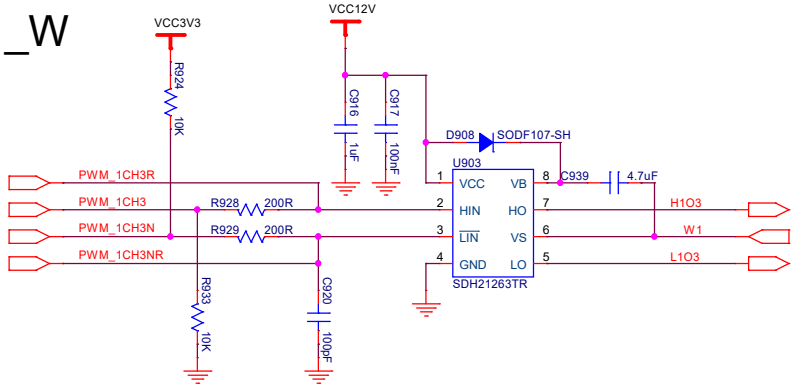

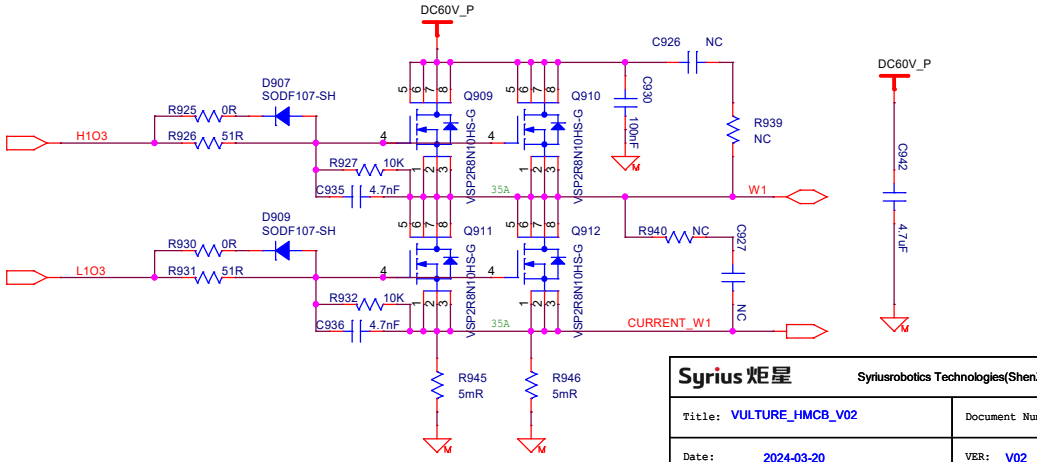

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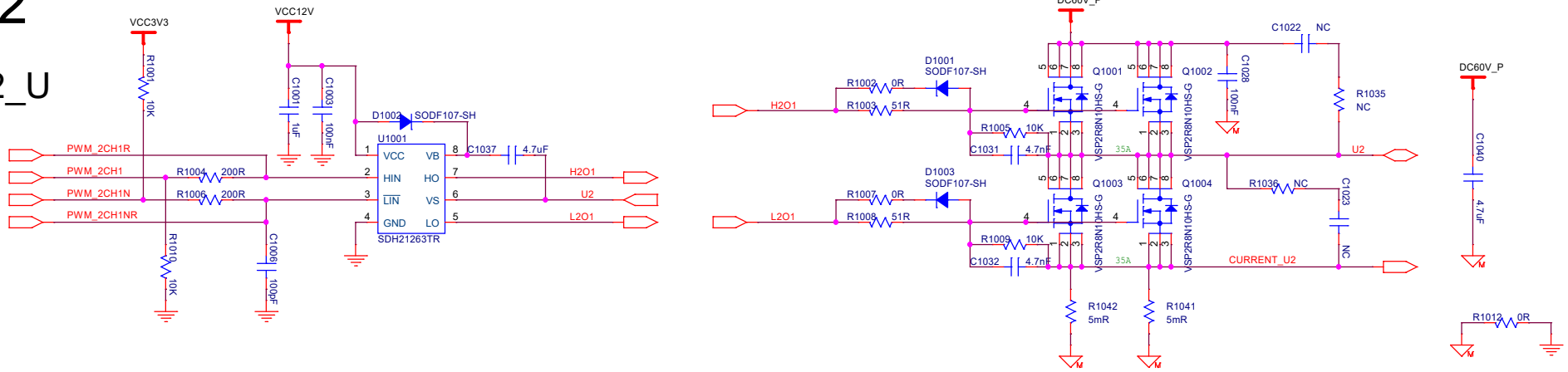
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 9	of 18

Driver2

MOTOR2_U



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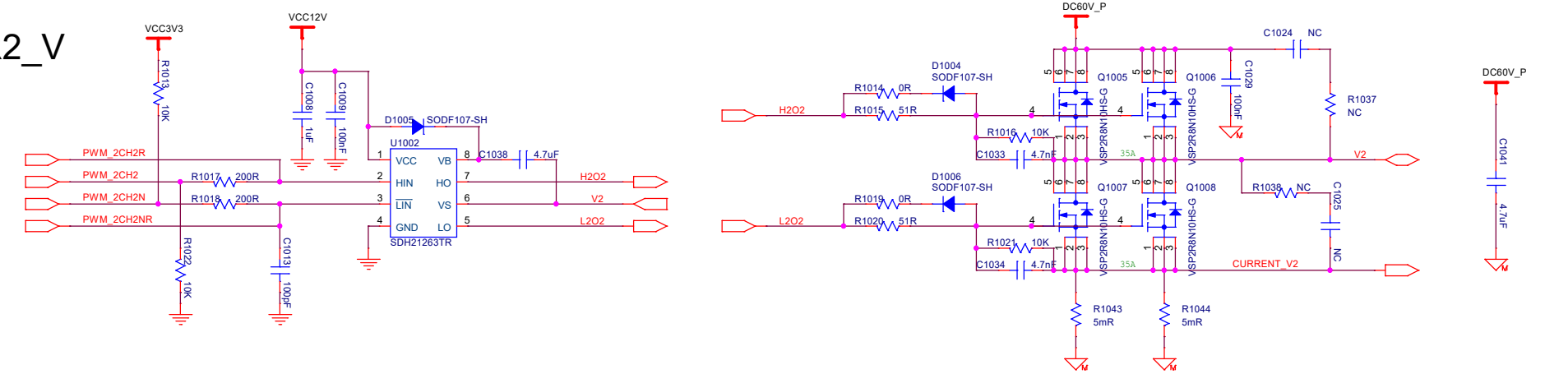

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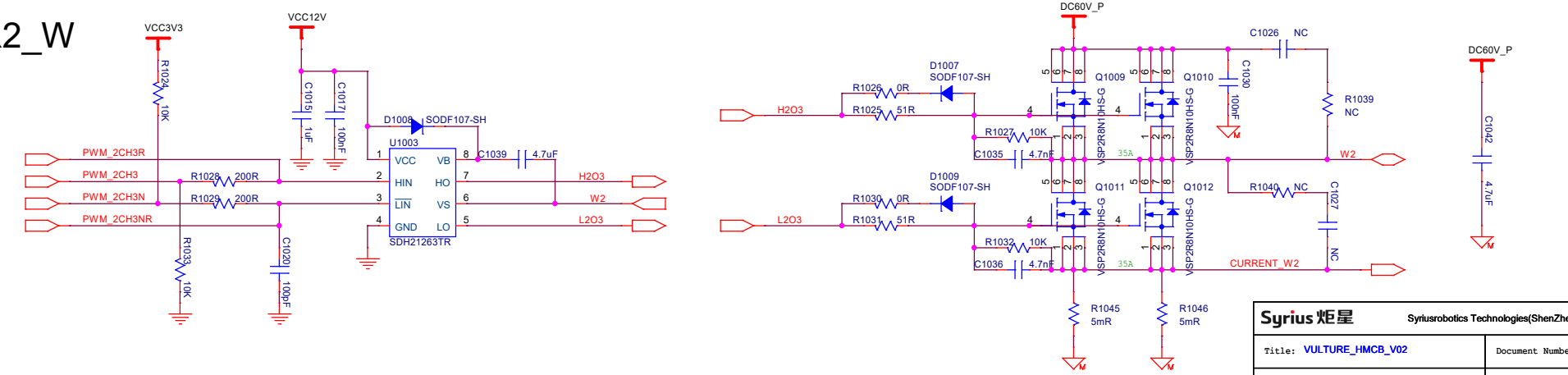

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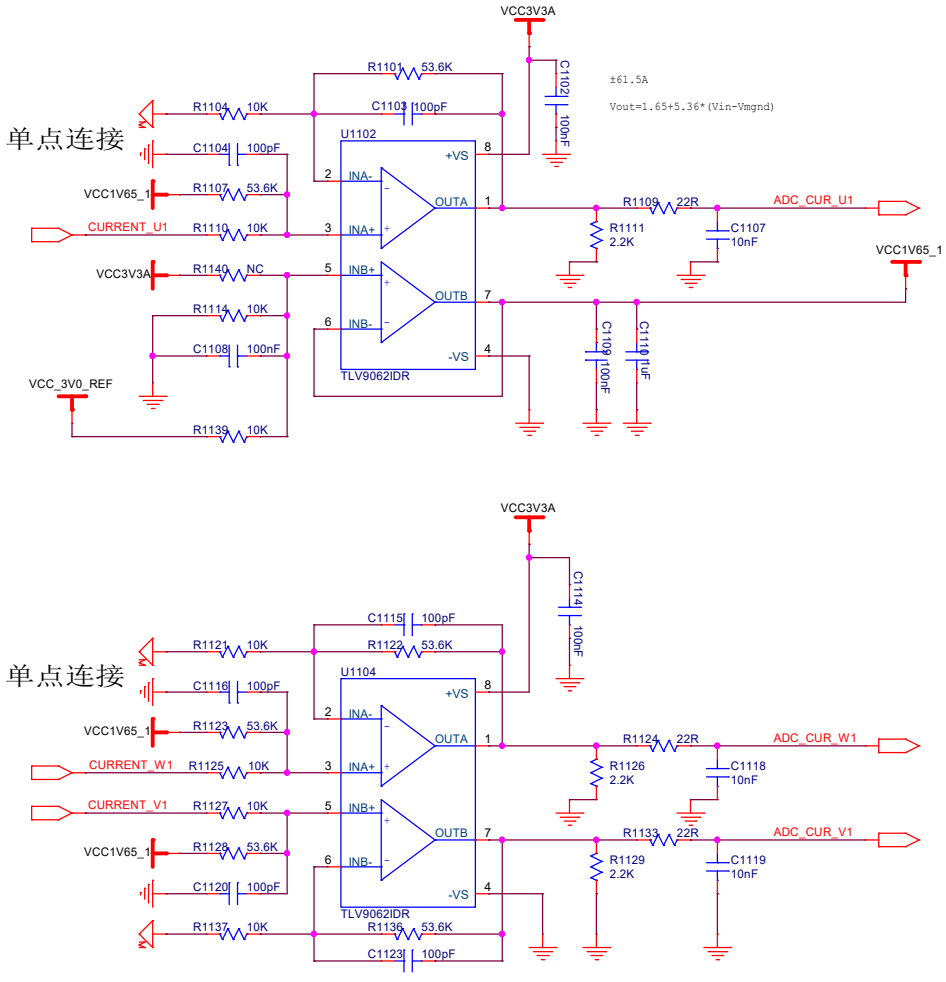
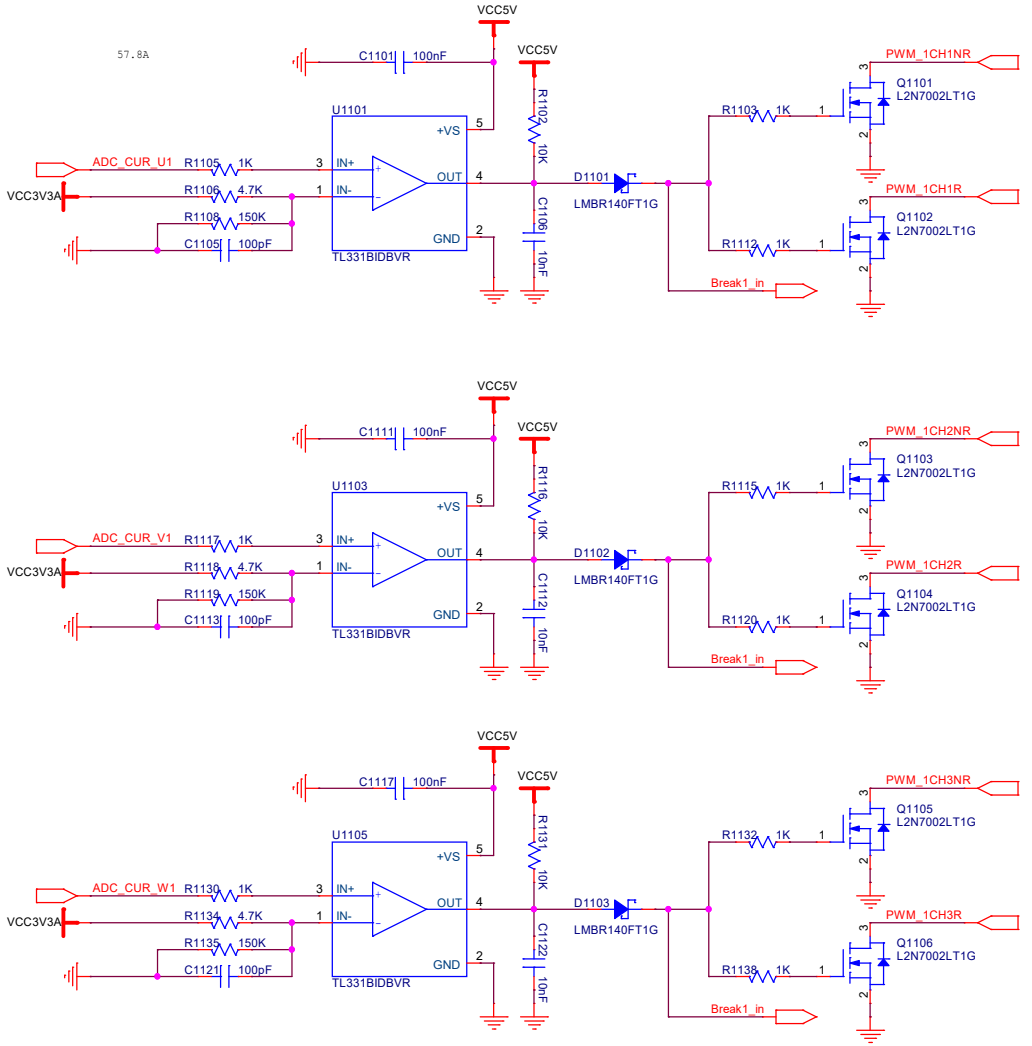
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 10 of 18	

AMP1

OPA



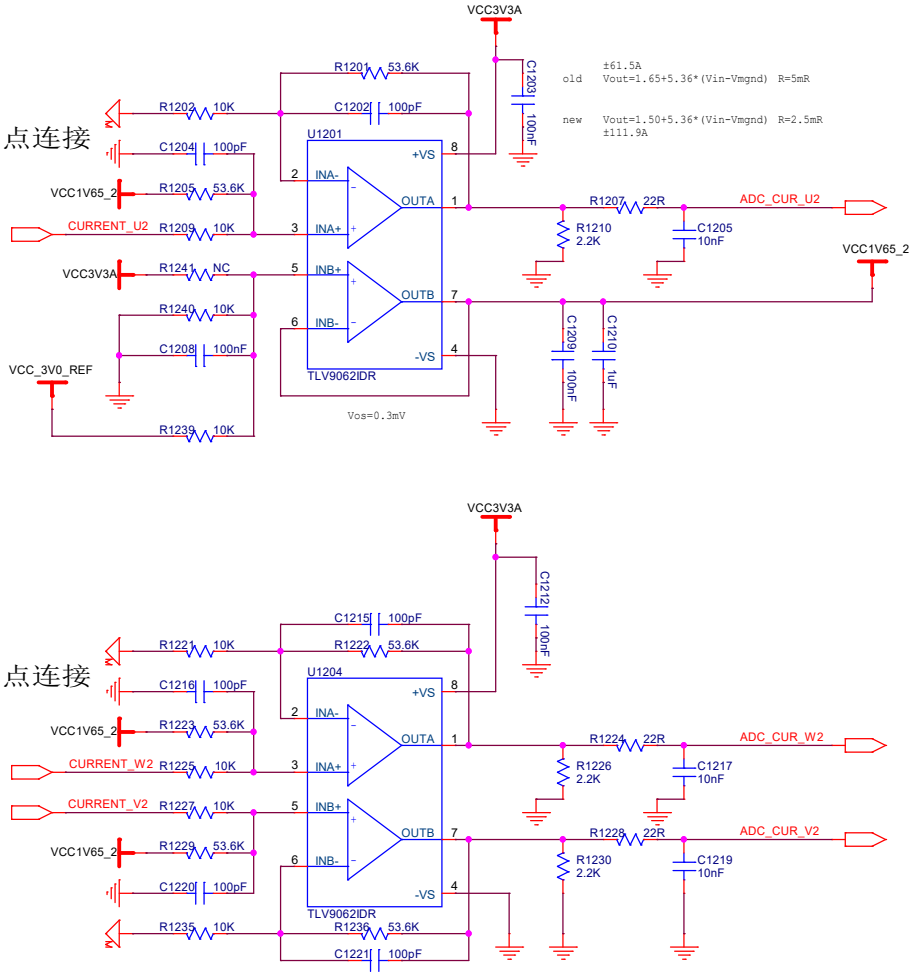
OVP



Syrius 炬星 Syriusrobotics Technologies(ShenZhen)			
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 11 of 18	

AMP2

OPA



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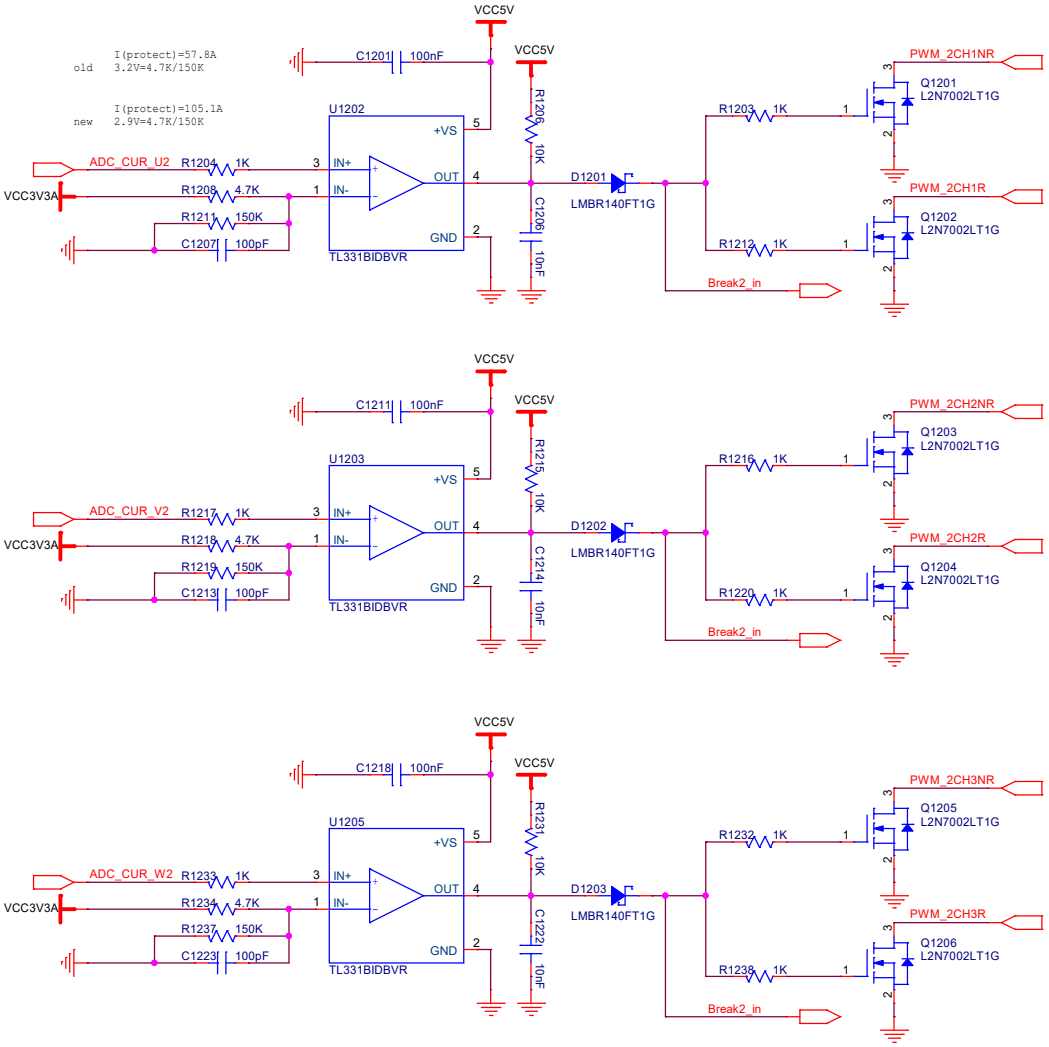

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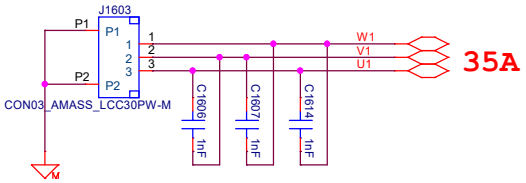
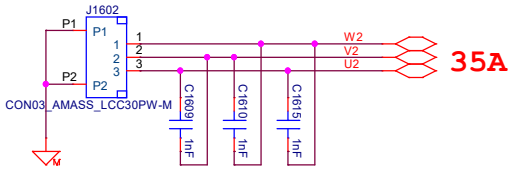
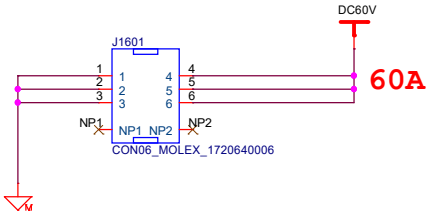
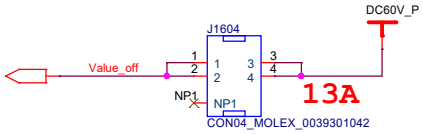
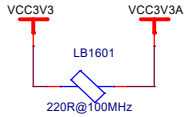
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 12 of 18	

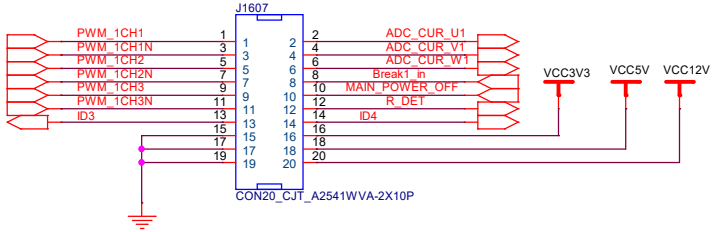


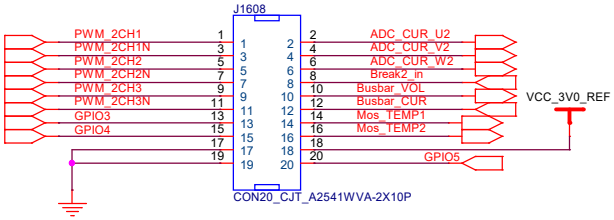












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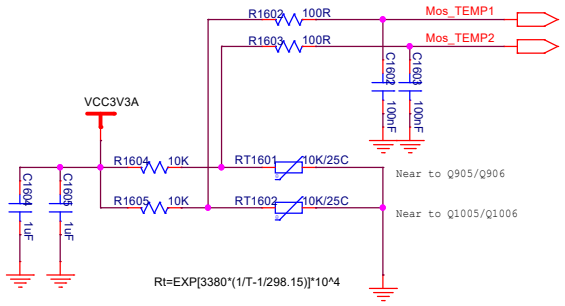
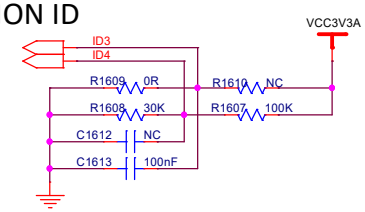


VERSION ID



V02=ID3 ID4

ID01	0	1	2	3	4	5	6	.....
R552/R553 RD	0	22K	30K	100K	121K	150K	200K	.....
R548/R549 RP	NC	150K	100K	200K	150K	121K	100K	.....
VOLTAGE	0 /+0.2V	0.42V /±0.15V	0.76V /±0.15V	1.10V /±0.15V	1.47V /±0.15V	1.83V /±0.15V	2.20V /±0.15V	.....

HMCB=ID3 =0

ID03	0	1	2	3	4	5	6	.....
VERSION	HMCB	SMCB	LMCB					.....
PROJECT	重龙	剑龙	梁龙 银星					.....
VOLTAGE	48V 1.5KW*2	48V 2KW*2	24V 400W*2					.....

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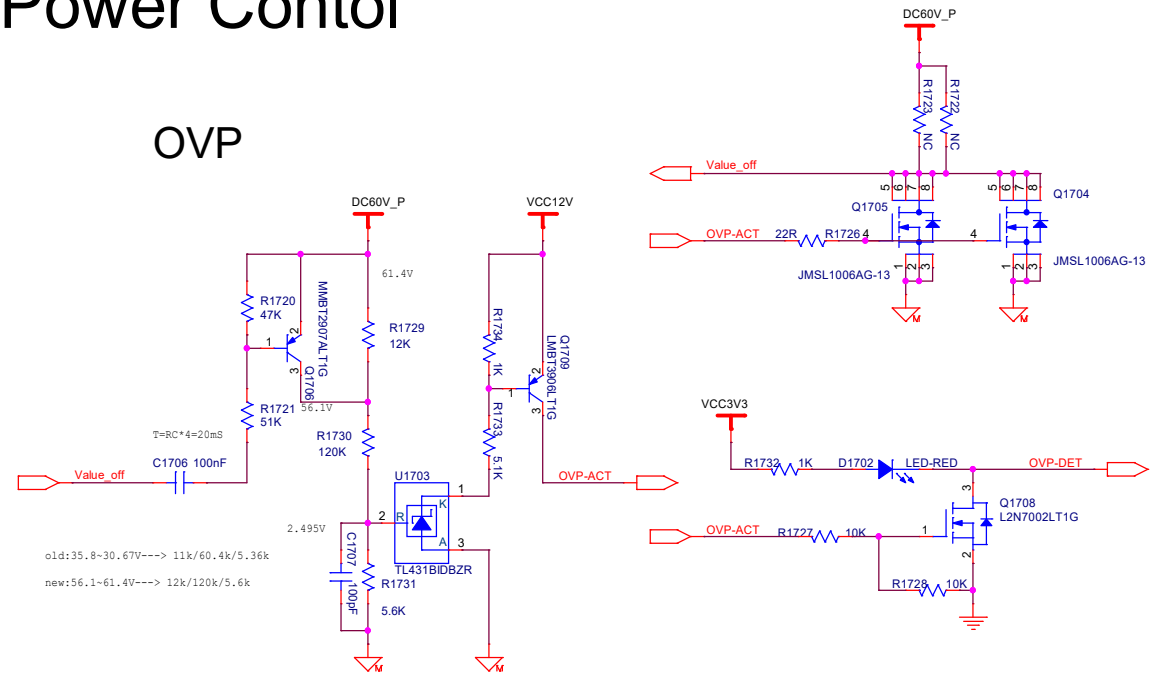
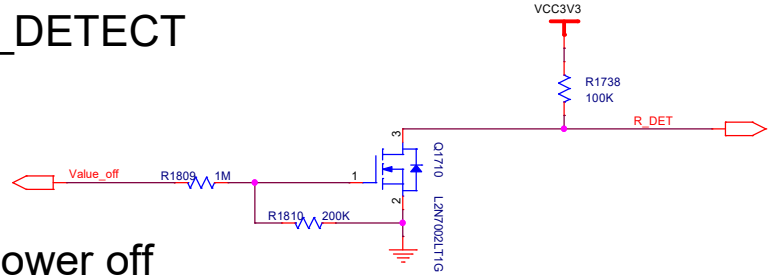
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 16 of 18	

Power Contol

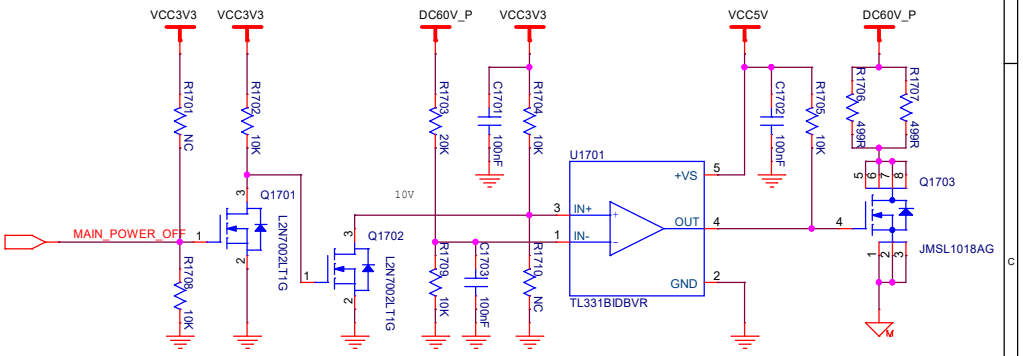
OVP

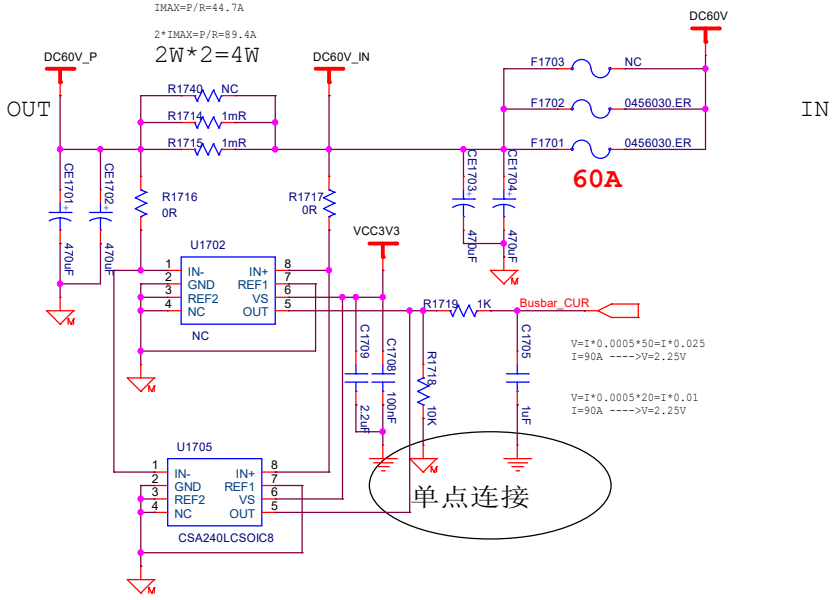


R_DETECT

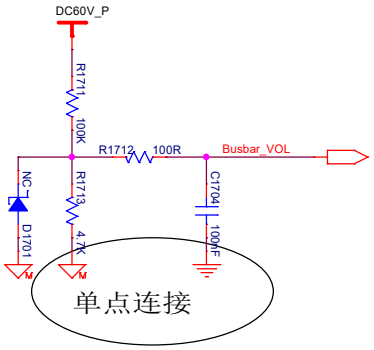


Power off





VOLTAGE ADC



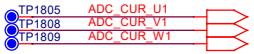
Syrius 炬星	Syriusrobotics Technologies(ShenZhen)		
Title: VULTURE_HMCB_V02		Document Number: < XXXXX >	
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 17 of 18	

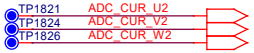
Test Point

SYSTEM

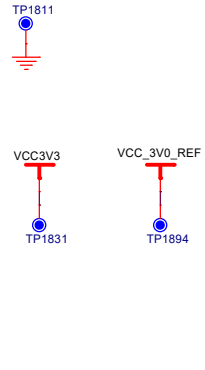
MOTOR

CURRENT SENSE





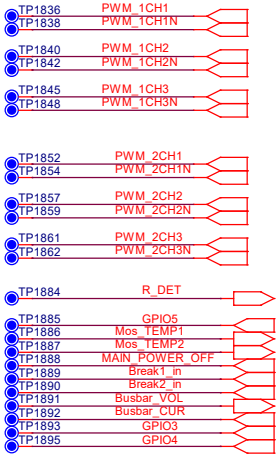
POWER



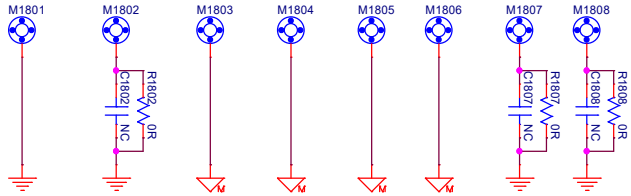
CAN

CODER

PWM



MACHINE



GPIO

RS485

Syrius 炬星	Syriusrobotics Technologies(ShenZhen)		
Title: VULTURE_HMCB_V02		Document Number:	< XXXXX >
Date: 2024-03-20		VER: V02	SIZE: A3
Author: LIANGKUAI		Sheet 18	of 18