

Board Name

2024-03-27

Variant: Draft

Rev 1.0

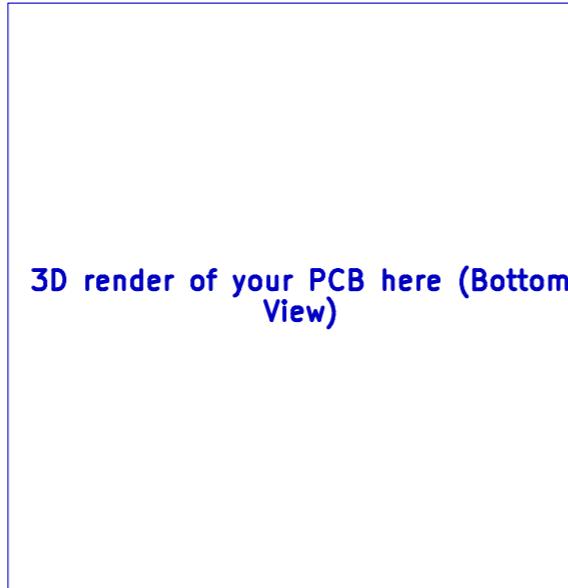
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TOP VIEW



3D render of your PCB here (Top View)

BOTTOM VIEW



3D render of your PCB here (Bottom View)

DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational design notes.

DESIGN NOTE:
Example text for debug notes.

DESIGN NOTE:
Example text for cautionary design notes.

DESIGN NOTE:
Example text for critical design notes.

LAYOUT NOTE:
Example text for critical layout guidelines.

NOTES

Add a comment here

Not fitted components are marked as

DRAFT - Very early stage of schematic, ignore details.

PRELIMINARY - Close to final schematic.

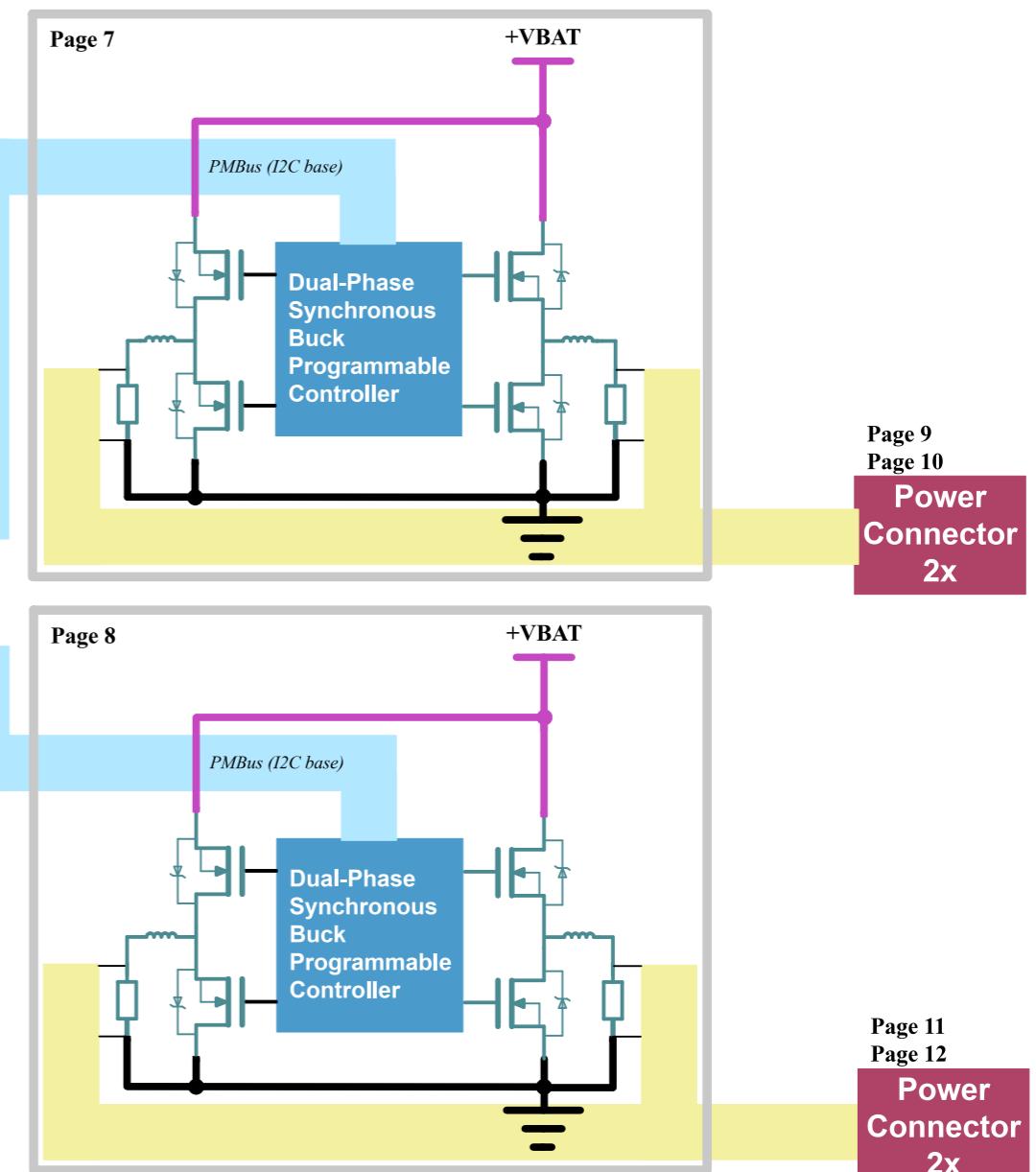
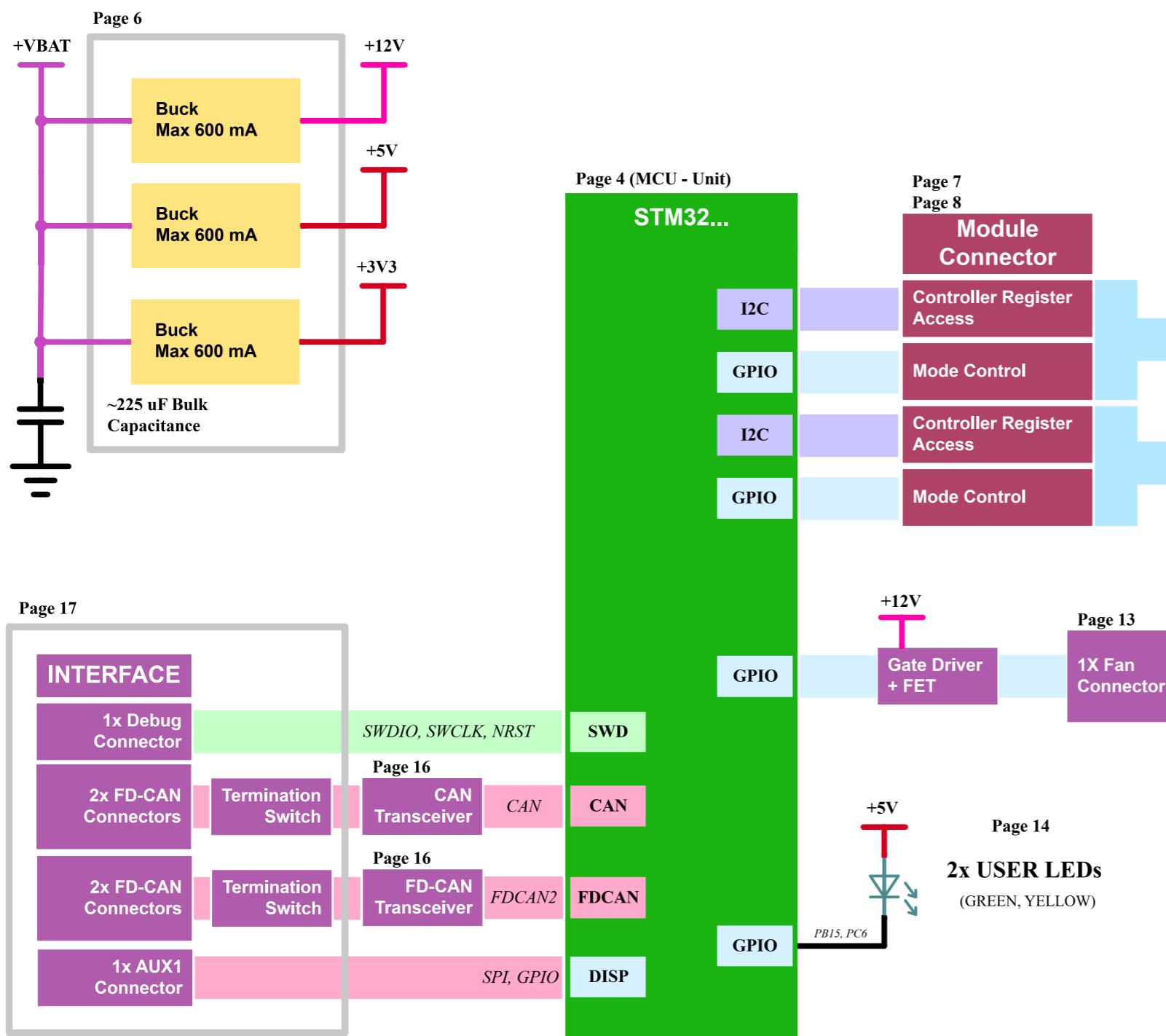
CHECKED - There shouldn't be any mistakes. Contact the engineer if you find any.

RELEASED - A board with this schematic has been sent to production.

Draft Release Date

	Comments:	Company: EPFL Xplore	Variant: Draft
	Board Name: Board Name	Project Name: smps_legged_robot	Date: Last Modified Date 1.0
	Sheet Title: Cover Page	File Name: smps_legged_robot.kicad_sch	Designer: Federico Bise
	Sheet Path: /	Reviewer: Reviewer Name	Size: A3 Sheet: 1 of 19

[2] Block Diagram

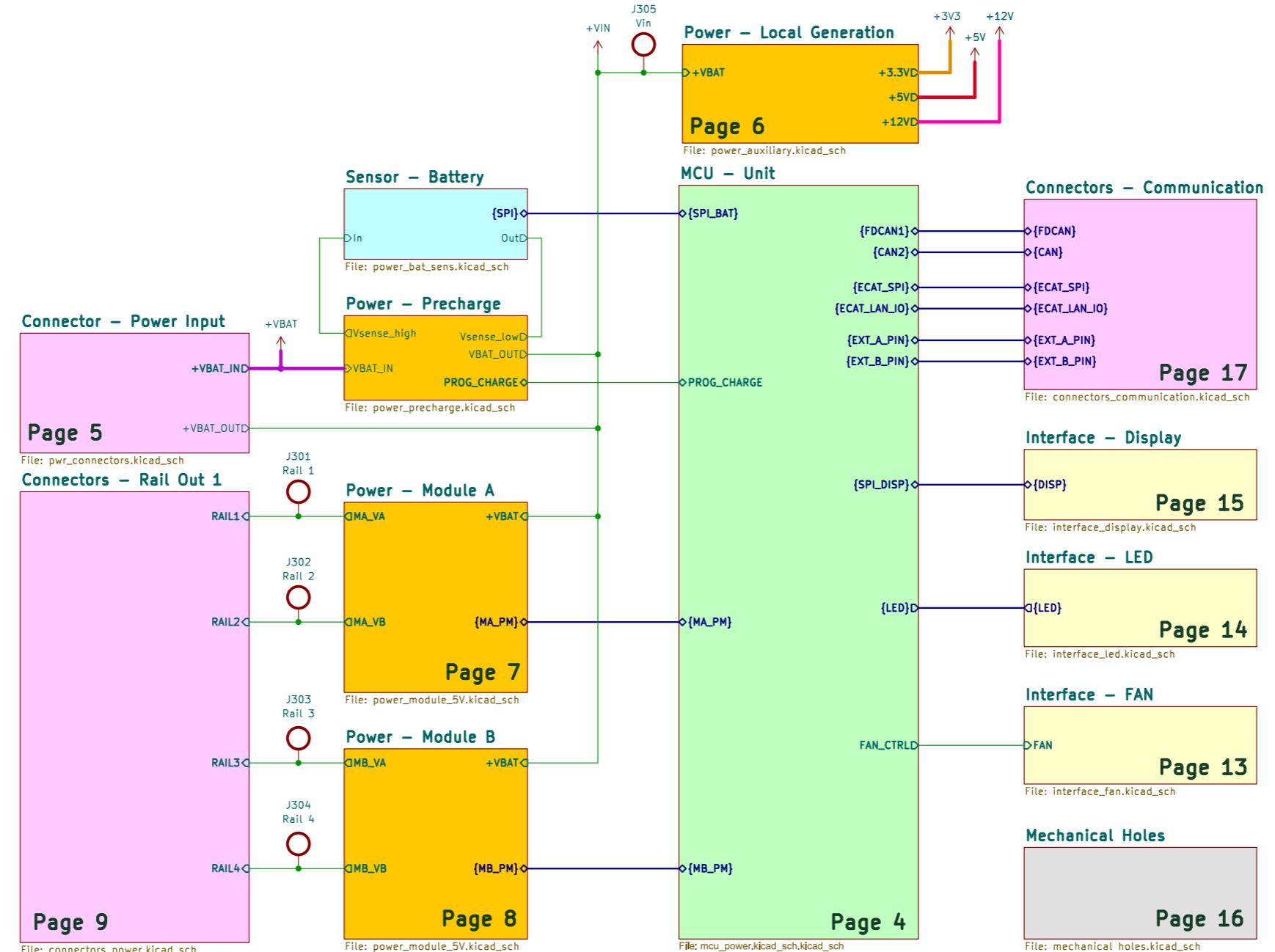


Target specifications:

Input voltage:	42V
Continuous current:	???
Peak current:	200 A
Switching frequency:	???

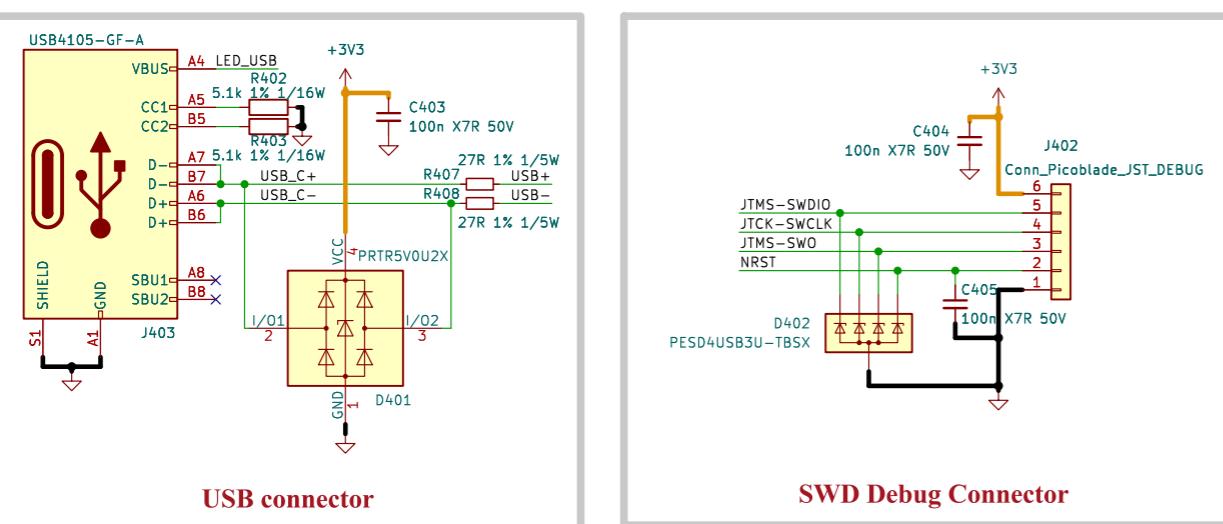
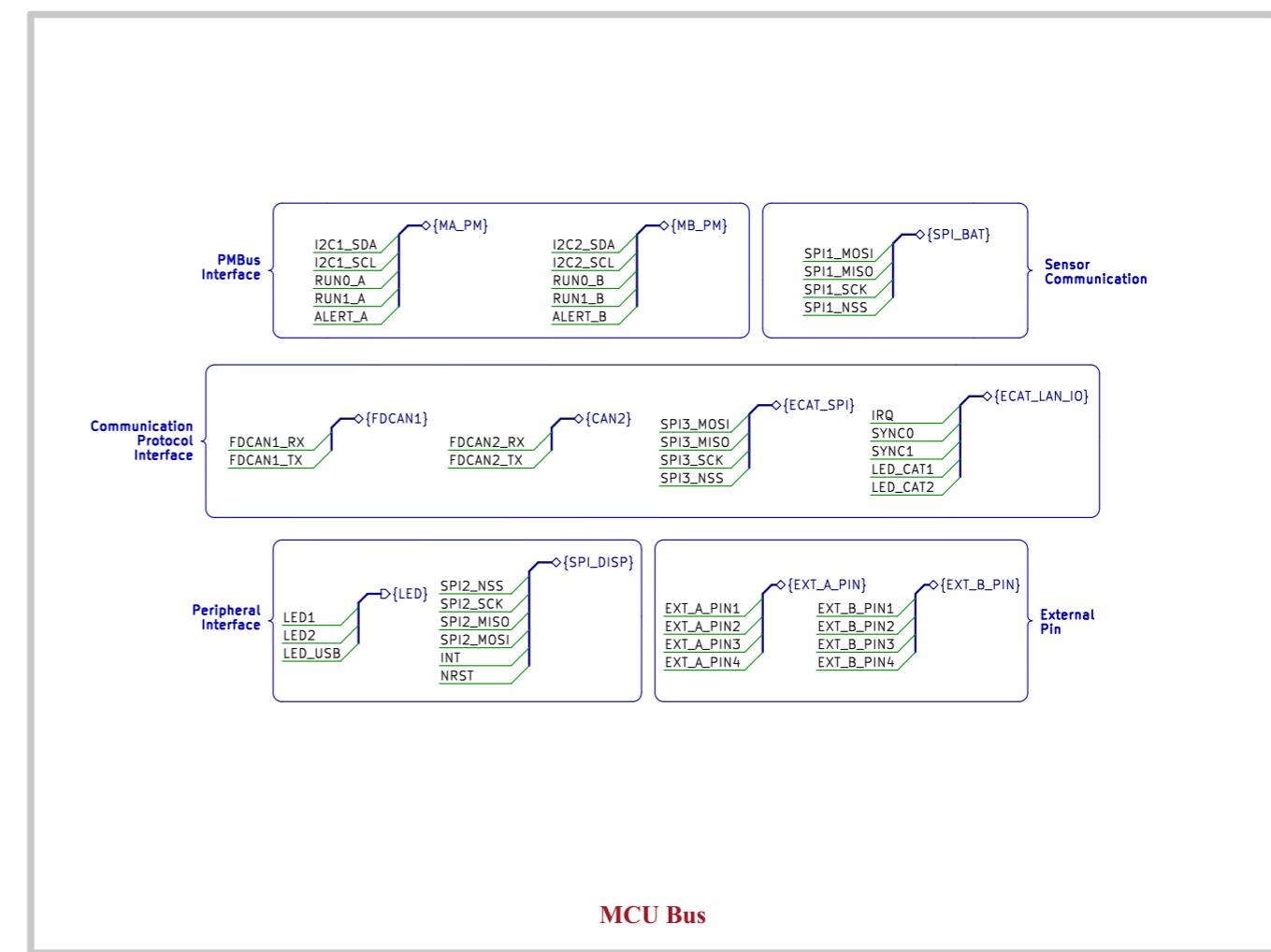
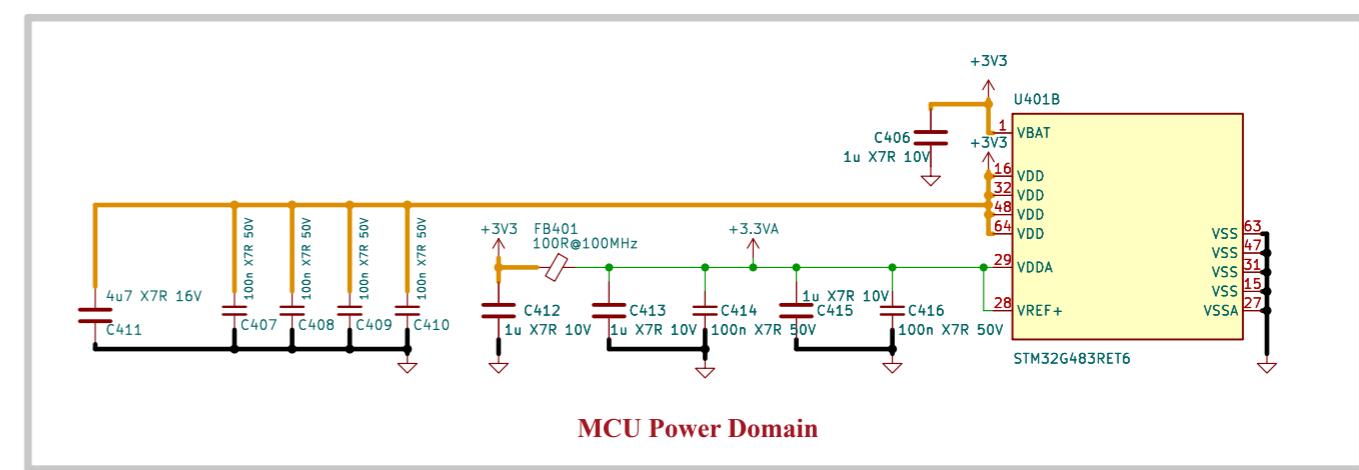
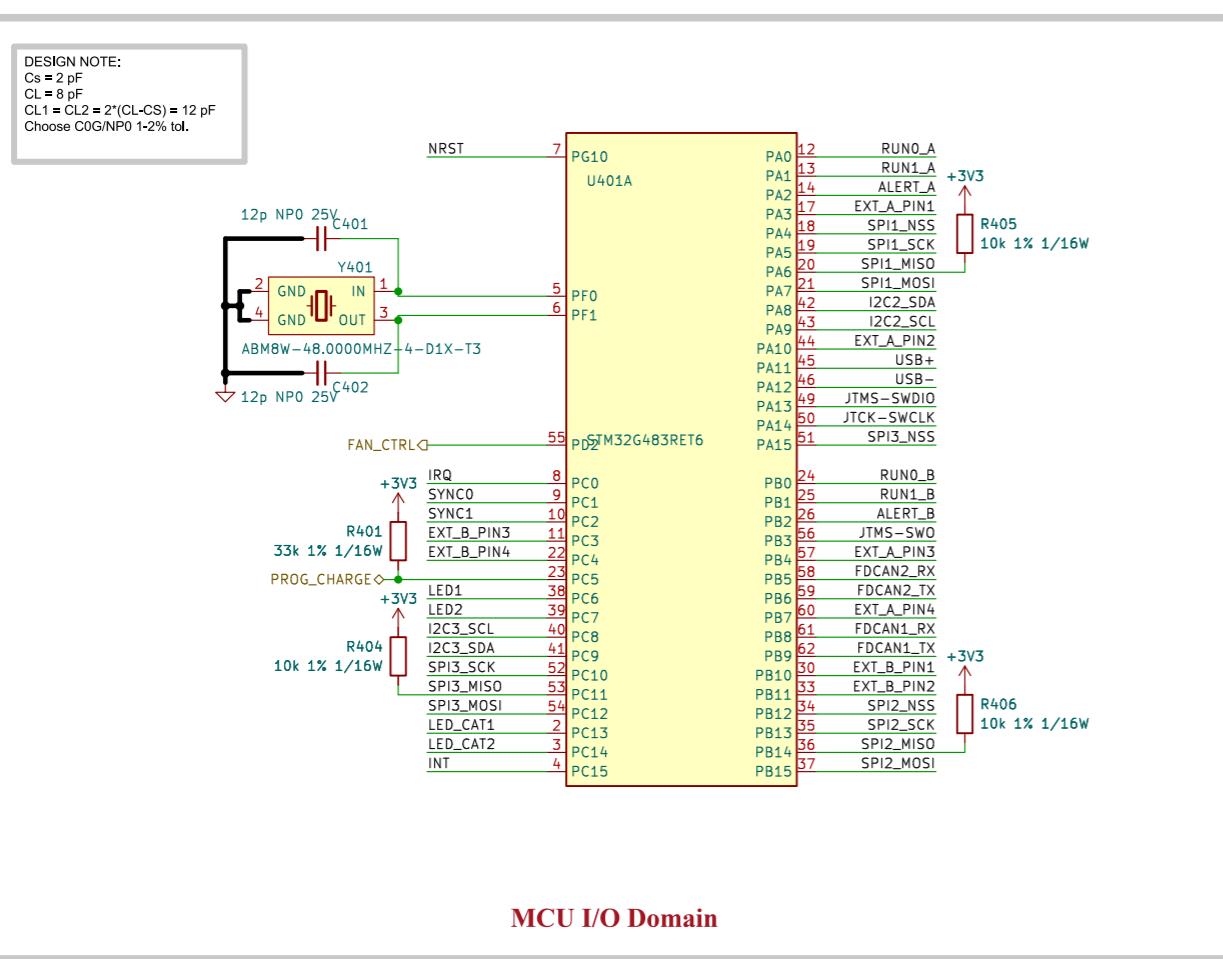
Comments:	Company: EPFL Xplore	Variant: Draft	
		Board Name: Board Name	Project Name: smps_legged_robot
Sheet Title: Block Diagram	File Name: Block Diagram.kicad_sch	Designer: Federico Bise	Date: Last Modified Date 1.0
Sheet Path: /Block Diagram/	Reviewer: Reviewer Name	Size: A3	Sheet: 2 of 19

[3] Project Architecture



	Comments:	Company:	Variant:
		EPFL Xplore	Draft
	Board Name:	Board Name	Project Name:
			smps_legged_robot
	Sheet Title:	File Name:	Date:
	Project Architecture	Project Architecture.kicad_sch	Last Modified Date
	Sheet Path:	Designer:	Revision:
	/Project Architecture/	Federico Bise	1.0
	Reviewer:	Reviewer Name:	Size:
			A3
	Sheet:		3 of 19

[4] MCU - Unit

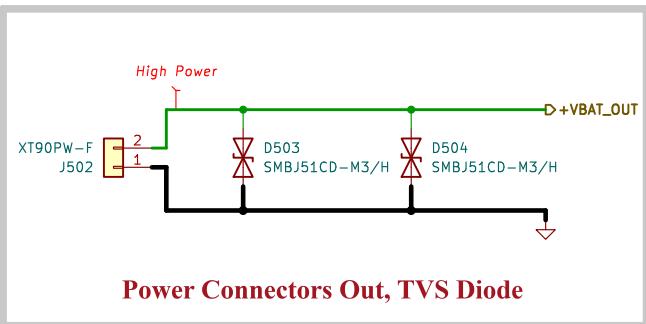
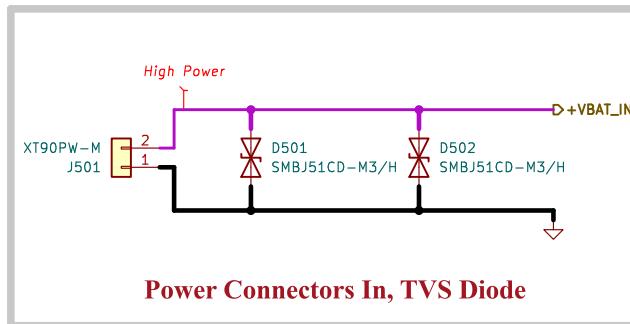


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	EPFL Xplore		Draft
	Board Name:	Board Name	Project Name:
			smps_legged_robot
	Sheet Title:	File Name:	Date:
	Sheet Title A	mcu_power.kicad_sch.kicad_sch	Last Modified Date
	Sheet Path:	Reviewer:	Revision:
	/Project Architecture/MCU - Unit/	Reviewer Name	1.0
	Size:	Sheet:	
	A3	4	of 19

[5] Connector - Power

A

A

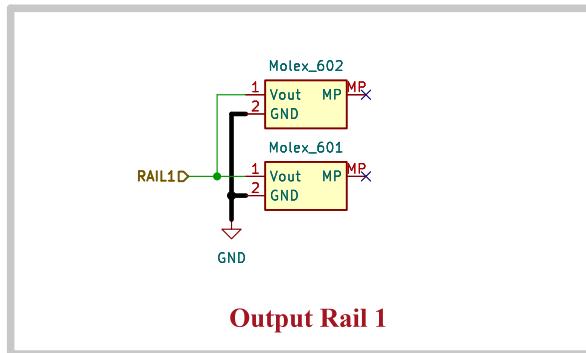


B

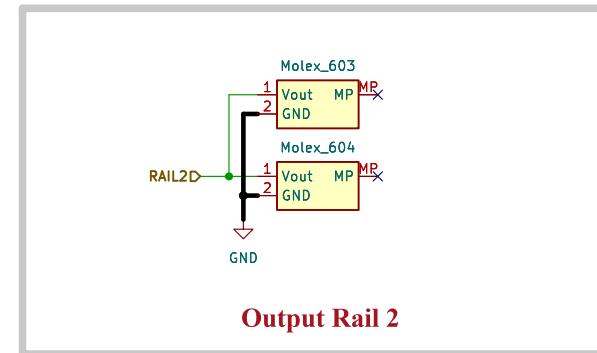
B

	Comments:	Company:	Variant:	
			Draft	
	Board Name: Board Name		Project Name: smps_legged_robot	
	Sheet Title: pwr_connectors.kicad_sch	Designer: Federico Bise	Date:	Revision:
Sheet Path: /Project Architecture/Connector - Power Input/		Reviewer: Reviewer Name	Size: A5	Sheet: 5 of 19

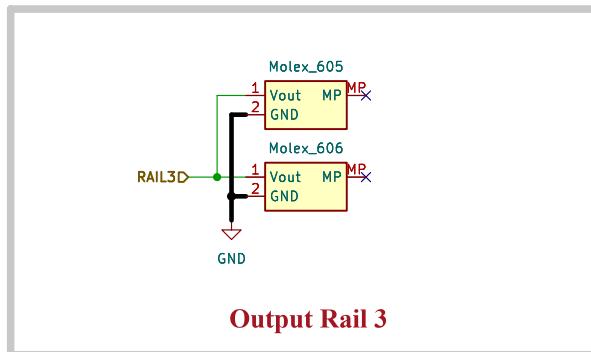
[9-12] Power - Power Out



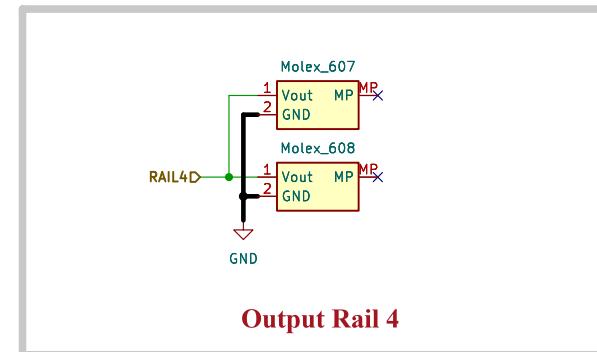
Output Rail 1



Output Rail 2



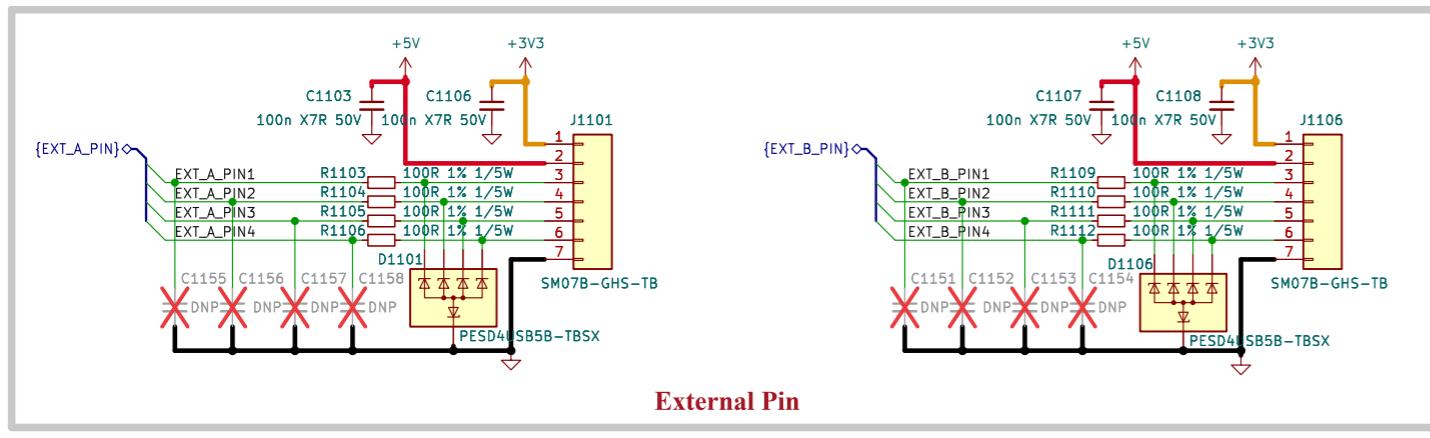
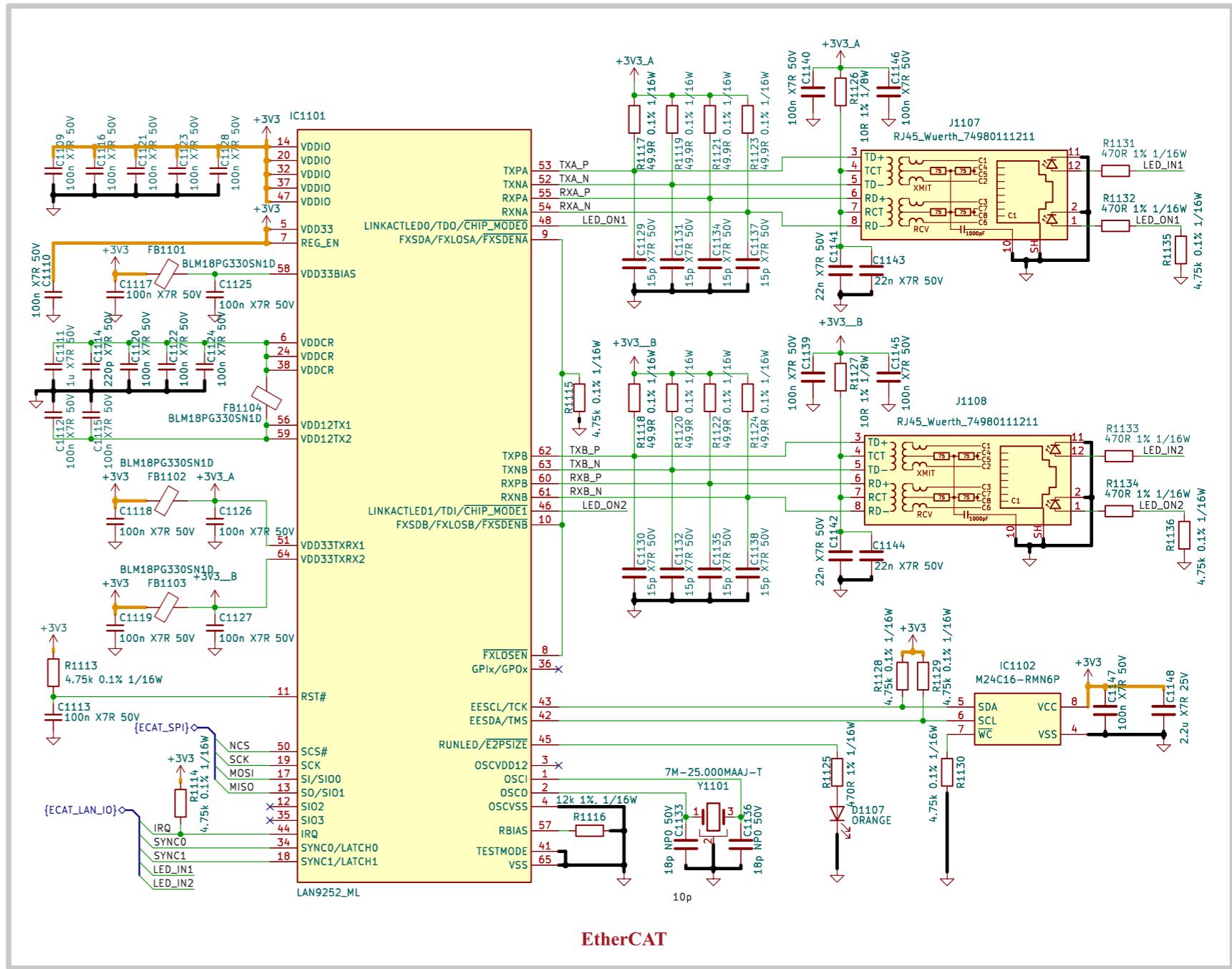
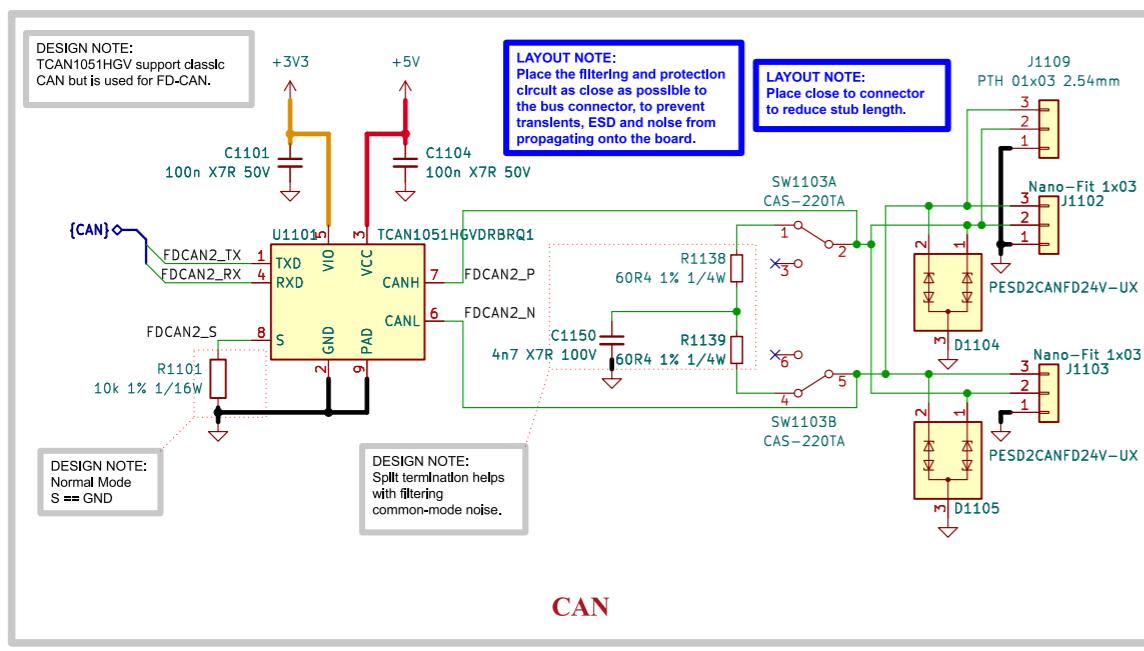
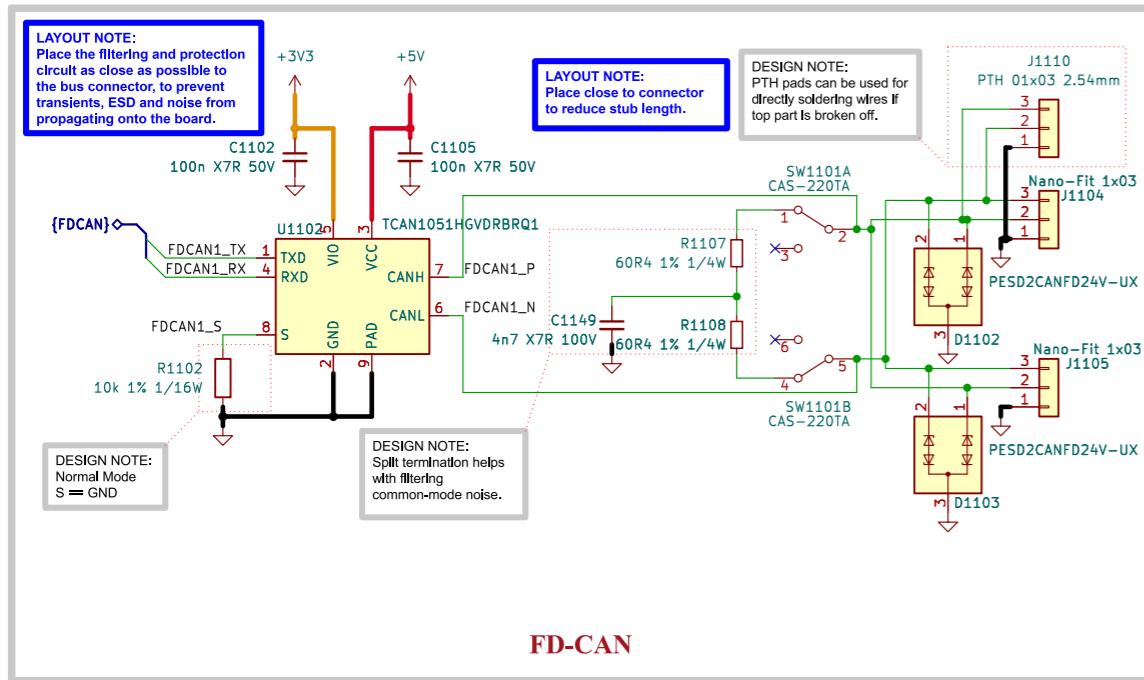
Output Rail 3



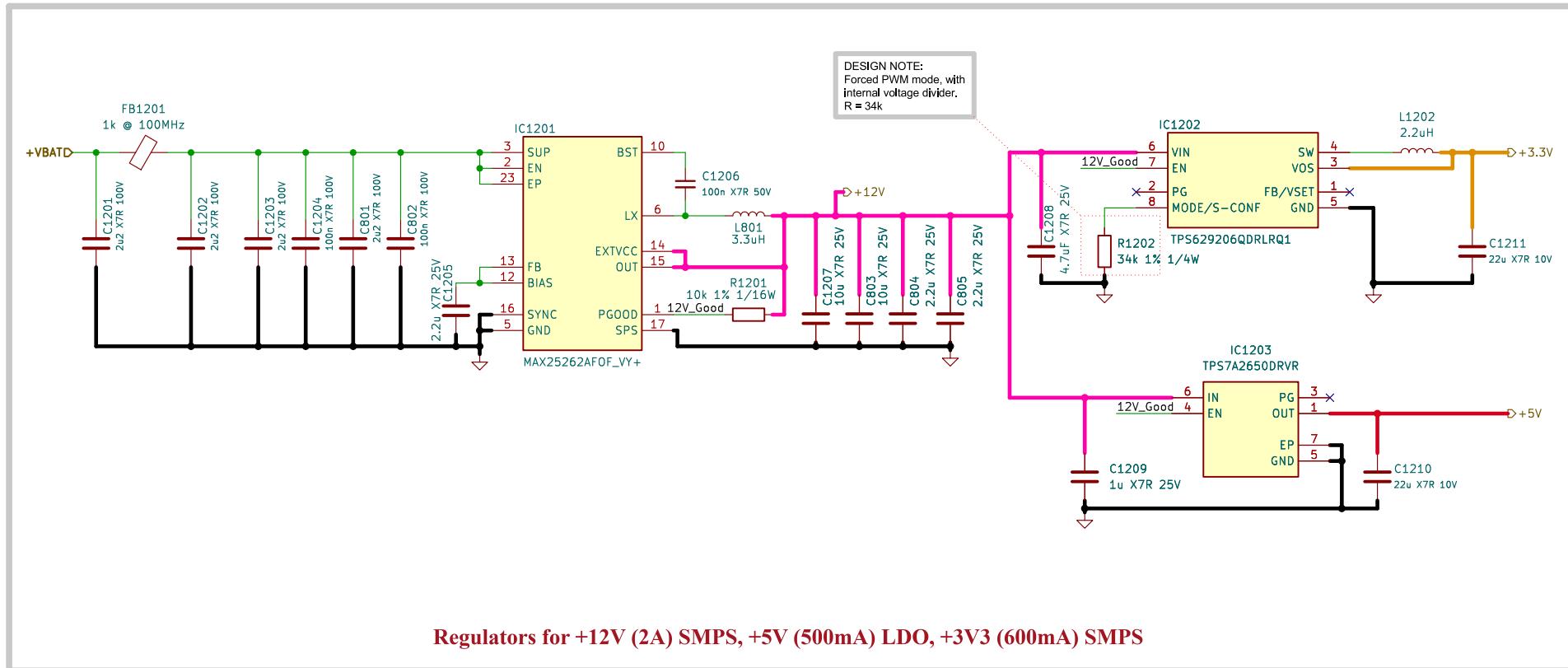
Output Rail 4

	Comments:	Company:	Variant: Draft
		Board Name: Board Name	Project Name: smps_legged_robot
	Sheet Title:	File Name: connectors_power.kicad_sch	Designer: Federico Bise
	Sheet Path:	/Project Architecture/Connectors - Rail Out 1/	Date: Revision:
		Reviewer: Reviewer Name	Size: A4 Sheet: 7 of 19

[11] Interface - Communication



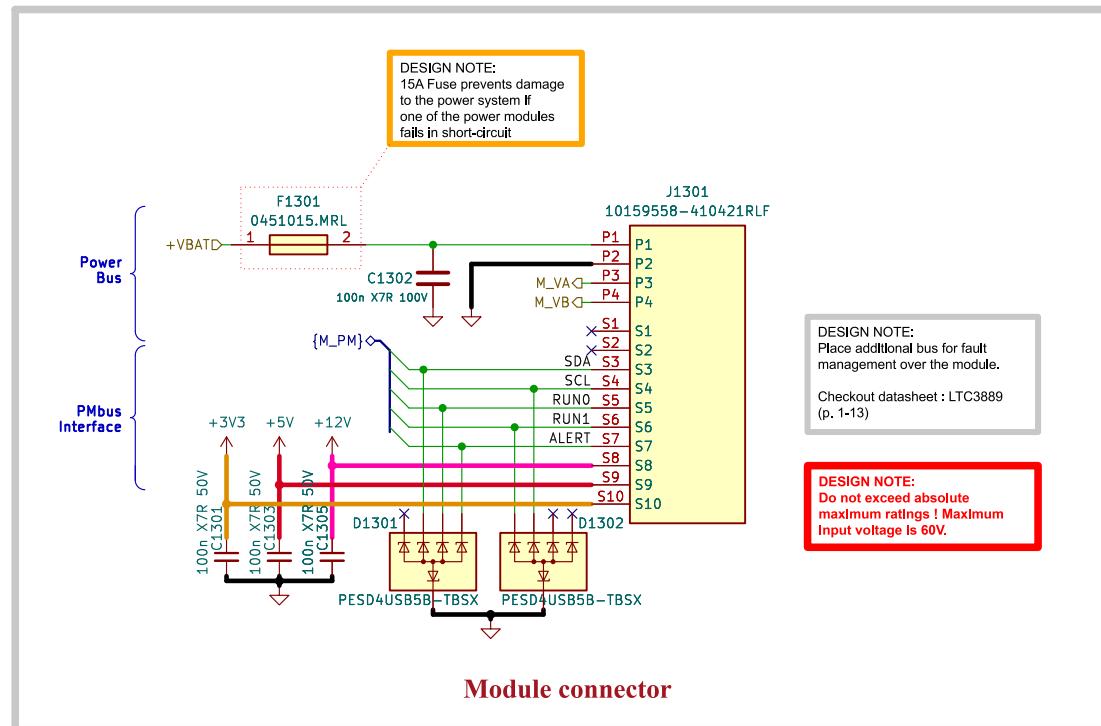
[12] Power - Local Generation



1	2	3	4	5	6
A					A
B					B
C					C
D					D
1	2	3	4	5	6

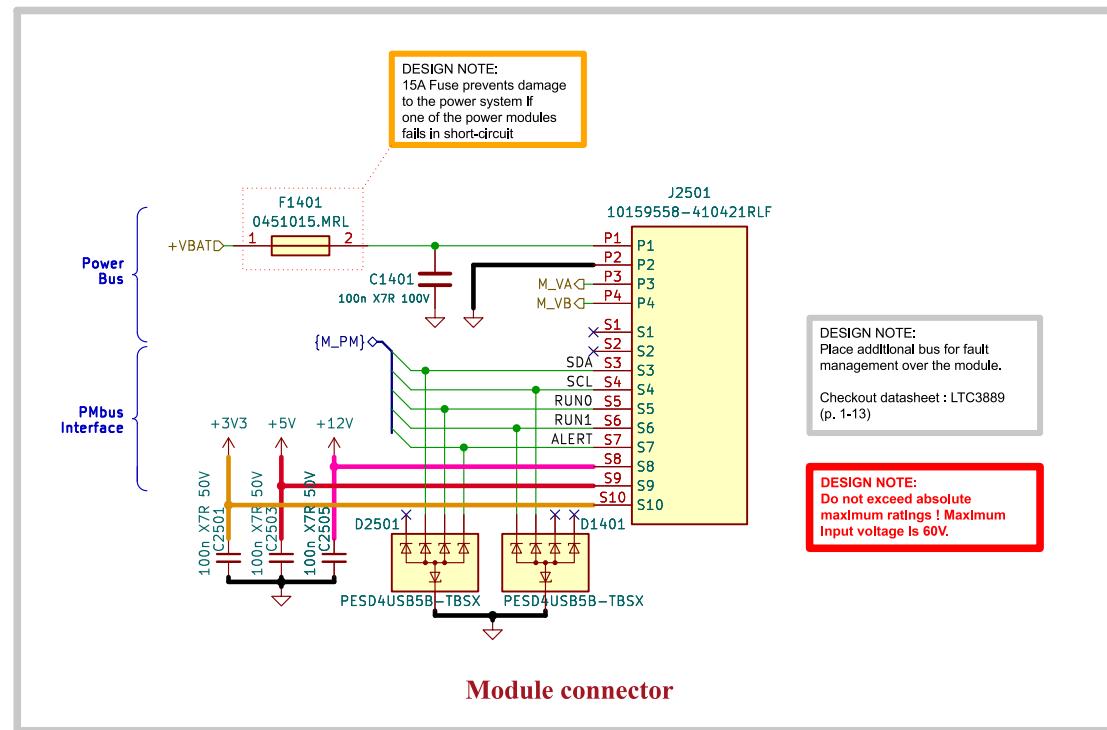
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Board Name: Board Name		Draft
Sheet Title:	File Name: power_auxiliary.kicad_sch	Designer: Federico Bise
Sheet Path: /Project Architecture/Power - Local Generation/	Reviewer:	Date: Revision:
	Reviewer Name	A4
		Sheet: 12 of 19

[13-14] Power - Module



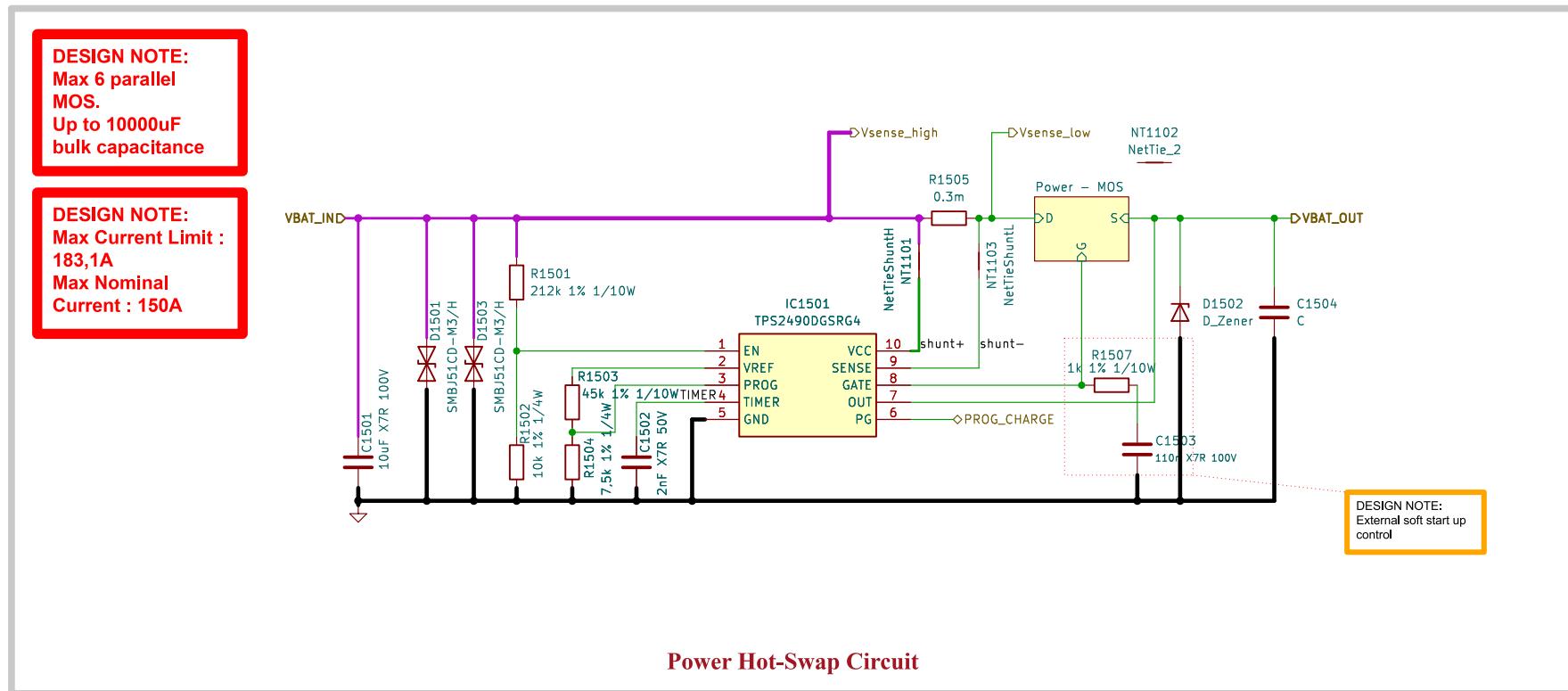
	Comments:	Company:	Variant:
	Board Name: Board Name		
	Sheet Title:	File Name: power_module_5V.kicad_sch	Designer: Federico Bise
	Sheet Path: /Project Architecture/Power - Module A/	Reviewer: Reviewer Name	Date: Size: A4 Sheet: 13 of 19

[13-14] Power - Module



	Comments:	Company:		Variant:	
				Draft	
	Board Name:	Board Name		Project Name:	smps_legged_robot
	Sheet Title:	File Name: power_module_5V.kicad_sch	Designer: Federico Bise	Date:	Revision:
	Sheet Path: /Project Architecture/Power - Module B/		Reviewer: Reviewer Name	Size: A4	Sheet: 14 of 19

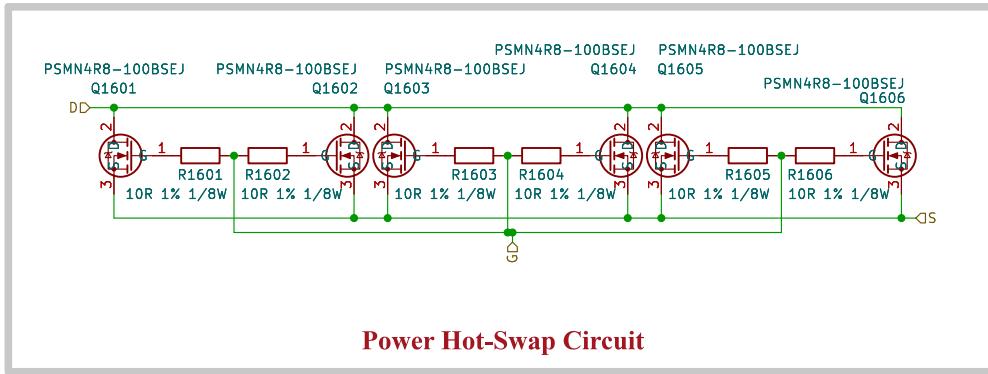
[15]Power - Precharge



[16] Power - MOS

DESIGN NOTE:
Max 6 parallel
MOS.
Up to 10000uF
bulk capacitance

DESIGN NOTE:
Maximum steady
state FET Junction
Temperature :
129.1 °C

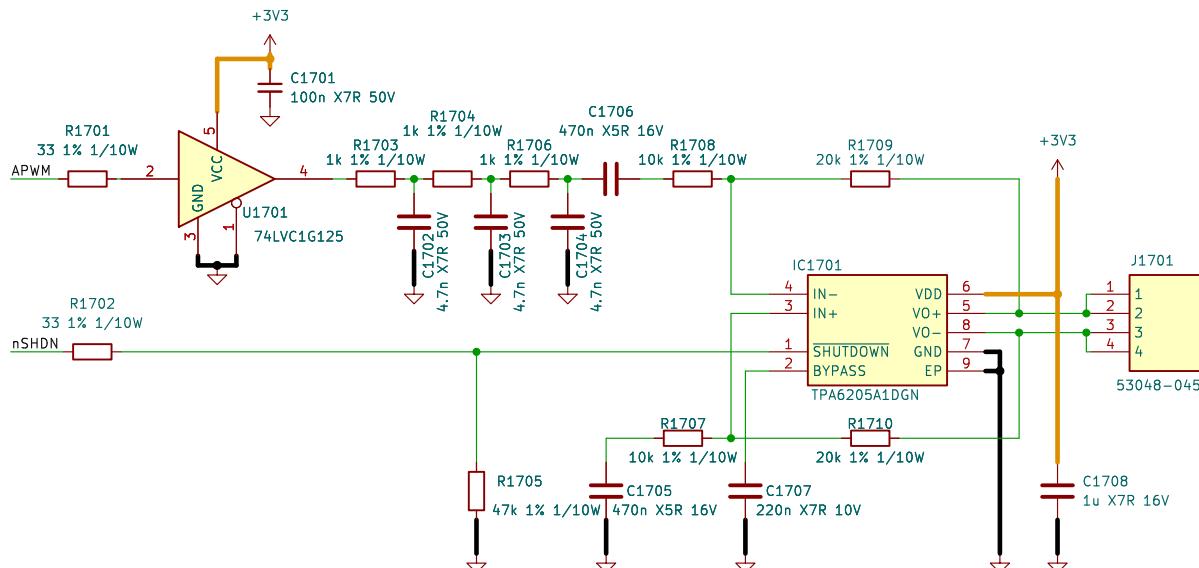


	Comments:	Company:	Variant:
	Board Name: Board Name		Project Name: smps_legged_robot
	Sheet Title:	File Name: power_mos.kicad_sch	Designer: Federico Bise
	Sheet Path: /Project Architecture/Power - Precharge/Power - MOS/	Reviewer: Reviewer Name	Date: Size: A5 Sheet: 16 of 19

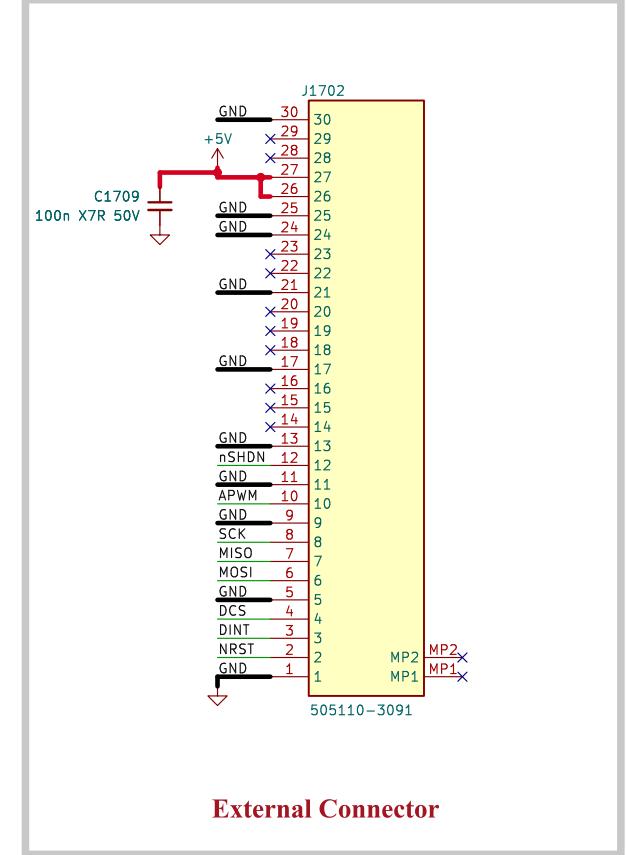
1 2 3 4 5 6

[17] Interface - Display

A



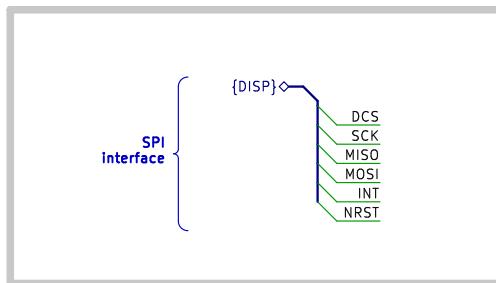
A



B

C

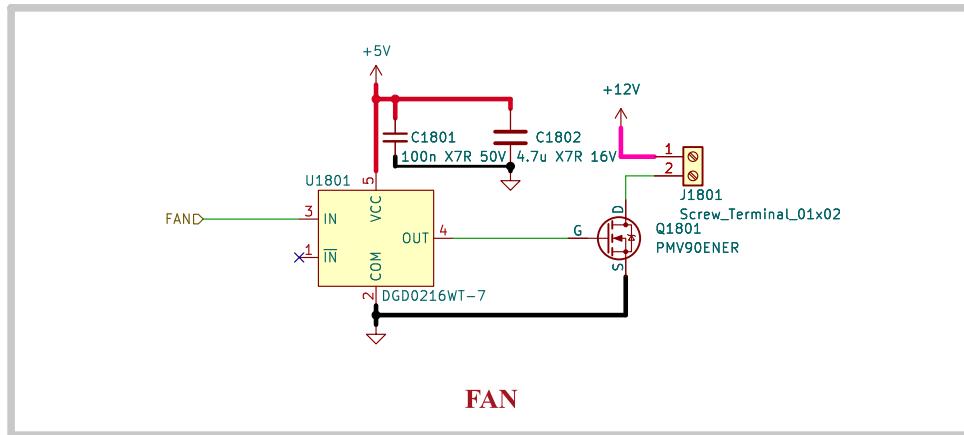
D



Comments:	Company:		Variant:
Board Name: Board Name			Project Name: smps_legged_robot
Sheet Title:	File Name: interface_display.kicad_sch	Designer: Federico Bise	Date: Review Date:
Sheet Path: /Project Architecture/Interface - Display/	Reviewer: Reviewer Name	Size: A4	Sheet: 17 of 19

1 2 3 4 5 6

[18] Interface - FAN



FAN

	Comments:	Company:	Variant:
			Draft
	Board Name: Board Name	Project Name: smps_legged_robot	
	Sheet Title: /Project Architecture/Interface - FAN /	File Name: interface_fan.kicad_sch Designer: Federico Bise	Date: Revision:
	Reviewer: Reviewer Name	Size: A5	Sheet: 18 of 19

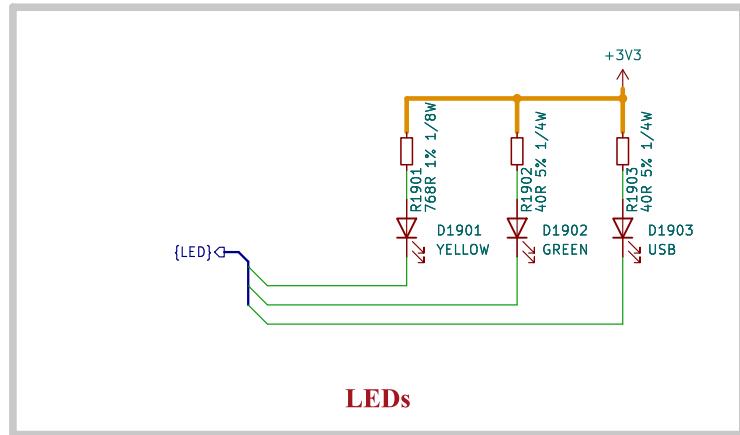
[19] Interface - LED

A

A

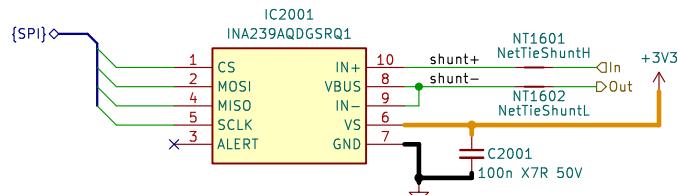
B

B



	Comments:	Company:	Variant:
			Draft
	Board Name: Board Name	Project Name: smps_legged_robot	
	Sheet Title: interface_led.kicad_sch	File Name: Designer: Federico Bise	Date: Revision:
	Sheet Path: /Project Architecture/Interface - LED/	Reviewer: Reviewer Name	Size: A5 Sheet: 19 of 19

[20-21] Sensor - Batterie

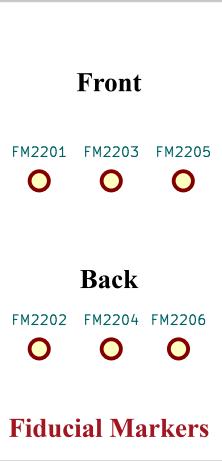
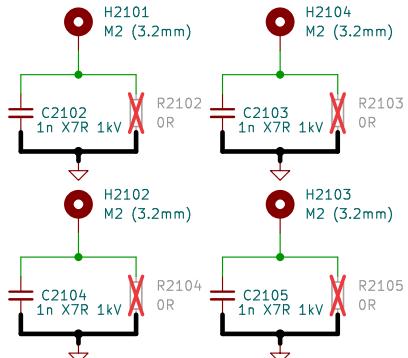
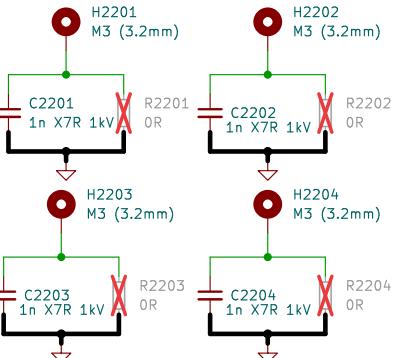


Batterie Voltage, Current and Temperature Sensor

	Comments:	Company:	Variant: Draft
	Board Name: Board Name		
	Sheet Title: power_bat_sens.kicad_sch	File Name: power_bat_sens.kicad_sch	Designer: Federico Bise
	Sheet Path: /Project Architecture/Sensor - Battery/	Reviewer: Reviewer Name	Size: A5 Sheet: 20 of 19

[22] Mechanical Holes

A



B

Comments:

Company:

Variant:

Draft

Board Name:

Board Name

Project Name:

smps_legged_robot

Sheet Title:

File Name:

Designer:

Date:

Revision:

mechanical_holes.kicad_sch

Federico Bise

Sheet Path:

Reviewer:

Size:

/Project Architecture/Mechanical Holes/

Reviewer Name

A5

Sheet:

22 of 19

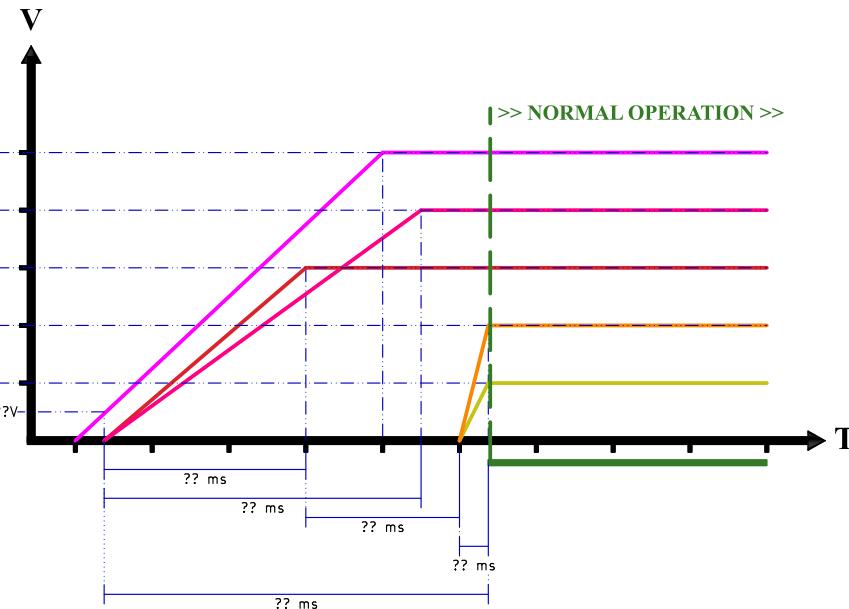
A

B

C

[23] Power - Sequencing

NAME	SOURCE	LEVEL
+??V	SOURCE NAME	??V ± ??%
+??V	SOURCE NAME	??V ± ??%
+??V	SOURCE NAME	??V ± ??%
+??V	SOURCE NAME	??V ± ??%
+??V	SOURCE NAME	??V ± ??%



	Comments: Board Name: Sheet Title: Sheet Path:	Company: EPFL Xplore		Variant: Draft	
		Board Name: Board Name		Project Name: smps_legged_robot	
		Sheet Title: Power - Sequencing		Designer: Federico Bise	Date: Last Modified Date
		Sheet Path: /Power - Sequencing/		Reviewer: Reviewer Name	Size: A4 Sheet: 23 of 19

[24] Revision History

A	DD.MM.YYYY - xxx Revision Variant: xxx	A			
B	-	-	-	-	B
C	-	-	-	-	C
D	-	-	-	-	D

		Comments:	Company: EFPL Xplore	Variant: Draft
		Board Name: Board Name	Project Name: smps_legged_robot	
		Sheet Title: Revision History	File Name: Revision History.kicad_sch	Designer: Federico Bise
		Sheet Path: /Revision History/	Date: Last Modified Date	Revision: 1.0
D		Reviewer: Reviewer Name	Size: A4	Sheet: 24 of 19