

PRECISION AGRICULTURE NODE

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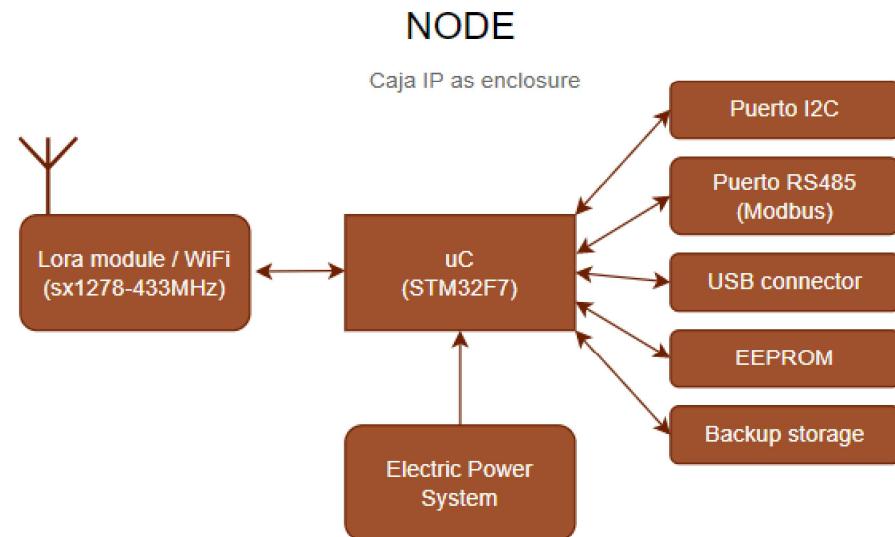
Sheet 2: Connections

Sheet 3: STM32F723 MCU

Sheet 4: Peripherals

Sheet 5: Wireless

Sheet 6: Power System



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Size A4	Project Number: 0012		
Date: 9/2/2023	File: node_index.SchDoc		Drawn By: Luis Sayaverde Bravo



1

2

3

4

A

A

B

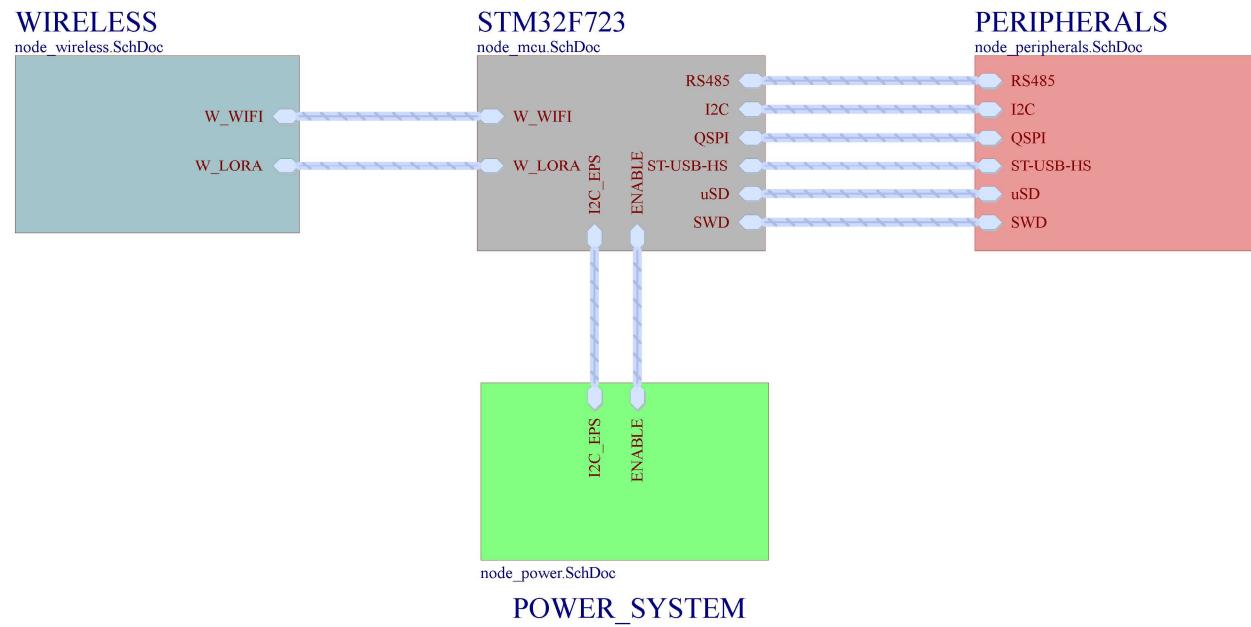
B

C

C

D

D



Node Connections

Size A4	Project Number: 0012	Revision v1.01
Date: 9/2/2023	Sheet 2 of 10	
File: node_connections.SchDoc	Drawn By: Luis Sayaverde Bravo	

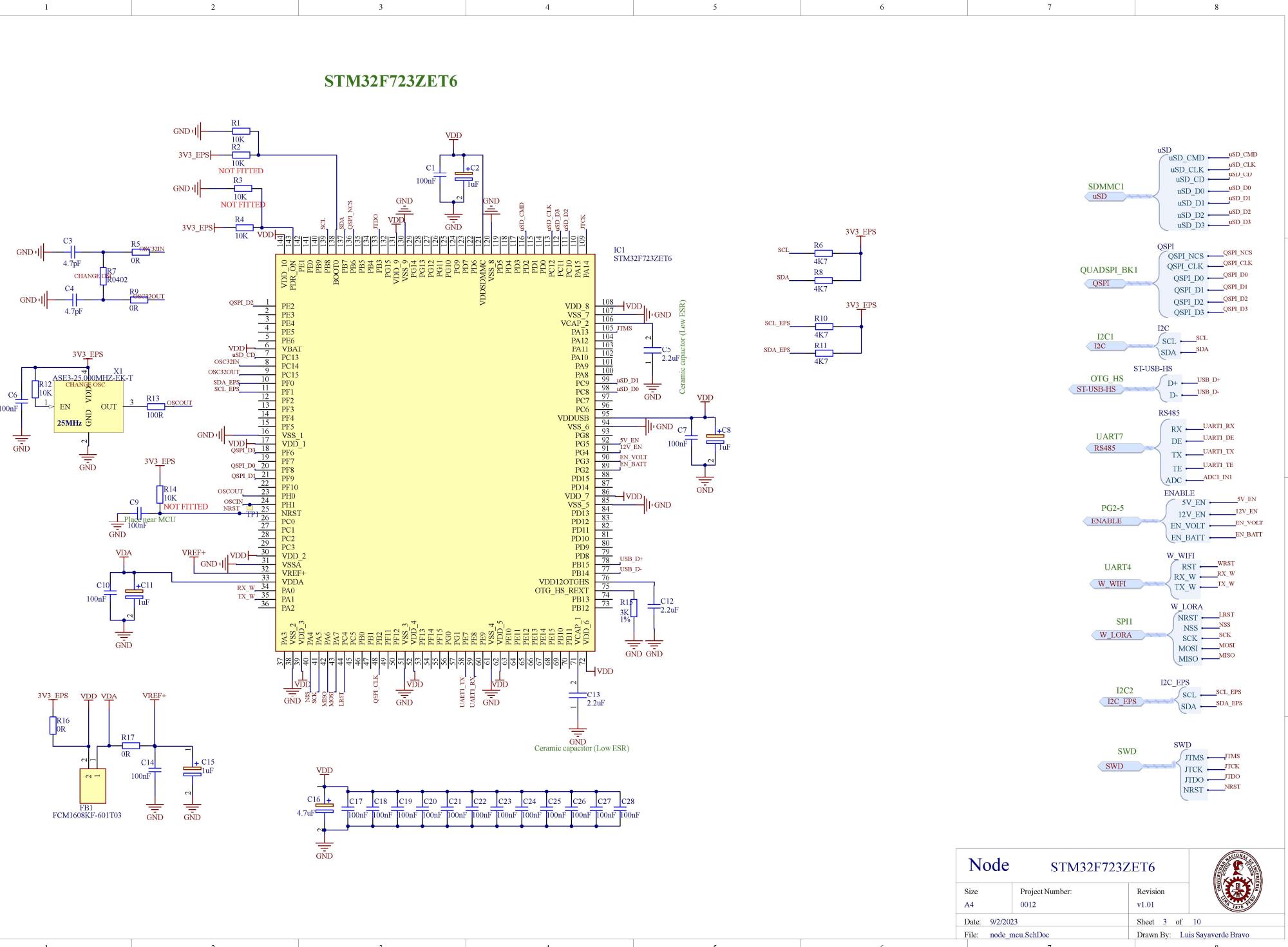


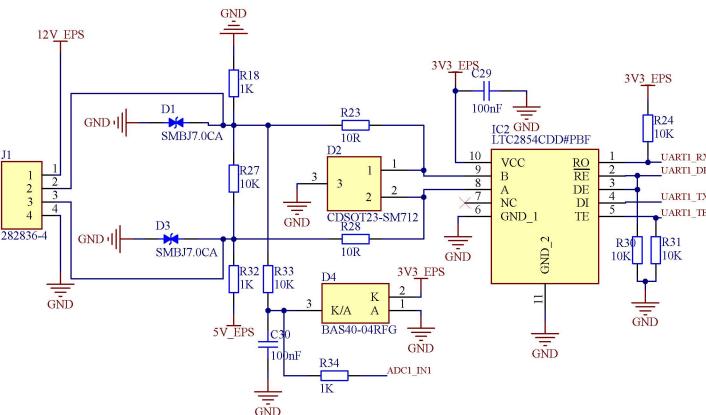
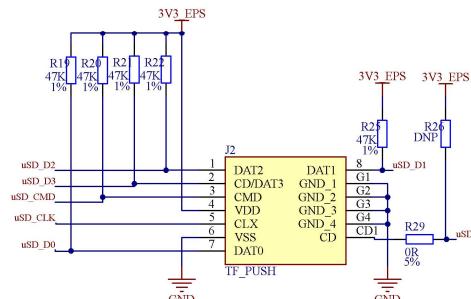
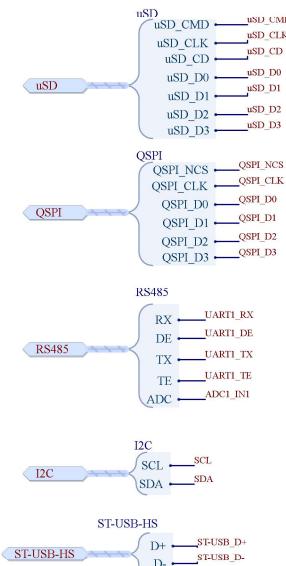
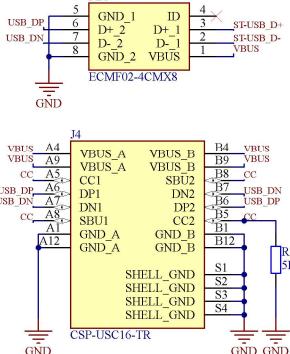
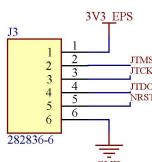
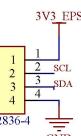
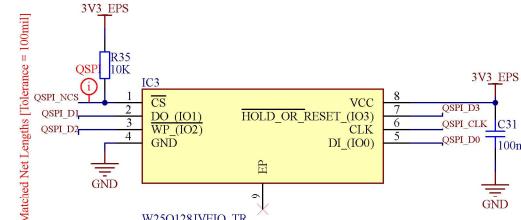
1

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4



RS485 INTERFACE**uSD Holder****CONNECTIONS****STM32F7-USB-OTG-HS****SWD CONNECTOR****I2C CONNECTOR****QSPI FLASH MEMORY 128Mbits**

Node Peripherals		Revision v1.01
Size A3	Project Number: 0012	
Date: 9/2/2023	Sheet 4 of 10	
File: node_peripherals.SchDoc	Drawn By: Luis Sayaverde Bravo	



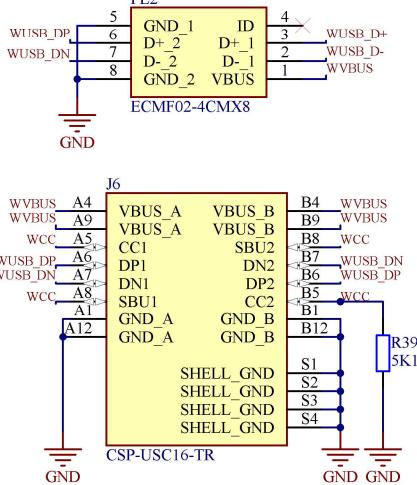
1

2

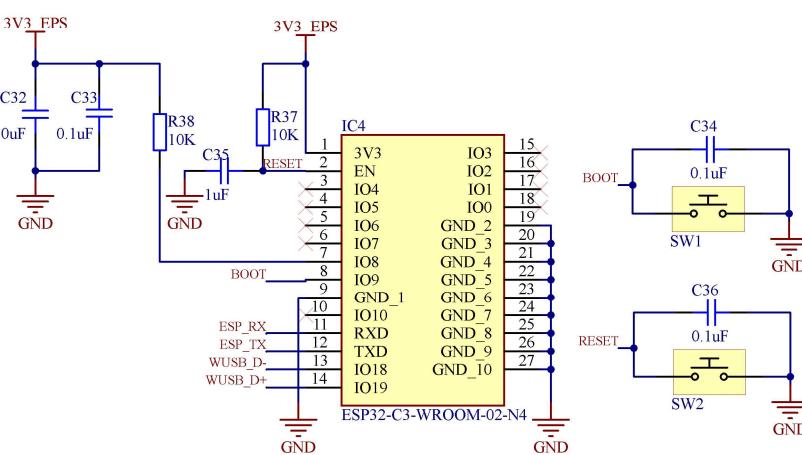
3

4

A



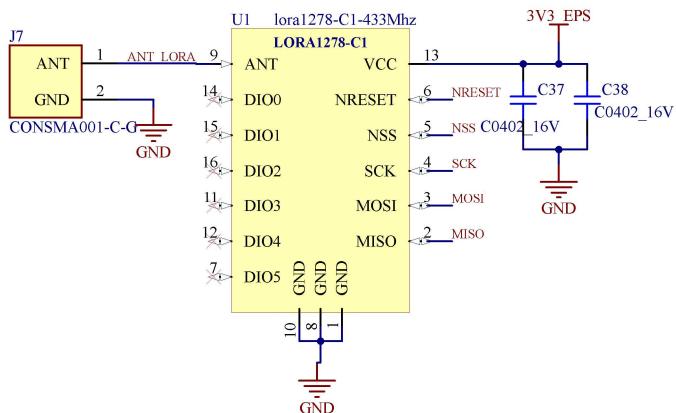
ESP32-C3



Test Points

ESP_RX	TP2
ESP_TX	TP3
WUSB_D-	TP4
WUSB_D+	TP5
NRESET	TP6
BOOT	TP7
RESET	TP8

LORA-1278-C1-433Mhz

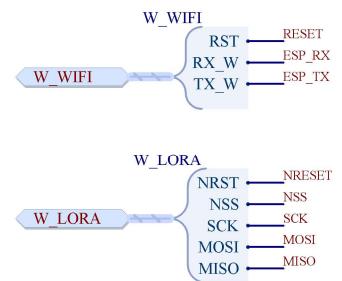


Node Wireless

Size	Project Number:	Revision
A4	0012	v1.01
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File:	node_wireless.SchDoc	Drawn By: Luis Sayaverde Bravo



Connections



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A

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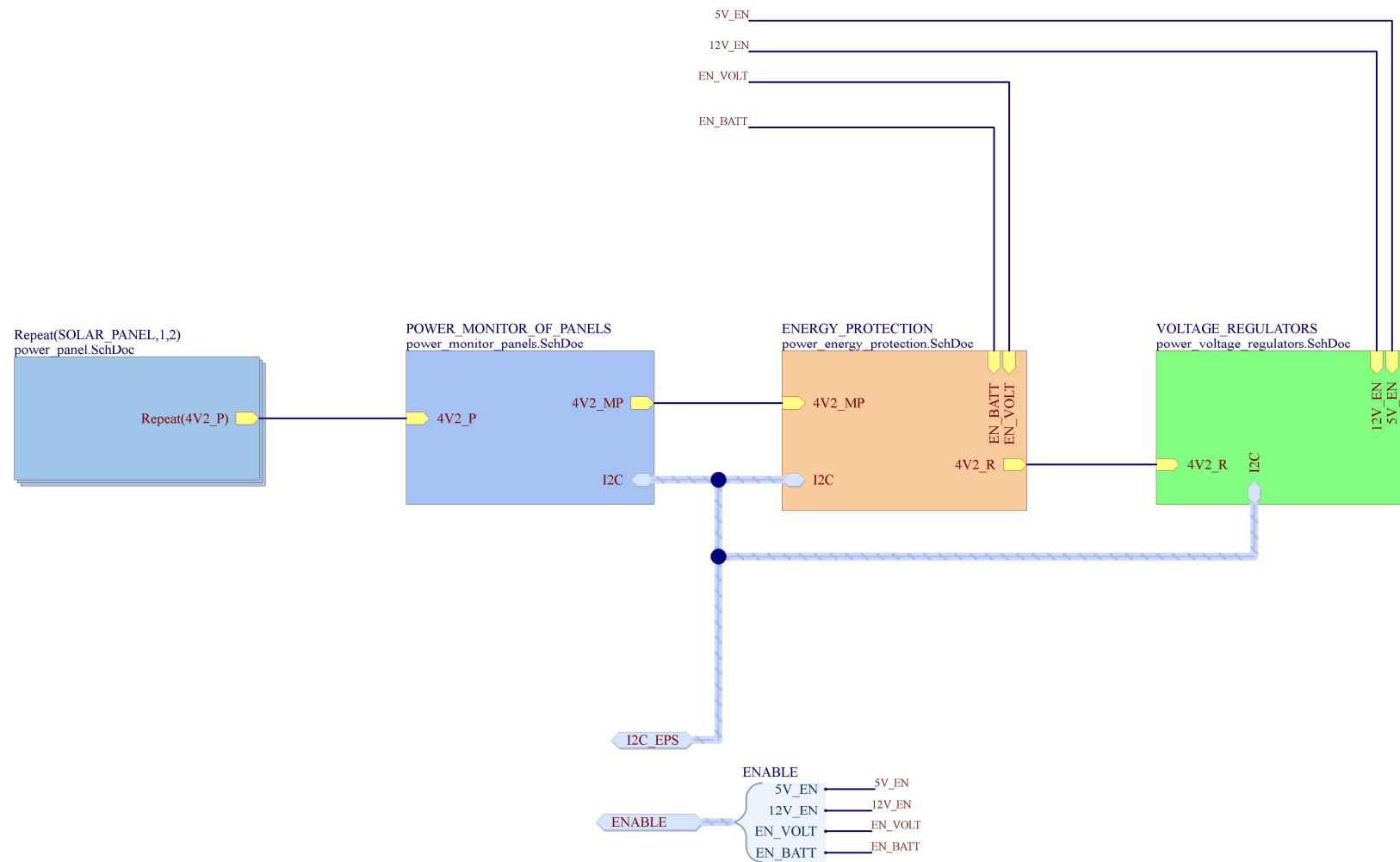
D

A

B

C

D



Node Power system

Size A4	Project Number: 0012	Revision v1.01
Date: 9/2/2023	Sheet 6 of 10	
File: node_power.SchDoc	Drawn By: Luis Sayaverde Bravo	



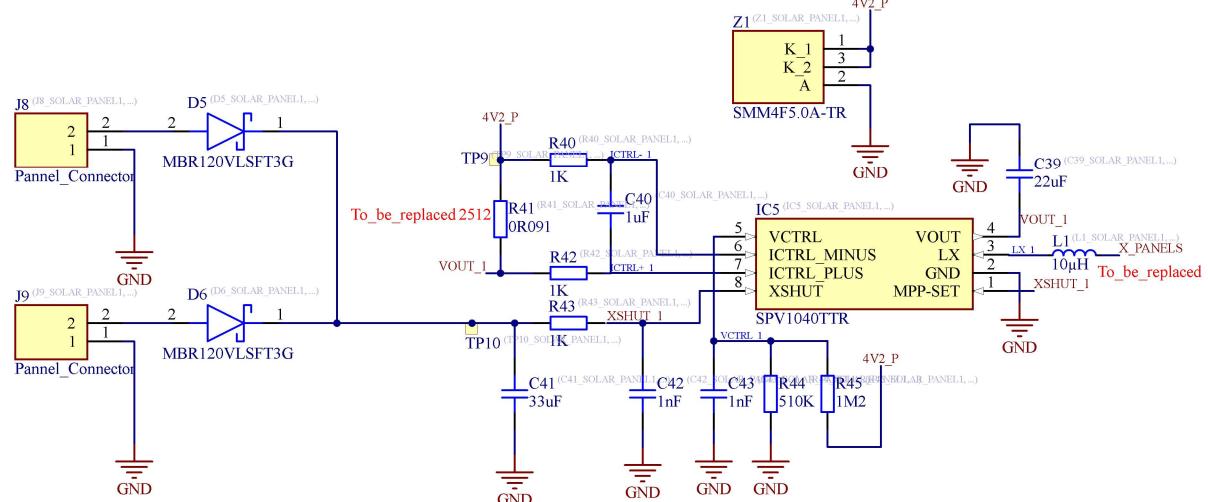
A

A

SOLAR BATTERY CHARGER (PANEL)

B

B



C

C

node_power[1B] 4V2_P ————— 4V2_P

Node Solar panel

Size A4	Project Number: 0012	Revision v1.01
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File: power_panel.SchDoc	Drawn By: Luis Sayaverde Bravo	



1

2

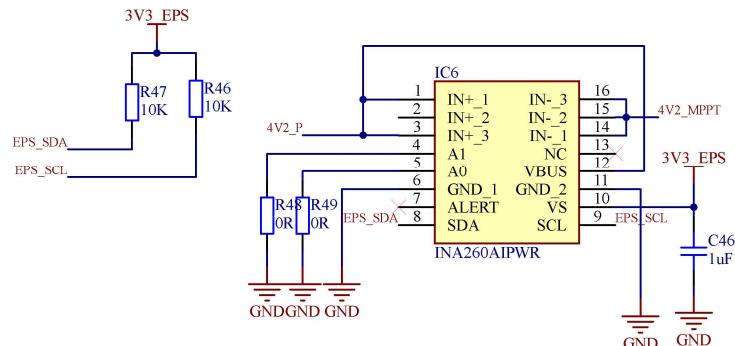
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A

A

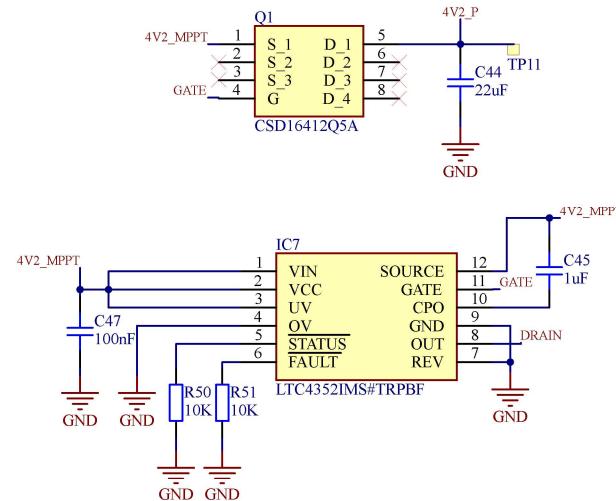
SOLAR PANELS BUS POWER MONITOR



B

B

IDEAL DIODE



C

C

CONNECTORS



1

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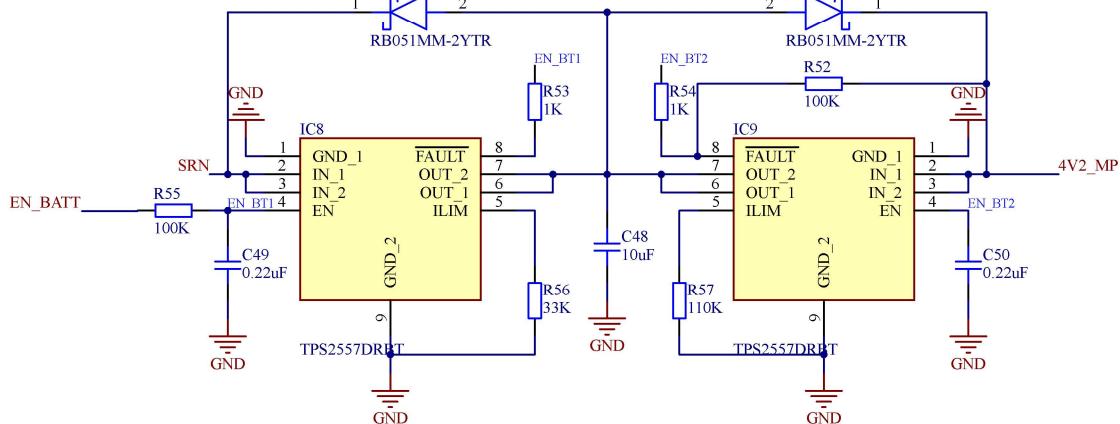
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Node Monitor panels

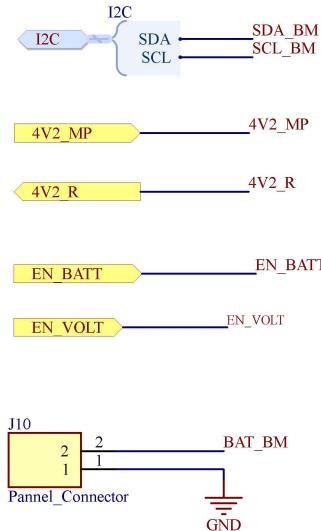
Size A4	Project Number: 0012	Revision v1.01
Date: 9/2/2023	Sheet 8 of 10	
File: power_monitor_panels.SchDoc	Drawn By: Luis Sayaverde Bravo	



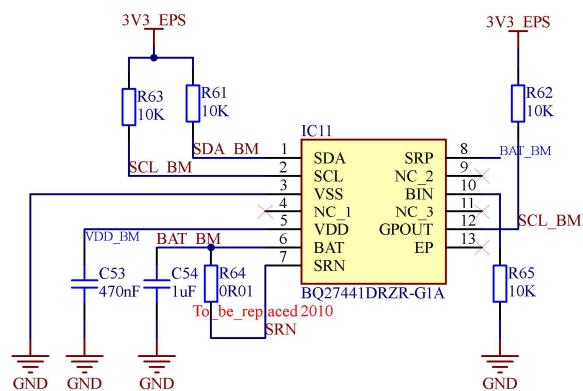
BATTERY PROTECTION



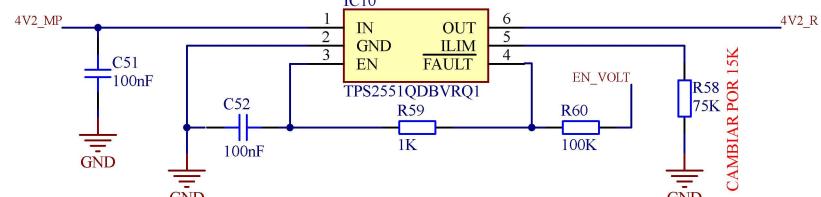
CONNECTORS



BATTERY MONITORING



VOLTAGE PROTECTION



Node Energy Protection

Size	Project Number:	Revision
A4	0012	v1.01
Date: 9/2/2023	Sheet 9 of 10	
File: power_energy_protection.SchDoc	Drawn By: Luis Sayaverde Bravo	



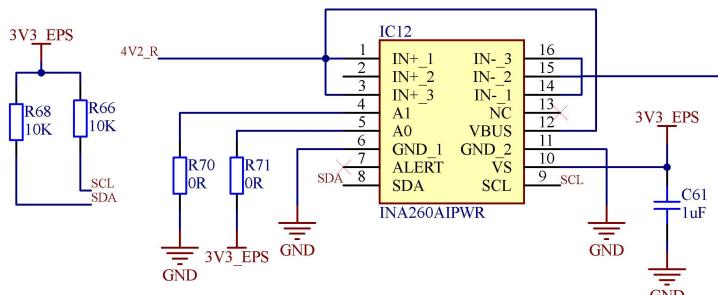
1

2

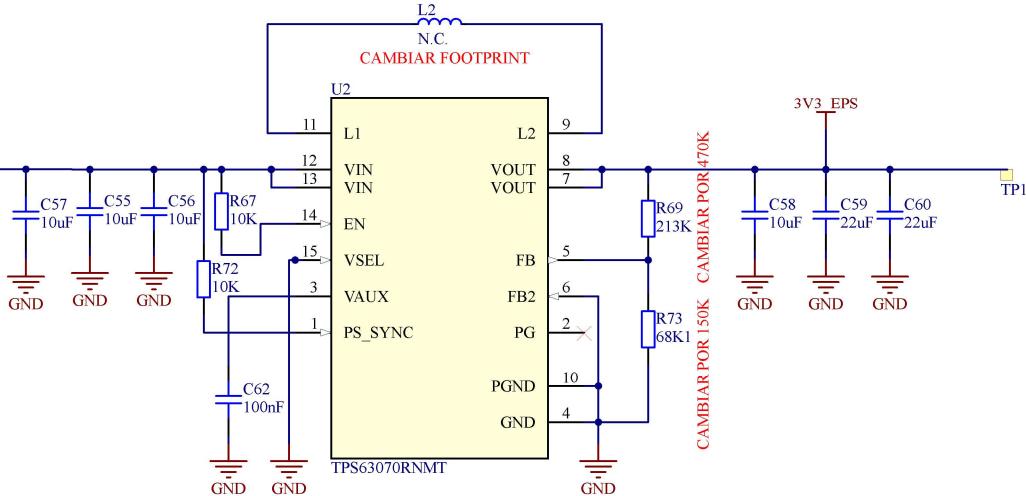
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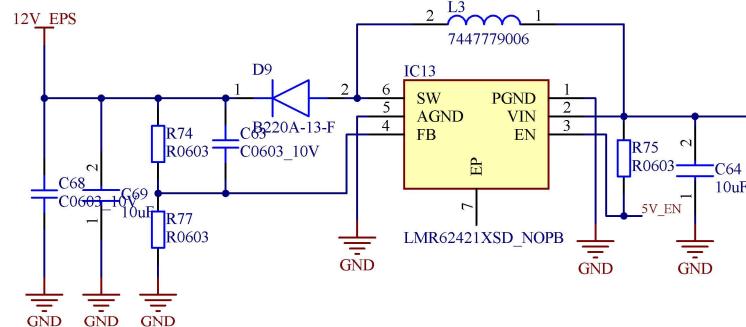
VOLTAGE MONITOR



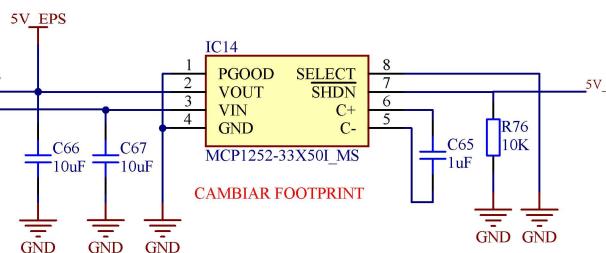
3.3V VOLTAGE REGULATOR



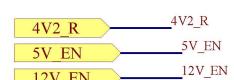
12V VOLTAGE REGULATOR



5V VOLTAGE REGULATOR



CONNECTORS



Node Voltage regulators

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A4	0012	v1.01
Date:	9/2/2023	Sheet 10 of 10
File:	power_voltage_regulators.SchDoc	Drawn By: Luis Sayaverde Bravo

