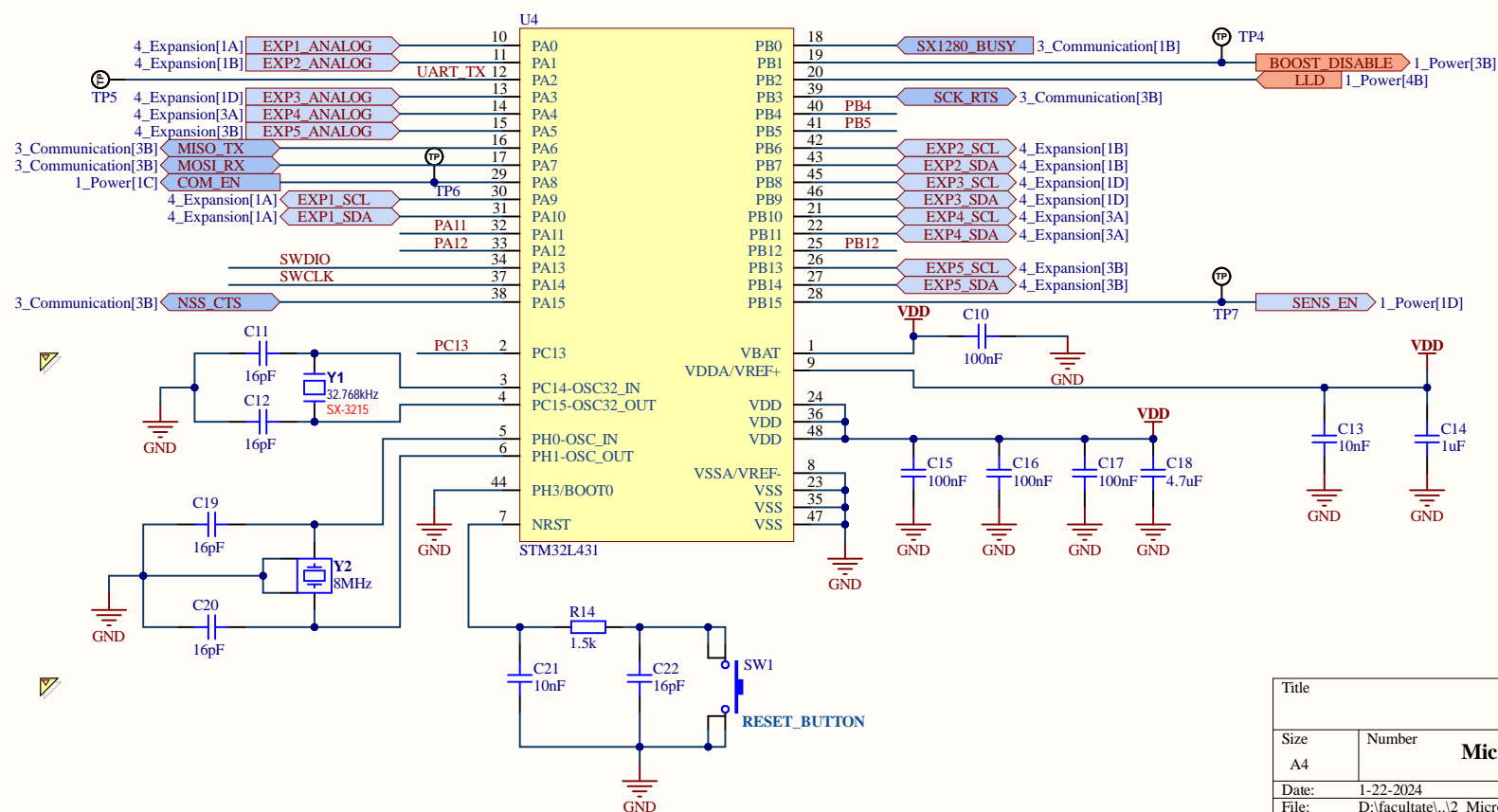
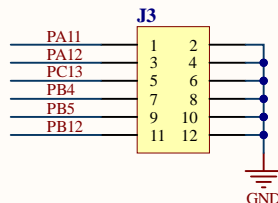
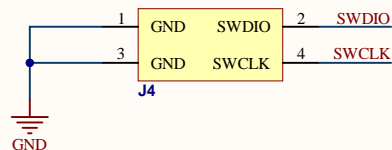
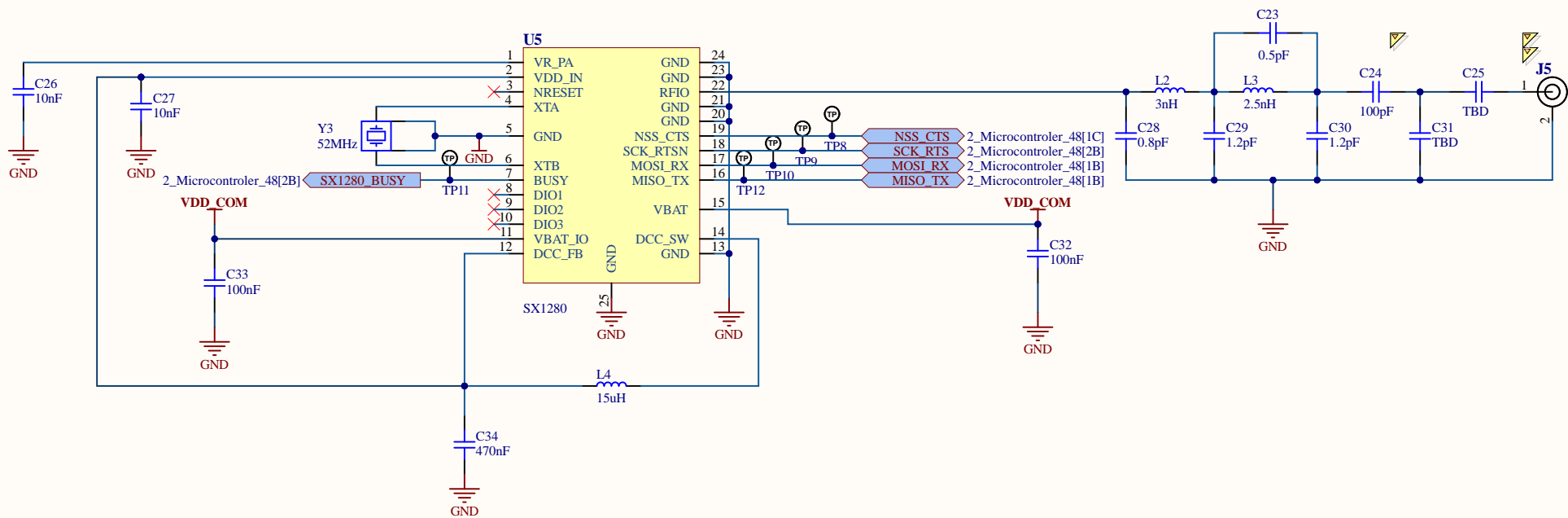


Title			
Size A4	Number Power	Revision 1	
Date 1-22-2024		Sheet 1 of 4	
File D:\facultate\...\1_Power.SchDoc		Drawn By: Cristian Oprea	

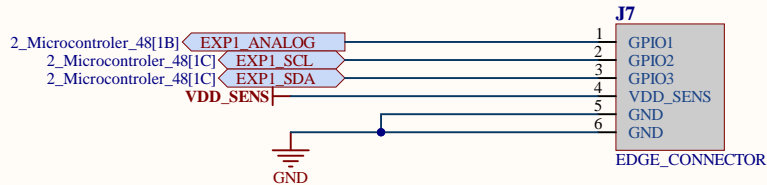


Title		
Size A4	Number Microcontroller	Revision 1
Date: 1-22-2024	Sheet 2 of 4	
File: D:\facultate\12_Microcontroler_48_SchDoc	Drawn By: Cristian Onrea	



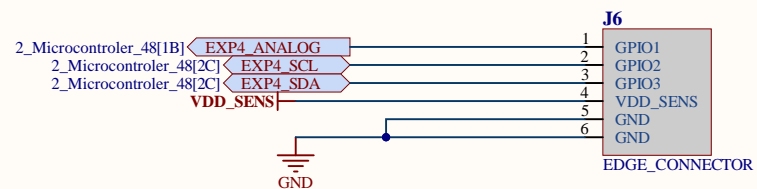
Title			
Size A4	Number Communication	Revision 1	
Date:	1-22-2024	Sheet3 of 4	
File:	D:\facultate\...\3_Communication.SchDoc	Drawn By: Cristian Oprea	

EXP1

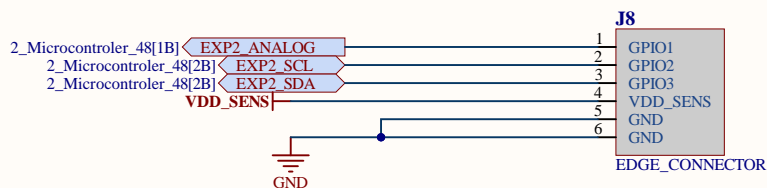


^
2 GPIOs should be capable of I2C and digital GPIO; at least one should have analog functionality

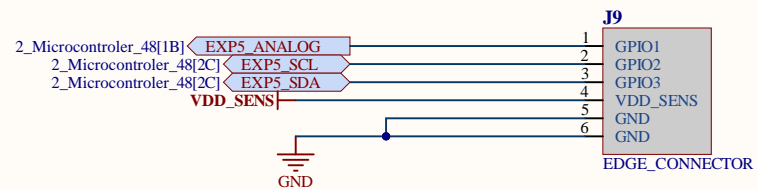
EXP4



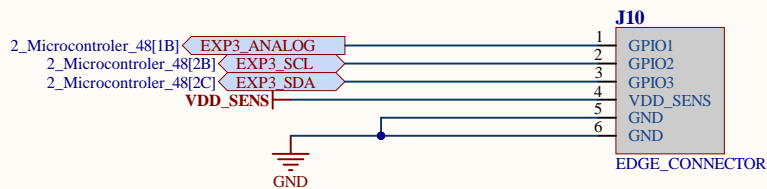
EXP2



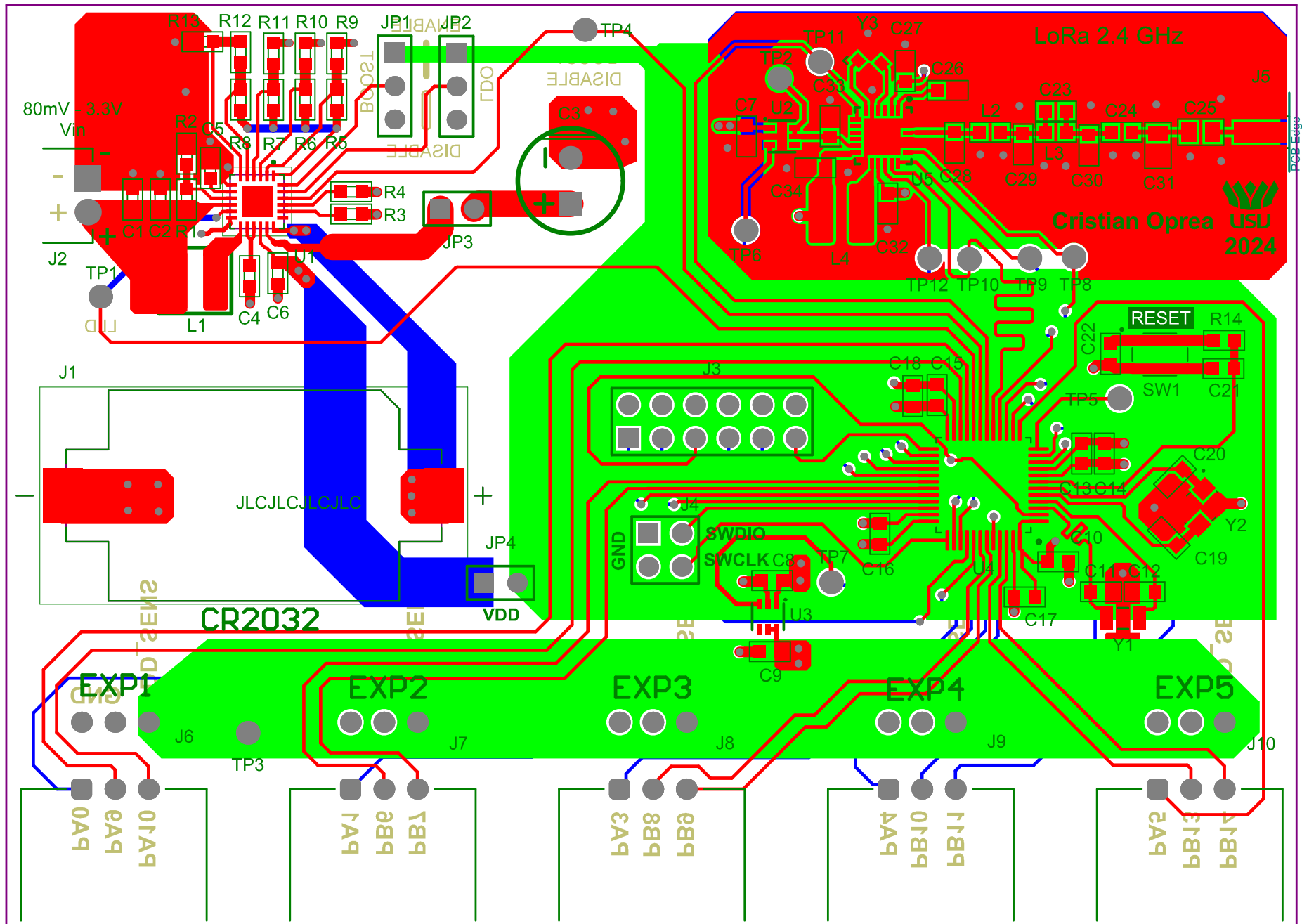
EXP5



EXP3



Title			
Size A4	Number Expansion	Revision 1	
Date: 1-22-2024		Sheet4 of 4	
File: D:\facultate\...\4_Expansion.SchDoc		Drawn By: Cristian Oprea	



Comment	Description	Designator	Footprint	LibRef	Quantity
10uF	Capacitor SMD 0603	C1, C4	C0603	CAP_0603	2
100nF	Capacitor SMD 0603	C2, C9, C10, C15, C16, C17, C32, C33	C0603	CAP_0603	8
Supercapacitor	Supercapacitor	C3	CAP_POL_8x16x3.5	Supercapacitor	1
10nF	Capacitor SMD 0603	C5, C13, C21, C26, C27	C0603	CAP_0603	5
4.7uF	Capacitor SMD 0603	C6, C18	C0603	CAP_0603	2
1uF	Capacitor SMD 0603	C7, C8, C14	C0603	CAP_0603	3
16pF	Capacitor SMD 0603	C11, C12, C19, C20, C22	C0603	CAP_0603	5
0.5pF	Capacitor SMD 0603	C23	C0603	CAP_0603	1
100pF	Capacitor SMD 0603	C24	C0603	CAP_0603	1
TBD	Capacitor SMD 0805	C25, C31	C0805	CAP_0603	2
0.8pF	Capacitor SMD 0603	C28	C0603	CAP_0603	1
1.2pF	Capacitor SMD 0603	C29, C30	C0603	CAP_0603	2
470nF	Capacitor SMD 0603	C34	C0603	CAP_0603	1
CR2032	CR2032 Coin Cell Battery Holder	J1	BAT_CR2032-BS-6-1	CR2032-BS-6-1	1
Plugin Terminal	Screw terminal or plug terminal for power	J2	2.54_pluggable_terminal	Power_Connector	1
Header 6X2	Header, 12-Pin, Dual row	J3	HEADER_6x2_2.54	Header 6x2	1
SWD connector	Single Wire Debug connector with UART_TX pin	J4	HEADER_2x2_2.54	SWD connector	1
SMA_EDGE_CONN	RF Connector SMA Female 50 Ohms 18 GHz PCB Edge Mount	J5	CON_SMA-EDGE-S	CON-SMA-EDGE-S	1
EDGE_CONNECTOR	Connector for sensor modules	J6, J7, J8, J9, J10	2.54mm_edge_connector	edge_connector	5
JUMPER_3PIN		JP1, JP2	HEADER_1x3_2.54	JUMPER_3PIN	2
JUMPER		JP3, JP4	HEADER_1x2_2.54	JUMPER	2
22uH	Inductor SMD 1008	L1	IND_3.2_4	IND_1008	1
3nH	Inductor SMD 0603	L2	R0603	IND_0603	1
2.5nH	Inductor SMD 0603	L3	R0603	IND_0603	1
15uH	Inductor SMD 0603	L4	IND_3.2_4	IND_0603	1
4.7M	Resistor SMD 0603	R1	R0603	RES_0603	1
18M	Resistor SMD 0603	R2	R0603	RES_0603	1
221k	Resistor SMD 0603	R3	R0603	RES_0603	1
150k	Resistor SMD 0603	R4	R0603	RES_0603	1
5.49M	Resistor SMD 0603	R5	R0603	RES_0603	1
5.9M	Resistor SMD 0603	R6, R8	R0603	RES_0603	2
6.04M	Resistor SMD 0603	R7	R0603	RES_0603	1
4.53M	Resistor SMD 0603	R9	R0603	RES_0603	1
4.12M	Resistor SMD 0603	R10, R13	R0603	RES_0603	2
3.92M	Resistor SMD 0603	R11	R0603	RES_0603	1
100k	Resistor SMD 0603	R12	R0603	RES_0603	1
1.5k	Resistor SMD 0603	R14	R0603	RES_0603	1
PTS645SM43SMTR92 LFS	Switch	SW1	SW_SKRSPACE010	SW-PB	1
ADP5091	Ultralow Power Energy Harvester PMUs with MPPT and Charge Management and BACkup Supply	U1	LFCS-24	ADP5091	1
TPS22919	5.5-V, 1.5-A, 90-mΩ load switch with adjustable output discharge	U2, U3	SC70-6	TPS22919	2
STM32L431	Ultra-low-power Arm® Cortex®-M4 32-bit MCU+FPU, 100DMIPS, up to 128KB flash, 40KB SRAM(LQFP48)	U4	QFPN-48	STM32L431	1
SX1280	Low power LoRa transceiver operating at 2.4GHz with ranging capability	U5	QFN-24_4x4_0.5	SX1280	1
32.768kHz	Crystal	Y1	CRYSTAL_SX-3215	CRYSTAL_1	1
8MHz	Crystal	Y2	CRYSTAL_ECX-32_3.2x2.5x0.8 - duplicate	Crystal	1
52MHz	Crystal	Y3	CRYSTAL_2016_4P	Crystal	1