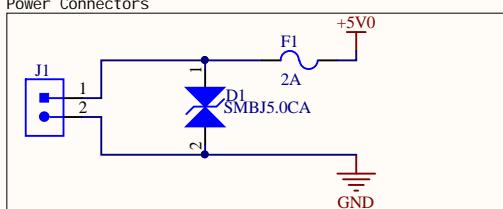
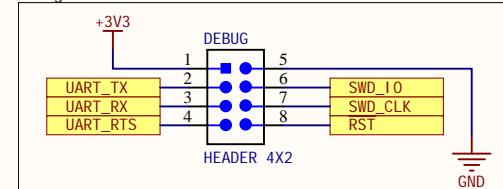


Title CAN		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: *	
Date: 1/8/2020	Sheet of	
File: D:\RNS\grade 11 & 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\		UW ROBOTICS TEAM

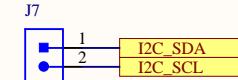
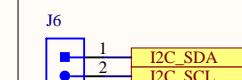
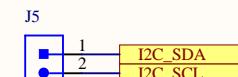
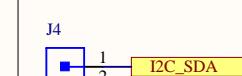
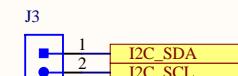
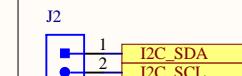
## Power Connectors



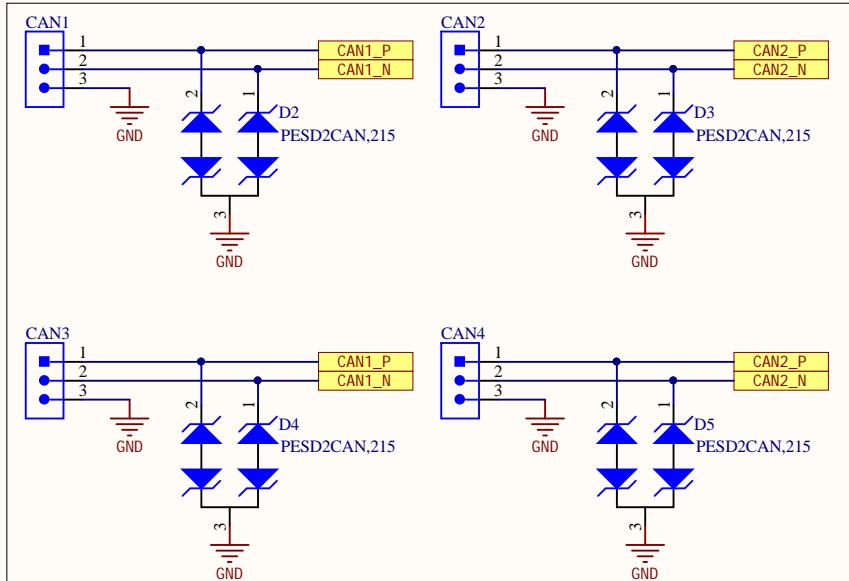
## Debug Connector



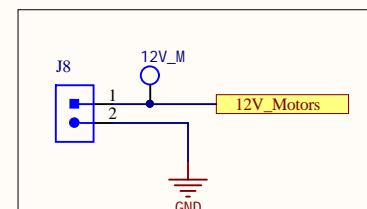
## I2C Current Sensors



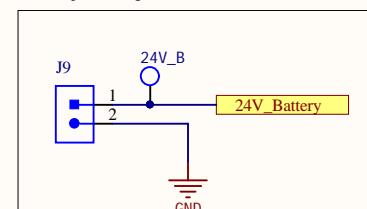
## CAN Connections



## Motor Voltage Sensors



## Battery Voltage Sensors



## Title Connectors

Size: Letter

Drawn By: \*

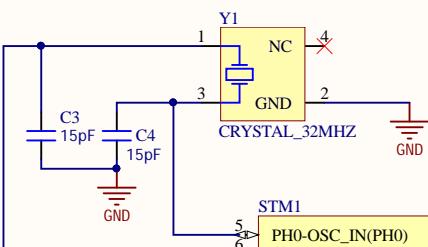
Date: 1/8/2020

Sheet of

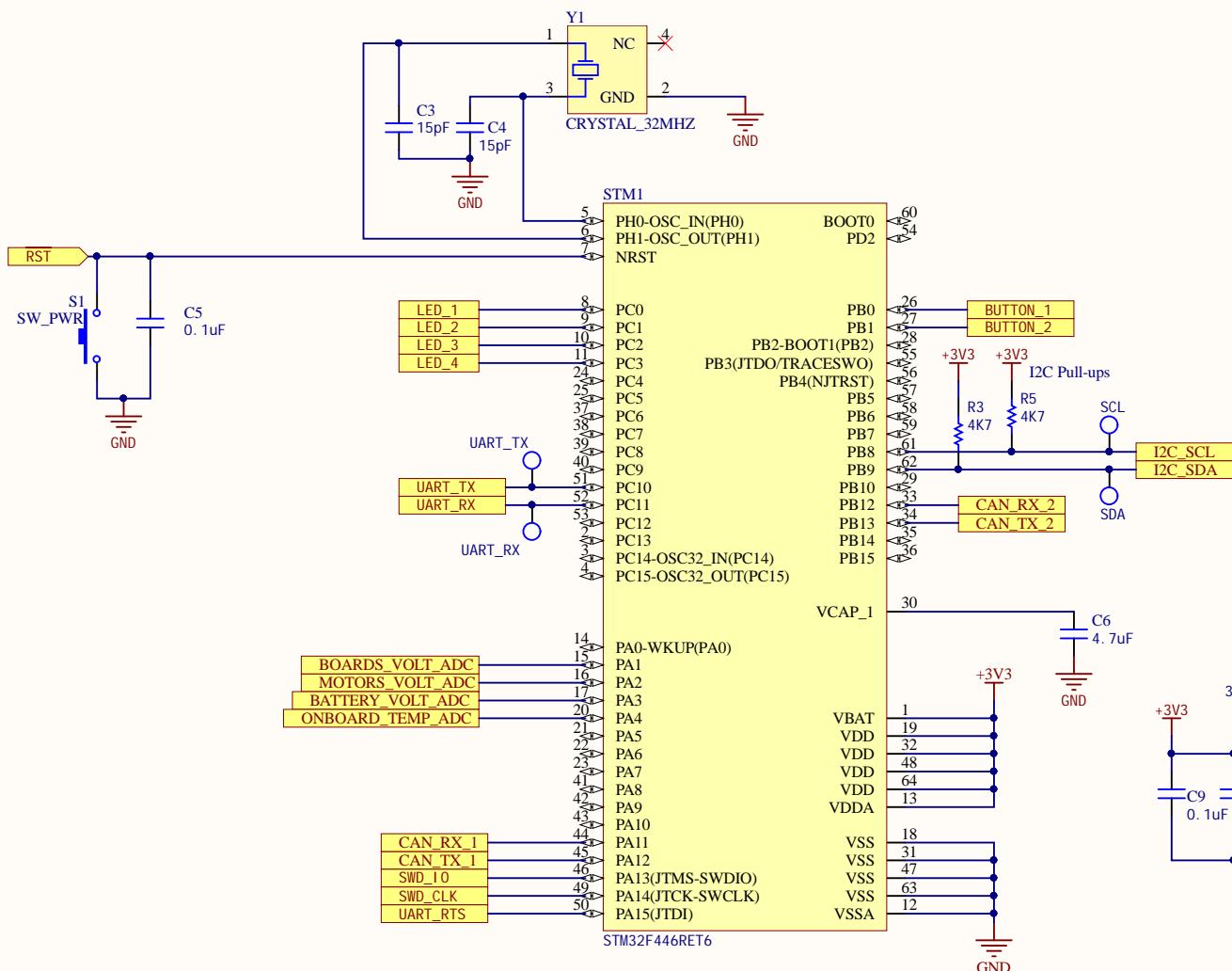
File: D:\RNS\grade 11 &amp; 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\



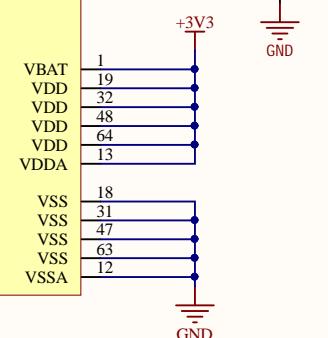
A



B



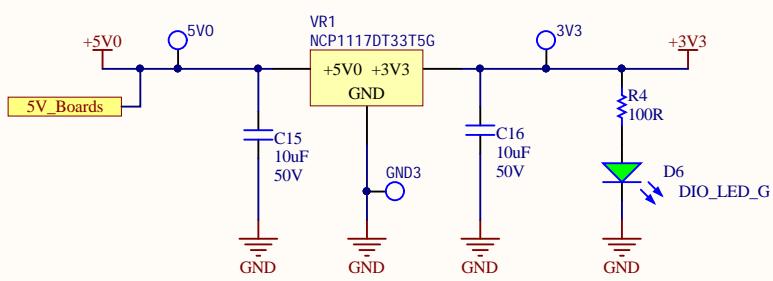
C



D

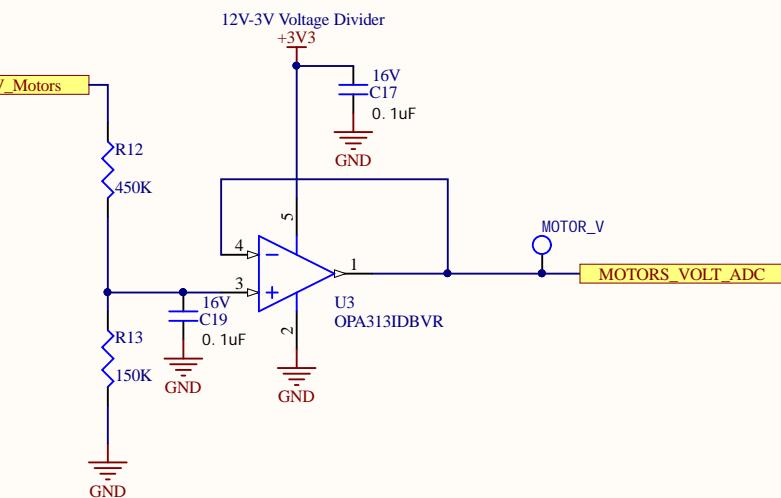
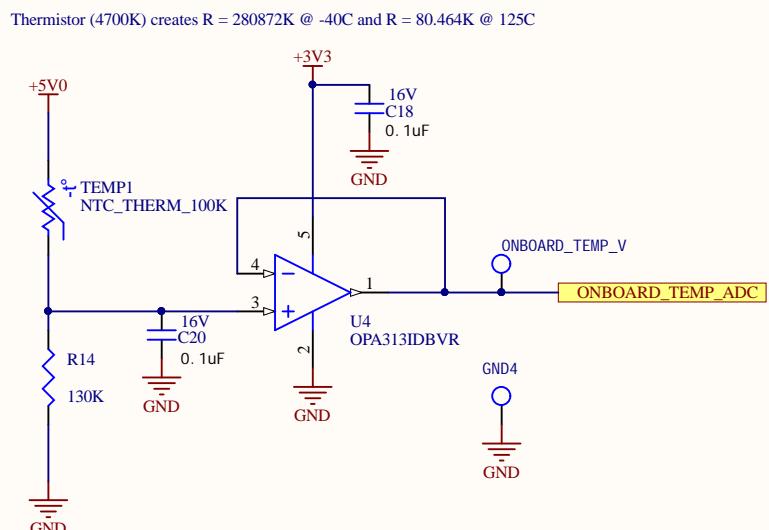
Title: MCU		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: *	
Date: 1/8/2020	Sheet of	
File: D:\RNS\grade 11 & 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\		



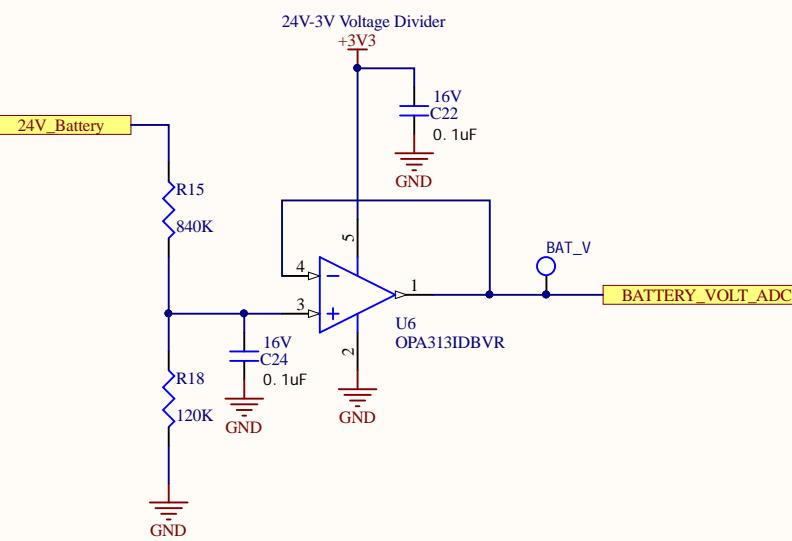
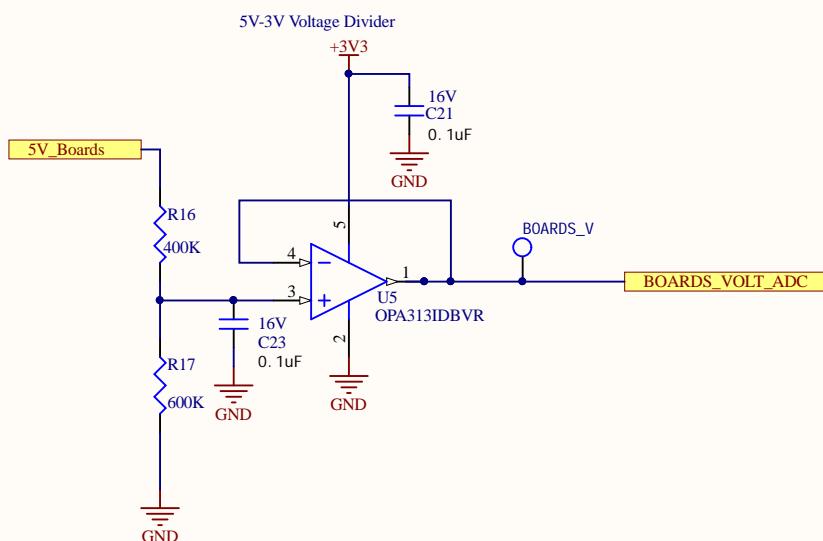


Title Power		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: *	
Date: 1/8/2020	Sheet of	
File: D:\XNS\grade 11 & 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\		UW ROBOTICS TEAM

A



B



C

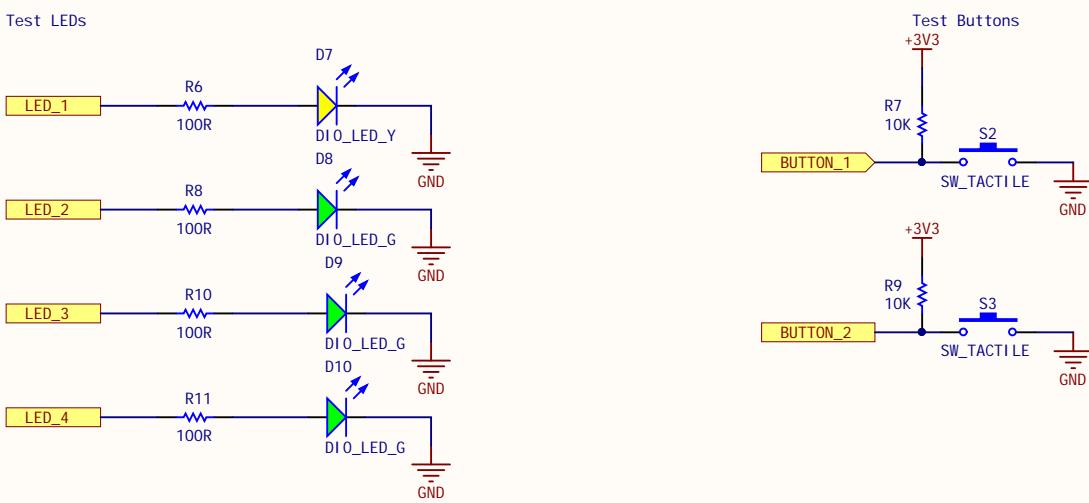
Title Sense		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: *	
Date: 1/8/2020	Sheet of	

File: D:\XNNS\grade 11 & 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\



A

A



B

B

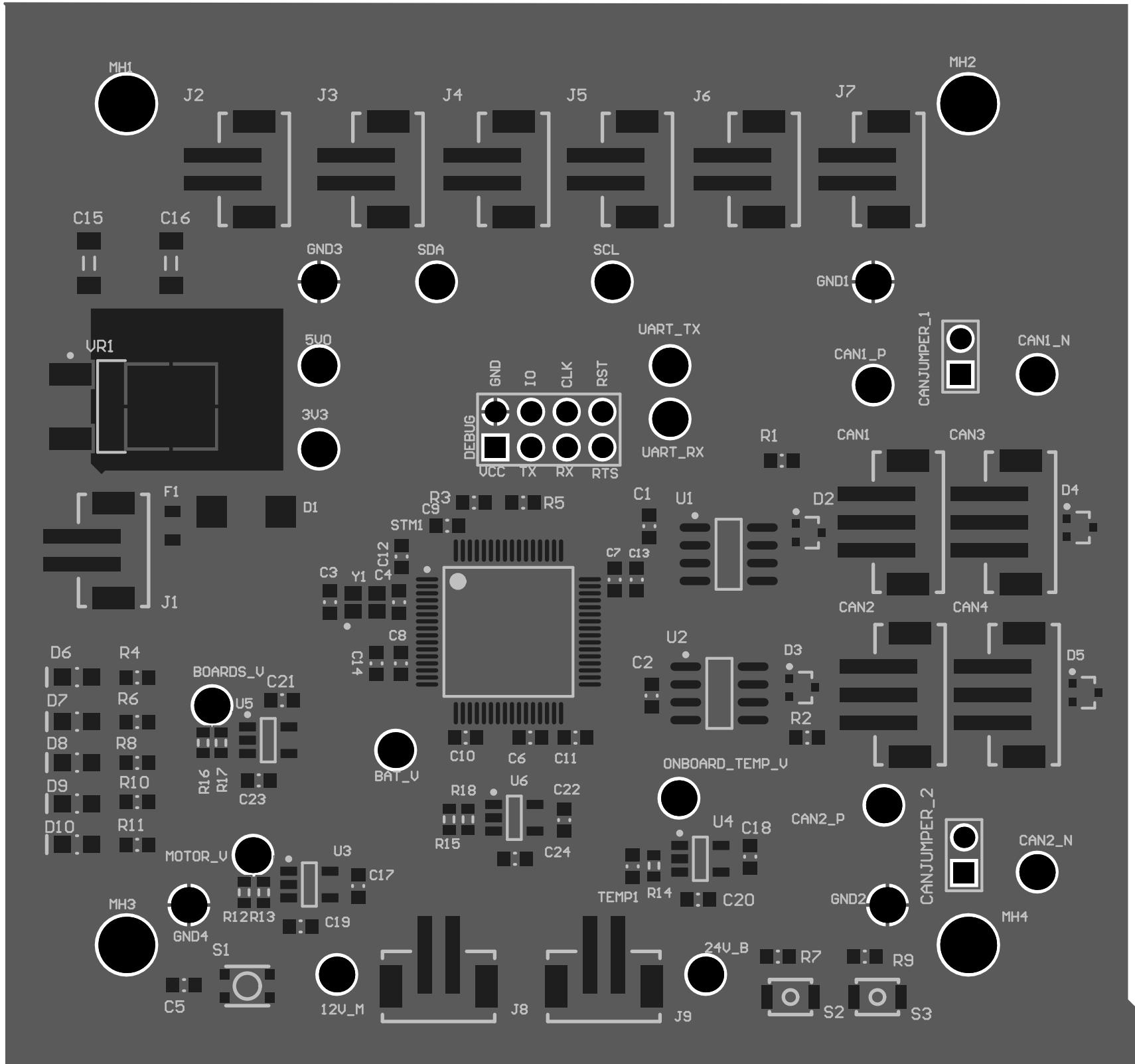
C

C

D

D

Title Support		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: *	
Date: 1/8/2020	Sheet of	
File: D:\RNS\grade 11 & 12\others\Waterloo\IB\Robotics Team\Electrical\2020\MarsRover2020-PCB\Projects\		UW ROBOTICS TEAM



Comment	Description	Designator	Footprint	LibRef
3v3	Loop testpoint through	3V3	TESTPOINT_LOOP	TESTPOINT_LOOP
5V0	Loop testpoint through	5V0	TESTPOINT_LOOP	TESTPOINT_LOOP
TESTPOINT_LOOP	Loop testpoint through	12V_M, 24V_B, BAT_	TESTPOINT_LOOP	TESTPOINT_LOOP
	CAP CER 0.1uF 16V	X C1, C2, C17, C18, C19	CAPC0603(1608)_55_N	CAP_0.1uF_16V_0603
CAP_15pF_0603	CAP CER 15PF 250V	N C3, C4	CAPC0603(1608)_55_N	CAP_15pF_0603
CAP_0.1uF_16V_0603	CAP CER 0.1uF 16V	X C5, C7, C9, C10, C11,	CAPC0603(1608)_55_N	CAP_0.1uF_16V_0603
CAP_4.7uF_0603	CAP CER 4.7uF 6.3V	X C6, C12	CAPC0603(1608)_55_N	CAP_4.7uF_0603
CAP_1uF_16V_0603	CAP CER 1uF 16V	Y Y5 C8	CAPC0603(1608)_55_N	CAP_1uF_16V_0603
CAP_10nF_0603	CAP CER 10000PF 16V	C14	CAPC0603(1608)_55_N	CAP_10nF_0603
10uF	CAP CER 10uF 50V	X C15, C16	CAPC1206(3216)	CAP_10uF_50V_1206
CON_3M_SM4		CAN1, CAN2, CAN3,	JST-B3B-SM4-TB	CON_3M_SM4
ESTPOINT_LOOP	Loop testpoint through	CAN1_N, CAN1_P, CAN2_N, CAN2_P	TESTPOINT_LOOP	TESTPOINT_LOOP
JUMPER_2	HEADER 2X1	CANJUMPER_1, CANJUMPER_2	HDR1X2	JUMPER_2
TVS_DIODE_BIDIRED	TVS DIODE 5V 9.2V	DD1	TVS_DIODE_BIDIRED	TVS_DIODE_BIDIRED
TVS_DIODE_CAN	TVS DIODE 24V 41V	D2, D3, D4, D5	NXP-SOT323-3	TVS_DIODE_CAN
DIO_LED_G	LED GREEN DIFFUSE	D6, D8, D9, D10	LED_0805_LINE	DIO_LED_G
DIO_LED_Y	LED YELLOW DIFFUSE	D7	LED_0805_LINE	DIO_LED_Y
HEADER_4X2	Header, 4-Pin Dual row	DEBUG	HEADER_2X4	HEADER_4X2
FUSE_2A_0603	FUSE SMD 2A 32V	F1	FUSE_0603	FUSE_2A_0603
GND	Loop testpoint through	GND1, GND2, GND3,	TESTPOINT_LOOP	TESTPOINT_LOOP
CON_2M_SM4		J1, J2, J3, J4, J5, J6, J7	JST-B2B-SM4-TB	CON_2M_SM4
	RES SMD 120 OHM 5%	R1, R2	RESC0603(1608)_N	RES_120R_0603
RES_4K7_0603	RES SMD 4.7K OHM 5%	R3, R5	RESC0603(1608)_N	RES_4K7_0603
RES_100R_0603	RES SMD 100 OHM 1%	R4, R6, R8, R10, R11	RESC0603(1608)_N	RES_100R_0603
RES_10K_0603	RES SMD 10K OHM 5%	R7, R9	RESC0603(1608)_N	RES_10K_0603
Res3	Resistor	R12, R13, R14, R15, R16	J1-0603	Res3
SW_PWR	Power Switch (Red)	S1	PTS830GM140	SW_PWR
SW_TACTILE	Tactile Switch (Grey)	S2, S3	B3U-1100P	SW_TACTILE
STM32F446RET6	ARM Cortex-M4 32-bit	STM1	STM-LQFP64_L	MCU_STM32F446RET6
NTC_THERM_100K	NTC THERM 100KOHM	TEMP1	RESC0603(1608)_N	NTC_THERM_100K
IC_TXRX_CAN	IC TXRX CAN 4MBPS	I U1, U2	LT-S9_N	LTC2875