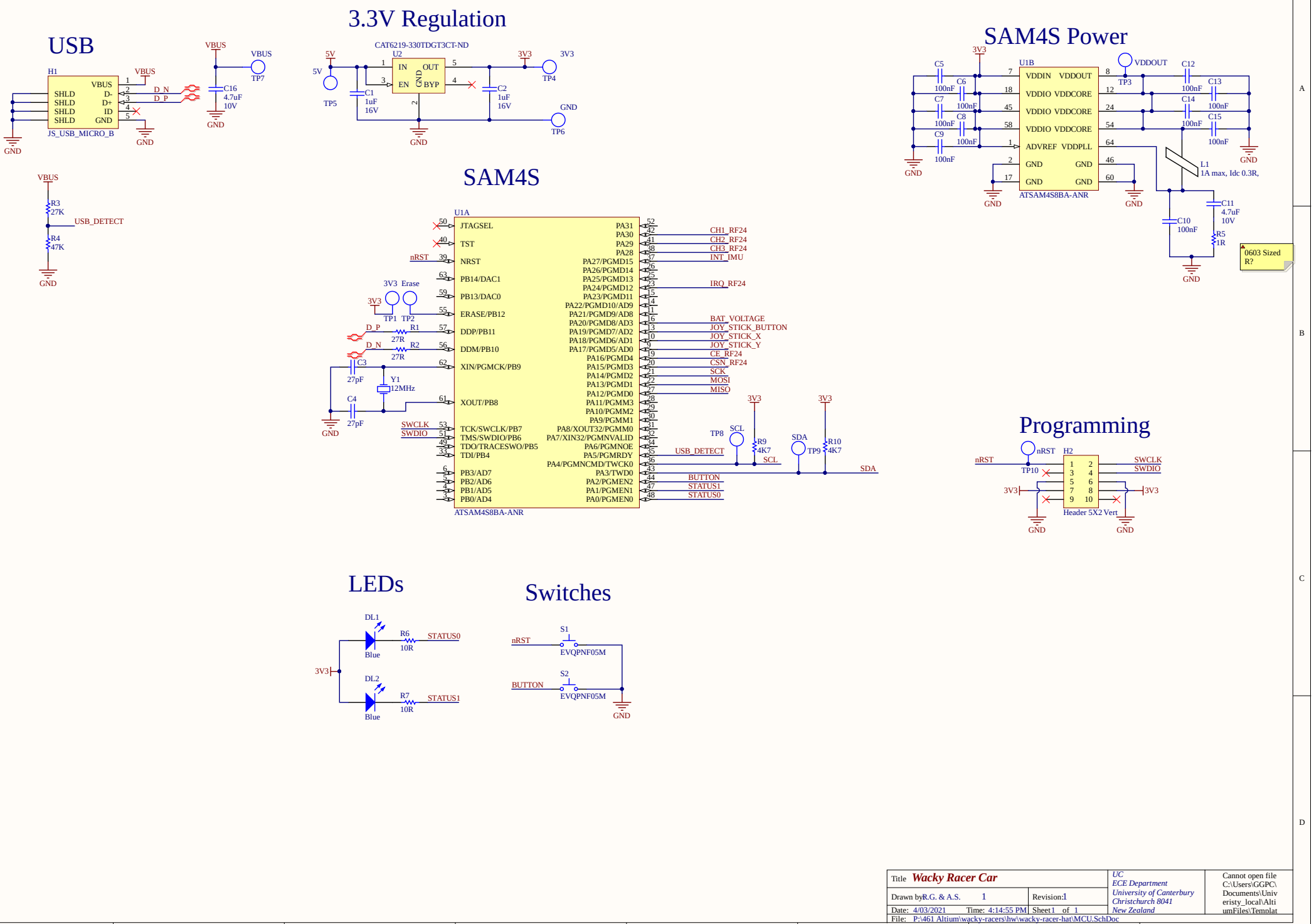
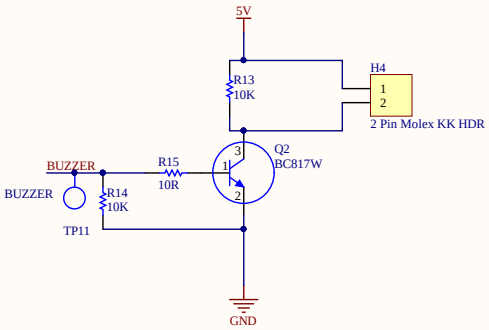


Title	*Wacky Racer Car*		*UC ECE Department University of Canterbury Christchurch 8041 New Zealand*
Drawn by	R.G. & A.S.	Revision: 1	Cannot open file C:\Users\GGPC\Documents\University_local\AltiumFiles\Templat
Date: 4/03/2021	Time: 4:14:55 PM	Sheet 1 of 1	
File: P:\461 Altium\wacky-racers\hw\wacky-racer-hat\MCU.SchDoc			

Buzzer header



Title		*ECE Department* *University of Canterbury* *Christchurch 8041* *New Zealand*	UNIVERSITY OF CANTERBURY Te Whare Wānanga o Waitaha
Drawn by:	Revision:1		
Date: 4/03/2021 Time: 4:14:55 PM	Sheet of		
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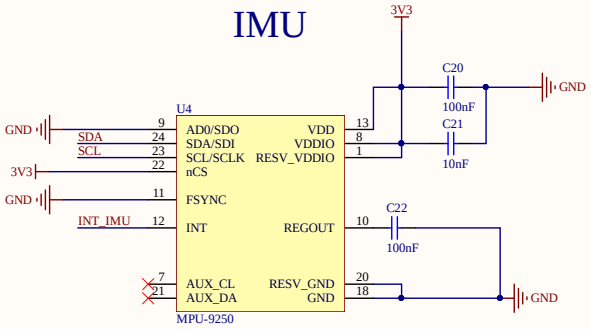
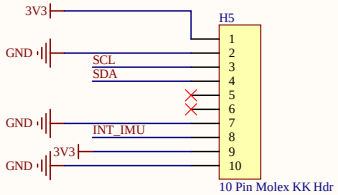
IMU





Title **IMU**		*ECE Department*	UC UNIVERSITY OF CANTERBURY
Drawn by Hank Wu, Connor Kwon	Revision: 1	*University of Canterbury*	Te Whare Wānanga o Waitaha
Date: 4/03/2021 Time: 4:14:56 PM	Sheet of	*Christchurch 8041*	
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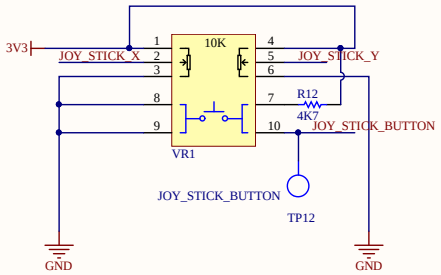
Joy Stick



Title		*ECE Department* *University of Canterbury* *Christchurch 8041* *New Zealand*
Drawn by:	Revision:1	
Date: 4/03/2021 Time: 4:14:56 PM	Sheet of	
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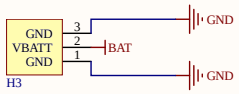
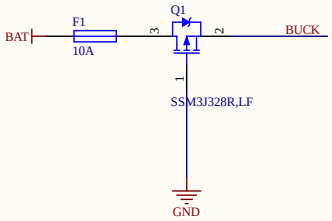
UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha

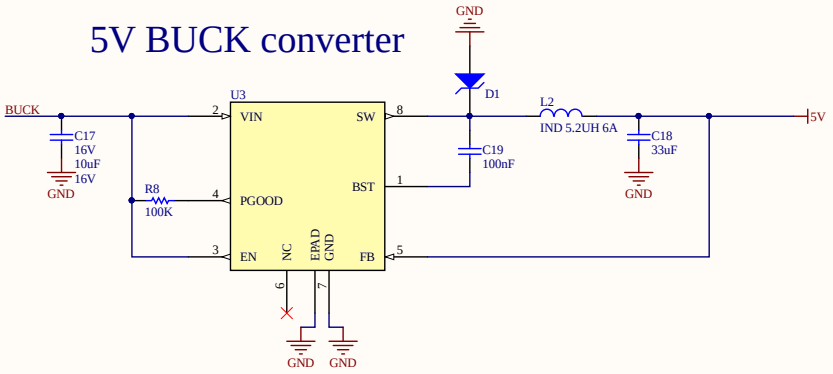
Battery connector



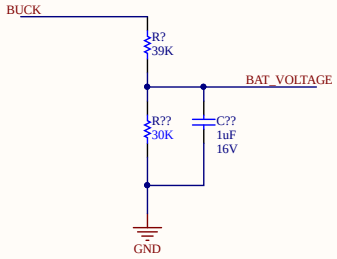
Reverse polarity protection



5V BUCK converter



Battery voltage monitoring



Title **Power**		*ECE Department* *University of Canterbury* *Christchurch 8041* *New Zealand*
Drawn by Hank Wu, Connor Kwon	Revision: 1	
Date: 4/03/2021 Time: 4:14:56 PM	Sheet of	
File: P:\461 Altium\wacky-racers\hw\wacky-racer-hat\Power.SchDoc		

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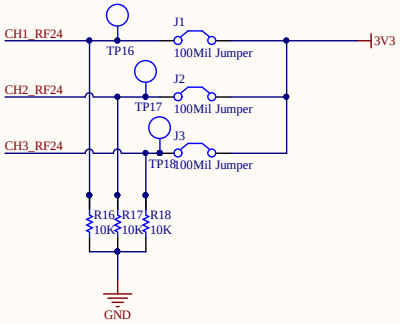
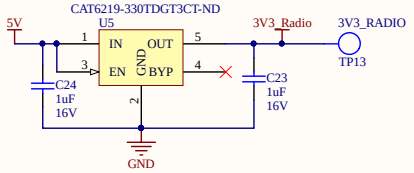
Te Whare Wānanga o Waitaha

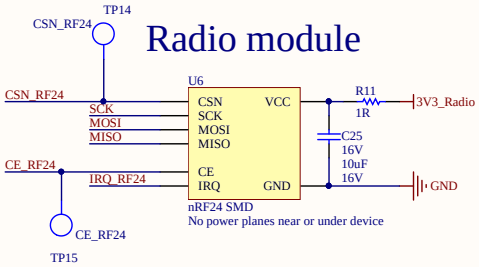
Radio channel selector



3.3V Regulation for Radio



Radio module



Title	***IMU***		*ECE Department* *University of Canterbury* *Christchurch 8041* *New Zealand*
Drawn by	Hank Wu, Connor Kwon	Revision: 1	
Date: 4/03/2021	Time: 4:14:56 PM	Sheet of	
File: P:\461 Altium\wacky-racers\hw\wacky-racer-hat\Radio.SchDoc			

Comment	Description	Designator	Footprint	LibRef	Quantity
1uF	CAP CER 1uF Y5V -20	C1, C2, C23, C24, C??	CAPC1608L	CC_1uF_0603	5
27pF	CAP CER 27pF NPO/C	C3, C4	CAPC1608L	CC_27pF_0603	2
100nF	CAP CER 100nF X7R +	C5, C6, C7, C8, C9, C	CAPC1608L	CC_100nF_0603	13
4.7uF	CAP CER 4.7uF X5R +	C11, C16	CAPC1608N	CC_4.7uF_0603	2
10uF	CAP CER 10uF X5R 16	C17, C25	CAPC2012L	CC_10uF_16V_0805	2
33uF	CAP CER 33uF X5R 6V	C18	CAPC2012L	CC_33uF_6V3_0805	1
10nF	CAP CER 10nF X7R +-	C21	CAPC1608L	CC_10nF_0603	1
DIODE ZENER 5.6V	DIODE ZENER 5.6V 5W	D1	DO-214AA_SCL	SMBJ5339B-TP	1
Blue	LED Blue 270mcd 06	DL1, DL2	WL-SMCW0603	DL_150060BS75000	2
10A	Fuse 10A Fast Acting	F1	RESC3216N	FS_Fuse_10A	1
JS_USB_MICRO_B	CONN USB MICRO B F	H1	FCI_USB_10118194-	JS_USB_MICRO_B_SI	1
Header 5X2 Vert	IDC Header, 2,54mm,	H2	IDC2.54-V10D	JA_HDR_IDC_5X2_VE	1
Battery_HEADER_3pin	3Pin Header 2.54mm	H3	BATT_HEADER_3POS	Battery_HEADER_3pin	1
2 Pin Molex KK HDR	CONN HEADER 2POS	H4	MOLEX_KK_2_HDR	JA_MOLEX_KK_2POS	1
10 Pin Molex KK Hdr	CONN HEADER 10PO	H5	MOLEX_KK_10_HDR	JA_MOLEX_KK_10POS	1
100Mil Jumper	2.54mm Jumper Thru	J1, J2, J3	JMP2.54	TP_JUMPER	3
1A max, Idc 0.3R,	Ferrite Bead, Rdc 0.3	L1	INDC3216L	IN_Ferrite-Bead	1
IND 5.2UH 6A	FIXED IND 5.2UH 6A	L2	INDUCTOR5u2	CDRH104RNP-5R2NC	1
SSM3J328R,LF	MOSFET P-CH 20V 6A	Q1	SOT23_L	TM_SSM3J328R	1
BC817W	NPN GP Bipolar Transi	Q2	SOT323_M	TB_BC817W	1
27R	RES 27 OHM 1/10W 5	R1, R2	RESC1608L	RS_27R	2
27K	RES 27K OHM 1/10W	R3	RESC1608L	RS_27K	1
47K	RES 27K OHM 1/10W	R4	RESC1608L	RS_27K	1
1R	RES 1R OHM 1/4W 5	R5, R11	RESC3216L	RT_1R	2
10R	RES 10 OHM 1/10W 5	R6, R7, R15	RESC1608L	RS_10R	3
100K	RES 100K OHM 1/10V	R8	RESC1608L	RS_100K	1
4K7	RES 4.7K OHM 1/10W	R9, R10, R12	RESC1608L	RS_4K7	3
10K	RES 10.0K OHM 1/10	R13, R14, R16, R17, I	RESC1608L	RS_10K	5
39K	RES 39K OHM 1/10W	R?	RESC1608L	RS_39K	1
30K	RES 30K OHM 1/10W	R??	RESC1608L	RS_30K	1
EVQPNF05M	Panasonic 6 x 3.5mm	S1, S2	EVQPNF05M	WS_EVQPNF05M	2
ATSAM4S8BA-ANR	IC MCU 32BIT 512KB	U1	LQFP64_L	SE_ATSAM4S16BA-MI	1
CAT6219-330TDGT3	IC REG LIN 3.3V 500M	U2, U5	SOT95P280X145-5N	SV_CAT6219-330TDG	2
ADP2302ARDZ-5.0 BU	IC REG BUCK 5V 2A 8	U3	RD_8_1	ADP2302ARDZ-5.0-R7	1
MPU-9250	9 axis IMU	U4	Quad24	MPU-9250	1
nRF24 SMD	nRF24 SMD Module	U6	NRF24	NRF24	1
Joystick 10k with Sw	JOYSTICK 10K OHM 2	VR1	Joystick_Sw	Joystick 10k with Sw	1
12MHz	CRYSTAL 12MHZ 18P	Y1	6.0X3.5-4	XT_CRYSTAL_12MHz	1