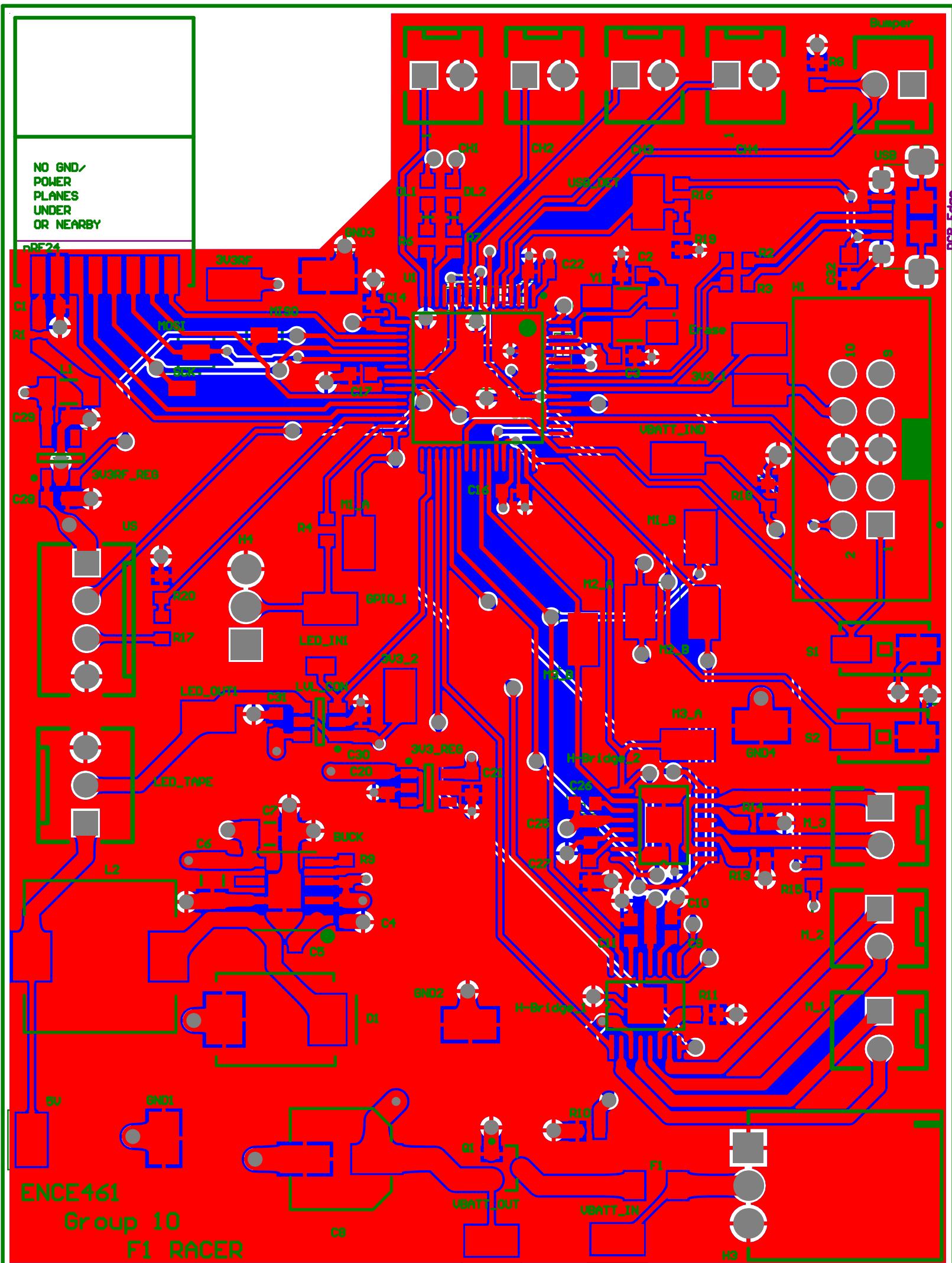


64.00-

**NO GND/
POWER
PLANES
UNDER
OR NEARBY**



Bill of Materials

Bill of Materials for Project [WackyRacerDesign.PrjPcb] (No PCB Document Selected)

| | |
|-------------------|-------------------------|
| Source Data From: | WackyRacerDesign.PrjPcb |
| Project | WackyRacerDesign.PrjPcb |
| Variant | None |

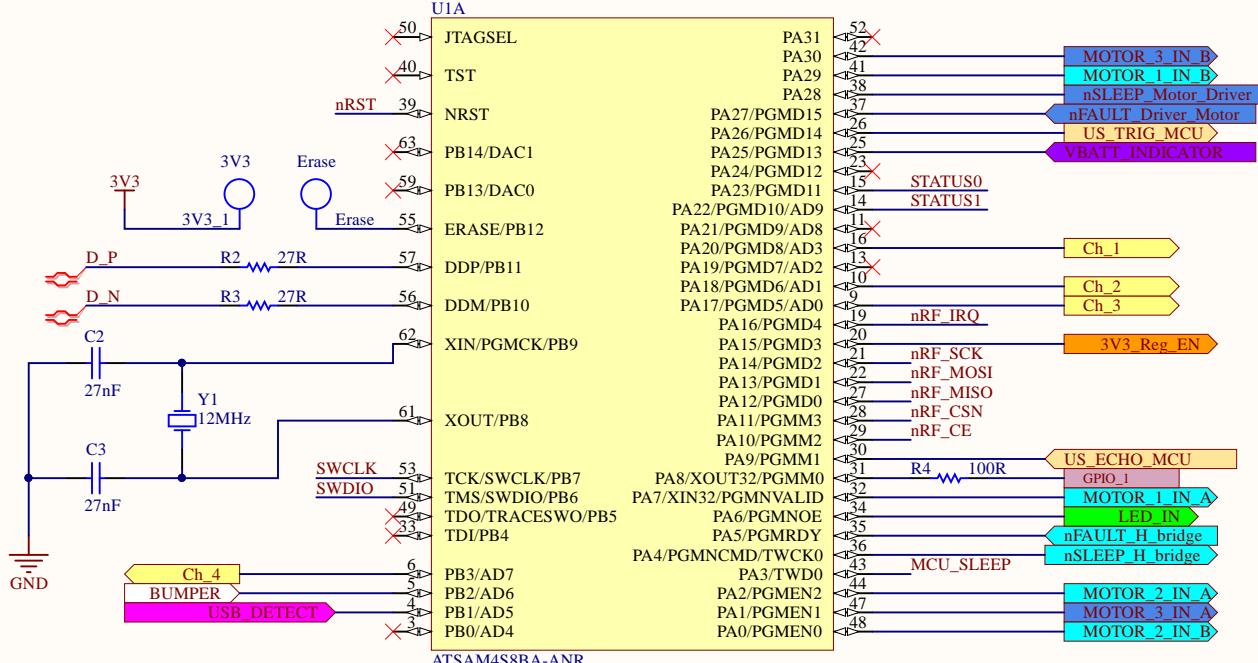
Creation Date: 18/06/2020 5:14 PM
 Print Date: 18-Jun-20 5:14:22 PM

| Footprint | Comment | LibRef | Designator | Description | Quantity |
|---------------------|------------------|------------------|---------------------------------------|--|----------|
| SOT95P280 | CAT6219-330T | SV_CAT6219-330V3 | V3_REG, 3V3RF_REG | IC REG LIN 3.3V 500mA TSOT23-5 | 2 |
| RD_8_1 | ADP2302ARDZ | ADP2302ARDZ | BUCK | IC REG BUCK 5V 2A 8SOIC | 1 |
| MOLEX_KK_2Pin | Molex KK | JA_MOLEX_KK | Bumper, CH1, CH2, CH3, CH4, M_1, | CONN HEADER 2POS 2.54mm VERT_Th | 8 |
| CAPC1608L | 10uF | CC_10uF_0603 | C1, C4, C10, C25 | CAP CER 10uF X5R +20% 6V3 0603 | 4 |
| CAPC1608L | 27nF | CC_27nF_0603 | C2, C3 | CAP CER 27nF X7R +10% 50V 0603 | 2 |
| CAPC1608L | 100nF | CC_100nF_0603 | C5, C12, C13, C14, C15, C16, C17, C18 | CAP CER 100nF X7R +10% 50V 0603 | 14 |
| CAPC3216L | 22uF | CC_22uF_1206 | C6, C7 | CAP CER 22uF Y5V -20% +80% 10V 1206 | 2 |
| CAPAE66662 | 100uF/25V | CA_100uF_25V | C8 | CAP ALUM 100uF 25V 20% SMD | 1 |
| CAPC1608L | 10nF | CC_10nF_0603 | C9 | CAP CER 10nF X7R +10% 50V 0603 | 1 |
| CAPC1608L | 2.2uF | CC_2.2uF_0603 | C11, C27 | CAP CER 2.2uF X5R +20% 10V 0603 | 2 |
| CAPC1608L | 1uF | CC_1uF_0603 | C20, C21, C28, C29 | CAP CER 1uF Y5V -20% +80% 16V 0603 | 4 |
| CAPC1608N | 4.7uF | CC_4.7uF_0603 | C23, C32 | CAP CER 4.7uF X5R +20% 10V 0603 | 2 |
| SMC | SCHOTTKY 30V | MBSR330T3G | D1 | DIODE SCHOTTKY 30V 4A SMC | 1 |
| WL-SMCW06 | Dark Green | DL_150060GS7 | DL1 | LED Dk Green 430mcd 0603 SMD | 1 |
| WL-SMCW06 | Red | DL_150060RS7 | DL2 | LED Red 250mcd 0603 SMD | 1 |
| RESC3216N | 5A | FS_Fuse_5.0A | F1 | Fuse 5.0A Fast Acting 1206 SMD | 1 |
| IDC2.54-V101 | Header 5X2 Vert | JA_HDR_IDC_5H1 | H1 | IDC Header, 2.54mm, 10-Pin, Vert | 1 |
| BATT_HEAD | Battery_HEAD | Battery_HEAD | H3 | 3Pin Header 2.54mm spacing | 1 |
| HEADER_3P | HEADER_3 | HEADER_3 | H4 | 3Pin Header 2.54mm spacing | 1 |
| HTSOP16 | DRV8833 | DRV8833 | H-Bridge_1, H-Bridge_2 | Dual H-Bridge Motor Driver 1.5A | 2 |
| INDC3216L | 1A max, Ind 0.35 | IN_Ferrite-Bead | L1, L3 | Ferrite Bead, Rdc 0.3R, Z100MHZ 600R, In | 2 |
| INDUCTORS5 | IND 5.2UH 6A | CDRH104RNP-5 | L2 | FIXED IND 5.2UH 6A 22 MOHM SMD | 1 |
| TP_0603 | =Value | TP_0603 | LED_IN1, MOSI, SCK | Test Point 1.65X0.9X1.2mm SMD | 3 |
| MOLEX_KK_3Pin | Molex KK | JA_MOLEX_KK | LED_TAPE | CONN HEADER 3POS 2.54mm VERT_Th | 1 |
| SOT23-6N | SN74LVC1T45 | SN74LVC1T45 | JVL_CON | 1.8V - 5V level converter | 1 |
| TP_0603 | TP_0603 | TP_0603 | MISO | Test Point 1.65X0.9X1.2mm SMD | 1 |
| NRF24 | nRF24 SMD | NRF24 | nRF24 | nRF24 SMD Module | 1 |
| SOT23_L | SSMBJ328R, L | TM_SSSMBJ328R | Q1 | MOSFET P-CH 20V 6A SOT23-3 | 1 |
| RESC1608L | 10R | RS_10R | R1 | RES 10 OHM 1/10W 5% 0603 SMD | 1 |
| RESC1608L | 27R | RS_27R | R2, R3 | RES 27 OHM 1/10W 5% 0603 SMD | 2 |
| RESC1608L | 100R | RS_100R | R4, R6 | RES 100 OHM 1/10W 5% 0603 SMD | 2 |
| RESC1608L | 1K3 | RS_1K3 | R7 | RES 1.3K OHM 1/10W 5% 0603 SMD | 1 |
| RESC1608L | 100K | RS_100K | R8, R9 | RES 100K OHM 1/10W 5% 0603 SMD | 2 |
| RESC1608L | 0R | RS_0R0 | R10, R11, R13, R14 | RES 0.0 OHM 1/10W 5% 0603 SMD | 4 |
| RESC3216L | 1R | RT_1R | R12 | RES 1R OHM 1/4W 5% 1206 SMD | 1 |
| RESC1608L | 470K | RS_27R, RS_47 | R15, R19 | RES 27 OHM 1/10W 5% 0603 SMD, RES 4 | 2 |
| RESC1608L | 270K | RS_27R, RS_47 | R16, R18 | RES 27 OHM 1/10W 5% 0603 SMD, RES 4 | 2 |
| RESC1608L | 10K | RS_10K | R17, R20 | RES 10.0K OHM 1/10W 5% 0603 SMD | 2 |
| EVQPNF05M | EVQPNF05M | WS_EVQPNF05 | S1, S2 | Panasonic 6 x 3.5mm SMD Light Touch S | 2 |
| LOFP64_L | ATSAM4S8BA-A | SE_ATSAM4S8BA | J1 | IC MCU 32BIT 512KB FLASH 64LOFP | 1 |
| MOLEX_KK_Ultrasonic | Sensor | JA_MOLEX_KK | US | CONN HEADER 4POS 2.54mm VERT_Th | 1 |
| FC1_USB_10 | JS_USB_MICRO | JS_USB_MICRO | USB | CONN USB MICRO B RECPT SMT R/A | 1 |
| 6.0X3.5-4 | 12MHz | XT_CRYSTAL | Y1 | CRYSTAL 12MHz 18PF 6X3.5mm SMD | 1 |

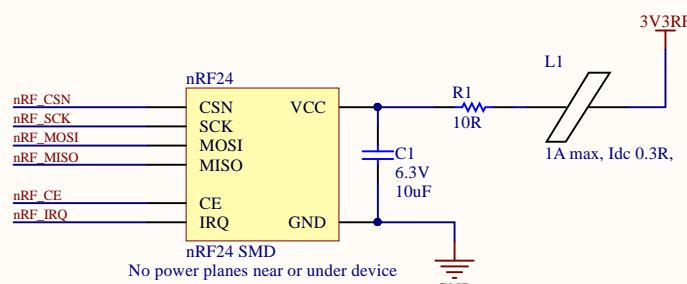
88

| Approved | Notes |
|----------|-------|
| | |

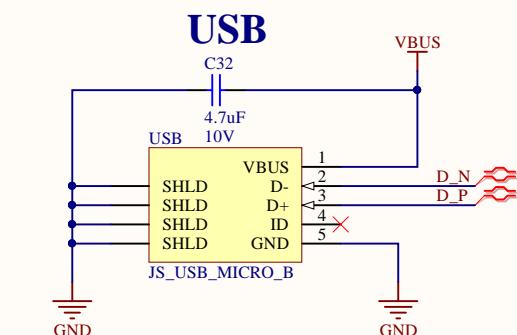
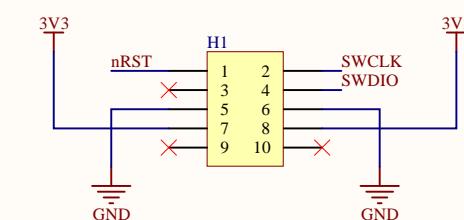
Atmel SAM4S8 MCU



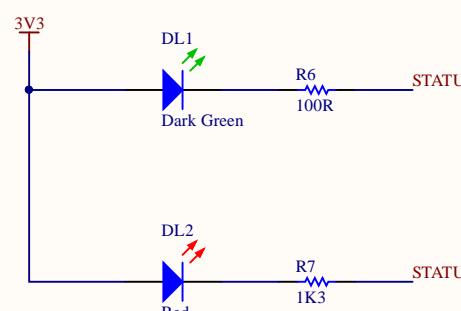
Nordic SMD Radio Module



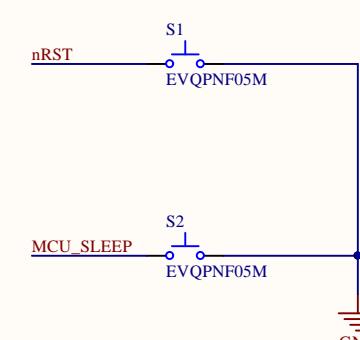
Programming



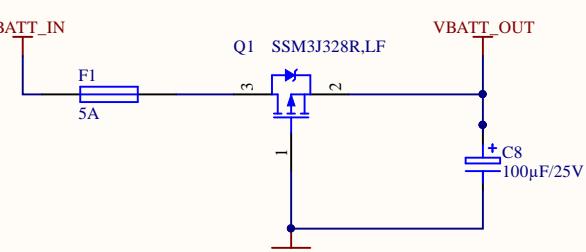
Status LEDs



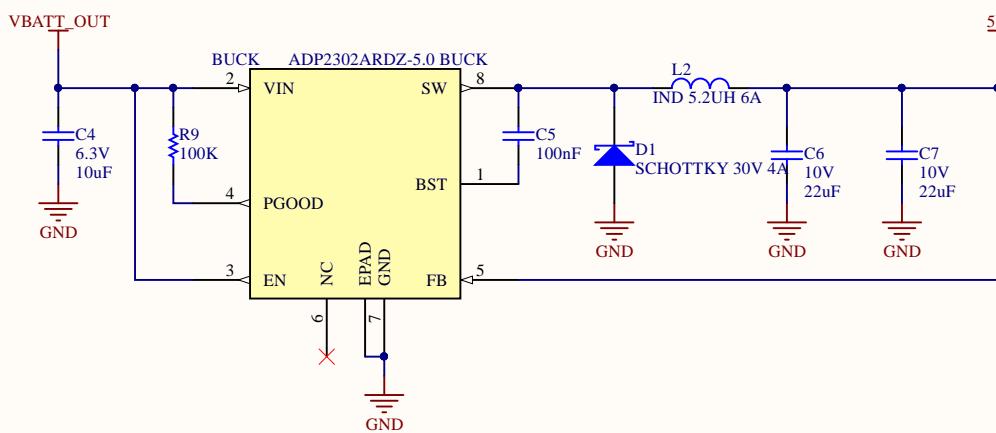
Switches



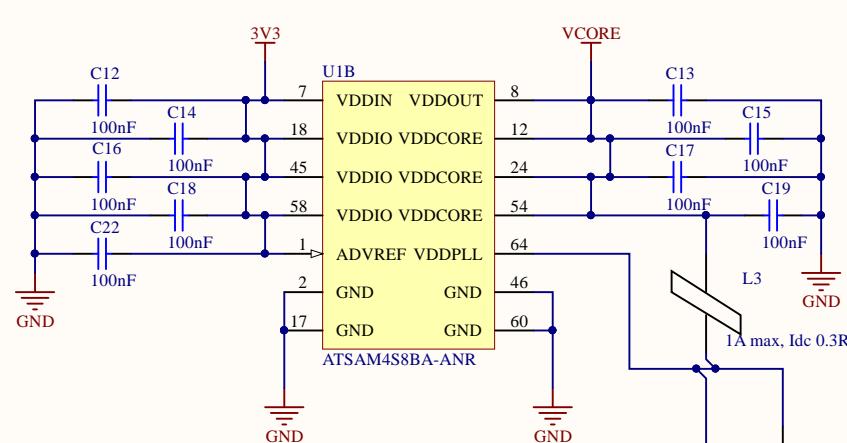
Reverse Polarity Protection Circuit



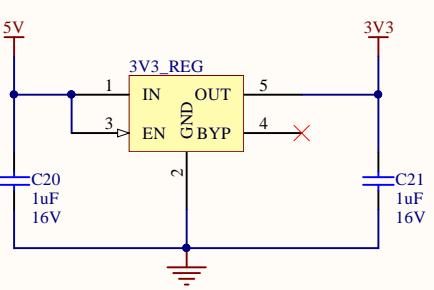
Buck Regulator IC



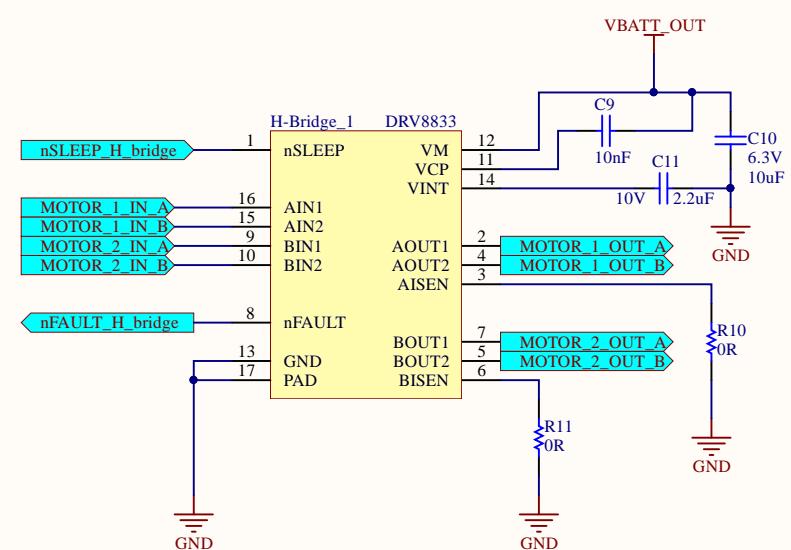
SAM4S Power



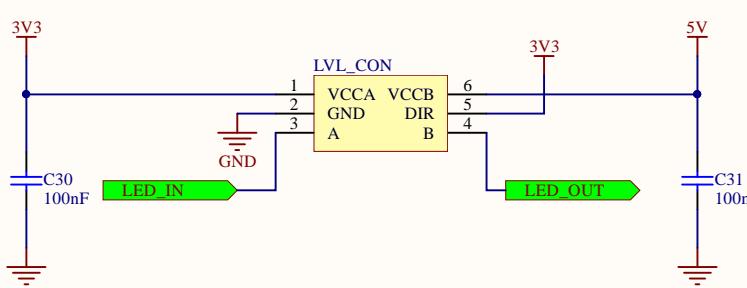
3.3 V Regulation



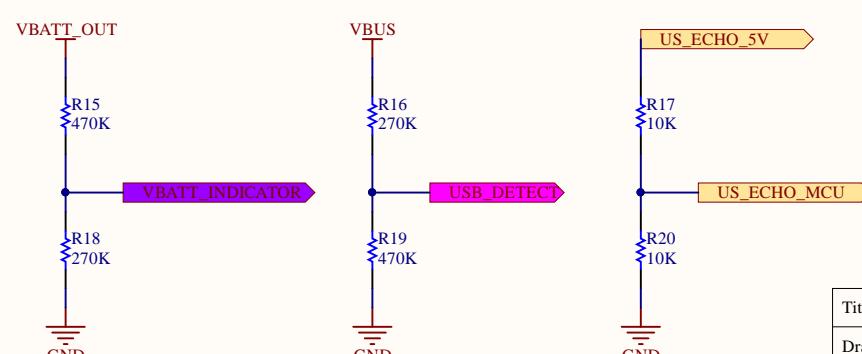
Dual H-bridge Motor Driver

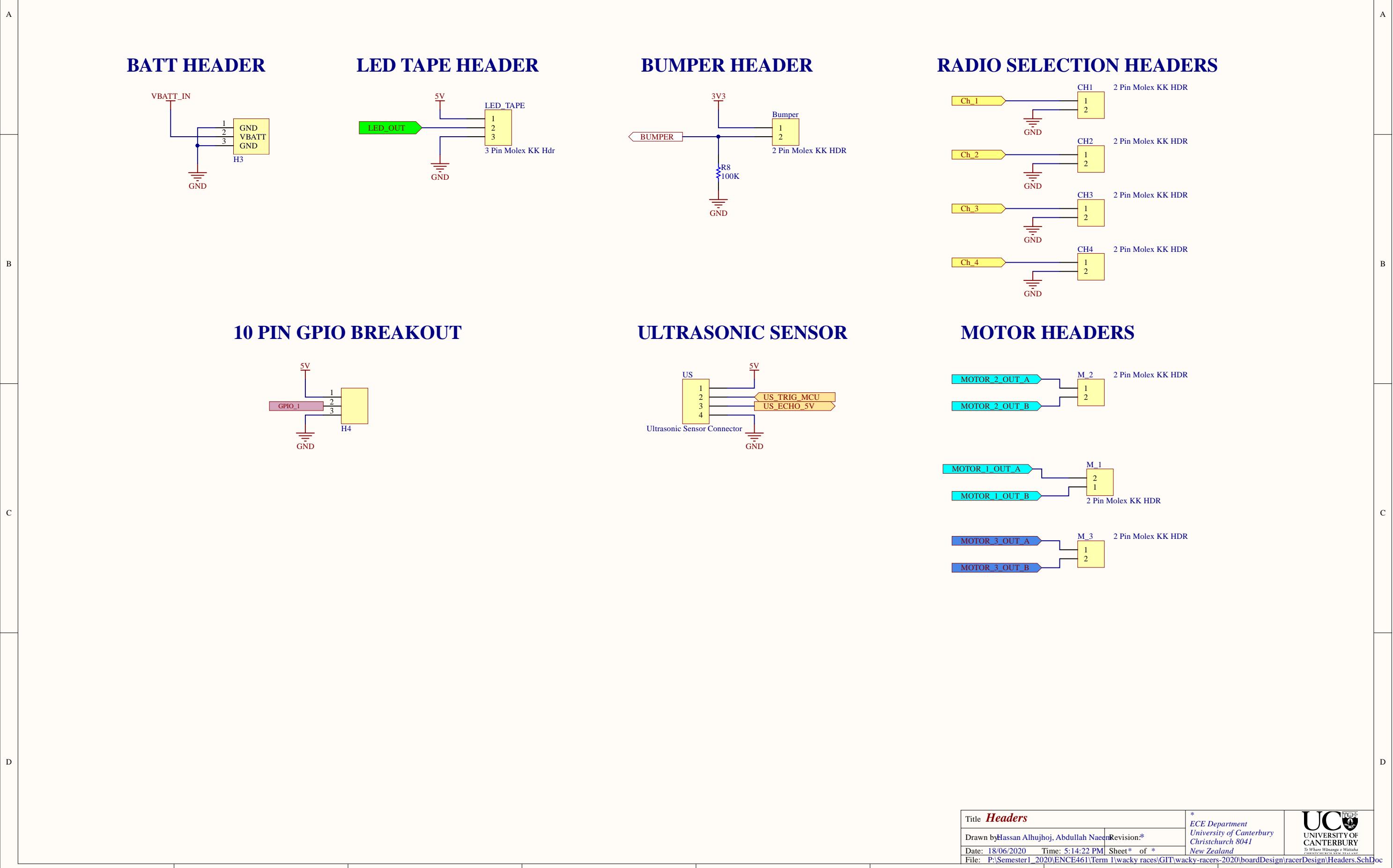


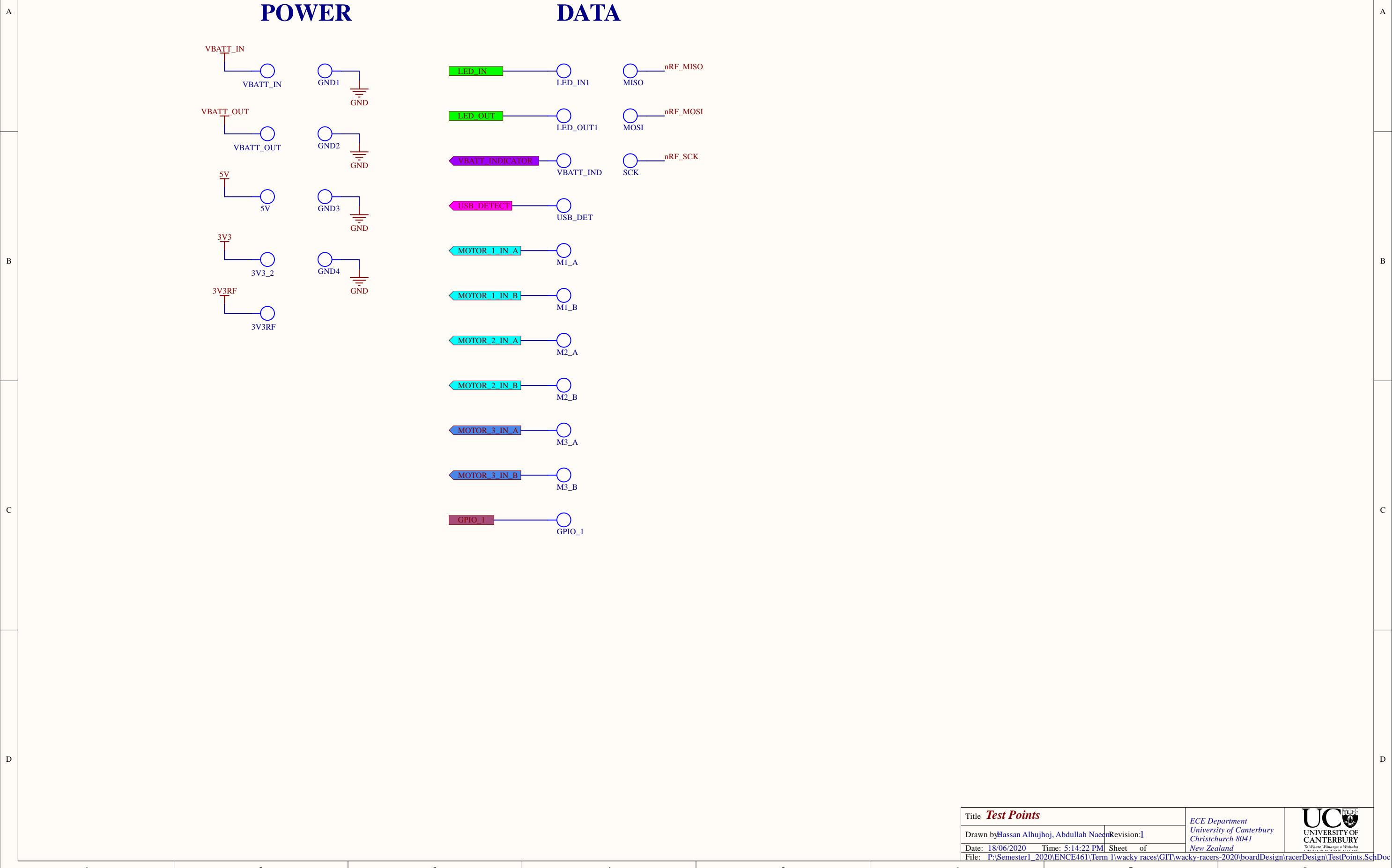
Level Converter



Voltage Divider





Title **Test Points**

Drawn by Hassan Alhujoh, Abdullah Naeem Revision:1

Date: 18/06/2020 Time: 5:14:22 PM Sheet of

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