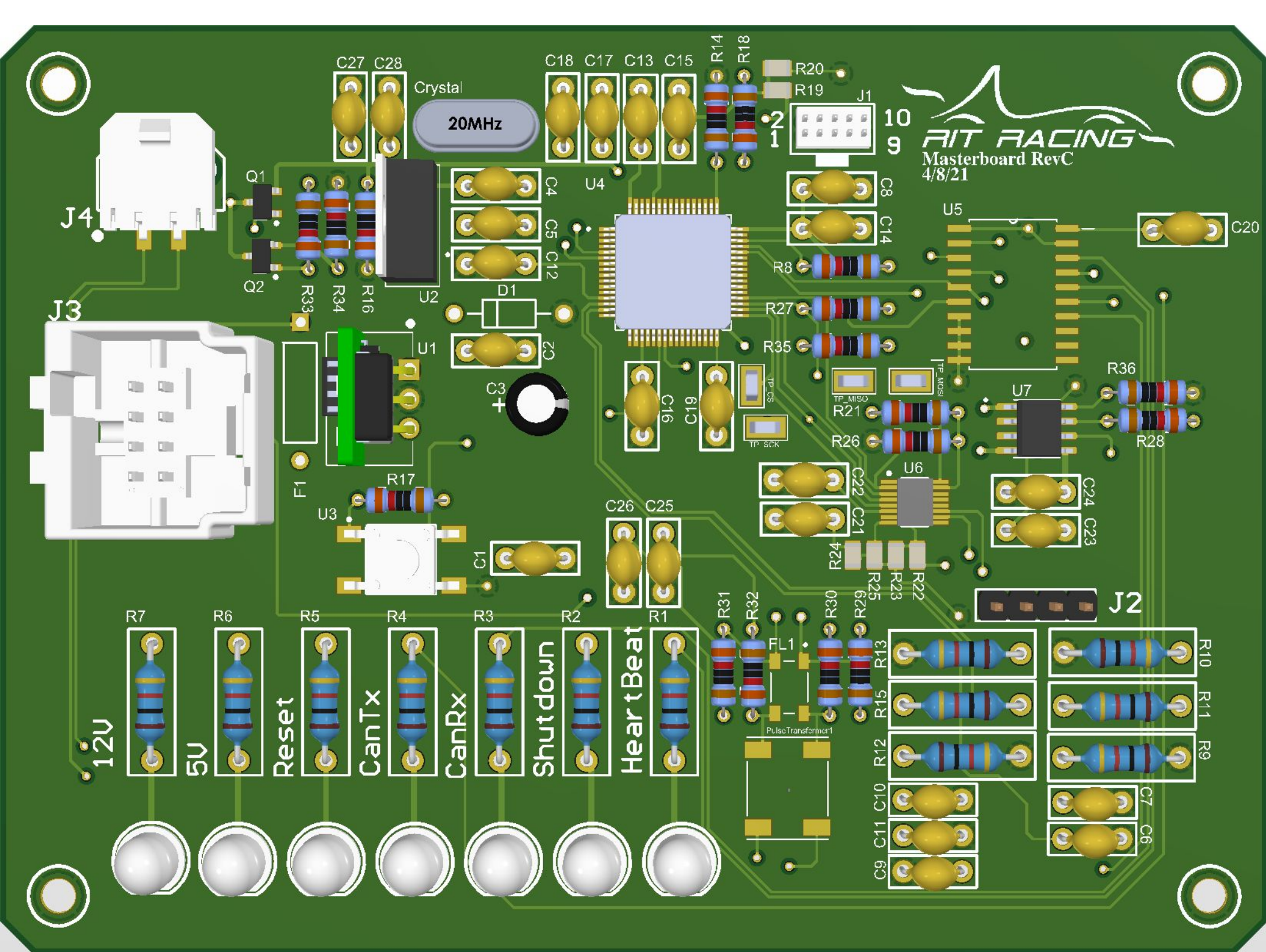
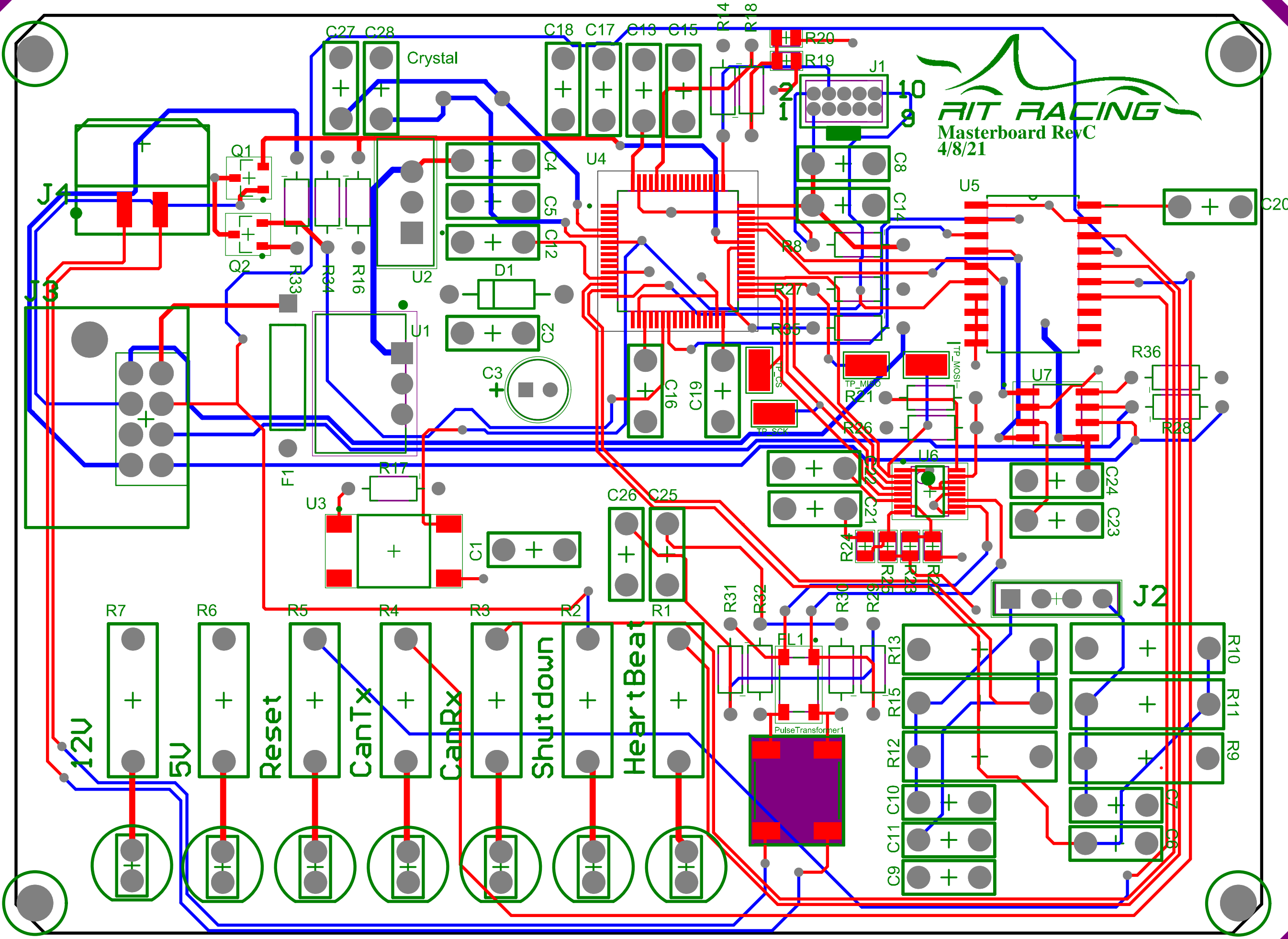
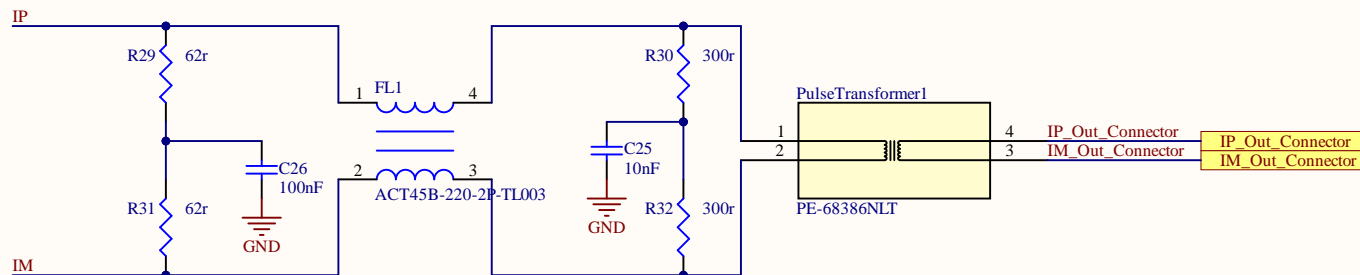
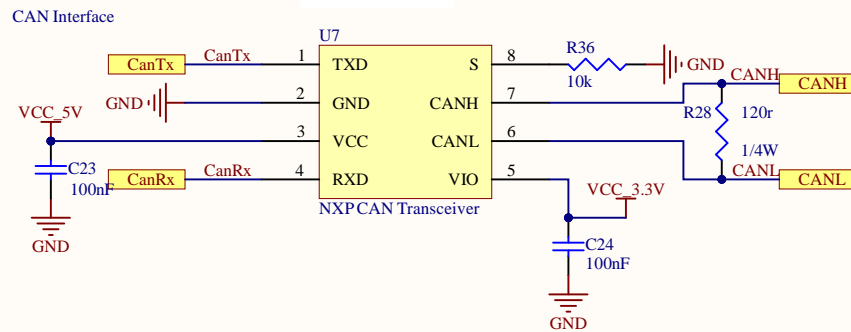
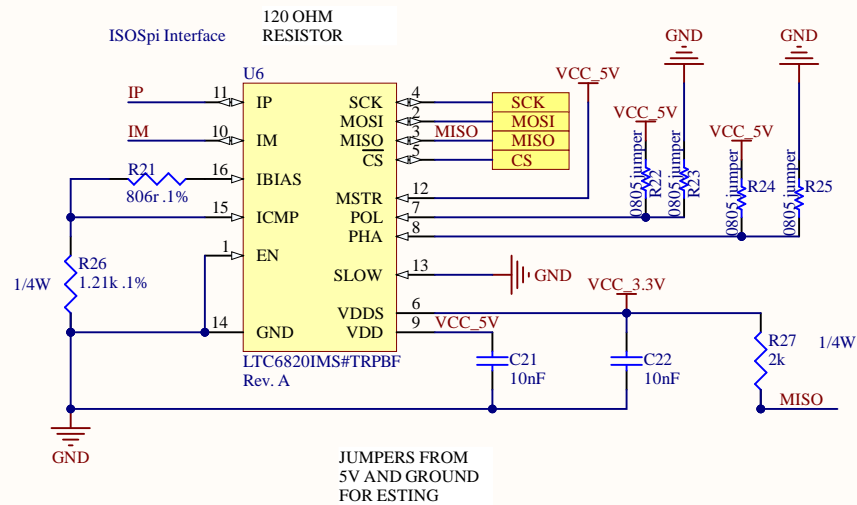


| Comment | Description | Designator | Footprint | LibRef | Quantity |
|------------------------|--|--|----------------------------------|----------------------------|----------|
| 10uF | Generic Cap, 5MM TH, Ceramic | C1, C2, C4, C5 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 4 |
| 10uF | Generic Cap, TH, Electrolytic | C3 | CAPPRD200W50D550 H1250 | Cap, TH, Electrolytic, 5mm | 1 |
| 0.68uF | Generic Cap, 5MM TH, Ceramic | C6, C11 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 2 |
| 10nF | Generic Cap, 5MM TH, Ceramic | C7, C10, C16, C21, C22, C25 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 6 |
| 500nF | Generic Cap, 5MM TH, Ceramic | C8 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 1 |
| 47uF | Generic Cap, 5MM TH, Ceramic | C9 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 1 |
| 100nF | Generic Cap, 5MM TH, Ceramic | C12, C13, C14, C19, C20, C23, C24, C26 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 8 |
| 4.7uF | Generic Cap, 5MM TH, Ceramic | C15, C18 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 2 |
| 1uF | Generic Cap, 5MM TH, Ceramic | C17 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 1 |
| 18pF | Generic Cap, 5MM TH, Ceramic | C27, C28 | Cap, 5mm TH, Ceramic | Cap, 5MM TH, Ceramic | 2 |
| 48MHz | | Crystal | CrystalOscillator | CrystalOscillator | 1 |
| MUR180ERLG | SWITCHMODE(TM) Power Rectifier, Ultrafast 'E' Series with High Reverse Energy Capability, 2-Pin Axial_Load, Pb-Free, Tape and Reel | D1 | ONSC-AXIAL_LEAD-2-59-10_P | CMP-0902-00111-1 | 1 |
| HRTBT | LED, 5mm, TH | D2 | LED, TH | LED, TH | 1 |
| SHUTDOWN | LED, 5mm, TH | D3 | LED, TH | LED, TH | 1 |
| CANRX | LED, 5mm, TH | D4 | LED, TH | LED, TH | 1 |
| CANTX | LED, 5mm, TH | D5 | LED, TH | LED, TH | 1 |
| RESET | LED, 5mm, TH | D6 | LED, TH | LED, TH | 1 |
| 5V | LED, 5mm, TH | D7 | LED, TH | LED, TH | 1 |
| 12V_FUSED | LED, 5mm, TH | D8 | LED, TH | LED, TH | 1 |
| 2A | Fuse | F1 | FUSE_20MM | Fuse 2 | 1 |
| ACT45B-220-2P-TL003 | 100uH @ 100kHz 2 Line Common Mode Choke Surface Mount 5.8kOhms @ 10MHz 150mA DCR 2Ohm | FL1 | FIL_ACT45B-220-2P-TL003 | ACT45B-220-2P-TL003 | 1 |
| SAMTEC-FTSH-105-01-X-D | Connector Header Through Hole 10 position 0.050" 1.27mm | J1 | SAMTEC-FTSH-105-01-X-D | SAMTEC-FTSH-105-01-X-D | 1 |
| 4pin Header | THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Single Row, 4 pins | J2 | 61300411121 | CMP-1502-01064-1 | 1 |
| 30700-5080 | Molex 8 Position High Density Board Header | J3 | 30700-5080 | 30700-5080 | 1 |
| 43650-0209 | Molex 2 Position Board Header, Right Angle | J4 | 43650-0209 | 43650-0209 | 1 |
| PE-68386NLT | No Description Available | PulseTransformer1 | PE-68386NLT_PUL | PE-68386NLT | 1 |
| SSM3K329R.LF | N-Channel MOSFET, 30V, 3.5A | Q1, Q2 | SOT23-3 | SSM3K329R.LF | 2 |
| Value? | Generic TH Resistor | R1, R2, R3, R4, R5, R6, R7 | Resistor, TH | Resistor, TH | 7 |
| 100k | Generic TH Resistor | R8, R14 | RESAD640W45L370D 200 - duplicate | Resistor, TH | 2 |
| 12k | Generic TH Resistor | R9, R12 | Resistor, TH | Resistor, TH | 2 |
| 3.09k | Generic TH Resistor | R10, R13 | Resistor, TH | Resistor, TH | 2 |
| 1.60k | Generic TH Resistor | R11, R15 | Resistor, TH | Resistor, TH | 2 |
| 10k | Generic TH Resistor | R16, R34, R36 | 1/4W TH Resistor | Resistor, TH | 3 |
| 10k | Generic TH Resistor | R17 | RESAD640W45L370D 200 - duplicate | Resistor, TH | 1 |
| 2k | Generic TH Resistor | R18, R27 | 1/4W TH Resistor | Resistor, TH | 2 |
| 0805 Jumper | Chip Resistor, 0 Ohm, +/- 5%, 0.125 W, -55 to 155 degC, 0805 (2012 Metric), RoHS, Tape and Reel | R19, R20, R22, R23, R24, R25 | RESC2013K60K35L20 T20 | CMP-2000-06973-1 | 6 |
| 806r 1% | Generic TH Resistor | R21 | 1/4W TH Resistor | Resistor, TH | 1 |
| 1.21k 1% | Generic TH Resistor | R26 | 1/4W TH Resistor | Resistor, TH | 1 |
| 120r | Generic TH Resistor | R28 | RESAD640W45L370D 200 - duplicate | Resistor, TH | 1 |
| 62r | Generic TH Resistor | R29, R31 | RESAD640W45L370D 200 - duplicate | Resistor, TH | 2 |
| 300r | Generic TH Resistor | R30, R32 | RESAD640W45L370D 200 - duplicate | Resistor, TH | 2 |
| 160r | Generic TH Resistor | R33, R35 | 1/4W TH Resistor | Resistor, TH | 2 |
| 5015 | SMD Test Point | TP_CS, TP_MISO, TP_MOSI, TP_SCK | 5015 | 5015 | 4 |
| VXO7805-1000 | | U1 | CONV_VXO7805-1000 | VXO7805-1000 | 1 |
| LM1117T-3.3 | 800-mA 15-V linear voltage regulator 3-TO-220 0 to 125 | U2 | TQ254P1054X470X19 55-3 | LM1117T-3.3 | 1 |
| Reset Button | Switch, SPST, 24 V, -35 to 85 degC, 4-Pin SMD, RoHS, Tape and Reel | U3 | TECO-FSM4ISMA_V | CMP-2000-07488-1 | 1 |
| STM32F091RCT6 | IC MCU 32BIT 256KB FLASH 64LQFP | U4 | *QFP50P1200X1200X 160-64N | CMP-12105-000069-1 | 1 |
| 74ACT541SC | Buffer, Non-Inverting 1 Element 8 Bit per Element 3-State Output 20-SOIC | U5 | SOIC127P1032X265-20N | 74ACT541SC | 1 |
| LTC6820IMS4TRPBF | IsoSPI Isolated Communication Interface, 2.7 to 5.5 V, -40 to 85 degC, 16-Pin MSOP (MS), Pb-Free, Tape and Reel | U6 | TSSOP50P490X110-16N | CMP-0937-00011-1 | 1 |
| NXP CAN Transceiver | | U7 | NXP CAN Transceiver | NXP CAN Transceiver | 1 |



RIT RACING
Masterboard RevC
4/8/21

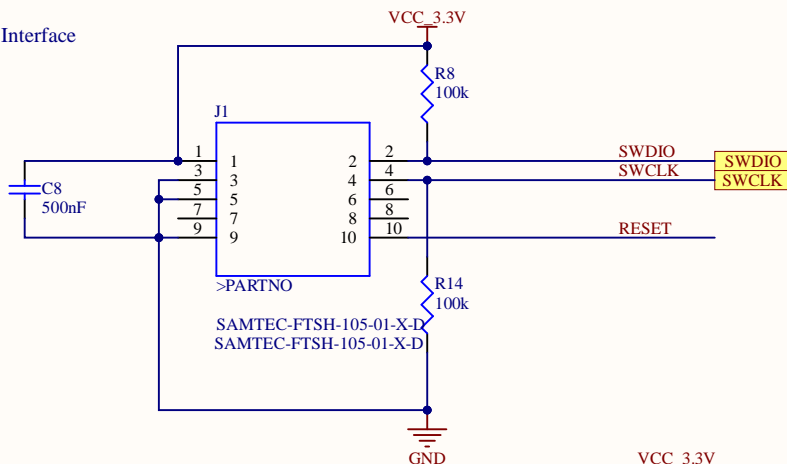




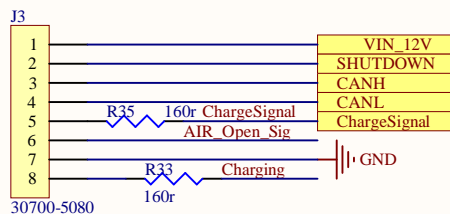
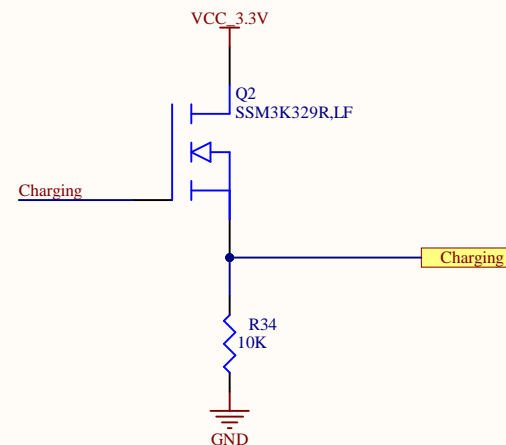
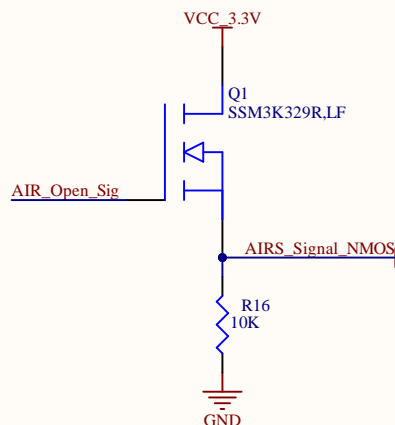
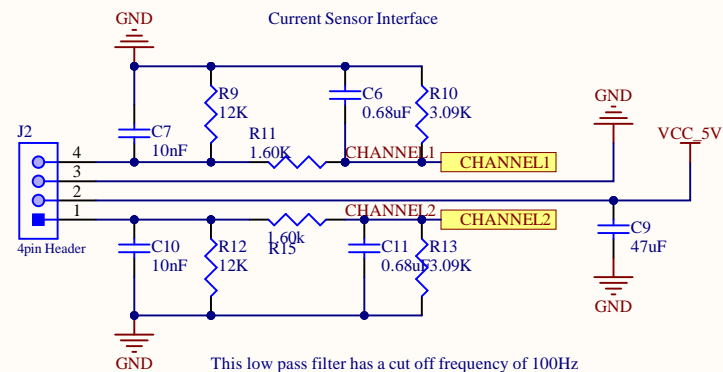
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SW Interface

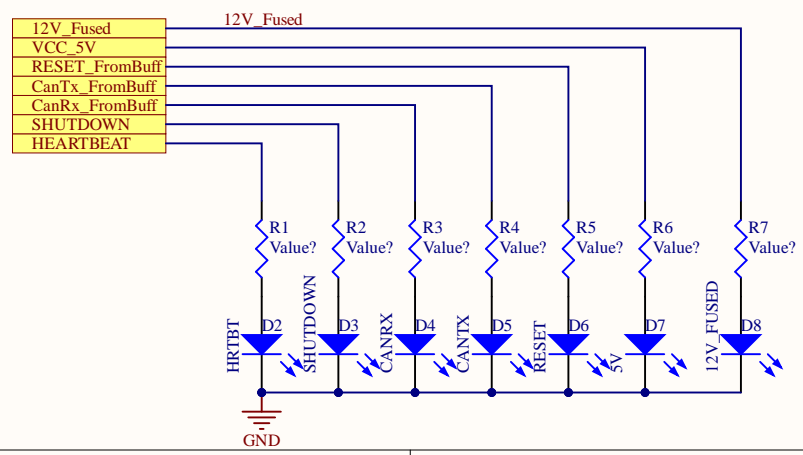
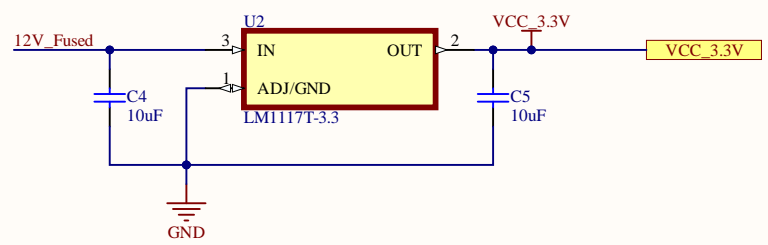
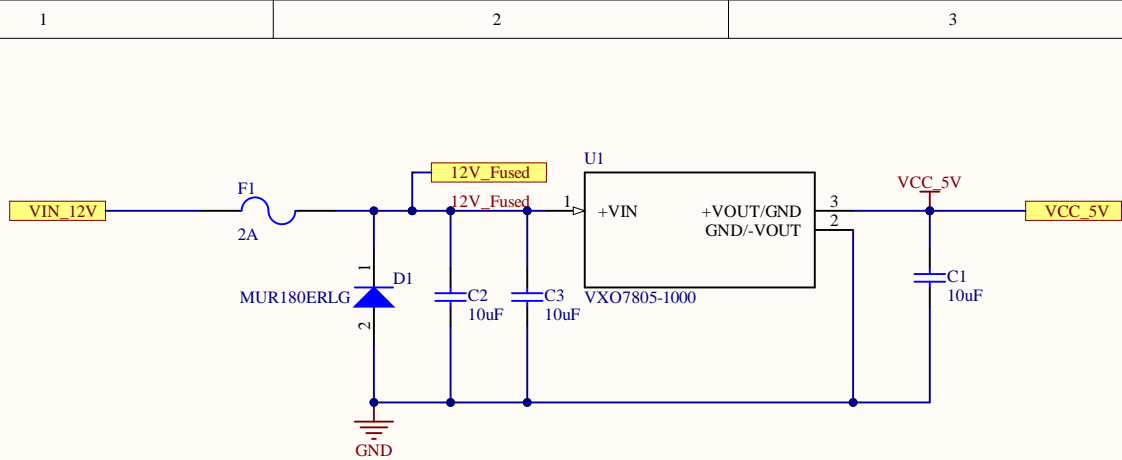


Current Sensor Interface



CONNECTORS

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POWER

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