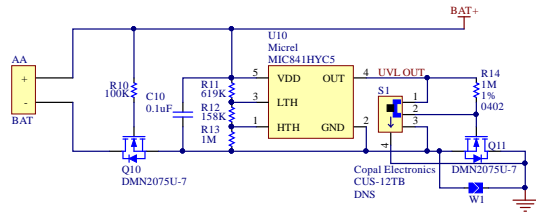


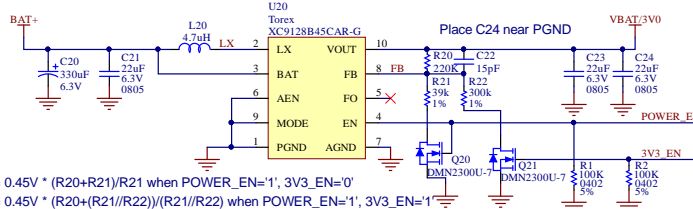
Reverse Voltage Protection and Under Voltage Lockout

Q10 provides efficient protection in case of battery reversal. Make sure to use a NFET with a low VGS_TH. U10 and Q11 provide an undervoltage lockout for graceful shutdown when the batteries can no longer supply enough power to the sensors. The lock out is set at 1.9V and re-enable will occur at 2.2V.



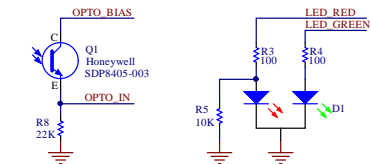
Power Supply

We chose the XC9128 because it is low cost, efficient, has a low Iq and has passthru when it is disabled. To save power when it is disabled we also turn off the leakage path through the FB network. Alkaline batteries can have a very high output impedance so we recommend at least 220uF on the battery input to support high current peaks.

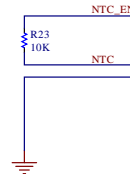


$V_{out} = 0.45V \cdot (R20+R21)/R21$ when POWER_EN='1', 3V3_EN='0'
 $V_{out} = 0.45V \cdot (R20+(R21/R22))/(R21/R22)$ when POWER_EN='1', 3V3_EN='1'

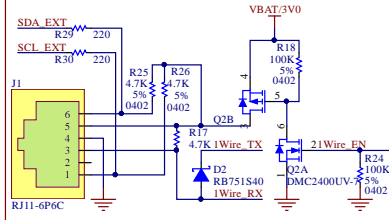
BlinkUp Components



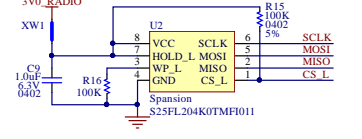
NTC Thermistor Pads



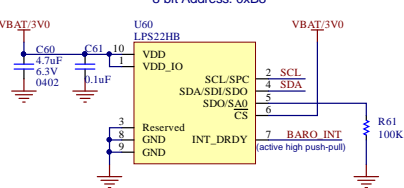
1-Wire Bus



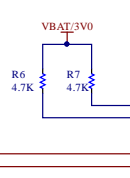
Flash Memory



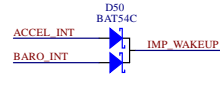
Air Pressure Sensor



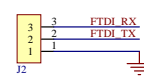
I2C Pull-up Resistors



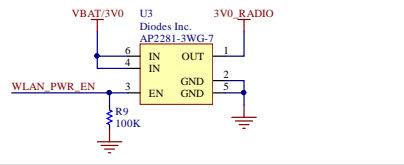
Interrupt ORing Circuit



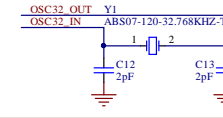
FTDI UART Connector



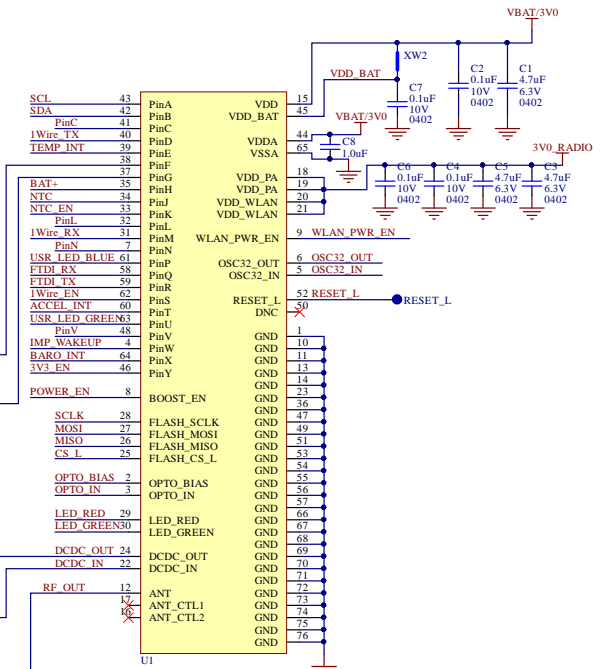
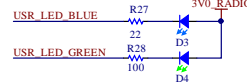
Radio Load Switch



Tuning Fork Crystal



User LEDs



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 Design: **Imp003 Env Sensor** Rev: **4.0** Electric Imp
 5150 El Camino Real, Ste C-31
 Los Altos, CA 94022
 Sheet: 1 of 1 Date: 6/27/2017 Time: 3:08:03 PM
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