APCEREEL Specifications

# Platform Controller

* Detect EL within 5cm of center using metal detection
* Notify Embedded Linux via RS232 of EL detection within 5 seconds of detection
* Use less than 5 watts of power
* Communicate with Embedded Linux System over RS232 with a baud rate of 38400
* Motor speed controlled by PID within 5% of setpoint

# Environmental Logger

* Display Sensor data on attached LCD refreshing every half second
* Light level readings are within +/-10% of BENCHMARK
* Pressure sensor readings are within +/- 10%
* 3rd sensor data readings are within +/- 10% of BENCHMARK
* Use less than 5 watts of power

# Platform Supervisor

* Establish wifi connection using socket 1 with a baud rate of 38400
* Process all joystick commands sent from Logitech joystick within 1mS
* Receive and display video stream with less than 0.5s of latency
* Receive and display video stream within compression spec
* Receive and display EL data within 5 seconds of arriving home

# Embedded Linux

* Establish wifi connection using socket 1 with a baud rate of 38400
* Send video stream to Supervisor using wifi at a baud rate of 38400
* Use less than 20 watts of power
* Capture video / images from robot webcam using USB
* Receive and verify commands sent from supervisor within 1mS
* Send commands to Controller within 1mS of successful reception
* Indicate to Supervisor EL located within 5S of locating EL
* Operates using UNIX compatible operating system