Test Plan

This document is a test plan for evaluating the battery life of our robot. Since our batteries take over an hour to completely charge and our robots will be competing in tournaments that may not have adequate downtime for charging our batteries, it is important that our batteries last for the whole competition. The competition will consist of a maximum of 4 games, each of which is 4 minutes long. That means that our robot should be able to actively move around for a minimum of 16 minutes, but ideally we would like for it to be actively turning its motors for twice that time.

### **Test description**

This test will run the robot from full charge until it is unable to move. We will start by fully charging the robot’s batteries. From there we have the robot spin in place until the batteries run out and the robot stops.

To measure this, we will create a python script to read the encoder values from the motors which will tell us how fast the motors are moving. The python script will start a timer at the beginning of the test and stop the timer at the end of the test. The test ends when the encoders report a value of 0 signifying that the robot has stopped spinning.

### **Equipment**

-Robot

-Charged batteries

-Computer network to run test script

### **Expected Results**

We expect the wheels to spin for 30 minutes.