

Electronics Online Challenge

Raider Robotics - MSOE1
Submission Date: 12/7/2020

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1. Introduction

For this challenge, we chose to disassemble a Segway i2 SE PT. One of our teammates obtained the Segway in non-working condition and is currently trying to rebuild the electronics to add features to the device. We decided that this challenge would provide an excellent opportunity for us to gain a much better understanding to the proprietary systems inside of the device, and understand the engineering that makes the devices as robust as they are.

2. Summary and Findings

The Segway contains two main processing boards, which are identical mirrors. The processing board was originally covered in a waterproof conformal coating to protect the electronics, which we removed selectively. We found an array of chips and other components, and will attempt to classify them according to three different states of background information:

1. **Fully Classified:** Data for the exact component was obtained
2. **Partly Classified:** Data for another components of the same package type and similar ID were obtained
3. **Not Classified:** No data for the given component could be obtained

3. Conclusion

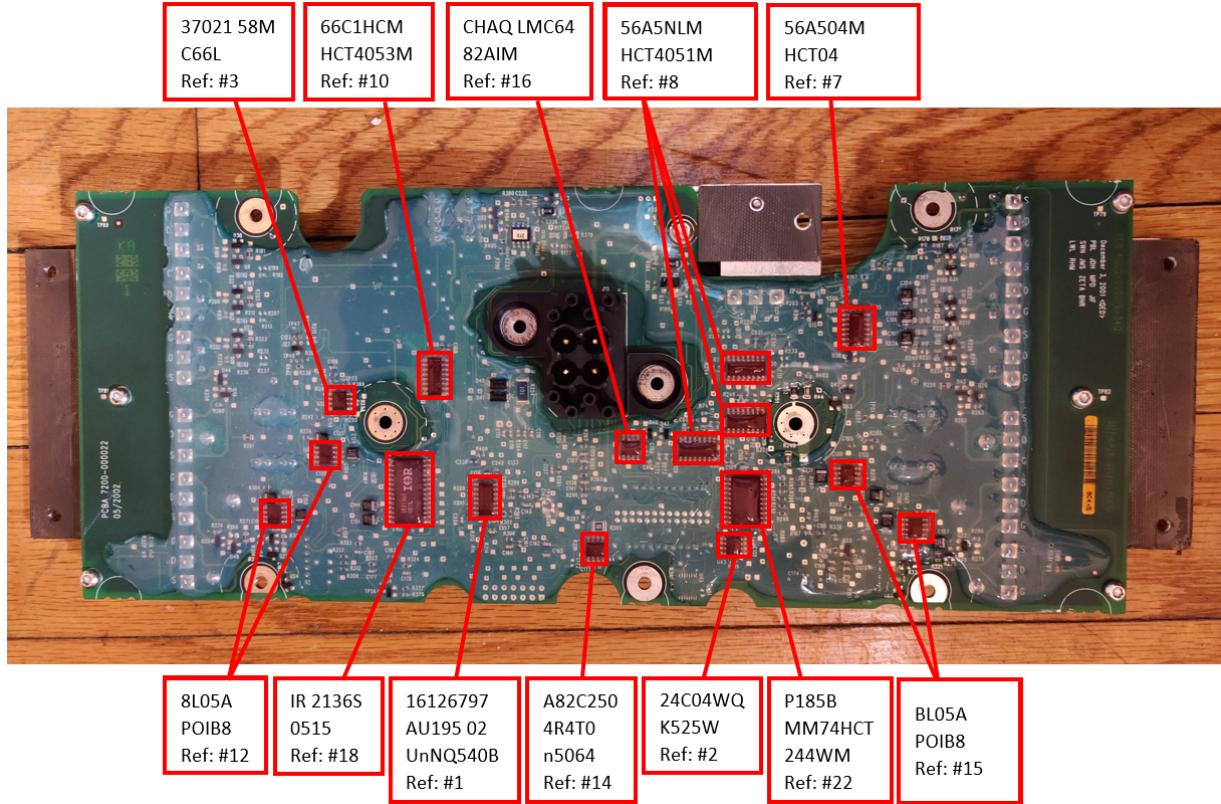


Figure 1: caption

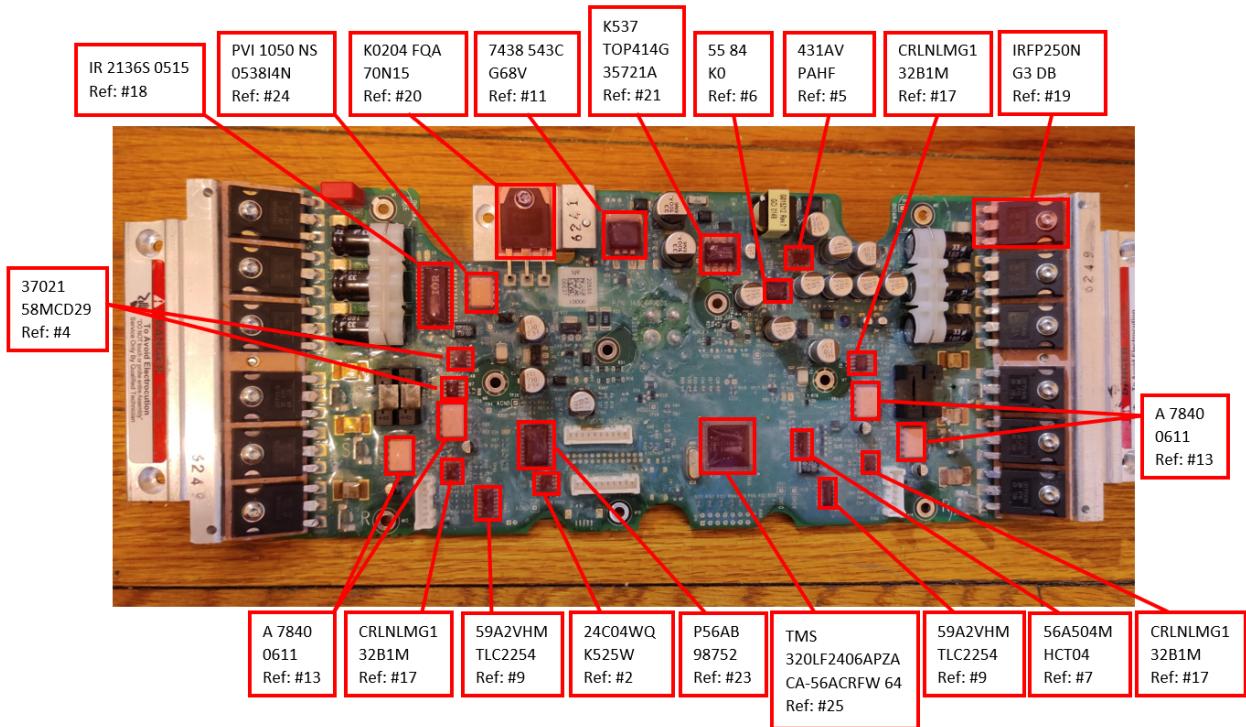


Figure 2: caption



Figure 3: caption

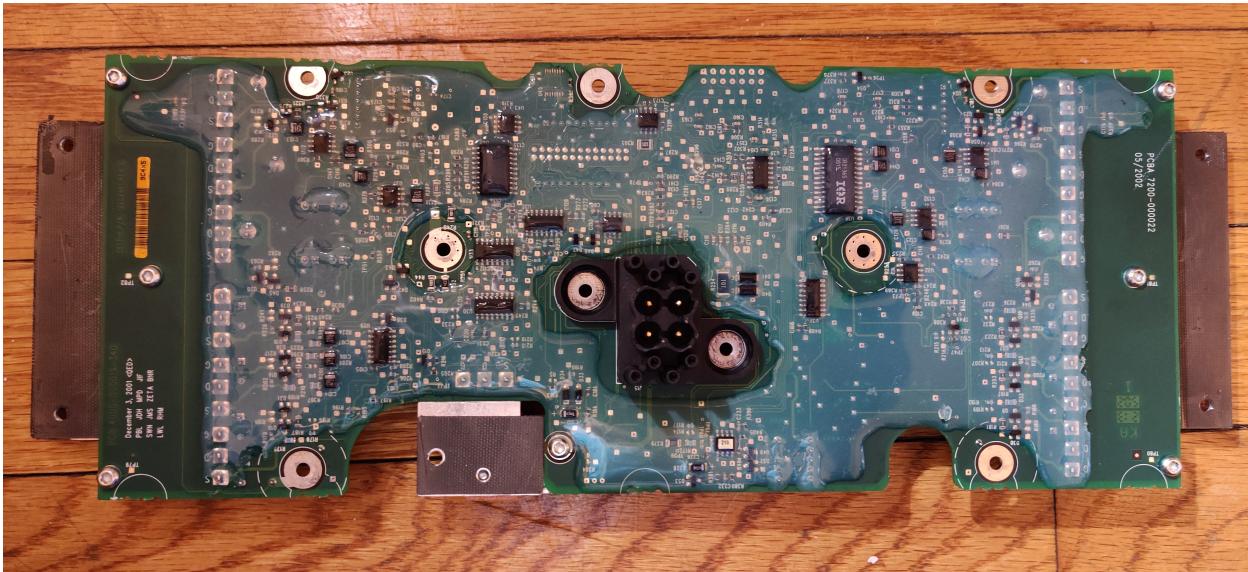


Figure 4: caption

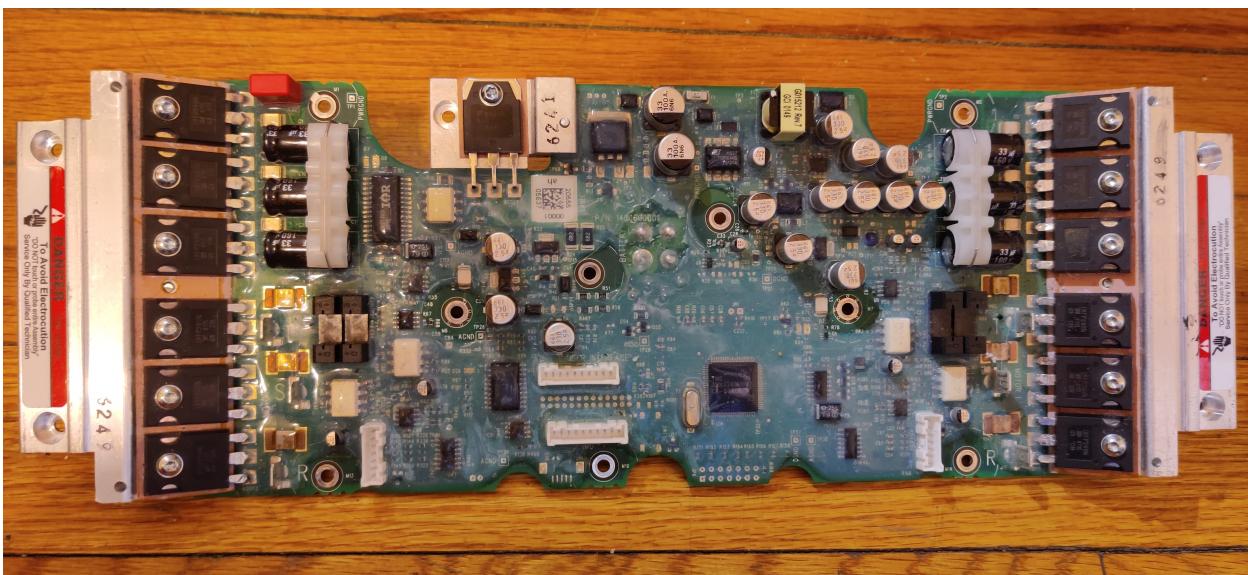


Figure 5: caption

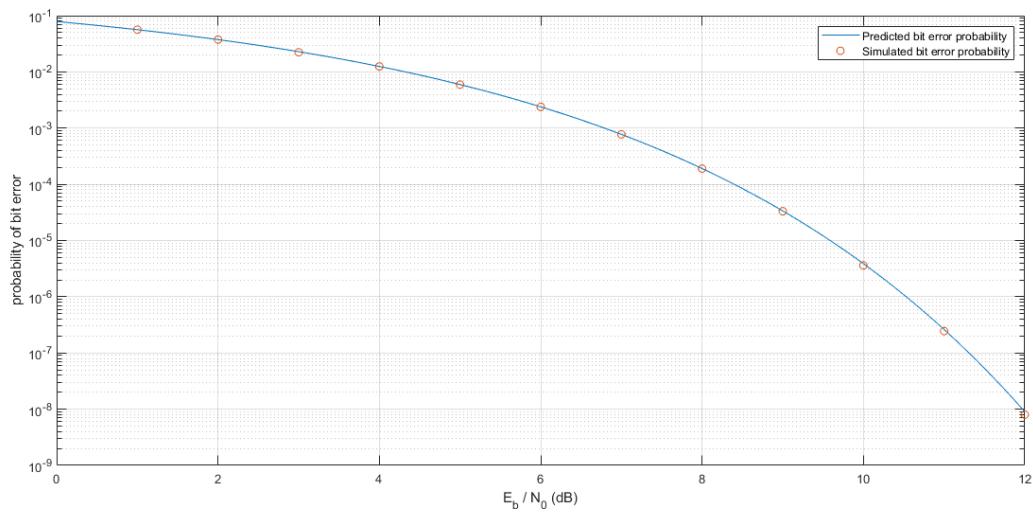


Figure 6: caption



Figure 7: caption



Figure 8: caption

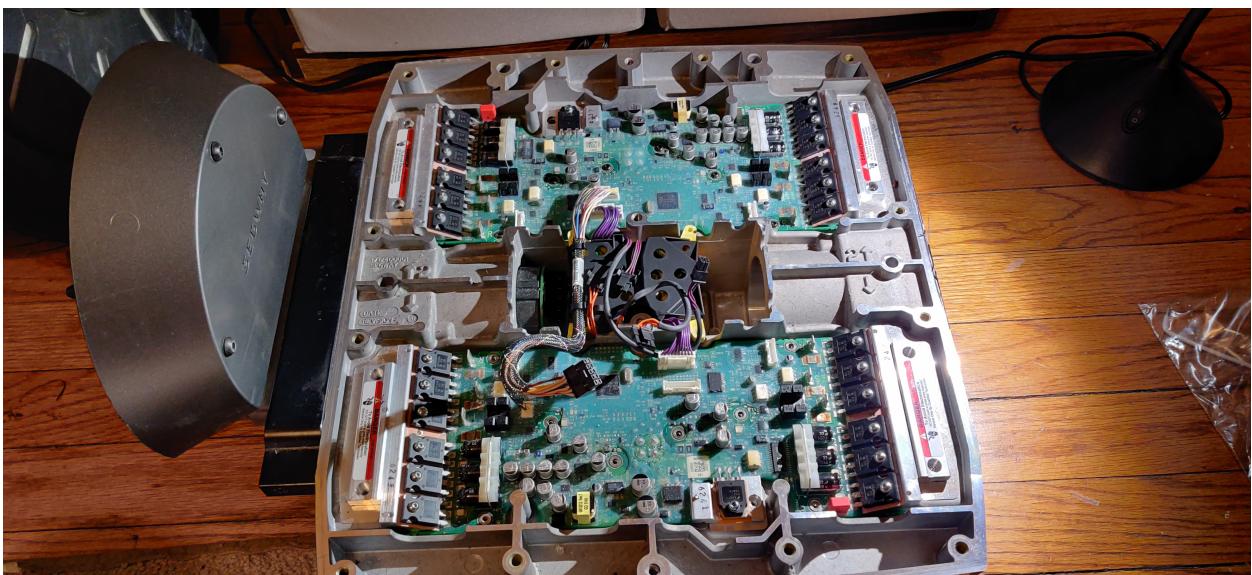


Figure 9: caption

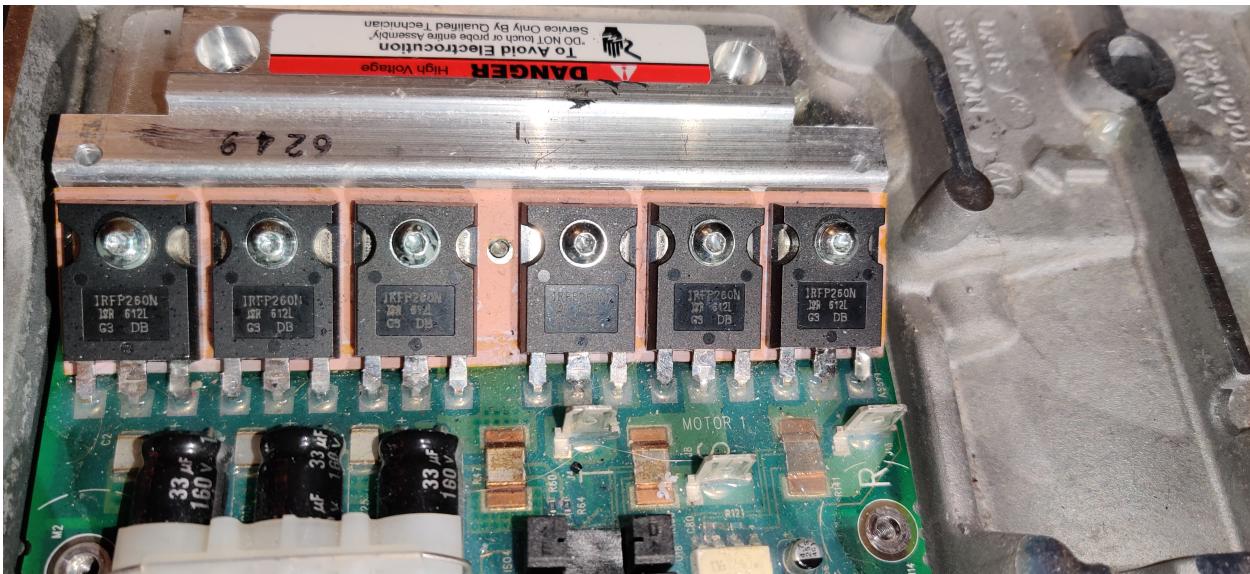


Figure 10: caption

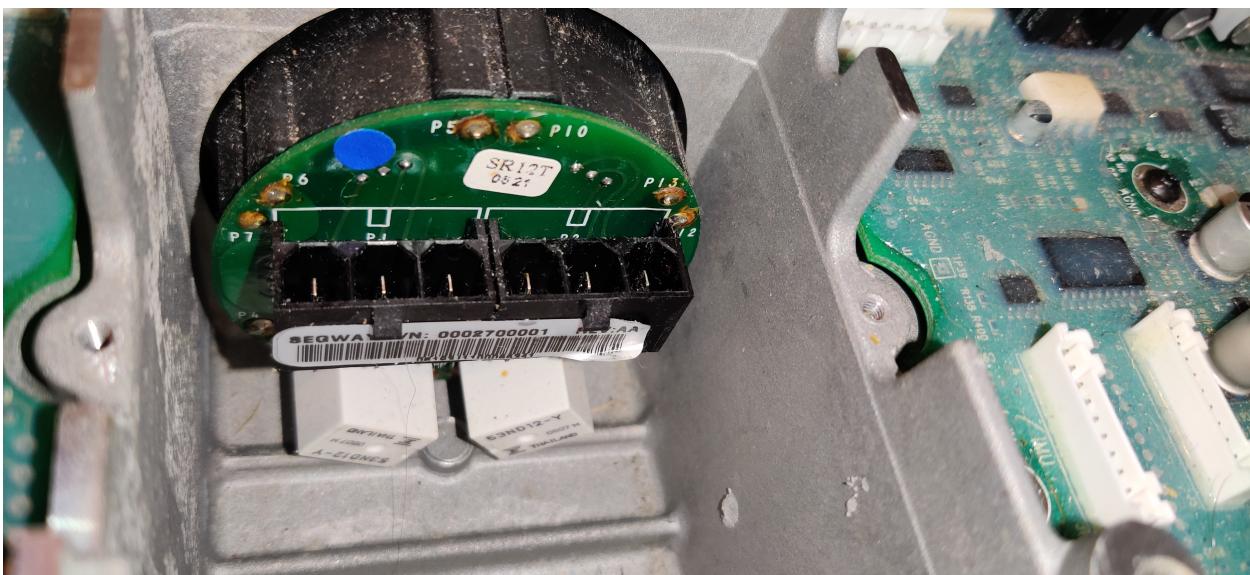


Figure 11: caption

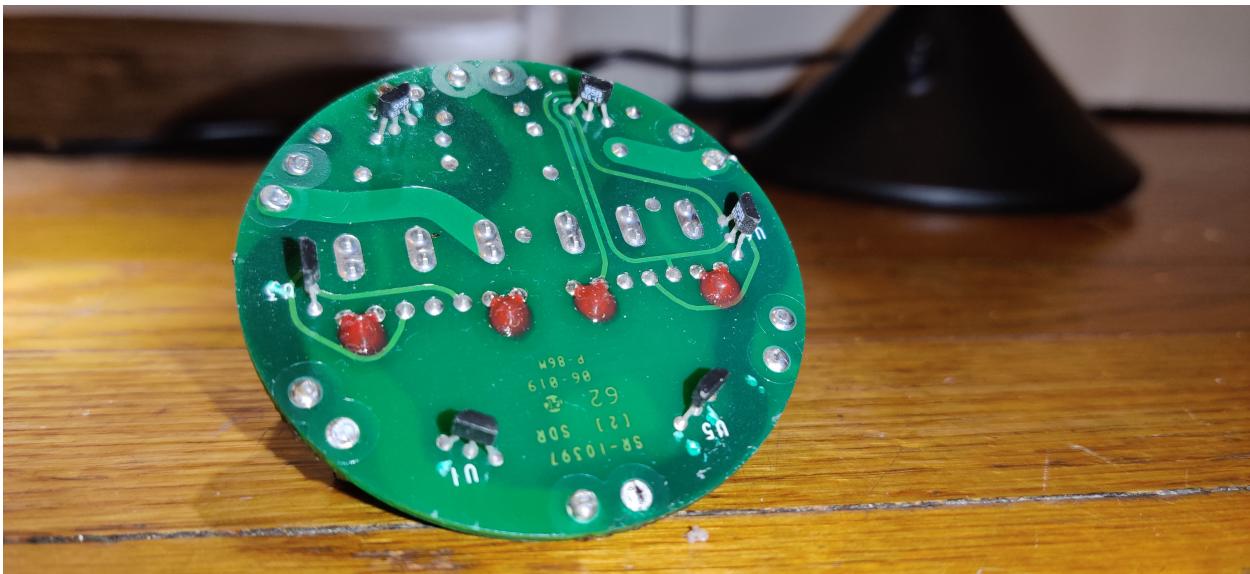


Figure 12: caption



Figure 13: caption



Figure 14: caption



Figure 15: caption