

Abstract

Steering system is one of the primary parts of a car, responsible for the direction of vehicle's motion and safety. The main role in such a system is played by a steering controller, which is managing electrical motor depending on an input signals from EV-ECU and it also provides feedback to the main ECU via CAN network. Being a part of a vehicle, it works in line with various automotive standards to provide a reliable long-term solution, which is critical for fully autonomous self-driving vehicles, as passengers lack possibility to control operation of the vehicle. Currently, existing solutions of a steering controller for automotive market are very expensive and do not answer to the requirements of "ISEAUTO" vehicle, thus, a reliable, but cheap controller, capable of fulfilling all the requirements, is needed.

In this work, a steering controller for self-driving vehicle "ISEAUTO" was developed, suitable for automotive environment and capable of driving brushed DC motor. Current work covers description of controller parts and production of a device. The last step is testing controller.

This thesis is written in English and is 59 pages long, including 8 chapters, 28 figures and 7 tables.