Abstract

The topic of this thesis is the electronic design of a model car, which communicates through a wireless connection with a PC. The purpose was to create a car which is easily manageable and can be controlled from a graphical user interface. First of all I have designed and constructed the chassis and the framework of the engines from light materials. In the next step I measured the current consumption of the engines and the acceleration of the car. Based on this I have designed and built the motor driving circuit, and I have chosen an accelerometer with the best resolution and sensitivity according to the possibilities. After this based on my researches on controller units, I have chosen one which fits the task, then I turned to choose a wireless communication type and module. I have continued my work with the design and construction of the power supply circuit with taking care that the sudden high power consumption of the engines should not influence the function of the system. After I have finished with the design and construction of the hardware, I wrote the controller's software component and also I set up a graphical user interface on a PC for car controlling and measurement data tracking and storing. At last I did measurements about the communication and movement properties of the model car.