Supervisors review of diploma thesis

Thesis title: Electronics and control system for Laser cutter

Author: Mohamed Mubarak Haneen Farman

The goals of the thesis were:

1) Specify required electrical components and their parameters
2) Install and test all electrical components of the control system
3) Configure and program the Smoothieboard control board
4) Make the machine fully functional and show the functionality on few cut parts

First, the student had to get acquainted with the technology of laser cutting. He had to specify what components should be used for the rebuild. He then focused on the control system, the Smoothie board. He had to connect the motors, end stops, laser source etc. and configure the board properly.

He had to work independently in the lab to make the machine functional. From the beginning, he had come regularly to our weekly meetings. Despite some initial lack of basic knowledge in electronics, he has managed to fulfill the thesis goals and to make the machine functional according to the assignment. In my opinion, he has shown as able to solve the assigned task. The result is a functional machine for our labs.

I recommend the thesis for defense and evaluate it as “A - excellent”.

Doc. Ing. Martin Novák Ph.D.
Department of Instrumentation and Control Engineering