I. IDENTIFICATION DATA

Thesis title:	Autonomous control of a car model
Author's name:	Wongsagoon Prem
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Department of Instrumentation and Control Engineering
Thesis reviewer:	Ing. Martin Toupal
Reviewer's department:	Porsche Engineering Services, s.r.o.

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment   **challenging**

How demanding was the assigned project?

Due to the wide range of used methods (modeling in Matlab/Simulink, serial communication, signal processing, work with real hardware), I consider the work to be challenging.

Fulfilment of assignment   **fulfilled**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

All assignment points were completely fulfilled.

Methodology   **outstanding**

Comment on the correctness of the approach and/or the solution methods.

The student worked systematically from a purely virtual simulation to a real-world application. The mentioned procedures are commonly used in the development of prototypes of real vehicles.

Technical level   **A - excellent.**

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

The thesis is at a good technical level. The work process is clearly described. Online testing could be improved by considering the dynamic model from the offline simulation to calculate the car position instead of manual measurement. However, the same result was achieved anyway.

Formal and language level, scope of thesis   **B - very good.**

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

All formalisms and notations are used properly. The thesis is well organized and sufficiently extensive. The weakest part is the inconsistent formatting of charts (for example font size, page alignment) and a few typos.

Selection of sources, citation correctness   **A - excellent.**

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The thesis clearly separates its own contribution from the cited sources. The number of sources is sufficient and is based on official documentation.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

The thesis uses new Rapid Prototyping methods and corresponding hardware to design a simple autonomous vehicle. The main strength lies in the practicality of the applied methods.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading. Pose questions that should be answered during the presentation and defense of the student's work.

The diploma thesis deals with the issue of autonomous driving. For that reason, the work deals with a wide range of topics. The document is well structured. The presented procedures and technical solutions are correct and practical. For these reasons, I recommend the work for presentation.

Question:
The work was tested on a real vehicle. What were the biggest problems during testing? Identify the weakest point (for example a hardware component) in your solution and suggest replacing it with a better alternative.

The grade that I award for the thesis is **A - excellent.**

Date: **30.1.2023**   Signature: