

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Processing of FMCW 24/120 GHz radar signals</b>
<b>Author's name:</b>	<b>Emil Jiří Tywoniak</b>
<b>Type of thesis :</b>	bachelor
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Radioelectronics
<b>Thesis reviewer:</b>	Doc. Ing. Přemysl Hudec CSc.
<b>Reviewer's department:</b>	Electromagnetic Field

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b> <i>How demanding was the assigned project?</i>	<b>extraordinarily challenging</b>
<b>The task consists of an analysis of FMCW radar signals, and design, realization and testing of a digital unit capable to process them.</b>	

<b>Fulfilment of assignment</b> <i>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.</i>	<b>fulfilled with minor objections</b>
<b>The main objectives were fulfilled. I miss more detailed FMCW radar signal analysis, and testing of the developed digital unit in cooperation with the radar in question.</b>	

<b>Activity and independence when creating final thesis</b> <i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	<b>A - excellent.</b>
The work was negatively influenced by the Covid situation. The student had to work nearly 100% independently, possibilities of consultations and testing were limited.	

<b>Technical level</b> <i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	<b>A - excellent.</b>
Design and realization of the concerned digital unit is on a high technical level.	

<b>Formal level and language level, scope of thesis</b> <i>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?</i>	<b>B - very good.</b>
In the Introduction, there seem to be paragraphs only vaguely related to the topics. Design of the digital unit is described in a sufficiently detailed way. I miss a more detailed description of the realized digital unit enabling anyone another to use it.	

<b>Selection of sources, citation correctness</b> <i>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?</i>	<b>A - excellent.</b>
<b>The work contains 37 references which is more than sufficient.</b>	

<b>Additional commentary and evaluation (optional)</b> <i>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.</i>	
The assignment in question was demanding, the student worked it out carefully and on a high technical level. I miss more	

detailed analysis of the FMCW radar behavior providing input parameters for design of the digital unit. Testing of both the digital unit and its cooperation with the radar in question was negatively influenced by the covid situation.

### 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.*

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

Date: **21.8.2020**

Signature: