

## I. IDENTIFICATION DATA

<b>Thesis title:</b>	<b>Hardware Acceleration of Channel Decoding in Software Defined 5G Base Station</b>
<b>Author's name:</b>	<b>Jaroslava Fiedlerová</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Department of Telecommunication Engineering
<b>Thesis supervisor:</b>	doc. Ing. Zdeněk Bečvář, Ph.D.
<b>Supervisor's department:</b>	Department of Telecommunication Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>How demanding was the assigned project?</i>	
The thesis includes design and implementation of new and not yet tested functionalities to real HW and SW platform, hence, the topic is challenging for master students.	

<b>Fulfilment of assignment</b>	<b>fulfilled</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>	
The thesis fulfills all objectives of the assignment.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</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>	
The student was proactive and well prepared for the meetings. She come with own ideas and consulted progress and ideas for the solution regularly. Hence, she definitely confirmed ability to work independently.	

<b>Technical level</b>	<b>A - excellent.</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>	
The thesis is technically sound and the solution is described in easy to follow way. The novel part (own work of the student) is clearly explained and described.	

<b>Formal level and language level, scope of thesis</b>	<b>C - good.</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>	
The thesis is written in English at a good level and the content is not difficult to follow. Unfortunately, there are many typos. Also writing style and organization of the thesis in some parts should be improved.	

<b>Selection of sources, citation correctness</b>	<b>A - excellent.</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>	
The references are selected adequately and cited properly with just minor and unimportant variations with respect custom in the field. The own work of the student in the thesis is described in a clear way and own contribution is well separated from the related works.	

<b>Additional commentary and evaluation (optional)</b>
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*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 student managed to integrate HW and SW for offloading of channel decoding to a new external card in order to accelerate the decoding process. Despite some issues with availability of the card, she managed to develop all required parts successfully and test the implementation to prove its efficiency.

The thesis was done in frame of double degree with EURECOM, France under co-supervision of prof. Kaltenberger (EURECOM) and the thesis has already been successfully defended in EURECOM.

### 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 student tested and delivered a working solution, which improves performance of the channel decoding in software defined mobile networks. The contribution is very practical and has a high potential to be practically exploited world-wide. The student confirmed ability to work independently and solve successfully even complex and challenging engineering tasks.

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

Date: 19.6.2023

Signature: