

I. IDENTIFICATION DATA

Thesis title:	Quality of Service-aware scheduling for distributed unit in Open Radio Access Network
Author's name:	Xiu Wei Lin
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Telecommunication Engineering
Thesis reviewer:	prof. Ing. Zdeněk Bečvář, Ph.D.
Reviewer's department:	Department of Telecommunication Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
The thesis targets implementation of new and not yet available functionalities to real-world open source software platform for radio access networks. Hence, the topic is challenging for master students.	

Fulfilment of assignment	fulfilled
<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>	
All tasks and objectives are fulfilled.	

Activity and independence when creating final thesis	B - very good.
<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 always well prepared for meetings, often come up with new ideas, and he followed the agreed schedule well, except the very end of the time-plan, when the work on thesis writing got delayed. He often come up with own ideas and consulted progress and ideas for the solution regularly.	

Technical level	C - good.
<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 at a good technical level with a correct description of work, but the description of implementation is quite high-level and brief with missing details on implementation itself. Also, a detailed discussion of the results is missing, thus, an insight into results beyond pure plots is limited.	

Formal level and language level, scope of thesis	C - good.
<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>	
Notations are used in line with customs in the field and the thesis is logically organized and formally correct. While the page length is ok, the insight into the aspects related to the implementation should be provided. In terms of language, the thesis is well readable and can be followed without a notable problem, but some formulations and sentences are overcomplicated. There are also some grammar issues, but the amount of these is at an acceptable amount for the thesis.	

Selection of sources, citation correctness	A - excellent.
<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>	



References are used in a common way in line with customs in the field of the thesis. The references cited in the thesis are mostly related to O-RAN implementation, standardization, and code, as expected for the implementation oriented thesis. There are some minor issues in the list of references, but these do not limit an understanding or a unique identification of the references. The own work of the student in the thesis is clearly separated from the related works.

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 was done in frame of double degree with NTUST Taiwan under co-supervision with prof. Ray-Guang Cheng (NTUST). Despite a higher course workload in the last semester (in parallel to work on the thesis), the student managed to complete the implementation and the testing at a very good level.

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 has developed and tested a fully working solution, which improves performance of the scheduling in O-RAN based networks. The contribution of the thesis in a form of the developed open source code compatible with O-RAN has a high potential for practical exploitation by O-RAN community encompassing industry as well as academia. The student has confirmed ability to work independently and to solve successfully complex and challenging engineering tasks.

The grade that I award for the thesis is **B - very good**.

Date: 4.6.2024

Signature: