SUPERVISOR'S OPINION OF FINAL THESIS

I. IDENTIFICATION DATA

Thesis name:	**Random Access Procedure for Machine Type Communication in Mobile Networks**
Author's name:	**Yi-Shin Huang**
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Telecommunication Engineering
Thesis supervisor:	Doc. Ing. Zdeněk Bečvář, Ph.D.
Supervisor's department:	Department of Telecommunication Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**extraordinarily challenging**

Evaluation of thesis difficulty of assignment.

The assignment assumes strong skills in analytical analysis as well as in simulations and the topic requires knowledge rather corresponding to a level of doctoral students.

Satisfaction of assignment	**fulfilled**

Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.

The thesis fulfills and covers all the objectives planed in the assignment.

Activity and independence when creating final thesis	**A - excellent.**

Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.

The level of independency and activity of the student was on excellent level and I rank her among the best students. The student was always well prepared for meetings and often come up with interesting ideas and neat solutions.

Technical level	**A - excellent.**

Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.

The student was able to handle and took advantage of knowledge gained during studies. The thesis outlines novel and very efficient way of random access for machine type communication devices in cellular networks. The detailed and comprehensive numerical analysis is well supported with simulations results to confirm correctness of the analysis.

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

Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.

In general, the thesis is very well written. There are few grammar errors and few sentences, which are hard to understand. There are also few typographical and formatting problems (e.g. spacing, various fonts, order of acronyms, etc.). Nevertheless, the amount of all formatting and grammar problems is still low considering the thesis is not written in student's native language.

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

Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.

Citations are used in a correct way and their list is complete. The student proofs excellent skills in literature search and application of the knowledge gained from the literature. The contribution and novelty of the thesis are clearly distinguished from related works.

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

The proposed solution is validated theoretically through numerical analysis as well as by simulations. The results are directly applicable to cellular networks as the developed solution is based on existing standards defined for LTE-A.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation.

The student fully proves the ability to solve complex engineering problems by herself and confirms she is very skilled in engineering and research work. The thesis contains interesting and highly innovative solution for random access procedure showing its superiority with respect to existing solutions. The solution is described and presented in a clear way with only few language and formal shortages.

The outcomes of the thesis are currently being transformed into a paper targeted to top class journal in the field of wireless communications. The thesis is comparable with a work of high level doctoral students and it goes far beyond of common level of master theses.

I evaluate handed thesis with classification grade **A - excellent.**

Date: **6.6.2017**   Signature: