

FACULTY OF TECHNOLOGY

DEGREE CERTIFICATE

FOR

The Degree of Master of Science in Technology

DIPLOMI-INSINÖÖRI

Siddhartha Lama

(born 5 November 1986) has been awarded the degree of Master of Science in Technology in accordance with the Finnish decree on University degrees (794/2004). The degree was completed in a Master's degree programme in Telecommunication Engineering, in which the language of instruction was English.

Master's Degree Programme

Telecommunication Engineering advanced studies

70 credits

satisfactory

The Master's thesis entitled "PAPR in LTE Uplink: Problem and Improvement" (30 credits) is included in the advanced studies and is awarded the grade good.

Other Studies

Complementary studies Other studies 25 credits 26 credits good

Total amount of credits

121 credits

See transcript of academic records for detailed information about the courses included in this Master's degree.

The holder of this degree certificate is eligible for doctoral studies in the field of Telecommunication Engineering.

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VAASA, 19 JUNE 2013

Erkki Antila

Dean

Helena Varmajoki Head of Study Affairs

TRANSCRIPT OF UNIVERSITY

RECORDS

17.06.2013

Lama Siddhartha

94772

Date of Registration

051186

01.08.2010



1(2)

PRIMARY STUDY RIGHT

Degree

Master of Science in Technology

Government Decree

Government Decree on University Degrees (794/2004)

Degree Programme

Master's Programme in Telecommunication Engineering

Admission

Master's admission

Valid

01.08.2010- 31.07.2014 Studies

01.08.2010

attended from

Thesis

Accepted

29.05.2013 Grade

H

30.00 Cr

Examiner Thesis

Elmusrati Mohammed Salem

PAPR IN LTE UPLINK: PROBLEM AND IMPROVEMENT

Cr Date **Examiner** 130 Master of Science in Technology 121.0 19.06.2013 Faculty of Tech

STUDIES INCLUDED IN THE DEGREE

| | | Cr | Grade | Date | Examiner |
|-----------------|---|-------|-------|------------|--------------------|
| MENETEL | METHOD STUDIES | 15.00 | pass | 30.04.2012 | Head of Study A |
| KENG9211 | Writing Academic English I | 3.00 | 2 | 31.03.2011 | Sundqvist |
| KENG9311 | Writing Academic English II | 2.00 | 1 | 30.04.2012 | Sundqvist |
| KSUO5111 | Finnish for Foreigners 1 | 5.00 | 2 | 13.05.2011 | Sjöholm |
| ORMS1020 | Operations Research | 5.00 | 3 | 19.02.2011 | Sottinen |
| MUUTM | OTHER STUDIES | 10.00 | pass | 24.04.2012 | Head of Study A |
| MATH2040 | Advanced Optimization | 5.00 | 5 | 27.04.2011 | Sottinen |
| TITE2190 | The Basics of C-programming | 3.00 | 1 | 07.12.2010 | Glocker |
| TLTE3090 | Telecommunications Seminar | 2.00 | pass | 24.04.2012 | Elmusrati |
| SUUNNAN | COMPLEMENTARY STUDIES | 25.00 | 3 | 18.05.2012 | Head of Study A |
| STAT3030 | Stochastics Processes | 5.00 | 2 | 04.04.2011 | Sottinen |
| TLTE2010 | Mobile Communication Services and Systems | 5.00 | 3 | 09.03.2012 | Elmusrati |
| TLTE2040 | Telecommunication Software | 5.00 | 4 | 18.05.2012 | Glocker, Elmusrati |
| TLTE2050 | Telecommunication Electronics | 5.00 | 3 | 07.04.2011 | Hänninen |
| TLTE3110 | Wireless Networks | 5.00 | 4 | 26.04.2011 | Hänninen |
| YLEIS | GENERAL STUDIES | 1.00 | pass | 03.11.2011 | Head of Study A |
| OPIS0025 | Information Skills 1 | 1.00 | pass | 03.11.2011 | Löytölä |

Number of ECTS Credits

51.00

Lama Siddhartha

TRANSCRIPT OF UNIVERSITY RECORDS

17.06.2013

94772

051186

STUDIES INCLUDED IN THE DEGREE

| | | \mathbf{Cr} | Grade | Date | Examiner | | |
|---|--|---------------|-------|------------|-----------------|--|--|
| | | | | | | | |
| TD-1 | The state of the s | | | | | | |
| Telecommunicati | | | | | | | |
| TLTSYV | TELECOMMUNICATION, ADVANCED STUDIES | 70.00 | 2 | 13.06.2013 | Head of Study A | | |
| AUTO3210 | Seminar on Automation Technology | 3.00 | pass | 11.01.2012 | Alander | | |
| KNÄY3003 | M.A. Essay Exam (contents, foreign language) | 0.00 | pass | 24.05.2013 | Elmusrati | | |
| TITE3140 | Cryptography | 5.00 | 3 | 29.03.2011 | Niinimäki | | |
| TLTE2020 | Advanced Course in Signals and Systems | 5.00 | 2 | 17.09.2011 | Virrankoski | | |
| TLTE2030 | Telecommunication Architectures | 5.00 | 3 | 28.01.2011 | Hänninen | | |
| TLTE3010 | Digital Communication | 5.00 | 2 | 13.12.2011 | Elmusrati | | |
| TLTE3050 | Radio Resource Management | 5.00 | 1 | 23.12.2011 | Elmusrati | | |
| TLTE3070 | Special Topics in Telecommunications | 2.00 | pass | 13.06.2013 | Glocker | | |
| - "A novel clustering algorithm for efficient energy saving in Wireless Sensor Networks", | | | | | | | |
| | "Fault Management for Smart Wireless Sensor Networks" and "Research of Capacity | | | | | | |
| | Optimizing model on Wireless Mesh Networ | ks" | | | | | |
| TLTE3090 | Telecommunications Seminar | 3.00 | pass | 30.04.2012 | Elmusrati | | |
| TLTE3120 | Computer Simulation in Communication and Systems | 5.00 | 2 | 21.12.2011 | Fikadu | | |
| TLTE3130 | Embedded C-Programming | 2.00 | 3 | 17.12.2012 | Glocker | | |
| TLTE3991 | Master's Thesis Presentation | 0.00 | pass | 01.06.2013 | Sottinen | | |
| TLTE3990 | Master's Thesis | 30.00 | H | 29.05.2013 | Faculty dean | | |
| Number of ECTS Credits | | 70.00 | | | | | |
| Number of EC13 Credits | | 70.00 | | | | | |

Total Number of ECTS Credits

121.00

CERTIFIED BY

Helena Varmajoki Head of Study Affairs

Grading Scale:

5 =excellent

4 =very good

3 = good 2 = satisfactory

1 = sufficient

hyv. = passed, no grading kiit. = passed with distinction

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