

การพัฒนาคอร์สแวร์เรื่องโมเด็มดิจิทัลใช้ C6711 DSK



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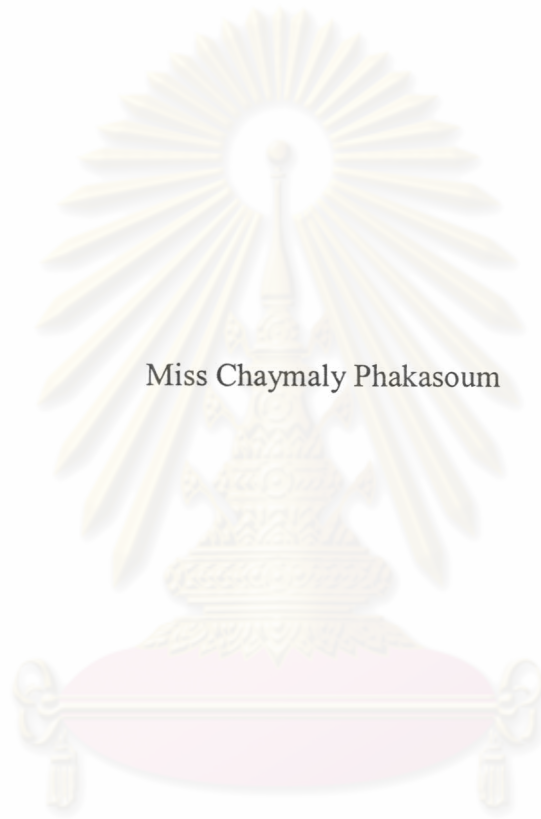
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DEVELOPMENT OF COURSEWARES ON DIGITAL MODEM USING

C6711 DSK



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วิทยานิพนธ์ฉบับนี้ทำการพัฒนาคอร์สแวร์ (courseware) ที่ใช้ในการศึกษาเรื่องโมเต็มแบบดิจิตัล (digital modem) โดยมีจุดประสงค์เพื่อให้สามารถนำมาประยุกต์ใช้เป็นที่การสอนของนักศึกษาคณะวิศวกรรมศาสตร์ ระดับปริญญาตรี ซึ่งวิทยานิพนธ์ฉบับนี้ประกอบด้วยทฤษฎีพื้นฐานสำคัญที่เกี่ยวกับการสื่อสารแบบดิจิตัล (digital communications) ซึ่งจะนำเสนอด้วยการจำลองระบบบนคอมพิวเตอร์ (Simulation) และการลงมือปฏิบัติจริงบนอุปกรณ์ (hardware implementation) บน C6711 DSK วิทยานิพนธ์ฉบับนี้ให้ คอร์สแวร์ ซึ่งจะให้ประโยชน์ในการช่วยพัฒนาห้องปฏิบัติการสื่อสารดิจิตัล (digital communication laboratory) เสริมสร้างความเข้าใจของนักศึกษาทั้งในด้านทฤษฎีและปฏิบัติเกี่ยวกับการสื่อสารแบบดิจิตัล

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The objective of this study is to develop an educational courseware on digital modem used primarily as a teaching tool in communication laboratory for undergraduate students in Chulalongkorn University and National University of Laos. The courseware covers various basic topics on digital communications with essential background theories

The study methodology mainly used in this courseware contains both MATLAB simulations concerning essential basic theories on digital communication system and implementations on digital modem using C6711 DSK.

This laboratory package helps set digital communication laboratory, provide an extensive knowledge on digital communication theory, give an interaction of study in digital communication theory and an ability to analyze the problems that occur in practical work and gain skill on hardware controlling in laboratory.

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LIST OF ABBREVIATION

ADC	Analog-to-Digital Converter
AM	Amplitude Modulation
BSL	Board Support Library
BPSK	Binary Phase Shift Keying
CCS	Code Composer Studio
CBL	Chip Support Library
CPU	Center Processor Unit
CSUC	The California State University, Chico
DAC	Digital to Analog Converter
DAM	Dynamic Access Memory
DSK	Digital Processor Starter Kit
DSP	Digital Signal Processing
DSB-SC	Double Sideband and Suppressed-Carrier
DPSK	Differential Quadrature Phase Shift Keying
EVM	Evaluation Module
FCC	Federal Communication Commission
FM	Frequency Modulation
GUI	Graphic User Interface
HDTV	High Definition Television
ISI	Intersymbol Interference
ISR	Interrupt Service Routine
LED	Light Emitting Diode
LTI	Linear Time Invariant
MCBSP	Multichannel Buffered Serial Ports
MRI	Magnetic Resonance Imaging
NRZ	None Return to Zeros
PC	Personal Computer
PAM	Pulse Amplitude Modulation
PLL	Phase Lock Loop
PN	Pseudo Random
PM	Phase Modulation
PSK	Phase Shift Keying
RX	Receiver
RZ	Return to Zeros
SDRAM	Synchronous Dynamic Random Access Memory
TI	Texas Instrument
TX	Transmitter
USER_SW	User Switch
WMU	Western Michigan University
VLIW	Very Long Instruction Word
QPSK	Quadrature Phase Shift Keying