UNIVERSITI TEKNOLOGI MARA

PAPR AND BER ANALYSIS OF MOBILE WIMAX SYSTEM USING QC-LDPC CODE WITH STFBC MIMO OFDMA SYSTEM

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MASTER OF SCIENCE IN TELECOMMUNICATION AND INFORMATION ENGINEERING

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Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science

Faculty of Electrical Engineering

July 2014

ABSTRACT

This proposal focus on the Quasi Cyclic Low Density Parity Check (QC-LDPC) Code is a one of the important technique to minimize Power-Average-Power-Ratio (PAPR) and measure bit error rate (BER) performance for the Space-Time Frequency Block-Codes (STFBC) MIMO-OFDMA system. QC-LDPC code consists of small square blocks characterized by the parity-check matrix where required memory can be extensively reduced with the circulant permutation matrix or zero matrix as compared with the randomly that was constructed in earlier LDPC codes. The performance of QC-LDPC Code will evaluate by using diversity technique to maximize achievement of diversity order system. A variety of diversity techniques are used in MIMO-OFDMA system in order to combat the effect of channel fading and improve the system performance. The main diversity type is space, time and frequency. MATLAB software is use to develop new Quasi Cyclic LDPC block code algorithm and determine PAPR reduction for the STFBC MIMO-OFDMA system. This propose of coding technique with diversity technique is able to achieve maximum of diversity system. The main goal of fourth generation (4G) wireless communication is to improve network efficiency and increase the link throughput. MIMO wireless systems with OFDMA modulation have a great potential to provide desired performance for the future product development in broadband wireless communication system.

ACKNOWLEDGEMENT

First and foremost, I would like to praise the Almighty Allah for blessing me with strength and capability to provide the final year report successfully for the 2013/2014 session. One more course to go, but I hope that this blessing will continually giving me the nurture that I need. I am so glad that I have given an opportunity to carry out this project, which exposes the actual system of evaluation process.

Furthermore, I would like to express my deepest appreciation to my final year project's supervisor Dr Azlina Binti Idris for her advise, precious guidance, advices, support and all the countless help during finish my project. Under his guidance, I have developed, improved and achieved the completion of this project. Besides that, I would like to express my gratitude to both of my parents for the encouragement throughout my studies.

At last but not least, to all my friends and colleagues whom I have not mentioned by name in here, thank you very much. May all thou sacrificial will blessing and guidance from Almighty Allah SWT.

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