

ABSTRACT

Technology wireless in this time become especial alternative in communications which can fulfill requirement of various service type and require reliable system in reaching the target. WCDMA(Wideband Code Division Multiple Access) is chosen technology by ETSI as sponsor multimedia service in 3G. With optimization to permit multimedia service such as voice, Internet access and video conferencing. This technology will provide speed access up to 2 Mbps in local area, and 384 kbps in wide area with full mobility.

The information through some process, before transmit information from transmitter to receiver. One of them is channel coding process. Function of channel coding to take care information or data digital from error which possible be happened during transmission process by enhancing redundancy bit or additional bit into transmitted data. Turbo code is one of technique error control which having the character of Forward Error Control. Turbo code is Parallel Concatenated Convolutional Codes(PCCC) representing combination from Recursive Systematic Convolutional with internal pseudorandom interleaver.

This Final Project analyse turbo code influence by using Maximum A Posteriori (MAP) algorithm in data transmission process at WCDMA system covering Bit Error Rate to Eb/No system by using AWGN channel and Rayleigh channel. This analysis also be done to WCDMA system which not use channel coding for knowing how big influence Turbo code to make BER better. Using Turbo code expected goal BER 10^{-5} can be reached at Eb/No 0-5 dB.