UNIVERSITI TEKNOLOGI MARA

PERFORMANCE OF BER IN MIMO-OFDM USING QAM AND PSK MODULATION TECHNIQUE WITH AN AWGN CHANNEL

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ABSTRACT

The wireless environment introduces a variety challenges to the physical channel of a communication system. Factors such as multi-path signal reflections, low signal strength, and interference can drastically reduce the performance of a receiver. However, the major challenge that needs to face in wireless communication is signal fading, multipath propagation and so on. This will cause the degradation of the system due to the refraction, reflection and diffraction before arriving at the receiver. The combination between MIMO-OFDM have been introduced because of its ability to enable high data rate transmission over multipath and frequency selective fading channel and also provide a high speed and high spectral efficiency which needed in future broadband communication. The objective of this project is to compare the bit error rate (BER) performance using different modulation technique which is QAM and PSK. This project was tested over AWGN channels using MATLAB. The system is designed and evaluated to produce a good performance of signal as the E_b/N_O increase the BER decrease.

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