

ABSTRACT

Modulation is a very important method in the process of sending information, modulation is the process of laying information signal into a carrier signal that has a higher frequency. Learning about modulation in Faculty of Applied Sciences especially in the Diploma Program of Telecommunication Engineering hasn't used simulink, it makes the lack of understanding of the students, because the lack of modulation visualization methods.

In this Final Project there has been designed module of learning simulator of M-Ary PSK digital modulator, BPSK (Binary Phase Shift Keying), QPSK (Quadrature Phase Shift Keying), 8 PSK (Phase Shift Keying) and 16 PSK (Phase Shift Keying). The steps to do the PSK digital modulation simulation test are input proces, modulation process, the addition of noise on the AWGN (Additive White Gaussian Noise) channel, The Rayleigh Channel technique, and the demodulation process. The used method to test the performance result of this system is BER (Bit Error Rate) by comparing bits in the demodulation process with the information bits that have been sent.

From this final project is obtained MOS test results with a percentage of 81.6% stated that the modulator simulator M-Ary PSK can help students so that it can be understood easily.

Keywords : M-Ary PSK (Phase Shift Keying), AWGN (Additive White Gaussian Noise), Rayleigh dan BER (Bit Error Rate).