PERFORMANCE ANALYSIS OF OFDM USING 4 PSK, 8 PSK AND 16 PSK

**ABSTRACT**

OFDM stands for Orthogonal Frequency Division Multiplexing. It is a special type of multicarrier modulation scheme. In it a high rate data stream is converted into a number of low rate data streams that are transmitted over parallel, narrowband channels that can be easily equalized and thus it is utilized for high data rate transmission in delay dispersive environments. It reduces the interference effects, distortion effects and multipath delay effects during data transmission and reception. Due to these advantages use of OFDM has become very popular in present day wireless technology. In this paper an OFDM system model has been used for transmission and reception of data in which M-ary Phase Shift Keying (MPSK) modulation technique is used. In Mary Phase Shift Keying (MPSK) modulation technique the carrier phase takes on one of the M possible values, here we have used M = 4, M = 8 and M =16 i.e. 4 PSK, 8 PSK and 16 PSK modulation techniques. MPSK modulation techniques are utilized for better data transmission. In this paper along with other simulations, BER v/s Eb/No curves are simulated to analyze the performance of OFDM using 4 PSK, 8 PSK and 16 PSK modulation techniques. MATLAB® software is used for programming and realizing the OFDM system.

**Index Terms –** OFDM, BER, OFDM using MPSK, MPSK, 4 PSK, 8 PSK, 16 PSK.