Abstract

The tremendous worldwide demand for high-speed mobile wireless communications is rapidly growing. OFDM technology promises to be a key technique for achieving the high data capacity and spectral efficiency requirements for wireless communication systems of the near future. The signal is offered to the receiver contains not only line of sight of radio wave, but also a large number of reflected radio waves that arrive at the receiver at different times. Delayed signals are a result of reflections from terrain features such as trees, hills, mountains, vehicles or building. These reflected delayed waves interfere with the direct wave and cause inter symbol interference (ISI), which causes significant degradation of the network performance. It is possible to use OFDM transmission scheme to overcome a multipath fading environment and a wireless broadband multimedia communication system (WBMCS). OFDM which is based on parallel data transmission scheme, reduces the effects of multipath fading. Usually OFDM has used in wireless LAN (WLAN) systems. In this paper, We are trying to investigate the OFDM-based BER performance over static and non-static or fading channel with a developed program written in MATLAB source code. We have also compared the performance between
coherent and differential modulation scheme over static and fading channels. From our study, OFDM-based system performance depends severely on Doppler shift in turn depends on the velocity of user in the fading channels. In addition, BER performance degrades as Doppler shift increases. In this paper, We tried to highlight on a comparative study of OFDM-based system performance under different fading channels.

References


Index Terms

Computer Science  Signal Processing
Keywords

Ber Performance, OFDM-Based Systems, Modulation