An Efficient Orthogonal Frequency Division Multiplexing (OFDM) System and Performance Analysis of Digital Audio Broadcasting (DAB) System

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Abstract

The foremost objective of digital modulation today is to provide high spectral efficiency. OFDM is a multicarrier digital modulation technique which offers high spectral efficiency. In this paper an efficient OFDM system under AWGN channel is designed using MATLAB and performance analysis is done for the system by evaluating BER and SNR. Frequency Modulation (FM) mainly suffers from Multipath fading and ISI. FM is suitable for fixed reception but it is not suitable for mobile reception since it suffers loss of broadcasting quality. These issues are overcome in DAB. DAB is a digital radio or high definition radio which offers high audio quality. This paper also proposes that designing DAB using OFDM under Rayleigh fading channel. Performance analysis of DAB system is done for the audio input by evaluating BER and SNR.

References

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Index Terms

Computer Science Signal Processing

Keywords
OFDM, DAB, ISI, BER, SNR.