Abstract

In this paper, we study the performance of the Digital Video Broadcasting- Terrestrial (DVB-T) system with Continuous Phase Modulation Orthogonal Frequency Division Multiplexing (CPM-OFDM). The proposed structure combines the advantage of mitigating the Peak-to-Average Power Ratio (PAPR) problem in the Power Amplifier (PA) in addition to exploiting the channel frequency diversity and power efficiency of CPM. The proposed CPM-OFDM DVB-T system is implemented with Frequency-Domain Equalization (FDE) to
avoid the complexity of the equalization. Two types of frequency domain equalizers are considered and compared for performance evaluation of the system; the Zero-Forcing (ZF) equalizer and the Minimum Mean Square Error (MMSE) equalizer. Simulation results show that the performance of the CPM-OFDM DVB-T system with multi-path fading is better than its performance with single-path fading.

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Index Terms

Computer Science  Image Processing

Keywords

DVB-T  OFDM  CPM  ZF Equalizer  MMSE Equalizer  PAPR.