

Abstract

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Novel PAPR Reduction Technique Base on Conventional Partial Transmit Sequence (PTS)

In this paper, a novel approach combining two well known signal processing techniques with traditional partial transmit sequence (PTS) has been proposed and analyzed. This includes convolutional code (CC) and repeating clipping filtering (RCF) techniques. The main objective is to reduce the peak-to-average power ratio (PAPR) of orthogonal frequency division multiplexed (OFDM) signal. The proposed PAPR method is referred to as convolutional-repeating clipping filtering PTS technique (CRCF_PTS). Simulation results show that our proposed PAPR achieved better power reduction factor as compared to the conventional PTS technique (about 2.3 dB). In addition, the overall bit error rate (BER) of OFDM system has been evaluated with and without our proposed PAPR for different standard channel models (Additive Gaussian Noise and Rayleigh fading channels). The results show that our PAPR technique has insignificant slightly changes in the bit BER in case of fading channel model. Therefore, proposed CRCF_PTS technique is practically feasible for OFDM system with no additional processing time.