

Peak-to-average power ratio reduction based on optimized phase shift technique

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ABSTRACT

Orthogonal Frequency Division Multiplexing (OFDM) with Multi-Carrier (MC) system, technique has drawn significant interests in recent years. The major drawback is high Peak to Average Power Ratio (PAPR) is the phase factors optimization in terms of multiplications and complex additions. In this paper, an optimized phase shift (OPS) technique based signal scrambling is proposed to reduce PAPR in OFDM systems. The pilot phase signal is chosen by OPS technique, while the search algorithm is used to solve the convex optimization problem. The IEEE 802.11a standard used to test the in term of transmitted signal of OFDM. The OPS is analyzed at different phase shift with a slight computational complexity. The simulation result shows that the OSP at 1.5 dB proved significant at approximately 84.8% and 71.8% PAPR reduction when compared with PTS and SLM techniques, respectively. In addition, the best phase-shift factor was selected to reduce the cost of computational complexity.

KEYWORDS:

OFDM; PTS; SLM; Peak to average power ratio

