Peak to average power ratio minimization techniques in orthogonal-frequency-division-multiplexing (OFDM) are hot researching topics since more than two decades. In this work, a novel approach without side information has been proposed, which is based on the constellation re-mapping to randomize the order of data as much as possible, such that the correlation between data vanished. The suggested method will exchange the constellation points with other constellation points, which leads to reformatting the constellation mapping, where by which the new OFDM symbol will be created with lower power envelope variation. In contrast with other methods which addressed in the literature, there will be no restrictions on the mapping family or even the alphabet order. Furthermore, the performance of the bit error rate (BER) has not been affected. Moreover, the problem of the computational complexity has not been affected, where the number of mathematical operations has an ignorable effect.

Index Terms

Computer Science  Power Systems
Keywords

OFDM, Power envelope variation, Constellation mapping, BER performance.