

Peak-to-Average Power Ratio Reduction Based on Cross-Correlation in OFDM Systems

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Abstract— Two of the most important techniques of Peak-to-average power ratio (PAPR) reduction in orthogonal frequency division multiplexing (OFDM) systems are Partial Transmit Sequence PAPR (PTS-PAPR) and Cross-Correlation-PTS. This paper investigates a complete analysis on these two techniques providing simulation and discussion of their performance on PAPR reduction and bit error rate (BER). Moreover the comparison of these methods by using Saleh model amplifier in an OFDM system is provided. The results show that PTS-PAPR outperforms the Cross-Correlation-PTS in terms of PAPR performance while Cross-Correlation-PTS method is more efficient in BER reduction.

Keyword— OFDM, PAPR, BER, PTS



Mohsen Kazemian was born in Kerman, Iran on August 24, 1984. He received his B.Sc. electrical and electronics engineering in 2007, and his M.Sc. telecommunications engineering from Islamic Azad University, Iran in 2009. He is now PhD student in University Putra Malaysia (UPM), on Wireless Telecommunication field. His research interest is PAPR reduction in OFDM wireless systems and Linearization of power amplifiers.