Development of Algorithm for Efficient and Secured Data Transmission in an Improved SC-FDMA Channel

Isaac Maxwell Durairaj, Jerlin A, Letitia S

Loyola-Icam College of Engineering & Technology

ABSTRACT

Single Carrier-Frequency Division Multiple Access (SC-FDMA) is implemented in the uplink of 4G LTE-A system because of the reduced PAPR values compared with OFDM. For improving the bit error rate, there have been two equalization techniques discussed in this paper. Also, the introduction of successive interference cancellation in these two equalization techniques has been proved to be more effective than the initial two equalization techniques. It helps to reduce the Bit Error rate. Also, a major problem in wireless communication is the lack of security. The paper suggests the use of chaotic encryption algorithm which is an effective algorithm to improve security. Chaotic encryption is fast, secure and reliable. The total SNR of the system can be improved by the equalization techniques used in the system. The main objective of this paper is to propose a SC-FDMA system with high security and improved performance.

 Series: AIJR Abstracts; ISBN: 978-81-942709-3-5 (eBook); DOI: 10.21467/abstracts.90