**A Novel Generation of OFDM 4096-QAM Sequences with Reduced Peak to Average Power Ratio**

**ABSTRACT**

Objective: To do analytical investigations on PAPR reduction using Golay sequences and to develop mathematical expressions for finding PAPR. Methods/Statistical Analysis: The Coding method offers low PAPR as compared to the other prevalent techniques in present day wireless systems. Golay sequences used to explore for reduction in the PAPR without using extra hardware required for implementation of PAPR reduction techniques. Findings: This paper introduces a novel sequence of 4096-QAM having six QPSK sequences with the lowest PAPR that can be used for OFDM systems. The proposed analytical investigation results into a PAPR of 7.645 dB having better bandwidth efficiency. Application/Improvements: The 4096-Quadrature Amplitude Modulation (QAM) sequences provides efficient spectrum with high speed of OFDM signal with Low Bit Error Rate (BER) and reduced PAPR.

***Keywords:*** QAM, PAPR, Golay sequences, OFDM, QPSK