

## **EFFICIENT CRYPTOGRAPHY BASED NON-ORTHOGONAL MULTIPLE ACCESS DESIGN FOR 5G BASED IOT SYSTEMS**

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The upcoming 5G technology makes use of Non-Orthogonal Multiple Access Technique (NOMA) concept based on effective distribution of data signals. The Proposed methodology involves detailed study of the data signals in power domain and is encoded and decoded using numerous modulation and demodulation techniques which enhances the security of the data signals. The method of transmitting multiple data streams over a power domain is the basic function in NOMA. Each data stream is modulated onto carriers within the bandwidth of the medium, and all are transmitted simultaneously. Since NOMA involves power allocation algorithm to transfer the data, it leads to formation of error bits. So, in the proposed design error detection and correction algorithm using hamming code is also designed. Finally, parameters such as spectral efficiency and Rate pairs are used to compare the NOMA with OFDM which proves that NOMA performs better. XILINX and MATLAB software tools are used for analyzing the design simulation and properties.

