Abstract

A key benefit of channel coding is the ability to protect data against channel impairments. Essentially, the channel coder adds redundancy bits that provide a way to correct corrupted data. Encryption is another way of protecting data against channel impairments and unintended interception or forging. This paper introduces an efficient approach of increasing coding gain at the receiver end. The implemented approach uses the advanced encryption standard (AES) cryptographic algorithm as a primary part of channel coding process. The simulation result of this implemented approach is evaluated in the presence of additive white Gaussian noise (AWGN).
Enhancing Channel Coding using AES Block Cipher


Index Terms

Computer Science   Communications
Keywords

channel coding  Maximum A Posteriori Probability (MAP) algorithm  soft input soft output channel decoder (SISO)

advanced encryption standard (AES)

Joint Channel Coding and Cryptography

soft input decryption (SID)

soft input encryption (SIE)