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(57) Abstract :

The invention relates to a system for high-speed data encryption in communication circuits, comprising an Encryption Module (101), Decryption Module (102), Key Management Unit (103), Hardware Accelerator (104), and Energy-Optimized Interface (105). The system ensures secure, real-time data transmission with minimal latency, reduced power consumption, and resistance against side-channel attacks. Its scalable architecture supports multiple cryptographic algorithms, providing flexibility for diverse applications in cellular, satellite, IoT, and high-performance computing communication networks.

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