

## **ABSTRACT**

*This research aims to design and develop a power transmission optimization system within wireless network infrastructure using Raspberry Pi. With the advancement of technology and the increasing demand from society for fast and accurate information access, the use of wireless LAN networks has become increasingly important. The Raspberry Pi, as a highly reliable mini-computer, was chosen to replace the role of conventional routers and Access Point. This research explores optimal power transmission configurations to enhance signal quality and network efficiency, focusing on testing parameters such as RSS (Received Signal Strength), Throughput, and SNR (Signal-to-Noise Ratio). The testing results show that balanced power transmission configurations provide better and more stable network performance. The proposed system is expected to offer an alternative solution in the management of wireless network infrastructure.*

**Keywords:** *Power Transmission Optimization, Raspberry Pi, Wireless Network.*