



AN RF-BASED SURVEILLANCE SYSTEM USING COMMERCIAL OFF-THE-SHELF WIRELESS LAN COMPONENTS (ThuPmOR9)

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★ **Abstract :** In this paper, we present an indoor surveillance system implemented using the commercially available wireless LAN infrastructure. Taking advantage of the programmability of the wireless network nodes, we have built a wireless network that has two modes of operation: the communication mode, when the network is used as a traditional wireless LAN, and the surveillance mode, when the network is used as a distributed sensor network that can detect illegal intrusion by detecting changes in the propagation environment caused by the intruder. The experimental results show promising through-the-wall intrusion detection capabilities in an office environment.