

ABSTRACT

The IEEE standard is a developed of the IEEE 802.11 standard that works on Wireless Local Area Networks (WLAN). This standard works in the sub band 1GHz so that it can increase the range of an Access Point (AP) up to 1km², and can handle up to 8000 stations (STA). The IEEE 802.11ah standard is occur the MAC and PHY layers. However, the high number of STAs produces high collision probability so this standard introduces the Restricted Access Window (RAW) wich is at the MAC layer.

In this final project the author discusses the effect of hidden nodes on the performance of the IEEE 802.11ah standard network, especially in RAW with variable obtained using Bianchi's approach. The system design is carried out to measure parameters of delay, throughput and energy consumption.

The results of this Final Project study obtained RAW slot duration of 52 μ s on the IEEE 802.11ah standard made QoS (Quality of Service) results better than 104 μ s and 156 μ s. The effect of Hidden node makes the successful transmission time longer due to the high probability of collision which affects the QoS results.

Keyword: IEEE 802.11ah, Restricted Access Window (RAW), Bianchi, Hidden node