

Abstract

The use of Radio Frequency Identification systems (RFID) is growing rapidly. Today, mostly “passive” RFID systems are used because no onboard energy source is needed on the transponders. However, “active” RFID with onboard power source gives a new range of opportunities not possible with passive systems. To obtain energy efficiency in an Active RFID system a protocol should be designed that is optimized with energy in mind. This paper describes the on-going work of defining and evaluating such a protocol. The protocol’s performance in terms of energy efficiency, aggregated throughput, delay, and number of air collisions is evaluated and compared to that of the medium-access layer in 802.15.4 Zigbee, and also to a commercially available protocol from Free2move.