Abstract

**Radio-frequency identification** (**RFID**) is the use of a wireless non-contact system that uses radio-frequency [electromagnetic fields](http://en.wikipedia.org/wiki/Electromagnetic_field) to transfer data from a tag attached to an object, for the purposes of automatic identification and tracking. Some tags require no battery and are powered by the electromagnetic fields used to read them. Others use a local power source and emit [radio](http://en.wikipedia.org/wiki/Radio) waves ([electromagnetic radiation](http://en.wikipedia.org/wiki/Electromagnetic_radiation) at radio frequencies). The tag contains electronically stored information which can be read from up to several metres (yards) away. Unlike a [bar code](http://en.wikipedia.org/wiki/Bar_code), the tag does not need to be within line of sight of the reader and may be embedded in the tracked object.

RFID is an ADC (Automated Data Collection) technology that uses radio-frequency waves to transfer data between a reader and a movable item to identify and categorize. It is fast and does not require physical sight or contact between reader/scanner and the tagged item. It performs the operation using low cost components. Also it attempts to provide unique identification and backend integration that allows for wide range of applications.