

# Jordan University of Science and Technology

## Modeling and Design of an Infrared-based Identification (IRID) System-Tag and Reader Design

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**Abstract:** Infrared based identification system is a promising alternative for radio frequency identification system in order to provide powerful solutions in many situations, i.e., overcome radio frequency interference. In this work, an infrared-based identification system is modeled and designed. This model consists of a reader and a tag. The reader will perform functions in order to communicate with the tag via a wireless media, i.e., infrared channel. These functions include reading a tag identification number and write an identification number into a tag. The reader in the proposed model will display the received data on a liquid crystal display and allows the user to enter data and make control using a keypad. Here, the proposed tag is designed to have some merits, i.e., small size, low power consumption, long lifetime, and low cost. Moreover, the reader and the tag provide half-duplex communication using infrared transmitter and receiver. Finally, the reader can be connected to a computer.