

August 9-10, 2007

2007 Ohio Student Research Forum

Wright State University
Dayton, OH

RESEARCH ABSTRACT FORM

TITLE: RFID Assisted Indoor Detection for Emergency Response

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RF signals sent through the interrogator in RF Tag devices are susceptible to two main factors; structure oriented factors and channel oriented ones. Firstly the structural factor, the traveling signal can be affected by the different mediums it comes in contact with, for example, certain reflective surfaces can dull the signal's power from 1 Watt to 1 milliWatt. This effect leads to the loss of the signal's power which translates into shorter distance traveled, resulting in the loss of communication. For Fire Fighters this can be the difference between life and death, as it would make it difficult to locate a member in an indoor fiery environment. Secondly the FCC has a limited number of bands available for use; add to that interference from other devices in the surrounding area use such as cell phones and Wi-Fi connections that could lead to the distortion - and ultimately- the loss of the signal. My goal in this research is to see if an RFID tag system is a feasible means of communication for fire fighters.