King Saud University
College of Engineering
Electrical Engineering Department **Semester: 381**

Graduation Design Project Proposal Form

Project # C9

Project Title: Smart Vehicle-to-Vehicle Communications

Professor(s) Name(s): Dr. Ahmad Fauzi bin Abas and Dr. Majid Altamimi

Number of Students: Two

Students Qualifications

Statement of Problem

Vehicle breakdown and accident happens every day. It is very important for the driver to communicate with the other party to get some helps. However, sometime the driver faces problem to do this due to communications devices failure or he himself is unconscious due to the accident. In this situation, the drivers of other vehicles have to take the responsibility to call the ambulance or police. It is more convenient if a smart communications between vehicles can be established and based on situations, the transmission is activated. In this case, no matter what happen to the driver, as long as the transmitter in the car is still functioning, the alarm can be sent to the authority through vehicle-to-vehicle communications. A part from road safety, this technology can be further extended to benefit other applications from different industrial sectors such as medical, agriculture, construction, products tracking and others.

Brief Description of the Project

This project consists of device development and experiment. The electronics circuit of the communication system needs to be designed, developed, and tested. This circuit needs to be able to establish useful communication links between moving vehicles. The circuit must be smart enough to assure the performance of data transmission.

Objectives

The objectives of this project are:

1. To study the working principles of the system
2. To develop and test the optimized system

Technical Approach and Expected Deliverables

This project involves electronic circuit design and development. Knowledge in using circuit and PCB design software and developing suitable algorithms are needed. In practical work, the skill in assembling the electronics components and testing are very important. The expected deliverable is a reliable vehicle-to-vehicle communication system.